KENNETH J. HOPKINS
MAYOR

Richard A. Bernardo P.E.
Director of Public Work

DEPARTMENT OF PUBLIC WORKS
CITY HALL, ROOM 109
869 PARK AVENUE
CRANSTON, RHODE ISLAND 02910

March 9, 2023

RIDEM, Office of Water Resources
RIPDES Program
Permitting Section
235 Promenade Street
Providence, RI 02908
Attn: Jennifer Stout

Re: 2022 Annual Report
RIPDES Permit NO. RIR040012, Cranston, RI

Dear Ms. Stout,

Enclosed please find the City of Cranston's Phase II Storm Water Annual Report for Year 19. This report documents implementation of the City's Storm Water Management Program Plan (SWMPP), TMDL Implementation Plan, and State requirements pertaining to the discharge of stormwater.

The City looks forward to working with RIDEM toward meeting our 2023 Permit requirements and improving Rhode Island's waters through pollution prevention and reduction.

If you have any questions or comments regarding this submittal, please contact me at 401-780-3173.

Sincerely,

Edward J Tally

Edward J. Tally
Environmental Program Manager
Department of Public Works

Cc: Kenneth J. Hopkins, Mayor
Richard A. Bernardo, Director of Public Works
Anthony Moretti, Director of Administration
Justin Mateus, Environmental Engineer

(401) 780-3175 FAX (401)780-3176

RHODE ISLAND DEPARTMENT OF
ENVIRONMENTAL MANAGEMENT
Office of Water Resources

DEM USE ONLY
Date Received ________

RIPDES SMALL MS4 ANNUAL REPORT
GENERAL INFORMATION PAGE

RIPDES PERMIT #RIR040012

REPORTING PERIOD: ☒ **YEAR 19**
Jan 2022-Dec 2022

OPERATOR OF MS4

Name: City of Cranston			
Mailing Address: 869 Park Avenue			
City: Cranston	State: RI	Zip: 02910	Phone: (401) 780-3173
Contact Person: Edward Tally	Title: Environmental Program Manager		
	Email: etally@cranstonri.gov		
Legal status (circle one): PRI - Private **PUB - Public** BPP - Public/Private STA - State FED – Federal Other (please specify):			

OWNER OF MS4 (if different from OPERATOR)

Name:			
Mailing Address:			
City:	State:	Zip:	Phone: ( )
Contact Person:	Title:		
	Email:		

CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under the direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, I certify that the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Print Name Kenneth J. Hopkins

Print Title Mayor

Signature Kenneth J. Hopkins Date 3-7-23

MINIMUM CONTROL MEASURE #1:
PUBLIC EDUCATION AND OUTREACH (Part IV.B.1 General Permit)

SECTION I. OVERALL EVALUATION:

GENERAL SUMMARY, STATUS, APPROPRIATENESS AND EFFECTIVENESS OF MEASURABLE GOALS:

Include information relevant to the implementation of each measurable goal, such as activities, topics addressed, audiences and pollutants targeted. Discuss activities to be carried out during the next reporting cycle. If addressing TMDL requirements, please indicate rationale for choosing the education activity to address the pollutant of concern.

(Note: Identify parties responsible for achieving the measurable goals and reference any reliance on another entity for achieving measurable goals. Mark with an asterisk (*) if this person/entity is different from last year.)

Responsible Party Contact Name & Title: Edward Tally, Environmental Program Manager

Phone: (401) 780-3173 **Email:** etally@cranstonri.gov

IV.B.1.b.1	Use the space below to provide a General Summary of activities implemented to educate your community on how to reduce stormwater pollution. For TMDL affected areas, with stormwater associated pollutants of concern, indicate rationale for choosing the education activity. List materials used for public education and topics addressed. Summarize implementation status and discuss if the activity is appropriate and effective.

In 2018, the City started distributing approximately 30,400 stormwater flyers via mail to all MS4 contributors, including residential, commercial, and industrial accounts. The flyer encourages reducing the usage of pesticides and fertilizers, diverting downspout runoff, avoiding illicit discharges to catch basins, as well as other stormwater best management practices (BMPs). To help explain the importance of these BMPs, the flyer highlights the Spectacle Pond TMDL and the water quality issues associated with it. The contact information for the Department of Public Works (DPW) is also provided on the flyer. The flyer can be found in Appendix A.

In 2019, the City launched a new website. The new website has a more modern look and is much more navigable. In addition to the aesthetic and navigability, the website added a stormwater dedicated page, which provides information on the RIPDES program and what residents can do to get involved. The stormwater flyer and the previous RIPDES annual MS4 report are also posted on the page. All City libraries and schools have access to the City website. Below is the link to the stormwater page:

https://www.cranstonri.gov/departments/building-and-public-works/public-works/stormwater/default.aspx

In 2021, DPW partnered with the Stormwater Innovation Center and Eden Park Elementary School for students to design and install sidewalk storm drain murals. A total of three murals were painted, including one on school property and two in front of residential properties with the approval of the property owners. The murals are designed to grab the interest of passing pedestrians and educate them about where catch basin discharges end up, in the ocean. A video was produced to highlight the student's efforts, which can be found at the link below:

https://tnc.box.com/s/4szkxhyiumxs37mjyscgfk8q0bix59m8

The City of Cranston's stormwater management efforts were highlighted in the Spring 2021 Audubon Society of Rhode Island Report. The article spoke about the Environmental Program Manager, Edward Tally, and his end-of-road project idea, where a BMP is installed right before the outlet to Spectacle Pond. The recently constructed bioretention swale on Narragansett Boulevard was also mentioned in the article. The article can be found in Appendix B or at the link below:

https://asri.org/file_download/inline/d0fb3f23-7544-4708-8f9f-98cdd4ee1155

In the reporting year, the City completed construction of a SEP project approved by RIDEM Spectacle Pond Phosphorous Reduction project, which includes an underground infiltration basin and a vegetated infiltration basin. The project was completed at the Speck Field recreation facility, located at the ends of Cottage and Carlton Streets. This project, is used as an example to showcase the benefits of phosphorus reduction for future projects and proposals. See Appendix C for a montage of construction pictures.

In the reporting year, the City completed construction of an additional stormwater underground infiltration basin at the end of Barrett Street. This project again assists in the reduction of phosphorous in the Spectacle Pond watershed area. The project was partially funded through a SNEP grant. See Appendix D for the Construction plans.

In the reporting year, the City proceeded with the design and engineering for an additional stormwater infiltration project at Pomham Street. This project is also partially funded through a SNEP grant. It is anticipated this project will be permitted and advertised for bid and completed in 2023. See Appendix E for the Draft plans for the project.

The City continues to employ a full-time Clean City Coordinator, who is responsible for implementing and managing a successful waste management and recycling program. A key part of this position is educating the public on trash and recycling services, including what is and isn't recyclable material. The Clean City Coordinator also participates in the Rhode Island Resource Recovery Corporation (RIRRC) educational program activities.

IV.B.1.b.2	Use the space below to provide a general summary of how the public education program was used to educate the community on how to become involved in the municipal or statewide stormwater program. Describe partnerships with governmental and non-governmental agencies used to involve your community.

In October, 2022, the City conducted a Public Meeting at the Speck Field parking lot to discuss the recently completed Speck field underground infiltration/vegetated surface infiltration project as well as the Barrett Street project. The meeting was advertised on the City website and was also mailed out to 168 of the closest abutters to the projects. See Appendix F for the advertisement. The meeting lasted approximately 1.5 hours, and was well attended

The City website and stormwater flyer encourages residents and businesses to contact DPW with any questions or concerns.

Check all topics that were included in the Public Education and Outreach program during this reporting period. For each of the topics selected, provide:

Target Audience(s): Public Employees, Residents, General Public, Businesses, Industries, Restaurants, Contractors, Developers, Agriculture, Other (describe);
Target Pollutant(s): (e.g. pet waste, fertilizers, Total Suspended Solids, etc.);
Strategies/Media: Direct Mailings, List Servs, Kiosks or Other Displays, Newspaper Ads or Articles, Public Events or Presentations, School Programs, Printed Materials, Direct Trainings, Videos, Webpage, Other (describe)

Topic	Target Audience(s)	Target Pollutant(s)	Strategies/Media
☐ Construction Sites	General Public	Phosphorus	Pedestrian engagement
☐ Pesticide and Fertilizer Application	Public Employees, General Public, Businesses	Herbicides	City Council public notice and ordinance change
☐ General Stormwater Management Info	General Public	TSS, Pet Waste, Oil & grease, fertilizers	City Website
☐ Pet Waste Management			
☐ Household Hazardous Waste Disposal	General Public	Hazardous Waste	City Website
☐ Recycling	General Public	Floatables	City Website
☐ Illicit Discharge Detection and Elimination	General Public	Oil, surfactants, fertilizers, paint	City Website
☐ Riparian Corridor Protection/Restoration			
☐ Infrastructure Maintenance			
☐ Trash Management	General public, Businesses	Floatables	City Website
☐ Smart Growth			
☐ Vehicle Washing			
☐ Storm Drain Marking			
☐ Water Conservation			
☐ Green Infrastructure/Better Site Design/LID	General Public	Phosphorus	Public Meeting
☐ Wetland Protection			
☐ Other:			
☐ None			

Additional Measurable Goals and Activities

Please list all stormwater training attended by your staff during the 2022 calendar year and list the name(s) and municipal position of all staff who attended the training.

Trainings:

See Appendix G

MINIMUM CONTROL MEASURE #2:
PUBLIC INVOLVEMENT/PARTICIPATION (Part IV.B.2 General Permit)

SECTION I. OVERALL EVALUATION:

GENERAL SUMMARY, STATUS, APPROPRIATENESS AND EFFECTIVENESS OF MEASURABLE GOALS:

Include information relevant to the implementation of each measurable goal, such as types of activities and audiences/groups engaged. Discuss activities to be carried out during the next reporting cycle. If addressing TMDL requirements, please indicate rationale for the activities chosen to address the pollutant of concern.

(Note: Identify parties responsible for achieving the measurable goals and reference any reliance on another entity for achieving measurable goals. Mark with an asterisk (*) if this person/entity is different from last year.)

Responsible Party Contact Name & Title: Edward Tally, Environmental Program Manager

Phone: (401) 780-3173 **Email:** etally@cranstonri.org

IV.B.2.b.2.ii	Use the space below to describe audiences targeted for the public involvement minimum measure, include a description of the groups engaged, and activities implemented and if a particular pollutant(s) was targeted. If addressing TMDL requirements indicate how the audience(s) and/or activity address the pollutant(s) of concern. Name of person(s) and/or parties responsible for implementation of activities identified. Assess the effectiveness of BMP and measurable goal.

The Department of Public Works hires a private contractor, Waste Management, to collect trash and recycling from Residents and Businesses in the City. In 2015 and 2016, the City issued new, 64-gallon bins for both trash and recycling, which came with an educational flyer about proper recycling. These larger bins have helped keep floatables out of the MS4. The City has also introduced overflow bags, which are sold at local retailers, which help keep trash items out of the recycling bins. DPW receives thousands of calls a year about trash and recycling. The Clean City Coordinator takes advantage of this time to educate the public about proper disposal practices.

In addition to weekly trash and recycling services, the City coordinates annual Earth Day cleanups program, In the reporting year, the City removed 4.06 tons of trash and litter associated with the Earth Day cleanups.

In 2015 and 2016, the City made a significant investment to update the GIS database. The update included refining existing sewer and stormwater infrastructure data, merging historic stormwater maintenance records, and creating mobile applications for real time editing from the field. The GIS data and available and downloadable from the City's DPW webpage. The Environmental Program Manager, and GIS Manager, have an email signature containing the hyperlink to the GIS map. This has been extremely helpful for the public and contractors to access this information.

As mentioned in the previous section, the City mailed stormwater flyers to the public in 2018. In addition to the mailing, the flyers are available in the DPW office and are often given to residents who come in with stormwater related inquiries. Also, the previously mentioned 2019 website update included educational components, such as a link to URI's RI NEMO webpage. Cranston's libraries and schools provide access to the updated website.

In 2016, the City partnered with the Edgewood Waterfront Preservation Association, Save the Bay, and Fuss and O'Neill to research and design the installation of a stormwater BMP within the Edgewood neighborhood. The project included a watershed analysis and the conceptual design for two BMP locations. In 2017, two public meetings were held to finalize the design, which ended up being a bioretention swale on Narragansett Boulevard. The BMP was installed in 2018 and has been maintained by the City, with some help from the Edgewood Waterfront Preservation Association and Save the Bay.

The City entered into a consent agreement with RIDEM in 2020 to resolve a 12/24/2018 NOV associated with the Cranston WWTF by way of a SEP. The City completed the Spectacle Pond Phosphorus Reduction project, which includes and design and installation of an underground infiltration system and a vegetated infiltration basin. Construction started in 2021 and was completed in the Summer of 2022. This project was also be used as a presentation to encourage addition similar projects.

In 2020, Chapter 12.25 of the Code of the City of Cranston was amended to prohibit the use of synthetic herbicides, including on the bike path.

In 2019 and 2021, the City was approved for two (2) SNEP Grants within the Spectacle Pond watershed. These grants resulted in stormwater infiltration practices to be installed at the end of Barret Street and Pomham Street Both projects are very similar, with them both being an "end-of-road" project with underground infiltration basins. The Barrett St project was completed in 2022. The Pomham St project is final design phase, which is planned to be completed in 2023. These projects have/will contain public meeting with both the immediate neighborhood as well as with the whole city. Previous projects are highlighted at these meetings.

Also in 2021, the City worked in conjunction with the Stormwater Innovation Center and Eden Park Elementary School to paint sidewalk storm drain murals around three catch basins in the MS4.

In May of 2021 the City provided a letter of support for the Nature Conservancy Pilot Watershed application titled *Restoring water quality and ecological function in the Mashapaug Brook urbanized watershed and sharing lessons learned through training and outreach coordinated by the Providence Stormwater Innovation Center.*

In December of 2021, the City provided a letter of support for the Audubon Society of Rhode Island's and the Providence Stormwater Center's *Monitoring Existing Green Infrastructure Function For Future Planning Success* proposal to the Narragansett Bay Estuary Program

Additional Measurable Goals and Activities

SECTION II. Public Notice Information (Parts IV.G.2.h and IV.G.2.i) ***Note: attach copy of public notice**

Was the availability of this Annual Report and the Stormwater Management Program Plan (SWMPP) announced via public notice? ☒ YES ☐ NO	If YES, Date of Public Notice: March 2, 2023 – See Appendix H

How was public notified:

☐ List-Serve (Enter # of names in List: _________)
☐ TV/Radio Notices
☒ Website
☒ Newspaper Advertising
☐ Town Hall posting
☐ Other:

Enter Web Page URL: https://www.cranstonri.gov/departments/building-and-public-works/public-works/stormwater/default.aspx

Was public meeting held? ☐ YES ☒ NO

Date: Where:

Summary of public comments received: None

Planned responses or changes to the program: None

MINIMUM CONTROL MEASURE #3:
ILLICIT DISCHARGE DETECTION AND ELIMINATION (Part IV.B.3 General Permit)

SECTION I. OVERALL EVALUATION:

GENERAL SUMMARY, STATUS, APPROPRIATENESS AND EFFECTIVENESS OF MEASURABLE GOALS

Include information relevant to the implementation of each measurable goal, such as activities implemented (when reporting tracked and eliminated illicit discharges, please explain the rationale for targeting the illicit discharge) to comply with on-going requirements, and illicit discharge public education activities, audiences and pollutants targeted. Discuss activities to be carried out during the next reporting cycle. If addressing TMDL requirements, please indicate rationale for the activities chosen to address the pollutant of concern.

(Note: Identify parties responsible for achieving the measurable goals and reference any reliance on another entity for achieving measurable goals. Mark with an asterisk (*) if this person/entity is different from last year.)

Responsible Party Contact Name & Title: Edward Tally, Environmental Program Manager

Phone: (401) 780-3173 **Email:** etally@cranstonri.org

Has *this person* received training on Illicit Discharge Detection and Elimination (IDDE)? Yes

If yes, when and where? Training materials provided by previous Stormwater Coordination, from RI NEMO

If no, who *is* trained on IDDE? N/A

IV.B.3.b.1:	If the outfall map was not completed, use the space below to indicate reasons why, proposed schedule for completion of requirement and person(s)/ Department responsible for completion. (The Department recommends electronic submission of updated EXCEL Tables if this information has been amended.) **Number of Outfalls Mapped within regulated area:** 510 **Percent Complete:** 100% **If 100% Complete, Provide Date of Completion:** December 2010 with continued maintenance

The City's outfall map was completed along with outfall inspections for both wet and dry season. The Excel spreadsheets were submitted in 2010.

In 2015 the City hired a GIS consultant to update our database from multiple source materials, including new as-built plans, the 2003 Fuss and O'Neil field survey, the 2014 Wright Pierce Stormwater System Evaluation data, and existing storm book drawings. The updated data was delivered in December of 2015. The results of this data are reflected throughout this report and will continue to be reviewed in 2022. For example, the original data supported 549 outfalls. The 2016 data has mapped 528 outfalls. QA/QC of the data is still ongoing through the reporting year. As a part of the GIS contract, the City identified a number of locations which need further investigation to address potential issues, including but not limited to, connectivity, flow direction, potential missing structures, incorrect structure types, etc. Addressing these areas will be a continued effort in 2023 and beyond.

The City continued to work on stormwater asset inventory in 2018 with the intent to clarify the ownership attribute on structures included in the City inventory which are likely either State owned, privately property, or should be categorized as 'to-be-determined'. The number of outfalls was updated to 510, according to the results of this effort. No changes were made in 2022 to the data. The Environmental Program Manager at Public Works has been the responsible party for outfall inspections with cooperation from the Highway Division.

IV.B.3.b.2	Indicate if your municipality chose to implement the tagging of outfalls activity under the IDDE minimum measure, activities and actions undertaken under the 2022 calendar year.

All outfalls have been located with GPS coordinates and implemented into our GIS system. Tagging of outfalls is not necessary as the City of Cranston has developed GIS data with sufficient accuracy to allow the identification of individual pipes and structures when revisiting outfall locations.

IV.B.3.b.3	Use the space below to provide a summary of the implementation of recording of system additional elements (catch basins, manholes, and/or pipes). Indicate if the activity was implemented as a result of the tracing of illicit discharges, new MS4 construction projects, and inspection of catch basins required under the IDDE and Pollution Prevention and Good Housekeeping Minimum Measures, and/or as a result of TMDL related requirements and/or investigations. Assess effectiveness of the program minimizing water quality impacts.

Any new City owned catch basins or other structures are submitted to the GIS Department to update the database. The highway staff also reports any newly discovered structures located in the field to the DPW office, which in turn also goes to the GIS Department.

On November 22, 2013 the City signed a contract with Wright-Pierce (WP) to conduct an extensive stormwater system evaluation in four areas of the city prone to urban flooding (WP Stormwater System Study). In 2015 GIS data from this evaluation was processed through our GIS Department. QA/QC, included the review of as-built plans from years prior, will continue to be an ongoing effort as staffing level permit, where discovered structures will also be reported to the GIS Department. Asset management software (Infonet) managed by our sewer department identifies potential discrepancies between GIS records and field activities. The DPW and GIS manager developed a web based storm structure maintenance log utilizing the ESRI Collector application. A tablet and hotspot were purchased for the Highway Staff to use. The DPW deployed one tablet for real time data collection to the highway staff in 2018.

In response to the RIDEM Audit Letter the city committed $1,500,000 in its capital budget spread over two years to address catch basin cleaning deficiencies. After a formal bidding process, Inland Waters (IW) was awarded a catch basin cleaning and inspection program contract dated August 13, 2019 (IW Contract). Catch basin cleaning was being captured utilizing the ESRI Collector Application. Inland Waters staff had been trained on identifying IDDE in the field and reporting it in the electronic stormwater log. DPW staff also continued utilizing Collector in the office to maintain electronic records of catch basin cleaning.

In 2020 a total of 3,118 storm structures were cleaned and/or inspected. In 2021 a total of 2,902 storm structures were cleaned and/or inspected. In 2022 a total of 3,582 storm structures were cleaned and/or inspected. City staff is in the process of reviewing the data and committing staff to address concerns. Repairs and illicit discharge investigations will be required for some of the structures.

Expanding web-based electronic records beyond storm structure maintenance will require interdepartmental cooperation to ensure completeness of the records. Continued evaluation will be considered to include BMP inspections, erosion control inspections, repairs, etc.

IV.B.3.b.4	Indicate if the IDDE ordinance was **not** developed, adopted, and submitted to RIDEM, explain reasons why, submit proposed schedule for completion and identify person(s) / Department and/or parties responsible for the completion of this requirement. **Date of Adoption:** April 25, 2005 If the Ordinance was amended in 2022, please indicate why changes were necessary.

IDDE ordinance was adopted in City Code Title 12.04.061. No amendments have been made to this ordinance.

IV.B.3.b.5.ii, iii, iv, & v	Use the space below to provide a summary of the implementation of procedures for receipt and consideration of complaints, tracing the source of an illicit discharge, removing the source of the illicit discharge and program evaluation and assessment as a result of removing sources of illicit discharges. Identify person(s) / Department and/or parties responsible for the implementation of this requirement.

Sources for illicit discharges, once identified, are evaluated for proper handling. Plans are developed and corrective measures are completed by the property owner. The Public Works Department is responsible for assessment and removal of illicit discharges. The current program is complaint based and passive in nature. The Public Works Director provides the letter of notification for repairs or remediation.

IV.B.3.b.5.vi	Use the space below to provide summary of implementation of catch basin and manhole inspections for illicit connections and non-stormwater discharges. If the required measurable goal of inspecting all catch basins and manholes for this purpose was not accomplished, please indicate reasons why, the proposed schedule of completion and identify person(s) / Department and/or parties responsible for the implementation of this requirement. Evaluate effectiveness of the implementation of this requirement. The operator must keep records of all inspections and corrective actions required and completed. **Number of Catch Basins and Manholes Inspected for illicit connections/IDDE: 3,582** **Percent Complete:** 70% in the reporting year **Date of Completion:** December 31, 2022

In 2009, the City entered into a contract with Fuss and O'Neill for a citywide inspection of illicit connections in stormwater structures. All structures were inspected by December 2010.

Since the FandO contract, the Highway Department has continued to inspect stormwater structures during their cleaning efforts. Due to limited equipment and staffing, the Highway Department averaged approximately 10-15% of structures inspected per year from 2011 to 2019. During this period, known flooding areas were prioritized for cleaning, and thus inspecting, but proactive cleanings were also a part of the program. In 2019, the Highway Department was given tablets and mobile GIS applications to make real-time updates to the GIS database. Highway continues to clean and inspect stormwater structures through the reporting year and ongoing.

Also in 2019, DPW advertised an RFP for a $1.5M project for stormwater structure cleaning and inspections. The project, which was awarded to Inland Waters, includes two sweeps of citywide structures, which there are 7,157 of, for both cleaning and inspection. Results from this project are entered into a database which is reviewed by the Environmental Program Manager for any comments indicative of illicit connections. Any indications are followed up by DPW personnel. Inland Waters completes approximately 50% of structures inspected per year through this project. Stormwater maintenance records from the database can be found in Appendix I.

In addition to the Inland Waters and Highway Department inspections, the City completes annual mosquito baiting in all 3,600 catch basins. The baiting involves a cursory inspection of each basin but is not reflected in the number of inspections reported above.

Even with the Inland Waters project and the Highway Department inspections, the 100% inspection requirement of stormwater structures per year has proven to be infeasible. However, the effort the City has implemented towards this requirement has also proven to be effective. The database created with the Inland Water project has yielded a robust dataset. This has been analyzed and cleaning/inspection schedule will be adjusted based on actual sediment accumulation observed from these inspections.

IV.B.3.b.5.vii	If dry weather surveys including field screening for non-stormwater flows and field tests of selected parameters and bacteria were not completed, indicate reasons why, proposed schedule for the completion of this measurable goal and person(s) / Department and/or parties for the completion of this requirement. Evaluate effectiveness of the implementation of this requirement. **The results of the dry weather survey investigations should be submitted to RIDEM electronically, if not already submitted or if revised since 2009, in the RIDEM-provided EXCEL Tables and should include visual observations for all outfalls during both the high and low water table timeframes, as well as sampling results for those outfalls with flow. The EXCEL Tables must include a report of all outfalls and indicate the presence or absence of dry weather discharges.** **Number of Outfalls Surveyed Jan-Apr:** 485 **Number of Outfalls Surveyed Jul-Oct:** 549 **Percent Complete:** 100% **Date of Completion:** December 2010________

The Department of Public Works completed the outfall survey and submitted the Excel results to RIDEM electronically in 2010. The wet weather survey was submitted by June (an extension was requested and granted for the extremely wet year) and the dry weather by November 2010. As mentioned in prior annual reports, high levels of fecal coliform near outfalls ST16606 and ST64041 were addressed.

IV.B.3.b.7	Use the space below to provide a description of efforts and actions taken as a result of for coordinating with other physically interconnected MS4s, including State and federal owned or operated MS4s, when illicit discharges were detected or reported. Identify person(s) / Department and/or parties responsible for the implementation of this requirement. Evaluate effectiveness of the implementation of this requirement.

The majority of interconnection in the City are with State-owned assets. During the 2014 Wright-Pierce Stormwater Study, the City received RIDOT's stormwater structure GIS data. However, the data was incomplete and discontinuous with the City's GIS data. In 2015, RIDOT entered into a consent decree with the USEPA, part of which requires the State to identify all of their stormwater structures and connectivity. This data, once shared with the municipalities, should address the majority of interconnections within the City. Nineteen major road arteries in the City are State-owned, including Reservoir Avenue, Elmwood Avenue, parts of Pippins Orchard Road, State Routes 10 and 37, and Interstate Route 95 and 295, to name a few. The City has been discussing GIS asset management solutions with RIDOT but no actions were taken in 2022. However, with the State's plan to address their Stormwater Control Plan for the lower Pawtucket River watershed in 2023, it's hopeful that, with the transfer of GIS data, these interconnections will begin to be identified as part of their project.

No illicit connections were identified in 2022 involving interconnections with the Cranston MS4. Edward Tally, Environmental Program Manager, is responsible for this requirement.

IV.B.3.b.8	Use the space below to provide a description of efforts and actions taken for the referral to RIDEM of non-stormwater discharges not authorized in accordance to Part I.B.3 of this permit or another appropriate RIPDES permit, which the operator has deemed appropriate to continue discharging to the MS4, for consideration of an appropriate permit. Identify person(s) / Department and/or parties responsible for the implementation of this requirement. Evaluate effectiveness of the implementation of this requirement.

Only under extraordinary conditions residential sub drains and sump pumps are allowed to connect to the MS4 under the direction of and with the approval of the Public Works Department. A drain connection permit is issued by the DPW and construction is overseen by the Engineering Division. Requests are granted when more conventional solutions are not reasonable or could cause a significant financial hardship. No tie-in requests of a sump pump to the City drainage network were requested or granted in 2022:

IV.B.3.b.9	Use the space below to provide a description of efforts and actions taken to inform public employees, businesses, and the general public of hazards associated with illegal discharges and improper disposal of waste, as well as allowable non-stormwater discharges identified as significant contributors of pollutants. Include a description on how this activity was coordinated with the public education minimum measure and the pollution prevention/good housekeeping minimum measure programs. Identify person(s) / Department and/or parties responsible for the implementation of this requirement. Evaluate effectiveness of the implementation of this requirement.

The Environmental Program Manager has ongoing discussions with Highway department staff regarding accurate data collection, illicit detection, and the overall goals and purpose of the program.

Public educational materials such as flyers and materials are available at the libraries and on the City website to inform businesses as well as the general public. The Clean City Coordinator is responsible for managing the trash and recycling program, which includes routine daily phone calls with residents about inquiries regarding proper waste disposal methods. The Public Works Personnel in Room 109 at City Hall are available from 8:30 to 4:30 to answer any questions and provide information to the public. The DPW staff is effectively educating the public on recycling, waste management, and stormwater concerns. The DPW landing page on the cities website is also a source of educational materials. It has been reasonably effective since its inception.

Additional Measurable Goals and Activities:
As previously mentioned in Minimum Control Measures 1 and 2, the City mailed a stormwater flyer in 2018 and updated the City website in 2019.

SECTION II.A Other Reporting Requirements - Illicit Discharge Investigation and System Mapping (Part IV.G.2.m)

# of Illicit Discharges Identified in 2022: 4	# of Illicit Discharges Tracked in 2022: 4
# of Illicit Discharges Eliminated in 2022: 4	# of Complaints Received: 0
# of Complaints Investigated: 1	# of Violations Issued: 0
# of Violations Resolved: 1	# of Unresolved Violations Referred to RIDEM: 0
Total # of Illicit Discharges Identified to Date (since 2003): 55	Total # of Illicit Discharges remaining unresolved at the end of 2022: 0

Summary of Enforcement Actions:

Two SSO discharges to the stormwater system and receiving streams/wetlands were reported to RIDEM and corrected by Veolia Water, as outlined in the 2022 CMOM report issued to the EPA and RIDEM.

The city received a call from a resident regarding excessive erosion and sediment discharge at the construction site of a single family dwelling at 45 Cindy Lane. The city investigated the complaint and confirmed the illicit discharge to the stormdrain system. A deficiency letter was issued on 7/16/2021 to the property owner and was also sent to the RIDEM, Office of Compliance and Inspections. The street was subsequently swept, erosion control was re-established, and catch basins were cleaned. A follow up conducted in 2022 was confirmed that no other discharges have occurred.

A summary of the 2022 SSO's and letters can be found in Appendix J.

Total # of Outfalls identified and mapped to date: 510

Total # of Interconnections with other MS4s identified and mapped to date: Unknown (minimum of 159)

Extent to which the MS4 system has been mapped (% complete): Approximately 90% of storm structures and approximately 80% of the connectivity.

Identify how the following components of the MS4 system have been mapped:	Not mapped	GIS	Auto CAD	Paper	Other (please specify)
Catch basins	☐	☒	☐	☐	☐
Manholes	☐	☒	☐	☐	☐
Pipes, ditches, and other conduits	☐	☒	☐	☐	☐
Flow direction and connectivity	☐	☒	☐	☐	☐
Interconnections with other regulated MS4s	☒	☐	☐	☐	☐
MS4-owned stormwater controls (BMPs, not including catch basins or manholes)	☐	☒	☐	☐	☐
Delineation of outfall catchment/drainage areas	☒	☐	☐	☐	☐

SECTION II.B Interconnections (Parts IV.G.2.k and IV.G.2.l)

Interconnection:	Date Found:	Location:	Name of MS4:	Originating Source:	Planned and Coordinated Efforts and Activities with Connectee:
Minimum of 159	2020 - Current	Citywide	RIDOT	TBD	2015 meeting with Providence and RIDOT. More to come in 2023

MINIMUM CONTROL MEASURE #4:
CONSTRUCTION SITE STORMWATER RUNOFF CONTROL
(Part IV.B.4 General Permit)

SECTION I. OVERALL EVALUATION:

GENERAL SUMMARY, STATUS, APPROPRIATENESS AND EFFECTIVENESS OF MEASURABLE GOALS:

Include information relevant to the implementation of each measurable goal, such as activities implemented to support the review, issuance and tracking of permits, inspections and receipt of complaints. Discuss activities to be carried out during the next reporting cycle. If addressing TMDL requirements, please indicate rationale for the activities chosen to address the pollutant of concern.

(Note: Identify parties responsible for achieving the measurable goals and reference any reliance on another entity for achieving measurable goals. Mark with an asterisk (*) if this person/entity is different from last year.)

Responsible Party Contact Name & Title: David Rodio, Building Official

Phone: (401) 780-6010 **Email:** drodio@cranstonri.gov

IV.B.4.b.1	Indicate if the Sediment and Erosion Control and Control of Other Wastes at Construction Sites ordinance was **not** developed, adopted, and submitted to RIDEM, explain reasons why, submit proposed schedule for completion and identify person(s) / Department and/or parties responsible for the completion of this requirement. **Date of Adoption:** April 25, 2005 If the Ordinance was amended in 2022, please indicate why changes were necessary and provide references to the amended portions of the local codes/ordinances.

The ordinance was developed and adopted in City Code Title 12.04.063. There were no changes to the ordinance in the reporting year.

The Building Inspection Department, in conjunction with the Department of Public Works, are responsible for this requirement.

IV.B.4.b.6	Use the space below to describe actions taken as a result of receipt and consideration of information submitted by the public.

A significant amount of projects in the City involve public meetings. Building Inspection has the ability to and will stop a project if the contractor is not installing and/or maintaining erosion controls as shown on the approved plans.

IV.B.4.b.8	Use the space below to describe activities and actions taken as a result of referring to the State non-compliant construction site operators. The operator may rely on the Department for assistance in enforcing the provisions of the RIPDES General Permit for Stormwater Discharges Associated with Construction Activity to the MS4 if the operator of the construction site fails to comply with the local and State requirements of the permit and the non-compliance results or has the potential to result in significant adverse environmental impacts.

Oversight of major land developments are subject to review by the Building Inspections Department with assistance from the Engineering Department. In many cases, bonding is necessary for construction projects. Proper erosion and sediment control BMP's must be in place and maintained in order to release the bonds. Deficiencies are required to be addressed by the building inspections department. In 2022, the DPW is not aware of any conditions requiring the referral of non-compliant construction site operators to the State.

Additional Measurable Goals and Activities

SECTION II. A - Plan and SWPPP/SESC Plan Reviews during Year 19 (2022), Part IV.B.4.b.2: Issuance of permits and/or implementation of policies and procedures for all construction projects resulting in land disturbance of greater than 1 acre.
Part IV.B.4.b.4: Review 100% of plans and SWPPPs/SESC Plans for construction projects resulting in land disturbance of 1-5 acres, not reviewed by other State programs, must be conducted by adequately trained personnel and incorporate consideration of potential water quality impacts.

# of Construction Applications Received: 11

# of Construction Reviews Completed: 11

# of Permits/Authorizations Issued: 11

Summary of Reviews and Findings, include an evaluation of the effectiveness of the program.
All site plans and SWPPP/SESC plans have a similar review process, whether they are over an acre of land disturbance or not. However, the personnel/departments that get involved in a plan review differ from project to project. The more major land development projects start with the Planning Department where developers can submit their applications. Depending on the type of development, other departments will be triggered for their specific review.

For subdivision and commercial development projects, the Development Plan Review Committee must approve the project. This committee is comprised of representatives from the Planning Department, Department of Public Works, Engineering Department, Fire Department, Economic Development, and Building Inspections/Zoning.

In the reporting year, there were 6 major land developments, 4 major commercial developments, and 1 solar land development on Natick Avenue.

The protocol currently in place is reliant on interdepartmental cooperation between Planning, Public Works, Engineering, and Building Inspections.

Identify person(s) /Department and/or parties responsible for the implementation of this requirement:
Building Inspections Department is responsible for this requirement with input from the Department of Public Works, Planning Department.

Identify the type and date of training this person(s)/parties has/have received to be considered "adequately trained":
In 2019, the City received Soil Erosion and Sediment Control Online Training provided by the URI Cooperative Extension and StormwaterONE. The training included a 4-level online training program, the first of which was completed in 2020 by the DPW. The other 3 levels are available for purchase. Level 2 and 3 training should be considered for specific staff.

The Planning Department personnel is trained through experience and the City's subdivision and land development regulations, which include a thorough checklist of compliance requirements for applicants to complete prior to project approval. These regulations can be found at the Planning Department's webpage or at the link below:

https://www.cranstonri.gov/departments/planning/

Richard A. Bernardo, Director of Public Works, has many years of experience reviewing plans. Other DPW employees, Edward Tally and Justin Mateus, have been trained in soil erosion and sediment control and provide insight during the DPW plan review process.

SECTION II.B - Erosion and Sediment Control Inspections during Year 19 (2022), Parts IV.G.2.n and IV.B.4.b.7:
Inspection of 100% of all construction projects within the regulated area that discharge or have the potential to discharge to the MS4. (The program must include two inspections of all construction sites, first inspection to be conducted during construction for compliance of the Erosion and Sediment controls at the site, the second to be conducted after the final stabilization of the site.) Inspections must be conducted by adequately trained personnel.

# of Active Construction Projects: 45 Flagged	
# of Site Inspections: 45 Flagged	# of Complaints Received: 0
# of Violations Issued: 0	# of Unresolved Violations Referred to RIDEM: 0

Summary of Enforcement Actions, include an evaluation of the effectiveness of the program.
Prior to construction, a site inspection is complete to ensure all erosion and sediment control methods have been properly installed. All violations are discussed with the contractor and are resolved before the start of construction. The Building Inspections Department has enforcement abilities and can issue a cease and desist until corrective actions are taken.

The above numbers are based on data from the 2022 building permits flagged for erosion control inspections. See Appendix K. There is currently no specific database dedicated to erosion and sediment control inspections.

Identify person(s) /Department and/or parties responsible for the implementation of this requirement:
Building Inspections Department

Identify the type and date of training this person(s)/parties has/have received to be considered "adequately trained":
The Building Inspection Department has not yet been adequately trained. See Section II. A – Plan and SWPPP/SESC Plan Reviews during Year 18(2021), Part IV.B.4.b.2 for plans to implement Level 2 training.

MINIMUM CONTROL MEASURE #5: POST CONSTRUCTION STORMWATER MANAGEMENT IN NEW DEVELOPMENT AND REVELOPMENT (Part IV.B.5 General Permit)

SECTION I. OVERALL EVALUATION:

GENERAL SUMMARY, STATUS, APPROPRIATENESS AND EFFECTIVENESS OF MEASURABLE GOALS:

Include information relevant to the implementation of each measurable goal, such as activities implemented to support the review, issuance and tracking of permits, inspections and receipt of complaints, etc. Please indicate if any projects have incorporated the use of Low Impact Development techniques. Discuss activities to be carried out during the next reporting cycle. If addressing TMDL requirements, please indicate rationale for the activities chosen to address the pollutant of concern.

(Note: Identify parties responsible for achieving the measurable goals and reference any reliance on another entity for achieving measurable goals. Mark with an asterisk (*) if this person/entity is different from last year.)

Responsible Party Contact Name & Title: David Rodio, Building Official

Phone: (401) 780-6010 **Email:** drodeo@cranstonri.gov

IV.B.5.b.5	Use the space below to describe activities and actions taken to coordinate with existing State programs requiring post-construction stormwater management.

The Building Inspection Department has been notified of the new inspection requirements for the MS4 program. Prior to bond reduction, the Engineering Department must be contacted to perform a final inspection. During the inspection, they look for any stormwater runoff from impervious surface and discharges to neighboring properties. If the contract follows all the City's plan requirements and passes the final inspection, bond reduction will be authorized for the new stormwater system. The owner is then responsible for maintaining any post-construction BMP's, as well as their associated O&M records. Operations and maintenance records must be available upon DPW request.

The Planning Department is copied of RIPDES permit applications.

IV.B.5.b.6	Use the space below to describe actions taken for the referral to RIDEM of new discharges of stormwater associated with industrial activity as defined in §1.4(A)(111) in the *Regulations for the Rhode Island Pollutant Discharge Elimination System* (RIPDES Regulations) (the operator must implement procedures to identify new activities that require permitting, notify RIDEM, and refer facilities with new stormwater discharges associated with industrial activity to ensure that facilities will obtain the proper permits).

All land development projects greater than 1 acre are required to apply to RIDEM by law. RIDEM permitting requirements are required for the approval of the Planning Department for any land development project. The Planning Department then requires the applicants to provide proof of approved state permits and the Building Inspection Department monitors compliance with the approved plans and specifications.

IV.B.5.b.9	Indicate if the Post-Construction Runoff from New Development and Redevelopment Ordinance was **not** developed, adopted, and submitted to RIDEM, explain reasons why, submit proposed schedule for completion and identify person(s) / Department and/or parties responsible for the completion of this requirement. **Date of Adoption:** April 25, 2005 If the Ordinance was amended in 2022, please indicate why changes were necessary. Please also indicate if amendments have been made based on the 2010 *RI Stormwater Design and Installation Standards Manual*, and provide references to the amended portions of the local codes/ordinances.

Ordinance developed and adopted in City Code Title 12.04.063. Adoption of a Conservation Subdivision or LID ordinance is identified as an objective in the City's Comprehensive Plan. All new and re-development will be subject to follow RIDEM Stormwater Design and Installation Manual (2010).

The Building Inspection Department, in conjunction with the Department of Public Works, is responsible for this requirement.

IV.B.5.b.12	Use the space below to describe activities and actions taken to identify existing stormwater structural BMPs discharging to the MS4 with a goal of ensuring long term O&M of the BMPs.

All structural stormwater BMP's have been identified and incorporated into the City's GIS database, and new ones are added as they're installed. The City currently maintains four types of BMP's: 70 retention basins, 5 Vortechnic units, and 2 bioretention basin, and one underground infiltration basin. See Appendix L for the list of City BMP's. In addition, the City will be adding an additional underground infiltration basin in 2023.

The retention basins are subject to annual inspections from the Department of Public Works and/or the Engineering Department. The inspections document deficiency within the system and any routine maintenance is sent to the Highway Department while more complicated repairs are contracted out. In the reporting year, the inspections were updated to utilize GIS, where a database and queries can be used to better prioritize the inspections. Historical records will be added to the inspection database, as staffing permits.

The Vortechnic units are also subject to an annual cleaning and inspection. Since installed in 2004 and 2006, the Highway Division maintained these structures and the Engineering Department inspected them. Detailed analysis of the sediment removal was performed in 2014, 2015, 2016, 2017, 2018, & 2020. Since the origin of the Inland Water contract, they have been maintaining the Vortechnic units and collecting data to refine the maintenance schedule.

The bioretention basin on Narragansett Boulevard, since its installation, has been maintained by the City. Maintenance activities include clearing the inlet and mowing the grass every 2-3 weeks. Grass mowing should be spaced further apart but the disapproval from neighboring residents make that undesirable. In the spring of 2019, the City hired a landscaper to re-stabilize the vegetation and embankments. In September of 2020, the Edgewood Waterfront Preservation Association and Save the Bay coordinated a landscaping effort to weed and reseed the system. The bioretention basin at the end of Cottage Street is maintained in a similar fashion.

Additional Measurable Goals and Activities

SECTION II.A. - Plan and SWPPP/SWMP Reviews during Year 19 (2022), Part IV.B.5.b.4: Review 100% of post-construction BMPs for the control of stormwater runoff from new development and redevelopment projects that result in discharges to the MS4 which incorporates consideration of potential water quality impacts (the program requires reviewing 100% of plans for development projects greater than 1 acre, not reviewed by other State programs). Plan reviews must be conducted by adequately trained personnel.

# of Post-Construction Applications Received: 7

# of Post-Construction Reviews Completed: 7

# of Permits/Authorizations Issued: 7

Summary of Reviews and Findings, include an evaluation of the effectiveness of the program.
The plan review process is outline in MCM #4, Section II. A - Plan and SWPPP/SESC Plan Reviews during Year 19 (2022). This process is the same whether or not BMP's are incorporated in the project. If BMP's are incorporated, their functionality and detail drawings are reviewed by the Engineering Department during the plan review process, as well as the O&M manual and hydraulic calculations.

Identify person(s) /Department and/or parties responsible for the implementation of this requirement:
Building Inspections Department and Engineering Department

Identify the type and date of training this person(s)/parties has/have received to be considered "adequately trained":
The Building Inspection Department has not yet been adequately trained. See Section II. A – Plan and SWPPP/SESC Plan Reviews during Year 18(2021), Part IV.B.4.b.2 for plans to implement Level 3 training.

SECTION II.B. - Post Construction Inspections during Year 19 (2022), Parts IV.G.2.o and IV.B.5.b.10 - Proper Installation of Structural BMPs: Inspection of BMPs, to ensure these are constructed in accordance with the approved plans (the program must include inspection of 100% of all development greater than one acre within the regulated areas that result in discharges to the MS4 regardless of whom performs the review). Inspections must be conducted by adequately trained personnel.

# of Active Construction Projects: 4	# of Construction Projects Completed: 4
# of Site Inspections for proper Installation of BMPs: not tracked	# of Complaints Received: not tracked
# of Violations Issued: 0	# of Unresolved Violations Referred to RIDEM: 0

Summary of Enforcement Actions:
All development projects are inspected by the Building Inspection Department. During their inspection, a brief inspection of the BMP's is included. However, a more thorough inspection should be performed on these structures. Once the proper training has been completed by the inspectors, the inspection quality should increase.

Identify person(s) /Department and/or parties responsible for the implementation of this requirement:
Building Inspections Department

Identify the type and date of training this person(s)/parties has/have received to be considered "adequately trained":
The Building Inspection Department has not yet been adequately trained. See Section II. A – Plan and SWPPP/SESC Plan Reviews during Year 18(2021), Part IV.B.4.b.2 for plans to implement Level 2 training.

SECTION II.C. - Post Construction Inspections during Year 19 (2022), Parts IV.G.2.p and IV.B.5.b.11 - Proper Operation and Maintenance of Structural BMPs: Describe activities and actions taken to track required Operations and Maintenance (O&M) actions for site inspections and enforcement of the O&M of structural BMPs. Tracking of required O&M actions for site inspections and enforcement of the O&M of structural BMPs.

# of Site Inspections for proper O&M of BMPs: 0	# of Complaints Received: 0
# of Violations Issued: 0	# of Unresolved Violations Referred to RIDEM: 0

Summary of Activities and Enforcement Actions. Evaluate the effectiveness of the Program in minimizing water quality impacts.
The City has yet to implement a procedure for ensuring proper O&M of privately-owned BMP's. This has been an ongoing discussion between the Department of Public Works and the Building Inspections Department but no resolution has been concluded thus far. It's anticipated that a resolution may come in the next reporting year.

Identify person(s) /Department and/or parties responsible for the implementation of this requirement:
Either the Building Inspections Department, Department of Public Works, or Engineering Department – to be determined.

Strategies for requiring the use of non-structural Low Impact Development (LID) site design practices and techniques into stormwater management designs for new and redevelopment projects, check all that apply in your municipality/MS4:

☒ None
☐ Ordinances or by-laws requiring LID standards (e.g. reduced road widths, % conservation land, etc.)
☐ Ordinances or by-laws requiring LID design at conceptual review (i.e., Pre-application and/or Master Plan) stages for municipal review prior to plans being engineered.
☐ Ordinances or by-laws requiring LID standards only in impaired waterbody drainage areas
☐ Local development regulations requiring use of LID to the maximum extent practicable
☐ LID Guidance available in written form
☐ LID Guidance available at pre-application meetings
☐ Other strategies to ensure incorporation of LID to the maximum extent practicable, describe:

Person(s)/Department responsible for reviewing submissions for LID:

The Planning Department

Person(s)/Department/Board responsible for approving submissions for LID at Preliminary and/or Final Review, if applicable:

The Planning Department

Are you aware of the Municipal LID Self-Assessment that was introduced by the DEM and RI NEMO in 2019 and finalized and distributed in March 2020?

☒ Yes ☐ No

A final version of the Municipal LID Self-Assessment is available on the DEM's website:
http://www.dem.ri.gov/programs/benviron/water/permits/ripdes/stwater/t4guide/lid-checklist-primer.pdf

Additional guidance is also available:

http://www.dem.ri.gov/programs/benviron/water/permits/ripdes/stwater/t4guide/lid-assessment-fs.pdf

http://www.dem.ri.gov/programs/benviron/water/permits/ripdes/stwater/pdfs/lidfactsheet.pdf

http://www.dem.ri.gov/programs/benviron/water/permits/ripdes/stwater/t4guide/lidplan.pdf

Did your community complete the Municipal LID Self-Assessment? ☐ Yes ☒ No

If yes and it was completed in 2022, please provide a copy as an attachment to this Annual Report, if you have not already submitted it.

If no, does your community plan to complete it?

☒ Yes ☐ No

If No, why not? ______

Strategies being implemented to ensure long-term Operation and Maintenance (O&M) of privately-owned structural stormwater BMPs, check all that apply in your municipality/MS4:

☐ None
☒ Ordinances or by-laws identify BMP inspection responsible party
☐ Ordinances or by-laws identify BMP maintenance responsible party
☐ Ordinances or by-laws identify BMP inspections and maintenance requirements
☐ Ordinances or by-laws provide for easements or covenants for inspections and maintenance
☐ Ordinances or by-laws require for every constructed BMP an inspections and maintenance agreement
☐ Ordinances or by-laws contain requirements for documenting and detailing inspections
☐ Ordinances or by-laws contain requirements for documenting and detailing maintenance
☐ Ordinances or by-laws contain authority to enforce for lack of maintenance or BMP failure
☐ The MS4 is responsible for inspections of all privately-owned BMPs
☐ The MS4 is responsible for maintenance of all privately-owned BMPs
☐ Establishment of escrow account for use in case of failure of BMP
☒ Other strategies to ensure long-term O&M of privately-owned BMPs, describe:

O&M reporting is being required for privately owned and maintained subdivision. Reports are reviewed by the Engineering Department.

Does your municipality/MS4 require the use BMPs Operations and Maintenance Agreements? ☒ YES ☐ NO

If YES, please indicate if the Operations and Maintenance Agreements include the following:

a.	Party responsible for the long-term O&M of permanent stormwater management BMPs	☒ YES	☐ NO
b.	A description of the permanent stormwater BMPs that will be operated and maintained	☒ YES	☐ NO
c.	The location of the permanent stormwater BMPs that will be operated and maintained	☒ YES	☐ NO
d.	A timeframe for routine and emergency inspections and maintenance of all permanent stormwater management BMPs	☒ YES	☐ NO
e.	A requirement that all inspections and maintenance activities are documented	☒ YES	☐ NO
f.	Annual submission of inspection/maintenance certification/documentation to the MS4	☒ YES	☐ NO
g.	Stormwater management easement for access for inspections and maintenance or the preservation of stormwater runoff conveyance, infiltration, and detention areas and other stormwater controls and BMPs by persons other than the property owner	☒ YES	☐ NO
h.	Steps available for addressing a failure to maintain the stormwater controls and BMPs	☐ YES	☒ NO

Please elaborate, if appropriate:

For item g, easements are drafted on an as-needed basis and recorded in the land evidence records. Specifics are determined on a project-to-project basis.

Does your municipality/MS4 keep an inventory of privately-owned BMPs? ☒ YES ☐ NO

For privately-owned structural BMPs, does your municipality/MS4 have a system for tracking:

a.	Agreements and arrangements to ensure O&M of BMPs?	☒ YES	☐ NO
b.	Inspections?	☐ YES	☒ NO
c.	Maintenance and schedules?	☐ YES	☒ NO
d.	Complaints?	☐ YES	☒ NO
e.	Non-Compliance?	☐ YES	☒ NO
f.	Enforcement actions?	☐ YES	☒ NO

Do you use an electronic tool (e.g. GIS, database, spreadsheet) to track post-construction BMPs, inspections, and maintenance? ☐ YES ☒ NO

If yes, please elaborate on which tools are used:

The City intends om updating its GIS database to include private BMP's, as staffing permits. The current GIS only contains City-owned BMP's. An independent project would be required in order to inventory privately-owned BMP's.

NOTE: BMP maintenance tasks can be a great way to involve and educate the community to their purpose and function. BMPs have the potential to create a highly interactive environment for community members and volunteers to get involved.

MINIMUM CONTROL MEASURE #6: POLLUTION PREVENTION AND GOOD HOUSEKEEPING IN MUNICIPAL OPERATIONS (Part IV.B.6 General Permit)

SECTION I. OVERALL EVALUATION:

GENERAL SUMMARY, STATUS, APPROPRIATENESS AND EFFECTIVENESS OF MEASURABLE GOALS:

Include information relevant to the implementation of each measurable goal, such as activities and practices used to address on-going requirements, and personnel responsible. Discuss activities to be carried out during the next reporting cycle. If addressing TMDL requirements, please indicate rationale for the activities chosen to address the pollutant of concern.

(Note: Identify parties responsible for achieving the measurable goals and reference any reliance on another entity for achieving measurable goals. Mark with an asterisk (*) if this person/entity is different from last year.)

Responsible Party Contact Name & Title: Edward Tally, Environmental Program Manager

Phone: (401) 780-3173 **Email: etally@cranstonri.gov**

IV.B.6.b.1.i

Use the space below to describe activities and actions taken to identify structural BMPs (these include but are not limited to: retention/detention basins, vegetated treatment, infiltration and pre-treatment controls, etc.) owned or operated by the small MS4 operator (the program must include identification and listing of the specific location and a description of all structural BMPs in the SWMPP and update the information in the Annual Report). Evaluate appropriateness and effectiveness of this requirement.

Do you have an inventory of MS4-owned/operated BMPs? ☒ YES ☐ NO

Total # of MS4-owned/operated BMPs (does not include CBs or MHs): 79

All BMP's owned or operated by the City were located by GPS coordinates originally identified in excel spreadsheets. During the 2015 GIS update, 70 retention basins were identified and incorporated into the database under a separate layer. The distinction between privately-owned and City-owned is made during BMP inspections.

In 2006 and 2008, Vortechnic units were installed during the Stillhouse Cove Revetment and Drainage Improvements, and also at the ends of Norwood Avenue and Shaw Avenue. In 2016, the bioretention basin on Narragansett Boulevard was installed. In 2022, the Spectacle Park underground infiltration basin and vegetated infiltration basin was installed, as well as the underground infiltration basin on Barrett Street. In 2023, another underground infiltration basin is scheduled to be installed on Pomham Street. All of these BMP's are/will be added to the GIS database as they're installed.

IV.B.6.b.1.ii

Use the space below to describe activities and actions taken for inspections, cleaning and repair of detention/retention basins, storm sewers and catch basins with appropriate scheduling given intensity and type of use in the catchment area. Evaluate appropriateness and effectiveness of this requirement.

# of MS4-owned/operated BMPs inspected in 2022: 47

# of MS4-owned/operated BMPs maintained/cleaned in 2022: 12

# of MS4-owned/operated BMPs repaired in 2022: 0

Does your municipality/MS4 have a system for tracking:

a. Inspection schedules of MS4-owned BMPs? ☒ YES ☐ NO
b. Maintenance/cleaning schedules of MS4-owned BMPs? ☒ YES ☐ NO
c. Repairs, corrective actions needed? ☒ YES ☐ NO
d. Complaints? ☐ YES ☒ NO

Do you use an electronic tool (e.g. GIS, database, spreadsheet) to track stormwater BMPs, inspections, and maintenance? ☒ YES ☐ NO

The maintenance procedure for structural BMP's (not including CB's or MH's) is outlined in MCM #5, Section IV.B.5.b.12. The maintenance procedure for CB's and MH's is outlined in MCM #3, Section IV.B.3.b.5.vi.

These maintenance procedures have been effective and are suitable for the City's abilities.

IV.B.6.b.1.iii	Use the space below to describe activities and actions taken to support the requirement of yearly inspection and cleaning of all catch basins (a lesser frequency of inspection based on at least two consecutive years of operational data indicating the system does not require annual cleaning might be acceptable). Evaluate appropriateness and effectiveness of this requirement. **Total # of CBs within regulated area (including SRPW and TMDL areas):** 5,133 (7,157 including MH's) **# of CBs inspected in 2022:** 3,582 **% of Total inspected:** 70% **# of CBs cleaned in 2022:** 3,542 **% of Total cleaned:** 69% If determined, approximate quantity of sand/debris collected by cleaning of catch basins: 1,737 tons Location used for the disposal of debris: The Highway Department – 493 Phenix Avenue, Cranston, RI Do you use an electronic tool (e.g. GIS, database, spreadsheet) to track the inspections and cleaning of catch basins? ☒ YES ☐ NO
The maintenance procedure for CB's is outlined in MCM #3, Section IV.B.3.b.5.vi.	
IV.B.6.b.1.iv	Use the space below to describe activities and actions taken to minimize erosion of road shoulders and roadside ditches by requiring stabilization of those areas. Evaluate appropriateness and effectiveness of this requirement.
Erosion control on road shoulders is evaluated on a case by case basis and is reactive in nature. As an eroded road shoulder is reported, whether by City staff or through a public complaint, the Engineering Department will evaluate the deficiency and the Highway Department will stabilize it until a permanent solution is implemented.	
IV.B.6.b.1.v	Use the space below to describe activities and actions taken to identify and report known discharges causing scouring at outfall pipes or outfalls with excessive sedimentation, for the Department to determine on a case-by-case basis if the scouring or sedimentation is a significant and continuous source of sediments. Evaluate appropriateness and effectiveness of this requirement.
In general, the City will evaluate outfall effectiveness on a complaint basis. The Department of Public Works and the Highway Department complete a number of investigations throughout the year addressing drainage concerns. The necessary equipment is deployed to address drainage issues on a case by case basis. A full inspection of all outfalls and associated sedimentation has not been completed since 2010. Based on field investigations, there are a number of outfall locations that would require removal of sediments. Outfall sedimentation will be further evaluated in 2023 as staffing and funding permits. In December 2011, the City contracted Woodward & Curran to determine the rate of sediment accumulation and feasibility of removing the sediment at the 48" outfall on Lake Street (called SpP-F Stormwater Outfall in the report). This location is the outfall for the largest drainage area in the urbanized portion of the City. Woodward and Curran was retained on to produce Lake Street Outfall Maintenance Project Documents, which prepared the City for construction activities, including dredging and headwall repairs. The City has decided not to pursue this improvement until after a TMDL Structural Measures and Internal Pond Management study is completed. See TMDL requirements below for additional information.	

IV.B.6.b.1.vi	Use the space below to indicate if all streets and roads within the urbanized area were swept annually and if not indicate reason(s). The operator is required to sweep all streets and roads within the regulated area annually unless a lesser frequency can be justified based on at least two consecutive years of data indicating the street or road does not require annual sweeping. Evaluate appropriateness and effectiveness of this requirement. **Total roadway miles within regulated area (including SRPW and TMDL areas):** 318 miles **Roadway miles that were swept in 2022:** 478 miles **% of Total swept:** 150% Type of sweeper used: ☒ Rotary brush street sweeper ☐ Vacuum street sweeper If determined, approximate quantity of sand/debris collected by sweeping of streets and roads: 2,043 tons Location used for the disposal of debris: The Highway Department – 493 Phenix Avenue, Cranston, RI Do you use an electronic tool (e.g. GIS, database, spreadsheet) to track the annual sweeping of streets and roads? ☐ YES ☒ NO

In July of 2013, a GIS analysis was complete of the roadway centerline data within the City, which yielded the results of 318 City-owned miles, 67.2 States-owned miles, an additional 6.8 State-owned miles within the Pastore Complex, and 6.8 privately-owned miles.

All City streets are swept at least once annually. Since 2013, there's additional street sweeping of the Stillhouse Cove watershed and the TMDL Spectacle Pond watershed.

IV.B.6.b.1.vii	Use the space below to describe activities and actions taken for controls to reduce floatables and other pollutants from the MS4. Evaluate appropriateness and effectiveness of this requirement.

To control floatables before they enter the MS4, the City hires a Clean City Coordinator, who, as mentioned in previous sections, is responsible for overseeing and managing the trash and recycling program in the City. The Clean City Coordinator is constantly educating the public on what they can and can't recycle, which is keeping floatable out of the MS4 and the landfill.

To control floatables that have entered the system, the City installed 5 Vortechnic units on the Providence River waterfront, which have proven to be highly effective in catching floatables before discharging to the river. These structures, are cleaned annually. Also, catch basins in the City were installed, on average, with a 3' sump, which allows for some storage volume before discharged into the piped system. The City also installed a bioretention basin that exposes floatable as they pass through. Due to the frequent maintenance schedule with this system, floatables are often removed before they're able to either pass through or exit the system.

IV.B.6.b.1.viii	Use the space below to describe the method for disposal of waste removed from MS4s and waste from other municipal operations, including accumulated sediments, floatables and other debris and methods for record-keeping and tracking of this information. Do you have a system for tracking actions to remove and dispose of waste? ☒ YES ☐ NO

Sediment from catch basin cleaning and street sweeping activities are collected and stockpiled at the Highway garage for screening to remove the garbage from the reusable granular materials. The garbage removed is then brought to the Rhode Island Resource Recovery Corporation (RIRRC).

In addition to catch basin cleaning and street sweeping, the City services public waste receptacles on public properties throughout the City and participates in numerous neighborhood cleanup events. The City disposes the waste at RIRRC and gets a dumping receipt. A tally of these receipts came to 130.02 tons in 2022. The City also completes an end-of-year report for RIRRC, which highlights the different materials the City disposed of through the reporting year. See Appendix M for the report.

IV.B.6.b.2	Use the space below to describe any operations under the MS4's legal control, including activities and facilities, that have the potential to introduce pollutants into stormwater runoff, such as pesticide/herbicide/fertilizer application, chemical and waste handling and storage, vehicle fueling, vehicle washing, vehicle maintenance, sand/salt storage, snow disposal, facilities such as public works facilities with maintenance and storage yards, waste transfer stations, municipal wastewater and water treatment facilities, and municipal parking owned and operated by the MS4. Does your MS4 have any salt piles, or piles containing salt, used for deicing? ☒ YES ☐ NO If yes: Are these piles covered to prevent exposure to rain, snow, snowmelt and/or runoff? ☒ YES ☐ NO If yes, check the type of cover used: ☒ Weatherproof permanent structure/shelter ☐ A temporary, secured, durable, waterproof covering (e.g., tarpaulin, polyethylene, polyurethane) Are these piles located on impermeable surfaces? ☒ YES ☐ NO

In 2018, the City prepared a Spill Prevention Control Plan at the Fleet Maintenance building to accommodate the aboveground storage tanks.

During snow removal operations, the City used a sand/salt mixture to treat the roads. The material is stored at the Highway Department under a permanently covered structure.

The municipal wastewater treatment plant (WPCF) has their own RIPDES Multisector General Permit. Veolia, the City's Sewer Department, submits a separate annual report for the stormwater features within the facility.

IV.B.6.b.5	For all facilities with discharges of stormwater associated with industrial activity, use the space below to describe and indicate activities and corrective actions for the evaluation of compliance. This evaluation must include visual quarterly monitoring; routine visual inspections of designated equipment, processes, and material handling areas for evidence of, or the potential for, pollutants entering the drainage system or point source discharges to waters of the State; and inspection of the entire facility at least once a year for evidence of pollution, evaluation of BMPs that have been implemented, and inspection of equipment. A Compliance Evaluation report summarizing the scope of the inspection, personnel making the inspection, major observations related to the implementation of the Stormwater Management Plan (formerly known as a Stormwater Pollution Prevention Plan), and any actions taken to amend the Plan must be kept for record-keeping purposes.

The drain cleaning staff has been trained to inspect the system as they clean it and report any unusual circumstances to Public Works for an engineer to inspect and recommend repairs. All CB's cleaned are recorded utilizing the ESRI Collector application for record keeping purposes, which includes the depth of material removed as well as photographs of the basin.

Commercial and industrial users are required to submit an application with the City's Municipal Industrial Pretreatment Program administered by the City's Sewer Department. This is an effective way to determine if the potential for stormwater pollution exists.

In 2017, the City submitted and received an approved SWMP on behalf of the Cranston Water Pollution Control Facility in accordance with RIPDES Multisector General Permit. In October of 2019 the SWMP was revised to include new and revised permit requirements. Fuss and O'Neill submitted these revisions on the City's behalf to RIDEM. The City GIS database includes storm structures and outfalls located on the WPCF property.

IV.B.6.b.6	Use the space below to describe all employee training programs used to prevent and reduce stormwater pollution from activities such as park and open space maintenance, fleet and building maintenance, new construction and land disturbances, and stormwater system maintenance for the past calendar year, including staff municipal participation in trainings offered by other parties (e.g. SNEP, EPA) and all in-house training conducted by municipality. Evaluate appropriateness and effectiveness of this requirement. How many stormwater management trainings have been provided to *municipal employees* during this reporting period? 10 were attended What was the date of the training? Training Topic(s): ____________ How many *municipal employees* attended this training? _____ What was the date of the training? ___/___/____ Training Topic(s): ____________ How many *municipal employees* attended this training? _____ [Add additional trainings as necessary.] What percent of *municipal employees* in relevant positions and departments received stormwater management training? 30% Have *municipal employees* that are responsible for inspecting or cleaning catch basins also been trained to detect and report illicit connections or non-stormwater discharges? ☒ YES ☐ NO

See appendix G for a list of trainings attended by municipal employees in the reporting year.

In 2018, the Highway staff was trained on how to properly collect maintenance data with ArcGIS Collector mobile application. Part of training was also visual inspections and knowing what to look for, such as illicit connections. The benefits of this protocol, such as water quality improvements, were highlighted during the training.

Unofficial trainings and field 'ride along' events were conducted in 2022 to assist new users on collecting and editing data with the mobile application. Topics discussed was proper data collection, illicit connections, evaluation of observational water quality data, and signs of contamination.

IV.B.6.b.7	Use the space below to describe actions taken to ensure that new flow management projects undertaken by the operator are assessed for potential water quality impacts and existing projects are assessed for incorporation of additional water quality protection devices or practices. Evaluate appropriateness and effectiveness of this requirement.

Evaluation of projects for potential water quality impacts will be assessed for additional water quality protection devices of practices by the Planning Department, Engineering Department, and Building Inspection Department. The MS4 coordinator and Director of Public Works have been working with these departments and RIDEM in order to ensure proper assessments are being conducted.

Additional Measurable Goals and Activities
No additional runoff is allowed from new development projects.

SECTION II.A - Structural BMPs (Part IV.B.6.b.1.i) These include but are not limited to: retention/detention basins, vegetated treatment, infiltration and pre-treatment controls, etc.

BMP ID:	Location:	Name of BMP Owner/Operator:	Description of BMP:	Frequency of Inspection:
See Appendix L				

SECTION II.B - Discharges Causing Scouring or Excessive Sedimentation (Part IV.B.6.b.1.v)

Outfall ID:	Location:	Description of Problem:	Description of Remediation Taken, include dates:	Receiving Water Body Name/Description:
N/A				

SECTION II.C - Note any planned municipal construction projects/opportunities to incorporate water quality BMPs, low impact development, or activities to promote infiltration and recharge (Part IV.G.2.j).

As mentioned throughout the report, the City completed 1 SEP project and 1 SNEP grant project in 2022. The SEP project was the Spectacle Pond Phosphorus Reduction Project, which includes an underground infiltration basin and vegetated infiltration basin. The SNEP grant project was for an end-of-road underground infiltration basins on Barrett Street. One additional SNEP project consisting of an end of road underground infiltration basin at the end of Pomham Street will be completed in 2023.

The City has begun coordination with RIDOT to assist in their Stormwater Control Plans for the Pawtuxet River watershed. The State is looking to install a large BMP along a state-owned road within the City. The collaboration will help identified the proper location for this project. A construction schedule has not yet been generated.

SECTION II.D - Please include a summary of results of any other information that has been collected and analyzed. This includes any type of data (Part IV.G.2.e).

See Appendix E for the Pomham Street Project 2023 plans.

TOTAL MAXIMUM DAILY LOAD (TMDL) or other Water Quality Determination REQUIREMENTS

SECTION I. If you have been notified that discharges from your MS4 require non-structural or structural stormwater controls based on an approved TMDL or other water quality determination, please provide an assessment of the progress towards meeting the requirements for the control of stormwater identified in the approved TMDL (Part IV.G.2.d). Please indicate rationale for the activities chosen to address the pollutant of concern.

(Note: Identify parties responsible for achieving the measurable goals and reference any reliance on another entity for achieving measurable goals. Mark with an asterisk (*) if this person/entity is different from last year.)

Responsible Party Contact Name & Title: Edward Tally, Environmental Program Manager

Phone: (401) 780-3173 **Email:** etally@cranstonri.org

LIST OF IMPAIRED WATERS:			
Impaired Water Body: Spectacle Pond WBID: RI0006017L-07	Pollutants Causing Impairments: Total Phosphorus Dissolved Oxygen	Has TMDL been completed? Has MS4 been notified of TMDL requirements? Has MS4 developed a Scope of Work or TMDL Implementation Plan?	☒ YES ☐ NO ☒ YES ☐ NO ☒ YES ☐ NO
Impaired Water Body: Providence River WBID: RI0007020E-01B	Pollutants Causing Impairments: Total Nitrogen Dissolved Oxygen Fecal Coliform	Has TMDL been completed? Has MS4 been notified of TMDL requirements? Has MS4 developed a Scope of Work or TMDL Implementation Plan?	☐ YES ☒ NO ☐ YES ☒ NO ☐ YES ☒ NO
Impaired Water Body: Pawtuxet River North Branch WBID: RI0006016R-06B	Pollutants Causing Impairments: Lead Mercury in Fish Tissue	Has TMDL been completed? Has MS4 been notified of TMDL requirements? Has MS4 developed a Scope of Work or TMDL Implementation Plan?	☐ YES ☒ NO ☐ YES ☒ NO ☐ YES ☒ NO
Impaired Water Body: Fenner Pond WBID: RI0006017-08	Pollutants Causing Impairments: Total Phosphorus	Has TMDL been completed? Has MS4 been notified of TMDL requirements? Has MS4 developed a Scope of Work or TMDL Implementation Plan?	☐ YES ☒ NO ☐ YES ☒ NO ☐ YES ☒ NO
Impaired Water Body: Pawtuxet River Main Stem WBID: RI0006017R-03	Pollutants Causing Impairments: Non-Native Aquatic Plants Total Phosphorus Mercury in Fish Tissue Enterococcus	Has TMDL been completed? Has MS4 been notified of TMDL requirements? Has MS4 developed a Scope of Work or TMDL Implementation Plan?	☐ YES ☒ NO ☐ YES ☒ NO ☐ YES ☒ NO
Impaired Water Body: Print Works Pond WBID: RI0006018L-05	Pollutants Causing Impairments: Chloride Lead Total Suspended Solids Fecal Coliform	Has TMDL been completed? Has MS4 been notified of TMDL requirements? Has MS4 developed a Scope of Work or TMDL Implementation Plan?	☐ YES ☒ NO ☐ YES ☒ NO ☐ YES ☒ NO
Impaired Water Body: Blackamore Pond WBID: RI0006018L-06	Pollutants Causing Impairments: Total Phosphorus	Has TMDL been completed? Has MS4 been notified of TMDL requirements? Has MS4 developed a Scope of Work or TMDL Implementation Plan?	☐ YES ☒ NO ☐ YES ☒ NO ☐ YES ☒ NO
Impaired Water Body: Pocasset River & Tributaries WBID: RI0006018R-03A	Pollutants Causing Impairments: Benthic-Macroinvertebrates Chloride and Copper Non-Native Aquatic Plants Enterococcus	Has TMDL been completed? Has MS4 been notified of TMDL requirements? Has MS4 developed a Scope of Work or TMDL Implementation Plan?	☐ YES ☒ NO ☐ YES ☒ NO ☐ YES ☒ NO
Impaired Water Body: Pocasset River & Tributaries WBID: RI0006018R-03B	Pollutants Causing Impairments: Benthic-Macroinvertebrates Enterococcus	Has TMDL been completed? Has MS4 been notified of TMDL requirements? Has MS4 developed a Scope of Work or TMDL Implementation Plan?	☐ YES ☒ NO ☐ YES ☒ NO ☐ YES ☒ NO

What kind of public education and outreach strategy does the MS4 implement to target each pollutant of concern? (e.g., signage on installed stormwater controls, resources on website, pamphlets about litter, pet waste, grass clippings, fertilizer use, etc.)

Pollutant of Concern:	Strategy:	Target Audience:
Total Suspended Solids Oil and Grease Pesticides and Fertilizers Pet Waste Debris and Litter	2018 Stormwater Flyer City Website Storm Drain Murals Resident Engagement	Residential Commercial Industrial Visitors of City Hall

Has the MS4 installed stormwater BMPs or required the installation of stormwater BMPs on private property to address impairments? ☒ YES ☐ NO

If yes, indicate the name of the impaired water body associated with the stormwater control, type of stormwater control, date installed, ownership, and who is responsible for maintenance:

Impaired water body Providence River	Type of Stormwater Control: 5 Vortechnic Swirl Concentrators	Date Installed: 2004 and 2006	☒ Municipally Owned ☐ Privately Owned	Who maintains it? City of Cranston
Impaired water body Providence River	Type of Stormwater Control: Bioretention Basin/Narragansett Blvd	Date Installed: 2017	☒ Municipally Owned ☐ Privately Owned	Who maintains it? City of Cranston
Impaired water body Spectacle Pond	Type of Stormwater Control: Underground Infiltration/ Barrett Street	Date Installed: 2022	☒ Municipally Owned ☐ Privately Owned	Who maintains it? City of Cranston
Impaired water body Spectacle Pond	Type of Stormwater Control: Vegetated surface infiltration basin/ Cottage Street	Date Installed: 2022	☒ Municipally Owned ☐ Privately Owned	Who maintains it? City of Cranston
Impaired water body Spectacle Pond	Type of Stormwater Control: Underground Infiltration/ Speck Field	Date Installed: 2022	☒ Municipally Owned ☐ Privately Owned	Who maintains it? City of Cranston

Additional enhanced minimum measures used to address water quality issues (e.g., increased street sweeping or catch basin cleaning in areas with high pollutant loading, installation of floatable traps/screens, etc.):

On September 27, 2007, the City received the TMDL notice for phosphorus in Spectacle Pond. It indicated that the major sources of phosphorus to Spectacle Pond are stormwater runoff, waterfowl, and internal cycling. On December 15, 2010, the City completed the SWMPP and TMDL Implementation Plan for Spectacle Pond. The TMDL Implementation Plan was submitted to RIDEM for their approval on August 3, 2011 but have not yet received a response.

There are hydraulic issues related to Spectacle Pond as it runs under Route 10 in various open and closed storm water systems to Mashapaug Pond in Providence. A study completed by the Louis Berger Group, Inc., dated February 5, 2001, evaluated improvements to the drainage system in this area. They provided a number of alternatives, mostly increasing pipe size, which is too expensive and not cost effective for the City.

On December 12, 2011 Woodward and Curran delivered a dredge analysis report of the excessive sediment in the Lake Street outfall (identified RIDEM SpP-F). The location is the primary outfall for Spectacle Pond and represents the largest drainage area in the urbanized City. The city signed a contract with Woodward & Curran on January 1, 2013 to produce Lake Street Outfall Maintenance Project Documents to prepare the City for dredging and headwall repair construction activities. On April of 2013, the City received the Lake Street Outfall Maintenance Project Draft Drawings, Documents, and Specifications. On May 23, 2013 the City received a contract amendment from Woodard and Curran for assistance in bidding, contractor selection, and resident engineering services. The City has shelved this project until higher priority projects are completed.

The City has applied for a number of grants to address stormwater pollution in the Spectacle Pond watershed. They are listed below:

1.) October of 2014 the City of Cranston applied for a State Narragansett Bay and Watershed Restoration Grant through RIDEM to initiate the Spectacle Pond TMDL Structural Measures and Internal Pond Management Project. State Narragansett Bay and Watershed Restoration Funds were requested to support the implementation of the City's previously submitted scope of work to develop a management plan to control nutrient sources as documented in the 2011 Spectacle Pond TMDL Implementation Plan. The scope of work consisted of the following phases:

Phase I: Pond assessment, outfall delineation, annual phosphorus load by source, summary report with cost estimates and recommendation.
Phase II: Cost of implementation of structural BMP's investigated; 10% concept designs developed, nutrient management evaluation.

The City was not awarded this grant.

2.) In September 2015, the City provided a letter of support for the City of Providence's NEIWPCC SNEP grant application for Mashapaug and Spectacle Pond Watershed Green Infrastructure Initiative. This grant application was not funded.

3.) In June of 2015 the City provided a letter of support and commitment to matching funds for the Center for Ecosystem Restoration for EPA's 2015 Healthy Communities Grant Program - Stormwater Circuit Rider for the Narragansett Bay Watershed. This outreach and education grant aimed to help identify and prioritize retrofit opportunities on municipal properties, specifically those in TMDL watersheds. This grant application was not funded.

4.) The City partnered with Fuss and O'Neill, Cranston Public School Department, and Save the Bay (STB) on a Southeast New England Program (2018 SNEP) watershed grant application for Comprehensive Watershed Planning & Engagement Demonstration Project, Spectacle Pond, Cranston, RI. Proposed outreach included training of school department staff, development of a stormwater curriculum, and teaching elementary students in a 'living classroom' setting. The total value of the project was $475,400 which included an $156,900 match from the City. The City was invited to submit a full application in June of 2018. Unfortunately, the City was not selected for funding for the project.

5.) The City partnered with Fuss and O'Neill and STB on a 2019 SNEP watershed grant application for Comprehensive Watershed Planning & Green Infrastructure Demonstration Project at Spectacle Pond, Cranston, RI. The total value of the project was $250,000 which included a $62,500 cash match from the City. The City was informed by Restore Americas Estuaries that it was selected for funding. Project tasks are listed broadly below:

- QAPP Development
- Phosphorus Reduction Study
- Demonstration Project Approach and Location
- Demonstration Project Design
- Bidding and Construction
- Community Outreach and Support

The project was completed if 2022 and yielded 3 separate reports including the construction project of an underground infiltration on Barrett Street, the Spectacle Pond Phosphorus Reduction Plan and the Spectacle Pond Limnological Investigation.

The final report for the Barrett Street construction project is included as Appendix N.

The Spectacle Pond Phosphorus Reduction Plan is included as Appendix O. The plan included future potential BMP locations, Potential Funding Sources, Annual Pollutant Load Reductions, and Order of Magnitude Cost Estimates. The report has 14 potential BMP locations which unfortunately if all constructed, would not come close to solving the TMDL phosphorus issues at the pond. The estimated costs for these projects is close to $3,000,000, which is not affordable to the City. It is important to note these costs do not consider the ongoing costs associated with long term operation and maintenance which increases the operating budget of and utilization of City resources. With extremely tight City budgets and the return on investment on a per lb removal basis it will be challenging to secure City match for continued investment in these structural measures. The City will be working closely with RIDEM, funding organizations, and seeking out collaborative partners to make water quality improvements more manageable.

TOTAL MAXIMUM DAILY LOAD (TMDL) OR OTHER WATER QUALITY DETERMINATION REQUIREMENTS cont'd

The Spectacle Pond Limnological Investigation Report is included as Appendix P. This investigation was finalized in December of 2022. For background, the estimated phosphorus load to Spectacle Pond is 476 lbs/year. The Total Maximum Daily Loads for Phosphorus to Address 9 Eutrophic Ponds in Rhode Island (TMDL) completed by RIDEM (September 2007) required that the phosphorus load be reduced by 326 lbs/yr, a 68% reduction. The Limnological Investigation was conducted to estimate the relative contribution of internal cycling to total phosphorus loading in the pond. This was achieved by collecting bathymetric data, sediment and water quality sampling, and calculating of internal loading. The results of the study indicate that only 1% of the phosphorus loading or approximately 5.6lbs is from internal sources. External sources including those from stormwater runoff, inlet sources, and waterfowl dominate the P loading at 99%.

6.) The City Partnered with Fuss and O'Neill and the Providence Stormwater Innovation Center (PSIC) on a 2019 SNEP grant for an Urban Green Infrastructure Construction Project within the Spectacle Pond Watershed. The total value of the project was $200,000 which included a $50,000 cash match from the City. This project is intended to build upon the stormwater BMP design implemented in the Pomham Street grant project. Project tasks are listed broadly below:

- QAPP Development
- Project Design
- Bidding and Construction
- Public Outreach and Education with PSIC

The Environmental Program Manager, Edward Tally, is the project lead for the City and will continue to work with the project team in 2023 to continue to implement this grant. Construction at the Pomham Street site will be completed in 2023. Preliminary construction plans are shown in Appendix E.

Continued Compliance Activities:

- We will continue to conduct stormwater system maintenance to identify structures for more frequent cleaning. Street sweeping was increased to two times per year within the watershed of priority TMDL outfalls.
- A brochure entitled "Saving Spectacle Pond" continues to be handed out at the DPW office to enlist the support of the public on this process.
- A yard waste program runs from April 1 through December 15 each year to pick leaves before they enter the system.
- Continued use of phosphorous free fertilizers on City Athletic Fields.
- Work with Fuss and O'Neill, STB, & Restore Americas Estuaries on continued implementation of the 2019 and 2021 SNEP Grants.

SPECIAL RESOURCE PROTECTION WATERS (SRPWs)

SECTION I. In accordance with Title 250 RICR-150-10-1 ("RIPDES Regulations") §1.32(A)(5)(a)(7), on or after March 10, 2008, any discharge from a small municipal separate storm sewer system to any Special Resource Protection Waters (SRPWs) or impaired water bodies within its jurisdiction must obtain permits if a waiver has not been granted in accordance with RIPDES Regulations §1.32(G)(5)(c). A list of SRPWs can be found in Title 250-RICR-150-05-1 ("Water Quality Regulations") §1.28 at this link:
https://rules.sos.ri.gov/regulations/part/250-150-05-1
The State of Rhode Island 2018-2020 303(d) Impaired Waters Report can be found here:
http://www.dem.ri.gov/programs/benviron/water/quality/pdf/iwr1820.pdf

If you have discharges from your MS4 (regardless of its location) to any of the listed SRPWs or impaired waters (including impaired waters when a TMDL has not been approved), please provide an assessment of the progress towards expanding the MS4 Phase II Stormwater Program to include the discharges to the aforementioned waters and adapting the Six Minimum Control Measures to include the control of stormwater in these areas. Please indicate a rationale for the activities chosen to protect these waters. Please note that all of the measurable goals and BMPs required by the 2003 MS4 General Permit may not be applicable to these discharges.

There are no listed Special Resource Protection Waters in the City of Cranston.

Appendix A

2018 Stormwater Flyer

WHAT TO DO IN CASE OF A SEWER BACK-UP

Immediately Call

VEOLIA WATER
401-942-2121
Any time day or night

- An After hours : A message will direct you to the on-call contractor)
- The property owner is responsible to make certain the sewer clean-out is accessible at all times in order for Veolia to service
- Although the property owner is fully responsible for the sewer line from the building to the sewer main in the street, Veolia Water, will inspect and/ or clean the portion from the property line to the street.
- If the obstruction is determined to be located between the clean-out and building, the property owner shall be responsible to hire an independent contractor to clear or repair the obstruction.

City of Cranston

Department of Public Works
869 Park Avenue
Cranston, RI 02910
Phone: 401-461-1000

IMPORTANT!

City of Cranston

Stormwater and Sewer Information

We're on the Move!!

Stormwater vs. Sanitary Sewers

In the City of Cranston there are two separate systems to address stormwater and sewage:

Storm Drains

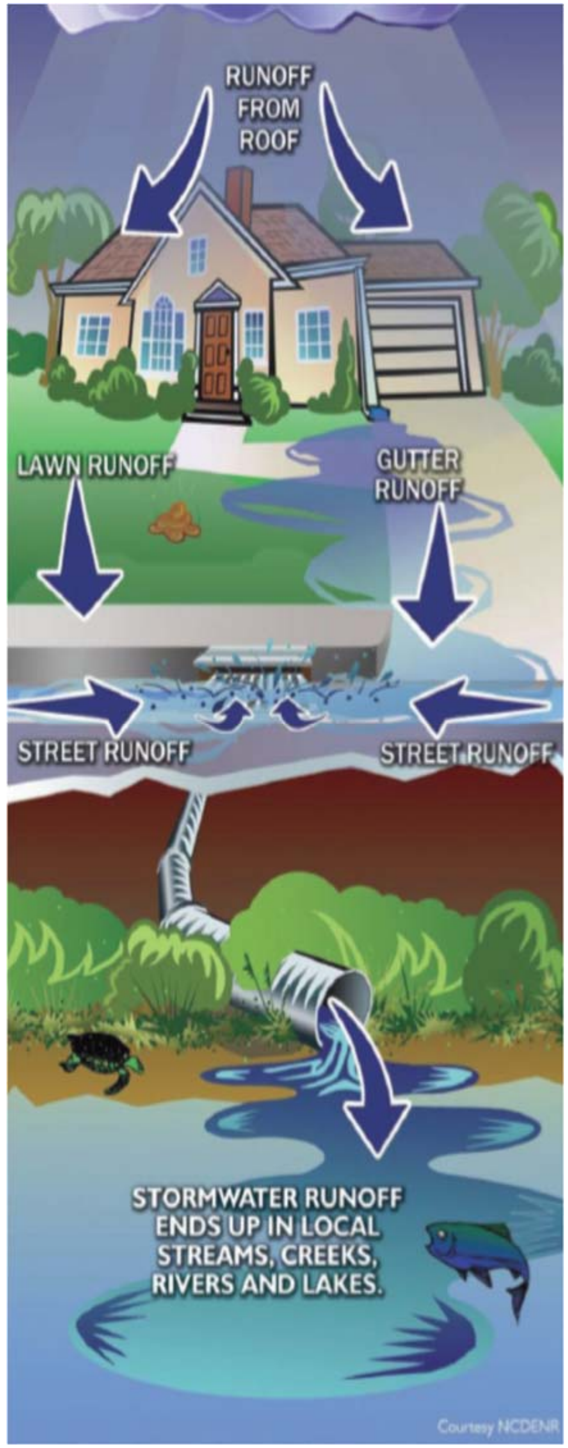
The purpose of storm drains is to collect rain water and channel it away to prevent flooding. As the water passes over the pavement, it picks up whatever is in its path. Pollutants might include:

- ***oil, grease, and automotive fluids;***
- ***fertilizer and pesticides from gardens and homes;***
- ***bacteria from pet waste and improperly maintained septic systems;***
- ***soil from poor construction site management; and***
- ***debris and litter.***

So, the water passing down the street is not just rain water **…** ***it is polluted water and will end up in our local water bodies or Narragansett Bay!***

Sanitary Sewers

Sanitary sewers carry wastewater or "sewage" from homes and businesses through an entirely separate piping network below city streets. This wastewater flows to a municipal wastewater treatment facility where it is treated, and that treated effluent is discharged to the Pawtuxet River and the Bay. Wastewater treatment facilities have been upgraded to improve the quality of wastewater discharged to local waters.



How can I help?

- Reduce Use of Lawn and Garden Pesticides and Fertilizers
- Reduce Runoff...consider directing downspouts to a rain garden;
- Don't Drain Your Swimming Pool Into Stormdrains;
- Don't Dump Household Hazardous Waste (paint, paint thinner, drain and oven cleaners, grease etc.) down storm drains or into the sewer system;
- Be Vigilant. . . report any illegal dumping into storm drains or waterways to DPW at 401-780-3175 or Cranston Police at 401-942-2211;
- Educate family members & neighbors about the hazards of illegal dumping.. Encourage participation in organized clean-up efforts; and
- Go to www.ristormwatersolutions.org for tips & information.

Appendix B

Audubon Spring 2021 Report

Keep in touch with
eWing at www.asri.org

Audubon Society of Rhode Island

REPORT

SAVE THE DATE!

August 7, 2021

AUDUBON ROSE POLLINATOR GARDEN PARTY

Details coming soon!

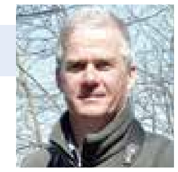
VOLUME 55 • NO. 2 • SPRING 2021

CONNECTING PEOPLE WITH NATURE

STORM WARNINGS

AUDUBON LOOKS TO NATURE-BASED SOLUTIONS IN THE FIGHT AGAINST CLIMATE CHANGE

From the Desk of the Executive Director



Rewilding Rhode Island

Habitat restoration, green infrastructure and rewilding (a term popular in Europe), are all based on the same principle. They work to restore developed or degraded areas and let nature reclaim space to once again provide much needed ecosystem services.

This can mean removing introduced species of plants and replacing them with native ones, as we do at many Audubon refuges. Other examples include the removal of a dam to allow herring to return up river, or supporting the return of a keystone species to help restore degraded, over-grazed grasslands.

Too often rewilding is an uphill climb – critical natural habitat continues to be destroyed in favor of development for human use. As the effects of climate change (flooding, pollution, excessive heat, etc.) grow and adversely affect human health and well-being, we support the expansion and implementation of nature-based solutions. Restoring our local landscapes is critical for people and wildlife.

This issue of the Report focuses on natural solutions being implemented at both Audubon wildlife refuges and in our towns and cities. You might consider rewilding your own backyard. Options include the creation of pollinator gardens to replace lawn areas, or rain gardens instead of traditional storm drains. We will need to work together to increase the development, awareness and support of these important efforts.

Thank you for your continued support,

Lawrence J. F. Taft

Keepsakes

Perhaps you have something from your parents or grandparents that you consider a keepsake that brings you joy. According to Webster's dictionary, a keepsake is "anything kept, or given to be kept, as a token of friendship or affection; remembrance."

A bride may keep her wedding dress for years as a treasured keepsake, and pass it to her daughter to wear in her own wedding. An athlete may keep a uniform as a remembrance of the glory days of competition and victory. We all cherish our keepsakes.

Audubon has keepsakes as well. Webster's phrase "anything...given to be kept, as a token of friendship" applies perfectly to our endowments. These have been "given to be kept" in perpetuity as a "token of friendship" and support for our charitable mission.

The principal of an endowment fund is held in a permanent pool of invested funds with only the net earnings, or a portion thereof, used to meet the purposes described in the endowment agreement. The balance is reinvested so the amount available to spend in future years will keep pace with inflation. For example, an endowment designed to provide annual support of the operating budget of the Audubon Society of Rhode Island does just that.

Every year, these keepsakes remind us of the friendship and loyalty of the donors who provided them. Endowments can carry the name of the donors or the name of someone a donor wants to honor or memorialize. Endowments can provide annual "gifts" for the general purposes of Audubon, or be targeted for more specific things.

Endowments can be created with cash, securities, real estate, patents or other assets of value. They may be funded during life or at death, or by a combination of the two.

We have been honored to receive some wonderful keepsakes at Audubon. Would you like to create one as a token of your friendship and support? Please call Jeff Hall, senior director of advancement, at 401-949-5454 x 3017.

STORM WARNINGS

AUDUBON LOOKS TO NATURE-BASED SOLUTIONS IN THE FIGHT AGAINST CLIMATE CHANGE

By Todd McLeish

On Food Truck Fridays at Roger Williams Park, some of those in attendance set up portable picnic tables at what look like attractive patios near the park s carousel and Japanese garden to enjoy the festivities. The park s deputy superintendent, Brian Byrnes, has even received kudos from residents for constructing the patios.

But they re not patios at all. Instead, they are pathways of permeable pavement that direct stormwater to a containment area to remove sediment. The water then travels on to natural filtration zones to decontaminate the roadway runoff while it seeps into the water table. They are among 42 installations constructed throughout the park and used by the Providence Stormwater Innovation Center, where green infrastructure is helping to improve water quality in the park s ponds while demonstrating nature-based solutions to one of the leading causes of water pollution in the state.

 We re getting heavier rains now, and those storms are likely to get even more severe due to climate change. With more roads and more houses, we re replacing natural areas with surfaces that don t allow rainwater to soak in, said Ryan Kopp, Audubon s stormwater coordinator. With all these impervious surfaces, the water picks up fertilizers, pesticides, oils and sand and runs into the gutter and into the closest water body and eventually into Narragansett Bay. Those pollutants cause major water quality issues in urban ponds that impair habitat, wildlife and people.

The infrastructure installed at Roger Williams Park is helping to rectify the problem. At one site near the seal house, where a large pipe once delivered runoff directly into the adjacent pond, stormwater now runs through a multi-stage system of sediment removal and contaminant filtration areas that look to the uninitiated like an attractive series of natural landscape features.

Nearby, across from the park s bandstand, a 100-yard long bioretention area planted with native wetland plants collects water diverted from the road, through a rocky swale and under a paved walkway, where natural filtration of pollutants occurs.

Please turn to page 4

What appear to be patios are actually pathways of permeable pavement that direct stormwater to a containment area to remove sediment. The water then travels on to natural filtration zones to decontaminate the roadway runoff while it seeps into the water table.

STORM WARNINGS Continued from page 3

Audubon Stormwater Coordinator Ryan Kopp installs water monitoring equipment at Roger Williams Park.

"There's no question that plants, soil and stormwater installations can help clean polluted water. Our monitoring efforts take it to the next step"

Ryan Kopp

Audubon Stormwater Coordinator

A bioretention area is another word for a rain garden, Kopp said. It s a wet area where the plants are doing more of the work. The water filters down through the soil, and the plants uptake the pollutants while also providing habitat for pollinators, birds and other wildlife.

While the 42 stormwater installations at the park are designed specifically for each site, all have similar elements: an inlet structure where water enters from the roadway, a weir of rocks that slows the movement of water to allow sediments to settle, a treatment area of sand and soil where microbes attack the pollutants, and aesthetically pleasing plantings to provide wildlife habitat. Many also have an overflow system to reduce flooding when the volume of runoff is especially high.

The stormwater installations were constructed in 2019 and 2020 at a cost of $1.5 million in response to a consent agreement between the City of Providence and the Rhode Island Department of Environmental Management. While it cost a little more to install than traditional stormwater management systems, it is much less expensive to maintain, making it a good investment for the city.

But it s more than just a natural way to reduce the impact of roadway runoff on area ponds. It has also become a valuable tool for training and public education.

The installation and maintenance of these structures has been a learning process for all of us, said Byrnes. But as we trained our staff, I realized we could train the parks and public works staff from other cities as well, most of whom are also facing consent agreements. The Department of Transportation sends their staff, too.

That s how Audubon got involved. Working with the Rhode Island Green Infrastructure Coalition, Audubon applied for a grant from Restore America s Estuaries to turn the Roger Williams Park stormwater management system into a public education and training center for innovative stormwater technologies. In partnership with the City of Providence, Roger Williams Park Conservancy, University of Rhode Island, University of New Hampshire Stormwater Center, Rhode Island Department of Transportation, and The Nature Conservancy, Audubon is showcasing nature-

Please turn to page 14

Like other areas in Rhode Island, Fisherville Brook Wildlife Refuge in Exeter also saw record-high levels of flooding in 2010. However, nature responds much better to the inundation of water than human landscapes. The water rose very high at Fisherville, but also receded quickly.

Stormwater Outreach

The Providence Stormwater Innovation Center has numerous opportunities for the public to get involved and learn more about how green infrastructure can reduce stormwater runoff and improve water quality in local ponds and other waterways.

Training for parks, public works and other municipal officials, as well as civil engineers, construction workers and others involved in the design, construction and maintenance of stormwater management infrastructure, are offered several times each year. Multiple classes are available each a combination of classroom learning and hands-on training targeting different job responsibilities.

Volunteers are always sought to participate in the URI Watershed Watch program, which monitors water quality at hundreds of water bodies around the state, including the ponds at Roger Williams Park. Several times each year, park volunteers are also needed for the Cyanobacteria Monitoring Program, an EPA-led effort to track algae blooms using a smartphone app or water testing kits.

In addition, ten Picture Posts have been installed around the park where visitors can take pictures of the stormwater infrastructure to document changes in vegetation, sedimentation and the appearance and disappearance of algae blooms over time. Photos can be uploaded to the Picture Post website for review by Stormwater Innovation Center staff.

For those just seeking to learn more about green infrastructure while enjoying a fun day with their family, the second annual Rain Harvest Arts Festival will be held on June 12 at Roger Williams Park, where visual and performance artists, environmental scientists and educators will share their inspirations and engage the public in learning about stormwater and water quality.

Providence Stormwater Innovation Center

Learn more at *stormwaterinnovation.org*

COLLABORATION IS HER SUPERPOWER

AUDUBON SENIOR DIRECTOR OF POLICY MEG KERR HEADS FOR RETIREMENT IN JUNE AFTER THREE DECADES OF ENVIRONMENTAL LEADERSHIP IN RHODE ISLAND.

By Alan Rosenberg

Meg Kerr (left) greets RIDEM Director Janet Coit at the podium for the Bee Rally on June 19, 2018. Kerr orchestrated the event that brought hundreds to the RI Statehouse to support pollinator health and habitats.

Meg Kerr started running regularly in college, and it soon became an addiction. She runs nearly every day, baseball cap on her head, hair pulled back in a ponytail, sensible sweaters or stylish scarves traded -- when weather permits -- for shorts and a T-shirt. Sometimes, says Amy Moses, director of Rhode Island s Conservation Law Foundation, Kerr has been known to run down the steps from a meeting at the State House to get to a tennis match.

It s my mental thinking time, Kerr says, to solve my problems and the world s problems. She has run more than 20 marathons -- including the Boston Marathon, three times. And, she says, running those 26-mile races took determination. The first one I signed up for, I got pregnant. And I was really frustrated, she says with a laugh. I was trained and ready to go, but I couldn t find a doctor anywhere to tell me it was okay. I finally ran 18 miles, because they said that was okay.

Kerr s laugh and smile are ready as she talks about her life and career. And her strength and determination are still evident as she heads for retirement after five years as senior policy director of the Audubon Society of Rhode Island, and three decades as an environmental leader in the state.

Even as COVID-19 has forced a halt to the in-person meetings with other environmentalists that she thrives on, she moved on-line with her work, including virtual training programs and the official launch of the Providence Stormwater Innovation Center, a partnership between Audubon and six other organizations.

She was undaunted, says Janet Coit, director of the Rhode Island Department of Environmental Management. She put on a virtual event, never missing a beat. That s a legacy that will live on long after her. (You can find the center, and its lessons for both the public and professionals, at stormwaterinnovation.org.)

Environmentalism isn t just a job for Kerr. She was raised with it, at a time when Earth Day hadn t yet been invented. I was born in 1955, and my parents recycled, she remembers. They had to drive a couple of towns away to where there were bins, and we recycled. They composted. And my mother hung up laundry, rather than using a dryer. I still hang up my laundry. I like it that way.

Kerr was raised in Pleasantville, in New York s Westchester County, near New York City. She got her bachelor s degree -- with honors -- in marine biology, at Brown University.

That s where she met and married her husband, environmental toxicologist Bob Vanderslice. After graduation, they left Rhode Island, and she worked in a Florida lab for a year before getting her master s in public health from the University of North Carolina.

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Meg Kerr (fourth from left) and Audubon intern Caroline Jones (center) celebrate Governor Gina Raimondo signing environmental legislation.

Meg Kerr was instrumental in developing the Nature at Work campaign to support healthy pollinator habitat through the Green Infrastructure Coalition.

MEG KERR HEADS FOR RETIREMENT

Continued from page 5

But after a decade working in North Carolina, Virginia and Washington, D.C. -- she was a scientist with the U.S. Environmental Protection Agency -- the couple wanted to be closer to their families in the Northeast. So in 1990, they moved back to Rhode Island.

Since then, she has been a mainstay on the state s environmental scene. With three and then four children, she worked part-time at first, then full-time, with the Rhode Island Rivers Council, the Narragansett Bay Estuary Program and Clean Water Action, before joining the Audubon in January 2016.

Among the most important aspects of my job is finding the right people to help lead Audubon, explained Audubon Executive Director Larry Taft. When former policy director Eugenia Marks retired after 32 years of a stellar career, I knew that it would take a special person to fill her shoes and continue to move Audubon s advocacy efforts forward.

I knew Meg s reputation as a respected voice for the environment and witnessed her skills first hand through her volunteer service on the Audubon Issues Committee. I was delighted when she officially joined our team. Meg has been a role model for Audubon staff, volunteers and supporters.

Meg has directed Audubon s policy issues with skill and determination for five years, Taft said. She also developed many strong partnerships along the way -- one of her greatest strengths. Wherever she has gone, she has built coalitions and friendships as well as policies and events.

Collaboration is her superpower, says Sheila Dormody, director of climate and cities for The Nature Conservancy s Rhode Island chapter. When there are disagreements in Rhode Island s environmental movement, she says, Kerr works her magic in a way that does not call attention to itself. She picks up the phone and calls this person and that person, and this person and that person until understanding is reached.

In conversations with groups such as the Chamber of Commerce and Rhode Island s Realtors, says the Conservation Law Foundation s Moses, Kerr does something powerful: She s a really good listener. By listening, she opens lines of communication that can pay off in cooperation. Kerr, she said, can also translate environmental concerns into practical terms lawmakers can understand.

At the State House, Moses said, Kerr testified on a recent climate-change bill. She brought home the impact climate has on birds, and told them about its importance to her [Audubon] members, who are voters. And there are thousands of them. Thousands of voters meant a voice legislators might be willing to heed.

Rupert Friday, Meg Kerr, Richard Grant and Representative McEntee at the Land & Water Summit where Grant received the Blueways award for river conservation.

Meg Kerr and her husband Bob Vanderslice testify in support of PFAS Chemical regulation at a pre-pandemic hearing at the Rhode Island State House in 2020.

Advocates at the State House (Kerr is third from left) working on the Rhode Island plastic bag ban.

Priscilla De La Cruz, president of the Environment Council of Rhode Island, has felt the impact of Kerr s gentle persuasion in her own life. While De La Cruz was still in graduate school and taking part in council meetings, she says, Kerr -- then the president -- phoned her: I want to enlist you as president-elect. When De La Cruz protested that she wasn t ready, she recalls, Kerr reminded her that I stepped up to be the president ... because no one else would. Now she was looking for a new generation to take the reins. Besides, De La Cruz would only be agreeing to become president-elect; you have a year to decide whether to actually be president. And after a year, De La Cruz adds with a chuckle, there I was, taking on the role. As she knew I would.

Rupert Friday, executive director of the Rhode Island Land Trust Council, worked with Kerr to found the annual Land and Water Conservation Summits that for a decade and a half brought together hundreds of environmentalists from around the state. Friday recalls her not just rolling up her sleeves to help find a diverse slate of speakers -- equity is a key concern of Kerr s, her colleagues say -- but turning the summits into a family affair. Her mom would volunteer with us, he remembered, helping to organize the other volunteers. And after her mother s death, husband Bob would take part. Her kids would be labeling mailings at night while watching TV.

Kerr s long list of other accomplishments includes leading a climate-change legislation campaign in 2014; organizing the Bee Rally at the State House, which supports pollinators; furthering climate change education and initiatives within the Audubon Society; and being a founder of the Rhode Island Green Infrastructure Coalition, which promotes nature-based solutions to runoff pollution.

State Rep. Lauren Carson, a co-founder of the Coalition, praises the focus, discipline and unique leadership skills Kerr has brought to the group. She s the backbone of it, Carson says. She keeps us on track. Kerr has a wealth of knowledge, she adds, even of things most environmentalists might miss. Recently, Carson wanted to let Kerr know about a bill that wasn t in the environmental affairs committee, but in the small-business committee, where it would be easy to overlook. Lo and behold, Meg had already seen it, Carson says. That says a little about her being thorough. Carson echoes Kerr s other friends and colleagues in saying her retirement leaves huge, huge shoes to fill. But they also emphasize that just because Kerr is leaving her job at Audubon, she s not going to stop being connected to, and involved with, the environmental community. Meg is not going anywhere, Carson says. We re already trying to figure out new roles for her.

Still, Kerr s life will change. And that s okay with her. I m happy to still be here, she said in February, as her retirement neared. I love to work. I love the people I work with. But, she said, she s old enough to retire. And just as she once wanted to spend time with her children, now she wants to be with her grandchildren -- there are three, with a fourth on the way. There s only so many hours in the day, she says, and I ve got other things I want to do. Like run.

Alan Rosenberg is a retired executive editor of The Providence Journal. Reach him at AlanRosenbergRI@gmail.com.

Meg Kerr and Senator Dawn Euer after the Senator received Audubon's legislative award in 2019.

Kerr speaking at an event in the Rhode Island State House.

Kerr hikes Fisherville Brook Wildlife Refuge with her family in 2006. Her mother (center) was a skilled naturalist who inspired Meg at a young age to care about nature.

Kerr and her daughter Rita Kerr-Vanderslice running the Narragansett half marathon in 2018.

Audubon Society of Rhode Island

CLIMATE CHANGE IN THE OCEAN STATE

As temperatures and sea levels rise, and unstable climate patterns increase, humans, birds, animals, fish and plants will all struggle with ecosystem change. Issues of the 2021 Audubon Report will highlight several climate-threatened bird species and their habitats.

Climate Change, Wetlands, and Virginia Rails

By Laura Carberry and Scott Ruhren

Climate change is likely to bring complicated and sometimes unpredictable impacts to Rhode Island's wetlands. More frequent storms have led to flooding of ecosystems. Sea level rise is already degrading coastal marshes. Summer droughts will dry out freshwater wetlands, stressing the plants and animals that live there.

Many species that rely on Rhode Island's wetlands will likely be affected. Unfortunately, some birds like Virginia Rails (*Rallus limicola*) may not be able to adapt to these increasing threats. Many Virginia Rails spend their spring and summer in Rhode Island. These small chicken-like wetland birds are elusive. They are well camouflaged and secretive, preferring marshes with dense vegetation where they hide, nest and hunt. One characteristic of rails is their reluctance to fly, preferring to run across the mud and through the cattails. Many birders identify them by their call, unable to spot them.

Laura Carberry, Audubon refuge manager, sees and hears Virginia Rails at many Audubon wildlife refuges. "They live in fresh, brackish and saltwater marshes. I have found them in Bristol in the cattails, Audubon's saltmarsh along Quonochontaug Pond in Charlestown, and in hay fields during fall migration. Overall, they are fairly common in Rhode Island marshes."

For decades Virginia Rails were threatened by hunting and ongoing habitat loss from wetland destruction remains a concern. Audubon continues to protect freshwater and coastal wetlands throughout Rhode Island to support these important birds. Fresh water marshes are rails' preferred hunting and nesting habitats. Now the future of marshes and Virginia Rails is further threatened by climate change.

We have witnessed more frequent freshwater marsh flooding from severe storms and heavy rainfall. This flood water often carries pollutants into marshes. Coastal flooding from sea level rise introduces excess salt to some marshes and endangers nests, eggs and young rails. An opposite climate impact may occur during Rhode Island summers. More frequent droughts and record-breaking heat in recent summers stresses vegetation, dries up wetlands, and reduces food needed by rails.

Virginia Rails are but one example of Rhode Island birds vulnerable to the many impacts of climate change.

Additional New England Climate-threatened Wetland Species:

- Spotted Sandpiper
- American Black Duck
- Swamp Sparrow
- Marsh Wren
- Wood Duck

WHAT CAN YOU DO?

Purchase green power to heat and cool your home and insulate it well.

Reduce energy use. Drive less (walk, bike and use public transportation) and create an energy-efficient home.

Support land conservation. Forests remove CO_2 from the atmosphere, provide shade to keep the landscape cooler, and are critical habitat for birds and wildlife.

Landscape and garden with native plants that provide food, cover and nesting materials for birds and wildlife.

Stay informed. Support legislation and community efforts that reduce carbon emissions. Sign up for advocacy emails by contacting Meg Kerr (mkerr@asri.org)

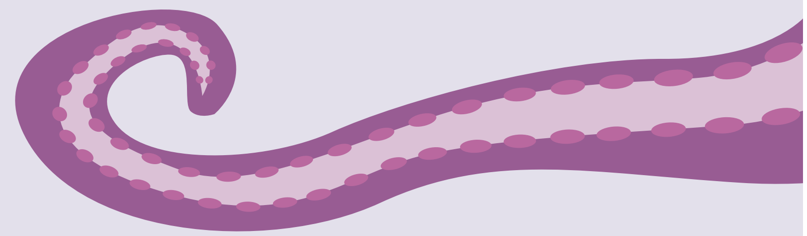
All Things Octopus at the Nature Center and Aquarium!

A one-year-old female California two-spot octopus has recently joined the other sea creatures in the aquarium exhibits at Audubon Nature Center and Aquarium. Donated by the Marine Biological Laboratory (MBL) / Marine Resource Center at Wood Hole Oceanographic Institute in Massachusetts, the octopus was bred and raised at the MBL as part of an octopus behavior study. These creatures are native to the Pacific Ocean and the coast of California and their normal lifespan is two years. This is the third octopus the MBL has donated to Audubon.

Also new at the Nature Center, beautiful murals enhancing the habitat exhibits have been installed by Claire Hoogeboom, a graduate of University of Rhode Island. Claire worked as an AmeriCorps member for Audubon from 2011 to 2012. She is currently an environmental consultant with LEC Environmental Consultants, Inc. Audubon thanks Claire for her time and talent. The new murals are stunning!

A new mural highlights the California two-spot octopus that visitors can observe at the Audubon Nature Center and Aquarium.

Visit the Nature Center and Aquarium and check out our new resident octopus and the new murals that enhance the exhibit hall.



By Lauren Parmelee, Senior Director of Education

PEREGRINE FALCONS

The fastest bird on the planet, Peregrine Falcons like the high life.

In Rhode Island, these amazing birds nest on top of the Superman Building in Providence, City Hall in Pawtucket, and several bridges including the Mount Hope, the Sakonnet, the Newport and the Jamestown/Verrazano. In other places, they nest high on steep cliffs.

These beautiful and fascinating birds have some amazing adaptations:

- Peregrine Falcons hunt medium-sized birds that they catch by diving on them from great heights in what's called a stoop. They sometimes do take-out meals, eating their prey on the wing!
- With pointed wings, Peregrine Falcons are built for speed. They can reach 67 miles per hour when chasing prey. In a stoop, they have been recorded at more than 200 miles per hour, making them the fastest bird on earth.
- Except for Antarctica, Peregrine Falcons can be found on every continent and many islands.
- The word peregrine is from the Latin word *peregrinus*, meaning foreign or coming from abroad but is also defined as roving, wandering, traveling, and migratory. The Tundra subspecies will travel all the way from its breeding grounds in the Artic to South America to winter and then back again – up to 15,500 miles in a year.
- Peregrine Falcons, Ospreys, Bald Eagles and other raptor populations crashed during the mid-twentieth century due to the use of harmful chemical pesticides. Strong environmental laws and projects to reintroduce these birds to New England have helped their populations rebound.
- Falcons have the same sharp talons, curved beaks and sharp eyesight that other raptors have, but they are more closely related to parrots than hawks or owls.
- The oldest Peregrine Falcon recorded was at least 19 years and 9 months old. Scientists had banded the bird in 1992 in Minnesota, and found it again in 2012 in the same state.

WATCH PEREGRINE FALCONS HATCH, GROW AND FLEDGE IN PROVIDENCE!

Visit asri.org/view/peregrine-cam

AUDUBON NATURE TOURS & PROGRAMS

June – August 2021 For more information and to register, visit the events calendar at www.asri.org.

SAFETY NOTICE: Face masks and social distancing are required for all programs. Participants must bring their own masks.

BIRDING WITH AUDUBON

Advance registration is required for all programs.

WEDNESDAY MORNING BIRD WALKS
Locations determined weekly and will be sent to registered participants in advance. *Every Wednesday through June 2021.*

BOATS AND BIRDS!
Two Dates Offered. Join a morning of kayaking and birding on Frying Pan Pond in search of wetland birds. Departs from 203B Arcadia Rd, Hope Valley, RI; *June 3, 10, 2021; 10:00 am–12:00 pm.*

BLUEBIRD WALK AND TALK
Caratunk Wildlife Refuge, 301 Brown Avenue, Seekonk, MA; *June 6, 2021; 8:00–10:00 am.*

BIRD SONGS AND CALLS AT CARATUNK
Caratunk Wildlife Refuge, 301 Brown Avenue, Seekonk, MA; *June 10, 2021; 6:00–8:00 pm.*

NESTING BIRDS AT CARATUNK
Caratunk Wildlife Refuge, 301 Brown Avenue, Seekonk, MA; *June 13, 2021; 8:00–10:00 am.*

BIRD SONGS AND CALLS AT FORT WILDLIFE REFUGE
Fort Nature Refuge, (Rt. 5), 1443 Providence Pike, North Smithfield, RI; *June 14, 2021; 6:00–8:00 pm.*

BREEDING BIRDS AT CARATUNK
Caratunk Wildlife Refuge, 301 Brown Avenue, Seekonk, MA; *June 27, 2021; 8:00–10:00 am.*

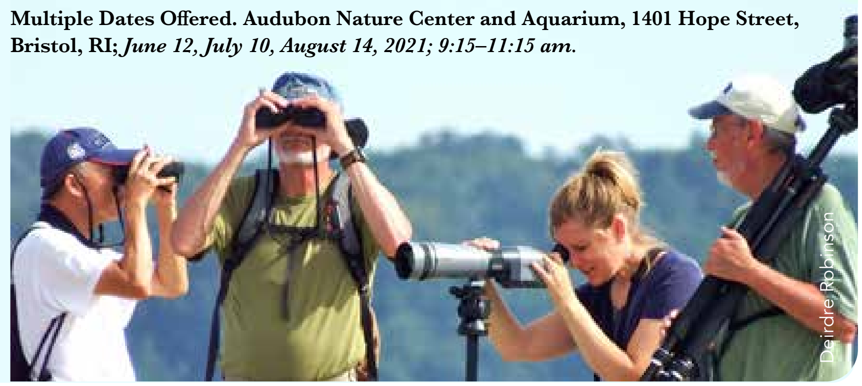
FLYING FORAGERS AT CARATUNK
Caratunk Wildlife Refuge, 301 Brown Avenue, Seekonk, MA; *July 9, 2021; 6:00–8:00 pm.*

FLYING FORAGERS AT POWDER MILL LEDGES
Powder Mill Ledges Wildlife Refuge, 12 Sanderson Road, Smithfield, RI; *July 19, 2021; 6:00–8:00 pm.*

SHOREBIRD CLASS - A VIRTUAL PROGRAM
This program pairs nicely with Audubon's Shorebird Van Trip on August 27, 2021. Virtual Program; *August 25, 2021; 7:00–8:00 pm.*

SHOREBIRD VAN TRIP
Hop aboard the Audubon van with an expert guide and visit some of Rhode Island's best shorebird locations. Departs from Fisherville Brook Wildlife Refuge, 99 Pardon Joslin Road, Exeter, RI; *August 27, 2021; 7:00 am–3:00 pm.*

BIRD BANDING
Multiple Dates Offered. Audubon Nature Center and Aquarium, 1401 Hope Street, Bristol, RI; *June 12, July 10, August 14, 2021; 9:15–11:15 am.*



Deirdre Robinson

SAVE THE DATE

BLOCK ISLAND BIRDING WEEKEND

October 1–3, 2021

Block Island in autumn becomes the resting place for thousands of migrating birds. More than 125 species of birds have been seen here on fall weekends! Space is limited so please register early.

Visit the events calendar at asri.org for details.

Peter Green

ALL ABOUT BATS

BATS AT EPPLEY
Join a fascinating presentation on these creatures, and then venture outside in search of the plentiful resident bats in this area.
Marion Eppley Wildlife Refuge, Dugway Bridge Road, West Kingston, RI; *June 18, 2021; 8:00–9:30 pm.*

BATS AND BEER
Join Audubon and learn about the fascinating world of bats while tasting some local brew.
Fisherville Brook Wildlife Refuge, 99 Pardon Joslin Road, Exeter, RI; *July 23, 2021; 7:30–9:00 pm.*




AUDUBON NATURE CENTER AND AQUARIUM

1401 Hope Street (Route 114), Bristol, RI

PROGRAMS, LECTURES & WORKSHOPS FOR ADULTS

TEXTILE RECYCLING EVENT
For a list of accepted items, visit the events calendar at asri.org.
June 9 – 14, 2021; 9:30 am–4:30 pm

SEA GLASS JEWELRY WORKSHOP
Three Dates Offered.
June 6, July 18, August 22, 2021. 1:30–3:00 pm.

BIRD BANDING
Three Dates Offered.
June 12, July 10, August 14, 2021; 9:15–11:15 am.

EDIBLE WILD PLANTS WALK
Join expert forager Russ Cohen for an evening ramble to learn about edible plants.
June 17, 2021; 4:00–6:30 pm

COMPOSTING LECTURE
June 19, 2021; 10:00–11:30 am.

BEECOLOGY: POLLINATOR WORKSHOP
Dr. Rob Gegear, biology professor at UMass Dartmouth, will give an indoor presentation for 30 minutes, followed by a two-hour workshop in the Rose-Pollinator Discovery Garden.
June 26, 2021; 11:00 am–1:30 pm.

DRAWING AND PAINTING CLASS FOR ADULTS: HERONS AND EGRETS
Join watercolor artist Elizabeth O'Connell for an afternoon of art on our covered patio. *June 27, 2021; 1:00–3:30 pm.*

NATURE AS I SEE IT. PHOTOGRAPHY EXHIBIT BY KAREN JOHNSON-NIEUWENDIJK.
July 5 – August 28, 2021; 9:00 am–5:00 pm.

WILDLIFE AND HABITAT CONSERVATION TALK WITH LOU PERROTTI
Roger Williams Park Zoo Director of Conservation Programs Lou Perrotti will discuss the contributions to wildlife and habitat conservation happening in RI and around the globe!
July 8, 2021; 7:00–8:00 pm.

CERAMIC POT PAINTING FOR ADULTS
July 22, 2021; 7:00–9:00 pm.

THE OCEAN IN A CUP
Make a one-of-a-kind ocean scene in a tea cup!
August 28, 2021; 10:00 am–12:00 pm.

FAMILY PROGRAMS & CLASSES FOR CHILDREN

CITIZENS BANK FREE FAMILY FUN DAY
Thanks to Citizens Bank, the Nature Center and Aquarium is open free to the public the first Saturday of every month. Join us for nature stories, animal discoveries, hikes and more. No need to register!
June 5, July 3, August 14, 2021; 10:00 am–3:00 pm

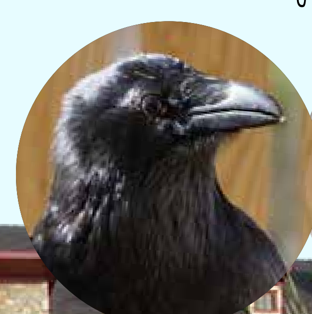
WETLAND WADDLES
July 6, 2021; 10:30 am–11:30 am.

PAINTING NATURE IN WATERCOLOR
Two session program for kids. Children explore watercolor techniques, learn to mix colors, and enjoy painting from nature.
August 4 and August 11, 2021; 9:00–11:00 am.

SHORE HIKE WITH AUDUBON
August 11, 2021; 1:00–2:30 pm.

AUDUBON COLORING BOOK WORKSHOP
Kids join artist Jerry Shippee and learn how to draw, ink, and watercolor images of local birds!
August 17, 2021; 1:00–3:00 pm.

Meet Lucy & Zach!




Register online through the events calendar at www.asri.org or call (401) 949-5454 ext. 3014.

POWDER MILL LEDGES WILDLIFE REFUGE

12 Sanderson Road, Smithfield, RI

See page 11 for Powder Mill Ledges Birding Programs.

LET'S TAKE A WALK: PRESCHOOL PROGRAM
June 8, 2021; 10:00–11:00 am: Pine Forest
July 6, 2021; 10:00–11:00 am: Field and Meadow
August 10, 2021; 10:00–11:00 am: Pond

INTRODUCTION TO TREE I.D.
June 26, 2021; 2:00–4:00 pm.

FIREFLIES!
July 9, 2021; 7:00–9:00 pm

CATCHIN' BUGS
July 10, 2021; 2:00–3:30 pm.

SUMMER MEADOW
July 14, 2021; 10:00–11:30 am

SUMMER WILDFLOWERS
July 24, 2021; 10:00 am-12:00 pm.

KOOKY CRAYFISH!
August 14, 2021; 3:00-4:30 pm.

NIGHT SINGERS
August 16, 2021; 6:00 -7:30 pm.

WILD MUSHROOM WORKSHOP
August 28, 2021 ; 10:00 am–1:00 pm

CARATUNK WILDLIFE REFUGE

301 Brown Avenue, Seekonk, MA

See page 11 for Caratunk Birding Programs.

WHITE BARN STORY TIME
Three Dates and Nature Themes.
June 3, July 1, August 5, 2021; 2:00–3:00 pm.

KID'S INVESTIGATIONS
For ages 8 and up with accompanying adults.
June 16, 2021; 9:00–11:30 am: Hike the Refuge.
July 21, 2021; 9:00–11:30 am: Pond Exploration:
August 18, 2021; 9:00–11:30 am: Field and Forest.

WONDERFUL WILDFLOWER WALK
June 29, 2021 ; 9:00–11:00 am.

COUNT BUTTERFLIES AS THEY FLUTTER BY!
Two Dates Offered.
July 21, August 11, 2021; 10:00 am–12:00 pm.

POND & STREAM EXPLORATION
July 23, 2021; 9:00-11:00 am.

SUMMER NATURE WALK THROUGH CARATUNK
July 25, 2021; 8:00–10:00 am.

NIGHT SINGERS
Enjoy an evening walk to listen for crickets, grasshoppers and katydids. *August 20, 2021; 6:00–8:00 pm.*

FORT WILDLIFE REFUGE

1443 Providence Pike (Route 5), North Smithfield, RI

SKUNK CABBAGE AND LADY SLIPPERS WALK
June 10, 2021; 10:00 am–12:00 pm.

BIRD SONGS AND CALLS
June 14, 2021; 6:00–8:00 pm.

SUMMER TWILIGHT HIKE
August 19, 2021; 7:00–9:00 pm.

FISHERVILLE BROOK WILDLIFE REFUGE

99 Pardon Joslin Road, Exeter, RI

ICE CREAM AND LIGHTNING BUGS
June 23, 2021; 7:30–9:30 pm.

BATS AND BEER
Join an evening of fun discussing the fascinating world of bats and tasting some local brew.
July 23, 2021; 7:30–9:00 pm.

A Virtual Program:

AUDUBON MURAL WALKING TOUR

July 29, 2021; 7:00–8:15 pm

The Audubon Bird Mural Project is an impressive effort to create murals of over 300 North American birds. Most are in the Harlem neighborhoods of New York City and all of the species painted are threatened by climate change. Over 40 murals will be shown in a 50-minute virtual slide presentation with live commentary.

Register online through the events calendar at www.asri.org or call (401) 949-5454 ext. 3014.

This infiltration basin, built in 2019, is designed to reduce phosphorous loads by 11.6 lbs/year rather than being discharged directly to the ponds at Roger Williams Park.

Audubon summer camp instructor Joe Koger explains to a young camper how the Caratunk rain garden works.

The Woonasquatucket River Watershed Council worked with homeowners in Elmhurst for stormwater retrofits, including redirecting roof downspouts away from the road and toward existing landscaping, installation of permeable pavers in place of walkways, and construction of rain gardens.

STORM WARNINGS Continued from page 4

based stormwater practices, coordinating the training of municipal workers, engineers and construction companies on how to build and maintain them, and educating the community about how green infrastructure can improve water quality.

To demonstrate that the technologies actually work, Kopp is overseeing a series of water quality monitoring efforts with citizen scientists, University of New Hampshire experts, and Providence Parks Department personnel.

There s no question that plants, soil and stormwater installations can help clean polluted water, Kopp said. Our monitoring efforts take it to the next step.

Some of the monitoring is based on the level of maintenance required. If storm drains get clogged and water isn t diverted off the roadway, then even the best constructed filtration isn t going to work. So time lapse cameras, data loggers and visual assessments are determining whether the system is working effectively. Kopp also oversees volunteers with several water quality monitoring programs, like Watershed Watch at URI, to measure improvements in water quality. Next up will be a stormwater training program for homeowners that will teach residents how to build a rain garden and use a rain barrel to reduce runoff from their roofs, as well as teach other strategies that will reduce human impact on local properties.

Roger Williams Park isn t the only place in the region where green infrastructure is helping to address concerns about flooding and stormwater management. Audubon s Caratunk Wildlife Refuge in Seekonk is a prime example. The refuge parking lot often flooded during spring, making it a muddy mess and impairing access to visitors. The accumulating water also carried silt, salt and other roadway runoff into a nearby pond, which impacted the Wood Ducks and other species that make their home there. Pollutants from runoff can harm or kill pond plants, algae, fish and animals such as ducks, heron and otter that feed in the ponds. Even the soil that erodes is harmful to aquatic life because it blocks sunlight entering water and covers sensitive animals that live on the bottom.

So, in 2018, Audubon installed a permeable pavement system and an adjacent rain garden that has greatly reduced the problems associated with flooding. It really does work, said Scott Ruhren, Audubon s senior director of conservation. And it s very visible to refuge visitors, which is what we wanted. It gets people talking about it and asking questions, and it always comes up in conversation when we lead walks. A rain garden was also constructed at the Nature Center and Aquarium in Bristol to capture the flow of stormwater, reduce flooding and stop erosion around the property.

According to Ruhren, green infrastructure is modeled after the natural properties of wetlands, which he said serve as the kidneys of the world, absorbing and slowly releasing water to alleviate flooding. Wetlands also collect sediments, filter pollutants and reduce downstream flooding.

We all remember what happened in 2010 when the Pawtuxet River flooded and inundated the malls and other low-lying areas due to the lack of natural streams and wetlands from urbanization, he said. That s a sharp contrast to what happened at our Fisherville Brook Wildlife Refuge, where

> ***“With many impacts of climate change already being felt, our efforts with green infrastructure will hopefully create more resilient landscapes for people and wildlife.”***
>
> Scott Ruhren
> *Audubon Senior Director of Conservation*

we have streams and ponds and wetlands that responded much better to the inundation of water than happens in human landscapes. The water got high at Fisherville, but it wasn t Armageddon. Scientists expect climate change to lead to more frequent intense storms and flooding. This is not just a prediction; it is happening already, and green infrastructure could play a major role in decreasing impacts to our natural and human communities.

These nature-based stormwater remedies are being installed in all kinds of settings around the state. In the Elmhurst neighborhood of Providence, for instance, the Woonasquatucket River Watershed Council is demonstrating how local residents can manage the stormwater from their properties so it doesn t carry pollutants into the nearby Pleasant Valley Stream. The Council surveyed 120 households in 2017 to gauge interest in the idea, then selected 12 houses for retrofits, which included redirecting roof downspouts away from the road and toward existing landscaping, installation of permeable pavers in place of walkways, and construction of rain gardens. Workshops on the construction of rain barrels reached another 24 households.

The response from the community was very positive, said Alicia Lehrer, executive director of the Council. It was hard to decide where to do the projects because so many people wanted to be included. Some were even willing to pay for it. There s a lot of knowledge in the community now about the value of green infrastructure.

The Council has been an early adopter of innovative stormwater management tools. In 2015, it installed what it calls a green infrastructure showcase at Riverside Park in Olneyville to demonstrate numerous sustainable stormwater strategies and technologies, and later it removed some pavement from a bank parking lot to create a walkway with adjacent bioretention areas. It makes it more like a park instead of the concrete jungle it was for a long time, Lehrer said. Now, as we build a new section of the greenway from Eagle Square to Providence Place Mall, we ll be adding a great deal of additional green infrastructure.

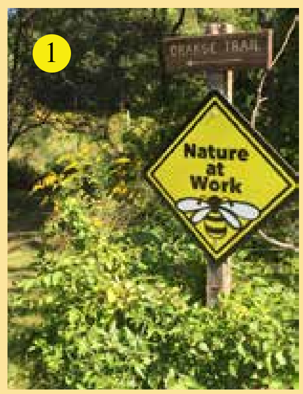
In Cranston, the city s environmental program manager, Ed Tally, is working to install green infrastructure to address water quality and stormwater management issues at Spectacle Pond, Still-

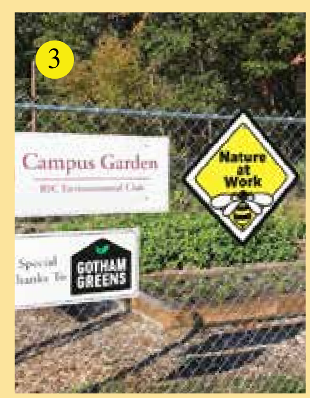
Please turn to page 19

Bee Aware: Nature at Work!

Audubon is a member of the Green Infrastructure Coalition, formed in 2015 to promote nature-based stormwater solutions and to advocate for sustainable funding for stormwater management. The Coalition focuses on training stormwater professionals on construction and maintenance of green stormwater projects. They also work to implement signage to communicate the multiple benefits and encourage support for these projects.

In a partnership with the Rhode Island Department of Transportation (RIDOT), the Green Infrastructure Coalition designs the signs and RIDOT prints them at no cost for Coalition partners. The Nature at Work signs are especially popular and promote healthy habitat for pollinators. They can be spotted around the state, and Audubon has posted them to highlight pollinator plantings at many wildlife refuges.





Nature at Work signs highlight habitat at:
1. Audubon Powder Mill Ledges, Smithfield. 2. Riverside Park, Providence.
3. Rhode Island College, Providence. 4 & 5: Audubon Nature Center and Aquarium, Bristol.

By Scott Ruhren, Senior Director of Conservation

Water Creatures Are Effective Indicators

What lives in and around ponds, lakes, streams and rivers can reveal so much about the health of the ecosystem. Some species are so tightly linked to water quality that their numbers rise and fall as conditions change. We call these indicator species or bioindicators and they are valuable monitoring tools.

Probably the best-known freshwater indicators are insects that spend their juvenile stages in water. Stoneflies, mayflies and caddisflies are used by scientists, environmental organizations, teachers and students to create ranking systems for water quality. Audubon also uses these aquatic insects as indicators to describe the health of systems and to teach about life in water.

Algae can also be a key indicator of aquatic health, but are more difficult to identify. Presence or absence of algae and associated organisms can indicate changes in chemicals, pH, temperature and oxygen in the water. Certain algae are sensitive to changing water characteristics and may disappear, while others thrive in disturbed systems.

Algae are the foundation of food webs in freshwater and marine ecosystems. Algae in lakes and rivers exist as plankton (free-floating or swimming) and attached greenish films. The health and abundance of algae can ultimately affect other organisms within the system. This is called bottom-up control. Unfortunately, these intricate, life-sustaining relationships can get out of balance from habitat disturbance, climate change and pollution.

Some key nutrients for aquatic life can become pollutants when levels rise. Phosphorous is usually the nutrient that keeps freshwater algal communities in check; it is a limiting nutrient. However, in the 60s and 70s large amounts entered ponds, streams and rivers through wastewater. Nitrogen, also a key nutrient for life, can be flushed into bodies of water in unhealthy amounts from sources such as lawn fertilizer and animal and human waste. Eutrophication excessively high nutrients of ponds and lakes disrupts the natural balance and community of freshwater systems. Habitat degradation and road runoff also can lead to eutrophication.

When levels of these nutrients increase, an algal bloom can result. Not all bloom algae are toxic. but the toxic and smelly ones get noticed. Cyanobacteria, often called blue-green algae, are species that dominate many eutrophic systems. When nutrients such as phosphorous and nitrogen increase, many of these algae-like cyanobacteria bloom. Some produce chemicals that are toxic to fish, other pond organisms, and people. They can make water taste and smell foul, and deplete oxygen that can lead to the death of other aquatic organisms such as mollusks and fish.

If Rhode Island s aquatic systems are to remain healthy, productive and safe, sources of pollution need to be reduced. With storms increasing from climate change, stormwater needs to be slowed or captured and steps taken to filter it. The little creatures in the water, bioindicators, can reveal how we are doing.

Top: An algae bloom in Roger Williams Park, Providence. Inset: Cynobacteria. Bottom: Scientists from The Nature Conservancy in Rhode Island engage the public at a water monitoring event.

Run Wild for Nature

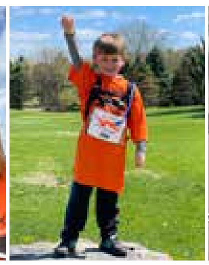
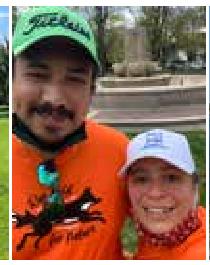
AUDUBON SOCIETY OF RHODE ISLAND

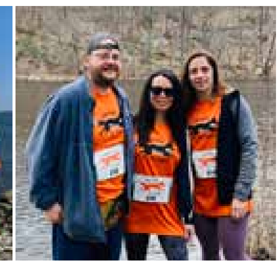
VIRTUAL 5K RUN/WALK

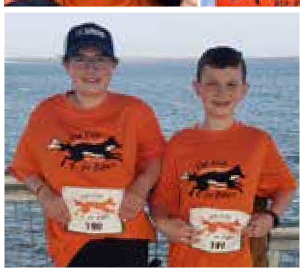
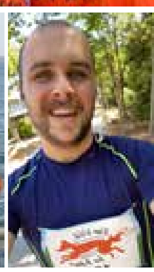
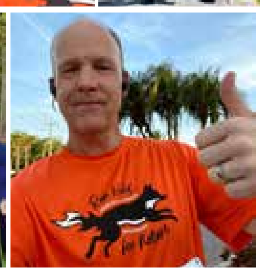
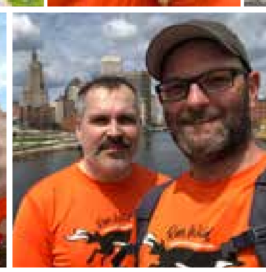
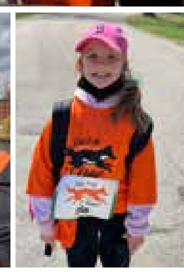
There was an unusually large number of orange foxes running and walking across Rhode Island during Earth Week – they were spotted in nine other states as well!

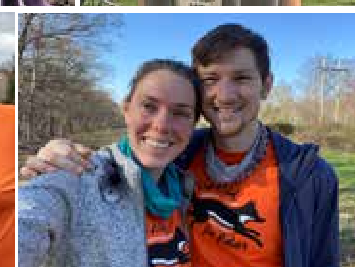
Thank you to all the individual participants, families, and peer-to-peer fundraisers who made the first Run Wild for Nature a HUGE success! Audubon also wishes to acknowledge Bank of America for their support of this event.



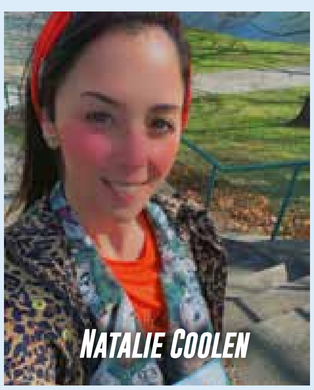





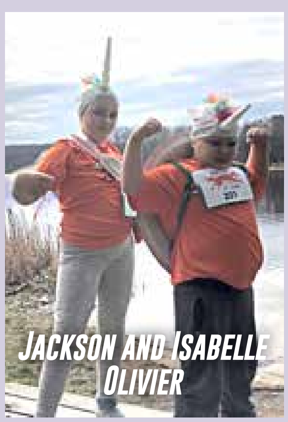


TOP INDIVIDUAL PEER-TO-PEER FUNDRAISER & BEST DRESSED:



Natalie Coolen

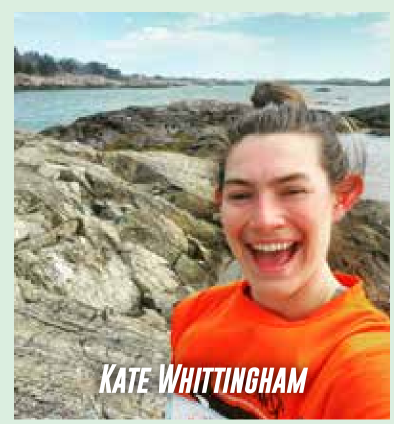
MORE BEST DRESSED:



Jackson and Isabelle Olivier

Rebecca Shannon and Family

BEST SCENERY:



Kate Whittingham

BEST PLOGGERS: (JOGGERS WHO PICK UP LITTER)

Jill Ann Parrett

Pamela Campellone Bartolini

Verónica Toledo

Tracy Andrews-Mellouise

Emily LeJeune

Audubon Nature Center and Aquarium

Located in historic Bristol, Rhode Island, just 30 minutes from Providence, Newport, and Fall River, the award-wining Audubon Nature Center and Aquarium is one of Rhode Island's most unique meeting venues. With beautiful trails, award-winning exhibits and aquarium, large meeting, reception, and outdoor patio space, the Nature Center provides a setting that will captivate guests.

Ideal for weddings, showers, or the site of your next business meeting or off-site retreat.

For availability and reservations, visit asri.org and click on *services* or contact Anne DiMonti at (401) 949-5454 x3116 or adimonti@asri.org.

Act On Climate 2021

April 10, 2021 was a landmark day for Rhode Islanders and the environment. Act On Climate was signed into law by Governor Daniel McKee, preparing Rhode Island for a cleaner and healthier future by reducing greenhouse-gas emissions to net-zero by 2050.

This critical law gives the state enforceable, economy wide greenhouse gas reduction goals that are based on the best science. It sets Rhode Island up for a rapid transition to renewable energy and the green jobs that will accompany the transition. The bill ensures that Rhode Island will plan for an equitable transition for environmental justice populations and a process for these communities to provide input on the plans. With this in place, Rhode Island will not be out-competed by neighboring Connecticut and Massachusetts when the upcoming federal investments in climate infrastructure become available.

Act On Climate

S0078. Senators Euer, Ruggerio, McCaffrey, Goodwin, Sosnowski, Coyne, Cano, Murray, Valverde, Kallman

H5445. Representatives Carson, Cortvriend, Blazejewski, Kazarian, Ruggiero, Donovan, Speakman, Knight, McEntee, and Alzate

Audubon's legislative priorites for 2021 include the following:

The Ocean State Climate Adaptation and Resilience Fund (OSCAR)
Forest Conservation Act
Solar Siting Bill to Close the 10 MW Loophole.
Manage Neonicotinoid Pesticides

To learn more, visit: bit.ly/2021PrioritiesAudubon

Audubon Senior Director of Policy Meg Kerr (front row, second from right) and other environmental advocates with Governor Dan McKee (center) immediately after the bill was signed.

Life Scout Cleans Up at Powder Mill Ledges Wildlife Refuge

Each spring, the wind and snowmelt bring a significant amount of litter to the roadside at Powder Mill Ledges Wildlife Refuge in Smithfield. Heather Richards of Scout Troop 1 Gaspee Plateau, Warwick, completed many hours of community service by picking up trash at Powder Mill Ledges to keep roadside litter off the refuge and the Audubon headquarters entrance clean. She is working toward her Life Scout EPA badge. Audubon thanks Heather for her service.

Heather Richards, Life Scout from Troop 1 Gaspee Plateau, Warwick

STORM WARNINGS

Continued from page 15

house Cove and other sites around the city. A bioretention swale constructed along Narragansett Boulevard has helped reduce nutrients flowing into Stillhouse Cove and the Providence River and provided the city with a boost of confidence to tackle additional projects.

At Spectacle Pond, where there is limited public property to accommodate green infrastructure, Tally is targeting what he calls end-of-road projects where stormwater can be treated before it runs into the pond. There are a lot of these sites, so if we can get the design right and use it on the next street and the next street, then it doesn t become too costly, Tally said. The repeatability of it is something we like.

With every installation, Tally is learning additional lessons about how to make them more effective without overspending. And having the Providence Stormwater Innovation Center just a few miles up the road makes it easy for him to compare his installations to those at Roger Williams Park to ensure he is doing it right.

The projects we re doing aren t designed to take the whole watershed and treat every half inch of rain that falls, but in pockets like this, you can start to build that compounding effect where this one is treating this area, that one s treating that area, and hopefully in tandem it will all work out, he said. If we can keep putting them in as the budget becomes available, we can keep making progress.

Scott Ruhren agrees.

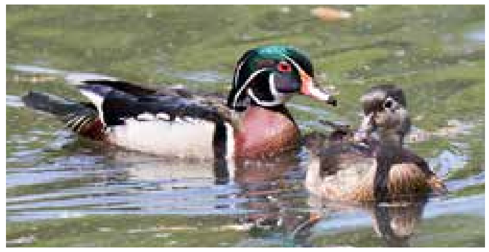
The overarching goal of all of this is improved water quality, which is why Audubon has taken a leadership role at Roger Williams Park. Everything flows downhill, Ruhren said. Urban areas are traditionally bypassed in conservation programs, so the Providence Stormwater Innovation Center and these other efforts are a way to solve a lot of problems and improve water quality in our urban areas. With many impacts of climate change already being felt, our efforts with green infrastructure will hopefully create more resilient landscapes for people and wildlife.

LET'S GO Birding

By Laura Carberry

Jump Right In!

Peter Green



When most of our winter ducks have headed north to nest, we welcome back one of the most colorful ducks in North America. Once threatened with extinction by habitat loss and hunting, Wood Ducks are now thriving due to habitat protection and nest box programs.

Male or drake Wood Ducks have green helmet-like heads with intricate white chin straps, black cheeks and chestnut chests dotted with white. Their backs are hues of purples, blues, creams and black. The females or hens are made up of browns and grays but also have that tell tale helmet shape head with a white eye ring. These ducks also have clawed webbed feet that help them perch on trees! Wood Ducks have the largest eyes of all ducks, which make it easier for them to navigate through trees. They are also known to have the greatest sense of smell, helping them to find nuts, berries, insects and aquatic plants to eat. They have strong flight skills, and have been known to fly up to 30 mph.

In March and April these spectacular ducks arrive in Rhode Island, looking for nest sites in our wooded swamps. They are secretive but can often be seen or heard when they search for cavities to make their nests. These nest holes can be 5 to 60 feet off the ground. Usually they nest near water, but some nesting cavities have been found over a mile from ponds and rivers if nest sites are limited. To increase nest site availability, human-made nest boxes can be installed near ponds, rivers and wet areas.

Once a site has been picked, the female will lay between 6 to 16 eggs in a downy nest. In some areas with limited nest sites, females are known to egg-dump. This means they lay their eggs in another female s nest. Some hens have been seen with up to 29 eggs! After about a month of incubation, all the chicks hatch. Only one day later, the mother calls her young from the nest. Each chick uses its clawed feet to climb out of the hole and make its jump, sometimes up to 60 feet, to either the ground or water. Because of their small size they just bounce as they land, unhurt. For about two months they follow their mother, learning to survive on their own.

During the summer months these birds can be hard to spot as they hide in the shadows and the reeds. But come fall, Wood Ducks start to flock together in larger groups. This is when the adult males and females molt their feathers. The males resemble the females at this time. The coloring helps them camouflage while they molt their flight feathers, which makes it difficult to fly.

Wood Ducks can be found throughout Rhode Island and nest on most of Audubon s Wildlife Refuges. Although the species tends to be secretive, if you are quiet and one of the first folks on the trails in the morning, you might catch a glimpse. Some less secretive Wood Ducks that are more comfortable around human activity nest at Roger Williams Park. They would be proud to show you their beautiful colors!

Ed Hughes

At Center: Laura Carberry repairs and cleans Wood Duck boxes before the ducks arrive to nest, and has found egg shell remains.

New Audubon Digital Membership Cards

Enjoy a NEW way to access your Audubon Society of Rhode Island membership! Audubon Members can now receive digital membership cards by email, a convenient, eco-friendly alternative to printed cards. Just download and saved to your smartphone.

Going digital means you never have to worry about forgetting your membership card when visiting the Audubon Nature Center and Aquarium, in addition to being more environmentally friendly and helping to reduce administrative costs. After joining or renewing your membership, you will receive an email within a week with a link to download your card.

Digital membership cards provide quick links to our website, information on your membership benefits, Audubon contact information and helpful renewal notifications all in one place your fingertips! If you would prefer to receive a paper membership card, please contact Julius Lundy at jlundy@asri.org or 401-949-5454 ext. 3018.

Thank You!

PARTNERS IN CONSERVATION

The companies listed below have demonstrated their significant commitment to the quality of life in Rhode Island and to conserving natural habitats through stewardship and education.

- **Botanical Center Conservancy**
- **Citizens Bank**
- **Cox Communications**
- **CVS Health**
- **DBVW Architects**
- **Green Energy Consumers Alliance, Inc.**
- **Lyons & Zaremba, Inc.**
- **Partridge Snow & Hahn LLP**
- **R.I. Beekeepers Association**
- **Target**
- **United Natural Foods, Inc.**
- **Van Liew Trust Company**
- **Whole Foods Market**

GIFTS IN HONOR

The people listed below have been honored by family and friends who found a gift to the Audubon Society of Rhode Island to be the most meaningful way to celebrate someone important in their lives.

In Honor of: Sarah Becker
From: Daniel Becker

In Honor of: William Cotton
From: Haley Cotton

In Honor of: Alice Desautels
From: Jeanne and Eugene Desautels

In Honor of: Richard Donnelly
From: Phyllis Kay and Richard Donnelly

In Honor of: Daniel Echt
From: Irene Leddy

In Honor of: Larry Geuss, MD
From: Anne and Michael Szostak

In Honor of: Dana Palka
From: Lindsay Mckeever

In Honor of: Lauren Parmelee
From: Stacy Couto

In Honor of: Cynthia Warren
From: Deborah Linnell

MEMORIALS

Memorials serve and support the conservation and protection of Rhode Island's environment. During the past quarter, the families and friends of people listed below have chosen to remember their loved ones through a gift to the Audubon Society of Rhode Island.

In Memory of: Nancy Lisi-Asprinio
From: Jenny Cunningham
Michael Mort
Brad Goff
Mary Ann Lisi

In Memory of: Clarice Grear
From: Laura Burkett
David Chapman
Jeremy Furtado
Jeffrey Griffin and
Rebecca Martz-Griffin
Margaret Pelletier
Kirby Stephens
Nicole Pichette

In Memory of: Mary MacNeill
From: Jean Cella
Anne and David Wells

In memory of: Robert Mariani
From: Karen Berman
Barb Burke
Maria Franzen
Debbie and Gary Hicks
Paula Izeman

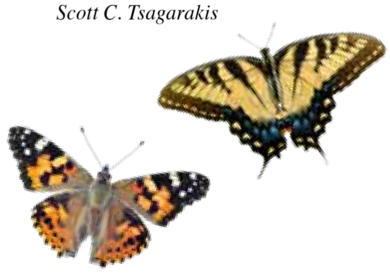
In memory of: Mary Lee Marini
From: Courtney Milan

In memory of: John and Judith McCarthy
From: Patricia and Christian DeFrancesco

In memory of: Michael Officer
From: Judith and Bob Bisceglia

In memory of: Thomas Pitts
From: Sherry and Nick Trepp

In memory of: Dean Rae
From: Paul Anagnostopoulos
H. Chris Der Vartanian
Scott C. Tsagarakis



AUDUBON SOCIETY OF RHODE ISLAND

1897 SOCIETY

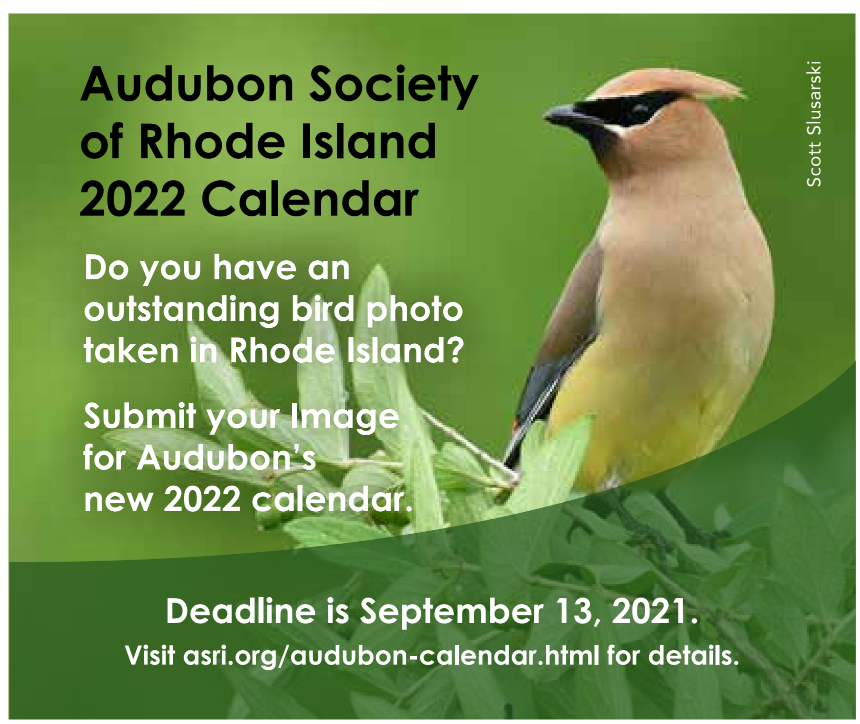
Named for the year of the Audubon's founding, the 1897 Society honors those whose leadership gifts enable the Audubon Society of Rhode Island to advance its mission of protecting birds, other wildlife and their habitats through conservation, education and advocacy. Our donors can take satisfaction that their contributions have an immediate and lasting impact on the people, wildlife and natural beauty of Rhode Island.

The 1897 Society celebrates donors who give annually at the $1,000 to $10,000+ level as special contributors to our ongoing mission and shall be recognized at the following levels:

Leader — $1,000 to $2,499
Advocate — $2,500 to $4,999
Conservator — $5,000 to $7,499
Benefactor — $7,500 to $9,999
Visionary — $10,000+

If you wish to join the 1897 Society and help promote the values and mission of Audubon, please visit asri.org/leadership or contact Jeff Hall at 401-949-5454 ext. 3017.

In recognition of their philanthropic charity, members of the 1897 Society enjoy a variety of exclusive benefits, including invitations to member-only events and special communications.



Wildlife Images from the Audubon Refuges

Audubon has unobtrusive wildlife cameras on wildlife refuges across the state. Located well off the trails in remote locations, they are used to monitor wildlife and any activity on the properties.

This winter we recorded a bobcat, racoon and coyote all near the same log, but at different dates and times. It is always fun to see what creatures are out and about on the Audubon Wildlife Refuges!

A Big Year for Osprey Fledglings

In 2020 monitors counted 303 Osprey fledglings, up from 212 fledglings in 2019.

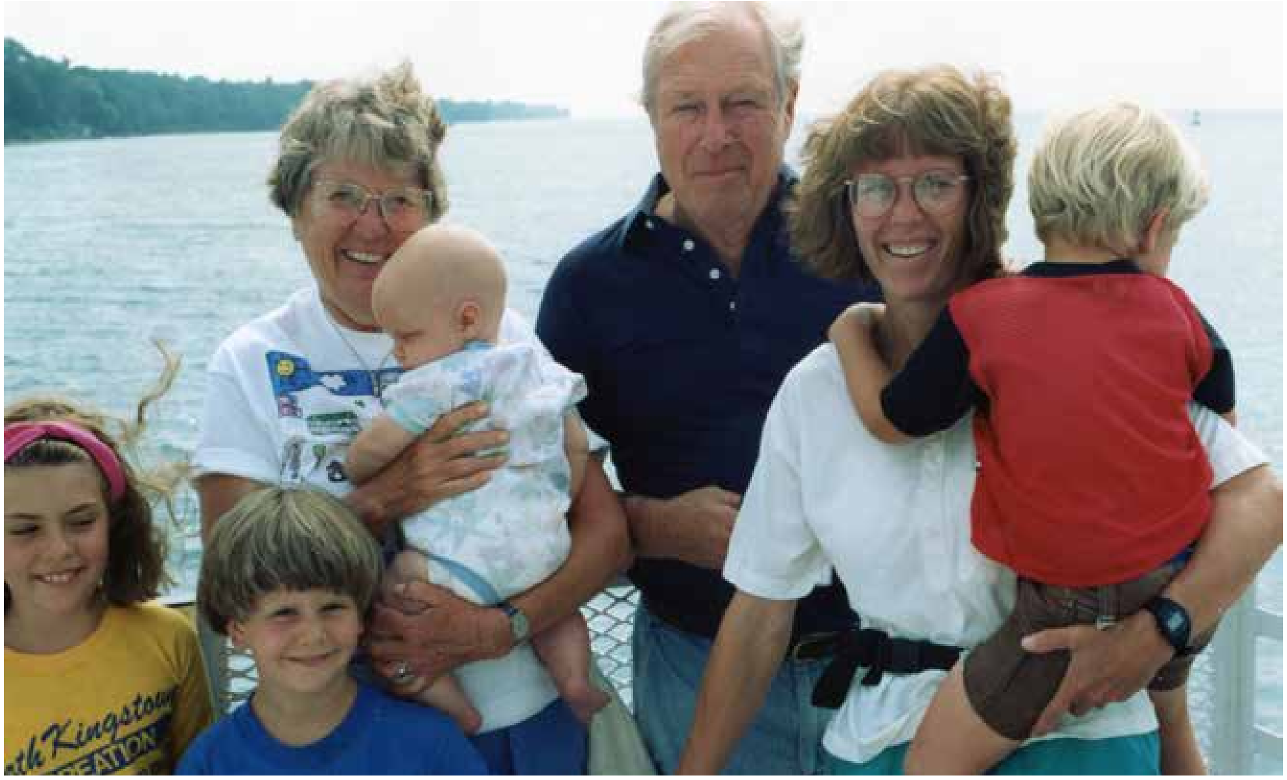
Surprising to some who may notice their many nests along coastlines and riverbanks, Ospreys were listed as an endangered species in the 1970s. Their story of a healthy, rebounding population is a true environmental success story. Audubon Society of Rhode Island volunteers monitored over 239 Osprey nests in 2020, carefully recording the status of this raptor in the Ocean State. Audubon recorded a total of 303 Osprey fledglings in Rhode Island, up from 212 in 2019. There were just 8 fledglings in 1977, the year the program was founded.

For Osprey data by cities, towns and communities in Rhode Island, visit: asri.org/ospreyreport/2020.


Butch Lombardi

A Story Well Told

Editorial by Meg Kerr, Senior Director of Policy



Meg Kerr in 1993 with her parents and children at a family cottage on the St. Lawrence River.

Krystal Noiseux, a founding member of the Greater Providence Chapter of The Climate Reality Project, addressed a recent Audubon staff meeting. She encouraged everyone in attendance to develop and then practice a personal climate story to share with neighbors and friends. Personal stories help to engage others in thinking and acting on the climate crisis.

My climate story begins in Pleasantville, New York, a suburb of New York City, where I was born and raised. My life was anchored by two rivers   the Hudson River near the Tappan Zee Bridge where my grandmother lived and the St. Lawrence River near its source at Lake Ontario where we spent our summers. I loved these rivers, but they were not clean. I clearly remember times when our Golden Retrievers were not allowed to go swimming because you could see human waste floating in the water.

When I went to college, I knew I wanted to be an environmental scientist with a focus on clean water. I found the perfect graduate program at the University of North Carolina at Chapel Hill and started my career working for the North Carolina state government in the water program focused on implementing the newly minted Clean Water Act.

Over the course of my years working on river and watershed management, I saw real improvements in water quality. Sewage treatment plants were built to treat human and industrial wastes. Water in the St. Lawrence River became visibly cleaner and paddlers can now be seen plying the Hudson River even in New York City. Here in Rhode Island, Narragansett Bay and the rivers that feed it are much cleaner than they were fifty years ago.

I reveled in the improvements. I knew that there were many environmental problems that were not getting better with time, but I took great joy in seeing that water quality was improving.

The floods of 2010 were my wakeup call. In late March, heavy rain fell on a landscape that was already soaked by previous rains. Rivers throughout Rhode Island flooded. The Pawtuxet River crested at 20.79 feet. Flooding shut down portions of Interstate 95, the Warwick Mall and damaged hundreds of homes and businesses, along with several wastewater treatment plants. For several days, essentially untreated wastewater flowed out of the three municipal treatment plants along the Pawtuxet River, discharging millions of gallons of waste into Narragansett Bay.

No one event is caused by climate change, but we know that increasingly intense storms are already happening and will happen with more frequency as climate change continues to affect the world s environment. The floods of 2010 made me realize that wastewater infrastructure throughout the state sits in harm s way because it is located on the coast or along a river. Intense storms also increase stormwater runoff, bringing additional pollutants to local waters. The water quality improvements we have seen in Rhode Island and throughout the world are significantly at risk due to climate change.

After this realization, climate change advocacy has centered my work. All the environmental issues we care about pale in comparison to climate change and we need to be all-in to address the crisis before us.

I am retiring at the end of June but I know that Audubon will continue to lead on climate change. And I will continue to support that work. I hope you do too.

Audubon Senior Director of Policy Meg Kerr heads for retirement after three decades of environmental leadership in Rhode Island. We are grateful for the many years she represented Audubon at the Statehouse and in many partner organizations. Meg has done exceptional policy work on behalf of the environment, and she will truly be missed.

AUDUBON SOCIETY OF RHODE ISLAND
REPORT
Volume 55, Number 2, Spring 2021

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Please pass this copy on to a friend or recycle. Thank you.

The Report is the Audubon Society's member newsletter and updates members on the current issues and actions of the Society, its staff and volunteers. We encourage your participation and you may send items that will be considered for publication to: Hope Foley, Managing Editor, Audubon Society of Rhode Island, 12 Sanderson Road, Smithfield, RI 02917 or by email to hfoley@asri.org.

Spot the Beetle, Stop the Beetle

Help prevent the spread of Asian Longhorned Beetle. When hiking the trails, look for signs of the beetle.

For more information on how to detect this destructive invasive insect, visit www.asri.org and click on "conservation."

Because of you, the Osprey License Plate has provided hundreds of children with the opportunity to learn about nature. Thank you.

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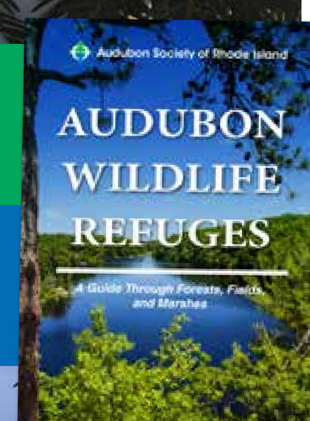


Appendix C

Spectacle Pond Phosphorous Reduction Project


November 9, 2021
CAT
Vegetated Infiltration Basin


November 18, 2021
Underground Infiltration Basin


December 21, 2021
Pretreatment Catch Basin
and
Sediment Forebay


December 21, 2021
Pretreatment Catch Basin
and
Sediment Forebay


December 29, 2021
Vegetated Infiltration Basin
Diversion Structure


December 29, 2021
Vegetated Infiltration Basin
Overflow Structure

Appendix D

Barrett Street Project

SPECTACLE POND PHOSPHORUS REDUCTION

BARRETT STREET · CRANSTON · RHODE ISLAND

GREEN INFRASTRUCTURE IMPROVEMENTS

JULY 2021

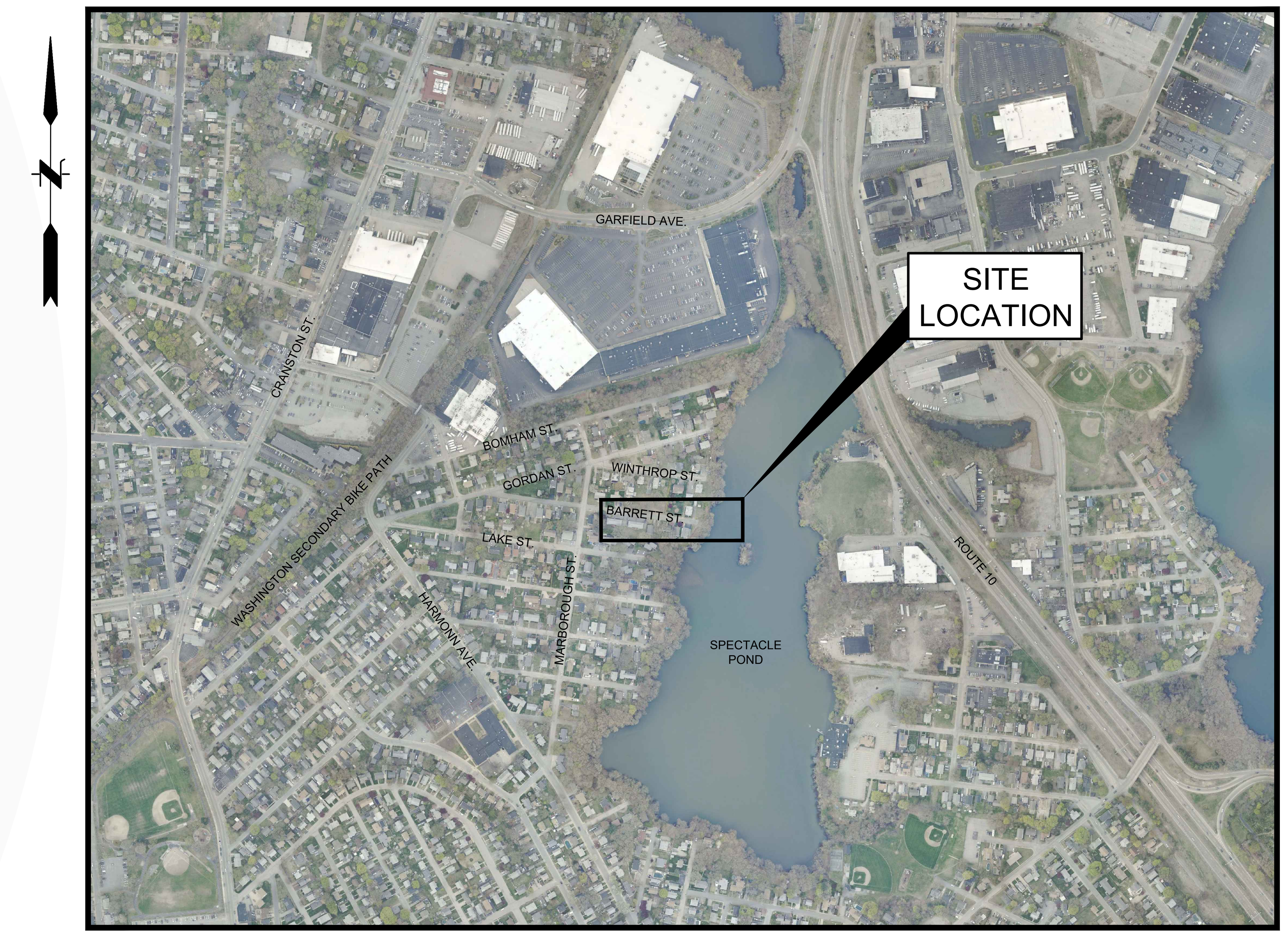
PREPARED FOR

CITY OF CRANSTON
CRANSTON CITY HALL
869 PARK AVENUE
CRANSTON, RHODE ISLAND 02910

PREPARED BY

FUSS & O'NEILL
317 IRON HORSE WAY, SUITE 204
PROVIDENCE, RI 02908
401.861.3070
www.fando.com

SHEET INDEX



LOCATION MAP
SCALE: 1" = 500'

PROJ. No.: 20170900.B10
DATE: JULY 2021

GI-001

File Path: J:\DWG\P2017\0900\B10\Civil\Plan\20170900B10_COV01.dwg, Layout: GI-001, Plotted: Friday, July 23, 2021, User: sarruda Plotter: DWG TO PDF.PC3 CTB File: FO.STB

LEGEND

EXIST	PROP	
		PROPERTY LINE/RIGHT-OF-WAY
	LOD	LIMIT OF DISTURBANCE
10+00	10+00	BASELINE
		EDGE OF WATER
		WETLAND SYMBOL
		GRAVEL PATH
		EDGE OF PAVEMENT
		BITUMINOUS CURB
	MATCH LINE SEE SHEET 2 OF 2	MATCH LINE
		CHAIN LINK FENCE
		STOCKADE FENCE
		TREE LINE
		EXISTING TREE
		RETAINING WALL
2	4	MINOR CONTOUR
10	20	MAJOR CONTOUR
		BUILDING
		BOLLARD
		SIGN
+21.25	x21.25	SPOT ELEVATION
		DRAINAGE LINE
CB	CB	CATCH BASIN
DMH	DMH	DRAIN MANHOLE
SMH	SMH	SEWER MANHOLE
		FIRE HYDRANT
		LIGHT POST
		UTILITY POLE
		GUY POLE
		COMPOST FILTER TUBE

LEGEND NOTE

SYMBOLS AND LEGENDS OF PROJECT FEATURES ARE GRAPHIC REPRESENTATIONS AND ARE NOT NECESSARILY SHOWN ON THE DRAWINGS TO SCALE OR TO THEIR ACTUAL DIMENSION OR LOCATION. COORDINATE DETAIL SHEET DIMENSIONS, MANUFACTURERS' LITERATURE, SHOP DRAWINGS, AND FIELD MEASUREMENTS OF SUPPLIED PRODUCTS FOR LAYOUT OF THE PROJECT FEATURES.

ABBREVIATIONS

GENERAL	
APPROX	APPROXIMATE
BIT	BITUMINOUS PAVEMENT
BW	BOTTOM OF WALL
CC	CONCRETE CURB
CCB	CAPE CODE BERM
ELEV	ELEVATION
EXIST	EXISTING
GC	GRANITE CURB
MAX	MAXIMUM
MIN	MINIMUM
NTS	NOT TO SCALE
PCC	PRECAST CONCRETE CURB
PROP	PROPOSED
R&D	REMOVE AND DISPOSE
R&R	REMOVE AND RESET
R&S	REMOVE AND STACK
TOS	TOP OF SLOPE
TW	TOP OF WALL
TYP	TYPICAL
VGC	VERTICAL GRANITE CURB

UTILITY	
CB	CATCH BASIN
CMP	CORRUGATED METAL PIPE
CPP	CORRUGATED POLYETHYLENE PIPE
DCB	DOUBLE CATCH BASIN
DI	DUCTILE IRON PIPE
F&G	FRAME AND GRATE
F&C	FRAME AND COVER
HDPE	HIGH DENSITY POLYETHYLENE
HYD	HYDRANT
INV	INVERT ELEVATION
PVC	POLYVINYL CHLORIDE PIPE
RCP	REINFORCED CONCRETE PIPE
RD	ROOF DRAIN
SMH	SEWER MANHOLE
TSV	TAPPING SLEEVE, VALVE AND BOX
UP	UTILITY POLE

GENERAL NOTES

1. REFERENCES:
   A. THE RHODE ISLAND DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAY AND BRIDGES, 2021 EDITION, REVISIONS AND ALL CURRENT ADDENDA, ARE MADE A PART HEREOF, AS IF ATTACHED HERETO. ALL REFERENCES TO "STATE STANDARD SPECIFICATIONS" SHALL REFER TO THE LATEST EDITION OF THE RHODE ISLAND DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES CONSTRUCTION.

   B. THE RHODE ISLAND EROSION CONTROL MANUAL, REVISIONS AND ALL CURRENT ADDENDA, ARE MADE A PART HEREOF, AS IF ATTACHED HERETO. ALL REFERENCES TO "EROSION CONTROL MANUAL" SHALL REFER TO THE LATEST EDITION OF THE RHODE ISLAND EROSION CONTROL MANUAL.

2. EXISTING CONDITIONS:
   A. EXISTING AND TOPOGRAPHICAL FEATURES WITHIN THE BARRETT STREET RIGHT-OF-WAY WERE OBTAINED FROM A CLASS III, ON-GROUND SURVEY PERFORMED BY NATIONAL LAND SURVEYORS, INC. (NLS) IN MAY 2021.

   B. AERIAL IMAGERY WAS OBTAINED FROM THE OFFICE OF GEOGRAPHIC AND ENVIRONMENTAL INFORMATION (RIGIS), RHODE ISLAND EXECUTIVE OFFICE OF ENVIRONMENTAL AFFAIRS (RI.GOV).

   C. PROPERTY LINES SHOWN ARE APPROXIMATE ONLY AND ARE BASED ON TAX ASSESSOR'S MAP 7-5.

   D. WETLAND FLAGS SHOWN WERE FLAGGED BY NATURAL RESOURCE SERVICES, INC. (NRS) ON APRIL 27, 2021 AND WERE FIELD LOCATED BY NLS IN MAY 2021.

3. DATUM REFERENCE:
   A. ALL TOPOGRAPHIC INFORMATION INCLUDED HEREON IS IN REFERENCE TO NAVD83.

4. FLOOD ZONE INFORMATION:
   A. DISTURBANCE PROPOSED FOR THIS PROJECT IS NOT LOCATED IN SPECTACLE POND'S ASSOCIATED FLOOD PLAIN AS DEPICTED IN FEMA FLOOD MAP NUMBER 44007C0312H (DATED OCTOBER 2, 2015).

5. UTILITIES:
   A. THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES SHOWN ARE APPROXIMATE ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL CONFIRM THE DEPTHS AND LOCATIONS WHERE UNDERGROUND UTILITIES WILL POTENTIALLY CONFLICT WITH THE INSTALLATION OF THE PROPOSED DRAINAGE SYSTEM AS INDICATED ON THESE PLANS.

GENERAL CONSTRUCTION REQUIREMENTS

1. THE CONTRACTOR SHALL VERIFY THE PROPOSED LAYOUT WITH ITS RELATIONSHIP TO THE EXISTING SITE SURVEY. THE CONTRACTOR SHALL ALSO VERIFY ALL DIMENSIONS, SITE CONDITIONS, AND MATERIAL SPECIFICATIONS AND SHALL NOTIFY THE OWNER AND ENGINEER IN WRITING OF ANY ERRORS, OMISSIONS OR DISCREPANCIES BEFORE COMMENCING OR PROCEEDING WITH WORK.
2. THE CONTRACTOR SHALL TAKE FIELD MEASUREMENTS AS REQUIRED TO FIT WORK PROPERLY. RECHECK MEASUREMENTS BEFORE CONSTRUCTING EACH WORK ITEM. WHERE PORTIONS OF THE WORK ARE INDICTED TO FIT TO OTHER CONSTRUCTION, VERIFY DIMENSIONS OF OTHER CONSTRUCTION BY FIELD MEASUREMENTS BEFORE FABRICATION. COORDINATE FABRICATION SCHEDULE WITH CONSTRUCTION PROGRESS TO AVOID DELAYING THE WORK.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ANY ADDITIONAL LOCAL PERMITS, INSPECTIONS, BONDS, ETC. AND OTHER APPROVAL RELATED ITEMS THAT MAY BE REQUIRED. APPLICATION FEES SHALL BE PAID BY OWNER. NO CONSTRUCTION SHALL COMMENCE UNTIL SUCH PERMITS HAVE BEEN SECURED AND THE CONTRACTOR HAS SUPPLIED THE REQUIRED NOTICES.
4. METHODS AND MATERIALS USED IN THE CONSTRUCTION OF IMPROVEMENTS FOR THIS PROJECT SHALL CONFORM TO THE CURRENT CONSTRUCTION STANDARDS AND SPECIFICATIONS OF THE LOCAL MUNICIPALITY AND THE RHODE ISLAND DEPARTMENT OF TRANSPORTATION.
5. VERIFY SPACE REQUIREMENTS AND DIMENSIONS OF ITEMS SHOWN ON DRAWINGS. CHECK THE LOCATION, LEVEL AND GRADE, OF EVERY MAJOR ELEMENT AS THE WORK PROGRESSES.
6. ESTABLISH BENCHMARKS AND CONTROL POINTS IN ADDITION TO THOSE INDICATED TO SET LINES, GRADES, AND LEVELS AT EACH STAGE OF CONSTRUCTION. LOCATE THE WORK AND COMPONENTS OF WORK ACCURATELY, IN CORRECT ALIGNMENT AND ELEVATION, AS INDICATED.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACING, WITH MATCHING MATERIALS, ANY PAVEMENT, WALKS, SIGNS,UTILITIES, STRUCTURES, NON-PAVED AREAS, VEGETATION, EXISTING FEATURES, ETC. THAT AE DAMAGED DURING CONSTRUCTION AND THAT ARE NOT SCHEDULED TO BE REMOVED, REPLACED, RESET, OR DISTURBED BY PROPOSED CONSTRUCTION ACTIVITIES.
8. COMPLY WITH MANUFACTURERS' WRITTEN INSTRUCTIONS AND RECOMMENDATIONS FOR INSTALLING MATERIALS AND PRODUCTS.
9. INSTALL PRODUCTS AT THE TIME AND UNDER CONDITIONS THAT WILL ENSURE THE BEST POSSIBLE RESULTS. MAINTAIN CONDITIONS REQUIRED FOR PRODUCT PERFORMANCE UNTIL SUBSTANTIAL COMPLETION.
10. CONDUCT CONSTRUCTION OPERATIONS SO NO PART OF THE WORK IS SUBJECTED TO DAMAGING OPERATIONS OR LOADING IN EXCESS OF THAT EXPECTED DURING NORMAL POST-CONSTRUCTION CONDITIONS.
11. USE PRODUCTS, CLEANERS, AND INSTALLATION MATERIALS THAT ARE NOT CONSIDERED HAZARDOUS.
12. CONTRACTOR AGREES THAT IT ASSUMES SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS; AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD THE CONTRACT OWNER, PROPERTY OWNERS AND THE ENGINEER HARMLESS FROM ANY AND ALL LIABILITY, REAL AND ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING FOR LIABILITY ARISING FROM "THE SOLE NEGLIGENCE OF THE CONTRACT OWNER, PROPERTY OWNER OR THE ENGINEER."
13. DEVIATIONS OR CHANGES FROM THESE PLANS WILL NOT BE ALLOWED UNLESS APPROVED BY THE ENGINEER/OWNER.
14. AN APPROVED SET OF PLANS AND ALL APPLICABLE PERMITS MUST BE AVAILABLE AT THE CONSTRUCTION SITE AT ALL TIMES.
15. CONTRACTOR SHALL IDENTIFY TREES TO BE REMOVED PRIOR TO CONSTRUCTION AND MARK THEM WITH CONSTRUCTION TAPE FOR REVIEW BY THE OWNER/ENGINEER. TREES AND OTHER EXISTING VEGETATION SHALL BE RETAINED WHEREVER FEASIBLE. CONTRACTOR SHALL NOT REMOVE TREES UNTIL REVIEWED AND APPROVED BY THE OWNER/ENGINEER.
16. THE CONTRACTOR SHALL RESTORE DISTURBED LANDSCAPE AREAS TO ORIGINAL CONDITION (I.E. SEEDED, SODDED, PLANTED) UNLESS OTHERWISE DIRECTED WITHIN CONTRACT DOCUMENTS.
17. ALL EXCESS EXCAVATED MATERIALS, EXCESS FILL, EXCESS CONSTRUCTION MATERIALS, DEBRIS, AND WASTE SHALL BE REMOVED FROM THE SITE AND SHALL BE DISPOSED OF IN ACCORDANCE WITH APPLICABLE LAWS.
18. DO NOT CLOSE OR OBSTRUCT ROADWAYS, SIDEWALKS, FIRE HYDRANTS, AND UTILITIES WITHOUT APPROPRIATE PERMITS.
19. WORK IS RESTRICTED TO THE HOURS OF 7 AM TO 5 PM ON MONDAY THROUGH FRIDAY, EXCLUDING HOLIDAYS, UNLESS OTHERWISE APPROVED BY THE OWNER.

UTILITY COORDINATION REQUIREMENTS

1. THE CONTRACTOR SHALL CONTACT DIG SAFE (811) AND UTILITY COMPANIES TO LOCATE ALL EXISTING UTILITIES, AT LEAST 72 HOURS PRIOR TO THE START OF CONSTRUCTION.
2. THE CONTRACTOR IS REQUIRED TO TAKE PRECAUTIONARY MEASURES TO PROTECT THE UTILITIES SHOWN HEREON AND ANY OTHER EXISTING UTILITIES NOT OF RECORD OR NOT SHOWN ON THESE PLANS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING, AT ITS OWN EXPENSE, ANY EXISTING UTILITIES DAMAGED DURING CONSTRUCTION.
3. THE LOCATION OF EXISTING UNDERGROUND INFRASTRUCTURE, UTILITIES, CONDUITS, AND LINES ARE SHOWN ON THESE PLANS IN AN APPROXIMATE WAY ONLY AND ARE BASED ON RESEARCH OF AVAILABLE UTILITY RECORDS (AS NOTED) AND MAY NOT BE LIMITED TO THOSE SHOWN HEREIN. THE CONTRACTOR AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT RESULT FROM THE CONTRACTOR'S FAILURE TO LOCATE SAID INFRASTRUCTURE AND UTILITIES EXACTLY. IF FIELD CONDITIONS DIFFER FROM PLAN INFORMATION, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY FOR POSSIBLE REDESIGN. THE CONTRACTOR SHALL CONTACT DIG SAFE (811) AND UTILITY COMPANIES TO LOCATE ALL EXISTING UTILITIES, AT LEAST 72 HOURS PRIOR TO THE START OF CONSTRUCTION.
4. BEFORE BEGINNING SITE WORK, THE CONTRACTOR SHALL INVESTIGATE AND VERIFY THE EXISTENCE AND LOCATION OF UNDERGROUND UTILITIES AND OTHER CONSTRUCTION AFFECTING THE WORK. THE CONTRACTOR SHALL MAKE EXPLORATORY EXCAVATIONS (INCLUDING TEST PITS AT POTENTIAL UTILITY CONFLICT LOCATIONS AS INDICATED ON THE PLANS) AND LOCATE EXISTING UTILITIES SUFFICIENTLY AHEAD OF CONSTRUCTION TO PERMIT REVISIONS TO PLANS IF NECESSARY. PROCEED WITH INSTALLATION ONLY AFTER UNSATISFACTORY CONDITIONS HAVE BEEN CORRECTED.
5. MATERIALS AND METHODS OF CONSTRUCTION ASSOCIATED WITH THE ADJUSTMENT AND/OR REMOVAL AND RELOCATIONS OF UNDERGROUND UTILITIES SHALL BE IN ACCORDANCE WITH THE UTILITY OWNER'S RULES AND REGULATIONS. THE CONTRACTOR SHALL NOTIFY AFFECTED PROPERTY OWNERS AT LEAST 48 HOURS IN ADVANCE OF ANY DISRUPTIONS OR AS OTHERWISE REQUIRED BY THE RESPECTIVE UTILITY OWNER.

PROTECTION OF WORK REQUIREMENTS

1. THE WORK AND SITE SHALL BE PROTECTED AT ALL TIMES UNTIL FINAL ACCEPTANCE BY THE OWNER. CARE SHALL BE EXERCISED WHILE OPERATING EQUIPMENT ON AND ADJACENT TO THE WORK AREA. THE CONTRACTOR SHALL BE RESPONSIBLE TO ASSURE THE UTILIZED EQUIPMENT DOES NOT CAUSE DAMAGE TO EXISTING FEATURES.
2. ACCESS TO VARIOUS PORTIONS OF THE SITE SHALL BE UNDERTAKEN IN SUCH A MANNER THAT THE WORK AND SITE ARE PROTECTED AT ALL TIMES. ACCESS WAYS SHALL BE CONSTRUCTED, MAINTAINED, AND PROTECTED WITH SEDIMENT CONTROLS TO PREVENT DAMAGE FROM EROSION DURING MAJOR STORM EVENTS.
3. PLACEMENT AND COMPACTION OF FILL MATERIALS SHALL BE COMPLETED IN SUCH A MANNER THAT THE WORK AND ADJACENT ROADWAYS ARE PROTECTED FROM DAMAGE AT ALL TIMES.
4. BACKFILL OPERATIONS SHALL PROCEED TO RAISE THE GROUND SURFACE UNIFORMLY AND SHAPED TO PROVIDE POSITIVE DRAINAGE AT ALL TIMES. CONSTRUCT AND MAINTAIN ON THE SITE, ALL DITCHES AND CHANNELS NECESSARY TO KEEP THE SITE IN A DRY AND WORKABLE CONDITION. WHERE WATER IS FLOWING OR OTHERWISE INFILTRATING INTO AN EXCAVATION, PROVIDE FOR PUMPING AND OTHER DRAINAGE FACILITIES, INCLUDING EROSION AND SEDIMENT CONTROLS, TO DIVERT WATER FROM SUCH EXCAVATION.
5. DO NOT ALLOW WATER TO ACCUMULATE IN EXCAVATIONS. REMOVE WATER TO PREVENT SOFTENING OF FOUNDATION BOTTOMS, UNDERCUTTING OF FOOTINGS AND SOIL CHANGES DETRIMENTAL TO STABILITY OF SUBGRADES, FOUNDATIONS AND STRUCTURES.

CONTROL OF WATER

1. IT IS NOT ANTICIPATED THAT GROUNDWATER WILL BE ENCOUNTERED DURING CONSTRUCTION.
2. TEMPORARY STORMWATER BYPASS CONVEYANCE SYSTEMS (THAT MAY BE REQUIRED) TO DISCHARGE STORMWATER THROUGH THE SITE (AND AROUND PROPOSED WORK) DURING CONSTRUCTION SHALL BE INSTALLED, OPERATED, MAINTAINED AND REMOVED IN SUCH MANNERS TO PROTECT THE WORK AND EXISTING FEATURES FROM DAMAGE AT ALL TIMES UNTIL FINAL ACCEPTANCE BY THE OWNER.
3. DO NOT ALLOW WATER TO ACCUMULATE IN EXCAVATIONS. REMOVE WATER TO PREVENT SOFTENING OF FOUNDATION BOTTOMS, UNDERCUTTING OF FOOTINGS AND SOIL CHANGES DETRIMENTAL TO STABILITY OF SUBGRADES, FOUNDATIONS AND STRUCTURES.
4. PUMP DISCHARGES SHALL BE MANAGED SUCH THAT THESE DO NOT CAUSE EROSION OF SOILS. PUMPED WATER SHALL BE DISCHARGED THROUGH AN APPROVED SEDIMENT CONTROL DEVICE (E.G. SILT BAG) TO PROPERLY FILTER TURBID WATER PRIOR TO ITS RETURN TO THE WATERCOURSE. THE DISCHARGE OF PUMPED WATER SHALL BE ONTO AN APPROVED ARMORED OR HARD SURFACE (E.G., RIPRAP APRON) TO AVOID SCOUR OR SUSPENSION OF SOIL AT THE DISCHARGE. WATER SHALL NOT BE DISCHARGED ONTO FILL OR BACKFILL AREAS OR FOUNDATIONS.
5. PROTECT CONSTRUCTED WORK ON THE SITE DURING STORM AND FLOOD CONDITIONS.
6. PRIOR TO THE COMMENCEMENT OF CONSTRUCTION ACTIVITIES, INSTALL ALL EROSION AND SEDIMENT CONTROL DEVICES AS SHOWN ON THE PLAN OR AS REQUIRED BY SITE CONDITIONS. ALL EROSION CONTROL DEVICES WILL BE MAINTAINED THROUGHOUT CONSTRUCTION.

EROSION AND SEDIMENT CONTROL

1. PRIOR TO THE COMMENCEMENT OF CONSTRUCTION ACTIVITIES, INSTALL ALL EROSION AND SEDIMENT CONTROL DEVICES AS SHOWN ON THE PLAN OR AS REQUIRED BY SITE CONDITIONS. ALL EROSION CONTROL DEVICES WILL BE MAINTAINED THROUGHOUT CONSTRUCTION.
2. DISTURBANCE OF SOIL SURFACES IS REGULATED BY STATE LAW AND LOCAL ORDINANCE. ALL WORK SHALL COMPLY WITH THE FOLLOWING CRITERIA AND OTHER PERMIT CONDITIONS TO PREVENT OR MINIMIZE SOIL EROSION AND SEDIMENTATION TO OFF-SITE AREAS.
3. THE CONTRACTOR SHALL COMPLY WITH THE LATEST EDITION OF THE "RHODE ISLAND EROSION CONTROL MANUAL" IN CONSTRUCTING THE EROSION AND SEDIMENT CONTROLS INDICATED ON THE PLANS. ALL EROSION AND SEDIMENT CONTROL MEASURES OR WORKS AND REHABILITATION MEASURES MUST CONFORM TO OR EXCEED THE SPECIFICATIONS OR STANDARDS SET OUT IN THIS DOCUMENT.
4. THE CONTRACTOR IS RESPONSIBLE FOR THE TIMELY INSTALLATION, INSPECTION, MAINTENANCE, AND/OR REPLACEMENT OF ALL TEMPORARY AND PERMANENT EROSION CONTROL DEVICES SHOWN ON THESE PLANS TO ENSURE PROPER OPERATION THROUGHOUT THE LIFE OF THE PROJECT. THE CONTRACTOR IS RESPONSIBLE FOR MAINTENANCE OF PERMANENT MEASURES UNTIL CONSTRUCTION OF THE PROJECT IS COMPLETED OR UNTIL IT IS ACCEPTED BY THE OWNER. REMOVE EROSION AND SEDIMENTATION CONTROLS AFTER STABLE VEGETATIVE GROWTH IS ESTABLISHED.
5. THE CONTRACTOR SHALL INSPECT EROSION AND SEDIMENT CONTROL DEVICES ON A WEEKLY BASIS, AFTER EACH STORM EVENT THAT GENERATES AT LEAST 0.25 INCHES OF RAINFALL OVER A 24-HOUR PERIOD, AND AT LEAST DAILY DURING PROLONGED RAINFALL. CLEAN OUT ACCUMULATED SEDIMENT BEHIND CONTROLS. REPAIR OR REPLACE CONTROLS PROMPTLY AS NEEDED. REMOVE ACCUMULATED SEDIMENT FROM BEHIND PERIMETER CONTROLS WHEN ONE-HALF OF THE ORIGINAL HEIGHT OF THE PERIMETER CONTROLS BECOME FILLED WITH SEDIMENT. REMOVE SEDIMENT FROM CATCH BASIN INLET PROTECTION IN ACCORDANCE WITH MANUFACTURER RECOMMENDATIONS. DISPOSE OF REMOVED SEDIMENT IN ON-SITE FILL AREAS OR LAWFULLY OFF-SITE.
6. TREES AND OTHER EXISTING VEGETATION NOT WITHIN THE LIMITS OF DISTURBANCE SHALL BE PROTECTED FROM DAMAGE. VEGETATED AREAS AND/OR TREES DAMAGED THAT ARE NOT PLANNED FOR REMOVAL SHALL BE RESTORED TO THEIR ORIGINAL CONDITION OR BETTER TO THE SATISFACTION OF THE TOWN.
7. TEMPORARY VEGETATIVE COVER SHALL BE APPLIED TO ANY DISTURBED AREAS THAT HAVE NOT YET REACHED FINISHED GRADE AS SOON AS POSSIBLE, BUT NOT MORE THAN SEVEN (7) DAYS AFTER CONSTRUCTION ACTIVITY IN THAT AREA HAS TEMPORARILY CEASED, UNLESS THE ACTIVITY IS TO RESUME WITHIN THIRTY (30) DAYS. TEMPORARY VEGETATIVE COVER SHALL CONSIST OF 40% ANNUAL RYEGRASS AND 60% PERENNIAL RYEGRASS FROM APRIL 1 TO NOVEMBER 15 AND WINTER RYEGRASS BETWEEN NOVEMBER 15 AND MARCH 31. SEED AT A RATE OF 75 LBS/ACRE BY HAND.
8. PERMANENT VEGETATIVE COVER SHALL BE ESTABLISHED TO ALL DISTURBED AREAS THAT HAVE REACHED FINISHED GRADE AS SOON AS POSSIBLE, BUT NOT MORE THAN SEVEN (7) DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT AREA HAS PERMANENTLY CEASED. RECOMMENDED PERMANENT SEEDING DATES ARE APRIL 1 TO MAY 31 AND AUGUST 15 TO OCTOBER 15. PERMANENT VEGETATIVE COVER SEED MIXTURES AND APPLICATION RATES SHALL BE IN ACCORDANCE WITH THE STORMWATER IMPROVEMENT PLANS. ALL PLANTINGS AND SEED SHALL BE COVERED BY A ONE-YEAR WARRANTY PERIOD; RE-SEEDING/RE-PLANTING SHALL BE COMPLETED TO ENSURE STABLE VEGETATIVE COVER IS ESTABLISHED OVER ALL DISTURBED AREAS.
9. IF PERMANENT SEEDING CANNOT BE COMPLETED IMMEDIATELY OR WITHIN THE RECOMMENDED SEEDING DATES, TEMPORARY BIODEGRADABLE EROSION CONTROL BLANKETING (CONTAINING NO PLASTIC COMPONENTS) OR MULCHING SHALL BE SPREAD/INSTALLED OVER ALL UPLAND DISTURBED AREAS TO PROTECT THE SITE UNTIL ARRIVAL OF THE NEXT RECOMMENDED SEEDING PERIOD. MULCHING OR BLANKETING SHOULD BE INSTALLED AS SOON AS POSSIBLE IF SEEDING IS INSTALLED BETWEEN OCTOBER 1 AND MARCH 31, BUT NOT MORE THAN SEVEN (7) DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT AREA HAS TEMPORARILY CEASED UNLESS THE ACTIVITY IS TO RESUME WITHIN THIRTY (30) DAYS. IF PERMANENT SEEDING IS INSTALLED IN JULY AND AUGUST, APPLY WATER TO SEEDED AREAS ON A DAILY BASIS.
10. BLANKETING OR MULCHING MUST BE INSPECTED PERIODICALLY, IN PARTICULAR AFTER RAINSTORMS, TO CHECK FOR RILL EROSION. WHERE EROSION IS OBSERVED, ADDITIONAL MULCH MUST BE APPLIED OR BLANKETING REPAIRED OR REPLACED. INSPECTIONS SHALL TAKE PLACE UNTIL VEGETATION IS THOROUGHLY ESTABLISHED.
11. GOOD HOUSEKEEPING: THE PROJECT SITE SHALL PROVIDE FOR THE MINIMIZATION OF EXPOSURE OF CONSTRUCTION DEBRIS (INCLUDING, BUT NOT LIMITED TO, INSULATION, WIRING, PAINTS AND PAINT CANS, SOLVENTS, WALL BOARD, ETC.) TO PRECIPITATION BY MEANS OF DISPOSAL AND/OR PROPER SHELTER OR COVER. CONSTRUCTION WASTE MUST BE PROPERLY DISPOSED OF IN ORDER TO AVOID EXPOSURE TO PRECIPITATION AT THE END OF EACH WORKING DAY.
12. STORAGE AND DISPOSAL: MATERIALS WHICH COULD BE A POTENTIAL SOURCE OF STORMWATER POLLUTION SUCH AS GASOLINE, DIESEL FUEL, HYDRAULIC OIL, ETC., WILL BE STORED AT THE END OF EACH DAY IN A LOCKED STORAGE TRAILER OR COVERED LOCATION AND TAKEN OFF-SITE AND PROPERLY DISPOSED OF. ALL TYPES OF WASTE GENERATED AT THIS SITE WILL BE DISPOSED OF IN A MANNER CONSISTENT WITH STATE LAW AND/OR REGULATIONS.
13. SPILL/LEAK PROTECTION AND RESPONSE: FUEL VEHICLES AND EQUIPMENT AWAY FROM THE WETLAND AND DRAINAGE SYSTEM AND PREVENT CONTAMINATION OF SOIL, GROUNDWATER OR SURFACE WATER FROM SPILLS OR LEAKS.. DEPLOY BOOMS AND OTHER CONTAINMENT/CLEANUP MEASURES IN THE EVENT OF A SPILL OR LEAK. NOTIFY LOCAL FIRE DEPT. AND DEP IMMEDIATELY OF ANY SPILLS.
14. TRACKING AND DUST CONTROL: IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO CLEAN ADJACENT ROADS WHERE CONSTRUCTION VEHICLES HAVE TRACKED SEDIMENT FROM THE PROJECT, CONTROL DUST, AND TAKE ALL NECESSARY MEASURES TO ENSURE THAT THE SITE AND ALL ADJACENT ROADS BE MAINTAINED IN A MUD- AND DUST-FREE CONDITION AT ALL TIMES THROUGHOUT THE LIFE OF THE CONTRACT. ALL SEDIMENT SPILLED, DROPPED, WASHED, OR TRACKED ONTO THE SURROUNDING ROADWAYS MUST BE REMOVED IMMEDIATELY. DUST CONTROL MAY INCLUDE APPLICATION OF CONTROLLED AMOUNTS OF WATER ONTO AFFECTED AREAS OR OTHER CONTROL MEASURES APPROVED BY THE ENGINEER. THE TEMPORARY STONE CONSTRUCTION ENTRANCES SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PAVED SURFACES. THE CONTRACTOR MUST PROVIDE PERIODIC TOP DRESSING WITH ADDITIONAL STONE OR ADDITIONAL LENGTH AS CONDITIONS DEMAND.

CONSTRUCTION SEQUENCE

CONSTRUCTION ACTIVITIES ASSOCIATED WITH THIS PROJECT ARE EXPECTED TO COMMENCE IN LATE SUMMER/EARLY FALL OF 2021 AND WILL BE COMPLETED BY END OF FALL/EARLY WINTER 2021. SOME OF THE CONSTRUCTION ACTIVITIES MAY OCCUR CONCURRENTLY WITH OTHER CONSTRUCTION ACTIVITIES. THE GENERAL SEQUENCE FOR EACH PHASE OF CONSTRUCTION IS AS FOLLOWS:

1. INSTALL PERIMETER SEDIMENT CONTROL BARRIERS, EROSION CONTROL AND PROPOSED CONSTRUCTION ACCESS (INCLUDING STAGING AND STORAGE AREA). SEDIMENT EROSION CONTROL MEASURES WILL BE MAINTAINED OR REPLACED AS REQUIRED THROUGHOUT CONSTRUCTION PERIOD. ANY TEMPORARY SOIL STOCKPILE AREAS DURING CONSTRUCTION WILL ALSO BE ENCOMPASSED BY PERIMETER CONTROLS.
2. CONFIRM EXISTING SITE CONDITIONS AND IDENTIFY TREES AND OTHER EXISTING FEATURES (STRUCTURES, UTILITIES, ETC.) THAT ARE NOT DESIGNATED FOR REMOVAL. NOTIFY ENGINEER OF ANY DISCREPANCIES PRIOR TO CONSTRUCTION.
3. COMPLETE DEMOLITION ACTIVITIES IN ACCORDANCE WITH THE PROJECT'S SITE PREPARATION AND SOIL EROSION & SEDIMENTATION CONTROL PLAN. HOWEVER, MAINTAIN EXISTING DRAINAGE OVERFLOW POINTS TO MAINTAIN EXISTING DRAINAGE PATTERNS UNTIL PROPOSED STORMWATER IMPROVEMENTS ARE CONSTRUCTED AND READY TO ACCEPT RUNOFF.
4. INSTALL SUBSURFACE INFILTRATION SYSTEM AND ASSOCIATED DRAINAGE COMPONENTS.
5. PERFORM ANY FINAL GRADING AND RESTORATION OF DISTURBED NON-PAVED AREAS (INCLUDING GUARDRAIL RELOCATION).
6. PAVE DISTURBED SECTION OF ROADWAY.
7. REMOVE TEMPORARY EROSION CONTROLS MEASURES ONCE PERMANENT VEGETATION COVER HAS BEEN ESTABLISHED AND THE SITE IS STABILIZED, INSPECTED, AND APPROVED BY PERMITTING AUTHORITY AND THE ENGINEER.

STORMWATER MAINTENANCE PROGRAM

1. REPAIRS OR REPLACEMENT OF DRAINAGE STRUCTURES SHALL BE DONE WITHIN 30 DAYS OF DEFICIENCY REPORTS. IF AN EMERGENCY SITUATION IS IMMINENT THEN REPAIR/REPLACEMENT MUST BE DONE IMMEDIATELY TO AVERT FAILURE OR DANGER TO NEARBY RESIDENTS.
2. THE CITY OF CRANSTON SHALL BE RESPONSIBLE FOR THE MAINTENANCE OF THE STORMWATER MANAGEMENT SYSTEM ONCE CONSTRUCTION IS COMPLETE.
3. THE FOLLOWING INSPECTION AND MAINTENANCE IS REQUIRED FOR SUBSURFACE INFILTRATION SYSTEM AND ASSOCIATED INLET PIPING AND MANHOLES:
   A. REMOVE SEDIMENT FROM SUMPS OF MANHOLES UPSTREAM OF SUBSURFACE SYSTEMS WHEN DEPTH OF SEDIMENT ACCUMLATES TO $\frac{1}{2}$ THE HEIGHT OF THE SUMP OR ONCE PER YEAR, WHICHEVER IS MORE FREQUENT. DISPOSAL OF THE ACCUMULATED SEDIMENT AND HYDROCARBONS MUST BE IN ACCORDANCE WITH APPLICABLE LOCAL, STATE, AND FEDERAL GUIDELINES AND REGULATIONS.
   B. UPSTREAM MANHOLES SHALL BE INSPECTED FOR STRUCTURAL INTEGRITY. REPAIRS SHALL BE MADE AS NECESSARY.
   C. IF BLOCKAGES IN PIPING NETWORK ARE OBSERVED, CLEAN AND FLUSH IMMEDIATELY. MANHOLES AND CLEANOUTS HAVE BEEN PROVIDED TO ACCESS PIPING BY HOSE.
   D. INSPECT EACH ROW OF CHAMBER SYSTEM THROUGH ITS INSPECTION PORTS TWO TIMES PER YEAR (AT MINIMUM) TO CHECK FOR STANDING WATER AND/OR SEDIMENT AND DEBRIS BUILD-UP. STANDING WATER IN THE SYSTEM FOR MORE THAN 48-72 HOURS AFTER PRECIPITATION EVENTS COULD INDICATE THAT THE BOTTOM OF THE SYSTEM HAS BECOME CLOGGED WITH SEDIMENT.
   E. INSPECT ISOLATOR ROW FOR SEDIMENT. TO DO THIS, REMOVE COVER IN UPSTREAM MANHOLE. USING A FLASHLIGHT AND STADIA ROD, MEASURE DEPTH OF SEDIMENT. IF SEDIMENT IS AT, OR ABOVE, 3" CLEAN OUT ISOLATOR ROW USING THE JETVAC PROCESS. A FIXED CULVERT CLEANING NOZZLE WITH REAR FACING SPREAD OF 45" OR MORE IS PREFERRED. APPLY MULTIPLE PASSES OF JETVAC UNTIL BACKFLUSH WATER IS CLEAN.
   F. DISPOSAL OF THE ACCUMULATED SEDIMENT AND HYDROCARBONS MUST BE IN ACCORDANCE WITH APPLICABLE LOCAL, STATE, AND FEDERAL GUIDELINES AND REGULATIONS.
5. THE FOLLOWING INSPECTION AND MAINTENANCE IS REQUIRED FOR DEEP-SUMP CATCH BASINS WITH PROPRIETARY PRETREATMENT DEVICES:
   A. INSPECT TWO TIMES PER YEAR (AT MINIMUM) TO CHECK FOR SEDIMENT AND DEBRIS/FLOATABLE BUILD-UP, IN ADDITION TO THE STRUCTURAL INTEGRITY OF (OR DAMAGE TO) THE PIPE NETWORK AND ASSOCIATED STRUCTURES. SUCH DEFICIENCIES MUST BE CORRECTED IMMEDIATELY.
   B. REMOVE DEBRIS AND FLOATABLES DURING EACH INSPECTION.
   C. REMOVE SEDIMENT FROM SUMP OF CATCH BASIN WITH PROPRIETARY PRETREATMENT DEVICE WHEN DEPTH OF SEDIMENT ACCUMULATES TO $\frac{1}{2}$ THE HEIGHT OF THE SUMP OR ONCE PER YEAR (AT MINIMUM), WHICHEVER IS MORE FREQUENT. THE INTERNAL COMPONENTS OF THE PRETREATMENT DEVICE HAS A CENTRALLY LOCATED CIRCULAR SHAFT THROUGH WHICH THE SEDIMENT STORAGE SUMP CAN BE ACCESSED WITH A SUMP VAC HOSE. THE PRETREATMENT DEVICE DOES NOT HAVE TO BE REMOVED.
   D. REMOVE SEDIMENT FROM SUMP OF DIVERSION MANHOLE WHEN DEPTH OF SEDIMENT ACCUMLATES TO $\frac{1}{2}$ THE HEIGHT OF THE SUMP OR ONCE PER YEAR, WHICHEVER IS MORE FREQUENT.
   E. IF BLOCKAGES IN PIPING NETWORK ARE OBSERVED, CLEAN AND FLUSH IMMEDIATELY.
   F. DISPOSAL OF THE ACCUMULATED SEDIMENT AND HYDROCARBONS MUST BE IN ACCORDANCE WITH APPLICABLE LOCAL, STATE, AND FEDERAL GUIDELINES AND REGULATIONS.

SPILL PREVENTION AND RESPONSE PROCEDURE

1. ANY INCIDENT OF GROUNDWATER CONTAMINATION RESULTING FROM THE IMPROPER DISCHARGE OF POLLUTANTS TO THE STORMWATER DISPOSAL SYSTEM SHALL BE THE RESPONSIBILITY OF THE PROPERTY OWNER AS WELL AS ANY OTHER PARTIES DETERMINE TO BE RESPONSIBLE FOR THE CONTAMINATION. PURSUANT TO STATE LAWS AND REGULATIONS, THE REGULATING AGENCY MAY REQUIRE THE PROPERTY OWNER AND OTHER RESPONSIBLE PARTIES TO REMEDIATE ANY INCIDENTS THAT MAY ADVERSELY IMPACT GROUNDWATER QUALITY.
2. UPON TRANSFER OF THE PROPERTY, THE NEW OWNER SHALL BE INFORMED AS TO THE LEGAL RESPONSIBILITIES ASSOCIATED WITH DISPOSAL SYSTEM, AS INDICATED ABOVE.
3. THE PROPERTY OWNER SHALL BE RESPONSIBLE TO REMEDIATE INCIDENTS THAT ADVERSELY IMPACT GROUNDWATER QUALITY.

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GRAPHIC SCALE

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CITY OF CRANSTON

GENERAL NOTES AND LEGEND

SPECTACLE POND PHOSPHORUS REDUCTION

BARRETT ST. CRANSTON, RHODE ISLAND

PROJ. No.: 20170900.B10
DATE: JULY 2021

CN-001

File Path: J:\DWG\P2017\0900\B10\Civil\Plan\20170900A10_GEN01.dwg Layout: CN-001 Plotted: Fri, July 23, 2021 - 5:10 PM User: sarruda
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CITY OF CRANSTON

EXISTING CONDITIONS PLAN

SPECTACLE POND PHOSPHORUS REDUCTION

BARRETT ST. CRANSTON, RHODE ISLAND

PROJ. No.: 20170900.B10
DATE: JULY 2021

CS-101

DEMOLITION NOTES:

1. TREES NOT DESIGNATED FOR REMOVAL SHALL REMAIN AND BE PROTECTED AS REQUIRED. ANY TREES OR VEGETATION NOT DESIGNATED FOR REMOVAL THAT ARE DAMAGED, SHALL BE REPLACED IN-KIND.
2. EXISTING FEATURES, STRUCTURES, AND UTILITIES NOT DESIGNATED FOR REMOVAL SHALL REMAIN AND BE PROTECTED THROUGHOUT CONSTRUCTION. CONTRACTOR SHALL DOCUMENT ALL PRE-CONSTRUCTION CONDITIONS WITH SITE PHOTOS OF EACH AFFECTED PROPERTY PRIOR TO THE START OF CONSTRUCTION.

EROSION CONTROL NOTES:

1. ALTHOUGH NOT SHOWN ON THIS PLAN, CURB INLET PROTECTION DEVICES SHALL ALSO BE TEMPORARILY INSTALLED AT THE INLETS OF THE EXISTING BITUMINOUS SWALE AND 4" DIA. CULVERT AT THE EASTERN END OF THE ROADWAY THAT FUNCTION AS ROADWAY OVERFLOW CONVEYANCES.
2. THE CONTRACTOR SHALL SWEEP THE ROADWAY AT THE END OF EACH WORKDAY.

TRAFFIC CONTROL NOTES:

1. ACCESS TO EXISTING DRIVEWAYS WILL BE PROTECTED AND MAINTAINED THROUGHOUT CONSTRUCTION.

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CITY OF CRANSTON

SITE PREPARATION & SOIL EROSION AND SEDIMENTATION CONTROL PLAN

SPECTACLE POND PHOSPHORUS REDUCTION

BARRETT ST. CRANSTON, RHODE ISLAND

PROJ. No.: 20170900.B10
DATE: JULY 2021

CS-102

File Path: J:\DWG\P2017\0900\B10\Civil\Plan\20170900B10_DMO01.dwg Layout: CS-102 Plotted: Fri, July 23, 2021 - 4:55 PM User: sarruda
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LAYER STATE:

RESTORATION NOTES:

ALL SEED MIXES SHALL BE FREE OF INVASIVE NON-NATIVE PLANT SPECIES.

DISTURBED AREAS OUTSIDE OF ROADWAY:

MIXTURE:	RESIDENTIAL SEED MIX IN ACCORDANCE WITH M.18.10.4 OF THE RIDOT STANDARD SPECIFICATIONS.
APPLICATION RATE:	PARK MIX = 150 LBS/ACRE

PLANTINGS:

GRASSES AND PLANTINGS THAT ARE INSTALLED OR RELOCATED AS PART OF THIS PROJECT SHALL BE MAINTAINED BY CONTRACTOR FOR A ONE-YEAR MAINTENANCE PERIOD. ANY PLANTINGS THAT EXPERIENCE DEATH OR INADEQUATE ESTABLISHMENT WITHIN THAT PERIOD SHALL BE REPLACED.

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LAYER STATE:

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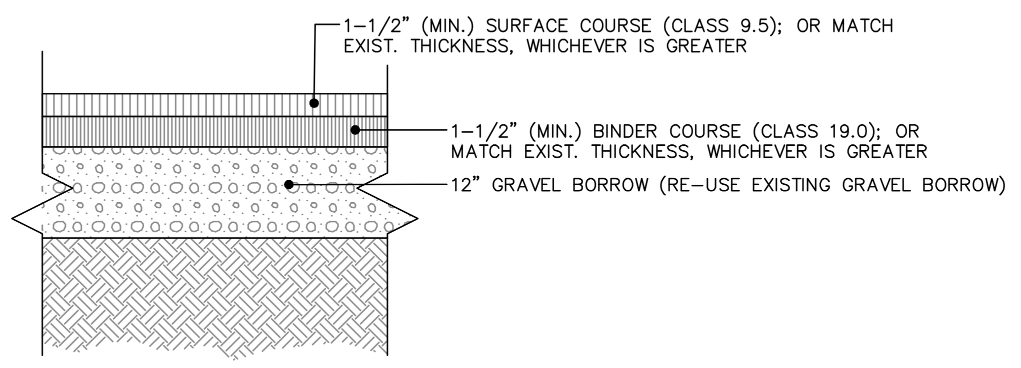
CITY OF CRANSTON
SITE PREPARATION & SOIL EROSION AND SEDIMENTATION CONTROL PLAN
SPECTACLE POND PHOSPHORUS REDUCTION
BARRETT ST. CRANSTON, RHODE ISLAND

PROJ. No.: 20170900.B10
DATE: JULY 2021

CS-102

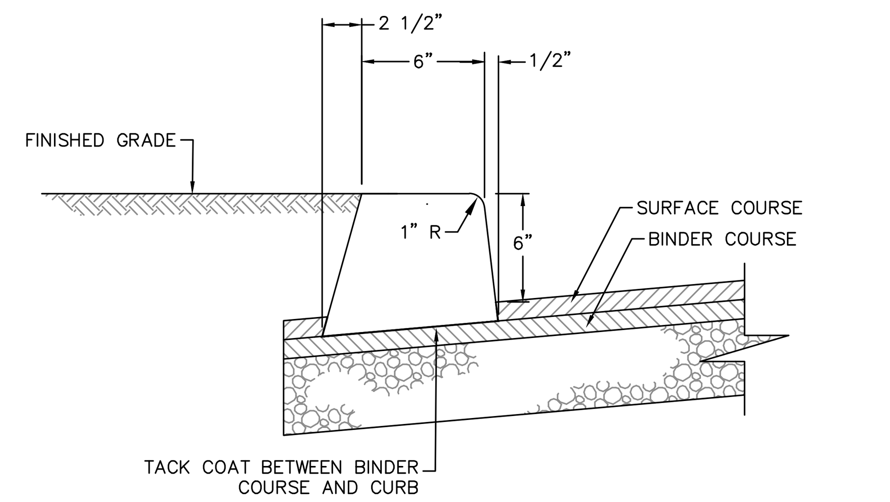


NOTES:

1. UTILIZE EXISTING GRAVEL BORROW AS GRAVEL BORROW BENEATH RECONSTRUCTED PAVEMENT.
2. SHALL BE IN ACCORDANCE WITH SECTION 901 AND M.08 OF THE R.I. STANDARD SPECIFICATIONS.
3. INSTALL BITUMINOUS TACK COAT BETWEEN EXIST. PAVEMENT AND NEW PAVEMENT CONNECTIONS.

TYPICAL PAVEMENT FULL-DEPTH RECONSTRUCTION SECTION

NOT TO SCALE

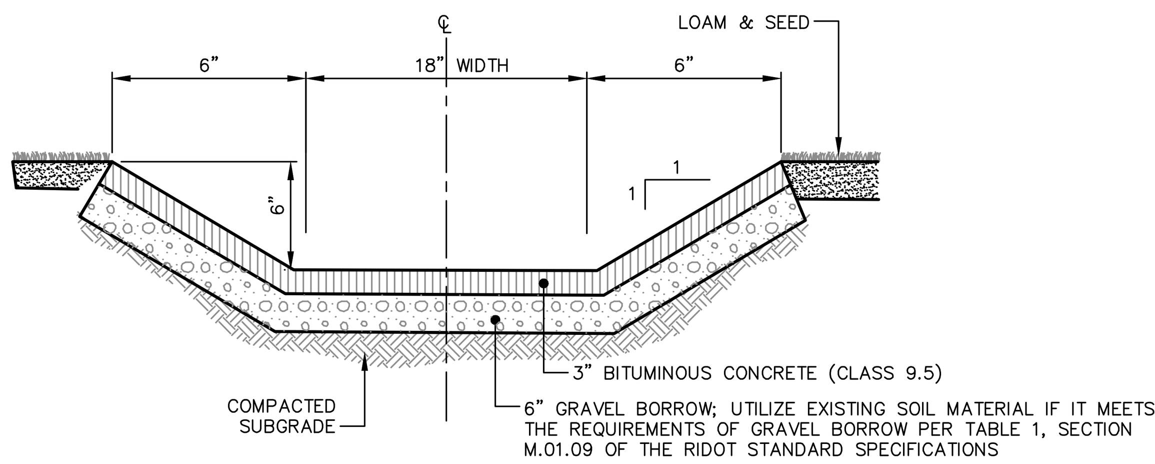


NOTE:

1. SHALL BE IN ACCORDANCE WITH SECTION 906 OF THE R.I. STANDARD SPECIFICATIONS.

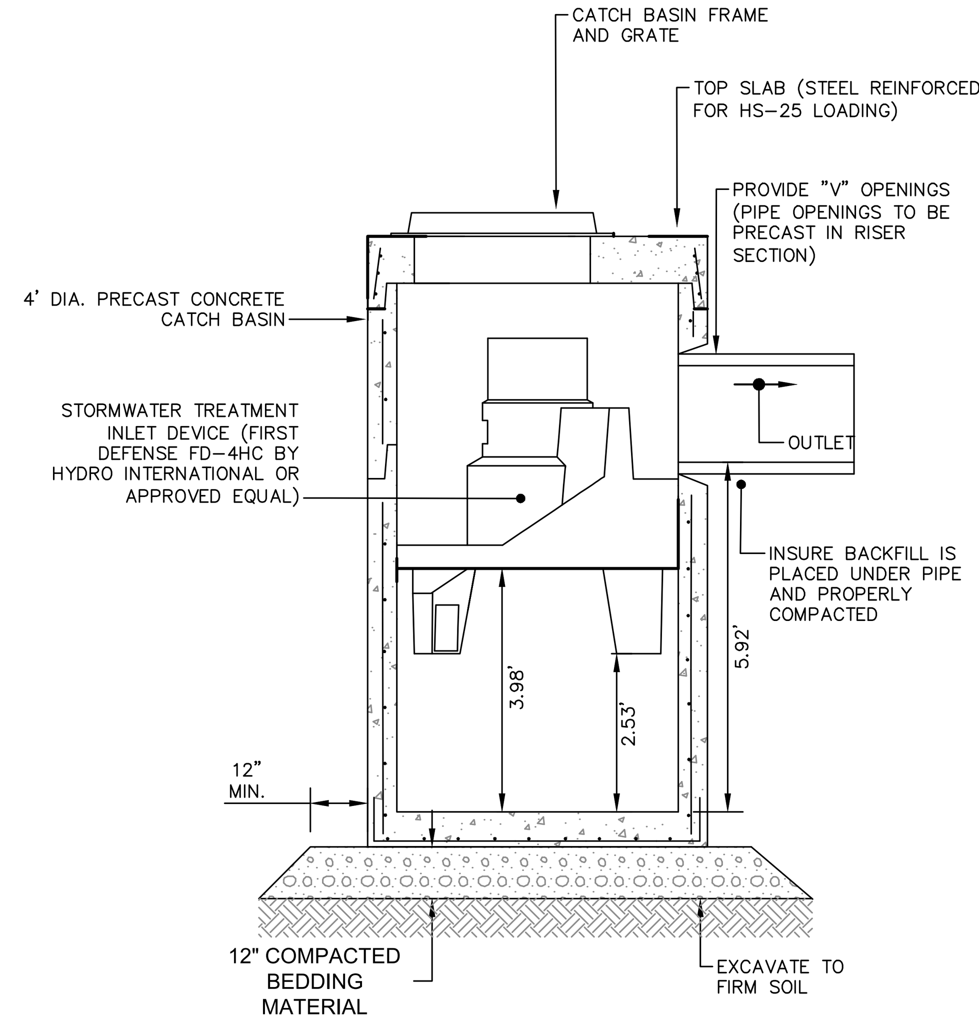
BITUMINOUS CONCRETE CURB

NOT TO SCALE



BITUMINOUS OVERFLOW SWALE

NOT TO SCALE

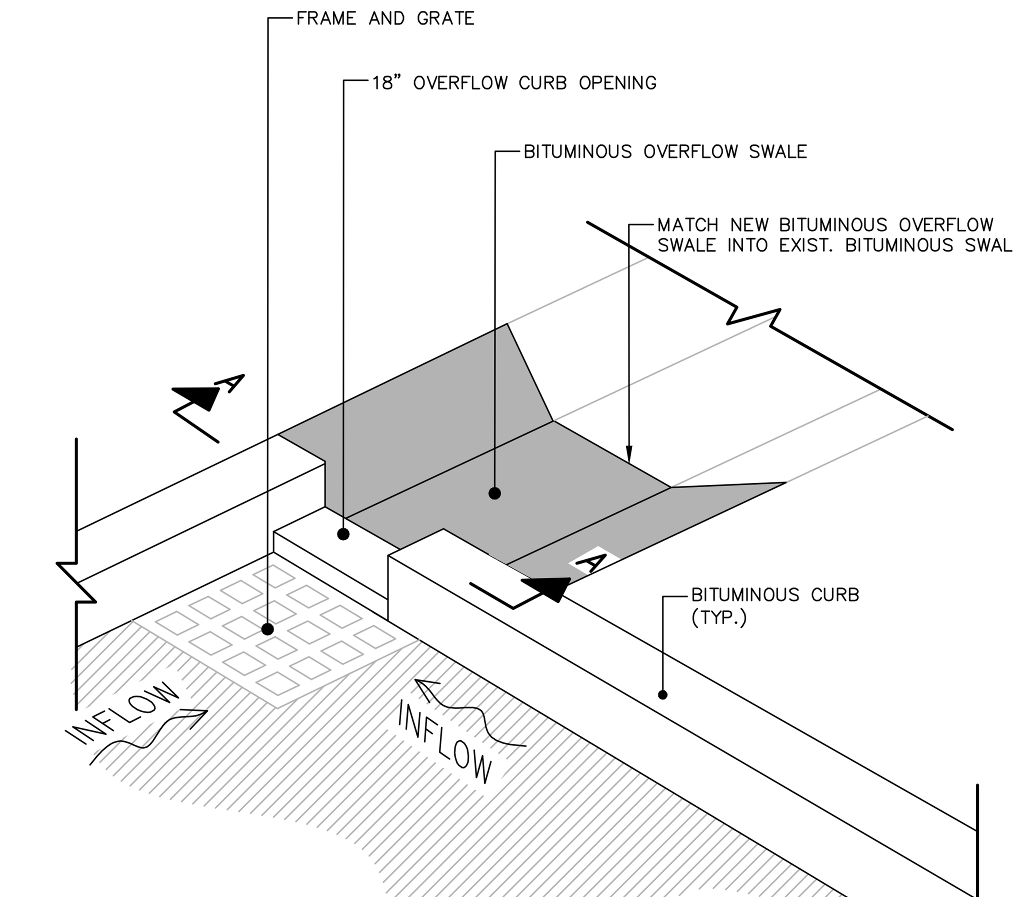


NOTE:

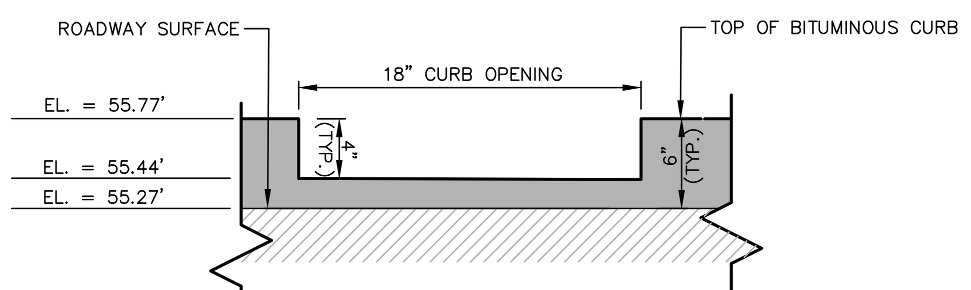
CONTRACTOR SHALL CONFIRM RIM, PIPE INVERTS, PIPE DIAMETER, AND PIPE ORIENTATION (WITH MANUFACTURER AND ENGINEER) VIA SUBMITTAL PRIOR TO RELEASE OF UNITS TO FABRICATION.

DEEP-SUMP, CATCH BASIN WITH PROPRIETARY PRETREATMENT INLET DEVICE

NOT TO SCALE



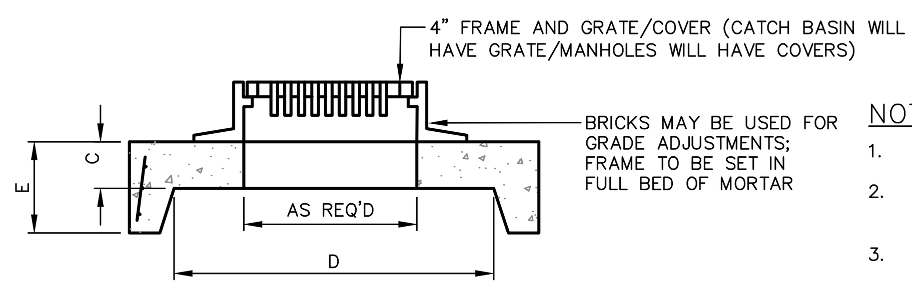
ISOMETRIC VIEW



SECTION A-A

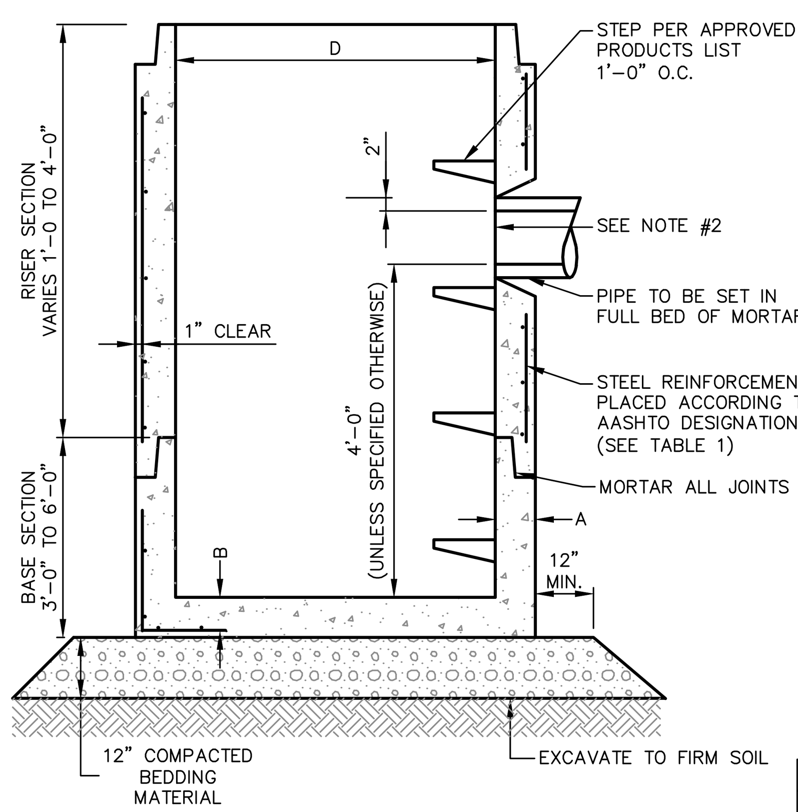
BITUMINOUS OVERFLOW CURB OPENING

NOT TO SCALE



ALTERNATE TOP SLAB

(STEEL REINFORCED FOR HS-25 LOADING)



SECTION

NOTES:

1. SEE TABLE 1 FOR STEEL REINFORCEMENT REQUIREMENTS.
2. FACE OF PIPE FLUSH OR NOT TO PROJECT MORE THAN 4" FROM FACE OF WALL ALONG CENTER LINE OF PIPE.
3. SHALL BE IN ACCORDANCE WITH SECTION 702 OF THE R.I. STANDARD SPECIFICATIONS. ALL CONCRETE TO BE AIR ENTRAINED WITH 4,000 PSI MINIMUM 28-DAY COMPRESSIVE STRENGTH.
4. FOR CATCH BASIN, FRAME & GRATE SET TO BE EJ MODEL 00552060C13 FOUR FLANGE OR APPROVED EQUAL AND SHALL CONFORM TO SECTION M.04 OF THE RIDOT STANDARD SPECIFICATIONS. FRAME SHALL HAVE A HEIGHT OF 4 INCHES.
5. FOR DRAIN MANHOLE, FRAME & COVER SET TO BE EJ MODEL 41600320C02 (V1600-3 SERIES) OR APPROVED EQUAL AND SHALL CONFORM TO SECTION M.04 OF THE RIDOT STANDARD SPECIFICATIONS. FRAME SHALL HAVE A HEIGHT OF 4 INCHES.
6. STEEL REINFORCEMENT FOR BASE SECTION BOTTOM SHALL BE A MINIMUM OF 0.12 SQ. IN./LIN. FT. (BOTH WAYS).
7. ONE POUR MONOLITHIC BASE SECTION.
8. CONCRETE SHALL BE COMPRESSIVE STRENGTH 4000 PSI CEMENT (SEE MASSDOT SPECIFICATIONS FOR DESIGN REQUIREMENTS).
9. ANY NECESSARY ADJUSTMENTS DURING CONSTRUCTION WILL BE DONE BY SAW-CUTTING AND/OR CORING ONLY. NO JACKHAMMERS, HAMMERS AND CHISELS OR PNEUMATIC TOOLS WILL BE ALLOWED.
10. THE CENTERLINE OF OPENING MUST BE WITHIN 2'-0" FROM STEPS. STEPS SHALL CONFORM TO R.I. STD. 5.3.0 AND SHALL BE INSTALLED AT CASTING PLANT.
11. CATCH BASIN DESIGN SHALL CONFORM TO ASTM C-478 FOR "PRECAST REINFORCED CONCRETE MANHOLE SECTION.
12. PROVIDE "V" KNOCKOUTS FOR PIPES WITH 2" MAX. CLEARANCE TO OUTSIDE OF PIPE. MORTAR ALL PIPE CONNECTIONS.
13. FOR DESCRIPTION, MATERIALS AND CONSTRUCTION METHODS, SEE MASSDOT STANDARD SPECIFICATIONS.

TABLE 1

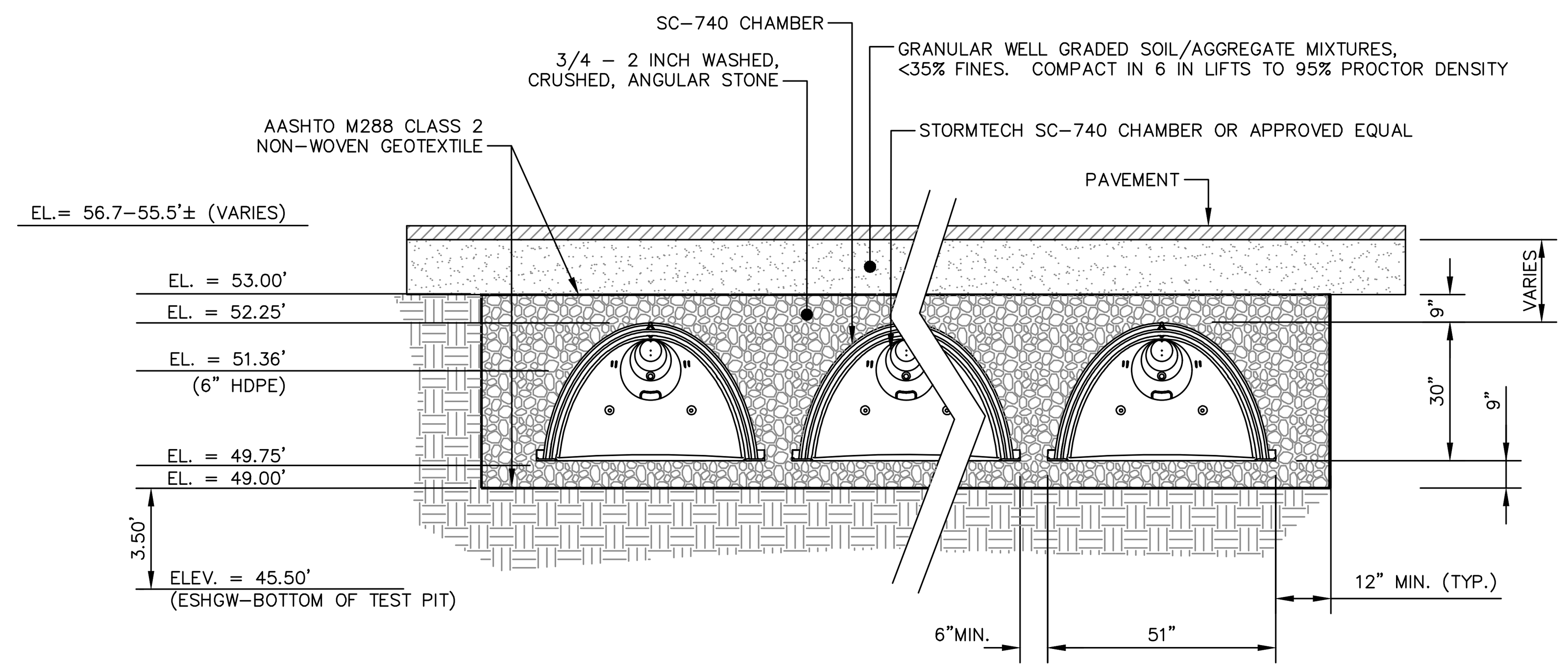
MANHOLE DIAMETER (D)	A	B	C	E	CIRCUMFERENTIAL STEEL REINFORCEMENT REQUIRED *
4'-0"	5"	6"	8"	12.5"	0.12 SQ. IN./LIN. FT.
5'-0"	6"	8"	8"	14"	0.15 SQ. IN./LIN. FT.
6'-0"	7"	8"	8"	14"	0.18 SQ. IN./LIN. FT.

NOTE:

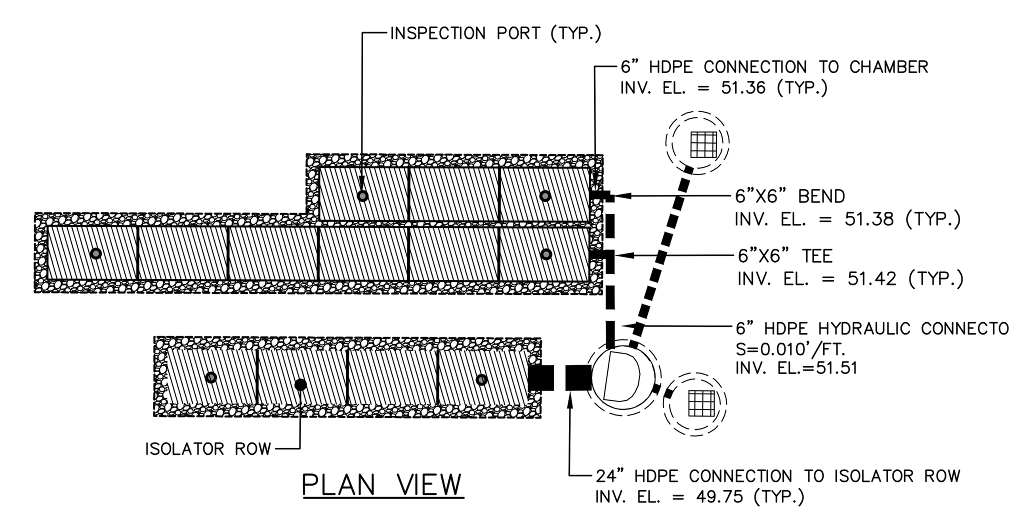
CONTRACTOR SHALL CONFIRM RIM, PIPE INVERTS, PIPE DIAMETER, AND PIPE ORIENTATION (WITH MANUFACTURER AND TOWN) VIA SUBMITTAL PRIOR TO RELEASE OF UNITS TO FABRICATION.

PRECAST CONCRETE DEEP-SUMP CATCH BASIN OR DRAIN MANHOLE

NOT TO SCALE



ELEVATION VIEW



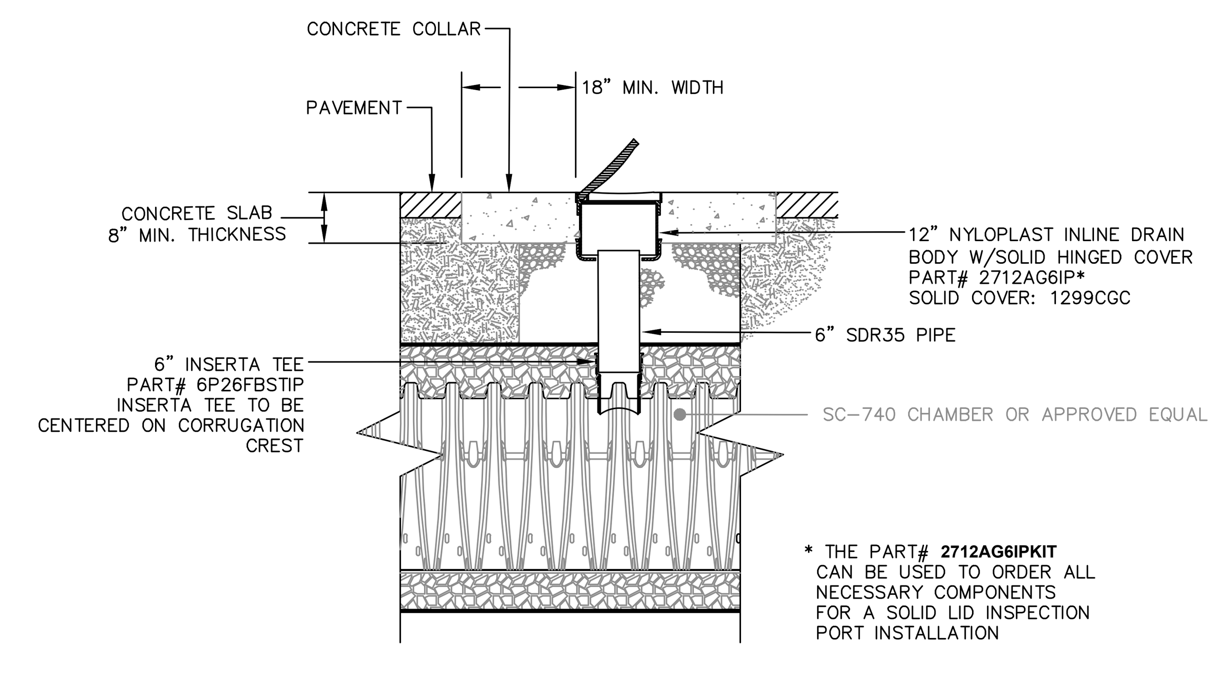
PLAN VIEW

NOTE:

CONTRACTOR SHALL PROVIDE SUBMITTAL TO TOWN PRIOR TO RELEASE OF SYSTEM TO FABRICATION.

SUBSURFACE INFILTRATION SYSTEM TYPICAL DETAIL

NOT TO SCALE



* THE PART# 2712AG6IPKIT CAN BE USED TO ORDER ALL NECESSARY COMPONENTS FOR A SOLID LID INSPECTION PORT INSTALLATION

SC-740 6" INSPECTION PORT DETAIL

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SUBSURFACE INFILTRATION SYSTEM INSPECTION PORT DETAIL

NOT TO SCALE

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CITY OF CRANSTON

CONSTRUCTION DETAILS

SPECTACLE POND PHOSPHORUS REDUCTION

BARRETT ST. CRANSTON, RHODE ISLAND

PROJ. No.: 20170900.B10
DATE: JULY 2021

CD-501

File Path: J:\DWG\P2017\0900\B10\Civil\Plan\20170900B10_DET02.dwg Layout: CD-501 Plotted: Thu, July 29, 2021 - 2:46 PM User: samuda
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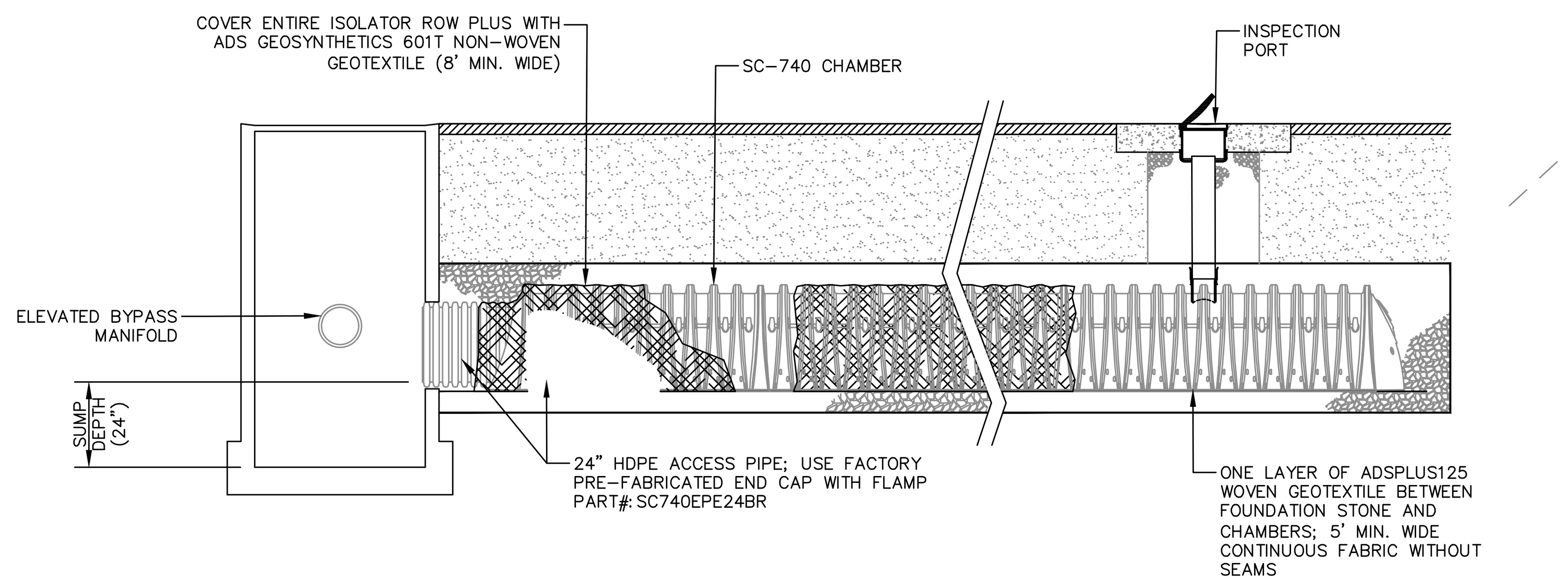
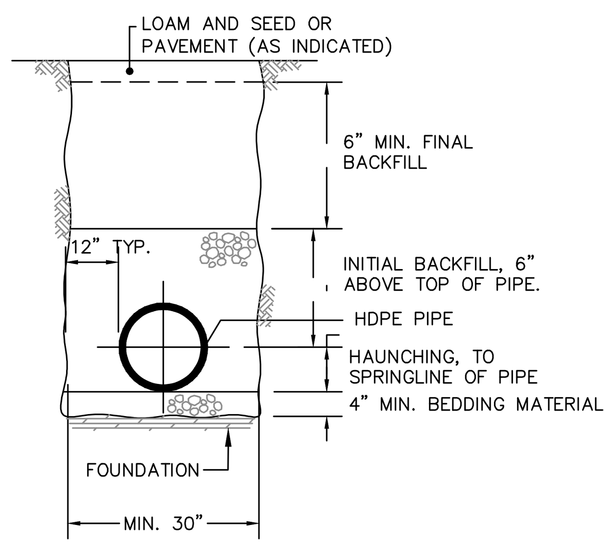


SUBSURFACE INFILTRATION SYSTEM ISOLATOR ROW

NOT TO SCALE

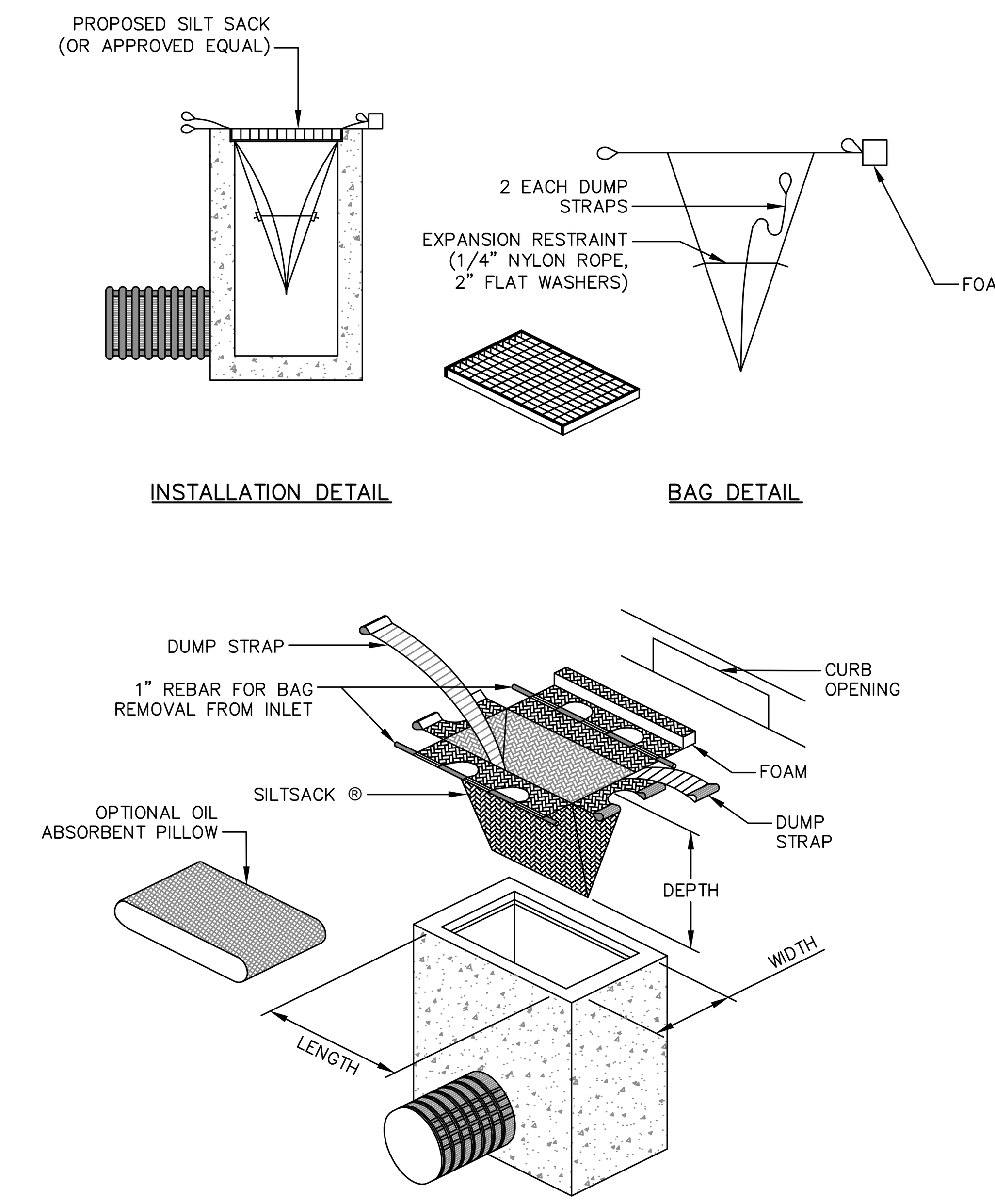
NOTE:

1. FOUNDATION: WHERE THE TRENCH BOTTOM IS UNSTABLE, THE CONTRACTOR SHALL EXCAVATE TO A DEPTH REQUIRED BY THE ENGINEER AND REPLACE WITH A FOUNDATION OF CLASS I OR II MATERIAL AS DEFINED IN ASTM D2321, "STANDARD PRACTICE FOR INSTALLATION OF THERMOPLASTIC PIPE FOR SEWERS AND OTHER GRAVITY-FLOW APPLICATIONS," LATEST EDITION; AS AN ALTERNATIVE AND AT THE DISCRETION OF THE ENGINEER, THE TRENCH BOTTOM MAY BE STABILIZED USING A WOVEN GEOTEXTILE FABRIC.
2. BEDDING: SUITABLE MATERIAL SHALL BE CLASS II AND INSTALLED AS REQUIRED IN ASTM D2321, LATEST EDITION.
3. HAUNCHING AND INITIAL BACKFILL: SUITABLE MATERIAL SHALL BE CLASS II AND INSTALLED AS REQUIRED IN ASTM D2321, LATEST EDITION.
4. THE MINIMUM TRENCH WIDTH FOR 12" HDPE PIPING SHALL BE 31".
5. BEDDING MATERIAL AND INITIAL BACKFILL: ALL BEDDING MATERIAL AND INITIAL BACKFILL SHALL BE CLEAN, FREE OF DEBRIS AND RUBBLE, AND FREE OF MATERIALS WHICH MAY CAUSE POLLUTION OF SURFACE WATERS AND GROUNDWATER.



STORM DRAIN TRENCH FOR HDPE PIPE

NOT TO SCALE



CATCH BASIN INLET PROTECTION

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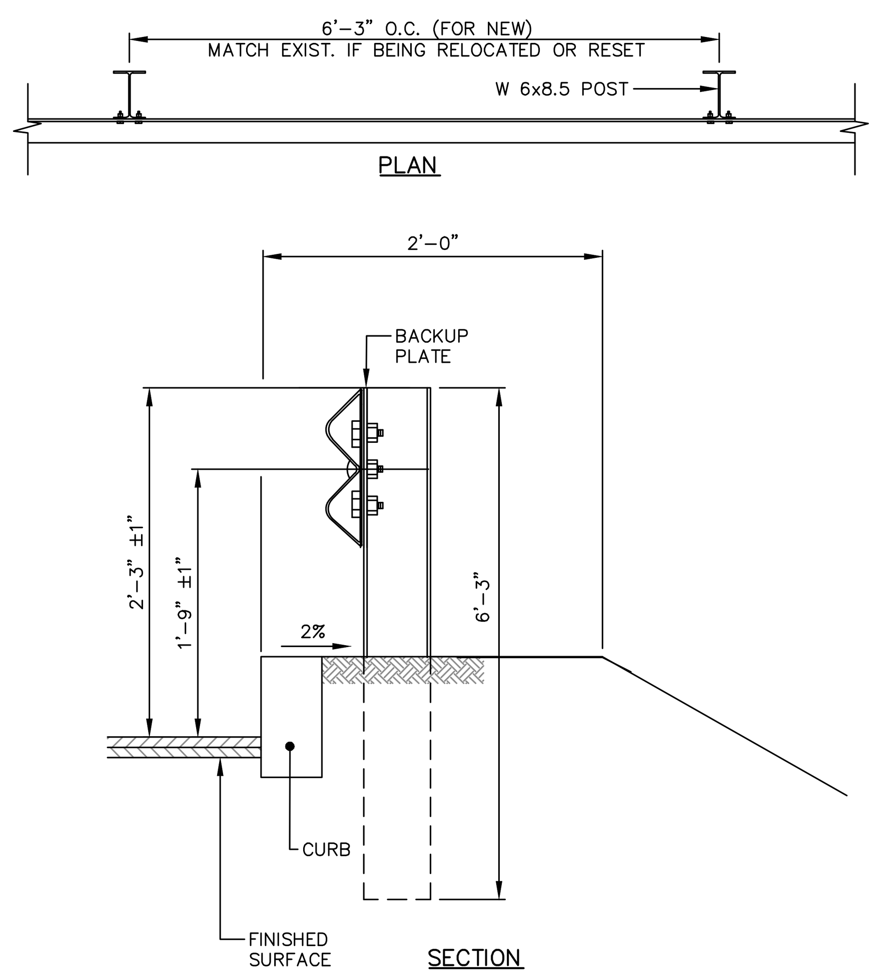
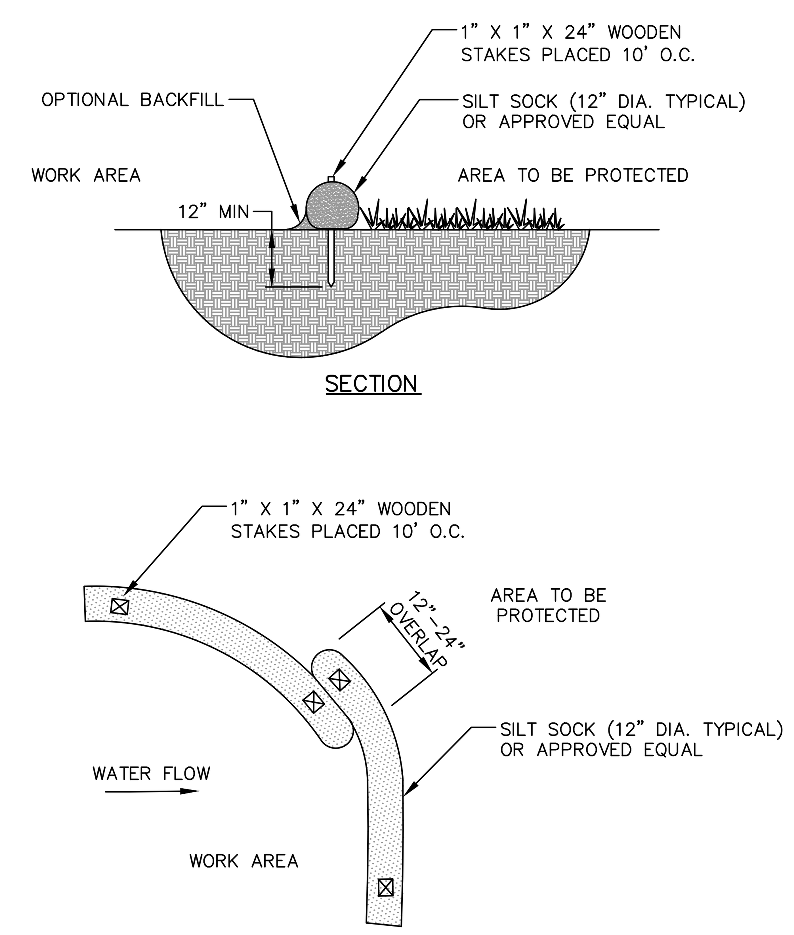


NOTES:

1. RELOCATE AND RESET EXISTING STEEL GUARDRAIL AS SHOWN ON THE PLANS. IF IT IS DETERMINED BY THE CITY THAT THE SECTION OF THE EXISTING GUARDRAIL OR ANY STEEL POST MUST BE REPLACED (DUE TO CONDITION), INSTALL NEW GUARDRAIL AS SHOWN ON THE PLANS.
2. SHALL BE IN ACCORDANCE WITH SECTION 901 AND M.08 OF THE R.I. STANDARD SPECIFICATIONS.

STEEL BEAM GUARDRAIL RELOCATION

NOT TO SCALE

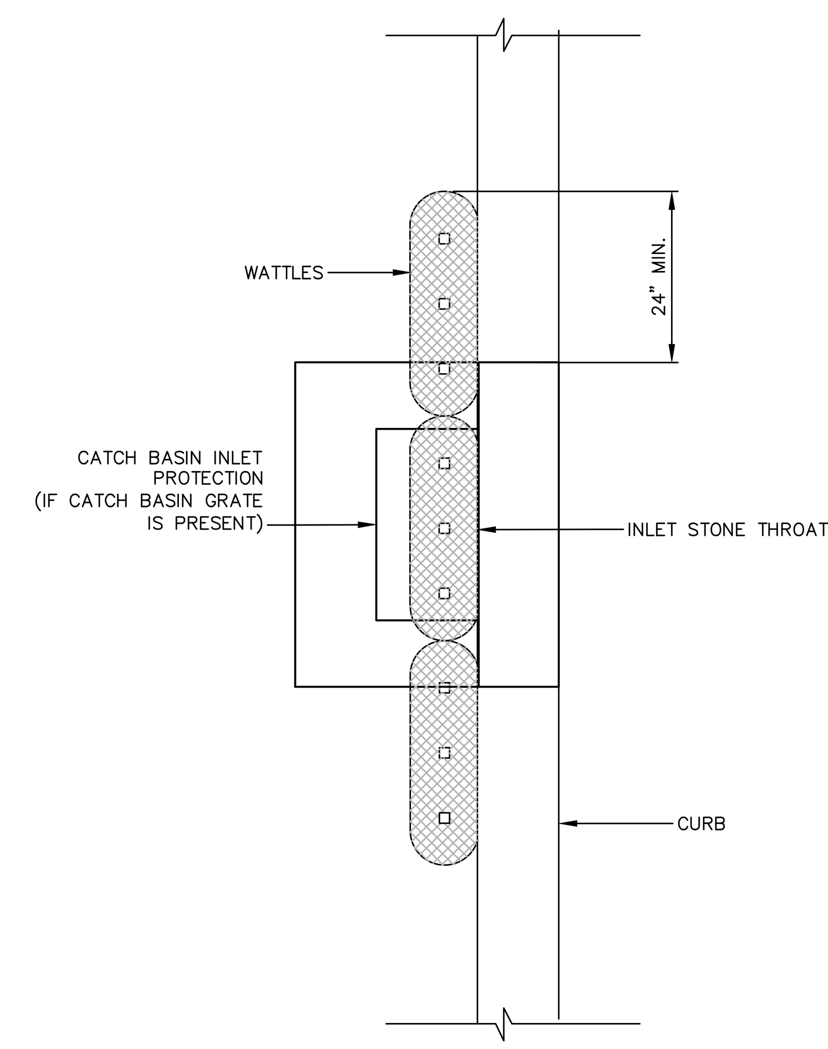


NOTES:

1. ALL MATERIAL TO MEET MANUFACTURER'S SPECIFICATIONS.
2. FILTER MEDIA™ FILL TO MEET APPLICATION REQUIREMENTS.
3. COMPOST MATERIAL TO BE DISPERSED ON SITE, AS DETERMINED BY ENGINEER.

COMPOST FILTER SOCK

NOT TO SCALE



CURB INLET PROTECTION

NOT TO SCALE

No.	DATE	DESCRIPTION	DESIGNER	REVIEWER

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DATUM:
HORZ.: RI NAD83
VERT.: NAVD88
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GRAPHIC SCALE

FUSS & O'NEILL
317 IRON HORSE WAY, SUITE 204
PROVIDENCE, RI 02908
401.861.3070
www.fando.com

CITY OF CRANSTON

CONSTRUCTION DETAILS

SPECTACLE POND PHOSPHORUS REDUCTION

BARRETT ST. CRANSTON, RHODE ISLAND

PROJ. No.: 20170900.B10
DATE: JULY 2021

CD-502

Appendix E

Pomham Street Project

POMHAM STREET STORMWATER IMPROVEMENTS

POMHAM STREET · CRANSTON · RHODE ISLAND

SEPTEMBER 26, 2022

PREPARED FOR

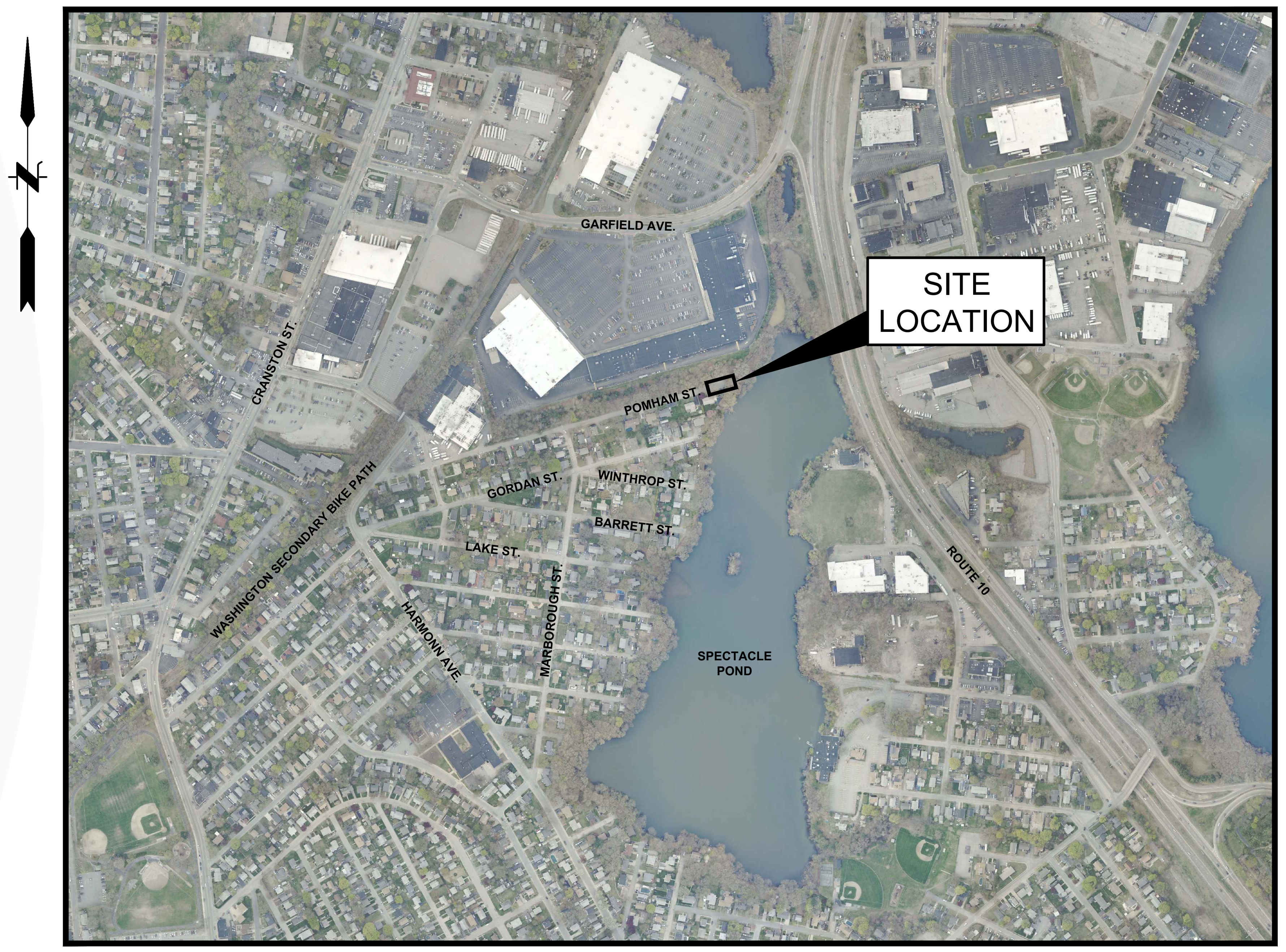
CITY OF CRANSTON

CRANSTON CITY HALL
869 PARK AVENUE
CRANSTON, RHODE ISLAND 02910

PREPARED BY

FUSS & O'NEILL
317 IRON HORSE WAY, SUITE 204
PROVIDENCE, RI 02908
401.861.3070
www.fando.com

SHEET INDEX



LOCATION MAP

SCALE: 1" = 500'

DRAFT FOR REVIEW

PROJ. No.: 20200078.A40
DATE: SEPTEMBER 26, 2022

GI-001

LEGEND

EXIST	PROP	
		PROPERTY LINE/RIGHT-OF-WAY
	LOD	LIMIT OF DISTURBANCE
10+00	10+00	BASELINE
		EDGE OF WATER
		WETLAND SYMBOL
		EDGE OF PAVEMENT
		BITUMINOUS CURB
		CHAIN LINK FENCE
		TREE LINE
		EXISTING TREE
		RETAINING WALL
2	4	MINOR CONTOUR
10	20	MAJOR CONTOUR
		BUILDING
		BOLLARD
		SIGN
+21.25	x21.25	SPOT ELEVATION
		DRAINAGE LINE
CB	CB	CATCH BASIN
DMH	DMH	DRAIN MANHOLE
SMH	SMH	SEWER MANHOLE
		FIRE HYDRANT
		LIGHT POST
		UTILITY POLE
		GUY POLE
		COMPOST FILTER TUBE

LEGEND NOTE

SYMBOLS AND LEGENDS OF PROJECT FEATURES ARE GRAPHIC REPRESENTATIONS AND ARE NOT NECESSARILY SHOWN ON THE DRAWINGS TO SCALE OR TO THEIR ACTUAL DIMENSION OR LOCATION. COORDINATE DETAIL SHEET DIMENSIONS, MANUFACTURERS' LITERATURE, SHOP DRAWINGS, AND FIELD MEASUREMENTS OF SUPPLIED PRODUCTS FOR LAYOUT OF THE PROJECT FEATURES.

ABBREVIATIONS

GENERAL

APPROX	APPROXIMATE
BIT	BITUMINOUS PAVEMENT
BW	BOTTOM OF WALL
CC	CONCRETE CURB
CCB	CAPE CODE BERM
ELEV	ELEVATION
EXIST	EXISTING
GC	GRANITE CURB
MAX	MAXIMUM
MIN	MINIMUM
NTS	NOT TO SCALE
PCC	PRECAST CONCRETE CURB
PROP	PROPOSED
R&D	REMOVE AND DISPOSE
R&R	REMOVE AND RESET
R&S	REMOVE AND STACK
TOS	TOP OF SLOPE
TW	TOP OF WALL
TYP	TYPICAL
VGC	VERTICAL GRANITE CURB

UTILITY

CB	CATCH BASIN
CMP	CORRUGATED METAL PIPE
CPP	CORRUGATED POLYETHYLENE PIPE
DCB	DOUBLE CATCH BASIN
DI	DUCTILE IRON PIPE
F&G	FRAME AND GRATE
F&C	FRAME AND COVER
HDPE	HIGH DENSITY POLYETHYLENE
HYD	HYDRANT
INV	INVERT ELEVATION
PVC	POLYVINYL CHLORIDE PIPE
RCP	REINFORCED CONCRETE PIPE
RD	ROOF DRAIN
SMH	SEWER MANHOLE
TSV	TAPPING SLEEVE, VALVE AND BOX
UP	UTILITY POLE

GENERAL NOTES

1. REFERENCES:
   - A. THE STATE OF RHODE ISLAND STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, 2018 EDITION, REVISIONS AND ALL CURRENT ADDENDA, ARE MADE A PART HEREOF, AS IF ATTACHED HERETO. ALL REFERENCES TO "STATE STANDARD SPECIFICATIONS" SHALL REFER TO THE LATEST EDITION OF THE STATE OF RHODE ISLAND STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.
   - B. THE STATE OF RHODE ISLAND STANDARD DETAILS, 2015 EDITION, AND ALL CURRENT REVISIONS, ARE MADE A PART HEREOF, AS IF ATTACHED HERETO. ALL REFERENCES TO "STATE STANDARD DETAILS" OR "R.I. STD. #.#.#" SHALL REFER TO THE LATEST EDITION OF THE STATE OF RHODE ISLANDS STANDARD DETAILS.
   - C. THE STATE OF RHODE ISLAND SOIL EROSION AND SEDIMENT CONTROL HANDBOOK, 2016 EDITION, REVISIONS AND ALL CURRENT ADDENDA, ARE MADE A PART HEREOF, AS IF ATTACHED HERETO. ALL REFERENCES TO "SOIL EROSION AND SEDIMENT CONTROL HANDBOOK" SHALL REFER TO THE LATEST EDITION OF THE STATE OF RHODE ISLAND SOIL EROSION AND SEDIMENT CONTROL HANDBOOK.
   - D. THE SITE-SPECIFIC SOIL EROSION AND SEDIMENT CONTROL PLAN (SESC PLAN) PREPARED BY FUSS & O'NEILL, INC., DATED 09/23/20221, IS MADE A PART HEREOF, AS IF ATTACHED HERETO.
2. EXISTING CONDITIONS:
   - A. PROPERTY BOUNDARIES, EXISTING AND TOPOGRAPHICAL INFORMATION WERE OBTAINED FROM A PLAN BY PRINCIPE COMPANY, INC, DATED 04/13/2022.
   - B. EXISTING AND TOPOGRAPHICAL FEATURES OUTSIDE OF THE RIGHT-OF-WAY WERE OBTAINED FROM RHODE ISLAND GEOGRAPHIC INFORMATION SYSTEM (RIGIS) DATA AND AERIAL IMAGERY.
   - C. WETLAND FLAGS SHOWN WERE FLAGGED BY NATURAL RESOURCE SERVICES, INC. (NRS) ON MARCH 8, 2022 AND WERE FIELD LOCATED BY PRINCIPE COMPANY.
3. DATUM REFERENCE:
   ALL TOPOGRAPHIC INFORMATION INCLUDED HEREON IS IN REFERENCE TO NAVD83.
4. FLOOD ZONE:
   DISTURBANCE PROPOSED FOR THIS PROJECT IS NOT LOCATED IN SPECTACLE POND'S ASSOCIATED FLOOD PLAIN AS DEPICTED IN FEMA FLOOD MAP NUMBER 44007C0312H (DATED OCTOBER 2, 2015).
5. MATERIALS:
   - A. BITUMINOUS CONCRETE PAVEMENT:
     BITUMINOUS PAVEMENTS SHALL MEET REQUIREMENTS OF PART 400 OF THE STATE STANDARD SPECIFICATIONS.
   - B. LANDSCAPE AREAS:
     ALL SURFACED AREAS OR DISTURBED AREAS NOT SPECIFIED ON THE PLANS SHALL RECEIVE 4 INCHES OF TOPSOIL, SEED, MULCH, AND BE WATERED UNTIL A HEALTHY STAND OF GRASS IS OBTAINED.
6. UTILITIES:
   - A. STORM DRAINAGES:
     STORM DRAIN PIPING SHALL BE SMOOTH LINED BE DOUBLE-WALL HIGH DENSITY POLYETHYLENE PIPE, (n=0.012) WITH WATER TIGHT JOINTS. THE SIZES OF ALL PIPES ARE NOTED ON THE PLANS.

     ALL CATCH BASINS SHALL BE PRECAST CONCRETE, AS SPECIFIED ON THE DETAIL SHEETS, WITH BICYCLE SAFE GRATES, R.I. STANDARD 6.3.2, OR APPROVED EQUAL.

GENERAL CONSTRUCTION REQUIREMENTS

1. SITE DISCHARGES FROM CONSTRUCTION SITES ARE REGULATED BY THE RHODE ISLAND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT RHODE ISLAND POLLUTANT DISCHARGE SYSTEM ELIMINATION (RIPDES) PROGRAM. THE PROJECT SHALL COMPLY WITH THE CONDITIONS OF THE RIPDES GENERAL PERMIT FOR STORMWATER DISCHARGES ASSOCIATED WITH CONSTRUCTION SITE RUNOFF.
2. VERIFY THE PROPOSED LAYOUT WITH ITS RELATIONSHIP TO THE EXISTING SITE SURVEY AND CONFIRM ALL DIMENSIONS, SITE CONDITIONS, AND MATERIAL SPECIFICATIONS ARE CONSISTENT. NOTIFY THE OWNER AND ENGINEER OF ANY ERRORS, OMISSIONS OR DISCREPANCIES BEFORE COMMENCING OR PROCEEDING WITH WORK.
3. OBTAIN ALL NECESSARY PERMITS, INSPECTIONS, BONDS, ETC. AND OTHER APPROVAL RELATED ITEMS WITH THE LOCAL AND STATE MUNICIPALITIES. APPLICATION FEES SHALL BE PAID BY OWNER. NO CONSTRUCTION SHALL COMMENCE UNTIL SUCH PERMITS HAVE BEEN SECURED AND THE CONTRACTOR HAS SUPPLIED THE REQUIRED NOTICES.
4. METHODS AND MATERIALS USED IN THE CONSTRUCTION OF IMPROVEMENTS FOR THIS PROJECT SHALL CONFORM TO THE CURRENT CONSTRUCTION STANDARDS AND SPECIFICATIONS OF THE LOCAL MUNICIPALITY AND THE RHODE ISLAND DEPARTMENT OF TRANSPORTATION.
5. DEVIATIONS OR CHANGES FROM THESE PLANS WILL NOT BE ALLOWED UNLESS APPROVED BY THE ENGINEER/OWNER.
6. CONTACT 'DIG SAFE' AT 1-888-344-7233, 72 HOURS PRIOR, EXCLUDING WEEKENDS AND HOLIDAYS, TO ANY EXCAVATION PERFORMED ON SITE.
7. THE EXISTENCE AND/OR LOCATION OF UTILITIES SHOWN ON THESE PLANS MAY BE ONLY APPROXIMATELY CORRECT. MAKE EXPLORATORY EXCAVATIONS AND LOCATE ANY EXISTING UTILITIES AND NOTIFY OWNER/ENGINEER OF ANY DISCREPANCIES FROM CONTRACT DOCUMENTS. THE OWNER SHALL BE NOTIFIED AS TO THE RELOCATIONS REQUIRED PRIOR TO THE START OF CONSTRUCTION. CONTRACTOR IS REQUIRED TO TAKE PRECAUTIONARY MEASURES TO PROTECT THE UTILITIES SHOWN HEREON AND ANY OTHER EXISTING UTILITIES NOT OF RECORD OR NOT SHOWN ON THESE PLANS. THE CONTRACTOR IS RESPONSIBLE FOR REPAIRING, AT HIS/HER EXPENSE, ANY EXISTING UTILITIES DAMAGED DURING CONSTRUCTION.
8. AN APPROVED SET OF PLANS, SIGNED SOIL EROSION AND SEDIMENT CONTROL PLAN, AND ALL APPLICABLE PERMITS SHALL BE AVAILABLE AT THE CONSTRUCTION SITE AT ALL TIMES.
9. THE CONTRACTOR IS RESPONSIBLE FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS.
10. IDENTIFY TREES TO BE REMOVED PRIOR TO CONSTRUCTION AND MARK THEM WITH CONSTRUCTION TAPE FOR REVIEW BY THE OWNER/ENGINEER. TREES AND OTHER EXISTING VEGETATION SHALL BE RETAINED WHEREVER FEASIBLE. DO NOT REMOVE TREES UNTIL REVIEWED AND APPROVED BY THE OWNER/ENGINEER.
11. PROVIDE PROPER TRANSITIONS BETWEEN EXISTING AND PROPOSED SITE IMPROVEMENTS.
12. RESTORE HARDSCAPE IMPROVEMENTS WITH MATCHING MATERIALS (I.E. ANY PAVEMENT, WALKS, CURBS, ETC.) THAT MUST BE CUT OR THAT ARE DAMAGED DURING CONSTRUCTION.
13. RESTORE DISTURBED LANDSCAPE AREAS TO ORIGINAL CONDITION (I.E. SEEDED, SODDED, PLANTED) UNLESS OTHERWISE DIRECTED WITHIN CONTRACT DOCUMENTS.
14. ADJUST UTILITY COVERS, GRATES, AND HAND HOLES TO FINISH GRADE.
15. ALL EXCESS EXCAVATED MATERIALS, EXCESS FILL, EXCESS CONSTRUCTION MATERIALS, DEBRIS, AND WASTE SHALL BE REMOVED FROM THE SITE AND SHALL BE DISPOSED OF IN ACCORDANCE WITH APPLICABLE LAWS.
16. DO NOT CLOSE OR OBSTRUCT ROADWAYS, SIDEWALKS, FIRE HYDRANTS, AND UTILITIES WITHOUT APPROPRIATE PERMITS.
17. WORK IS RESTRICTED TO THE HOURS OF 7 AM TO 5 PM ON MONDAY THROUGH FRIDAY, EXCLUDING HOLIDAYS, UNLESS OTHERWISE APPROVED BY THE OWNER.

CONTROL OF WATER

1. TEMPORARY STORMWATER BYPASS CONVEYANCE SYSTEMS TO CONTROL STORMWATER THROUGH THE SITE AND AROUND PROPOSED WORK DURING CONSTRUCTION SHALL BE INSTALLED, OPERATED AND MAINTAINED TO SAFELY PROTECT THE WORK AND EXISTING FEATURES FROM DAMAGE AT ALL TIMES UNTIL FINAL ACCEPTANCE BY THE OWNER.
2. DO NOT ALLOW WATER TO ACCUMULATE IN EXCAVATIONS. REMOVE WATER TO PREVENT SOFTENING OF FOUNDATION BOTTOMS, UNDERCUTTING OF FOOTINGS AND SOIL CHANGES DETRIMENTAL TO STABILITY OF SUBGRADES, FOUNDATIONS AND STRUCTURES.
3. PUMPED WATER SHALL BE DISCHARGED THROUGH AN APPROVED SEDIMENT CONTROL DEVICE (E.G. SILT BAG) TO PROPERLY FILTER TURBID WATER PRIOR TO ITS RETURN TO THE WATERCOURSE. THE DISCHARGE OF PUMPED WATER SHALL BE ONTO AN APPROVED ARMORED OR HARD SURFACE (E.G., RIPRAP APRON) TO PREVENT EROSION, SCOUR AND SUSPENSION OF SOIL AT THE DISCHARGE. WATER SHALL NOT BE DISCHARGED ONTO FILL OR BACKFILL AREAS OR FOUNDATIONS.
4. PROTECT CONSTRUCTED WORK ON THE SITE DURING STORM AND FLOOD CONDITIONS.
5. A WATER CONTROL PLAN SHALL BE SUBMITTED FOR REVIEW AND APPROVAL BY THE ENGINEER PRIOR TO CONSTRUCTION. IF REQUIRED, THE PLAN SHALL BE PREPARED BY A PROFESSIONAL ENGINEER. APPROVAL OF THE PLAN SHALL NOT RELIEVE THE CONTRACTOR FROM COMPLIANCE WITH THE PERFORMANCE STANDARDS.

CONSTRUCTION SEQUENCE

CONSTRUCTION ACTIVITIES ASSOCIATED WITH THIS PROJECT ARE EXPECTED TO COMMENCE IN SPRING 2023 AND WILL BE COMPLETED BY AUTUMN 2023. SOME OF THE CONSTRUCTION ACTIVITIES MAY OCCUR CONCURRENTLY WITH OTHER CONSTRUCTION ACTIVITIES. THE GENERAL SEQUENCE FOR EACH PHASE OF CONSTRUCTION IS AS FOLLOWS:

1. INSTALL PERIMETER SEDIMENT CONTROL BARRIERS AND OTHER SEDIMENT EROSION CONTROL MEASURES. SEDIMENT EROSION CONTROL MEASURES WILL BE MAINTAINED OR REPLACED AS REQUIRED THROUGHOUT CONSTRUCTION PERIOD. ANY TEMPORARY SOIL STOCKPILE AREAS DURING CONSTRUCTION WILL ALSO BE ENCOMPASSED BY PERIMETER CONTROLS.
2. CONFIRM EXISTING SITE CONDITIONS AND IDENTIFY TREES AND OTHER EXISTING FEATURES (STRUCTURES, UTILITIES, ETC.) THAT ARE NOT DESIGNATED FOR REMOVAL. NOTIFY ENGINEER OF ANY DISCREPANCIES PRIOR TO CONSTRUCTION.
3. COMPLETE DEMOLITION ACTIVITIES.
4. INSTALL SUBSURFACE INFILTRATION SYSTEM AND ASSOCIATED DRAINAGE COMPONENTS. MAINTAIN EXISTING DRAINAGE OVERFLOW UNTIL ALL PROPOSED DRAINAGE COMPONENTS ARE IN-PLACE AND READY TO INSTALL CATCH BASIN INLET PROTECTION IMMEDIATELY AFTER CATCH BASIN IS INSTALLED.
5. PAVE DISTURBED ROADWAY(S) AND INSTALL BITUMINOUS CONCRETE BERM.
6. PERFORM FINAL GRADING AND RESTORATION OF DISTURBED NON-PAVED AREAS.
7. REMOVE TEMPORARY EROSION CONTROLS MEASURES ONCE PERMANENT VEGETATION COVER HAS BEEN ESTABLISHED AND THE SITE IS STABILIZED, INSPECTED, AND APPROVED BY PERMITTING AUTHORITY AND THE ENGINEER.
8. PERFORM ANY FINAL GRADING AND RESTORATION OF DISTURBED NON-PAVED AREAS.

SOIL EROSION AND SEDIMENT CONTROL INSTALLATION

1. FOLLOW THE SITE-SPECIFIC SESC PLAN, SITE PREPARATION PLAN, EROSION AND SEDIMENT CONTROL SPECIFICATION, AS WELL AS RHODE ISLAND SOIL EROSION AND SEDIMENT CONTROL HANDBOOK IN CONSTRUCTING THE EROSION AND SEDIMENT CONTROLS INDICATED ON THE PLANS. ALL EROSION AND SEDIMENT CONTROL MEASURES OR WORKS AND REHABILITATION MEASURES MUST CONFORM TO OR EXCEED THESE REQUIREMENTS.
2. THE TIMELY INSTALLATION, INSPECTION, AND MAINTENANCE/REPLACEMENT OF SEDIMENT AND EROSION CONTROL DEVICES TO ENSURE PROPER OPERATION AND PERMIT COMPLIANCE IS THE RESPONSIBILITY OF THE CONTRACTOR UNTIL CONSTRUCTION OF THE PROJECT IS COMPLETE AND ACCEPTED BY THE OWNER. THE OWNER IS RESPONSIBLE THEREAFTER. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL CONTINUE TO BE MAINTAINED IN EFFECTIVE CONDITION UNTIL SITE STABILIZATION.
3. PRIOR TO THE COMMENCEMENT OF CONSTRUCTION ACTIVITIES, INSTALL ALL EROSION AND SEDIMENT CONTROL DEVICES AS SHOWN ON THE PLAN, OR AS DIRECTED BY THE RHODE ISLAND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT AND LOCAL MUNICIPALITY, OR AS MAY BE REQUIRED TO PREVENT SEDIMENT FLOW TO STORM DRAINS OR SURFACE WATERS.

SOIL EROSION AND SEDIMENT CONTROL INSPECTION

1. SITE DISCHARGES FROM CONSTRUCTION SITES ARE REGULATED BY THE RHODE ISLAND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT (RIDEM) RHODE ISLAND POLLUTANT DISCHARGE SYSTEM ELIMINATION (RIPDES) PROGRAM. A SITE-SPECIFIC SOIL EROSION AND SEDIMENT CONTROL PLAN (SESC PLAN) HAS BEEN PREPARED. THE SESC PLAN MUST BE REVIEWED AND SIGNED BY THE OWNER, OPERATOR (I.E CONTRACTOR), AND CONTRACTOR'S DESIGNATED SESC INSPECTOR. A HARD-COPY OF THE SIGNED SESC PLAN, INCLUDING ALL INSPECTION REPORTS, CORRECTIVE ACTION LOGS, AND ADDENDA, MUST BE KEPT ON SITE AT ALL TIMES THROUGHOUT CONSTRUCTION.
2. AN INSPECTION OF STORMWATER CONTROL MEASURES MUST BE CONDUCTED BY THE CONTRACTOR AT LEAST ONCE EVERY SEVEN (7) CALENDAR DAYS, AND WITHIN TWENTY-FOUR (24) HOURS AFTER ANY STORM EVENT WHICH GENERATES AT LEAST 0.25 INCHES OF RAINFALL PER TWENTY-FOUR (24) HOUR PERIOD.
3. PREPARE AN INSPECTION REPORT SUMMARIZING THE SCOPE OF THE INSPECTION, NAME(S) AND TITLES OF PERSONNEL MAKING THE INSPECTION, THE DATE(S) OF THE INSPECTION, MAJOR OBSERVATIONS RELATING TO THE IMPLEMENTATION OF THE SESC PLAN, AND CORRECTIVE ACTIONS WHICH MUST BE MADE. SUCH REPORTS MUST IDENTIFY ANY INCIDENTS OF NONCOMPLIANCE. WHERE AN INSPECTION DOES NOT IDENTIFY ANY INCIDENTS OF NONCOMPLIANCE, A INSPECTION REPORT MUST STILL BE PREPARED TO CERTIFY THAT THE SITE IS IN COMPLIANCE WITH THE SESC PLAN AND RIPDES PERMIT. THE INSPECTION REPORT MUST BE SIGNED BY THE INSPECTOR AND OPERATOR AND KEPT WITH THE ON-SITE SESC PLAN.
4. FOLLOWING AN INSPECTION, ALL CORRECTIVE ACTIONS MUST BE COMPLETED WITHIN SEVEN (7) CALENDAR DAYS. A CORRECTIVE ACTION LOG MUST BE SIGNED BY THE OPERATOR AND KEPT WITH THE ON-SITE SESC PLAN.
5. BASED ON THE RESULTS OF THE INSPECTIONS, THE SESC PLAN MUST BE REVISED AS APPROPRIATE, BUT IN NO CASE LATER THAN SEVEN (7) CALENDAR DAYS FOLLOWING THE INSPECTION. SUCH MODIFICATIONS MUST PROVIDE FOR IMPLEMENTATION OF ANY CHANGES TO THE SESC PLAN WITHIN SEVEN (7) CALENDAR DAYS FOLLOWING THE INSPECTION.
6. IF AN INSPECTION REVEALS A DISCHARGE OF SEDIMENTS TO THE WATERS OF THE STATE OR A SEPARATE STORM SEWER SYSTEM, THE PERMITTEE MUST NOTIFY THIS OFFICE OF THE NATURE OF THE DISCHARGE, THE MEASURES TAKEN TO CLEAN UP THE DISCHARGE, AND THE MEASURES TAKEN TO PREVENT FUTURE RELEASES.
7. A HARD COPY OF THE COMPLETE SESC PLAN, INCLUDING ALL INSPECTION REPORTS, CORRECTIVE ACTION LOGS, AND ADDENDA, MUST BE RETAINED BY THE OWNER FOR AT LEAST FIVE (5) YEARS FROM THE DATE THAT THE SITE HAS UNDERGONE FINAL STABILIZATION.

STORMWATER MAINTENANCE PROGRAM

1. OPERATION AND MAINTENANCE OF STORMWATER MANAGEMENT SYSTEM SHALL BE CONDUCTED IN ACCORDANCE WITH SITE-SPECIFIC LONG-TERM OPERATION & MAINTENANCE PLAN.
2. THE CONTRACTOR IS RESPONSIBLE FOR OPERATION AND MAINTENANCE OF STORMWATER MANAGEMENT SYSTEM UNTIL COMPLETION OF CONSTRUCTION AND OWNER ACCEPTANCE. THE OWNER SHALL BE RESPONSIBLE FOR THE MAINTENANCE OF THE STORMWATER MANAGEMENT SYSTEM ONCE CONSTRUCTION IS COMPLETE.

SPILL PREVENTION AND RESPONSE PROCEDURE

1. ANY INADVERTENT OR DELIBERATE DISCHARGE OF WASTE OIL OR ANY OTHER POLLUTANT TO THE STORMWATER DISPOSAL SYSTEM REQUIRES IMMEDIATE NOTIFICATION TO THE RIDEM OIL POLLUTION CONTROL PROGRAM AT (401) 277-2284, AS PER THE OIL POLLUTION CONTROL REGULATIONS. DURING NON-WORKING HOURS, NOTIFICATION OF SPILLS CAN BE MADE TO THE RIDEM DIVISION OF ENFORCEMENT AT (401) 222-3070 (THE 24-HOUR EMERGENCY RESPONSE PHONE NUMBER).
2. ANY INCIDENT OF GROUNDWATER CONTAMINATION RESULTING FROM THE IMPROPER DISCHARGE OF POLLUTANTS TO THE STORMWATER DISPOSAL SYSTEM SHALL BE THE RESPONSIBILITY OF THE PROPERTY OWNER AS WELL AS ANY OTHER PARTIES THAT THE RIDEM DETERMINES TO BE RESPONSIBLE FOR THE CONTAMINATION. PURSUANT TO STATE LAWS AND REGULATIONS, THE RIDEM MAY REQUIRE THE PROPERTY OWNER AND OTHER RESPONSIBLE PARTIES TO REMEDIATE ANY INCIDENTS THAT MAY ADVERSELY IMPACT GROUNDWATER QUALITY.
3. UPON TRANSFER OF THE PROPERTY, THE NEW OWNER SHALL BE INFORMED AS TO THE LEGAL RESPONSIBILITIES ASSOCIATED WITH DISPOSAL SYSTEM, AS INDICATED ABOVE.
4. THE OWNER WILL CREATE A MAINTENANCE LOG, SHOWING THE DATE, TIME, NAME OF INSPECTOR, INSPECTION COMMENTS, AND ANY ACTIONS TAKEN BASED ON THE ABOVE REFERENCE SCHEDULE.
5. THE PROPERTY OWNER SHALL BE RESPONSIBLE TO REMEDIATE INCIDENTS THAT ADVERSELY IMPACT GROUNDWATER QUALITY.

No.	DATE	DESCRIPTION	DESIGNER	REVIEWER

SEAL

SEAL

SCALE:
HORZ.: NOT TO SCALE
VERT.:
DATUM:
HORZ.:
VERT.:
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GRAPHIC SCALE

FUSS & O'NEILL
317 IRON HORSE WAY, SUITE 204
PROVIDENCE, RI 02908
401.861.3070
www.fando.com

CITY OF CRANSTON

GENERAL NOTES & LEGEND

POMHAM STREET STORMWATER IMPROVEMENTS

CRANSTON RHODE ISLAND

PROJ. No.: 20200078.A40
DATE:SEPTEMBER 26, 2022

CN-001

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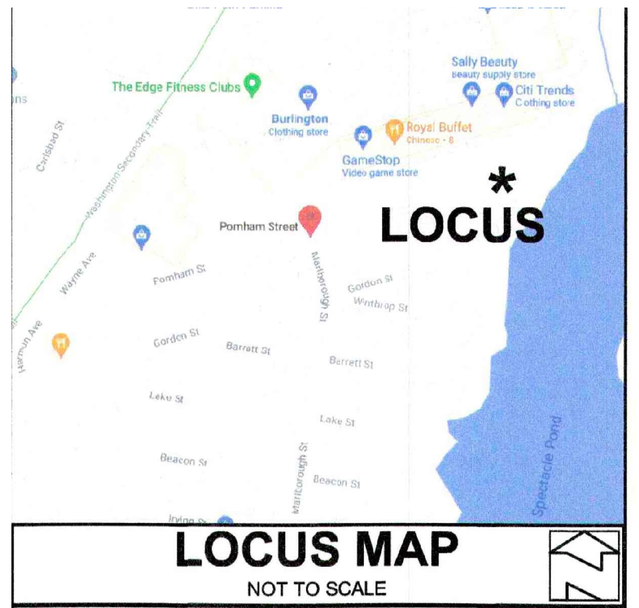
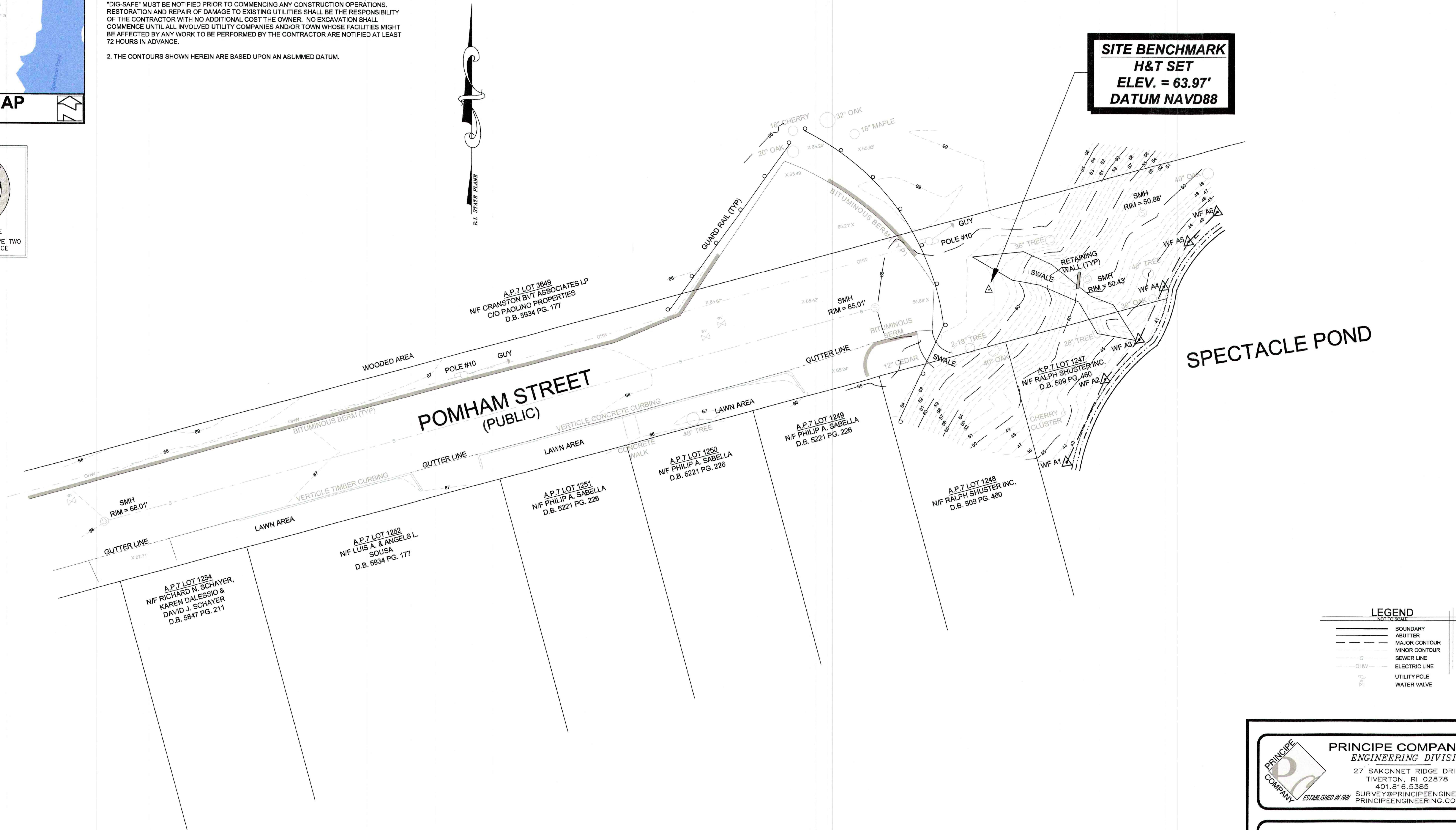


1-888-DIG-SAFE
PROTECT YOURSELF, GIVE TWO WORKING DAYS NOTICE

GENERAL NOTES:

1. THE LOCATION AND DEPTH OF EXISTING UTILITIES ARE APPROXIMATE AND HAVE BEEN PLOTTED FROM THE LATEST AVAILABLE INFORMATION. THE UTILITY LOCATIONS ARE APPROXIMATE AND MAY NOT BE ALL INCLUSIVE. THE CONTRACTOR SHALL CHECK AND VERIFY THE LOCATIONS OF ALL EXISTING UTILITIES, BOTH OVERHEAD AND UNDERGROUND, AND "DIG-SAFE" MUST BE NOTIFIED PRIOR TO COMMENCING ANY CONSTRUCTION OPERATIONS. RESTORATION AND REPAIR OF DAMAGE TO EXISTING UTILITIES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR WITH NO ADDITIONAL COST THE OWNER. NO EXCAVATION SHALL COMMENCE UNTIL ALL INVOLVED UTILITY COMPANIES AND/OR TOWN WHOSE FACILITIES MIGHT BE AFFECTED BY ANY WORK TO BE PERFORMED BY THE CONTRACTOR ARE NOTIFIED AT LEAST 72 HOURS IN ADVANCE.

2. THE CONTOURS SHOWN HEREIN ARE BASED UPON AN ASUMMED DATUM.



NORBERT A. THERIEN
No. 1739
PROFESSIONAL LAND SURVEYOR
4-19-2022

THIS SURVEY HAS BEEN CONDUCTED AND THE PLAN HAS BEEN PREPARED PURSUANT TO SECTION 9 OF THE RULES AND REGULATIONS ADOPTED BY THE RHODE ISLAND STATE BOARD OF REGISTRATIONS FOR PROFESSIONAL LAND SURVEYORS NOVEMBER 25, 2015 AS FOLLOWS:

TYPE OF SURVEY: EXISTING CONDITIONS
MEASUREMENT SPECIFICATION: CLASS 3 STANDARD

PURPOSE OF SURVEY: TOPOGRAPHICAL SURVEY

BY: Norbert A. Therien DATE: 4-19-2022
NORBERT A. THERIEN, PLS NO. 1739

GRAPHIC SCALE
15 0 7.5 15 30 60
(IN FEET)
1 inch = 15 ft.

PRINCIPE COMPANY, INC.
ENGINEERING DIVISION
27 SAKONNET RIDGE DRIVE
TIVERTON, RI 02878
401.816.5385
SURVEY@PRINCIPEENGINEERING.COM
PRINCIPEENGINEERING.COM
ESTABLISHED IN 1991

EXISTING CONDITIONS PLAN
for
PONHAM STREET
in
CRANSTON, RHODE ISLAND

SCALE: 1"=15'		SHEET NO: 1 OF 1
DRAWN BY: JML	DESIGN BY:	CHECKED BY: NAT
DATE: 4-13-2022		PROJECT NO.: SVY-2022-24

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PC3: AUTOCAD PDF (GENERAL DOCUMENTATION).PC3 STB/CTB: FO.STB
MS VIEW: LAYER STATE:

No.	DATE	DESCRIPTION	DESIGNER	REVIEWER

SEAL

SEAL

SCALE:
HORZ.: 1" = 15'
VERT.:
DATUM:
HORZ.:
VERT.: NAVD88
15 7.5 0 15
GRAPHIC SCALE

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CITY OF CRANSTON
EXISTING CONDITIONS PLAN
POMHAM STREET STORMWATER IMPROVEMENTS
CRANSTON RHODE ISLAND

PROJ. No.: 20200078.A40
DATE: SEPTEMBER 26, 2022

CS-100

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LAYER STATE:

No.	DATE	DESCRIPTION	DESIGNER	REVIEWER

SEAL

SEAL

SCALE:
HORZ.: 1" = 10'
VERT.:
DATUM:
HORZ.:
VERT.: NAVD88
10 5 0 10
GRAPHIC SCALE

FUSS & O'NEILL
317 IRON HORSE WAY, SUITE 204
PROVIDENCE, RI 02908
401.861.3070
www.fando.com

CITY OF CRANSTON

SITE PREPARATION PLAN

POMHAM STREET STORMWATER IMPROVEMENTS

CRANSTON RHODE ISLAND

PROJ. No.: 20200078.A40
DATE: SEPTEMBER 26, 2022

CP-101

					SEAL	SEAL		SCALE: HORZ.: 1" = 10' VERT.: DATUM: HORZ.: VERT.: NAVD88	FUSS & O'NEILL 317 IRON HORSE WAY, SUITE 204 PROVIDENCE, RI 02908 401.861.3070 www.fando.com	CITY OF CRANSTON	PROJ. No.: 20200078.A40 DATE:SEPTEMBER 26, 2022
No.	DATE	DESCRIPTION	DESIGNER	REVIEWER				10 5 0 10 GRAPHIC SCALE		GRADING & DRAINAGE PLAN POMHAM STREET STORMWATER IMPROVEMENTS CRANSTON RHODE ISLAND	CG-101

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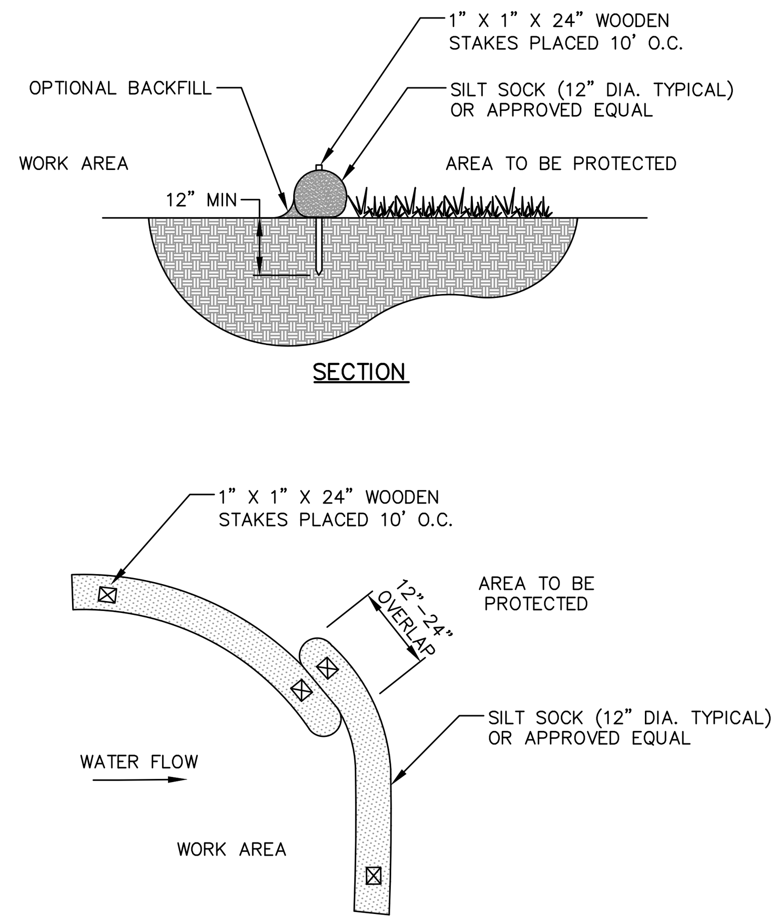
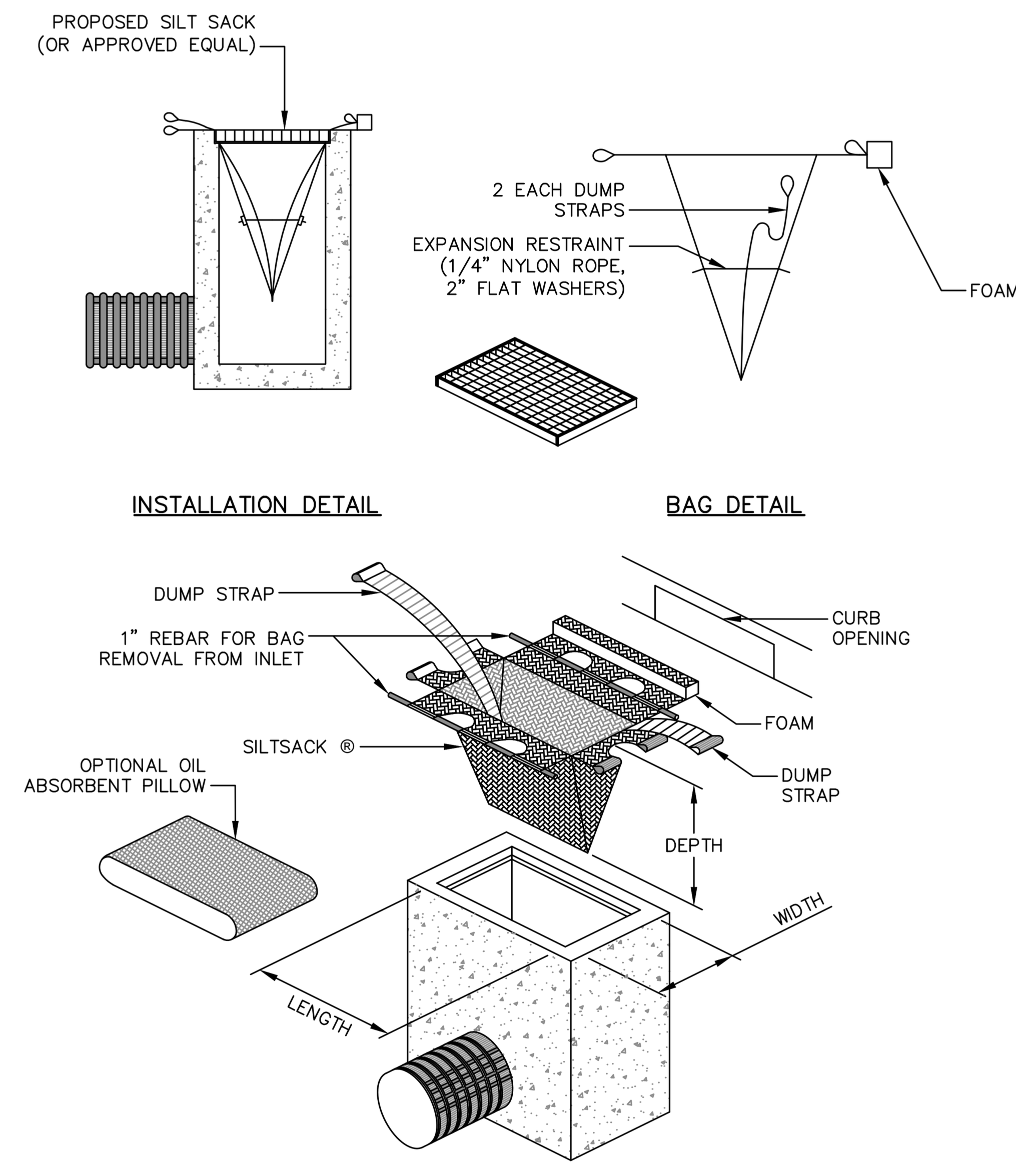


NOTES:

1. ALL MATERIAL TO MEET MANUFACTURER'S SPECIFICATIONS.
2. FILTER MEDIA™ FILL TO MEET APPLICATION REQUIREMENTS.
3. COMPOST MATERIAL TO BE DISPERSED ON SITE, AS DETERMINED BY ENGINEER.

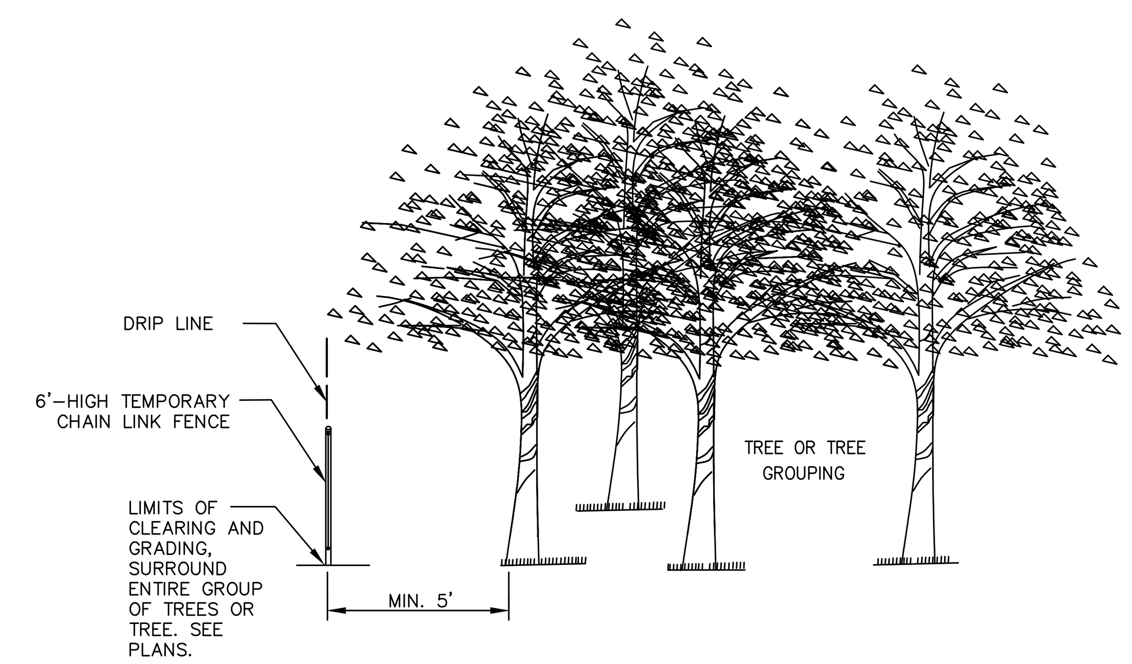
COMPOST FILTER SOCK

NOT TO SCALE



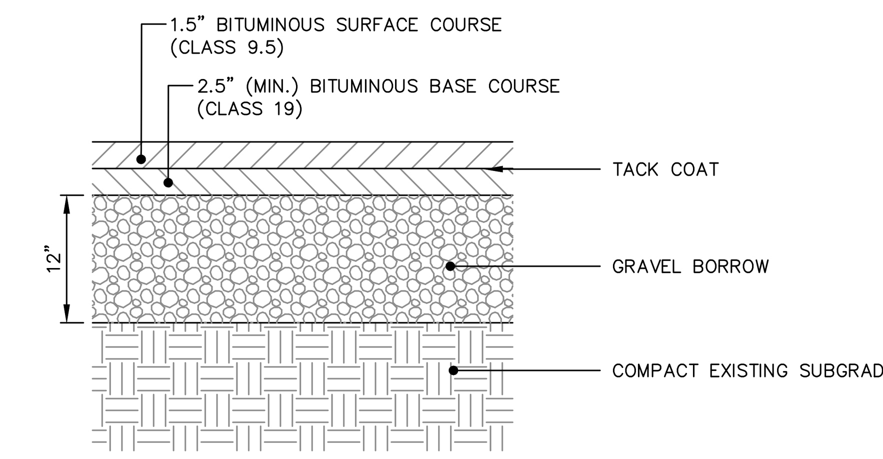
CATCH BASIN INLET PROTECTION

NOT TO SCALE



TREE PROTECTION

NOT TO SCALE

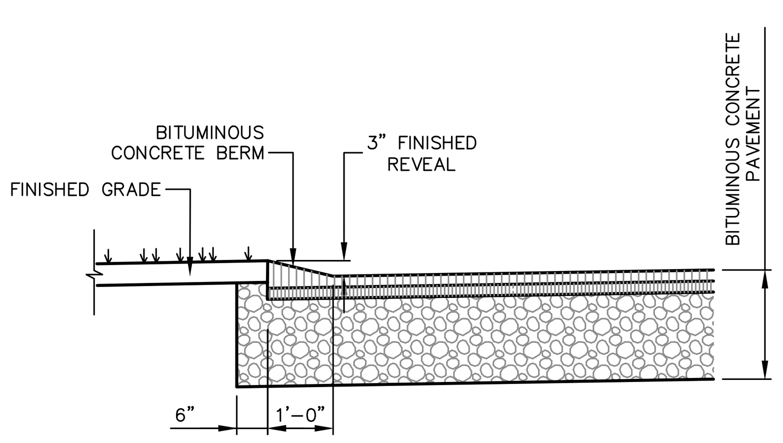


NOTE:

UNSUITABLE MATERIAL WITHIN SUBGRADE SHALL BE REMOVED AND REPLACED WITH GRAVEL BORROW.

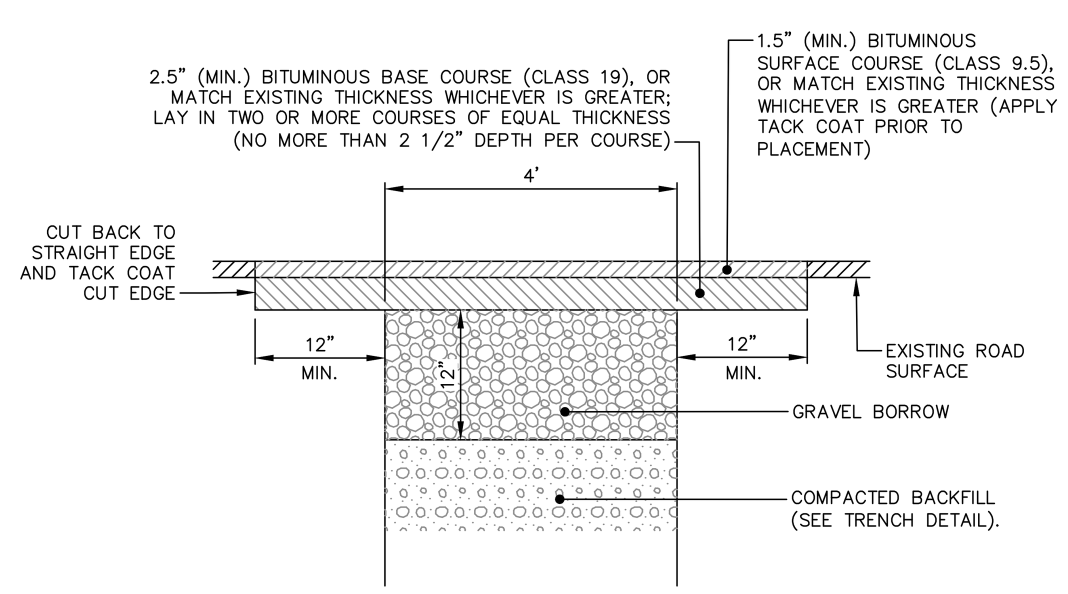
BITUMINOUS CONCRETE PAVEMENT

NOT TO SCALE



BITUMINOUS CONCRETE BERM

NOT TO SCALE



NOTE:

UNSUITABLE MATERIAL WITHIN SUBGRADE SHALL BE REMOVED AND REPLACED WITH GRAVEL BORROW.

ROADWAY PAVEMENT REPAIR

NOT TO SCALE

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No.	DATE	DESCRIPTION	DESIGNER	REVIEWER

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DATUM:
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1 0 1
GRAPHIC SCALE

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CITY OF CRANSTON

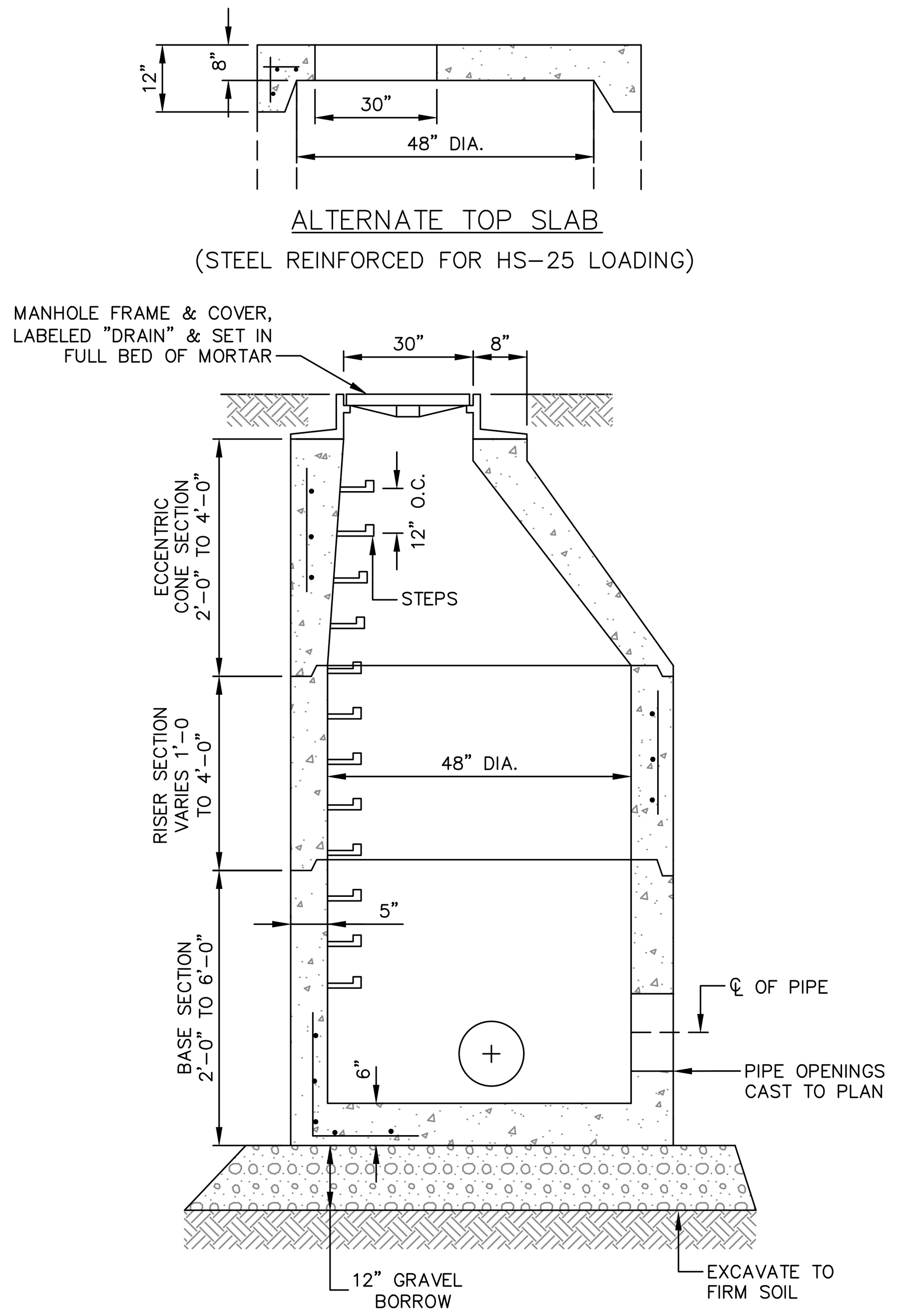
DETAILS

POMHAM STREET STORMWATER IMPROVEMENTS

CRANSTON RHODE ISLAND

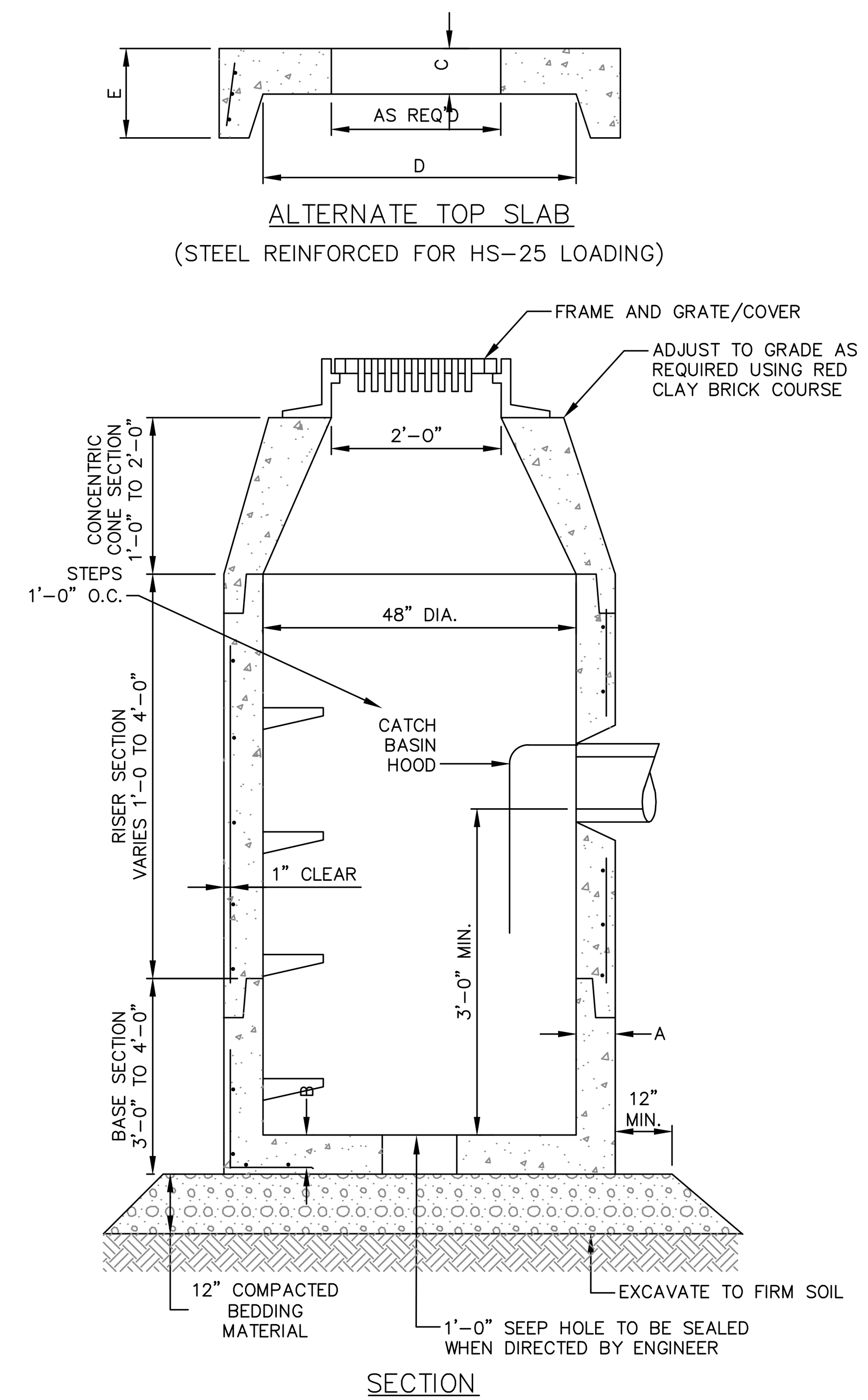
PROJ. No.: 20200078.A40
DATE: SEPTEMBER 26, 2022

CD-501



1. FRAME AND COVER TO BE R.I. STD. 6.2.1 OR APPROVED EQUAL. LETTERING: "DRAIN"
2. FRAMES SHALL BE SET IN FULL BED OF MORTAR. ADJUST TO GRADE WITH RED CLAY BRICKS AND MORTAR.
3. REINFORCING STEEL SHALL CONFORM TO ASTM A-185:
   - 0.12 SQ. IN./LIN. FT. CIRCUMFERENTIAL
   - 0.18 SQ. IN./FT. (BOTH WAYS) BASE BOTTOM
4. CONCRETE SHALL BE COMPRESSIVE STRENGTH 4,000 PSI TYPE II CEMENT.
5. ONE POUR MONOLITHIC BASE SECTION.
6. PROVIDE "V" KNOCKOUTS FOR PIPES WITH 2" MAX. CLEARANCE TO OUTSIDE OF PIPE. MORTAR ALL PIPE CONNECTIONS.
7. JOINT SEALANT SHALL BE PREFORMED BUTYL RUBBER MASTIC TYPE SEAL THAT COMPLIES WITH AASHTO M198 OR SYNTHETIC RUBBER GASKET THAT COMPLIES WITH ASTM C-443 OR C-361.
8. MANHOLE DESIGN SHALL CONFORM TO ASTM C-478 FOR "PRECAST REINFORCED CONCRETE MANHOLE SECTIONS."
9. MANHOLE STEPS SHALL BE ASTM A 615/A615M, DEFORMED, 1/2-INCH STEEL REINFORCED RODS ENCASED IN ASTM D 4101, POLYPROPYLENE PLASTIC. THE CENTERLINE OF OPENING MUST BE WITHIN 2'-0" FROM STEPS.
10. ANY NECESSARY ADJUSTMENTS DURING CONSTRUCTION WILL BE DONE BY SAW-CUTTING AND/OR CORING ONLY. NO JACKHAMMERS, HAMMERS AND CHISELS OR PNEUMATIC TOOLS WILL BE ALLOWED.
11. INVERT CONSTRUCTED OF BRICK OR CEMENT CONCRETE, CLASS D.

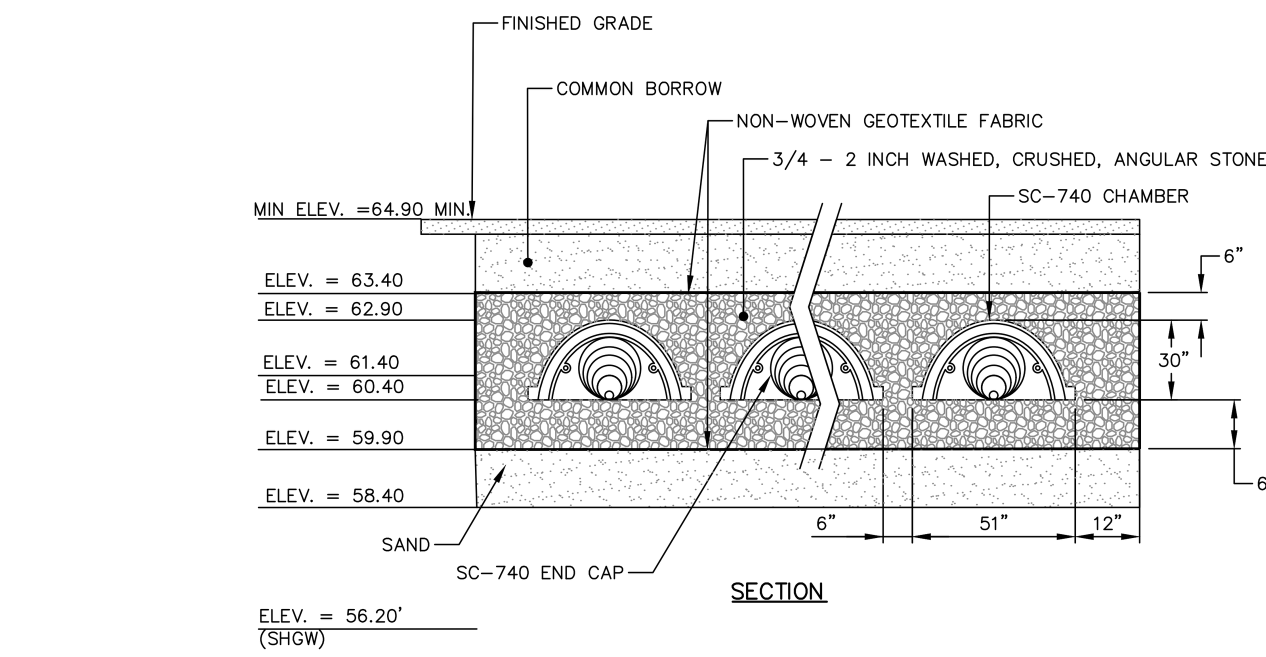
DRAIN MANHOLE
NOT TO SCALE

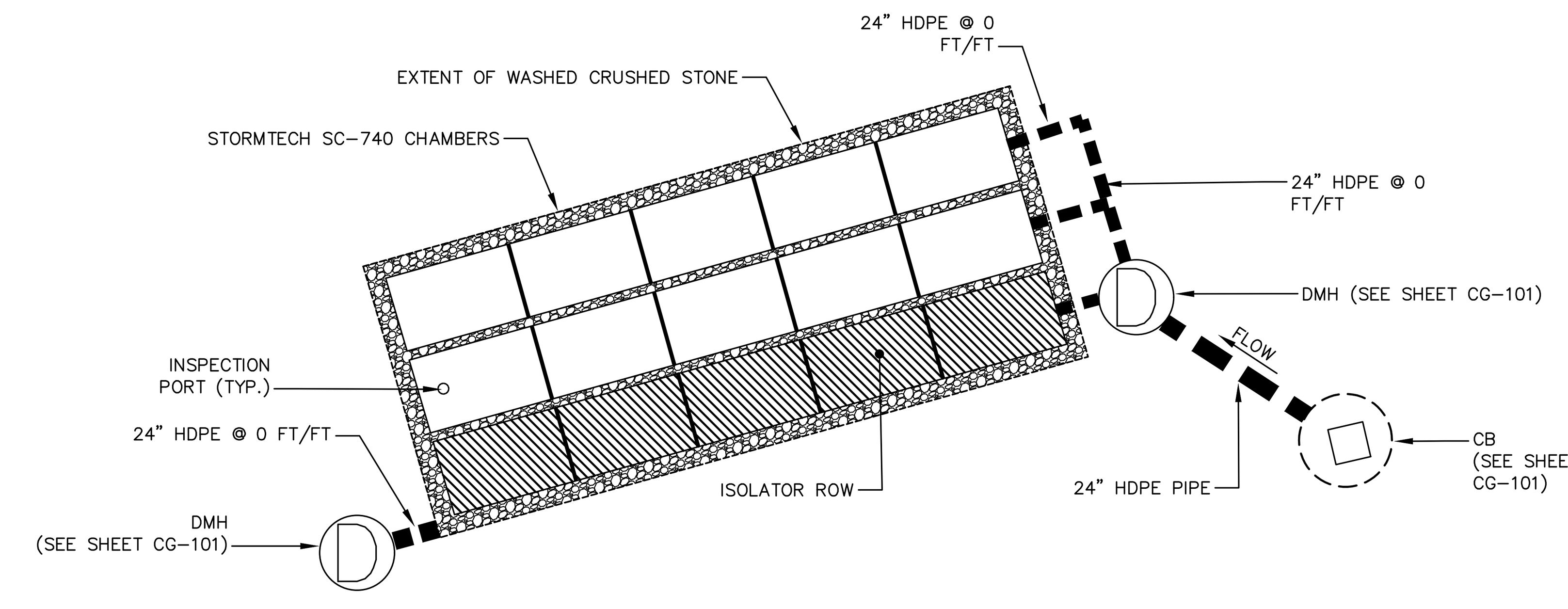


NOTES:

1. FRAME AND GRATE SHALL BE R.I. STD. 6.3.0 OR APPROVED EQUAL.
2. INLET CATCH BASIN SHALL INCLUDE GRANITE APRON STONE PER PROVIDENCE STANDARD 7.3.7P, AND BE INSTALLED IN ACCORDANCE WITH INLET/APRON STONE REVEAL PER PROVIDENCE STANDARD 60.4.0P.
3. INLET CATCH BASIN SHALL HAVE 4' SUMP.
4. FRAMES SHALL BE SET IN FULL BED OF MORTAR. ADJUST TO GRADE WITH RED CLAY BRICKS AND MORTAR.
5. REINFORCING STEEL SHALL CONFORM TO ASTM A-185:
   - 0.12 SQ. IN./LIN. FT. CIRCUMFERENTIAL
   - 0.18 SQ. IN./FT. (BOTH WAYS) BASE BOTTOM
6. CONCRETE SHALL BE COMPRESSIVE STRENGTH 4,000 PSI TYPE II CEMENT.
7. ONE POUR MONOLITHIC BASE SECTION.
8. PROVIDE "V" KNOCKOUTS FOR PIPES WITH 2" MAX. CLEARANCE TO OUTSIDE OF PIPE. MORTAR ALL PIPE CONNECTIONS.
9. JOINT SEALANT SHALL BE PREFORMED BUTYL RUBBER MASTIC TYPE SEAL THAT COMPLIES WITH AASHTO M198 OR SYNTHETIC RUBBER GASKET THAT COMPLIES WITH ASTM C-443 OR C-361.
10. CATCH BASIN DESIGN SHALL CONFORM TO ASTM C-478 FOR "PRECAST REINFORCED CONCRETE MANHOLE SECTION.
11. CATCH BASIN STEPS SHALL BE ASTM A 615/A615M, DEFORMED, 1/2-INCH STEEL REINFORCED RODS ENCASED IN ASTM D 4101, POLYPROPYLENE PLASTIC. THE CENTERLINE OF OPENING MUST BE WITHIN 2'-0" FROM STEPS.
12. ANY NECESSARY ADJUSTMENTS DURING CONSTRUCTION WILL BE DONE BY SAW-CUTTING AND/OR CORING ONLY. NO JACKHAMMERS, HAMMERS AND CHISELS OR PNEUMATIC TOOLS WILL BE ALLOWED.

CATCH BASIN
NOT TO SCALE

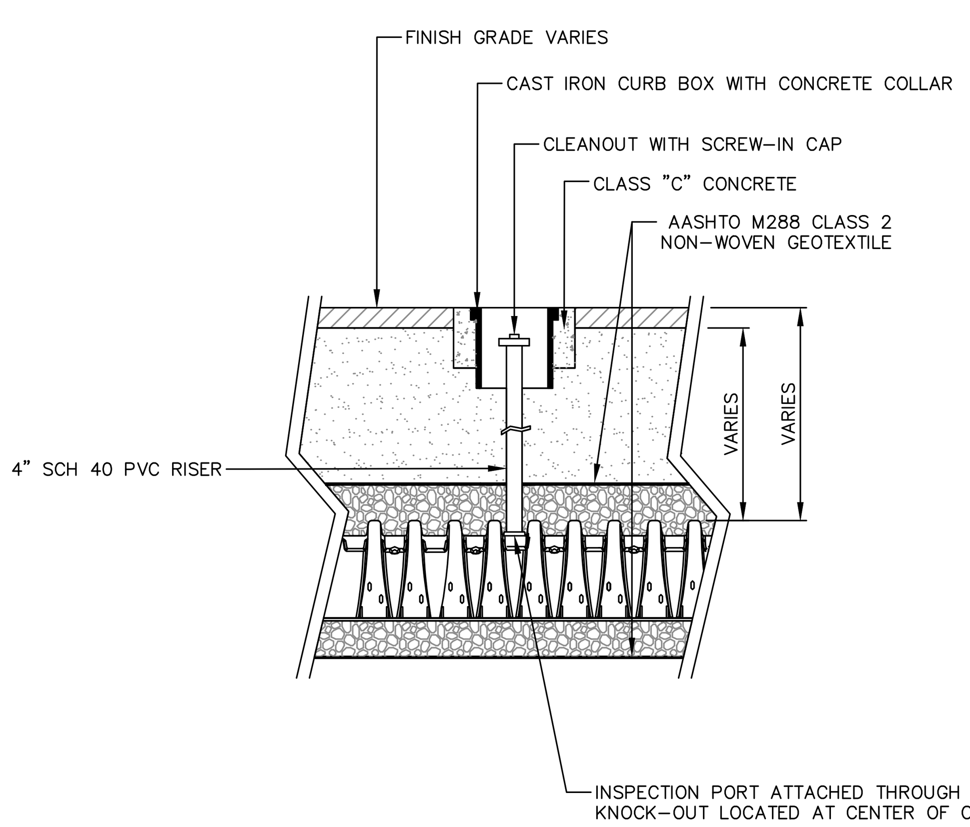




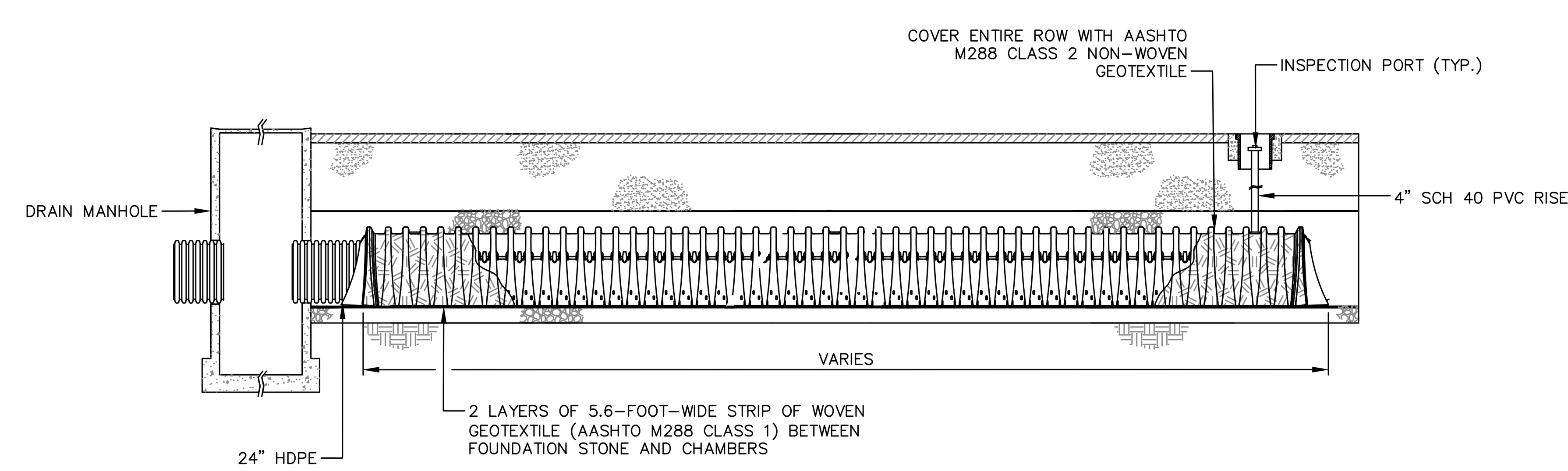
NOTES:

1. GEOTEXTILE SHALL COMPLETELY ENVELOP SYSTEM. OVERLAP ADJACENT GEOTEXTILE ROLLS PER AASHTO M288 SEPARATION GUIDELINES.
2. WASHED CRUSHED STONE BELOW CHAMBERS SHALL BE COMPACTED TO 95% STANDARD PROCTOR DENSITY.
3. NO COMPACTION IS REQUIRED FOR EMBEDMENT STONE SURROUNDING CHAMBERS.
4. BEGIN COMPACTION AFTER 12" OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL MATERIAL IN 6" LIFTS TO 95% STANDARD PROCTOR DENSITY.
5. USE ADDITIONAL GRAVEL BORROW AS NECESSARY WHERE ELEVATIONS DICTATE ADDITIONAL MATERIAL ABOVE EMBEDMENT STONE.
6. INSTALL PER MANUFACTURER'S INSTRUCTIONS.
7. SAND SHALL MEET THE REQUIREMENTS OF AASHTO-M-6 OR ASTM-C-33. ON-SITE MATERIAL MAY BE USED IF IT CONFORMS TO THE SPECIFICATIONS.

SUBSURFACE INFILTRATION SYSTEM
NOT TO SCALE



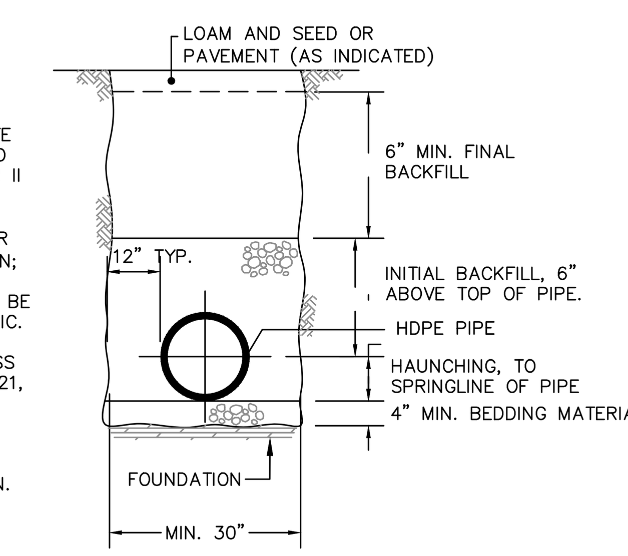
INSPECTION PORT
NOT TO SCALE



ISOLATOR ROW
NOT TO SCALE

NOTE:

1. FOUNDATION: WHERE THE TRENCH BOTTOM IS UNSTABLE, THE CONTRACTOR SHALL EXCAVATE TO A DEPTH REQUIRED BY THE ENGINEER AND REPLACE WITH A FOUNDATION OF CLASS I OR II MATERIAL AS DEFINED IN ASTM D2321, "STANDARD PRACTICE FOR INSTALLATION OF THERMOPLASTIC PIPE FOR SEWERS AND OTHER GRAVITY-FLOW APPLICATIONS," LATEST EDITION; AS AN ALTERNATIVE AND AT THE DISCRETION OF THE ENGINEER, THE TRENCH BOTTOM MAY BE STABILIZED USING A WOVEN GEOTEXTILE FABRIC.
2. BEDDING: SUITABLE MATERIAL SHALL BE CLASS II AND INSTALLED AS REQUIRED IN ASTM D2321, LATEST EDITION.
3. HAUNCHING AND INITIAL BACKFILL: SUITABLE MATERIAL SHALL BE CLASS II AND INSTALLED AS REQUIRED IN ASTM D2321, LATEST EDITION.
4. THE MINIMUM TRENCH WIDTH FOR 12" HDPE PIPING SHALL BE 31".
5. BEDDING MATERIAL AND INITIAL BACKFILL: ALL BEDDING MATERIAL AND INITIAL BACKFILL SHALL BE CLEAN, FREE OF DEBRIS AND RUBBLE, AND FREE OF MATERIALS WHICH MAY CAUSE POLLUTION OF SURFACE WATERS AND GROUNDWATER.



STORM DRAIN TRENCH FOR HDPE PIPE
NOT TO SCALE

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CITY OF CRANSTON
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POMHAM STREET STORMWATER IMPROVEMENTS
CRANSTON RHODE ISLAND

PROJ. No.: 20200078.A40
DATE:SEPTEMBER 26, 2022

CD-502

Appendix F

Cranston Green Infrastructure Meeting

Come learn what the City of Cranston is doing to improve water quality in Spectacle Pond!

Thursday, October 13, 2022
5:00 to 6:30pm

End of Barrett Street
Cranston, RI

Hear from experts in the field!

Learn more about the Barrett Street water quality improvement project. Including the proposed construction of a subsurface infiltration system.

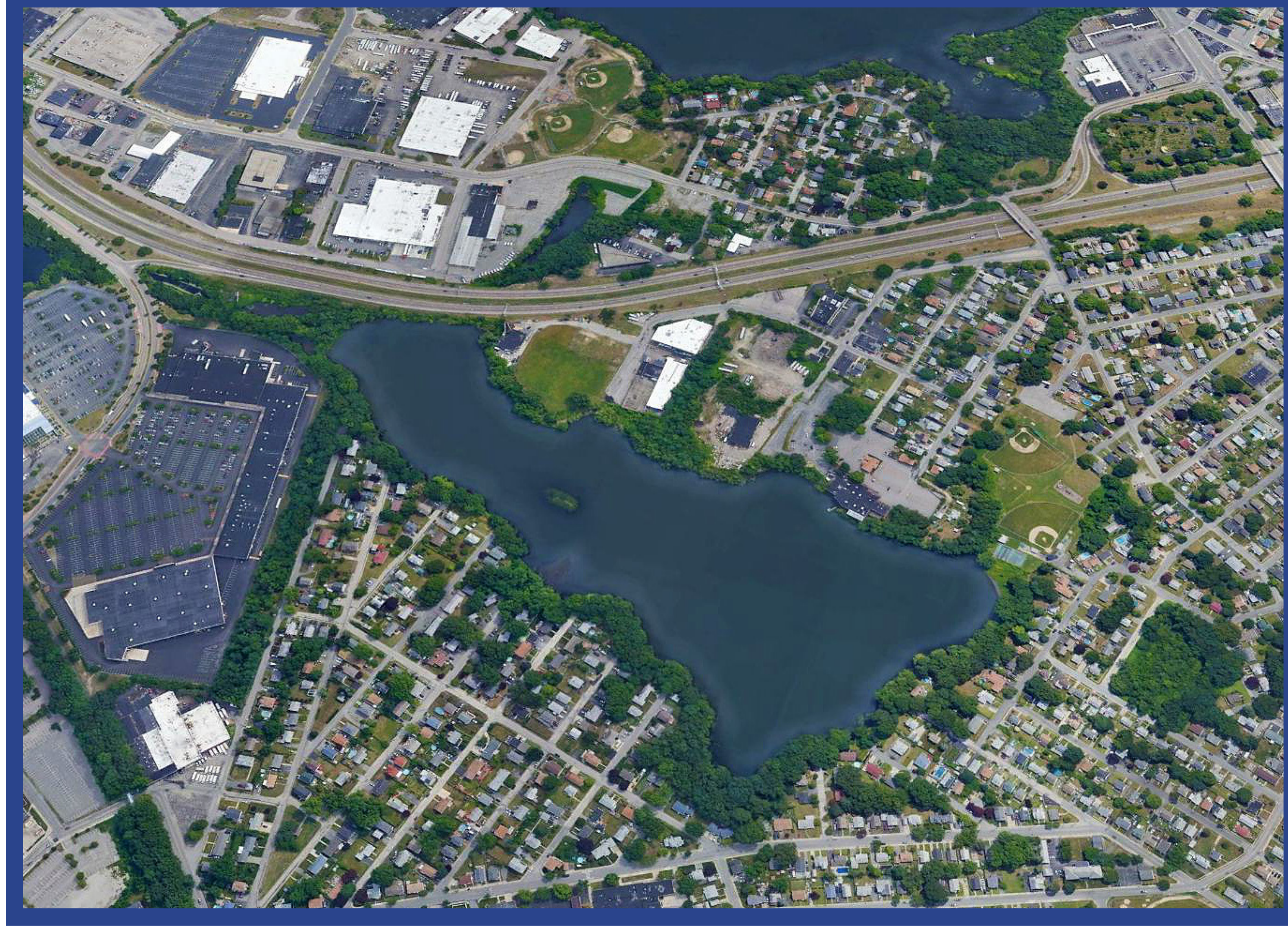
To Register, please email: *etally@cranstonri.gov*

Presented by the City of Cranston and Fuss & O'Neill, as part of Southeast New England Program (SNEP).

FUSS & O'NEILL
ENGINEERS • SCIENTISTS • PLANNERS

CITY OF CRANSTON
VIGILO DUM CURO
1754 - 1910

SNEP



Appendix G

Trainings

CITY OF CRANSTON
Appendix G

2022 Stormwater Training and Outreach

Date	Title	Hosting Organization	Location	Length (hrs)	Topic	Attendees
2/8/2022	Stormwater Tree Trench Design Options Guide Training	SNEP Network	Webinar	1.5	Tree Trench Design	Ed Tally, Justin Mateus
2/16/2022	Is Your Community Climate Resilient? - Bylaws and Best Practices	SNEP Network	Webinar	1.5	Climate Resiliency	Justin Mateus
3/16/2022	Emerging Stormwater Technologies in Rhode Island: Jellyfish Filter Webinar	SNEP Network	Webinar	1.5	Jellyfish Filters	Ed Tally, Justin Mateus
3/24/2022	RIGIS User Group Meeting	RIGIS	Cranston Central Public Library	4	ArcGIS Online	Justin Mateus
4/27/2022	Shovel-Ready and Beyond! A Green Infrastructure Case Study in the Three Bays Watershed	SNEP Network	Webinar	1.5	Green Infrastructure	Ed Tally
5/3/2022	Practical Illicit Discharge Detection and Elimination Free One-Day Workshop	Buzzards Bay National Estuary Program	Massachusetts Maritime Academy	8	IDDE Strategies	Ed Tally, Justin Mateus
7/26/2022	The New England Stormwater Retrofit Manual: Upgrading the Performance of your Stormwater Management System for Better Watershed Health	SNEP Network	Webinar	1.5	Stormwater Retrofit Manual	Ed Tally
8/30/2022	Stormwater Financing 101	SNEP Network	Webinar	1	Stormwater Financing	Ed Tally
10/18/2022	4 Proven Strategies for Using GIS in Your Stormwater Program	2nd Signature	Webinar	1	Stormwater & GIS	Ed Tally, Maria Giarusso
10/26/2022	Community Outreach - Water Quality Improvements in Spectacle Pond	City of Cranston / SNEP Network / Fuss & O'Neill	Site Visit- Barrett Street	1	Green Infrastructure Demonstration Project/ Spectacle Pond Study and Phosphorus Reduction Plan	160 notifications mailed 10 attendees not including project partners

Richard Bernardo, PE
Ed Tally - Environmental Program Manager
Robert Maio - Surveyor
Maria Giarusso - GIS Manager
Paul Murray - Plumbing Inspector
Justin Mateus - Chief Engineer

Appendix H

Public Notice

City of Cranston
Notice of Plan Availability

As required by RIPDES Phase II Storm Water Permit #RIR040012, the City of Cranston announces the availability of the 2022 RIPDES Small MS4 Annual Report to be submitted to RIDEM.

Cranston must submit the report to DEM by March 10, 2023.

A copy of the draft report is available for public review prior to submission at the Department of Public Works, City Hall, Room 109 from 8:30 am to 4:30 pm Monday through Friday.

Kenneth J. Hopkins
Mayor

Richard A. Bernardo, P.E.
Director, Public Works

Appendix I

Stormwater Maintenance Log

City of Cranston, RI - Storm Structure Cleaning Records

1/1/2022 through 12/31/2022

3582 Records

Date	ID	Debris (in.) Removed	Vehicle	Driver	Active FLow?	Color?	Odor?
1/3/2022	ST8282	6	VactorTruck	IW1	None	Clear	None
1/3/2022	ST8282	6	VactorTruck	IW1	None	Clear	None
1/3/2022	ST8294	6	VactorTruck	IW1	None	Clear	None
1/3/2022	ST8289	4	VactorTruck	IW1	None	Clear	None
1/3/2022	ST8301	6	VactorTruck	IW1	None	Clear	None
1/3/2022	ST8305	4	VactorTruck	IW1	None	Clear	None
1/3/2022	ST8310	8	VactorTruck	IW1	None	Clear	None
1/3/2022	ST8200	19	VactorTruck	IW1	None	Clear	None
1/3/2022	ST8223	10	VactorTruck	IW1	None	Clear	None
1/3/2022	ST8220	9	VactorTruck	IW1	None	Clear	None
1/3/2022	ST8228	5	VactorTruck	IW1	None	Clear	None
1/3/2022	ST8225	7	VactorTruck	IW1	None	Clear	None
1/3/2022	ST8249	6	VactorTruck	IW1	None	Clear	None
1/3/2022	ST8243	15	VactorTruck	IW1	None	Clear	None
1/3/2022	ST8239	12	VactorTruck	IW1	None	Clear	None
1/3/2022	ST8233	14	VactorTruck	IW1	None	Clear	None
1/4/2022	ST8256	2	VactorTruck	IW1	None	Clear	None
1/4/2022	ST5682	24	VactorTruck	IW2	Minimal	NotClear	None
1/4/2022	ST8254	17	VactorTruck	IW1	None	Clear	None
1/4/2022	ST5683	23	VactorTruck	IW2	None	NotClear	None
1/4/2022	ST8364	8	VactorTruck	IW1	None	Clear	None
1/4/2022	ST5678	12	VactorTruck	IW2	Minimal	NotClear	None
1/4/2022	ST5680	12	VactorTruck	IW2	None	NotClear	None
1/4/2022	ST5676	6	VactorTruck	IW2	None	NotClear	None
1/4/2022	ST8366	4	VactorTruck	IW1	None	Clear	None
1/4/2022	ST8360	10	VactorTruck	IW1	None	Clear	None

Date	ID	Debris (in.) Removed	Vehicle	Driver	Active FLow?	Color?	Odor?
1/4/2022	ST5686	15	VactorTruck	IW2	None	NotClear	None
1/4/2022	ST8362	3	VactorTruck	IW1	None	Clear	None
1/4/2022	ST5687	4	VactorTruck	IW2	Minimal	NotClear	None
1/4/2022	ST8409	17	VactorTruck	IW1	None	Clear	None
1/4/2022	ST5671	6	VactorTruck	IW2	Minimal	NotClear	None
1/4/2022	ST8436	8	VactorTruck	IW1	None	Clear	None
1/4/2022	ST8422	7	VactorTruck	IW1	None	Clear	None
1/4/2022	ST8400	9	VactorTruck	IW1	None	Clear	None
1/4/2022	ST5703	21	VactorTruck	IW2	Minimal	NotClear	None
1/4/2022	ST5702	17	VactorTruck	IW2	Minimal	NotClear	None
1/4/2022	ST8396	19	VactorTruck	IW1	None	Clear	None
1/4/2022	ST8398	16	VactorTruck	IW1	None	Clear	None
1/5/2022	ST3491	46	VactorTruck	IW1	None	Clear	None
1/5/2022	ST3492	50	VactorTruck	IW1	None	Clear	None
1/5/2022	ST3490	41	VactorTruck	IW1	None	N/A	None
1/5/2022	ST3494	35	VactorTruck	IW1	Minimal	Clear	None
1/5/2022	ST3493	41	VactorTruck	IW1	Minimal	N/A	None
1/5/2022	ST3476	43	VactorTruck	IW1	None	N/A	None
1/5/2022	ST3401	39	VactorTruck	IW1	None	N/A	None
1/5/2022	ST3399	50	VactorTruck	IW1	None	N/A	None
1/5/2022	ST3398	37	VactorTruck	IW1	Minimal	Clear	None
1/5/2022	ST10881	4	VactorTruck	IW1	None	N/A	None
1/5/2022	ST10880	4	VactorTruck	IW1	None	N/A	None
1/5/2022	ST10879	47	VactorTruck	IW1	Minimal	N/A	None
1/6/2022	ST3297	6	VactorTruck	IW1	Minimal	Clear	None
1/6/2022	ST3295	2	VactorTruck	IW1	None	Clear	None
1/6/2022	ST3293	21	VactorTruck	IW1	Minimal	Clear	None
1/6/2022	ST3288	21	VactorTruck	IW1	None	Clear	None
1/6/2022	ST3286	16	VactorTruck	IW1	Minimal	Clear	None

Date	ID	Debris (in.) Removed	Vehicle	Driver	Active FLow?	Color?	Odor?
1/6/2022	ST3286	5	VactorTruck	IW1	None	N/A	None
1/6/2022	ST3281	8	VactorTruck	IW1	Minimal	Clear	None
1/6/2022	ST3279	7	VactorTruck	IW1	Minimal	Clear	None
1/6/2022	ST3275	5	VactorTruck	IW1	None	N/A	None
1/6/2022	ST3302	14	VactorTruck	IW1	Minimal	Clear	None
1/6/2022	ST3300	10	VactorTruck	IW1	Minimal	Clear	None
1/12/2022	ST3301	20	VactorTruck	IW1	None	NotClear	None
1/12/2022	ST3303	12	VactorTruck	IW1	Minimal	NotClear	None
1/12/2022	ST3280	4	VactorTruck	IW1	Minimal	NotClear	None
1/12/2022	ST3282	4	VactorTruck	IW1	Minimal	NotClear	None
1/12/2022	ST3285	9	VactorTruck	IW1	None	NotClear	None
1/12/2022	ST3287	7	VactorTruck	IW1	Minimal	NotClear	None
1/12/2022	ST3292	10	VactorTruck	IW1	Minimal	NotClear	None
1/12/2022	ST3298	3	VactorTruck	IW1	None	NotClear	None
1/13/2022	ST10877	6	VactorTruck	IW1	Minimal	NotClear	None
1/13/2022	ST10877	5	VactorTruck	IW1	Minimal	NotClear	None
1/13/2022	ST10875	4	VactorTruck	IW1	Minimal	NotClear	None
1/13/2022	ST3487	24	VactorTruck	IW1	Minimal	NotClear	None
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1/13/2022	ST210354	35	VactorTruck	IW1	Minimal	NotClear	None
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1/14/2022	ST11113	47	VactorTruck	IW1	None	Clear	None
1/14/2022	ST11115	44	VactorTruck	IW1	None	Clear	None
1/14/2022	ST11116	52	VactorTruck	IW1	None	Clear	None

Date	ID	Debris (in.) Removed	Vehicle	Driver	Active FLow?	Color?	Odor?
1/14/2022	ST11118	42	VactorTruck	IW1	None	Clear	None
1/14/2022	ST11121	36	VactorTruck	IW1	None	Clear	None
1/14/2022	ST11132	27	VactorTruck	IW1	None	Clear	None
1/18/2022	ST11160	22	VactorTruck	IW1	None	Clear	None
1/18/2022	ST11159	22	VactorTruck	IW1	None	Clear	None
1/18/2022	ST11158	12	VactorTruck	IW1	None	Clear	None
1/18/2022	ST11157	12	VactorTruck	IW1	None	Clear	None
1/18/2022	ST11156	20	VactorTruck	IW1	None	Clear	None
1/18/2022	ST11155	6	VactorTruck	IW1	None	Clear	None
1/18/2022	ST11154	6	VactorTruck	IW1	None	Clear	None
1/18/2022	ST11153	17	VactorTruck	IW1	None	Clear	None
1/18/2022	ST11152	22	VactorTruck	IW1	None	Clear	None
1/18/2022	ST11161	19	VactorTruck	IW1	None	Clear	None
1/19/2022	ST11131	30	VactorTruck	IW1	None	NotClear	None
1/19/2022	ST11119	12	VactorTruck	IW1	Minimal	NotClear	None
1/26/2022	ST3276	20	VactorTruck	IW2	Minimal	Clear	None
1/26/2022	ST3277	19	VactorTruck	IW2	Minimal	Clear	None
1/26/2022	ST3022	13	VactorTruck	IW1	None	N/A	None
1/26/2022	ST3304	1	VactorTruck	IW2	Minimal	Clear	None
1/26/2022	ST3305	9	VactorTruck	IW2	Minimal	Clear	None
1/26/2022	ST3307	4	VactorTruck	IW2	Minimal	Clear	None
1/26/2022	ST3024	7	VactorTruck	IW1	None	Clear	None
1/26/2022	ST3310	4	VactorTruck	IW2	Minimal	Clear	None
1/26/2022	ST3027	5	VactorTruck	IW1	None	Clear	None
1/26/2022	ST3309	5	VactorTruck	IW2	Minimal	Clear	None
1/26/2022	ST3031	8	VactorTruck	IW1	None	Clear	None
1/26/2022	ST3308	1	VactorTruck	IW2	Minimal	Clear	None
1/26/2022	ST3033	6	VactorTruck	IW1	None	Clear	None
1/26/2022	ST3314	3	VactorTruck	IW2	Minimal	Clear	None

Date	ID	Debris (in.) Removed	Vehicle	Driver	Active FLow?	Color?	Odor?
1/26/2022	ST3036	6	VactorTruck	IW1	None	Clear	None
1/26/2022	ST3317	8	VactorTruck	IW2	Minimal	Clear	None
1/26/2022	ST3038	8	VactorTruck	IW1	None	Clear	None
1/26/2022	ST3320	1	VactorTruck	IW2	Minimal	Clear	None
1/26/2022	ST3319	1	VactorTruck	IW2	Minimal	Clear	None
1/26/2022	ST3037	12	VactorTruck	IW1	None	Clear	None
1/26/2022	ST3322	5	VactorTruck	IW2	Minimal	Clear	None
1/26/2022	ST3323	8	VactorTruck	IW2	Minimal	Clear	None
1/26/2022	ST3032	9	VactorTruck	IW1	None	Clear	None
1/26/2022	ST3028	13	VactorTruck	IW1	None	Clear	None
1/26/2022	ST3021	15	VactorTruck	IW1	None	Clear	None
1/26/2022	ST3071	3	VactorTruck	IW1	None	N/A	None
1/26/2022	ST3069	11	VactorTruck	IW1	None	N/A	None
1/26/2022	ST3068	15	VactorTruck	IW1	None	Clear	None
1/28/2022	ST3528	2	VactorTruck	IW1	None	Clear	None
1/28/2022	ST3527	2	VactorTruck	IW1	None	Clear	None
1/28/2022	ST3620	8	VactorTruck	IW1	None	Clear	None
1/28/2022	ST3621	7	VactorTruck	IW1	None	Clear	None
1/28/2022	ST3624	16	VactorTruck	IW1	Minimal	Clear	None
1/28/2022	ST3625	39	VactorTruck	IW1	None	Clear	None
1/28/2022	ST3601	32	VactorTruck	IW1	None	Clear	None
1/28/2022	ST3600	19	VactorTruck	IW1	Minimal	Clear	None
1/28/2022	ST3625	26	VactorTruck	IW1	None	Clear	None
1/28/2022	ST3590	12	VactorTruck	IW1	Minimal	Clear	None
1/28/2022	ST3549	7	VactorTruck	IW1	None	Clear	None
1/28/2022	ST3550	11	VactorTruck	IW1	None	Clear	None
1/28/2022	ST3550	10	VactorTruck	IW1	Minimal	Clear	None
1/28/2022	ST3551	12	VactorTruck	IW1	None	Clear	None
1/28/2022	ST3520	16	VactorTruck	IW1	None	Clear	None

Date	ID	Debris (in.) Removed	Vehicle	Driver	Active FLow?	Color?	Odor?
2/1/2022	ST3712	17	VactorTruck	IW1	None	Clear	None
2/1/2022	ST3716	10	VactorTruck	IW1	None	Clear	None
2/1/2022	ST3721	28	VactorTruck	IW1	None	Clear	None
2/1/2022	ST3726	18	VactorTruck	IW1	Minimal	Clear	None
2/1/2022	ST3644	18	VactorTruck	IW1	None	Clear	None
2/1/2022	ST3754	48	VactorTruck	IW1	None	Clear	None
2/1/2022	ST3636	23	VactorTruck	IW1	Minimal	Clear	None
2/1/2022	ST3637	7	VactorTruck	IW1	Minimal	Clear	None
2/1/2022	ST3705	30	VactorTruck	IW1	None	Clear	None
2/3/2022	ST4075	16	VactorTruck	IW1	None	Clear	None
2/3/2022	ST17483	3	VactorTruck	IW1	None	Clear	None
2/3/2022	ST14996	9	VactorTruck	IW1	None	Clear	None
2/3/2022	ST5738	34	VactorTruck	IW1	None	Clear	None
2/3/2022	ST5723	29	VactorTruck	IW1	None	Clear	None
2/3/2022	ST5726	30	VactorTruck	IW1	None	Clear	None
2/3/2022	ST5480	9	VactorTruck	IW1	None	Clear	None
2/3/2022	ST5475	43	VactorTruck	IW1	None	Clear	None
2/3/2022	ST5455	9	VactorTruck	IW1	None	Clear	None
2/3/2022	ST5469	21	VactorTruck	IW1	None	Clear	None
2/3/2022	ST17480	13	VactorTruck	IW1	None	Clear	None
2/3/2022	ST17481	11	VactorTruck	IW1	None	Clear	None
2/3/2022	ST17487	14	VactorTruck	IW1	None	Clear	None
2/3/2022	ST1988	6	VactorTruck	IW1	None	Clear	None
2/3/2022	ST1982	6	VactorTruck	IW1	None	Clear	None
2/3/2022	ST1976	19	VactorTruck	IW1	None	Clear	None
2/7/2022	ST1979	13	VactorTruck	IW1	Minimal	Clear	None
2/7/2022	ST1993	13	VactorTruck	IW1	Minimal	Clear	None
2/7/2022	ST1992	14	VactorTruck	IW1	Minimal	Clear	None
2/7/2022	ST1991	13	VactorTruck	IW1	None	Clear	None

Date	ID	Debris (in.) Removed	Vehicle	Driver	Active FLow?	Color?	Odor?
2/7/2022	ST17486	25	VactorTruck	IW1	None	Clear	None
2/7/2022	ST17478	14	VactorTruck	IW1	None	Clear	None
2/21/2022	ST3708	25	VactorTruck	IW1	None	Clear	None
2/21/2022	ST3707	25	VactorTruck	IW1	None	Clear	None
2/21/2022	ST3706	5	VactorTruck	IW1	None	Clear	None
2/21/2022	ST3703	5	VactorTruck	IW1	None	Clear	None
2/21/2022	ST3702	5	VactorTruck	IW1	None	Clear	None
2/21/2022	ST3704	37	VactorTruck	IW1	None	Clear	None
2/21/2022	ST3700	34	VactorTruck	IW1	None	Clear	None
2/21/2022	ST3699	18	VactorTruck	IW1	None	Clear	None
2/21/2022	ST3696	10	VactorTruck	IW1	None	Clear	None
2/21/2022	ST3694	11	VactorTruck	IW1	None	Clear	None
2/21/2022	ST3695	28	VactorTruck	IW1	None	Clear	None
2/21/2022	ST3755	35	VactorTruck	IW1	None	Clear	None
2/21/2022	ST3757	15	VactorTruck	IW1	None	Clear	None
2/21/2022	ST3756	11	VactorTruck	IW1	None	Clear	None
2/21/2022	ST3665	19	VactorTruck	IW1	Minimal	Clear	None
2/21/2022	ST3664	14	VactorTruck	IW1	None	Clear	None
2/21/2022	ST3742	10	VactorTruck	IW1	None	Clear	None
2/21/2022	ST3741	7	VactorTruck	IW1	None	Clear	None
2/21/2022	ST3744	38	VactorTruck	IW1	None	Clear	None
2/21/2022	ST3746	6	VactorTruck	IW1	None	Clear	None
2/22/2022	ST11259	22	VactorTruck	IW1	None	Clear	None
2/22/2022	ST11237	8	VactorTruck	IW1	None	Clear	None
2/22/2022	ST11236	6	VactorTruck	IW1	None	Clear	None
2/22/2022	ST11234	23	VactorTruck	IW1	Minimal	Clear	None
2/22/2022	ST11233	4	VactorTruck	IW1	Minimal	Clear	None
2/22/2022	ST11232	23	VactorTruck	IW1	Minimal	Clear	None
2/22/2022	ST8045	23	VactorTruck	IW1	None	Clear	None

Date	ID	Debris (in.) Removed	Vehicle	Driver	Active FLow?	Color?	Odor?
2/22/2022	ST8039	16	VactorTruck	IW1	None	Clear	None
2/22/2022	ST8041	13	VactorTruck	IW1	Minimal	Clear	None
2/22/2022	ST8043	11	VactorTruck	IW1	Minimal	Clear	None
3/7/2022	ST3824	4	VactorTruck	IW1	Minimal	Clear	None
3/7/2022	ST3825	10	VactorTruck	IW1	Minimal	Clear	None
3/7/2022	ST3823	2	VactorTruck	IW1	Minimal	Clear	None
3/7/2022	ST3822	13	VactorTruck	IW1	None	Clear	None
3/7/2022	ST3783	17	VactorTruck	IW1	None	Clear	None
3/7/2022	ST3788	13	VactorTruck	IW2	None	Clear	None
3/7/2022	ST3827						
3/7/2022	ST3784	30	VactorTruck	IW2	None	Clear	None
3/7/2022	ST3827	2	VactorTruck	IW1	Minimal	NotClear	None
3/7/2022	ST3785	7	VactorTruck	IW2	Minimal	Clear	None
3/7/2022	ST3828	3	VactorTruck	IW1	None	NotClear	None
3/7/2022	ST3832	3	VactorTruck	IW1	Minimal	NotClear	None
3/7/2022	ST3786	27	VactorTruck	IW2	None	Clear	None
3/7/2022	ST3836	11	VactorTruck	IW1	Minimal	NotClear	None
3/7/2022	ST3787	22	VactorTruck	IW2	None	Clear	None
3/7/2022	ST3834	21	VactorTruck	IW1	Minimal	NotClear	None
3/7/2022	ST3658	12	VactorTruck	IW2	None	Clear	None
3/7/2022	ST3831	4	VactorTruck	IW1	None	Clear	None
3/7/2022	ST3660	12	VactorTruck	IW2	None	Clear	None
3/7/2022	ST3659	4	VactorTruck	IW2	None	Clear	None
3/7/2022	ST3740	17	VactorTruck	IW2	Minimal	Clear	None
3/7/2022	ST3739	27	VactorTruck	IW2	None	Clear	None
3/7/2022	ST3738	12	VactorTruck	IW2	None	Clear	None
3/7/2022	ST3828	8	VactorTruck	IW1	None	NotClear	None
3/7/2022	ST3736	8	VactorTruck	IW2	None	Clear	None
3/7/2022	ST3737	22	VactorTruck	IW2	None	Clear	None

Date	ID	Debris (in.) Removed	Vehicle	Driver	Active FLow?	Color?	Odor?
3/7/2022	ST3826	12	VactorTruck	IW1	None	NotClear	None
3/7/2022	ST3734	17	VactorTruck	IW2	None	Clear	None
3/7/2022	ST3829	2	VactorTruck	IW1	None	Clear	None
3/7/2022	ST3821	3	VactorTruck	IW1	Minimal	NotClear	None
3/7/2022	ST3727	21	VactorTruck	IW2	None	Clear	None
3/7/2022	ST3817	3	VactorTruck	IW1	Minimal	NotClear	None
3/7/2022	ST3725	18	VactorTruck	IW2	None	Clear	None
3/7/2022	ST3724	15	VactorTruck	IW2	None	Clear	None
3/7/2022	ST3817	1	VactorTruck	IW1	None	Clear	None
3/7/2022	ST3815	8	VactorTruck	IW1	None	NotClear	None
3/7/2022	ST3808	7	VactorTruck	IW1	None	NotClear	None
3/7/2022	ST3816	2	VactorTruck	IW1	None	NotClear	None
3/8/2022	ST3809	4	VactorTruck	IW1	None	NotClear	None
3/8/2022	ST3810	2	VactorTruck	IW1	Minimal	NotClear	None
3/8/2022	ST3811	2	VactorTruck	IW1	Minimal	NotClear	None
3/8/2022	ST3812	14	VactorTruck	IW1	None	NotClear	None
3/8/2022	ST3814	4	VactorTruck	IW1	None	Clear	None
3/8/2022	ST3819	6	VactorTruck	IW1	Minimal	Clear	None
3/8/2022	ST3818	9	VactorTruck	IW1	None	NotClear	None
3/8/2022	ST3820	12	VactorTruck	IW1	None	NotClear	None
3/8/2022	ST3838	18	VactorTruck	IW1	None	NotClear	None
3/8/2022	ST3838	3	VactorTruck	IW1	None	Clear	None
3/8/2022	ST3839	9	VactorTruck	IW1	None	NotClear	None
3/8/2022	ST3840	8	VactorTruck	IW1	None	NotClear	None
3/8/2022	ST3841	2	VactorTruck	IW1	Minimal	NotClear	None
3/8/2022	ST3842	3	VactorTruck	IW1	Minimal	NotClear	None
3/8/2022	ST3847	10	VactorTruck	IW1	None	NotClear	None
3/8/2022	ST3807	2	VactorTruck	IW1	None	NotClear	None
3/8/2022	ST3806	4	VactorTruck	IW1	Minimal	NotClear	None

Date	ID	Debris (in.) Removed	Vehicle	Driver	Active FLow?	Color?	Odor?
3/8/2022	ST3802	17	VactorTruck	IW1	None	NotClear	None
3/8/2022	ST3801	2	VactorTruck	IW1	Minimal	NotClear	None
3/10/2022	ST10935	5	VactorTruck	IW1	Minimal	Clear	None
3/10/2022	ST10933	4	VactorTruck	IW1	Minimal	Clear	None
3/10/2022	ST10934	4	VactorTruck	IW1	Minimal	Clear	None
3/10/2022	ST10930	3	VactorTruck	IW1	None	Clear	None
3/10/2022	ST10932	4	VactorTruck	IW1	None	Clear	None
3/10/2022	ST10929	4	VactorTruck	IW1	None	Clear	None
3/14/2022	ST3793	8	VactorTruck	IW1	Minimal	Clear	None
3/14/2022	ST3794	9	VactorTruck	IW1	None	Clear	None
3/14/2022	ST10928	7	VactorTruck	IW1	None	Clear	None
3/14/2022	ST10943	5	VactorTruck	IW1	None	Clear	None
3/14/2022	ST10949	11	VactorTruck	IW2	None	NotClear	None
3/14/2022	ST10946	17	VactorTruck	IW2	Minimal	NotClear	None
3/14/2022	ST10942	6	VactorTruck	IW1	None	Clear	None
3/14/2022	ST10950	9	VactorTruck	IW2	Minimal	NotClear	None
3/14/2022	ST10951	10	VactorTruck	IW2	Minimal	NotClear	None
3/14/2022	ST10953	13	VactorTruck	IW2	Minimal	NotClear	None
3/14/2022	ST10953A	4	VactorTruck	IW2	Minimal	NotClear	None
3/14/2022	ST10953B	17	VactorTruck	IW2	None	NotClear	None
3/14/2022	ST10953C	13	VactorTruck	IW2	None	NotClear	None
3/14/2022	ST10954	19	VactorTruck	IW2	Minimal	NotClear	None
3/14/2022	ST10952	24	VactorTruck	IW2	Minimal	NotClear	None
3/14/2022	ST10956	28	VactorTruck	IW2	None	NotClear	None
3/15/2022	ST10940	17	VactorTruck	IW1	None	Clear	None
3/15/2022	ST10940	17	VactorTruck	IW1	None	Clear	None
3/15/2022	ST10939	13	VactorTruck	IW1	None	Clear	None
3/15/2022	ST10938	23	VactorTruck	IW1	None	Clear	None
3/15/2022	ST10937	26	VactorTruck	IW1	None	Clear	None

Date	ID	Debris (in.) Removed	Vehicle	Driver	Active FLow?	Color?	Odor?
3/15/2022	ST11011	11	VactorTruck	IW1	None	Clear	None
3/15/2022	ST11012	26	VactorTruck	IW1	None	Clear	None
3/15/2022	ST11013	27	VactorTruck	IW1	None	Clear	None
3/16/2022	ST11010	8	VactorTruck	IW1	None	Clear	None
3/16/2022	ST11009	5	VactorTruck	IW1	Minimal	Clear	None
3/16/2022	ST11008	7	VactorTruck	IW1	Minimal	Clear	None
3/16/2022	ST11014	18	VactorTruck	IW1	None	Clear	None
3/16/2022	ST210202	11	VactorTruck	IW1	None	Clear	None
3/16/2022	ST10913	30	VactorTruck	IW1	None	Clear	None
3/16/2022	ST10912	13	VactorTruck	IW1	Minimal	Clear	None
3/16/2022	ST210201	27	VactorTruck	IW1	Minimal	Clear	None
3/16/2022	ST11015	10	VactorTruck	IW1	Minimal	Clear	None
3/16/2022	ST11034	10	VactorTruck	IW1	Minimal	Clear	None
3/16/2022	ST11033	25	VactorTruck	IW1	None	Clear	None
3/16/2022	ST11036	14	VactorTruck	IW1	None	Clear	None
3/16/2022	ST11037	11	VactorTruck	IW1	Minimal	Clear	None
3/16/2022	ST11035	15	VactorTruck	IW1	Minimal	Clear	None
3/16/2022	ST11043	12	VactorTruck	IW1	Minimal	Clear	None
3/17/2022	ST11044	6	VactorTruck	IW1	None	Clear	None
3/17/2022	ST11045	26	VactorTruck	IW1	None	Clear	None
3/17/2022	ST11046	22	VactorTruck	IW1	Minimal	Clear	None
3/17/2022	ST11047	16	VactorTruck	IW1	Minimal	Clear	None
3/18/2022	ST11049	10	VactorTruck	IW1	None	Clear	None
3/18/2022	ST11050	5	VactorTruck	IW1	Minimal	Clear	None
3/18/2022	ST11048	30	VactorTruck	IW1	None	Clear	None
3/18/2022	ST10955	27	VactorTruck	IW2	None	NotClear	None
3/18/2022	ST10957	30	VactorTruck	IW2	None	NotClear	None
3/18/2022	ST11042	15	VactorTruck	IW1	None	Clear	None
3/18/2022	ST11038	16	VactorTruck	IW1	None	Clear	None

Date	ID	Debris (in.) Removed	Vehicle	Driver	Active FLow?	Color?	Odor?
3/18/2022	ST10958	28	VactorTruck	IW2	None	NotClear	None
3/18/2022	ST10960	6	VactorTruck	IW2	Minimal	NotClear	None
3/18/2022	ST11041	11	VactorTruck	IW1	None	Clear	None
3/18/2022	ST11039	18	VactorTruck	IW1	None	Clear	None
3/18/2022	ST11040	5	VactorTruck	IW1	None	Clear	None
3/18/2022	ST10959	8	VactorTruck	IW2	Minimal	NotClear	None
3/18/2022	ST11016	13	VactorTruck	IW1	Minimal	Clear	None
3/18/2022	ST11018	1	VactorTruck	IW1	None	Clear	None
3/18/2022	ST11051	18	VactorTruck	IW2	Minimal	NotClear	None
3/18/2022	ST11022	16	VactorTruck	IW1	None	Clear	None
3/18/2022	ST11058	21	VactorTruck	IW2	Minimal	NotClear	None
3/18/2022	ST11060	7	VactorTruck	IW2	None	NotClear	None
3/21/2022	ST11151	5	VactorTruck	IW1	Minimal	NotClear	None
3/21/2022	ST11148	3	VactorTruck	IW1	Minimal	NotClear	None
3/21/2022	ST11057	3	VactorTruck	IW2	None	Clear	None
3/21/2022	ST11084	13	VactorTruck	IW2	None	NotClear	None
3/21/2022	ST11094	4	VactorTruck	IW2	Minimal	NotClear	None
3/21/2022	ST11095	3	VactorTruck	IW2	Minimal	NotClear	None
3/21/2022	ST11098	6	VactorTruck	IW2	Minimal	NotClear	None
3/21/2022	ST11099	10	VactorTruck	IW2	None	NotClear	None
3/21/2022	ST11145	17	VactorTruck	IW1	Minimal	NotClear	None
3/21/2022	ST11144	14	VactorTruck	IW1	None	NotClear	None
3/21/2022	ST11143	20	VactorTruck	IW1	None	Clear	None
3/21/2022	ST11096	9	VactorTruck	IW2	None	NotClear	None
3/21/2022	ST11142	25	VactorTruck	IW1	None	Clear	None
3/21/2022	ST11093	5	VactorTruck	IW2	Minimal	NotClear	None
3/21/2022	ST11139	19	VactorTruck	IW1	None	NotClear	None
3/21/2022	ST11086	7	VactorTruck	IW2	Minimal	NotClear	None
3/21/2022	ST11138	19	VactorTruck	IW1	None	NotClear	None

Date	ID	Debris (in.) Removed	Vehicle	Driver	Active FLow?	Color?	Odor?
3/21/2022	ST11088	10	VactorTruck	IW2	Minimal	NotClear	None
3/21/2022	ST3856	20	VactorTruck	IW1	None	NotClear	None
3/21/2022	ST11089	15	VactorTruck	IW2	Minimal	NotClear	None
3/21/2022	ST3858	21	VactorTruck	IW1	None	NotClear	None
3/21/2022	ST11137	10	VactorTruck	IW1	None	Clear	None
3/21/2022	ST11090	10	VactorTruck	IW2	None	NotClear	None
3/21/2022	ST11140	19	VactorTruck	IW1	None	NotClear	None
3/21/2022	ST11091	7	VactorTruck	IW2	None	NotClear	None
3/21/2022	ST11141	17	VactorTruck	IW1	None	NotClear	None
3/21/2022	ST11092	6	VactorTruck	IW2	Minimal	NotClear	None
3/21/2022	ST11150	3	VactorTruck	IW1	None	NotClear	None
3/21/2022	ST11105	2	VactorTruck	IW1	Minimal	NotClear	None
3/21/2022	ST11083	5	VactorTruck	IW2	None	NotClear	None
3/21/2022	ST11106	10	VactorTruck	IW1	Minimal	NotClear	None
3/22/2022	ST11021	8	VactorTruck	IW1	None	Clear	None
3/22/2022	ST11023	13	VactorTruck	IW1	Minimal	Clear	None
3/22/2022	ST3850	4	VactorTruck	IW2	None	NotClear	None
3/22/2022	ST3849	4	VactorTruck	IW2	Minimal	NotClear	None
3/22/2022	ST11025	11	VactorTruck	IW1	Minimal	Clear	None
3/22/2022	ST11026	10	VactorTruck	IW1	Minimal	Clear	None
3/23/2022	ST500099	8	VactorTruck	IW1	None	Clear	None
3/23/2022	ST500101	6	VactorTruck	IW1	None	Clear	None
3/23/2022	ST3848	10	VactorTruck	IW2	None	NotClear	None
3/23/2022	ST500105	4	VactorTruck	IW1	None	Clear	None
3/23/2022	ST3846	6	VactorTruck	IW2	Minimal	NotClear	None
3/23/2022	ST500106	2	VactorTruck	IW1	None	Clear	None
3/23/2022	ST3843	4	VactorTruck	IW2	Minimal	NotClear	None
3/23/2022	ST500103	6	VactorTruck	IW1	None	Clear	None
3/23/2022	ST500107	8	VactorTruck	IW1	Minimal	Clear	None

Date	ID	Debris (in.) Removed	Vehicle	Driver	Active FLow?	Color?	Odor?
3/23/2022	ST3855	28	VactorTruck	IW2	None	NotClear	None
3/23/2022	ST500112	5	VactorTruck	IW1	None	Clear	None
3/23/2022	ST500104	15	VactorTruck	IW1	None	Clear	None
3/23/2022	ST500102	7	VactorTruck	IW1	None	Clear	None
3/23/2022	ST3854	8	VactorTruck	IW2	Minimal	NotClear	None
3/23/2022	ST500100	4	VactorTruck	IW1	None	Clear	None
3/23/2022	ST3853	7	VactorTruck	IW2	Minimal	NotClear	None
3/23/2022	ST3852	13	VactorTruck	IW2	None	NotClear	None
3/23/2022	ST3851	8	VactorTruck	IW2	Minimal	NotClear	None
3/23/2022	ST210221	6	VactorTruck	IW2	Minimal	NotClear	None
3/23/2022	ST210220	27	VactorTruck	IW2	Minimal	NotClear	None
3/23/2022	ST10948	11	VactorTruck	IW2	Minimal	NotClear	None
3/23/2022	ST9773	1	VactorTruck	IW1	None	Clear	None
3/23/2022	ST9775	7	VactorTruck	IW1	None	Clear	None
3/23/2022	ST9779	5	VactorTruck	IW1	None	Clear	None
3/23/2022	ST9799	11	VactorTruck	IW1	None	Clear	None
3/23/2022	ST9783	13	VactorTruck	IW1	None	Clear	None
3/25/2022	ST6084	2	VactorTruck	IW1	Minimal	Clear	None
3/25/2022	ST6086	4	VactorTruck	IW1	Minimal	Clear	None
3/25/2022	ST6088	2	VactorTruck	IW1	Minimal	Clear	None
3/25/2022	ST20453	5	VactorTruck	IW1	None	Clear	None
3/25/2022	ST210352	5	VactorTruck	IW1	Minimal	Clear	None
3/25/2022	ST6100	9	VactorTruck	IW1	Minimal	Clear	None
3/25/2022	ST6098	22	VactorTruck	IW1	Minimal	Clear	None
3/25/2022	ST6102	23	VactorTruck	IW1	Minimal	Clear	None
3/25/2022	ST10947	7	VactorTruck	IW2	Minimal	NotClear	None
3/25/2022	ST10947	7	VactorTruck	IW2	Minimal	NotClear	None
3/25/2022	ST210353	7	VactorTruck	IW1	Minimal	Clear	None
3/25/2022	ST10947	7	VactorTruck	IW2	Minimal	NotClear	None

Date	ID	Debris (in.) Removed	Vehicle	Driver	Active FLow?	Color?	Odor?
3/25/2022	ST10947	7	VactorTruck	IW2	Minimal	NotClear	None
3/25/2022	ST10911	10	VactorTruck	IW2	None	NotClear	None
3/25/2022	ST10910	11	VactorTruck	IW2	Minimal	NotClear	None
3/25/2022	ST10909	13	VactorTruck	IW2	Minimal	NotClear	None
3/25/2022	ST10908	13	VactorTruck	IW2	Minimal	NotClear	None
3/25/2022	ST3340	8	VactorTruck	IW1	Minimal	Clear	None
3/25/2022	ST3370	8	VactorTruck	IW1	Minimal	Clear	None
3/25/2022	ST10907	18	VactorTruck	IW2	None	NotClear	None
3/25/2022	ST3374	5	VactorTruck	IW1	None	Clear	None
3/25/2022	ST10906	13	VactorTruck	IW2	None	NotClear	None
3/25/2022	ST3377	8	VactorTruck	IW1	None	Clear	None
3/25/2022	ST3385	8	VactorTruck	IW1	None	Clear	None
3/25/2022	ST3377	5	VactorTruck	IW1	None	Clear	None
3/29/2022	ST11004	9	VactorTruck	IW1	None	Clear	None
3/29/2022	ST10995	15	VactorTruck	IW1	None	NotClear	None
3/29/2022	ST10972	9	VactorTruck	IW1	None	Clear	None
3/29/2022	ST10970	3	VactorTruck	IW1	None	Clear	None
3/29/2022	ST10974	2	VactorTruck	IW1	None	Clear	None
3/29/2022	ST10973	6	VactorTruck	IW1	None	NotClear	None
4/8/2022	ST3895	3	VactorTruck	IW1	None	Clear	None
4/8/2022	ST3888	8	VactorTruck	IW1	Minimal	Clear	None
4/8/2022	ST10914	5	VactorTruck	IW1	None	Clear	None
4/8/2022	ST10969	4	VactorTruck	IW1	None	Clear	None
4/8/2022	ST3887	6	VactorTruck	IW1	None	Clear	None
4/8/2022	ST10984	7	VactorTruck	IW1	None	Clear	None
4/8/2022	ST3890	7	VactorTruck	IW1	None	Clear	None
4/8/2022	ST3891	10	VactorTruck	IW1	None	Clear	None
4/8/2022	ST10983	38	VactorTruck	IW1	None	Clear	None
4/8/2022	ST10986	22	VactorTruck	IW1	None	Clear	None

Date	ID	Debris (in.) Removed	Vehicle	Driver	Active FLow?	Color?	Odor?
4/8/2022	ST3886	33	VactorTruck	IW1	Minimal	Clear	None
4/8/2022	ST10985	24	VactorTruck	IW1	None	Clear	None
4/8/2022	ST3885	11	VactorTruck	IW1	None	Clear	None
4/8/2022	ST10988	5	VactorTruck	IW1	None	Clear	None
4/8/2022	ST10989	4	VactorTruck	IW1	Minimal	Clear	None
4/8/2022	ST3883	4	VactorTruck	IW1	None	Clear	None
4/8/2022	ST10991	13	VactorTruck	IW1	None	Clear	None
4/8/2022	ST10990	11	VactorTruck	IW1	None	Clear	None
4/11/2022	ST14261	17	VactorTruck	IW1	Minimal	NotClear	None
4/11/2022	ST210432	33	VactorTruck	IW1	Minimal	NotClear	None
4/11/2022	ST210431	23	VactorTruck	IW1	Minimal	NotClear	None
4/11/2022	ST2908	14	VactorTruck	IW1	None	Clear	None
4/11/2022	ST2900	2	VactorTruck	IW1	None	NotClear	None
4/11/2022	ST2901	26	VactorTruck	IW1	None	Clear	None
4/11/2022	ST14210	37	VactorTruck	IW1	None	Clear	None
4/11/2022	ST14208	10	VactorTruck	IW1	None	Clear	None
4/15/2022	ST210413	43	VactorTruck	IW1	None	Clear	None
4/15/2022	ST1335	16	VactorTruck	IW1	None	Clear	None
4/15/2022	ST17450	15	VactorTruck	IW1	None	Clear	None
4/15/2022	ST14286	33	VactorTruck	IW1	None	Clear	None
4/15/2022	ST210416	50	VactorTruck	IW1	None	Clear	None
4/15/2022	ST14538	30	VactorTruck	IW1	Minimal	NotClear	None
4/15/2022	ST17451	15	VactorTruck	IW1	None	Clear	None
4/15/2022	ST14204	7	VactorTruck	IW1	None	Clear	None
4/15/2022	ST17453	4	VactorTruck	IW1	None	Clear	None
4/15/2022	ST14267	28	VactorTruck	IW1	Minimal	NotClear	None
4/15/2022	ST210414	45	VactorTruck	IW1	None	Clear	None
4/15/2022	ST210415	31	VactorTruck	IW1	None	Clear	None
4/15/2022	ST14263	46	VactorTruck	IW1	None	Clear	None

Date	ID	Debris (in.) Removed	Vehicle	Driver	Active FLow?	Color?	Odor?
4/15/2022	ST14357	37	VactorTruck	IW1	None	Clear	None
4/15/2022	ST14225	35	VactorTruck	IW1	None	Clear	None
4/15/2022	ST14257	33	VactorTruck	IW1	None	Clear	None
4/15/2022	ST15011	12	VactorTruck	IW1	None	Clear	None
4/15/2022	ST15010	28	VactorTruck	IW1	None	Clear	None
4/15/2022	ST15009	20	VactorTruck	IW1	None	Clear	None
4/15/2022	ST15025	27	VactorTruck	IW1	None	Clear	None
4/18/2022	ST14446	21	VactorTruck	IW1	None	Clear	None
4/18/2022	ST14379	34	VactorTruck	IW1	Minimal	NotClear	None
4/18/2022	ST1296	4	VactorTruck	IW1	Minimal	NotClear	None
4/18/2022	ST1294	41	VactorTruck	IW1	Minimal	NotClear	None
4/18/2022	ST1281	26	VactorTruck	IW1	Minimal	NotClear	None
4/18/2022	ST14701	36	VactorTruck	IW1	Minimal	NotClear	None
4/18/2022	ST14845	22	VactorTruck	IW1	None	Clear	None
4/18/2022	ST14855						
4/18/2022	ST14841	7	VactorTruck		None		None
4/18/2022	ST14748	6	VactorTruck	IW1	None	Clear	None
4/18/2022	ST14744	10	VactorTruck	IW1	Minimal	NotClear	None
4/18/2022	ST14863	32	VactorTruck	IW1	None	Clear	None
4/18/2022	ST14862	38	VactorTruck	IW1	None	Clear	None
4/18/2022	ST14856		VactorTruck				None
4/18/2022	ST14836	25	VactorTruck	IW1	None	Clear	None
4/18/2022	ST11321	56	VactorTruck	IW1	Minimal	NotClear	None
4/18/2022	ST11323	34	VactorTruck	IW1	Minimal	NotClear	None
4/18/2022	ST210503	51	VactorTruck	IW1	None	Clear	None
4/18/2022	ST11328	41	VactorTruck	IW1	Minimal	NotClear	None
4/20/2022	ST5217	12	VactorTruck	IW1	None	Clear	None
4/20/2022	ST5227	9	VactorTruck	IW1	None	Clear	None
4/20/2022	ST5241	12	VactorTruck	IW1	None	Clear	None

Date	ID	Debris (in.) Removed	Vehicle	Driver	Active FLow?	Color?	Odor?
4/20/2022	ST5229	9	VactorTruck	IW1	Minimal	Clear	None
4/20/2022	ST5220	11	VactorTruck	IW1	None	Clear	None
4/20/2022	ST5212	26	VactorTruck	IW1	None	Clear	None
4/20/2022	ST5298	20	VactorTruck	IW1	None	Clear	None
4/20/2022	ST5292	13	VactorTruck	IW1	None	Clear	None
4/20/2022	ST5289	14	VactorTruck	IW1	None	Clear	None
4/20/2022	ST5340	9	VactorTruck	IW1	None	Clear	None
4/20/2022	ST5282	19	VactorTruck		None		None
4/20/2022	ST5321	14	VactorTruck	IW1	None	Clear	None
4/21/2022	ST5705	9	VactorTruck	IW1	None	Clear	None
4/21/2022	ST5675	6	VactorTruck		None		None
4/21/2022	ST5715	33	VactorTruck	IW1	None	Clear	Slight
4/21/2022	ST5741	31	VactorTruck	IW1	None	Clear	None
4/21/2022	ST5741	31	VactorTruck	IW1	None	Clear	None
4/21/2022	ST5749	19	VactorTruck	IW1	None	Clear	None
4/21/2022	ST210421	17	VactorTruck	IW1	None	Clear	None
4/21/2022	ST2659	39	VactorTruck	IW1	None	Clear	None
4/21/2022	ST2848	41	VactorTruck	IW1	None	Clear	Slight
4/25/2022	ST7168	8	VactorTruck	IW1	None	Clear	None
4/25/2022	ST11345	50	VactorTruck	IW1	None	Clear	None
4/25/2022	ST11344	2	VactorTruck	IW1	None	NotClear	None
4/25/2022	ST11343	32	VactorTruck	IW1	None	Clear	None
4/25/2022	ST7172	34	VactorTruck	IW1	None	Clear	None
4/25/2022	ST7168	3	VactorTruck		None		None
4/25/2022	ST7167	12	VactorTruck	IW1	Minimal	Clear	None
4/25/2022	ST7170	39	VactorTruck	IW1	None	Clear	None
4/25/2022	ST11342	33	VactorTruck	IW1	None	Clear	None
4/25/2022	ST4509	34	VactorTruck	IW1	None	Clear	None
4/25/2022	ST17519	60	VactorTruck	IW1	None	Clear	None

Date	ID	Debris (in.) Removed	Vehicle	Driver	Active FLow?	Color?	Odor?
4/26/2022	ST17515	37	VactorTruck	IW1	None	Clear	None
4/26/2022	ST17520	54	VactorTruck	IW1	None	Clear	None
4/26/2022	ST4513	30	VactorTruck	IW1	None	Clear	None
4/26/2022	ST11319	44	VactorTruck	IW1	None	Clear	None
4/26/2022	ST11327	40	VactorTruck	IW1	None	Clear	None
4/26/2022	ST11329	50	VactorTruck	IW1	None	Clear	Slight
4/26/2022	ST11133	30	VactorTruck	IW1	Minimal	Clear	Slight
4/26/2022	ST11117	36	VactorTruck	IW1	None	Clear	None
4/26/2022	ST11114	31	VactorTruck	IW1	Minimal	Clear	Slight
4/26/2022	ST11120	27	VactorTruck	IW1	None	Clear	None
4/26/2022	ST11112	33	VactorTruck	IW1	None	Clear	None
4/27/2022	ST11110	27	VactorTruck	Other	Minimal	N/A	None
4/27/2022	ST11111	27	VactorTruck	Other	None	Clear	None
4/27/2022	ST11122	40	VactorTruck	IW1	Minimal	Clear	None
4/27/2022	ST11134	40	VactorTruck	IW1	Minimal	Clear	None
4/27/2022	ST11303	41	VactorTruck	IW1	None	Clear	None
4/27/2022	ST11305	39	VactorTruck	IW1	None	Clear	None
4/27/2022	ST1675	34	VactorTruck	Other	Minimal	Clear	None
4/28/2022	ST9937						
4/28/2022	ST3444	7	VactorTruck	IW1	Minimal	Clear	None
4/28/2022	ST3439	18	VactorTruck	IW1	None	Clear	None
4/28/2022	ST3440	6	VactorTruck	IW1	None	Clear	Slight
4/28/2022	ST3441	10	VactorTruck	IW1	Minimal	Clear	Slight
4/28/2022	ST3455	8	VactorTruck	IW1	Minimal	Clear	None
4/28/2022	ST3454	2	VactorTruck	IW1	Minimal	Clear	None
4/29/2022	ST7199	1	VactorTruck	IW2	None	Clear	None
4/29/2022	ST7200	18	VactorTruck	IW2	None	Clear	None
4/29/2022	ST11278	5	VactorTruck	IW2	None	Clear	None
4/29/2022	ST11279	3	VactorTruck	IW2	Minimal	Clear	Slight

Date	ID	Debris (in.) Removed	Vehicle	Driver	Active FLow?	Color?	Odor?
4/29/2022	ST15416	35	VactorTruck	IW1	None	Clear	None
4/29/2022	ST11272	22	VactorTruck	IW2	None	Clear	None
4/29/2022	ST210487	17	VactorTruck	IW1	None	Clear	None
4/29/2022	ST11277	18	VactorTruck	IW2	None	Clear	None
4/29/2022	ST10078	24	VactorTruck	IW1	None	Clear	None
4/29/2022	ST11268	10	VactorTruck	IW2	Minimal	Clear	None
4/29/2022	ST11540	17	VactorTruck	IW1	None	Clear	None
4/29/2022	ST11267	9	VactorTruck	IW2	None	Clear	None
4/29/2022	ST11288	10	VactorTruck	IW2	None	Clear	Slight
4/29/2022	ST13737	15	VactorTruck	IW1	None	Clear	None
4/29/2022	ST11265	6	VactorTruck	IW2	None	Clear	None
4/29/2022	ST13738	34	VactorTruck	IW1	None	Clear	None
4/29/2022	ST13739	24	VactorTruck	IW1	None	Clear	None
4/29/2022	ST13739	24	VactorTruck	IW1	None	Clear	None
4/29/2022	ST11254	46	VactorTruck	IW2	Minimal	Clear	None
4/29/2022	ST13742	10	VactorTruck	IW1	None	Clear	None
4/29/2022	ST11239	50	VactorTruck	IW2	Minimal	Clear	None
4/29/2022	ST13746	38	VactorTruck	IW1	None	Clear	None
4/29/2022	ST7146	16	VactorTruck	IW2	Minimal	Clear	Strong
4/29/2022	ST13743	37	VactorTruck	IW1	None	Clear	None
4/29/2022	ST7145	43	VactorTruck	IW2	Minimal	Clear	Slight
4/29/2022	ST210362	4	VactorTruck	IW2	None	Clear	Slight
5/2/2022	ST12989	16	VactorTruck	IW2	None	Clear	None
5/2/2022	ST20242	11	VactorTruck	IW2	None	Clear	Slight
5/2/2022	ST13171	34	VactorTruck	IW1	None	Clear	None
5/2/2022	ST20194	25	VactorTruck	IW2	None	Clear	Slight
5/2/2022	ST9252	37	VactorTruck	IW1	None	Clear	None
5/2/2022	ST9138	7	VactorTruck	IW1	None	Clear	None
5/2/2022	ST16076	34	VactorTruck	IW2	None	Clear	Slight

Date	ID	Debris (in.) Removed	Vehicle	Driver	Active FLow?	Color?	Odor?
5/2/2022	ST17670	37	VactorTruck	IW2	None	Clear	None
5/2/2022	ST9168	6	VactorTruck	IW1	None	Clear	None
5/2/2022	ST9167	2	VactorTruck	IW1	None	Clear	None
5/2/2022	ST9159	7	VactorTruck	IW1	None	Clear	None
5/2/2022	ST9157	18	VactorTruck	IW1	Minimal	Clear	None
5/2/2022	ST9139	3	VactorTruck	IW1	None	Clear	None
5/2/2022	ST210360	33	VactorTruck	IW2	None	Clear	None
5/2/2022	ST9144	6	VactorTruck	IW1	None	Clear	None
5/2/2022	ST9148	7	VactorTruck	IW1	None	Clear	None
5/2/2022	ST9155	4	VactorTruck	IW1	Minimal	Clear	None
5/2/2022	ST9154	3	VactorTruck	IW1	None	Clear	None
5/2/2022	ST11285	33	VactorTruck	IW2	None	Clear	None
5/2/2022	ST9149	7	VactorTruck	IW1	None	Clear	None
5/2/2022	ST9145	8	VactorTruck	IW1	None	Clear	None
5/2/2022	ST11287	38	VactorTruck	IW2	None	Clear	Slight
5/3/2022	ST3269	25	VactorTruck	IW1	Minimal	Clear	None
5/3/2022	ST7159	5	VactorTruck	IW1	None	Clear	None
5/3/2022	ST7157	5	VactorTruck	IW1	None	Clear	None
5/3/2022	ST3267	18	VactorTruck	IW1	None	Clear	None
5/3/2022	ST210168	26	VactorTruck	IW1	None	Clear	None
5/3/2022	ST7161	5	VactorTruck	IW1	Minimal	Clear	None
5/3/2022	ST7156	20	VactorTruck	IW1	None	Clear	None
5/3/2022	ST3257	22	VactorTruck	IW1	None	Clear	None
5/3/2022	ST500072	14	VactorTruck	IW1	None	Clear	None
5/3/2022	ST500077	14	VactorTruck	IW1	None	Clear	None
5/3/2022	ST7151	8	VactorTruck	IW1	None	Clear	None
5/3/2022	ST500081	22	VactorTruck	IW1	Minimal	Clear	None
5/3/2022	ST7148	14	VactorTruck	IW1	None	Clear	None
5/3/2022	ST500084	22	VactorTruck	IW1	Minimal	Clear	None

Date	ID	Debris (in.) Removed	Vehicle	Driver	Active FLow?	Color?	Odor?
5/3/2022	ST7153	21	VactorTruck	IW1	None	Clear	None
5/3/2022	ST500085	26	VactorTruck	IW1	Minimal	Clear	None
5/3/2022	ST7176	14	VactorTruck	IW1	Minimal	Clear	None
5/3/2022	ST11299	3	VactorTruck	IW1	None	Clear	None
5/3/2022	ST11298	34	VactorTruck	IW1	None	Clear	None
5/3/2022	ST500089	14	VactorTruck	IW1	None	Clear	None
5/3/2022	ST8019	14	VactorTruck	IW1	None	Clear	None
5/3/2022	ST11300	18	VactorTruck	IW1	Minimal	NotClear	None
5/3/2022	ST11293	20	VactorTruck	IW1	None	Clear	None
5/3/2022	ST8025	15	VactorTruck	IW1	None	Clear	None
5/3/2022	ST11294	9	VactorTruck	IW1	Minimal	NotClear	None
5/3/2022	ST11295	13	VactorTruck	IW1	Minimal	NotClear	None
5/3/2022	ST11296	4	VactorTruck	IW1	None	NotClear	None
5/3/2022	ST7197	24	VactorTruck	IW1	Minimal	NotClear	None
5/3/2022	ST7196	8	VactorTruck	IW1	Minimal	NotClear	None
5/5/2022	ST500088	24	VactorTruck	IW1	None	Clear	None
5/5/2022	ST500083	11	VactorTruck	IW1	None	Clear	None
5/5/2022	ST500076	19	VactorTruck	IW1	None	Clear	None
5/5/2022	ST500075	14	VactorTruck	IW1	None	Clear	None
5/5/2022	ST500071	14	VactorTruck	IW1	None	Clear	None
5/5/2022	ST500080	26	VactorTruck	IW1	None	Clear	None
5/5/2022	ST3258	19	VactorTruck	IW1	None	Clear	None
5/5/2022	ST3243	6	VactorTruck	IW1	Minimal	NotClear	None
5/5/2022	ST3296	4	VactorTruck	IW1	None	Clear	None
5/5/2022	ST3216	6	VactorTruck	IW2	Minimal	Clear	None
5/5/2022	ST3219	8	VactorTruck	IW2	Minimal	Clear	None
5/5/2022	ST210172	17	VactorTruck	IW1	None	Clear	None
5/5/2022	ST210173	11	VactorTruck	IW1	None	Clear	None
5/5/2022	ST3230	7	VactorTruck	IW1	Minimal	Clear	None

Date	ID	Debris (in.) Removed	Vehicle	Driver	Active FLow?	Color?	Odor?
5/5/2022	ST3643	20	VactorTruck	IW1	None	Clear	None
5/5/2022	ST3641	18	VactorTruck	IW1	Minimal	Clear	None
5/5/2022	ST3642	19	VactorTruck	IW1	None	Clear	None
5/5/2022	ST3752	12	VactorTruck	IW1	None	Clear	None
5/5/2022	ST3750	17	VactorTruck	IW1	None	Clear	None
5/5/2022	ST3751	16	VactorTruck	IW1	None	Clear	None
5/6/2022	ST17278	9	VactorTruck	IW1	None	Clear	None
5/6/2022	ST3192	6	VactorTruck	IW1	None	Clear	None
5/6/2022	ST17279	6	VactorTruck	IW1	None	Clear	None
5/6/2022	ST17250	10	VactorTruck	IW1	Minimal	Clear	None
5/6/2022	ST17251	8	VactorTruck	IW1	Minimal	Clear	None
5/6/2022	ST3662	2	VactorTruck	IW1	Minimal	NotClear	None
5/6/2022	ST17252	6	VactorTruck	IW1	Minimal	Clear	None
5/6/2022	ST3661	1	VactorTruck	IW1	Minimal	Clear	None
5/6/2022	ST17256	9	VactorTruck	IW1	Full	Clear	None
5/6/2022	ST3657	0	VactorTruck	IW1	Minimal	Clear	None
5/6/2022	ST17258	9	VactorTruck	IW1	Full	Clear	None
5/6/2022	ST3734	6	VactorTruck	IW1	Minimal	Clear	None
5/6/2022	ST3731	14	VactorTruck	IW1	Minimal	NotClear	None
5/6/2022	ST17257	9	VactorTruck	IW1	None	Clear	None
5/6/2022	ST3728	4	VactorTruck	IW1	None	Clear	None
5/6/2022	ST3730	17	VactorTruck	IW1	Full	NotClear	None
5/6/2022	ST3778	4	VactorTruck	IW1	None	Clear	None
5/6/2022	ST17267	9	VactorTruck	IW1	None	Clear	None
5/6/2022	ST3795	7	VactorTruck	IW1	None	Clear	None
5/6/2022	ST17268	8	VactorTruck	IW1	None	Clear	None
5/6/2022	ST3791	15	VactorTruck	IW1	None	Clear	None
5/6/2022	ST17265	16	VactorTruck	IW1	None	Clear	None
5/6/2022	ST3800		VactorTruck	IW2	Minimal	Clear	None

Date	ID	Debris (in.) Removed	Vehicle	Driver	Active FLow?	Color?	Odor?
5/6/2022	ST17269	12	VactorTruck	IW1	None	Clear	None
5/6/2022	ST3799	5	VactorTruck	IW1	Minimal	NotClear	None
5/6/2022	ST3803	2	VactorTruck	IW1	None	NotClear	None
5/6/2022	ST3804	3	VactorTruck	IW1	None	NotClear	None
5/6/2022	ST17270	17	VactorTruck	IW1	None	Clear	None
5/6/2022	ST3804	3	VactorTruck	IW1	None	Clear	None
5/6/2022	ST17273	10	VactorTruck	IW1	None	Clear	None
5/9/2022	ST7187	26	VactorTruck	IW1	None	Clear	None
5/9/2022	ST7188	22	VactorTruck	IW1	Minimal	Clear	None
5/9/2022	ST7195	14	VactorTruck	IW1	Minimal	Clear	None
5/9/2022	ST7190	12	VactorTruck	IW1	Minimal	Clear	None
5/9/2022	ST7194	28	VactorTruck	IW1	None	Clear	None
5/9/2022	ST7192	13	VactorTruck	IW1	Minimal	Clear	None
5/9/2022	ST7193	17	VactorTruck	IW1	Minimal	Clear	None
5/9/2022	ST11193	18	VactorTruck	IW1	None	Clear	None
5/9/2022	ST11192	10	VactorTruck	IW1	None	Clear	None
5/9/2022	ST11194	20	VactorTruck	IW1	None	Clear	None
5/9/2022	ST11195	17	VactorTruck	IW1	None	Clear	None
5/9/2022	ST11196	22	VactorTruck	IW1	None	Clear	None
5/9/2022	ST11197	21	VactorTruck	IW1	None	Clear	None
5/9/2022	ST11201	31	VactorTruck	IW1	None	Clear	None
5/9/2022	ST11162	30	VactorTruck	IW2	None	Clear	None
5/9/2022	ST11200	30	VactorTruck	IW1	None	Clear	None
5/9/2022	ST11203	32	VactorTruck	IW1	None	Clear	None
5/9/2022	ST11163	27	VactorTruck	IW2	None	Clear	None
5/9/2022	ST11202	11	VactorTruck	IW1	None	Clear	None
5/9/2022	ST11165	7	VactorTruck	IW2	None	Clear	None
5/9/2022	ST11205	20	VactorTruck	IW1	None	Clear	None
5/9/2022	ST11108	18	VactorTruck	IW2	None	Clear	None

Date	ID	Debris (in.) Removed	Vehicle	Driver	Active FLow?	Color?	Odor?
5/9/2022	ST11206	16	VactorTruck	IW1	None	Clear	None
5/9/2022	ST11107	21	VactorTruck	IW2	None	Clear	None
5/9/2022	ST11109	22	VactorTruck	IW2	None	Clear	None
5/10/2022	ST11207	48	VactorTruck	IW1	Minimal	Clear	None
5/10/2022	ST11208	15	VactorTruck	IW1	None	Clear	None
5/10/2022	ST7208	12	VactorTruck	IW1	None	Clear	None
5/10/2022	ST7207	6	VactorTruck	IW1	None	Clear	None
5/10/2022	ST7205	16	VactorTruck	IW1	None	Clear	None
5/10/2022	ST7206	15	VactorTruck	IW1	None	Clear	None
5/10/2022	ST7203	18	VactorTruck	IW1	None	Clear	None
5/10/2022	ST7201	26	VactorTruck	IW1	None	Clear	None
5/10/2022	ST17494	3	VactorTruck	IW1	None	Clear	None
5/10/2022	ST4329	15	VactorTruck	IW1	None	Clear	None
5/10/2022	ST4331	3	VactorTruck	IW1	None	Clear	None
5/10/2022	ST4339	10	VactorTruck	IW1	None	Clear	None
5/10/2022	ST4336	14	VactorTruck	IW1	None	Clear	None
5/10/2022	ST4357	13	VactorTruck	IW1	None	Clear	None
5/10/2022	ST4343	24	VactorTruck	IW1	None	Clear	None
5/10/2022	ST4361	11	VactorTruck	IW1	None	Clear	None
5/11/2022	ST3634	12	VactorTruck	IW1	Minimal	NotClear	None
5/11/2022	ST3633	14	VactorTruck	IW1	None	Clear	None
5/11/2022	ST3635	9	VactorTruck	IW1	Minimal	NotClear	None
5/11/2022	ST3761	10	VactorTruck	IW1	None	NotClear	None
5/11/2022	ST210175	6	VactorTruck	IW1	Minimal	NotClear	None
5/11/2022	ST3768	1	VactorTruck	IW1	None	Clear	None
5/11/2022	ST3772	10	VactorTruck	IW1	None	Clear	None
5/13/2022	ST3649	9	Other	IW1	None	Clear	None
5/13/2022	ST5578	15	VactorTruck	IW2	None	Clear	None
5/13/2022	ST5579	12	VactorTruck	IW2	None	Clear	None

Date	ID	Debris (in.) Removed	Vehicle	Driver	Active FLow?	Color?	Odor?
5/13/2022	ST5582	16	VactorTruck	IW2	None	Clear	None
5/13/2022	ST4104	12	VactorTruck	IW1	None	Clear	None
5/13/2022	ST5583	19	VactorTruck	IW2	None	Clear	None
5/13/2022	ST4087	9	VactorTruck	IW1	None	Clear	None
5/13/2022	ST4085	6	VactorTruck	IW1	None	Clear	None
5/13/2022	ST5584	13	VactorTruck	IW2	None	Clear	None
5/13/2022	ST4080	4	VactorTruck	IW1	Minimal	Clear	None
5/13/2022	ST5586	15	VactorTruck	IW2	None	Clear	None
5/13/2022	ST5587	16	VactorTruck	IW2	None	Clear	None
5/13/2022	ST4101	14	VactorTruck	IW1	None	Clear	None
5/13/2022	ST4093	9	VactorTruck	IW1	None	Clear	None
5/13/2022	ST5588	15	VactorTruck	IW2	None	Clear	None
5/13/2022	ST4089	8	VactorTruck	IW1	None	Clear	None
5/13/2022	ST5595		VactorTruck	IW2	Full	Clear	None
5/13/2022	ST3651	4	Other	IW1	Minimal	NotClear	None
5/13/2022	ST4127	20	VactorTruck	IW1	None	Clear	None
5/13/2022	ST3653	4	Other	IW1	Minimal	Clear	None
5/13/2022	ST5600	6	VactorTruck	IW2	None	Clear	None
5/13/2022	ST3652	23	Other	IW1	None	Clear	None
5/13/2022	ST3654	10	Other	IW1	None	Clear	None
5/13/2022	ST5603	5	VactorTruck	IW2	Minimal	Clear	None
5/13/2022	ST3655	23	Other	IW1	Minimal	Clear	None
5/13/2022	ST3656	7	Other	IW1	None	Clear	None
5/13/2022	ST4124	24	VactorTruck	IW1	None	Clear	None
5/13/2022	ST3732	20	Other	IW1	Minimal	NotClear	None
5/13/2022	ST3735	20	Other	IW1	Minimal	NotClear	None
5/13/2022	ST5604	3	VactorTruck	IW2	Minimal	Clear	None
5/13/2022	ST3733	22	Other	IW1	Minimal	NotClear	None
5/13/2022	ST4132	14	VactorTruck	IW1	None	Clear	None

Date	ID	Debris (in.) Removed	Vehicle	Driver	Active FLow?	Color?	Odor?
5/13/2022	ST4137	4	VactorTruck	IW1	None	Clear	None
5/13/2022	ST5610	11	VactorTruck	IW2	None	Clear	None
5/13/2022	ST5608	4	VactorTruck	IW2	None	Clear	None
5/13/2022	ST4151	8	VactorTruck	IW1	None	Clear	None
5/13/2022	ST3729	20	Other	IW1	Minimal	Clear	None
5/13/2022	ST4153	8	VactorTruck	IW1	None	Clear	None
5/13/2022	ST3780	18	Other	IW1	Minimal	NotClear	None
5/13/2022	ST3789	2	Other	IW1	Minimal	NotClear	None
5/13/2022	ST4153	2	VactorTruck	IW1	None	Clear	None
5/13/2022	ST3796	9	Other	IW1	Minimal	NotClear	None
5/13/2022	ST3779	8	Other	IW1	Minimal	NotClear	None
5/13/2022	ST4160	7	VactorTruck	IW1	None	Clear	None
5/13/2022	ST3805	12	Other	IW1	Minimal	NotClear	None
5/13/2022	ST3798	6	Other	IW1	Minimal	NotClear	None
5/13/2022	ST8656	26	VactorTruck	IW2	None	Clear	None
5/13/2022	ST3723	9	Other	IW1	Minimal	Clear	None
5/13/2022	ST3722	5	Other	IW1	Minimal	NotClear	None
5/13/2022	ST8654	9	VactorTruck	IW2	None	Clear	None
5/13/2022	ST3720	4	Other	IW1	Minimal	NotClear	None
5/13/2022	ST210184	9	Other	IW1	Minimal	NotClear	None
5/13/2022	ST8657	9	VactorTruck	IW2	None	Clear	None
5/13/2022	ST4163	6	VactorTruck	IW1	None	Clear	None
5/13/2022	ST4178	24	VactorTruck	IW1	None	Clear	None
5/13/2022	ST4322	28	VactorTruck	IW1	None	Clear	None
5/13/2022	ST4173	18	VactorTruck	IW1	None	Clear	None
5/14/2022	ST3401	12	VactorTruck	IW1	Minimal	Clear	None
5/16/2022	ST6872	24	VactorTruck	IW1	Minimal	Clear	None
5/16/2022	ST7041	18	VactorTruck	IW2	None	Clear	None
5/16/2022	ST7040	29	VactorTruck	IW2	None	Clear	None

Date	ID	Debris (in.) Removed	Vehicle	Driver	Active FLow?	Color?	Odor?
5/16/2022	ST6873	35	VactorTruck	IW1	Minimal	Clear	None
5/16/2022	ST6818	38	VactorTruck	IW1	None	Clear	None
5/16/2022	ST7042	14	VactorTruck	IW2	None	Clear	None
5/16/2022	ST6817	14	VactorTruck	IW1	Minimal	Clear	None
5/16/2022	ST7085	24	VactorTruck	IW2	None	Clear	None
5/16/2022	ST7043	22	VactorTruck	IW2	None	Clear	None
5/16/2022	ST6856	17	VactorTruck	IW1	None	Clear	None
5/16/2022	ST17274	10	VactorTruck	IW1	None	Clear	None
5/16/2022	ST6857	13	VactorTruck	IW1	Minimal	Clear	None
5/16/2022	ST17276	14	VactorTruck	IW1	None	Clear	None
5/16/2022	ST7083	23	VactorTruck	IW2	None	Clear	None
5/16/2022	ST6854	6	VactorTruck	IW1	Minimal	Clear	None
5/16/2022	ST3743	9	VactorTruck	IW1	None	Clear	None
5/16/2022	ST7044	15	VactorTruck	IW2	None	Clear	None
5/16/2022	ST6851	15	VactorTruck	IW1	Minimal	Clear	None
5/16/2022	ST6850	19	VactorTruck	IW1	Minimal	Clear	None
5/16/2022	ST3748	7	VactorTruck	IW1	None	Clear	None
5/16/2022	ST7045	19	VactorTruck	IW2	None	Clear	None
5/16/2022	ST6849	4	VactorTruck	IW1	Minimal	Clear	None
5/16/2022	ST3747	6	VactorTruck	IW1	None	Clear	None
5/16/2022	ST6837	1	VactorTruck	IW1	Minimal	Clear	None
5/16/2022	ST7047	32	VactorTruck	IW2	None	Clear	None
5/16/2022	ST210183	9	VactorTruck	IW1	None	Clear	None
5/16/2022	ST6838	1	VactorTruck	IW1	Minimal	Clear	None
5/16/2022	ST6842	16	VactorTruck	IW1	Minimal	Clear	None
5/16/2022	ST7050	16	VactorTruck	IW2	None	Clear	None
5/16/2022	ST6843	2	VactorTruck	IW1	Minimal	Clear	None
5/16/2022	ST3717	9	VactorTruck	IW1	None	Clear	None
5/16/2022	ST6845	12	VactorTruck	IW1	Minimal	Clear	None

Date	ID	Debris (in.) Removed	Vehicle	Driver	Active FLow?	Color?	Odor?
5/16/2022	ST7052	13	VactorTruck	IW2	None	Clear	None
5/16/2022	ST7051	19	VactorTruck	IW2	None	Clear	None
5/16/2022	ST3713	8	VactorTruck	IW1	None	Clear	None
5/16/2022	ST7055	11	VactorTruck	IW2	None	Clear	None
5/16/2022	ST7056	6	VactorTruck	IW2	None	Clear	None
5/16/2022	ST7062	22	VactorTruck	IW2	None	Clear	None
5/16/2022	ST7058	16	VactorTruck	IW2	None	Clear	None
5/16/2022	ST6846	10	VactorTruck	IW1	None	Clear	None
5/16/2022	ST6847	3	VactorTruck	IW1	None	Clear	None
5/16/2022	ST3710	5	VactorTruck	IW1	None	Clear	None
5/16/2022	ST6848	18	VactorTruck	IW1	Minimal	Clear	None
5/16/2022	ST3711	27	VactorTruck	IW1	Full	Clear	None
5/16/2022	ST3714	11	VactorTruck	IW1	None	Clear	None
5/16/2022	ST6852	17	VactorTruck	IW1	Minimal	Clear	None
5/16/2022	ST6853	9	VactorTruck	IW1	Minimal	Clear	None
5/16/2022	ST3715	8	VactorTruck	IW1	Full	Clear	None
5/16/2022	ST7059	31	VactorTruck	IW2	None	Clear	None
5/16/2022	ST7060	14	VactorTruck	IW2	None	Clear	None
5/16/2022	ST3718	7	VactorTruck	IW1	Minimal	Clear	None
5/16/2022	ST7061	17	VactorTruck	IW2	None	Clear	None
5/16/2022	ST9958	29	VactorTruck	IW2	None	Clear	None
5/16/2022	ST3666	6	VactorTruck	IW1	None	Clear	None
5/16/2022	ST210177	8	VactorTruck	IW1	None	Clear	None
5/16/2022	ST210176	8	VactorTruck	IW1	Full	Clear	None
5/17/2022	ST5755	8	VactorTruck	IW1	None	Clear	None
5/17/2022	ST5758	12	VactorTruck	IW1	None	Clear	None
5/17/2022	ST5764	17	VactorTruck	IW1	None	Clear	None
5/17/2022	ST5766	16	VactorTruck	IW1	None	Clear	None
5/17/2022	ST5771	17	VactorTruck	IW1	None	Clear	None

Date	ID	Debris (in.) Removed	Vehicle	Driver	Active FLow?	Color?	Odor?
5/17/2022	ST5770	20	VactorTruck	IW1	None	Clear	None
5/17/2022	ST14649	7	VactorTruck	IW1	None	Clear	None
5/17/2022	ST5390	9	VactorTruck	IW1	None	Clear	None
5/17/2022	ST5418	7	VactorTruck	IW1	None	Clear	None
5/17/2022	ST5359	11	VactorTruck	IW1	None	Clear	None
5/17/2022	ST5361	14	VactorTruck	IW1	None	Clear	None
5/17/2022	ST5346	17	VactorTruck	IW1	None	Clear	None
5/17/2022	ST5353	10	VactorTruck	IW1	None	Clear	None
5/17/2022	ST3689	8	VactorTruck	IW1	Minimal	Clear	None
5/17/2022	ST3687	8	VactorTruck	IW1	Minimal	Clear	None
5/17/2022	ST3690	12	VactorTruck	IW1	Full	Clear	None
5/18/2022	ST5207	18	VactorTruck	IW1	None	Clear	None
5/18/2022	ST5201	11	VactorTruck	IW1	None	Clear	None
5/18/2022	ST5190	13	VactorTruck	IW1	None	Clear	None
5/18/2022	ST5187	12	VactorTruck	IW1	None	Clear	None
5/18/2022	ST5180	3	VactorTruck	IW1	None	Clear	None
5/18/2022	ST5182	2	VactorTruck	IW1	None	Clear	None
5/18/2022	ST5232	3	VactorTruck	IW1	Full	Clear	None
5/18/2022	ST5235	22	VactorTruck	IW1	None	Clear	None
5/18/2022	ST5259	8	VactorTruck	IW1	None	Clear	None
5/18/2022	ST5252	10	VactorTruck	IW1	None	Clear	None
5/18/2022	ST5249	25	VactorTruck	IW1	None	Clear	None
5/18/2022	ST5331	15	VactorTruck	IW1	None	Clear	None
5/18/2022	ST5282	5	VactorTruck	IW1	None	Clear	None
5/20/2022	ST10894	5	VactorTruck	IW1	None	Clear	None
5/20/2022	ST7049	14	VactorTruck	IW2	None	Clear	None
5/20/2022	ST10893	5	VactorTruck	IW1	None	Clear	None
5/20/2022	ST7048	15	VactorTruck	IW2	None	Clear	None
5/20/2022	ST7082	15	VactorTruck	IW2	Minimal	Clear	None

Date	ID	Debris (in.) Removed	Vehicle	Driver	Active FLow?	Color?	Odor?
5/20/2022	ST10892	6	VactorTruck	IW1	None	Clear	None
5/20/2022	ST7080	15	VactorTruck	IW2	Minimal	Clear	None
5/20/2022	ST10891	7	VactorTruck	IW1	None	Clear	None
5/20/2022	ST7081	17	VactorTruck	IW2	None	Clear	None
5/20/2022	ST10890	7	VactorTruck	IW1	None	Clear	None
5/20/2022	ST7077	22	VactorTruck	IW2	None	Clear	None
5/20/2022	ST7076	10	VactorTruck	IW2	None	Clear	None
5/20/2022	ST10887	6	VactorTruck	IW1	None	Clear	None
5/20/2022	ST10882	4	VactorTruck	IW1	None	Clear	None
5/20/2022	ST7071	20	VactorTruck	IW2	Minimal	Clear	None
5/20/2022	ST10883	8	VactorTruck	IW1	None	Clear	None
5/20/2022	ST7072	11	VactorTruck	IW2	None	Clear	None
5/20/2022	TBD	8	VactorTruck	IW1	None	Clear	None
5/20/2022	ST7068	11	VactorTruck	IW2	None	Clear	None
5/20/2022	TBD	5	VactorTruck	IW1	None	Clear	None
5/23/2022	ST9967	3	VactorTruck	IW1	Minimal	NotClear	None
5/23/2022	ST9970	3	VactorTruck	IW1	None	NotClear	None
5/23/2022	ST9974	12	VactorTruck	IW1	Minimal	Clear	None
5/23/2022	ST9971	6	VactorTruck	IW1	Minimal	NotClear	None
5/23/2022	ST9969	28	VactorTruck	IW1	Minimal	NotClear	None
5/23/2022	ST9968	8	VactorTruck	IW1	Minimal	NotClear	None
5/23/2022	ST9966	6	VactorTruck	IW1	Minimal	NotClear	None
5/23/2022	ST9965	4	VactorTruck	IW1	None	NotClear	None
5/23/2022		4	VactorTruck	IW1	Full	NotClear	None
5/23/2022	ST17401	6	VactorTruck	IW1	None	NotClear	None
5/23/2022	ST17402	13	VactorTruck	IW1	Minimal	NotClear	None
5/23/2022	ST17403	5	VactorTruck	IW1	Minimal	Clear	None
5/23/2022	ST17406	4	VactorTruck	IW1	Minimal	NotClear	None
5/23/2022	ST17407	7	VactorTruck	IW1	Minimal	NotClear	None

Date	ID	Debris (in.) Removed	Vehicle	Driver	Active FLow?	Color?	Odor?
5/23/2022	ST17409	6	VactorTruck	IW1	Full	NotClear	None
5/23/2022	ST17408	2	VactorTruck	IW1	None	Clear	None
5/23/2022		4	VactorTruck	IW1	Minimal	NotClear	None
5/23/2022	ST9983	11	VactorTruck	IW1	None	Clear	None
5/23/2022	ST9979	6	VactorTruck	IW1	None	NotClear	None
5/23/2022	ST9977	6	VactorTruck	IW1	None	NotClear	None
5/23/2022	ST9978	9	VactorTruck	IW1	Minimal	NotClear	None
5/23/2022	ST9976	2	VactorTruck	IW1	Minimal	NotClear	None
5/23/2022	ST9975	3	VactorTruck	IW1	None	Clear	None
5/24/2022	ST7102	2	VactorTruck	IW1	None	Clear	None
5/24/2022	ST7104	3	VactorTruck	IW1	None	Clear	None
5/24/2022	ST7105	3	VactorTruck	IW1	None	Clear	None
5/24/2022	ST1090	13	VactorTruck	IW1	None	Clear	None
5/24/2022	ST1091	44	VactorTruck	IW1	None	Clear	None
5/24/2022	ST1092	15	VactorTruck	IW1	None	Clear	None
5/24/2022	ST210520	28	VactorTruck	IW1	None	Clear	None
5/24/2022	ST210521	22	VactorTruck	IW1	None	Clear	None
5/24/2022	ST1093	15	VactorTruck	IW1	None	Clear	None
5/24/2022	ST1094	12	VactorTruck	IW1	None	Clear	None
5/24/2022	ST210522	20	VactorTruck	IW1	Minimal	NotClear	None
5/24/2022	ST1082	1	VactorTruck	IW1	None	Clear	None
5/24/2022	ST1081	29	VactorTruck	IW1	Minimal	Clear	None
5/24/2022	ST1078	14	VactorTruck	IW1	None	Clear	None
5/24/2022	ST210527	6	VactorTruck	IW1	Minimal	NotClear	None
5/24/2022	ST210529	10	VactorTruck	IW1	Minimal	NotClear	None
5/24/2022	ST1079	13	VactorTruck	IW1	None	Clear	None
5/24/2022	ST1519	23	VactorTruck	IW1	None	Clear	None
5/24/2022	ST1520	3	VactorTruck	IW1	None	Clear	None
5/24/2022	ST1467	3	VactorTruck	IW1	None	Clear	None

Date	ID	Debris (in.) Removed	Vehicle	Driver	Active FLow?	Color?	Odor?
5/24/2022	ST1468	4	VactorTruck	IW1	None	Clear	None
5/24/2022	ST210528	11	VactorTruck	IW1	Minimal	NotClear	None
5/24/2022	ST1464	2	VactorTruck	IW1	None	Clear	None
5/24/2022	ST1462	2	VactorTruck	IW1	None	Clear	None
5/24/2022	ST210530	10	VactorTruck	IW1	None	NotClear	None
5/24/2022	ST1459	7	VactorTruck	IW1	None	Clear	None
5/24/2022	ST1474	38	VactorTruck	IW1	Full	Clear	None
5/24/2022	ST210531	13	VactorTruck	IW1	Minimal	NotClear	None
5/24/2022	ST210532	12	VactorTruck	IW1	Minimal	NotClear	None
5/24/2022	ST210524	30	VactorTruck	IW1	None	Clear	None
5/24/2022	ST1475	33	VactorTruck	IW1	None	Clear	None
5/24/2022	ST7108	2	VactorTruck	IW1	Minimal	NotClear	None
5/24/2022	ST210541	10	VactorTruck	IW1	Minimal	NotClear	None
5/24/2022	ST1441	3	VactorTruck	IW1	None	Clear	None
5/24/2022	ST1566	20	VactorTruck	IW1	None	Clear	None
5/25/2022	ST500005	17	VactorTruck	Other	None	NotClear	None
5/25/2022	ST500006	14	VactorTruck	Other	Minimal	NotClear	None
5/25/2022	ST500009	23	VactorTruck	Other	None	NotClear	None
5/25/2022	ST500010	25	VactorTruck	Other	Full	NotClear	None
5/25/2022	ST500002	12	VactorTruck	Other	Full	NotClear	None
5/25/2022	ST1636	10	VactorTruck	Other	Full	NotClear	None
5/25/2022	ST1563	18	VactorTruck	Other	Full	NotClear	None
5/25/2022	ST1562	12	VactorTruck	Other	Minimal	NotClear	None
5/25/2022	ST1565	16	VactorTruck	Other	Minimal	NotClear	None
5/25/2022	ST1030	24	VactorTruck	Other	Minimal	NotClear	None
5/25/2022	ST1036	12	VactorTruck	Other	Minimal	NotClear	None
5/25/2022	ST1035	36	VactorTruck	Other	Minimal	NotClear	None
5/25/2022	ST1033	18	VactorTruck	Other	None	NotClear	None
5/25/2022	ST1568	18	VactorTruck	Other	None	NotClear	None

Date	ID	Debris (in.) Removed	Vehicle	Driver	Active FLow?	Color?	Odor?
5/25/2022	ST1569	18	VactorTruck	Other	None	NotClear	None
5/25/2022	ST1640	18	VactorTruck	Other	None	NotClear	None
5/25/2022	ST1641	18	VactorTruck	Other	None	NotClear	None
5/25/2022	ST1643	12	VactorTruck	Other	None	NotClear	None
5/25/2022	ST1646	6	VactorTruck	Other	None	NotClear	None
5/26/2022	ST1353	5	VactorTruck	Other	None	NotClear	None
5/26/2022	ST6860	8	VactorTruck	IW2	Minimal	Clear	None
5/26/2022	ST1416	5	VactorTruck	Other	None	NotClear	None
5/26/2022	ST6861	17	VactorTruck	IW2	Minimal	Clear	None
5/26/2022	ST1419	12	VactorTruck	Other	None	NotClear	None
5/26/2022	ST1421	15	VactorTruck	Other	None	NotClear	None
5/26/2022	ST6869	11	VactorTruck	IW2	Minimal	Clear	None
5/26/2022	ST6863	10	VactorTruck	IW2	Minimal	Clear	None
5/26/2022	ST1425	11	VactorTruck	Other	None	NotClear	None
5/26/2022	ST6868	9	VactorTruck	IW2	Minimal	Clear	None
5/26/2022	ST6870	11	VactorTruck	IW2	Minimal	Clear	None
5/26/2022	ST1344	7	VactorTruck	Other	None	NotClear	None
5/26/2022	ST6859	17	VactorTruck	IW2	Minimal	Clear	None
5/26/2022	ST1345	8	VactorTruck	Other	None	NotClear	None
5/26/2022	ST6858	21	VactorTruck	IW2	Minimal	Clear	None
5/26/2022	ST1340	14	VactorTruck	Other	None	NotClear	None
5/26/2022	ST6828	9	VactorTruck	IW2	Minimal	Clear	None
5/26/2022	ST1350	8	VactorTruck	Other	None	NotClear	None
5/26/2022	ST6831	7	VactorTruck	IW2	Minimal	Clear	None
5/26/2022	ST6832	13	VactorTruck	IW2	Minimal	Clear	None
5/26/2022	ST1348	7	VactorTruck	Other	None	NotClear	None
5/26/2022	ST6833	11	VactorTruck	IW2	Minimal	Clear	None
5/26/2022	ST6836	9	VactorTruck	IW2	Minimal	Clear	None
5/26/2022	ST6835	2	VactorTruck	IW2	Minimal	Clear	None

Date	ID	Debris (in.) Removed	Vehicle	Driver	Active FLow?	Color?	Odor?
5/26/2022	ST1389	4	VactorTruck	Other	None	NotClear	None
5/26/2022	ST6820	14	VactorTruck	IW2	Minimal	Clear	None
5/26/2022	ST1393	19	VactorTruck	Other	None	NotClear	None
5/26/2022	ST6819	15	VactorTruck	IW2	Minimal	Clear	None
5/26/2022	ST500335	2	VactorTruck	IW2	None	Clear	None
5/26/2022	ST1396	17	VactorTruck	Other	None	NotClear	None
5/26/2022	ST9937	13	VactorTruck	IW2	Minimal	Clear	None
5/26/2022	ST210068	16	VactorTruck	Other	None	NotClear	None
5/26/2022	ST9938	9	VactorTruck	IW2	Minimal	Clear	None
5/26/2022	ST9933	3	VactorTruck	IW2	Minimal	Clear	None
5/26/2022	ST210067	10	VactorTruck	Other	None	NotClear	None
5/26/2022	ST210066	16	VactorTruck	Other	None	NotClear	None
5/26/2022	ST210065	23	VactorTruck	Other	None	NotClear	None
5/26/2022	ST8453	18	VactorTruck	Other	None	NotClear	None
5/26/2022	ST8452	2	VactorTruck	Other	None	NotClear	None
5/26/2022	ST8451	12	VactorTruck	Other	Full	NotClear	None
5/31/2022	ST13029		VactorTruck	IW2	None	NotClear	None
5/31/2022	ST13029	17	VactorTruck				
5/31/2022	ST13029	17	VactorTruck		None	NotClear	None
5/31/2022	ST13029	17	VactorTruck	IW2	None	NotClear	None
5/31/2022	ST13029	41	VactorTruck	IW2	None	Clear	None
5/31/2022	ST13027	15	VactorTruck	IW2	None	NotClear	None
5/31/2022	ST13027	15	VactorTruck	IW2	None	NotClear	None
5/31/2022	ST13032	13	VactorTruck	IW2	None	Clear	None
5/31/2022	ST13036	4	VactorTruck	IW2	None	Clear	None
5/31/2022	ST13039	11	VactorTruck	IW2	None	NotClear	None
5/31/2022	ST13038	21	VactorTruck	IW2	None	NotClear	None
5/31/2022	ST13047	10	VactorTruck	IW2	None	Clear	None
5/31/2022	ST13048	11	VactorTruck	IW2	Full	NotClear	None

Date	ID	Debris (in.) Removed	Vehicle	Driver	Active FLow?	Color?	Odor?
5/31/2022	ST13041	15	VactorTruck	IW2	None	Clear	None
5/31/2022	ST13040	13	VactorTruck	IW2	None	Clear	None
5/31/2022	ST13035	20	VactorTruck	IW2	None	Clear	None
6/3/2022	ST210565	22	VactorTruck	IW1	Minimal	Clear	None
6/3/2022	ST210563	20	VactorTruck	IW1	None	NotClear	None
6/7/2022	ST2058	22	VactorTruck	IW2	None	Clear	None
6/7/2022	ST3987	10	VactorTruck	IW1	None	Clear	None
6/7/2022	ST2056	16	VactorTruck	IW2	None	Clear	None
6/7/2022	ST3981	9	VactorTruck	IW1	None	Clear	None
6/7/2022	ST2064	19	VactorTruck	IW2	None	Clear	None
6/7/2022	ST2060	7	VactorTruck	IW2	None	Clear	None
6/7/2022	ST3989	7	VactorTruck	IW1	None	Clear	None
6/7/2022	ST2054	17	VactorTruck	IW2	None	Clear	None
6/7/2022	ST4004	16	VactorTruck	IW1	None	Clear	None
6/7/2022	ST1816	12	VactorTruck	IW2	None	Clear	None
6/7/2022	ST1818	3	VactorTruck	IW2	None	Clear	None
6/7/2022	ST9994	4	VactorTruck	IW2	None	Clear	None
6/7/2022	ST4007	12	VactorTruck	IW1	None	Clear	None
6/7/2022	ST9996	5	VactorTruck	IW2	None	Clear	None
6/7/2022	ST4001	11	VactorTruck	IW1	None	Clear	None
6/7/2022	ST9989	3	VactorTruck	IW2	None	Clear	None
6/7/2022	ST9984	6	VactorTruck	IW2	None	Clear	None
6/7/2022	ST9672	4	VactorTruck	IW1	Minimal	Clear	None
6/7/2022	ST9537	9	VactorTruck	IW2	None	Clear	None
6/7/2022	ST9648	20	VactorTruck	IW1	None	Clear	None
6/7/2022	ST9536	9	VactorTruck	IW2	None	Clear	None
6/7/2022	ST9637	12	VactorTruck	IW1	None	Clear	None
6/7/2022	ST9636	32	VactorTruck	IW1	None	Clear	None
6/7/2022	ST9635	8	VactorTruck	IW1	None	Clear	None

Date	ID	Debris (in.) Removed	Vehicle	Driver	Active FLow?	Color?	Odor?
6/7/2022	ST9640	14	VactorTruck	IW1	None	Clear	None
6/8/2022	ST11180	7	VactorTruck	IW2	Minimal	Clear	None
6/8/2022	ST11181	18	VactorTruck	IW2	Minimal	Clear	None
6/8/2022	ST11178	16	VactorTruck	IW2	Minimal	Clear	None
6/8/2022	ST11177	6	VactorTruck	IW2	Minimal	Clear	None
6/8/2022	ST11191	10	VactorTruck	IW2	Minimal	Clear	None
6/8/2022	ST11190	9	VactorTruck	IW2	Minimal	Clear	None
6/8/2022	ST12162	29	VactorTruck	IW1	None	Clear	None
6/8/2022	ST3903	7	VactorTruck	IW2	Minimal	Clear	None
6/8/2022	ST3902	5	VactorTruck	IW2	None	Clear	None
6/8/2022	ST3901	24	VactorTruck	IW2	Minimal	Clear	None
6/8/2022	ST3900	19	VactorTruck	IW2	None	Clear	None
6/8/2022	ST12163	28	VactorTruck	IW1	None	Clear	None
6/8/2022	ST3898	9	VactorTruck	IW2	Minimal	Clear	None
6/8/2022	ST3897	8	VactorTruck	IW2	None	Clear	None
6/8/2022	ST3896	8	VactorTruck	IW2	None	Clear	None
6/8/2022	ST12164	10	VactorTruck	IW1	None	Clear	None
6/8/2022	ST12165	7	VactorTruck	IW1	Minimal	Clear	None
6/8/2022	ST12161	12	VactorTruck	IW1	None	Clear	None
6/8/2022	ST3864	6	VactorTruck	IW2	None	Clear	None
6/8/2022	ST3866	18	VactorTruck	IW2	None	Clear	None
6/8/2022	ST3865	23	VactorTruck	IW2	None	Clear	None
6/8/2022	ST12166	15	VactorTruck	IW1	None	Clear	None
6/8/2022	ST3867	7	VactorTruck	IW2	None	Clear	None
6/8/2022	ST3862	12	VactorTruck	IW2	None	Clear	None
6/8/2022	ST12172	7	VactorTruck	IW1	None	Clear	None
6/8/2022	ST3868	20	VactorTruck	IW2	None	Clear	None
6/8/2022	ST12171	9	VactorTruck	IW1	Minimal	Clear	None
6/8/2022	ST3899	12	VactorTruck	IW2	Minimal	Clear	None

Date	ID	Debris (in.) Removed	Vehicle	Driver	Active FLow?	Color?	Odor?
6/9/2022	ST6928	19	VactorTruck	IW3	None	Clear	None
6/9/2022	ST6924	24	VactorTruck	IW3	Minimal	Clear	None
6/9/2022	ST3395	27	VactorTruck	Other	Minimal	NotClear	None
6/9/2022	ST3388	15	VactorTruck	Other	Minimal	NotClear	None
6/9/2022	ST3371	10	VactorTruck	Other	None	NotClear	None
6/9/2022	ST6922	6	VactorTruck	IW3	None	Clear	None
6/9/2022	ST13049	17	VactorTruck	IW2	None	Clear	None
6/9/2022	ST9115	15	VactorTruck	Other	None	NotClear	None
6/9/2022	ST9133	16	VactorTruck	Other	Minimal	NotClear	None
6/9/2022	ST9134	27	VactorTruck	Other	None	NotClear	None
6/9/2022	ST9112	13	VactorTruck	Other	None	NotClear	None
6/9/2022	ST13046	16	VactorTruck	IW2	None	Clear	None
6/9/2022	ST9111	3	VactorTruck	Other	None	Clear	None
6/9/2022	ST9104	6	VactorTruck	Other	None	Clear	None
6/9/2022	ST9103	10	VactorTruck	Other	None	NotClear	None
6/10/2022	ST12360	10	VactorTruck	Other	Minimal	NotClear	None
6/10/2022	ST12357	18	VactorTruck	Other	None	Clear	None
6/10/2022	ST12362	22	VactorTruck	Other	None	Clear	None
6/10/2022	ST12368	20	VactorTruck	Other	None	NotClear	None
6/10/2022	ST12380	7	VactorTruck	Other	None	NotClear	None
6/10/2022	ST12385	11	VactorTruck	Other	None	NotClear	None
6/10/2022	ST12382	17	VactorTruck	Other	None	NotClear	None
6/10/2022	ST12388	11	VactorTruck	Other	None	NotClear	None
6/10/2022	ST12392	22	VactorTruck	Other	None	NotClear	None
6/10/2022	ST12610	10	VactorTruck	Other	None	NotClear	None
6/10/2022	ST12614	4	VactorTruck	Other	None	NotClear	None
6/10/2022	ST12616	10	VactorTruck	Other	None	NotClear	None
6/10/2022	ST12581	9	VactorTruck	Other	None	NotClear	None
6/10/2022	ST12585	3	VactorTruck	Other	None	NotClear	None

Date	ID	Debris (in.) Removed	Vehicle	Driver	Active FLow?	Color?	Odor?
6/10/2022	ST12587	19	VactorTruck	Other	None	NotClear	None
6/14/2022	ST15693	17	VactorTruck	IW1	None	Clear	None
6/14/2022	ST15697	6	VactorTruck	IW1	Minimal	NotClear	None
6/14/2022	ST15695	5	VactorTruck	IW1	None	NotClear	None
6/14/2022	ST16344	8	VactorTruck	IW1	None	NotClear	None
6/14/2022	ST16343	17	VactorTruck	IW1	None	NotClear	None
6/14/2022	ST16346	39	VactorTruck	IW1	None	NotClear	None
6/14/2022	ST16364	24	VactorTruck	IW1	None	Clear	None
6/14/2022	ST16350	20	VactorTruck	IW1	None	NotClear	None
6/14/2022	ST16362	4	VactorTruck	IW1	None	Clear	None
6/14/2022	ST16361	29	VactorTruck	IW1	Minimal	NotClear	None
6/14/2022	ST16352	9	VactorTruck	IW1	None	Clear	None
6/14/2022	ST16354	12	VactorTruck	IW1	None	Clear	None
6/14/2022	ST16356	5	VactorTruck	IW1	None	Clear	None
6/14/2022	ST16360	8	VactorTruck	IW1	None	Clear	None
6/14/2022	ST16310	14	VactorTruck	IW1	None	Clear	None
6/14/2022	ST16312	12	VactorTruck	IW1	None	Clear	None
6/14/2022	ST16296	10	VactorTruck	IW1	None	Clear	None
6/14/2022	ST16292	7	VactorTruck	IW1	None	Clear	None
6/14/2022	ST16298	7	VactorTruck	IW1	None	Clear	None
6/14/2022	ST16300	12	VactorTruck	IW1	None	Clear	None
6/14/2022	ST16337	10	VactorTruck	IW1	None	Clear	None
6/14/2022	ST16340	13	VactorTruck	IW1	None	Clear	None
6/14/2022	ST16331	2	VactorTruck	IW1	None	Clear	None
6/14/2022	ST16330	2	VactorTruck	IW1	Minimal	NotClear	None
6/14/2022	ST16334	22	VactorTruck	IW1	None	Clear	None
6/14/2022	ST16326	8	VactorTruck	IW1	None	Clear	None
6/14/2022	ST15742	16	VactorTruck	IW1	None	Clear	None
6/14/2022	ST16322	26	VactorTruck	IW1	None	Clear	None

Date	ID	Debris (in.) Removed	Vehicle	Driver	Active FLow?	Color?	Odor?
6/14/2022	ST15745	16	VactorTruck	IW1	None	Clear	None
6/15/2022	ST6977	8	VactorTruck	IW1	None	Clear	None
6/15/2022	ST6976	16	VactorTruck	IW1	None	Clear	None
6/15/2022	ST6970	20	VactorTruck	IW1	None	Clear	None
6/15/2022	ST6971	12	VactorTruck	IW1	None	Clear	None
6/15/2022	ST6975	3	VactorTruck	IW1	None	Clear	None
6/15/2022	ST6973	8	VactorTruck	IW1	None	Clear	None
6/15/2022	ST6978	6	VactorTruck	IW1	None	Clear	None
6/15/2022	ST6881	6	VactorTruck	IW1	None	Clear	None
6/15/2022	ST6885	8	VactorTruck	IW1	None	Clear	None
6/15/2022	ST6886	7	VactorTruck	IW1	None	Clear	None
6/15/2022	ST6889	7	VactorTruck	IW1	None	Clear	None
6/15/2022	ST6887	5	VactorTruck	IW1	None	Clear	None
6/15/2022	ST6932	7	VactorTruck	IW1	None	Clear	None
6/15/2022	ST6919	7	VactorTruck	IW1	None	Clear	None
6/15/2022	ST6918	7	VactorTruck	IW1	None	Clear	None
6/15/2022	ST6914	5	VactorTruck	IW1	None	Clear	None
6/15/2022	ST1658	17	VactorTruck	IW2	Minimal	Clear	None
6/15/2022	ST6912	10	VactorTruck	IW1	None	NotClear	None
6/15/2022	ST6937	5	VactorTruck	IW1	Minimal	Clear	None
6/15/2022	ST1656	9	VactorTruck	IW2	Minimal	Clear	None
6/15/2022	ST6908	8	VactorTruck	IW1	None	Clear	None
6/15/2022	ST1654	11	VactorTruck	IW2	Minimal	Clear	None
6/15/2022	ST1650	16	VactorTruck	IW2	Minimal	Clear	None
6/15/2022	ST6934	6	VactorTruck	IW1	Minimal	Clear	None
6/15/2022	ST1652	5	VactorTruck	IW2	Minimal	Clear	None
6/15/2022	ST1644	7	VactorTruck	IW2	Minimal	Clear	None
6/15/2022	ST1682	6	VactorTruck	IW2	Minimal	NotClear	None
6/15/2022	ST1679	25	VactorTruck	IW2	None	NotClear	None

Date	ID	Debris (in.) Removed	Vehicle	Driver	Active FLow?	Color?	Odor?
6/16/2022	ST1666	4	VactorTruck	IW1	Minimal	Clear	None
6/16/2022	ST1669	4	VactorTruck	IW1	Minimal	NotClear	None
6/16/2022	ST1678	18	VactorTruck	IW1	Minimal	Clear	None
6/16/2022	ST1680	3	VactorTruck	IW2	Minimal	NotClear	None
6/16/2022	ST500001	10	VactorTruck	IW2	Minimal	NotClear	None
6/16/2022	ST1676	10	VactorTruck	IW2	None	NotClear	None
6/16/2022	ST1672	19	VactorTruck	IW2	None	Clear	None
6/16/2022	ST3908	11	VactorTruck	IW1	None	Clear	None
6/16/2022	ST3907	7	VactorTruck	IW1	Minimal	Clear	None
6/16/2022	ST3905	16	VactorTruck	IW1	None	Clear	None
6/16/2022	ST1671	31	VactorTruck	IW2	None	Clear	None
6/16/2022	ST3909	10	VactorTruck	IW1	None	NotClear	Slight
6/16/2022	ST1667	6	VactorTruck	IW2	Minimal	NotClear	None
6/16/2022	ST1664	4	VactorTruck	IW2	Minimal	NotClear	None
6/16/2022	ST1663	4	VactorTruck	IW2	None	Clear	None
6/16/2022	ST1661	7	VactorTruck	IW1	None	Clear	None
6/16/2022	ST1660	2	VactorTruck	IW2	None	Clear	None
6/16/2022	ST3859	8	VactorTruck	IW1	None	Clear	None
6/16/2022	ST3860	12	VactorTruck	IW1	None	Clear	None
6/16/2022	ST3869	4	VactorTruck	IW1	None	Clear	None
6/16/2022	ST1087	6	VactorTruck	IW1	None	Clear	None
6/16/2022	ST3870	8	VactorTruck	IW1	None	Clear	None
6/16/2022	ST1086	8	VactorTruck	IW1	None	Clear	None
6/16/2022	ST3872	6	VactorTruck	IW1	None	Clear	None
6/16/2022	ST3874	11	VactorTruck	IW1	None	Clear	None
6/16/2022	ST3873	4	VactorTruck	IW1	None	Clear	None
6/16/2022	ST1039	34	VactorTruck	IW1	None	Clear	None
6/16/2022	ST3871	8	VactorTruck	IW1	None	Clear	None
6/16/2022	ST1615	4	VactorTruck	IW2	Minimal	NotClear	None

Date	ID	Debris (in.) Removed	Vehicle	Driver	Active FLow?	Color?	Odor?
6/16/2022	ST3894	8	VactorTruck	IW1	None	Clear	None
6/16/2022	ST3889	8	VactorTruck	IW1	None	Clear	None
6/16/2022	ST1614	19	VactorTruck	IW2	Minimal	NotClear	None
6/16/2022	ST3884	4	VactorTruck	IW1	None	Clear	None
6/16/2022	ST1612	4	VactorTruck	IW2	Minimal	Clear	None
6/16/2022	ST3875	7	VactorTruck	IW1	Minimal	Clear	None
6/16/2022	ST3876	5	VactorTruck	IW1	Minimal	Clear	None
6/16/2022	ST1575	18	VactorTruck	IW2	Minimal	NotClear	None
6/16/2022	ST1578	3	VactorTruck	IW2	Minimal	NotClear	None
6/16/2022	ST3877	2	VactorTruck	IW1	None	Clear	None
6/16/2022	ST3878	10	VactorTruck	IW1	None	Clear	None
6/16/2022	ST3882	5	VactorTruck	IW1	None	Clear	None
6/17/2022	ST3795	4	VactorTruck	IW1	None	Clear	None
6/17/2022	ST15768	21	VactorTruck	IW2	Minimal	NotClear	None
6/17/2022	ST3791	4	VactorTruck	IW1	None	Clear	None
6/17/2022	ST3800	8	VactorTruck	IW1	None	Clear	None
6/17/2022	ST15765	17	VactorTruck	IW2	Minimal	NotClear	None
6/17/2022	ST3799	4	VactorTruck	IW1	None	Clear	None
6/17/2022	ST15853	21	VactorTruck	IW2	Minimal	NotClear	None
6/17/2022	ST10926	5	VactorTruck	IW1	None	Clear	None
6/17/2022	ST10924	16	VactorTruck	IW1	None	Clear	None
6/17/2022	ST15857	29	VactorTruck	IW2	None	Clear	None
6/17/2022	ST15858	16	VactorTruck	IW2	None	Clear	None
6/17/2022	ST10916	12	VactorTruck	IW1	None	Clear	None
6/17/2022	ST16368	17	VactorTruck	IW2	None	Clear	None
6/17/2022	ST10919	11	VactorTruck	IW1	None	Clear	None
6/17/2022	ST10920	7	VactorTruck	IW1	None	Clear	None
6/17/2022	ST10921	8	VactorTruck	IW1	None	Clear	None
6/17/2022	ST10918	9	VactorTruck	IW1	None	Clear	None

Date	ID	Debris (in.) Removed	Vehicle	Driver	Active FLow?	Color?	Odor?
6/17/2022	ST10917	10	VactorTruck	IW1	None	Clear	None
6/17/2022	ST210260	8	VactorTruck	IW2	None	Clear	None
6/17/2022	ST15862	8	VactorTruck	IW2	None	NotClear	None
6/17/2022	ST15855	27	VactorTruck	IW2	None	Clear	None
6/17/2022	ST15787	26	VactorTruck	IW2	None	Clear	None
6/17/2022	ST15759	12	VactorTruck	IW2	None	NotClear	None
6/17/2022	ST15761	10	VactorTruck	IW2	None	NotClear	None
6/17/2022	ST15751	4	VactorTruck	IW2	Minimal	NotClear	None
6/20/2022	ST10915	12	VactorTruck	IW1	Minimal	Clear	None
6/20/2022	ST11024	7	VactorTruck	IW2	Minimal	Clear	None
6/20/2022	ST12553	26	VactorTruck	IW2	None	Clear	None
6/20/2022	ST10964	10	VactorTruck	IW1	Minimal	Clear	None
6/20/2022	ST11027	15	VactorTruck	IW2	None	Clear	None
6/20/2022	ST12638	9	VactorTruck	IW2	Minimal	NotClear	None
6/20/2022	ST10966	12	VactorTruck	IW1	Minimal	Clear	None
6/20/2022	ST12681	20	VactorTruck	IW2	Minimal	NotClear	None
6/20/2022	ST11028	10	VactorTruck	IW2	None	Clear	None
6/20/2022	ST10967	13	VactorTruck	IW1	None	Clear	None
6/20/2022	ST11030	4	VactorTruck	IW2	None	Clear	None
6/20/2022	ST10965	13	VactorTruck	IW1	None	Clear	None
6/20/2022	ST12673	20	VactorTruck	IW2	None	Clear	None
6/20/2022	ST11031	13	VactorTruck	IW2	Minimal	Clear	None
6/20/2022	ST12692	20	VactorTruck	IW2	None	Clear	None
6/20/2022	ST10922	8	VactorTruck	IW1	None	Clear	None
6/20/2022	ST10993	10	VactorTruck	IW2	None	Clear	None
6/20/2022	ST12698	18	VactorTruck	IW2	None	Clear	None
6/20/2022	ST10923	9	VactorTruck	IW1	None	Clear	None
6/20/2022	ST10976	14	VactorTruck	IW2	Minimal	Clear	None
6/20/2022	ST10977	7	VactorTruck	IW2	None	Clear	None

Date	ID	Debris (in.) Removed	Vehicle	Driver	Active FLow?	Color?	Odor?
6/20/2022	ST12730	12	VactorTruck	IW2	None	Clear	None
6/20/2022	ST10925	9	VactorTruck	IW1	None	Clear	None
6/20/2022	ST10982	21	VactorTruck	IW2	None	Clear	None
6/20/2022	ST12732	5	VactorTruck	IW2	None	Clear	None
6/20/2022	ST12695	20	VactorTruck	IW2	None	Clear	None
6/20/2022	ST10999	10	VactorTruck	IW2	None	Clear	None
6/20/2022	ST11000	12	VactorTruck	IW2	Minimal	Clear	None
6/20/2022	ST17433	11	VactorTruck	IW1	None	Clear	None
6/20/2022	ST12689	24	VactorTruck	IW2	None	Clear	None
6/20/2022	ST11001	12	VactorTruck	IW2	None	Clear	None
6/20/2022	ST210516	9	VactorTruck	IW1	None	Clear	None
6/20/2022	ST12665	15	VactorTruck	IW2	Minimal	NotClear	None
6/20/2022	ST10997	17	VactorTruck	IW2	None	Clear	None
6/20/2022	ST12663	14	VactorTruck	IW2	None	Clear	None
6/20/2022	ST11003	9	VactorTruck	IW2	None	Clear	None
6/20/2022	ST11225	7	VactorTruck	IW1	None	Clear	None
6/20/2022	ST12669	10	VactorTruck	IW2	Minimal	NotClear	None
6/20/2022	ST11226	13	VactorTruck	IW1	None	Clear	None
6/20/2022	ST11006	1	VactorTruck	IW2	Minimal	Clear	None
6/20/2022	ST11007	8	VactorTruck	IW2	None	Clear	None
6/20/2022	ST11228	2	VactorTruck	IW1	None	Clear	None
6/20/2022	ST12679	13	VactorTruck	IW2	None	Clear	None
6/20/2022	ST10996	15	VactorTruck	IW2	None	Clear	None
6/20/2022	ST12618	3	VactorTruck	IW2	Minimal	NotClear	None
6/20/2022	ST11223	5	VactorTruck	IW1	None	Clear	None
6/20/2022	ST11002	11	VactorTruck	IW1	None	Clear	None
6/20/2022	ST12620	17	VactorTruck	IW2	None	Clear	None
6/20/2022	ST11222	7	VactorTruck	IW1	None	Clear	None
6/20/2022	ST12622	4	VactorTruck	IW2	Minimal	NotClear	None

Date	ID	Debris (in.) Removed	Vehicle	Driver	Active FLow?	Color?	Odor?
6/20/2022	ST11221	11	VactorTruck	IW1	None	Clear	None
6/20/2022	ST12556	3	VactorTruck	IW2	None	Clear	None
6/20/2022	ST12551	11	VactorTruck	IW2	Minimal	NotClear	None
6/20/2022	ST12565	4	VactorTruck	IW2	Minimal	NotClear	None
6/20/2022	ST7143	7	VactorTruck	IW1	None	Clear	None
6/20/2022	ST12591	15	VactorTruck	IW2	None	Clear	None
6/20/2022	ST7144	9	VactorTruck	IW1	None	Clear	None
6/20/2022	ST7135	12	VactorTruck	IW1	None	Clear	None
6/20/2022	ST7136	15	VactorTruck	IW1	None	Clear	None
6/21/2022	ST20458	12	VactorTruck	IW1	None	Clear	None
6/21/2022	ST20464	15	VactorTruck	IW1	None	Clear	None
6/21/2022	ST20462	13	VactorTruck	IW1	None	Clear	None
6/21/2022	ST20457	12	VactorTruck	IW1	None	Clear	None
6/21/2022	ST20463	14	VactorTruck	IW1	None	Clear	None
6/21/2022	ST20461	8	VactorTruck	IW1	None	Clear	None
6/21/2022	ST20468	14	VactorTruck	IW1	None	Clear	None
6/21/2022	ST20452	12	VactorTruck	IW1	None	Clear	None
6/21/2022	ST20456	6	VactorTruck	IW1	None	Clear	None
6/21/2022	ST20451	10	VactorTruck	IW1	None	Clear	None
6/21/2022	ST20448	13	VactorTruck	IW1	None	Clear	None
6/21/2022	ST20466	17	VactorTruck	IW1	None	Clear	None
6/21/2022	ST20466	17	VactorTruck	IW1	None	Clear	None
6/21/2022	ST20449	11	VactorTruck	IW1	None	Clear	None
6/21/2022	ST6172	6	VactorTruck	IW1	None	Clear	None
6/21/2022	ST6136	2	VactorTruck	IW1	None	NotClear	None
6/21/2022	ST6137	9	VactorTruck	IW1	None	Clear	None
6/21/2022	ST6185	19	VactorTruck	IW1	None	Clear	None
6/21/2022	ST6208	13	VactorTruck	IW1	Minimal	Clear	None
6/21/2022	ST6193	6	VactorTruck	IW1	None	Clear	None

Date	ID	Debris (in.) Removed	Vehicle	Driver	Active FLow?	Color?	Odor?
6/21/2022	ST500174	2	VactorTruck	IW1	None	Clear	None
6/21/2022	ST500173	18	VactorTruck	IW1	Minimal	NotClear	None
6/21/2022	ST3346	11	VactorTruck	IW1	None	Clear	None
6/21/2022	ST3355	11	VactorTruck	IW1	None	Clear	None
6/21/2022	ST3354	12	VactorTruck	IW1	Minimal	Clear	None
6/21/2022	ST3347	4	VactorTruck	IW1	None	Clear	None
6/21/2022	ST3349	3	VactorTruck	IW1	None	Clear	None
6/21/2022	ST3356	7	VactorTruck	IW1	None	Clear	None
6/21/2022	ST3339	13	VactorTruck	IW1	None	Clear	None
6/21/2022	ST3342	11	VactorTruck	IW1	None	Clear	None
6/22/2022	ST12100	6	VactorTruck	IW1	None	NotClear	None
6/22/2022	ST12105	20	VactorTruck	IW1	None	Clear	None
6/22/2022	ST12112	12	VactorTruck	IW1	None	Clear	None
6/22/2022	ST12116	10	VactorTruck	IW1	None	NotClear	None
6/22/2022	ST12117	10	VactorTruck	IW1	None	NotClear	None
6/22/2022	ST12111	15	VactorTruck	IW1	Full	Clear	None
6/22/2022	ST12110	10	VactorTruck	IW1	None	NotClear	None
6/22/2022	ST12104	10	VactorTruck	IW1	None	NotClear	None
6/22/2022	ST12101	15	VactorTruck	IW1	Minimal	NotClear	None
6/22/2022	ST210280	9	VactorTruck	IW1	None	NotClear	None
6/22/2022	ST210281	10	VactorTruck	IW1	None	NotClear	None
6/22/2022	ST12185	10	VactorTruck	IW1	None	Clear	None
6/22/2022	ST12183	7	VactorTruck	Other	None	NotClear	None
6/22/2022	ST12188	5	VactorTruck	Other	None	NotClear	None
6/22/2022	ST12000	13	VactorTruck	Other	None	NotClear	None
6/22/2022	ST11734	7	VactorTruck	IW1	None	Clear	None
6/22/2022	ST11731	6	VactorTruck	IW1	None	Clear	None
6/22/2022	ST11729	7	VactorTruck	IW1	None	Clear	None
6/22/2022	ST11998	20	VactorTruck	Other	None	NotClear	None

Date	ID	Debris (in.) Removed	Vehicle	Driver	Active FLow?	Color?	Odor?
6/22/2022	ST11653	7	VactorTruck	IW1	None	NotClear	None
6/22/2022	ST11997	16	VactorTruck	Other	None	NotClear	None
6/22/2022	ST11650	7	VactorTruck	IW1	None	Clear	None
6/22/2022	ST11648	13	VactorTruck	IW1	None	Clear	None
6/22/2022	ST12038	13	VactorTruck	Other	None	NotClear	None
6/22/2022	ST11645	5	VactorTruck	IW1	Minimal	NotClear	None
6/22/2022	ST11642	10	VactorTruck	IW1	Minimal	NotClear	None
6/22/2022	ST11639	8	VactorTruck	IW1	None	Clear	None
6/22/2022	ST12033	21	VactorTruck	Other	None	NotClear	None
6/22/2022	ST210277	8	VactorTruck	IW1	None	Clear	None
6/22/2022	ST11678	4	VactorTruck	IW1	None	Clear	None
6/22/2022	ST11680	20	VactorTruck	IW1	None	Clear	None
6/22/2022	ST12035	19	VactorTruck	Other	None	NotClear	None
6/22/2022	ST12080	7	VactorTruck	Other	None	NotClear	None
6/22/2022	ST12082	14	VactorTruck	Other	None	Clear	None
6/23/2022	ST2226	15	VactorTruck	IW1	None	Clear	None
6/23/2022	ST2499	5	VactorTruck	IW1	Minimal	Clear	None
6/23/2022	ST2501	36	VactorTruck	IW1	None	Clear	None
6/23/2022	ST2503	26	VactorTruck	IW1	None	Clear	None
6/23/2022	ST2506	11	VactorTruck	IW1	None	Clear	None
6/23/2022	ST2509	2	VactorTruck	IW1	Minimal	Clear	None
6/23/2022	ST14154	5	VactorTruck	IW1	None	Clear	None
6/23/2022	ST14151	8	VactorTruck	IW1	None	Clear	None
6/23/2022	ST14145	8	VactorTruck	IW1	None	Clear	None
6/23/2022	ST2930	9	VactorTruck	IW1	None	Clear	None
6/23/2022	ST2944	6	VactorTruck	IW1	None	Clear	None
6/23/2022	ST2943	8	VactorTruck	IW1	None	Clear	None
6/23/2022	ST2947	7	VactorTruck	IW1	None	Clear	None
6/23/2022	ST2954	16	VactorTruck	IW1	None	Clear	None

Date	ID	Debris (in.) Removed	Vehicle	Driver	Active FLow?	Color?	Odor?
6/23/2022	ST2479	16	VactorTruck	IW1	None	Clear	None
6/23/2022	ST9405	15	VactorTruck	IW1	None	Clear	None
6/23/2022	ST9446	8	VactorTruck	IW1	None	Clear	None
6/23/2022	ST9444	20	VactorTruck	IW1	None	Clear	None
6/23/2022	ST9440	5	VactorTruck	IW1	None	Clear	None
6/23/2022	ST9482	13	VactorTruck	IW1	None	Clear	None
6/24/2022	ST2482	11	VactorTruck	IW1	None	Clear	None
6/24/2022	ST1146	15	VactorTruck	IW3	None	Clear	None
6/24/2022	ST2481	7	VactorTruck	IW1	None	Clear	None
6/24/2022	ST16214	11	VactorTruck	IW3	None	Clear	None
6/24/2022	ST1144	24	VactorTruck	IW3	Minimal	Clear	None
6/24/2022	ST2480	17	VactorTruck	IW1	None	Clear	None
6/24/2022	ST2480	17	VactorTruck	IW1	None	Clear	None
6/24/2022	ST16213	16	VactorTruck	IW3	None	Clear	None
6/24/2022	ST1126	1	VactorTruck	IW3	None	Clear	None
6/24/2022	ST3046	17	VactorTruck	IW1	None	Clear	None
6/24/2022	ST1125	5	VactorTruck	IW3	None	Clear	None
6/24/2022	ST3052	7	VactorTruck	IW1	None	Clear	None
6/24/2022	ST1124	4	VactorTruck	IW3	None	Clear	None
6/24/2022	ST16207	16	VactorTruck	IW3	None	Clear	None
6/24/2022	ST1131	2	VactorTruck	IW3	None	Clear	None
6/24/2022	ST16170	16	VactorTruck	IW3	None	Clear	None
6/24/2022	ST3054	10	VactorTruck	IW1	None	Clear	None
6/24/2022	ST1130	4	VactorTruck	IW3	None	Clear	None
6/24/2022	ST1132	8	VactorTruck	IW3	None	Clear	None
6/24/2022	ST3047	11	VactorTruck	IW1	None	Clear	None
6/24/2022	ST16167	15	VactorTruck	IW3	None	Clear	None
6/24/2022	ST1134	6	VactorTruck	IW3	None	Clear	None
6/24/2022	ST1135	3	VactorTruck	IW3	Minimal	NotClear	None

Date	ID	Debris (in.) Removed	Vehicle	Driver	Active FLow?	Color?	Odor?
6/24/2022	ST3058	15	VactorTruck	IW1	None	Clear	None
6/24/2022	ST16190	17	VactorTruck	IW3	None	Clear	None
6/24/2022	ST1136	14	VactorTruck	IW3	None	Clear	None
6/24/2022	ST3060	11	VactorTruck	IW1	None	Clear	None
6/24/2022	ST16205	16	VactorTruck	IW3	None	Clear	None
6/24/2022	ST1186	10	VactorTruck	IW3	None	Clear	None
6/24/2022	ST16211	11	VactorTruck	IW3	None	Clear	None
6/24/2022	ST3065	4	VactorTruck	IW1	None	Clear	None
6/24/2022	ST1256	0	VactorTruck	IW3	None	N/A	None
6/24/2022	ST16216	10	VactorTruck	IW3	None	Clear	None
6/24/2022	ST1257	1	VactorTruck	IW3	None	N/A	None
6/24/2022	ST3061	4	VactorTruck	IW1	None	Clear	None
6/24/2022	ST3066	4	VactorTruck	IW1	None	Clear	None
6/24/2022	ST1252	12	VactorTruck	IW3	None	Clear	None
6/24/2022	ST16579	7	VactorTruck	IW3	None	Clear	None
6/24/2022	ST3057	20	VactorTruck	IW1	None	Clear	None
6/24/2022	ST210006	1	VactorTruck	IW3	None	Clear	None
6/24/2022	ST16583	16	VactorTruck	IW3	None	Clear	None
6/24/2022	ST3044	4	VactorTruck	IW1	None	Clear	None
6/24/2022	ST3043	10	VactorTruck	IW1	None	Clear	None
6/24/2022	ST500253	8	VactorTruck	IW1	None	Clear	None
6/24/2022	ST15875	7	VactorTruck	IW3	None	Clear	None
6/24/2022	ST15870	14	VactorTruck	IW3	None	Clear	None
6/24/2022	ST500252	15	VactorTruck	IW1	None	Clear	None
6/24/2022	ST15814	11	VactorTruck	IW3	None	Clear	None
6/24/2022	ST3075	5	VactorTruck	IW1	None	Clear	None
6/24/2022	ST3077	17	VactorTruck	IW1	None	Clear	None
6/24/2022	ST3074	5	VactorTruck	IW1	None	Clear	None
6/24/2022	ST15812	12	VactorTruck	IW3	None	Clear	None

Date	ID	Debris (in.) Removed	Vehicle	Driver	Active FLow?	Color?	Odor?
6/24/2022	ST8057	13	VactorTruck	IW3	None	Clear	None
6/24/2022	ST15827	6	VactorTruck	IW3	None	Clear	None
6/24/2022	ST8056	18	VactorTruck	IW3	None	Clear	None
6/24/2022	ST15829	23	VactorTruck	IW3	None	Clear	None
6/24/2022	ST8449	17	VactorTruck	IW3	None	Clear	None
6/24/2022	ST8450	5	VactorTruck	IW3	None	Clear	None
6/27/2022	ST6572	12	VactorTruck	IW1	None	Clear	None
6/27/2022	ST6575	9	VactorTruck	IW1	Minimal	Clear	None
6/27/2022	ST6578	11	VactorTruck	IW1	None	Clear	None
6/27/2022	ST6579	12	VactorTruck	IW1	None	Clear	None
6/27/2022	ST6587	9	VactorTruck	IW1	None	NotClear	None
6/27/2022	ST6588	9	VactorTruck	IW1	None	Clear	None
6/27/2022	ST6615	8	VactorTruck	IW1	None	Clear	None
6/27/2022	ST6597	8	VactorTruck	IW1	None	Clear	None
6/27/2022	ST13563	6	VactorTruck	IW1	None	Clear	None
6/27/2022	ST13565	5	VactorTruck	IW1	None	Clear	None
6/27/2022	ST13560	5	VactorTruck	IW1	None	Clear	None
6/27/2022	ST13852	29	VactorTruck	IW1	None	Clear	None
6/27/2022	ST13845	38	VactorTruck	IW1	None	Clear	None
6/27/2022	ST13017	5	VactorTruck	IW1	None	Clear	None
6/27/2022	ST13014	9	VactorTruck	IW1	None	Clear	None
6/27/2022	ST13843	9	VactorTruck	IW1	Minimal	Clear	None
6/27/2022	ST13850	14	VactorTruck	IW1	None	Clear	None
6/28/2022	ST15189	14	VactorTruck	Other	None	NotClear	None
6/28/2022	ST15187	13	VactorTruck	Other	None	NotClear	None
6/28/2022	ST15188	17	VactorTruck	Other	None	NotClear	Slight
6/28/2022	ST15190	10	VactorTruck	Other	None	Clear	None
6/28/2022	ST15163	17	VactorTruck	Other	None	Clear	None
6/28/2022	ST15161	4	VactorTruck	IW2	Minimal	Clear	None

Date	ID	Debris (in.) Removed	Vehicle	Driver	Active FLow?	Color?	Odor?
6/28/2022	ST15167	8	VactorTruck	Other	None	Clear	None
6/28/2022	ST15170	16	VactorTruck	IW3	Minimal	Clear	None
6/28/2022	ST15383	9	VactorTruck	IW2	None	NotClear	None
6/28/2022	ST15385	13	VactorTruck	IW2	None	NotClear	None
6/28/2022	ST15299	15	VactorTruck	IW2	None	Clear	None
6/28/2022	ST15297	4	VactorTruck	IW2	None	Clear	None
6/28/2022	ST15302	15	VactorTruck	IW2	None	NotClear	None
6/28/2022	ST15305	12	VactorTruck	IW2	None	NotClear	None
6/28/2022	ST15311	16	VactorTruck	IW2	None	Clear	None
6/28/2022	ST15314	15	VactorTruck	IW1	None	NotClear	None
6/28/2022	ST15410	28	VactorTruck	IW2	None	NotClear	None
6/28/2022	ST15406	29	VactorTruck	IW2	None	NotClear	None
6/28/2022	ST15432	35	VactorTruck	IW2	None	NotClear	None
6/29/2022	ST13246	24	VactorTruck	IW2	None	Clear	None
6/29/2022	ST13244	18	VactorTruck	IW2	None	Clear	None
6/29/2022	ST13228	24	VactorTruck	IW2	None	NotClear	None
6/29/2022	ST13227	14	VactorTruck	IW2	None	Clear	None
6/29/2022	ST15778	19	VactorTruck	IW1	None	Clear	None
6/29/2022	ST15776	20	VactorTruck	IW2	None	NotClear	None
6/29/2022	ST15797	7	VactorTruck	IW2	None	NotClear	None
6/29/2022	ST15780	23	VactorTruck	IW2	None	Clear	None
6/29/2022	ST15802	16	VactorTruck	IW2	None	Clear	None
6/29/2022	ST15802	16	VactorTruck	IW2	None	Clear	None
6/30/2022	ST15873	5	VactorTruck	IW1	None	Clear	None
6/30/2022	ST210568	25	VactorTruck	IW1	None	Clear	None
6/30/2022	ST15819	12	VactorTruck	IW1	Minimal	NotClear	None
6/30/2022	ST210569	19	VactorTruck	IW1	None	Clear	None
6/30/2022	ST15833	11	VactorTruck	IW1	Minimal	NotClear	None
6/30/2022	ST15831	7	VactorTruck	IW1	Minimal	NotClear	None

Date	ID	Debris (in.) Removed	Vehicle	Driver	Active FLow?	Color?	Odor?
6/30/2022	ST15899	13	VactorTruck	IW1	Minimal	NotClear	None
6/30/2022	ST15899	13	VactorTruck	IW1	Minimal	NotClear	None
6/30/2022	ST15773	18	VactorTruck	IW1	Minimal	NotClear	None
6/30/2022	ST210567	17	VactorTruck	IW1	None	Clear	None
6/30/2022	ST15771	11	VactorTruck	IW1	Minimal	NotClear	None
6/30/2022	ST210556	16	VactorTruck	IW1	None	Clear	None
6/30/2022	ST15781	22	VactorTruck	IW1	None	Clear	None
6/30/2022	ST210270	14	VactorTruck	IW1	None	Clear	None
6/30/2022	ST210551	12	VactorTruck	IW1	None	Clear	Slight
6/30/2022	ST10525	19	VactorTruck	IW1	None	NotClear	None
6/30/2022	ST10522	26	VactorTruck	IW1	None	NotClear	None
6/30/2022	ST15804	20	VactorTruck	IW1	None	NotClear	None
6/30/2022	ST10520	16	VactorTruck	IW1	Minimal	NotClear	None
6/30/2022	ST210552	23	VactorTruck	IW1	None	Clear	None
6/30/2022	ST10466	16	VactorTruck	IW1	Minimal	NotClear	None
6/30/2022	ST10462	17	VactorTruck	IW1	None	NotClear	None
6/30/2022	ST10420	2	VactorTruck	IW1	Full	NotClear	None
6/30/2022	ST15806	11	VactorTruck	IW1	Minimal	NotClear	None
6/30/2022	ST210554	13	VactorTruck	IW1	None	Clear	None
6/30/2022	ST10472	9	VactorTruck	IW1	None	NotClear	None
6/30/2022	ST10474	9	VactorTruck	IW1	Minimal	NotClear	None
6/30/2022	ST10470	19	VactorTruck	IW1	None	NotClear	None
6/30/2022		4	VactorTruck	IW1	Minimal	NotClear	None
6/30/2022	ST210559	12	VactorTruck	IW1	None	Clear	None
6/30/2022	ST210562	2	VactorTruck	IW1	None	Clear	None
6/30/2022	ST10471	14	VactorTruck	IW1	Minimal	NotClear	None
6/30/2022	ST210560	19	VactorTruck	IW1	None	Clear	None
6/30/2022	ST15808	12	VactorTruck	IW1	None	NotClear	None
6/30/2022	ST10389	6	VactorTruck	IW1	None	Clear	None

Date	ID	Debris (in.) Removed	Vehicle	Driver	Active FLow?	Color?	Odor?
6/30/2022	ST10388	7	VactorTruck	IW1	None	Clear	None
6/30/2022	ST210558	11	VactorTruck	IW1	None	Clear	None
6/30/2022	ST10378	7	VactorTruck	IW1	Minimal	NotClear	None
6/30/2022	ST10376	4	VactorTruck	IW1	None	Clear	None
6/30/2022	ST10376	4	VactorTruck	IW1	None	Clear	None
6/30/2022	ST15843	25	VactorTruck	IW1	Minimal	NotClear	None
6/30/2022	ST10381	7	VactorTruck	IW1	None	Clear	None
6/30/2022	ST10382	7	VactorTruck	IW1	None	Clear	None
6/30/2022	ST10382	7	VactorTruck	IW1	None	Clear	None
6/30/2022	ST210555	10	VactorTruck	IW1	None	Clear	None
6/30/2022	ST15841	20	VactorTruck	IW1	None	Clear	None
6/30/2022	ST10575	16	VactorTruck	IW1	None	Clear	None
6/30/2022	ST10577	4	VactorTruck	IW1	None	Clear	None
6/30/2022	ST10540	16	VactorTruck	IW1	Minimal	Clear	None
6/30/2022	ST10538	9	VactorTruck	IW1	None	Clear	None
6/30/2022	ST10535	12	VactorTruck	IW1	Minimal	NotClear	None
7/5/2022	ST4359	11	VactorTruck	Other	None	NotClear	None
7/5/2022	ST3413	6	VactorTruck	IW1	None	Clear	None
7/5/2022	ST3412	3	VactorTruck	IW1	None	Clear	None
7/5/2022	ST3414	4	VactorTruck	IW1	None	Clear	None
7/5/2022	ST4288	20	VactorTruck	Other	None	NotClear	None
7/5/2022	ST3447	7	VactorTruck	IW1	None	Clear	None
7/5/2022	ST4287	7	VactorTruck	Other	None	NotClear	None
7/5/2022	ST3448	6	VactorTruck	IW1	Minimal	Clear	None
7/5/2022	ST4368	5	VactorTruck	Other	None	NotClear	None
7/5/2022	ST3449	6	VactorTruck	IW1	Minimal	Clear	None
7/5/2022	ST4366	10	VactorTruck	Other	None	NotClear	None
7/5/2022	ST13043	6	VactorTruck	IW1	None	Clear	None
7/5/2022	ST3446	6	VactorTruck	IW1	None	Clear	None

Date	ID	Debris (in.) Removed	Vehicle	Driver	Active FLow?	Color?	Odor?
7/5/2022	ST3453	5	VactorTruck	IW1	None	Clear	None
7/5/2022	ST4020	13	VactorTruck	Other	None	Clear	None
7/5/2022	ST13044	10	VactorTruck	IW1	None	Clear	None
7/5/2022	ST3220	4	VactorTruck	IW1	Minimal	NotClear	None
7/5/2022	ST4021	26	VactorTruck	Other	None	NotClear	None
7/5/2022	ST3223	6	VactorTruck	IW1	Minimal	NotClear	None
7/5/2022	ST13042	60	VactorTruck	IW1	None	Clear	None
7/5/2022	ST3185	10	VactorTruck	IW1	None	NotClear	None
7/5/2022	ST3237	10	VactorTruck	IW1	None	Clear	None
7/5/2022	ST4024	18	VactorTruck	Other	None	NotClear	None
7/5/2022	ST13033	23	VactorTruck	IW1	None	NotClear	None
7/5/2022	ST13030	20	VactorTruck	IW1	Full	NotClear	None
7/5/2022	ST3231	9	VactorTruck	IW1	None	Clear	None
7/5/2022	ST4023	20	VactorTruck	Other	None	NotClear	None
7/5/2022	ST13028	14	VactorTruck	IW1	None	NotClear	None
7/5/2022	ST2690	6	VactorTruck	IW1	None	Clear	None
7/5/2022	ST3200	9	VactorTruck	IW1	None	Clear	None
7/5/2022	ST3198	13	VactorTruck	IW1	Minimal	Clear	None
7/5/2022	ST2689	4	VactorTruck	IW1	None	Clear	None
7/5/2022	ST2692	17	VactorTruck	IW1	Minimal	NotClear	None
7/5/2022	ST3753	6	VactorTruck	IW1	Minimal	NotClear	None
7/5/2022	ST11435	14	VactorTruck	IW1	None	NotClear	None
7/5/2022	ST3697	13	VactorTruck	IW1	None	NotClear	None
7/5/2022	ST5342	34	VactorTruck	Other	None	NotClear	None
7/5/2022	ST5350	3	VactorTruck	Other	None	NotClear	None
7/5/2022	ST3879	7	VactorTruck	IW1	None	Clear	None
7/5/2022	ST5351	2	VactorTruck	Other	None	NotClear	None
7/5/2022	ST3880	8	VactorTruck	IW1	None	Clear	None
7/5/2022	ST3881	9	VactorTruck	IW1	None	Clear	None

Date	ID	Debris (in.) Removed	Vehicle	Driver	Active FLow?	Color?	Odor?
7/5/2022	ST9166	18	VactorTruck	Other	None	NotClear	None
7/5/2022	ST9164	40	VactorTruck	Other	None	Clear	None
7/6/2022	ST5274	2	VactorTruck	Other	None	NotClear	None
7/6/2022	ST5270	7	VactorTruck	Other	None	NotClear	None
7/6/2022	ST2707	6	VactorTruck	IW1	None	Clear	None
7/6/2022	ST5263	24	VactorTruck	Other	None	Clear	None
7/6/2022	ST11422	3	VactorTruck	IW1	None	Clear	None
7/6/2022	ST5185	4	VactorTruck	Other	None	NotClear	None
7/6/2022	ST5192	7	VactorTruck	Other	None	NotClear	None
7/6/2022	ST11419	8	VactorTruck	IW1	None	Clear	None
7/6/2022	ST5203	6	VactorTruck	Other	None	NotClear	None
7/6/2022	ST5210	9	VactorTruck	Other	None	NotClear	None
7/6/2022	ST11414	4	VactorTruck	IW1	None	Clear	None
7/6/2022	ST4198	30	VactorTruck	IW2	None	Clear	None
7/6/2022	ST4170	12	VactorTruck	Other	None	Clear	None
7/6/2022	ST2714	12	VactorTruck	IW1	None	Clear	None
7/6/2022	ST4170	12	VactorTruck	Other	None	NotClear	None
7/6/2022	ST4185	9	VactorTruck	Other	None	NotClear	None
7/6/2022	ST4196	26	VactorTruck	IW2	None	Clear	None
7/6/2022	ST2712	8	VactorTruck	IW1	None	Clear	None
7/6/2022	ST4184	14	VactorTruck	Other	None	NotClear	None
7/6/2022	ST4201	21	VactorTruck	IW2	None	Clear	None
7/6/2022	ST2717	6	VactorTruck	IW1	None	Clear	None
7/6/2022	ST4214	28	VactorTruck	Other	None	NotClear	None
7/6/2022	ST5717	20	VactorTruck	IW2	None	Clear	None
7/6/2022	ST4213	32	VactorTruck	Other	None	NotClear	None
7/6/2022	ST2722	6	VactorTruck	IW1	None	Clear	None
7/6/2022	ST2724	8	VactorTruck	IW1	Minimal	Clear	None
7/6/2022	ST5719	9	VactorTruck	IW2	None	Clear	None

Date	ID	Debris (in.) Removed	Vehicle	Driver	Active FLow?	Color?	Odor?
7/6/2022	ST4230	18	VactorTruck	Other	None	NotClear	None
7/6/2022	ST2728	7	Other	IW1	None	Clear	None
7/6/2022	ST210223	9	VactorTruck	IW1	None	Clear	None
7/6/2022	ST5675	17	VactorTruck	IW2	None	Clear	None
7/6/2022	ST5693	33	VactorTruck	IW3	None	Clear	None
7/6/2022	ST5567	11	VactorTruck	Other	None	NotClear	None
7/6/2022	ST5296	0	VactorTruck	IW2	Minimal	Clear	None
7/6/2022	ST5595	14	VactorTruck	Other	Full	NotClear	None
7/6/2022	ST5294	7	VactorTruck	IW2	None	Clear	None
7/6/2022	ST5596	9	VactorTruck	Other	None	NotClear	None
7/6/2022	TBD	5	VactorTruck	Other	None	NotClear	None
7/6/2022	TBD	2	VactorTruck	IW1	Minimal	Clear	None
7/6/2022	ST5622	4	VactorTruck	Other	None	NotClear	None
7/6/2022	TBD	15	VactorTruck	IW2			
7/6/2022	ST1936	20	VactorTruck	Other	None	NotClear	None
7/7/2022	ST13569	11	VactorTruck	IW1	None	Clear	None
7/7/2022	ST13571	14	VactorTruck	IW1	None	Clear	None
7/7/2022	ST13577	9	VactorTruck	IW1	None	Clear	None
7/7/2022	ST13573	14	VactorTruck	IW1	None	Clear	None
7/7/2022	ST13855	12	VactorTruck	IW1	None	Clear	None
7/7/2022	ST13856	9	VactorTruck	IW1	None	Clear	None
7/7/2022	ST13825	18	VactorTruck	IW1	None	Clear	None
7/7/2022	ST13797	15	VactorTruck	IW1	None	Clear	None
7/7/2022	ST13789	12	VactorTruck	IW1	None	Clear	None
7/7/2022	ST13790	27	VactorTruck	IW1	None	Clear	None
7/7/2022	ST13792	14	VactorTruck	IW1	None	Clear	None
7/7/2022	ST13793	6	VactorTruck	IW1	None	Clear	None
7/7/2022	ST13596	13	VactorTruck	IW1	None	Clear	None
7/7/2022	ST13598	13	VactorTruck	IW1	None	Clear	None

Date	ID	Debris (in.) Removed	Vehicle	Driver	Active FLow?	Color?	Odor?
7/8/2022	ST12589	12	VactorTruck	IW1	Minimal	NotClear	None
7/8/2022	ST12569	9	VactorTruck	IW1	Minimal	Clear	None
7/8/2022	ST12573	7	VactorTruck	IW1	Minimal	NotClear	None
7/8/2022	ST11552	37	VactorTruck	IW1	None	Clear	None
7/8/2022	ST11555	40	VactorTruck	IW2	None	Clear	None
7/8/2022	ST11554	23	VactorTruck	IW2	None	Clear	None
7/8/2022	ST11557	21	VactorTruck	IW2	None	Clear	None
7/8/2022	ST11559	34	VactorTruck	IW2	None	Clear	None
7/8/2022	ST11567	4	VactorTruck	IW2	None	Clear	None
7/11/2022	ST500037	14	VactorTruck	Other	None	NotClear	None
7/11/2022	ST500036	12	VactorTruck	Other	Minimal	NotClear	None
7/11/2022	ST13239	21	VactorTruck	Other	None	NotClear	None
7/11/2022	ST2784	11	VactorTruck	IW1	Minimal	NotClear	None
7/11/2022	ST13240	12	VactorTruck	Other	None	NotClear	None
7/11/2022	ST2787	20	VactorTruck	IW1	None	Clear	None
7/11/2022	ST2781	7	VactorTruck	IW1	Minimal	NotClear	None
7/11/2022	ST1496	7	VactorTruck	Other	None	NotClear	None
7/11/2022	ST1497	3	VactorTruck	Other	None	NotClear	None
7/11/2022	ST2778	9	VactorTruck	IW1	None	Clear	None
7/11/2022	ST2762	6	VactorTruck	IW1	None	NotClear	None
7/11/2022	ST2762	6	VactorTruck	IW1	Full	NotClear	None
7/11/2022	ST1487	21	VactorTruck	Other	Minimal	NotClear	None
7/11/2022	ST2751	12	VactorTruck	IW1	None	Clear	None
7/11/2022	ST1486	8	VactorTruck	Other	None	Clear	None
7/11/2022	ST1481	7	VactorTruck	Other	None	NotClear	None
7/11/2022	ST2083	10	VactorTruck	IW1	None	NotClear	None
7/11/2022	ST1480	20	VactorTruck	Other	None	NotClear	None
7/11/2022	ST1611	17	VactorTruck	Other	Minimal	NotClear	None
7/11/2022	ST2868	7	VactorTruck	IW1	Minimal	NotClear	None

Date	ID	Debris (in.) Removed	Vehicle	Driver	Active FLow?	Color?	Odor?
7/11/2022	ST1609	12	VactorTruck	Other	Full	NotClear	None
7/11/2022	ST1603	15	VactorTruck	Other	None	NotClear	None
7/11/2022	ST2870	10	VactorTruck	IW1	Minimal	NotClear	None
7/11/2022	ST1602	2	VactorTruck	Other	None	NotClear	None
7/11/2022	ST1439	6	VactorTruck	Other	Minimal	NotClear	None
7/11/2022	ST2895	10	VactorTruck	IW1	None	N/A	None
7/11/2022	ST2895	10	VactorTruck	IW1	None	Clear	None
7/11/2022	ST2894	10	VactorTruck	IW1	None	Clear	None
7/11/2022	ST2891	10	VactorTruck	IW1	None	Clear	None
7/11/2022	ST2892	28	VactorTruck	IW1	None	Clear	None
7/11/2022	ST210308	10	VactorTruck	IW1	None	Clear	None
7/11/2022	ST2887	8	VactorTruck	IW1	None	Clear	None
7/11/2022	ST1754	10	VactorTruck	Other	None	NotClear	None
7/11/2022	ST1752	13	VactorTruck	Other	None	NotClear	None
7/11/2022	ST1750	15	VactorTruck	IW1	None	Clear	None
7/11/2022	ST1756	12	VactorTruck	IW1	Minimal	NotClear	None
7/11/2022	ST1717	12	VactorTruck	Other	None	Clear	None
7/11/2022	ST1719	15	VactorTruck	Other	Minimal	NotClear	None
7/11/2022	ST2652	19	VactorTruck	Other	None	NotClear	None
7/12/2022	ST2650	20	VactorTruck	Other	None	NotClear	None
7/12/2022	ST2648	15	VactorTruck	Other	None	NotClear	None
7/12/2022	ST210427	23	VactorTruck	Other	None	NotClear	None
7/12/2022	ST20207	29	VactorTruck	Other	None	NotClear	None
7/12/2022	ST20206	12	VactorTruck	Other	None	NotClear	None
7/12/2022	ST20205	7	VactorTruck	Other	None	NotClear	None
7/12/2022	ST11929	9	VactorTruck	Other	None	NotClear	Strong
7/12/2022	ST11928	5	VactorTruck	Other	None	NotClear	None
7/12/2022	ST11807	17	VactorTruck	Other	None	NotClear	None
7/12/2022	ST12002	7	VactorTruck	Other	None	NotClear	None

Date	ID	Debris (in.) Removed	Vehicle	Driver	Active FLow?	Color?	Odor?
7/12/2022	ST12067	10	VactorTruck	Other	None	NotClear	None
7/12/2022	ST12065	23	VactorTruck	Other	None	NotClear	None
7/12/2022	ST12078	5	VactorTruck	Other	None	NotClear	None
7/12/2022	ST12077	9	VactorTruck	Other	None	NotClear	None
7/12/2022	ST12076	12	VactorTruck	Other	None	NotClear	None
7/12/2022	ST12052	12	VactorTruck	Other	None	NotClear	None
7/12/2022	ST12056	8	VactorTruck	Other	None	NotClear	None
7/13/2022	ST5423	7	VactorTruck	IW3	None	Clear	None
7/13/2022	ST14656	25	VactorTruck	IW3	None	Clear	None
7/13/2022	ST15789	22	VactorTruck	IW2	None	Clear	None
7/13/2022	ST5409	7	VactorTruck	IW3	None	Clear	None
7/13/2022	ST5407	10	VactorTruck	IW3	Minimal	Clear	None
7/13/2022	ST5411	6	VactorTruck	IW3	None	Clear	None
7/13/2022	ST15871	26	VactorTruck	IW2	None	Clear	None
7/13/2022	ST5403	28	VactorTruck	IW3	None	Clear	None
7/13/2022	ST5370	1	VactorTruck	IW3	None	Clear	None
7/13/2022	ST5367	3	VactorTruck	IW3	None	Clear	None
7/13/2022	ST5376	7	VactorTruck	IW3	None	Clear	None
7/13/2022	ST5334	23	VactorTruck	IW3	None	Clear	None
7/13/2022	ST16587	36	VactorTruck	IW2	None	Clear	None
7/13/2022	ST5278	5	VactorTruck	Other	None	NotClear	None
7/13/2022	ST16303	2	VactorTruck	IW2	None	Clear	None
7/13/2022	ST16317	2	VactorTruck	IW2	None	Clear	None
7/13/2022	ST5301	4	VactorTruck	Other	None	NotClear	None
7/13/2022	ST5247	15	VactorTruck	IW2	None	Clear	None
7/13/2022	ST5299	6	VactorTruck	Other	None	NotClear	None
7/13/2022	ST5245	16	VactorTruck	IW2	Minimal	Clear	None
7/13/2022	ST5295	10	VactorTruck	Other	None	NotClear	None
7/13/2022	ST14642	15	VactorTruck	Other	None	NotClear	None

Date	ID	Debris (in.) Removed	Vehicle	Driver	Active FLow?	Color?	Odor?
7/13/2022	ST14639	6	VactorTruck	IW2	None	NotClear	Slight
7/13/2022	ST14644	10	VactorTruck	IW2	None	Clear	None
7/13/2022	ST14643	11	VactorTruck	IW2	None	Clear	None
7/13/2022	ST10169	24	VactorTruck	IW2	None	Clear	None
7/13/2022	ST10171	20	VactorTruck	Other	None	NotClear	None
7/13/2022	ST10173	4	VactorTruck	Other	None	NotClear	None
7/13/2022	ST10180	13	VactorTruck	IW2	None	Clear	None
7/13/2022	ST10178	10	VactorTruck	IW2	None	Clear	None
7/13/2022	ST10188	10	VactorTruck	IW2	None	Clear	None
7/13/2022	ST10186	10	VactorTruck	IW2	None	Clear	None
7/14/2022	ST16664	12	VactorTruck	IW2	Full	Clear	Strong
7/14/2022	ST13073	38	VactorTruck	IW1	None	Clear	None
7/14/2022	ST13647	27	VactorTruck	IW1	None	Clear	None
7/14/2022	ST13661	28	VactorTruck	IW1	None	Clear	None
7/14/2022	ST13651	9	VactorTruck	IW1	None	Clear	None
7/14/2022	ST16663	9	VactorTruck	IW2	None	Clear	Slight
7/14/2022	ST13653	5	VactorTruck	IW1	None	Clear	None
7/14/2022	ST13656	5	VactorTruck	IW1	None	Clear	None
7/14/2022	ST16650	1	VactorTruck	IW2	None	Clear	None
7/14/2022	ST13658	5	VactorTruck	IW1	None	Clear	None
7/14/2022	ST16638	22	VactorTruck	IW2	None	NotClear	Strong
7/14/2022	ST13627	30	VactorTruck	IW1	None	Clear	None
7/14/2022	ST16640	7	VactorTruck	IW2	None	Clear	Slight
7/14/2022	ST16571	3	VactorTruck	IW2	None	Clear	None
7/14/2022	ST13624	37	VactorTruck	IW1	None	Clear	None
7/14/2022	ST13632	30	VactorTruck	IW1	None	Clear	None
7/14/2022	ST2809	10	VactorTruck	IW1	None	Clear	None
7/14/2022	ST2807	18	VactorTruck	IW1	None	Clear	None
7/14/2022	ST13426	9	VactorTruck	IW1	None	Clear	None

Date	ID	Debris (in.) Removed	Vehicle	Driver	Active FLow?	Color?	Odor?
7/14/2022	ST2838	5	VactorTruck	IW1	None	Clear	None
7/14/2022	ST12972	6	VactorTruck	IW1	None	Clear	None
7/15/2022	ST9036	8	VactorTruck	IW2	None	Clear	None
7/15/2022	ST3240	42	VactorTruck	IW2	Minimal	NotClear	Slight
7/15/2022	ST9038	8	VactorTruck	IW2	None	Clear	None
7/15/2022	ST3241	35	VactorTruck	IW2	Minimal	NotClear	Slight
7/15/2022	ST9033	12	VactorTruck	IW2	None	Clear	None
7/15/2022	ST3863	32	VactorTruck	IW2	Minimal	NotClear	Slight
7/15/2022	ST9030	16	VactorTruck	IW2	None	Clear	None
7/15/2022	ST9108	8	VactorTruck	IW2	None	Clear	None
7/15/2022	ST11199	38	VactorTruck	IW2	Minimal	NotClear	Slight
7/15/2022	ST7202	40	VactorTruck	IW2	Minimal	NotClear	Slight
7/15/2022	ST7204	43	VactorTruck	IW2	Minimal	NotClear	Slight
7/15/2022	ST10746	6	VactorTruck	IW2	None	Clear	None
7/15/2022	ST10748	5	VactorTruck	IW2	None	Clear	None
7/15/2022	ST10351	4	VactorTruck	IW2	None	Clear	None
7/15/2022	ST1279	5	VactorTruck	IW2	None	Clear	Slight
7/15/2022	ST10347	10	VactorTruck	IW2	None	Clear	None
7/15/2022	ST1278	26	VactorTruck	IW2	None	NotClear	Strong
7/15/2022	ST10349	8	VactorTruck	IW2			None
7/15/2022	ST1274	20	VactorTruck	IW2	None	Clear	Slight
7/15/2022	ST1275	1	VactorTruck	IW2	None	Clear	Slight
7/15/2022	ST1286	10	VactorTruck	IW2	None	NotClear	Slight
7/15/2022	ST14936	22	VactorTruck	IW1	None	Clear	None
7/15/2022	ST10349	5	VactorTruck	IW2	None	Clear	None
7/15/2022	ST1284	13	VactorTruck	IW2	Minimal	NotClear	Slight
7/15/2022	ST10093	12	VactorTruck	IW2	None	NotClear	None
7/15/2022	ST10091	18	VactorTruck	IW2	None	Clear	None
7/15/2022	ST14944	37	VactorTruck	IW1	None	Clear	None

Date	ID	Debris (in.) Removed	Vehicle	Driver	Active FLow?	Color?	Odor?
7/15/2022	ST1999	44	VactorTruck	IW2	Minimal	NotClear	Slight
7/15/2022	ST14950	41	VactorTruck	IW1	None	Clear	None
7/15/2022	ST8021	5	VactorTruck	IW2	None	Clear	None
7/15/2022	ST8027	8	VactorTruck	IW2	None	Clear	None
7/15/2022	ST1997	47	VactorTruck	IW2	Minimal	NotClear	Slight
7/15/2022	ST8397	20	VactorTruck	IW2	None	Clear	None
7/15/2022	ST14954	40	VactorTruck	IW1	None	Clear	None
7/15/2022	ST1268	14	VactorTruck	IW2	Minimal	NotClear	Slight
7/15/2022	ST8424	9	VactorTruck	IW2	None	Clear	None
7/15/2022	ST8428	33	VactorTruck	Other	None	Clear	None
7/15/2022	ST1950	18	VactorTruck	IW2	Minimal	NotClear	Slight
7/15/2022	ST14961	41	VactorTruck	IW1	None	Clear	None
7/15/2022	ST1957	29	VactorTruck	IW2	Minimal	NotClear	Slight
7/15/2022	ST8430	22	VactorTruck	IW2	None	Clear	None
7/15/2022	ST1956	36	VactorTruck	IW2	Minimal	NotClear	Slight
7/15/2022	ST9557	20	VactorTruck	IW2	None	Clear	None
7/15/2022	ST9556	14	VactorTruck	IW2	None	Clear	None
7/19/2022	ST4232	2	VactorTruck	IW2	None	Clear	None
7/19/2022	ST4233	5	VactorTruck	IW2	Minimal	Clear	None
7/19/2022	ST4235	3	VactorTruck	IW2	Minimal	Clear	None
7/19/2022	ST4216	11	VactorTruck	IW2	None	Clear	None
7/19/2022	ST4218	12	VactorTruck	IW2	None	Clear	None
7/19/2022	ST4299	3	VactorTruck	IW2	None	Clear	None
7/19/2022	ST4302	8	VactorTruck	IW2	None	Clear	None
7/19/2022	ST5542	4	VactorTruck	IW2	None	Clear	None
7/19/2022	ST5539	3	VactorTruck	IW2	None	Clear	None
7/19/2022	ST5811	5	VactorTruck	IW2	None	Clear	None
7/19/2022	ST5809	4	VactorTruck	IW2	None	Clear	None
7/20/2022	ST10394	8	VactorTruck	IW1	None	Clear	None

Date	ID	Debris (in.) Removed	Vehicle	Driver	Active FLow?	Color?	Odor?
7/20/2022	ST10396	15	VactorTruck	IW1	None	Clear	None
7/20/2022	ST10398	7	VactorTruck	IW1	None	Clear	None
7/20/2022	ST10400	6	VactorTruck	IW1	None	Clear	None
7/20/2022	ST10401	6	VactorTruck	IW1	None	Clear	None
7/20/2022	ST16392	14	VactorTruck	IW1	Minimal	Clear	Slight
7/20/2022	ST10669	28	VactorTruck	IW1	None	Clear	None
7/20/2022	ST16197	8	VactorTruck	IW1	None	Clear	None
7/20/2022	ST10699	23	VactorTruck	IW1	None	Clear	None
7/20/2022	ST10696	24	VactorTruck	IW1	Minimal	Clear	None
7/20/2022	ST16184	12	VactorTruck	IW1	None	Clear	None
7/20/2022	ST10697	20	VactorTruck	IW1	None	Clear	None
7/20/2022	ST10698	28	VactorTruck	IW1	None	Clear	None
7/20/2022	ST16182	8	VactorTruck	IW1	None	NotClear	None
7/20/2022	ST10703	2	VactorTruck	IW1	Minimal	Clear	None
7/20/2022	ST16181	8	VactorTruck	IW1	None	Clear	None
7/20/2022	ST15888	11	VactorTruck	IW1	None	Clear	None
7/20/2022	ST10710	4	VactorTruck	IW1	None	Clear	None
7/20/2022	ST15885	9	VactorTruck	IW1	None	Clear	None
7/20/2022	ST10721	18	VactorTruck	IW1	None	Clear	None
7/20/2022	ST10724	17	VactorTruck	IW1	None	Clear	None
7/20/2022	ST10726	16	VactorTruck	IW1	None	Clear	None
7/20/2022	ST10735	2	VactorTruck	IW1	None	Clear	None
7/21/2022	ST500030	6	VactorTruck	IW2	Minimal	NotClear	Slight
7/21/2022	ST15739	34	VactorTruck	IW1	None	Clear	None
7/21/2022	ST3473	22	VactorTruck	IW2	Minimal	NotClear	Slight
7/21/2022	ST15590	5	VactorTruck	IW1	None	Clear	None
7/21/2022	ST3365	2	VactorTruck	IW2	Full	NotClear	Slight
7/21/2022	ST3512	18	VactorTruck	IW2	Minimal	NotClear	Slight
7/21/2022	ST15552	7	VactorTruck	IW1	None	Clear	None

Date	ID	Debris (in.) Removed	Vehicle	Driver	Active FLow?	Color?	Odor?
7/21/2022	ST3510	22	VactorTruck	IW2	Minimal	NotClear	Slight
7/21/2022	ST15547	15	VactorTruck	IW1	None	Clear	None
7/21/2022	ST3509	12	VactorTruck	IW2	Minimal	NotClear	Strong
7/21/2022	ST3513	17	VactorTruck	IW2	Minimal	NotClear	Slight
7/21/2022	ST15514	4	VactorTruck	IW1	None	Clear	None
7/21/2022	ST15512	13	VactorTruck	IW1	None	Clear	None
7/21/2022	ST15500	12	VactorTruck	IW1	None	Clear	None
7/21/2022	ST2932	12	VactorTruck	IW2	Full	NotClear	Slight
7/21/2022	ST15502	13	VactorTruck	IW1	None	Clear	None
7/21/2022	ST2949	1	VactorTruck	IW2	Minimal	NotClear	None
7/21/2022	ST15544	11	VactorTruck	IW1	None	Clear	None
7/21/2022	ST2242	8	VactorTruck	IW2	Minimal	NotClear	Slight
7/21/2022	ST15543	13	VactorTruck	IW1	None	Clear	None
7/21/2022	ST2240	15	VactorTruck	IW2	Minimal	NotClear	Slight
7/21/2022	ST15541	15	VactorTruck	IW1	None	Clear	None
7/21/2022	ST15562	13	VactorTruck	IW1	None	Clear	None
7/21/2022	ST8538	18	VactorTruck	IW2	None	Clear	Slight
7/21/2022	ST15560	21	VactorTruck	IW1	None	Clear	None
7/21/2022	ST8555	12	VactorTruck	IW2	None	Clear	Slight
7/21/2022	ST8554	12	VactorTruck	IW2	Minimal	NotClear	Slight
7/21/2022	ST8663	19	VactorTruck	IW1	None	NotClear	None
7/21/2022	ST20060	28	VactorTruck	IW1	None	Clear	None
7/21/2022	ST8543	11	VactorTruck	IW2	None	NotClear	Strong
7/21/2022	ST8542	17	VactorTruck	IW2	Minimal	NotClear	Slight
7/21/2022	ST8661	17	VactorTruck	IW1	None	Clear	None
7/21/2022	ST8575	24	VactorTruck	IW2	None	Clear	Slight
7/21/2022	ST8586	23	VactorTruck	IW2	None	Clear	Slight
7/22/2022	ST1228	12	VactorTruck	IW2	Minimal	NotClear	Slight
7/22/2022	ST1226	13	VactorTruck	IW2	None	Clear	Slight

Date	ID	Debris (in.) Removed	Vehicle	Driver	Active FLow?	Color?	Odor?
7/22/2022	ST1224	10	VactorTruck	IW2	Minimal	NotClear	Slight
7/22/2022	ST15558	7	VactorTruck	IW1	None	Clear	None
7/22/2022	ST1222	11	VactorTruck	IW2	Minimal	NotClear	Slight
7/22/2022	ST500287	13	VactorTruck	IW1	None	Clear	None
7/22/2022	ST1762	13	VactorTruck	IW2	None	Clear	Slight
7/22/2022	ST15584	6	VactorTruck	IW1	None	Clear	None
7/22/2022	ST15582	16	VactorTruck	IW1	None	Clear	None
7/22/2022	ST1758	7	VactorTruck	IW2	Minimal	NotClear	Slight
7/22/2022	ST15586	12	VactorTruck	IW1	None	Clear	None
7/22/2022	ST1765	25	VactorTruck	IW2	Minimal	NotClear	Slight
7/22/2022	ST15735	14	VactorTruck	IW1	None	Clear	None
7/22/2022	ST15733	13	VactorTruck	IW1	None	Clear	None
7/22/2022	ST15731	12	VactorTruck	IW1	None	Clear	None
7/22/2022	ST15672	12	VactorTruck	IW1	None	Clear	None
7/22/2022	ST15668	16	VactorTruck	IW1	Minimal	Clear	None
7/22/2022	ST15674	19	VactorTruck	IW1	None	Clear	None
7/22/2022	ST15663	54	VactorTruck	IW1	None	Clear	None
7/22/2022	ST15665	25	VactorTruck	IW1	None	Clear	None
7/25/2022	ST11253	6	VactorTruck	IW1	None	NotClear	None
7/25/2022	ST6731	14	VactorTruck	IW2	Minimal	NotClear	Slight
7/25/2022	ST11250	32	VactorTruck	IW1	None	Clear	None
7/25/2022	ST11247	16	VactorTruck	IW1	None	NotClear	None
7/25/2022	ST6706	24	VactorTruck	IW2	None	Clear	Slight
7/25/2022	ST11245	21	VactorTruck	IW1	None	NotClear	None
7/25/2022	ST11239	9	VactorTruck	IW1	None	NotClear	None
7/25/2022	ST6657	16	VactorTruck	IW2	Minimal	NotClear	Slight
7/25/2022	ST11220	16	VactorTruck	IW1	None	Clear	None
7/25/2022	ST6658	19	VactorTruck	IW2	Minimal	NotClear	Slight
7/25/2022	ST11219	20	VactorTruck	IW1	Minimal	NotClear	None

Date	ID	Debris (in.) Removed	Vehicle	Driver	Active FLow?	Color?	Odor?
7/25/2022	ST6661	25	VactorTruck	IW2	None	Clear	None
7/25/2022	ST6662	13	VactorTruck	IW2	Minimal	NotClear	Slight
7/25/2022	ST6665	38	VactorTruck	IW2	None	Clear	Slight
7/25/2022	ST6667	10	VactorTruck	IW2	None	Clear	Slight
7/25/2022	ST9923	7	VactorTruck	IW2	Minimal	NotClear	Slight
7/25/2022	ST9925	20	VactorTruck	IW2	Minimal	NotClear	Slight
7/25/2022	ST9927	3	VactorTruck	IW2	None	Clear	None
7/25/2022	ST9929	19	VactorTruck	IW2	Minimal	NotClear	Strong
7/25/2022	ST6751	19	VactorTruck	IW2	None	Clear	None
7/25/2022	ST8574	21	VactorTruck	IW2	None	Clear	None
7/25/2022	ST8573	24	VactorTruck	IW2	None	Clear	None
7/25/2022	ST8588	20	VactorTruck	IW2	None	Clear	None
7/25/2022	ST8590	32	VactorTruck	IW2	None	Clear	None
7/25/2022	ST8605	13	VactorTruck	IW2	None	Clear	None
7/25/2022	ST8607	15	VactorTruck	IW2	None	Clear	None
7/25/2022	ST8611	32	VactorTruck	IW2	None	Clear	None
7/26/2022	ST9786	18	VactorTruck	IW2	None	NotClear	Slight
7/26/2022	ST9788	35	VactorTruck	IW2	None	Clear	Slight
7/26/2022	ST9782	11	VactorTruck	IW2	None	Clear	Slight
7/26/2022	ST9781	6	VactorTruck	IW2	None	Clear	Slight
7/26/2022	ST9798	37	VactorTruck	IW2	None	Clear	Slight
7/26/2022	ST9801	31	VactorTruck	IW2	None	Clear	Slight
7/26/2022	ST9766	1	VactorTruck	IW2	None	Clear	Slight
7/26/2022	ST9764	1	VactorTruck	IW2	None	Clear	Slight
7/26/2022	ST9762	14	VactorTruck	IW2	None	Clear	Slight
7/26/2022	ST9506	7	VactorTruck	IW2	None	Clear	Slight
7/26/2022	ST9508	8	VactorTruck	IW2	None	Clear	Strong
7/26/2022	ST9602	5	VactorTruck	IW2	None	Clear	Slight
7/26/2022	ST9600	12	VactorTruck	IW2	None	Clear	Strong

Date	ID	Debris (in.) Removed	Vehicle	Driver	Active FLow?	Color?	Odor?
7/26/2022	ST9511	19	VactorTruck	IW2	None	Clear	None
7/26/2022	ST9513	34	VactorTruck	IW2	None	Clear	None
7/26/2022	ST9540	50	VactorTruck	IW2	None	Clear	Slight
7/26/2022	ST9534	16	VactorTruck	IW2	None	Clear	Slight
7/26/2022	ST9608	14	VactorTruck	IW2	None	Clear	None
7/26/2022	ST9615	19	VactorTruck	IW2	None	Clear	None
7/26/2022	ST9609	8	VactorTruck	IW2	None	NotClear	None
7/27/2022	ST9442	22	VactorTruck	IW2	None	NotClear	Slight
7/27/2022	ST9435	34	VactorTruck	IW2	None	Clear	None
7/27/2022	ST9436	36	VactorTruck	IW2	None	Clear	None
7/27/2022	ST9467	33	VactorTruck	IW2	None	Clear	None
7/27/2022	ST9465	26	VactorTruck	IW2	None	Clear	None
7/27/2022	ST9463	25	VactorTruck	IW2	None	Clear	Slight
7/27/2022	ST9400	11	VactorTruck	IW2	None	Clear	None
7/27/2022	ST9351	39	VactorTruck	IW2	None	Clear	None
7/27/2022	ST9353	34	VactorTruck	IW2	None	Clear	Slight
7/27/2022	ST12028	29	VactorTruck	IW2	None	Clear	None
7/27/2022	ST9280	2	VactorTruck	IW2	None	Clear	None
7/27/2022	ST9094	39	VactorTruck	IW2	None	Clear	None
7/27/2022	ST9095	27	VactorTruck	IW2	None	Clear	None
7/27/2022	ST9124	10	VactorTruck	IW2	Full	Clear	None
7/27/2022	ST9322	14	VactorTruck	IW2	None	Clear	None
7/27/2022	ST9490	24	VactorTruck	IW2	None	Clear	None
7/27/2022	ST13142	8	VactorTruck	IW2	None	Clear	None
7/27/2022	ST13140	12	VactorTruck	IW2	None	Clear	None
7/27/2022	ST13138	20	VactorTruck	IW2	None	Clear	None
7/27/2022	ST13136	16	VactorTruck	IW2	None	Clear	None
7/28/2022	ST17493	8	VactorTruck	IW3	None	NotClear	None
7/28/2022	ST4379	8	VactorTruck	IW3	None	NotClear	None

Date	ID	Debris (in.) Removed	Vehicle	Driver	Active FLow?	Color?	Odor?
7/28/2022	ST4380	16	VactorTruck	IW3	None	NotClear	None
7/28/2022	ST4378	1	VactorTruck	IW3	None	Clear	None
7/28/2022	ST4386	2	VactorTruck	IW3	None	NotClear	None
7/28/2022	ST10456	15	VactorTruck	IW2	None	Clear	None
7/28/2022	ST4384	21	VactorTruck	IW3	None	Clear	None
7/28/2022	ST4044	6	VactorTruck	IW3	None	Clear	None
7/28/2022	ST10451	10	VactorTruck	IW2	None	Clear	None
7/28/2022	ST4047	4	VactorTruck	IW3	None	Clear	None
7/28/2022	ST17490	5	VactorTruck	IW3	None	Clear	None
7/28/2022	ST10448	23	VactorTruck	IW2	None	Clear	None
7/28/2022	ST17491	9	VactorTruck	IW3	None	Clear	None
7/28/2022	ST10450	22	VactorTruck	IW2	None	Clear	None
7/28/2022	ST17492	9	VactorTruck	IW3	None	Clear	None
7/28/2022	ST14930	6	VactorTruck	IW2	None	Clear	None
7/28/2022	ST17497	13	VactorTruck	IW3	None	Clear	None
7/28/2022	ST14929	1	VactorTruck	IW2	Minimal	NotClear	Slight
7/28/2022	ST17496	4	VactorTruck	IW3	None	Clear	None
7/28/2022	ST210085	2	VactorTruck	IW3	None	Clear	None
7/28/2022	ST4034	27	VactorTruck	IW3	None	Clear	None
7/28/2022	ST4038	1	VactorTruck	IW3	None	Clear	None
7/28/2022	ST4036	4	VactorTruck	IW3	None	Clear	None
7/28/2022	ST210084	3	VactorTruck	IW3	None	Clear	None
7/28/2022	ST15050	3	VactorTruck	IW2	None	Clear	None
7/28/2022	ST15048	12	VactorTruck	IW2	None	Clear	None
7/28/2022	ST15057	5	VactorTruck	IW2	None	Clear	None
7/28/2022	ST4026	35	VactorTruck	IW3	None	Clear	None
7/28/2022	ST4019	23	VactorTruck	IW3	Minimal	NotClear	None
7/28/2022	ST15118	15	VactorTruck	IW2	None	Clear	None
7/28/2022	ST15117	2	VactorTruck	IW2	None	Clear	None

Date	ID	Debris (in.) Removed	Vehicle	Driver	Active FLow?	Color?	Odor?
7/28/2022	ST15115	19	VactorTruck	IW2	None	Clear	None
7/28/2022	ST15169		VactorTruck	IW2	Full	Clear	Slight
7/28/2022	ST15197	15	VactorTruck	IW2	None	NotClear	Strong
7/28/2022	ST15427	41	VactorTruck	IW2	None	Clear	None
7/28/2022	ST15424	5	VactorTruck	IW2	None	Clear	Slight
8/1/2022	ST11340	19	VactorTruck	IW2	None	Clear	None
8/1/2022	ST11341	22	VactorTruck	IW2	None	Clear	None
8/1/2022	ST7170	36	VactorTruck	IW2	None	Clear	None
8/1/2022	ST7168	2	VactorTruck	IW2	None	Clear	None
8/1/2022	ST7167	12	VactorTruck	IW2	Minimal	Clear	None
8/1/2022	ST7172	22	VactorTruck	IW2	None	Clear	None
8/1/2022	ST11342	27	VactorTruck	IW2	None	Clear	None
8/1/2022	ST11345	35	VactorTruck	IW2	None	Clear	None
8/1/2022	ST11344	1	VactorTruck	IW2	None	Clear	None
8/1/2022	ST11343	12	VactorTruck	IW2	None	Clear	None
8/1/2022	ST7182	19	VactorTruck	IW2	None	Clear	None
8/1/2022	ST7184	15	VactorTruck	IW2	None	Clear	None
8/1/2022	ST7179	22	VactorTruck	IW2	None	Clear	None
8/1/2022	ST7160	4	VactorTruck	IW2	None	Clear	None
8/1/2022	ST9716	12	VactorTruck	IW2	None	Clear	None
8/1/2022	ST9717	25	VactorTruck	IW2	None	Clear	None
8/1/2022	ST9720	2	VactorTruck	IW2	None	Clear	None
8/1/2022	ST9719	32	VactorTruck	IW2	Minimal	Clear	None
8/1/2022	ST9642	25	VactorTruck	IW2	None	Clear	None
8/1/2022	ST9669	5	VactorTruck	IW2	Full	Clear	None
8/2/2022	ST8519	22	VactorTruck	IW2	None	Clear	Slight
8/2/2022	ST8517	17	VactorTruck	IW2	None	Clear	None
8/2/2022	ST7053	18	VactorTruck	IW1	None	Clear	None
8/2/2022	ST8619	27	VactorTruck	IW2	None	Clear	None

Date	ID	Debris (in.) Removed	Vehicle	Driver	Active FLow?	Color?	Odor?
8/2/2022	ST7063	8	VactorTruck	IW1	None	Clear	None
8/2/2022	ST8617	25	VactorTruck	IW2	None	Clear	None
8/2/2022	ST7064	13	VactorTruck	IW1	None	Clear	None
8/2/2022	ST7065	13	VactorTruck	IW1	None	Clear	None
8/2/2022	ST7067	14	VactorTruck	IW1	None	Clear	None
8/2/2022	ST8727	5	VactorTruck	IW2	Full	Clear	None
8/2/2022	ST210542	18	VactorTruck	IW1	None	Clear	None
8/2/2022	ST8715	21	VactorTruck	IW2	None	Clear	None
8/2/2022	ST210544	17	VactorTruck	IW1	None	Clear	None
8/2/2022	ST8717	22	VactorTruck	IW2	None	Clear	None
8/2/2022	ST11017	6	VactorTruck	IW2	None	NotClear	None
8/2/2022	ST8742	16	VactorTruck	IW2	None	Clear	Slight
8/2/2022	ST210545	13	VactorTruck	IW1	None	Clear	None
8/2/2022	ST8744	21	VactorTruck	IW2	None	Clear	Slight
8/2/2022	ST11032	12	VactorTruck	IW1	None	Clear	None
8/2/2022	ST10905	7	VactorTruck	IW1	None	Clear	None
8/2/2022	ST10508	6	VactorTruck	IW2	None	Clear	None
8/2/2022	ST11263	9	VactorTruck	IW1	None	N/A	None
8/2/2022	ST11261	7	VactorTruck	IW1	None	N/A	None
8/2/2022	ST11260	6	VactorTruck	IW1	None	N/A	None
8/2/2022	ST210222	15	VactorTruck	IW1	None	Clear	None
8/2/2022	ST10736	46	VactorTruck	IW2	None	Clear	None
8/2/2022	ST11056	6	VactorTruck	IW1	None	Clear	None
8/2/2022	ST11069	4	VactorTruck	IW1	None	Clear	None
8/2/2022	ST10734	7	VactorTruck	IW2	None	Clear	None
8/2/2022	ST10732	30	VactorTruck	IW2	None	Clear	None
8/2/2022	ST11067	4	VactorTruck	IW1	None	Clear	None
8/2/2022	ST11218	30	VactorTruck	IW1	Minimal	NotClear	None
8/2/2022	ST11217	14	VactorTruck	IW1	Full	NotClear	None

Date	ID	Debris (in.) Removed	Vehicle	Driver	Active FLow?	Color?	Odor?
8/2/2022	ST10731	10	VactorTruck	IW2	None	Clear	None
8/2/2022	ST10730	26	VactorTruck	IW2	None	Clear	None
8/2/2022	ST8083	9	VactorTruck	IW1	None	Clear	None
8/2/2022	ST10727	32	VactorTruck	IW2	None	Clear	None
8/2/2022	ST8088	12	VactorTruck	IW1	None	Clear	None
8/2/2022	ST10729	35	VactorTruck	IW2	None	Clear	None
8/2/2022	ST8054	16	VactorTruck	IW1	None	Clear	None
8/2/2022	ST8454	12	VactorTruck	IW1	None	Clear	None
8/3/2022	ST15921	3	VactorTruck	IW1	None	Clear	None
8/3/2022	ST12644	21	VactorTruck	IW2	None	Clear	None
8/3/2022	ST13179	13	VactorTruck	IW3	None	Clear	None
8/3/2022	ST15920	5	VactorTruck	IW1	None	Clear	None
8/3/2022	ST12640	24	VactorTruck	IW2	None	NotClear	None
8/3/2022	ST9549	12	VactorTruck	IW3	None	Clear	None
8/3/2022	ST12624	12	VactorTruck	IW2	None	Clear	None
8/3/2022	ST9551	8	VactorTruck	IW3	None	Clear	None
8/3/2022	ST15381	9	VactorTruck	IW1	None	Clear	None
8/3/2022	ST20221	12	VactorTruck	IW2	None	NotClear	Strong
8/3/2022	ST15401	11	VactorTruck	IW1	None	Clear	None
8/3/2022	ST9572	14	VactorTruck	IW3	None	Clear	None
8/3/2022	ST20220	27	VactorTruck	IW2	None	NotClear	Strong
8/3/2022	ST9574	11	VactorTruck	IW3	None	Clear	None
8/3/2022	ST15402	18	VactorTruck	IW1	None	Clear	None
8/3/2022	ST9520	2	VactorTruck	IW3	None	Clear	None
8/3/2022	ST13645	31	VactorTruck	IW2	None	Clear	None
8/3/2022	ST9521	9	VactorTruck	IW3	None	Clear	None
8/3/2022	ST13663	33	VactorTruck	IW2	None	Clear	None
8/3/2022	ST14748	14	VactorTruck	IW1	None	Clear	None
8/3/2022	ST13641	46	VactorTruck	IW2	None	Clear	Slight

Date	ID	Debris (in.) Removed	Vehicle	Driver	Active FLow?	Color?	Odor?
8/3/2022	ST14768	8	VactorTruck	IW1	None	Clear	None
8/3/2022	ST9829	6	VactorTruck	IW3	None	Clear	None
8/3/2022	ST14769	11	VactorTruck	IW1	None	Clear	None
8/3/2022	ST9632	13	VactorTruck	IW3	None	Clear	None
8/3/2022	ST14773	22	VactorTruck	IW1	None	Clear	None
8/3/2022	ST9246	10	VactorTruck	IW3	None	Clear	None
8/3/2022	ST9244	8	VactorTruck	IW3	None	Clear	None
8/3/2022	ST14764	23	VactorTruck	IW1	None	Clear	None
8/3/2022	ST2753	29	VactorTruck	IW2	None	Clear	Slight
8/3/2022	ST9225	9	VactorTruck	IW3	None	Clear	None
8/3/2022	ST14765	24	VactorTruck	IW1	None	Clear	None
8/3/2022	ST2756	35	VactorTruck	IW2	None	Clear	None
8/3/2022	ST9212	10	VactorTruck	IW3	None	Clear	None
8/3/2022	ST9210	10	VactorTruck	IW3	None	Clear	None
8/3/2022	ST14766	21	VactorTruck	IW1	None	Clear	None
8/3/2022	ST2758	13	VactorTruck	IW2	None	Clear	None
8/3/2022	ST9858	8	VactorTruck	IW3	None	Clear	None
8/3/2022	ST2750	15	VactorTruck	IW2	None	Clear	None
8/3/2022	ST2761	9	VactorTruck	IW2	None	Clear	None
8/3/2022	ST14767	26	VactorTruck	IW1	None	Clear	None
8/3/2022	ST9856	12	VactorTruck	IW3	None	Clear	None
8/3/2022	ST2747	16	VactorTruck	IW2	None	Clear	None
8/3/2022	ST9870	9	VactorTruck	IW3	None	Clear	None
8/3/2022	ST9867	7	VactorTruck	IW3	None	Clear	None
8/3/2022	ST2748	31	VactorTruck	IW2	None	Clear	Strong
8/3/2022	ST8785	9	VactorTruck	IW3	None	Clear	None
8/3/2022	ST8787	5	VactorTruck	IW3	None	Clear	None
8/3/2022	ST2745	20	VactorTruck	IW2	None	Clear	None
8/3/2022	ST2746	14	VactorTruck	IW2	None	Clear	None

Date	ID	Debris (in.) Removed	Vehicle	Driver	Active FLow?	Color?	Odor?
8/3/2022	ST2769	11	VactorTruck	IW2	None	Clear	None
8/3/2022	ST2871	20	VactorTruck	IW2	None	Clear	None
8/4/2022	ST14746	7	VactorTruck	IW1	None	Clear	None
8/4/2022	ST20310	20	VactorTruck	IW2	None	N/A	None
8/4/2022	ST15985	17	VactorTruck	IW3	None	Clear	None
8/4/2022	ST20313	20	VactorTruck	IW2	None	N/A	None
8/4/2022	ST15999	20	VactorTruck	IW3	None	Clear	None
8/4/2022	ST20330	20	VactorTruck	IW2	None	N/A	None
8/4/2022	ST16161	9	VactorTruck	IW3	None	Clear	None
8/4/2022	ST16149	4	VactorTruck	IW3	None	Clear	None
8/4/2022	ST20329	18	VactorTruck	IW2	None	N/A	None
8/4/2022	ST16139	19	VactorTruck	IW3	None	Clear	None
8/4/2022	ST16274	21	VactorTruck	IW3	None	Clear	None
8/4/2022	ST5446	2	VactorTruck	IW2	None	N/A	None
8/4/2022	ST5449	8	VactorTruck	IW2	None	N/A	None
8/4/2022	ST5460	3	VactorTruck	IW2	None	N/A	None
8/4/2022	ST1961	30	VactorTruck	IW2	None	N/A	None
8/4/2022	ST1960	3	VactorTruck	IW2	None	N/A	None
8/4/2022	ST16286	15	VactorTruck	IW3	None	Clear	None
8/4/2022	ST16272	7	VactorTruck	IW3	None	Clear	None
8/4/2022	ST16264	9	VactorTruck	IW3	None	Clear	None
8/4/2022	ST16412	2	VactorTruck	IW3	None	Clear	None
8/4/2022	ST16437	14	VactorTruck	IW3	None	Clear	None
8/4/2022	ST16425	2	VactorTruck	IW3	None	Clear	None
8/4/2022	ST16147	6	VactorTruck	IW3	None	Clear	None
8/4/2022	ST16419	14	VactorTruck	IW3	None	Clear	None
8/4/2022	ST16417	7	VactorTruck	IW3	None	Clear	None
8/4/2022	ST12246	35	VactorTruck	IW2	None	N/A	Strong
8/5/2022	ST12248	35	VactorTruck	IW2	None	N/A	None

Date	ID	Debris (in.) Removed	Vehicle	Driver	Active FLow?	Color?	Odor?
8/5/2022	ST12253	33	VactorTruck	IW2	None	N/A	None
8/5/2022	ST16433	21	VactorTruck	IW3	None	Clear	None
8/5/2022	ST12254	41	VactorTruck	IW2	None	N/A	Strong
8/5/2022	ST16409	16	VactorTruck	IW3	None	Clear	None
8/5/2022	ST210030	7	VactorTruck	IW1	None	Clear	None
8/5/2022	ST16260	24	VactorTruck	IW3	None	Clear	None
8/5/2022	ST12257	35	VactorTruck	IW2	None	N/A	None
8/5/2022	ST16267	7	VactorTruck	IW3	None	Clear	None
8/5/2022	ST1804	11	VactorTruck	IW1	None	Clear	None
8/5/2022	ST12259	33	VactorTruck	IW2	None	N/A	Slight
8/5/2022	ST16269	1	VactorTruck	IW3	None	Clear	None
8/5/2022	ST16406	14	VactorTruck	IW3	None	Clear	None
8/5/2022	ST16249	15	VactorTruck	IW3	None	Clear	None
8/5/2022	ST16252	15	VactorTruck	IW3	None	Clear	None
8/5/2022	ST12262	28	VactorTruck	IW2	None	N/A	None
8/5/2022	ST16251	19	VactorTruck	IW3	None	Clear	None
8/5/2022	ST12264	28	VactorTruck	IW2	None	N/A	Slight
8/5/2022	ST16474	14	VactorTruck	IW3	None	Clear	None
8/5/2022	ST16459	14	VactorTruck	IW3	None	Clear	None
8/5/2022	ST210316	27	VactorTruck	IW2	None	N/A	None
8/5/2022	ST16448	15	VactorTruck	IW3		Clear	None
8/5/2022	ST16188	13	VactorTruck	IW3	None	Clear	None
8/5/2022	ST16195	5	VactorTruck	IW3	None	Clear	None
8/5/2022	ST16194	4	VactorTruck	IW3	None	Clear	None
8/5/2022	ST12219	24	VactorTruck	IW2	None	N/A	Slight
8/5/2022	ST12221	8	VactorTruck	IW2	None	N/A	None
8/5/2022	ST10080	14	VactorTruck	IW2	None	N/A	None
8/5/2022	ST15996	17	VactorTruck	IW3	None	Clear	None
8/5/2022	ST10082	6	VactorTruck	IW2	None	N/A	None

Date	ID	Debris (in.) Removed	Vehicle	Driver	Active FLow?	Color?	Odor?
8/5/2022	ST15988	20	VactorTruck	IW3	None	Clear	None
8/5/2022	ST15897	16	VactorTruck	IW3	None	Clear	None
8/5/2022	ST15899	13	VactorTruck	IW3	None	Clear	None
8/8/2022	ST10101	20	VactorTruck	IW1	None	N/A	None
8/8/2022	ST16620	24	VactorTruck	IW3	Minimal	Clear	None
8/8/2022	ST10756	30	VactorTruck	IW1	None	N/A	None
8/8/2022	ST16618	22	VactorTruck	IW3	None	Clear	None
8/8/2022	ST16616	9	VactorTruck	IW3	None	Clear	None
8/8/2022	ST10724	18	VactorTruck	IW1	None	N/A	Slight
8/8/2022	ST16609	22	VactorTruck	IW3	None	Clear	None
8/8/2022	ST10722	18	VactorTruck	IW1	None	N/A	None
8/8/2022	ST16628	3	VactorTruck	IW3	None	Clear	None
8/8/2022	ST10720	25	VactorTruck	IW1	None	N/A	None
8/8/2022	ST16668	3	VactorTruck	IW3	None	Clear	None
8/8/2022	ST10704	10	VactorTruck	IW1	Full	NotClear	Strong
8/8/2022	ST16631	16	VactorTruck	IW3	None	Clear	None
8/8/2022	ST16611	3	VactorTruck	IW3	None	Clear	None
8/8/2022	ST10670	20	VactorTruck	IW1	None	N/A	Strong
8/8/2022	ST16603	2	VactorTruck	IW3	None	Clear	None
8/8/2022	ST16601	23	VactorTruck	IW3	None	Clear	None
8/8/2022	ST10707	35	VactorTruck	IW1	None	N/A	None
8/8/2022	ST10713	35	VactorTruck	IW1	None	N/A	None
8/8/2022	ST15708	6	VactorTruck	IW3	None	Clear	None
8/8/2022	ST10728	8	VactorTruck	IW1	None	N/A	None
8/8/2022	ST10090	2	VactorTruck	IW1	Minimal	Clear	Slight
8/8/2022	ST10086	23	VactorTruck	IW1	None	N/A	Strong
8/8/2022	ST15706	5	VactorTruck	IW3	None	Clear	None
8/8/2022	ST12242	20	VactorTruck	IW1	None	N/A	None
8/8/2022	ST15455	2	VactorTruck	IW3	None	Clear	None

Date	ID	Debris (in.) Removed	Vehicle	Driver	Active FLow?	Color?	Odor?
8/8/2022	ST15457	4	VactorTruck	IW3	None	Clear	None
8/8/2022	ST12240	20	VactorTruck	IW1	None	N/A	None
8/8/2022	ST15445	4	VactorTruck	IW3	None	Clear	None
8/8/2022	ST20035	36	VactorTruck	IW1	None	N/A	None
8/8/2022	ST15902	22	VactorTruck	IW3	None	Clear	None
8/8/2022	ST15895	20	VactorTruck	IW3	None	Clear	None
8/8/2022	ST16062	3	VactorTruck	IW3	None	Clear	None
8/8/2022	ST16007	35	VactorTruck	IW3	None	Clear	None
8/8/2022	ST12327	34	VactorTruck	IW1	None	N/A	Strong
8/8/2022	ST16057	18	VactorTruck	IW3	None	Clear	None
8/8/2022	ST12325	25	VactorTruck	IW1	None	N/A	Strong
8/8/2022	ST12349	38	VactorTruck	IW1	None	N/A	None
8/9/2022	ST16041	9	VactorTruck	IW1	None	Clear	None
8/9/2022	ST16030	2	VactorTruck	IW1	None	Clear	None
8/9/2022	ST16038	16	VactorTruck	IW1	None	Clear	None
8/9/2022	ST15178	31	VactorTruck	IW1	None	Clear	None
8/9/2022	ST15177	32	VactorTruck	IW1	None	Clear	None
8/9/2022	ST15339	15	VactorTruck	IW1	None	Clear	None
8/9/2022	ST15337	10	VactorTruck	IW1	None	Clear	None
8/9/2022	ST15145	9	VactorTruck	IW1	None	Clear	None
8/9/2022	ST15141	6	VactorTruck	IW1	None	Clear	None
8/9/2022	ST8780	12	VactorTruck	IW1	None	Clear	None
8/9/2022	ST8778	13	VactorTruck	IW1	None	Clear	None
8/9/2022	ST8899	30	VactorTruck	IW1	None	Clear	None
8/9/2022	ST9878	28	VactorTruck	IW1	None	Clear	None
8/10/2022	ST8642	11	VactorTruck	IW3	None	Clear	None
8/10/2022	ST5174	30	VactorTruck	IW1	None	N/A	Strong
8/10/2022	ST5173	22	VactorTruck	IW1	None	N/A	Strong
8/10/2022	ST8648	11	VactorTruck	IW3	None	Clear	None

Date	ID	Debris (in.) Removed	Vehicle	Driver	Active FLow?	Color?	Odor?
8/10/2022	ST8912	16	VactorTruck	IW3	None	Clear	None
8/10/2022	ST5172	13	VactorTruck	IW1	None	N/A	Slight
8/10/2022	ST5171	47	VactorTruck	IW1	None	N/A	Slight
8/10/2022	ST8907	13	VactorTruck	IW3	None	Clear	None
8/10/2022	ST8904	9	VactorTruck	IW3	None	Clear	None
8/10/2022	ST9876	24	VactorTruck	IW3	None	Clear	None
8/10/2022	ST9864	11	VactorTruck	IW3	None	Clear	None
8/10/2022	ST5175	20	VactorTruck	IW1	None	N/A	None
8/10/2022	ST4224	20	VactorTruck	IW1	None	N/A	None
8/10/2022	ST9851	36	VactorTruck	IW3	None	Clear	None
8/10/2022	ST4205	17	VactorTruck	IW1	None	N/A	Strong
8/10/2022	ST9844	24	VactorTruck	IW3	None	Clear	None
8/10/2022	ST9841	11	VactorTruck	IW3	None	Clear	None
8/10/2022	ST9839	14	VactorTruck	IW3	None	Clear	None
8/10/2022	ST9836	6	VactorTruck	IW3	None	Clear	None
8/10/2022	ST13202	21	VactorTruck	IW3	None	Clear	None
8/10/2022	ST13193	3	VactorTruck	IW3	None	Clear	None
8/10/2022	ST9252	5	VactorTruck	IW3	None	Clear	None
8/10/2022	ST9250	17	VactorTruck	IW3	None	Clear	None
8/10/2022	ST8108	16	VactorTruck	IW1	None	N/A	None
8/10/2022	ST8110	9	VactorTruck	IW1	None	N/A	Slight
8/10/2022	ST8099	10	VactorTruck	IW1	None	N/A	Slight
8/10/2022	ST8097	11	VactorTruck	IW1	None	N/A	Strong
8/11/2022	ST13161	21	VactorTruck	IW3	None	Clear	None
8/11/2022	ST13152	12	VactorTruck	IW3	None	Clear	None
8/11/2022	ST13147	8	VactorTruck	IW3	None	Clear	None
8/11/2022	ST13145	8	VactorTruck	IW3	None	Clear	None
8/11/2022	ST13165	3	VactorTruck	IW3	None	Clear	None
8/11/2022	ST13163	6	VactorTruck	IW3	None	Clear	None

Date	ID	Debris (in.) Removed	Vehicle	Driver	Active FLow?	Color?	Odor?
8/11/2022	ST210506	4	VactorTruck	IW3	None	Clear	None
8/11/2022	ST9242	11	VactorTruck	IW3	None	Clear	None
8/11/2022	ST9240	6	VactorTruck	IW3	None	Clear	None
8/11/2022	ST9227	12	VactorTruck	IW3	None	Clear	None
8/11/2022	ST9223	9	VactorTruck	IW3	None	Clear	None
8/11/2022	ST9214	4	VactorTruck	IW3	None	Clear	None
8/11/2022	ST9854	8	VactorTruck	IW3	None	Clear	None
8/11/2022	ST9872	3	VactorTruck	IW3	None	Clear	None
8/11/2022	ST8782	2	VactorTruck	IW3	None	Clear	None
8/11/2022	ST8769	3	VactorTruck	IW3	None	Clear	None
8/11/2022	ST8767	6	VactorTruck	IW3	None	Clear	None
8/11/2022	ST8765	3	VactorTruck	IW3	None	Clear	None
8/11/2022	ST8914	16	VactorTruck	IW3	None	Clear	None
8/11/2022	ST210407	7	VactorTruck	IW3	None	Clear	None
8/15/2022	ST13870	12	VactorTruck	IW1	None	N/A	Strong
8/15/2022	ST13872	21	VactorTruck	IW1	None	N/A	Slight
8/15/2022	ST13878	46	VactorTruck	IW1	None	N/A	Slight
8/15/2022	ST13837	23	VactorTruck	IW1	None	N/A	None
8/15/2022	ST13836	21	VactorTruck	IW1	None	N/A	Slight
8/15/2022	ST13832	11	VactorTruck	IW1	None	N/A	Strong
8/15/2022	ST13831	9	VactorTruck	IW1	None	N/A	Slight
8/15/2022	ST13829	17	VactorTruck	IW1	None	N/A	Slight
8/15/2022	ST13903	26	VactorTruck	IW1	None	N/A	Slight
8/15/2022	ST13905	25	VactorTruck	IW1	None	N/A	Slight
8/15/2022	ST13913	14	VactorTruck	IW1	None	N/A	None
8/15/2022	ST12599	34	VactorTruck	IW1	None	N/A	None
8/15/2022	ST210390	20	VactorTruck	IW1	None	N/A	Slight
8/15/2022	ST9818	3	VactorTruck	IW1	Full	Clear	Strong
8/15/2022	ST210392	11	VactorTruck	IW1	None	N/A	Slight

Date	ID	Debris (in.) Removed	Vehicle	Driver	Active FLow?	Color?	Odor?
8/15/2022	ST9820	2	VactorTruck	IW1	None	N/A	Slight
8/15/2022	ST9943	7	VactorTruck	IW1	None	N/A	None
8/15/2022	ST210393	3	VactorTruck	IW1	None	N/A	None
8/15/2022	ST9813	19	VactorTruck	IW1	None	N/A	Strong
8/15/2022	ST9812	3	VactorTruck	IW1	None	N/A	Slight
8/16/2022	ST13907	18	VactorTruck	IW1	None	N/A	Strong
8/16/2022	ST210330	15	VactorTruck	IW1	None	N/A	Slight
8/16/2022	ST13823	7	VactorTruck	IW1	None	N/A	Slight
8/16/2022	ST13818	19	VactorTruck	IW1	None	N/A	Slight
8/16/2022	ST13820	19	VactorTruck	IW1	None	N/A	Slight
8/16/2022	ST13816	21	VactorTruck	IW1	None	N/A	Slight
8/16/2022	ST13805	20	VactorTruck	IW1	None	N/A	Strong
8/16/2022	ST13803	26	VactorTruck	IW1	None	N/A	Strong
8/16/2022	ST13584	17	VactorTruck	IW1	None	N/A	Slight
8/16/2022	ST13583	18	VactorTruck	IW1	None	N/A	Slight
8/16/2022	ST13591	9	VactorTruck	IW1	None	N/A	Strong
8/16/2022	ST13588	10	VactorTruck	IW1	None	N/A	Strong
8/16/2022	ST13590	21	VactorTruck	IW1	None	N/A	Strong
8/16/2022	ST13807	35	VactorTruck	IW1	None	N/A	Strong
8/16/2022	ST13809	12	VactorTruck	IW1	None	N/A	Slight
8/16/2022	ST13812	26	VactorTruck	IW1	None	N/A	Strong
8/16/2022	ST13811	12	VactorTruck	IW1	None	N/A	Slight
8/16/2022	ST13827		VactorTruck	IW1	None	N/A	Slight
8/16/2022	ST13466	15	VactorTruck	IW1	None	N/A	Strong
8/16/2022	ST13468	12	VactorTruck	IW1	None	N/A	Slight
8/17/2022	ST13734	33	VactorTruck	IW1	None	N/A	Slight
8/17/2022	ST13735	26	VactorTruck	IW1	None	N/A	None
8/17/2022	ST13736	20	VactorTruck	IW1	None	N/A	None
8/17/2022	ST13737	19	VactorTruck	IW1	None	N/A	Slight

Date	ID	Debris (in.) Removed	Vehicle	Driver	Active FLow?	Color?	Odor?
8/17/2022	ST13057	21	VactorTruck	IW1	None	N/A	None
8/17/2022	ST13056	24	VactorTruck	IW1	None	N/A	None
8/17/2022	ST13471	22	VactorTruck	IW1	None	N/A	Strong
8/17/2022	ST13464	10	VactorTruck	IW1	None	N/A	Slight
8/17/2022	ST13493	40	VactorTruck	IW1	None	N/A	None
8/17/2022	ST13491	14	VactorTruck	IW1	None	N/A	None
8/17/2022	ST13458	16	VactorTruck	IW1	None	N/A	Slight
8/17/2022	ST13615	3	VactorTruck	IW1	None	N/A	Strong
8/17/2022	ST13961	5	VactorTruck	IW1	None	N/A	None
8/17/2022	ST210304	23	VactorTruck	IW1	None	N/A	Strong
8/17/2022	ST13953	20	VactorTruck	IW1	None	N/A	Slight
8/17/2022	ST12414	21	VactorTruck	IW1	None	N/A	Slight
8/17/2022	ST12416	18	VactorTruck	IW1	None	N/A	Slight
8/18/2022	ST3671	21	VactorTruck	IW1	None	N/A	None
8/18/2022	ST3672	17	VactorTruck	IW1	None	N/A	Strong
8/18/2022	ST3232	26	VactorTruck	IW1	None	N/A	Strong
8/18/2022	ST3233	26	VactorTruck	IW1	None	N/A	Slight
8/18/2022	ST3680	16	VactorTruck	IW1	None	N/A	Slight
8/18/2022	ST3274	12	VactorTruck	IW1	None	N/A	Slight
8/18/2022	ST3271	12	VactorTruck	IW1	None	N/A	Slight
8/18/2022	ST3681	15	VactorTruck	IW1	None	N/A	Slight
8/18/2022	ST3683	12	VactorTruck	IW1	None	N/A	Slight
8/18/2022	ST3684	14	VactorTruck	IW1	None	N/A	None
8/18/2022	ST3685	31	VactorTruck	IW1	None	N/A	Strong
8/18/2022	ST3686	13	VactorTruck	IW1	None	N/A	None
8/18/2022	ST3640	25	VactorTruck	IW1	None	N/A	Slight
8/18/2022	ST3639	5	VactorTruck	IW1	None	N/A	None
8/18/2022	ST3638	12	VactorTruck	IW1	Minimal	Clear	None
8/18/2022	ST11175	3	VactorTruck	IW1	None	N/A	None

Date	ID	Debris (in.) Removed	Vehicle	Driver	Active FLow?	Color?	Odor?
8/18/2022	ST11183	23	VactorTruck	IW1	None	N/A	None
8/18/2022	ST11185	19	VactorTruck	IW1	None	N/A	Slight
8/18/2022	ST11187	16	VactorTruck	IW1	None	N/A	Slight
8/19/2022	ST1122	16	VactorTruck	IW1	None	N/A	Slight
8/19/2022	ST1806	12	VactorTruck	IW1	None	N/A	Strong
8/19/2022	ST1796	13	VactorTruck	IW1	None	N/A	Slight
8/19/2022	ST1783	9	VactorTruck	IW1	None	N/A	Slight
8/19/2022	ST1781	15	VactorTruck	IW1	None	N/A	Slight
8/19/2022	ST1777	21	VactorTruck	IW1	None	N/A	Slight
8/19/2022	ST1743	27	VactorTruck	IW1	None	N/A	None
8/19/2022	ST1741	34	VactorTruck	IW1	None	N/A	Strong
8/19/2022	ST1739	23	VactorTruck	IW1	None	N/A	Slight
8/19/2022	ST210031	13	VactorTruck	IW1	None	N/A	Slight
8/19/2022	ST1779	11	VactorTruck	IW1	None	N/A	Slight
8/19/2022	ST1730	10	VactorTruck	IW1	None	N/A	None
8/19/2022	ST1728	7	VactorTruck	IW1	None	N/A	None
8/19/2022	ST1736	11	VactorTruck	IW1	None	N/A	None
8/19/2022	ST210035	10	VactorTruck	IW1	None	N/A	None
8/19/2022	ST1706	19	VactorTruck	IW1	None	N/A	Slight
8/19/2022	ST1722	15	VactorTruck	IW1	None	N/A	None
8/19/2022	ST1720	14	VactorTruck	IW1	None	N/A	Slight
8/19/2022	ST1703	3	VactorTruck	IW1	None	N/A	Slight
8/22/2022	ST14894	32	VactorTruck	IW1	Full	N/A	Slight
8/22/2022	ST14897	25	VactorTruck	IW1	None	N/A	Strong
8/22/2022	ST14882	6	VactorTruck	IW1	None	N/A	None
8/22/2022	ST2232	8	VactorTruck	IW3	Minimal	Clear	None
8/22/2022	ST210435	27	VactorTruck	IW1	None	N/A	Slight
8/22/2022	ST210434	33	VactorTruck	IW1	None	N/A	Slight
8/22/2022	ST1363	4	VactorTruck	IW1	Minimal	Clear	None

Date	ID	Debris (in.) Removed	Vehicle	Driver	Active FLow?	Color?	Odor?
8/22/2022	ST1361	3	VactorTruck	IW1	Minimal	NotClear	None
8/22/2022	ST1362	20	VactorTruck	IW1	Minimal	NotClear	None
8/22/2022	ST12802	8	VactorTruck	IW3	Minimal	Clear	None
8/22/2022	ST2863	16	VactorTruck	IW3	Minimal	NotClear	None
8/22/2022	ST12797	16	VactorTruck	IW3	None	Clear	None
8/22/2022	ST12796	17	VactorTruck	IW3	Minimal	Clear	None
8/22/2022	ST12291	22	VactorTruck	IW1	None	N/A	Slight
8/22/2022	ST12800	13	VactorTruck	IW3	Minimal	Clear	None
8/22/2022	ST12287	35	VactorTruck	IW1	None	N/A	Slight
8/22/2022	ST12792	21	VactorTruck	IW3	None	Clear	None
8/23/2022	ST14775	27	VactorTruck	IW1	Full	NotClear	None
8/23/2022	ST14777	9	VactorTruck	IW1	Minimal	NotClear	None
8/23/2022	ST1335	13	VactorTruck	IW1	None	Clear	None
8/23/2022	ST14289	12	VactorTruck	IW1	None	Clear	None
8/23/2022	ST14779	14	VactorTruck	IW1	Full	NotClear	None
8/23/2022	ST14288	9	VactorTruck	IW1	None	Clear	None
8/23/2022	ST14520	8	VactorTruck	IW1	None	Clear	None
8/23/2022	ST14522	12	VactorTruck	IW1	None	Clear	None
8/23/2022	ST14781	17	VactorTruck	IW1	Full	NotClear	None
8/23/2022	ST14526	9	VactorTruck	IW1	None	Clear	None
8/23/2022	ST14784	16	VactorTruck	IW1	Full	NotClear	None
8/23/2022	ST14571	10	VactorTruck	IW1	None	Clear	None
8/23/2022	ST14793	10	VactorTruck	IW1	Full	NotClear	None
8/23/2022	ST14569	8	VactorTruck	IW1	None	Clear	None
8/23/2022	ST14792	6	VactorTruck	IW1	Full	NotClear	None
8/23/2022	ST14562	7	VactorTruck	IW1	None	Clear	None
8/23/2022	ST14791	10	VactorTruck	IW1	Full	NotClear	None
8/23/2022	ST14975	12	VactorTruck	IW1	Full	NotClear	None
8/23/2022	ST14563	11	VactorTruck	IW1	None	Clear	None

Date	ID	Debris (in.) Removed	Vehicle	Driver	Active FLow?	Color?	Odor?
8/23/2022	ST14565	13	VactorTruck	IW1	None	Clear	None
8/23/2022	ST14974	9	VactorTruck	IW1	Full	NotClear	None
8/23/2022	ST14973	14	VactorTruck	IW1	Full	NotClear	None
8/23/2022	ST14560	10	VactorTruck	IW1	None	Clear	None
8/23/2022	ST14557	10	VactorTruck	IW1	None	Clear	None
8/23/2022	ST14967	12	VactorTruck	IW1	Full	NotClear	None
8/23/2022	ST14577	4	VactorTruck	IW1	Minimal	Clear	None
8/23/2022	ST14579	12	VactorTruck	IW1	None	Clear	None
8/23/2022	ST14963	15	VactorTruck	IW1	Full	NotClear	None
8/23/2022	ST14582	4	VactorTruck	IW1	None	Clear	None
8/23/2022	ST3997	2	VactorTruck	IW1	None	Clear	None
8/23/2022	ST3995	13	VactorTruck	IW1	None	Clear	None
8/24/2022	ST210338	8	VactorTruck	IW3	None	Clear	None
8/24/2022	ST11607	18	VactorTruck	IW3	None	Clear	None
8/24/2022	ST11605	17	VactorTruck	IW3	None	Clear	None
8/24/2022	ST10235	7	VactorTruck	IW1	None	N/A	Strong
8/24/2022	ST4013	18	VactorTruck	IW1	None	N/A	Slight
8/24/2022	ST11878	9	VactorTruck	IW3	None	Clear	None
8/24/2022	ST4015	15	VactorTruck	IW1	None	N/A	None
8/24/2022	ST4016	25	VactorTruck	IW1	None	N/A	Slight
8/24/2022	ST11880	19	VactorTruck	IW3	None	Clear	None
8/24/2022	ST11146	25	VactorTruck	IW1	Full	NotClear	None
8/24/2022	ST3958	18	VactorTruck	IW1	None	N/A	Strong
8/24/2022	ST11591	24	VactorTruck	IW3	None	Clear	None
8/24/2022	ST4492	10	VactorTruck	IW1	Full	NotClear	None
8/24/2022	ST3955	28	VactorTruck	IW1	None	N/A	Slight
8/24/2022	ST11590	1	VactorTruck	IW3	None	Clear	None
8/24/2022	ST14555	36	VactorTruck	IW1	None	N/A	Slight
8/24/2022	ST11876	8	VactorTruck	IW3	None	Clear	None

Date	ID	Debris (in.) Removed	Vehicle	Driver	Active FLow?	Color?	Odor?
8/24/2022	ST11874	12	VactorTruck	IW3	None	Clear	None
8/24/2022	ST14554	26	VactorTruck	IW1	None	N/A	Slight
8/24/2022	ST4491	10	VactorTruck	IW1	Full	NotClear	None
8/24/2022	ST14550	25	VactorTruck	IW1	None	N/A	None
8/24/2022	ST11712	16	VactorTruck	IW3	None	Clear	None
8/24/2022	ST4486	10	VactorTruck	IW1	Full	NotClear	None
8/24/2022	ST4485	20	VactorTruck	IW1	Full	NotClear	None
8/24/2022	ST11722	14	VactorTruck	IW3	None	Clear	None
8/24/2022	ST4484	10	VactorTruck	IW1	Full	NotClear	None
8/24/2022	ST11764	15	VactorTruck	IW3	None	Clear	None
8/24/2022	ST11765	7	VactorTruck	IW3	None	Clear	None
8/24/2022	ST7186	15	VactorTruck	IW1	Full	NotClear	None
8/24/2022	ST11759	24	VactorTruck	IW3	None	Clear	None
8/24/2022	ST14546	14	VactorTruck	IW1	None	N/A	Slight
8/24/2022	ST14543	18	VactorTruck	IW1	None	N/A	None
8/24/2022	ST6933	15	VactorTruck	IW1	Full	NotClear	None
8/24/2022	ST11794	16	VactorTruck	IW3	None	Clear	None
8/24/2022	ST11857	34	VactorTruck	IW3	None	Clear	None
8/24/2022	ST11859	37	VactorTruck	IW3	None	Clear	None
8/24/2022	ST6935	14	VactorTruck	IW1	Full	NotClear	None
8/24/2022	ST14541	3	VactorTruck	IW1	None	N/A	None
8/24/2022	ST6034	12	VactorTruck	IW1	None	N/A	Slight
8/24/2022	ST11862	40	VactorTruck	IW3	None	Clear	None
8/24/2022	ST6032	22	VactorTruck	IW1	None	N/A	Slight
8/24/2022	ST11863	44	VactorTruck	IW3	None	Clear	None
8/24/2022	ST2886	17	VactorTruck	IW1	None	N/A	Slight
8/26/2022	ST10182	3	VactorTruck	IW1	None	N/A	None
8/26/2022	ST14630	16	VactorTruck	IW1	None	N/A	None
8/26/2022	ST10168	3	VactorTruck	IW1	None	N/A	None

Date	ID	Debris (in.) Removed	Vehicle	Driver	Active FLow?	Color?	Odor?
8/26/2022	ST17661	8	VactorTruck	IW1	None	N/A	None
8/26/2022	ST210395	47	VactorTruck	IW1	None	N/A	None
8/26/2022	ST2774	3	VactorTruck	IW1	Full	NotClear	Strong
8/26/2022	ST20057	35	VactorTruck	IW1	None	N/A	Strong
8/26/2022	ST210396	41	VactorTruck	IW1	None	N/A	Strong
8/26/2022	ST20059	4	VactorTruck	IW1	None	N/A	Slight
8/26/2022	ST20058	28	VactorTruck	IW1	None	N/A	Slight
8/26/2022	ST10242	12	VactorTruck	IW1	None	N/A	None
8/29/2022	ST10302	28	VactorTruck	IW3	None	Clear	None
8/29/2022	ST10299	21	VactorTruck	IW3	None	Clear	None
8/29/2022	ST14715	8	VactorTruck	IW1	Minimal	NotClear	None
8/29/2022	ST10296	5	VactorTruck	IW3	None	Clear	None
8/29/2022	ST14758	19	VactorTruck	IW1	Minimal	NotClear	None
8/29/2022	ST10340	13	VactorTruck	IW3	None	Clear	None
8/29/2022	ST14754	10	VactorTruck	IW1	Minimal	NotClear	None
8/29/2022	ST10338	21	VactorTruck	IW3	None	Clear	None
8/29/2022	ST14751	11	VactorTruck	IW1	Minimal	NotClear	None
8/29/2022	ST10335	23	VactorTruck	IW3	None	Clear	None
8/29/2022	ST14798	13	VactorTruck	IW1	Minimal	NotClear	None
8/29/2022	ST10332	24	VactorTruck	IW3	None	Clear	None
8/29/2022	ST5642	1	VactorTruck	IW1	None	N/A	None
8/29/2022	ST10328	29	VactorTruck	IW3	None	Clear	None
8/29/2022	ST14795	25	VactorTruck	IW1	Minimal	NotClear	None
8/29/2022	ST10325	16	VactorTruck	IW3	None	Clear	None
8/29/2022	ST10322	17	VactorTruck	IW3	None	Clear	None
8/29/2022	ST10317	15	VactorTruck	IW3	None	Clear	None
8/29/2022	ST5643	10	VactorTruck	IW1	Minimal	NotClear	None
8/29/2022	ST14803	15	VactorTruck	IW1	Minimal	NotClear	None
8/29/2022	ST10312	16	VactorTruck	IW3	None	Clear	None

Date	ID	Debris (in.) Removed	Vehicle	Driver	Active FLow?	Color?	Odor?
8/29/2022	ST10310	14	VactorTruck	IW3	None	Clear	None
8/29/2022	ST5615	21	VactorTruck	IW1	Minimal	NotClear	None
8/29/2022	ST14742	8	VactorTruck	IW1	Minimal	NotClear	None
8/29/2022	ST17663	7	VactorTruck	IW3	None	Clear	None
8/29/2022	ST17671	29	VactorTruck	IW3	None	Clear	None
8/29/2022	ST14736	6	VactorTruck	IW1	Minimal	NotClear	None
8/29/2022	ST17670	1	VactorTruck	IW3	None	Clear	None
8/29/2022	ST17664	33	VactorTruck	IW3	None	Clear	None
8/29/2022	ST14732	9	VactorTruck	IW1	Minimal	NotClear	None
8/29/2022	ST17665	31	VactorTruck	IW3	None	Clear	None
8/29/2022	ST14730	0	VactorTruck	IW1	None	N/A	None
8/29/2022	ST14728	4	VactorTruck	IW1	Minimal	NotClear	None
8/29/2022	ST14865	6	VactorTruck	IW3	None	Clear	None
8/29/2022	ST14866	50	VactorTruck	IW3	None	Clear	None
8/29/2022	ST14727	5	VactorTruck	IW1	Minimal	NotClear	None
8/30/2022	ST1712	7	VactorTruck	IW3	None	Clear	None
8/30/2022	ST1792	15	VactorTruck	IW3	None	Clear	None
8/30/2022	ST6931	7	VactorTruck	IW1	Full	NotClear	None
8/30/2022	ST2910	29	VactorTruck	IW1	Minimal	NotClear	None
8/30/2022	ST6930	6	VactorTruck	IW1	None	N/A	None
8/30/2022	ST14192	13	VactorTruck	IW1	Minimal	NotClear	None
8/30/2022	ST210002	4	VactorTruck	IW3	None	Clear	None
8/30/2022	ST14223	12	VactorTruck	IW1	None	N/A	None
8/30/2022	ST6907	8	VactorTruck	IW1	Full	NotClear	None
8/30/2022	ST6902	8	VactorTruck	IW1	Full	NotClear	None
8/30/2022	ST14225	6	VactorTruck	IW1	None	NotClear	None
8/30/2022	ST1379	22	VactorTruck	IW3	None	Clear	None
8/30/2022	ST6901	10	VactorTruck	IW1	Full	NotClear	None
8/30/2022	ST14240	14	VactorTruck	IW1	None	NotClear	None

Date	ID	Debris (in.) Removed	Vehicle	Driver	Active FLow?	Color?	Odor?
8/30/2022	ST210064	28	VactorTruck	IW3	None	Clear	None
8/30/2022	ST6900	10	VactorTruck	IW1	Full	NotClear	None
8/30/2022	ST14531	14	VactorTruck	IW3	None	Clear	None
8/30/2022	ST6890	11	VactorTruck	IW1	None	N/A	None
8/30/2022	ST14533	23	VactorTruck	IW3	None	Clear	None
8/30/2022	ST14246	12	VactorTruck	IW1	Minimal	NotClear	None
8/30/2022	ST10806	10	VactorTruck	IW1	None	NotClear	None
8/30/2022	ST2545	8	VactorTruck	IW3	None	Clear	None
8/30/2022	ST6893	1	VactorTruck	IW1	None	N/A	None
8/30/2022	ST2544	3	VactorTruck	IW3	None	Clear	None
8/30/2022	ST6894	4	VactorTruck	IW1	Full	NotClear	None
8/30/2022	ST10767	19	VactorTruck	IW1	Minimal	NotClear	None
8/30/2022	ST6895	6	VactorTruck	IW1	None	N/A	None
8/30/2022	ST12952	17	VactorTruck	IW3	None	N/A	None
8/30/2022	ST15038	5	VactorTruck	IW1	Full	NotClear	None
8/30/2022	ST2915	7	VactorTruck	IW3	None	Clear	None
8/30/2022	ST6896	7	VactorTruck	IW1	Full	NotClear	None
8/30/2022	ST2913	10	VactorTruck	IW3	None	Clear	None
8/30/2022	ST2824	8	VactorTruck	IW3	None	N/A	Slight
8/30/2022	ST7138	4	VactorTruck	IW1	None	N/A	None
8/30/2022	ST7137	30	VactorTruck	IW1	None	N/A	None
8/30/2022	ST2901	9	VactorTruck	IW3	None	Clear	None
8/30/2022	ST7140	20	VactorTruck	IW1	None	N/A	None
8/30/2022	ST2900	2	VactorTruck	IW3	None	Clear	None
8/30/2022	ST2832	4	VactorTruck	IW3	None	Clear	None
8/30/2022	ST2599	4	VactorTruck	IW1	Minimal	NotClear	None
8/30/2022	ST2829	11	VactorTruck	IW3	None	Clear	None
8/30/2022	ST2836	12	VactorTruck	IW3	None	N/A	Slight
8/30/2022	ST2601	3	VactorTruck	IW1	Minimal	NotClear	None

Date	ID	Debris (in.) Removed	Vehicle	Driver	Active FLow?	Color?	Odor?
8/31/2022	ST3329	39	VactorTruck	IW2	None	NotClear	None
8/31/2022	ST3328	17	VactorTruck	IW2	None	NotClear	None
8/31/2022	ST3402	9	VactorTruck	IW2	None	NotClear	None
8/31/2022	ST3403	20	VactorTruck	IW2	None	NotClear	None
8/31/2022	ST210354	21	VactorTruck	IW2	None	NotClear	None
8/31/2022	ST10859	23	VactorTruck	IW2	None	NotClear	None
8/31/2022	ST10861	4	VactorTruck	IW2	None	NotClear	None
8/31/2022	ST10862	6	VactorTruck	IW2	None	NotClear	None
8/31/2022	ST10863	6	VactorTruck	IW1	None	N/A	None
8/31/2022	ST3404	21	VactorTruck	IW1	Full	NotClear	None
8/31/2022	ST3405	31	VactorTruck	IW1	Full	NotClear	None
8/31/2022	ST3406	23	VactorTruck	IW1	Full	NotClear	None
8/31/2022	ST3408	37	VactorTruck	IW1	Minimal	Clear	None
8/31/2022	ST3492	12	VactorTruck	IW1	Full	NotClear	None
8/31/2022	ST3493	15	VactorTruck	IW1	Full	NotClear	None
8/31/2022	ST3494	12	VactorTruck	IW1	Full	NotClear	None
8/31/2022	ST3476	22	VactorTruck	IW1	Full	NotClear	None
8/31/2022	ST3477	22	VactorTruck	IW1	Full	NotClear	None
8/31/2022	ST3399	22	VactorTruck	IW1	Full	NotClear	None
8/31/2022	ST3398	9	VactorTruck	IW1	Full	NotClear	None
9/1/2022	ST12779	12	VactorTruck	IW3	None	Clear	None
9/1/2022	ST12766	25	VactorTruck	IW3	None	Clear	None
9/1/2022	ST12715	39	VactorTruck	IW3	None	Clear	None
9/1/2022	ST12708	52	VactorTruck	IW3	None	Clear	None
9/1/2022	ST12721	39	VactorTruck	IW3	None	Clear	None
9/1/2022	ST12720	38	VactorTruck	IW3	None	Clear	None
9/1/2022	ST12842	26	VactorTruck	IW3	None	Clear	None
9/1/2022	ST12845	15	VactorTruck	IW3	None	Clear	None
9/1/2022	ST12836	37	VactorTruck	IW3	None	Clear	None

Date	ID	Debris (in.) Removed	Vehicle	Driver	Active FLow?	Color?	Odor?
9/1/2022	ST12832	42	VactorTruck	IW3	None	Clear	None
9/1/2022	ST12868	40	VactorTruck	IW3	None	Clear	None
9/1/2022	ST12870	41	VactorTruck	IW3	None	Clear	None
9/1/2022	ST12885	38	VactorTruck	IW3	None	Clear	None
9/1/2022	ST12879	39	VactorTruck	IW3	None	Clear	None
9/2/2022	ST12790	21	VactorTruck	IW2	None	NotClear	None
9/2/2022	ST13738	37	VactorTruck	IW3	None	Clear	None
9/2/2022	ST13739	26	VactorTruck	IW3	Minimal	Clear	None
9/2/2022	ST12787	9	VactorTruck	IW2	None	NotClear	None
9/2/2022	ST13742	11	VactorTruck	IW3	None	Clear	None
9/2/2022	ST12786	7	VactorTruck	IW2	None	NotClear	None
9/2/2022	ST13743	24	VactorTruck	IW3	None	Clear	None
9/2/2022	ST13747	40	VactorTruck	IW3	None	Clear	None
9/2/2022	ST12788	11	VactorTruck	IW2	None	NotClear	None
9/2/2022	ST12776	16	VactorTruck	IW2	None	NotClear	None
9/2/2022	ST13748	48	VactorTruck	IW3	None	Clear	None
9/2/2022	ST11489	20	VactorTruck	IW1	None	N/A	Slight
9/2/2022	ST13749	14	VactorTruck	IW3	None	Clear	None
9/2/2022	ST11487	25	VactorTruck	IW1	None	N/A	Strong
9/2/2022	ST11482	22	VactorTruck	IW1	None	N/A	Slight
9/2/2022	ST11484	25	VactorTruck	IW1	None	N/A	None
9/2/2022	ST13697	1	VactorTruck	IW3	None	Clear	None
9/2/2022	ST13696	42	VactorTruck	IW3	None	Clear	None
9/2/2022	ST12764	18	VactorTruck	IW2	None	NotClear	None
9/2/2022	ST12768	32	VactorTruck	IW2	None	NotClear	None
9/2/2022	ST13521	6	VactorTruck	IW3	None	Clear	None
9/2/2022	ST10772	44	VactorTruck	IW1	None	N/A	Strong
9/2/2022	ST12773	17	VactorTruck	IW2	None	NotClear	None
9/2/2022	ST10770	39	VactorTruck	IW1	None	N/A	Strong

Date	ID	Debris (in.) Removed	Vehicle	Driver	Active FLow?	Color?	Odor?
9/2/2022	ST13513	36	VactorTruck	IW3	None	Clear	None
9/2/2022	ST10775	36	VactorTruck	IW1	None	N/A	Strong
9/2/2022	ST12936	5	VactorTruck	IW2	None	NotClear	None
9/2/2022	ST13535	27	VactorTruck	IW3	None	Clear	None
9/2/2022	ST13533	39	VactorTruck	IW3	None	Clear	None
9/2/2022	ST12804	20	VactorTruck	IW2	None	NotClear	None
9/2/2022	ST13527	25	VactorTruck	IW3	None	Clear	None
9/2/2022	ST14999	20	VactorTruck	IW1	None	N/A	Slight
9/2/2022	ST14998	17	VactorTruck	IW1	Full	NotClear	Slight
9/2/2022	ST15016	37	VactorTruck	IW1	Minimal	NotClear	Slight
9/2/2022	ST13523	15	VactorTruck	IW3	None	Clear	None
9/2/2022	ST15015	7	VactorTruck	IW1	Minimal	NotClear	Slight
9/2/2022	ST13705	14	VactorTruck	IW3	None	Clear	None
9/2/2022	ST13718	34	VactorTruck	IW3	None	Clear	None
9/2/2022	ST15013	40	VactorTruck	IW1	None	N/A	Slight
9/2/2022	ST13723	48	VactorTruck	IW3	None	Clear	None
9/2/2022	ST11564	24	VactorTruck	IW1	None	N/A	Slight
9/2/2022	ST11563	30	VactorTruck	IW1	None	N/A	Strong
9/2/2022	ST13725	43	VactorTruck	IW3	None	Clear	None
9/2/2022	ST11562	23	VactorTruck	IW1	None	N/A	None
9/7/2022	ST10881	5	VactorTruck	IW2	None	NotClear	None
9/7/2022	ST10880	7	VactorTruck	IW2	None	NotClear	None
9/7/2022	ST10879	50	VactorTruck	IW2	None	NotClear	None
9/7/2022	ST10878	20	VactorTruck	IW2	Minimal	NotClear	None
9/7/2022	ST10877	25	VactorTruck	IW2	Full	NotClear	None
9/7/2022	ST10875	5	VactorTruck	IW2	Full	NotClear	None
9/7/2022	ST3394	13	VactorTruck	IW2	None	NotClear	None
9/7/2022	ST3396	40	VactorTruck	IW2	None	NotClear	None
9/7/2022	ST3397	16	VactorTruck	IW2	Minimal	NotClear	None

Date	ID	Debris (in.) Removed	Vehicle	Driver	Active FLow?	Color?	Odor?
9/7/2022	ST3400	12	VactorTruck	IW2	Minimal	NotClear	None
9/7/2022	ST3401	15	VactorTruck	IW2	Full	NotClear	None
9/7/2022	ST3486	18	VactorTruck	IW2	Minimal	NotClear	None
9/8/2022	ST14585	3	VactorTruck	IW1	None	N/A	Slight
9/8/2022	ST14594	25	VactorTruck	IW1	None	N/A	None
9/8/2022	ST14597	27	VactorTruck	IW1	Minimal	Clear	Slight
9/8/2022	ST10222	25	VactorTruck	IW1	None	N/A	None
9/8/2022	ST10204	28	VactorTruck	IW1	None	N/A	Slight
9/8/2022	ST10241	10	VactorTruck	IW1	None	N/A	None
9/8/2022	ST10240	25	VactorTruck	IW1	None	N/A	None
9/8/2022	ST10239	23	VactorTruck	IW1	None	N/A	None
9/8/2022	ST10231	32	VactorTruck	IW1	None	N/A	None
9/8/2022	ST10229	12	VactorTruck	IW1	None	N/A	None
9/8/2022	ST3999	3	VactorTruck	IW1	None	N/A	Slight
9/8/2022	ST3986	4	VactorTruck	IW1	Minimal	Clear	Slight
9/8/2022	ST3983	6	VactorTruck	IW1	None	N/A	Slight
9/8/2022	ST14549	18	VactorTruck	IW1	None	N/A	None
9/8/2022	ST14200	44	VactorTruck	IW1	None	N/A	None
9/9/2022	ST14366	50	VactorTruck	IW2	None	NotClear	None
9/9/2022	ST14372	30	VactorTruck	IW2	None	NotClear	None
9/9/2022	ST1785	10	VactorTruck	IW2	None	NotClear	Strong
9/9/2022	ST1798	10	VactorTruck	IW2	None	N/A	Strong
9/9/2022	ST1800	10	VactorTruck	IW2	None	N/A	Strong
9/9/2022	ST1802	16	VactorTruck	IW2	None	N/A	Strong
9/9/2022	ST1180	16	VactorTruck	IW2	None	N/A	Strong
9/9/2022	ST1178	14	VactorTruck	IW2	None	N/A	Strong
9/9/2022	ST210029	11	VactorTruck	IW2	None	N/A	Strong
9/9/2022	ST12993	17	VactorTruck	IW2	None	N/A	Slight
9/9/2022	ST12998	14	VactorTruck	IW2	None	N/A	Slight

Date	ID	Debris (in.) Removed	Vehicle	Driver	Active FLow?	Color?	Odor?
9/9/2022	ST12996	30	VactorTruck	IW2	None	N/A	Slight
9/9/2022	ST13000	7	VactorTruck	IW2	None	N/A	Strong
9/9/2022	ST13003	14	VactorTruck	IW2	None	N/A	Slight
9/9/2022	ST2737	6	VactorTruck	IW2	Minimal	N/A	Slight
9/9/2022	ST210224	18	VactorTruck	IW2	None	N/A	Slight
9/9/2022	ST13418	8	VactorTruck	IW2	None	N/A	Slight
9/9/2022	ST2735	9	VactorTruck	IW2	None	N/A	Strong
9/9/2022	ST2859	10	VactorTruck	IW2	None	N/A	None
9/9/2022	ST12943	32	VactorTruck	IW2	None	N/A	Slight
9/19/2022	ST15633	16	VactorTruck	IW1	Minimal	NotClear	None
9/19/2022	ST15630	9	VactorTruck	IW1	Minimal	NotClear	None
9/19/2022	ST15626	13	VactorTruck	IW1	Minimal	NotClear	None
9/19/2022	ST15619	6	VactorTruck	IW1	Minimal	NotClear	None
9/19/2022	ST15611	14	VactorTruck	IW1	None	NotClear	None
9/19/2022	ST15606	13	VactorTruck	IW1	Minimal	NotClear	None
9/19/2022	ST15601	19	VactorTruck	IW1	Minimal	NotClear	None
9/19/2022	ST15416	10	VactorTruck	IW1	Minimal	NotClear	None
9/19/2022	ST15917	10	VactorTruck	IW1	Minimal	NotClear	None
9/19/2022	ST15907	7	VactorTruck	IW1	Minimal	NotClear	None
9/19/2022	ST15909	6	VactorTruck	IW1	Minimal	NotClear	None
9/19/2022	ST15912	5	VactorTruck	IW1	Minimal	NotClear	None
9/19/2022	ST15960	11	VactorTruck	IW1	Minimal	NotClear	None
9/19/2022	ST15596	1	VactorTruck	IW1	Minimal	NotClear	None
9/19/2022	ST15594	11	VactorTruck	IW1	Minimal	NotClear	None
9/19/2022	ST15659	14	VactorTruck	IW1	None	N/A	None
9/19/2022	ST15655	6	VactorTruck	IW1	None	N/A	None
9/19/2022	ST15622	11	VactorTruck	IW1	Minimal	NotClear	None
9/19/2022	ST15651	11	VactorTruck	IW1	Minimal	NotClear	None
9/19/2022	ST15649	11	VactorTruck	IW1	Minimal	NotClear	None

Date	ID	Debris (in.) Removed	Vehicle	Driver	Active FLow?	Color?	Odor?
9/20/2022	ST12882	20	ClamTruck	DCapuano	Minimal	NotClear	Slight
9/21/2022	ST500222	52	ClamTruck	DCapuano	None	Clear	None
9/21/2022	ST210262	2	ClamTruck	DCapuano	None	NotClear	None
9/21/2022	ST210261	0	ClamTruck	DCapuano		NotClear	None
9/21/2022	ST210264	73	ClamTruck	DCapuano	None	NotClear	None
9/21/2022	ST210264	95	ClamTruck	DCapuano	None	Clear	None
9/22/2022	ST210263	91	ClamTruck	DCapuano	Minimal	NotClear	Slight
9/22/2022	ST210264	102	ClamTruck	DCapuano	None	NotClear	Slight
9/22/2022	ST210256	21	ClamTruck	DCapuano	None	NotClear	Slight
9/22/2022	ST210257	21	ClamTruck	DCapuano	None	Clear	Slight
9/22/2022	ST16305	1	ClamTruck	DCapuano	None	NotClear	Slight
9/22/2022	ST16303		ClamTruck	DCapuano	Full	NotClear	Slight
9/23/2022	ST210346	31	ClamTruck	DCapuano	None	NotClear	None
9/23/2022	ST210347	38	ClamTruck	DCapuano	None	NotClear	None
9/23/2022	ST210348	3	ClamTruck	DCapuano	Minimal	NotClear	Slight
9/23/2022	ST600011	28	ClamTruck	DCapuano	None	NotClear	Slight
9/23/2022	ST6571	27	ClamTruck	DCapuano	Minimal	Clear	None
9/23/2022	ST500106	32	ClamTruck	DCapuano	None	NotClear	None
9/26/2022	ST600010	72	ClamTruck	DCapuano	None	NotClear	Slight
9/26/2022	ST600012	70	ClamTruck	DCapuano	None	NotClear	Slight
9/26/2022	ST600013	91	ClamTruck	DCapuano	Minimal	NotClear	Slight
9/26/2022	ST600017	90	ClamTruck	DCapuano	None	NotClear	Slight
9/26/2022	ST16668	0	ClamTruck	DCapuano	None	NotClear	None
9/26/2022	ST600001	88	ClamTruck	DCapuano	None	Clear	Strong
9/26/2022	ST6565	36	ClamTruck	DCapuano	None	NotClear	Slight
9/27/2022	ST600002	1	ClamTruck	DCapuano	None	NotClear	Slight
9/27/2022	ST600006	75	ClamTruck	DCapuano	None	Clear	Slight
9/27/2022	ST600003	50	ClamTruck	DCapuano	None	NotClear	Slight
9/27/2022	ST600005	93	ClamTruck	DCapuano	Minimal	NotClear	None

Date	ID	Debris (in.) Removed	Vehicle	Driver	Active FLow?	Color?	Odor?
9/27/2022	ST600004		ClamTruck	DCapuano	Minimal	Clear	Slight
9/27/2022	ST600007		ClamTruck	DCapuano	None	Clear	Slight
9/27/2022	ST600008	36	ClamTruck	DCapuano	None	NotClear	None
9/28/2022	ST12709	25	VactorTruck	IW1	None	N/A	Slight
9/28/2022	ST12716	28	VactorTruck	IW1	None	N/A	Strong
9/28/2022	ST12718	25	VactorTruck	IW1	None	N/A	Slight
9/28/2022	ST12722	7	VactorTruck	IW1	None	N/A	None
9/28/2022	ST12846	24	VactorTruck	IW1	None	N/A	Slight
9/28/2022	ST12840	40	VactorTruck	IW1	None	N/A	Slight
9/28/2022	ST12838	31	VactorTruck	IW1	None	N/A	Slight
9/28/2022	ST12833	41	VactorTruck	IW1	None	N/A	None
9/28/2022	ST12871	21	VactorTruck	IW1	None	N/A	None
9/28/2022	ST12866	32	VactorTruck	IW1	None	N/A	Slight
9/28/2022	ST12880	26	VactorTruck	IW1	None	N/A	None
9/28/2022	ST13076	8	VactorTruck	IW1	None	Clear	None
9/28/2022	ST13688	6	VactorTruck	IW1	None	Clear	None
9/28/2022	ST13686	1	VactorTruck	IW1	None		None
9/28/2022	ST13680	20	VactorTruck	IW1	None	Clear	None
9/28/2022	ST13684	27	VactorTruck	IW1	None	Clear	None
9/28/2022	ST12882	34	VactorTruck	IW1	None	N/A	None
9/28/2022	ST13678	17	VactorTruck	IW1	None	Clear	None
9/28/2022	ST12542	27	VactorTruck	IW1	None	N/A	None
9/28/2022	ST12541	33	VactorTruck	IW1	None	N/A	Slight
9/28/2022	ST13058	4	VactorTruck	IW1	None	Clear	None
9/28/2022	ST12538	46	VactorTruck	IW1	None	N/A	Slight
9/28/2022	ST13439	14	VactorTruck	IW1	None	Clear	None
9/28/2022	ST12539	14	VactorTruck	IW1	None	N/A	Slight
9/28/2022	ST13454	12	VactorTruck	IW1	None	Clear	None
9/28/2022	ST12527	31	VactorTruck	IW1	None	N/A	None

Date	ID	Debris (in.) Removed	Vehicle	Driver	Active FLow?	Color?	Odor?
9/28/2022	ST12524	35	VactorTruck	IW1	None	N/A	None
9/29/2022	ST14965	29	VactorTruck	IW3	None	Clear	None
9/29/2022	ST2226	43	ClamTruck	DCapuano	Minimal	Clear	None
9/29/2022	ST14969	48	VactorTruck	IW3	None	Clear	None
9/29/2022	ST14971	20	VactorTruck	IW3	None	Clear	None
9/29/2022	ST14977	25	VactorTruck	IW3	Minimal	Clear	None
9/29/2022	ST13121	8	VactorTruck	IW3	None	N/A	None
9/29/2022	ST11935	11	VactorTruck	IW3	None	N/A	Slight
9/29/2022	ST7436	14	ClamTruck	DCapuano	Minimal	NotClear	None
9/29/2022	ST11937	20	VactorTruck	IW3	None	N/A	None
9/29/2022	ST7437	6	ClamTruck	DCapuano	None	NotClear	None
9/29/2022	ST11979	34	VactorTruck	IW3	None	N/A	Slight
9/29/2022	ST11977	20	VactorTruck	IW3	None	N/A	Slight
9/29/2022	ST7438	28	ClamTruck	DCapuano	None	Clear	None
9/29/2022	ST14959	31	VactorTruck	IW3	None	Clear	None
9/29/2022	ST7439	26	ClamTruck	DCapuano	Minimal	Clear	None
9/29/2022	ST14956	49	VactorTruck	IW3	None	Clear	None
9/29/2022	ST11985	17	VactorTruck	IW3	None	N/A	Slight
9/29/2022	ST14952	48	VactorTruck	IW3	None	NotClear	None
9/29/2022	ST13774	16	VactorTruck	IW1	None	Clear	None
9/29/2022	ST14948	43	VactorTruck	IW3	None	Clear	None
9/29/2022	ST11938	12	VactorTruck	IW3	Full	NotClear	Strong
9/29/2022	ST13766	13	VactorTruck	IW1	None	Clear	None
9/29/2022	ST14946	45	VactorTruck	IW3	Minimal	NotClear	None
9/29/2022	ST12424	11	VactorTruck	IW1	None	Clear	None
9/29/2022	ST11811	3	VactorTruck	IW3	None	N/A	None
9/29/2022	ST12832	1	ClamTruck	DCapuano	None	NotClear	None
9/29/2022	ST11861	3	VactorTruck	IW3	None	N/A	Strong
9/29/2022	ST12836	6	ClamTruck	DCapuano	None		Slight

Date	ID	Debris (in.) Removed	Vehicle	Driver	Active FLow?	Color?	Odor?
9/29/2022	ST12422	8	VactorTruck	IW1	None	Clear	None
9/29/2022	ST11894	10	VactorTruck	IW3	None	N/A	Slight
9/29/2022	ST14938	47	VactorTruck	IW3	Minimal	Clear	None
9/29/2022	ST12868	5	ClamTruck	DCapuano	Minimal	NotClear	Slight
9/29/2022	ST11893	12	VactorTruck	IW3	None	N/A	Slight
9/29/2022	ST12870	2	ClamTruck	DCapuano	None	Clear	None
9/29/2022	ST11936	7	VactorTruck	IW3	None	N/A	Slight
9/29/2022	ST14940	38	VactorTruck	IW3	None	Clear	None
9/29/2022	ST11891	12	VactorTruck	IW3	None	N/A	Slight
9/29/2022	ST11890	8	VactorTruck	IW3	None	N/A	Strong
9/29/2022	ST20164	21	VactorTruck	IW1	None	Clear	None
9/29/2022	ST12086	8	VactorTruck	IW1	None	Clear	None
9/30/2022	ST14216	9	VactorTruck	IW1	None	Clear	None
9/30/2022	ST14219	16	VactorTruck	IW1	None	Clear	None
9/30/2022	ST2031	12	VactorTruck	IW1	Minimal	Clear	None
9/30/2022	ST13047	1	ClamTruck	DCapuano	None	Clear	None
9/30/2022	ST13048	1	ClamTruck	DCapuano	None	NotClear	None
9/30/2022	ST15175	3	VactorTruck	IW1	None	N/A	Strong
9/30/2022	ST2717	2	ClamTruck	DCapuano	None	Clear	None
9/30/2022	ST15179	13	VactorTruck	IW1	None	N/A	Slight
9/30/2022	ST2035	9	VactorTruck	IW1	None	Clear	None
9/30/2022	ST2712	2	ClamTruck	DCapuano	None	NotClear	None
9/30/2022	ST15340	3	VactorTruck	IW1	None	N/A	Slight
9/30/2022	ST210442	17	VactorTruck	IW1	None	N/A	None
9/30/2022	ST17465	6	VactorTruck	IW1	None	Clear	None
9/30/2022	ST8698	67	ClamTruck	DCapuano	None	Clear	None
9/30/2022	ST210444	3	VactorTruck	IW1	Minimal	NotClear	Slight
9/30/2022	ST210469	3	VactorTruck	IW1	Minimal	NotClear	Slight
9/30/2022	ST210471	3	VactorTruck	IW1	Full	NotClear	Slight

Date	ID	Debris (in.) Removed	Vehicle	Driver	Active FLow?	Color?	Odor?
9/30/2022	ST210472	3	VactorTruck	IW1	Full	NotClear	Slight
9/30/2022	ST210473	4	VactorTruck	IW1	Full	Clear	None
9/30/2022	ST210474	3	VactorTruck	IW1	None	N/A	None
9/30/2022	ST210470	20	VactorTruck	IW1	None	N/A	Strong
9/30/2022	ST210445	14	VactorTruck	IW1	None	N/A	None
9/30/2022	ST16092	7	VactorTruck	IW1	None	N/A	Slight
9/30/2022	ST1324	6	VactorTruck	IW1	None	Clear	None
9/30/2022	ST15143	8	VactorTruck	IW1	None	N/A	Slight
9/30/2022	ST1319	11	VactorTruck	IW1	None	Clear	None
9/30/2022	ST15147	18	VactorTruck	IW1	None	N/A	Strong
9/30/2022	ST2034	13	VactorTruck	IW1	None	Clear	None
9/30/2022	ST17463	11	VactorTruck	IW1	None	Clear	None
9/30/2022	ST15137	12	VactorTruck	IW1	None	N/A	Slight
9/30/2022	ST15135	13	VactorTruck	IW1	None	N/A	None
9/30/2022	ST2019	17	VactorTruck	IW1	None	Clear	None
9/30/2022	ST15131	15	VactorTruck	IW1	None	N/A	Slight
9/30/2022	ST15133	23	VactorTruck	IW1	None	N/A	Slight
9/30/2022	ST15371	26	VactorTruck	IW1	None	N/A	Slight
9/30/2022	ST2038	19	VactorTruck	IW1	None	Clear	None
9/30/2022	ST15373	16	VactorTruck	IW1	None	N/A	None
9/30/2022	ST15369	14	VactorTruck	IW1	None	N/A	Slight
9/30/2022	ST2029	11	VactorTruck	IW1	None	Clear	None
10/3/2022	ST8693	0	ClamTruck	DCapuano	None	Clear	None
10/3/2022	ST8696	20	ClamTruck	DCapuano	Minimal	NotClear	None
10/3/2022	ST11235	8	VactorTruck	IW1	None	N/A	None
10/3/2022	ST11240	14	VactorTruck	IW1	Full	NotClear	None
10/3/2022	ST9782	37	ClamTruck	DCapuano	None	NotClear	None
10/3/2022	ST8041	3	ClamTruck	DCapuano	None	Clear	None
10/3/2022	ST8043	7	ClamTruck	DCapuano	None	NotClear	None

Date	ID	Debris (in.) Removed	Vehicle	Driver	Active FLow?	Color?	Odor?
10/3/2022	ST8045	14	ClamTruck	DCapuano	None	NotClear	None
10/3/2022	ST8041	12	ClamTruck	DCapuano	None	NotClear	None
10/3/2022	ST8054	21	ClamTruck	DCapuano	None	NotClear	Slight
10/3/2022	ST8083	22	ClamTruck	DCapuano	None	NotClear	Slight
10/4/2022	ST11050	91	ClamTruck	DCapuano	Minimal	Clear	None
10/4/2022	ST7157	54	ClamTruck	DCapuano	None		None
10/4/2022	ST7159	39	ClamTruck	DCapuano	None	NotClear	None
10/4/2022	ST3121	6	ClamTruck	DCapuano	None	NotClear	None
10/4/2022	ST3119	18	ClamTruck	DCapuano	None	NotClear	None
10/5/2022	ST8702	54	ClamTruck	DCapuano	None	NotClear	None
10/5/2022	ST8797	2	ClamTruck	DCapuano	Minimal	Clear	None
10/5/2022	ST8823	0	ClamTruck	DCapuano	None	NotClear	None
10/5/2022	ST8819	1	ClamTruck	DCapuano	Minimal	Clear	Slight
10/5/2022	ST9456	2	ClamTruck	DCapuano	None	NotClear	None
10/5/2022	ST16510	9	VactorTruck	IW3	None	Clear	None
10/5/2022	ST16508	6	VactorTruck	IW3	None	Clear	None
10/5/2022	ST16467	7	VactorTruck	IW3	None	Clear	None
10/5/2022	ST16465	7	VactorTruck	IW3	None	Clear	None
10/5/2022	ST16180	7	VactorTruck	IW3	None	Clear	None
10/5/2022	ST11354	1	ClamTruck	DCapuano	Minimal	NotClear	Slight
10/5/2022	ST12205	12	VactorTruck	IW3	None	Clear	None
10/6/2022	ST16638		ClamTruck	DCapuano	None	NotClear	None
10/6/2022	ST16663	2	ClamTruck	DCapuano	Minimal	NotClear	Slight
10/6/2022	ST9536	2	ClamTruck	DCapuano	None	NotClear	None
10/6/2022	ST9537	7	ClamTruck	DCapuano	None	NotClear	None
10/6/2022	ST9540	20	ClamTruck	DCapuano	Minimal	NotClear	None
10/6/2022	ST3087	32	ClamTruck	DCapuano	None	NotClear	None
10/6/2022	ST3088	21	ClamTruck	DCapuano	None	NotClear	Slight
10/6/2022	ST3120		ClamTruck	DCapuano	None	NotClear	None

Date	ID	Debris (in.) Removed	Vehicle	Driver	Active FLow?	Color?	Odor?
10/11/2022	ST16459	51	ClamTruck	DCapuano	None	NotClear	
10/11/2022	ST16448	1	ClamTruck	DCapuano	None	NotClear	None
10/11/2022	ST16433	7	ClamTruck	DCapuano	None	NotClear	Slight
10/11/2022	ST16057	5	ClamTruck	DCapuano	None	NotClear	None
10/11/2022	ST210270	0	ClamTruck	DCapuano	None	NotClear	Slight
10/11/2022	ST8512	17	ClamTruck	DCapuano	None	NotClear	None
10/11/2022	ST8508	5	ClamTruck	DCapuano	None	NotClear	None
10/14/2022	ST6535		ClamTruck	DCapuano	None	Clear	None
10/18/2022	ST5666		ClamTruck	DCapuano	Minimal	NotClear	None
10/18/2022	ST5668	5	ClamTruck	DCapuano	Minimal	Clear	None
10/18/2022	ST5672	0	ClamTruck	DCapuano	Minimal	NotClear	None
10/18/2022	ST5671	5	ClamTruck	DCapuano	None	NotClear	None
10/18/2022	ST5671	3	ClamTruck	DCapuano	None	NotClear	None
10/18/2022	ST8449	2	ClamTruck	DCapuano	Minimal	Clear	Slight
10/19/2022	ST9115	0	ClamTruck	DCapuano	Minimal	NotClear	None
10/19/2022	ST9112	0	ClamTruck	DCapuano	None	Clear	None
10/19/2022	ST9111	13	ClamTruck	DCapuano	None	NotClear	None
10/20/2022	ST6402	20	ClamTruck	DCapuano	Minimal	Clear	None
10/20/2022	ST11268	10	VactorTruck	IW1	Minimal	Clear	None
10/20/2022	ST11267	2	VactorTruck	IW1	Full	NotClear	None
10/20/2022	ST11265	2	VactorTruck	IW1	Minimal	Clear	None
10/20/2022	ST11216	1	VactorTruck	IW1	None	Clear	None
10/20/2022	ST11214	14	VactorTruck	IW1	None	Clear	None
10/20/2022	ST6484	26	ClamTruck	DCapuano	None	Clear	Slight
10/20/2022	ST6485	5	ClamTruck	DCapuano	Minimal	NotClear	None
10/20/2022	ST11212	1	VactorTruck	IW1	None	Clear	None
10/20/2022	ST10884	8	VactorTruck	IW1	None	Clear	None
10/20/2022	ST210357	7	VactorTruck	IW1	Full	Clear	None
10/20/2022	ST11289	25	VactorTruck	IW1	None	Clear	None

Date	ID	Debris (in.) Removed	Vehicle	Driver	Active FLow?	Color?	Odor?
10/20/2022	ST11288	2	VactorTruck	IW1	None	Clear	None
10/20/2022	ST11286	1	VactorTruck	IW1	None	N/A	None
10/20/2022	ST11273	4	VactorTruck	IW1	None	NotClear	None
10/20/2022	ST11272	3	VactorTruck	IW1	None	NotClear	None
10/20/2022	ST11276	2	VactorTruck	IW1	None	Clear	None
10/20/2022	ST11277	3	VactorTruck	IW1	Minimal	Clear	None
10/20/2022	ST3004	7	ClamTruck	DCapuano	Minimal	NotClear	None
10/20/2022	ST7200	2	VactorTruck	IW1	None	Clear	None
10/20/2022	ST11101	3	VactorTruck	IW1	Full	NotClear	None
10/20/2022	ST6417	11	ClamTruck	DCapuano	Minimal	NotClear	Slight
10/20/2022	ST11103	18	VactorTruck	IW1	Full	NotClear	Slight
10/20/2022	ST11102	7	VactorTruck	IW1	None	N/A	Slight
10/20/2022	ST11062	5	VactorTruck	IW1	None	Clear	None
10/21/2022	ST6644	6	ClamTruck	DCapuano	None	NotClear	None
10/21/2022	ST6642	1	ClamTruck	DCapuano	None	Clear	None
10/21/2022	ST3545	11	ClamTruck	DCapuano	None	NotClear	None
10/21/2022	ST3546	7	ClamTruck	DCapuano	None	NotClear	None
10/25/2022	ST500134	9	ClamTruck	DCapuano	None	NotClear	Slight
10/25/2022	ST14312	28	VactorTruck	IW1	None	Clear	None
10/25/2022	ST500133	6	ClamTruck	DCapuano	None	NotClear	None
10/25/2022	ST14304	18	VactorTruck	IW1	None	Clear	None
10/25/2022	ST14302	1	VactorTruck	IW1	None	Clear	None
10/25/2022	ST3162	1	ClamTruck	DCapuano	Minimal	NotClear	None
10/25/2022	ST14296	30	VactorTruck	IW1	None	Clear	None
10/25/2022	ST3166	5	ClamTruck	DCapuano	Minimal	NotClear	None
10/25/2022	ST3165	0	ClamTruck	DCapuano	None	NotClear	None
10/25/2022	ST14204	1	VactorTruck	IW1	None	Clear	None
10/25/2022	ST3162	6	ClamTruck	DCapuano	None	NotClear	None
10/25/2022	ST14202	40	VactorTruck	IW1	None	Clear	None

Date	ID	Debris (in.) Removed	Vehicle	Driver	Active FLow?	Color?	Odor?
10/25/2022	ST3149	6	ClamTruck	DCapuano	Minimal	NotClear	Slight
10/25/2022	ST14210	33	VactorTruck	IW1	None	Clear	None
10/25/2022	ST14210	30	VactorTruck	IW1	None	Clear	None
10/25/2022	ST14208	37	VactorTruck	IW1	None	Clear	None
10/25/2022	ST2482	1	ClamTruck	DCapuano	None	NotClear	Slight
10/25/2022	ST2480	0	ClamTruck	DCapuano	None	NotClear	None
10/25/2022	ST3613	7	ClamTruck	DCapuano	None	NotClear	None
10/26/2022	ST13107	26	VactorTruck	IW1	None	Clear	None
10/26/2022	ST13108	29	VactorTruck	IW1	None	Clear	None
10/26/2022	ST3496	2	ClamTruck	DCapuano	Minimal	NotClear	None
10/26/2022	ST12339	27	VactorTruck	IW1	None	NotClear	None
10/26/2022	ST3466	0	ClamTruck	DCapuano	Minimal	NotClear	None
10/26/2022	ST12336	31	VactorTruck	IW1	None	Clear	None
10/26/2022	ST12333	29	VactorTruck	IW1	Full	Clear	None
10/26/2022	ST3907	13	ClamTruck	DCapuano	None	NotClear	Slight
10/26/2022	ST12323	31	VactorTruck	IW1	Full	Clear	None
10/26/2022	ST12321	33	VactorTruck	IW1	Full	Clear	None
10/26/2022	ST3905	13	ClamTruck	DCapuano	None	NotClear	None
10/26/2022	ST12319	34	VactorTruck	IW1	Full	Clear	None
10/26/2022	ST12315	30	VactorTruck	IW1	Minimal	Clear	None
10/26/2022	ST10124	2	VactorTruck	IW1	None	Clear	None
10/26/2022	ST10116	32	VactorTruck	IW1	None	Clear	None
10/26/2022	ST10111	0	VactorTruck	IW1	None	Clear	None
10/26/2022	ST10076	45	VactorTruck	IW1	None	Clear	None
10/26/2022	ST12298	23	VactorTruck	IW1	None	Clear	None
10/26/2022	ST12296	17	VactorTruck	IW1	None	Clear	None
10/26/2022	ST12285	33	VactorTruck	IW1	None	Clear	None
10/26/2022	ST3616	8	ClamTruck	DCapuano	None	NotClear	None
10/26/2022	ST3614	7	ClamTruck	DCapuano	None	NotClear	Slight

Date	ID	Debris (in.) Removed	Vehicle	Driver	Active FLow?	Color?	Odor?
10/26/2022	ST12303	27	VactorTruck	IW1	None	Clear	None
10/26/2022	ST12303	16	VactorTruck	IW1	None	Clear	None
10/26/2022	ST12351	18	VactorTruck	IW1	None	Clear	None
10/26/2022	ST12347	22	VactorTruck	IW1	None	Clear	None
10/26/2022	ST210164	1	ClamTruck	DCapuano	Minimal	NotClear	Slight
10/27/2022	ST14307	33	VactorTruck	IW1	None	Clear	None
10/27/2022	ST7217	30	ClamTruck	DCapuano	None	NotClear	Slight
10/27/2022	ST20053	46	VactorTruck	IW1	None	Clear	None
10/27/2022	ST20053	46	VactorTruck	IW1	None	Clear	None
10/27/2022	ST14281	34	VactorTruck	IW1	None	Clear	None
10/27/2022	ST6760	27	ClamTruck	DCapuano	Minimal	NotClear	Slight
10/27/2022	ST14276	23	VactorTruck	IW1	None	Clear	None
10/27/2022	ST14270	11	VactorTruck	IW1	None	Clear	None
10/27/2022	ST6796	5	ClamTruck	DCapuano	Minimal	NotClear	Slight
10/27/2022	ST6802	4	ClamTruck	DCapuano	Minimal	NotClear	Slight
10/27/2022	ST14296	43	VactorTruck	IW1	None	Clear	None
10/27/2022	ST14298	43	VactorTruck	IW1	None	Clear	None
10/27/2022	ST14314	40	VactorTruck	IW1	None	Clear	None
10/27/2022	ST6822	2	ClamTruck	DCapuano	None	NotClear	Slight
10/27/2022	ST14310	40	VactorTruck	IW1	None	Clear	None
10/27/2022	ST6944	32	ClamTruck	DCapuano	Minimal	NotClear	Slight
10/27/2022	ST6946		ClamTruck	DCapuano	Minimal	NotClear	Slight
10/27/2022	ST14357	3	VactorTruck	IW1	Full	Clear	None
10/27/2022	ST14701	36	VactorTruck	IW1	None	Clear	None
10/27/2022	ST2922	39	VactorTruck	IW1	None	Clear	None
10/27/2022	ST2923	37	VactorTruck	IW1	None	Clear	None
10/27/2022	ST2661	27	VactorTruck	IW1	None	Clear	None
10/27/2022	ST210418		VactorTruck	IW1	None	Clear	None
10/27/2022	ST210419	28	VactorTruck	IW1	None	Clear	None

Date	ID	Debris (in.) Removed	Vehicle	Driver	Active FLow?	Color?	Odor?
10/27/2022	ST210532	12	ClamTruck	DCapuano	None	NotClear	Slight
10/27/2022	ST210420	34	VactorTruck	IW1	None	Clear	None
10/27/2022	ST210421	35	VactorTruck	IW1	None	Clear	None
10/27/2022	ST210426	26	VactorTruck	IW1	None	Clear	None
10/28/2022	ST210545	4	ClamTruck	DCapuano	None	NotClear	Slight
10/28/2022	ST210551	4	ClamTruck	DCapuano	None	NotClear	Slight
10/28/2022	ST210569	11	ClamTruck	DCapuano	None	NotClear	None
10/28/2022	ST500238	7	ClamTruck	DCapuano	None	NotClear	None
10/28/2022	ST13062	31	VactorTruck	IW1	None	Clear	None
10/28/2022	ST13060	34	VactorTruck	IW1	None	Clear	None
10/28/2022	ST13441	32	VactorTruck	IW1	None	Clear	None
10/28/2022	ST13451	37	VactorTruck	IW1	None	Clear	None
10/28/2022	ST14028	45	VactorTruck	IW1	None	Clear	None
10/28/2022	ST14031	40	VactorTruck	IW1	None	Clear	None
10/28/2022	ST14030	36	VactorTruck	IW1	None	Clear	None
10/28/2022	ST1667	5	ClamTruck	DCapuano	Minimal	NotClear	None
10/28/2022	ST14029	34	VactorTruck	IW1	None	Clear	None
10/31/2022	ST9252		ClamTruck	DCapuano	None	NotClear	Slight
10/31/2022	ST9835	60	ClamTruck	DCapuano	None	NotClear	Slight
10/31/2022	ST11329	9	ClamTruck	DCapuano	None	Clear	None
10/31/2022	ST7239	0	ClamTruck	DCapuano	None	NotClear	None
10/31/2022	ST7240	53	ClamTruck	DCapuano	None	NotClear	Slight
10/31/2022	ST14888	2	VactorTruck	IW1	None	Clear	None
10/31/2022	ST210494	24	VactorTruck	IW3	None	Clear	None
10/31/2022	ST210489	27	VactorTruck	IW3	None	Clear	None
10/31/2022	ST210492	7	VactorTruck	IW1	None	N/A	None
10/31/2022	ST14906	9	VactorTruck	IW3	None	Clear	None
10/31/2022	ST210487	10	VactorTruck	IW1	Full	None	None
10/31/2022	ST14908	15	VactorTruck	IW3	None	Clear	None

Date	ID	Debris (in.) Removed	Vehicle	Driver	Active FLow?	Color?	Odor?
10/31/2022	ST210475	6	VactorTruck	IW3	None	Clear	None
10/31/2022	ST210487	12	VactorTruck	IW1	None	Clear	None
10/31/2022	ST210480	25	VactorTruck	IW3	None	Clear	None
10/31/2022	ST210476	11	VactorTruck	IW1	None	N/A	None
10/31/2022	ST210479	3	VactorTruck	IW1	None	N/A	None
10/31/2022	ST210486	12	VactorTruck	IW3	None	Clear	None
10/31/2022	ST210481	11	VactorTruck	IW1	None	Clear	None
10/31/2022	ST210502	15	VactorTruck	IW3	None	Clear	None
10/31/2022	ST210491	9	VactorTruck	IW1	None	Clear	None
10/31/2022	ST210504	5	VactorTruck	IW3	None	Clear	None
10/31/2022	ST210501		VactorTruck	IW3	None	Clear	None
10/31/2022	ST7237	65	ClamTruck	DCapuano	None	NotClear	Slight
10/31/2022	ST13083	17	VactorTruck	IW3	None	Clear	None
10/31/2022	ST13081	4	VactorTruck	IW1	None	N/A	None
10/31/2022	ST13084	13	VactorTruck	IW3	None	Clear	None
10/31/2022	ST3843	1	ClamTruck	DCapuano	Minimal	Clear	Slight
10/31/2022	ST13085	16	VactorTruck	IW3	None	Clear	None
11/1/2022	ST6922	9	ClamTruck	DCapuano	None	Clear	None
11/1/2022	ST20064	7	ClamTruck	DCapuano	Minimal	NotClear	Slight
11/1/2022	ST15139	5	VactorTruck	IW1	Minimal	NotClear	None
11/1/2022	ST16076	2	VactorTruck	IW1	Minimal	NotClear	None
11/1/2022	ST15393	12	VactorTruck	IW1	Minimal	NotClear	None
11/1/2022	ST3865	10	ClamTruck	DCapuano	None	NotClear	Slight
11/1/2022	ST4233	8	ClamTruck	DCapuano	None	Clear	Slight
11/1/2022	ST4543	7	ClamTruck	DCapuano	None	NotClear	None
11/1/2022	ST7381	8	ClamTruck	DCapuano	None	NotClear	Slight
11/1/2022	ST7364	40	ClamTruck	DCapuano	None	NotClear	Slight
11/2/2022	ST15343	4	VactorTruck	IW1	None	NotClear	None
11/2/2022	ST15173	13	VactorTruck	IW1	None	NotClear	None

Date	ID	Debris (in.) Removed	Vehicle	Driver	Active FLow?	Color?	Odor?
11/2/2022	ST15367		VactorTruck	IW1			None
11/2/2022	ST15129	3	VactorTruck	IW1	None	NotClear	None
11/2/2022	ST15130	10	VactorTruck	IW1	None	NotClear	None
11/2/2022	ST16037	5	VactorTruck	IW1	None	NotClear	None
11/2/2022	ST12450	25	VactorTruck	IW1	None	N/A	Slight
11/2/2022	ST16026	23	VactorTruck	IW1	None	NotClear	None
11/2/2022	ST16027	3	VactorTruck	IW1	None	NotClear	None
11/2/2022	ST12431	40	VactorTruck	IW1	None	N/A	None
11/2/2022	ST16044	7	VactorTruck	IW1	None	NotClear	None
11/2/2022	ST12429	28	VactorTruck	IW1	None	N/A	Slight
11/2/2022	ST12905	45	VactorTruck	IW1	None	N/A	Strong
11/2/2022	ST16050	22	VactorTruck	IW1	None	NotClear	None
11/2/2022	ST12495	44	VactorTruck	IW1	None	N/A	Slight
11/2/2022	ST16012	27	VactorTruck	IW1	None	NotClear	None
11/2/2022	ST16058	11	VactorTruck	IW1	None	NotClear	None
11/2/2022	ST16059	17	VactorTruck	IW1	None	NotClear	None
11/2/2022	ST7370	9	ClamTruck	DCapuano	None	NotClear	Slight
11/2/2022	ST16065	10	VactorTruck	IW1	None	NotClear	None
11/2/2022	ST16006	7	VactorTruck	IW1	None	NotClear	None
11/2/2022	ST7373	7	ClamTruck	DCapuano	None	NotClear	Slight
11/2/2022	ST16066	1	VactorTruck	IW1	None	NotClear	None
11/2/2022	ST7376	16	ClamTruck	DCapuano	None	NotClear	Slight
11/2/2022	ST16002	32	VactorTruck	IW1	None	NotClear	None
11/2/2022	ST210350	2	VactorTruck	IW1	None	NotClear	None
11/2/2022	ST12888	46	VactorTruck	IW1	None	N/A	Slight
11/2/2022	ST16158	4	VactorTruck	IW1	None	NotClear	None
11/2/2022	ST16154	18	VactorTruck	IW1	None	NotClear	None
11/2/2022	ST12860	34	VactorTruck	IW1	None	N/A	None
11/2/2022	ST16151	14	VactorTruck	IW1	None	NotClear	None

Date	ID	Debris (in.) Removed	Vehicle	Driver	Active FLow?	Color?	Odor?
11/3/2022	ST3829	2	ClamTruck	DCapuano	None	NotClear	Slight
11/3/2022	ST500063	6	ClamTruck	DCapuano	None	NotClear	Slight
11/3/2022	ST3548	2	ClamTruck	DCapuano	None	NotClear	Slight
11/3/2022	ST210159	7	ClamTruck	DCapuano	None	NotClear	Slight
11/3/2022	ST12145	11	VactorTruck	IW1	None	N/A	Slight
11/3/2022	ST1122	11	ClamTruck	DCapuano	Minimal	NotClear	Slight
11/3/2022	ST12156	21	VactorTruck	IW1	None	N/A	Slight
11/3/2022	ST12158	17	VactorTruck	IW1	None	N/A	Slight
11/3/2022	ST12157	16	VactorTruck	IW1	None	N/A	Slight
11/3/2022	ST12154	22	VactorTruck	IW1	None	N/A	Strong
11/3/2022	ST14848	10	VactorTruck	IW1	Minimal	NotClear	Slight
11/3/2022	ST14845	3	VactorTruck	IW1	None	N/A	Slight
11/3/2022	ST11191	3	ClamTruck	DCapuano			
11/3/2022	ST8199	23	VactorTruck	IW1	None	N/A	Strong
11/3/2022	ST8194	11	VactorTruck	IW1	None	N/A	Strong
11/3/2022	ST8235	8	VactorTruck	IW1	None	N/A	Slight
11/3/2022	ST8238	22	VactorTruck	IW1	None	N/A	Strong
11/3/2022	ST8247	12	VactorTruck	IW1	None	N/A	Slight
11/3/2022	ST210250	10	VactorTruck	IW1	None	N/A	Slight
11/7/2022	ST210436	12	VactorTruck	IW1	None	Clear	None
11/7/2022	ST10109	6	VactorTruck	IW1	None	Clear	None
11/7/2022	ST16402	36	VactorTruck	IW1	None	N/A	Strong
11/7/2022	ST10114	13	VactorTruck	IW1	None	Clear	None
11/7/2022	ST12313	8	VactorTruck	IW1	None	Clear	None
11/7/2022	ST12309	13	VactorTruck	IW1	None	Clear	None
11/7/2022	ST16451	22	VactorTruck	IW1	None	N/A	Slight
11/7/2022	ST12317	15	VactorTruck	IW1	None	Clear	None
11/7/2022	ST16462	21	VactorTruck	IW1	None	N/A	Slight
11/7/2022	ST12341	17	VactorTruck	IW1	None	Clear	None

Date	ID	Debris (in.) Removed	Vehicle	Driver	Active FLow?	Color?	Odor?
11/7/2022	ST16477	40	VactorTruck	IW1	None	N/A	Slight
11/7/2022	ST16496	10	VactorTruck	IW1	None	N/A	Slight
11/7/2022	ST11897	14	VactorTruck	IW1	None	Clear	None
11/7/2022	ST16520	17	VactorTruck	IW1	None	N/A	Slight
11/7/2022	ST11898	19	VactorTruck	IW1	None	Clear	None
11/7/2022	ST11896	9	VactorTruck	IW1	None	Clear	None
11/7/2022	ST16552	20	VactorTruck	IW1	None	N/A	Strong
11/7/2022	ST11899	30	VactorTruck	IW1	None	Clear	None
11/7/2022	ST16560	33	VactorTruck	IW1	None	N/A	Slight
11/7/2022	ST16555		VactorTruck	IW1			None
11/7/2022	ST16556	3	VactorTruck	IW1	None	N/A	Slight
11/7/2022	ST12343	10	VactorTruck	IW1	None	Clear	None
11/7/2022	ST16550	4	VactorTruck	IW1	None	N/A	None
11/7/2022	ST12311	5	VactorTruck	IW1	None	Clear	None
11/7/2022	ST16545	31	VactorTruck	IW1	None	N/A	None
11/7/2022	ST12283	10	VactorTruck	IW1	None	Clear	None
11/7/2022	ST13097	39	VactorTruck	IW1	None	Clear	None
11/7/2022	ST14254	18	VactorTruck	IW1	None	Clear	None
11/7/2022	ST14259	26	VactorTruck	IW1	None	Clear	None
11/7/2022	ST14257	9	VactorTruck	IW1	None	Clear	None
11/7/2022	ST8685	9	VactorTruck	IW1	None	N/A	Slight
11/7/2022	ST8764	16	VactorTruck	IW1	None	N/A	Slight
11/7/2022	ST8581	17	VactorTruck	IW1	None	Clear	None
11/7/2022	ST8762	11	VactorTruck	IW1	None	N/A	Strong
11/7/2022	ST8732	16	VactorTruck	IW1	None	Clear	None
11/7/2022	ST8706		VactorTruck	IW1			None
11/7/2022	ST210318	5	VactorTruck	IW1	None	N/A	Slight
11/8/2022	ST12403	41	VactorTruck	IW1	None	N/A	None
11/8/2022	ST12410	40	VactorTruck	IW1	None	N/A	None

Date	ID	Debris (in.) Removed	Vehicle	Driver	Active FLow?	Color?	Odor?
11/8/2022	ST12914	44	VactorTruck	IW1	None	N/A	Strong
11/8/2022	ST12433	38	VactorTruck	IW1	None	N/A	Strong
11/8/2022	ST12409	30	VactorTruck	IW1	None	N/A	Strong
11/8/2022	ST12469	24	VactorTruck	IW1	None	N/A	Slight
11/8/2022	ST12899	7	VactorTruck	IW1	None	N/A	Slight
11/8/2022	ST12896	21	VactorTruck	IW1	None	N/A	Strong
11/8/2022	ST12891	16	VactorTruck	IW1	None	N/A	Strong
11/8/2022	ST12862	40	VactorTruck	IW1	None	N/A	Slight
11/8/2022	ST12919	29	VactorTruck	IW1	None	N/A	Strong
11/8/2022	ST12923	23	VactorTruck	IW1	None	N/A	Strong
11/8/2022	ST12726	30	VactorTruck	IW1	None	N/A	Strong
11/8/2022	ST12712	16	VactorTruck	IW1	None	N/A	Strong
11/8/2022	ST12933	41	VactorTruck	IW1	None	N/A	Strong
11/11/2022	ST2834	10	VactorTruck	IW1	None	N/A	Strong
11/11/2022	ST12986	23	VactorTruck	IW1	None	N/A	Strong
11/11/2022	ST12989	6	VactorTruck	IW1	None	N/A	Slight
11/11/2022	ST12957	37	VactorTruck	IW1	None	N/A	Slight
11/11/2022	ST12959	31	VactorTruck	IW1	None	N/A	Slight
11/11/2022	ST6059	5	VactorTruck	IW1	None	N/A	Slight
11/11/2022	ST6057	14	VactorTruck	IW1	None	N/A	Strong
11/11/2022	ST12966	23	VactorTruck	IW1	None	N/A	Slight
11/11/2022	ST12968	22	VactorTruck	IW1	None	N/A	Strong
11/11/2022	ST12954	28	VactorTruck	IW1	None	N/A	Slight
11/11/2022	ST12984	39	VactorTruck	IW1	None	N/A	None
11/11/2022	ST2848	4	VactorTruck	IW1	Minimal	N/A	Strong
11/11/2022	ST2846	60	VactorTruck	IW1	None	N/A	Strong
11/11/2022	ST2850	51	VactorTruck	IW1	None	N/A	Strong
11/11/2022	ST2852	4	VactorTruck	IW1	None	N/A	Strong
11/11/2022	ST2844	4	VactorTruck	IW1	None	N/A	Strong

Date	ID	Debris (in.) Removed	Vehicle	Driver	Active FLow?	Color?	Odor?
11/14/2022	ST3309	7	ClamTruck	DCapuano		NotClear	Slight
11/14/2022	ST3308	2	ClamTruck	DCapuano	Minimal	NotClear	None
11/14/2022	ST3287	4	ClamTruck	DCapuano	Minimal	NotClear	Slight
11/14/2022	ST16653	18	VactorTruck	IW1	None	Clear	None
11/14/2022	ST7030	8	ClamTruck	DCapuano	Minimal	NotClear	Slight
11/14/2022	ST16523	28	VactorTruck	IW1	None	N/A	None
11/14/2022	ST16500	27	VactorTruck	IW1	None	N/A	None
11/14/2022	ST2984	2	ClamTruck	DCapuano	Minimal	NotClear	Slight
11/14/2022	ST2979	7	ClamTruck	DCapuano	Minimal	NotClear	Slight
11/14/2022		7	VactorTruck	IW1		Clear	None
11/14/2022	ST3383	6	ClamTruck	DCapuano	Minimal	NotClear	Slight
11/14/2022	ST16281	9	VactorTruck	IW1	None	Clear	None
11/14/2022	ST16200	11	VactorTruck	IW1	None	Clear	None
11/14/2022	ST12267	7	VactorTruck	IW1	Minimal	Clear	None
11/14/2022	ST12271	19	VactorTruck	IW1	Minimal	Clear	None
11/14/2022	ST15647	17	VactorTruck	IW1	None	Clear	Slight
11/14/2022	ST12272	13	VactorTruck	IW1	Minimal	Clear	None
11/14/2022	ST12273	21	VactorTruck	IW1	None	Clear	None
11/14/2022	ST15640	7	VactorTruck	IW1	None	Clear	None
11/14/2022	ST12274	37	VactorTruck	IW1	None	Clear	None
11/14/2022	ST15645	15	VactorTruck	IW1	None	Clear	None
11/14/2022	ST12275	25	VactorTruck	IW1	None	Clear	None
11/14/2022	ST15506	45	VactorTruck	IW1	None	Clear	None
11/14/2022	ST12229	5	VactorTruck	IW1	None	Clear	None
11/14/2022	ST15508	5	VactorTruck	IW1	None	Clear	None
11/15/2022	ST17619	3	ClamTruck	DCapuano	None	NotClear	Slight
11/15/2022	ST4501	4	VactorTruck	IW1	Minimal	Clear	None
11/15/2022	ST4502	5	VactorTruck	IW1	Minimal	Clear	None
11/15/2022	ST4504	3	VactorTruck	IW1	None	N/A	None

Date	ID	Debris (in.) Removed	Vehicle	Driver	Active FLow?	Color?	Odor?
11/15/2022	ST4507	5	VactorTruck	IW1	None	N/A	None
11/15/2022	ST4509	12	VactorTruck	IW1	None	N/A	None
11/15/2022	ST17519	46	VactorTruck	IW1	None	Clear	None
11/15/2022	ST17515	18	VactorTruck	IW1	None	N/A	None
11/15/2022	ST17520	11	VactorTruck	IW1	None	Clear	None
11/15/2022	ST4511	13	VactorTruck	IW1	None	Clear	None
11/15/2022	ST4513	5	VactorTruck	IW1	None	Clear	None
11/15/2022	ST4515	5	VactorTruck	IW1	None	Clear	None
11/15/2022	ST4494	7	VactorTruck	IW1	None	Clear	None
11/15/2022	ST11308	16	VactorTruck	IW1	None	N/A	None
11/15/2022	ST11309	36	VactorTruck	IW1	None	Clear	None
11/15/2022	ST11338	36	VactorTruck	IW1	None	N/A	None
11/15/2022	ST11311	11	VactorTruck	IW1	None	Clear	None
11/16/2022	ST11314	6	VactorTruck	IW1	Full	Clear	None
11/16/2022	ST11318	0	VactorTruck	IW1			None
11/16/2022	ST11316	23	VactorTruck	IW1	Full	Clear	None
11/16/2022	ST11113	17	VactorTruck	IW1	None	Clear	None
11/16/2022	ST11115	17	VactorTruck	IW1	None	Clear	None
11/16/2022	ST11115	17	VactorTruck	IW1	None	Clear	None
11/16/2022	ST11116	18	VactorTruck	IW1	None	Clear	None
11/16/2022	ST11118	53	VactorTruck	IW1	None	Clear	None
11/16/2022	ST14857	0	VactorTruck	IW1	Full	Clear	None
11/16/2022	ST14854	22	VactorTruck	IW1	Full	Clear	None
11/16/2022	ST14853	13	VactorTruck	IW1	Full	Clear	None
11/16/2022	ST14840	9	VactorTruck	IW1	None	Clear	None
11/17/2022	ST12587	2	ClamTruck	DCapuano	None	Clear	None
11/17/2022	ST12581	4	ClamTruck	DCapuano	Minimal	NotClear	None
11/17/2022	ST13766	12	ClamTruck	DCapuano	None	NotClear	None
11/17/2022	ST7193	3	ClamTruck	DCapuano	Minimal	NotClear	Slight

Date	ID	Debris (in.) Removed	Vehicle	Driver	Active FLow?	Color?	Odor?
11/17/2022	ST6869	4	ClamTruck	DCapuano	None	NotClear	Slight
11/17/2022	ST6837	14	ClamTruck	DCapuano	None	NotClear	None
11/17/2022	ST500107	2	ClamTruck	DCapuano	None	Clear	Slight
11/17/2022	ST10977	2	ClamTruck	DCapuano	None	NotClear	None
11/18/2022	ST7072	2	ClamTruck	DCapuano	None	NotClear	Slight
11/18/2022	ST2993	0	ClamTruck	DCapuano	None	NotClear	Slight
11/18/2022	ST7976	7	ClamTruck	DCapuano	None	NotClear	None
11/18/2022	ST3257	2	ClamTruck	DCapuano	None	NotClear	None
11/18/2022	ST3277	5	ClamTruck	DCapuano	None	NotClear	Slight
11/18/2022	ST500088	7	ClamTruck	DCapuano	None	NotClear	Slight
11/18/2022	ST500087	16	ClamTruck	DCapuano	None	NotClear	None
11/21/2022	ST6961	31	ClamTruck	DCapuano	None	NotClear	None
11/21/2022	ST210521	17	ClamTruck	DCapuano	None	NotClear	Slight
11/21/2022	ST11319	11	VactorTruck	IW1	None	N/A	Slight
11/21/2022	ST11321	36	VactorTruck	IW1	None	N/A	None
11/21/2022	ST11323	13	VactorTruck	IW1	None	N/A	Strong
11/21/2022	ST14942	24	VactorTruck	IW1	None	N/A	Slight
11/21/2022	ST14789	14	VactorTruck	IW1	None	N/A	Slight
11/21/2022	ST14787	27	VactorTruck	IW1	None	N/A	None
11/21/2022	ST14958	4	VactorTruck	IW1	None	N/A	None
11/21/2022	ST11325	11	VactorTruck	IW1	None	N/A	Slight
11/21/2022	ST11327	15	VactorTruck	IW1	None	N/A	Slight
11/21/2022	ST11328	44	VactorTruck	IW1	None	N/A	Slight
11/21/2022	ST11329	9	VactorTruck	IW1	None	N/A	Slight
11/21/2022	ST11331	29	VactorTruck	IW1	None	N/A	None
11/21/2022	ST11333	29	VactorTruck	IW1	None	N/A	None
11/21/2022	ST11334	20	VactorTruck	IW1	None	N/A	Slight
11/21/2022	ST11336	20	VactorTruck	IW1	None	N/A	Slight
11/21/2022	ST11303	5	VactorTruck	IW1	None	N/A	None

Date	ID	Debris (in.) Removed	Vehicle	Driver	Active FLow?	Color?	Odor?
11/21/2022	ST210367	5	VactorTruck	IW1	None	N/A	Slight
11/23/2022	ST14370	6	VactorTruck	IW1	None	Clear	None
11/23/2022	ST11119	10	VactorTruck	IW1	Full		None
11/23/2022	ST14364	32	VactorTruck	IW1	None	Clear	None
11/23/2022	ST11120	5	VactorTruck	IW1	None	N/A	Slight
11/23/2022	ST11114	6	VactorTruck	IW1	Full	NotClear	None
11/23/2022	ST210416	23	VactorTruck	IW1	None	Clear	None
11/23/2022	ST11117	14	VactorTruck	IW1	None	N/A	Slight
11/23/2022	ST210415	13	VactorTruck	IW1	None	Clear	None
11/23/2022	ST11164	17	VactorTruck	IW2	None	Clear	None
11/23/2022	ST11112	12	VactorTruck	IW1	None	N/A	Strong
11/23/2022	ST11111	5	VactorTruck	IW1	Full	NotClear	
11/23/2022	ST210414	10	VactorTruck	IW1	None	Clear	None
11/23/2022	ST11132	11	VactorTruck	IW1	Full	NotClear	None
11/23/2022	ST11121	24	VactorTruck	IW1	None	N/A	Slight
11/23/2022	ST11122	16	VactorTruck	IW1	None	N/A	Strong
11/23/2022	ST11134	15	VactorTruck	IW1	Full	NotClear	None
11/23/2022	ST210027	4	VactorTruck	IW1	None	Clear	None
11/23/2022	ST11133	8	VactorTruck	IW1	None	N/A	Slight
11/23/2022	ST1175	7	VactorTruck	IW1	None	Clear	None
11/23/2022	ST11131	12	VactorTruck	IW1	None	N/A	Slight
11/23/2022	ST1172	6	VactorTruck	IW1	None	Clear	None
11/23/2022	ST17453	1	VactorTruck	IW1	None	Clear	None
11/23/2022	ST17450	7	VactorTruck	IW1	None	Clear	None
11/23/2022	ST11305	10	VactorTruck	IW1	None	N/A	Slight
11/23/2022	ST4498	31	VactorTruck	IW1	None	N/A	Slight
11/23/2022	ST17451	3	VactorTruck	IW1	None	Clear	None
11/23/2022	ST14725	10	VactorTruck	IW1	Full	NotClear	None
11/23/2022	ST210413	12	VactorTruck	IW1	None	Clear	None

Date	ID	Debris (in.) Removed	Vehicle	Driver	Active FLow?	Color?	Odor?
11/23/2022	ST210412	2	VactorTruck	IW1	None	Clear	None
11/23/2022	ST14716	16	VactorTruck	IW1	Full	NotClear	None
11/23/2022	ST14704	25	VactorTruck	IW1	None	N/A	None
11/23/2022	ST14286	6	VactorTruck	IW1	None	Clear	None
11/23/2022	ST1281	16	VactorTruck	IW1	None	N/A	Slight
11/23/2022	ST1296	6	VactorTruck	IW1	None	N/A	Slight
11/23/2022	ST14538	6	VactorTruck	IW1	None	Clear	None
11/23/2022	ST1294	9	VactorTruck	IW1	None	N/A	Slight
11/23/2022	ST6043	15	VactorTruck	IW1	Full	NotClear	None
11/23/2022	ST14446	15	VactorTruck	IW1	None	N/A	None
11/23/2022	ST12979	21	VactorTruck	IW1	Full	NotClear	None
11/23/2022	ST14537	6	VactorTruck	IW1	None	Clear	None
11/23/2022	ST12981	11	VactorTruck	IW1	Full	NotClear	None
11/23/2022	ST14379	22	VactorTruck	IW1	None	N/A	Strong
11/23/2022	ST12982	10	VactorTruck	IW1	Minimal	NotClear	None
11/23/2022	ST2889	15	VactorTruck	IW1	None	Clear	None
11/23/2022	ST210399	22	VactorTruck	IW1	None	Clear	None
11/23/2022	ST17471	16	VactorTruck	IW1	None	N/A	Slight
11/23/2022	ST6030	15	VactorTruck	IW1	None	Clear	None
11/23/2022	ST17459	15	VactorTruck	IW1	None	N/A	Slight
11/30/2022	ST210362	1	VactorTruck	IW1	Minimal	Clear	None
11/30/2022	ST17120	8	ClamTruck	DCapuano	None	NotClear	Slight
11/30/2022	ST7146	1	VactorTruck	IW1	Minimal	Clear	None
11/30/2022	ST210361		VactorTruck	IW1			
11/30/2022	ST7145	6	VactorTruck	IW1	Minimal	Clear	None
11/30/2022	ST9974	5	ClamTruck	DCapuano	None	NotClear	Slight
11/30/2022	ST11278	5	VactorTruck	IW1	None	N/A	None
11/30/2022	ST11279	1	VactorTruck	IW1	None	N/A	None
11/30/2022	ST7199	1	VactorTruck	IW1	Minimal	Clear	None

Date	ID	Debris (in.) Removed	Vehicle	Driver	Active FLow?	Color?	Odor?
11/30/2022	ST7198	3	VactorTruck	IW1	Minimal	Clear	None
11/30/2022	ST11061	5	VactorTruck	IW1	Minimal	Clear	None
11/30/2022	ST11295	3	ClamTruck	DCapuano	None	NotClear	Slight
11/30/2022	ST11065	18	VactorTruck	IW1	Minimal	Clear	None
11/30/2022	ST14231	13	VactorTruck	IW1	Minimal	Clear	None
11/30/2022	ST14233	14	VactorTruck	IW1	Minimal	Clear	None
11/30/2022	ST2597	1	VactorTruck	IW1	Minimal	Clear	None
11/30/2022	ST14261	12	VactorTruck	IW1	Minimal	Clear	None
11/30/2022	ST14263	16	VactorTruck	IW1	Minimal	Clear	None
11/30/2022	ST2908	1	VactorTruck	IW1	None	N/A	None
11/30/2022	ST14283	11	VactorTruck	IW1	None	N/A	None
11/30/2022	ST14267	7	VactorTruck	IW1	Minimal	Clear	None
11/30/2022	ST210429	16	VactorTruck	IW1	Minimal	Clear	None
11/30/2022	ST2646	11	VactorTruck	IW1	Minimal	Clear	None
11/30/2022	ST2641	7	VactorTruck	IW1	Minimal	Clear	None
11/30/2022	ST2643	13	VactorTruck	IW1	Minimal	Clear	None
11/30/2022	ST6198	3	ClamTruck	DCapuano	None	Clear	Slight
11/30/2022	ST2644	15	VactorTruck	IW1	Minimal	Clear	None
11/30/2022	ST6210	0	ClamTruck	DCapuano	None	Clear	None
11/30/2022	ST2664	23	VactorTruck	IW1	Minimal	Clear	None
11/30/2022	ST4058	15	ClamTruck	DCapuano		NotClear	None
12/1/2022	ST9159	2	ClamTruck	DCapuano	Minimal	Clear	Slight
12/1/2022	ST2028	24	VactorTruck	IW1	None	N/A	None
12/1/2022		2	ClamTruck	DCapuano	None	NotClear	Slight
12/1/2022	ST17469	20	VactorTruck	IW1	None	N/A	None
12/1/2022	ST500219	8	ClamTruck	DCapuano	Minimal	NotClear	None
12/1/2022	ST17467	15	VactorTruck	IW1	None	N/A	None
12/1/2022	ST17488	27	VactorTruck	IW1	None	N/A	None
12/1/2022	ST5459	18	VactorTruck	IW1	None	N/A	None

Date	ID	Debris (in.) Removed	Vehicle	Driver	Active FLow?	Color?	Odor?
12/1/2022	ST5453	28	VactorTruck	IW1	None	N/A	Slight
12/1/2022	ST5482	12	VactorTruck	IW1	None	N/A	Slight
12/1/2022	ST5437	12	VactorTruck	IW1	None	N/A	Slight
12/1/2022	ST5730	12	VactorTruck	IW1	None	N/A	Slight
12/1/2022	ST5732	19	VactorTruck	IW1	None	N/A	Slight
12/1/2022	ST5734	5	VactorTruck	IW1	None	N/A	None
12/1/2022	ST5736	29	VactorTruck	IW1	None	N/A	None
12/1/2022	ST3390	0	ClamTruck	DCapuano	None	Clear	None
12/1/2022	ST14995	22	VactorTruck	IW1	Minimal	NotClear	Slight
12/1/2022	ST14994	5	VactorTruck	IW1	None	N/A	Slight
12/1/2022	ST17485	40	VactorTruck	IW1	None	N/A	Slight
12/1/2022	ST4074	44	VactorTruck	IW1	None	N/A	None
12/1/2022	ST4031	17	VactorTruck	IW1	None	N/A	None
12/2/2022	ST2659	12	VactorTruck	IW1	None	N/A	None
12/2/2022	ST2628	11	VactorTruck	IW1	None	N/A	Slight
12/2/2022	ST6555		ClamTruck	DCapuano	None	NotClear	Slight
12/2/2022	ST13064	18	VactorTruck	IW1	None	N/A	Slight
12/2/2022	ST13544	23	VactorTruck	IW1	None	N/A	Slight
12/2/2022	ST13538	8	VactorTruck	IW1	None	N/A	Slight
12/2/2022	ST13547	5	VactorTruck	IW1	None	N/A	Slight
12/2/2022	ST13602	10	VactorTruck	IW1	None	N/A	Slight
12/2/2022	ST13609	3	VactorTruck	IW1	Full	NotClear	Slight
12/2/2022	ST13613	3	VactorTruck	IW1	None	N/A	Slight
12/2/2022	ST13606	10	VactorTruck	IW1	None	N/A	Slight
12/2/2022	ST13668	31	VactorTruck	IW1	None	N/A	Slight
12/2/2022	ST13673	14	VactorTruck	IW1	None	N/A	None
12/2/2022	ST13784	5	VactorTruck	IW1	None	N/A	Slight
12/2/2022	ST20050	4	VactorTruck	IW1	None	N/A	Slight
12/2/2022	ST210332	12	VactorTruck	IW1	None	N/A	Slight

Date	ID	Debris (in.) Removed	Vehicle	Driver	Active FLow?	Color?	Odor?
12/2/2022	ST210331	5	VactorTruck	IW1	None	N/A	Slight
12/2/2022	ST210333	20	VactorTruck	IW1	None	N/A	Slight
12/2/2022	ST13867	12	VactorTruck	IW1	None	N/A	Strong
12/2/2022	ST17258	8	ClamTruck	DCapuano	None	NotClear	None
12/2/2022	ST2841	7	VactorTruck	IW1	None	N/A	Slight
12/2/2022	ST2795	5	VactorTruck	IW1	None	N/A	Slight
12/5/2022	ST6571	3	ClamTruck	DCapuano	Minimal	NotClear	Slight
12/5/2022	ST6842	4	ClamTruck	DCapuano	None	NotClear	None
12/5/2022	ST4399	1	ClamTruck	DCapuano	None	NotClear	None
12/5/2022	ST4424	4	ClamTruck	DCapuano	None	Clear	None
12/5/2022	ST11987	7	VactorTruck	IW1	None	Clear	None
12/5/2022	ST9115	2	ClamTruck	DCapuano	None	NotClear	None
12/5/2022	ST9129	5	ClamTruck	DCapuano	None	NotClear	None
12/5/2022	ST11989	9	VactorTruck	IW1	None	Clear	None
12/5/2022	ST12151	7	VactorTruck	IW1	None	Clear	None
12/5/2022	ST12153	19	VactorTruck	IW1	None	Clear	None
12/5/2022	ST12144	18	VactorTruck	IW1	None	Clear	None
12/5/2022	ST12142	10	VactorTruck	IW1	None	Clear	None
12/6/2022	ST17526	8	ClamTruck	DCapuano	None	NotClear	Slight
12/6/2022	ST12137	15	VactorTruck	IW1	None	Clear	None
12/6/2022	ST12140	14	VactorTruck	IW1	None	Clear	None
12/6/2022	ST12135	8	VactorTruck	IW1	None	Clear	None
12/6/2022	ST8449	5	ClamTruck	DCapuano		NotClear	Slight
12/6/2022	ST12210	6	VactorTruck	IW1	None	Clear	None
12/6/2022	ST1121	7	ClamTruck	DCapuano	None	NotClear	Slight
12/6/2022	ST12208	23	VactorTruck	IW1	None	Clear	None
12/6/2022	ST12214	7	VactorTruck	IW1	None	Clear	None
12/6/2022	ST12212	9	VactorTruck	IW1	None	Clear	None
12/6/2022	ST11992	40	VactorTruck	IW1	None	Clear	None

Date	ID	Debris (in.) Removed	Vehicle	Driver	Active FLow?	Color?	Odor?
12/6/2022	ST5668	3	ClamTruck	DCapuano	None	NotClear	Slight
12/6/2022	ST11812	15	VactorTruck	IW1	None	Clear	None
12/6/2022	ST17620	35	ClamTruck	DCapuano	None	NotClear	Slight
12/6/2022	ST11895	2	VactorTruck	IW1	None	Clear	None
12/6/2022	ST13124	22	VactorTruck	IW1	None	Clear	None
12/6/2022	ST13119	17	VactorTruck	IW1	None	Clear	None
12/6/2022	ST13126	6	VactorTruck	IW1	None	Clear	None
12/6/2022	ST13117	14	VactorTruck	IW1	None	Clear	None
12/6/2022	ST13128	10	VactorTruck	IW1	None	Clear	None
12/6/2022	ST14863	5	VactorTruck	IW1	None	Clear	None
12/6/2022	ST14862	4	VactorTruck	IW1	None	Clear	None
12/6/2022	ST14836	4	VactorTruck	IW1	None	Clear	None
12/6/2022	ST14861	8	VactorTruck	IW1	None	Clear	None
12/6/2022	ST6086	1	ClamTruck		None	NotClear	Slight
12/6/2022	ST17668	6	VactorTruck	IW1	None	Clear	None
12/9/2022	ST8583	11	VactorTruck	IW1	None	Clear	None
12/9/2022	ST8738	4	VactorTruck	IW1	None	Clear	None
12/9/2022	ST8740	12	VactorTruck	IW1	None	Clear	None
12/9/2022	ST11244	7	VactorTruck	IW1	None	Clear	None
12/9/2022	ST11248	2	VactorTruck	IW1	None	N/A	None
12/9/2022	ST8895	7	VactorTruck	IW1	None	Clear	None
12/9/2022	ST11251	1	VactorTruck	IW1	None	N/A	None
12/9/2022	ST8784	33	VactorTruck	IW1	None	Clear	None
12/9/2022	ST8789	4	VactorTruck	IW1	None	Clear	None
12/9/2022	ST11258	1	VactorTruck	IW1	None	N/A	None
12/9/2022	ST9861	13	VactorTruck	IW1	None	Clear	None
12/9/2022	ST3487	17	VactorTruck	IW1	Minimal	Clear	None
12/9/2022	ST9847	10	VactorTruck	IW1	None	Clear	None
12/9/2022	ST9830	13	VactorTruck	IW1	None	Clear	None

Date	ID	Debris (in.) Removed	Vehicle	Driver	Active FLow?	Color?	Odor?
12/9/2022	ST9831	22	VactorTruck	IW1	None	Clear	None
12/9/2022	ST9522	15	VactorTruck	IW1	None	Clear	None
12/9/2022	ST9576	22	VactorTruck	IW1	None	Clear	None
12/9/2022	ST3489						
12/9/2022	ST3489	8	VactorTruck	IW1	None	NotClear	Slight
12/9/2022	ST9553	12	VactorTruck	IW1	None	Clear	None
12/9/2022	ST3490	4	VactorTruck	IW1	Minimal	NotClear	Slight
12/9/2022	ST3491	8	VactorTruck	IW1	None	NotClear	None
12/9/2022	ST13188	9	VactorTruck	IW1	None	Clear	None
12/9/2022	ST3335	1	VactorTruck	IW1	None	N/A	None
12/9/2022	ST3335	2	VactorTruck	IW1	None	N/A	None
12/9/2022	ST13197	2	VactorTruck	IW1	None	Clear	None
12/9/2022	ST3331	6	VactorTruck	IW1	None	NotClear	Slight
12/9/2022	ST3330	10	VactorTruck	IW1	None	NotClear	None
12/9/2022	ST13184	18	VactorTruck	IW1	None	Clear	None
12/9/2022	ST13177	4	VactorTruck	IW1	None	Clear	None
12/9/2022	ST13158	6	VactorTruck	IW1	None	Clear	None
12/9/2022	ST13167	3	VactorTruck	IW1	None	Clear	None
12/9/2022	ST13171	5	VactorTruck	IW1	None	Clear	None
12/9/2022	ST11540	24	VactorTruck	IW1	None	NotClear	None
12/9/2022	ST11504	11	VactorTruck	IW1	None	NotClear	None
12/9/2022	ST11506	8	VactorTruck	IW1	None	NotClear	Slight
12/9/2022	ST11476	7	VactorTruck	IW1	Full	NotClear	Slight
12/12/2022	ST13111	10	VactorTruck	IW1	None	Clear	None
12/12/2022	ST13113	18	VactorTruck	IW1	None	Clear	None
12/12/2022	ST13104	22	VactorTruck	IW1	None	Clear	None
12/12/2022	ST13105	3	VactorTruck	IW1	None	Clear	None
12/12/2022	ST13099	30	VactorTruck	IW1	None	Clear	None
12/12/2022	ST15025	5	VactorTruck	IW1	None	Clear	None

Date	ID	Debris (in.) Removed	Vehicle	Driver	Active FLow?	Color?	Odor?
12/12/2022	ST15011	10	VactorTruck	IW1	None	Clear	None
12/12/2022	ST15010	7	VactorTruck	IW1	None	Clear	None
12/12/2022	ST15009	16	VactorTruck	IW1	None	Clear	None
12/12/2022	ST11918	16	VactorTruck	IW1	None	Clear	None
12/12/2022	ST11916	4	VactorTruck	IW1	None	Clear	None
12/15/2022	ST13729	8	VactorTruck	IW1	Minimal	Clear	None
12/15/2022	ST13730	5	VactorTruck	IW1	None	Clear	None
12/15/2022	ST16015	16	VactorTruck	IW1	None	N/A	None
12/15/2022	ST13731	6	VactorTruck	IW1	None	Clear	None
12/15/2022	ST16025	1	VactorTruck	IW1	None	N/A	None
12/15/2022	ST13732	6	VactorTruck	IW1	None	Clear	None
12/15/2022	ST16071	4	VactorTruck	IW1	None	NotClear	None
12/15/2022	ST15397	7	VactorTruck	IW1	None	N/A	None
12/15/2022	ST15396	7	VactorTruck	IW1	None	N/A	None
12/15/2022	ST13740	13	VactorTruck	IW1	None	Clear	None
12/15/2022	ST13746	10	VactorTruck	IW1	None	Clear	None
12/15/2022	ST13520	36	VactorTruck	IW1	None	Clear	None
12/15/2022	ST13519	21	VactorTruck	IW1	Full	N/A	None
12/15/2022	ST11911	5	VactorTruck	IW1	None	N/A	None
12/15/2022	ST11908	6	VactorTruck	IW1	None	N/A	None
12/15/2022	ST13511	18	VactorTruck	IW1	None	Clear	None
12/15/2022	ST13512	15	VactorTruck	IW1	None	Clear	None
12/15/2022	ST11630	0	VactorTruck	IW1	None	N/A	None
12/15/2022	ST11629	1	VactorTruck	IW1	None	Clear	None
12/15/2022	ST13515	47	VactorTruck	IW1	None	Clear	None
12/15/2022	ST11616	4	VactorTruck	IW1	None	N/A	None
12/15/2022	ST12293	8	VactorTruck	IW1	None	N/A	None
12/15/2022	ST12529	5	VactorTruck	IW1	None	Clear	None
12/15/2022	ST12523	18	VactorTruck	IW1	None	NotClear	None

Date	ID	Debris (in.) Removed	Vehicle	Driver	Active FLow?	Color?	Odor?
12/15/2022	ST12508	14	VactorTruck	IW1	None	Clear	None
12/15/2022	ST12507	32	VactorTruck	IW1	None	Clear	None
12/15/2022	ST210505	50	VactorTruck	IW1	None	N/A	None
12/15/2022	ST12512	25	VactorTruck	IW1	None	Clear	None
12/15/2022	ST12482	18	VactorTruck	IW1	Full	NotClear	None
12/15/2022	ST12479	12	VactorTruck	IW1	Full	NotClear	None
12/15/2022	ST210503	20	VactorTruck	IW1	None	N/A	None
12/15/2022	ST12486	30	VactorTruck	IW1	None	Clear	None
12/15/2022	ST12487	9	VactorTruck	IW1	None	Clear	None
12/15/2022	ST15108	2	VactorTruck	IW1	None	N/A	None
12/15/2022	ST15106	9	VactorTruck	IW1	None	N/A	Slight
12/19/2022	ST17002	14	VactorTruck	IW1	Minimal	Clear	None
12/19/2022	ST210310	8	VactorTruck	IW1	Minimal	Clear	None
12/19/2022	ST12977	12	VactorTruck	IW1	None	Clear	None
12/19/2022	ST500247	8	VactorTruck	IW1	None	Clear	None
12/19/2022	ST12948	10	VactorTruck	IW1	None	Clear	None
12/19/2022	ST12946	6	VactorTruck	IW1	None	Clear	None
12/19/2022	ST12938	7	VactorTruck	IW1	None	Clear	None
12/19/2022	ST20230	5	VactorTruck	IW1	None	Clear	None
12/19/2022	ST20231	5	VactorTruck	IW1	None	Clear	None
12/19/2022	ST20228	4	VactorTruck	IW1	None	Clear	None
12/19/2022	ST20227	7	VactorTruck	IW1	None	Clear	None
12/19/2022	ST20229	6	VactorTruck	IW1	None	Clear	None
12/19/2022	ST12464	7	VactorTruck	IW1	None	Clear	None
12/19/2022	ST12466	3	VactorTruck	IW1	None	Clear	None
12/19/2022	ST12463	8	VactorTruck	IW1	None	Clear	None
12/19/2022	ST12494	6	VactorTruck	IW1	None	Clear	None
12/19/2022	ST12493	13	VactorTruck	IW1	None	Clear	None
12/19/2022	ST13719	9	VactorTruck	IW1	None	Clear	None

Date	ID	Debris (in.) Removed	Vehicle	Driver	Active FLow?	Color?	Odor?
12/19/2022	ST13726	14	VactorTruck	IW1	None	Clear	None
12/19/2022	ST13727	15	VactorTruck	IW1	None	Clear	None
12/21/2022	ST6042	53	VactorTruck	IW1	None	N/A	None
12/21/2022	ST12511		VactorTruck	IW1	None	N/A	None
12/21/2022	ST2854	11	VactorTruck	IW1	None	NotClear	None
12/21/2022	ST9954	11	VactorTruck	IW1	None	Clear	None
12/21/2022	ST13096	8	VactorTruck	IW1	None	Clear	None
12/21/2022	ST11715	19	VactorTruck	IW1	None	Clear	None
12/21/2022	ST11594	7	VactorTruck	IW1	None	Clear	None
12/21/2022	ST9939	6	VactorTruck	IW1	None	Clear	None
12/21/2022	ST13114	9	VactorTruck	IW1	None	Clear	None
12/21/2022	ST12305	15	VactorTruck	IW1	None	Clear	None
12/21/2022	ST10078	13	VactorTruck	IW1	None	Clear	None
12/21/2022	ST12224	5	VactorTruck	IW1	None	Clear	None
12/22/2022	ST4060	20	VactorTruck	IW1	None	Clear	None
12/22/2022	ST4058	10	VactorTruck	IW1	None	Clear	None
12/22/2022	ST5749	12	VactorTruck	IW1	None	Clear	None
12/22/2022	ST5741	21	VactorTruck	IW1	None	Clear	None
12/22/2022	ST4046	12	VactorTruck	IW1	None	Clear	None
12/22/2022	ST4043	20	VactorTruck	IW1	None	Clear	None
12/22/2022	ST4345	12	VactorTruck	IW1	None	Clear	None
12/22/2022	ST4274	3	VactorTruck	IW1	None	Clear	None
12/22/2022	ST5310	6	VactorTruck	IW1	None	Clear	None
12/22/2022	ST1957	7	VactorTruck	IW1	None	Clear	None
12/22/2022	ST14099	5	VactorTruck	IW1	None	Clear	None
12/22/2022	ST14095	4	VactorTruck	IW1	None	Clear	None
12/22/2022	ST14135	15	VactorTruck	IW1	None	Clear	None
12/22/2022	ST14091	6	VactorTruck	IW1	None	Clear	None
12/22/2022	ST14089	8	VactorTruck	IW1	None	Clear	None

Date	ID	Debris (in.) Removed	Vehicle	Driver	Active FLow?	Color?	Odor?
12/22/2022	ST210431	19	VactorTruck		None	Clear	None
12/22/2022	ST210432	10	VactorTruck	IW1	None	Clear	None
12/22/2022	ST500087	8	VactorTruck	IW1	Full	Clear	None
12/22/2022	ST9611	7	VactorTruck	IW1	None	Clear	None
12/22/2022	ST9618	9	VactorTruck	IW1	None	Clear	None
12/27/2022	ST1683	16	VactorTruck	IW1	Full	N/A	None
12/27/2022	ST13260	8	VactorTruck	IW1	Full	NotClear	None
12/27/2022	ST2236	0	VactorTruck	IW1	Full	NotClear	None
12/27/2022	ST3521	10	VactorTruck	IW1	Full	NotClear	None
12/27/2022	ST9932	6	VactorTruck	IW1	Minimal	NotClear	None
12/27/2022	ST11383	8	VactorTruck	IW1	Full	NotClear	None
12/27/2022	ST11372	10	VactorTruck	IW1	Full	NotClear	None
12/27/2022	ST11370	10	VactorTruck	IW1	Full	NotClear	None
12/27/2022	ST11373	6	VactorTruck	IW1	Full	NotClear	None
12/27/2022	ST7132	1	VactorTruck	IW1	Full	NotClear	None
12/27/2022	ST7131	6	VactorTruck	IW1	Full	NotClear	None
12/27/2022	ST15614	5	VactorTruck	IW1	Full	NotClear	None
12/27/2022	ST15429	9	VactorTruck	IW1	Full	NotClear	None
12/27/2022	ST16021	6	VactorTruck	IW1	Full	NotClear	None
12/27/2022	ST10402	10	VactorTruck	IW1	Full	NotClear	None
12/27/2022	ST10725	9	VactorTruck	IW1	Full	NotClear	None
12/27/2022	ST10022	10	VactorTruck	IW1	Full	NotClear	None
12/27/2022	ST9657	1	VactorTruck	IW1	None	N/A	None
12/28/2022	ST11553	30	VactorTruck	IW1	None	N/A	None
12/28/2022	ST20232		VactorTruck	IW1	Minimal	Clear	None
12/28/2022	ST20233		VactorTruck	IW1	Minimal	Clear	None
12/28/2022	ST20234	2	VactorTruck	IW1	None	Clear	None
12/28/2022	ST1675	1	VactorTruck	IW1	Full	NotClear	None
12/28/2022	ST20270	15	VactorTruck	IW1	Full	NotClear	None

Date	ID	Debris (in.) Removed	Vehicle	Driver	Active FLow?	Color?	Odor?
12/28/2022	ST15391	15	VactorTruck	IW1	Full	NotClear	None
12/28/2022	ST10849		VactorTruck	IW1			
12/28/2022	ST11170		VactorTruck	IW1	Minimal	Clear	None
12/28/2022	ST20194	20	VactorTruck	IW1	Full	NotClear	None
12/28/2022	ST11166		VactorTruck	IW1	Full	Clear	None
12/28/2022	ST9749	5	VactorTruck	IW1	None	N/A	None
12/28/2022	ST3938	5	VactorTruck	IW1	None	N/A	None
12/28/2022	ST11570	10	VactorTruck	IW1	Minimal	NotClear	None
12/28/2022	ST11571	0	VactorTruck	IW1	Full	NotClear	None
12/28/2022	ST2882	12	VactorTruck	IW1	Full	NotClear	None
12/28/2022	ST20255	0	VactorTruck	IW1	Minimal	NotClear	None
12/28/2022	ST20254	0	VactorTruck	IW1	Full	NotClear	None
12/28/2022	ST20248	0	VactorTruck	IW1	Minimal	NotClear	None
12/28/2022	ST3682	6	VactorTruck	IW1	Minimal	Clear	None
12/28/2022	ST210418		VactorTruck	IW1			None
12/28/2022	ST20246	0	ClamTruck	IW1	None	Clear	None
12/28/2022	ST20245	0	VactorTruck	IW1	Minimal	NotClear	None
12/28/2022	ST20244	0	VactorTruck	IW1	Minimal	NotClear	None
12/28/2022	ST3767		VactorTruck	IW1			
12/28/2022	ST20242	5	VactorTruck	IW1	None	N/A	None
12/28/2022	ST20241	7		IW1	Minimal	NotClear	None
12/28/2022	ST3813	2	VactorTruck	IW1	Minimal	Clear	None
12/28/2022	ST3837	2	VactorTruck	IW1	Minimal	Clear	None
12/28/2022	ST1894	7	VactorTruck	IW1	None	N/A	None
12/28/2022	ST20184	9	VactorTruck	IW1	None	N/A	Slight
12/28/2022	ST13029		VactorTruck	IW1			
12/28/2022	ST13067	14	VactorTruck	IW1	None	N/A	None
12/28/2022	ST20183	18	VactorTruck	IW1	None	NotClear	None
12/28/2022	ST7130	10	VactorTruck	IW1	None	N/A	None

Date	ID	Debris (in.) Removed	Vehicle	Driver	Active FLow?	Color?	Odor?
12/28/2022	ST12855		VactorTruck	IW1			
12/28/2022	ST1705	23	VactorTruck	IW1	Minimal	Clear	None
12/28/2022	ST5284	5	VactorTruck	IW1	None	N/A	None
12/29/2022	ST20181		VactorTruck				
12/29/2022	ST20179		VactorTruck				
12/29/2022	ST20187		VactorTruck				
12/29/2022	ST20180		VactorTruck				
12/29/2022	ST20186		VactorTruck				
12/29/2022	ST20209		VactorTruck				
12/29/2022	ST20210		VactorTruck				
12/29/2022	ST20211		VactorTruck				
12/29/2022	ST20212		VactorTruck				
12/29/2022	ST20213		VactorTruck				
12/29/2022	ST20208		VactorTruck				
12/29/2022	ST20264		VactorTruck				
12/29/2022	ST13964	15	VactorTruck	IW1	Full	NotClear	None
12/29/2022	ST13967	21	VactorTruck	IW1	Full	NotClear	None
12/29/2022	ST11254	15	VactorTruck	IW1	Full	NotClear	None

Appendix J

Summary of SSO’s and Illicit Discharges

APPENDIX A

City of Cranston - 2022 Detail Summary of SSO's / Third Party Releases

Time of Occruance			Event Identifier		Release Details									
Date	Start Time	End Time	Event #	Release #	Event Description	Receiving Stream	Nature of Release	St. Number	Location	Release to:	Gallons Released	Notification	Measures Taken to prevent further release	Cause of Last incident
6/23/2022	18:00	19:00	1	1	Blocked GSP	No	Grease Note-1	16	Clifden Avenue	Third Party Basement	75	City of Cranston	Performed high presure pipe cleaning and removed asphalt debris. Performed CCTV inspeciton on affected pipe and surrounding network.	N/A
6/23/2022	18:00	19:00	1	2	Blocked GSP	No	Grease Note-1	21	Clifden Avenue	Third Party Basement	25	City of Cranston	Performed high presure pipe cleaning and removed asphalt debris. Performed CCTV inspeciton on affected pipe and surrounding network.	N/A
9/5/2022 9/6/2022	16:00	13:00 (9/6/2022)	2	1	System overpressurized	No	Significant Rainfall Note-3	16	Pearce Avenue	Third Party Basement	65	RIDEM & City of Cranston	System was found running normally. Rainfall during the 9/5 & 9/6 event exceeded 10-inch. System prone to high intensity short duration events. Additional investigative work on capactiv related issues ongoing.	N/A
9/5/2022 9/6/2022	23:45	10:30 (9/6/2022)	2	2	System overpressurized	Yes	Significant Rainfall Note-4		Lake Street	Drainage System	2,125	RIDEM & City of Cranston	Capacity related to extrenous rainfall event	11/8/2015
9/5/2022 9/6/2022	23:45	10:30 (9/6/2022)	2	3	System overpressurized	Yes	Significant Rainfall Note-5		Lake Street	Drainage System	100	RIDEM & City of Cranston	Capacity related to extrenous rainfall event	11/8/2015
12/9/2022	13:45	14:30	3	1	Blocked GSP	No	Roots Note-6		Curtis at Metropolitan	Ground	150	RIDEM & City of Cranston	Pipe cleaning operation to remove root mass. Segmental point repair on affected joint	

Note(s):

1. Event was result of grease blockage in the affected pipe. Downstream manhole invert elevation creates flow restriction; pipe segment on high frequency pipe cleaning
2. Release attributed to event outlined above.
3. High intensity rainfall event amounting to over 10-inch of rain concentrated over City of Cranston caused system capacity issues. Rainfall event caused 3 releases at 2 different parts of the system.
4. Release attributed to event outlined above.
5. Release attributed to event outlined above
6. Root intrusion causing a pipe blockage resulted in release to a drainage system. Affected pipe was roto-rooted and is scheduled for a segmental pipe repair.

Appendix K

Erosion and Sediment Control Inspections

2022 Building Permits Flagged for Erosion Control Inspections

Count	Record ID	Record Type	Address	Date Created	Status	Erosion Control
1	125798	Route Slip	250 WARWICK AVENUE, Cranston, RI 02905	1/3/2022 15:53	Complete	Yes
2	125837	Route Slip	440 WILBUR AVE, CRANSTON, RI 02921	1/4/2022 16:35	Complete	Yes
3	126273	Route Slip	25 KRISTIN DR, CRANSTON, RI 02921	2/9/2022 15:43	Complete	Yes
4	126375	Route Slip	72 STRATHCONA ROAD, Cranston, RI 02910	2/15/2022 14:57	Complete	Yes
5	126383	Route Slip	24 KRISTIN DR, CRANSTON, RI 02921	2/15/2022 20:04	Complete	Yes
6	126764	Route Slip	63 ALLARD STREET, Cranston, RI 02920	3/14/2022 13:38	Complete	Yes
7	126840	Route Slip	421 WILBUR AVE, CRANSTON, RI 02920	3/17/2022 16:44	Complete	Yes
8	126899	Route Slip	72 MYRTLE AVENUE, Cranston, RI 02910	3/21/2022 16:41	Complete	Yes
9	127087	1) Building Permit	3 COLETTA COURT, CRANSTON, RI 02921	3/30/2022 19:45	Complete	Yes
10	127103	Route Slip	3 COLETTA COURT, CRANSTON, RI 02921	3/31/2022 15:42	Complete	Yes
11	127177	1) Building Permit	25 BRIARBROOKE LANE, Cranston, RI 02921	4/5/2022 19:08	Active	Yes
12	127183	Route Slip	130 ASHBROOK DR, CRANSTON, RI 02920	4/6/2022 13:40	Complete	Yes
13	127198	Route Slip	120 MOCCASIN TRAIL, Cranston, RI 02921	4/7/2022 13:49	Complete	Yes
14	127397	Route Slip	5 EMERALD DR, CRANSTON, RI 02921	4/19/2022 16:24	Complete	Yes
15	127398	1) Building Permit	30 CARDINAL RD, CRANSTON, RI 02921	4/19/2022 16:33	Active	Yes
16	127400	Route Slip	30 CARDINAL RD, CRANSTON, RI 02921	4/19/2022 16:47	Complete	Yes
17	127402	1) Building Permit	37 CARDINAL RD, CRANSTON, RI 02921	4/19/2022 17:05	Active	Yes
18	127408	Route Slip	36 CARDINAL RD, CRANSTON, RI 02921	4/19/2022 19:17	Complete	Yes
19	127409	Route Slip	37 CARDINAL RD, CRANSTON, RI 02921	4/19/2022 19:25	Complete	Yes
20	127427	Route Slip	15 ELMHURST AVENUE, Cranston, RI 02920	4/20/2022 13:50	Complete	Yes
21	127463	1) Building Permit	11 COLETTA COURT, CRANSTON, RI 02921	4/21/2022 14:25	Complete	Yes
22	127466	Route Slip	11 COLETTA COURT, CRANSTON, RI 02921	4/21/2022 14:58	Complete	Yes
23	127592	Route Slip	1616 SCITUATE AVE, CRANSTON, RI 02921	4/27/2022 20:05	Complete	Yes
24	127742	Route Slip	14 COLETTA COURT, CRANSTON, RI 02921	5/5/2022 13:06	Complete	Yes
25	127918	Route Slip	17 COLETTA COURT, CRANSTON, RI 02921	5/13/2022 16:13	Complete	Yes
26	127996	Route Slip	14 SCARLETT WAY, CRANSTON, RI 02921	5/19/2022 14:30	Complete	Yes
27	128157	Route Slip	55 LANTERN HILL DR, CRANSTON, RI 02921	5/27/2022 18:47	Complete	Yes
28	128340	Route Slip	80 JANET DR, CRANSTON, RI 02921	6/7/2022 16:38	Complete	Yes
29	128343	Route Slip	79 JANET DR, CRANSTON, RI 02921	6/7/2022 17:29	Complete	Yes
30	128520	Route Slip	1340 OAKLAWN AVE, CRANSTON, RI 02920	6/16/2022 14:11	Complete	Yes
31	128641	Route Slip	141 FOX RIDGE DRIVE, CRANSTON, RI 02921	6/23/2022 14:17	Complete	Yes
32	128691	Route Slip	0 FLETCHER AVENUE, Cranston, RI 02920	6/27/2022 16:30	Active	Yes
33	128709	Route Slip	124 PASTURE VIEW LANE, Cranston, RI 02921	6/28/2022 13:58	Complete	Yes
34	128719	Route Slip	51 CARDINAL RD, CRANSTON, RI 02921	6/28/2022 18:53	Complete	Yes
35	128732	Route Slip	65 CARDINAL RD, CRANSTON, RI 02921	6/29/2022 15:14	Complete	Yes
36	128735	Route Slip	31 CARDINAL RD, CRANSTON, RI 02921	6/29/2022 15:29	Complete	Yes
37	128764	Route Slip	8 COLETTA COURT, CRANSTON, RI 02921	6/30/2022 14:46	Complete	Yes
38	128891	Route Slip	157 VALLETTE ST, CRANSTON, RI 02920	7/8/2022 16:04	Complete	Yes
39	129827	Route Slip	60 HARMONY STREET, Cranston, RI 02920	9/8/2022 23:16	Complete	Yes
40	129867	Route Slip	1365 PARK AVE, CRANSTON, RI 02920	9/12/2022 15:02	Complete	Yes
41	130033	Route Slip	38 MAGNOLIA STREET, Cranston, RI 02910	9/19/2022 16:03	Complete	Yes
42	130692	Route Slip	140 MADISON AVENUE, Cranston, RI 02920	10/25/2022 13:08	Complete	Yes
43	130750	Route Slip	777 CRANSTON STREET, Cranston, RI 02920	10/27/2022 14:28	Active	Yes
44	130751	Route Slip	20 PANDORA WAY, CRANSTON, RI 02921	10/27/2022 14:32	Active	Yes
45	131597	Route Slip	0 BATCHELLER AVE, CRANSTON, RI 02920	12/19/2022 14:10	Active	Yes
46	131611	Route Slip	1300 PONTIAC AVENUE, Cranston, RI 02920	12/20/2022 13:59	Active	No

Appendix L

List of BMP’s

ID	Location	Type of BMP	Ownership	Description
1	Twin Birch Drive	Infiltration Basin	City	Behind house #88
2	Natick Avenue (North)	Infiltration Basin	City	At the intersection with Phenix Ave
3	Natick Avenue (South)	Infiltration Basin	City	North of the intersection with Eva Ln
4	Glenham Road	Infiltration Basin	City	At the intersection with Cohasset Ln
5	Beechwood Drive	Infiltration Basin	City	Between #111 and #117
6	Dercole Drive	Infiltration Basin	City	At the end of the road
7	Pontiac Avenue	Infiltration Basin	City	At the intersection with Commercial Way
8	Bluejay Drive	Infiltration Basin	City	At the intersection with Plainfield Pike
9	Squantum Street	Infiltration Basin	City	At the end of the road
10	Stafford Court	Infiltration Basin	City	Along Kenney Dr at Slater Rd
11	Natick Ave (Central)	Infiltration Basin	City	Between #515 and #539
12	Narragansett Boulevard (North)	Infiltration Basin	City	Behind #87 on Grand Ave
13	Buxton Drive	Infiltration Basin	Private	At the intersection with Bakewell Ct
14	Stamp Farm Road (East)	Infiltration Basin	Unknown	Behind #61 on Comstock Pkwy
15	Sailor Way	Infiltration Basin	Unknown	Behind #2050 on Plainfield Pike
16	Arrow Way	Infiltration Basin	City	Behind house #51
17	Whispering Pines Drive (West)	Infiltration Basin	City	South of the intersection with Heritage Ct
18	Whispering Pines Drive (East)	Infiltration Basin	City	West of the intersection with Phenix Ave
19	Webb Street (South)	Infiltration Basin	City	At the WWTP back gate
20	Webb Street (North)	Infiltration Basin	City	At the WWTP back gate
21	Justin Way	Infiltration Basin	City	Behind House #9 and #15
22	Valley View Circle	Infiltration Basin	City	At the end of the road
23	Locut Glen Court/Fringetree Drive	Infiltration Basin	City	At the end of both roads
24	Ridgevale Court	Infiltration Basin	City	At the intersection with Wilbur Ave
25	Pine Hill Drive	Infiltration Basin	City	At the end of the road
26	Phesant Hill Lane	Infiltration Basin	City	Between #39 and #51
27	Cobblestone Terrace	Infiltration Basin	City	Behind house #44
28	Heritage Court	Infiltration Basin	City	At the end of the road
29	Maple Farms Road	Infiltration Basin	City	At the end of the road
30	Silo Drive	Infiltration Basin	City	Behind house #45
31	Derby Lane	Infiltration Basin	City	At the end of the road, behind house #22
32	Carrie Ann Drive	Infiltration Basin	City	At the end of the road, next to house #73
33	Kimberly Lane (South)	Infiltration Basin	City	Behind house #15
34	Kimberly Lane (North)	Infiltration Basin	City	Behind house #57
35	Fox Run	Infiltration Basin	City	At the end of the road, behind house #10
36	Red Hawk Drive (East)	Infiltration Basin	City	Between #90 and #94
37	Fox Ridge Drive (West)	Infiltration Basin	City	Behind house #105 and #24 on Scaralia Rd
38	Red Hawk Drive (West)	Infiltration Basin	City	Next to house #14
39	Briarbrook Lane	Infiltration Basin	City	At the intersection with Lebaron Ct
40	Council Rock Road	Infiltration Basin	City	Between #112 and #128
41	Bakewell Court	Infiltration Basin	City	At the end of the road
42	Derbyshire Drive	Infiltration Basin	City	At the end of the road
43	Peveril Road	Infiltration Basin	City	Across the street from #60
44	Orchard Valley Drive (North)	Infiltration Basin	City	Behind house #63
45	Orchard Valley Drive (South)	Infiltration Basin	City	At the intersection with Polo Cir
46	Pepper Mill Lane	Infiltration Basin	City	At the end of the road, behind house #15
47	Alpine Estates Drive	Infiltration Basin	City	Access road near the intersection with Dove Ct
48	Starline Way	Infiltration Basin	City	Next to the storage facility
49	Stamp Farm Road (West)	Infiltration Basin	City	Next to house #33
50	Amflex Drive (West)	Infiltration Basin	City	At the intersection with Sailor Way
51	Penny Lane	Infiltration Basin	City	At the end of the road
52	Gianna Drive	Infiltration Basin	City	Behind house #10 and #14
53	NONE			
54	NONE			
55	Amflex Drive (East)	Infiltration Basin	City	Next to house #60
56	Pine Ridge Road	Infiltration Basin	Unknown	Behind house #1 and #23
57	Rome Court	Infiltration Basin	City	Between #173 and #185
58	NONE			
59	Jay Court	Infiltration Basin	City	Across the street from #32
60	NONE			
61	Fox Ridge Drive (East)	Infiltration Basin	City	Behind house #166 and #170
62	Nina Court	Infiltration Basin	City	Between #1 and #11

63	NONE			
64	NONE			
65	Pond View Road	Infiltration Basin	Private	Behind the Walmart on Plainfield Pike
66	Sanctuary Drive	Infiltration Basin	City	At the end of the road, behind #12
67	Castleton Drive	Infiltration Basin	Private	At the intersection with Buxton Dr
68	Laura Circle	Infiltration Basin	City	At the intersection with Mayfield Ave
69	Orchard Valley Drive	Infiltration Basin	City	At the intersection with Pipping Orchard Rd
70	Jennifer Circle	Infiltration Basin	City	At the end of the road, behind house #9 and #15
71	Elena Street	Infiltration Basin	City	Behind #426 on Atwood Ave
72	Cardinal Road	Infiltration Basin	City	At the end of the road
73	Whispering Pines Drive	Infiltration Basin	City	At the end of the road, next to #60
74	Cohasset Lane (South)	Infiltration Basin	City	Behind house #85
75	Cohasset Lane (Central)	Infiltration Basin	City	Across the street from #39
76	Cohasset Lane (North)	Infiltration Basin	City	Between # 4 and #8
77	Narragansett Boulevard (South)	Bioretention Basin	City	Between Sefton Dr and Strathmore Rd
78	Ocean Road (Stillhouse Cove)	Vortechnic Unit	City	
79	Windsor Road (Stillhouse Cove)	Vortechnic Unit	City	
80	Shaw Avenue	Vortechnic Unit	City	
81	Norwood Avenue	Vortechnic Unit	City	
82	Armington Street	Vortechnic Unit	City	
83	Speck Park Field	Underground Infiltration	City	Parking Lot at end of Carlton Street
84	Cottage Street	Infiltration Basin	City	At end of road behind guardrail
85	Barrett Street	Underground Infiltration	City	At end of road in front of #95

Appendix M

Rhode Island Resource Recovery

2021 Report

Category	Question	Your information here
Contact	**City/Town**	Cranston
	Full municipality name	City of Cranston
	Website	cranstonri.com
	Contact person	Joseph DiCarlo
	Title	Clean City Coordinator
	Address	869 Park Avenue, Cranston, RI 02910
	Phone	401-780-3174
	Email	JDiCarlo@CranstonRI.org
Annual Program Expenses (optional)	**How is the municipal solid waste management system funded?**	General fund
	Trash - Admin & Promotion	$70,000.00
	Trash - Curbside	$2,552,112.00
	Trash - Transfer Station Operation	
	Trash - Tipping Fees	$1,293,055.00
	Total Annual Costs: Trash	**$3,915,167.00**
	Notes: Annual Trash Costs	
	MRF Recycling - Admin & Promotion	
	MRF Recycling - Curbside	$2,555,112.00
	MRF Recycling - Transfer Station or Recycling Center	
	Total Annual Costs: MRF Recycling	**$2,555,112.00**
	Notes: Annual MRF Recycling Costs	
	Leaf & Yard Waste - Admin & Promotion Cost	
	Leaf & Yard Waste - Curbside Cost	
	Leaf & Yard Waste - Compost Facility Operation	
	Leaf & Yard Waste - Tipping Fees	$87,375.00
	Total Annual Costs: Leaf & Yard Waste	**$87,375.00**
	Notes: Annual Leaf & Yard Waste Costs	
	Special/Bulky Waste - Admin & Promotion Cost	
	Special/Bulky Waste - Curbside Cost	
	Special/Bulky Waste - Transfer Station, Recycling Center, or DPW Yard Operation	
	Special/Bulky Waste - Disposal Fees	
	Total Annual Costs: Special/Bulky Waste	**$50,000.00**
	Notes: Special/Bulky Waste Costs	
	Total Program Expenses	**$6,607,654.00**

	Notes: Total Program Expenses	
Curbside Trash Pickup	**Is there curbside trash pick up?** (you can answer yes to drop-off below as well)	Yes
	Who hauls curbside trash?	Contractor
	Name of trash contractor	Waste Management
	Trash contract end date	6/30/2025
	Trash collection method	Automatic
	Trash truck type	Other (explain in notes)
	Number of trash trucks	5
	Trash collection schedule	Weekly
	Number of trash collection days per week	5
	Maximum units per structure served for curbside trash	4
	Number of households served for curbside trash (Not just the total population that CAN use it, but those that do, if you have this information. If you have the number of residents served, divide that by the average household size of 3ppl/household (or any other figure for household size that has been calculated for your municipality).	29,275
	If the number of households served for curbside trash has changed since last year, briefly explain why (e.g. # of permits issued, new tax assessor count, new builds, etc.)	Households increased due to new construction in 2022
	Notes (if applicable)	Truck types can consist of side loaders, rear loaders and split body rear loaders depending on the area of the City
Curbside Recycling Pickup	**Is there curbside recycling pick up?**	Yes
	Who hauls curbside recycling?	Contractor
	Name of recycling contractor	Waste Management
	Recycling contract end date	6/30/2025
	Recycling collection method	Automatic
	Recycling truck type	Other (explain in notes)
	Number of recycling trucks	5
	Recycling collection schedule	Weekly
	Number of recycling collection days per week	5
	Maximum units per structure served for curbside recycling	4
	Number of households served for curbside recycling	29,275
	If the number of households served for curbside recycling has changed since last year, briefly explain why (e.g. # of permits issued, new tax assessor count, new builds, etc.)	Households increased due to new construction in 2022

	Notes (if applicable)	Trucks types can consist of side loaders, rear loaders and split body rear loaders depending on the area of the City
Licensed Haulers	Does the municipality license private haulers?	Yes, for commercial businesses and roll offs
	Which materials are haulers licensed for?	Trash only
	Annual licensing fee	Depends on the amount of vehicles: 1-2 vehicles is \$100/yr.; 3-5 vehicles is \$200/yr.; 6-10 vehicles is \$500/yr.; 10 or more is \$1,000/yr.
	List of licensed haulers	
	Do any licensed haulers receive the municipal rate and/or a cap allotment? If yes, how? e.g. haul to municipal transfer station (consolidated and hauled to RIRRC), direct haul to RIRRC under municipality's account, through monthly adjustment based on customer rolls, etc.	
	Which (if any) licensed haulers are permitted to tip trash and/or recycling directly under the municipality's account at RIRRC?	
	Notes (if applicable)	
Multi-Families Served	Is any trash or recycling from multi-families or condos (over your max units per structure served) included in the municipal program?	No
	Which materials are included for multi-families/condos?	
	What is required for multi-families/condos to be included? (such as: request permission to city/town, sign up through commercial recycling program, etc.)	
	Is any trash and/or recycling from these multi-families/condos tipped under the municipality's account at RIRRC? If yes, how? e.g. picked up with residential material on curbside route, direct haul to RIRRC on a dedicated route under municipality's account, hauled to transfer station and consolidated with other municipal material, through monthly trash tonnage adjustment, etc.	
	If "no" to the above question, how are the multi-families/condos included in the program? E.g. included in the municipal contract for hauling only, etc.	
	Notes (if applicable)	
Curbside Permit	Is a permit required for residents to take part in the curbside collection program?	No
	Annual user fee for residential curbside collection program	
	Permit date range	
	Notes (if applicable)	
Curbside Enforcement	Does the municipality conduct curbside enforcement?	Yes
	Which materials are enforced curbside?	Recycling only
	Are there ordinances that allow for fines?	No

	Describe the enforcement method briefly (oops tag, Resource Recovery hang tags, letters, warnings/fines, etc.)	The City sends out letters for either non service noted by our private contractor or for infractions reported to the DPW. Letters are sent with recycling flyers from RIRRC.
	Number of tags, letters and/or fines issued	200 letters. 10 % were repeat addresses.
	Notes (if applicable)	

Primary Drop Off Facility	Primary drop-off facility type	DPW Yard
	Name of the primary drop-off facility (if applicable)	City of Cranston Highway Yard
	Who operates the primary drop-off facility?	Municipality
	Name of the primary drop-off facility contractor	
	Who hauls material from the primary drop off facility (if different from operator)?	
	Primary drop-off facility operator or hauler contract end date	
	Primary drop-off facility address	935 Phenix Avenue, Cranston
	Primary drop-off facility hours	Monday-Friday 7 a.m.-2:30 p.m.
	Who is permitted to use the primary drop-off facility? E.g. residents only, residents of specific municipalities, local businesses, licensed subscription haulers, any/all RI residents or private haulers, etc.	Residents only
	List of materials accepted at the primary drop-off facility	Electronic waste, books,metals, motor oil and filters and tires. Mattresses/box springs are accepted on Thursdays by appointment.
	Is there a swap area for residents to take or leave items in good condition?	
	Additional instructions for residents	
Drop Off Permit	Is a permit required for the primary drop-off facility?	No
	User fee for the primary drop-off facility	
	Permit date range	
	Notes (if applicable)	
Trash Drop Off	Is there drop-off for trash?	No
	Number of households served for trash drop-off (Not just the total population that CAN use it, but those that do, <u>if you have this information</u>. If you have the number of residents served, divide that by the average household size of 3ppl/household (or any other figure for household size that has been calculated for your municipality).	
	If the number of households served for trash drop-off has changed since last year, briefly explain why (e.g. # of permits issued, new tax assessor count, new builds, etc.)	
	Notes (if applicable)	
Recycling Drop Off	Is there drop-off for recycling?	No
	Number of households served for recycling drop-off	
	If the number of households served for recycling drop-off has changed since last year, briefly explain why (e.g. # of permits issued, new tax assessor count, new builds, etc.)	
	Notes (if applicable)	
Secondary Drop Off	Secondary drop-off facility type	No
	Name of the secondary drop-off facility (if applicable)	

Facility	**Who operates the secondary drop-off facility?**	
	Name of the secondary drop-off facility contractor	
	Secondary drop-off facility operator or hauler contract end date	
	Secondary drop-off facility address	
	Secondary drop-off facility hours	
	List of materials accepted at the secondary drop-off facility	
	Additional instructions for residents	
Outreach	**Did the municipality distribute printed information containing RI's mixed recycling guidelines and local programs to ALL residents served in your program (i.e. included in your curbside collection program or permitted users of your transfer station) last year? If yes, describe the method of distribution.**	No
	List and/or describe other methods for communicating RI's mixed recycling guidelines and local program information to residents such as the city/town's website, social media channels, email newsletters, new resident packets, newspaper ads, mobile message boards, post flyers in municipal buildings, etc.	The guidelines are connected to the Public Works webpage. We also send out flyers to residents who request and received non-service from our private contractor based on a daily list sent to our office.
	What social media channels are used (Facebook, Twitter, YouTube, etc.) and what kind of content is shared?	
	List and/or describe any other special events or programs that aimed to educate residents about waste and recycling this year such as one-day recycling events, shredding events, Earth Day cleanups, community events, special programs with schools, etc.	We hosted a paint drop off event in July 2022 in collaboration with PaintCare
	Notes (if applicable)	
Organics	**Does the municipality accept leaf & yard waste?**	Yes
	Name of leaf & yard waste compost facility (other than RIRRC)	
	Who operates the leaf & yard waste compost facility?	
	Describe the compost facility operation / processing / finished compost distribution	
	Who hauls leaf & yard waste?	Contractor
	Name of leaf & yard waste contractor	Waste Management
	Does the municipality chip brush or Christmas trees?	No
	How is the chipped brush used internally or distributed to residents?	
	Does the municipality offer food waste collection or composting to residents or schools? If yes, explain.	No

	Notes (if applicable)	
Carts	Does the municipality distribute carts for trash or recycling?	Yes
	Which type of carts?	Both trash and recycling
	Start date of the cart collection program	6/1/2014
	Initial trash cart size (gallons)	64, 35
	Can residents change trash cart sizes?	Yes, one-time fee to upgrade size
	Charge to upgrade trash cart size (as selected above)	$30.00 per set
	Alternate trash cart sizes (gallons)	
	Options for additional trash carts	There's a yearly rental fee for additional cart(s)
	Charge for an additional trash cart (as selected above)	$150.00
	Are broken trash carts replaced for free?	Yes
	Charge to replace a broken trash cart (as selected above)	
	Name of the trash cart manufacturer	Cascade Engineering
	Color of the trash cart: body and lid (if different from body)	Gray
	Trash carts notes (if applicable)	
	Initial recycling cart size (gallons)	64, 35
	Can residents change recycling cart sizes?	Yes, one-time fee to upgrade size
	Charge to upgrade recycling cart size (as selected above)	$30.00 per set
	Alternate recycling cart sizes (gallons)	
	Options for additional recycling carts	There's a yearly rental fee for additional cart(s)
	Charge for an additional recycling cart (as selected above)	$150.00
	Are broken recycling carts replaced for free?	Yes
	Charge to replace a broken recycling cart (as selected above)	
	Name of the recycling cart manufacturer	Cascade Engineering
	Color of the recycling cart: body and lid (if different from body)	Blue
	How many recycling carts were distributed last year?	
	Recycling carts notes (if applicable)	
	Notes that apply to both trash and recycling carts (if applicable)	There's an $80 fee to replace a stolen or missing cart
Recycling Bins	Does the municipality distribute 22-gallon recycling bins?	No
	Where do residents acquire 22-gallon recycling bins?	
	Charge for a 22-gallon recycling bin	
	Are broken 22-gallon recycling bins replaced for free?	
	How many 22-gallon recycling bins were distributed last year?	

	Can residents use their own container as a recycling bin? If so, what's the maximum size allowed?	
	Notes (if applicable)	
Compost Bins	**Does the municipality distribute compost bins?**	No
	Where do residents acquire compost bins?	
	Charge for compost bin	
	Instructions for residents	
Public Space Receptacles	**Does the municipality provide trash and/or recycling receptacles in public spaces?**	Yes
	For which materials?	Trash only
	At which locations? E.g. downtown areas/streets, beaches, outdoor recreation facilities, indoor recreation facilities, other parks and playgrounds, other locations	Playgrounds, outside of municipal buildings and in a few business sections in the City. Rolfe Square and in Edgewood section Broad St.
	What types and sizes of receptacles? E.g. 55-gallon drums, wrought iron barrels, Bigbelly solar, Ecubes, etc.	mostly wrought iron barrels with plastic bags inserted to them
	How many trash receptacles are there?	50-80 depending on the time of year
	How many recycling receptacles are there?	None
	Who empties the barrels and how often? E.g. DPW staff, Parks & Rec staff, contractor, etc.	Depending on the location, twice a week to daily
	Notes (if applicable)	
No Bin, No Barrel Policy	**Does the municipality have a No Bin, No Barrel policy (NBNB)?**	Yes
	Start date of NBNB policy	10/1/2009
	Program description / instructions for residents	Keep the recycling cart on the curb until trash is collected.
Pay As You Throw Policy	**Does the municipality have a Pay-As-You-Throw (PAYT) policy?**	Yes, there's a partial PAYT program (overflow bags)
	Start date of PAYT policy	3/1/2015
	Method of PAYT program	Bags
	Price per bag or tag	$2.00
	Number of bags per pack or tags per sheet	5
	Total cost per pack/sheet	$10.00
	Where can residents acquire bags or tags? E.g. transfer station, city/town hall, local stores	Bags are sold in various location in the City which is listed on our website and included in city wide flyers.
	Price per pound or ton, if weighed	

	Program description / instructions for residents	Leave the overflow bag/bags curbside next to the trash cart on day of pickup and WM will pick up.
Schools Served	**Is school trash or recycling included in the municipal program?**	Yes
	Which materials are included for schools?	Both trash and recycling
	How many students are served?	10,590
	Is any trash and/or recycling from schools tipped under the municipality's account at RIRRC? If yes, how? e.g. picked up with residential material on curbside route, direct haul to RIRRC on a dedicated route under municipality's account including under a dedicated school account, hauled to transfer station and consolidated with other municipal material, through monthly trash tonnage adjustment, etc.	Yes, schools are serviced by our private contractor and receive monthly trash tonnage adjustment depending on the time of the year. Recycling is picked in 96-gal carts by the residential route trucks.
	If "no" to the above question, how are schools included in the program? E.g. included in the municipal contract for hauling only, material is picked up on mixed commercial routes, etc.	
	Notes (if applicable)	
Municipal Buildings Served	**Is municipal building (city/town hall, police, fire, etc.) trash or recycling included in the municipal program?**	Yes
	Which materials are included for municipal buildings?	Both trash and recycling
	Which municipal departments or buildings are included?	City Hall, Senior Center, Police Station, Fire Stations, Libraries
	How many employees are served?	1,700
	Is any trash and/or recycling from these municipal buildings tipped under the municipality's account at RIRRC? If yes, how? e.g. picked up with residential material on curbside route, direct haul to RIRRC on a dedicated route under municipality's account, hauled to transfer station and consolidated with other municipal material, through monthly trash tonnage adjustment, etc.	Yes, it's picked up on dedicated route and brought to RIRRC under the city's account
	If "no" to the above question, how are municipal buildings included in the program? E.g. included in the municipal contract for hauling only, material is picked up on mixed commercial routes, etc.	
	Notes (if applicable)	
Commercial Entities Served	**Is any commercial/business trash or recycling included in the municipal program?**	No
	Which materials are included for businesses?	
	How many businesses are served?	
	Notes (if applicable)	
Assessment of Current	**In relation to your municipality's solid waste and recycling services it provides to residents:**	
	Are residents are able to adequately access the services?	Yes

Program and Service Levels	**How effective is it at achieving desired outcomes?**	
	Are there any existing major issues related to administration of the services?	No
	Indication of how the quality of service is likely to change over the planning horizon (such as improve, stay the same, worsen) and the reasons why such a change is expected. Also consider changes in population as a reason why service needs would change.	Stay the same for the length of the current contract with private contractor
Solid Waste, Recycling & Diversion Goals	**Goal #1: Statutory Mandate**	Reach a 35% MRF Recycling Rate
	Goal #2: Statutory Mandate	Reach a 50% Diversion Rate
	Goal #3: List Your Own Goal	
	Goal #4: List Your Own Goal	
Tons Sent Facilities Other Than RIRRC (If Applicable)	**Alphabetical List of Materials Diverted from Residents (not brought to RIRRC)** *If you accept an item for diversion from residents, both the **tons** and **name of the recycler** must be filled in to receive diversion credit.*	
	Antifreeze	*from residents only*
	Total Tons in CY Sent to Other Facilities (Not RIRRC)	0.175
	Name of Recycler (Not RIRRC)	Cyn Environmental Services
	Notes (if applicable)	
	Appliances	*if tracked separately from scrap metal*
	Total Tons in CY Sent to Other Facilities (Not RIRRC)	44.1792
	Name of Recycler (Not RIRRC)	Full Circle Recycling
	Notes (if applicable)	
	Appliances with Freon	*if tracked separately from appliances*
	Total Tons in CY Sent to Other Facilities (Not RIRRC)	
	Name of Recycler (Not RIRRC)	
	Notes (if applicable)	
	Asphalt, Brick & Concrete	*from residents only*
	Total Tons in CY Sent to Other Facilities (Not RIRRC)	
	Name of Recycler (Not RIRRC)	
	Notes (if applicable)	
	Auto Batteries	*from residents only*
	Total Tons in CY Sent to Other Facilities (Not RIRRC)	
	Name of Recycler (Not RIRRC)	
	Notes (if applicable)	
	Batteries (Household)	
	Total Tons in CY Sent to Other Facilities (Not RIRRC)	

	Name of Recycler (Not RIRRC)	
	Notes (if applicable)	
	Bicycles	*if tracked separately using a reuse vendor*
	Total Tons in CY Sent to Other Facilities (Not RIRRC)	
	Name of Recycler (Not RIRRC)	
	Notes (if applicable)	
	Books	*collected through book drop-off bin or library*
	Total Tons in CY Sent to Other Facilities (Not RIRRC)	2.915
	Name of Recycler (Not RIRRC)	Discover Books
	Notes (if applicable)	
	Brush (Chipped)	*if tracked separately from trees or L&YW*
	Total Tons in CY Sent to Other Facilities (Not RIRRC)	
	Name of Recycler (Not RIRRC)	
	Notes (if applicable)	
	Bulky Rigid Plastic	*not sent to RIRRC*
	Total Tons in CY Sent to Other Facilities (Not RIRRC)	
	Name of Recycler (Not RIRRC)	
	Notes (if applicable)	
	Christmas Trees	*not sent to RIRRC, if tracked separately*
	Total Tons in CY Sent to Other Facilities (Not RIRRC)	
	Name of Recycler (Not RIRRC)	
	Notes (if applicable)	
	Clothing & Textiles	*collected through clothing bins at muni locations*
	Total Tons in CY Sent to Other Facilities (Not RIRRC)	174.656
	Name of Recycler (Not RIRRC)	Big Brothers Big Sisters of RI
	Notes (if applicable)	
	Compost Bins	*500 lb. credit per bin, 10 year lifespan of bin*
	Total Tons for credit (use calculator to convert)	
	Notes (if applicable)	
	Construction & Demolition Debris	*from residents only*
	Total Tons in CY Sent to Other Facilities (Not RIRRC)	
	Name of Recycler (Not RIRRC)	
	Notes (if applicable)	
	Cooking Oil	

	Total Tons in CY Sent to Other Facilities (Not RIRRC)	
	Name of Recycler (Not RIRRC)	
	Notes (if applicable)	

	Electronic Waste	
	Total Tons in CY Sent to Other Facilities (Not RIRRC)	51.86
	Name of Recycler (Not RIRRC)	Indie Cycle, LLC
	Notes (if applicable)	
	Fluorescent Bulbs	*from residents only*
	Total Tons in CY Sent to Other Facilities (Not RIRRC)	
	Name of Recycler (Not RIRRC)	
	Notes (if applicable)	
	Food Scraps	*from muni programs: residents or schools*
	Total Tons in CY Sent to Other Facilities (Not RIRRC)	
	Name of Recycler (Not RIRRC)	
	Notes (if applicable)	
	Household Items for Reuse	*from swap area (if quantifiable)*
	Total Tons in CY Sent to Other Facilities (Not RIRRC)	
	Name of Recycler (Not RIRRC)	
	Notes (if applicable)	
	Leaf & Yard Waste	*not sent to RIRRC*
	Total Tons in CY Sent to Other Facilities (Not RIRRC)	
	Name of Recycler (Not RIRRC)	
	Notes (if applicable)	
	Mattresses	*not MRC tons - RIRRC will enter MRC tons*
	Total Tons in CY Sent to Other Facilities (Not RIRRC)	22.92
	Name of Recycler (Not RIRRC)	Wheelabrator
	Notes (if applicable)	The total listed is from WM curbside service
	Motor Oil	*from residents only*
	Total Tons in CY Sent to Other Facilities (Not RIRRC)	6.2125
	Name of Recycler (Not RIRRC)	Cyn Environmental Services
	Notes (if applicable)	
	Motor Oil Filters	*from residents only*
	Total Tons in CY Sent to Other Facilities (Not RIRRC)	1.125
	Name of Recycler (Not RIRRC)	Cyn Environmental Services
	Notes (if applicable)	

	Paint	*if muni hosts PaintCare program*
	Total Tons in CY Sent to Other Facilities (Not RIRRC)	24.9465
	Name of Recycler (Not RIRRC)	Clean Harbors Environmental Services Inc
	Notes (if applicable)	We hosted a PaintCare drop off event in July 2022
	Propane Tanks	*if tracked separately from scrap metal*
	Total Tons in CY Sent to Other Facilities (Not RIRRC)	
	Name of Recycler (Not RIRRC)	
	Notes (if applicable)	
	Scrap Metal	*can include all metal: appliances/Freon/propane*
	Total Tons in CY Sent to Other Facilities (Not RIRRC)	13.14
	Name of Recycler (Not RIRRC)	Schnitzer Steel
	Notes (if applicable)	
	Shredded Paper	*from shredding events hosted by muni*
	Total Tons in CY Sent to Other Facilities (Not RIRRC)	
	Name of Recycler (Not RIRRC)	
	Notes (if applicable)	
	Tires	*not sent to RIRRC*
	Total Tons in CY Sent to Other Facilities (Not RIRRC)	
	Name of Recycler (Not RIRRC)	
	Notes (if applicable)	
	Other	Type Item Name Here
	Total Tons in CY Sent to Other Facilities (Not RIRRC)	
	Name of Recycler (Not RIRRC)	
	Notes (if applicable)	

Appendix N

Spectacle Pond Barrett Street Project

Executive Summary
Comprehensive Watershed Planning and Green Infrastructure Demonstration Project
Spectacle Pond, Cranston, RI

Project Summary
This project developed and began to implement a holistic approach to improve water quality to Spectacle Pond. This included developing a comprehensive plan to better direct the City's resources to address water quality problems in this urban pond. This project also included the construction of a underground infiltration stormwater treatment unit in the adjacent neighborhood as a demonstration project for both neighborhood residents and City DPW maintenance crews.

Applicant Organization Name and Address
City of Cranston
Cranston City Hall
869 Park Avenue
Cranston, RI 02910

Application Point of Contact and Project Leader
Edward Tally
Environmental Engineer
etally@cranstonri.org
401-780-3173

List of Partner Organizations
Save The Bay

Location of Project
Spectacle Pond, Cranston, RI
41°47'24.2"N 71°26'34.8"W

Spectacle Pond Watershed

Cost
Grant Request $187,500 **Location**
Non-Federal Match $62,500; 33% Grant Match
Total $250,000

RESTORE AMERICA'S ESTUARIES
SNEP Watershed Implementation Grants
SAVE THE BAY® NARRAGANSETT BAY
CITY OF CRANSTON 1754-1910
FUSS & O'NEILL

Project Background:

Spectacle Pond is within a highly urbanized watershed located in the City of Cranston, Rhode Island. This pond is part of the Pawtuxet River watershed and is impaired for phosphorus-related impairments. Elevated phosphorus concentrations have resulted in a number of water quality impacts in this urban surface water. These impacts include substantial algal blooms and low dissolved oxygen conditions. A Total Maximum Daily Load (TMDL) has been prepared to restore this pond (September 2007).

Figure 1-1: Spectacle Pond, Watershed, and Surrounding Area

Water quality issues in Spectacle Pond also influence water quality and the phosphorous impairment in the Roger Williams Park Pond system. Spectacle Pond serves as the headwaters to the Roger Williams Park Ponds system by overflowing into a culvert that drains to Mashapaug Pond that then discharges to the Roger Williams Park Ponds via culverts.

Spectacle Pond could be a significant surface water resource within this urban watershed. Residential neighborhoods abut the pond with existing road rights-of-ways that could provide access for canoes and kayaks. A public park also abuts the southeastern corner of the pond. Current water quality issues in the pond limit its value to these urban neighborhoods.

Project Description:

In April, 2019 the City entered into a competitive grant application process with the South East New England Program (SNEP), funded by U.S. Environmental Protection Agency (EPA) through a collaboration with Restore America's Estuaries (RAE). In September, 2019 the City was selected for funding and entered into a grant agreement with RAE. This project provided a prioritized plan to reduce nutrient loadings and improve water quality to the impaired Spectacle Pond. This project also constructed a demonstration green infrastructure project in an urban neighborhood to build support needed for long-term implementation of the plan.
The major elements of this project were to:

- Complete a holistic assessment of the sources of phosphorus that addresses both internal and external sources and then develop a comprehensive plan that would allow the City of Cranston to direct its limited resources where it will achieve the greatest results for its investments.
- Install a underground stormwater treatment unit demonstration project in a watershed neighborhood in order to build support with residents to implement additional basins in the future.

The project was managed and coordinated by the City of Cranston's Department of Public Works. The City was supported by several other team members as follows:

- The City retained an engineering consultant, Fuss and O'Neill to develop the water quality improvement plans and planning and designing green infrastructure.
- A construction contractor, Universal Excavating, selected through a competitive public bidding process.
- Save the Bay collaborated with the City on the outreach components of the project and provide their expertise in site selection.

Major project tasks are described in further detail below.

1. **Prepare QAPP:** QAPP will follow USEPA guidance documents.
1. **Prepare Phosphorous Reduction Feasibility Study:** This study will include several major elements as follows. • ***Collect Data on Existing Conditions.*** This will include a targeted field assessment in order to better characterize actual watershed conditions as well as locate potential sites for a demonstration project. • ***Water Quality and Sediment Sampling.*** Water quality and sediment sampling was conducted to support the assessment of existing pond trophic status and quantification of nutrient loading from selected input tributaries and bottom sediment. Samples were collected to show any potential release of phosphorus from sediment. This included sampling of representative stormwater outfalls. • ***Estimate Phosphorus Budget.*** The phosphorus budget will be estimated to identify the relative contribution of various sources required to develop a holistic phosphorus reduction plan. • ***Develop Strategies:*** Potential strategies to restore water quality were identified that incorporate structural and non-structural approaches that are targeted to maximize cost/benefit of future investments to restore water quality in Spectacle Pond and downstream waters. • ***Develop Final Report:*** In addition to documenting completed work and findings this report defined an overall implementation plan prioritizing the action items identified to restore water quality as well as the steps required to implement those action items such that the City will have a comprehensive blueprint to restore pond health.
2. **Design and Construct Demonstration Project** • ***Identify Bioretention Basin Approach:*** Several types of bioretention basins exist. Conceptual designs were considered and ultimately a underground infiltration stormwater treatment unit was selected. • ***Identify Potential Demonstration Site:*** Based on potential sites identified in neighborhoods, and feedback from City officials, Save the Bay, and neighborhood residents during outreach efforts, a demonstration site was selected. • ***Develop Design:*** Included collecting in-situ data on soils and groundwater and completing a site specific design for the demonstration project including hydraulic and phosphorus removal calculations. Bidding and construction documents were prepared. • ***Bid Construction of Demonstration Project:*** The City bid the project and awarded the bid for construction to the lowest qualified bidder. • ***Complete Construction of Demonstration Project:*** The selected contractor completed the construction of the project under the supervision of the design engineer and the City in October 2022.
3. **Public Engagement:** Understand stormwater quality issues in general and how they impact Spectacle pond and • **Watershed / Neighborhood and City residents:** On-site meeting with neighborhood residents where demonstration project is planned, where design plans will be reviewed and feedback received from neighbors. See demonstration project and how well it fits in their neighborhood.

Budget:

For this grant the City of Cranston did not use grant funding or match for staff and other City resources or to claim any indirect costs for the management of this project. This maximized the value of the SNEP investment in this project to preparing deliverables. The City provided its match as cash as funded by the City's existing budget.

Cost Item or Category	Cost Basis	RAE SNEP Request	Total Non-Fed Match	Match Source	Total Project Cost
Contractual					
Environmental Engineering Consultant	QAPP Development Spectacle Pond Feasibility Study and Bioretention Basin Designs	$146,250	$48,750	Cash from City Budget	$195,000
General Contractor for Bioretention Basin Construction and Engineering	Construction of Bioretention Basin	$41,250	$13,750	Cash from City Budget	$55,000
Total Contractual		$187,500	$62,500		$250,000

Spectacle Pond Limnological Investigation:

The Liminological Investigation was finalized in December of 2022. For background, the estimated phosphorus load to Spectacle Pond is 476 lbs/year. The Total Maximum Daily Loads for Phosphorus to Address 9 Eutrophic Ponds in Rhode Island (TMDL) completed by RIDEM (September 2007) required that the phosphorus load be reduced by 326 lbs/yr, a 68% reduction. The Liminologoical Investigation was conducted to estimate the relative contribution of internal cycling to total phosphorus loading in the pond. This was achieved by collecting bathymetric data, sediment and water quality sampling, and calculating of internal loading. The results of the study indicate that only 1% of the phosphorus loading or approximately 5.6lbs is from internal sources. External sources including those from stormwater runoff, inlet sources, and waterfowl dominate the P loading at 99%. This study also explored recommendations including infiltration systems, tree filters, bioswales, and limiting access of waterfowl to areas that drain to pond. More detailed review of potential external treatment options were explored in the Spectacle Pond Phosphorus Reduction Plan.

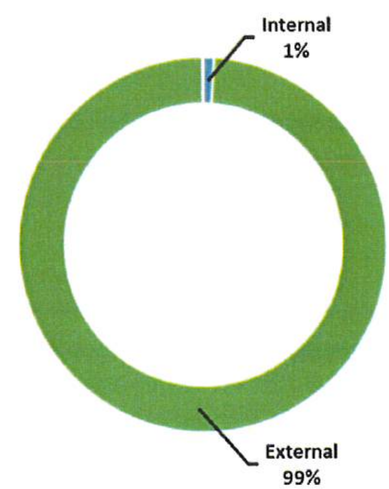


Figure 5-1: Relative Contributions of Internal and External Loading

Construction

- In April of 2022 competitive bids were received from three qualified contractors. Universal Excavating, INC was the lowest bidder at $94,500.00 and was selected by the City to install the stormwater control.
- In October, 2022 Universal Excavating Inc. mobilized and has ordered materials for the project. There were delays in the construction of the underground infiltration dure mainly to delays in the availability of the proprietary manhole structure, acting as the sediment forebay. The contractor and the DPW communicated with the neighbors on schedule and any coordination.
- Construction occurred over a three day period with final restoration completed on October 31, 2022.
- $87,350 was spent on the construction of the underground infiltration stormwater treatment unit which include installation of two manholes with proprietary swirl inserts and three rows of underground infiltration chambers. The bid price of $94,500 was reduced because it was determined during construction that the replacement of the sewer main and associated sewer street laterals were in sound condition. The City match was originally budgeted at $13,750 but due to the increase bid pricing (mentioned above) increased to $46,100.00. This increase resulted in the City providing an additional match of $32,350.

Outreach Communications and Project Partners:

- Public meetings were held on at the end of Barrett Street on and October 26, 2022 to discuss the Barrett Street water quality improvement project. A copy of the outreach material is included in the supporting details. A initial invite was sent for a October 13, 2022 meeting onsite however, there was a significant rain event and it needed to be rescheduled.

- The City and FandO solicited input from Save the Bay regarding demonstration site selection included input from Save the Bay. Save the Bay also participated in the outreach activity on October 26, 2022. The City is grateful for the partnership we have with Save the Bay. Specifically, Wenley Ferguson productive review and input produces an improved end result.

Spectacle Pond Phosphorus Reduction Plan:

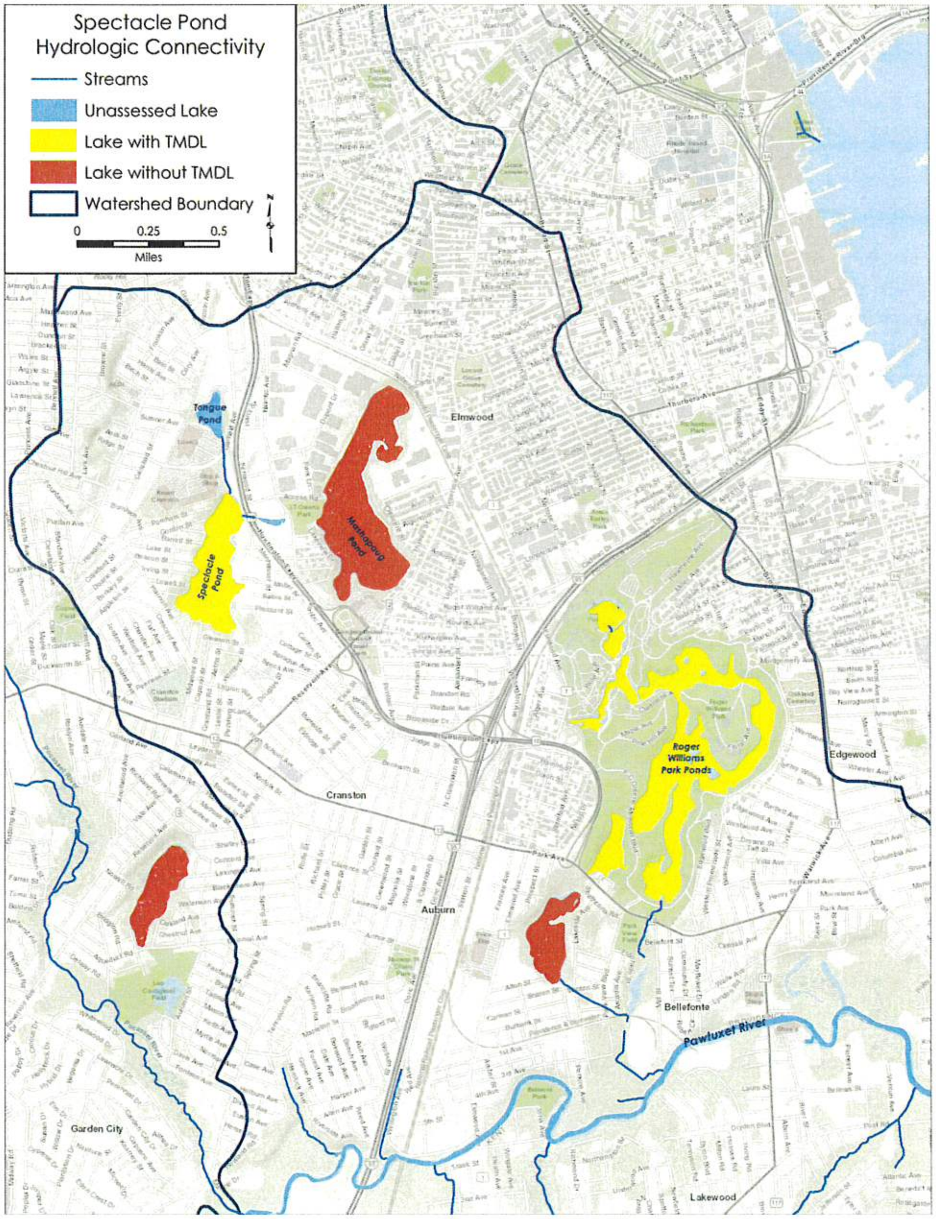
The phosphorus reduction plan was developed through desktop review and site visits. Fourteen (14) locations were selected for consideration. Structural and non-structural BMPs were evaluated for the identified sites. Partnership opportunities were evaluated including Twin Oaks, RIDOT, and Stadium Elementary School. Cost estimates were developed with an estimated $1.85 million in structural projects. The following expected benefits were calculated if all of the structural improvements were implemented:

- Total phosphorus removal of 7.8 lbs
- TSS load reduction of 4,195 lbs

It is important to note these costs do not take into account the ongoing costs associated with long term operation and maintenance which increases the operating budget of and utilization of City resources. With extremely tight City budgets and the return on investment on a per lb removal basis it will be challenging to secure City match for continued investment in these structural measures. The City will be working closely with RIDEM, funding organizations, and seeking out collaborative partners to make water quality improvements more manageable.

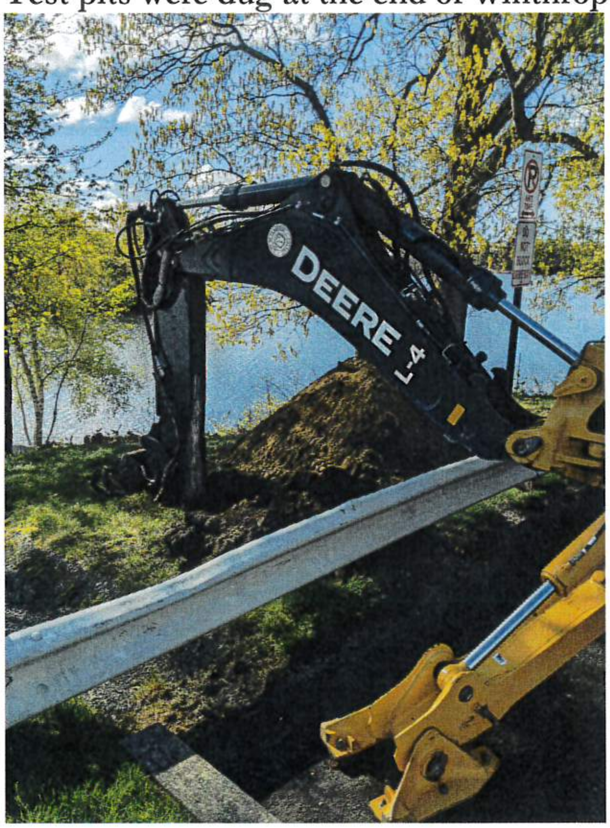
MAPS, PHOTOS, DRAWINGS, AND ADDITIONAL INFORMATION

Spectacle Pond Location Relative to Mashapaug and Roger Williams Park Ponds

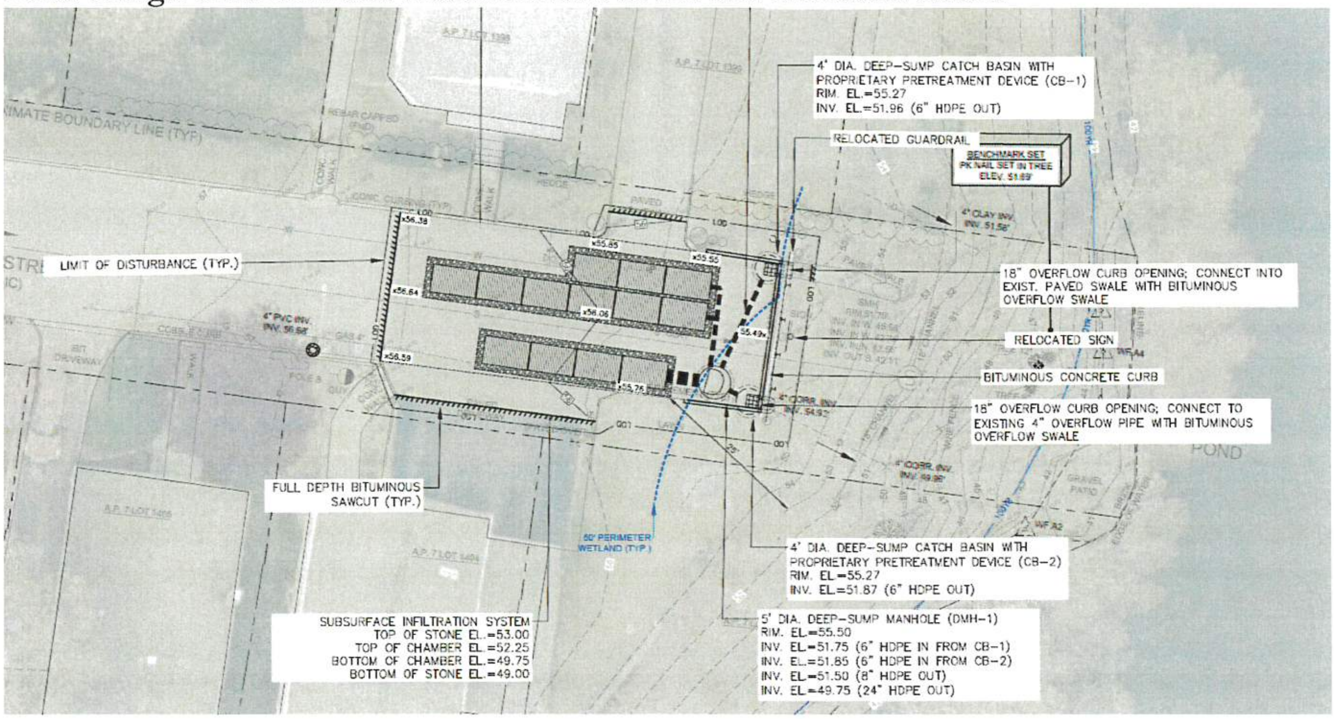


Dead end portion of Barrett Street selected for the underground infiltration stormwater treatment unit.

Test pits were dug at the end of Winthrop Street and Barrett Street by Cranston DPW staff.

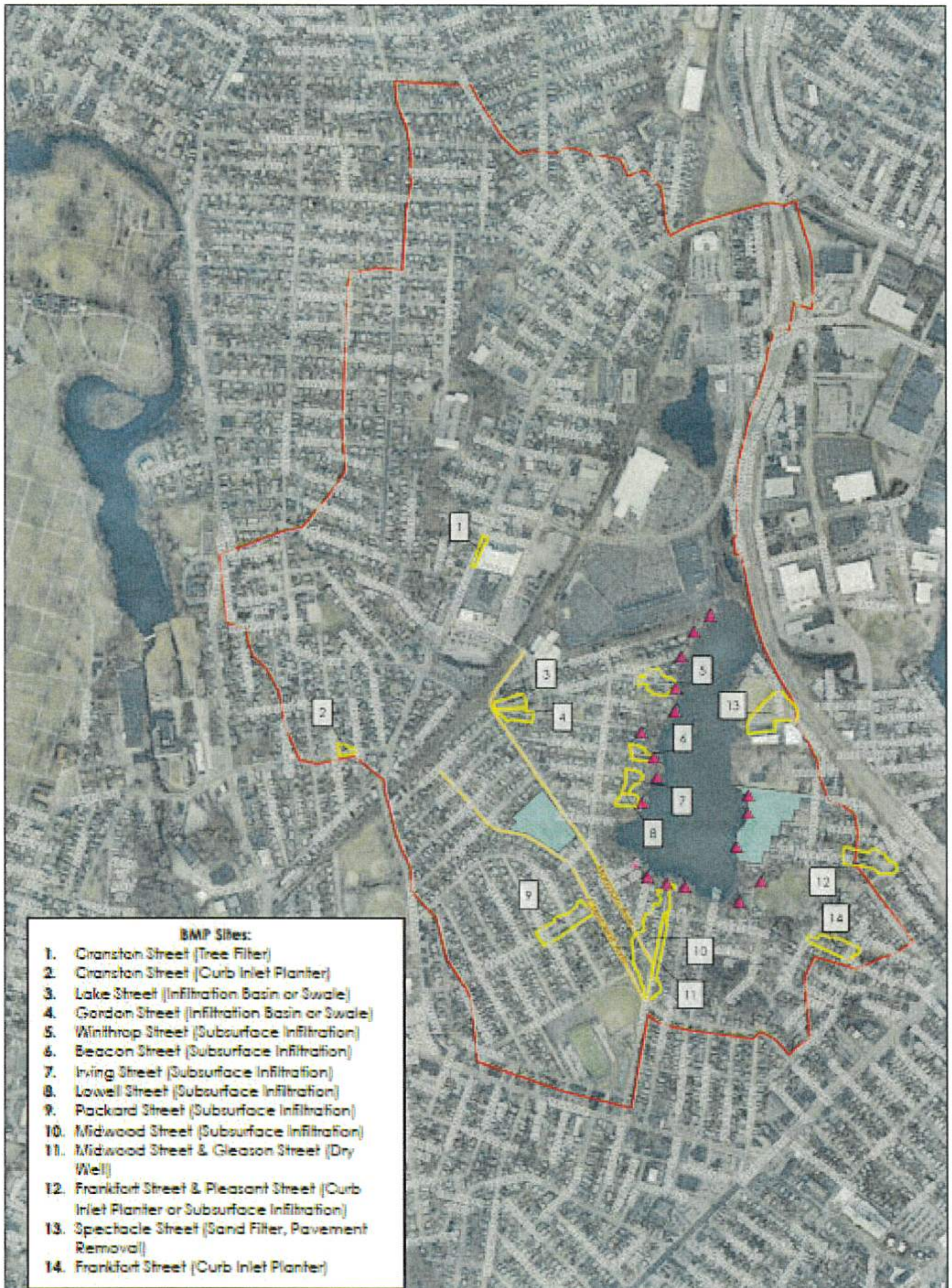


Final design of stormwater treatment unit at the end of Barrett Street:



Setting deep sump catchbasins with pretreatment device and diversion manholes. (October, 2022)

Fourteen locations identified in the Phosphorus Reduction Plan for future consideration to improve water quality in the Spectacle Pond watershed:



SPECTACLE POND WATERSHED AND PROPOSED BMP LOCATION OVERVIEW

CRANSTON, RI

OCTOBER 2022

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Legend

- Catchment Area
- Stormwater Discharge Location
- Complete Street
- Recommended Partership
- Watershed Boundary

0 250 500 1,000
US Feet

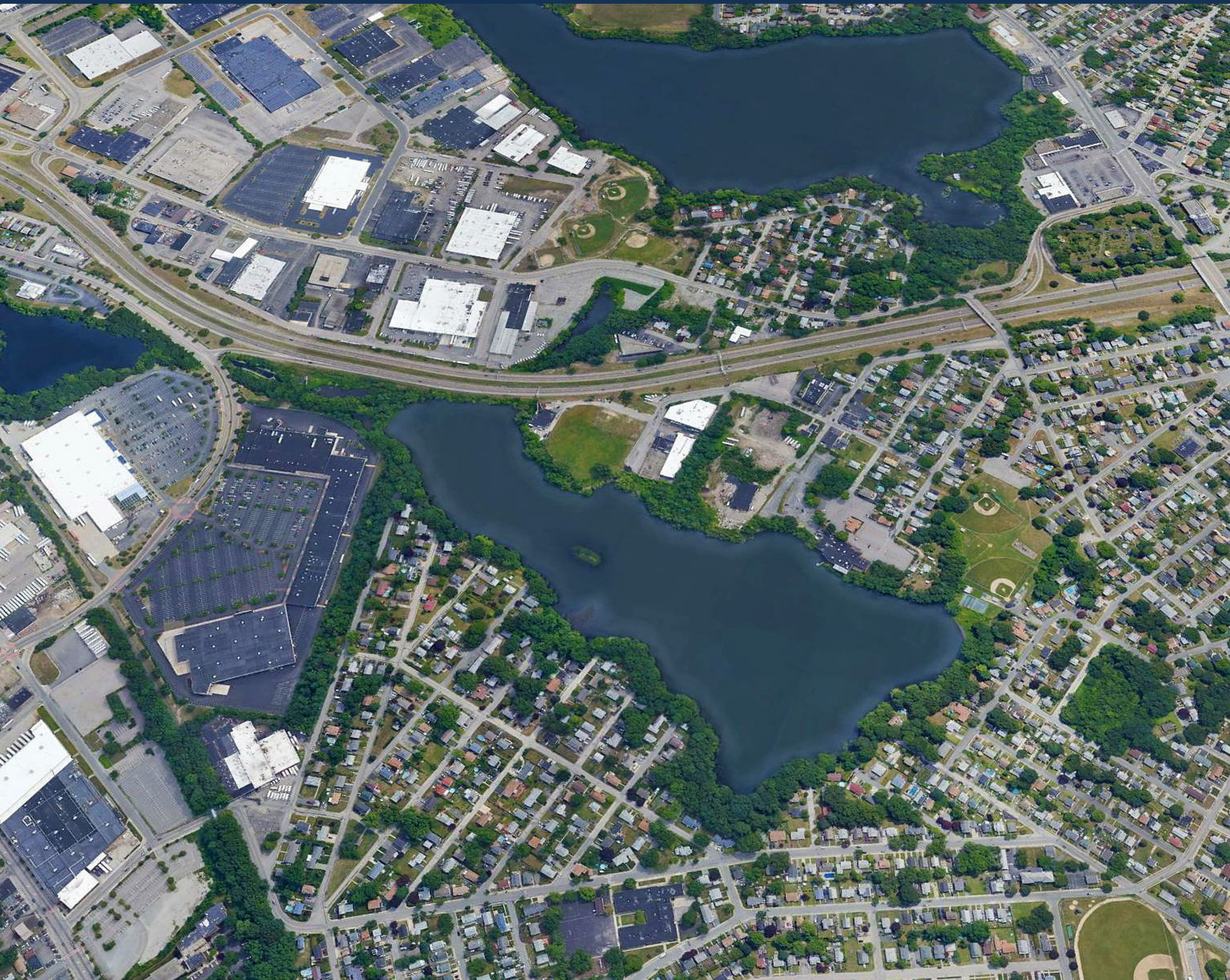
Appendix O

Spectacle Pond Phosphorous Reduction Plan

Spectacle Pond Phosphorus Reduction Plan

City of Cranston, Rhode Island

OCTOBER 2022



FUSS & O'NEILL

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Spectacle Pond Phosphorus Reduction Plan
City of Cranston

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1 Overview

The purpose of this Phosphorus Reduction Plan is to identify structural stormwater best management practices (BMPs) to reduce phosphorus and sediment loading to Spectacle Pond. Spectacle Pond (herein referred to as the Pond) is a freshwater body located in the City of Cranston, Rhode Island.

The Pond's watershed is approximately 638 acres, 65% of which is impervious (412 acres)[1]. Residential properties are located to the west and south of the Pond and industrial and commercial properties occupy the northern and eastern shorelines. Throughout the watershed, the City of Cranston (the City) maintains an extensive network of drainage infrastructure that collects and discharges stormwater to seven outfalls. Based on the findings of the Spectacle Pond Limnological Investigation, completed by Fuss & O'Neill in 2020, the primary source of phosphorus, accounting for over 90% of the loading, is stormwater runoff from the Pond's densely developed watershed.

The Rhode Island Department of Environmental Management (RIDEM) established a Total Maximum Daily Load (TMDL) for phosphorus loading in September 2007. According to the TMDL analysis, the annual phosphorus load to maintain healthy water quality is 148 kg/year (326 lbs/yr), while the estimated current annual phosphorus load is 216 kg/year (476 lbs/yr). [2] To achieve the water quality standards outlined by RIDEM, a 68% annual phosphorus load reduction is required.

The City has already identified and implemented multiple structural and non-structural BMPs to reduce the phosphorus load on the Pond. Structural BMP projects at Speck Park, as well as, within the right-of-way at Pomham and Barrett Street have already been completed or are currently being designed. In addition to the installation of new structural BMPs, non-structural measures, such as ongoing maintenance of the existing drainage infrastructure, reduced wintertime sanding, and increased street sweeping, are all being used to reduce the discharge of sediment to the Pond. However, to meet the TMDL goals, additional opportunities to reduce phosphorus will be necessary and are the subject of this report.

2 Approach

The treatment approach recommended in this plan is focused on structural BMPs that infiltrate stormwater into the native soils. According to soil survey data available through the Natural Resources Conservation Service (NRCS), the soils in the Pond's watershed are typically sandy and well-draining, suitable for infiltration-style BMPs.[3] The total phosphorus removal efficiency of infiltration BMPs is

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[1] *Spectacle, Mashapaug, Roger Williams Park Ponds SCP, Spectacle Pond (RI0006017L-07), Cranston, RI*, Rhode Island Department of Transportation (RIDOT), December 30, 2017.

[2] *Total Maximum Daily Loads for Phosphorus to Address 9 Eutrophic Ponds in Rhode Island* (TMDL), Rhode Island Department of Environmental Management (RIDEM), September 2007.

[3] US Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS), Web Soil Survey, July 31, 2019.

higher than that of filtration practices, such as bioretention.[4] Because phosphorus is often transported with sediment, reducing sediment loading is also a priority. The City will maximize the total phosphorus load reduction per project dollar spent by prioritizing infiltration and sediment removal projects wherever practical. Therefore, a suite of structural infiltration BMPs were selected and sited for potential implementation based on the following criteria:

1. Effectively infiltrate stormwater into existing soils and remove sediment.
2. Minimal footprint within the City's right-of-way or publicly maintained space.
3. Relatively low maintenance requirements.
4. Are replicable (i.e., can seamlessly integrated into repaving, utility, and tree planting projects).

2.1 Desktop Review & Site Visits

To develop this plan, an initial desktop review of geospatial data within the Pond's watershed was completed to identify potential sites for structural BMPs, as well as to identify opportunities to remove existing pavement or other impervious surfaces. Several data sources were reviewed as part of the desktop review, including:

- Aerial Mapping (Spring 2021)
- City Stormwater Infrastructure
- City Utility Data (Currently available water and sewer data provided by the City.)
- Hydrologic Soil Group (HSG), NRCS Web Soil Survey (2022)
- RIGIS 2-ft Topography (2011)
- RIGIS 2020 Impervious Area (2022)
- Freshwater Wetlands (2021)

From the initial desktop review, six streets were identified as potential "Complete Streets," where stormwater BMPs could be implemented on a neighborhood-wide scale, and over 20 individual structural BMP locations were identified. Site visits were conducted by Fuss & O'Neill, on August 19, 2020, to refine the initial selection. The site visits were used to confirm the accuracy of the geospatial data as well as understand the unique site constraints and considerations for each proposed BMP. Elements reviewed and considered during site inspections included:

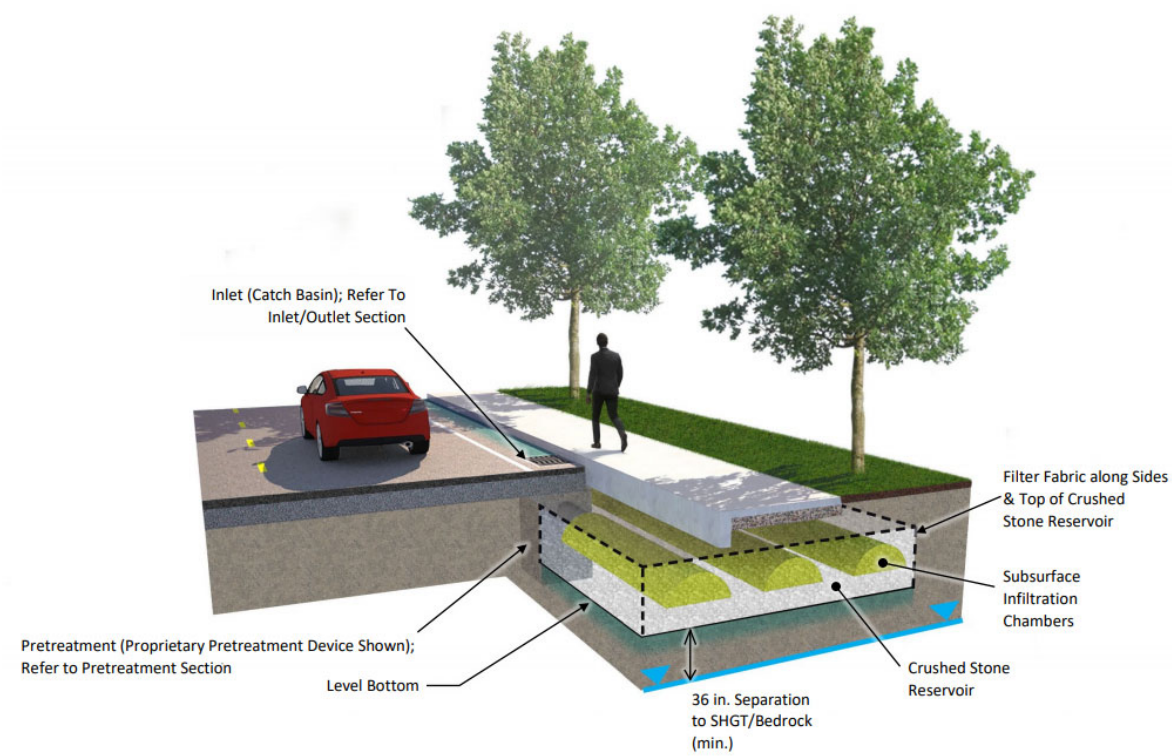
- Topographic slope
- Adjacent land use
- Ease of access for maintenance
- Conflicts with existing utilities
- Location of existing drainage infrastructure
- Indicators of Utilities (e.g., overhead wires, curb stops, and vales)

[4] *Table H-3 – Pollutant Removal Efficiency Rating Values for Water Quality BMPs, Rhode Island Stormwater Design and Installation Standards Manual*, RIDEM, Amended March 2015.

2.2 Structural BMP Selection

In order to ensure long-term operation and maintenance of any structural BMPs installed in the Spectacle Pond Watershed, types of practices were first reviewed and vetted with the City. Practices were evaluated on several criteria, including ease of maintenance, space requirements, phosphorus removal efficiency, and cost. Based on these conversations, five BMP types were identified and described in more detail below[5].

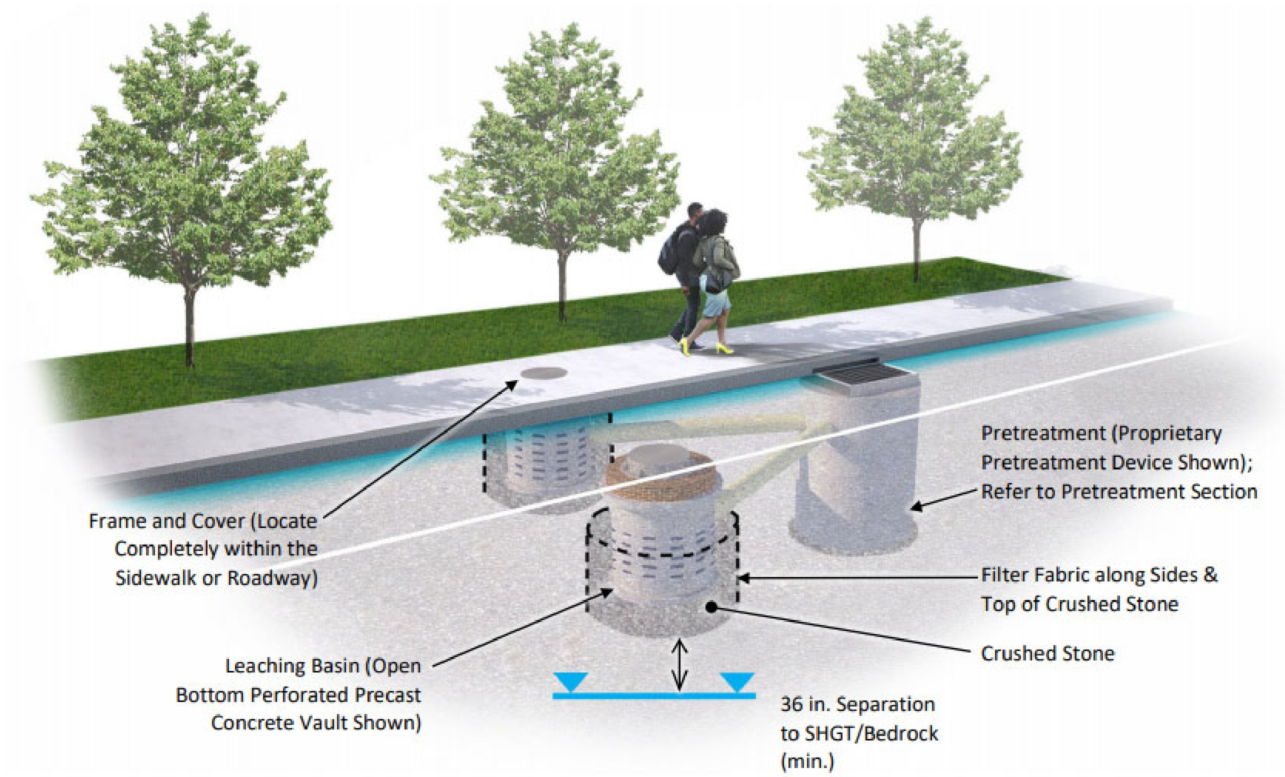
- **Subsurface Infiltration Systems**



Subsurface infiltration systems consist of open-bottomed storage chambers in a crushed stone reservoir. The chamber and crushed stone reservoirs provide temporary storage for stormwater before it infiltrates into subsurface soils. These systems require pretreatment systems to remove oil, sediment, and debris before stormwater enters the infiltration system. Subsurface infiltration systems can vary in size, depending on the area of runoff treated. These systems require adequality draining soils and separation from the existing groundwater table to be effective. Subsurface infiltration systems may be used in areas where surface structural BMPs are not feasible.

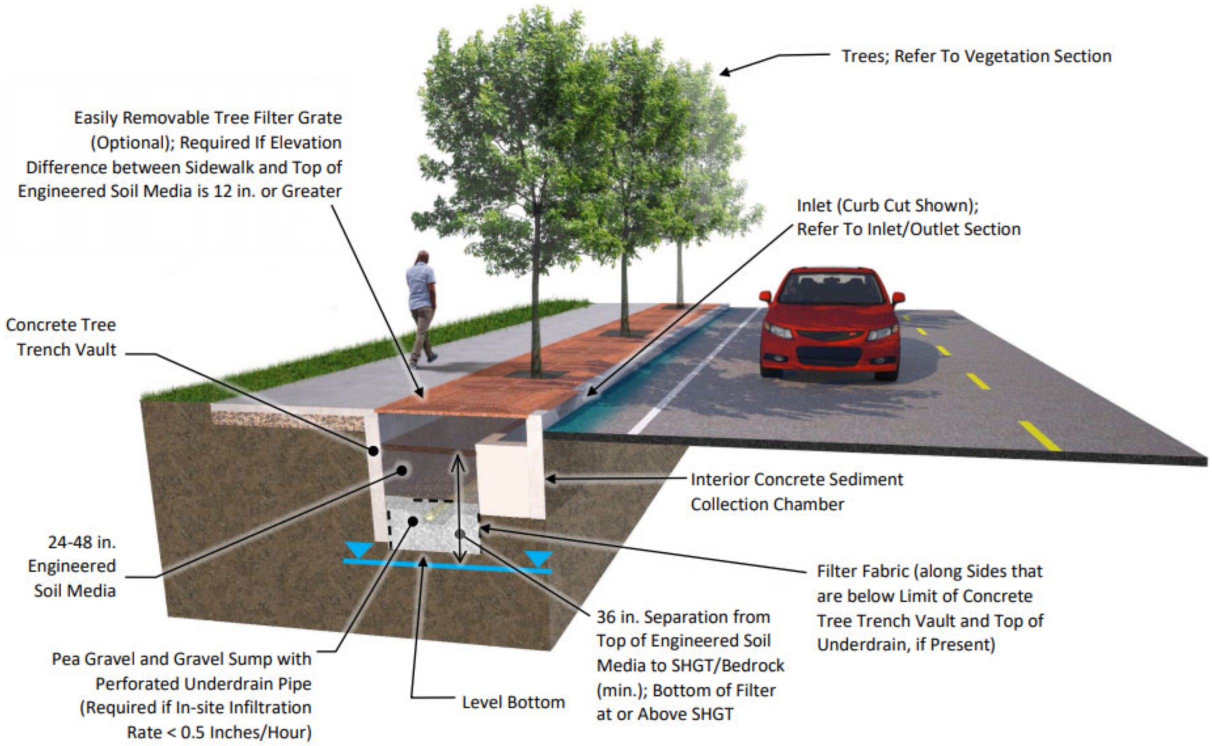
[5] Structural BMP Illustrations are from the *RIDOT Linear Stormwater Manual*, February 2019.

- **Drywells**



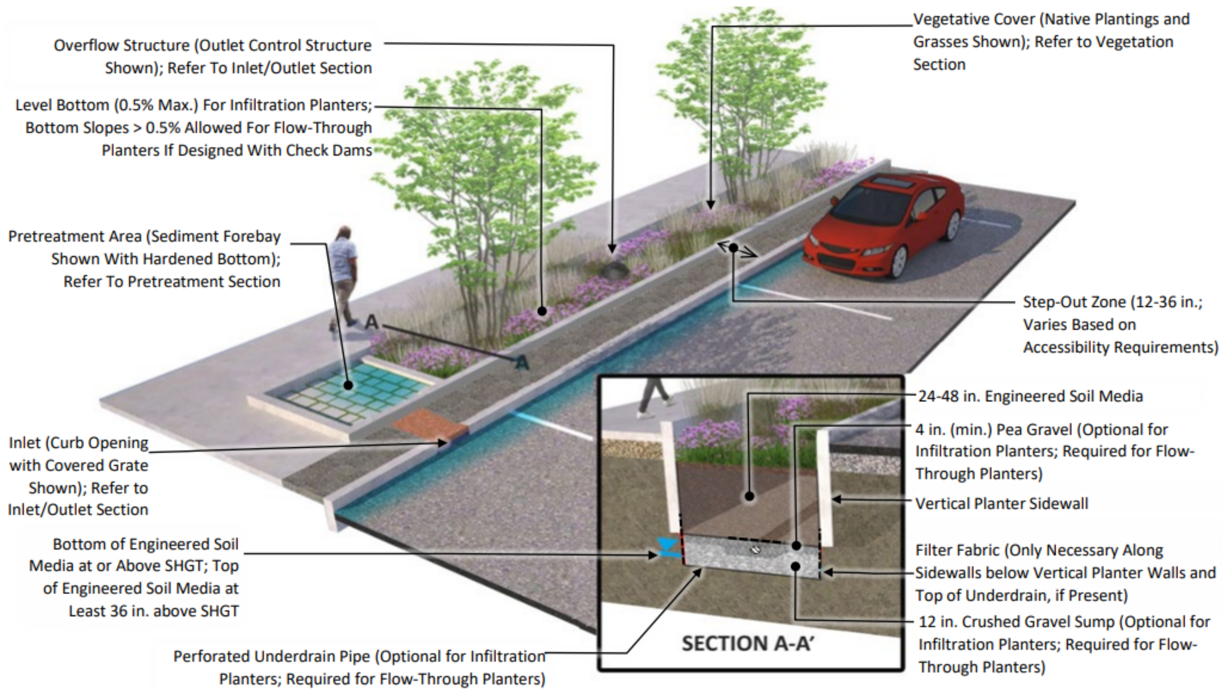
Similar to subsurface infiltration systems, drywells are underground structures that receive, temporarily store, and infiltrate stormwater from impervious surfaces. Drywells typically consist of concrete or plastic perforated chambers surrounded by gravel, which allows runoff to slowly infiltrate to the surrounding area. Drywells require soils and groundwater depths that are suitable for infiltration. Drywells also have a relatively small footprint and can be used in areas where surface structural BMPs are not feasible.

- **Tree Filter**



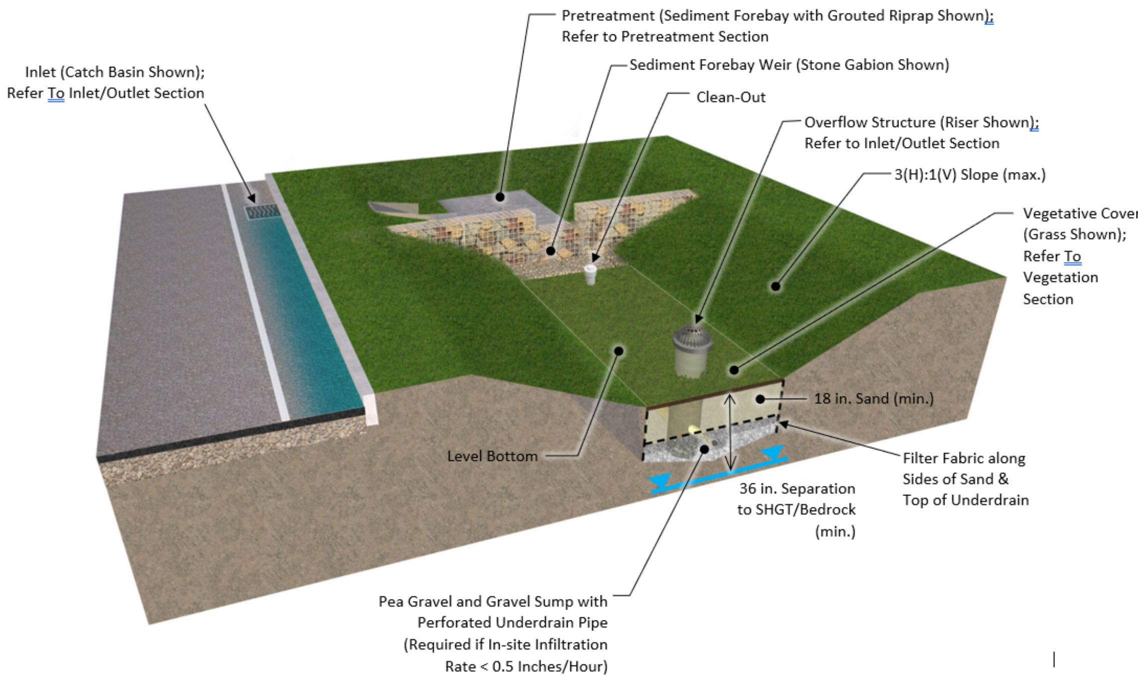
Tree filters are systems that house one or more trees and are filled with engineered soil media atop an optional drainage layer. Tree filters can be designed to infiltrate stormwater or treat stormwater before it discharges to an existing drainage network. These systems are typically installed in sidewalks, along curbs, or in parking lots. In addition to stormwater infiltration, tree filters can provide aesthetic benefits and additional shade coverage.

- **Curb In-let Planters**



Curb inlet planters are a type of system that is located within the roadway right-of-way immediately adjoining roadway curbing. These systems have an engineered soil media below the surface of the planter that facilitates stormwater filtration and vegetative growth. These planters are frequently designed to infiltrate, typically referred to as infiltration planters, but can be designed with an underdrain to capture filtered water and assist with drainage from the system, typically referred to as flow-through planters.

- **Sand Filter**



Sand filters are sand-filled basins or trenches that capture, temporarily store, and filter stormwater runoff. Sand filters require less space than other filtering practices but must be in designed areas with an adequate elevation difference between the inlet and outlet to efficiently move stormwater through the system. Sand filters have higher longevity than other filtering practices and are frequently designed to infiltrate. A typical sand filter design includes an overflow to allow large storm events to bypass the system without causing damage.

2.3 Non-Structural BMPs

In addition to the installation of new structural BMPs, non-structural BMPs, such as waterfowl management and public education, along with the ongoing maintenance and good housekeeping actions that the City currently undertakes, are important for protecting water quality on a watershed-wide scale.

Waterfowl

The TMDL identifies waterfowl as a major source of phosphorus in the Pond. Waterfowl, specifically resident flocks of geese that do not migrate, can become a nuisance and degrade water quality over time. Perimeter fencing and vegetated barriers are currently used by some property owners to inhibit waterfowl access to their properties. Feeding waterfowl is currently banned by RIDEM in Rhode Island. Informational signage detailing why feeding the waterfowl is banned is important to keep waterfowl from congregating in public areas. Coordination with RIDEM to reduce the waterflow population is one mechanism that the City could use to manage waterfowl. Such efforts would require communication on a neighborhood-wide scale to ensure public support.

Privately Owned Impervious Area

While this report focuses on identifying potential structural BMPs that the City can execute and maintain within the public right-of-way, improvements on privately owned properties, including public education and outreach or public-private partnerships, have the potential for significant water quality impacts. Approximately 70% of the total impervious surface within the watershed is on private property (e.g., commercial parking lots, residential roofs and driveways, private walkways, etc.), while the other 30% is publicly owned and maintained (roadways, City and State-owned parcels, etc.). Potential partnership opportunities are discussed further below.

Communities within Rhode Island, and to a larger extent across New England, have used websites and social media platforms to educate residents on best management practices relating to stormwater management at their residences, including practices related to pet waste, lawn and grass clippings, fertilizer use, winter driveway maintenance, leaf litter, and waterfowl. One example is the Town of Ashland, MA, which produced an interactive ArcGIS storymap for residents on "dos" and "don'ts" relating to stormwater best management practices at home.[7] Additionally, educational materials are available through the Massachusetts Think Blue campaign, which focuses on educating residents and businesses on ways to reduce pollution to local waterbodies.[8] The Central Massachusetts Regional Stormwater Coalition (CMRSWC) also provides resources on effectively conducting social media outreach to spread awareness and educate residents on non-structural best management practices.[9]

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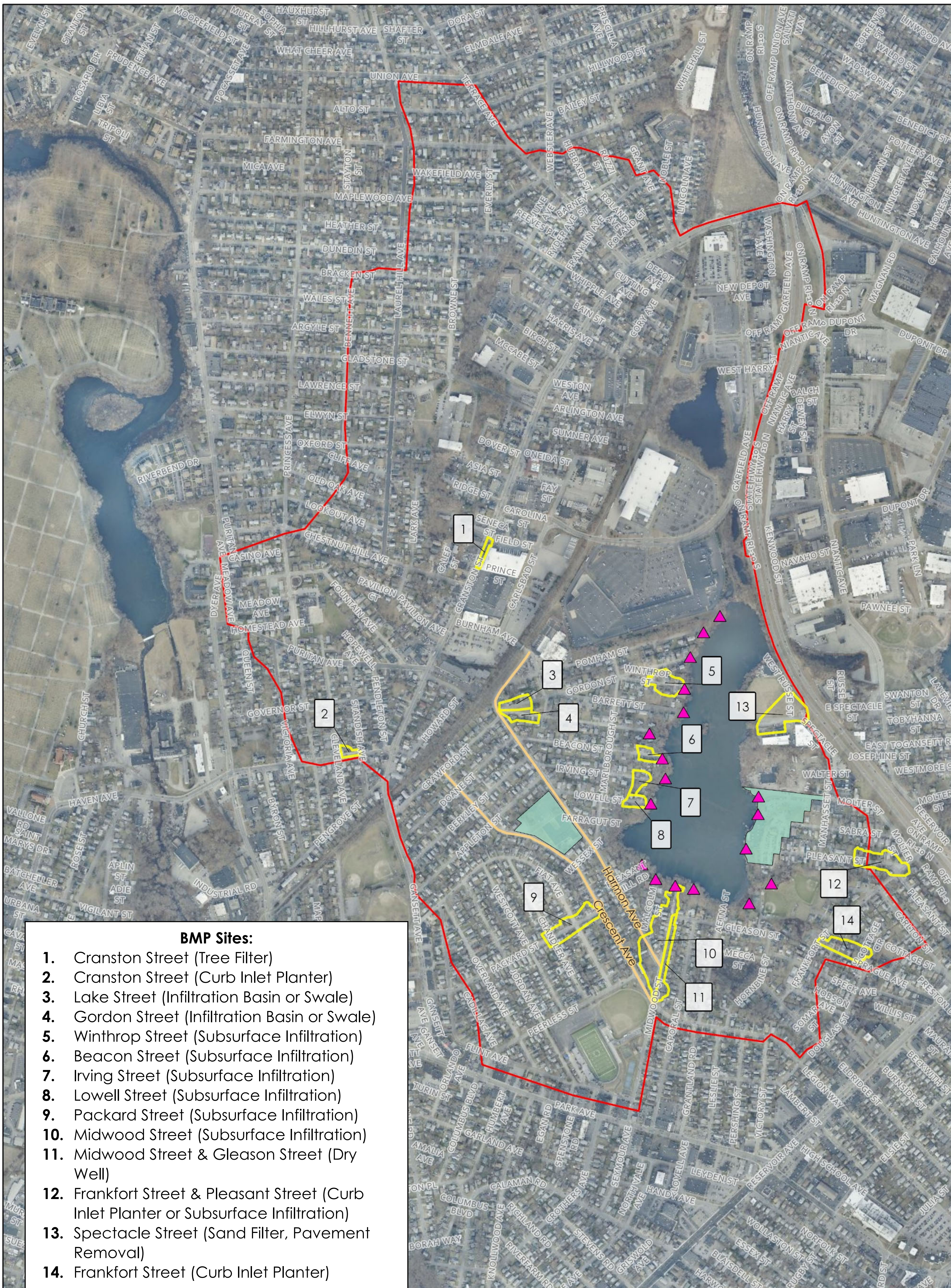
[7] Website: https://storymaps.arcgis.com/stories/eb1dd8e42b574a509cacd8c80433b50d
[8] Website: https://www.thinkbluemassachusetts.org/
[9] Website: https://www.centralmastormwater.org/toolbox/pages/social-media-outreach

3 Potential Structural BMP Locations

An overview of the BMP sites that have been identified for implementation is provided in *Figure 1*. The approximate footprint of each BMP within the right-of-way, a description of the system, and the corresponding contributing watersheds are provided in *Figures 2-15*. This study represents a conceptual-level assessment, future design phases are required for any selected BMP to provide a comprehensive understanding of its feasibility.

As shown in *Table 1*, not all locations have the available space to treat the entire water quality volume. However, due to the large impervious area treated, some of these sites still have the potential to significantly reduce pollutant loadings to the Pond. Because the Pond has a TMDL, the full water quality volume was the target volume for conceptual design (in accordance with Appendix C of the RI Stormwater Design and Installation Standards Manual, 2015). *Table 2* shows annual pollutant loadings and reductions for each of the BMPs.



BMP Sites:

1. Cranston Street (Tree Filter)
2. Cranston Street (Curb Inlet Planter)
3. Lake Street (Infiltration Basin or Swale)
4. Gordon Street (Infiltration Basin or Swale)
5. Winthrop Street (Subsurface Infiltration)
6. Beacon Street (Subsurface Infiltration)
7. Irving Street (Subsurface Infiltration)
8. Lowell Street (Subsurface Infiltration)
9. Packard Street (Subsurface Infiltration)
10. Midwood Street (Subsurface Infiltration)
11. Midwood Street & Gleason Street (Dry Well)
12. Frankfort Street & Pleasant Street (Curb Inlet Planter or Subsurface Infiltration)
13. Spectacle Street (Sand Filter, Pavement Removal)
14. Frankfort Street (Curb Inlet Planter)

SPECTACLE POND WATERSHED AND PROPOSED BMP LOCATION OVERVIEW

CRANSTON, RI

OCTOBER 2022

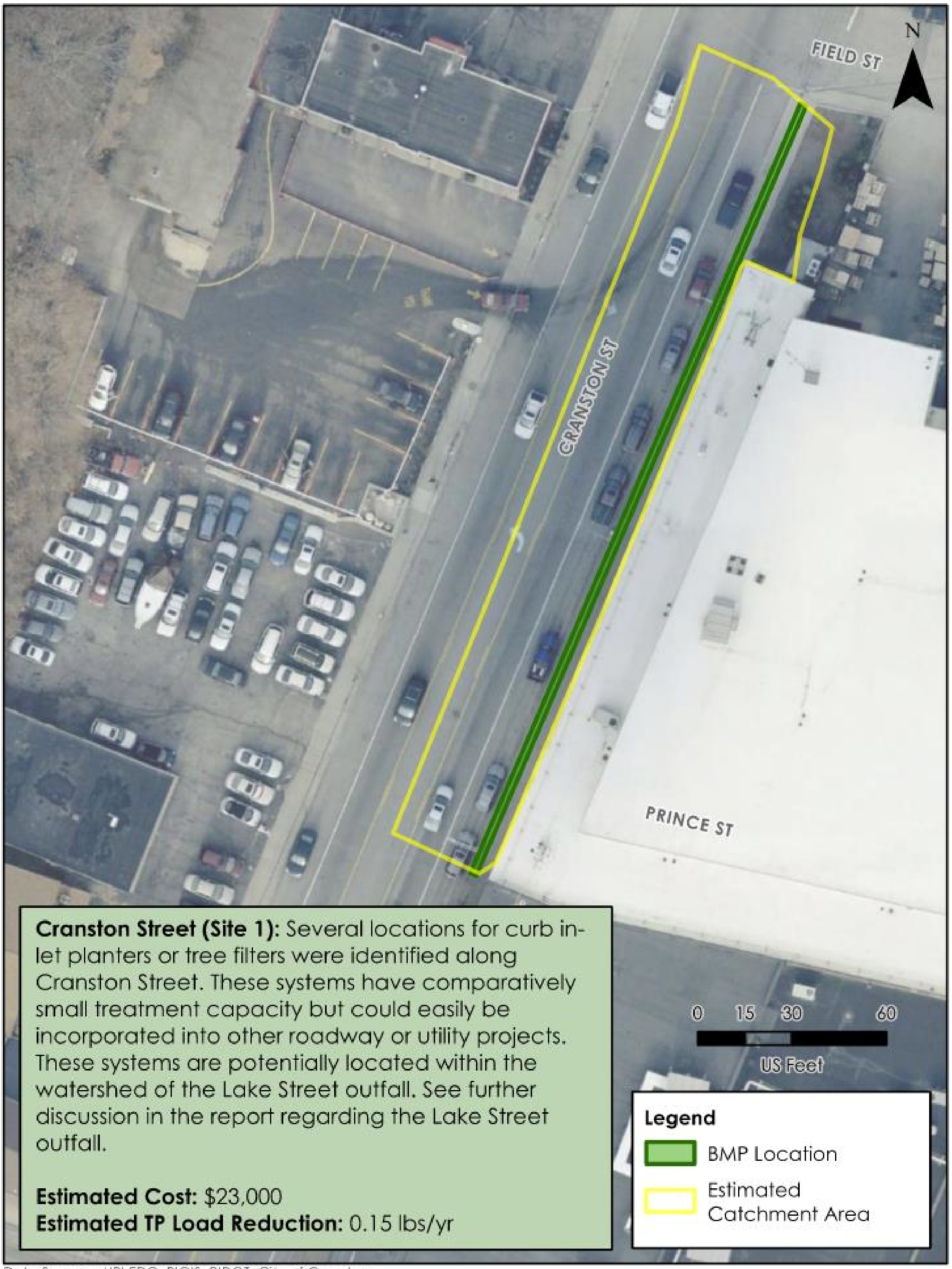
Legend

- Catchment Area
- Stormwater Discharge Location
- Complete Street
- Recommended Partership
- Watershed Boundary

0 250 500 1,000
US Feet

Data Sources: URI EDC, RIGIS, RIDOT, City of Cranston

Spectacle Pond Phosphorus Reduction Plan
Site 1. Cranston Street



Cranston Street (Site 1): Several locations for curb in-let planters or tree filters were identified along Cranston Street. These systems have comparatively small treatment capacity but could easily be incorporated into other roadway or utility projects. These systems are potentially located within the watershed of the Lake Street outfall. See further discussion in the report regarding the Lake Street outfall.

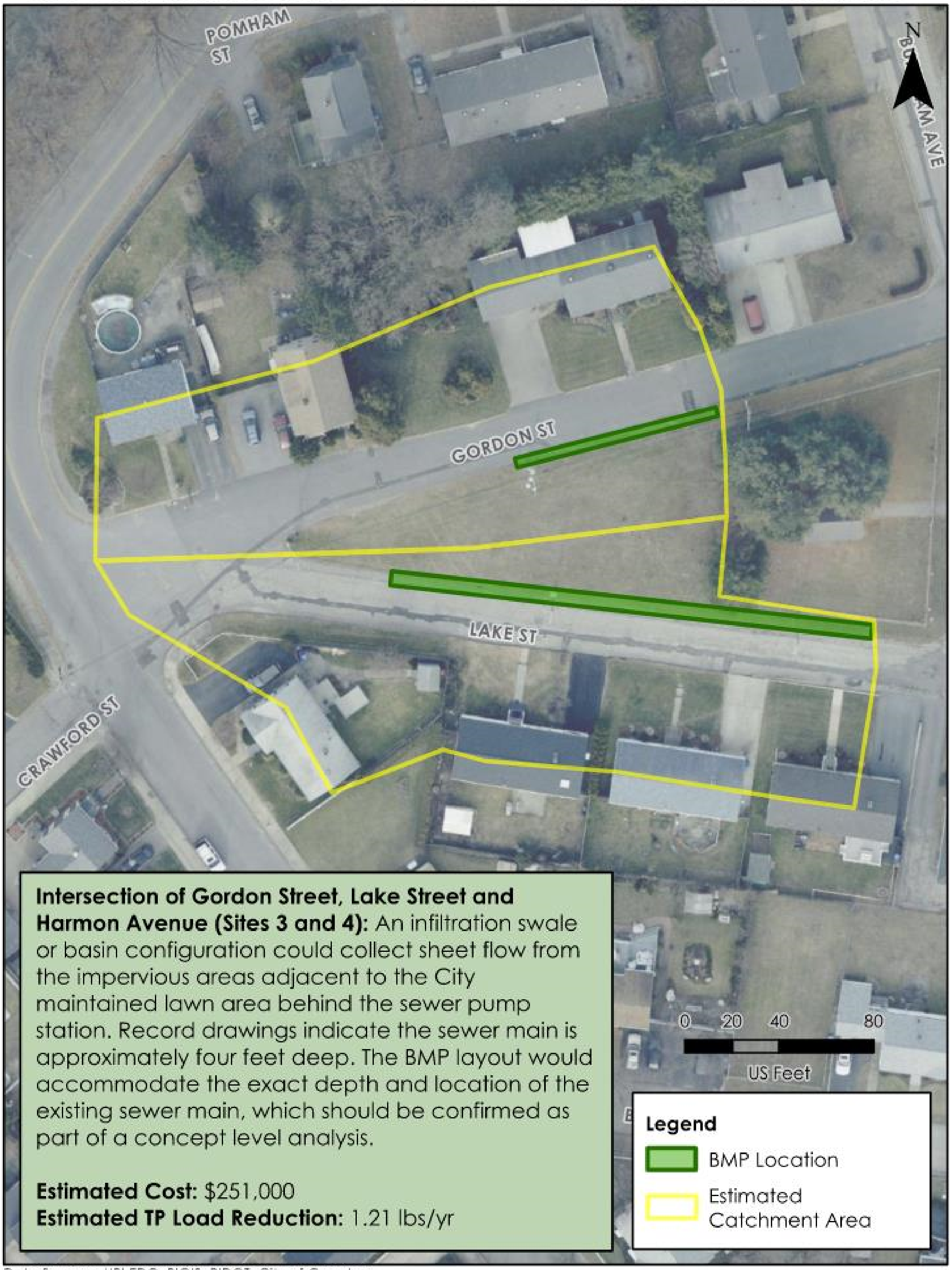
Estimated Cost: $23,000
Estimated TP Load Reduction: 0.15 lbs/yr

Data Sources: URI EDC, RIGIS, RIDOT, City of Cranston

Spectacle Pond Phosphorus Reduction Plan
Site 2. Cranston Street

Data Sources: URI EDC, RIGIS, RIDOT, City of Cranston

Spectacle Pond Phosphorus Reduction Plan
Sites 3 and 4. Intersection of Gordon Street, Lake Street and Harmon Avenue



Data Sources: URI EDC, RIGIS, RIDOT, City of Cranston

Spectacle Pond Phosphorus Reduction Plan
Site 5. Winthrop Street

Data Sources: URI EDC, RIGIS, RIDOT, City of Cranston

Spectacle Pond Phosphorus Reduction Plan
Site 6. Beacon Street

Beacon Street (Site 6): A subsurface infiltration system within the right-of-way at the east dead-end of the street could be installed, similar to the systems installed on Barret & Popham Street. Catch basins would collect stormwater and redirect it underground to infiltrate into the native soils.

Estimated Cost: $122,000
Estimated TP Load Reduction: 0.55 lbs/yr

Data Sources: URI EDC, RIGIS, RIDOT, City of Cranston

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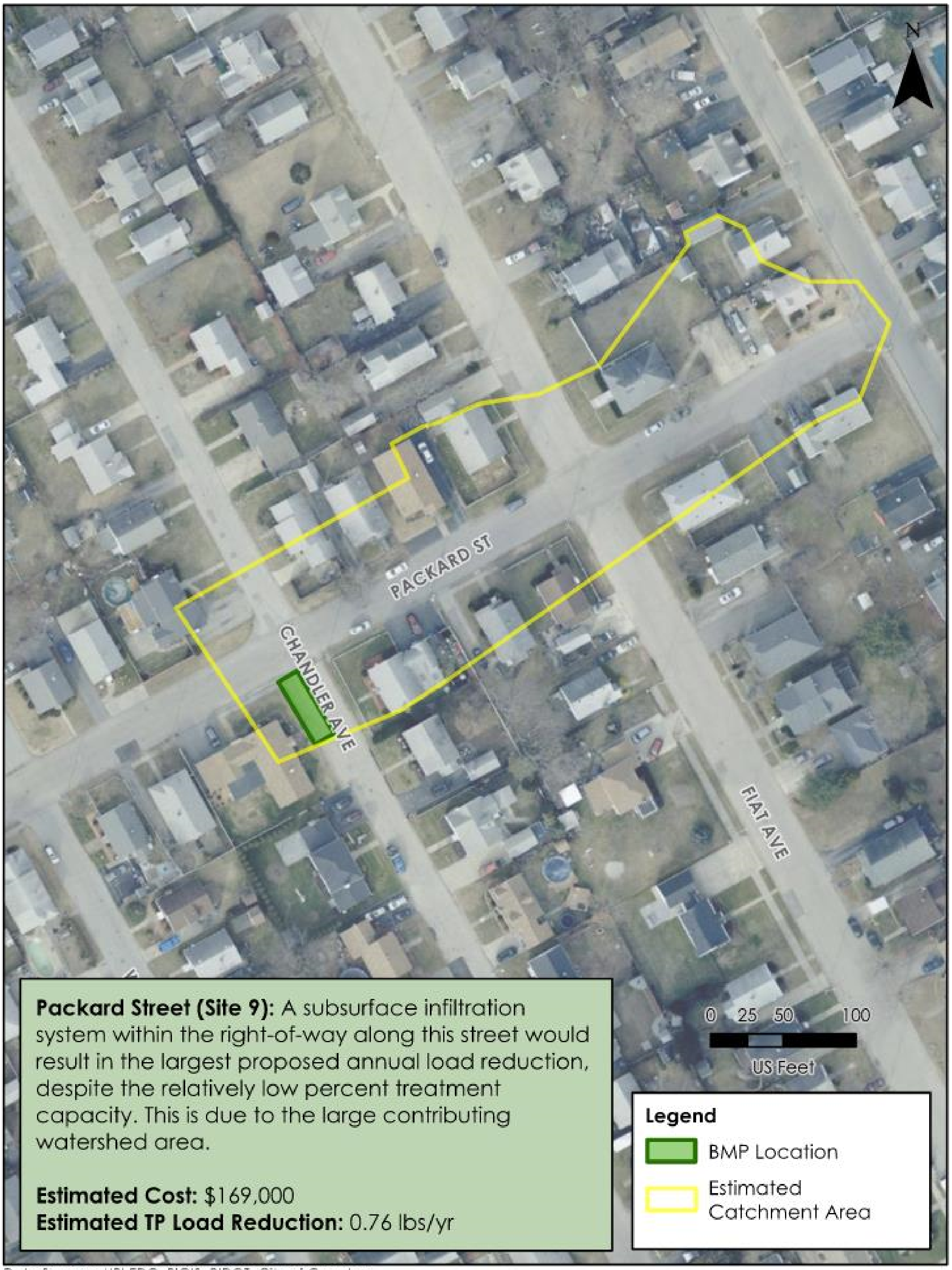
Spectacle Pond Phosphorus Reduction Plan
Site 7. Irving Street

Data Sources: URI EDC, RIGIS, RIDOT, City of Cranston

Spectacle Pond Phosphorus Reduction Plan
Site 8. Lowell Street

Data Sources: URI EDC, RIGIS, RIDOT, City of Cranston

Spectacle Pond Phosphorus Reduction Plan
Site 9. Packard Street



Data Sources: URI EDC, RIGIS, RIDOT, City of Cranston

Spectacle Pond Phosphorus Reduction Plan
Site 10. Midwood Street

Data Sources: URI EDC, RIGIS, RIDOT, City of Cranston

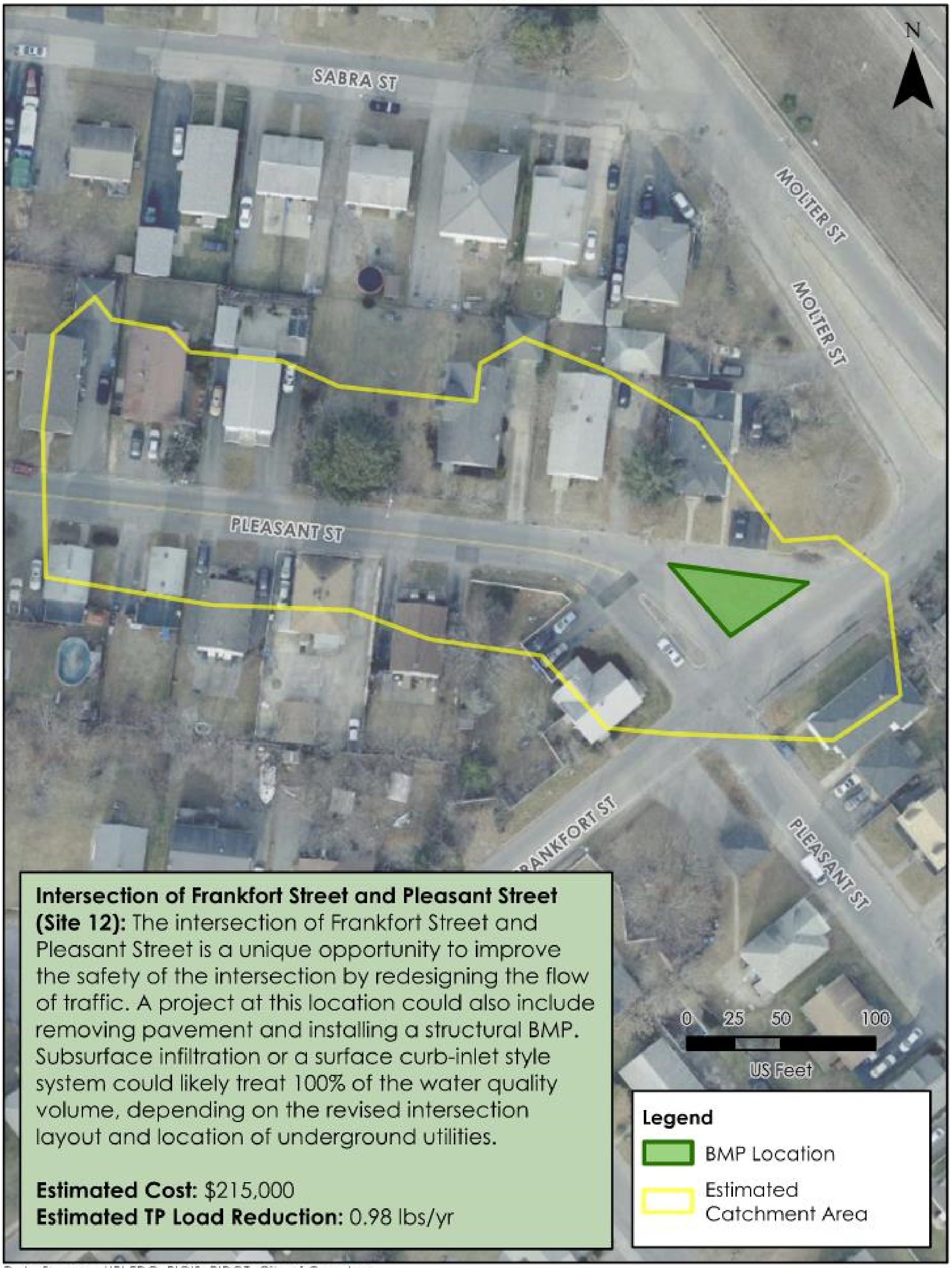
Spectacle Pond Phosphorus Reduction Plan
Site 11. Intersection of Midwood Street and Gleason Street

Intersection of Midwood Street and Gleason Street (Site 11): A pair of drywells at the intersection of Midwood Street Gleason Street could collect sheet flow from the west side of Midwood Street. Although the dry wells would only treat a quarter of the water quality volume, the cost per phosphorus reduction is significantly less than other treatment practices. Upon confirming the configuration of existing utilities, a subsurface infiltration system could be possible.

Estimated Cost: $115,000
Estimated TP Load Reduction: 0.23 lbs/yr

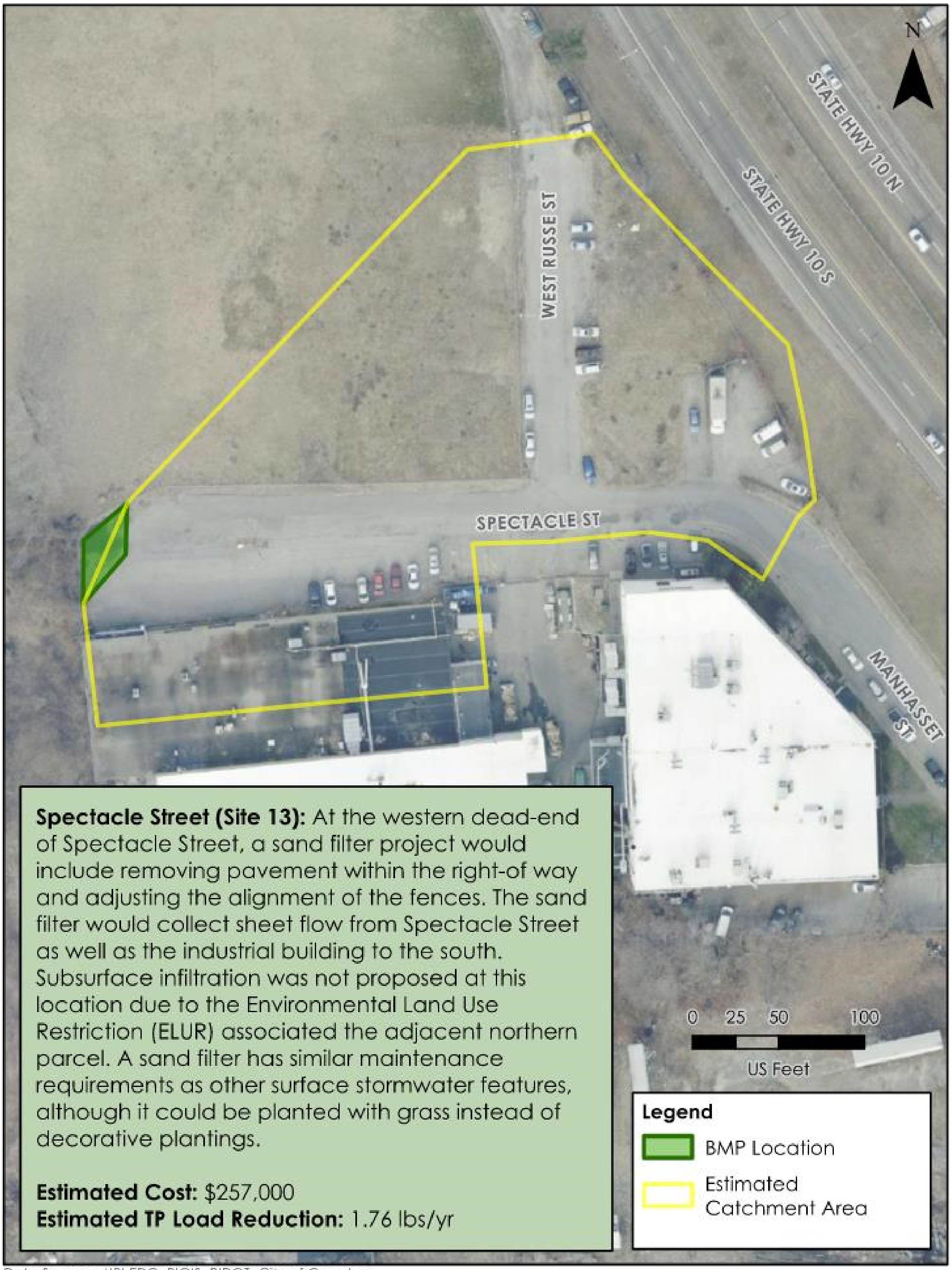
Data Sources: URI EDC, RIGIS, RIDOT, City of Cranston

Spectacle Pond Phosphorus Reduction Plan
Site 12. Intersection of Frankfort Street and Pleasant Street



Data Sources: URI EDC, RIGIS, RIDOT, City of Cranston

Spectacle Pond Phosphorus Reduction Plan
Site 13. Spectacle Street



Spectacle Street (Site 13): At the western dead-end of Spectacle Street, a sand filter project would include removing pavement within the right-of way and adjusting the alignment of the fences. The sand filter would collect sheet flow from Spectacle Street as well as the industrial building to the south. Subsurface infiltration was not proposed at this location due to the Environmental Land Use Restriction (ELUR) associated the adjacent northern parcel. A sand filter has similar maintenance requirements as other surface stormwater features, although it could be planted with grass instead of decorative plantings.

Estimated Cost: $257,000
Estimated TP Load Reduction: 1.76 lbs/yr

Data Sources: URI EDC, RIGIS, RIDOT, City of Cranston

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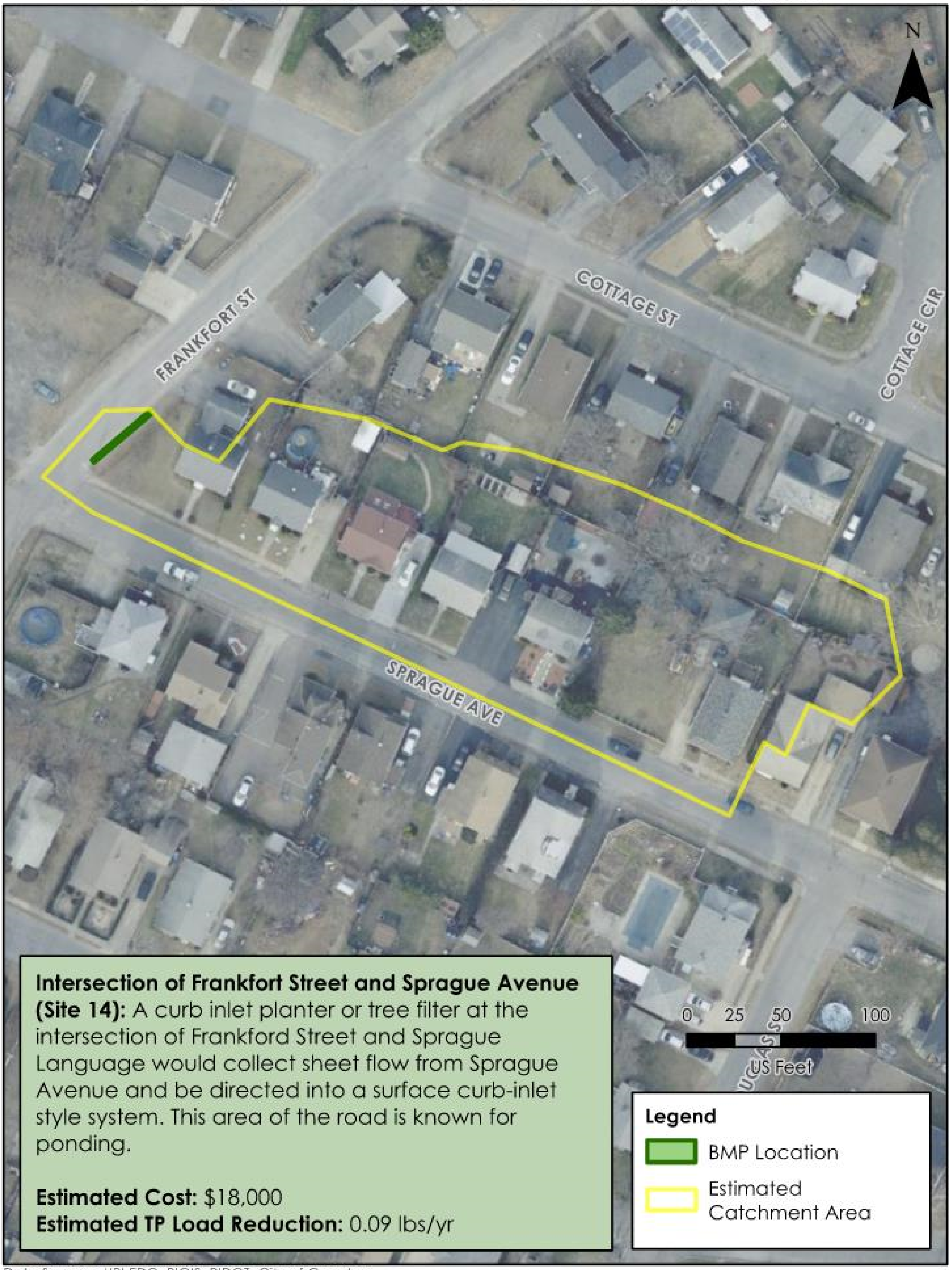
Spectacle Pond Phosphorus Reduction Plan
Site 14. Intersection of Frankfort Street and Sprague Avenue



Data Sources: URI EDC, RIGIS, RIDOT, City of Cranston

3.1 Opportunities for Further Analysis

- **Lake Street Outfall Watershed Analysis**
  - It is likely that the drainage network at the intersection of Gordon Street and Burnham Avenue ties into the drainage network that outfalls on Lake Street; however, the available drainage data from the City does not clearly depict an interconnection. If an interconnection exists, the Lake Street outfall watershed is roughly 150 acres and includes a large section of Cranston Street. Targeting structural BMPs in this watershed would have additional positive benefits to phosphorus reduction and overall water quality. It would be important to identify and delineate the extent of the catchment prior to siting additional BMPs. A targeted BMP campaign in this watershed would have a significant impact on water quality and should be the focus of future analysis.

- **Gordon Street Outfall Watershed Analysis**
  - The watershed that contributes to the outfalls at Speck Park from the Gordon Street neighborhood is over six (6) acres. The drainage network that contributes to this outfall is incongruous with both the 2007 TMDL RIDEM watershed and the 2017 watershed revised by RIDOT for their Stormwater Control Plan (SCP), which are typically accepted by RIDEM. Further investigations confirming the layout of the drainage network should be performed to confirm the contributing area to this outfall and adequately size potential BMPs.

- **Marlborough Street & Laurel Hill Avenue**
  - Structural BMPs were originally proposed within both of these rights-of-way, however, due to these streets being recently paved, these streets were designated for future analysis.

3.2 Complete Streets

Crescent Avenue and Harmon Avenue: A cost-effective approach to reducing stormwater runoff in large areas of the watershed is to incorporate structural BMPs into proposed traffic calming projects. The Crescent Avenue and Harmon Avenue neighborhoods have wide roadways with long hills, where drivers are prone to increased speeds. Reducing the width of the road with curb in-let planters and tree filters, between areas of formalized parallel parking, can be used as a mechanism to slow down traffic. Such projects can be used to address pedestrian and bicycle safety as well.

Complete Streets not only provide the benefit of increased vehicular and pedestrian safety but are also an opportunity for phosphorus reduction through stormwater structural BMP installation. The Crescent Avenue and Harmon Avenue neighborhoods would be ideal candidates for a Complete Streets approach, where structural BMPs are proposed on a neighborhood-wide scale to improve safety and water quality.

3.3 Partnership Opportunities

Partnership opportunities between the City and other local stakeholders can be leveraged to improve water quality, through both structural and non-structural BMPs. Two partnership opportunities were identified during this study.

- **Twin Oaks Restaurant**
  - The restaurant and parking lots consist of approximately six (6) acres of impervious area on the western shore of the Pond. Stormwater enters the pond at this location via sheetflow from the impervious surface as well as from three City-owned outfalls. Structural BMPs could be incorporated into a design to formalize and maximize the number of parking spaces as well as treat runoff from Molter Street, Sabra Street, and Pleasant Street. The City maintains a strong relationship with the restaurant owners. Non-structural BMPs, such as eliminating the use of sand in the parking lot during the winter, could also be coordinated with the property owners.

- **Rode Island Department of Transportation (RIDOT)**
  - RIDOT is currently under a Consent Decree with USEPA to implement stormwater quality improvements for their infrastructure in every impaired watershed impacted by RIDOT runoff, including Spectacle Pond. While RIDOT is responsible for implementing controls on nearby state roads, USEPA does allow RIDOT to partner with municipalities to address up to 25% of their stormwater quality requirements, even when the drainage is not on RIDOT-maintained roads. Opportunities for RIDOT to contribute funding to municipalities to implement these types of controls are ongoing. One advantage of RIDOT funding is that it can be used as a match for other grant programs.

- **Stadium Elementary School**
  - The approximately one-acre asphalt play area behind the elementary school offers a unique opportunity to leverage a partnership between the City and public school. Green infrastructure elements, such as permeable play surface tree filters and/or subsurface infiltration systems, could be incorporated into the area. A BMP project at the school would also provide an educational and interactive opportunity to teach students about environmental science.

4 Potential Funding Sources

State Revolving Fund (SRF) Loan Program

The SRF provides a low-cost financing option for communities through multiple programs. The Clean Water Program provides loans to help municipalities comply with federal and state water quality requirements by focusing on watershed management priorities, stormwater management, and green infrastructure, as well as community septic system repair programs and riverbank restoration projects. Open space acquisitions related to water quality protection are also eligible for financing.

One program, the Bay and Watershed Restoration Fund (BWRF), is administered by RIDEM to fund programs allocated by previous bond referenda. The fund is meant to provide assistance for the feasibility analysis, design, construction, or rehabilitation of: nonpoint source water pollution control facilities, stormwater pollution control projects, riparian buffer and aquatic habitat restoration projects, and projects which prevent or mitigate flooding.

Website: http://www.dem.ri.gov/programs/water/finance/state-revolving-fund.php

RIIB Stormwater Project Accelerator

The Stormwater Project Accelerator is administered by the Rhode Island Infrastructure Bank and the Department of Transportation. The program provides upfront funding to municipalities for infrastructure funding to support green stormwater infrastructure in Rhode Island that will ultimately be reimbursed through state and local reimbursement grants. Eligible projects must first secure state or local funding.

Website: https://riib.org/solutions/programs/stormwater-project-accelerator/

Municipal Resilience Preparedness (MRP) Action Grant Program

The MRP Action Grant Program is administered through the RI Infrastructure Bank, in partnership with the Nature Conservancy. To be eligible for funding, communities must complete the MRP Planning Grant process, which Cranston has not yet participated in. The MRP Action Grant offers financial assistance to municipalities that are interested in implementing climate adaptation actions to address the impacts of climate change in their communities (extreme weather, sea level rise, inland, and coastal flooding, severe heat, etc.). The program funds projects relating to planning, assessments, and regulatory updates; nature-based solutions for ecological and public health; and resilient redesigns and retrofits for critical facilities and infrastructure. In past funding rounds, project amounts ranged from $150,000 to $400,000. A 25% match, either through cash or in-kind services, is required.

Website: https://riib.org/solutions/programs/municipal-resilience-program/

Clean Water Act, Section 319 Nonpoint Source Implementation Grants

Section 319 Grants are available for projects that promote restoration and protection of water quality through reducing and managing nonpoint source pollution. These grants are made possible by federal funds provided to RIDEM by the USEPA under Section 319 of the Clean Water Act. Eligible applicants include municipal, state, or regional governments, quasi-state agencies, public schools and universities, and non-profit watershed, environmental, or conservation organizations. Pursuant to federal guidelines for Section 319 funding, projects can only be funded in those areas in which a Watershed-Based Plan has been completed.

Clean Water Act Section 319 grants may be used for green stormwater infrastructure projects (if not mandated by a stormwater permit) and certain restoration activities. Projects should be in line with the state's 2019 guidance document "Nonpoint Source Management Program Plan." Annual funding is approximately $750,000 and requires a 33% match.

RIDEM 319 website: https://dem.ri.gov/environmental-protection-bureau/water-resources/research-monitoring/water-quality-resources/nonpoint-source-pollution

Southeast New England Program (SNEP) Network

Southeast New England Watershed Grant Program: Over the last 5 years, the US Environmental Protection Agency (USEPA) has administered this grant program providing $22 million in funding for water quality and sustainability projects for the Narragansett Bay and Buzzard's Bay watersheds. This watershed includes almost all of Rhode Island and most of Southeastern Massachusetts and Cape Cod. These grant applications typically require a 50% match. Stormwater quality projects are fundable under this grant program, however, these grants are very competitive with less than half of the grant applications typically being funded. As a result, it is important that the projects proposed with these grant applications incorporate a unique element that provides a differentiator compared to other applications.

Tables

Table 1: Conceptual BMP Sizing & Load Reduction Analysis						
Site	**Street Name**	**BMP Type**	**Drainage Area (Acres)**	**Impervious Area (%)**	**Water Quality Volume (Cubic feet)**	**Percent of Water Quality Volume Treated[1]**
13	Spectacle Street	Sand Filter (Pavement Removal)	1.99	56	4,012	100%
12	Frankford Street & Pleasant Street	Curb Inlet Planter or Subsurface Infiltration	1.43	84	4,332	50%
8	Lowell Street	Subsurface Infiltration	0.38	88	1,231	100%
6	Beacon Street	Subsurface Infiltration	0.40	92	1,339	100%
5	Winthrop Street	Subsurface Infiltration	1.00	60	2,184	40%
3	Lake Street (At Gordon St.)	Infiltration Basin or Swale	0.56	65	1,322	100%
4	Gordon St. (At Harmon Ave.)	Infiltration Basin or Swale	0.59	71	1,533	100%
11	Midwood Street & Gleason Street	Dry Well	0.87	75	2,350	20%
7	Irving Street	Subsurface Infiltration	0.48	64	1,126	90%
9	Packard Street	Subsurface Infiltration	1.55	90	5,022	40%
10	Midwood Street	Subsurface Infiltration	2.91	75	7,915	20%
1	Cranston Street	Tree Filter	0.23	100	850	40%
14	Frankford Street	Curb Inlet Planter	1.09	64	2,515	10%
2	Cranston Street	Curb Inlet Planter	0.25	94	857	20%

Footnotes:

1 *Percent of the WQv treated is based on sizing calculations from the Rhode Island Stormwater Design and Installation Standards Manual (RISDISM)* .

Table 2: Annual Pollutant Load Reduction[1]							
Site	**Street Name**	**TSS Loading (lbs/yr)**	**TP Loading (lbs/yr)**	**TSS Load Reduction (%)**	**TP Load Reduction (%)**	**TSS Load Reduction[2] (lbs/yr)**	**TP Load Reduction[2] (lbs/yr)**
13	Spectacle Street	1,049	3.15	88%	56%	918	1.76
12	Frankford Street & Pleasant Street	1,098	3.29	46%	30%	509	0.98
8	Lowell Street	311	0.93	86%	52%	267	0.49
6	Beacon Street	337	1.01	89%	54%	299	0.55
5	Winthrop Street	567	1.70	36%	22%	206	0.38
3	Lake Street (At Gordon St.)	341	1.02	90%	55%	306	0.56
4	Gordon St. (At Harmon Ave.)	393	1.18	90%	55%	355	0.65
11	Midwood Street & Gleason Street	600	1.80	14%	9%	87	0.16
7	Irving Street	291	0.87	79%	48%	230	0.42
9	Packard Street	1,268	3.80	33%	20%	416	0.76
10	Midwood Street	2,021	6.06	22%	13%	444	0.81
14	Frankford Street	650	1.95	7%	4%	44	0.09
1	Cranston Street	213	0.64	39%	24%	82	0.15
2	Cranston Street	216	0.65	15%	10%	32	0.06

Footnotes

1 *Pollutant Loadings, Reduction Capacity, and Load Reduction were determined based on Appendix H Section H.3 of the RISDISM*

2 *Reduction Capacity was determined by multiplying the treatment efficiency value for bioretention reported in Table H-3 of the RISDISM by the Treatment Capacity (Percent of WQv that can be treated in the area available at each site) in Table 2.*

Table 3: Order of Magnitude Cost Estimates

Order of Magnitude Cost Range													
Site Number	Location and BMP Type		Construction					Planning and Design		Cost Range			
			Unit Cost	Unit	Adjustment Factor	Quantity	Base Cost	Allowance	Cost	Total Cost	-30%	+ 50%
1	Cranston Street	SilvaCell	$16.02	cf storage volume	3.0	365.00	$17,538	30%	$5,260	$23,000	$16,000	$35,000
2	Cranston Street	Bioretention	$81,528.00	acre impervious cover treated	3.0	0.04	$9,979	30%	$2,990	$13,000	$9,000	$20,000
3	Gordon Street	Bioretention	$81,528.00	acre impervious cover treated	3.0	0.36	$89,100	30%	$26,730	$116,000	$81,000	$174,000
4	Gordon Street (at Harmon Avenue)	Bioretention	$81,528.00	acre impervious cover treated	3.0	0.42	$103,788	30%	$31,140	$135,000	$95,000	$203,000
5	Winthrop Street	Subsurface Infiltration	$23.58	cf of runoff treated	3.0	879.00	$62,180	30%	$18,650	$81,000	$57,000	$122,000
6	Beacon Street	Subsurface Infiltration	$23.58	cf of runoff treated	3.0	1,319.00	$93,306	30%	$27,990	$122,000	$85,000	$183,000
7	Irving Street	Subsurface Infiltration	$23.58	cf of runoff treated	3.0	991.00	$70,103	30%	$21,030	$92,000	$64,000	$138,000
8	Lowell Street	Subsurface Infiltration	$23.58	cf of runoff treated	3.0	1,172.00	$82,907	30%	$24,870	$108,000	$76,000	$162,000
9	Packard Street	Subsurface Infiltration	$23.58	cf of runoff treated	3.0	1,831.00	$129,525	30%	$38,860	$169,000	$118,000	$254,000
10	Midwood Street	Subsurface Infiltration	$23.58	cf of runoff treated	3.0	1,934.00	$136,811	30%	$41,040	$178,000	$125,000	$267,000
11	Midwood Street & Gleason Street	Dry Well	$14,737.50	ea	3.0	2.00	$88,425	30%	$26,530	$115,000	$81,000	$173,000
12	Frankfort Street & Pleasant Street	Bioretention	$81,528.00	acre impervious cover treated	3.0	0.64	$157,170	30%	$47,150	$205,000	$144,000	$308,000
		Subsurface Infiltration	$23.58	cf of runoff treated	3.0	2,333.00	$165,036	30%	$49,510	$215,000	$151,000	$323,000
13	Spectacle Street	Sand Filter	$16.40	cf storage volume	3.0	4,012.00	$197,372	30%	$59,210	$257,000	$180,000	$386,000
14	Frankfort Street	Bioretention	$81,528.00	acre impervious cover treated	3.0	0.06	$13,501	30%	$4,050	$18,000	$13,000	$27,000
									Total	***$1,847,000***	***$1,295,000***	***$2,775,000***

Notes:
Costs are based on screening-level evaluations of site characteristics and should be used for planning purposes only. Construction costs could vary significantly.
Quanties were determined through sizing calculations according to recommended formulas. BMP size may vary slightly on the concept sheets provided, as these images are provided for illustrative purposes only.

Appendix P

Spectacle Pond Limnological Investigation

Spectacle Pond Limnological Investigation

City of Cranston
Cranston, Rhode Island

December 2022

FUSS & O'NEILL

317 Iron Horse Way, Suite 204
Providence, RI 02908

Project No. 20170900.B10

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Spectacle Pond Limnological Investigation
City of Cranston

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Spectacle Pond Limnological Investigation
City of Cranston

1 Project Purpose and Goals

1.1 Project Purpose and Goals

According to the *Total Maximum Daily Loads for Phosphorus To Address 9 Eutrophic Ponds in Rhode Island* (TMDL) prepared by RIDEM in September 2007, the estimated annual phosphorus load to Spectacle Pond is 216 kg/year (476 lbs/yr). The TMDL required that the load be reduced by 148 kg/year (326 lbs/yr), a 68% reduction. In order to reach the reduction goal, RIDEM recommended the City of Cranston address external loading sources through stormwater management, deposited sediment management, and waterfowl management. The TMDL also recommended that the City work with a consultant to confirm the significance of internal cycling as a source of phosphorus to the pond and, if this is a significant source, identify appropriate measures to address internal phosphorus loading from sediments at the bottom of the pond.

This limnological assessment of Spectacle Pond was conducted to estimate the relative contribution of internal cycling to total phosphorus loading in the pond. Management recommendations to address the phosphorus impairment will differ based on the relative contributions of internal and external sources. Field data collection in the form of a bathymetric survey, sediment and water quality sampling, and calculations of internal phosphorus loading were conducted. This report documents the findings of the limnological assessment by summarizing the methods (**Section 2**) and results of the field work (**Section 3**) and the internal phosphorus loading calculation (**Section 4**). This report also discusses the relative significance of internal cycling on the water quality of Spectacle Pond and recommends next steps to address the phosphorus impairment in the pond (**Section 5**).

1.2 Background

Spectacle Pond is located in Cranston, Rhode Island within the Pawtuxet River watershed. The pond's watershed, which is approximately 637 acres in size, contains 55% high density residential development with residential properties located west and south of the pond. Industrial and commercial properties occupy the northern and eastern shorelines. The northern basin of Spectacle Pond is connected to Tongue Pond by a manmade ditch that weaves between three wetland replication areas. According to the *Total Maximum Daily Loads for Phosphorus To Address 9 Eutrophic Ponds in Rhode Island* (TMDL) prepared by RIDEM in September 2007, the manmade ditch appears to flow only during periods of high water. The three small wetland replication areas are located adjacent to the manmade ditch but are not hydrologically connected to the stream or to Spectacle Pond (**Figure 1-2**). Spectacle Pond receives inflow via groundwater, surface water runoff, stormwater runoff, tributary inflow, and direct precipitation. There are 19 storm drains and 13 areas of concentrated surface flow that discharge to Spectacle Pond, its tributary, and Tongue Pond. The pond discharges to the northeast via a 48-inch culvert under Route 10 connected to Mashapaug Brook and Mashapaug Pond. Mashapaug Pond is connected to the ponds in Roger Williams Park via a buried stream, ultimately discharging to the Pawtuxet River and Narragansett Bay.

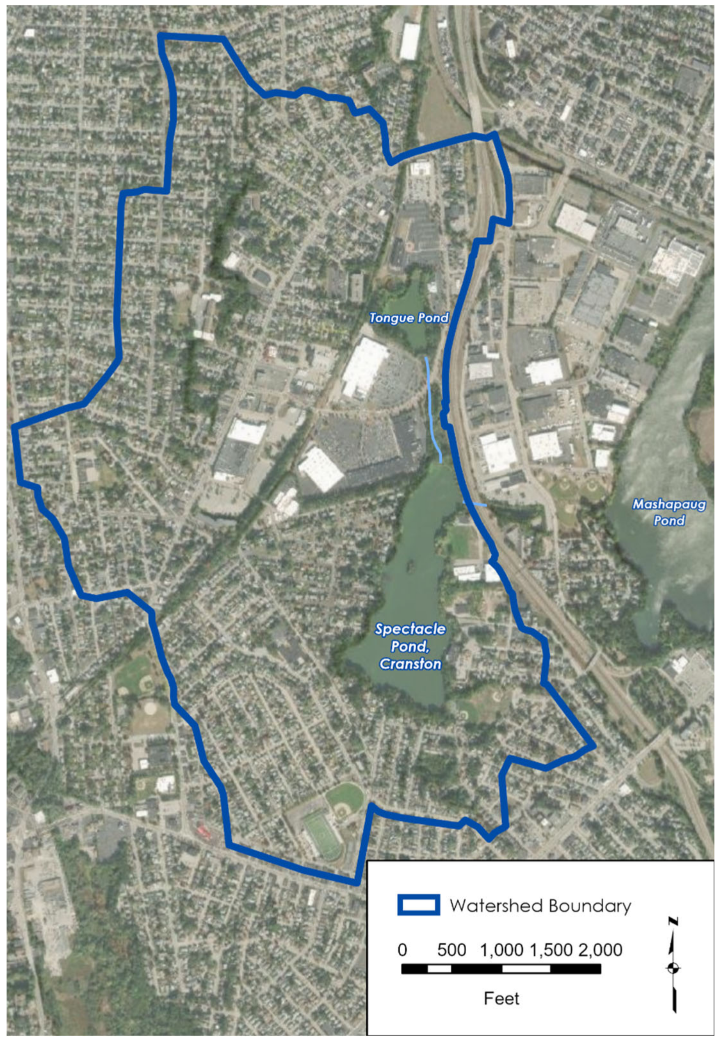

Figure 1-1: Spectacle Pond, Watershed, and Surrounding Area

1.3 Water Quality Data Review

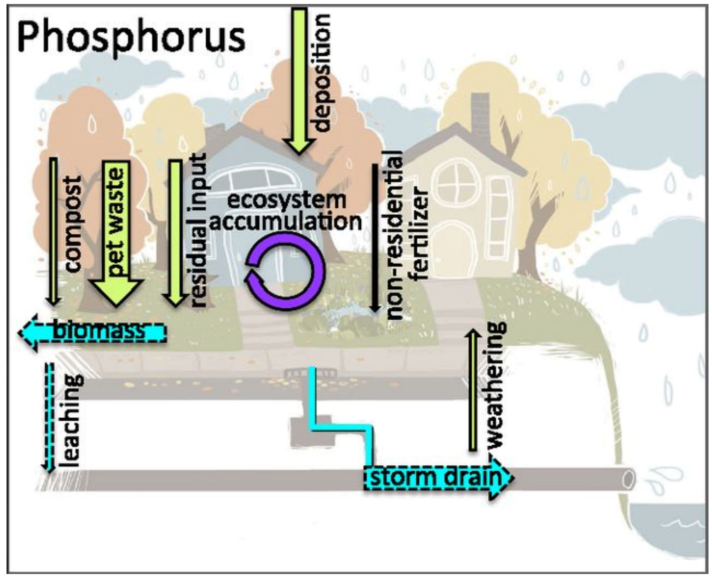

Figure 1-2: Typical external phosphorus sources to a waterbody

Plant litter, fertilizer, and animal waste contribute the majority of phosphorous to stormwater in residential areas while roads are significant contributors of phosphorous in more commercial and industrial areas (**Figure 1-4**) (Waschbusch et. al, 1999). In the 2007 TMDL, RIDEM attributed phosphorus and phosphorus-related impairments at Spectacle Pond to stormwater, waterfowl, and internal cycling. Stormwater was noted as the major external source of phosphorus with seven outfalls discharging directly to Spectacle Pond. The outfall located on the western side of the pond on Lake Street was noted as the most significant source of phosphorus due to the catchment area draining approximately 41% of the Spectacle Pond watershed (RIDEM, 2007). A large delta of eroded sedimentation was observed located at the end of Lake Street, extending 30 to 50 meters into the pond (RIDEM, 2007).

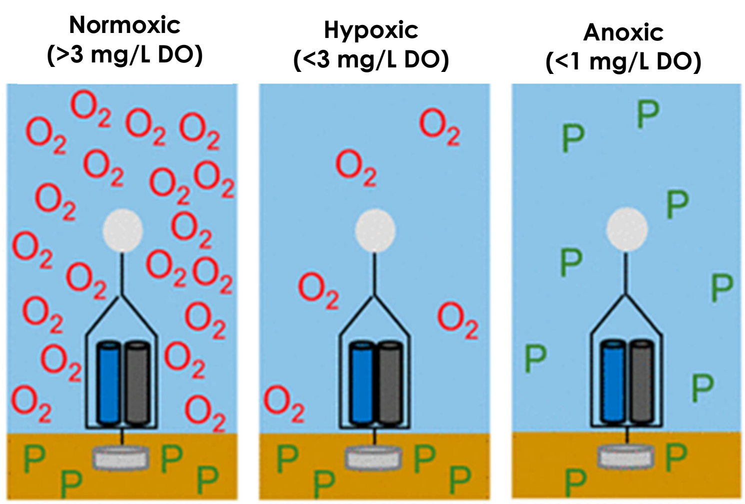

Figure 1-3: Representation of internal phosphorus loading under a range of dissolved oxygen (DO) levels. Image credit: Anderson et al. 2021

Internal loading was also noted as a potential major contributor to phosphorus loading. This internal phosphorus loading can occur when phosphorus is released from lake-bottom sediments, when dissolved oxygen concentrations fall below 1 mg/L, termed anoxia (). Anoxic conditions at the lake bottom trigger biological, chemical, and physical processes that cause phosphorus bound to sediments, and unavailable to aquatic plants and algae, to be released into the water column. This released phosphorus becomes available to algae and aquatic plants, causing rapid algae growth, or blooms. As algae cells die, they settle back to the bottom of the lake, with the phosphorus they consumed bound up, ready to be released into the water column again when the lake next becomes anoxic.

1.3.1 University of Rhode Island Watershed Watch Data

The University of Rhode Island Watershed Watch (URIWW) has been collecting water quality data, including total phosphorus (TP), Secchi disk depth, dissolved oxygen (DO), and pH in Spectacle Pond since 1999. From 1999 to 2017, TP was above RIDEM's recommended concentration of 25 µg/L and the yearly average Secchi disk depth transparency was consistently within eutrophic range, which is when the environment becomes enriched with nutrients, increasing the amount of plant and algae growth. Between 2015 and 2018, URIWW found that DO concentrations at three meters were generally lower than at one meter below the surface, following the trend of producing anoxic conditions in the summer and recovering in late fall. During those three years, URIWW also found pH values in Spectacle Pond to generally be within the acceptable range of pH 6.5-9.0, as defined by RIDEM's Water Quality Standards (See Section 3 for more detailed information about URIWW data collected).

2 Field Work Methods

2.1 Bathymetry and Soft Sediment Measurement

A pond bathymetry and soft sediment measurement survey of Spectacle Pond was performed to obtain pond depth and sediment thickness data in order to create a pond bottom contour map and calculate the volume of sediment in the pond. Fuss & O'Neill staff collected bathymetric survey information from a boat using a sturdy metal rod, a weighted tape measure, and a Trimble Geo7X handheld submeter Global Positioning System (GPS).

Pond bathymetry and sediment depth in Spectacle Pond were measured on August 26, 2020. Three transects covered the pond. The ends of each transect extended from one shore to the opposite shore. This coverage was sufficient given the limited variation in bathymetry.

A total of 16 survey points were recorded (**Figure 2-1**). At each measurement location, a weighted tape measure was lowered until slack was felt in the tape. That depth was noted as the top of soft sediment. Concurrently, an extendable rod was used to determine the depth of soft sediment at each point in order to map the extent of soft sediment on the pond bottom. The measuring pole was lowered through the water column and slowly pressed into the soft sediment until resistance was met. Resistance was defined as the sediment not yielding to moderate pressure applied by arm strength. The water surface was marked on the measuring pole and the total depth recorded. Sediment thickness was calculated as the difference between these two measurements. The GPS was used to log the location of each measurement point. All depths were recorded relative to the shoreline elevation, 40.3 feet, listed by the University of Rhode Island Watershed Watch (URIWW).

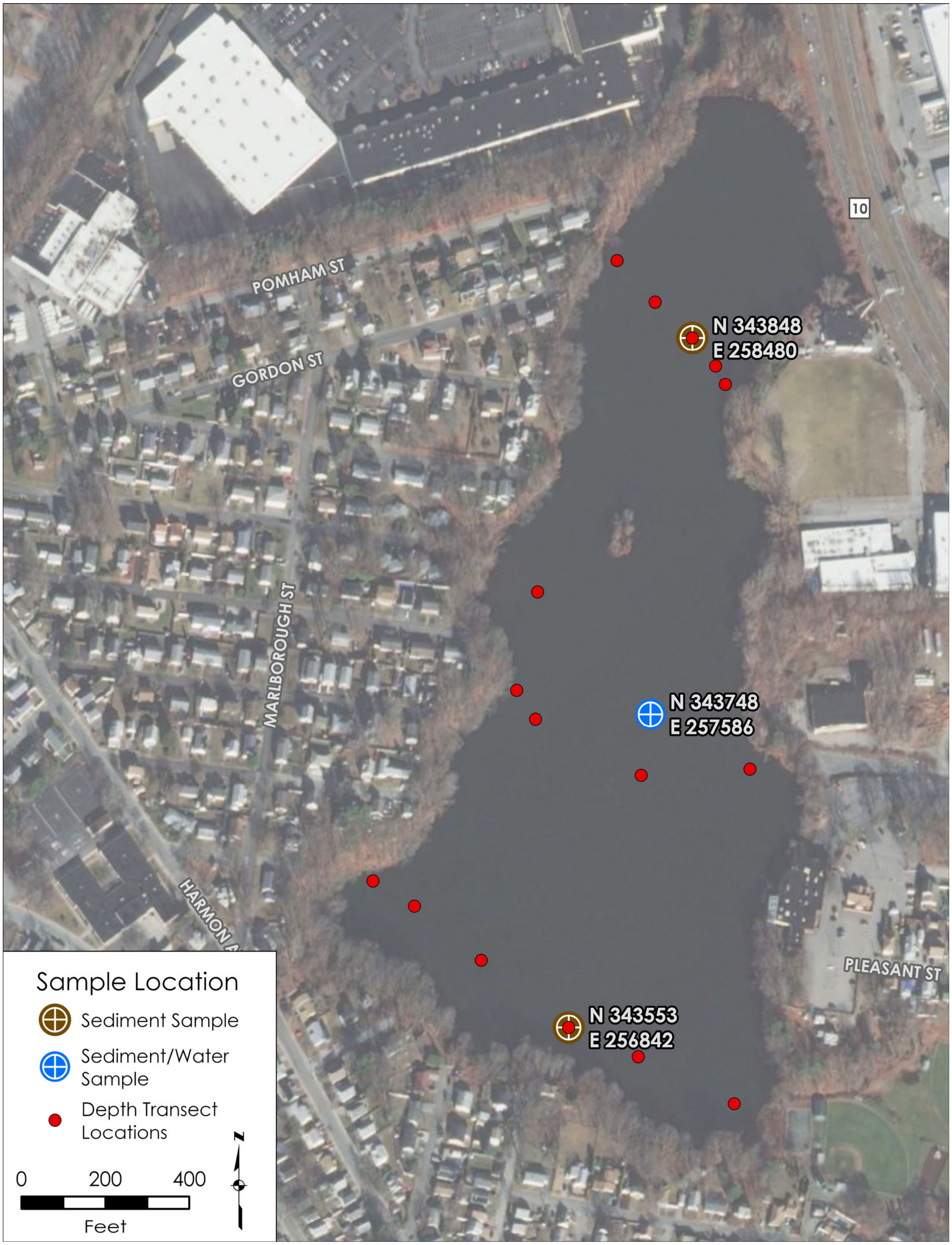

Figure 2-1: Bathymetry of Spectacle Pond. A sediment delta from the outfall at the end of Lake St was identified and measured. Sediment sample locations are noted in RI State Plane Feet (NAD83).

2.2 Sediment Sampling

Sediment sampling and analysis was performed to evaluate sediment characteristics that may impact water quality. On August 26, 2020, three shallow (surficial) sediment samples were collected from pre-determined locations in the pond. Sample locations were chosen prior to the field sampling based upon the soft sediment distribution results from the bathymetric and soft sediment survey.

Samples were collected from a boat using a hand auger. Sediment sample depth was approximately 0 to 6 inches below the water/soft sediment interface. The hand auger was lowered through the water column and advanced through the soft sediment. The auger bucket was filled with sediment and pulled back into the boat, where the sediment was then placed in a stainless-steel bowl to be composited. Three subsamples from each sample location were well homogenized prior to being placed in laboratory-provided glass sample jars with Teflon caps. Following collection, the samples were cooled prior to submittal to Northeast Laboratories, Inc. (Northeast) located in Berlin, Connecticut. Sediment was tested for total phosphorus, loosely bound phosphorus, iron-bound phosphorus, organic matter, and percent solids. Analysis of phosphorus and total solids was outsourced by Northeast to Phoenix Laboratory located in Manchester, Connecticut. Results from these analyses were used to provide estimates of phosphorus released from the sediments and are described in **Sections 3 and 4** and **Appendix A**.

2.3 Water Quality Sampling

Water quality sampling and analysis was performed to record water quality characterization throughout the recreational season (April to September 2020). A total of seven sampling events were conducted throughout the season (**Table 2-1**). Five sampling events occurred during dry weather while the remaining two occurred during wet weather. Water quality sampling consisted of the following sample locations (**Figure 2-2**):

- In-lake sampling at the location used for University of Rhode Island Watershed Watch (URIWW) sampling (41.790244 N, 71.442558 W)
- Inlet from Tongue Pond
- Eight (8) external discharge locations identified as Twin Oaks Outfall, Twin Oaks Surface Water, Speck Field Surface Water, Midwood Street Surface Water, Lake Street Surface Water, Lake Street Manhole, Stop & Shop Outfall and Stop & Shop Surface Water

Water quality sampling at the Stop & Shop Outfall was dependent on observed flow. During the June 26, July 30, and August 26, 2020 sampling events no flow was observed from the outfall. Therefore, no sampling was conducted.

The in-lake water quality samples were collected from a boat using a VanDorn Sampler. Samples were collected at the surface (0.5 feet below water surface), the midpoint of the water column (7-8 feet below water surface), and the pond bottom above sediment (approximately 13 feet below water surface) of the water column. Due to COVID-19 protocols, in-lake sampling did not occur during the first two sampling events on May 8 and 28, 2020. Two samplers could not socially distance in a boat to collect the samples. The remaining five sampling events included the in-lake sampling.

Water column characteristics, including temperature and dissolved oxygen profiles, were recorded at 1-foot intervals at the in-lake sampling location, at the inlet from Tongue Pond and at the eight stormwater outfalls using an In-Situ SmarTROLL. Water samples were collected into plastic pre-preserved sample containers supplied by the laboratories. Samples were submitted to New England Testing Laboratory, Inc. (NET) in West Warwick, Rhode Island, and Phoenix Environmental Laboratories (Phoenix) in Manchester, Connecticut.

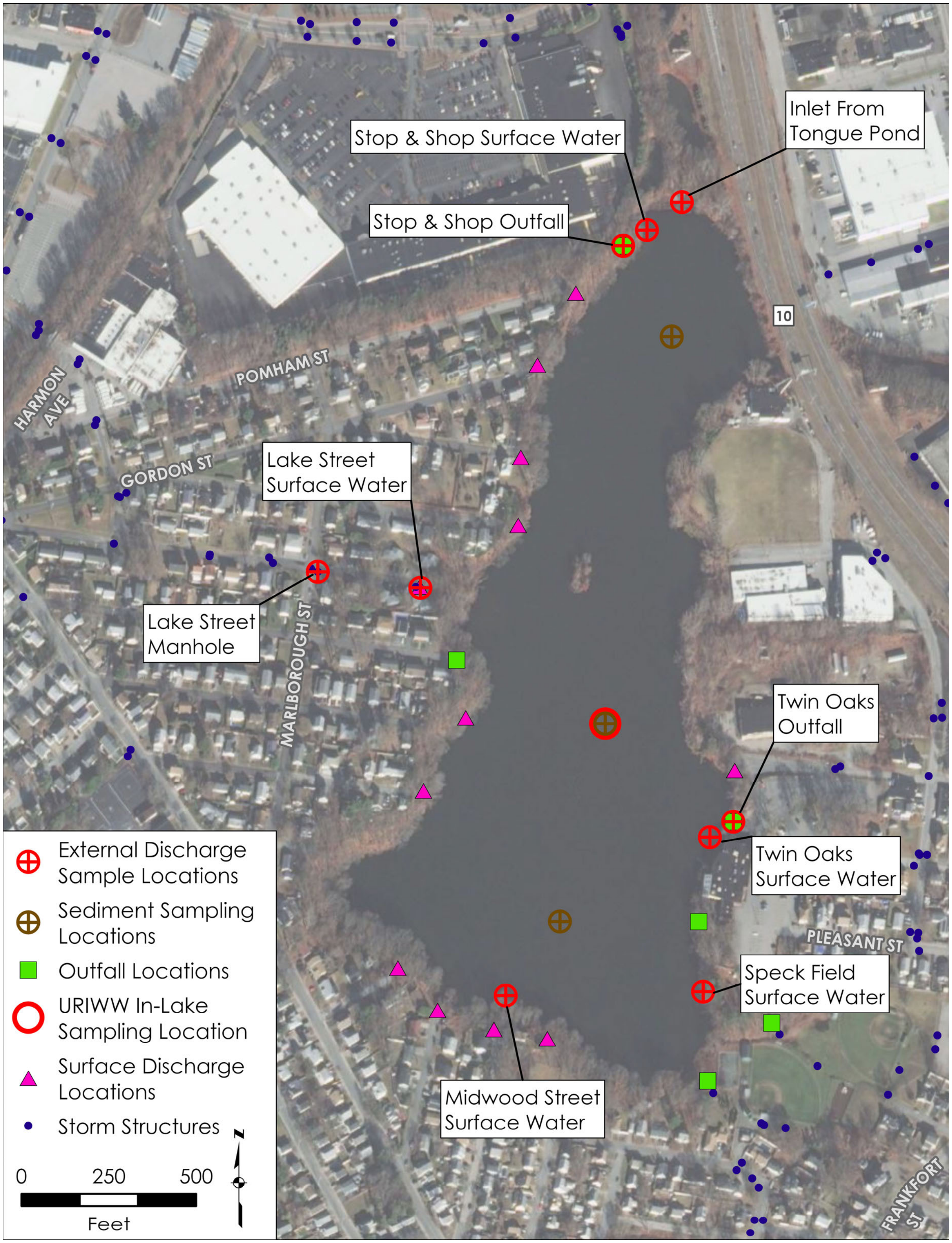

Figure 2-2: Sampling Locations

Table 2-1
Water Quality Sampling Summary

Sample Date	Measured Water Column Characteristics	Laboratory Analytical Parameters
May 8, 2020	pH Temperature Specific Conductivity Dissolved Oxygen Oxidation/Reduction Potential	Alkalinity ($CaCO_3$) Total Phosphorus Turbidity
May 28, 2020	pH Temperature Specific Conductivity Dissolved Oxygen Oxidation/Reduction Potential	Alkalinity ($CaCO_3$) Total Phosphorus Turbidity
June 26, 2020	pH Temperature Specific Conductivity Dissolved Oxygen Oxidation/Reduction Potential	Alkalinity ($CaCO_3$) Total Iron Total Phosphorus Turbidity
July 30, 2020	pH Temperature Specific Conductivity Dissolved Oxygen Oxidation/Reduction Potential	Alkalinity ($CaCO_3$) Total Iron Total Phosphorus Turbidity
August 26, 2020	pH Temperature Specific Conductivity Dissolved Oxygen Oxidation/Reduction Potential	Alkalinity ($CaCO_3$) Total Iron Total Phosphorus Turbidity
October 12, 2020	pH Temperature Specific Conductivity Dissolved Oxygen Oxidation/Reduction Potential	Alkalinity ($CaCO_3$) Total Iron Total Phosphorus Turbidity
October 29, 2020	pH Temperature Specific Conductivity Dissolved Oxygen Oxidation/Reduction Potential	Alkalinity ($CaCO_3$) Total Iron Total Phosphorus Turbidity

3 Field Work Results

3.1 Bathymetry and Soft Sediment Depth

Using the methods described above, measured soft sediment depths ranged from 0.0 to 3.2 feet, with a mean depth of 1.6 feet. Total sediment volume, calculated in ArcGIS according to methods described by Price (2002), was approximately 113,800 cubic yards (cy). Total pond water volume was calculated by the same methods as approximately 390,000 cy (240 acre-feet). The total volume, including sediment is 312 ac-ft. create A sediment thickness surface was interpolated in ArcGIS via a regularized spline to create a raster of sediment depths **(Figure 3-1) (**
Figure 3-2). Interpolation techniques only cover the extent of input data, which leaves as undefined those areas that were not accessible by boat. To compensate for that, the pond shoreline as digitized by RIGIS at 1:5000 scale was set to zero sediment depth and merged with the measured sediment depths. Interpolation was performed on this merged layer. The interpolated surface was analyzed with the Cut/Fill function in ArcGIS relative to a base surface of zero feet derived from the same lake outline obtained from RIGIS.

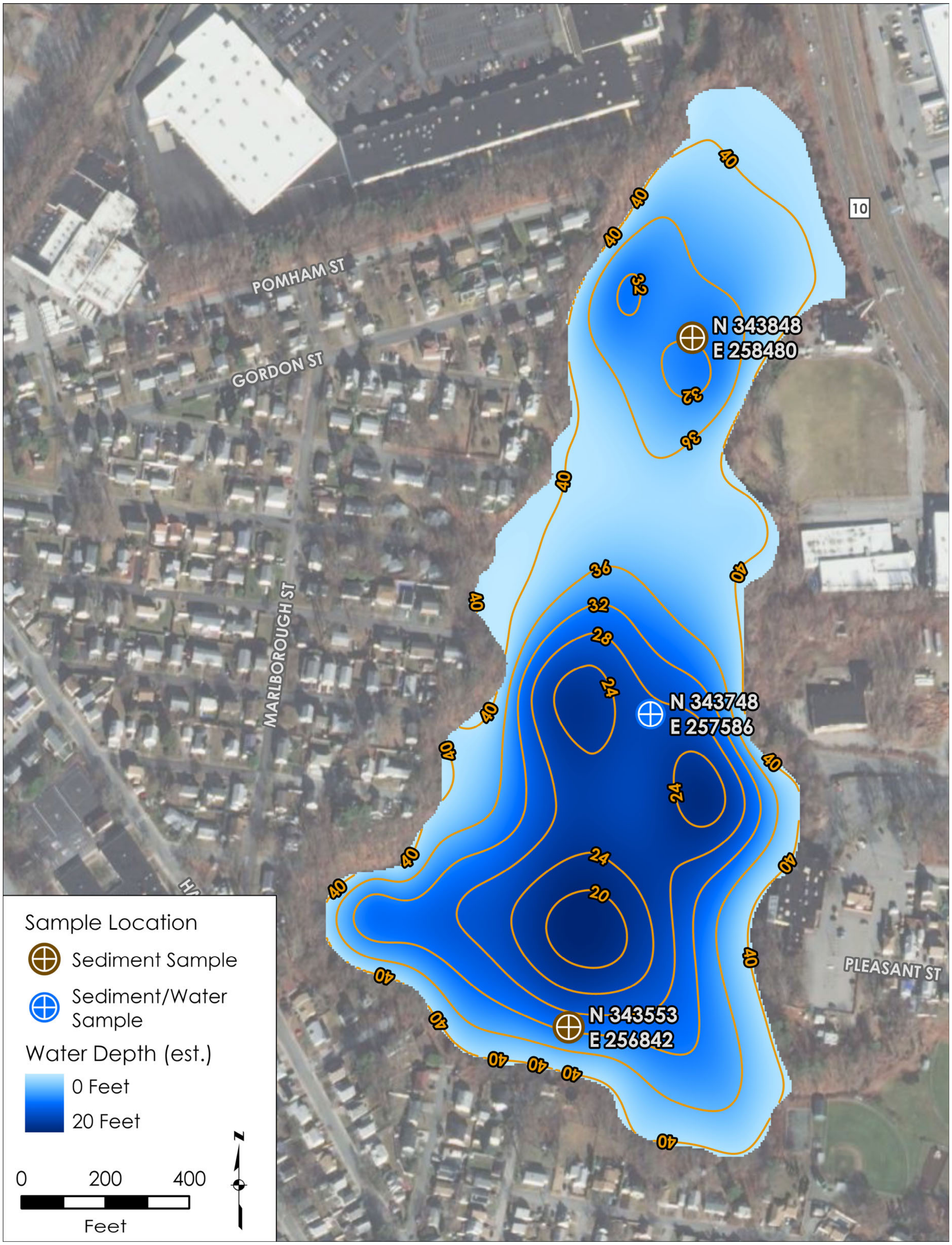

Figure 3-1: Bathymetry of Spectacle Pond

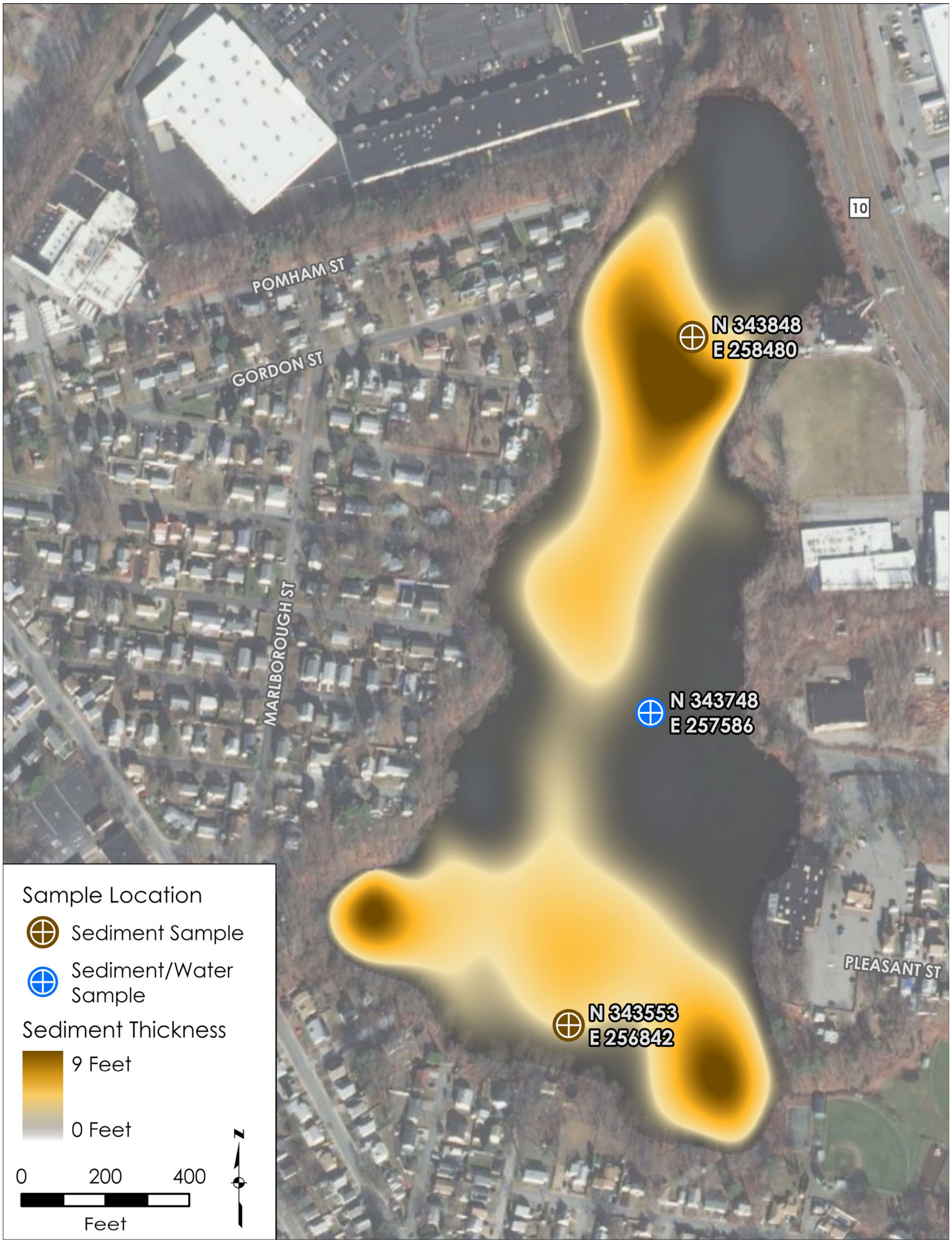

Figure 3-2: Bathymetry of Spectacle Pond. A sediment delta from the outfall at the end of Lake St was identified and measured. Sediment sample locations are noted in RI State Plane Feet (NAD83).

3.2 Sediment

Total phosphorus (TP) concentrations in the three sediment samples collected from Spectacle Pond on August 26, 2020 were 5,810 mg/kg, 175 mg/kg, and 3,810 mg/kg. The lowest sediment TP concentration was measured in sediment collected from the southern sampling site in the pond. The southern sampling site had the highest concentration of percent solids and percent organic matter. Available sediment phosphorus (P), which is the sum of loosely-bound and iron-bound P, ranges from 48.4 mg/kg to 386.1 mg/kg (**Table 3-1**).

Table 3-1:
Spectacle Pond In-Lake Sediment Samples

Sample Parameter	Center of Pond	South End of Pond	North End of Pond
Total Phosphorus (mg/kg)	5,810	175	3,810
Total Solids (%)	14.6	66.4	13.7
Organic Matter (%)	10.29	60.83	6.96
Iron-Bound Phosphorus (mg/kg)	376	44.0	78.2
Loosely Bound Phosphorus (mg/kg)	10.1	4.4	3.0
Sum of loosely bound and iron-bound P	386.1	48.4	81.2

3.3 In-lake Water Quality

3.3.1 Temperature and Dissolved Oxygen

Water temperature in Spectacle Pond varied from 12.95°C to 28.54°C (**Figure 3-3**), reaching its peak of in mid-summer. By early fall the pond cooled, mixed, and temperatures became consistent with depth. Dissolved oxygen (DO) profiles created from the seven sampling events at reveal a thermocline that developed around 6 feet depth in the late spring and summer, producing anoxic conditions below in the hypolimnion (**Figure 3-4**). The following spring, conditions became hypoxic to anoxic below 10 feet. Hypoxia, more commonly known as a dead zone, refers to low or depleted oxygen levels in a water body, typically less than less than 2-3 milligrams of oxygen per liter of water. Anoxia is when oxygen levels in a waterbody reach zero milligrams per liter.

The URIWW measured DO during their sampling events from one and three meters below the surface from 2015 to 2018. According to their data, the DO concentrations reported at three meters were generally lower than the one meter. The DO concentrations followed the trend of producing anoxic conditions in the summer and recovering in late fall. At one meter, the DO ranged from 0.95 to 11.9 mg/L with an average of 7.95 mg/L. At three meters, the DO ranged from 0.0 to 11.9 mg/L with an average of 3.27 mg/L.

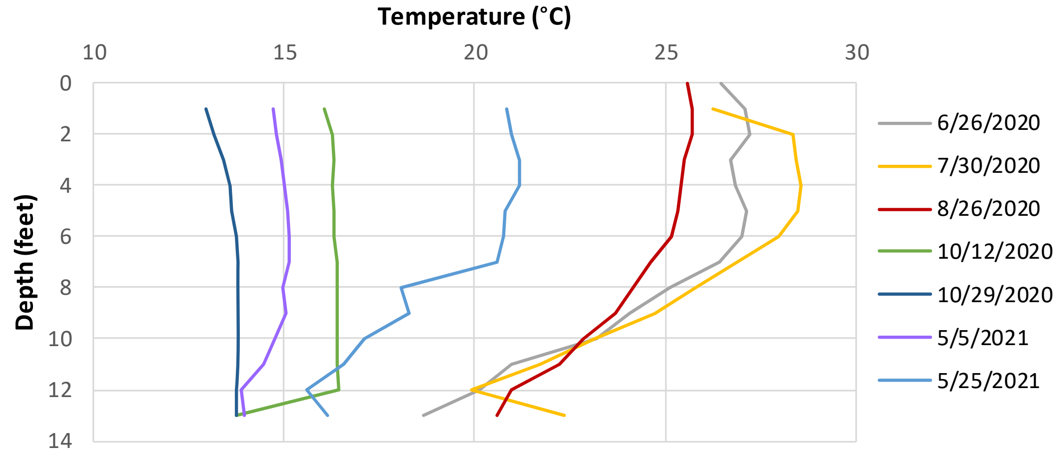

Figure 3-3: Depth Profile of Temperature Measurements in Spectacle Pond

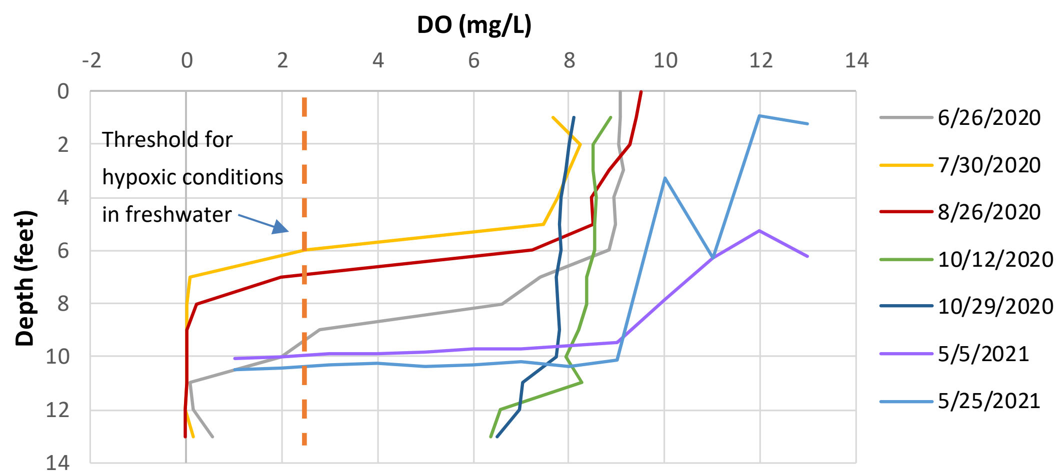

Figure 3-4: Depth Profile of Dissolved Oxygen Measurements in Spectacle Pond

3.3.2 Conductivity

Specific conductivity varied from 0.90 (µS/cm) to 840.9 (µS/cm) (**Figure 3-5**). Conductivity remained consistent with depth during the fall. During the summer, conductivity developed a gradient, reaching a peak of 840.9 µS/cm. An outlier value collected on July 30, 2020 at 1-foot depth was removed from the dataset due to a suspected input error.

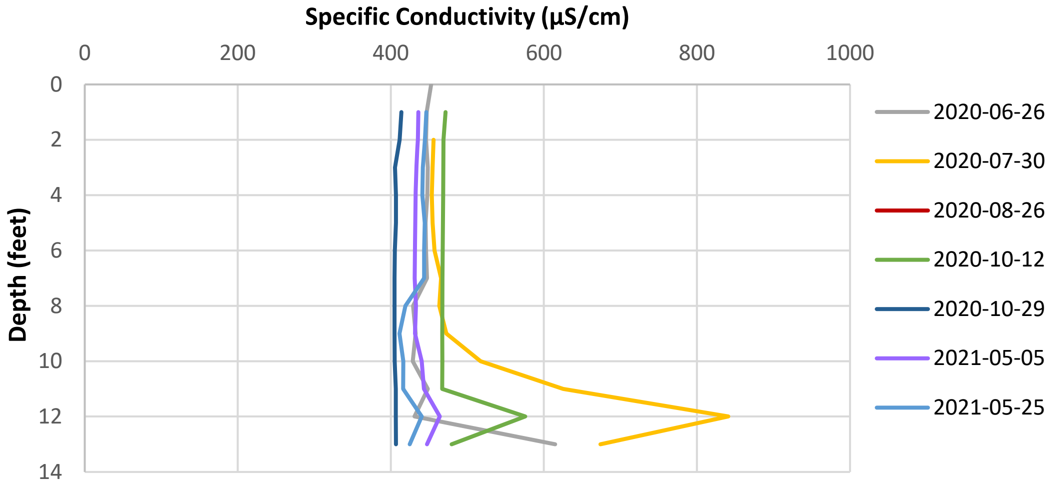

Figure 3-5: Depth Profile of Specific Conductivity Measurements in Spectacle Pond

3.3.3 Redox Potential

Redox potential describes Spectacle Pond's overall reducing/oxidizing capacity. Redox potential decreased greatly with depth for all but one of the four sampling events (October 29, 2020) (**Figure 3-6**). This pattern is in agreement with the dissolved oxygen results described earlier, as the October 29, 2020 samples had consistent concentrations of dissolved oxygen with a slight decrease. Lower redox potential creates conditions conducive to phosphorus release from sediments as discussed in **Section 4**.

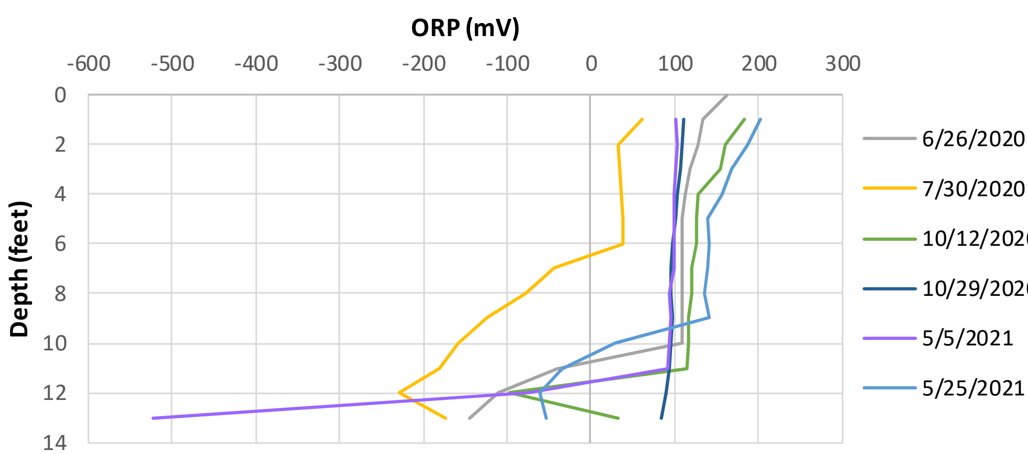

Figure 3-6: Depth Profile of Oxidation Reduction Potential Measurements in Spectacle Pond

3.3.4 pH

pH values in Spectacle Pond were slightly acidic to neutral, which is typical for freshwater ponds in New England. pH values varied from 5.93 to 8.58 with an average value of 7.06, with more neutral measurements in the fall and late spring followed by higher pH values in the late spring, and even higher values in the summer (**Figure 3-7**). These results fall within the acceptable range of pH 6.5-9.0, as defined by RIDEM's Water Quality Standards. Based on URIWW data from 2015 to 2018 the pond is generally within the RIDEM standard with a recorded high value of 7.9. Wu et al. (2014) demonstrated that more P is released from lake bottom sediments under alkaline conditions than acidic conditions, but the least amount of P is released under neutral pH.

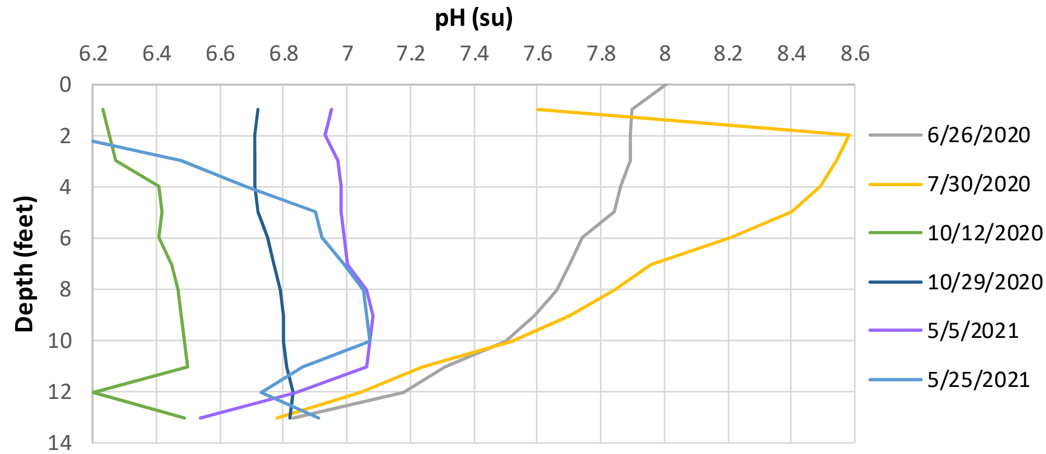

Figure 3-7: Depth Profile of pH Measurements in Spectacle Pond

3.3.5 Turbidity

Turbidity ranged from 4 NTU to 656 NTU with a median of 13.2 NTU (**Figure 3-8**). Few samples met RIDEM's Water Quality Standard for turbidity of 10 NTU. During the late summer and early fall sampling no turbidity readings met the RIDEM standard. Surface and midpoint measurements met water quality standards during the June 26, 2020 and July 30, 2020 sampling events. Turbidity generally increased with depth.

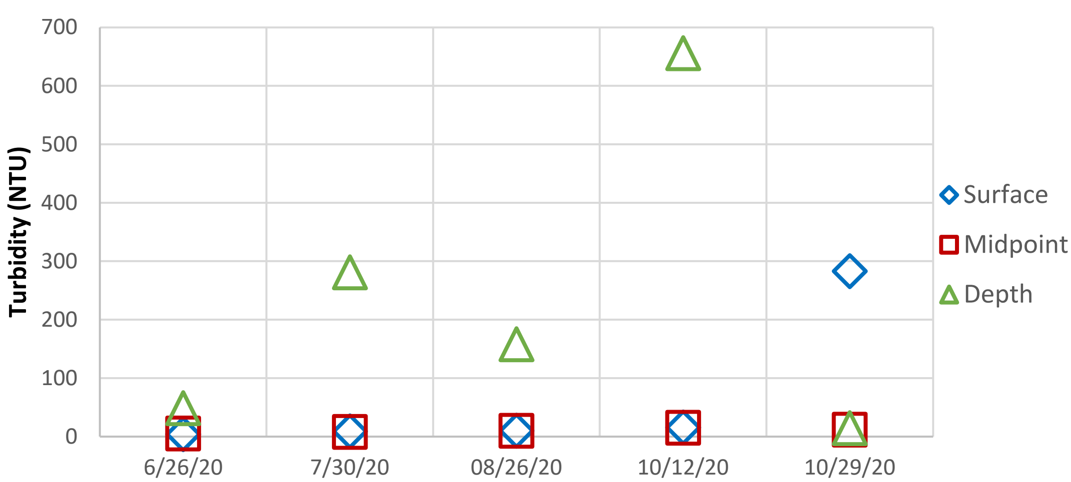

Figure 3-8: Turbidity Measurements in Spectacle Pond

3.3.6 Alkalinity

Alkalinity influences pH by providing a buffering capacity. Higher alkalinity means that there is less likely to be fluctuations in pH. Alkalinity ranged from 31 mg/L to 100 mg/L over the five sampling events at Spectacle Pond (**Figure 3-9**). An alkalinity of 20 mg/L or higher indicates a lake with low sensitivity to pH variations resulting from the input of acidic (low pH) rainfall (Godfrey et al. 1996). Data collected in this study indicates no sensitivity to acidification with alkalinity values of 30 mg/L or higher. Alkalinity values measured during this study were slightly higher than historic alkalinity data obtained from Spectacle Pond by URI Watershed Watch from 2015 to 2018, which had alkalinity values range from 23 to 40 mg/L with an average of 30 mg/L collected from approximately one meter below the surface.

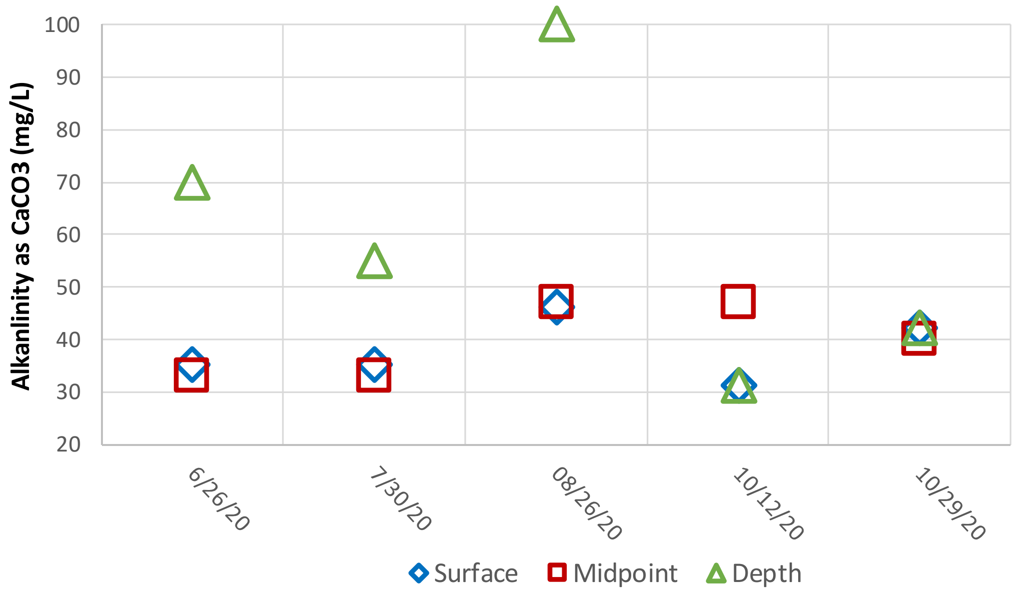

Figure 3-9: Alkalinity Measurements in Spectacle Pond

3.3.7 Phosphorus

Total phosphorus (TP) concentrations in many of the samples from Spectacle Pond exceeded RIDEM's recommended concentration of 25 µg/L (0.025 mg/L) for lakes, ponds, kettle holes, and reservoirs. TP was measured on all dates sampled usually directly at the surface (~0.5 foot), mid-pond depth (~7 to 8 feet) and deep-water depth (~13 feet) (**Figure 3-10**). Duplicate samples, when collected, were averaged for internal loading calculations in **Section 4**. Surface TP ranged from 46 µg/L to 79 µg/L and averaged 60.8 µg/L. Mid-pond depth samples ranged from 44 µg/L to 95 µg/L and averaged 66 µg/L. Deep-water pond samples ranged from 46 µg/L to 11,300 µg/L with a median of 69 µg/L. The outlier in the deep-water sample suggests a median value is a more representative value of the dataset.

These values were compared to the values measured through the University of Rhode Island Watershed Watch (URIWW) that typically measured TP in May, July, September, and October. URIWW has been measuring TP in Spectacle Pond since 1999. From 1999 to 2017 the TP ranged from approximately 30 to 70 μg/l. The program measured an integrated surface sample that collected water from the surface to about the two-meter depth. According to the TMDL, during the sampling periods from 1999 to 2003 the average total phosphorus was 50 μg/L in spring, 62 μg/L in summer, and 61 μg/L in fall with a mean of 57 μg/L.

The surface and mid-point TP measured during the 2020 sampling events were slightly higher than past measurements. There were no historic TP measurements for the depth. Generally, the depth samples had the highest amount of TP, with a high of 11,300 μg/L collected on October 12, 2020.

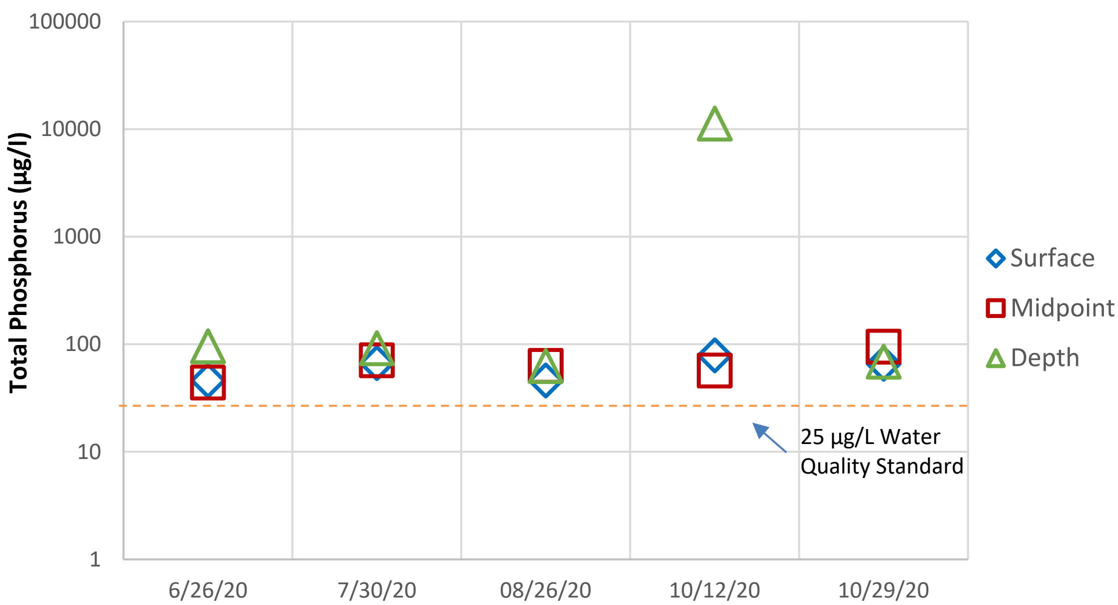

Figure 3-10: Total Phosphorus Concentrations in Spectacle Pond

3.3.8 Total Iron

Total iron in Spectacle Pond varied between 0.161 mg/L and 102 mg/L with an average value of 10.11 mg/L (**Figure 3-11**). The samples from depth returned the largest values of total iron. Iron concentrations are of interest since phosphorus can bind to iron in oxic conditions (i.e., when dissolved oxygen is abundant), and be subsequently released in anoxic conditions such as those observed at depth in Spectacle Pond in the summer months.

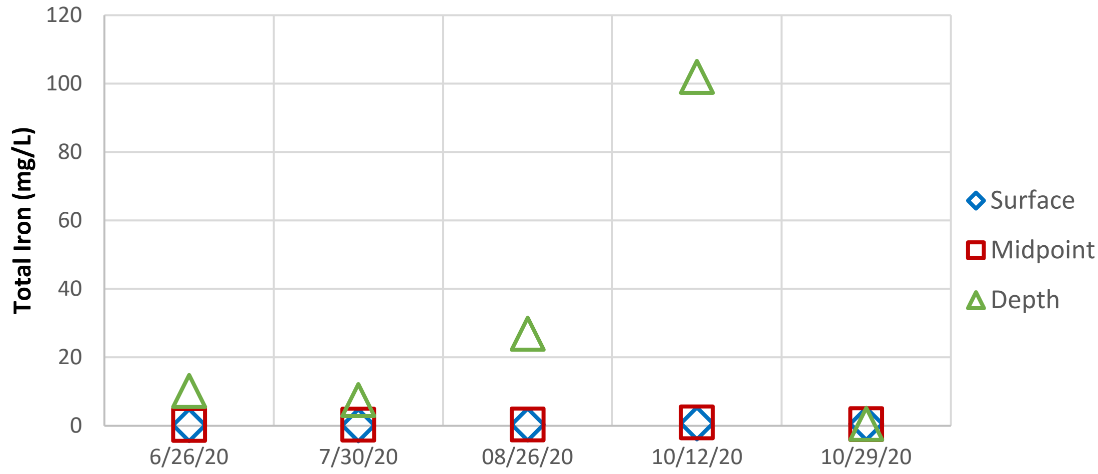

Figure 3-11: Total Iron Concentrations in Spectacle Pond

3.3.9 Secchi Disk Depth

Secchi disk depth was not recorded as part of this assessment. However, the URIWW has measured Secchi disk depth during their sampling events since 1999. From 1999 to 2017 the yearly average Secchi depth transparency was within eutrophic range with depths from approximately 0.5 to 1.5 meters. Based on historically available data, visual observations, and recorded parameters (i.e., dissolved oxygen) during the 2020 sampling events, Spectacle Pond has consistent eutrophic conditions.

3.4 Stormwater Outfalls and Tributary Water Quality

3.4.1 Temperature and Dissolved Oxygen

Water temperatures from the Tongue Pond inlet and eight outfall locations ranged from 13.4°C to 31.87°C (**Figure 3-12**). Water temperatures followed the trend of the in-lake sampling, reaching a peak in mid-summer and cooling down by early fall. Additionally, DO followed the in-lake trend of lowering in the summer, producing anoxic conditions (**Figure 3-13**).

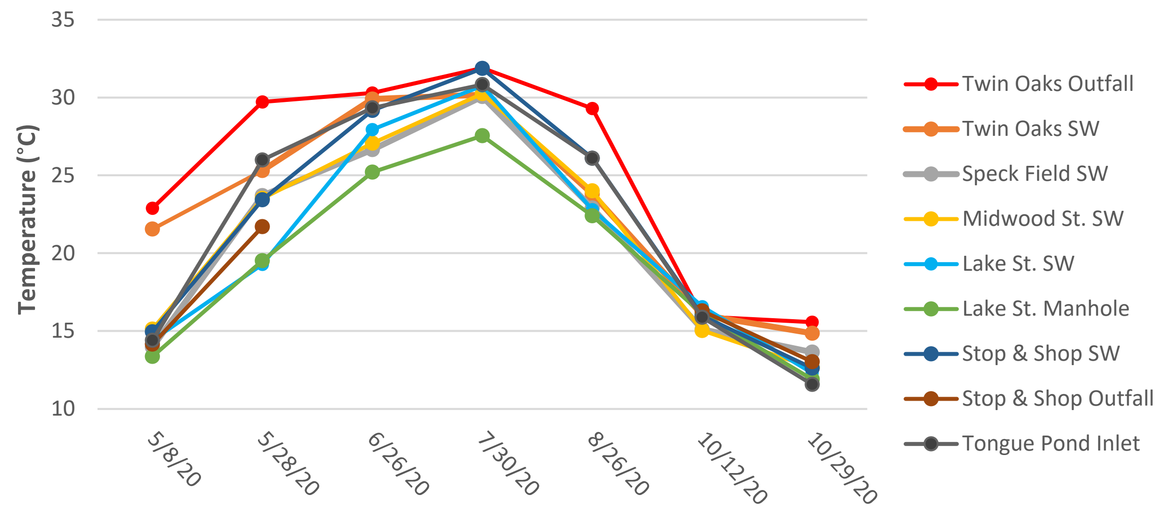

Figure 3-12: Temperature Measurements from Tributary and Outfall Sampling

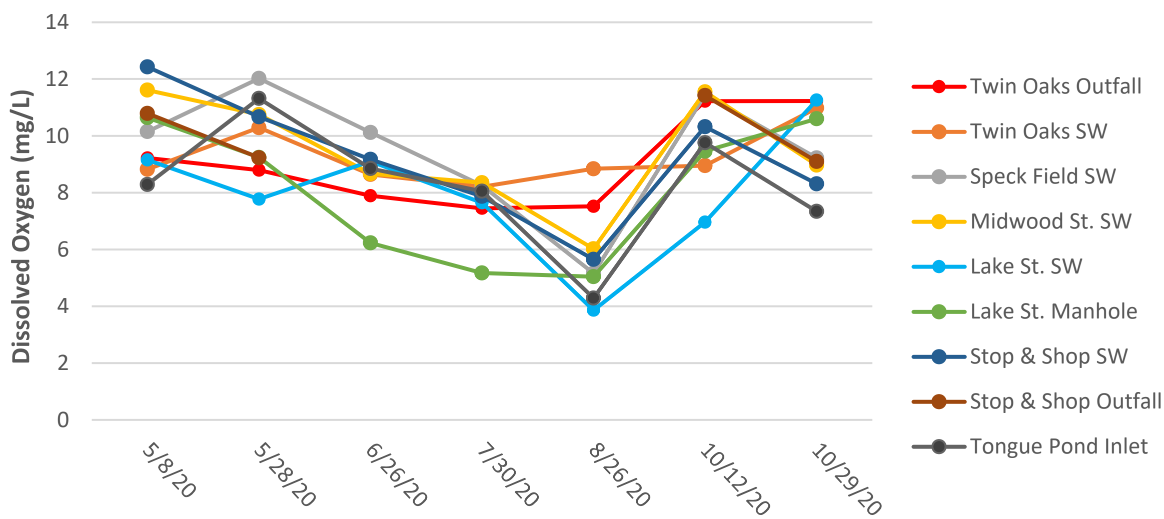

Figure 3-13: Dissolved Oxygen Concentrations from Tributary and Outfall Sampling

3.4.2 Conductivity

Specific conductivity varied from 27.2 (µS/cm) to 534.9 (µS/cm) (**Figure 3-14**). Generally, conductivity peaked during the summer and remained consistent during the fall.

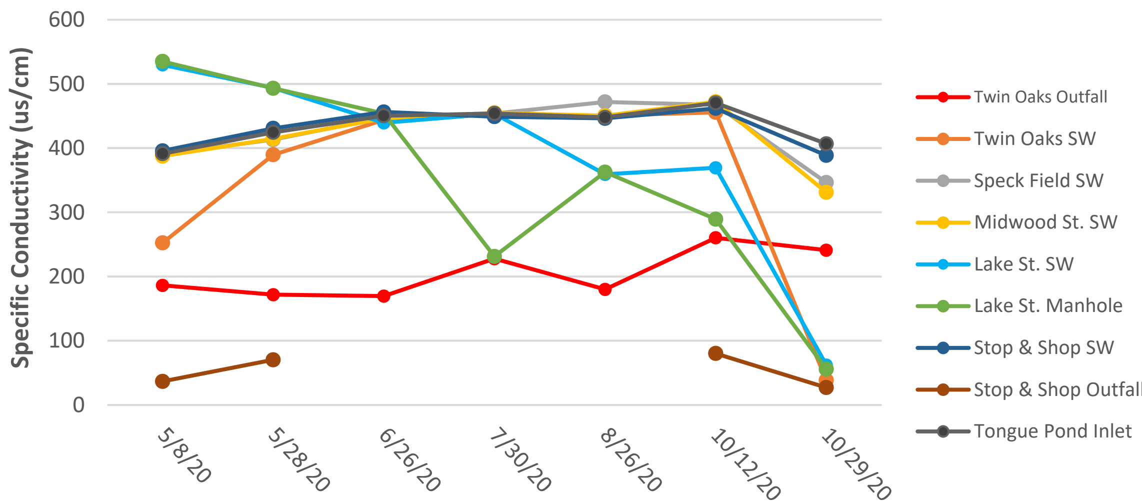

Figure 3-14: Specific Conductivity Measurements from Tributary and Outfall Sampling

3.4.3 Redox Potential

As mentioned above, lower redox potential creates conditions conducive to phosphorus release from sediments. Generally, the redox potential from the tributary and outfall samples were within the same range as the in-lake samples (**Figure 3-15**). This pattern is in agreement with the dissolved oxygen results described earlier.

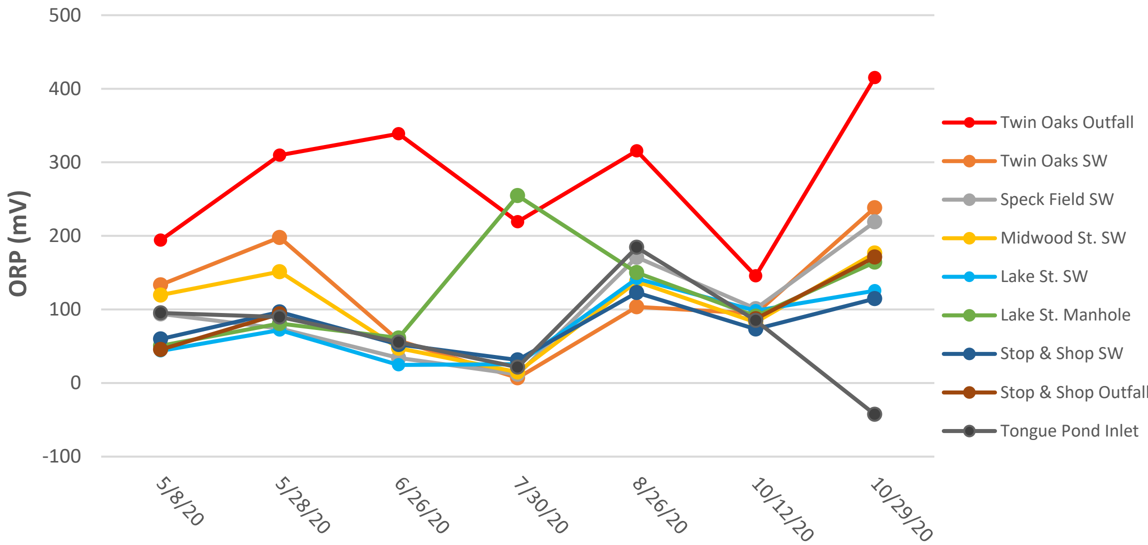

Figure 3-15: Oxidation-Reduction Potential measurements from Tributary and Outfall Sampling

3.4.4 pH

pH values at the tributary and outfalls were slightly acidic to neutral. pH values varied from 5.81 to 9.2 with an average of 7.0 (**Figure 3-16**). The pH values were generally within RIDEM standards for pH and does not appear to have an effect on pH value of Spectacle Pond.

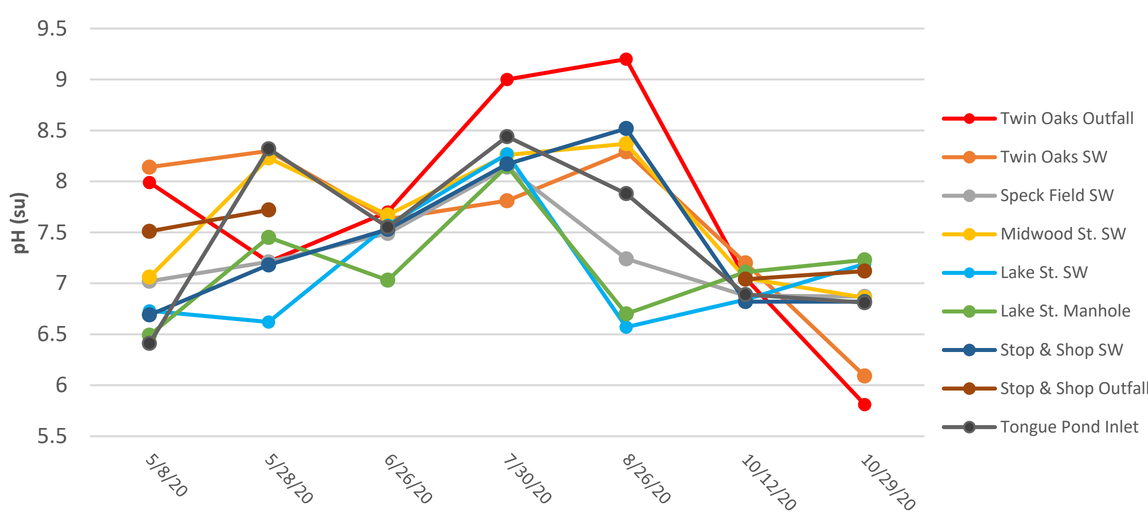

Figure 3-16: pH Measurements from Tributary and Outfall Sampling

3.4.5 Turbidity

Turbidity ranged from 0.1 NTU to 772 NTU (**Figure 3-17**). The highest turbidity reading was collected from the Tongue Pond inlet during the October 29, 2020 wet-weather sampling event. During late spring and early summer, the majority of samples met RIDEM's Water Quality Standard for turbidity in class B fresh waters of 10 NTU. Turbidity followed the in-lake sample trend of increasing into late summer and early fall.

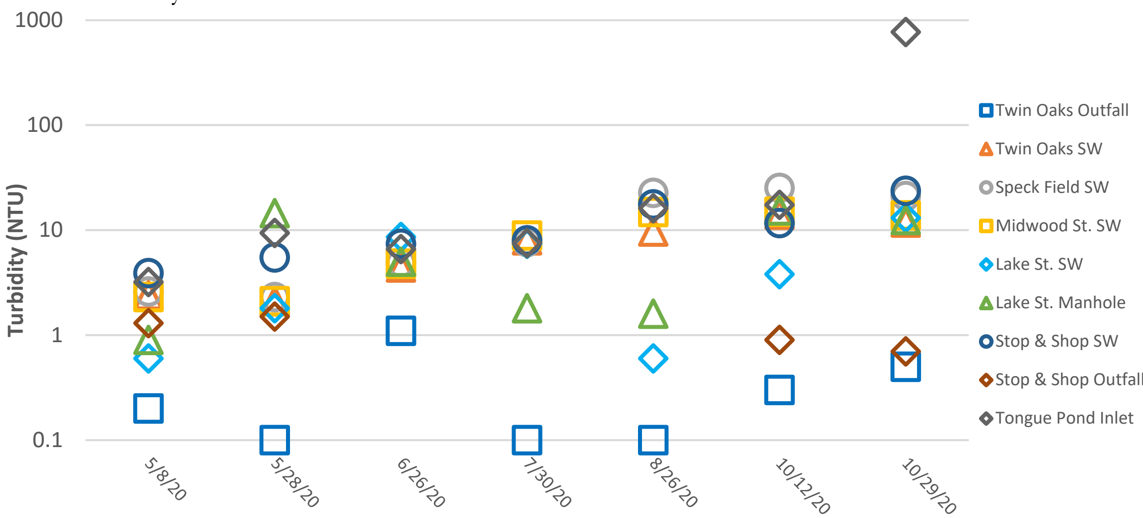

Figure 3-17: Turbidity Measurements from Tributary and Outfall Sampling

3.4.6 Alkalinity

Alkalinity ranged from 6.0 mg/L to 64 mg/L over the seven tributary and outfall sampling events (**Figure 3-18**). The tributary and outfall samples are within the same range as the in-lake samples. Data collected at the outfalls and tributaries under this study indicate that water coming into the pond are unlikely to increase sensitivity to acidification due to the majority of alkalinity values of 20 mg/L or higher.

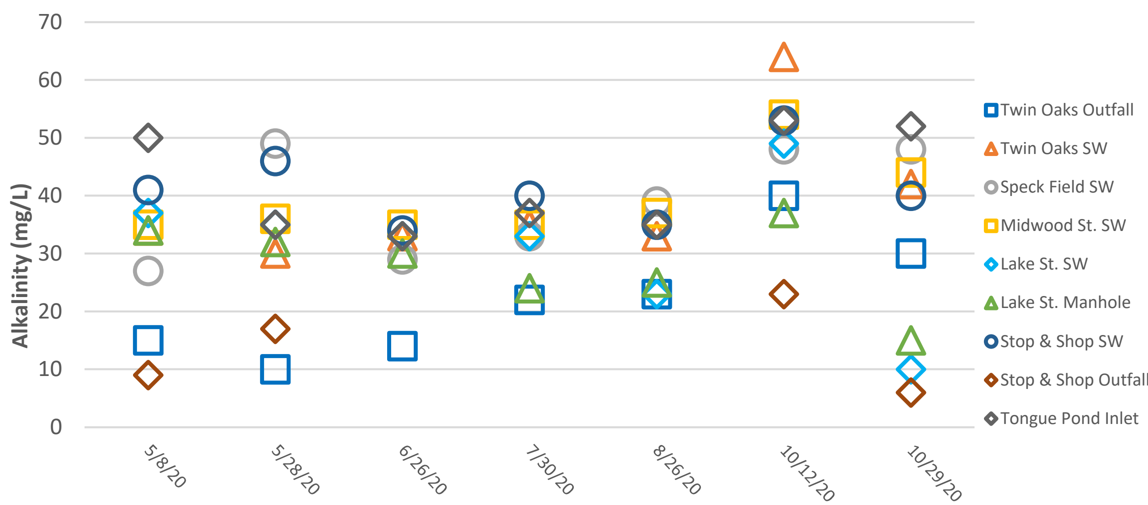

Figure 3-18: Alkalinity of Tributary and Outfall Sampling

3.4.7 Phosphorus

TP ranged from 6.0 to 3,410 μg/L with an average of 109 μg/L (**Figure 3-19**). The September 2007 TMDL indicated stormwater runoff as a significant source of phosphorus. Generally, all samples collected from the tributary and outfalls exceed RIDEM's recommended concentration of 25 μg/L. TP is present at outfall locations flowing into Spectacle Pond.

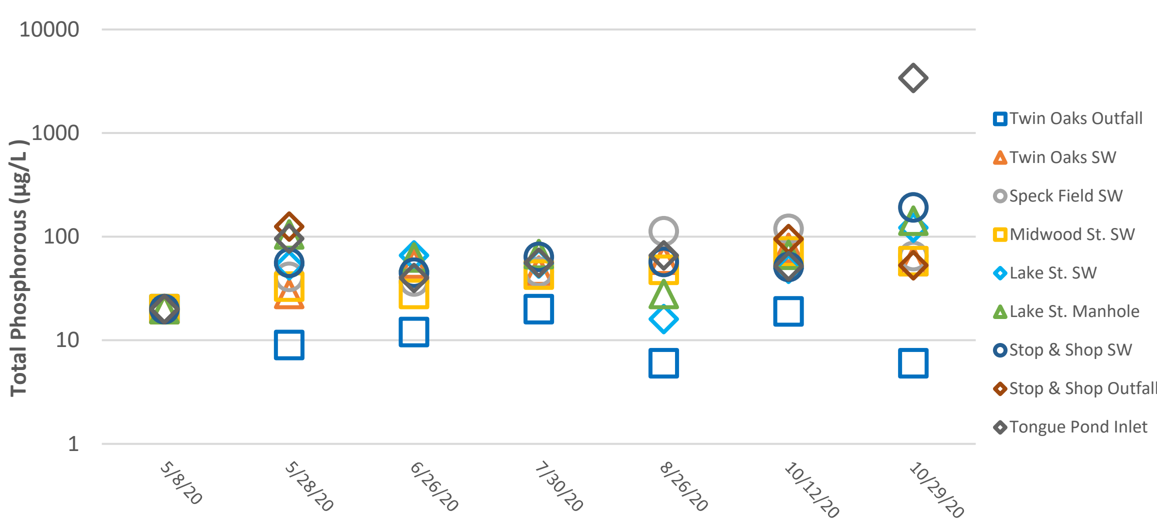

Figure 3-19: Total Phosphorus Concentrations from Tributary and Outfall Sampling

3.4.8 Total Iron

Total iron in Spectacle Pond varied between 0.046 mg/L and 12.7 mg/L with an average value of 0.74 mg/L (**Figure 3-20**). Total iron was present in the tributary and outfall locations. Iron concentrations were highest during the late summer and early fall sampling events. Iron was not analyzed during the May 8 and 28, 2020 sampling events.

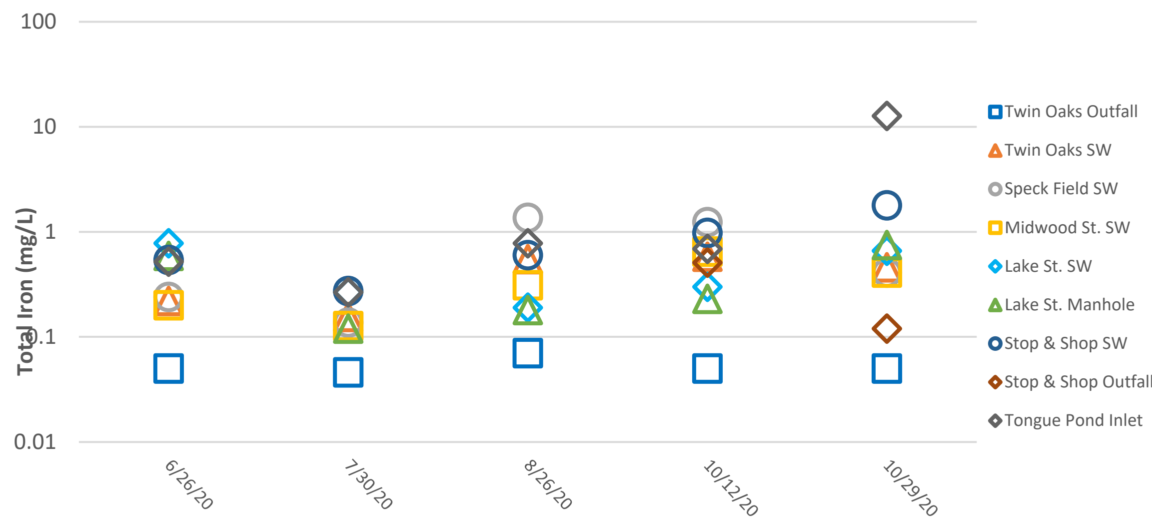

Figure 3-20: Total Iron concentrations from Tributary and Outfall Sampling

3.5 Visual Observations

Fuss & O'Neill field staff visited Spectacle Pond, its outfalls and tributaries seven times over the course of the 2020 recreational season in order to complete this limnological assessment. Dry-weather outfall sampling in May 2020 identified an outfall and manhole on Lake Street with possible visual and olfactory evidence of illicit discharges. Lake edge water samples collected throughout the sampling effort were occasionally noted for having suspended sediment.

4 Estimations of Internal Phosphorus Loading

4.1 Approach

During winter and summer thermal stratification (**Figure 4-1**), when any mixing is limited to surface waters (epilimnion), the lower waters of a lake or pond (hypolimnion) can become anoxic due to chemical and biological activity associated with the breakdown of organic matter by microbes (Wetzel 1983). This can also occur directly at the sediment-water interface of shallow lakes during calm conditions as releases have been documented in waters as shallow as 20 cm (Søndergaard et al 2013). In anoxic conditions, sediments that have acted as a nutrient sink with oxygen present will release P into the hypolimnion. This may eventually influence the productivity of the epilimnion through spring and fall mixis, or turnover, events depending on the extent of P release and the extent of the difference in volumes between the anoxic hypolimnion water and the normoxic epilimnion, with a normal oxygen concentration. Parameters such as organic content, and content of iron, aluminum, manganese, calcium, clay, and other elements with the capacity to bind and release phosphorus may all influence sediment–water interactions and determine the net amount of P released (Søndergaard et al., 2003) from the sediments. Forms of mobile P, consisting of the loosely sorbed and Fe-P redox sensitive fractions, are most likely to contribute to internal P loading (Pilgrim et al. 2007). Thus, the sediment samples for this study were analyzed for total, loosely sorbed and iron-bound P fractions to explore that potential (See Spectacle Pond P fraction sediment results in).

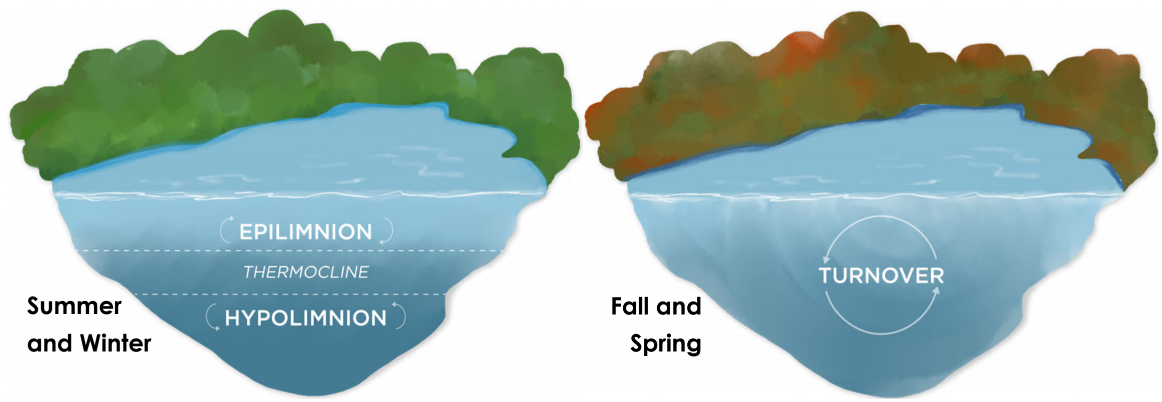

Figure 4-1: Seasonal pond stratification. Image adapted from the Lilly Center for Lakes and Streams at Grace College.

There are four ways to estimate internal P load for a lake (Holdren et al. 2001). These methods range from gross estimates, which approximate the total internal P load, to net estimates, which account for some P loss through the pond outlet and losses to the sediment.

1. Net (and gross) estimates from a complete phosphorus budget through mass balance of inflows, outflows, and internal fluxes on an annual basis. This is the most accurate methods but requires at least monthly measurements of P inputs from all sources, P losses from the outlet, and the P concentration and volume of each lake stratum (epilimnion, metalimnion, and hypolimnion) as they develop over spring and summer.

2. Partially net estimates from in-situ P increases accumulating in the hypolimnion during summer stratification compared to the surface water P concentrations.

3. Gross and net estimates from the in-situ P mass increases throughout the lake over the summer less the P sequestered at fall turnover.

4. Gross estimates from measured or estimated sediment phosphorus release rates and the measured or estimated anoxic area (dissolved O2 concentrations less than or equal to 2.0 mg/L) and time, the sediment release rates and anoxic factor of Nürnberg (1988; et al. 2012).

With the scope of this study limited to spring through fall sampling, Methods 2 through 4 were employed to estimate the internal P load of Spectacle Pond. While previous work on shallow ponds in Rhode Island suggests that Method 2 yields more accurate P load estimates (J. Schloss, pers. comm.), all three methods were calculated. Comparing results from all three methods can provide additional insight into the difference between gross and net internal P loading. In addition, because Spectacle Pond is deeper and has more-urban land cover than previously studied RI ponds, and because sample collection was impacted by COVID-19 safety protocols, relying on Method 2 alone may not be the most appropriate comparison. Winter internal loadings for Spectacle Pond were assumed to be negligible given the low spring P concentrations measured. This assumption is supported by previous studies showing that P release is significantly reduced in low temperatures (Nürnberg et al. 2013).

Fuss & O'Neill monitored in-lake conditions between post-spring mixis (May 2020) and fall mixis (October 2020). An additional sample and profile was collected in early May 2021 to provide additional temporal coverage that was not available in 2020 due to COVID-19 safety protocols. Total phosphorus (TP) concentrations were measured on all dates sampled at the surface (0.5-1 foot depth), mid-depth (7 feet), and deep-water depth (13 feet, about a foot from the pond bottom).

4.2 Estimates

Applying DO profiles to the GIS-derived pond bathymetry, collected through the sampling season, provides calculated estimates of areas and volumes of anoxia in Spectacle Pond (**Figure 4-2**). Combining anoxic areas and volumes with measured P concentrations provides estimates of nutrient accumulation in the hypolimnion as it became anoxic and calculation of post-mixis gross internal load settling and sequestration. During the 2020 sampling season, anoxia was first identified in late May below 12 feet depth. In late July, anoxia was present below 6 feet, descending to below 7 feet in August. Fall mixis occurred prior to mid-October.

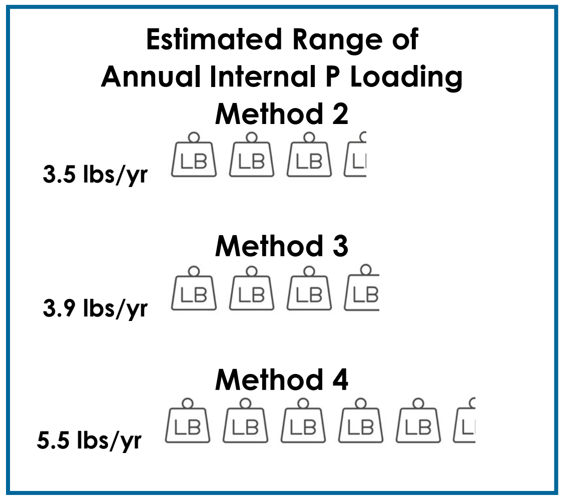

Figure 4-2: Estimated Range of Annual Internal Phosphorous Loading

4.2.1 Method 2

Partially net internal P load using Method 2 was determined by summing the monthly hypolimnetic load as the difference in concentration between the bottom water and upper water TP for the measured anoxic water volume (as concentration multiplied by volume yields the load) divided by the relative volume of the anoxic zone to the oxic lake volume. This resulted in a partial net summer internal P load of 3.5 lbs P/year. It should be noted that epilimnetic TP concentrations varied considerably throughout the sampling period, with significant increases observed over the course of the summer. The less substantial increases observed in the bottom waters suggest that this method produced an underestimate of internal loading due to runoff events that impacted the net difference between the upper and lower waters. Analysis indicated that internal P loading occurred primarily between late May and late August, with the maximum monthly loading occurring in July (1.8 lbs P), when >34% of the pond volume was anoxic. Conditions during the June sampling event had the largest concentration difference between the upper and lower waters of the Pond. Approximately 15% of pond volume was anoxic at that time, and the internal TP yield estimate was 0.7 lbs P.

4.2.2 Method 3

For Method 3, conditions in late May were selected to represent the initial spring pond P mass, late July for the maximum accumulated hypolimnetic P loading, and mid-October for the post-mixis conditions. Epilimnetic TP concentrations were assumed to be equivalent in this mixed layer. Metalimnetic and hypolimnetic TP concentrations were interpolated at each foot interval assuming an increasing TP gradient from below the thermocline to pond bottom. This method yielded a gross internal loading estimate of 5.6 lbs P/year and a net loading estimate of 3.9 lbs P/year. This results in a calculated P resequestration at fall mixis of 31%. Given that mixis most likely occurred in mid to late September in 2020 (a month not sampled during this study), the resequestered P at mixis may have been underestimated here. However, this 31% loss of P to resequestering at mixis does fall into the lower range of expected percent loss as the net P_{int} load is typically 50-72% of the gross loading (Cooke et al. 1993).

4.2.3 Method 4

For Method 4, equations in Nürnberg et al. (2012) yielded an estimate of 42 days of anoxia in Spectacle Pond and an anoxic factor of 13.7 days. Given the significant difference between the deepest site (13 foot) Fe-bound TP concentration and the shallower site samples, a weighted average accounting for the relative surface areas between the sites was employed. Using estimates of sediment release rates based on regressions from Nürnberg (1988) resulted in a P release rate of 1.32 mg/m3 day. Multiplying the anoxic factor by the sediment release rate and the area of the lake resulted in a gross internal loading estimate of 5.5 lbs P/year.

4.2.4 Method Comparison

The estimations from the three methods compare very well. Method 2 resulted in the lowest estimate that can be explained by the variability of summer external loadings due to storm events in this very urban watershed causing this to be an underestimate. This method is the most sensitive to these occurrences as it relies in the net difference between the TP concentration in the upper and lower waters during each month sampled. Method 2 most likely offers a more accurate estimate for gross and net summer internal P loading as it is based on the initial, late summer and post-mixis occurrences which would be less affected by short term storm events. This conclusion is further supported by the results of Method 4, which yielded only slightly lower estimates.

5 Conclusion and Recommendations

Management recommendations to address internal and external sources contributing to P concentrations in Spectacle Pond depend on the relative contribution of P from those sources. Based on the water and sediment quality analyses described in **Sections 2 and 3** and the internal P loading analysis described in **Section 4**, using the highest estimate of internal phosphorus loading of 5.6 lbs P/yr, internal loading represents approximately 1% of the total phosphorus load of 476 lbs P/yr, estimated in the TMDL (**Figure 5-1**). Consequently, while internal loading does contribute to total phosphorus concentrations in Spectacle Pond, external sources (i.e., stormwater runoff, inlet sources, and waterfowl) appear to dominate the loading and it is recommended that these sources be addressed first.

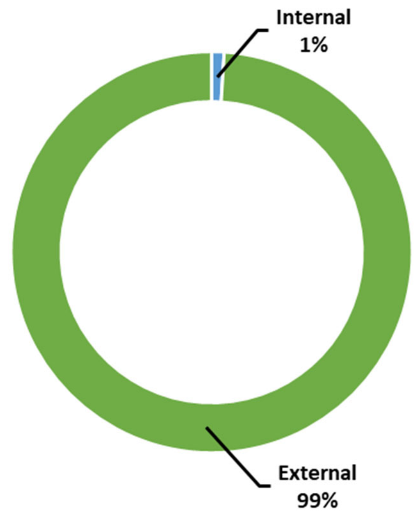

Figure 5-1: Relative Contributions of Internal and External Loading

5.1 Recommendations

Based on information collected in this study, and the prior 2007 TMDL, a plan focused on reducing phosphorus and sediment inputs from stormwater, supported by a secondary focus on discouraging waterfowl use of the pond and minimizing winter-time sanding is recommended. This report provides some general recommendations in more detail than described in the TMDL. The Spectacle Pond Phosphorus Reduction Plan that accompanies this report identifies additional specific locations where opportunities exist to retrofit the storm drain system and provide additional phosphorus load reductions.

Stormwater

In 2007, RIDEM identified 18 outfalls discharging directly to the pond (**Figure 5-2**). Four stormwater outfalls were identified as the most significant potential sources of phosphorus to Spectacle Pond (**Table 5-1**).

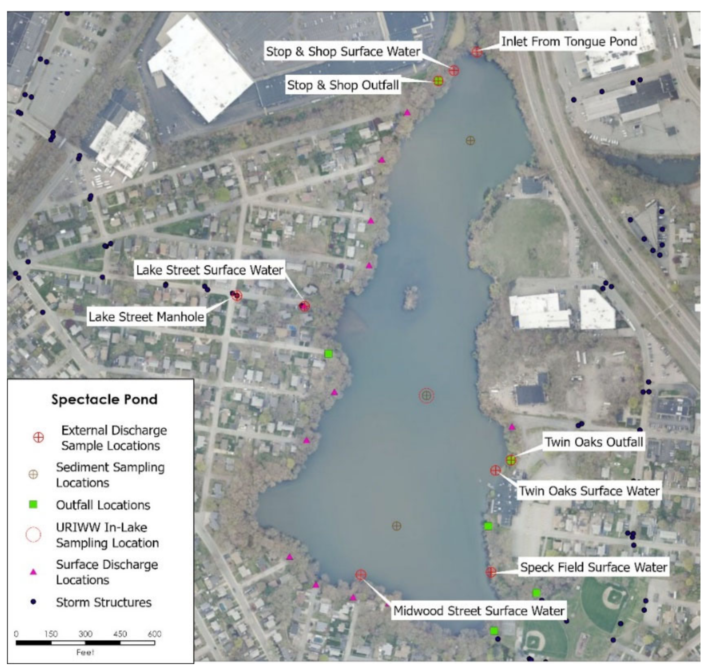

Figure 5-2: External Sources Discharging to Spectacle Pond

The City has already identified several opportunities for stormwater management BMPs, including at Speck Field, and on Pomham and Barrett Streets, and has secured funding for their construction. These future opportunities depend upon the characteristics of underlying soils, the ownership/easement status of the outfalls, and available space (in roadway rights-of-way and public spaces such as parks).

Table 5-1: Priority Outfalls Identified in the TMDL

Outfall ID	Diameter (inches)	Location	Previously Reported Ownership	TMDL Comments
SpP-F	48	Lake Street	City of Cranston	Major sediment delta at end of waste stream
SpP-E	36	Speck Park	City of Cranston	
SpP-D	24	Speck Park	City of Cranston	
SpP-A	15	Molter Street	City of Cranston	Outfall is apparently completely blocked with sediment

Soils in these areas are generally characterized by the US Department of Agriculture Natural Resources Conservation Service (USDA NRCS) based on the soil properties that affect the capacity of the soil to be drained, incorporating factors like depth to a water table, sand content, hydraulic conductivity, and soil density. Rhode Island GIS mapping shows soils are dominated by Hydrologic Soil Group A and B soils with generally good infiltration capacity (**Figure 5-3**) and significant potential for implementing more cost-effective stormwater controls. However, soils at the north and south shores and a portion of the west shore are mapped as having shallower separation to groundwater. In particular, the area of HSG B soil and shallower groundwater suggests an area that may previously have been an area where stormwater accumulated, such as a tributary stream, which is supported by a sediment delta that appears to stem from the Lake Street outfall. Stormwater solutions in these areas with shallower groundwater separation may require an underdrain and rely primarily on filtration, rather than infiltration, to remove phosphorus from stormwater.

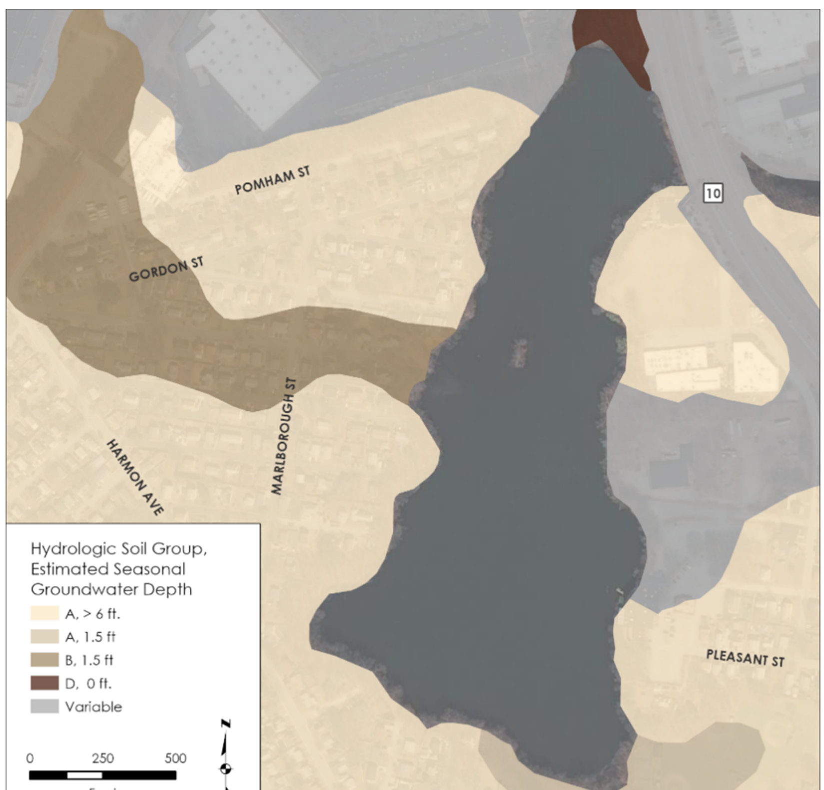

Figure 5-3: Hydrologic Soil Group Characteristics in the Spectacle Pond Watershed

Possible options for stormwater management should be focused on designs that remove sediments and nutrients (i.e., phosphorus). Options that disconnect runoff from roads that now drain directly to the pond and infiltrate that runoff will often be the most effective methods to manage stormwater quality problems. These options have been further analyzed separately to confirm their feasibility. While these options will be effective, they may not be sufficient to reduce the phosphorus loading from the watershed. Such systems may be applicable elsewhere in the watershed but will require additional study to determine their feasibility.

- **Infiltration systems** (**Figure 5-4**) are systems that capture and temporarily store stormwater runoff, allowing it to soak into the native soil below. These systems prevent a volume of stormwater from discharging to Spectacle Pond and so more closely mimicking pre-development hydrologic conditions. Infiltration systems are typically more efficient at P removal than filtration-based systems, with even small practices providing substantive removal. Infiltration-based practices can be placed at ground level when space exists, or below the surface to accommodate existing surface uses, such as a road, sidewalk, or parking lot. Groundwater separation is a critical design factor for infiltration-based practices. Pretreatment in the form of a forebay or catch basin would be used to remove coarse particulates and allow easier maintenance.

  We understand that the widths of the rights-of-way (ROWs) are limited in the neighborhoods around the pond. As a result, the best opportunities for these types of systems would be within easement areas for existing stormwater outfalls. Runoff from the outfalls could be diverted into a bioretention basin (depending on actual elevations and space) where the runoff would be treated.

- **Tree Filters and Bioswales** (**Figure 5-5**) generally consist of open bottomed systems that include one or more trees or native plants. Street runoff is directed to drain into the surface of the practice where it drains through an engineered soil media that also serves as a growing media for the plants. The engineered soil media removes sediment and particulate-bound phosphorus. The roots also uptake some of the dissolved nutrients. Plants are selected that are resistant to dry and wet conditions and predicted climate change impacts to temperature, rainfall and pests, as well as from chlorides from road salt. Street sand will also accumulate in these filters. The best way to remove this sediment will be with a vacuum truck with a design that prevents the vacuum truck from removing the engineered soils.

  Some municipalities have incorporated tree filters and sidewalk bioswales as part of the town's street tree and stormwater management program. Neighbors volunteer to have trees planted in the ROW in front of their homes. A simplified design of a tree filter can then be incorporated to promote stormwater runoff to drain through the filter and disconnect from the conventional drainage system.

In addition to the installation of new BMPs, maintenance and housekeeping actions including reduced wintertime sanding, and increased street sweeping and catch basin cleaning in the watershed could be implemented to reduce sediment loads to the pond. Because phosphorus is often transported with sediment, reduction in sediment can lead to reduced phosphorus loading.

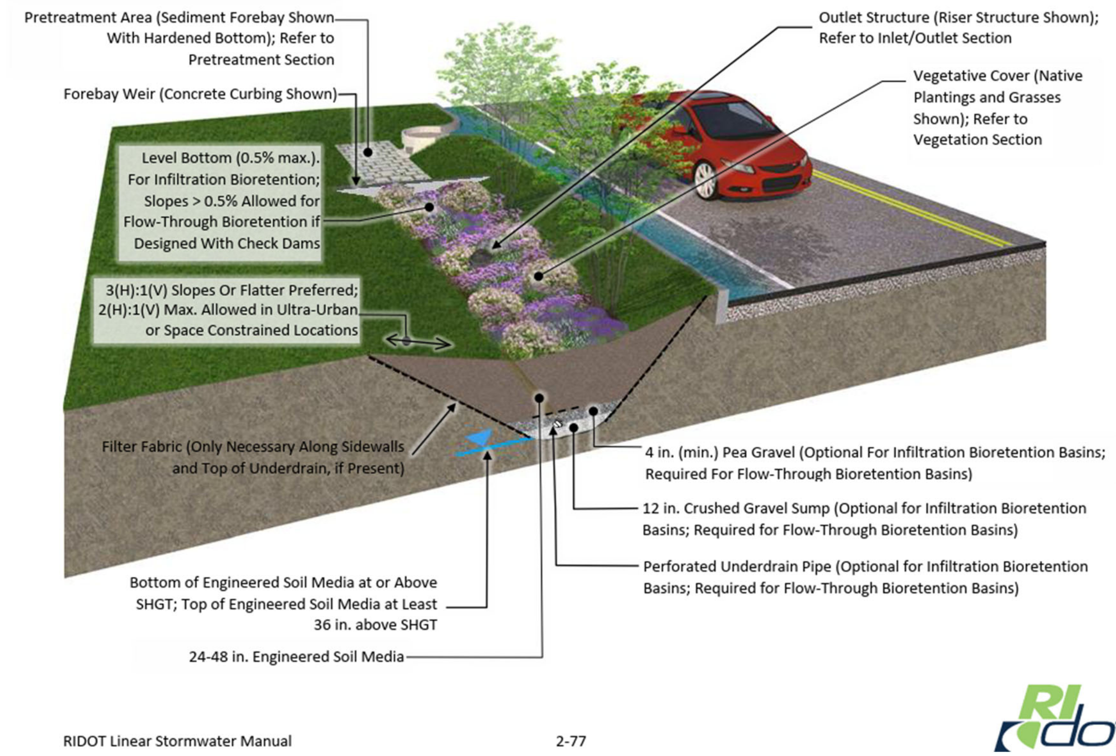

Figure 5-4: Linear Bioretention Basin Example from RIDOT Linear Manual

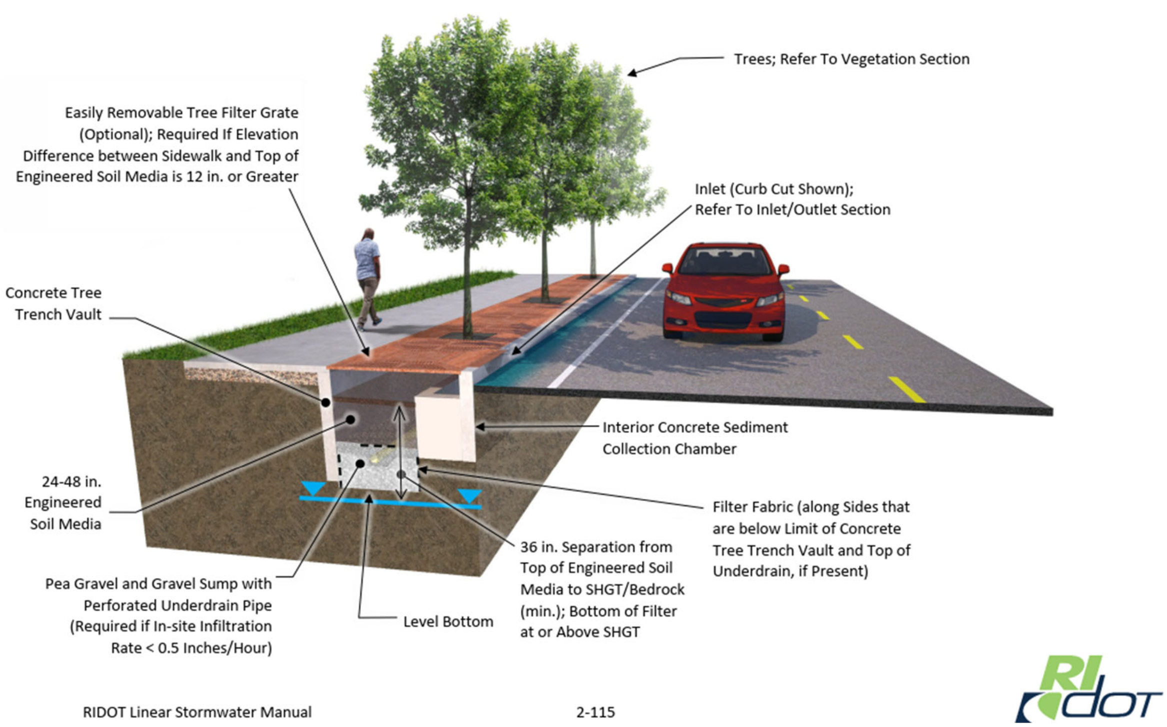

Figure 5-5: Tree Filter Example from RIDOT Linear Manual

Waterfowl

The 2007 TMDL notes repeated observations of 30-40 waterfowl at a commercial parking area at the northern end of the parking lot. Given steep slopes and dense vegetation, the parking lot and a nearby dirt embankment appear to be the only location where waterfowl congregate. Fencing or vegetated barriers can limit this access. Informational signage to discourage feeding waterfowl installed at public access points may also deter waterfowl from congregating in those locations.

5.2 Potential Funding Sources

In Rhode Island, there are two primary funding sources that are typically available to municipalities to implement stormwater practices to address water quality issues consistent to what is now proposed for Spectacle Pond.

State Revolving Fund (SRF) Loan Program

The SRF provides a low-cost financing option for communities through multiple programs. The Clean Water Program provides loans to help municipalities comply with federal and state water quality requirements by focusing on watershed management priorities, stormwater management, and green infrastructure, as well as community septic system repair programs and riverbank restoration projects. Open space acquisitions related to water quality protection are also eligible for financing.

One program, the Bay, and Watershed Restoration Fund (BWRF) is a program administered by RIDEM to fund programs allocated by previous bond referenda. The fund is meant to provide funding assistance for the feasibility analysis, design, construction, or rehabilitation of nonpoint source water pollution control facilities, stormwater pollution control projects, riparian buffer and aquatic habitat restoration projects, and projects which prevent or mitigate flooding.

Website: http://www.dem.ri.gov/programs/water/finance/state-revolving-fund.php

RIIB Stormwater Project Accelerator

The Stormwater Project Accelerator is administered by the Rhode Island Infrastructure Bank and the Department of Transportation. The program provides upfront funding to municipalities for infrastructure funding to support green stormwater infrastructure in Rhode Island that will ultimately be reimbursed through state and local reimbursement grants. Eligible projects must first secure state or local funding.

Website: https://www.riib.org/spa

Additionally, while RIDOT does not have a formal grant program for stormwater quality, they are currently under a Consent Decree with USEPA to implement stormwater quality improvements for their infrastructure for every impaired watershed that is being impacted by runoff such as the Spectacle Pond watershed. While they are responsible for implementing controls on nearby state roads, USEPA does allow RIDOT to partner with municipalities to address up to 25% of their stormwater quality requirements, even when the drainage is not on RIDOT-maintained roads. RIDOT does have active programs where they contribute funding to municipalities to implement these types of controls so that they can record the treatment credits. One advantage of this RIDOT funding is to use it as a match for other grant programs.

Municipal Resilience Preparedness (MRP) Action Grant Program

The MRP Action Grant Program is administered through the RI Infrastructure Bank, in partnership with the Nature Conservancy. To be eligible for funding, communities must complete the MRP Planning Grant process, in which Cranston has not yet participated. The MRP Action Grant offers financial assistance to municipalities that are interested in implementing climate adaptation actions to address the impacts of climate change (extreme weather, sea level rise, inland and coastal flooding, severe heat, etc.). The program funds projects relating to planning, assessments, and regulatory updates; nature-based solutions for ecological and public health; and resilient redesigns and retrofits for critical facilities and infrastructure. In past funding rounds, project amounts ranged from $150,000 to $400,000. A 25% match, either through cash or in-kind services, is required.

Website: https://www.riib.org/mrp

Clean Water Act, Section 319 Nonpoint Source Implementation Grants

Section 319 Grants are available for projects that promote restoration and protection of water quality through reducing and managing nonpoint source pollution. These grants are made possible by federal funds provided to RIDEM by the USEPA under Section 319 of the Clean Water Act. Eligible applicants include municipal, state, or regional governments, quasi-state agencies, public schools and universities, and non-profit watershed, environmental, or conservation organizations. Pursuant to federal guidelines for Section 319 funding, projects can only be funded in those areas in which a Watershed-Based Plan has been completed.

Clean Water Act Section 319 grants may be used for green stormwater infrastructure projects (if not mandated by a stormwater permit) and certain restoration activities. Projects should be in line with the state's 2019 guidance document "Nonpoint Source Management Program Plan". Annual funding is approximately $750,000 and requires a 33% match.

RIDEM 319 website: http://www.dem.ri.gov/programs/water/finance/nonpoint-source-funding.php

Southeast New England Program Network

Southeast New England Watershed Grant Program: Over the last 5 years, the US Environmental Protection Agency (USEPA) has administered this grant program providing $22 million in funding for water quality and sustainability projects for the Narragansett Bay and Buzzard's Bay watersheds. This watershed includes almost all of Rhode Island and most of Southeastern Massachusetts and Cape Cod. These grant applications typically require a 50% match. Stormwater quality projects such as those proposed for Upper Dam Pond are fundable under this grant program, however, these grants are very competitive with less than half of the grant applications typically being funded. As a result, it is important that the projects proposed with these grant applications incorporate a unique element that provides a differentiator compared to other applications.

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Appendix A

Internal Loading Calculations

Spectacle Pond Internal Nutrient Loading Calculations

Used anoxic threshold <= 2.0 mg/L

IF anoxic threshold = 2mg/L									
Sampling Date	**noxic Sediment Area (ft**	**noxic Sediment Area (m**	**noxic Volume (ft**	**Anoxic Volume (m^3)**	**% Anoxia**	**Epi- Volume (ft3)**	**Epi- Volume (m3)**	**Total Volume (ft^3)**	**Total Volume (m^3)**
5/5/2021	0	0	0	0	0	9,899,899	280,334	9,899,899	280,334
5/25/2021	97,422	9,052	646,552	18,308	6.5%	9,253,347	262,026	9,899,899	280,334
6/26/2020	217,403	20,200	1,442,827	40,856	14.6%	8,457,072	239,478	9,899,899	280,334
7/30/2020	510,567	47,439	3,388,450	95,950	34.2%	6,511,449	184,384	9,899,899	280,334
8/26/2020	459,004	42,648	3,046,246	86,260	30.8%	6,853,653	194,074	9,899,899	280,334
10/12/2020	0	0	0	0	0	9,899,899	280,334	9,899,899	280,334
10/29/2020	0	0	0	0	0	9,899,899	280,334	9,899,899	280,334

Method 2 Calculations Difference between the hypolimnetic and epilimnetic TP concentration accounting for Anoxic Volume and % that volume is to total lake volume measured during summer stratification

	TP Diff		
Sampling Date	**mg/L**	**Kg P**	**Lbs P**
5/5/2021	0		
5/25/2021	0.012	0.014348357	0.031632387
6/26/2020	0.050	0.297723103	0.656360354
7/30/2020	0.025	0.821024679	1.810031007
8/26/2020	0.017	0.45122472	0.994770018
10/12/2020	0		
10/29/2020	0		
	Totals	**1.58**	**3.49**

Method 3 Calculations

Sampling Date	**Kg TP**	**Monthly Kg diff**	**Monthly LBS diff**
5/5/2021			
5/25/2021	17.39630082		
6/26/2020			
7/30/2020	19.93686787	2.540567048	5.600934115
8/26/2020			0
10/12/2020	19.15615154	-0.78071633	-1.721167221
10/29/2020			
Net Load		**1.76**	**3.88**
Gross Load		**2.54**	**5.60**
Percent TP resequestered at fall turnover		**30.7%**	

Method 4 Calculations Using sediment release rate estimated from Fe Bound P in sediments and Anoxic Factor (Nürnberg)

RR	1.316	mg/m2-day	Parameters:		
Days Anoxic	42.045	days	Mean Depth	2.0	meters
Anoxic Factor	13.664	days-m2/m2	Lake Area	0.13860	km2
Lp Summer	**2.493**	**kg**		138,600	m2
	5.496	**lbs**			

Days anoxic is most likely an underestimate uisng the Nurenberg equations compared to DO2 measurements made by field staff but compensated by using the average anoxic sediment area as the average of the July and August

Method	Gross Internal P Load kg (lbs)	Net Internal P Load kg (lbs)	Percent P Resequesterd
Method 2	--	1.58 (3.49)	--
Method3	2.54 (5.60)	1.76 (3.88)	30.7%
Method 4	2.49 (5.50)	--	--

Appendix B

Field and Laboratory Data

FUSS & O'NEILL

Table 8
Summary of In Pond SmartTroll Readings

Spectacle Pond
Cranston, Rhode Island

June 26, 2020

Depth (ft)	Temp (C)	RDO (mg/L)	RDO Sat (%)
0.55	26.47	9.07	112.7
1	27.1	9.06	114.2
2	27.2	9.05	114.3
3	26.7	9.15	114.5
4	26.85	8.95	112.2
5	27.15	8.98	113.3
6	27.02	8.83	111.2
7	26.42	7.4	91.6
8	25.13	6.61	80.6
9	24.08	2.77	32.9
10	23.17	1.97	23.3
11	20.97	0.07	0.8
12	20.13	0.13	1.4
13	18.66	0.53	5.8

NOTES: Created by: APT

mg/L: milligrams per liter
ft: feet
C: Celsius
% - Percentage

FUSS & O'NEILL

Table 9
Summary of In Pond SmartTroll Readings

Spectacle Pond
Cranston, Rhode Island

July 30, 2020

Depth (ft)	Temp (C)	RDO (mg/L)	RDO Sat (%)
1	26.26	7.67	95.2
2	28.36	8.24	106
3	28.45	8	103.2
4	28.54	7.77	100.5
5	28.46	7.46	96.3
6	27.99	2.5	32
7	26.88	0.09	1.1
8	25.8	0.02	0.3
9	24.74	0.01	0.1
10	23.16	0.01	0.2
11	21.71	0	0
12	19.9	-0.01	-0.2
13	22.33	0.15	1.7

NOTES: Created by: APT

mg/L: milligrams per liter
ft: feet
C: Celsius
% - Percentage

FUSS & O'NEILL

Table 10
Summary of In Pond SmartTroll Readings

Spectacle Pond
Cranston, Rhode Island

August 26, 2020

Depth (ft)	Temp (C)	RDO (mg/L)	RDO Sat (%)
0.21	25.6	9.5	116.5
1	25.71	9.42	115.5
2	25.69	9.29	113.9
3	25.51	8.83	108.1
4	25.4	8.48	103.5
5	25.33	8.5	102.4
6	25.15	7.22	87.8
7	24.6	2	24.1
8	24.17	0.21	2.5
9	23.68	0.01	0.1
10	22.85	0.01	0.1
11	22.22	0	0
12	20.97	-0.01	-0.1
13	20.57	-0.01	-0.1

NOTES:
mg/L: milligrams per liter
ft: feet
C: Celsius
% - Percentage

Created by: APT

FUSS & O'NEILL

Table 11
Summary of In Pond SmartTroll Readings

Spectacle Pond
Cranston, Rhode Island

October 12, 2020

Depth (ft)	Temp (C)	RDO (mg/L)	RDO Sat (%)
1	16.07	8.87	88.7
2	16.25	8.5	85.5
3	16.29	8.49	85.4
4	16.25	8.57	86.1
5	16.29	8.54	85.9
6	16.33	8.54	86
7	16.38	8.36	84.3
8	16.38	8.36	84.3
9	16.4	8.19	82.6
10	16.4	7.95	80.2
11	16.41	8.28	83.5
12	16.43	6.58	66.5
13	13.77	6.36	60.1

NOTES: Created by: APT

mg/L: milligrams per liter
ft: feet
C: Celsius
% - Percentage

FUSS & O'NEILL

Table 12
Summary of In Pond SmartTroll Readings

Spectacle Pond
Cranston, Rhode Island

October 29, 2020

Depth (ft)	Temp (C)	RDO (mg/L)	RDO Sat (%)
1	12.95	8.09	77
2	13.17	7.99	76.5
3	13.4	7.93	76.2
4	13.58	7.83	75.6
5	13.64	7.81	75.5
6	13.77	7.84	76
7	13.79	7.75	75.2
8	13.8	7.78	75.5
9	13.81	7.8	75.7
10	13.81	7.75	75.3
11	13.78	7.03	68.2
12	13.77	6.97	67.6
13	13.77	6.49	63

NOTES: Created by: APT

mg/L: milligrams per liter
ft: feet
C: Celsius
% - Percentage

Log:	Allen														
Report Created:	2020-07-12 11:01:53														
Site:	Spec Pond June														
GPS:	41	51	18.92	-71	-26	-25.78									
Log Created:	**2020-06-26 12:55:22**														
Number Readings:															
Battery Type:	SmarTROLLâ„¢ Battery Pack														
Battery SN:	372895														
Device Type:	SmarTROLLâ„¢ MP														
Device SN:	483011														
Created	Baro (mbar)	Temp (C)	RDO (mg/L)	RDO Sat (%)	pH (pH)	ORP (mV)	Act Cond (ÂµS/cm)	Sp Cond (ÂµS/cm)	Salinity (ps	Resist (Ohı	Density (g/cm^3)	TDS (ppt)	Depth (ft)	Pressure (psi)	Air Temp (C)
6/26/2020 12:55	1011.5	26.47	9.07	112.7	8.01	161.6	464.2	452.8	0.2	2154	0.997	0	0.55	0.237	29.2
6/26/2020 12:56	1011.4	27.1	9.06	114.2	7.9	132.7	464.5	446.8	0.2	2153	0.997	0	0.87	0.377	29.1
6/26/2020 12:57	1011.4	27.2	9.05	114.3	7.89	128.3	464.6	446	0.2	2152	0.997	0	2.06	0.891	29.1
6/26/2020 12:59	1011.5	26.7	9.15	114.5	7.89	118	462.9	448.4	0.2	2161	0.997	0	3.02	1.308	28.9
6/26/2020 13:00	1011.4	26.85	8.95	112.2	7.86	113.5	463	447.7	0.2	2160	0.997	0	4.17	1.806	28.9
6/26/2020 13:01	1011.3	27.15	8.98	113.3	7.84	109	463.5	445.3	0.2	2157	0.997	0	5.15	2.231	28.8
6/26/2020 13:02	1011.2	27.02	8.83	111.2	7.74	108.3	463.3	446.1	0.2	2159	0.997	0	6.31	2.735	28.7
6/26/2020 13:02	1011.2	26.42	7.4	91.6	7.7	108.9	456.3	447.3	0.2	2191	0.997	0	7.1	3.076	28.7
6/26/2020 13:02	1011.2	25.13	6.61	80.6	7.66	109.4	430.7	429.1	0.2	2322	0.997	0	8.28	3.588	28.6
6/26/2020 13:03	1011.1	24.08	2.77	32.9	7.59	109.5	423.3	432.5	0.2	2362	0.997	0	9.09	3.94	28.6
6/26/2020 13:03	1011.2	23.17	1.97	23.3	7.5	109.5	417	428.6	0.2	2398	0.998	0	10.05	4.355	28.7
6/26/2020 13:04	1011.1	20.97	0.07	0.8	7.31	-39	413.5	448.3	0.2	2419	0.998	0	11.2	4.856	28.8
6/26/2020 13:04	1011.1	20.13	0.13	1.4	7.18	-111.3	400	431	0.2	2500	0.998	0	12.01	5.205	28.9
6/26/2020 13:10	1011.1	18.66	0.53	5.8	6.83	-144.2	545.4	614.6	0.3	1833	0.999	0	13.09	5.674	29.3

Log: Spec Pond July
Report Created: 2020-08-06 08:48:18
Site: Spec Pond July
GPS:
Log Created: **2020-07-30 09:04:37**
Number Readings:
Battery Type: SmarTROLLâ„¢ Battery Pack
Battery SN: 426755
Device Type: SmarTROLLâ„¢ MP
Device SN: 483011

Created	Baro (mbar)	Temp (C)	RDO (mg/L)	RDO Sat (%)	pH (pH)	ORP (mV)	Act Cond (ÂµS/cm)	Sp Cond (ÂµS/cm)	Salinity (psu)	Resist (Ohm-cm)	Density (g/cm^3)	TDS (ppt)	Depth (ft)	Pressure (	Air Temp (C)
7/30/2020 9:02	1012.3	26.26	7.67	95.2	7.6	61.3	0.9	0.9	0	1141028	0.997	0	0.94	-0.114	30.4
7/30/2020 9:04	1012.3	28.36	8.24	106	8.58	33.3	484.8	455.9	0.2	2063	0.996	0	2.24	0.972	31.5
7/30/2020 9:05	1012.3	28.45	8	103.2	8.54	35.1	484.4	454.5	0.2	2065	0.996	0	3.01	1.307	31.7
7/30/2020 9:06	1012.3	28.54	7.77	100.5	8.49	36.3	484	453.4	0.2	2066	0.996	0	4.02	1.742	32
7/30/2020 9:06	1012.4	28.46	7.46	96.3	8.4	38.3	484.8	454.5	0.2	2063	0.996	0	5.02	2.176	32.1
7/30/2020 9:06	1012.3	27.99	2.5	32	8.21	39.1	483.6	457.2	0.2	2068	0.996	0	6	2.602	32.2
7/30/2020 9:07	1012.3	26.88	0.09	1.1	7.96	-43.5	482.9	465.7	0.2	2071	0.997	0	6.91	2.996	32.4
7/30/2020 9:08	1012.3	25.8	0.02	0.3	7.84	-78.3	470.5	463.4	0.2	2126	0.997	0	7.93	3.44	32.6
7/30/2020 9:09	1012.4	24.74	0.01	0.1	7.7	-124.7	470.2	472.5	0.2	2127	0.997	0	9.01	3.898	32.7
7/30/2020 9:09	1012.3	23.16	0.01	0.2	7.52	-157.3	499.2	517.4	0.3	2003	0.998	0	10.03	4.341	32.8
7/30/2020 9:10	1012.3	21.71	0	0	7.24	-181	586	625.2	0.3	1706	0.998	0	10.98	4.76	33
7/30/2020 9:12	1012.2	19.9	-0.01	-0.2	7.04	-228.1	759.1	840.9	0.4	1317	0.999	1	11.98	5.06	33.5
7/30/2020 9:18	1012.4	22.33	0.15	1.7	6.78	-172.5	642.2	674	0.3	1557	0.998	0	13.11	5.404	35.2

Log: Kristin Connel

Report Created: **2020-08-26**

Site: Spec Pond August

Temp (C)	RDO (mg/L)	RDO Sat (%)	Depth (ft)
25.6	9.5	116.5	0.21
25.71	9.42	115.5	1
25.69	9.29	113.9	2
25.51	8.83	108.1	3
25.4	8.48	103.5	4
25.33	8.5	102.4	5
25.15	7.22	87.8	6
24.6	2	24.1	7
24.17	0.21	2.5	8
23.68	0.01	0.1	9
22.85	0.01	0.1	10
22.22	0	0	11
20.97	-0.01	-0.1	12
20.57	-0.01	-0.1	13

Log: Kristin Connel
Report Created: 2020-10-12
Site: Spec Pond October

Depth (ft)	Temp (C)	RDO (mg/L)	RDO Sat (%)	ORP (mV)	pH (pH)	Sp Cond (ÂµS/cm)
1.02	16.07	8.87	88.7	183.1	6.23	471.5
1.95	16.25	8.5	85.5	160.3	6.25	468.9
3.2	16.29	8.49	85.4	154.1	6.27	468.3
4.24	16.25	8.57	86.1	128.4	6.41	468.5
5.29	16.29	8.54	85.9	126.8	6.42	468.1
6.38	16.33	8.54	86	125.6	6.41	467.9
7.27	16.38	8.36	84.3	120.9	6.45	467.3
8.32	16.38	8.36	84.3	119.3	6.47	467.1
9.33	16.4	8.19	82.6	117.2	6.48	467.3
10.06	16.4	7.95	80.2	115.7	6.49	467.4
10.98	16.41	8.28	83.5	115.3	6.5	467
11.66	16.43	6.58	66.5	-97.7	6.2	575.5
13	13.77	6.36	60.1	32.2	6.49	479.4

Depth	Temp	RDO	RDO Sat	ORP	pH	SP Conductivity
0.73	12.95	8.09	77	110.3	6.72	413.8
1.94	13.17	7.99	76.5	108.1	6.71	411.6
3.07	13.4	7.93	76.2	106.1	6.71	405.5
4.18	13.58	7.83	75.6	103.7	6.71	406.8
5.32	13.64	7.81	75.5	101.8	6.72	406.7
5.96	13.77	7.84	76	98.2	6.75	405.3
6.98	13.79	7.75	75.2	95.7	6.77	404.8
8.07	13.8	7.78	75.5	96.2	6.79	404.9
8.75	13.81	7.8	75.7	97.3	6.8	404.7
10.16	13.81	7.75	75.3	95.8	6.8	405
11.22	13.78	7.03	68.2	92.7	6.81	406.5
11.93	13.77	6.97	67.6	89.7	6.83	406.6
12.62	13.77	6.49	63	83.7	6.82	406.8

Depth	Temp	RDO	RDO Sat	ORP	pH	SP Conductivity
0.98	14.7	10.08	100.2	101.8	6.95	436
1.81	14.81	10.03	99.8	102.2	6.93	435.4
2.8	14.94	9.88	98.8	100.3	6.97	433.4
4.06	15.03	9.88	98.9	100.1	6.98	432.5
4.95	15.09	9.83	98.6	99.7	6.98	431.9
6.01	15.12	9.73	97.6	99.2	6.99	431.5
7.12	15.12	9.69	97.3	98.4	7.00	431.1
8.05	14.98	9.59	95.9	93.3	7.06	432.8
8.99	15.06	9.45	94.7	96.2	7.08	431.5
10.07	14.76	7.86	78.3	93	7.07	440.4
11.05	14.45	6.31	62.4	91.5	7.06	443.4
12.12	13.89	5.27	51.7	-74.7	6.84	463.9
12.84	13.96	6.22	61.2	-522	6.54	447.3

Depth	Temp	RDO	RDO Sat	ORP	pH	SP Conductivity
1.01	20.84	10.52	116.5	202	5.93	446.3
1.89	20.97	10.42	115.9	187.8	6.11	444.5
2.87	21.18	10.34	115.4	168.8	6.48	441.8
3.93	21.16	10.28	114.8	156.2	6.68	441.3
4.78	20.8	10.37	115.1	140.2	6.9	444.4
6.18	20.75	10.31	114.3	140.5	6.92	443.6
6.85	20.57	10.21	113.4	140.2	6.99	443.5
8.05	18.09	10.38	108.8	136.2	7.05	419.1
9.02	18.27	10.14	108.6	140.9	7.06	411.3
9.99	17.12	3.3	33.8	28.6	7.07	416.4
11.07	16.56	6.3	64.5	-34.7	6.86	416.2
11.8	15.61	0.94	9.4	-60.6	6.73	440.4
12.81	16.15	1.21	12.3	-53.3	6.91	424.7

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Table 8
Summary of Sediment Results

Spectacle Pond
Cranston, Rhode Island

August 26, 2020

		Sample Location	SED-01 (Center of Pond)	SED-02 (Southern end of pond)	SED-03 (Northern end of pond)
		Sample Number	0508-01	0508-02	0508-03
		Sample Date	8/26/20	8/26/20	8/26/20
		Labortory	Northeast	Northeast	Northeast
		Sample Type	Grab	Grab	Grab
Analysis Request	Units	Reporting Limit			
Total Phosphorus	mg/kg	NA	5810	175	3810
Iron Bound Phosphorus	mg/kg	NA	376	44	78.2
Loosely Bound Phosphorus	mg/kg	NA	10.1	4.4	3
Total Solids	%	NA	14.6	66.4	13.7
Organic Matter	%	NA	10.29	60.83	6.96

NOTES:
mg/kg: milligrams per kilogram
Only the last six digits of the sample numbers are given.
NA: Not applicable
Northeast: Northeast Laboratories, Inc.

Created by: APT

Table 1
Summary of Surface Water Results

Spectacle Pond
Cranston, Rhode Island

May 08, 2020

		Sample Location	Twin Oaks Outfall	Twin Oaks SW	Speck Field SW	Midwood SW	Lake St SW	Lake St Manhole	Stop & Shop Outfall	Stop & Shop SW	Tongue Pond Inlet
		Sample Number	0508-01	0508-02	0508-03	0508-04	0508-05	0508-06	0508-07	0508-08	0508-10
		Sample Date	5/8/20	5/8/20	5/8/20	5/8/20	5/8/20	5/8/20	5/8/20	5/8/20	5/8/20
		Labortory	Net Lab	Net Lab	Net Lab	Net Lab	Net Lab	Net Lab	Net Lab	Net Lab	Net Lab
		Sample Type	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab
Analysis Request	Units	Reporting Limit									
Alkalinity (Method SM2320-B)	mg/L	2	15	34	27	35	37	34	9	41	50
Total Phospherous (Method SM4500-P-E)	mg/L	0.02	ND<0.02	ND<0.02	ND<0.02	ND<0.02	ND<0.02	ND<0.02	ND<0.02	ND<0.02	ND<0.02
Turbidity (SM2130-B)	NTU	0.1	0.2	2.4	2.6	2	0.6	0.9	1.3	3.9	3.2
pH	pH	NA	7.99	8.14	7.02	7	6.73	6.5	7.51	6.69	6.41
Temperature	(C)	NA	22.89	21.55	13.96	15	14.41	13.4	14.15	14.95	14.4
Specific Conductivity	(ÂµS/cm)	NA	186.3	252.5	390.6	388	529.8	534.9	36.6	395.8	391.4
Dissolved Oxygen	mg/L	NA	9.22	8.82	10.15	12	9.15	10.6	10.79	12.43	8.29
Dissolved Oxygen Saturation	%	NA	107.8	100.7	103.5	106.7	90.5	102.7	105.1	124.1	81.5
Oxidation-Reduction Potential	mV	NA	194.1	133.4	93.9	120	43.6	50.7	45.5	59.8	95.3

NOTES:

mg/L: milligrams per liter
NTU: Nephelometric Turbidity Unit
pH: Potential for hydrogen
C: Celsius
ÂµS/cm: Conductivity Microsiemens per centimeter

mV: millivolts
Only the last six digits of the sample numbers are given.
ND<X: compound not detected above laboratory reporting limit
NA: Not applicable
SW: Stormwater

REQUIRED DETECTION LIMITS FROM QAPP

TOTAL PHOSPHORUS	0.008 mg/L
ALKALINITY	2.0 mg/L
TURBIDITY	0.1 NTU

Created by: APT
Reviewed by: WG

Table 2
Summary of Surface Water Results

Spectacle Pond
Cranston, Rhode Island

May 28, 2020

		Sample Location	Twin Oaks Outfall	Twin Oaks SW	Midwood SW	Lake St Manhole	Lake St SW	Speck Field SW	Stop & Shop Outfall	Stop & Shop SW	Tongue Pond Inlet
		Sample Number	0528-01	0528-02	0528-03	0528-04	0528-05	0528-06	0528-07	0528-08	0528-09
		Sample Date	5/28/20	5/28/20	5/28/20	5/28/20	5/28/20	5/28/20	5/28/20	5/28/20	5/28/20
		Laboratory *	Net Lab	Net Lab	Net Lab	Net Lab	Net Lab	Net Lab	Net Lab	Net Lab	Net Lab
		Laboratory **	Phoenix	Phoenix	Phoenix	Phoenix	Phoenix	Phoenix	Phoenix	Phoenix	Phoenix
		Sample Type	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab
Analysis Request	Units	Reporting Limit									
Alkalinity (Method SM2320-B)	mg/L	2	10	30	36	32	35	49	17	46	35
Total Phospherous (Method SM4500-P-E)	mg/L	0.01	0.009	0.028	0.033	0.105	0.053	0.041	0.125	0.056	0.096
Turbidity (SM2130-B)	NTU	0.1	ND<0.1	2.1	2.1	15	1.8	2.3	1.5	5.5	9.4
pH	pH	NA	7.21	8.30	8.23	7.45	6.62	7.21	7.72	7.18	8.32
Temperature	(C)	NA	29.72	25.31	23.52	19.52	19.28	23.70	21.70	23.43	25.99
Specific Conductivity	(ÂµS/cm)	NA	171.80	389.60	414.40	493.20	493.70	413.20	70.30	430.80	424.6
Dissolved Oxygen	mg/L	NA	8.79	10.29	10.75	9.24	7.77	12.02	9.23	10.67	11.32
Dissolved Oxygen Saturation	%	NA	114.20	124.80	125.70	100.30	83.90	141.60	104.50	125.00	138.9
Oxidation-Reduction Potential	mV	NA	309.60	197.80	151.30	80.80	71.90	74.10	94.00	96.60	89.7

NOTES:
mg/L: milligrams per liter
NTU: Nephelometric Turbidity Unit
pH: Potential for hydrogen
C: Celsius
ÂµS/cm: Conductivity Microsiemens per centimeter
mV: millivolts
SW: Stormwater

Only the last six digits of the sample numbers are given.
Laboratory*
Laboratory**
ND<X: compound not detected above laboratory reporting limit
NA: Not applicable

REQUIRED DETECTION LIMITS FROM QAPP

TOTAL PHOSPHORUS	0.008 mg/L
ALKALINITY	2.0 mg/L
TURBIDITY	0.1 NTU

Created by: APT
Reviewed by: WG

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Table 3
Summary of Surface Water Results

Spectacle Pond
Cranston, Rhode Island

June 26, 2020

		Sample Location	Twin Oaks Outfall	In lake Sample (1 fbs)	In lake Sample (7 fbs)	In lake Sample (13 fbs)	Speck Field SW	Midwood SW	Lake St SW	Stop & Shop SW	Tongue Pond Inlet	Twin Oaks SW	Lake St Manhole	Stop & Shop Outfall
		Sample Number	0626-01	0626-04	0626-02	0626-03	0626-05	0626-06	0626-07	0626-08	0626-10	0626-11	0626-12	0626-13
		Sample Date	6/26/20	6/26/20	6/26/20	6/26/20	6/26/20	6/26/20	6/26/20	6/26/20	6/26/20	6/26/20	6/26/20	6/26/20
		Laboratory *	Net Lab	Net Lab	Net Lab	Net Lab	Net Lab	Net Lab	Net Lab	Net Lab	Net Lab	Net Lab	Net Lab	Net Lab
		Laboratory **	Phoenix	Phoenix	Phoenix	Phoenix	Phoenix	Phoenix	Phoenix	Phoenix	Phoenix	Phoenix	Phoenix	Phoenix
		Sample Type	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab
Analysis Request	Units	Reporting Limit												
Alkalinity (Method SM2320-B)	mg/L	2	14	35	33	70	29	35	33	34	33	33	30	Dry
Total Phospherous (Method SM4500-P-E)	mg/L	0.003	0.012	0.046	0.044	0.096	0.037	0.028	0.066	0.045	0.04	0.055	0.063	Dry
Total Iron (EPA 6010C)	mg/L	0.05	ND<0.05	0.2	0.24	10.2	0.24	0.2	0.78	0.54	0.52	0.22	0.59	Dry
Turbidity (SM2130-B)	NTU	0.1	1.1	4	5.3	48.7	4.9	4.8	8.6	7.4	6.6	4.4	5	Dry
pH	pH	NA	7.7	6.89	7.54	6.98	7.49	7.67	7.57	7.53	7.55	7.63	7.03	Dry
Temperature	(C)	NA	30.29	25.34	26.2	24.17	26.65	27.06	279.40	29.17	29.33	29.9	25.2	Dry
Specific Conductivity	(ÂµS/cm)	NA	169.60	457.90	450.00	505.90	447.80	446.50	439.50	456.30	450.4	443.9	454	Dry
Dissolved Oxygen	mg/L	NA	7.89	8.89	8.66	4.55	10.12	8.67	9.1	9.17	8.85	8.64	6.23	Dry
Dissolved Oxygen Saturation	%	NA	105.20	108.80	107.50	54.30	126.70	109.40	116.70	120.20	116.2	113	76.1	Dry
Oxidation-Reduction Potential	mV	NA	338.90	-53.10	44.20	-101.40	34.10	47.30	24.70	52.30	55.5	57.8	61.2	Dry

NOTES:
mg/L: milligrams per liter
NTU: Nephelometric Turbidity Unit
pH: Potential for hydrogen
C: Celsius
ÂµS/cm: Conductivity Microsiemens per centimeter
mV: millivolts
SW: Stormwater

Only the last six digits of the sample numbers are given.
Laboratory*
Laboratory**
ND<X: compound not detected above laboratory reporting limit
NA: Not applicable
fbs: Feet below surface

REQUIRED DETECTION LIMITS FROM QAPP

TOTAL PHOSPHORUS	0.008 mg/L
ALKALINITY	2.0 mg/L
TURBIDITY	0.1 NTU
TOTAL IRON	0.1 mg/L

Created by: APT
Reviewed by: WG

Table 4
Summary of Surface Water Results

Spectacle Pond
Cranston, Rhode Island

July 30, 2020

		Sample Location	In Lake Sample (13 fbs)	In lake Sample (7.5 fbs)	In lake Sample (1 fbs)	Twin Oaks SW	Speck Field SW	Midwood SW	Lake St SW	Stop & Shop SW	Tongue Pond Inlet	Twin Oaks Outfall	Lake Street Manhole	Stop & Shop Outfall
		Sample Number	0730-01	0730-02	0730-03	0730-04	0730-05	0730-06	0730-07	0730-08	0730-10	0730-11	0730-12	0626-13
		Sample Date	7/30/20	7/30/20	7/30/20	7/30/20	7/30/20	7/30/20	7/30/20	7/30/20	7/30/20	7/30/20	7/30/20	7/30/20
		Laboratory *	Net Lab	Net Lab	Net Lab	Net Lab	Net Lab	Net Lab	Net Lab	Net Lab	Net Lab	Net Lab	Net Lab	Net Lab
		Laboratory **	Phoenix	Phoenix	Phoenix	Phoenix	Phoenix	Phoenix	Phoenix	Phoenix	Phoenix	Phoenix	Phoenix	Phoenix
		Sample Type	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab
Analysis Request	Units	Reporting Limit												
Alkalinity (Method SM2320-B)	mg/L	2	55	33	35	35	33	35	33	40	37	22	24	Dry
Total Phospherous (Method SM4500-P-E)	mg/L	0.003	0.092	0.071	0.067	0.047	0.046	0.043	0.055	0.064	0.056	0.02	0.068	Dry
Total Iron (EPA 6010C)	mg/L	0.05	7.530	0.317	0.161	0.155	0.137	0.127	0.266	0.274	0.266	0.046	0.120	Dry
Turbidity (SM2130-B)	NTU	0.1	281	8.0	9.0	8.0	7.7	8.9	7.4	8.0	7.5	ND<0.1	1.8	Dry
pH	pH	NA	6.85	7.19	7.56	7.81	8.14	8.26	8.27	8.17	8.44	9.00	8.15	Dry
Temperature	(C)	NA	26.33	27.80	28.91	30.19	30.06	30.25	30.76	31.87	30.83	31.90	27.55	Dry
Specific Conductivity	(ÂµS/cm)	NA	534.50	467.70	457.50	452.80	453.90	455.00	453.70	449.00	454	227.80	231.3	Dry
Dissolved Oxygen	mg/L	NA	3.03	4.45	8.41	8.21	8.25	8.35	7.64	7.87	8.05	7.45	5.17	Dry
Dissolved Oxygen Saturation	%	NA	37.70	96.60	109.40	109.30	109.50	111.30	102.90	108.00	108.2	102.00	65.2	Dry
Oxidation-Reduction Potential	mV	NA	-103.80	-15.70	-22.90	7.10	11.80	14.90	25.60	31.40	21.5	219.3	254.7	Dry

NOTES:
mg/L: milligrams per liter
NTU: Nephelometric Turbidity Unit
pH: Potential for hydrogen
C: Celsius
ÂµS/cm: Conductivity Microsiemens per centimeter
mV: millivolts
SW: Stormwater

Only the last six digits of the sample numbers are given.
Laboratory*
Laboratory**
ND<X: compound not detected above laboratory reporting limit
NA: Not applicable
fbs: Feet below surface

REQUIRED DETECTION LIMITS FROM QAPP

TOTAL PHOSPHORUS	0.008 mg/L
ALKALINITY	2.0 mg/L
TURBIDITY	0.1 NTU
TOTAL IRON	0.1 mg/L

Created by: APT
Reviewed by:

Table 5
Summary of Surface Water Results

Spectacle Pond
Cranston, Rhode Island

August 26, 2020

		Sample Location	In lake Sample (1 fbg)	In Lake Sample (7-8 fbs)	In Lake Sample (12 fbs)	Twin Oaks Outfall	Twin Oaks SW	Spec Field Surface	Midwood SW	Lake St Manhole	Lake St SW	Stop & Shop SW	Tongue Pond Inlet	Stop & Shop Outfall
		Sample Number	0826-01	0826-02	0826-03	0826-07	0826-08	0826-09	0826-10	0826-11	0826-12	0826-14	0826-15	0826-16
		Sample Date	08/26/20	08/26/20	08/26/20	08/26/20	08/26/20	08/26/20	08/26/20	08/26/20	08/26/20	08/26/20	08/26/20	08/26/20
		Laboratory *	Net Lab	Net Lab	Net Lab	Net Lab	Net Lab	Net Lab	Net Lab	Net Lab	Net Lab	Net Lab	Net Lab	Net Lab
		Laboratory **	Phoenix	Phoenix	Phoenix	Phoenix	Phoenix	Phoenix	Phoenix	Phoenix	Phoenix	Phoenix	Phoenix	Phoenix
		Sample Type	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab
Analysis Request	Units	Reporting Limit												
Alkalinity (Method SM2320-B)	mg/L	2	46	47	100	23	33	39	37	25	23	35	35	Dry
Total Phospherous (Method SM4500-P-E)	mg/L	0.003	0.046	0.063	0.063	0.006	0.06	0.113	0.048	0.028	0.016	0.057	0.066	Dry
Total Iron (EPA 6010C)	mg/L	0.05	0.390	0.37	26.9	0.07	0.55	1.36	0.31	0.18	0.19	0.600	0.78	Dry
Turbidity (SM2130-B)	NTU	0.1	10.2	10.0	158.0	ND<0.1	9.7	22.7	14.9	1.6	0.6	17.6	16.1	Dry
pH	pH	NA	NA	NA	NA	9.2	8.29	7.24	8.37	6.7	6.57	8.52	7.88	Dry
Temperature	(C)	NA	25.71	24.60	20.97	29.3	23.8	22.90	24.00	22.4	22.8	26.10	26.1	Dry
Specific Conductivity	(ÂµS/cm)	NA	NA	NA	NA	180.10	450.70	472.00	450.30	362.60	359.3	446.40	447.9	Dry
Dissolved Oxygen	mg/L	NA	9.42	2.00	-0.01	7.52	8.84	5.16	6.02	5.04	3.86	5.65	4.29	Dry
Dissolved Oxygen Saturation	%	NA	115.50	24.10	-0.10	98.40	104.30	60.00	71.80	58.00	44.9	70.00	53.1	Dry
Oxidation-Reduction Potential	mV	NA	NA	NA	NA	315.50	103.50	170.90	137.90	150.10	142.1	122.9	184.4	Dry

NOTES:
mg/L: milligrams per liter
NTU: Nephelometric Turbidity Unit
pH: Potential for hydrogen
C: Celsius
ÂµS/cm: Conductivity Microsiemens per centimeter
mV: millivolts

Only the last six digits of the sample numbers are given.
Laboratory*
Laboratory**
ND<X: compound not detected above laboratory reporting limit
NA: Not applicable
fbg: Feet below surface

REQUIRED DETECTION LIMITS FROM QAPP

TOTAL PHOSPHORUS	0.008 mg/L
ALKALINITY	2.0 mg/L
TURBIDITY	0.1 NTU
TOTAL IRON	0.1 mg/L

Created by: APT
Reviewed by:

FUSS & O'NEILL

Table 6
Summary of Surface Water Results

Spectacle Pond
Cranston, Rhode Island

October 12, 2020

		Sample Location	In lake Sample (13 fbg)	In Lake Sample (7-8 fbs)	In Lake Sample (1 fbs)	Twin Oaks Outfall	Twin Oaks SW	Midwood SW	Lake St Manhole	Lake St SW	Spec Field SW	Stop & Shop Outfall	Stop & Shop SW	Tongue Pond Inlet
		Sample Number	1012-01	1012-02	1012-03	1012-04	1012-05	1012-06	1012-07	1012-08	1012-09	1012-10	1012-11	1012-12
		Sample Date	10/12/20	10/12/20	10/12/20	10/12/20	10/12/20	10/12/20	10/12/20	10/12/20	10/12/20	10/12/20	10/12/20	10/12/20
		Laboratory *	Net Lab	Net Lab	Net Lab	Net Lab	Net Lab	Net Lab	Net Lab	Net Lab	Net Lab	Net Lab	Net Lab	Net Lab
		Laboratory **	Phoenix	Phoenix	Phoenix	Phoenix	Phoenix	Phoenix	Phoenix	Phoenix	Phoenix	Phoenix	Phoenix	Phoenix
		Sample Type	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab
Analysis Request	Units	Reporting Limit												
Alkalinity (Method SM2320-B)	mg/L	2	31	47	56	40	64	54	37	49	48	23	53	53
Total Phospherous (Method SM4500-P-E)	mg/L	0.003	11.3	0.057	0.079	0.019	0.078	0.072	0.067	0.049	0.119	0.095	0.051	0.052
Total Iron (EPA 6010C)	mg/L	0.05	102.000	0.99	0.71	ND<0.05	0.58	0.65	0.23	0.3	1.24	0.510	0.98	0.69
Turbidity (SM2130-B)	NTU	0.1	656.0	15.2	15.6	0.3	14.0	15.0	15.4	3.8	25.3	0.9	11.7	17.4
pH	pH	NA	6.49	6.55	6.58	7.05	7.2	7.05	7.11	6.84	6.88	7.04	6.82	16.89
Temperature	(C)	NA	13.77	14.04	14.25	15.93	16.03	15.03	16.10	16.56	15.11	16.29	15.97	15.88
Specific Conductivity	(ÂµS/cm)	NA	479.40	478.30	474.50	260.40	455.70	472.10	289.30	369.40	467.3	80.30	462	470.4
Dissolved Oxygen	mg/L	NA	6.36	9.81	10.18	11.22	8.95	11.55	9.46	6.96	11.44	11.42	10.32	9.76
Dissolved Oxygen Saturation	%	NA	60.10	94.20	97.30	111.50	84.50	113.60	95.10	70.50	112.5	115.10	103.5	97.6
Oxidation-Reduction Potential	mV	NA	32.20	40.80	49.60	145.60	94.40	82.60	90.80	98.20	101.00	87.2	73.3	85.1

Created by: APT
Reviewed by:

NOTES:
mg/L: milligrams per liter
NTU: Nephelometric Turbidity Unit
pH: Potential for hydrogen
C: Celsius
ÂµS/cm: Conductivity Microsiemens per centimeter
mV: millivolts

Only the last six digits of the sample numbers are given.
Laboratory*
Laboratory**
ND<X: compound not detected above laboratory reporting limit
NA: Not applicable
fbs: Feet below surface

REQUIRED DETECTION LIMITS FROM QAPP

TOTAL PHOSPHORUS	0.008 mg/L
ALKALINITY	2.0 mg/L
TURBIDITY	0.1 NTU
TOTAL IRON	0.1 mg/L

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Table 7
Summary of Surface Water Results

Spectacle Pond
Cranston, Rhode Island

October 29, 2020

		Sample Location	Twin Oaks Outfall	Twin Oaks SW	Spec Field SW	Midwood SW	Lake St Manhole	Lake St SW	Stop & Shop Outfall	Stop & Shop SW	Tongue Pond Inlet	In Lake Sample (13 fbs)	In Lake Sample (7-8 fbs)	In Lake Sample (1 fbs)
		Sample Number	1029-01	1029-02	1029-03	1029-04	1029-05	1029-06	1029-07	1029-08	1029-10	1029-11	1029-12	1029-13
		Sample Date	10/29/20	10/29/20	10/29/20	10/29/20	10/29/20	10/29/20	10/29/20	10/29/20	10/29/20	10/29/20	10/29/20	10/29/21
		Laboratory *	Net Lab	Net Lab	Net Lab	Net Lab	Net Lab	Net Lab	Net Lab	Net Lab	Net Lab	Net Lab	Net Lab	Net Lab
		Laboratory **	Phoenix	Phoenix	Phoenix	Phoenix	Phoenix	Phoenix	Phoenix	Phoenix	Phoenix	Phoenix	Phoenix	Phoenix
		Sample Type	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab
Analysis Request	Units	Reporting Limit												
Alkalinity (Method SM2320-B)	mg/L	2	30	42	48	44	15	10	6	40	52	42	40	38
Total Phospherous (Method SM4500-P-E)	mg/L	0.003	0.006	0.058	0.065	0.058	0.143	0.122	0.053	0.192	3.41	0.069	0.095	0.066
Total Iron (EPA 6010C)	mg/L	0.05	ND<0.05	0.46	0.41	0.41	0.75	0.66	0.12	1.79	12.700	0.55	0.46	0.57
Turbidity (SM2130-B)	NTU	0.1	0.5	11.8	21.1	13.8	12.5	13.1	0.7	23.7	772	14.5	11.8	283
pH	pH	NA	5.81	6.09	6.87	6.86	7.23	7.19	7.12	6.82	6.81	6.91	6.99	68.4
Temperature	(C)	NA	15.57	14.85	13.64	12.65	11.9	12.30	13.03	12.61	11.57	11.39	12.31	13.42
Specific Conductivity	(ÂµS/cm)	NA	241.10	38.34	346.40	331.10	55.80	62.20	27.20	388.70	406.70	363	398.2	407.2
Dissolved Oxygen	mg/L	NA	11.23	10.98	9.22	8.97	10.6	11.26	9.1	8.31	7.34	9.06	8.87	6.54
Dissolved Oxygen Saturation	%	NA	112.70	108.60	88.80	84.50	98.00	105.30	86.60	78.50	67.60	83.3	83.2	72.7
Oxidation-Reduction Potential	mV	NA	415.20	238.30	219.00	176.70	164.20	125.40	171.30	114.60	-42.5	120.1	91.2	83.9

NOTES:
mg/L: milligrams per liter
NTU: Nephelometric Turbidity Unit
pH: Potential for hydrogen
C: Celsius
ÂµS/cm: Conductivity Microsiemens per centimeter
mV: millivolts

Only the last six digits of the sample numbers are given.
Laboratory*
Laboratory**
ND<X: compound not detected above laboratory reporting limit
NA: Not applicable
fbs: Feet below surface

REQUIRED DETECTION LIMITS FROM QAPP
TOTAL PHOSPHORUS 0.008 mg/L
ALKALINITY 2.0 mg/L
TURBIDITY 0.1 NTU
TOTAL IRON 0.1 mg/L

Created by: APT
Reviewed by:

		Sample Location
		Sample Number
		Sample Date
		Laboratory *
		Laboratory **
		Sample Type
Analysis Request	Units	Reporting Limit
Alkalinity (Method SM2320-B)	mg/L	2
Total Phospherous (Method SM4500-P-E)	mg/L	0.02
Total Iron (EPA 6010C)	mg/L	NA
Turbidity (SM2130-B)	NTU	0.1
pH	pH	NA
Temperature	(C)	NA
Specific Conductivity	(ÂµS/cm)	NA
RDO	mg/L	NA
RDO Saturation	%	NA
ORP	mV	NA

NOTES:

mg/L: milligrams per liter
NTU: Nephelometric Turbidity Unit
pH: Potential for hydrogen
C: Celsius
ÂµS/cm: Conductivity Microsiemens per centimeter
mV: millivolts
Only the last six digits of the sample numbers are given.
Laboratory*
Laboratory**

ND<X: compound not detected above
NA: Not applicable
SW: Stormwater

REQUIRED DETECTION LIMIT

TOTAL PHOSPHORUS
ALKALINITY
TURBIDITY
TOTAL IRON

Table 1
Summary of Surface Water Results

Spectacle Pond
Cranston, Rhode Island

May - October 2020

Stop & Shop (DUP)	Tongue Pond Inlet (DUP)	Stop & Shop SW (DUP)	Stop & Shop SW DUP
0508-09	0528-10	0626-09	0730-09
5/8/20	5/28/20	6/26/20	7/30/20
Net Lab	Net Lab	Net Lab	Net Lab
Net Lab	Phoenix	Phoenix	Phoenix
Grab	Grab	Grab	Grab
35	36	32	35
ND<0.02	0.096	0.043	0.067
NA	NA	0.71	0.284
3.8	5.6	6.3	8.4
6.69	8.32	7.53	8.17
14.95	25.99	29.17	31.87
395.8	424.6	456.30	449.00
12.43	11.32	9.17	7.87
124.1	138.9	120.20	108.00
59.8	89.7	52.30	31.40

: laboratory reporting limit

<u>TS FROM QAPP</u>
0.008 mg/L
2.0 mg/L
0.1 NTU

Lake St SW (DUP)	Tongue Pond Inlet (DUP)	Stop & Shop SW DUP
0826-13	1012-12	1029-09
08/26/20	10/12/20	10/29/20
Net Lab	Net Lab	Net Lab
Phoenix	Phoenix	Phoenix
Grab	Grab	Grab
25	57	32
0.016	0.075	0.216
0.18	0.83	1.49
0.7	15.2	20.7
6.57	16.89	6.82
22.8	15.88	12.67
359.3	470.4	388.7
3.86	9.76	8.31
44.9	97.6	78.5
142.1	85.1	114.60

Created by: APT
Reviewed by:

Appendix C

Laboratory Analytical Reports

New England Testing Laboratory, Inc.
(401) 353-3420

REPORT OF ANALYTICAL RESULTS

NETLAB Work Order Number: 0E08041
Client Project: 20170900.B10 - Spectacle Pond, Cranston

Report Date: 18-May-2020

Prepared for:

Alan Tevyaw
Fuss & O'Neill
317 Iron Horse Way
Providence, RI 02908

Richard Warila, Laboratory Director
New England Testing Laboratory, Inc.
59 Greenhill Street
West Warwick, RI 02893
rich.warila@newenglandtesting.com

Samples Submitted :

The samples listed below were submitted to New England Testing Laboratory on 05/08/20. The group of samples appearing in this report was assigned an internal identification number (case number) for laboratory information management purposes. The client's designations for the individual samples, along with our case numbers, are used to identify the samples in this report. This report of analytical results pertains only to the sample(s) provided to us by the client which are indicated on the custody record. The case number for this sample submission is 0E08041. Custody records are included in this report.

Lab ID	Sample	Matrix	Date Sampled	Date Received
0E08041-01	1604200508-01	Water	05/08/2020	05/08/2020
0E08041-02	1604200508-02	Water	05/08/2020	05/08/2020
0E08041-03	1604200508-03	Water	05/08/2020	05/08/2020
0E08041-04	1604200508-04	Water	05/08/2020	05/08/2020
0E08041-05	1604200508-05	Water	05/08/2020	05/08/2020
0E08041-06	1604200508-06	Water	05/08/2020	05/08/2020
0E08041-07	1604200508-07	Water	05/08/2020	05/08/2020
0E08041-08	1604200508-08	Water	05/08/2020	05/08/2020
0E08041-09	1604200508-09	Water	05/08/2020	05/08/2020
0E08041-10	1604200508-10	Water	05/08/2020	05/08/2020

Request for Analysis

At the client's request, the analyses presented in the following table were performed on the samples submitted.

1604200508-01 (Lab Number: 0E08041-01)

Analysis	Method
Alkalinity (CaCO3)	SM2320-B (11)
Total Phosphorous	SM4500-P-E (11)
Turbidity	SM2130-B (11)

1604200508-02 (Lab Number: 0E08041-02)

Analysis	Method
Alkalinity (CaCO3)	SM2320-B (11)
Total Phosphorous	SM4500-P-E (11)
Turbidity	SM2130-B (11)

1604200508-03 (Lab Number: 0E08041-03)

Analysis	Method
Alkalinity (CaCO3)	SM2320-B (11)
Total Phosphorous	SM4500-P-E (11)
Turbidity	SM2130-B (11)

1604200508-04 (Lab Number: 0E08041-04)

Analysis	Method
Alkalinity (CaCO3)	SM2320-B (11)
Total Phosphorous	SM4500-P-E (11)
Turbidity	SM2130-B (11)

1604200508-05 (Lab Number: 0E08041-05)

Analysis	Method
Alkalinity (CaCO3)	SM2320-B (11)
Total Phosphorous	SM4500-P-E (11)
Turbidity	SM2130-B (11)

1604200508-06 (Lab Number: 0E08041-06)

Analysis	Method
Alkalinity (CaCO3)	SM2320-B (11)
Total Phosphorous	SM4500-P-E (11)
Turbidity	SM2130-B (11)

1604200508-07 (Lab Number: 0E08041-07)

Analysis	Method
Alkalinity (CaCO3)	SM2320-B (11)
Total Phosphorous	SM4500-P-E (11)
Turbidity	SM2130-B (11)

1604200508-08 (Lab Number: 0E08041-08)

Analysis	Method
Alkalinity (CaCO3)	SM2320-B (11)
Total Phosphorous	SM4500-P-E (11)
Turbidity	SM2130-B (11)

Request for Analysis (continued)

1604200508-09 (Lab Number: 0E08041-09)

Analysis	Method
Alkalinity (CaCO3)	SM2320-B (11)
Total Phosphorous	SM4500-P-E (11)
Turbidity	SM2130-B (11)

1604200508-10 (Lab Number: 0E08041-10)

Analysis	Method
Alkalinity (CaCO3)	SM2320-B (11)
Total Phosphorous	SM4500-P-E (11)
Turbidity	SM2130-B (11)

Method References

Standard Methods for the Examination of Water and Wastewater, 20th Edition, APHA/ AWWA-WPCF, 1998

Case Narrative

Sample Receipt:

The samples associated with this work order were received in appropriately cooled and preserved containers. The chain of custody was adequately completed and corresponded to the samples submitted.

Exceptions: None

Analysis:

All samples were prepared and analyzed within method specified holding times and according to NETLAB's documented standard operating procedures. The results for the associated calibration, method blank and laboratory control sample (LCS) were within method specified quality control requirements and allowances. Results for all soil samples, unless otherwise indicated, are reported on a dry weight basis.

Exceptions: None

Results: General Chemistry

Sample: 1604200508-01
Lab Number: 0E08041-01 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Alkalinity as CaCO3	**15**		2	mg/L	05/09/20	05/09/20
Total Phosphorous	ND		0.02	mg/L	05/15/20	05/15/20
Turbidity	**0.2**		0.1	NTU	05/09/20 8:45	05/09/20 8:45

Results: General Chemistry

Sample: 1604200508-02

Lab Number: 0E08041-02 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Alkalinity as CaCO3	**34**		2	mg/L	05/09/20	05/09/20
Total Phosphorous	ND		0.02	mg/L	05/15/20	05/15/20
Turbidity	**2.4**		0.1	NTU	05/09/20 8:45	05/09/20 8:45

Results: General Chemistry

Sample: 1604200508-03

Lab Number: 0E08041-03 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Alkalinity as CaCO3	**27**		2	mg/L	05/09/20	05/09/20
Total Phosphorous	ND		0.02	mg/L	05/15/20	05/15/20
Turbidity	**2.6**		0.1	NTU	05/09/20 8:45	05/09/20 8:45

Results: General Chemistry

Sample: 1604200508-04

Lab Number: 0E08041-04 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Alkalinity as CaCO3	**35**		2	mg/L	05/09/20	05/09/20
Total Phosphorous	ND		0.02	mg/L	05/15/20	05/15/20
Turbidity	**2.3**		0.1	NTU	05/09/20 8:45	05/09/20 8:45

Results: General Chemistry

Sample: 1604200508-05

Lab Number: 0E08041-05 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Alkalinity as CaCO3	**37**		2	mg/L	05/09/20	05/09/20
Total Phosphorous	ND		0.02	mg/L	05/15/20	05/15/20
Turbidity	**0.6**		0.1	NTU	05/09/20 8:45	05/09/20 8:45

Results: General Chemistry

Sample: 1604200508-06
Lab Number: 0E08041-06 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Alkalinity as CaCO3	**34**		2	mg/L	05/09/20	05/09/20
Total Phosphorous	ND		0.02	mg/L	05/15/20	05/15/20
Turbidity	**0.9**		0.1	NTU	05/09/20 8:45	05/09/20 8:45

Results: General Chemistry

Sample: 1604200508-07

Lab Number: 0E08041-07 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Alkalinity as CaCO3	**9**		2	mg/L	05/09/20	05/09/20
Total Phosphorous	ND		0.02	mg/L	05/15/20	05/15/20
Turbidity	**1.3**		0.1	NTU	05/09/20 8:45	05/09/20 8:45

Results: General Chemistry

Sample: 1604200508-08

Lab Number: 0E08041-08 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Alkalinity as CaCO3	**41**		2	mg/L	05/09/20	05/09/20
Total Phosphorous	ND		0.02	mg/L	05/15/20	05/15/20
Turbidity	**3.9**		0.1	NTU	05/09/20 8:45	05/09/20 8:45

Results: General Chemistry

Sample: 1604200508-09

Lab Number: 0E08041-09 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Alkalinity as CaCO3	**35**		2	mg/L	05/09/20	05/09/20
Total Phosphorous	ND		0.02	mg/L	05/15/20	05/15/20
Turbidity	**3.8**		0.1	NTU	05/09/20 8:45	05/09/20 8:45

Results: General Chemistry

Sample: 1604200508-10

Lab Number: 0E08041-10 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Alkalinity as CaCO3	**50**		2	mg/L	05/09/20	05/09/20
Total Phosphorous	ND		0.02	mg/L	05/15/20	05/15/20
Turbidity	**3.2**		0.1	NTU	05/09/20 8:45	05/09/20 8:45

Quality Control

General Chemistry

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B0E0298 - Turbidity										
Blank (B0E0298-BLK1)					Prepared & Analyzed: 05/09/20					
Turbidity	ND		0.1	NTU						
Blank (B0E0298-BLK2)					Prepared & Analyzed: 05/09/20					
Turbidity	ND		0.1	NTU						
LCS (B0E0298-BS1)					Prepared & Analyzed: 05/09/20					
Turbidity	1.0		0.1	NTU	1.00		95.0	0-200		
LCS (B0E0298-BS2)					Prepared & Analyzed: 05/09/20					
Turbidity	1.0		0.1	NTU	1.00		98.0	0-200		
Duplicate (B0E0298-DUP1)		**Source: 0E08041-01**			Prepared & Analyzed: 05/09/20					
Turbidity	0.2		0.1	NTU		0.2			0.00	200
Batch: B0E0319 - Alkalinity										
Blank (B0E0319-BLK1)					Prepared & Analyzed: 05/09/20					
Alkalinity as CaCO3	ND		2	mg/L						
LCS (B0E0319-BS1)					Prepared & Analyzed: 05/09/20					
Alkalinity as CaCO3	46		2	mg/L	50.0		91.9	90-110		
Duplicate (B0E0319-DUP1)		**Source: 0E05096-02**			Prepared & Analyzed: 05/09/20					
Alkalinity as CaCO3	35		2	mg/L		40			11.8	20
Matrix Spike (B0E0319-MS1)		**Source: 0E05096-02**			Prepared & Analyzed: 05/09/20					
Alkalinity as CaCO3	78		2	mg/L	50.0	40	76.0	80-120		

Quality Control
(Continued)

General Chemistry (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B0E0572 - Total phosphate										
Blank (B0E0572-BLK1)					Prepared & Analyzed: 05/15/20					
Total Phosphorous	ND		0.02	mg/L						
Blank (B0E0572-BLK2)					Prepared & Analyzed: 05/15/20					
Total Phosphorous	ND		0.02	mg/L						
LCS (B0E0572-BS1)					Prepared & Analyzed: 05/15/20					
Total Phosphorous	1.04		0.02	mg/L	1.00		104	90-110		
LCS (B0E0572-BS2)					Prepared & Analyzed: 05/15/20					
Total Phosphorous	1.04		0.02	mg/L	1.00		104	90-110		
Duplicate (B0E0572-DUP1)		**Source: 0E08027-02**			Prepared & Analyzed: 05/15/20					
Total Phosphorous	ND		0.02	mg/L		ND				20
Matrix Spike (B0E0572-MS1)		**Source: 0E08027-02**			Prepared & Analyzed: 05/15/20					
Total Phosphorous	0.82		0.02	mg/L	1.00	ND	82.5	80-120		

Notes and Definitions

Item	Definition
Wet	Sample results reported on a wet weight basis.
ND	Analyte NOT DETECTED at or above the reporting limit.

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CHAIN-OF-CUSTODY RECORD 0570

Turnaround
❑ 1 Day* ❑ 2 Days* ❑ 3 Days* ☑ Standard (____ days) ❑ Other ______ (days)
*Surcharge Applies

PROJECT NAME	PROJECT LOCATION	PROJECT NUMBER	LABORATORY
Spectacle Pond	Cranston, RI	20170900.B10	Net lab

REPORT TO: Allen Tevyaw atevyaw@fando.com
INVOICE TO: Allen Tevyaw atevyaw@fando.com
P.O. NO.: 1604201709OO.B10
Sampler's Signature: [signature] Date: 5/8/20

Source Codes:
MW=Monitoring Well PW=Potable Water S=Soil W=Waste
SW=Surface Water T=Treatment Facility B=Sediment A=Air
X=Other ______

Analysis Request: Total Phosphorus (SM 4500 PB/H); Alkalinity (SM 2320B); Turbidity (SM 2130B)

Containers: Soil VOA Vial, [ ] methanol; Soil VOA Vial, [ ] water; Glass Soil Container ( ) oz; Glass Soil Container ( ) oz; Other: [ ] Na(SO4)2; Water VOA Vial, [ ] As is [ ] HCl; Glass Amber ( ) ml, [ ] As is [ ] H2SO4; Plastic - As is, [ ] 250 ml [ ] 500 [✓] 1000 ml; Plastic - H2SO4 [✓] 250 ml [.] 500 ml 1602; Plastic - HNO3, 250 ml [ ] Filtered [ ] Unfiltered; Plastic - NaOH, 250 ml

Item No.	Transfer Check 1	2	3	4	Sample Number	Source Code	Date Sampled	Time Sampled	Total Phosphorus	Alkalinity	Turbidity	Plastic - As is	Plastic - H2SO4	Comments
1	✓				1604200508-01	SW	5/8/20		X	X	X	X	X	
2	✓				1604200508-02	SW	↓		X	X	X	X	X	
3	✓				1604200508-03	SW	↓		X	X	X	X	X	
4	✓				1604200508-04	SW	↓		X	X	X	X	X	
5	✓				1604200508-05	SW	↓		X	X	X	X	X	
6	✓				1604200508-06	SW	↓		X	X	X	X	X	
7	✓				1604200508-07	SW	↓		X	X	X	X	X	
8	✓				1604200508-08	SW	↓		X	X	X	X	X	
9	✓				1604200508-09	SW	↓		X	X	X	X	X	
10	✓				1604200508-10	SW	↓		X	X	X	X	X	

Transfer Number	Relinquished By	Accepted By	Date	Time
1	[signature]		5/8	~~1633~~ 1545
2		[signature]	5/8/20	15:45
3				
4			@	5°

Reporting and Detection Limit Requirements: Total P: 0.0008 mg/L; Alkalinity: 2 mg/L; Turbidity: 0.1 NTU

Additional Comments: Reporting Limits →

New England Testing Laboratory, Inc.
(401) 353-3420

REPORT OF ANALYTICAL RESULTS

NETLAB Work Order Number: 0E28060
Client Project: 20170900.B10 - Spectacle Pond, Cranston

Report Date: 02-June-2020

Prepared for:

Alan Tevyaw
Fuss & O'Neill
317 Iron Horse Way
Providence, RI 02908

Richard Warila, Laboratory Director
New England Testing Laboratory, Inc.
59 Greenhill Street
West Warwick, RI 02893
rich.warila@newenglandtesting.com

Samples Submitted :

The samples listed below were submitted to New England Testing Laboratory on 05/28/20. The group of samples appearing in this report was assigned an internal identification number (case number) for laboratory information management purposes. The client's designations for the individual samples, along with our case numbers, are used to identify the samples in this report. This report of analytical results pertains only to the sample(s) provided to us by the client which are indicated on the custody record. The case number for this sample submission is 0E28060. Custody records are included in this report.

Lab ID	Sample	Matrix	Date Sampled	Date Received
0E28060-01	1604200528-01	Water	05/28/2020	05/28/2020
0E28060-02	1604200528-02	Water	05/28/2020	05/28/2020
0E28060-03	1604200528-03	Water	05/28/2020	05/28/2020
0E28060-04	1604200528-04	Water	05/28/2020	05/28/2020
0E28060-05	1604200528-05	Water	05/28/2020	05/28/2020
0E28060-06	1604200528-06	Water	05/28/2020	05/28/2020
0E28060-07	1604200528-07	Water	05/28/2020	05/28/2020
0E28060-08	1604200528-08	Water	05/28/2020	05/28/2020
0E28060-09	1604200528-09	Water	05/28/2020	05/28/2020
0E28060-10	1604200528-10	Water	05/28/2020	05/28/2020

Request for Analysis

At the client's request, the analyses presented in the following table were performed on the samples submitted.

1604200528-01 (Lab Number: 0E28060-01)

Analysis	Method
Alkalinity (CaCO3)	SM2320-B (11)
Turbidity	SM2130-B (11)

1604200528-02 (Lab Number: 0E28060-02)

Analysis	Method
Alkalinity (CaCO3)	SM2320-B (11)
Turbidity	SM2130-B (11)

1604200528-03 (Lab Number: 0E28060-03)

Analysis	Method
Alkalinity (CaCO3)	SM2320-B (11)
Turbidity	SM2130-B (11)

1604200528-04 (Lab Number: 0E28060-04)

Analysis	Method
Alkalinity (CaCO3)	SM2320-B (11)
Turbidity	SM2130-B (11)

1604200528-05 (Lab Number: 0E28060-05)

Analysis	Method
Alkalinity (CaCO3)	SM2320-B (11)
Turbidity	SM2130-B (11)

1604200528-06 (Lab Number: 0E28060-06)

Analysis	Method
Alkalinity (CaCO3)	SM2320-B (11)
Turbidity	SM2130-B (11)

1604200528-07 (Lab Number: 0E28060-07)

Analysis	Method
Alkalinity (CaCO3)	SM2320-B (11)
Turbidity	SM2130-B (11)

1604200528-08 (Lab Number: 0E28060-08)

Analysis	Method
Alkalinity (CaCO3)	SM2320-B (11)
Turbidity	SM2130-B (11)

1604200528-09 (Lab Number: 0E28060-09)

Analysis	Method
Alkalinity (CaCO3)	SM2320-B (11)
Turbidity	SM2130-B (11)

1604200528-10 (Lab Number: 0E28060-10)

Analysis	Method
Alkalinity (CaCO3)	SM2320-B (11)

Request for Analysis (continued)

1604200528-10 (Lab Number: 0E28060-10) (continued)

Analysis	Method
Turbidity	SM2130-B (11)

Method References

Standard Methods for the Examination of Water and Wastewater, 20th Edition, APHA/ AWWA-WPCF, 1998

Case Narrative

Sample Receipt:

The samples associated with this work order were received in appropriately cooled and preserved containers. The chain of custody was adequately completed and corresponded to the samples submitted.

Exceptions: None

Analysis:

All samples were prepared and analyzed within method specified holding times and according to NETLAB's documented standard operating procedures. The results for the associated calibration, method blank and laboratory control sample (LCS) were within method specified quality control requirements and allowances. Results for all soil samples, unless otherwise indicated, are reported on a dry weight basis.

Exceptions:

Alkalinity: The Matrix Duplicate for the '1604200528-01' sample recovered outside of the recommended QC parameters.

Results: General Chemistry

Sample: 1604200528-01

Lab Number: 0E28060-01 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Alkalinity as CaCO3	**10**		2	mg/L	05/29/20	05/29/20
Turbidity	ND		0.1	NTU	05/28/20 16:15	05/28/20 16:15

Results: General Chemistry

Sample: 1604200528-02

Lab Number: 0E28060-02 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Alkalinity as CaCO3	**30**		2	mg/L	05/29/20	05/29/20
Turbidity	**2.1**		0.1	NTU	05/28/20 16:15	05/28/20 16:15

Results: General Chemistry

Sample: 1604200528-03

Lab Number: 0E28060-03 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Alkalinity as CaCO3	**36**		2	mg/L	05/29/20	05/29/20
Turbidity	**2.1**		0.1	NTU	05/28/20 16:15	05/28/20 16:15

Results: General Chemistry

Sample: 1604200528-04

Lab Number: 0E28060-04 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Alkalinity as CaCO3	**32**		2	mg/L	05/29/20	05/29/20
Turbidity	**14.5**		0.1	NTU	05/28/20 16:15	05/28/20 16:15

Results: General Chemistry

Sample: 1604200528-05

Lab Number: 0E28060-05 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Alkalinity as CaCO3	**35**		2	mg/L	05/29/20	05/29/20
Turbidity	**1.8**		0.1	NTU	05/28/20 16:15	05/28/20 16:15

Results: General Chemistry

Sample: 1604200528-06

Lab Number: 0E28060-06 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Alkalinity as CaCO3	**49**		2	mg/L	05/29/20	05/29/20
Turbidity	**2.3**		0.1	NTU	05/28/20 16:15	05/28/20 16:15

Results: General Chemistry

Sample: 1604200528-07
Lab Number: 0E28060-07 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Alkalinity as CaCO3	**17**		2	mg/L	05/29/20	05/29/20
Turbidity	**1.5**		0.1	NTU	05/28/20 16:15	05/28/20 16:15

Results: General Chemistry

Sample: 1604200528-08
Lab Number: 0E28060-08 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Alkalinity as CaCO3	**46**		2	mg/L	05/29/20	05/29/20
Turbidity	**5.5**		0.1	NTU	05/28/20 16:15	05/28/20 16:15

Results: General Chemistry

Sample: 1604200528-09

Lab Number: 0E28060-09 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Alkalinity as CaCO3	**35**		2	mg/L	05/29/20	05/29/20
Turbidity	**9.4**		0.1	NTU	05/28/20 16:15	05/28/20 16:15

Results: General Chemistry

Sample: 1604200528-10

Lab Number: 0E28060-10 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Alkalinity as CaCO3	**36**		2	mg/L	05/29/20	05/29/20
Turbidity	**5.6**		0.1	NTU	05/28/20 16:15	05/28/20 16:15

Quality Control

General Chemistry

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B0E1077 - Turbidity										
Blank (B0E1077-BLK1)					Prepared & Analyzed: 05/28/20					
Turbidity	ND		0.1	NTU						
Blank (B0E1077-BLK2)					Prepared & Analyzed: 05/28/20					
Turbidity	ND		0.1	NTU						
LCS (B0E1077-BS1)					Prepared & Analyzed: 05/28/20					
Turbidity	1.0		0.1	NTU	1.00		95.0	0-200		
LCS (B0E1077-BS2)					Prepared & Analyzed: 05/28/20					
Turbidity	0.9		0.1	NTU	1.00		92.0	0-200		
Duplicate (B0E1077-DUP1)		**Source: 0E28060-01**			Prepared & Analyzed: 05/28/20					
Turbidity	ND		0.1	NTU		ND				200
Batch: B0E1135 - Alkalinity										
Blank (B0E1135-BLK1)					Prepared & Analyzed: 05/29/20					
Alkalinity as CaCO3	ND		2	mg/L						
LCS (B0E1135-BS1)					Prepared & Analyzed: 05/29/20					
Alkalinity as CaCO3	50		2	mg/L	50.0		101	90-110		
Duplicate (B0E1135-DUP1)		**Source: 0E28060-01**			Prepared & Analyzed: 05/29/20					
Alkalinity as CaCO3	13		2	mg/L		10			26.1	20
Matrix Spike (B0E1135-MS1)		**Source: 0E28060-01**			Prepared & Analyzed: 05/29/20					
Alkalinity as CaCO3	66		2	mg/L	50.0	10	113	80-120		

Notes and Definitions

Item	Definition
Wet	Sample results reported on a wet weight basis.
ND	Analyte NOT DETECTED at or above the reporting limit.

0E2 8060a

CE, LLC

- ☐ 146 Hartford Road, Manchester, CT 06040
- ☐ 56 Quarry Road, Trumbull, CT 06611
- ☐ 1419 Richland Street, Columbia, SC 29201
- ☐ 78 Interstate Drive, West Springfield, MA 01089
- ☐ 50 Redfield Street, Suite 100, Boston, MA 02122
- ☒ 275 Promenade Street, Suite 350, Providence, RI 02908
- ☐ 80 Washington Street, Suite 301, Poughkeepsie, NY 12601

CHAIN-OF-CUSTODY RECORD 0577

Turnaround
☐ 1 Day* ☐ 2 Days* ☐ 3 Days* ☒ Standard (____ days) ☐ Other ______ (days)
*Surcharge Applies

PROJECT NAME: Spectacle Pond
PROJECT LOCATION: Cranston, RI
PROJECT NUMBER: 20170900.B10
LABORATORY: Net Lab

REPORT TO: Allen Teryaw (ateryaw@fando.com)
INVOICE TO: Allen Teryaw (ateryaw@fando.com)
P.O. NO.: 1604 20170900.B10

Sampler's Signature: Mull Bay   Date: 5/28/2020

Source Codes:
MW=Monitoring Well, SW=Surface Water, PW=Potable Water, T=Treatment Facility, S=Soil, B=Sediment, W=Waste, A=Air, X=Other ____

Analysis Request: Alkalinity (SM 2320B); Turbidity (SM 2130B)

Containers: Soil VOA Vial, [ ] methanol; Soil VOA Vial, [ ] water; Glass Soil Container ( ) oz [ ] $Na_2(SO_4)_2$; Glass Soil Container ( ) oz; Other; Water VOA Vial, [ ] As is [ ] HCl; Glass Amber ( ) ml, [ ] As is [ ] H_2SO_4; Plastic - As is, [ ] 250 ml [ ] 500 [ ] 1000 ml 16oz; Plastic - H_2SO_4, [ ] 250 ml [ ] 500 ml; Plastic - HNO_3, 250 ml [ ] Filtered [ ] Unfiltered; Plastic - NaOH, 250 ml

Item No.	Transfer Check 1	2	3	4	Sample Number	Source Code	Date Sampled	Time Sampled	Alkalinity (SM 2320B)	Turbidity (SM 2130B)	Glass Amber	Comments
1	✓				1604200528-01	SW	5/28/20	1015	X	X	1	
2	✓				-02	↓	↓	1023	X	X	1	
3	✓				-03	↓	↓	1052	X	X	1	
4	✓				-04	↓	↓	1116	X	X	1	
5	✓				-05	↓	↓	1140	X	X	1	
6	✓				-06	↓	↓	1215	X	X	1	
7	✓				-07	↓	↓	1255	X	X	1	
8	✓				-08	↓	↓	1312	X	X	1	
9	✓				-09	↓	↓	1352	X	X	1	
10	✓				-10	↓	↓	1355	X	X	1	

Transfer Number	Relinquished By	Accepted By	Date	Time
1	Mull Bay	[signature]	5/28/20	1500
2			5/28/20	
3				
4				

Reporting and Detection Limit Requirements: Alkalinity: ~~0.0~~ 2mg/L; Turbidity: 0.1 NTU

Additional Comments: ~~[illegible]~~ MS

New England Testing Laboratory, Inc.
(401) 353-3420

REPORT OF ANALYTICAL RESULTS

NETLAB Work Order Number: 0F26039
Client Project: 20170900.B10 - Spectacle Pond, Cranston

Report Date: 02-July-2020

Prepared for:

Alan Tevyaw
Fuss & O'Neill
317 Iron Horse Way
Providence, RI 02908

Richard Warila, Laboratory Director
New England Testing Laboratory, Inc.
59 Greenhill Street
West Warwick, RI 02893
rich.warila@newenglandtesting.com

Samples Submitted :

The samples listed below were submitted to New England Testing Laboratory on 06/26/20. The group of samples appearing in this report was assigned an internal identification number (case number) for laboratory information management purposes. The client's designations for the individual samples, along with our case numbers, are used to identify the samples in this report. This report of analytical results pertains only to the sample(s) provided to us by the client which are indicated on the custody record. The case number for this sample submission is 0F26039. Custody records are included in this report.

Lab ID	Sample	Matrix	Date Sampled	Date Received
0F26039-01	1604200626-01	Water	06/26/2020	06/26/2020
0F26039-02	1604200626-02	Water	06/26/2020	06/26/2020
0F26039-03	1604200626-03	Water	06/26/2020	06/26/2020
0F26039-04	1604200626-04	Water	06/26/2020	06/26/2020
0F26039-05	1604200626-05	Water	06/26/2020	06/26/2020
0F26039-06	1604200626-06	Water	06/26/2020	06/26/2020
0F26039-07	1604200626-07	Water	06/26/2020	06/26/2020
0F26039-08	1604200626-08	Water	06/26/2020	06/26/2020
0F26039-09	1604200626-09	Water	06/26/2020	06/26/2020
0F26039-10	1604200626-10	Water	06/26/2020	06/26/2020
0F26039-11	1604200626-11	Water	06/26/2020	06/26/2020
0F26039-12	1604200626-12	Water	06/26/2020	06/26/2020

Request for Analysis

At the client's request, the analyses presented in the following table were performed on the samples submitted.

1604200626-01 (Lab Number: 0F26039-01)

Analysis	Method
Alkalinity (CaCO3)	SM2320-B (11)
Iron	EPA 6010C
Turbidity	SM2130-B (11)

1604200626-02 (Lab Number: 0F26039-02)

Analysis	Method
Alkalinity (CaCO3)	SM2320-B (11)
Iron	EPA 6010C
Turbidity	SM2130-B (11)

1604200626-03 (Lab Number: 0F26039-03)

Analysis	Method
Alkalinity (CaCO3)	SM2320-B (11)
Iron	EPA 6010C
Turbidity	SM2130-B (11)

1604200626-04 (Lab Number: 0F26039-04)

Analysis	Method
Alkalinity (CaCO3)	SM2320-B (11)
Iron	EPA 6010C
Turbidity	SM2130-B (11)

1604200626-05 (Lab Number: 0F26039-05)

Analysis	Method
Alkalinity (CaCO3)	SM2320-B (11)
Iron	EPA 6010C
Turbidity	SM2130-B (11)

1604200626-06 (Lab Number: 0F26039-06)

Analysis	Method
Alkalinity (CaCO3)	SM2320-B (11)
Iron	EPA 6010C
Turbidity	SM2130-B (11)

1604200626-07 (Lab Number: 0F26039-07)

Analysis	Method
Alkalinity (CaCO3)	SM2320-B (11)
Iron	EPA 6010C
Turbidity	SM2130-B (11)

1604200626-08 (Lab Number: 0F26039-08)

Analysis	Method
Alkalinity (CaCO3)	SM2320-B (11)
Iron	EPA 6010C
Turbidity	SM2130-B (11)

Request for Analysis (continued)

1604200626-09 (Lab Number: 0F26039-09)

Analysis	Method
Alkalinity (CaCO3)	SM2320-B (11)
Iron	EPA 6010C
Turbidity	SM2130-B (11)

1604200626-10 (Lab Number: 0F26039-10)

Analysis	Method
Alkalinity (CaCO3)	SM2320-B (11)
Iron	EPA 6010C
Turbidity	SM2130-B (11)

1604200626-11 (Lab Number: 0F26039-11)

Analysis	Method
Alkalinity (CaCO3)	SM2320-B (11)
Iron	EPA 6010C
Turbidity	SM2130-B (11)

1604200626-12 (Lab Number: 0F26039-12)

Analysis	Method
Alkalinity (CaCO3)	SM2320-B (11)
Iron	EPA 6010C
Turbidity	SM2130-B (11)

Method References

Standard Methods for the Examination of Water and Wastewater, 20th Edition, APHA/ AWWA-WPCF, 1998

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, USEPA

Case Narrative

Sample Receipt:

The samples associated with this work order were received in appropriately cooled and preserved containers. The chain of custody was adequately completed and corresponded to the samples submitted.

Exceptions: None

Analysis:

All samples were prepared and analyzed within method specified holding times and according to NETLAB's documented standard operating procedures. The results for the associated calibration, method blank and laboratory control sample (LCS) were within method specified quality control requirements and allowances. Results for all soil samples, unless otherwise indicated, are reported on a dry weight basis.

Exceptions: None

Results: General Chemistry

Sample: 1604200626-01

Lab Number: 0F26039-01 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Alkalinity as CaCO3	**14**		2	mg/L	06/29/20	06/29/20
Turbidity	**1.1**		0.1	NTU	06/27/20 10:15	06/27/20 10:15

Results: General Chemistry

Sample: 1604200626-02

Lab Number: 0F26039-02 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Alkalinity as CaCO3	**33**		2	mg/L	06/29/20	06/29/20
Turbidity	**5.3**		0.1	NTU	06/27/20 10:15	06/27/20 10:15

Results: General Chemistry

Sample: 1604200626-03

Lab Number: 0F26039-03 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Alkalinity as CaCO3	**70**		2	mg/L	06/29/20	06/29/20
Turbidity	**48.7**		0.5	NTU	06/27/20 10:15	06/27/20 10:15

Results: General Chemistry

Sample: 1604200626-04

Lab Number: 0F26039-04 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Alkalinity as CaCO3	**35**		2	mg/L	06/29/20	06/29/20
Turbidity	**4.1**		0.1	NTU	06/27/20 10:15	06/27/20 10:15

Results: General Chemistry

Sample: 1604200626-05

Lab Number: 0F26039-05 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Alkalinity as CaCO3	**29**		2	mg/L	06/29/20	06/29/20
Turbidity	**4.9**		0.1	NTU	06/27/20 10:30	06/27/20 10:30

Results: General Chemistry

Sample: 1604200626-06

Lab Number: 0F26039-06 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Alkalinity as CaCO3	**35**		2	mg/L	06/29/20	06/29/20
Turbidity	**4.8**		0.1	NTU	06/27/20 10:30	06/27/20 10:30

Results: General Chemistry

Sample: 1604200626-07

Lab Number: 0F26039-07 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Alkalinity as CaCO3	**33**		2	mg/L	06/29/20	06/29/20
Turbidity	**8.6**		0.1	NTU	06/27/20 10:30	06/27/20 10:30

Results: General Chemistry

Sample: 1604200626-08
Lab Number: 0F26039-08 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Alkalinity as CaCO3	**34**		2	mg/L	06/29/20	06/29/20
Turbidity	**7.4**		0.1	NTU	06/27/20 10:30	06/27/20 10:30

Results: General Chemistry

Sample: 1604200626-09

Lab Number: 0F26039-09 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Alkalinity as CaCO3	**32**		2	mg/L	06/29/20	06/29/20
Turbidity	**6.3**		0.1	NTU	06/27/20 10:30	06/27/20 10:30

Results: General Chemistry

Sample: 1604200626-10

Lab Number: 0F26039-10 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Alkalinity as CaCO3	**33**		2	mg/L	06/29/20	06/29/20
Turbidity	**6.6**		0.1	NTU	06/27/20 10:45	06/27/20 10:45

Results: General Chemistry

Sample: 1604200626-11
Lab Number: 0F26039-11 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Alkalinity as CaCO3	**33**		2	mg/L	06/29/20	06/29/20
Turbidity	**4.4**		0.1	NTU	06/27/20 11:00	06/27/20 11:00

Results: General Chemistry

Sample: 1604200626-12

Lab Number: 0F26039-12 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Alkalinity as CaCO3	**30**		2	mg/L	06/29/20	06/29/20
Turbidity	**5.0**		0.1	NTU	06/27/20 11:00	06/27/20 11:00

Results: Total Metals

Sample: 1604200626-01
Lab Number: 0F26039-01 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Iron	ND		0.05	mg/L	06/29/20	06/30/20

Results: Total Metals

Sample: 1604200626-02
Lab Number: 0F26039-02 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Iron	**0.24**		0.05	mg/L	06/29/20	06/30/20

Results: Total Metals

Sample: 1604200626-03
Lab Number: 0F26039-03 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Iron	**10.2**		0.05	mg/L	06/29/20	06/30/20

Results: Total Metals

Sample: 1604200626-04
Lab Number: 0F26039-04 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Iron	**0.20**		0.05	mg/L	06/29/20	06/30/20

Results: Total Metals

Sample: 1604200626-05

Lab Number: 0F26039-05 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Iron	**0.24**		0.05	mg/L	06/29/20	06/30/20

Results: Total Metals

Sample: 1604200626-06
Lab Number: 0F26039-06 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Iron	**0.20**		0.05	mg/L	06/29/20	06/30/20

Results: Total Metals

Sample: 1604200626-07
Lab Number: 0F26039-07 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Iron	**0.78**		0.05	mg/L	06/29/20	06/30/20

Results: Total Metals

Sample: 1604200626-08

Lab Number: 0F26039-08 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Iron	**0.54**		0.05	mg/L	06/29/20	06/30/20

Results: Total Metals

Sample: 1604200626-09

Lab Number: 0F26039-09 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Iron	**0.71**		0.05	mg/L	06/29/20	06/30/20

Results: Total Metals

Sample: 1604200626-10

Lab Number: 0F26039-10 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Iron	**0.52**		0.05	mg/L	06/29/20	06/30/20

Results: Total Metals

Sample: 1604200626-11

Lab Number: 0F26039-11 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Iron	**0.22**		0.05	mg/L	06/29/20	06/30/20

Results: Total Metals

Sample: 1604200626-12

Lab Number: 0F26039-12 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Iron	**0.59**		0.05	mg/L	06/29/20	06/30/20

Quality Control

General Chemistry

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B0F1195 - Turbidity										
Blank (B0F1195-BLK1)					Prepared & Analyzed: 06/27/20					
Turbidity	ND		0.1	NTU						
Blank (B0F1195-BLK2)					Prepared & Analyzed: 06/27/20					
Turbidity	ND		0.1	NTU						
LCS (B0F1195-BS1)					Prepared & Analyzed: 06/27/20					
Turbidity	1.0		0.1	NTU	1.00		102	0-200		
LCS (B0F1195-BS2)					Prepared & Analyzed: 06/27/20					
Turbidity	1.0		0.1	NTU	1.00		104	0-200		
Duplicate (B0F1195-DUP1)		**Source: 0F26039-01**			Prepared & Analyzed: 06/27/20					
Turbidity	1.3		0.1	NTU		1.1			13.9	200
Batch: B0F1198 - Turbidity										
Blank (B0F1198-BLK1)					Prepared & Analyzed: 06/27/20					
Turbidity	ND		0.1	NTU						
Blank (B0F1198-BLK2)					Prepared & Analyzed: 06/27/20					
Turbidity	0.1		0.1	NTU						
LCS (B0F1198-BS1)					Prepared & Analyzed: 06/27/20					
Turbidity	1.0		0.1	NTU	1.00		104	0-200		
LCS (B0F1198-BS2)					Prepared & Analyzed: 06/27/20					
Turbidity	1.1		0.1	NTU	1.00		110	0-200		

Quality Control
(Continued)

General Chemistry (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B0F1198 - Turbidity (Continued)										
Duplicate (B0F1198-DUP1)		**Source: 0F26039-11**			Prepared & Analyzed: 06/27/20					
Turbidity	4.2		0.1	NTU		4.4			5.08	200
Batch: B0F1241 - Alkalinity										
Blank (B0F1241-BLK1)					Prepared & Analyzed: 06/29/20					
Alkalinity as CaCO3	ND		2	mg/L						
LCS (B0F1241-BS1)					Prepared & Analyzed: 06/29/20					
Alkalinity as CaCO3	50		2	mg/L	50.0		101	90-110		
Duplicate (B0F1241-DUP1)		**Source: 0F26034-04**			Prepared & Analyzed: 06/29/20					
Alkalinity as CaCO3	ND		2	mg/L		ND				20
Matrix Spike (B0F1241-MS1)		**Source: 0F26034-04**			Prepared & Analyzed: 06/29/20					
Alkalinity as CaCO3	37		2	mg/L	50.0	ND	73.6	80-120		

Quality Control
(Continued)

Total Metals

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B0F1229 - Metals Digestion Waters										
Blank (B0F1229-BLK1)					Prepared: 06/29/20 Analyzed: 06/30/20					
Iron	ND		0.05	mg/L						
LCS (B0F1229-BS1)					Prepared: 06/29/20 Analyzed: 06/30/20					
Iron	11.4		0.05	mg/L	10.0		114	85-115		

Notes and Definitions

Item	Definition
Wet	Sample results reported on a wet weight basis.
ND	Analyte NOT DETECTED at or above the reporting limit.

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☐ 23046 Avenida de la Carlota, Su

0 F 2 60390

CHAIN-OF-CUSTODY RECORD 43446

☐ 24-Hour* ☐ 72-Hour* ☐ Other ____ (days)
☐ 48-Hour* ☒ Standard (___ days) *Surcharge Applies

PROJECT NAME: Spectacle Pond
PROJECT LOCATION: Cranston, RI
PROJECT NUMBER: 20170900.B10
LABORATORY: NET CAB

REPORT TO: Allen Tevyaw atevyaw@fando.com
INVOICE TO: Allen Tevyaw atevyaw@fando.com
P.O. NO.: 1604 20170900.B10

Sampler's Signature: Mal Srz Date: 6/26/2020

Source Codes:
MW=Monitoring Well PW=Potable Water T=Treatment Facility S=Soil B=Sediment
SW=Surface Water ST=Stormwater W=Waste A=Air C=Concrete
X=Other ____

Analysis Request: Alkalinity (SM 2320 B); Turbidity (SM 2130 B); Total Iron

Containers: Soil VOA Vial, ☐ methanol; Soil VOA Vial, ☐ water; Glass Soil Container ( ) oz ☐ Na_2SO_4; Other; Other; Water VOA Vial, ☐ As is ☐ HCl; Glass Amber ( ) ml, ☐ As is ☐ H_2SO_4; Plastic - As is, ☐ 250 ml ☐ 500 ☒ 1000 ml 16oz; Plastic - H_2SO_4, ☐ 250 ml ☐ 500 ml; Plastic - HNO_3, 250 ml ☐ Filtered ☐ 0.45µ ☐ 10µ; Plastic - NaOH, 250 ml

Item No.	Sample Number	Source Code	Date Sampled	Time Sampled	Alkalinity (SM 2320 B)	Turbidity (SM 2130 B)	Total Iron	Glass Amber	Plastic - As is	Comments
1	1604200626-01	SW	6/26/2020	1054	X	X	X	✓	✓	
2	-02	↓	↓	1323	X	X	X	✓	✓	
3	-03	↓	↓	1328	X	X	X	✓	✓	
4	-04	↓	↓	1337	X	X	X	✓	✓	
5	-05	↓	↓	1348	X	X	X	✓	✓	
6	-06	↓	↓	1355	X	X	X	✓	✓	
7	-07	↓	↓	1405	X	X	X	✓	✓	
8	-08	↓	↓	1410	X	X	X	✓	✓	
9	-09	↓	↓	1415	X	X	X	✓	✓	
10	-10	↓	↓	1420	X	X	X	✓	✓	

Transfer Number	Relinquished By	Accepted By	Date	Time
1				
2				
3				
4	Mal Srz	[illegible]	6/26/20	15:57

Charge Exceptions: ☐ CT Tax Exempt ☐ QA/QC ☐ Other ____
____ Duplicates ____ Blanks (Item Nos:)

Reporting and Detection Limit Requirements: ☐ RCP Deliverables ☐ MCP CAM Cert.
Alkalinity: 2mg/L Turbidity: 0.1 NTU

Additional Comments: 2°

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☐ 1550 Main Street, Suite 400, Springfield, MA 01103
☐ 108 Myrtle Street, Suite 502, Quincy, MA 02171
☐ 540 North Commercial Street, Manchester, NH 03101
☐ 276 Newport Road, New London, NH 03257
☐ 205 Billings Farm Road, Suite 6B, White River Junction, VT 05001
☐ 5 Fletcher Street, Suite 1, Kennebunk, ME 04043
☐ 23046 Avenida de la Carlota, Suite 600, Laguna Hills, CA 92653
☐ Other ______

CHAIN-OF-CUSTODY RECORD 43441

Turnaround
☐ 24-Hour* ☐ 72-Hour* ☐ Other ______ (days)
☐ 48-Hour* ☒ Standard (__ days) *Surcharge Applies

PROJECT NAME: Spectacle Pond
PROJECT LOCATION: Cranston, RI
PROJECT NUMBER: 20170900.B10
LABORATORY: NET LAB

REPORT TO: Allen Tevyaw ateyyaw@fando.com
INVOICE TO: Allen Tevyaw ateyyaw@fando.com
P.O. NO.: 1604 20170900.B10

Sampler's Signature: Madeline Gray Date: 6/26/2020

Source Codes:
MW=Monitoring Well PW=Potable Water T=Treatment Facility S=Soil B=Sediment
SW=Surface Water ST=Stormwater W=Waste A=Air C=Concrete
X=Other ______

Analysis Request / Containers

Item No.	Transfer Check 1	2	3	4	Sample Number	Source Code	Date Sampled	Time Sampled	Alkalinity (SM 2320B)	Turbidity (SM 2130B)	Total Iron	Soil VOA Vial, ☐ methanol	Soil VOA Vial, ☐ water	Glass Soil Container ( ) oz ☐ $Na_2(SO_4)_2$	Other	Other	Water VOA Vial, ☐ As is ☐ HCl	Glass Amber ( ) ml, ☐ As is ☐ H_2SO_4	Plastic - As is, ☐ 250 ml ☐ 500 ☒ 1000 ml	Plastic - H_2SO_4, 250 ml ☐ 500 ml 1602	Plastic - HNO_3, 250 ml ☐ Filtered ☐ 0.45μ ☐ 10μ	Plastic - NaOH, 250 ml	Comments
11					1604200626-11	SW	6/26/2020	1436	X	X	X								1	1			
12					-12	↓	↓	1515	X	X	X								1	1			

Transfer Number	Relinquished By	Accepted By	Date	Time
1				
2				
3				
4	Madeline Gray	[signature]	6/26/20	15157

Charge Exceptions: ☐ CT Tax Exempt ☐ QA/QC ☐ Other ______
____ Duplicates ____ Blanks (Item Nos:)

Reporting and Detection Limit Requirements: ☐ RCP Deliverables ☐ MCP CAM Cert.

Additional Comments: 27

New England Testing Laboratory, Inc.
(401) 353-3420

REPORT OF ANALYTICAL RESULTS

NETLAB Work Order Number: 0G30045
Client Project: 20170900.B10 - Spectacle Pond, Cranston

Report Date: 05-August-2020

Prepared for:

Alan Tevyaw
Fuss & O'Neill
317 Iron Horse Way
Providence, RI 02908

Richard Warila, Laboratory Director
New England Testing Laboratory, Inc.
59 Greenhill Street
West Warwick, RI 02893
rich.warila@newenglandtesting.com

Samples Submitted :

The samples listed below were submitted to New England Testing Laboratory on 07/30/20. The group of samples appearing in this report was assigned an internal identification number (case number) for laboratory information management purposes. The client's designations for the individual samples, along with our case numbers, are used to identify the samples in this report. This report of analytical results pertains only to the sample(s) provided to us by the client which are indicated on the custody record. The case number for this sample submission is 0G30045. Custody records are included in this report.

Lab ID	Sample	Matrix	Date Sampled	Date Received
0G30045-01	1604200730-01	Water	07/30/2020	07/30/2020
0G30045-02	1604200730-02	Water	07/30/2020	07/30/2020
0G30045-03	1604200730-03	Water	07/30/2020	07/30/2020
0G30045-04	1604200730-04	Water	07/30/2020	07/30/2020
0G30045-05	1604200730-05	Water	07/30/2020	07/30/2020
0G30045-06	1604200730-06	Water	07/30/2020	07/30/2020
0G30045-07	1604200730-07	Water	07/30/2020	07/30/2020
0G30045-08	1604200730-08	Water	07/30/2020	07/30/2020
0G30045-09	1604200730-09	Water	07/30/2020	07/30/2020
0G30045-10	1604200730-10	Water	07/30/2020	07/30/2020
0G30045-11	1604200730-11	Water	07/30/2020	07/30/2020
0G30045-12	1604200730-12	Water	07/30/2020	07/30/2020

Request for Analysis

At the client's request, the analyses presented in the following table were performed on the samples submitted.

1604200730-01 (Lab Number: 0G30045-01)

Analysis	Method
Alkalinity (CaCO3)	SM2320-B (11)
Iron	EPA 200.8
Turbidity	SM2130-B (11)

1604200730-02 (Lab Number: 0G30045-02)

Analysis	Method
Alkalinity (CaCO3)	SM2320-B (11)
Iron	EPA 200.8
Turbidity	SM2130-B (11)

1604200730-03 (Lab Number: 0G30045-03)

Analysis	Method
Alkalinity (CaCO3)	SM2320-B (11)
Iron	EPA 200.8
Turbidity	SM2130-B (11)

1604200730-04 (Lab Number: 0G30045-04)

Analysis	Method
Alkalinity (CaCO3)	SM2320-B (11)
Iron	EPA 200.8
Turbidity	SM2130-B (11)

1604200730-05 (Lab Number: 0G30045-05)

Analysis	Method
Alkalinity (CaCO3)	SM2320-B (11)
Iron	EPA 200.8
Turbidity	SM2130-B (11)

1604200730-06 (Lab Number: 0G30045-06)

Analysis	Method
Alkalinity (CaCO3)	SM2320-B (11)
Iron	EPA 200.8
Turbidity	SM2130-B (11)

1604200730-07 (Lab Number: 0G30045-07)

Analysis	Method
Alkalinity (CaCO3)	SM2320-B (11)
Iron	EPA 200.8
Turbidity	SM2130-B (11)

1604200730-08 (Lab Number: 0G30045-08)

Analysis	Method
Alkalinity (CaCO3)	SM2320-B (11)
Iron	EPA 200.8
Turbidity	SM2130-B (11)

Request for Analysis (continued)

1604200730-09 (Lab Number: 0G30045-09)

Analysis	Method
Alkalinity (CaCO3)	SM2320-B (11)
Iron	EPA 200.8
Turbidity	SM2130-B (11)

1604200730-10 (Lab Number: 0G30045-10)

Analysis	Method
Alkalinity (CaCO3)	SM2320-B (11)
Iron	EPA 200.8
Turbidity	SM2130-B (11)

1604200730-11 (Lab Number: 0G30045-11)

Analysis	Method
Alkalinity (CaCO3)	SM2320-B (11)
Iron	EPA 200.8
Turbidity	SM2130-B (11)

1604200730-12 (Lab Number: 0G30045-12)

Analysis	Method
Alkalinity (CaCO3)	SM2320-B (11)
Iron	EPA 200.8
Turbidity	SM2130-B (11)

Method References

Methods for the Determination of Metals in Environmental Samples EPA-600/R-94/111, USEPA, 1994

Standard Methods for the Examination of Water and Wastewater, 20th Edition, APHA/ AWWA-WPCF, 1998

Case Narrative

Sample Receipt:

The samples associated with this work order were received in appropriately cooled and preserved containers. The chain of custody was adequately completed and corresponded to the samples submitted.

Exceptions: None

Analysis:

All samples were prepared and analyzed within method specified holding times and according to NETLAB's documented standard operating procedures. The results for the associated calibration, method blank and laboratory control sample (LCS) were within method specified quality control requirements and allowances. Results for all soil samples, unless otherwise indicated, are reported on a dry weight basis.

Exceptions: None

Results: General Chemistry

Sample: 1604200730-01
Lab Number: 0G30045-01 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Alkalinity as CaCO3	**55**		10	mg/L	08/03/20	08/03/20
Turbidity	**281**		1.0	NTU	07/30/20 16:15	07/30/20 16:15

Results: General Chemistry

Sample: 1604200730-02

Lab Number: 0G30045-02 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Alkalinity as CaCO3	**33**		2	mg/L	08/03/20	08/03/20
Turbidity	**8.0**		0.1	NTU	07/30/20 16:15	07/30/20 16:15

Results: General Chemistry

Sample: 1604200730-03

Lab Number: 0G30045-03 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Alkalinity as CaCO3	**35**		2	mg/L	08/03/20	08/03/20
Turbidity	**9.0**		0.1	NTU	07/30/20 16:15	07/30/20 16:15

Results: General Chemistry

Sample: 1604200730-04

Lab Number: 0G30045-04 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Alkalinity as CaCO3	**35**		2	mg/L	08/03/20	08/03/20
Turbidity	**8.0**		0.1	NTU	07/30/20 16:15	07/30/20 16:15

Results: General Chemistry

Sample: 1604200730-05

Lab Number: 0G30045-05 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Alkalinity as CaCO3	**33**		2	mg/L	08/03/20	08/03/20
Turbidity	**7.7**		0.1	NTU	07/30/20 16:15	07/30/20 16:15

Results: General Chemistry

Sample: 1604200730-06

Lab Number: 0G30045-06 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Alkalinity as CaCO3	**35**		2	mg/L	08/03/20	08/03/20
Turbidity	**8.9**		0.1	NTU	07/30/20 16:15	07/30/20 16:15

Results: General Chemistry

Sample: 1604200730-07

Lab Number: 0G30045-07 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Alkalinity as CaCO3	**33**		2	mg/L	08/03/20	08/03/20
Turbidity	**7.4**		0.1	NTU	07/30/20 16:15	07/30/20 16:15

Results: General Chemistry

Sample: 1604200730-08

Lab Number: 0G30045-08 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Alkalinity as CaCO3	**40**		2	mg/L	08/03/20	08/03/20
Turbidity	**8.0**		0.1	NTU	07/30/20 16:15	07/30/20 16:15

Results: General Chemistry

Sample: 1604200730-09

Lab Number: 0G30045-09 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Alkalinity as CaCO3	**35**		2	mg/L	08/03/20	08/03/20
Turbidity	**8.4**		0.1	NTU	07/30/20 16:15	07/30/20 16:15

Results: General Chemistry

Sample: 1604200730-10

Lab Number: 0G30045-10 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Alkalinity as CaCO3	**37**		2	mg/L	08/03/20	08/03/20
Turbidity	**7.5**		0.1	NTU	07/30/20 16:15	07/30/20 16:15

Results: General Chemistry

Sample: 1604200730-11

Lab Number: 0G30045-11 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Alkalinity as CaCO3	**22**		2	mg/L	08/03/20	08/03/20
Turbidity	ND		0.1	NTU	07/30/20 17:10	07/30/20 17:10

Results: General Chemistry

Sample: 1604200730-12

Lab Number: 0G30045-12 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Alkalinity as CaCO3	**24**		2	mg/L	08/03/20	08/03/20
Turbidity	**1.8**		0.1	NTU	07/30/20 17:10	07/30/20 17:10

Results: Total Metals

Sample: 1604200730-01

Lab Number: 0G30045-01 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Iron	**7.53**		0.001	mg/l	07/31/20	07/31/20

Results: Total Metals

Sample: 1604200730-02

Lab Number: 0G30045-02 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Iron	**0.317**		0.001	mg/l	07/31/20	07/31/20

Results: Total Metals

Sample: 1604200730-03

Lab Number: 0G30045-03 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Iron	**0.161**		0.001	mg/l	07/31/20	07/31/20

Results: Total Metals

Sample: 1604200730-04

Lab Number: 0G30045-04 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Iron	**0.155**		0.001	mg/l	07/31/20	07/31/20

Results: Total Metals

Sample: 1604200730-05

Lab Number: 0G30045-05 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Iron	**0.137**		0.001	mg/l	07/31/20	07/31/20

Results: Total Metals

Sample: 1604200730-06

Lab Number: 0G30045-06 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Iron	**0.127**		0.001	mg/l	07/31/20	07/31/20

Results: Total Metals

Sample: 1604200730-07

Lab Number: 0G30045-07 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Iron	**0.266**		0.001	mg/l	07/31/20	07/31/20

Results: Total Metals

Sample: 1604200730-08
Lab Number: 0G30045-08 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Iron	**0.274**		0.001	mg/l	07/31/20	07/31/20

Results: Total Metals

Sample: 1604200730-09

Lab Number: 0G30045-09 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Iron	**0.284**		0.001	mg/l	07/31/20	07/31/20

Results: Total Metals

Sample: 1604200730-10

Lab Number: 0G30045-10 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Iron	**0.266**		0.001	mg/l	07/31/20	07/31/20

Results: Total Metals

Sample: 1604200730-11
Lab Number: 0G30045-11 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Iron	**0.046**		0.001	mg/l	07/31/20	07/31/20

Results: Total Metals

Sample: 1604200730-12

Lab Number: 0G30045-12 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Iron	**0.120**		0.001	mg/l	07/31/20	07/31/20

Quality Control

General Chemistry

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B0G1291 - Turbidity										
Blank (B0G1291-BLK1)					Prepared & Analyzed: 07/30/20					
Turbidity	ND		0.1	NTU						
Blank (B0G1291-BLK2)					Prepared & Analyzed: 07/30/20					
Turbidity	ND		0.1	NTU						
LCS (B0G1291-BS1)					Prepared & Analyzed: 07/30/20					
Turbidity	1.0		0.1	NTU	1.00		105	0-200		
LCS (B0G1291-BS2)					Prepared & Analyzed: 07/30/20					
Turbidity	1.0		0.1	NTU	1.00		102	0-200		
Duplicate (B0G1291-DUP1)		**Source: 0G30045-01**			Prepared & Analyzed: 07/30/20					
Turbidity	302		1.0	NTU		281			7.20	200
Batch: B0G1297 - Turbidity										
Blank (B0G1297-BLK1)					Prepared & Analyzed: 07/30/20					
Turbidity	ND		0.1	NTU						
Blank (B0G1297-BLK2)					Prepared & Analyzed: 07/30/20					
Turbidity	0.1		0.1	NTU						
LCS (B0G1297-BS1)					Prepared & Analyzed: 07/30/20					
Turbidity	1.1		0.1	NTU	1.00		108	0-200		
LCS (B0G1297-BS2)					Prepared & Analyzed: 07/30/20					
Turbidity	1.0		0.1	NTU	1.00		96.0	0-200		

Quality Control
(Continued)

General Chemistry (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B0G1297 - Turbidity (Continued)										
Duplicate (B0G1297-DUP1)		**Source: 0G30045-11**			Prepared & Analyzed: 07/30/20					
Turbidity	0.1		0.1	NTU		ND				200
Batch: B0H0074 - Alkalinity										
Blank (B0H0074-BLK1)					Prepared & Analyzed: 08/03/20					
Alkalinity as CaCO3	ND		2	mg/L						
LCS (B0H0074-BS1)					Prepared & Analyzed: 08/03/20					
Alkalinity as CaCO3	54		2	mg/L	50.0		108	90-110		
Duplicate (B0H0074-DUP1)		**Source: 0G30039-01**			Prepared & Analyzed: 08/03/20					
Alkalinity as CaCO3	5		2	mg/L		4			22.2	20
Matrix Spike (B0H0074-MS1)		**Source: 0G30039-01**			Prepared & Analyzed: 08/03/20					
Alkalinity as CaCO3	55		2	mg/L	50.0	4	103	80-120		

Quality Control
(Continued)

Total Metals

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B0G1303 - Metals Digestion Waters										
Blank (B0G1303-BLK1)					Prepared & Analyzed: 07/31/20					
Iron	ND		0.001	mg/l						
LCS (B0G1303-BS1)					Prepared & Analyzed: 07/31/20					
Iron	0.181		0.001	mg/l	0.200		90.6	85-115		

Notes and Definitions

Item	Definition
Wet	Sample results reported on a wet weight basis.
ND	Analyte NOT DETECTED at or above the reporting limit.

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☐ 108 Myrtle Street, Suite 502, Quincy, MA 02171
☐ 540 North Commercial Street, Manches
☐ 276 Newport Road, New London, NH
☐ 205 Billings Farm Road, Suite 6B, White F
☐ 5 Fletcher Street, Suite 1, Kennebunk, M
☐ 23046 Avenida de la Carlota, Suite 600,

0 G 3 0045

CHAIN-OF-CUSTODY RECORD 43451

Turnaround
☐ 24-Hour* ☐ 72-Hour* ☐ Other ______ (days)
☐ 48-Hour* ☒ Standard (____ days) *Surcharge Applies

PROJECT NAME	PROJECT LOCATION	PROJECT NUMBER	LABORATORY
Spectacle Pond	Cranston, RI	20170900.B10	Net LAB

REPORT TO: Allen Tevyaw (atevyaw@fando.com)
INVOICE TO: Allen Tevyaw (atevyaw@fand.com)
P.O. NO.: 1604 20170900.B10
Sampler's Signature: [signature] Date: 7/30/2020

Source Codes:
MW=Monitoring Well PW=Potable Water T=Treatment Facility S=Soil B=Sediment
SW=Surface Water ST=Stormwater W=Waste A=Air C=Concrete
X=Other ______

Analysis Request | Containers

Item No.	Transfer Check 1	2	3	4	Sample Number	Source Code	Date Sampled	Time Sampled	Alkalinity (SM 2320B)	Turbidity (SM 2130B)	Iron Total						Soil VOA Vial, ☐ methanol	Soil VOA Vial, ☐ water	Glass Soil Container ☐ Na(SO₄)₂	Other ( ) oz	Other	Water VOA Vial, ☐ As is ☐ HCl	Glass Amber ( ) ml, ☐ As is ☐ H₂SO₄	Plastic - As is, ☐ 250 ml ☐ 500 ☐ 1000 ml	Plastic - H₂SO₄, ☐ 250 ml ☐ 500 ml	Plastic - HNO₃, 250 ml ☐ Filtered ☐ 0.45µ ☐ 10µ	Plastic - NaOH, 250 ml	Comments
1					1604260730 - 01	SW	7/30/20	928	X	X	X												1		1			
2					- 02	↓	↓	935	X	X	X												1		1			
3					- 03			945	X	X	X												1		1			
4					- 04			953	X	X	X												1		1			
5					- 05			958	X	X	X												1		1			
6					- 06			1008	X	X	X												1		1			
7					- 07			1015	X	X	X												1		1			
8					- 08			1024	X	X	X												1		1			
9					- 09			1026	X	X	X												1		1			
10					- 10	↓	↓	1033	X	X	X												1		1			

1602

Transfer Number	Relinquished By	Accepted By	Date	Time
1	[signature]	[signature]	7/30/20	1302
2				
3				
4				

Charge Exceptions: ☐ CT Tax Exempt ☐ QA/QC ☐ Other ______
____ Duplicates ____ Blanks (Item Nos:)

Reporting and Detection Limit Requirements: ☐ RCP Deliverables ☐ MCP CAM Cert.
Alkalinity: 2mg/L TURBIDITY: 0.1NTU

Additional Comments:

23°

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- ☐ 5 Fletcher Street, Suite 1, Kennebunk, ME 04043
- ☐ 23046 Avenida de la Carlota, Suite 600, Laguna Hills, CA 92653
- ☐ Other ______

CHAIN-OF-CUSTODY RECORD 43455

Turnaround
☐ 24-Hour* ☐ 72-Hour* ☐ Other ____ (days)
☐ 48-Hour* ☒ Standard (____ days) *Surcharge Applies

PROJECT NAME: Spectacle Pond
PROJECT LOCATION: Cranston, RI
PROJECT NUMBER: 20170900.B10
LABORATORY: NETLAB

REPORT TO: Allen Tevyaw (atevyaw@fando.com)
INVOICE TO: Allen Tevyaw (atevyaw@fando.com)
P.O. NO.: 160420170900.B10
Sampler's Signature: Maelle Syn Date: 7/30/2020

Source Codes:
MW=Monitoring Well PW=Potable Water T=Treatment Facility S=Soil B=Sediment
SW=Surface Water ST=Stormwater W=Waste A=Air C=Concrete
X=Other ______

Analysis Request / Containers

Item No.	Transfer Check 1	2	3	4	Sample Number	Source Code	Date Sampled	Time Sampled	ALKALINITY (SM2320B)	TURBIDITY (SM 2130 B)	IRON TOTAL	Soil VOA Vial, ☐ methanol	Soil VOA Vial, ☐ water	Glass Soil Container ( ) oz	Other:	Other:	Water VOA Vial, ☐ As is ☐ HCl	Glass Amber ( ) ml, ☐ As is ☐ H2SO4	Plastic - As is, ☐ 250 ml ☐ 500 ☐ 1000 ml 16oz	Plastic - H2SO4, ☐ 250 ml ☐ 500 ml	Plastic - HNO3, 250 ml ☐ Filtered ☐ 0.45µ ☐ 10µ	Plastic - NaOH, 250 ml	Comments
11					1604200730 - 11	SW	7/30/20	1105	X	X	X							1		1			
12					- 12	↓	↓	1133	X	X	X							1		1			

Transfer Number	Relinquished By	Accepted By	Date	Time
1	Maelle Syn	[signature]	7/30/20	1302
2				
3				
4				

Charge Exceptions: ☐ CT Tax Exempt ☐ QA/QC ☐ Other ______
____ Duplicates ____ Blanks (Item Nos:)

Reporting and Detection Limit Requirements: ☐ RCP Deliverables ☐ MCP CAM Cert.

Additional Comments:

23°

New England Testing Laboratory, Inc.
(401) 353-3420

REPORT OF ANALYTICAL RESULTS

NETLAB Work Order Number: 0H26049
Client Project: 20170900.B10 - Spectacle Pond, Cranston

Report Date: 01-September-2020

Prepared for:

Alan Tevyaw
Fuss & O'Neill
317 Iron Horse Way
Providence, RI 02908

Richard Warila, Laboratory Director
New England Testing Laboratory, Inc.
59 Greenhill Street
West Warwick, RI 02893
rich.warila@newenglandtesting.com

Samples Submitted :

The samples listed below were submitted to New England Testing Laboratory on 08/26/20. The group of samples appearing in this report was assigned an internal identification number (case number) for laboratory information management purposes. The client's designations for the individual samples, along with our case numbers, are used to identify the samples in this report. This report of analytical results pertains only to the sample(s) provided to us by the client which are indicated on the custody record. The case number for this sample submission is 0H26049. Custody records are included in this report.

Lab ID	**Sample**	**Matrix**	**Date Sampled**	**Date Received**
0H26049-01	1604200826-01	Water	08/26/2020	08/26/2020
0H26049-02	1604200826-02	Water	08/26/2020	08/26/2020
0H26049-03	1604200826-03	Water	08/26/2020	08/26/2020
0H26049-04	1604200826-07	Water	08/26/2020	08/26/2020
0H26049-05	1604200826-08	Water	08/26/2020	08/26/2020
0H26049-06	1604200826-09	Water	08/26/2020	08/26/2020
0H26049-07	1604200826-10	Water	08/26/2020	08/26/2020
0H26049-08	1604200826-11	Water	08/26/2020	08/26/2020
0H26049-09	1604200826-12	Water	08/26/2020	08/26/2020
0H26049-10	1604200826-13	Water	08/26/2020	08/26/2020
0H26049-11	1604200826-14	Water	08/26/2020	08/26/2020
0H26049-12	1604200826-15	Water	08/26/2020	08/26/2020

Request for Analysis

At the client's request, the analyses presented in the following table were performed on the samples submitted.

1604200826-01 (Lab Number: 0H26049-01)

Analysis	Method
Alkalinity (CaCO3)	SM2320-B (11)
Iron	EPA 6010C
Turbidity	SM2130-B (11)

1604200826-02 (Lab Number: 0H26049-02)

Analysis	Method
Alkalinity (CaCO3)	SM2320-B (11)
Iron	EPA 6010C
Turbidity	SM2130-B (11)

1604200826-03 (Lab Number: 0H26049-03)

Analysis	Method
Alkalinity (CaCO3)	SM2320-B (11)
Iron	EPA 6010C
Turbidity	SM2130-B (11)

1604200826-07 (Lab Number: 0H26049-04)

Analysis	Method
Alkalinity (CaCO3)	SM2320-B (11)
Iron	EPA 6010C
Turbidity	SM2130-B (11)

1604200826-08 (Lab Number: 0H26049-05)

Analysis	Method
Alkalinity (CaCO3)	SM2320-B (11)
Iron	EPA 6010C
Turbidity	SM2130-B (11)

1604200826-09 (Lab Number: 0H26049-06)

Analysis	Method
Alkalinity (CaCO3)	SM2320-B (11)
Iron	EPA 6010C
Turbidity	SM2130-B (11)

1604200826-10 (Lab Number: 0H26049-07)

Analysis	Method
Alkalinity (CaCO3)	SM2320-B (11)
Iron	EPA 6010C
Turbidity	SM2130-B (11)

1604200826-11 (Lab Number: 0H26049-08)

Analysis	Method
Alkalinity (CaCO3)	SM2320-B (11)
Iron	EPA 6010C
Turbidity	SM2130-B (11)

Request for Analysis (continued)

1604200826-12 (Lab Number: 0H26049-09)

Analysis	Method
Alkalinity (CaCO3)	SM2320-B (11)
Iron	EPA 6010C
Turbidity	SM2130-B (11)

1604200826-13 (Lab Number: 0H26049-10)

Analysis	Method
Alkalinity (CaCO3)	SM2320-B (11)
Iron	EPA 6010C
Turbidity	SM2130-B (11)

1604200826-14 (Lab Number: 0H26049-11)

Analysis	Method
Alkalinity (CaCO3)	SM2320-B (11)
Iron	EPA 6010C
Turbidity	SM2130-B (11)

1604200826-15 (Lab Number: 0H26049-12)

Analysis	Method
Alkalinity (CaCO3)	SM2320-B (11)
Iron	EPA 6010C
Turbidity	SM2130-B (11)

Method References

Standard Methods for the Examination of Water and Wastewater, 20th Edition, APHA/ AWWA-WPCF, 1998

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, USEPA

Case Narrative

Sample Receipt:

The samples associated with this work order were received in appropriately cooled and preserved containers. The chain of custody was adequately completed and corresponded to the samples submitted.

Exceptions: None

Analysis:

All samples were prepared and analyzed within method specified holding times and according to NETLAB's documented standard operating procedures. The results for the associated calibration, method blank and laboratory control sample (LCS) were within method specified quality control requirements and allowances. Results for all soil samples, unless otherwise indicated, are reported on a dry weight basis.

Exceptions: None

Results: General Chemistry

Sample: 1604200826-01

Lab Number: 0H26049-01 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Alkalinity as CaCO3	**46**		2	mg/L	08/27/20	08/27/20
Turbidity	**10.2**		0.1	NTU	08/27/20 14:10	08/27/20 14:10

Results: General Chemistry

Sample: 1604200826-02

Lab Number: 0H26049-02 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Alkalinity as CaCO3	**47**		2	mg/L	08/27/20	08/27/20
Turbidity	**10.0**		0.1	NTU	08/27/20 14:10	08/27/20 14:10

Results: General Chemistry

Sample: 1604200826-03

Lab Number: 0H26049-03 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Alkalinity as CaCO3	**100**		2	mg/L	08/27/20	08/27/20
Turbidity	**158**		1.0	NTU	08/27/20 14:10	08/27/20 14:10

Results: General Chemistry

Sample: 1604200826-07

Lab Number: 0H26049-04 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Alkalinity as CaCO3	**23**		2	mg/L	08/27/20	08/27/20
Turbidity	<		0.1	NTU	08/27/20 14:10	08/27/20 14:10

Results: General Chemistry

Sample: 1604200826-08

Lab Number: 0H26049-05 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Alkalinity as CaCO3	**33**		2	mg/L	08/27/20	08/27/20
Turbidity	**9.7**		0.1	NTU	08/27/20 14:10	08/27/20 14:10

Results: General Chemistry

Sample: 1604200826-09

Lab Number: 0H26049-06 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Alkalinity as CaCO3	**39**		2	mg/L	08/27/20	08/27/20
Turbidity	**22.7**		0.1	NTU	08/27/20 14:10	08/27/20 14:10

Results: General Chemistry

Sample: 1604200826-10

Lab Number: 0H26049-07 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Alkalinity as CaCO3	**37**		2	mg/L	08/27/20	08/27/20
Turbidity	**14.9**		0.1	NTU	08/27/20 14:10	08/27/20 14:10

Results: General Chemistry

Sample: 1604200826-11

Lab Number: 0H26049-08 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Alkalinity as CaCO3	**25**		2	mg/L	08/27/20	08/27/20
Turbidity	**1.6**		0.1	NTU	08/27/20 14:10	08/27/20 14:10

Results: General Chemistry

Sample: 1604200826-12

Lab Number: 0H26049-09 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Alkalinity as CaCO3	**23**		2	mg/L	08/27/20	08/27/20
Turbidity	**0.6**		0.1	NTU	08/27/20 14:10	08/27/20 14:10

Results: General Chemistry

Sample: 1604200826-13

Lab Number: 0H26049-10 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Alkalinity as CaCO3	**25**		2	mg/L	08/27/20	08/27/20
Turbidity	**0.7**		0.1	NTU	08/27/20 14:10	08/27/20 14:10

Results: General Chemistry

Sample: 1604200826-14

Lab Number: 0H26049-11 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Alkalinity as CaCO3	**35**		2	mg/L	08/27/20	08/27/20
Turbidity	**17.6**		0.1	NTU	08/27/20 14:30	08/27/20 14:30

Results: General Chemistry

Sample: 1604200826-15

Lab Number: 0H26049-12 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Alkalinity as CaCO3	**35**		2	mg/L	08/27/20	08/27/20
Turbidity	**16.1**		0.1	NTU	08/27/20 14:30	08/27/20 14:30

Results: Total Metals

Sample: 1604200826-01

Lab Number: 0H26049-01 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Iron	**0.39**		0.05	mg/L	08/27/20	08/28/20

Results: Total Metals

Sample: 1604200826-02

Lab Number: 0H26049-02 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Iron	**0.37**		0.05	mg/L	08/27/20	08/28/20

Results: Total Metals

Sample: 1604200826-03

Lab Number: 0H26049-03 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Iron	**26.9**		0.05	mg/L	08/27/20	08/28/20

Results: Total Metals

Sample: 1604200826-07

Lab Number: 0H26049-04 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Iron	**0.07**		0.05	mg/L	08/27/20	08/28/20

Results: Total Metals

Sample: 1604200826-08
Lab Number: 0H26049-05 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Iron	**0.55**		0.05	mg/L	08/27/20	08/28/20

Results: Total Metals

Sample: 1604200826-09
Lab Number: 0H26049-06 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Iron	**1.36**		0.05	mg/L	08/27/20	08/28/20

Results: Total Metals

Sample: 1604200826-10

Lab Number: 0H26049-07 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Iron	**0.31**		0.05	mg/L	08/27/20	08/28/20

Results: Total Metals

Sample: 1604200826-11

Lab Number: 0H26049-08 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Iron	**0.18**		0.05	mg/L	08/27/20	08/28/20

Results: Total Metals

Sample: 1604200826-12
Lab Number: 0H26049-09 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Iron	**0.19**		0.05	mg/L	08/27/20	08/28/20

Results: Total Metals

Sample: 1604200826-13
Lab Number: 0H26049-10 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Iron	**0.18**		0.05	mg/L	08/27/20	08/28/20

Results: Total Metals

Sample: 1604200826-14

Lab Number: 0H26049-11 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Iron	**0.60**		0.05	mg/L	08/27/20	08/28/20

Results: Total Metals

Sample: 1604200826-15

Lab Number: 0H26049-12 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Iron	**0.78**		0.05	mg/L	08/27/20	08/28/20

Quality Control

General Chemistry

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B0H1144 - Turbidity										
Blank (B0H1144-BLK1)					Prepared & Analyzed: 08/27/20					
Turbidity	ND		0.1	NTU						
Blank (B0H1144-BLK2)					Prepared & Analyzed: 08/27/20					
Turbidity	ND		0.1	NTU						
LCS (B0H1144-BS1)					Prepared & Analyzed: 08/27/20					
Turbidity	1.0		0.1	NTU	1.00		102	0-200		
LCS (B0H1144-BS2)					Prepared & Analyzed: 08/27/20					
Turbidity	1.0		0.1	NTU	1.00		104	0-200		
Duplicate (B0H1144-DUP1)		**Source: 0H26049-01**			Prepared & Analyzed: 08/27/20					
Turbidity	11.0		0.1	NTU		10.2			7.55	200
Batch: B0H1145 - Turbidity										
Blank (B0H1145-BLK1)					Prepared & Analyzed: 08/27/20					
Turbidity	ND		0.1	NTU						
Blank (B0H1145-BLK2)					Prepared & Analyzed: 08/27/20					
Turbidity	ND		0.1	NTU						
LCS (B0H1145-BS1)					Prepared & Analyzed: 08/27/20					
Turbidity	1.0		0.1	NTU	1.00		104	0-200		
LCS (B0H1145-BS2)					Prepared & Analyzed: 08/27/20					
Turbidity	1.1		0.1	NTU	1.00		107	0-200		

Quality Control
(Continued)

General Chemistry (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B0H1145 - Turbidity (Continued)										
Duplicate (B0H1145-DUP1)		**Source: 0H26049-11**			Prepared & Analyzed: 08/27/20					
Turbidity	17.1		0.1	NTU		17.6			2.88	200
Batch: B0H1147 - Alkalinity										
Blank (B0H1147-BLK1)					Prepared & Analyzed: 08/27/20					
Alkalinity as CaCO3	ND		2	mg/L						
LCS (B0H1147-BS1)					Prepared & Analyzed: 08/27/20					
Alkalinity as CaCO3	49		2	mg/L	50.0		98.1	90-110		
Duplicate (B0H1147-DUP1)		**Source: 0H25061-01**			Prepared & Analyzed: 08/27/20					
Alkalinity as CaCO3	44		2	mg/L		46			3.92	20
Matrix Spike (B0H1147-MS1)		**Source: 0H25061-01**			Prepared & Analyzed: 08/27/20					
Alkalinity as CaCO3	89		2	mg/L	50.0	46	87.6	80-120		

Quality Control
(Continued)

Total Metals

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B0H1111 - Metals Digestion Waters										
Blank (B0H1111-BLK1)					Prepared: 08/27/20 Analyzed: 08/28/20					
Iron	ND		0.05	mg/L						
LCS (B0H1111-BS1)					Prepared: 08/27/20 Analyzed: 08/28/20					
Iron	10.5		0.05	mg/L	10.0		105	85-115		

Notes and Definitions

Item	Definition
Wet	Sample results reported on a wet weight basis.
ND	Analyte NOT DETECTED at or above the reporting limit.

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601

CHAIN-OF-CUSTODY RECORD 0592

Turnaround
❑ 1 Day* ❑ 2 Days* ❑ 3 Days* ☑ Standard (____ days) ❑ Other ____ (days)
*Surcharge Applies

Project Name	Project Location	Project Number	Laboratory
SPECTACLE POND	CRANSTON, RI	20170900.B10	NET LAB

Report To: ALLEN TEVYAW atevyaw@fando.com
Invoice To: ALLEN TEVYAW atevyaw@fando.com
P.O. No.: ~~AT~~ 1604 20170900.B10
Sampler's Signature: [signature] Date: 8/26/20

Source Codes:
MW=Monitoring Well PW=Potable Water S=Soil W=Waste
SW=Surface Water T=Treatment Facility B=Sediment A=Air
X=Other ____

Analysis Request: Total IRON; Turbidity; Alkalinity

Containers: Soil VOA Vial, [ ] methanol; Soil VOA Vial, [ ] water; Glass Soil Container ( ) oz [ ] $Na(SO_4)_2$; Glass Soil Container ( ) oz; Other:; Water VOA Vial, [ ] As is [ ] HCl; Glass Amber ( ) ml, [ ] As is [ ] H_2SO_4; Plastic - As is, [ ] 250 ml [ ] 500 [X] 1000 ml; Plastic - H_2SO_4, [ ] 250 ml [ ] 500 ml; Plastic - HNO_3, 250 ml [ ] Filtered [ ] Unfiltered; Plastic - NaOH, 250 ml

Item No.	Transfer Check 1	2	3	4	Sample Number	Source Code	Date Sampled	Time Sampled	Total IRON	Turbidity	Alkalinity	Soil VOA Vial (methanol)	Soil VOA Vial (water)	Glass Soil Container	Glass Soil Container	Other	Water VOA Vial	Glass Amber	Plastic - As is	Plastic - H_2SO_4	Plastic - HNO_3	Plastic - NaOH	Comments
1	1				1604200826-01 ..	SW	8/26/20	1200	X	X	X								X				
2	1				-02 ..	SW	↓	1220	X	X	X								X				
3	1				-03 ..	SW		1200	X	X	X								X				
4	1				-07 ..	SW		1100	X	X	X								X				
5	1				-08 ..	SW		1120	X	X	X								X				
6	1				-09 ..	SW		1200	X	X	X								X				
7	1				-10 ..	SW		1220	X	X	X								X				
8	1				-11 ..	SW		1240	X	X	X								X				
9	1				-12 ..	SW		1310	X	X	X								X				
10	1				-13 ..	SW	↓	1330	X	X	X								X				

Transfer Number	Relinquished By	Accepted By	Date	Time
1	ALLEN TEVYAW	[signature]	8/26/20	
2			8/26/20	1024
3				
4				

Reporting and Detection Limit Requirements.

Additional Comments:

LV

PAGE 2 of

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- ❑ 56 Quarry Road, Trumbull, CT 06611
- ❑ 1419 Richland Street, Columbia, SC 29201
- ❑ 78 Interstate Drive, West Springfield, MA 01089
- ❑ 50 Redfield Street, Suite 100, Boston, MA 02122
- ❑ 275 Promenade Street, Suite 350, Providence, RI 02908
- ❑ 80 Washington Street, Suite 301, Poughkeepsie, NY 12601

CHAIN-OF-CUSTODY RECORD 0589

Turnaround
❑ 1 Day* ❑ 2 Days* ❑ 3 Days* ☑ Standard (____ days) ❑ Other ______ (days)
*Surcharge Applies

PROJECT NAME: SPECTACLE POND
PROJECT LOCATION: CRANSTON, RI
PROJECT NUMBER: 20170900.B10
LABORATORY: NET LAB

REPORT TO: ALLEN TEVYAW atevyaw@fando.com
INVOICE TO: ALLEN TEVYAW atevyaw@fando.com
P.O. NO.: 160420170900.B10
Sampler's Signature: Date: 8/26/20

Source Codes:
MW=Monitoring Well SW=Surface Water PW=Potable Water T=Treatment Facility S=Soil B=Sediment W=Waste A=Air X=Other ______

Analysis Request / Containers

Item No.	Transfer Check 1	2	3	4	Sample Number	Source Code	Date Sampled	Time Sampled	TOTAL IRON	TURBIDITY	ALKALINITY	Soil VOA Vial, [ ] methanol	Soil VOA Vial, [ ] water	Glass Soil Container ( ) oz [ ] $Na_2(SO_4)_2$	Glass Soil Container ( ) oz	Other:	Water VOA Vial, [ ] As is [ ] HCl	Glass Amber ( ) ml, [ ] As is [ ] H_2SO_4	Plastic - As is, [ ] 250 ml [ ] 500 [X] 1000 ml	Plastic - H_2SO_4, [ ] 250 ml [ ] 500 ml	Plastic - HNO_3, 250 ml [ ] Filtered [ ] Unfiltered	Plastic - NaOH, 250 ml	Comments
11	✓				1604200826-14	SW	8/26/20	1400	X	X	X								X				
12	✓				↓ -15	↓	↓	1430	X	X	X								X				

Transfer Number	Relinquished By	Accepted By	Date	Time
1	ALLEN TEVYAW		8/26/20	
2		[signature]	8/26/20	1624
3				
4				

Reporting and Detection Limit Requirements:

Additional Comments:

LV

NETLAB

New England Testing Laboratory, Inc.
(401) 353-3420

REPORT OF ANALYTICAL RESULTS

NETLAB Work Order Number: 0J12013
Client Project: 20170900.B10 - Spectacle Pond, Cranston

Report Date: 19-October-2020

Prepared for:

Alan Tevyaw
Fuss & O'Neill
317 Iron Horse Way
Providence, RI 02908

Richard Warila, Laboratory Director
New England Testing Laboratory, Inc.
59 Greenhill Street
West Warwick, RI 02893
rich.warila@newenglandtesting.com

Samples Submitted :

The samples listed below were submitted to New England Testing Laboratory on 10/12/20. The group of samples appearing in this report was assigned an internal identification number (case number) for laboratory information management purposes. The client's designations for the individual samples, along with our case numbers, are used to identify the samples in this report. This report of analytical results pertains only to the sample(s) provided to us by the client which are indicated on the custody record. The case number for this sample submission is 0J12013. Custody records are included in this report.

Lab ID	Sample	Matrix	Date Sampled	Date Received
0J12013-01	1604201012-01	Water	10/12/2020	10/12/2020
0J12013-02	1604201012-02	Water	10/12/2020	10/12/2020
0J12013-03	1604201012-03	Water	10/12/2020	10/12/2020
0J12013-04	1604201012-04	Water	10/12/2020	10/12/2020
0J12013-05	1604201012-05	Water	10/12/2020	10/12/2020
0J12013-06	1604201012-06	Water	10/12/2020	10/12/2020
0J12013-07	1604201012-07	Water	10/12/2020	10/12/2020
0J12013-08	1604201012-08	Water	10/12/2020	10/12/2020
0J12013-09	1604201012-09	Water	10/12/2020	10/12/2020
0J12013-10	1604201012-10	Water	10/12/2020	10/12/2020
0J12013-11	1604201012-11	Water	10/12/2020	10/12/2020
0J12013-12	1604201012-12	Water	10/12/2020	10/12/2020
0J12013-13	1604201012-13	Water	10/12/2020	10/12/2020

Request for Analysis

At the client's request, the analyses presented in the following table were performed on the samples submitted.

1604201012-01 (Lab Number: 0J12013-01)

Analysis	Method
Alkalinity (CaCO3)	SM2320-B (11)
Iron	EPA 6010C
Turbidity	SM2130-B (11)

1604201012-02 (Lab Number: 0J12013-02)

Analysis	Method
Alkalinity (CaCO3)	SM2320-B (11)
Iron	EPA 6010C
Turbidity	SM2130-B (11)

1604201012-03 (Lab Number: 0J12013-03)

Analysis	Method
Alkalinity (CaCO3)	SM2320-B (11)
Iron	EPA 6010C
Turbidity	SM2130-B (11)

1604201012-04 (Lab Number: 0J12013-04)

Analysis	Method
Alkalinity (CaCO3)	SM2320-B (11)
Iron	EPA 6010C
Turbidity	SM2130-B (11)

1604201012-05 (Lab Number: 0J12013-05)

Analysis	Method
Alkalinity (CaCO3)	SM2320-B (11)
Iron	EPA 6010C
Turbidity	SM2130-B (11)

1604201012-06 (Lab Number: 0J12013-06)

Analysis	Method
Alkalinity (CaCO3)	SM2320-B (11)
Iron	EPA 6010C
Turbidity	SM2130-B (11)

1604201012-07 (Lab Number: 0J12013-07)

Analysis	Method
Alkalinity (CaCO3)	SM2320-B (11)
Iron	EPA 6010C
Turbidity	SM2130-B (11)

1604201012-08 (Lab Number: 0J12013-08)

Analysis	Method
Alkalinity (CaCO3)	SM2320-B (11)
Iron	EPA 6010C
Turbidity	SM2130-B (11)

Request for Analysis (continued)

1604201012-09 (Lab Number: 0J12013-09)

Analysis	**Method**
Alkalinity (CaCO3)	SM2320-B (11)
Iron	EPA 6010C
Turbidity	SM2130-B (11)

1604201012-10 (Lab Number: 0J12013-10)

Analysis	**Method**
Alkalinity (CaCO3)	SM2320-B (11)
Iron	EPA 6010C
Turbidity	SM2130-B (11)

1604201012-11 (Lab Number: 0J12013-11)

Analysis	**Method**
Alkalinity (CaCO3)	SM2320-B (11)
Iron	EPA 6010C
Turbidity	SM2130-B (11)

1604201012-12 (Lab Number: 0J12013-12)

Analysis	**Method**
Alkalinity (CaCO3)	SM2320-B (11)
Iron	EPA 6010C
Turbidity	SM2130-B (11)

1604201012-13 (Lab Number: 0J12013-13)

Analysis	**Method**
Alkalinity (CaCO3)	SM2320-B (11)
Iron	EPA 6010C
Turbidity	SM2130-B (11)

Method References

Standard Methods for the Examination of Water and Wastewater, 20th Edition, APHA/ AWWA-WPCF, 1998

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, USEPA

Case Narrative

Sample Receipt:

The samples associated with this work order were received in appropriately cooled and preserved containers. The chain of custody was adequately completed and corresponded to the samples submitted.

Exceptions: None

Analysis:

All samples were prepared and analyzed within method specified holding times and according to NETLAB's documented standard operating procedures. The results for the associated calibration, method blank and laboratory control sample (LCS) were within method specified quality control requirements and allowances. Results for all soil samples, unless otherwise indicated, are reported on a dry weight basis.

Exceptions: None

Results: General Chemistry

Sample: 1604201012-01
Lab Number: 0J12013-01 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Alkalinity as CaCO3	**31**		10	mg/L	10/16/20	10/16/20
Turbidity	**656**		2.0	NTU	10/13/20 17:05	10/13/20 17:05

Results: General Chemistry

Sample: 1604201012-02

Lab Number: 0J12013-02 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Alkalinity as CaCO3	**47**		2	mg/L	10/16/20	10/16/20
Turbidity	**15.2**		0.1	NTU	10/13/20 17:05	10/13/20 17:05

Results: General Chemistry

Sample: 1604201012-03

Lab Number: 0J12013-03 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Alkalinity as CaCO3	**56**		2	mg/L	10/16/20	10/16/20
Turbidity	**15.6**		0.1	NTU	10/13/20 17:05	10/13/20 17:05

Results: General Chemistry

Sample: 1604201012-04
Lab Number: 0J12013-04 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Alkalinity as CaCO3	**40**		2	mg/L	10/16/20	10/16/20
Turbidity	**0.3**		0.1	NTU	10/13/20 17:05	10/13/20 17:05

Results: General Chemistry

Sample: 1604201012-05

Lab Number: 0J12013-05 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Alkalinity as CaCO3	**64**		2	mg/L	10/16/20	10/16/20
Turbidity	**14.0**		0.1	NTU	10/13/20 17:05	10/13/20 17:05

Results: General Chemistry

Sample: 1604201012-06

Lab Number: 0J12013-06 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Alkalinity as CaCO3	**54**		2	mg/L	10/16/20	10/16/20
Turbidity	**15.0**		0.1	NTU	10/13/20 17:05	10/13/20 17:05

Results: General Chemistry

Sample: 1604201012-07

Lab Number: 0J12013-07 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Alkalinity as CaCO3	**37**		2	mg/L	10/16/20	10/16/20
Turbidity	**15.4**		0.1	NTU	10/13/20 17:05	10/13/20 17:05

Results: General Chemistry

Sample: 1604201012-08

Lab Number: 0J12013-08 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Alkalinity as CaCO3	**49**		2	mg/L	10/16/20	10/16/20
Turbidity	**3.8**		0.1	NTU	10/13/20 17:05	10/13/20 17:05

Results: General Chemistry

Sample: 1604201012-09

Lab Number: 0J12013-09 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Alkalinity as CaCO3	**48**		2	mg/L	10/16/20	10/16/20
Turbidity	**25.3**		0.1	NTU	10/13/20 17:05	10/13/20 17:05

Results: General Chemistry

Sample: 1604201012-10

Lab Number: 0J12013-10 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Alkalinity as CaCO3	**23**		2	mg/L	10/16/20	10/16/20
Turbidity	**0.9**		0.1	NTU	10/13/20 17:05	10/13/20 17:05

Results: General Chemistry

Sample: 1604201012-11

Lab Number: 0J12013-11 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Alkalinity as CaCO3	**53**		2	mg/L	10/16/20	10/16/20
Turbidity	**11.7**		0.1	NTU	10/13/20 16:55	10/13/20 16:55

Results: General Chemistry

Sample: 1604201012-12

Lab Number: 0J12013-12 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Alkalinity as CaCO3	**53**		2	mg/L	10/16/20	10/16/20
Turbidity	**17.4**		0.1	NTU	10/13/20 16:55	10/13/20 16:55

Results: General Chemistry

Sample: 1604201012-13

Lab Number: 0J12013-13 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Alkalinity as CaCO3	**57**		2	mg/L	10/16/20	10/16/20
Turbidity	**15.2**		0.1	NTU	10/13/20 16:55	10/13/20 16:55

Results: Total Metals

Sample: 1604201012-01
Lab Number: 0J12013-01 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Iron	**102**		0.05	mg/L	10/13/20	10/16/20

Results: Total Metals

Sample: 1604201012-02
Lab Number: 0J12013-02 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Iron	**0.99**		0.05	mg/L	10/13/20	10/16/20

Results: Total Metals

Sample: 1604201012-03
Lab Number: 0J12013-03 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Iron	**0.71**		0.05	mg/L	10/13/20	10/16/20

Results: Total Metals

Sample: 1604201012-04

Lab Number: 0J12013-04 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Iron	ND		0.05	mg/L	10/13/20	10/16/20

Results: Total Metals

Sample: 1604201012-05

Lab Number: 0J12013-05 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Iron	**0.58**		0.05	mg/L	10/13/20	10/16/20

Results: Total Metals

Sample: 1604201012-06

Lab Number: 0J12013-06 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Iron	**0.65**		0.05	mg/L	10/13/20	10/16/20

Results: Total Metals

Sample: 1604201012-07

Lab Number: 0J12013-07 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Iron	**0.23**		0.05	mg/L	10/13/20	10/16/20

Results: Total Metals

Sample: 1604201012-08
Lab Number: 0J12013-08 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Iron	**0.30**		0.05	mg/L	10/13/20	10/16/20

Results: Total Metals

Sample: 1604201012-09
Lab Number: 0J12013-09 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Iron	**1.24**		0.05	mg/L	10/13/20	10/16/20

Results: Total Metals

Sample: 1604201012-10

Lab Number: 0J12013-10 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Iron	**0.51**		0.05	mg/L	10/13/20	10/16/20

Results: Total Metals

Sample: 1604201012-11

Lab Number: 0J12013-11 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Iron	**0.98**		0.05	mg/L	10/13/20	10/16/20

Results: Total Metals

Sample: 1604201012-12
Lab Number: 0J12013-12 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Iron	**0.69**		0.05	mg/L	10/13/20	10/16/20

Results: Total Metals

Sample: 1604201012-13
Lab Number: 0J12013-13 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Iron	**0.83**		0.05	mg/L	10/13/20	10/16/20

Quality Control

General Chemistry

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B0J0544 - Turbidity										
Blank (B0J0544-BLK1)					Prepared & Analyzed: 10/13/20					
Turbidity	ND		0.1	NTU						
Blank (B0J0544-BLK2)					Prepared & Analyzed: 10/13/20					
Turbidity	ND		0.1	NTU						
LCS (B0J0544-BS1)					Prepared & Analyzed: 10/13/20					
Turbidity	0.9		0.1	NTU	1.00		92.0	0-200		
LCS (B0J0544-BS2)					Prepared & Analyzed: 10/13/20					
Turbidity	1.0		0.1	NTU	1.00		95.0	0-200		
Duplicate (B0J0544-DUP1)		**Source: 0J12013-01**			Prepared & Analyzed: 10/13/20					
Turbidity	626		2.0	NTU		656			4.68	200
Batch: B0J0545 - Turbidity										
Blank (B0J0545-BLK2)					Prepared & Analyzed: 10/13/20					
Turbidity	ND		0.1	NTU						
LCS (B0J0545-BS1)					Prepared & Analyzed: 10/13/20					
Turbidity	1.1		0.1	NTU	1.00		110	0-200		
LCS (B0J0545-BS2)					Prepared & Analyzed: 10/13/20					
Turbidity	0.9		0.1	NTU	1.00		93.0	0-200		
Duplicate (B0J0545-DUP1)		**Source: 0J12013-11**			Prepared & Analyzed: 10/13/20					
Turbidity	12.6		0.1	NTU		11.7			7.41	200

Quality Control
(Continued)

General Chemistry (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B0J0725 - Alkalinity										
Blank (B0J0725-BLK1)					Prepared & Analyzed: 10/16/20					
Alkalinity as CaCO3	ND		2	mg/L						
LCS (B0J0725-BS1)					Prepared & Analyzed: 10/16/20					
Alkalinity as CaCO3	50		2	mg/L	50.0		101	90-110		
Duplicate (B0J0725-DUP1)		**Source: 0J09034-04**			Prepared & Analyzed: 10/16/20					
Alkalinity as CaCO3	ND		2	mg/L		ND				20
Matrix Spike (B0J0725-MS1)		**Source: 0J09034-04**			Prepared & Analyzed: 10/16/20					
Alkalinity as CaCO3	93		2	mg/L	50.0	ND	185	80-120		

Quality Control
(Continued)

Total Metals

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B0J0512 - Metals Digestion Waters										
Blank (B0J0512-BLK1)					Prepared: 10/13/20 Analyzed: 10/16/20					
Iron	ND		0.05	mg/L						
LCS (B0J0512-BS1)					Prepared: 10/13/20 Analyzed: 10/16/20					
Iron	9.89		0.05	mg/L	10.0		98.9	85-115		

Notes and Definitions

Item	Definition
Wet	Sample results reported on a wet weight basis.
ND	Analyte NOT DETECTED at or above the reporting limit.

FUSS & O'NEILL
(860) 646-2469 • www.FandO.com

- ☐ 146 Hartford Road, Manchester, CT 06040
- ☐ 56 Quarry Road, Trumbull, CT 06611
- ☒ 317 Iron Horse Way, Suite 204, Providence, RI 02908
- ☐ 1550 Main Street, Suite 400, Springfield, MA 01103
- ☐ 108 Myrtle Street, Suite 502, Quincy, MA 02171
- ☐ 540 North Commercial Street, M
- ☐ 276 Newport Road, New Londo
- ☐ 205 Billings Farm Road, Suite 6B, V
- ☐ 5 Fletcher Street, Suite 1, Kenneb
- ☐ 23046 Avenida de la Carlota, Suit

0 J 1 2013%

CHAIN-OF-CUSTODY RECORD 43471

☐ 24-Hour* ☐ 72-Hour* ☐ Other ______ (days)
☐ 48-Hour* ☒ Standard (____ days) *Surcharge Applies

PROJECT NAME	PROJECT LOCATION	PROJECT NUMBER	LABORATORY
Spectacle pond	CRANSTON, RI	20170900.B10	NET LAB

REPORT TO: ALLEN TEVYAW (atevyaw@fando.com)

INVOICE TO: ALLEN TEVYAW (atevyaw@fando.com)

P.O. NO.: 160420170900.B10

Sampler's Signature: Matt Sy Date: 10/12/2020

Source Codes:
MW=Monitoring Well PW=Potable Water T=Treatment Facility S=Soil B=Sediment
SW=Surface Water ST=Stormwater W=Waste A=Air C=Concrete
X=Other ______

Analysis Request | Containers

Item No.	Transfer Check 1	2	3	4	Sample Number	Source Code	Date Sampled	Time Sampled	TOTAL IRON	TURBIDITY	ALKALINITY	Soil VOA Vial, ☐ methanol	Soil VOA Vial, ☐ water	Glass Soil Container ( ) oz	Other:	Other:	Water VOA Vial, ☐ As is ☐ HCl	Glass Amber ( ) ml, ☐ As is ☐ H2SO4	Plastic - As is, ☐ 250 ml ☐ 500 ☒ 1000 ml	Plastic - H_2SO_4, 250 ml ☐ 500 ml	Plastic - HNO_3, 250 ml ☐ Filtered ☐ 0.45µ ☐ 10µ	Plastic - NaOH, 250 ml	Comments
1					1604201012 - 01	SW	10/12/20	1137	X	X	X								1		1		
2					- 02	↓	↓	1141	X	X	X								1		1		
3					- 03			1145	X	X	X								1		1		
4					- 04			1218	X	X	X								1		1		
5					- 05			1221	X	X	X								1		1		
6					- 06			1250	X	X	X								1		1		
7					- 07			1315	X	X	X								1		1		
8					- 08			1320	X	X	X								1		1		
9					- 09			1232	X	X	X								1		1		
10					- 10			1312	X	X	X								1		1		

Transfer Number	Relinquished By	Accepted By	Date	Time
1	Matt Sy	[signature]	10/12/20	15:40
2				
3				
4				

Charge Exceptions: ☐ CT Tax Exempt ☐ QA/QC ☐ Other ______
____ Duplicates ____ Blanks (Item Nos:)

Reporting and Detection Limit Requirements: ☐ RCP Deliverables ☐ MCP CAM Cert.

Additional Comments:

FUSS & O'NEILL
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- ☐ 146 Hartford Road, Manchester, CT 06040
- ☐ 56 Quarry Road, Trumbull, CT 06611
- ☑ 317 Iron Horse Way, Suite 204, Providence, RI 02908
- ☐ 1550 Main Street, Suite 400, Springfield, MA 01103
- ☐ 108 Myrtle Street, Suite 502, Quincy, MA 02171
- ☐ 540 North Commercial Street, Manchester, NH 03101
- ☐ 276 Newport Road, New London, NH 03257
- ☐ 205 Billings Farm Road, Suite 6B, White River Junction, VT 05001
- ☐ 5 Fletcher Street, Suite 1, Kennebunk, ME 04043
- ☐ 23046 Avenida de la Carlota, Suite 600, Laguna Hills, CA 92653
- ☐ Other ____

CHAIN-OF-CUSTODY RECORD 43472

Turnaround
☐ 24-Hour* ☐ 72-Hour* ☐ Other ____ (days)
☐ 48-Hour* ☑ Standard (____ days) *Surcharge Applies

PROJECT NAME	PROJECT LOCATION	PROJECT NUMBER	LABORATORY
SPECTACLE POND	CRANSTON, RI	20170900.B10	NET LAB

REPORT TO: ALLEN TEVYAW (atevyaw@fando.com)
INVOICE TO: ALLEN TEVYAW (atevyaw@fando.com)
P.O. NO.: 1604 20170900.B10
Sampler's Signature: [signature] Date: 10/12/20

Source Codes:
MW=Monitoring Well PW=Potable Water T=Treatment Facility S=Soil B=Sediment
SW=Surface Water ST=Stormwater W=Waste A=Air C=Concrete
X=Other ____

Analysis Request / Containers

Item No.	Transfer Check 1	2	3	4	Sample Number	Source Code	Date Sampled	Time Sampled	TOTAL IRON	TURBIDITY	ALKALINITY	Soil VOA Vial, ☐ methanol	Soil VOA Vial, ☐ water	Glass Soil Container ( ) oz ☐ Na(SO4)2	Other	Other	Water VOA Vial, ☐ As is ☐ HCl	Glass Amber ( ) ml, ☐ As is ☐ H2SO4	Plastic - As is, ☐ 250 ml ☐ 500 ☑ 1000 ml	Plastic - H2SO4, ☐ 250 ml ☐ 500 ml	Plastic - HNO3, 250 ml ☐ Filtered ☐ 0.45μ ☐ 10μ	Plastic - NaOH, 250 ml	Comments
11					1604201012 - 11	SW	10/12/20	1323	X	X	X								1		1		
12					- 12	↓	↓	1345	X	X	X								1		1		
13					- 13	↓	↓	1350	X	X	X								1		1		

Transfer Number	Relinquished By	Accepted By	Date	Time
1	[signature]	[signature]	10/12/20	15:48
2				
3				
4				

Charge Exceptions: ☐ CT Tax Exempt ☐ QA/QC ☐ Other ____
____ Duplicates ____ Blanks (Item Nos:)
Reporting and Detection Limit Requirements: ☐ RCP Deliverables ☐ MCP CAM Cert.
Additional Comments:

New England Testing Laboratory, Inc.
(401) 353-3420

REPORT OF ANALYTICAL RESULTS

NETLAB Work Order Number: 0J29056
Client Project: 20170900.B10 - Spectacle Pond, Cranston

Report Date: 05-November-2020

Prepared for:

Alan Tevyaw
Fuss & O'Neill
317 Iron Horse Way
Providence, RI 02908

Richard Warila, Laboratory Director
New England Testing Laboratory, Inc.
59 Greenhill Street
West Warwick, RI 02893
rich.warila@newenglandtesting.com

Samples Submitted :

The samples listed below were submitted to New England Testing Laboratory on 10/29/20. The group of samples appearing in this report was assigned an internal identification number (case number) for laboratory information management purposes. The client's designations for the individual samples, along with our case numbers, are used to identify the samples in this report. This report of analytical results pertains only to the sample(s) provided to us by the client which are indicated on the custody record. The case number for this sample submission is 0J29056. Custody records are included in this report.

Lab ID	Sample	Matrix	Date Sampled	Date Received
0J29056-01	1603201029-01	Water	10/29/2020	10/29/2020
0J29056-02	1603201029-02	Water	10/29/2020	10/29/2020
0J29056-03	1603201029-03	Water	10/29/2020	10/29/2020
0J29056-04	1603201029-04	Water	10/29/2020	10/29/2020
0J29056-05	1603201029-05	Water	10/29/2020	10/29/2020
0J29056-06	1603201029-06	Water	10/29/2020	10/29/2020
0J29056-07	1603201029-07	Water	10/29/2020	10/29/2020
0J29056-08	1603201029-08	Water	10/29/2020	10/29/2020
0J29056-09	1603201029-09	Water	10/29/2020	10/29/2020
0J29056-10	1603201029-10	Water	10/29/2020	10/29/2020
0J29056-11	1603201029-11	Water	10/29/2020	10/29/2020
0J29056-12	1603201029-12	Water	10/29/2020	10/29/2020
0J29056-13	1603201029-13	Water	10/29/2020	10/29/2020

Request for Analysis

At the client's request, the analyses presented in the following table were performed on the samples submitted.

1603201029-01 (Lab Number: 0J29056-01)

Analysis	Method
Alkalinity (CaCO3)	SM2320-B (11)
Iron	EPA 6010C
Turbidity	SM2130-B (11)

1603201029-02 (Lab Number: 0J29056-02)

Analysis	Method
Alkalinity (CaCO3)	SM2320-B (11)
Iron	EPA 6010C
Turbidity	SM2130-B (11)

1603201029-03 (Lab Number: 0J29056-03)

Analysis	Method
Alkalinity (CaCO3)	SM2320-B (11)
Iron	EPA 6010C
Turbidity	SM2130-B (11)

1603201029-04 (Lab Number: 0J29056-04)

Analysis	Method
Alkalinity (CaCO3)	SM2320-B (11)
Iron	EPA 6010C
Turbidity	SM2130-B (11)

1603201029-05 (Lab Number: 0J29056-05)

Analysis	Method
Alkalinity (CaCO3)	SM2320-B (11)
Iron	EPA 6010C
Turbidity	SM2130-B (11)

1603201029-06 (Lab Number: 0J29056-06)

Analysis	Method
Alkalinity (CaCO3)	SM2320-B (11)
Iron	EPA 6010C
Turbidity	SM2130-B (11)

1603201029-07 (Lab Number: 0J29056-07)

Analysis	Method
Alkalinity (CaCO3)	SM2320-B (11)
Iron	EPA 6010C
Turbidity	SM2130-B (11)

1603201029-08 (Lab Number: 0J29056-08)

Analysis	Method
Alkalinity (CaCO3)	SM2320-B (11)
Iron	EPA 6010C
Turbidity	SM2130-B (11)

Request for Analysis (continued)

1603201029-09 (Lab Number: 0J29056-09)

Analysis	Method
Alkalinity (CaCO3)	SM2320-B (11)
Iron	EPA 6010C
Turbidity	SM2130-B (11)

1603201029-10 (Lab Number: 0J29056-10)

Analysis	Method
Alkalinity (CaCO3)	SM2320-B (11)
Iron	EPA 6010C
Turbidity	SM2130-B (11)

1603201029-11 (Lab Number: 0J29056-11)

Analysis	Method
Alkalinity (CaCO3)	SM2320-B (11)
Iron	EPA 6010C
Turbidity	SM2130-B (11)

1603201029-12 (Lab Number: 0J29056-12)

Analysis	Method
Alkalinity (CaCO3)	SM2320-B (11)
Iron	EPA 6010C
Turbidity	SM2130-B (11)

1603201029-13 (Lab Number: 0J29056-13)

Analysis	Method
Alkalinity (CaCO3)	SM2320-B (11)
Iron	EPA 6010C
Turbidity	SM2130-B (11)

Method References

Standard Methods for the Examination of Water and Wastewater, 20th Edition, APHA/ AWWA-WPCF, 1998

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, USEPA

Case Narrative

Sample Receipt:

The samples associated with this work order were received in appropriately cooled and preserved containers. The chain of custody was adequately completed and corresponded to the samples submitted.

Exceptions: None

Analysis:

All samples were prepared and analyzed within method specified holding times and according to NETLAB's documented standard operating procedures. The results for the associated calibration, method blank and laboratory control sample (LCS) were within method specified quality control requirements and allowances. Results for all soil samples, unless otherwise indicated, are reported on a dry weight basis.

Exceptions: None

Results: General Chemistry

Sample: 1603201029-01
Lab Number: 0J29056-01 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Alkalinity as CaCO3	**30**		2	mg/L	11/05/20	11/05/20
Turbidity	**0.5**		0.1	NTU	10/30/20 15:55	10/30/20 15:55

Results: General Chemistry

Sample: 1603201029-02

Lab Number: 0J29056-02 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Alkalinity as CaCO3	**42**		2	mg/L	11/05/20	11/05/20
Turbidity	**11.8**		0.1	NTU	10/30/20 15:55	10/30/20 15:55

Results: General Chemistry

Sample: 1603201029-03

Lab Number: 0J29056-03 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Alkalinity as CaCO3	**48**		2	mg/L	11/05/20	11/05/20
Turbidity	**21.1**		0.1	NTU	10/30/20 15:55	10/30/20 15:55

Results: General Chemistry

Sample: 1603201029-04

Lab Number: 0J29056-04 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Alkalinity as CaCO3	**44**		2	mg/L	11/05/20	11/05/20
Turbidity	**13.8**		0.1	NTU	10/30/20 15:55	10/30/20 15:55

Results: General Chemistry

Sample: 1603201029-05

Lab Number: 0J29056-05 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Alkalinity as CaCO3	**15**		2	mg/L	11/05/20	11/05/20
Turbidity	**12.5**		0.1	NTU	10/30/20 15:55	10/30/20 15:55

Results: General Chemistry

Sample: 1603201029-06

Lab Number: 0J29056-06 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Alkalinity as CaCO3	**10**		2	mg/L	11/05/20	11/05/20
Turbidity	**13.1**		0.1	NTU	10/30/20 15:55	10/30/20 15:55

Results: General Chemistry

Sample: 1603201029-07

Lab Number: 0J29056-07 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Alkalinity as CaCO3	**6**		2	mg/L	11/05/20	11/05/20
Turbidity	**0.7**		0.1	NTU	10/30/20 15:55	10/30/20 15:55

Results: General Chemistry

Sample: 1603201029-08

Lab Number: 0J29056-08 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Alkalinity as CaCO3	**40**		2	mg/L	11/05/20	11/05/20
Turbidity	**23.7**		0.1	NTU	10/30/20 15:55	10/30/20 15:55

Results: General Chemistry

Sample: 1603201029-09

Lab Number: 0J29056-09 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Alkalinity as CaCO3	**32**		2	mg/L	11/05/20	11/05/20
Turbidity	**20.7**		0.1	NTU	10/30/20 15:55	10/30/20 15:55

Results: General Chemistry

Sample: 1603201029-10
Lab Number: 0J29056-10 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Alkalinity as CaCO3	**52**		2	mg/L	11/05/20	11/05/20
Turbidity	**772**		2.0	NTU	10/30/20 15:55	10/30/20 15:55

Results: General Chemistry

Sample: 1603201029-11
Lab Number: 0J29056-11 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Alkalinity as CaCO3	**42**		2	mg/L	11/05/20	11/05/20
Turbidity	**14.5**		0.1	NTU	10/30/20 16:10	10/30/20 16:10

Results: General Chemistry

Sample: 1603201029-12

Lab Number: 0J29056-12 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Alkalinity as CaCO3	**40**		2	mg/L	11/05/20	11/05/20
Turbidity	**11.8**		0.1	NTU	10/30/20 16:10	10/30/20 16:10

Results: General Chemistry

Sample: 1603201029-13

Lab Number: 0J29056-13 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Alkalinity as CaCO3	**38**		2	mg/L	11/05/20	11/05/20
Turbidity	**283**		1.0	NTU	10/30/20 16:10	10/30/20 16:10

Results: Total Metals

Sample: 1603201029-01

Lab Number: 0J29056-01 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Iron	ND		0.05	mg/L	10/30/20	11/03/20

Results: Total Metals

Sample: 1603201029-02
Lab Number: 0J29056-02 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Iron	**0.46**		0.05	mg/L	10/30/20	11/03/20

Results: Total Metals

Sample: 1603201029-03
Lab Number: 0J29056-03 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Iron	**0.41**		0.05	mg/L	10/30/20	11/03/20

Results: Total Metals

Sample: 1603201029-04

Lab Number: 0J29056-04 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Iron	**0.41**		0.05	mg/L	10/30/20	11/03/20

Results: Total Metals

Sample: 1603201029-05
Lab Number: 0J29056-05 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Iron	**0.75**		0.05	mg/L	10/30/20	11/03/20

Results: Total Metals

Sample: 1603201029-06

Lab Number: 0J29056-06 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Iron	**0.66**		0.05	mg/L	10/30/20	11/03/20

Results: Total Metals

Sample: 1603201029-07
Lab Number: 0J29056-07 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Iron	**0.12**		0.05	mg/L	10/30/20	11/03/20

Results: Total Metals

Sample: 1603201029-08
Lab Number: 0J29056-08 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Iron	**1.79**		0.05	mg/L	10/30/20	11/03/20

Results: Total Metals

Sample: 1603201029-09

Lab Number: 0J29056-09 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Iron	**1.49**		0.05	mg/L	10/30/20	11/03/20

Results: Total Metals

Sample: 1603201029-10

Lab Number: 0J29056-10 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Iron	**12.7**		0.05	mg/L	10/30/20	11/03/20

Results: Total Metals

Sample: 1603201029-11

Lab Number: 0J29056-11 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Iron	**0.55**		0.05	mg/L	10/30/20	11/03/20

Results: Total Metals

Sample: 1603201029-12

Lab Number: 0J29056-12 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Iron	**0.46**		0.05	mg/L	10/30/20	11/03/20

Results: Total Metals

Sample: 1603201029-13

Lab Number: 0J29056-13 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Iron	**0.57**		0.05	mg/L	10/30/20	11/03/20

Quality Control

General Chemistry

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B0K0066 - Turbidity										
Blank (B0K0066-BLK1)					Prepared & Analyzed: 10/30/20					
Turbidity	ND		0.1	NTU						
Blank (B0K0066-BLK2)					Prepared & Analyzed: 10/30/20					
Turbidity	ND		0.1	NTU						
LCS (B0K0066-BS1)					Prepared & Analyzed: 10/30/20					
Turbidity	1.0		0.1	NTU	1.00		99.0	0-200		
LCS (B0K0066-BS2)					Prepared & Analyzed: 10/30/20					
Turbidity	1.0		0.1	NTU	1.00		100	0-200		
Duplicate (B0K0066-DUP1)		**Source: 0J29056-01**			Prepared & Analyzed: 10/30/20					
Turbidity	0.5		0.1	NTU		0.5			1.90	200
Batch: B0K0070 - Turbidity										
Blank (B0K0070-BLK1)					Prepared & Analyzed: 10/30/20					
Turbidity	ND		0.1	NTU						
Blank (B0K0070-BLK2)					Prepared & Analyzed: 10/30/20					
Turbidity	ND		0.1	NTU						
LCS (B0K0070-BS1)					Prepared & Analyzed: 10/30/20					
Turbidity	1.0		0.1	NTU	1.00		100	0-200		
LCS (B0K0070-BS2)					Prepared & Analyzed: 10/30/20					
Turbidity	1.0		0.1	NTU	1.00		99.0	0-200		

Quality Control
(Continued)

General Chemistry (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B0K0070 - Turbidity (Continued)										
Duplicate (B0K0070-DUP1)		**Source: 0J29056-11**			Prepared & Analyzed: 10/30/20					
Turbidity	14.1		0.1	NTU		14.5			2.80	200
Batch: B0K0225 - Alkalinity										
Blank (B0K0225-BLK1)					Prepared & Analyzed: 11/05/20					
Alkalinity as CaCO3	ND		2	mg/L						
LCS (B0K0225-BS1)					Prepared & Analyzed: 11/05/20					
Alkalinity as CaCO3	51		2	mg/L	50.0		102	90-110		
Duplicate (B0K0225-DUP1)		**Source: 0J29056-01**			Prepared & Analyzed: 11/05/20					
Alkalinity as CaCO3	35		2	mg/L		30			15.4	20
Matrix Spike (B0K0225-MS1)		**Source: 0J29056-01**			Prepared & Analyzed: 11/05/20					
Alkalinity as CaCO3	76		2	mg/L	50.0	30	91.6	80-120		

Quality Control
(Continued)

Total Metals

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B0J1339 - Metals Digestion Waters										
Blank (B0J1339-BLK1)					Prepared: 10/30/20 Analyzed: 11/03/20					
Iron	ND		0.05	mg/L						
LCS (B0J1339-BS1)					Prepared: 10/30/20 Analyzed: 11/03/20					
Iron	10.4		0.05	mg/L	10.0		104	85-115		
Batch: B0J1340 - Metals Digestion Waters										
Blank (B0J1340-BLK1)					Prepared: 10/30/20 Analyzed: 11/03/20					
Iron	ND		0.05	mg/L						
LCS (B0J1340-BS1)					Prepared: 10/30/20 Analyzed: 11/03/20					
Iron	10.4		0.05	mg/L	10.0		104	85-115		

Notes and Definitions

Item	Definition
Wet	Sample results reported on a wet weight basis.
ND	Analyte NOT DETECTED at or above the reporting limit.

FUSS & O'NEILL
(860) 646-2469 • www.FandO.com

☐ 146 Hartford Road, Manchester, CT 06040
☐ 56 Quarry Road, Trumbull, CT 06611
☒ 317 Iron Horse Way, Suite 204, Providence, RI 02908
☐ 1550 Main Street, Suite 400, Springfield, MA 01103
☐ 108 Myrtle Street, Suite 502, Quincy, MA 02171
☐ 540 North C
☐ 276 Newpo
☐ 205 Billings
☐ 5 Fletcher S
☐ 23046 Aven

0J2 9056

CHAIN-OF-CUSTODY RECORD 43499

☐ 24-Hour* ☐ 72-Hour* ☐ Other ______ (days)
☐ 48-Hour* ☒ Standard (____ days) *Surcharge Applies

PROJECT NAME	PROJECT LOCATION	PROJECT NUMBER	LABORATORY
Spectacle POND	CRANSTON, RI	20170900.B10	NET-LAB

REPORT TO: ALLEN TEVYAW (atevyaw@fando.com)

INVOICE TO: X

P.O. No.: 1603201709000.B10

Sampler's Signature: [signature] Date: 10/29/20

Source Codes:
MW=Monitoring Well PW=Potable Water T=Treatment Facility S=Soil B=Sediment
SW=Surface Water ST=Stormwater W=Waste A=Air C=Concrete
X=Other ______

Analysis Request: TOTAL IRON, TURBIDITY, ALKALINITY

Containers: Soil VOA Vial, ☐ methanol; Soil VOA Vial, ☐ water; Glass Soil Container ( ) oz ☐ $Na_2(SO_4)_2$; Other; Other; Water VOA Vial, ☐ As is ☐ HCl; Glass Amber ( ) ml, ☐ As is ☐ H_2SO_4; Plastic - As is, ☒ 250 ml ☐ 500 ☒ 1000 ml; Plastic - H_2SO_4, ☐ 250 ml ☐ 500 ml; Plastic - HNO_3, 250 ml ☐ Filtered ☐ 0.45µ ☐ 10µ; Plastic - NaOH, 250 ml

Item No.	Transfer Check 1	2	3	4	Sample Number	Source Code	Date Sampled	Time Sampled	TOTAL IRON	TURBIDITY	ALKALINITY	Glass Amber	Plastic - H_2SO_4	Comments
1					1603261029 - 01	SW	10/29/20	0942	X	X	X	1	1	
2					-02			0950	X	X	X	1	1	
3					-03			1018	X	X	X	1	1	
4					-04			1052	X	X	X	1	1	
5					-05			1121	X	X	X	1	1	
6					-06			1132	X	X	X	1	1	
7					-07			1202	X	X	X	1	1	
8					-08			[illegible]	X	X	X	1	1	
9					-09			1215	X	X	X	1	1	
10					-10			1233	X	X	X	1	1	NM

Transfer Number	Relinquished By	Accepted By	Date	Time
1	[signature]		10/29/20	
2				
3		Nicon [signature]	10-29-20	4:04
4				

Charge Exceptions: ☐ CT Tax Exempt ☐ QA/QC ☐ Other ______
____ Duplicates ____ Blanks (Item Nos:)

Reporting and Detection Limit Requirements: ☐ RCP Deliverables ☐ MCP CAM Cert.

Additional Comments:

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- ☐ 146 Hartford Road, Manchester, CT 06040
- ☐ 56 Quarry Road, Trumbull, CT 06611
- ☒ 317 Iron Horse Way, Suite 204, Providence, RI 02908
- ☐ 1550 Main Street, Suite 400, Springfield, MA 01103
- ☐ 108 Myrtle Street, Suite 502, Quincy, MA 02171
- ☐ 540 North Commercial Street, Manchester, NH 03101
- ☐ 276 Newport Road, New London, NH 03257
- ☐ 205 Billings Farm Road, Suite 6B, White River Junction, VT 05001
- ☐ 5 Fletcher Street, Suite 1, Kennebunk, ME 04043
- ☐ 23046 Avenida de la Carlota, Suite 600, Laguna Hills, CA 92653
- ☐ Other

CHAIN-OF-CUSTODY RECORD 43498

Turnaround: ☐ 24-Hour* ☐ 72-Hour* ☐ Other ____ (days) ☐ 48-Hour* ☒ Standard (____ days) *Surcharge Applies

PROJECT NAME	PROJECT LOCATION	PROJECT NUMBER	LABORATORY
SPECTACLE POND	CRANSTON, RI	20170900.B10	NET-LAB

REPORT TO: ALLEN TENYAW (atenyaw@fando.com)

INVOICE TO: "

P.O. NO.: 1603201709000.B10

Sampler's Signature: Date: 10/29/20

Source Codes:
MW=Monitoring Well PW=Potable Water T=Treatment Facility S=Soil B=Sediment
SW=Surface Water ST=Stormwater W=Waste A=Air C=Concrete
X=Other

Analysis Request / Containers

Item No.	Transfer Check 1	2	3	4	Sample Number	Source Code	Date Sampled	Time Sampled	TOTAL IRON	TURBIDITY	ALKALINITY	Soil VOA Vial, ☐ methanol	Soil VOA Vial, ☐ water	Glass Soil Container ( ) oz ☐ Na_2SO_4	Other	Other	Water VOA Vial, ☐ As is ☐ HCl	Glass Amber ( ) ml, ☐ As is ☐ H_2SO_4	Plastic - As is, ☐ 250 ml ☐ 500 ☐ 1000 ml	Plastic - H_2SO_4, ☐ 250 ml ☐ 500 ml	Plastic - HNO_3, 250 ml ☐ Filtered ☐ 0.45µ ☐ 10µ	Plastic - NaOH, 250 ml	Comments
11					1603201029 -11	SW	10/29/20	1435	X	X	X								1		1		
12					-12	↓	↓	1447	X	X	X								1		1		
13					-13	↓	↓	1452	X	X	X								1		1		

NM

Transfer Number	Relinquished By	Accepted By	Date	Time
1	[signature]		10/29/20	
2				
3		[signature]	10-29-20	4:04
4				

Charge Exceptions: ☐ CT Tax Exempt ☐ QA/QC ☐ Other ____ Duplicates ____ Blanks (Item Nos:)

Reporting and Detection Limit Requirements: ☐ RCP Deliverables ☐ MCP CAM Cert.

Additional Comments:

Fuss & O'Neill
Attn: Allen Tevyaw
317 Iron Horse Way, Suite 204
Providence, RI 02908

Email: atevyaw@fando.com

Report Date:	**10/15/2020**	Date Sampled:	**8/26/2020**
Laboratory ID#:	**N2081902 (01-03)**	Date Received:	**9/08/2020**
Sample Description:	**SEDIMENT**	Date(s) Tested:	**See Below**
Sample Site:	**Spectacle Pond – Cranston, RI**		

Client ID#:	Date Collected	Time Collected	Total Phosphorous (mg/kg) ♦	Iron Bound Phosphorus (mg/kg)	Loosely Bound Phosphorus (mg/kg)	Total Solids ♦ (%)	Organic Matter (%)
1604200826-04	8/26/2020	--	5,810	376	10.1	14.6	10.29
1604200826-05	8/26/2020	--	175	44.0	4.4	66.4	60.83
1604200826-06	8/26/2020	--	3,810	78.2	3.0	13.7	6.96
			9/21/2020 ♦	10/14/2020	10/13/2020	9/18/2020 ♦	10/15/2020
		Method:	SM4500PE-11	SM4500 P	SM4500 P	SM2540B-11	

♦ = Analysis for Phosphorous and Total Solids
was outsourced to & tested by Phoenix Lab#PH0618 / Rpt#: GCG80758

Comments:
Results are based on sample, as submitted to Northeast Laboratories, Inc. on: 9/08/2020

Approved by: Alan C. [signature]
Laboratory Director

Tuesday, June 02, 2020

Attn: Allen Tevyaw
Fuss & O'Neill, Inc.
Foundry Corporate Office Center
317 Iron Horse Way, Suite 204
Providence, RI 02908

Project ID: SPECTACLE POND
SDG ID: GCG03521
Sample ID#s: CG03521 - CG03530

This laboratory is in compliance with the NELAC requirements of procedures used except where indicated.

This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory. This report is incomplete unless all pages indicated in the pagination at the bottom of the page are included.

A scanned version of the COC form accompanies the analytical report and is an exact duplicate of the original.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Sincerely yours,

Phyllis Shiller
Laboratory Director

NELAC - #NY11301
CT Lab Registration #PH-0618
MA Lab Registration #M-CT007
ME Lab Registration #CT-007
NH Lab Registration #213693-A,B

NJ Lab Registration #CT-003
NY Lab Registration #11301
PA Lab Registration #68-03530
RI Lab Registration #63
UT Lab Registration #CT00007
VT Lab Registration #VT11301

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Sample Id Cross Reference

June 02, 2020

SDG I.D.: GCG03521

Project ID: SPECTACLE POND

Client Id	Lab Id	Matrix
16042000528-01	CG03521	SURFACE WATER
16042000528-02	CG03522	SURFACE WATER
16042000528-03	CG03523	SURFACE WATER
16042000528-04	CG03524	SURFACE WATER
16042000528-05	CG03525	SURFACE WATER
16042000528-06	CG03526	SURFACE WATER
16042000528-07	CG03527	SURFACE WATER
16042000528-08	CG03528	SURFACE WATER
16042000528-09	CG03529	SURFACE WATER
16042000528-10	CG03530	SURFACE WATER

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

June 02, 2020

FOR: Attn: Allen Tevyaw
Fuss & O'Neill, Inc.
Foundry Corporate Office Center
317 Iron Horse Way, Suite 204
Providence, RI 02908

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:	AT	05/28/20	10:15
Location Code:	F&O-RI	Received by:	CP	05/29/20	14:36
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	20170900.B10				

Laboratory Data

SDG ID: GCG03521
Phoenix ID: CG03521

Project ID: SPECTACLE POND
Client ID: 16042000528-01

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, as P	0.009	0.003	mg/L	0.5	06/01/20	JR	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller

Phyllis Shiller, Laboratory Director
June 02, 2020
Reviewed and Released by: Rashmi Makol, Project Manager

PHOENIX

Environmental Laboratories, Inc.

587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045

Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

June 02, 2020

FOR: Attn: Allen Tevyaw
Fuss & O'Neill, Inc.
Foundry Corporate Office Center
317 Iron Horse Way, Suite 204
Providence, RI 02908

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:	AT	05/28/20	10:23
Location Code:	F&O-RI	Received by:	CP	05/29/20	14:36
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	20170900.B10				

Laboratory Data

SDG ID: GCG03521
Phoenix ID: CG03522

Project ID: SPECTACLE POND
Client ID: 16042000528-02

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, as P	0.028	0.003	mg/L	0.5	06/01/20	JR	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

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Phyllis Shiller

Phyllis Shiller, Laboratory Director
June 02, 2020
Reviewed and Released by: Rashmi Makol, Project Manager

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

June 02, 2020

FOR: Attn: Allen Tevyaw
Fuss & O'Neill, Inc.
Foundry Corporate Office Center
317 Iron Horse Way, Suite 204
Providence, RI 02908

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:	AT	05/28/20	10:52
Location Code:	F&O-RI	Received by:	CP	05/29/20	14:36
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	20170900.B10				

Laboratory Data

SDG ID: GCG03521
Phoenix ID: CG03523

Project ID: SPECTACLE POND
Client ID: 16042000528-03

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, as P	0.033	0.003	mg/L	0.5	06/01/20	JR	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

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Phyllis Shiller

Phyllis Shiller, Laboratory Director
June 02, 2020
Reviewed and Released by: Rashmi Makol, Project Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

June 02, 2020

FOR: Attn: Allen Tevyaw
Fuss & O'Neill, Inc.
Foundry Corporate Office Center
317 Iron Horse Way, Suite 204
Providence, RI 02908

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:	AT	05/28/20	11:16
Location Code:	F&O-RI	Received by:	CP	05/29/20	14:36
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	20170900.B10				

Laboratory Data

SDG ID: GCG03521
Phoenix ID: CG03524

Project ID: SPECTACLE POND
Client ID: 16042000528-04

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, as P	0.105	0.003	mg/L	0.5	06/01/20	JR	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

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Phyllis Shiller, Laboratory Director
June 02, 2020
Reviewed and Released by: Rashmi Makol, Project Manager

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

June 02, 2020

FOR: Attn: Allen Tevyaw
Fuss & O'Neill, Inc.
Foundry Corporate Office Center
317 Iron Horse Way, Suite 204
Providence, RI 02908

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:	AT	05/28/20	11:40
Location Code:	F&O-RI	Received by:	CP	05/29/20	14:36
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	20170900.B10				

Laboratory Data

SDG ID: GCG03521
Phoenix ID: CG03525

Project ID: SPECTACLE POND
Client ID: 16042000528-05

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, as P	0.053	0.003	mg/L	0.5	06/01/20	JR	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

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Phyllis Shiller, Laboratory Director
June 02, 2020
Reviewed and Released by: Rashmi Makol, Project Manager

PHOENIX
Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

June 02, 2020

FOR: Attn: Allen Tevyaw
Fuss & O'Neill, Inc.
Foundry Corporate Office Center
317 Iron Horse Way, Suite 204
Providence, RI 02908

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:	AT	05/28/20	12:15
Location Code:	F&O-RI	Received by:	CP	05/29/20	14:36
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	20170900.B10				

Laboratory Data

SDG ID: GCG03521
Phoenix ID: CG03526

Project ID: SPECTACLE POND
Client ID: 16042000528-06

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, as P	0.041	0.003	mg/L	0.5	06/01/20	JR	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

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Phyllis Shiller

Phyllis Shiller, Laboratory Director
June 02, 2020
Reviewed and Released by: Rashmi Makol, Project Manager

Environmental Laboratories, Inc.
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Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

June 02, 2020

FOR: Attn: Allen Tevyaw
Fuss & O'Neill, Inc.
Foundry Corporate Office Center
317 Iron Horse Way, Suite 204
Providence, RI 02908

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:	AT	05/28/20	12:55
Location Code:	F&O-RI	Received by:	CP	05/29/20	14:36
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	20170900.B10				

Laboratory Data

SDG ID: GCG03521
Phoenix ID: CG03527

Project ID: SPECTACLE POND
Client ID: 16042000528-07

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, as P	0.125	0.003	mg/L	0.5	06/01/20	JR	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

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Phyllis Shiller

Phyllis Shiller, Laboratory Director
June 02, 2020
Reviewed and Released by: Rashmi Makol, Project Manager

PHOENIX

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587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
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Analysis Report

June 02, 2020

FOR: Attn: Allen Tevyaw
Fuss & O'Neill, Inc.
Foundry Corporate Office Center
317 Iron Horse Way, Suite 204
Providence, RI 02908

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:	AT	05/28/20	13:12
Location Code:	F&O-RI	Received by:	CP	05/29/20	14:36
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	20170900.B10				

Laboratory Data

SDG ID: GCG03521
Phoenix ID: CG03528

Project ID: SPECTACLE POND
Client ID: 16042000528-08

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, as P	0.056	0.003	mg/L	0.5	06/01/20	JR	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

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Phyllis Shiller

Phyllis Shiller, Laboratory Director
June 02, 2020
Reviewed and Released by: Rashmi Makol, Project Manager

PHOENIX

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Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

June 02, 2020

FOR: Attn: Allen Tevyaw
Fuss & O'Neill, Inc.
Foundry Corporate Office Center
317 Iron Horse Way, Suite 204
Providence, RI 02908

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:	AT	05/28/20	13:52
Location Code:	F&O-RI	Received by:	CP	05/29/20	14:36
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	20170900.B10				

Laboratory Data

SDG ID: GCG03521
Phoenix ID: CG03529

Project ID: SPECTACLE POND
Client ID: 16042000528-09

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, as P	0.096	0.003	mg/L	0.5	06/01/20	JR	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

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Phyllis Shiller

Phyllis Shiller, Laboratory Director
June 02, 2020
Reviewed and Released by: Rashmi Makol, Project Manager

PHOENIX

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Analysis Report

June 02, 2020

FOR: Attn: Allen Tevyaw
Fuss & O'Neill, Inc.
Foundry Corporate Office Center
317 Iron Horse Way, Suite 204
Providence, RI 02908

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:	AT	05/28/20	13:55
Location Code:	F&O-RI	Received by:	CP	05/29/20	14:36
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	20170900.B10				

Laboratory Data

SDG ID: GCG03521
Phoenix ID: CG03530

Project ID: SPECTACLE POND
Client ID: 16042000528-10

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, as P	0.096	0.003	mg/L	0.5	06/01/20	JR	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

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Phyllis Shiller, Laboratory Director
June 02, 2020
Reviewed and Released by: Rashmi Makol, Project Manager

PHOENIX

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Tel. (860) 645-1102 Fax (860) 645-0823

QA/QC Report

June 02, 2020

QA/QC Data

SDG I.D.: GCG03521

Parameter	Blank	Blk RL	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 531723 (mg/L), QC Sample No: CG02877 (CG03521, CG03522, CG03523, CG03524, CG03525, CG03526, CG03527, CG03528)													
Phosphorus, as P	BRL	0.01	2.76	2.77	0.40	98.8			94.1			85 - 115	20
Comment:													
Additional criteria matrix spike acceptance range is 75-125%.													
QA/QC Batch 531724 (mg/L), QC Sample No: CG03533 (CG03529, CG03530)													
Phosphorus, as P	BRL	0.01	0.039	0.037	NC	97.7			93.5			85 - 115	20
Comment:													
Additional criteria matrix spike acceptance range is 75-125%.													

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

RPD - Relative Percent Difference
LCS - Laboratory Control Sample
LCSD - Laboratory Control Sample Duplicate
MS - Matrix Spike
MS Dup - Matrix Spike Duplicate
NC - No Criteria
Intf - Interference

Phyllis Shiller

Phyllis Shiller, Laboratory Director
June 02, 2020

Tuesday, June 02, 2020

Criteria: None

State: RI

Sample Criteria Exceedances Report

GCG03521 - FO-RI

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units

*** No Data to Display ***

Phoenix Laboratories does not assume responsibility for the data contained in this exceedance report. It is provided as an additional tool to identify requested criteria exceedences. All efforts are made to ensure the accuracy of the data (obtained from appropriate agencies). A lack of exceedence information does not necessarily suggest conformance to the criteria. It is ultimately the site professional's responsibility to determine appropriate compliance.

Environmental Laboratories, Inc.
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ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Analysis Comments

June 02, 2020 SDG I.D.: GCG03521

The following analysis comments are made regarding exceptions to criteria not already noted in the Analysis Report or QA/QC Report: None.

1.4 allcepk

FUSS & O'NEILL ENVIROSCIENCE, LLC

Disciplines to Deliver

(860) 646-2469 • www.FandO.com

- ❑ 146 Hartford Road, Manchester, CT 06040
- ❑ 56 Quarry Road, Trumbull, CT 06611
- ❑ 1419 Richland Street, Columbia, SC 29201
- ❑ 78 Interstate Drive, West Springfield, MA 01089
- ❑ 50 Redfield Street, Suite 100, Boston, MA 02122
- ❑ 275 Promenade Street, Suite 350, Providence, RI 02908
- ❑ 80 Washington Street, Suite 301, Poughkeepsie, NY 12601

CHAIN-OF-CUSTODY RECORD 0579

Turnaround: ❑ 1 Day* ❑ 2 Days* ❑ 3 Days* ☑ Standard (____ days) ❑ Other ______ (days) *Surcharge Applies

PROJECT NAME	PROJECT LOCATION	PROJECT NUMBER	LABORATORY
Spectacle Pond	Cranston, RI	20170900.B10	Phoenix

REPORT TO: ALLEN TEVYAW atevyaw@fando.com

INVOICE TO: ALLEN TEVYAW atevyaw@fando.com

P.O. NO.: 1604 20170900.B10

Sampler's Signature: [signature] Date: 5/28/20

Source Codes:
MW=Monitoring Well, SW=Surface Water, PW=Potable Water, T=Treatment Facility, S=Soil, B=Sediment, W=Waste, A=Air, X=Other ______

Analysis Request: Total Phosphorus (SM 4500)

Containers: Soil VOA Vial, [ ] methanol; Soil VOA Vial, [ ] water; Glass Soil Container ( ) oz; Glass Soil Container ( ) oz; Other: [ ] $Na_2(SO_4)_2$; Water VOA Vial, [ ] As is [ ] HCl; Glass Amber ( ) ml, [ ] As is [ ] H_2SO_4; Plastic - As is, [ ] 250 ml [ ] 500 [ ] 1000 ml; Plastic - H_2SO_4, [ ] 250 ml [ ] 500 ml 8oz; Plastic - HNO_3, 250 ml [ ] Filtered [ ] Unfiltered; Plastic - NaOH, 250 ml

Item No.	Transfer Check 1	2	3	4	Sample Number	Source Code	Date Sampled	Time Sampled	Total Phosphorus (SM 4500)	Plastic - H_2SO_4	Comments
1	✓	✓	✓		1604200528-01	SW	5/28/20	1015	X	X	03521
2	✓	✓	✓		1604200528-02	↓		1023	X	X	03522
3	✓	✓	✓		1604200528-03			1052	X	X	03523
4	✓	✓	✓		1604200528-04			1116	X	X	03524
5	✓	✓	✓		1604200528-05			1140	X	X	03525
6	✓	✓	✓		1604200528-06			1215	X	X	03526
7	✓	✓	✓		1604200528-07			1255	X	X	03527
8	✓	✓	✓		1604200528-08			1312	X	X	03528
9	✓	✓	✓		1604200528-09			1352	X	X	03529
10	✓	✓	✓		1604200528-10	↓		1355	X	X	03530

Transfer Number	Relinquished By	Accepted By	Date	Time
1	ALLEN TEVYAW	FIELD FRIDGE	5/28/20	1601
2	FIELD FRIDGE	ALLEN TEV YAW	5/29/20	0700
3	ALLEN TEV YAW	[signature]	5/29/20	9:30
4	[signature]	[signature]	5-29-20	1436

Reporting and Detection Limit Requirements: Total P: 0.008 mg/L

Additional Comments: > If you can not meet the reporting limit, just shoot me an email & let me know

Thursday, July 09, 2020

Attn: Allen Tevyaw
Fuss & O'Neill, Inc.
Foundry Corporate Office Center
317 Iron Horse Way, Suite 204
Providence, RI 02908

Project ID: SPECTACLE POND
SDG ID: GCG26773
Sample ID#s: CG26773 - CG26784

This laboratory is in compliance with the NELAC requirements of procedures used except where indicated.

This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory. This report is incomplete unless all pages indicated in the pagination at the bottom of the page are included.

A scanned version of the COC form accompanies the analytical report and is an exact duplicate of the original.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Sincerely yours,

Phyllis Shiller

Phyllis Shiller
Laboratory Director

NELAC - #NY11301
CT Lab Registration #PH-0618
MA Lab Registration #M-CT007
ME Lab Registration #CT-007
NH Lab Registration #213693-A,B

NJ Lab Registration #CT-003
NY Lab Registration #11301
PA Lab Registration #68-03530
RI Lab Registration #63
UT Lab Registration #CT00007
VT Lab Registration #VT11301

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
Telephone (860) 645-1102 Fax (860) 645-0823

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Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Sample Id Cross Reference

July 09, 2020

SDG I.D.: GCG26773

Project ID: SPECTACLE POND

Client Id	Lab Id	Matrix
1604200626-01	CG26773	SURFACE WATER
1604200626-02	CG26774	SURFACE WATER
1604200626-03	CG26775	SURFACE WATER
1604200626-04	CG26776	SURFACE WATER
1604200626-05	CG26777	SURFACE WATER
1604200626-06	CG26778	SURFACE WATER
1604200626-07	CG26779	SURFACE WATER
1604200626-08	CG26780	SURFACE WATER
1604200626-09	CG26781	SURFACE WATER
1604200626-10	CG26782	SURFACE WATER
1604200626-11	CG26783	SURFACE WATER
1604200626-12	CG26784	SURFACE WATER

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

July 09, 2020

FOR: Attn: Allen Tevyaw
Fuss & O'Neill, Inc.
Foundry Corporate Office Center
317 Iron Horse Way, Suite 204
Providence, RI 02908

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:	AT	06/26/20	10:54
Location Code:	F&O-RI	Received by:	CP	07/02/20	15:53
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	20170900.A10				

Laboratory Data

SDG ID: GCG26773
Phoenix ID: CG26773

Project ID: SPECTACLE POND
Client ID: 1604200626-01

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, as P	0.012	0.003	mg/L	0.5	07/07/20	JR	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

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Phyllis Shiller

Phyllis Shiller, Laboratory Director
July 09, 2020
Reviewed and Released by: Rashmi Makol, Project Manager

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

July 09, 2020

FOR: Attn: Allen Tevyaw
Fuss & O'Neill, Inc.
Foundry Corporate Office Center
317 Iron Horse Way, Suite 204
Providence, RI 02908

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:	AT	06/26/20	13:23
Location Code:	F&O-RI	Received by:	CP	07/02/20	15:53
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	20170900.A10				

Laboratory Data

SDG ID: GCG26773
Phoenix ID: CG26774

Project ID: SPECTACLE POND
Client ID: 1604200626-02

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, as P	0.044	0.003	mg/L	0.5	07/07/20	JR	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

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Phyllis Shiller, Laboratory Director
July 09, 2020
Reviewed and Released by: Rashmi Makol, Project Manager

PHOENIX

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587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

July 09, 2020

FOR: Attn: Allen Tevyaw
Fuss & O'Neill, Inc.
Foundry Corporate Office Center
317 Iron Horse Way, Suite 204
Providence, RI 02908

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:	AT	06/26/20	13:28
Location Code:	F&O-RI	Received by:	CP	07/02/20	15:53
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	20170900.A10				

Laboratory Data

SDG ID: GCG26773
Phoenix ID: CG26775

Project ID: SPECTACLE POND
Client ID: 1604200626-03

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, as P	0.096	0.003	mg/L	0.5	07/07/20	JR	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

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Phyllis Shiller

Phyllis Shiller, Laboratory Director
July 09, 2020
Reviewed and Released by: Rashmi Makol, Project Manager

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

July 09, 2020

FOR: Attn: Allen Tevyaw
Fuss & O'Neill, Inc.
Foundry Corporate Office Center
317 Iron Horse Way, Suite 204
Providence, RI 02908

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:	AT	06/26/20	13:37
Location Code:	F&O-RI	Received by:	CP	07/02/20	15:53
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	20170900.A10				

Laboratory Data

SDG ID: GCG26773
Phoenix ID: CG26776

Project ID: SPECTACLE POND
Client ID: 1604200626-04

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, as P	0.046	0.003	mg/L	0.5	07/07/20	JR	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller

Phyllis Shiller, Laboratory Director
July 09, 2020
Reviewed and Released by: Rashmi Makol, Project Manager

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

July 09, 2020

FOR: Attn: Allen Tevyaw
Fuss & O'Neill, Inc.
Foundry Corporate Office Center
317 Iron Horse Way, Suite 204
Providence, RI 02908

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:	AT	06/26/20	13:48
Location Code:	F&O-RI	Received by:	CP	07/02/20	15:53
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	20170900.A10				

Laboratory Data

SDG ID: GCG26773
Phoenix ID: CG26777

Project ID: SPECTACLE POND
Client ID: 1604200626-05

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, as P	0.037	0.003	mg/L	0.5	07/07/20	JR	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

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Phyllis Shiller

Phyllis Shiller, Laboratory Director
July 09, 2020
Reviewed and Released by: Rashmi Makol, Project Manager

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

July 09, 2020

FOR: Attn: Allen Tevyaw
Fuss & O'Neill, Inc.
Foundry Corporate Office Center
317 Iron Horse Way, Suite 204
Providence, RI 02908

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:	AT	06/26/20	13:55
Location Code:	F&O-RI	Received by:	CP	07/02/20	15:53
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	20170900.A10				

Laboratory Data

SDG ID: GCG26773
Phoenix ID: CG26778

Project ID: SPECTACLE POND
Client ID: 1604200626-06

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, as P	0.028	0.003	mg/L	0.5	07/07/20	JR	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

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Phyllis Shiller

Phyllis Shiller, Laboratory Director
July 09, 2020
Reviewed and Released by: Rashmi Makol, Project Manager

PHOENIX

Environmental Laboratories, Inc.
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Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

July 09, 2020

FOR: Attn: Allen Tevyaw
Fuss & O'Neill, Inc.
Foundry Corporate Office Center
317 Iron Horse Way, Suite 204
Providence, RI 02908

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:	AT	06/26/20	14:05
Location Code:	F&O-RI	Received by:	CP	07/02/20	15:53
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	20170900.A10				

Laboratory Data

SDG ID: GCG26773
Phoenix ID: CG26779

Project ID: SPECTACLE POND
Client ID: 1604200626-07

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, as P	0.066	0.003	mg/L	0.5	07/07/20	JR	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

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Phyllis Shiller

Phyllis Shiller, Laboratory Director
July 09, 2020
Reviewed and Released by: Rashmi Makol, Project Manager

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

July 09, 2020

FOR: Attn: Allen Tevyaw
Fuss & O'Neill, Inc.
Foundry Corporate Office Center
317 Iron Horse Way, Suite 204
Providence, RI 02908

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:	AT	06/26/20	14:10
Location Code:	F&O-RI	Received by:	CP	07/02/20	15:53
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	20170900.A10				

Laboratory Data

SDG ID: GCG26773
Phoenix ID: CG26780

Project ID: SPECTACLE POND
Client ID: 1604200626-08

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, as P	0.045	0.003	mg/L	0.5	07/07/20	JR	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

Phyllis Shiller

Phyllis Shiller, Laboratory Director
July 09, 2020
Reviewed and Released by: Rashmi Makol, Project Manager

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

July 09, 2020

FOR: Attn: Allen Tevyaw
Fuss & O'Neill, Inc.
Foundry Corporate Office Center
317 Iron Horse Way, Suite 204
Providence, RI 02908

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:	AT	06/26/20	14:15
Location Code:	F&O-RI	Received by:	CP	07/02/20	15:53
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	20170900.A10				

Laboratory Data

SDG ID: GCG26773
Phoenix ID: CG26781

Project ID: SPECTACLE POND
Client ID: 1604200626-09

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, as P	0.043	0.003	mg/L	0.5	07/07/20	JR	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

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Phyllis Shiller

Phyllis Shiller, Laboratory Director
July 09, 2020
Reviewed and Released by: Rashmi Makol, Project Manager

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

July 09, 2020

FOR: Attn: Allen Tevyaw
Fuss & O'Neill, Inc.
Foundry Corporate Office Center
317 Iron Horse Way, Suite 204
Providence, RI 02908

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:	AT	06/26/20	14:20
Location Code:	F&O-RI	Received by:	CP	07/02/20	15:53
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	20170900.A10				

Laboratory Data

SDG ID: GCG26773
Phoenix ID: CG26782

Project ID: SPECTACLE POND
Client ID: 1604200626-10

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, as P	0.040	0.003	mg/L	0.5	07/07/20	JR	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

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Phyllis Shiller

Phyllis Shiller, Laboratory Director
July 09, 2020
Reviewed and Released by: Rashmi Makol, Project Manager

PHOENIX

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587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

July 09, 2020

FOR: Attn: Allen Tevyaw
Fuss & O'Neill, Inc.
Foundry Corporate Office Center
317 Iron Horse Way, Suite 204
Providence, RI 02908

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:	AT	06/26/20	14:36
Location Code:	F&O-RI	Received by:	CP	07/02/20	15:53
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	20170900.A10				

Laboratory Data

SDG ID: GCG26773
Phoenix ID: CG26783

Project ID: SPECTACLE POND
Client ID: 1604200626-11

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, as P	0.055	0.003	mg/L	0.5	07/07/20	JR	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

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Phyllis Shiller, Laboratory Director
July 09, 2020
Reviewed and Released by: Rashmi Makol, Project Manager

PHOENIX

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Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

July 09, 2020

FOR: Attn: Allen Tevyaw
Fuss & O'Neill, Inc.
Foundry Corporate Office Center
317 Iron Horse Way, Suite 204
Providence, RI 02908

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:	AT	06/26/20	15:15
Location Code:	F&O-RI	Received by:	CP	07/02/20	15:53
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	20170900.A10				

Laboratory Data

SDG ID: GCG26773
Phoenix ID: CG26784

Project ID: SPECTACLE POND
Client ID: 1604200626-12

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, as P	0.063	0.003	mg/L	0.5	07/07/20	JR	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

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Phyllis Shiller

Phyllis Shiller, Laboratory Director
July 09, 2020
Reviewed and Released by: Rashmi Makol, Project Manager

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

QA/QC Report

July 09, 2020

QA/QC Data

SDG I.D.: GCG26773

Parameter	Blank	Blk RL	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 536340 (mg/L), QC Sample No: CG25970 (CG26773, CG26774, CG26775, CG26776, CG26777)													
Phosphorus, as P	BRL	0.01	0.183	0.180	1.70	97.5			95.7			85 - 115	20
Comment:													
Additional criteria matrix spike acceptance range is 75-125%.													
QA/QC Batch 536341 (mg/L), QC Sample No: CG26872 (CG26778, CG26779, CG26780, CG26781, CG26782, CG26783, CG26784)													
Phosphorus, as P	BRL	0.01	<0.010	<0.010	NC	98.6			104			85 - 115	20
Comment:													
Additional criteria matrix spike acceptance range is 75-125%.													

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

RPD - Relative Percent Difference
LCS - Laboratory Control Sample
LCSD - Laboratory Control Sample Duplicate
MS - Matrix Spike
MS Dup - Matrix Spike Duplicate
NC - No Criteria
Intf - Interference

Phyllis Shiller

Phyllis Shiller, Laboratory Director
July 09, 2020

Thursday, July 09, 2020

Criteria: None

State: RI

Sample Criteria Exceedances Report

GCG26773 - FO-RI

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units

*** No Data to Display ***

Phoenix Laboratories does not assume responsibility for the data contained in this exceedance report. It is provided as an additional tool to identify requested criteria exceedences. All efforts are made to ensure the accuracy of the data (obtained from appropriate agencies). A lack of exceedence information does not necessarily suggest conformance to the criteria. It is ultimately the site professional's responsibility to determine appropriate compliance.

Analysis Comments

July 09, 2020 SDG I.D.: GCG26773

The following analysis comments are made regarding exceptions to criteria not already noted in the Analysis Report or QA/QC Report: None.

WCIPK 2.7 Page 1 of 2

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- ❑ 146 Hartford Road, Manchester, CT 06040
- ❑ 56 Quarry Road, Trumbull, CT 06611
- ❑ 1419 Richland Street, Columbia, SC 29201
- ❑ 78 Interstate Drive, West Springfield, MA 01089
- ❑ 50 Redfield Street, Suite 100, Boston, MA 02122
- ❑ 275 Promenade Street, Suite 350, Providence, RI 02908
- ❑ 80 Washington Street, Suite 301, Poughkeepsie, NY 12601

CHAIN-OF-CUSTODY RECORD 0582

Turnaround
❑ 1 Day* ❑ 2 Days* ❑ 3 Days* ☑ Standard (____ days) ❑ Other ______ (days)
*Surcharge Applies

PROJECT NAME: SPECTACLE POND
PROJECT LOCATION: CRANSTON, RI
PROJECT NUMBER: 20170900.A10
LABORATORY: PHOENIX

REPORT TO: ALLEN TEVYAW atevyaw@fando.com
INVOICE TO: ALLEN TEVYAW atevyaw@fando.com
P.O. NO.: 1604 20170900.A10
Sampler's Signature: [signature] Date: 6/26/20

Source Codes:
MW=Monitoring Well SW=Surface Water PW=Potable Water T=Treatment Facility S=Soil B=Sediment W=Waste A=Air
X=Other ______

Analysis Request: Total Phosphorus (SM 4500)

Containers:
Soil VOA Vial, [ ] methanol
Soil VOA Vial, [ ] water [ ] Na(SO4)2
Glass Soil Container ( ) oz
Glass Soil Container ( ) oz
Other:
Water VOA Vial, [ ] As is [ ] HCl
Glass Amber ( ) ml, [ ] As is [ ] H_2SO_4
Plastic - As is, [ ] 250 ml [ ] 500 [ ] 1000 ml
Plastic - H_2SO_4 [·] 250 ml [ ] 500 ml 802
Plastic - HNO_3, 250 ml [ ] Filtered [ ] Unfiltered
Plastic - NaOH, 250 ml

Item No.	Transfer Check 1	2	3	4	Sample Number	Source Code	Date Sampled	Time Sampled	Total Phosphorus (SM 4500)	Plastic - H_2SO_4	Comments
1	✓	-	-		1604200626-01	SW	6/26/20	1054	X	X	26773
2	-	-	-		1604200626-02	SW	↓	1323	X	X	26774
3	-	-	-		1604200626-03	SW	↓	1328	X	X	26775
4	-	-	-		1604200626-04	SW	↓	1337	X	X	26776
5	-	-	-		1604200626-05	SW	↓	1348	X	X	26777
6	-	-	-		1604200626-06	SW	↓	1355	X	X	26778
7	-	-	-		1604200626-07	SW	↓	1405	X	X	26779
8	-	-	-		1604200626-08	SW	↓	1410	X	X	26780
9	-	-	-		1604200626-09	SW	↓	1415	X	X	26781
10	-	-	-		1604200626-10	SW	↓	1420	X	X	26782

Transfer Number	Relinquished By	Accepted By	Date	Time
1	ALLEN TEVYAW	FIELD FRIDGE	6/26/20	1700
2	FIELD FRIDGE	ALLEN TEVYAW	7/2/20	0800
3	ALLEN TEVYAW	[signature]	7-2-20	9:50
4	[signature]	Krystal Houle	7/2/20	15:53

Reporting and Detection Limit Requirements: Total P: 0.008 mg/L

Additional Comments:

WC IQK27

Page 2 of 2

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- ☐ 1419 Richland Street, Columbia, SC 29201
- ☐ 78 Interstate Drive, West Springfield, MA 01089
- ☐ 50 Redfield Street, Suite 100, Boston, MA 02122
- ☐ 275 Promenade Street, Suite 350, Providence, RI 02908
- ☐ 80 Washington Street, Suite 301, Poughkeepsie, NY 12601

CHAIN-OF-CUSTODY RECORD 0583

Turnaround: ☐ 1 Day* ☐ 2 Days* ☐ 3 Days* ☑ Standard (____ days) ☐ Other ______ (days) *Surcharge Applies

PROJECT NAME	PROJECT LOCATION	PROJECT NUMBER	LABORATORY
SPECTACLE POND	CRANSTON, RI	20170900.A10	PHOENIX

REPORT TO: ALLEN TEVYAW atevyaw@fando.com

INVOICE TO: ALLEN TEVYAW atevyaw@fando.com

P.O. NO.: 1604 20170900.A10

Sampler's Signature: [signature] Date: 6/26/20

Source Codes:
MW=Monitoring Well, SW=Surface Water, PW=Potable Water, T=Treatment Facility, S=Soil, B=Sediment, W=Waste, A=Air, X=Other ______

Analysis Request: Total Phosphorus

Containers: Soil VOA Vial, [ ] methanol; Soil VOA Vial, [ ] water [ ] Na(SO$_4$)$_2$; Glass Soil Container ( ) oz; Glass Soil Container ( ) oz; Other:; Water VOA Vial, [ ] As is [ ] HCl; Glass Amber ( ) ml, [ ] As is [ ] H$_2$SO$_4$; Plastic - As is, [ ] 250 ml [ ] 500 [ ] 1000 ml; Plastic - H$_2$SO$_4$, [ ] 250 ml [ ] 500 ml 8oz; Plastic - HNO$_3$, 250 ml [ ] Filtered [ ] Unfiltered; Plastic - NaOH, 250 ml

Item No.	Transfer Check 1	2	3	4	Sample Number	Source Code	Date Sampled	Time Sampled	Total Phosphorus	Plastic - H$_2$SO$_4$	Comments
11	/	-	/		1604200626-11	SW	6/26/20	1436	X	X	260783
12	/	-	/		1604200626-12	SW	6/26/20	1515	X	X	260784

Transfer Number	Relinquished By	Accepted By	Date	Time
1	ALLEN TEVYAW	FIELD FRIDGE	6/26/20	1700
2	FIELD FRIDGE	ALLEN TEVYAW	~~[illegible]~~	0800
3	ALLEN TEVYAW	[signature]	7-2-20	9:50
4	[signature]	Krystal Hauk	7/2/20	15:53

Reporting and Detection Limit Requirements: Total P: 0.008 mg/L

Additional Comments:

Wednesday, August 12, 2020

Attn: Allen Tevyaw
Fuss & O'Neill, Inc.
Foundry Corporate Office Center
317 Iron Horse Way, Suite 204
Providence, RI 02908

Project ID: SPECTACLE POND
SDG ID: GCG48429
Sample ID#s: CG48429 - CG48440

This laboratory is in compliance with the NELAC requirements of procedures used except where indicated.

This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory. This report is incomplete unless all pages indicated in the pagination at the bottom of the page are included.

A scanned version of the COC form accompanies the analytical report and is an exact duplicate of the original.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Sincerely yours,

Phyllis Shiller

Phyllis Shiller
Laboratory Director

NELAC - #NY11301
CT Lab Registration #PH-0618
MA Lab Registration #M-CT007
ME Lab Registration #CT-007
NH Lab Registration #213693-A,B

NJ Lab Registration #CT-003
NY Lab Registration #11301
PA Lab Registration #68-03530
RI Lab Registration #63
UT Lab Registration #CT00007
VT Lab Registration #VT11301

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Sample Id Cross Reference

August 12, 2020

SDG I.D.: GCG48429

Project ID: SPECTACLE POND

Client Id	Lab Id	Matrix
1604200730-01	CG48429	SURFACE WATER
1604200730-02	CG48430	SURFACE WATER
1604200730-03	CG48431	SURFACE WATER
1604200730-04	CG48432	SURFACE WATER
1604200730-05	CG48433	SURFACE WATER
1604200730-06	CG48434	SURFACE WATER
1604200730-07	CG48435	SURFACE WATER
1604200730-08	CG48436	SURFACE WATER
1604200730-09	CG48437	SURFACE WATER
1604200730-10	CG48438	SURFACE WATER
1604200730-11	CG48439	SURFACE WATER
1604200730-12	CG48440	SURFACE WATER

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

August 12, 2020

FOR: Attn: Allen Tevyaw
Fuss & O'Neill, Inc.
Foundry Corporate Office Center
317 Iron Horse Way, Suite 204
Providence, RI 02908

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:		07/30/20	9:25
Location Code:	F&O-RI	Received by:	CP	08/05/20	18:20
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	20170900.B10				

Laboratory Data

SDG ID: GCG48429
Phoenix ID: CG48429

Project ID: SPECTACLE POND
Client ID: 1604200730-01

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, as P	0.092	0.003	mg/L	0.5	08/11/20	EG	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

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Phyllis Shiller, Laboratory Director
August 12, 2020
Reviewed and Released by: Rashmi Makol, Project Manager

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

August 12, 2020

FOR: Attn: Allen Tevyaw
Fuss & O'Neill, Inc.
Foundry Corporate Office Center
317 Iron Horse Way, Suite 204
Providence, RI 02908

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:		07/30/20	9:35
Location Code:	F&O-RI	Received by:	CP	08/05/20	18:20
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	20170900.B10				

Laboratory Data

SDG ID: GCG48429
Phoenix ID: CG48430

Project ID: SPECTACLE POND
Client ID: 1604200730-02

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, as P	0.071	0.003	mg/L	0.5	08/11/20	EG	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller

Phyllis Shiller, Laboratory Director
August 12, 2020
Reviewed and Released by: Rashmi Makol, Project Manager

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

August 12, 2020

FOR: Attn: Allen Tevyaw
Fuss & O'Neill, Inc.
Foundry Corporate Office Center
317 Iron Horse Way, Suite 204
Providence, RI 02908

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:		07/30/20	9:45
Location Code:	F&O-RI	Received by:	CP	08/05/20	18:20
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	20170900.B10				

Laboratory Data

SDG ID: GCG48429
Phoenix ID: CG48431

Project ID: SPECTACLE POND
Client ID: 1604200730-03

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, as P	0.067	0.003	mg/L	0.5	08/11/20	EG	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

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Phyllis Shiller, Laboratory Director
August 12, 2020
Reviewed and Released by: Rashmi Makol, Project Manager

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

August 12, 2020

FOR: Attn: Allen Tevyaw
Fuss & O'Neill, Inc.
Foundry Corporate Office Center
317 Iron Horse Way, Suite 204
Providence, RI 02908

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:		07/30/20	9:53
Location Code:	F&O-RI	Received by:	CP	08/05/20	18:20
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	20170900.B10				

Laboratory Data

SDG ID: GCG48429
Phoenix ID: CG48432

Project ID: SPECTACLE POND
Client ID: 1604200730-04

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, as P	0.047	0.003	mg/L	0.5	08/11/20	EG	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

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Phyllis Shiller

Phyllis Shiller, Laboratory Director
August 12, 2020
Reviewed and Released by: Rashmi Makol, Project Manager

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

August 12, 2020

FOR: Attn: Allen Tevyaw
Fuss & O'Neill, Inc.
Foundry Corporate Office Center
317 Iron Horse Way, Suite 204
Providence, RI 02908

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:		07/30/20	9:58
Location Code:	F&O-RI	Received by:	CP	08/05/20	18:20
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	20170900.B10				

Laboratory Data

SDG ID: GCG48429
Phoenix ID: CG48433

Project ID: SPECTACLE POND
Client ID: 1604200730-05

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, as P	0.046	0.003	mg/L	0.5	08/11/20	EG	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

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Phyllis Shiller, Laboratory Director
August 12, 2020
Reviewed and Released by: Rashmi Makol, Project Manager

PHOENIX

Environmental Laboratories, Inc.
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Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

August 12, 2020

FOR: Attn: Allen Tevyaw
Fuss & O'Neill, Inc.
Foundry Corporate Office Center
317 Iron Horse Way, Suite 204
Providence, RI 02908

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:		07/30/20	10:05
Location Code:	F&O-RI	Received by:	CP	08/05/20	18:20
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	20170900.B10				

Laboratory Data

SDG ID: GCG48429
Phoenix ID: CG48434

Project ID: SPECTACLE POND
Client ID: 1604200730-06

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, as P	0.043	0.003	mg/L	0.5	08/11/20	EG	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

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Phyllis Shiller, Laboratory Director
August 12, 2020
Reviewed and Released by: Rashmi Makol, Project Manager

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

August 12, 2020

FOR: Attn: Allen Tevyaw
Fuss & O'Neill, Inc.
Foundry Corporate Office Center
317 Iron Horse Way, Suite 204
Providence, RI 02908

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:		07/30/20	10:15
Location Code:	F&O-RI	Received by:	CP	08/05/20	18:20
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	20170900.B10				

Laboratory Data

SDG ID: GCG48429
Phoenix ID: CG48435

Project ID: SPECTACLE POND
Client ID: 1604200730-07

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, as P	0.055	0.003	mg/L	0.5	08/11/20	EG	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
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Phyllis Shiller

Phyllis Shiller, Laboratory Director
August 12, 2020
Reviewed and Released by: Rashmi Makol, Project Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

August 12, 2020

FOR: Attn: Allen Tevyaw
Fuss & O'Neill, Inc.
Foundry Corporate Office Center
317 Iron Horse Way, Suite 204
Providence, RI 02908

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:		07/30/20	10:24
Location Code:	F&O-RI	Received by:	CP	08/05/20	18:20
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	20170900.B10				

Laboratory Data

SDG ID: GCG48429
Phoenix ID: CG48436

Project ID: SPECTACLE POND
Client ID: 1604200730-08

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, as P	0.064	0.003	mg/L	0.5	08/11/20	EG	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

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Phyllis Shiller, Laboratory Director
August 12, 2020
Reviewed and Released by: Rashmi Makol, Project Manager

PHOENIX

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Analysis Report

August 12, 2020

FOR: Attn: Allen Tevyaw
Fuss & O'Neill, Inc.
Foundry Corporate Office Center
317 Iron Horse Way, Suite 204
Providence, RI 02908

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:		07/30/20	10:26
Location Code:	F&O-RI	Received by:	CP	08/05/20	18:20
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	20170900.B10				

Laboratory Data

SDG ID: GCG48429
Phoenix ID: CG48437

Project ID: SPECTACLE POND
Client ID: 1604200730-09

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, as P	0.067	0.003	mg/L	0.5	08/11/20	EG	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

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Phyllis Shiller

Phyllis Shiller, Laboratory Director
August 12, 2020
Reviewed and Released by: Rashmi Makol, Project Manager

PHOENIX

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587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

August 12, 2020

FOR: Attn: Allen Tevyaw
Fuss & O'Neill, Inc.
Foundry Corporate Office Center
317 Iron Horse Way, Suite 204
Providence, RI 02908

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:		07/30/20	10:33
Location Code:	F&O-RI	Received by:	CP	08/05/20	18:20
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	20170900.B10				

Laboratory Data

SDG ID: GCG48429
Phoenix ID: CG48438

Project ID: SPECTACLE POND
Client ID: 1604200730-10

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, as P	0.056	0.003	mg/L	0.5	08/11/20	EG	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

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Phyllis Shiller, Laboratory Director
August 12, 2020
Reviewed and Released by: Rashmi Makol, Project Manager

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Analysis Report

August 12, 2020

FOR: Attn: Allen Tevyaw
Fuss & O'Neill, Inc.
Foundry Corporate Office Center
317 Iron Horse Way, Suite 204
Providence, RI 02908

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:		07/30/20	11:05
Location Code:	F&O-RI	Received by:	CP	08/05/20	18:20
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	20170900.B10				

Laboratory Data

SDG ID: GCG48429
Phoenix ID: CG48439

Project ID: SPECTACLE POND
Client ID: 1604200730-11

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, as P	0.020	0.003	mg/L	0.5	08/11/20	EG	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

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Phyllis Shiller, Laboratory Director
August 12, 2020
Reviewed and Released by: Rashmi Makol, Project Manager

Environmental Laboratories, Inc.
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Analysis Report

August 12, 2020

FOR: Attn: Allen Tevyaw
Fuss & O'Neill, Inc.
Foundry Corporate Office Center
317 Iron Horse Way, Suite 204
Providence, RI 02908

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:		07/30/20	11:37
Location Code:	F&O-RI	Received by:	CP	08/05/20	18:20
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	20170900.B10				

Laboratory Data

SDG ID: GCG48429
Phoenix ID: CG48440

Project ID: SPECTACLE POND
Client ID: 1604200730-12

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, as P	0.068	0.003	mg/L	0.5	08/11/20	EG	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

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Phyllis Shiller, Laboratory Director
August 12, 2020
Reviewed and Released by: Rashmi Makol, Project Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

QA/QC Report

August 12, 2020

QA/QC Data

SDG I.D.: GCG48429

Parameter	Blank	Blk RL	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 540853 (mg/L), QC Sample No: CG48546 (CG48432, CG48433, CG48434, CG48435, CG48436, CG48437, CG48438, CG48439, CG48440)													
Phosphorus, as P	BRL	0.01	0.022	0.025	NC	90.2			98.5			85 - 115	20
Comment:													
Additional criteria matrix spike acceptance range is 75-125%.													
QA/QC Batch 540852 (mg/L), QC Sample No: CG50607 (CG48429, CG48430, CG48431)													
Phosphorus, as P	BRL	0.01	<0.010	<0.010	NC	94.2			113			85 - 115	20
Comment:													
Additional criteria matrix spike acceptance range is 75-125%.													

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

RPD - Relative Percent Difference
LCS - Laboratory Control Sample
LCSD - Laboratory Control Sample Duplicate
MS - Matrix Spike
MS Dup - Matrix Spike Duplicate
NC - No Criteria
Intf - Interference

Phyllis Shiller

Phyllis Shiller, Laboratory Director
August 12, 2020

Wednesday, August 12, 2020

Criteria: None

State: RI

Sample Criteria Exceedances Report

GCG48429 - FO-RI

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units

*** No Data to Display ***

Phoenix Laboratories does not assume responsibility for the data contained in this exceedance report. It is provided as an additional tool to identify requested criteria exceedences. All efforts are made to ensure the accuracy of the data (obtained from appropriate agencies). A lack of exceedence information does not necessarily suggest conformance to the criteria. It is ultimately the site professional's responsibility to determine appropriate compliance.

PHOENIX

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ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Analysis Comments

August 12, 2020 SDG I.D.: GCG48429

The following analysis comments are made regarding exceptions to criteria not already noted in the Analysis Report or QA/QC Report: None.

FUSS & O'NEILL
(860) 646-2469 • www.FandO.com

☐ 146 Hartford Road, Manchester, CT 06040
☐ 56 Quarry Road, Trumbull, CT 06611
☑ 317 Iron Horse Way, Suite 204, Providence, RI 02908
☐ 1550 Main Street, Suite 400, Springfield, MA 01103
☐ 108 Myrtle Street, Suite 502, Quincy, MA 02171
☐ 540 North Commercial Street, Manchester, NH 03101
☐ 276 Newport Road, New London, NH 03257
☐ 205 Billings Farm Road, Suite 6B, White River Junction, VT 05001
☐ 5 Fletcher Street, Suite 1, Kennebunk, ME 04043
☐ 23046 Avenida de la Carlota, Suite 600, Laguna Hills, CA 92653
☐ Other

WCIP 2.3 Page 1 of 2

CHAIN-OF-CUSTODY RECORD 43456

Turnaround
☐ 24-Hour* ☐ 72-Hour* ☐ Other ______ (days)
☐ 48-Hour* ☑ Standard (____ days) *Surcharge Applies

PROJECT NAME	PROJECT LOCATION	PROJECT NUMBER	LABORATORY
SPECTACLE POND	CRANSTON, RI	20170900.B10	PHOENIX

REPORT TO: ALLEN TEVYAW atevyaw@fando.com
INVOICE TO: ALLEN TEVYAW atevyaw@fando.com
P.O. NO.: 1604 20170900.B10
Sampler's Signature: Date: 7/30/20

Source Codes:
MW=Monitoring Well PW=Potable Water T=Treatment Facility S=Soil B=Sediment
SW=Surface Water ST=Stormwater W=Waste A=Air C=Concrete
X=Other ______

Analysis Request: Total Phosphorus (SM 4500)

Containers: Soil VOA Vial, ☐ methanol; Soil VOA Vial, ☐ water; Glass Soil Container ( ) oz; ☐ Na(SO4)2; Other; Other; Water VOA Vial, ☐ As is ☐ HCl; Glass Amber ( ) ml, ☐ As is ☐ H2SO4; Plastic - As is, ☐ 250 ml ☐ 500 ☐ 1000 ml; Plastic - H2SO4, ☐ 250 ml ☐ 500 ml 8oz; Plastic - HNO3, 250 ml ☐ Filtered ☐ 0.45µ ☐ 10µ; Plastic - NaOH, 250 ml

Item No.	Transfer Check 1	2	3	4	Sample Number	Source Code	Date Sampled	Time Sampled	Total Phosphorus (SM 4500)		Plastic - H2SO4	Comments
1	/	/	/		1604200730-01	SW	7/30/20	0925	X	48429	X	
2	/	/	/		-02	↓	↓	0935	X	48430	X	
3	/	/	/		-03			0945	X	48431	X	
4	/	/	/		-04			0953	X	48432	X	
5	/	/	/		-05			0957	X	48433	X	
6	/	/	/		-06			1005	X	48434	X	
7	/	/	/		-07			1015	X	48435	X	
8	/	/	/		-08			1024	X	48436	X	
9	/	/	/		-09			1020	X	48437	X	
10	/	/	/		-10			1033	X	48438	X	

Transfer Number	Relinquished By	Accepted By	Date	Time
1	ALLEN TEVYAW	FIELD FRIDGE	7/30/20	1437
2	FIELD FRIDGE	ALLEN TEVYAW	7/31/20	0800
3	ALLEN TEVYAW	[signature]	8-5-20	16:20
4	[signature]	[signature]	8/5	1820

Charge Exceptions: ☐ CT Tax Exempt ☐ QA/QC ☐ Other ______
____ Duplicates ____ Blanks (Item Nos:)

Reporting and Detection Limit Requirements: ☐ RCP Deliverables ☐ MCP CAM Cert.
Total P: 0.008 mg/L

Additional Comments:

FUSS & O'NEILL
(860) 646-2469 • www.FandO.com

- ☐ 146 Hartford Road, Manchester, CT 06040
- ☐ 56 Quarry Road, Trumbull, CT 06611
- ☑ 317 Iron Horse Way, Suite 204, Providence, RI 02908
- ☐ 1550 Main Street, Suite 400, Springfield, MA 01103
- ☐ 108 Myrtle Street, Suite 502, Quincy, MA 02171
- ☐ 540 North Commercial Street, Manchester, NH 03101
- ☐ 276 Newport Road, New London, NH 03257
- ☐ 205 Billings Farm Road, Suite 6B, White River Junction, VT 05001
- ☐ 5 Fletcher Street, Suite 1, Kennebunk, ME 04043
- ☐ 23046 Avenida de la Carlota, Suite 600, Laguna Hills, CA 92653
- ☐ Other ______

WCAP Page 2 of 2
2.3

CHAIN-OF-CUSTODY RECORD 43457

Turnaround
☐ 24-Hour* ☐ 72-Hour* ☐ Other ____ (days)
☐ 48-Hour* ☑ Standard (____ days) *Surcharge Applies

PROJECT NAME	PROJECT LOCATION	PROJECT NUMBER	LABORATORY
SPECTACLE POND	CRANSTON, RI	20170900.B10	PHOENIX

REPORT TO: ALLEN TEVYAW ateryaw@fando.com
INVOICE TO: ALLEN TEVYAW ateryaw@fando.com
P.O. NO.: 1604 2017 0900.B10
Sampler's Signature: A. T. Date: 7/30/20

Source Codes:
MW=Monitoring Well PW=Potable Water T=Treatment Facility S=Soil B=Sediment
SW=Surface Water ST=Stormwater W=Waste A=Air C=Concrete
X=Other ______

Analysis Request: Total Phosphorus (SM 4500)

Containers: Soil VOA Vial, ☐ methanol; Soil VOA Vial, ☐ water; Glass Soil Container ( ) oz ☐ $Na_2(SO_4)_2$; Other; Other; Water VOA Vial, ☐ As is ☐ HCl; Glass Amber ( ) ml, ☐ As is ☐ H_2SO_4; Plastic - As is, ☐ 250 ☐ 500 ☐ 1000 ml; Plastic - H_2SO_4, 250 ml ☐ 500 ml; Plastic - HNO_3, 250 ml ☐ Filtered ☐ 0.45μ ☐ 10μ; Plastic - NaOH, 250 ml

Item No.	Transfer Check 1	2	3	4	Sample Number	Source Code	Date Sampled	Time Sampled	Total Phosphorus (SM 4500)	Lab ID	Plastic - H_2SO_4, 250 ml	Comments
11	/	/	/		1604200730-11	SW	7/30/20	1105	X	48439	X	
12	/	/	/		1604200730-12	SW	7/30/20	1137	X	48440	X	

Transfer Number	Relinquished By	Accepted By	Date	Time
1	ALLEN TEVYAW	FIELD FRIDGE	7/30/20	1437
2	FIELD FRIDGE	ALLEN TEVYAW	7/31/20	0800
3	ALLEN TEVYAW	[signature]	8-5-20	10:20
4	[signature]	[signature]	8/5	1820

Charge Exceptions: ☐ CT Tax Exempt ☐ QA/QC ☐ Other ______
____ Duplicates ____ Blanks (Item Nos:)

Reporting and Detection Limit Requirements: ☐ RCP Deliverables ☐ MCP CAM Cert.
Total P: 0.008 mg/L

Additional Comments:

Thursday, September 03, 2020

Attn: Allen Tevyaw
Fuss & O'Neill, Inc.
Foundry Corporate Office Center
317 Iron Horse Way, Suite 204
Providence, RI 02908

Project ID: SPECTACLE POND
SDG ID: GCG64309
Sample ID#s: CG64309 - CG64320

This laboratory is in compliance with the NELAC requirements of procedures used except where indicated.

This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory. This report is incomplete unless all pages indicated in the pagination at the bottom of the page are included.

A scanned version of the COC form accompanies the analytical report and is an exact duplicate of the original.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Sincerely yours,

Phyllis Shiller
Laboratory Director

NELAC - #NY11301
CT Lab Registration #PH-0618
MA Lab Registration #M-CT007
ME Lab Registration #CT-007
NH Lab Registration #213693-A,B
NJ Lab Registration #CT-003
NY Lab Registration #11301
PA Lab Registration #68-03530
RI Lab Registration #63
UT Lab Registration #CT00007
VT Lab Registration #VT11301

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
Telephone (860) 645-1102 Fax (860) 645-0823

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Sample Id Cross Reference

September 03, 2020

SDG I.D.: GCG64309

Project ID: SPECTACLE POND

Client Id	Lab Id	Matrix
1604200826-01	CG64309	SURFACE WATER
1604200826-02	CG64310	SURFACE WATER
1604200826-03	CG64311	SURFACE WATER
1604200826-07	CG64312	SURFACE WATER
1604200826-08	CG64313	SURFACE WATER
1604200826-09	CG64314	SURFACE WATER
1604200826-10	CG64315	SURFACE WATER
1604200826-11	CG64316	SURFACE WATER
1604200826-12	CG64317	SURFACE WATER
1604200826-13	CG64318	SURFACE WATER
1604200826-14	CG64319	SURFACE WATER
1604200826-15	CG64320	SURFACE WATER

Environmental Laboratories, Inc.

587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

September 03, 2020

FOR: Attn: Allen Tevyaw
Fuss & O'Neill, Inc.
Foundry Corporate Office Center
317 Iron Horse Way, Suite 204
Providence, RI 02908

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:		08/21/20	
Location Code:	F&O-RI	Received by:	CP	08/28/20	15:38
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	20170900.B10				

Laboratory Data

SDG ID: GCG64309
Phoenix ID: CG64309

Project ID: SPECTACLE POND
Client ID: 1604200826-01

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, as P	0.046	0.003	mg/L	0.5	09/02/20	MI	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller

Phyllis Shiller, Laboratory Director
September 03, 2020
Reviewed and Released by: Rashmi Makol, Project Manager

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

September 03, 2020

FOR: Attn: Allen Tevyaw
Fuss & O'Neill, Inc.
Foundry Corporate Office Center
317 Iron Horse Way, Suite 204
Providence, RI 02908

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:		08/21/20	
Location Code:	F&O-RI	Received by:	CP	08/28/20	15:38
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	20170900.B10				

Laboratory Data

SDG ID: GCG64309
Phoenix ID: CG64310

Project ID: SPECTACLE POND
Client ID: 1604200826-02

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, as P	0.063	0.003	mg/L	0.5	09/02/20	MI	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

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Phyllis Shiller

Phyllis Shiller, Laboratory Director
September 03, 2020
Reviewed and Released by: Rashmi Makol, Project Manager

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

September 03, 2020

FOR: Attn: Allen Tevyaw
Fuss & O'Neill, Inc.
Foundry Corporate Office Center
317 Iron Horse Way, Suite 204
Providence, RI 02908

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:		08/21/20	
Location Code:	F&O-RI	Received by:	CP	08/28/20	15:38
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	20170900.B10				

Laboratory Data

SDG ID: GCG64309
Phoenix ID: CG64311

Project ID: SPECTACLE POND
Client ID: 1604200826-03

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, as P	0.063	0.003	mg/L	0.5	09/02/20	MI	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

Phyllis Shiller

Phyllis Shiller, Laboratory Director
September 03, 2020
Reviewed and Released by: Rashmi Makol, Project Manager

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

September 03, 2020

FOR: Attn: Allen Tevyaw
Fuss & O'Neill, Inc.
Foundry Corporate Office Center
317 Iron Horse Way, Suite 204
Providence, RI 02908

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:		08/21/20	11:00
Location Code:	F&O-RI	Received by:	CP	08/28/20	15:38
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	20170900.B10				

Laboratory Data

SDG ID: GCG64309
Phoenix ID: CG64312

Project ID: SPECTACLE POND
Client ID: 1604200826-07

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, as P	0.006	0.003	mg/L	0.5	09/02/20	MI	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

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Phyllis Shiller

Phyllis Shiller, Laboratory Director
September 03, 2020
Reviewed and Released by: Rashmi Makol, Project Manager

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

September 03, 2020

FOR: Attn: Allen Tevyaw
Fuss & O'Neill, Inc.
Foundry Corporate Office Center
317 Iron Horse Way, Suite 204
Providence, RI 02908

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:		08/21/20	11:20
Location Code:	F&O-RI	Received by:	CP	08/28/20	15:38
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	20170900.B10				

Laboratory Data

SDG ID: GCG64309
Phoenix ID: CG64313

Project ID: SPECTACLE POND
Client ID: 1604200826-08

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, as P	0.060	0.003	mg/L	0.5	09/02/20	MI	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

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Phyllis Shiller

Phyllis Shiller, Laboratory Director
September 03, 2020
Reviewed and Released by: Rashmi Makol, Project Manager

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

September 03, 2020

FOR: Attn: Allen Tevyaw
Fuss & O'Neill, Inc.
Foundry Corporate Office Center
317 Iron Horse Way, Suite 204
Providence, RI 02908

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:		08/21/20	12:00
Location Code:	F&O-RI	Received by:	CP	08/28/20	15:38
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	20170900.B10				

Laboratory Data

SDG ID: GCG64309
Phoenix ID: CG64314

Project ID: SPECTACLE POND
Client ID: 1604200826-09

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, as P	0.113	0.003	mg/L	0.5	09/02/20	MI	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

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Phyllis Shiller

Phyllis Shiller, Laboratory Director
September 03, 2020
Reviewed and Released by: Rashmi Makol, Project Manager

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

September 03, 2020

FOR: Attn: Allen Tevyaw
Fuss & O'Neill, Inc.
Foundry Corporate Office Center
317 Iron Horse Way, Suite 204
Providence, RI 02908

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:		08/21/20	12:20
Location Code:	F&O-RI	Received by:	CP	08/28/20	15:38
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	20170900.B10				

Laboratory Data

SDG ID: GCG64309
Phoenix ID: CG64315

Project ID: SPECTACLE POND
Client ID: 1604200826-10

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, as P	0.048	0.003	mg/L	0.5	09/02/20	MI	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

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Phyllis Shiller

Phyllis Shiller, Laboratory Director
September 03, 2020
Reviewed and Released by: Rashmi Makol, Project Manager

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

September 03, 2020

FOR: Attn: Allen Tevyaw
Fuss & O'Neill, Inc.
Foundry Corporate Office Center
317 Iron Horse Way, Suite 204
Providence, RI 02908

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:		08/21/20	12:40
Location Code:	F&O-RI	Received by:	CP	08/28/20	15:38
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	20170900.B10				

Laboratory Data

SDG ID: GCG64309
Phoenix ID: CG64316

Project ID: SPECTACLE POND
Client ID: 1604200826-11

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, as P	0.028	0.003	mg/L	0.5	09/02/20	MI	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

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Phyllis Shiller

Phyllis Shiller, Laboratory Director
September 03, 2020
Reviewed and Released by: Rashmi Makol, Project Manager

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

September 03, 2020

FOR: Attn: Allen Tevyaw
Fuss & O'Neill, Inc.
Foundry Corporate Office Center
317 Iron Horse Way, Suite 204
Providence, RI 02908

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:		08/21/20	13:10
Location Code:	F&O-RI	Received by:	CP	08/28/20	15:38
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	20170900.B10				

Laboratory Data

SDG ID: GCG64309
Phoenix ID: CG64317

Project ID: SPECTACLE POND
Client ID: 1604200826-12

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, as P	0.016	0.003	mg/L	0.5	09/02/20	MI	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

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Phyllis Shiller

Phyllis Shiller, Laboratory Director
September 03, 2020
Reviewed and Released by: Rashmi Makol, Project Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

September 03, 2020

FOR: Attn: Allen Tevyaw
Fuss & O'Neill, Inc.
Foundry Corporate Office Center
317 Iron Horse Way, Suite 204
Providence, RI 02908

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:		08/21/20	13:30
Location Code:	F&O-RI	Received by:	CP	08/28/20	15:38
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	20170900.B10				

Laboratory Data

SDG ID: GCG64309
Phoenix ID: CG64318

Project ID: SPECTACLE POND
Client ID: 1604200826-13

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, as P	0.016	0.003	mg/L	0.5	09/02/20	MI	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

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Phyllis Shiller, Laboratory Director
September 03, 2020
Reviewed and Released by: Rashmi Makol, Project Manager

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

September 03, 2020

FOR: Attn: Allen Tevyaw
Fuss & O'Neill, Inc.
Foundry Corporate Office Center
317 Iron Horse Way, Suite 204
Providence, RI 02908

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:		08/21/20	14:00
Location Code:	F&O-RI	Received by:	CP	08/28/20	15:38
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	20170900.B10				

Laboratory Data

SDG ID: GCG64309
Phoenix ID: CG64319

Project ID: SPECTACLE POND
Client ID: 1604200826-14

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, as P	0.057	0.003	mg/L	0.5	09/02/20	MI	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

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Phyllis Shiller

Phyllis Shiller, Laboratory Director
September 03, 2020
Reviewed and Released by: Rashmi Makol, Project Manager

PHOENIX

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587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

September 03, 2020

FOR: Attn: Allen Tevyaw
Fuss & O'Neill, Inc.
Foundry Corporate Office Center
317 Iron Horse Way, Suite 204
Providence, RI 02908

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:		08/21/20	14:30
Location Code:	F&O-RI	Received by:	CP	08/28/20	15:38
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	20170900.B10				

Laboratory Data

SDG ID: GCG64309
Phoenix ID: CG64320

Project ID: SPECTACLE POND
Client ID: 1604200826-15

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, as P	0.066	0.003	mg/L	0.5	09/02/20	MI	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

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Phyllis Shiller

Phyllis Shiller, Laboratory Director
September 03, 2020
Reviewed and Released by: Rashmi Makol, Project Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

QA/QC Report

September 03, 2020

QA/QC Data

SDG I.D.: GCG64309

Parameter	Blank	Blk RL	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 543885 (mg/L), QC Sample No: CG64300 (CG64309, CG64310, CG64311, CG64312, CG64313, CG64314, CG64315)													
Phosphorus, as P	BRL	0.01	1.05	1.08	2.80	100			100			85 - 115	20
Comment:													
Additional criteria matrix spike acceptance range is 75-125%.													
QA/QC Batch 543886 (mg/L), QC Sample No: CG64326 (CG64316, CG64317, CG64318, CG64319, CG64320)													
Phosphorus, as P	BRL	0.01	0.079	0.079	0	99.0			98.5			85 - 115	20
Comment:													
Additional criteria matrix spike acceptance range is 75-125%.													

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

RPD - Relative Percent Difference
LCS - Laboratory Control Sample
LCSD - Laboratory Control Sample Duplicate
MS - Matrix Spike
MS Dup - Matrix Spike Duplicate
NC - No Criteria
Intf - Interference

Phyllis Shiller

Phyllis Shiller, Laboratory Director
September 03, 2020

Thursday, September 03, 2020

Sample Criteria Exceedances Report

GCG64309 - FO-RI

Criteria: None

State: RI

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units

*** No Data to Display ***

Phoenix Laboratories does not assume responsibility for the data contained in this exceedance report. It is provided as an additional tool to identify requested criteria exceedences. All efforts are made to ensure the accuracy of the data (obtained from appropriate agencies). A lack of exceedence information does not necessarily suggest conformance to the criteria. It is ultimately the site professional's responsibility to determine appropriate compliance.

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Analysis Comments

September 03, 2020 SDG I.D.: GCG64309

The following analysis comments are made regarding exceptions to criteria not already noted in the Analysis Report or QA/QC Report: None.

WCIP 2.5 PAGE 1 of 2

FUSS & O'NEILL ENVIROSCIENCE, LLC
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❑ 1419 Richland Street, Columbia, SC 29201
❑ 78 Interstate Drive, West Springfield, MA 01089
❑ 50 Redfield Street, Suite 100, Boston, MA 02122
❑ 275 Promenade Street, Suite 350, Providence, RI 02908
❑ 80 Washington Street, Suite 301, Poughkeepsie, NY 12601

CHAIN-OF-CUSTODY RECORD 0590

Turnaround
❑ 1 Day* ❑ 2 Days* ❑ 3 Days* ☑ Standard (____ days) ❑ Other ______ (days)
*Surcharge Applies

PROJECT NAME	PROJECT LOCATION	PROJECT NUMBER	LABORATORY
SPECTACLE POND	CRANSTON, RI	20170900.BIO	PHOENIX

REPORT TO: ALLEN TEVYAW atevyaw@fando.com
INVOICE TO: ALLEN TEVYAW atevyaw@fando.com
P.O. NO.: 160420170900-BIO
Sampler's Signature: [signature] Date: 8/26/20

Source Codes:
MW=Monitoring Well SW=Surface Water PW=Potable Water T=Treatment Facility S=Soil B=Sediment W=Waste A=Air
X=Other ____________

Analysis Request: TOTAL PHOSPHORUS

Containers: Soil VOA Vial, [ ] methanol; Soil VOA Vial, [ ] water [ ] $Na(SO_4)_2$; Glass Soil Container ( ) oz; Glass Soil Container ( ) oz; Other:; Water VOA Vial, [ ] As is [ ] HCl; Glass Amber ( ) ml, [ ] As is [ ] H_2SO_4; Plastic - As is, [ ] 250 ml [ ] 500 [ ] 1000 ml; Plastic - H_2SO_4, [x] 250 ml [ ] 500 ml; Plastic - HNO_3, 250 ml [ ] Filtered [ ] Unfiltered; Plastic - NaOH, 250 ml

Item No.	Transfer Check 1	2	3	4	Sample Number	Source Code	Date Sampled	Time Sampled	TOTAL PHOSPHORUS	Plastic - H_2SO_4, 250 ml	Comments
1	/	/	/		1604200826-01	SW	8/26/20		X	X	64309
2	/	/	/		-02				X	X	64310
3	/	/	/		-03				X	X	64311
4	/	/	/		-07			1100	X	X	64312
5	/	/	/		-08			1120	X	X	64313
6	/	/	/		-09			1200	X	X	64314
7	/	/	/		-10			1220	X	X	64315
8	/	/	/		-11			1240	X	X	64316
9	/	/	/		-12			1310	X	X	64317
10	/	/	/		-13			1330	X	X	64318

Transfer Number	Relinquished By	Accepted By	Date	Time
1	ALLEN TEVYAW	FIELD FRIDGE	8/26/20	1700
2	FIELD FRIDGE	ALLEN TEVYAW	8/28/20	
3	ALLEN TEVYAW	ST	8.28.20	1037
4	ST	[signature]	8/28	1538

Reporting and Detection Limit Requirements:

Additional Comments: Reporting Limit 0.008 mg/L

WCIP 2.5 PAGE 2 of 2

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❑ 78 Interstate Drive, West Springfield, MA 01089
❑ 50 Redfield Street, Suite 100, Boston, MA 02122
❑ 275 Promenade Street, Suite 350, Providence, RI 02908
❑ 80 Washington Street, Suite 301, Poughkeepsie, NY 12601

CHAIN-OF-CUSTODY RECORD 0591

Turnaround
❑ 1 Day* ❑ 2 Days* ❑ 3 Days* ☑ Standard (____ days) ❑ Other ______ (days)
*Surcharge Applies

PROJECT NAME	PROJECT LOCATION	PROJECT NUMBER	LABORATORY
SPECTACLE POND	CRANSTON, RI	20170900.B10	PHOENIX

REPORT TO: ALLEN TEVYAW atevyaw@fando.com
INVOICE TO: ALLEN TEVYAW atevyaw@fando.com
P.O. NO.: 1604 20170900.B10
Sampler's Signature: [signature] Date: 8/26/20

Source Codes:
MW=Monitoring Well PW=Potable Water S=Soil W=Waste
SW=Surface Water T=Treatment Facility B=Sediment A=Air
X=Other ______

Analysis Request / Containers

Item No.	Transfer Check 1	2	3	4	Sample Number	Source Code	Date Sampled	Time Sampled	TOTAL PHOSPHORUS	Soil VOA Vial, [ ] methanol	Soil VOA Vial, [ ] water	Glass Soil Container ( ) oz	Glass Soil Container ( ) oz [ ] $Na_2(SO_4)_2$	Other:	Water VOA Vial, [ ] As is [ ] HCl	Glass Amber ( ) ml, [ ] As is [ ] H_2SO_4	Plastic - As is, [X] 250 ml [ ] 500 [ ] 1000 ml	Plastic - H_2SO_4, [ ] 250 ml [ ] 500 ml	Plastic - HNO_3, 250 ml [ ] Filtered [ ] Unfiltered	Plastic - NaOH, 250 ml	Comments
11	✓	✓	✓		1604200826 - 14	SW	8/26/20	1400	X								X				~~64309~~ 64319
12	✓	✓	✓		↓ -15	↓	↓	1430	X								X				~~64310~~ 64320
																					~~64311~~
																					~~64312~~
																					~~64313~~ DJ
																					~~64314~~
																					~~64315~~
																					~~64316~~
																					~~64317~~
																					~~64318~~

Transfer Number	Relinquished By	Accepted By	Date	Time
1	ALLEN TEVYAW	FIELD FRIDGE	8/26/20	1700
2	FIELD FRIDGE	ALLEN TEVYAW	8/28/20	
3	[signature]	ST	8.28.20	1037
4	ST	[signature]	8/28	1536

Reporting and Detection Limit Requirements:

Additional Comments: Reporting Limit - 0.008 mg/L

Wednesday, October 21, 2020

Attn: Allen Tevyaw
Fuss & O'Neill, Inc.
Foundry Corporate Office Center
317 Iron Horse Way, Suite 204
Providence, RI 02908

Project ID: SPECTACLE POND
SDG ID: GCG98796
Sample ID#s: CG98796 - CG98808

This laboratory is in compliance with the NELAC requirements of procedures used except where indicated.

This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory. This report is incomplete unless all pages indicated in the pagination at the bottom of the page are included.

A scanned version of the COC form accompanies the analytical report and is an exact duplicate of the original.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Sincerely yours,

Phyllis Shiller

Phyllis Shiller
Laboratory Director

NELAC - #NY11301
CT Lab Registration #PH-0618
MA Lab Registration #M-CT007
ME Lab Registration #CT-007
NH Lab Registration #213693-A,B

NJ Lab Registration #CT-003
NY Lab Registration #11301
PA Lab Registration #68-03530
RI Lab Registration #63
UT Lab Registration #CT00007
VT Lab Registration #VT11301

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Sample Id Cross Reference

October 21, 2020

SDG I.D.: GCG98796

Project ID: SPECTACLE POND

Client Id	Lab Id	Matrix
1604201012-01	CG98796	SURFACE WATER
1604201012-02	CG98797	SURFACE WATER
1604201012-03	CG98798	SURFACE WATER
1604201012-04	CG98799	SURFACE WATER
1604201012-05	CG98800	SURFACE WATER
1604201012-06	CG98801	SURFACE WATER
1604201012-07	CG98802	SURFACE WATER
1604201012-08	CG98803	SURFACE WATER
1604201012-09	CG98804	SURFACE WATER
1604201012-10	CG98805	SURFACE WATER
1604201012-11	CG98806	SURFACE WATER
1604201012-12	CG98807	SURFACE WATER
1604201012-13	CG98808	SURFACE WATER

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Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
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Analysis Report

October 21, 2020

FOR: Attn: Allen Tevyaw
Fuss & O'Neill, Inc.
Foundry Corporate Office Center
317 Iron Horse Way, Suite 204
Providence, RI 02908

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:		10/12/20	11:37
Location Code:	F&O-RI	Received by:	B	10/16/20	16:33
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	20170900.B10				

Laboratory Data

SDG ID: GCG98796
Phoenix ID: CG98796

Project ID: SPECTACLE POND
Client ID: 1604201012-01

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, as P	11.3	0.25	mg/L	50	10/20/20	JR	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

Total Phosphorus: Due to sample matrix, and low reporting level could not be achieved.

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Phyllis Shiller

Phyllis Shiller, Laboratory Director
October 21, 2020
Reviewed and Released by: Rashmi Makol, Project Manager

PHOENIX

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Analysis Report

October 21, 2020

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Fuss & O'Neill, Inc.
Foundry Corporate Office Center
317 Iron Horse Way, Suite 204
Providence, RI 02908

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:		10/12/20	11:41
Location Code:	F&O-RI	Received by:	B	10/16/20	16:33
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	20170900.B10				

Laboratory Data

SDG ID: GCG98796
Phoenix ID: CG98797

Project ID: SPECTACLE POND
Client ID: 1604201012-02

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, as P	0.057	0.003	mg/L	0.5	10/20/20	JR	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

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Phyllis Shiller, Laboratory Director
October 21, 2020
Reviewed and Released by: Rashmi Makol, Project Manager

PHOENIX

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Analysis Report

October 21, 2020

FOR: Attn: Allen Tevyaw
Fuss & O'Neill, Inc.
Foundry Corporate Office Center
317 Iron Horse Way, Suite 204
Providence, RI 02908

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:		10/12/20	11:43
Location Code:	F&O-RI	Received by:	B	10/16/20	16:33
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	20170900.B10				

Laboratory Data

SDG ID: GCG98796
Phoenix ID: CG98798

Project ID: SPECTACLE POND
Client ID: 1604201012-03

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, as P	0.079	0.003	mg/L	0.5	10/20/20	JR	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

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Phyllis Shiller

Phyllis Shiller, Laboratory Director
October 21, 2020
Reviewed and Released by: Rashmi Makol, Project Manager

PHOENIX

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Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

October 21, 2020

FOR: Attn: Allen Tevyaw
Fuss & O'Neill, Inc.
Foundry Corporate Office Center
317 Iron Horse Way, Suite 204
Providence, RI 02908

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:		10/12/20	12:18
Location Code:	F&O-RI	Received by:	B	10/16/20	16:33
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	20170900.B10				

Laboratory Data

SDG ID: GCG98796
Phoenix ID: CG98799

Project ID: SPECTACLE POND
Client ID: 1604201012-04

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, as P	0.019	0.003	mg/L	0.5	10/20/20	JR	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

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Phyllis Shiller, Laboratory Director
October 21, 2020
Reviewed and Released by: Rashmi Makol, Project Manager

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587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

October 21, 2020

FOR: Attn: Allen Tevyaw
Fuss & O'Neill, Inc.
Foundry Corporate Office Center
317 Iron Horse Way, Suite 204
Providence, RI 02908

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:		10/12/20	12:21
Location Code:	F&O-RI	Received by:	B	10/16/20	16:33
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	20170900.B10				

Laboratory Data

SDG ID: GCG98796
Phoenix ID: CG98800

Project ID: SPECTACLE POND
Client ID: 1604201012-05

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, as P	0.078	0.003	mg/L	0.5	10/20/20	JR	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

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Phyllis Shiller, Laboratory Director
October 21, 2020
Reviewed and Released by: Rashmi Makol, Project Manager

PHOENIX

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Analysis Report

October 21, 2020

FOR: Attn: Allen Tevyaw
Fuss & O'Neill, Inc.
Foundry Corporate Office Center
317 Iron Horse Way, Suite 204
Providence, RI 02908

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:		10/12/20	12:50
Location Code:	F&O-RI	Received by:	B	10/16/20	16:33
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	20170900.B10				

Laboratory Data

SDG ID: GCG98796
Phoenix ID: CG98801

Project ID: SPECTACLE POND
Client ID: 1604201012-06

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, as P	0.072	0.003	mg/L	0.5	10/20/20	JR	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

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Phyllis Shiller

Phyllis Shiller, Laboratory Director
October 21, 2020
Reviewed and Released by: Rashmi Makol, Project Manager

PHOENIX

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Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

October 21, 2020

FOR: Attn: Allen Tevyaw
Fuss & O'Neill, Inc.
Foundry Corporate Office Center
317 Iron Horse Way, Suite 204
Providence, RI 02908

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:		10/12/20	13:15
Location Code:	F&O-RI	Received by:	B	10/16/20	16:33
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	20170900.B10				

Laboratory Data

SDG ID: GCG98796
Phoenix ID: CG98802

Project ID: SPECTACLE POND
Client ID: 1604201012-07

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, as P	0.067	0.003	mg/L	0.5	10/20/20	JR	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

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Phyllis Shiller

Phyllis Shiller, Laboratory Director
October 21, 2020
Reviewed and Released by: Rashmi Makol, Project Manager

PHOENIX

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Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

October 21, 2020

FOR: Attn: Allen Tevyaw
Fuss & O'Neill, Inc.
Foundry Corporate Office Center
317 Iron Horse Way, Suite 204
Providence, RI 02908

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:		10/12/20	13:20
Location Code:	F&O-RI	Received by:	B	10/16/20	16:33
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	20170900.B10				

Laboratory Data

SDG ID: GCG98796
Phoenix ID: CG98803

Project ID: SPECTACLE POND
Client ID: 1604201012-08

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, as P	0.049	0.003	mg/L	0.5	10/20/20	JR	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

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Phyllis Shiller

Phyllis Shiller, Laboratory Director
October 21, 2020
Reviewed and Released by: Rashmi Makol, Project Manager

PHOENIX

Environmental Laboratories, Inc.
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Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

October 21, 2020

FOR: Attn: Allen Tevyaw
Fuss & O'Neill, Inc.
Foundry Corporate Office Center
317 Iron Horse Way, Suite 204
Providence, RI 02908

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:		10/12/20	12:32
Location Code:	F&O-RI	Received by:	B	10/16/20	16:33
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	20170900.B10				

Laboratory Data

SDG ID: GCG98796
Phoenix ID: CG98804

Project ID: SPECTACLE POND
Client ID: 1604201012-09

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, as P	0.119	0.003	mg/L	0.5	10/20/20	JR	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

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Phyllis Shiller

Phyllis Shiller, Laboratory Director
October 21, 2020
Reviewed and Released by: Rashmi Makol, Project Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

October 21, 2020

FOR: Attn: Allen Tevyaw
Fuss & O'Neill, Inc.
Foundry Corporate Office Center
317 Iron Horse Way, Suite 204
Providence, RI 02908

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:		10/12/20	13:12
Location Code:	F&O-RI	Received by:	B	10/16/20	16:33
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	20170900.B10				

Laboratory Data

SDG ID: GCG98796
Phoenix ID: CG98805

Project ID: SPECTACLE POND
Client ID: 1604201012-10

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, as P	0.095	0.003	mg/L	0.5	10/20/20	JR	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

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Phyllis Shiller, Laboratory Director
October 21, 2020
Reviewed and Released by: Rashmi Makol, Project Manager

PHOENIX

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Analysis Report

October 21, 2020

FOR: Attn: Allen Tevyaw
Fuss & O'Neill, Inc.
Foundry Corporate Office Center
317 Iron Horse Way, Suite 204
Providence, RI 02908

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:		10/12/20	13:23
Location Code:	F&O-RI	Received by:	B	10/16/20	16:33
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	20170900.B10				

Laboratory Data

SDG ID: GCG98796
Phoenix ID: CG98806

Project ID: SPECTACLE POND
Client ID: 1604201012-11

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, as P	0.051	0.003	mg/L	0.5	10/20/20	MI	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

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Phyllis Shiller

Phyllis Shiller, Laboratory Director
October 21, 2020
Reviewed and Released by: Rashmi Makol, Project Manager

PHOENIX

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Analysis Report

October 21, 2020

FOR: Attn: Allen Tevyaw
Fuss & O'Neill, Inc.
Foundry Corporate Office Center
317 Iron Horse Way, Suite 204
Providence, RI 02908

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:		10/12/20	13:45
Location Code:	F&O-RI	Received by:	B	10/16/20	16:33
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	20170900.B10				

Laboratory Data

SDG ID: GCG98796
Phoenix ID: CG98807

Project ID: SPECTACLE POND
Client ID: 1604201012-12

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, as P	0.052	0.003	mg/L	0.5	10/20/20	MI	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

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Phyllis Shiller

Phyllis Shiller, Laboratory Director
October 21, 2020
Reviewed and Released by: Rashmi Makol, Project Manager

PHOENIX
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Analysis Report

October 21, 2020

FOR: Attn: Allen Tevyaw
Fuss & O'Neill, Inc.
Foundry Corporate Office Center
317 Iron Horse Way, Suite 204
Providence, RI 02908

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:		10/12/20	13:50
Location Code:	F&O-RI	Received by:	B	10/16/20	16:33
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	20170900.B10				

Laboratory Data

SDG ID: GCG98796
Phoenix ID: CG98808

Project ID: SPECTACLE POND
Client ID: 1604201012-13

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, as P	0.075	0.003	mg/L	0.5	10/20/20	MI	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

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Phyllis Shiller, Laboratory Director
October 21, 2020
Reviewed and Released by: Rashmi Makol, Project Manager

PHOENIX

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Tel. (860) 645-1102 Fax (860) 645-0823

QA/QC Report

October 21, 2020

QA/QC Data

SDG I.D.: GCG98796

Parameter	Blank	Blk RL	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 550036 (mg/L), QC Sample No: CG98212 (CG98796)													
Phosphorus, as P	BRL	0.01	0.103	0.100	3.00	98.4			94.4			85 - 115	20
Comment:													
Additional criteria matrix spike acceptance range is 75-125%.													
QA/QC Batch 550044 (mg/L), QC Sample No: CG98823 (CG98797, CG98798, CG98799, CG98800, CG98801, CG98802, CG98803, CG98804, CG98805)													
Phosphorus, as P	BRL	0.01	0.039	0.034	NC	98.6			112			85 - 115	20
Comment:													
Additional criteria matrix spike acceptance range is 75-125%.													
QA/QC Batch 550107 (mg/L), QC Sample No: CG99513 (CG98806, CG98807, CG98808)													
Phosphorus, as P	BRL	0.01	9.63	8.71	10.0	96.9			93.7			85 - 115	20
Comment:													
Additional criteria matrix spike acceptance range is 75-125%.													

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

RPD - Relative Percent Difference
LCS - Laboratory Control Sample
LCSD - Laboratory Control Sample Duplicate
MS - Matrix Spike
MS Dup - Matrix Spike Duplicate
NC - No Criteria
Intf - Interference

Phyllis Shiller

Phyllis Shiller, Laboratory Director
October 21, 2020

Wednesday, October 21, 2020

Sample Criteria Exceedances Report

GCG98796 - FO-RI

Criteria: None

State: RI

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units

*** No Data to Display ***

Phoenix Laboratories does not assume responsibility for the data contained in this exceedance report. It is provided as an additional tool to identify requested criteria exceedences. All efforts are made to ensure the accuracy of the data (obtained from appropriate agencies). A lack of exceedence information does not necessarily suggest conformance to the criteria. It is ultimately the site professional's responsibility to determine appropriate compliance.

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

NY # 11301

Analysis Comments

October 21, 2020 SDG I.D.: GCG98796

The following analysis comments are made regarding exceptions to criteria not already noted in the Analysis Report or QA/QC Report: None.

WCIP 1of2
2.2

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- ❑ 78 Interstate Drive, West Springfield, MA 01089
- ❑ 50 Redfield Street, Suite 100, Boston, MA 02122
- ❑ 275 Promenade Street, Suite 350, Providence, RI 02908
- ❑ 80 Washington Street, Suite 301, Poughkeepsie, NY 12601

CHAIN-OF-CUSTODY RECORD 0595

Turnaround

❑ 1 Day* ❑ 2 Days* ❑ 3 Days* ☑ Standard (____ days) ❑ Other ______ (days) *Surcharge Applies

Project Name	Project Location	Project Number	Laboratory
Spectacle Pond	Cranston, RI	20170902 B10	PHOENIX

Report To: ALLEN TEVYAN atevyan@fando.com

Invoice To: ALLEN TEVYAN atevyan@fando.com

P.O. No.: 160420170902 B10

Sampler's Signature: [signature] Date: 10/12/20

Source Codes:
MW=Monitoring Well PW=Potable Water S=Soil W=Waste
SW=Surface Water T=Treatment Facility B=Sediment A=Air
X=Other ______

Analysis Request: Total Phosphorus

Containers: Soil VOA Vial, [ ] methanol; Soil VOA Vial, [ ] water; Glass Soil Container ( ) oz; Glass Soil Container ( ) oz [ ] $Na(SO_4)_2$; Other: ; Water VOA Vial, [ ] As is [ ] HCl; Glass Amber ( ) ml, [ ] As is [ ] H_2SO_4; Plastic - As is, [ ] 250 ml [ ] 500 [ ] 1000 ml; Plastic - H_2SO_4, [+] 250 ml [ ] 500 ml; Plastic - HNO_3, 250 ml [ ] Filtered [ ] Unfiltered; Plastic - NaOH, 250 ml

Item No.	Transfer Check 1	2	3	4	Sample Number	Source Code	Date Sampled	Time Sampled	Total Phosphorus	Plastic - H_2SO_4	Comments
1	–	–	–		1604201012-01	SW	10/12/20	1137	X	X	98796
2	–	–	–		-02	↓	↓	1141	X	X	98797
3	–	–	–		-03	↓	↓	1143	X	X	98798
4	–	–	–		-04	↓	↓	[illegible]	X	X	98799
5	–	–	–		-05	↓	↓	1221	X	X	98800
6	–	–	✓		-06	↓	↓	1250	X	X	98801
7	–	–	–		-07	↓	↓	1315	X	X	98802
8	–	–	–		-08	↓	↓	1320	X	X	98803
9	–	–	–		-09	↓	↓	1232	X	X	98804
10	–	–	/		-10	↓	↓	[illegible]	X	X	98805

Transfer Number	Relinquished By	Accepted By	Date	Time
1	ALLEN TEVYAN	FIELD FRIDGE	10/12/20	1600
2	FIELD FRIDGE	ALLEN TEVYAN	10/13/20	0800
3	ALLEN TEVYAN	[illegible] 10-16-20	~~10/13/20~~	9:50
4	[illegible]	[illegible]	10/16	1633

Reporting and Detection Limit Requirements:

Additional Comments: Report limit - 0.008 mg/L

WCIP 2.2 2 of 2

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Disciplines to Deliver
(860) 646-2469 • www.FandO.com

- ❑ 146 Hartford Road, Manchester, CT 06040
- ❑ 56 Quarry Road, Trumbull, CT 06611
- ❑ 1419 Richland Street, Columbia, SC 29201
- ❑ 78 Interstate Drive, West Springfield, MA 01089
- ❑ 50 Redfield Street, Suite 100, Boston, MA 02122
- ❑ 275 Promenade Street, Suite 350, Providence, RI 02908
- ❑ 80 Washington Street, Suite 301, Poughkeepsie, NY 12601

CHAIN-OF-CUSTODY RECORD 0594

Turnaround
❑ 1 Day* ❑ 2 Days* ❑ 3 Days* ❑ Standard (____ days) ❑ Other ______ (days)
*Surcharge Applies

PROJECT NAME: Spectacle Pond
PROJECT LOCATION: Cranston, RI
PROJECT NUMBER: 20170900.B10
LABORATORY: PHOENIX

REPORT TO:
INVOICE TO:
P.O. NO.: 1604201709002 B10
Sampler's Signature: [signature] Date: 10/12/20

Source Codes:
MW=Monitoring Well PW=Potable Water S=Soil W=Waste
SW=Surface Water T=Treatment Facility B=Sediment A=Air
X=Other

Analysis Request / Containers

Item No.	Transfer Check 1	2	3	4	Sample Number	Source Code	Date Sampled	Time Sampled	Total Phosphorus	Soil VOA Vial, [ ] methanol	Soil VOA Vial, [ ] water	Glass Soil Container [ ] Na(SO4)2	Glass Soil Container ( ) oz	Other: ( ) oz	Water VOA Vial, [ ] As is [ ] HCl	Glass Amber ( ) ml, [ ] As is [ ] H2SO4	Plastic - As is, [ ] 250 ml [ ] 500 [ ] 1000 ml	Plastic - H2SO4, [ ] 250 ml [ ] 500 ml	Plastic - HNO3, 250 ml [ ] Filtered [ ] Unfiltered	Plastic - NaOH, 250 ml	Comments
11	-	-	-		1604201012-11	SW	10/12/20	1323	X								X	X			98806
12	-	-	-		↓ -12	↓	↓	1345	X								X	X			98807
13	-	-	-		↓ -13	↓		1350	X												98808

Transfer Number	Relinquished By	Accepted By	Date	Time
1	ALLEN TEVYAW	FIELD FRIDGE	10/12/20	1600
2	FIELD FRIDGE	ALLEN TEVYAN	10/13/20	0800
3	ALLEN TEVYAW	[signature] 10-16-20	~~10/13/20~~	0950
4	[signature]	[signature]	10/16	1633

Reporting and Detection Limit Requirements:

Additional Comments:
Reporting limit 0.008 mg/L

Wednesday, October 21, 2020

Attn: Allen Tevyaw
Fuss & O'Neill, Inc.
Foundry Corporate Office Center
317 Iron Horse Way, Suite 204
Providence, RI 02908

Project ID: SPECTACLE POND
SDG ID: GCG98796
Sample ID#s: CG98796 - CG98808

This laboratory is in compliance with the NELAC requirements of procedures used except where indicated.

This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory. This report is incomplete unless all pages indicated in the pagination at the bottom of the page are included.

A scanned version of the COC form accompanies the analytical report and is an exact duplicate of the original.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Sincerely yours,

Phyllis Shiller
Laboratory Director

NELAC - #NY11301
CT Lab Registration #PH-0618
MA Lab Registration #M-CT007
ME Lab Registration #CT-007
NH Lab Registration #213693-A,B
NJ Lab Registration #CT-003
NY Lab Registration #11301
PA Lab Registration #68-03530
RI Lab Registration #63
UT Lab Registration #CT00007
VT Lab Registration #VT11301

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Sample Id Cross Reference

October 21, 2020

SDG I.D.: GCG98796

Project ID: SPECTACLE POND

Client Id	Lab Id	Matrix
1604201012-01	CG98796	SURFACE WATER
1604201012-02	CG98797	SURFACE WATER
1604201012-03	CG98798	SURFACE WATER
1604201012-04	CG98799	SURFACE WATER
1604201012-05	CG98800	SURFACE WATER
1604201012-06	CG98801	SURFACE WATER
1604201012-07	CG98802	SURFACE WATER
1604201012-08	CG98803	SURFACE WATER
1604201012-09	CG98804	SURFACE WATER
1604201012-10	CG98805	SURFACE WATER
1604201012-11	CG98806	SURFACE WATER
1604201012-12	CG98807	SURFACE WATER
1604201012-13	CG98808	SURFACE WATER

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
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Analysis Report

October 21, 2020

FOR: Attn: Allen Tevyaw
Fuss & O'Neill, Inc.
Foundry Corporate Office Center
317 Iron Horse Way, Suite 204
Providence, RI 02908

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:		10/12/20	11:37
Location Code:	F&O-RI	Received by:	B	10/16/20	16:33
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	20170900.B10				

Laboratory Data

SDG ID: GCG98796
Phoenix ID: CG98796

Project ID: SPECTACLE POND
Client ID: 1604201012-01

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, as P	11.3	0.25	mg/L	50	10/20/20	JR	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

Total Phosphorus: Due to sample matrix, and low reporting level could not be achieved.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
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Phyllis Shiller, Laboratory Director
October 21, 2020
Reviewed and Released by: Rashmi Makol, Project Manager

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

October 21, 2020

FOR: Attn: Allen Tevyaw
Fuss & O'Neill, Inc.
Foundry Corporate Office Center
317 Iron Horse Way, Suite 204
Providence, RI 02908

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:		10/12/20	11:41
Location Code:	F&O-RI	Received by:	B	10/16/20	16:33
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	20170900.B10				

Laboratory Data

SDG ID: GCG98796
Phoenix ID: CG98797

Project ID: SPECTACLE POND
Client ID: 1604201012-02

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, as P	0.057	0.003	mg/L	0.5	10/20/20	JR	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

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Phyllis Shiller

Phyllis Shiller, Laboratory Director
October 21, 2020
Reviewed and Released by: Rashmi Makol, Project Manager

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

October 21, 2020

FOR: Attn: Allen Tevyaw
Fuss & O'Neill, Inc.
Foundry Corporate Office Center
317 Iron Horse Way, Suite 204
Providence, RI 02908

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:		10/12/20	11:43
Location Code:	F&O-RI	Received by:	B	10/16/20	16:33
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	20170900.B10				

Laboratory Data

SDG ID: GCG98796
Phoenix ID: CG98798

Project ID: SPECTACLE POND
Client ID: 1604201012-03

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, as P	0.079	0.003	mg/L	0.5	10/20/20	JR	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

Phyllis Shiller

Phyllis Shiller, Laboratory Director
October 21, 2020
Reviewed and Released by: Rashmi Makol, Project Manager

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

October 21, 2020

FOR: Attn: Allen Tevyaw
Fuss & O'Neill, Inc.
Foundry Corporate Office Center
317 Iron Horse Way, Suite 204
Providence, RI 02908

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:		10/12/20	12:18
Location Code:	F&O-RI	Received by:	B	10/16/20	16:33
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	20170900.B10				

Laboratory Data

SDG ID: GCG98796
Phoenix ID: CG98799

Project ID: SPECTACLE POND
Client ID: 1604201012-04

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, as P	0.019	0.003	mg/L	0.5	10/20/20	JR	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

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Phyllis Shiller, Laboratory Director
October 21, 2020
Reviewed and Released by: Rashmi Makol, Project Manager

PHOENIX

Environmental Laboratories, Inc.
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Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

October 21, 2020

FOR: Attn: Allen Tevyaw
Fuss & O'Neill, Inc.
Foundry Corporate Office Center
317 Iron Horse Way, Suite 204
Providence, RI 02908

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:		10/12/20	12:21
Location Code:	F&O-RI	Received by:	B	10/16/20	16:33
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	20170900.B10				

Laboratory Data

SDG ID: GCG98796
Phoenix ID: CG98800

Project ID: SPECTACLE POND
Client ID: 1604201012-05

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, as P	0.078	0.003	mg/L	0.5	10/20/20	JR	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

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Phyllis Shiller

Phyllis Shiller, Laboratory Director
October 21, 2020
Reviewed and Released by: Rashmi Makol, Project Manager

Ver 1

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

October 21, 2020

FOR: Attn: Allen Tevyaw
Fuss & O'Neill, Inc.
Foundry Corporate Office Center
317 Iron Horse Way, Suite 204
Providence, RI 02908

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:		10/12/20	12:50
Location Code:	F&O-RI	Received by:	B	10/16/20	16:33
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	20170900.B10				

Laboratory Data

SDG ID: GCG98796
Phoenix ID: CG98801

Project ID: SPECTACLE POND
Client ID: 1604201012-06

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, as P	0.072	0.003	mg/L	0.5	10/20/20	JR	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

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Phyllis Shiller

Phyllis Shiller, Laboratory Director
October 21, 2020
Reviewed and Released by: Rashmi Makol, Project Manager

Ver 1

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

October 21, 2020

FOR: Attn: Allen Tevyaw
Fuss & O'Neill, Inc.
Foundry Corporate Office Center
317 Iron Horse Way, Suite 204
Providence, RI 02908

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:		10/12/20	13:15
Location Code:	F&O-RI	Received by:	B	10/16/20	16:33
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	20170900.B10				

Laboratory Data

SDG ID: GCG98796
Phoenix ID: CG98802

Project ID: SPECTACLE POND
Client ID: 1604201012-07

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, as P	0.067	0.003	mg/L	0.5	10/20/20	JR	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

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Phyllis Shiller

Phyllis Shiller, Laboratory Director
October 21, 2020
Reviewed and Released by: Rashmi Makol, Project Manager

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

October 21, 2020

FOR: Attn: Allen Tevyaw
Fuss & O'Neill, Inc.
Foundry Corporate Office Center
317 Iron Horse Way, Suite 204
Providence, RI 02908

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:		10/12/20	13:20
Location Code:	F&O-RI	Received by:	B	10/16/20	16:33
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	20170900.B10				

Laboratory Data

SDG ID: GCG98796
Phoenix ID: CG98803

Project ID: SPECTACLE POND
Client ID: 1604201012-08

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, as P	0.049	0.003	mg/L	0.5	10/20/20	JR	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

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Phyllis Shiller

Phyllis Shiller, Laboratory Director
October 21, 2020
Reviewed and Released by: Rashmi Makol, Project Manager

PHOENIX

Environmental Laboratories, Inc.

587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

October 21, 2020

FOR: Attn: Allen Tevyaw
Fuss & O'Neill, Inc.
Foundry Corporate Office Center
317 Iron Horse Way, Suite 204
Providence, RI 02908

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:		10/12/20	12:32
Location Code:	F&O-RI	Received by:	B	10/16/20	16:33
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	20170900.B10				

Laboratory Data

SDG ID: GCG98796
Phoenix ID: CG98804

Project ID: SPECTACLE POND
Client ID: 1604201012-09

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, as P	0.119	0.003	mg/L	0.5	10/20/20	JR	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

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Phyllis Shiller

Phyllis Shiller, Laboratory Director
October 21, 2020
Reviewed and Released by: Rashmi Makol, Project Manager

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

October 21, 2020

FOR: Attn: Allen Tevyaw
Fuss & O'Neill, Inc.
Foundry Corporate Office Center
317 Iron Horse Way, Suite 204
Providence, RI 02908

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:		10/12/20	13:12
Location Code:	F&O-RI	Received by:	B	10/16/20	16:33
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	20170900.B10				

Laboratory Data

SDG ID: GCG98796
Phoenix ID: CG98805

Project ID: SPECTACLE POND
Client ID: 1604201012-10

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, as P	0.095	0.003	mg/L	0.5	10/20/20	JR	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

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Phyllis Shiller, Laboratory Director
October 21, 2020
Reviewed and Released by: Rashmi Makol, Project Manager

PHOENIX

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Analysis Report

October 21, 2020

FOR: Attn: Allen Tevyaw
Fuss & O'Neill, Inc.
Foundry Corporate Office Center
317 Iron Horse Way, Suite 204
Providence, RI 02908

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:		10/12/20	13:23
Location Code:	F&O-RI	Received by:	B	10/16/20	16:33
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	20170900.B10				

Laboratory Data

SDG ID: GCG98796
Phoenix ID: CG98806

Project ID: SPECTACLE POND
Client ID: 1604201012-11

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, as P	0.051	0.003	mg/L	0.5	10/20/20	MI	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

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Phyllis Shiller, Laboratory Director
October 21, 2020
Reviewed and Released by: Rashmi Makol, Project Manager

Environmental Laboratories, Inc.
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Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

October 21, 2020

FOR: Attn: Allen Tevyaw
Fuss & O'Neill, Inc.
Foundry Corporate Office Center
317 Iron Horse Way, Suite 204
Providence, RI 02908

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:		10/12/20	13:45
Location Code:	F&O-RI	Received by:	B	10/16/20	16:33
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	20170900.B10				

Laboratory Data

SDG ID: GCG98796
Phoenix ID: CG98807

Project ID: SPECTACLE POND
Client ID: 1604201012-12

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, as P	0.052	0.003	mg/L	0.5	10/20/20	MI	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

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Phyllis Shiller

Phyllis Shiller, Laboratory Director
October 21, 2020
Reviewed and Released by: Rashmi Makol, Project Manager

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

October 21, 2020

FOR: Attn: Allen Tevyaw
Fuss & O'Neill, Inc.
Foundry Corporate Office Center
317 Iron Horse Way, Suite 204
Providence, RI 02908

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:		10/12/20	13:50
Location Code:	F&O-RI	Received by:	B	10/16/20	16:33
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	20170900.B10				

Laboratory Data

SDG ID: GCG98796
Phoenix ID: CG98808

Project ID: SPECTACLE POND
Client ID: 1604201012-13

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, as P	0.075	0.003	mg/L	0.5	10/20/20	MI	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

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The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller

Phyllis Shiller, Laboratory Director
October 21, 2020
Reviewed and Released by: Rashmi Makol, Project Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

QA/QC Report

October 21, 2020

QA/QC Data

SDG I.D.: GCG98796

Parameter	Blank	Blk RL	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 550036 (mg/L), QC Sample No: CG98212 (CG98796)													
Phosphorus, as P	BRL	0.01	0.103	0.100	3.00	98.4			94.4			85 - 115	20
Comment:													
Additional criteria matrix spike acceptance range is 75-125%.													
QA/QC Batch 550044 (mg/L), QC Sample No: CG98823 (CG98797, CG98798, CG98799, CG98800, CG98801, CG98802, CG98803, CG98804, CG98805)													
Phosphorus, as P	BRL	0.01	0.039	0.034	NC	98.6			112			85 - 115	20
Comment:													
Additional criteria matrix spike acceptance range is 75-125%.													
QA/QC Batch 550107 (mg/L), QC Sample No: CG99513 (CG98806, CG98807, CG98808)													
Phosphorus, as P	BRL	0.01	9.63	8.71	10.0	96.9			93.7			85 - 115	20
Comment:													
Additional criteria matrix spike acceptance range is 75-125%.													

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

RPD - Relative Percent Difference
LCS - Laboratory Control Sample
LCSD - Laboratory Control Sample Duplicate
MS - Matrix Spike
MS Dup - Matrix Spike Duplicate
NC - No Criteria
Intf - Interference

Phyllis Shiller

Phyllis Shiller, Laboratory Director
October 21, 2020

Wednesday, October 21, 2020

Sample Criteria Exceedances Report

GCG98796 - FO-RI

Criteria: None

State: RI

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units

*** No Data to Display ***

Phoenix Laboratories does not assume responsibility for the data contained in this exceedance report. It is provided as an additional tool to identify requested criteria exceedences. All efforts are made to ensure the accuracy of the data (obtained from appropriate agencies). A lack of exceedence information does not necessarily suggest conformance to the criteria. It is ultimately the site professional's responsibility to determine appropriate compliance.

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Analysis Comments

October 21, 2020 SDG I.D.: GCG98796

The following analysis comments are made regarding exceptions to criteria not already noted in the Analysis Report or QA/QC Report: None.

WCIP 1of2
2.2

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❑ 56 Quarry Road, Trumbull, CT 06611
❑ 1419 Richland Street, Columbia, SC 29201
❑ 78 Interstate Drive, West Springfield, MA 01089
❑ 50 Redfield Street, Suite 100, Boston, MA 02122
❑ 275 Promenade Street, Suite 350, Providence, RI 02908
❑ 80 Washington Street, Suite 301, Poughkeepsie, NY 12601

CHAIN-OF-CUSTODY RECORD 0595

Turnaround
❑ 1 Day* ❑ 3 Days* ❑ Other ______ (days)
❑ 2 Days* ☑ Standard (____ days) *Surcharge Applies

PROJECT NAME	PROJECT LOCATION	PROJECT NUMBER	LABORATORY
Spectacle Pond	Cranston, RI	20170900 B10	PHOENIX

REPORT TO: ALLEN TEVYAN atevyan@fando.com
INVOICE TO: ALLEN TEVYAN atevyan@fando.com
P.O. NO.: 1604 20170900 B10
Sampler's Signature: Date: 10/12/20

Source Codes:
MW=Monitoring Well PW=Potable Water S=Soil W=Waste
SW=Surface Water T=Treatment Facility B=Sediment A=Air
X=Other ______

Analysis Request: Total Phosphorus

Containers: Soil VOA Vial, [ ] methanol; Soil VOA Vial, [ ] water; Glass Soil Container ( ) oz [ ] Na(SO4)2; Glass Soil Container ( ) oz; Other: ; Water VOA Vial, [ ] As is [ ] HCl; Glass Amber ( ) ml, [ ] As is [ ] H2SO4; Plastic - As is, [ ] 250 ml [ ] 500 [ ] 1000 ml; Plastic - H2SO4, [~~250~~ ml [ ] 500 ml; Plastic - HNO3, 250 ml [ ] Filtered [ ] Unfiltered; Plastic - NaOH, 250 ml

Item No.	Transfer Check 1	2	3	4	Sample Number	Source Code	Date Sampled	Time Sampled	Total Phosphorus	Plastic - As is	Comments
1	-	-	-		1604201012-01	SW	10/12/20	1137	X	X	98796
2	-	-	-		-02	↓	↓	1141	X	X	98797
3	-	-	-		-03	↓	↓	1143	X	X	98798
4	-	-	-		-04	↓	↓	1218	X	X	98799
5	-	-	-		-05	↓	↓	1221	X	X	98800
6	-	-	✓		-06	↓	↓	1250	X	X	98801
7	-	-	-		-07	↓	↓	1315	X	X	98802
8	-	-	-		-08	↓	↓	1320	X	X	98803
9	-	-	-		-09	↓	↓	1232	X	X	98804
10	-	-	/		-10	↓	↓	1312	X	X	98805

Transfer Number	Relinquished By	Accepted By	Date	Time
1	ALLEN TEVYAN	FIELD FRIDGE	10/12/20	1600
2	FIELD FRIDGE	ALLEN TEVYAN	10/13/20	0800
3	ALLEN TEVYAN	[signature] 10-16-20	~~10/13/20~~	9:50
4	[signature]	[signature]	10/16	1633

Reporting and Detection Limit Requirements:

Additional Comments: Report limit - 0.008 mg/L

WCIP 2.2 2 of 2

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- ❑ 78 Interstate Drive, West Springfield, MA 01089
- ❑ 50 Redfield Street, Suite 100, Boston, MA 02122
- ❑ 275 Promenade Street, Suite 350, Providence, RI 02908
- ❑ 80 Washington Street, Suite 301, Poughkeepsie, NY 12601

CHAIN-OF-CUSTODY RECORD 0594

Turnaround
❑ 1 Day* ❑ 3 Days* ❑ Other ______ (days)
❑ 2 Days* ❑ Standard (____ days) *Surcharge Applies

PROJECT NAME: Spectacle Pond
PROJECT LOCATION: Cranston, RI
PROJECT NUMBER: 20170900.B10
LABORATORY: PHOENIX

REPORT TO:
INVOICE TO:
P.O. NO.: 16042017090B B10
Sampler's Signature: [signature] Date: 10/12/20

Source Codes:
MW=Monitoring Well PW=Potable Water S=Soil W=Waste
SW=Surface Water T=Treatment Facility B=Sediment A=Air
X=Other ______

Analysis Request: Total Phosphorus

Containers: Soil VOA Vial, [ ] methanol; Soil VOA Vial, [ ] water; Glass Soil Container ( ) oz [ ] $Na(SO_4)_2$; Glass Soil Container ( ) oz; Other:; Water VOA Vial, [ ] As is [ ] HCl; Glass Amber ( ) ml, [ ] As is [ ] H_2SO_4; Plastic - As is, [ ] 250 ml [ ] 500 [ ] 1000 ml; Plastic - H_2SO_4, [~~250~~ ml [ ] 500 ml; Plastic - HNO_3, 250 ml [ ] Filtered [ ] Unfiltered; Plastic - NaOH, 250 ml

Item No.	Transfer Check 1	2	3	4	Sample Number	Source Code	Date Sampled	Time Sampled	Total Phosphorus	Glass Amber	Plastic - As is	Comments
11	-	-	-		1604201012-11	SW	10/12/20	1323	X	1	X	98806
12	-	-	-		↓ -12	↓	↓	1345	X	1	X	98807
13	-	-	-		↓ -13	↓		1350	X			98808

Transfer Number	Relinquished By	Accepted By	Date	Time
1	ALLEN TEVYAN	FIELD FRIDGE	10/12/20	1600
2	FIELD FRIDGE	ALLEN TEVYAN	10/13/20	0800
3	ALLEN TEVYAN	[signature] 10-16-20	~~10/13/20~~	9:58
4	[signature]	[signature]	10/16	1633

Reporting and Detection Limit Requirements:

Additional Comments: Reporting limit 0.008 mg/L

Thursday, November 05, 2020

Attn: Allen Tevyaw
Fuss & O'Neill, Inc.
Foundry Corporate Office Center
317 Iron Horse Way, Suite 204
Providence, RI 02908

Project ID: SPECTACLE POND CRANSTON, RI
SDG ID: GCH07876
Sample ID#s: CH07876 - CH07888

This laboratory is in compliance with the NELAC requirements of procedures used except where indicated.

This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory. This report is incomplete unless all pages indicated in the pagination at the bottom of the page are included.

A scanned version of the COC form accompanies the analytical report and is an exact duplicate of the original.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Sincerely yours,

Phyllis Shiller

Phyllis Shiller
Laboratory Director

NELAC - #NY11301
CT Lab Registration #PH-0618
MA Lab Registration #M-CT007
ME Lab Registration #CT-007
NH Lab Registration #213693-A,B
NJ Lab Registration #CT-003
NY Lab Registration #11301
PA Lab Registration #68-03530
RI Lab Registration #63
UT Lab Registration #CT00007
VT Lab Registration #VT11301

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Sample Id Cross Reference

November 05, 2020

SDG I.D.: GCH07876

Project ID: SPECTACLE POND CRANSTON, RI

Client Id	Lab Id	Matrix
1603201029-01	CH07876	SURFACE WATER
1603201029-02	CH07877	SURFACE WATER
1603201029-03	CH07878	SURFACE WATER
1603201029-04	CH07879	SURFACE WATER
1603201029-05	CH07880	SURFACE WATER
1603201029-06	CH07881	SURFACE WATER
1603201029-07	CH07882	SURFACE WATER
1603201029-08	CH07883	SURFACE WATER
1603201029-09	CH07884	SURFACE WATER
1603201029-10	CH07885	SURFACE WATER
1603201029-11	CH07886	SURFACE WATER
1603201029-12	CH07887	SURFACE WATER
1603201029-13	CH07888	SURFACE WATER

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 05, 2020

FOR: Attn: Allen Tevyaw
Fuss & O'Neill, Inc.
Foundry Corporate Office Center
317 Iron Horse Way, Suite 204
Providence, RI 02908

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:	MS	10/29/20	9:42
Location Code:	F&O-RI	Received by:	LB	11/03/20	13:22
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	20170900.B10				

Laboratory Data

SDG ID: GCH07876
Phoenix ID: CH07876

Project ID: SPECTACLE POND CRANSTON, RI
Client ID: 1603201029-01

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, as P	0.006	0.003	mg/L	0.5	11/03/20	MI	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

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Phyllis Shiller, Laboratory Director
November 05, 2020
Reviewed and Released by: Rashmi Makol, Project Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 05, 2020

FOR: Attn: Allen Tevyaw
Fuss & O'Neill, Inc.
Foundry Corporate Office Center
317 Iron Horse Way, Suite 204
Providence, RI 02908

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:	MS	10/29/20	9:50
Location Code:	F&O-RI	Received by:	LB	11/03/20	13:22
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	20170900.B10				

Laboratory Data

SDG ID: GCH07876
Phoenix ID: CH07877

Project ID: SPECTACLE POND CRANSTON, RI
Client ID: 1603201029-02

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, as P	0.058	0.003	mg/L	0.5	11/03/20	MI	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

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Phyllis Shiller, Laboratory Director
November 05, 2020
Reviewed and Released by: Rashmi Makol, Project Manager

Ver 1

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 05, 2020

FOR: Attn: Allen Tevyaw
Fuss & O'Neill, Inc.
Foundry Corporate Office Center
317 Iron Horse Way, Suite 204
Providence, RI 02908

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:	MS	10/29/20	10:18
Location Code:	F&O-RI	Received by:	LB	11/03/20	13:22
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	20170900.B10				

Laboratory Data

SDG ID: GCH07876
Phoenix ID: CH07878

Project ID: SPECTACLE POND CRANSTON, RI
Client ID: 1603201029-03

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, as P	0.065	0.003	mg/L	0.5	11/03/20	MI	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

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Phyllis Shiller

Phyllis Shiller, Laboratory Director
November 05, 2020
Reviewed and Released by: Rashmi Makol, Project Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 05, 2020

FOR: Attn: Allen Tevyaw
Fuss & O'Neill, Inc.
Foundry Corporate Office Center
317 Iron Horse Way, Suite 204
Providence, RI 02908

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:	MS	10/29/20	10:52
Location Code:	F&O-RI	Received by:	LB	11/03/20	13:22
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	20170900.B10				

Laboratory Data

SDG ID: GCH07876
Phoenix ID: CH07879

Project ID: SPECTACLE POND CRANSTON, RI
Client ID: 1603201029-04

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, as P	0.058	0.003	mg/L	0.5	11/03/20	MI	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

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Phyllis Shiller

Phyllis Shiller, Laboratory Director
November 05, 2020
Reviewed and Released by: Rashmi Makol, Project Manager

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 05, 2020

FOR: Attn: Allen Tevyaw
Fuss & O'Neill, Inc.
Foundry Corporate Office Center
317 Iron Horse Way, Suite 204
Providence, RI 02908

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:	MS	10/29/20	11:21
Location Code:	F&O-RI	Received by:	LB	11/03/20	13:22
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	20170900.B10				

Laboratory Data

SDG ID: GCH07876
Phoenix ID: CH07880

Project ID: SPECTACLE POND CRANSTON, RI
Client ID: 1603201029-05

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, as P	0.143	0.003	mg/L	0.5	11/03/20	MI	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

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Phyllis Shiller

Phyllis Shiller, Laboratory Director
November 05, 2020
Reviewed and Released by: Rashmi Makol, Project Manager

PHOENIX

Environmental Laboratories, Inc.
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Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 05, 2020

FOR: Attn: Allen Tevyaw
Fuss & O'Neill, Inc.
Foundry Corporate Office Center
317 Iron Horse Way, Suite 204
Providence, RI 02908

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:	MS	10/29/20	11:32
Location Code:	F&O-RI	Received by:	LB	11/03/20	13:22
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	20170900.B10				

Laboratory Data

SDG ID: GCH07876
Phoenix ID: CH07881

Project ID: SPECTACLE POND CRANSTON, RI
Client ID: 1603201029-06

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, as P	0.122	0.003	mg/L	0.5	11/03/20	MI	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

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Phyllis Shiller

Phyllis Shiller, Laboratory Director
November 05, 2020
Reviewed and Released by: Rashmi Makol, Project Manager

PHOENIX

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Analysis Report

November 05, 2020

FOR: Attn: Allen Tevyaw
Fuss & O'Neill, Inc.
Foundry Corporate Office Center
317 Iron Horse Way, Suite 204
Providence, RI 02908

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:	MS	10/29/20	12:02
Location Code:	F&O-RI	Received by:	LB	11/03/20	13:22
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	20170900.B10				

Laboratory Data

SDG ID: GCH07876
Phoenix ID: CH07882

Project ID: SPECTACLE POND CRANSTON, RI
Client ID: 1603201029-07

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, as P	0.053	0.003	mg/L	0.5	11/03/20	MI	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

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Phyllis Shiller

Phyllis Shiller, Laboratory Director
November 05, 2020
Reviewed and Released by: Rashmi Makol, Project Manager

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 05, 2020

FOR: Attn: Allen Tevyaw
Fuss & O'Neill, Inc.
Foundry Corporate Office Center
317 Iron Horse Way, Suite 204
Providence, RI 02908

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:	MS	10/29/20	12:11
Location Code:	F&O-RI	Received by:	LB	11/03/20	13:22
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	20170900.B10				

Laboratory Data

SDG ID: GCH07876
Phoenix ID: CH07883

Project ID: SPECTACLE POND CRANSTON, RI
Client ID: 1603201029-08

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, as P	0.192	0.003	mg/L	0.5	11/04/20	JR	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

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Phyllis Shiller

Phyllis Shiller, Laboratory Director
November 05, 2020
Reviewed and Released by: Rashmi Makol, Project Manager

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 05, 2020

FOR: Attn: Allen Tevyaw
Fuss & O'Neill, Inc.
Foundry Corporate Office Center
317 Iron Horse Way, Suite 204
Providence, RI 02908

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:	MS	10/29/20	12:15
Location Code:	F&O-RI	Received by:	LB	11/03/20	13:22
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	20170900.B10				

Laboratory Data

SDG ID: GCH07876
Phoenix ID: CH07884

Project ID: SPECTACLE POND CRANSTON, RI
Client ID: 1603201029-09

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, as P	0.216	0.003	mg/L	0.5	11/04/20	JR	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

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Phyllis Shiller

Phyllis Shiller, Laboratory Director
November 05, 2020
Reviewed and Released by: Rashmi Makol, Project Manager

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 05, 2020

FOR: Attn: Allen Tevyaw
Fuss & O'Neill, Inc.
Foundry Corporate Office Center
317 Iron Horse Way, Suite 204
Providence, RI 02908

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:	MS	10/29/20	12:33
Location Code:	F&O-RI	Received by:	LB	11/03/20	13:22
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	20170900.B10				

Laboratory Data

SDG ID: GCH07876
Phoenix ID: CH07885

Project ID: SPECTACLE POND CRANSTON, RI
Client ID: 1603201029-10

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, as P	3.41	0.063	mg/L	13	11/04/20	JR	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

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Phyllis Shiller

Phyllis Shiller, Laboratory Director
November 05, 2020
Reviewed and Released by: Rashmi Makol, Project Manager

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 05, 2020

FOR: Attn: Allen Tevyaw
Fuss & O'Neill, Inc.
Foundry Corporate Office Center
317 Iron Horse Way, Suite 204
Providence, RI 02908

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:	MS	10/29/20	14:35
Location Code:	F&O-RI	Received by:	LB	11/03/20	13:22
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	20170900.B10				

Laboratory Data

SDG ID: GCH07876
Phoenix ID: CH07886

Project ID: SPECTACLE POND CRANSTON, RI
Client ID: 1603201029-11

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, as P	0.069	0.003	mg/L	0.5	11/04/20	JR	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

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Phyllis Shiller

Phyllis Shiller, Laboratory Director
November 05, 2020
Reviewed and Released by: Rashmi Makol, Project Manager

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 05, 2020

FOR: Attn: Allen Tevyaw
Fuss & O'Neill, Inc.
Foundry Corporate Office Center
317 Iron Horse Way, Suite 204
Providence, RI 02908

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:	MS	10/29/20	14:47
Location Code:	F&O-RI	Received by:	LB	11/03/20	13:22
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	20170900.B10				

Laboratory Data

SDG ID: GCH07876
Phoenix ID: CH07887

Project ID: SPECTACLE POND CRANSTON, RI
Client ID: 1603201029-12

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, as P	0.095	0.003	mg/L	0.5	11/04/20	JR	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller

Phyllis Shiller, Laboratory Director
November 05, 2020
Reviewed and Released by: Rashmi Makol, Project Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 05, 2020

FOR: Attn: Allen Tevyaw
Fuss & O'Neill, Inc.
Foundry Corporate Office Center
317 Iron Horse Way, Suite 204
Providence, RI 02908

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:	MS	10/29/20	14:52
Location Code:	F&O-RI	Received by:	LB	11/03/20	13:22
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	20170900.B10				

Laboratory Data

SDG ID: GCH07876
Phoenix ID: CH07888

Project ID: SPECTACLE POND CRANSTON, RI
Client ID: 1603201029-13

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, as P	0.066	0.003	mg/L	0.5	11/04/20	JR	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller

Phyllis Shiller, Laboratory Director
November 05, 2020
Reviewed and Released by: Rashmi Makol, Project Manager

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

QA/QC Report

November 05, 2020

QA/QC Data

SDG I.D.: GCH07876

Parameter	Blank	Blk RL	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 551964 (mg/L), QC Sample No: CH07851 (CH07876, CH07877, CH07878, CH07879, CH07880, CH07881, CH07882)													
Phosphorus, as P	BRL	0.01	5.82	5.78	0.70	99.2			97.3			85 - 115	20
Comment:													
Additional criteria matrix spike acceptance range is 75-125%.													
QA/QC Batch 552065 (mg/L), QC Sample No: CH07994 (CH07888)													
Phosphorus, as P	BRL	0.01	4.65	4.67	0.40	101			103			85 - 115	20
Comment:													
Additional criteria matrix spike acceptance range is 75-125%.													
QA/QC Batch 552063 (mg/L), QC Sample No: CH08313 (CH07883, CH07884, CH07885, CH07886, CH07887)													
Phosphorus, as P	BRL	0.01	7.63	7.51	1.60	99.8			94.9			85 - 115	20
Comment:													
Additional criteria matrix spike acceptance range is 75-125%.													

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

RPD - Relative Percent Difference
LCS - Laboratory Control Sample
LCSD - Laboratory Control Sample Duplicate
MS - Matrix Spike
MS Dup - Matrix Spike Duplicate
NC - No Criteria
Intf - Interference

Phyllis Shiller, Laboratory Director
November 05, 2020

Thursday, November 05, 2020

Criteria: None

State: RI

Sample Criteria Exceedances Report

GCH07876 - FO-RI

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units

*** No Data to Display ***

Phoenix Laboratories does not assume responsibility for the data contained in this exceedance report. It is provided as an additional tool to identify requested criteria exceedences. All efforts are made to ensure the accuracy of the data (obtained from appropriate agencies). A lack of exceedence information does not necessarily suggest conformance to the criteria. It is ultimately the site professional's responsibility to determine appropriate compliance.

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Analysis Comments

November 05, 2020 SDG I.D.: GCH07876

The following analysis comments are made regarding exceptions to criteria not already noted in the Analysis Report or QA/QC Report: None.

FUSS & O'NEILL
(860) 646-2469 • www.FandO.com

☐ 146 Hartford Road, Manchester, CT 06040
☐ 56 Quarry Road, Trumbull, CT 06611
☒ 317 Iron Horse Way, Suite 204, Providence, RI 02908
☐ 1550 Main Street, Suite 400, Springfield, MA 01103
☐ 108 Myrtle Street, Suite 502, Quincy, MA 02171
☐ 540 North Commercial Street, Manchester, NH 03101
☐ 276 Newport Road, New London, NH 03257
☐ 205 Billings Farm Road, Suite 6B, White River Junction, VT 05001
☐ 5 Fletcher Street, Suite 1, Kennebunk, ME 04043
☐ 23046 Avenida de la Carlota, Suite 600, Laguna Hills, CA 92653
☐ Other ____

WCIP 2.2

CHAIN-OF-CUSTODY RECORD 43500

Turnaround
☐ 24-Hour* ☐ 72-Hour* ☐ Other ____ (days)
☐ 48-Hour* ☒ Standard (____ days) *Surcharge Applies

PROJECT NAME	PROJECT LOCATION	PROJECT NUMBER	LABORATORY
SPECTACLE POND	CRANSTON, RI	20170900.B10	PHOENIX

REPORT TO: ALLEN TEVYAW (atevyaw@fando.com)
INVOICE TO: " "
P.O. NO.: 1603 20170900.B10
Sampler's Signature: Muell Seye Date: 10/29/20

Source Codes:
MW=Monitoring Well PW=Potable Water T=Treatment Facility S=Soil B=Sediment
SW=Surface Water ST=Stormwater W=Waste A=Air C=Concrete
X=Other ____

Analysis Request: TOTAL PHOSPHORUS (SM 4500)

Containers: Soil VOA Vial, ☐ methanol; Soil VOA Vial, ☐ water; Glass Soil Container ( ) oz ☐ $Na(SO_4)_2$; Other; Other; Water VOA Vial, ☐ As is ☐ HCl; Glass Amber ( ) ml, ☐ As is ☐ H_2SO_4; Plastic - As is, ☐ 250 ml ☐ 500 ☐ 1000 ml; Plastic - H_2SO_4, ☐ 250 ml ☐ 500 ml; Plastic - HNO_3, 250 ml ☐ Filtered ☐ 0.45μ ☐ 10μ; Plastic - NaOH, 250 ml

Item No.	Transfer Check 1	2	3	4	Sample Number	Source Code	Date Sampled	Time Sampled	TOTAL PHOSPHORUS (SM 4500)	Plastic - H_2SO_4	Comments
1					1603201029 - 01	SW	10/29/20	0942	X	1	07876
2					- 02			0950	X	1	07877
3					- 03			1018	X	1	07878
4					- 04			1052	X	1	07879
5					-05			1121	X	1	07880
6					-06			1132	X	1	07881
7					-07			1202	X	1	07882
8					-08			1211	X	1	07883
9					-09			1215	X	1	07884
10					-10			1233	X	1	07885

Transfer Number	Relinquished By	Accepted By	Date	Time
1	Muell Seye	FOO FRIDGE	10/29/20	1630
2	[signature]	[signature]	11/3	1125
3	[signature]		11/3	1322
4				

Charge Exceptions: ☐ CT Tax Exempt ☐ QA/QC ☐ Other ____
____ Duplicates ____ Blanks (Item Nos:)

Reporting and Detection Limit Requirements: ☐ RCP Deliverables ☐ MCP CAM Cert.
TOTAL PHOSPHORUS: 0.008 mg/L

Additional Comments:

FUSS & O'NEILL
(860) 646-2469 • www.FandO.com

☐ 146 Hartford Road, Manchester, CT 06040
☐ 56 Quarry Road, Trumbull, CT 06611
☐ 1419 Richland Street, Columbia, SC 29201
☐ 78 Interstate Drive, West Springfield, MA 01089
☑ 317 Iron Horse Way, Suite 204, Providence, RI 02908
☐ 80 Washington Street, Suite 301, Poughkeepsie, NY
☐ Other ____________

WCIP
2.2

CHAIN-OF-CUSTODY RECORD 37101

Turnaround
☐ 24-Hour* ☐ 72-Hour* ☐ Other ______ (days)
☐ 48-Hour* ☑ Standard (____ days) *Surcharge Applies

PROJECT NAME	PROJECT LOCATION	PROJECT NUMBER	LABORATORY
SPECTACLE POND	CRANSTON, RI	20170960.B10	PHOENIX

REPORT TO: ALLEN TEVYAW (atevyaw@fando.com)
INVOICE TO: "
P.O. NO.: 16032017090.B10
Sampler's Signature: Mull Szyn Date: 10/29/20

Source Codes:
MW=Monitoring Well PW=Potable Water T=Treatment Facility S=Soil B=Sediment
SW=Surface Water ST=Stormwater W=Waste A=Air C=Concrete
X=Other ____________

Analysis Request — Containers

Item No.	Transfer Check 1	2	3	4	Sample Number	Source Code	Date Sampled	Time Sampled	TOTAL PHOSPHORUS (SM 4500)	Soil VOA Vial, ☐ methanol	Soil VOA Vial, ☐ water	Glass Soil Container ( ) oz ☐ Na(SO4)2	Other:	Other:	Water VOA Vial, ☐ As is ☐ HCl	Glass Amber ( ) ml, ☐ As is ☐ H2SO4	Plastic - As is, ☐ 250 ml ☐ 500 ☐ 1000 ml	Plastic - H2SO4, ☐ 250 ml ☐ 500 ml	Plastic - HNO3, 250 ml ☐ Filtered ☐ 0.45µ ☐ 10µ	Plastic - NaOH, 250 ml	Comments
11					1603201029- 11	SW	10/29/20	1435	X								1				07886
12					- 12	↓	↓	1447	X								1				07887
13					- 13	↓	↓	1452	X								1				07888

Transfer Number	Relinquished By	Accepted By	Date	Time
1	Mull Szyn	F+O FRIDGE	10/29/20	1630
2	Lisa [signature]	[signature]	11/3	1125
3	[signature]		11/3	1322
4				

Charge Exceptions: ☐ CT Tax Exempt ☐ QA/QC ☐ Other ________
____ Duplicates ____ Blanks (Item Nos:)

Reporting and Detection Limit Requirements: ☐ RCP Deliverables ☐ MCP CAM Cert.

Additional Comments:

FUSS & O'NEILL

800.286.2469
www.fando.com

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