

# SEMI-ANNUAL REPORT FY 2024

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HRSD  
1434 Air Rail Avenue  
Virginia Beach, VA 23455

April 30, 2024

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## 1. INTRODUCTION AND PURPOSE

On February 23, 2010, HRSD entered into an Amended Consent Decree (“Consent Decree”) with the United States of America and the Commonwealth of Virginia for the purpose of fulfilling the objectives of the Clean Water Act and the Virginia State Water Control Law. This Consent Decree has been amended six times by agreement of all parties in 2011, 2013, 2014, 2017, 2022, and 2024. The Fifth Amendment outlines the approved Integrated Plan, which was signed by the Hon. Arenda L. Wright Allen on February 8, 2022. In December 2014, the Special Order by Consent (SOC) with the DEQ and thirteen localities was modified and HRSD is no longer part of that order.

The approved Integrated Plan requires HRSD to perform, among other things, the following tasks:

- Implement a flow, pressure, and rainfall monitoring program;
- Coordinate with the Localities to develop a Regional Hydraulic Model;
- Prepare a plan for and conduct a condition assessment program;
- Construct specified interim system improvements;
- Develop and implement a Sanitary Sewer Overflow (SSO) Response Plan;
- Develop a Regional Wet Weather Management Plan in consultation with the Localities;
- Update and implement a Management, Operations and Maintenance (MOM) Program; and
- Prepare and submit a variety of periodic and event-driven reports
- Rehabilitation Action Plan projects
- High Priority Projects
- Aquifer Replenishment Program (ARP) also known as SWIFT
- Microbial Source Tracking

This Semi-Annual Report is submitted pursuant to Section XVII of the Consent Decree. HRSD has prepared this Semi-Annual Report in accordance with the above requirements to apprise the EPA (representing the United States of America) and the DEQ (representing the Commonwealth of Virginia) of steps taken toward meeting the obligations of the Consent Decree. Specifically, this Semi-Annual Report summarizes the work and activities undertaken by HRSD from July 1, 2023, through December 31, 2023, and the planned work for the remainder of FY 2024.

## 2. MAJOR COMPLIANCE ACHIEVEMENTS

### 2.1 Flow, Pressure, and Rainfall Monitoring Program

#### 2.1.1 Ongoing System Monitoring

Following completion of the Consent Decree required 12-month flow, pressure, and rainfall monitoring period on March 11, 2011, HRSD continues to maintain a wide-scale monitoring network. Regular manual data review has been conducted and unreliable data has been flagged in the system. In the first six months of FY 2024, HRSD has added or removed the following meters:

Site	Location	Measurement	Added/ Removed
MMPS-024	Kingsmill PS	Flow	Added
MMPS-020-2	Center Ave PCV	Pressure	Added
MMPS-031	Robin Hood Rd PS	Flow	Added
MMPS-020	Center Ave Discharge at North Ave	Pressure	Removed

A portal to allow access for the Localities to the HRSD flow, pressure, and rainfall data from the FPR sites was developed and implemented in February 2009 and continues to be used and enhanced. In addition, a data historian has been installed and is being used to store and view HRSD FPR data.

### 2.2 Condition Assessment Plan

#### 2.2.1 Implementation of the Condition Assessment Plan

##### 2.2.1.1 Condition Assessment Field Activities

HRSD has completed all Consent Decree required Condition Assessment Field Activities per the Preliminary Condition Assessment Report prior to the completion milestone of October 31, 2013. See Section 4 of this report for details on the Condition Assessment Field Activities.

##### 2.2.1.2 Prompt Repairs

HRSD continues to implement a program to identify and address HRSD’s collection system infrastructure deficiencies found during the course of condition assessment field activities that require prompt attention (as defined in the approved Condition Assessment Plan). Defects are evaluated to determine if they:

- Pose an immediate threat to the environment;
- Pose an imminent threat to the health and safety of the public;
- Create operational problems that may result in SSOs; or
- Contribute to substantial inflow to the system.

If such a defect is identified through the inspection process, it is assessed to determine the appropriate repair necessary. See Section 4 of this report for details on the Condition Assessment Program Prompt Repair status.

## 2.2.2 Rehabilitation Action Plan Implementation

The approved Rehabilitation Action Plan contains 67 projects to be completed in three phases. Table 2-1 shows the status of the Plan phases through December 31, 2023. One project in Phase 1 (CE-R3) and one in Phase 2 (GN-R11) were cancelled with EPA/DEQ approval and reduces the total to 65 projects. Additionally, VIP-R6 was moved from Phase 1 to Phase 2 on April 7, 2020.

Table 2-1. Rehabilitation Action Plan Phase Status

Phase	Number of Projects Completed	Total Number of Projects	Estimated Cost of Completed Projects	Estimated Total Cost of All Projects in Phase
0	10	10	\$28,178,596	\$28,178,596
1	19	19	\$76,646,832	\$76,646,832
2	3	36	\$7,905,713	\$367,120,551

Projects completed this period are included in Appendix A project certifications and are as follows:

- None

## 2.3 Interim System Improvements (ISI)

Appendix 5 to the Consent Decree lists thirty-three projects that are required to be completed within 8 years of the Date of Entry of the Consent Decree. The modification to the Consent Decree in FY 2013 has added eighteen (18) new projects for a total of fifty-one (51). Modification No. 3 which was entered by the court in August 2014 added two (2) projects and removed eight (8), leaving a total of forty-five (45) Interim System Improvement projects. HRSD has completed all of these projects.

## 2.4 Management, Operations, and Maintenance (MOM) Program

### 2.4.1 Implementation of MOM Program

HRSD continues to implement its MOM Program. This includes details pertaining to management, operations, and maintenance of nearly all aspects of HRSD's system, including quantitative performance measures, implementation of continuous improvement initiatives, and special programs coordinated in the region such as the HR FOG.

Per the Consent Decree, HRSD is required to perform an initial audit and evaluation of their Management, Operations, and Maintenance (MOM) Program "one year after approval of the Regional Wet Weather Management Plan (RWWMP) and every three years thereafter, to evaluate any changes and/or deficiencies in the MOM Program and steps to respond to them. Revisions, as appropriate, will be made as the results of the audit and evaluation and other circumstances indicate".

HRSD has met and exceeded this requirement. HRSD staff meet at least semi-annually to audit and review the MOM metrics to ensure that we are meeting or exceeding our targets. In addition, HRSD updated its MOM program on July 1, 2021. HRSD is reviewing the current MOM program with staff, and will provide an update to the MOM program July 1, 2024. At that time, any metric adjustments will be made.

## 2.4.2 Quantitative Performance Measures

The revised MOM Program, approved on September 27, 2011, included many performance measures to help HRSD understand the performance of program elements. Paragraph 34 of the Consent Decree established a list of six specific measures that are subject to stipulated penalties, including: gravity sewer main inspection, air release valve preventative maintenance, gravity sewer cleaning, pumping station annual preventative maintenance, back-up generator annual preventative maintenance, and non-invasive force main inspection near drinking water supply reservoirs. Work has continued to implement and track these performance measures and the results will be presented in the FY 2024 Annual Report. HRSD is on track to meet or exceed all the performance measures identified in Paragraph 34 of the Consent Decree.

## 2.5 Regional Wet Weather Management Plan

HRSD submitted an updated Regional Wet Weather Management Plan (RWWMP) on June 29, 2020. The fifth amendment to the Consent Decree, that incorporated the RWWMP, was approved by the court on February 8, 2022. The RWWMP features an Adaptive Regional Plan (ARP) comprising of four phases. Phase 1 includes the \$700 million that HRSD will spend by 2025 in Interim System Improvements, Rehab Action Plan projects, Condition Assessment (including prompt repairs), and planning associated with development of the RWWMP Plan. Phase 2 includes the \$214 million in Round 1 High-Priority Projects, and \$10 million Microbial Source Tracking Program. Phase 3 consists of an additional \$196 million in Round 2 High-Priority Projects and \$10 million for the continued Microbial Source Tracking Program. Phase 4 is a performance assessment upon completion of the work in Phases 2 and 3. This analysis will take place between 2040 and 2043 and will culminate in submittal of a Performance Assessment for the review and approval of EPA and DEQ by March 31, 2043. The High-Priority Projects will reduce SSO volume during the 5-year peak flow event by 69%. The fifth amendment includes the schedule for wastewater system improvements that accommodates the Aquifer Replenishment Program (ARP) program. HRSD is planning on investing over \$1.1 billion by 2032 on the ARP program. The RWWMP provides for the ARP to be implemented through 2032. Finally, the RWWMP provides that if HRSD truncates or abandons the ARP prior to 2032 then EPA can require HRSD to accelerate spending on the RWWMP to offset the avoided investment in the ARP program. HRSD continues to evaluate the most optimal approach to implementing the ARP program given HRSD's financial constraints, evolving regulatory requirements, and the unprecedented inflationary pressures we are experiencing. The sixth modification to the Consent Decree provides non-material schedule extensions, streamlined data purging, refined scope adjustments, revised inspection procedures, and new sequencing of High Priority Projects which collectively demonstrate HRSD's commitment to delivering environmental benefits for the region at the best value.

### 2.5.1 RWWMP Progress

Phase I progress is described in Table 2-1.

Phase II progress includes microbial source tracking efforts and the initiation of some Round 1 HPP projects.

Phase III progress includes the initiation of a Round 2 HPP project.

Phase IV is scheduled to commence in 2040.

The Aquifer Replenishment Program (ARP) consists of multiple HRSD Sustainable Water Initiative For Tomorrow (SWIFT) projects. The James River SWIFT Facility, James River Treatment Plant Advanced Nutrient Reduction Improvements, Nansemond Treatment Plant Advanced Nutrient Reduction Improvements, and the Nansemond SWIFT Facility projects are in the construction phase.

## SSO Emergency Response Plan

The annual review of the approved Sanitary Sewer Overflow (SSO) Response Plan to the EPA and DEQ is underway. Any resulting changes to the Plan will be submitted to the EPA/DEQ. The previously approved plan continues to be implemented by HRSD and is posted to the [www.HRSD.com](http://www.HRSD.com) website.

### 2.6 Coordination with Localities

There was a wide variety of coordination activities in the first half of FY 2024 amongst HRSD and the localities. These activities included:

- One Capacity Team Meeting was held with the Localities to review progress;
- HRSD.com continues to be updated to provide documents to the regional Capacity Team; and,
- Copies of the Quarterly Reports and Annual Report were provided from HRSD to the Localities on the HRSD.com website.

### 2.7 Public Participation

HRSD held its annual information meeting on January 23, 2024 and published a newsletter during the month of February, 2024. Information and approved plans continue to be posted to HRSD’s website, which is accessible to the public.

### 2.8 Post-RWWMP Implementation Monitoring and Performance Assessment

No action has been performed for this item as it is a later requirement of the Consent Decree.

### 2.9 Reporting

#### 2.9.1 Annual Report

HRSD completed an FY 2023 Annual Report as required by the Consent Decree, and submitted it to the EPA and DEQ on October 30, 2023.

#### 2.9.2 Quarterly Reports

HRSD completed two Quarterly Reports as required by the Consent Decree, and submitted them to the EPA and DEQ on November 28, 2023 and March 7, 2024.

### 2.10 Summary of Submittals

Table 2-3 summarizes the status of the documentation that HRSD has submitted to the EPA and DEQ under the Consent Decree in the first half of FY 2024.

Consent Decree Submittal	Submittal Date
FY2023 Annual Report	October 30, 2023
FY 2024 Quarterly Report 1	November 28, 2023
FY 2024 Quarterly Report 2	March 4, 2024

### 3. COMPLIANCE DEADLINES AND MILESTONES

In the first half of FY 2024, all deliverables were submitted on or before their due dates and all milestones were met.

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## 4. CONDITION ASSESSMENT ACTIVITIES

HRSD has continued with its Condition Assessment Program as required by Section VII, Paragraph 25 of the Consent Decree, in FY 2024 with significant progress made in many aspects of the program. The following subsections describe the progress made in each aspect.

### 4.1 Gravity Main

All gravity sewer main inspections were completed by the November 2011 milestone.

### 4.2 Force Main

All force main inspections were completed by the October 2013 milestone.

### 4.3 Pumping Facilities

All pump station inspection work was completed by the November 2011 schedule deadline.

### 4.4 Prompt Repairs

Through the Condition Assessment Program, HRSD has identified 85 defects in the HRSD sanitary sewer system (primarily gravity sewer pipe and manholes) which have been deemed to be Prompt Repairs. These defects have been grouped into larger repair work orders and are currently in various stages of planning, design, or construction. Eighty-one (81) have been completed. The following Table 4-1 provides details on all known Prompt Repairs as of December 31, 2023.

Table 4-1. Summary of Prompt Repairs						
Name	Location	Jurisdiction	Line Number	Summary of defect	Number of Defects	Status
<b>41st Street</b>	41st Street east of intersection with Jefferson Ave; between MHs NG-112-12175 and NG-112-11783	Hampton	NG-112	Pipe lining failure	1	Complete
<b>Beach Road</b>	West side of Beach Road opposite intersection with Wade Road between MH NG-088-0 and NG-088-155.	Hampton	NG-088	Pipe connection at manhole needs repair	1	Complete
<b>Beach Road</b>	West side of Beach Rd. between intersection with Bonneville Dr. and Catalina Drive between MH NG-088-1654 and NG-088-1863	Hampton	NG-088	Lateral connection to mainline needs repair	4	Complete

Table 4-1. Summary of Prompt Repairs

Name	Location	Jurisdiction	Line Number	Summary of defect	Number of Defects	Status
	Approximately in front of 112 Beach Rd between MH NG-088-0636 and NG-088-0970	Hampton	NG-088	Mainline pipe defects		
	Beach Rd. approximately 170 ft. south of Wade Rd. intersection	Hampton	NG-088	Manhole defects		
	West side of Beach Road opposite intersection with Hall Road. Between MHs NG-088-1260 and NG-088-1316	Hampton	NG-088	Mainline punctured by another utility directional drilling		
Various Manholes	North King St.	Hampton	NG-078	Manhole defects	3	Complete
	E. Pembroke Ave. at Washington St.	Hampton	NG-084	Manhole defects		
	Bainbridge Blvd. between Beech St. and Wilton St.	Norfolk	SG-153	Manhole defects		
Jefferson Ave	Jefferson Ave. between 40th St and 41st St	Newport News	NG-114	Mainline pipe defects	2	Complete
	Jefferson Ave between 39th and 40th St	Newport News	NG-114	Mainline pipe defects		
Newtown Road	Newtown Rd. at Virginia Beach Blvd (ne corner of intersection)	Virginia Beach	SG-112	Manhole defects and mainline pipe defects	3	Complete
	Newtown Rd. approx. 415 ft. north of Princess Anne Rd.	Virginia Beach	SG-113	Manhole defects		
	Newtown Rd. at Elam Ave.	Virginia Beach	SG-113	Manhole defects		
Mercury Blvd	West Mercury Blvd	Hampton	NG-099	Mainline pipe defects	3	Complete
	West Mercury Blvd	Hampton	NG-057	Mainline pipe defects		
	West Mercury Blvd; near Beechwood Rd.	Hampton	NG-057	Mainline pipe defects		
Various Repairs	North Hope Street	Hampton	NG-160	Pipe lining failure	3	Complete
	Old Atlantic Avenue; near intersection with Liberty Street	Chesapeake	SG-148	Pipe lining failure		
	South of Steamboat Creek PS	Norfolk	SG-102	Manhole defects		

Table 4-1. Summary of Prompt Repairs

Name	Location	Jurisdiction	Line Number	Summary of defect	Number of Defects	Status
Witchduck	South Witchduck Road	Virginia Beach	SF-141	Corroded FM bolts	1	Complete
Pin Oak Rd	Pin Oak Road; Residential neighborhood	Newport News	NG-175	Mainline Pipe Defects	1	Complete
Bainbridge Blvd	Bainbridge Blvd near I-464	Norfolk	SG-145	Mainline Pipe Defects	2	Complete
	Bainbridge Blvd near I-464 just upstream of PS	Norfolk	SG-145	Mainline Pipe Defects		
Shell Rd - Hampton	Shell Road	Hampton	NG-141	Mainline Pipe Defects	2	Complete
	Harris Creek Road	Hampton	NG-086	Mainline Pipe Defects		
Pearl Street	Pearl Street near Ligon Street near I-464/I-262 Interchange	Norfolk	SG-202	Mainline Pipe Defects	2	Complete
	Pearl Street near Ligon Street near I-464/I-262 Interchange	Norfolk	SG-202	Mainline Pipe Defects		
Deep Creek	Deep Creek force main on suction side of Deep Creek PRS	Chesapeake	SF-143	FM defects	1	Complete
Wythe Lagoon	Wythe Lagoon Siphon	Hampton	NG-151	Siphon defects	1	Complete
Pump Station Hatches	Ingleside Road Pump Station	Norfolk	PS#148	Wet Well Hatch	1	Complete
Pump Station Wet Wells	Rodman Ave Pump Station Wet Well	Portsmouth	PS#145	Wet Well Defects	1	Complete
Luxemburg Ave	Influent line to Luxemburg Avenue pump station.	Norfolk	SPS-113	Defect at manhole connection	1	Complete
Gowrie and Farragut	Manhole near creek at end of Gowrie Avenue	Norfolk	SG-068	Manhole defects	2	Complete
	Manhole near creek at end of Farragut Avenue	Norfolk	SG-068	Manhole defects		
Shipyard Sewer	Outside of 33 <sup>rd</sup> street Pump Station	Newport News	33 <sup>rd</sup> Street	Mainline pipe defects	3	33 <sup>rd</sup> Street and 31 <sup>st</sup> Street repairs have been completed. The remaining project is in construction.
	31 <sup>st</sup> Street	Newport News	31 <sup>st</sup> Street	Mainline pipe defects		
	38 <sup>th</sup> Street	Newport News	38 <sup>th</sup> Street	Mainline pipe defects		
Chesterfield Blvd	Gravity influent to Chesterfield PS	Norfolk	SG-207	Mainline pipe defects	2	Complete
	Gravity influent to Chesterfield PS	Norfolk	SG-207	Mainline pipe defects		
State Street FM	Force main at State St Pump Station	Norfolk	SF-097	Thin wall	1	Complete
Berkley Avenue	Manholes on Berkley Avenue	Norfolk	SG-098	Manhole defects	2	Complete

Table 4-1. Summary of Prompt Repairs

Name	Location	Jurisdiction	Line Number	Summary of defect	Number of Defects	Status
	Manholes on Berkley Avenue	Norfolk	SG-098	Manhole defects		
Newmarket Creek	Orcutt Avenue and Paul street at influent to Newmarket Creek PS	Newport News	NG-127	Manhole Defects	2	Complete
	Orcutt Avenue and Paul street at influent to Newmarket Creek PS	Newport News	NG-127	Pipeline defects		
Laskin Road	Laskin Road Force Main	Virginia Beach	SF-135	Hit by third party	1	Complete
Elizabeth River	East side of Elizabeth River Crossing	Chesapeake	SF-143	Thin wall	1	Complete
14 <sup>th</sup> Street	Manhole at Jefferson Ave and 14 <sup>th</sup> street	Newport News	NG-130X	Manhole Defect	1	Complete
Army Base	Baker Street and Hampton Blvd	Norfolk	SF-003	Pipeline defect	1	Complete
Mercury and Orcutt Intersection	W Mercury Blvd	Hampton	NG-127	Manhole Defect	1	Complete
Claremont Avenue Discharge	Harbor Lane and 14 <sup>th</sup> Street	Newport News	NG-130	Pipeline Defect	1	Complete
Boat Harbor Outlet	Jefferson Avenue and 25 <sup>th</sup> Street	Newport News	NG-169	Pipeline Defect	1	Complete
Hickman Branch	Factory Street	Portsmouth	SG-193	Pipeline Defect	1	Complete
Terminal Avenue	Terminal Avenue	Newport News	NG-125	Pipeline Defect	1	Complete
Swannanoa and Summerset	Intersection of Swannanoa Drive and Summerset Drive	Portsmouth	SF-206	Pipeline Defect	1	Complete
Orcutt Avenue Liner	Orcutt Avenue and 79 <sup>th</sup> Street	Hampton / Newport News	NG-127	Pipeline Defect	1	Complete
Bay Shore Lane	Bay Shore Lane	Hampton	NG-095	Manhole Defects	7	Complete
Warwick Blvd	Warwick Blvd	Newport News	NG-130	Pipeline Defect	1	Complete
Warwick and Woodhaven	Warwick Blvd to Thorncliff Drive	Newport News	NF-015	Pipeline Defect	1	Complete
Woodland Avenue	Woodland Avenue and Ballentine Blvd	Norfolk	SG-089	Manhole Defects	6	Complete
Indian River Road	Indian River Road near Campostella	Norfolk	SF-106	Pipeline Defect	1	Complete
Powhatan Ave	Powhatan Ave	Norfolk	SG-044	Manhole Defect	1	Complete

Table 4-1. Summary of Prompt Repairs

Name	Location	Jurisdiction	Line Number	Summary of defect	Number of Defects	Status
Euclid Road	Euclid Road and Southern Blvd	Virginia Beach	SF-197	Pipeline Defect	1	Complete
Dovercourt Road	Dovercourt Road	Norfolk	SPS-108	Manhole Defect	1	Complete
Beach Road South	Beach Road between Catalina Drive and Westlawn Drive	Hampton	NG-088	Pipeline Defect	1	Complete
Hampton Institute	Hampton Institute Pump Station	Hampton	NPS-211	Pipeline Defect	1	In Construction
Portsmouth Blvd	Portsmouth Blvd	Newport News	NG-125	Pipeline Defect	1	Complete
Boat Harbor Influent	Terminal Avenue Junction Box	Newport News	NG-125	Pipeline Defect	1	Complete
Mercury/Big Bethel Manhole	Intersection of Mercury Blvd. and Big Bethel Road	Hampton	NG-057	Manhole Defect	1	Complete
Berkley Trunk Sewer Section S	State Street	Norfolk	SG-202	Pipeline Defect	1	Complete
Copeland PS Discharge FM	Copeland Pump Station	Newport News	NF-113-2539, NF-113-93255 to vault	Corroded appurtenances on pipeline	1	Complete
Shingle Creek Siphon	Shingle Creek PS	Suffolk	SG-191-21795 to SG-191-21788	Pipe Defect	1	Complete
Western Branch Sewers – State Hwy	APM Terminals Blvd	Portsmouth	SF-038	Force Main blockage	1	Complete
Bainbridge Blvd Gravity Sewer	Bainbridge Blvd & Holly Avenue	Chesapeake	SG-149-4932 to SG-149-4897	Pipe Defect	1	Complete
Shore Drive FM	Shore Dr. / Indian Hill Rd.	Virginia Beach	SF-019	Pipeline / Joint Failure	1	Complete
Great Bridge FM Gate Valve	AT1147-2 Valve Replacement	Chesapeake	SF-178 / AT1147-2	Inoperable valve	1	Complete
JRTP Piping	PC#4 to PC Distribution Chamber	Newport News	PCE (PC#4)	Pipeline Failure	1	Complete
Suffolk FM	Wilroy Rd. / Burnetts Mill Creek Crossing	Suffolk	SF-190	Pipeline Defect	1	Complete
WBTP Piping	PC Splitter Box to PC #1	Williamsburg	PCI (PC#1)	Pipeline Defect	1	Complete

Table 4-1. Summary of Prompt Repairs						
Name	Location	Jurisdiction	Line Number	Summary of defect	Number of Defects	Status
<b>Great Bridge Boulevard FM</b>	Great Bridge Blvd. / Willow Point Arch	Chesapeake	SF-164	Pinhole Leak	1	Complete
<b>JRTP Piping</b>	111 City Farm Road	Newport News	NPW	Segmental Replacement	1	Complete
<b>WBTP Piping</b>	300 Ron Springs Drive	Williamsburg	NPW	Segmental Replacement	1	Complete

It is important to note that some Prompt Repairs were discovered after the FCAR and are being addressed under HRSD's ongoing MOM Program.

## 5. SYSTEM PERFORMANCE

### 5.1 STP Performance

Table 5-1 provides details on the unusual discharges from July 1 to December 31, 2023. Seven of the eleven occurrences were Non-Potable Water (NPW) or fully treated effluent.

### 5.2 HRSD Conveyance System Performance

For the reporting period of July 1 through December 31, 2023, HRSD experienced 5 capacity-related sanitary sewer overflows (SSOs) from its system and 2 releases related to infrastructure. All of these events are detailed in the Sanitary Sewer Overflow Reporting System (SSORS) and a summary is available in Table 5-2.

### 5.3 Capacity Related SSOs

As part of the Third Amended Consent Decree, Paragraph 88.a. requires the Semi-Annual Report to include “a discussion of the cause, significance, and response to any wet weather or capacity related SSO that occurred in the Region [sic] SS System.” As discussed with and accepted by EPA/DEQ, HRSD will provide information related to these events in the Annual Reports rather than the Semi-Annual Reports.

Table 5-1. Detailed Listing of HRSD Treatment Plant Unusual Discharges (July 1 to December 31, 2023)

Date	Location	Description/Cause	Duration of Event (minutes)	Corrective Action	Estimated Quantity Discharged (gallons)	Estimated Quantity to State Waters (gallons)	Type of Overflow	Receiving Water	Comments
7/19/2023	Nansemond	Final effluent pumps were not keeping up with effluent flow due to discharge valves being partially closed. These pumps do not have variable frequency drives and the valves are operated locally to prevent the effluent pumps from emptying the channel and shutting the pump off with a 30 minute lock out on the pump. When the operator reached the pumps to manually open the valve further the channel was already overflowing onto the ground.	10	The discharge valves were opened further to bring the level back down. These issues associated with final effluent pump station operation will be fixed with the ongoing plant expansion project.	1500	1500	Final Effluent (FNE)	Ground	
7/31/2023	James River	A large pile of rock was placed over an eight inch non potable water (NPW) line. A large excavator was then driven onto the pile to load the rock for distribution on the construction site. The weight of the rock and excavator cracked a recently repaired NPW line that was buried below. The broken NPW line resulted in approximately 4,800 gallons of NPW being discharged onto the ground and into the nearby storm drain.	17	Plant NPW system was secured until the repair was made.	4800	4800	Non-Potable Water (NPW)	ground/storm drain	
8/19/2023	Nansemond	During a power outage at SWIFT the drain pump station pumps stopped. Once power was restored they failed to turn back on. Once the drain pump station was completely full it started overflowing. Because of the grading, all spilled water went into the grass area on the back of the SWIFT building into a trough.	0	After the SWIFT Operator arrived onsite they observed that both drain pumps were not running. Immediately after, the operator went outside and noticed the drain pump station had over filled and spilled. Water was not actively still flowing out of the pump station because the processes were offline due to the power outage. We then were able to recover 500gal of the water captured in the trough using a godwin pump, pumping the captured water back to the drain pump station.	2500	2000	Ozonated Effluent Water	ground	
8/28/2023	Williamsburg	During a high flow rain event the bar-screens were secured while the rag and grit dumpster was being changed. The bar-screens quickly blinded and raw influent overflowed the channel and ran down the steps and down a storm drain into the woods.	4	Bar-screens were restarted and the overflow quickly subsided.	2000	2000	Raw Influent (RWI)	ground, James River	

Table 5-1. Detailed Listing of HRSD Treatment Plant Unusual Discharges (July 1 to December 31, 2023)

Date	Location	Description/Cause	Duration of Event (minutes)	Corrective Action	Estimated Quantity Discharged (gallons)	Estimated Quantity to State Waters (gallons)	Type of Overflow	Receiving Water	Comments
8/28/2023	Nansemond	Final Effluent Wet Well Overflowed due to Generator failure during high flow event. The Final Effluent Pump program at Nansemond, which runs primarily during high flow events, calls for Effluent Pumps to run on Generator Power due to lack of supplied power from Dominion. During the rain event on Monday the program started as expected however as flow increased the need for two pumps to run to keep up with flow caused an over current to the on line generator. The next available generator came on line and subsequently failed also, leaving the plant unable to pump. During this time the Final Effluent Wet Well underwent a breach of capacity for approximately 13-14 minutes resulting in a loss of ~18,000 gallons of FNE.	14	All flow was diverted to the Pond until both Generators could be reset and Final Effluent pumps returned to service. Nansemond Plant is currently undergoing construction that will include upgrades to our Final Effluent pumping system that will alleviate this problem in the future.	18000	18000	Final Effluent (FNE)	ground	
10/10/2023	Boat Harbor	Secondary clarifier #5 was filled with Non-Potable Water (NPW) to test the rake arm function last week. Over the weekend the tank lost volume and a maintenance operator noticed water on the back road. Upon inspection fluid was noticed to be flowing out of an expansion joint between secondary #4 and secondary #5. A total of 22" of NPW was lost from the tank.	30	Maintenance operator dug a pit near the leak, placed rubber material in the pit and a sump pump to capture the water as it continues to leak. The tank is being drained from that location to the plant drain system. Once the leak location has been determined, the Condition Assessment group will assist in hiring a contractor to repair the tank.	120735	120735	Non-Potable Water (NPW)	ground, drainage creek from storm drain	
11/2/2023	Nansemond	Contractors dropped a piece of concrete on the discharge line from Centrate tanks, spilling ~600 gallons of centrate onto the ground, none of which was recovered. Contractors were lifting a piece of concrete that buckled under the weight and landed on the discharge piping from the centrate tanks. The pipe was broken before the closest valve in line, so there was no way to secure the spill. The spill was going directly into the rock outside of the excavation for the new PreDewatering building and was unable to be recovered. This resulted in ~600 gallons of centrate being spilled with zero gallons being recovered.	15	Plant Staff and contractors removed a broken section of pipe at a flange and replaced it with a flange that had a valve on it to stop the spill.	600	600	Centrate	Ground	
11/4/2023	Williamsburg	Our Plant Operator noticed water coming out of the road and ground at an intersection on the southwest end the plant at 9:45am while investigating a sudden drop in NPW system pressure. Standby personnel responded but found the leak to be on the main 10" line so they had to shutdown NPW to the plant to stop the leak. The system was shutdown and the leak stopped at 12:30pm. It is estimated that 16,500 gallons of NPW soaked into the ground and ran down storm drains 9 and 10 into Grove Creek.	165	Bridgeman Civil was called out to excavate and repair the 10" cast iron NPW line. The cracked section of line was replaced and NPW flow to the plant was back on at 9:45pm.	16500	16500	Non-Potable Water (NPW)	Ground and Grove Creek	

Table 5-1. Detailed Listing of HRSD Treatment Plant Unusual Discharges (July 1 to December 31, 2023)

Date	Location	Description/Cause	Duration of Event (minutes)	Corrective Action	Estimated Quantity Discharged (gallons)	Estimated Quantity to State Waters (gallons)	Type of Overflow	Receiving Water	Comments
11/7/2023	Nansemond	Plant staff discovered flow discharging from the SRF Reactor #3 drain that has been cut in preparation for the demo of Reactor #3. The plant drain well was overwhelmed with drain flow from AAA Tank #5, causing the overflow at the SRF. The pipe the flow was discharging was 6" PVC pipe and the building sump pumps could not keep up causing some flow to leave the building.	15	Plant Staff contacted LO On-call and were instructed to close down on the drain from AAA Tank #5. The LO reported to NP and evaluated the spill and deemed it non recoverable and sprayed down the interior of the SRF	650	650	NPW w/Struvite	Ground	
11/9/2023	James River	A newly built tank was being filled with non-potable water (NPW) to soak the concrete and test for leaks. It was noticed that the level had dropped more than expected which indicated a potential leak. The contractor excavated down to the influent pipe and found that they had forgotten to put a plug in a 1/2 inch test port. This resulted in ~40,000 gallons of NPW being released into the ground. The contractor does have deep stilling wells with sump pumps to remove ground water from their excavations and those pumps likely conveyed this NPW to a storm water discharge.	37	Contractor excavated down to the pipe and installed a plug.	40000	40000	Non-Potable Water (NPW)	ground to storm drain	
11/14/2023	Nansemond	While Contractors were drilling piles for the new Primary Clarifier Equalization Tank, part of the Anaerobic, Anoxic, Aerobic (AAA) influent channel separated at an expansion joint and began leaking. This caused a mixed liquor leak on both the north and south side of the influent channel which peaked at ~10 gallons per minute on the north and ~5 gallons per minute on the south.	1365	Contractors dug a trench to collect the mixed liquor and pump it back into the AAA channel. Contractors will have to setup bypass pumping to isolate the channel for repair, until this is able to be done, to eliminate / slow the leak, Contractors patched the leaks from the outside with oakum soaked in hydrophobic polyurethane grout.	2930	2930	Mixed Liquor	Ground	

\*NPW (non-potable water) is fully treated and chlorinated final effluent.

Table 5-2. Detailed Listing of HRSD Capacity Related SSOs (July 1 to December 31, 2023)

Date and Time of Incident	Location	Sewer System Component	Potential Receiving Waters	Spilled in Jurisdiction	SSO Classification	Description of Incident from SSORS	SSO Duration	Action Taken and Explanation of SSO	Discharge Quantity	Amount Reaching State Waters	DEQ IR	Comment
7/8/2023 7:35:00 AM	Robin Hood Road and Birch Street	Robin Hood Road PS	Ground	Norfolk	Maintenance-Other	HRSD responded to a low oil alarm. The pump was turned off for maintenance. Once restored and pump put back in service an aluminum clamp failed and the hose came off the pump.	0 hour(s) 0 minute(s)	Additional standby staff responded. Replaced damaged hose. Cleaned up and spread lime. -----July 11, 2023 02:19 PM-----	50	40	SSOR S #2023-T-106297	
8/4/2023 5:44:00 PM	1500 Bainbridge Boulevard	Quick T's Manhole Upstream of Park Avenue PS	Scuffeltown Creek	Chesapeake	Capacity - Weather Related	Heavy rainfall in the area resulted in increased system flows exceeding system capacity. Ferebee Ave PS saw a maximum rainfall of 0.28" in 15 minutes (08/4/23 at 3:30 pm), with a total of 0.50" falling in 1 hour. Total rainfall for the rain event for this rain gauge was 2.44". Overflow was indicated by station alarm at 5:11 pm and occurred at HRSD manhole upstream of the Park Avenue Pump Station. The manhole is located in the parking lot of a local business.	6 hour(s) 36 minute(s)	HRSD staff verified Park Avenue Pump Station was operating properly. At 8am on 8/5/2023, a vaccon was used to remove standing sewage and debris from sidewalk and parking lo. Lime was also applied to affected area. -----August 9, 2023 12:44 PM-----	32,025	31,925	SSOR S #2023-T-106306	
8/5/2023 6:45:00 PM	715 Fairfax Avenue	Colley Avenue PS	Elizabeth River	Norfolk	Infrastructure	Heavy rainfall in the area resulted in increased system flows and high pressures causing the pipe to the Emergency Pump Connection (EPC) behind the station to fail. Sewage was released each time the pumps ran.	0 hour(s) 5 minute(s)	HRSD received a call from the oncall service at 6:11 PM on 8/5/2023 that a spill was reported behind Colley Ave Pump Station. On call staff isolated the station ending the spill, shut valve to the emergency pump connection and turned the station back on. Standby crews pumped sewage from the hole created by the leak and placed lime over the affected area. -----August 9, 2023 10:17 AM-----	200	100	SSOR S #2023-T-106307	
8/28/2023 3:45:00 PM	5734 Chesapeake Boulevard	Chesapeake Boulevard PS	Lafayette River via Wayne Creek	Norfolk	Capacity - Weather Related	Heavy rainfall in the area resulted in increased system flows. The flows exceeded the capacity of the Chesapeake Boulevard Pump Station causing sewage to overflow from this overflow pipe. Chesapeake Boulevard Pump Station saw a maximum rainfall of 1.62" falling in 1 hour; total rainfall for the rain event for this rain gauge was 3.28".	2 hour(s) 5 minute(s)	HRSD staff verified the Chesapeake Boulevard Pump Station was operating properly. Once the rain subsided the pump station was able to pull the levels within the gravity system down enough to stop the overflow. -----September 1, 2023 12:41 PM-----	200,000	200,000	SSOR S #2023-T-106314	
8/28/2023 3:35:00 PM	3609 Cedar Lane	Western Branch Sewer System	Western Branch of the Elizabeth River	Norfolk	Capacity - Weather Related	Heavy rainfall in the area resulted in increased system flows. The flows exceeded the capacity of the Cedar Lane Pump Station causing sewage to overflow from this manhole. Cedar Lane Pump Station saw a maximum rainfall of 2.98" falling in 1 hour; total rainfall for the rain event for this rain gauge was 6.46".	0 hour(s) 55 minute(s)	HRSD staff verified the Cedar Lane Pump Station was operating properly. Once the rain subsided the pump station was able to pull the levels within the gravity system down enough to stop the overflow. -----September 1, 2023 12:46 PM-----	1,000	1,000	SSOR S #2023-T-106316	

12/18/2023 12:07:00A M	720 Bayshore Lane	Bayshore Lane PS	Ground draining to Chesapeake Bay	Hampton	Capacity – Weather Related	Significant wet weather resulted in increased system flows. The Bayshore PS rain gauge saw a maximum rainfall of 0.26" in 15 minutes, with a total of 0.78" falling in 1 hour. Total rainfall for the rain event for this rain gauge was 3.31".	3 hour(s) 43 minute(s)	Verified pump station operating properly, monitored the SSO, and cleaned up the site after the event.	750	750	SSOR S#202 3-T- 106359
12/18/2023 2:30:00AM	219 National Avenue	Willard Avenue PS	Storm drain to Chesapeake Bay	Hampton	Infrastructure	The permanent bypass pump was experiencing mechanical issues, resulting in the loose discharge flange connection and sewage being released. The Bayshore PS rain gauge saw a maximum rainfall of 0.26" in 15 minutes, with a total of 0.78" falling in 1 hour. Total rainfall for the rain event for this rain gauge was 3.31".	0 hour(s) 2 minute(s)	Crews reconnected discharge flange connections.	300	300	SSOR S#202 3-T- 106361
12/18/2023 10:52:00A M	5734 Chesapeake Boulevard	Chesapeake Boulevard PS	Lafayette River via Wayne Creek	Norfolk	Capacity – Weather Related	Heavy rainfall in the area resulted in increased system flows. The flows exceeded the capacity of the Chesapeake Boulevard PS causing sewage to overflow from this overflow pipe. The Luxembourg Avenue PS saw a maximum rainfall of 0.30" in 15 minutes, with a total of 0.76" falling in 1 hour. Total rainfall for the rain event for this rain gauge was 3.62".	3 hour(s) 10 minute(s)	HRSD staff verified the Chesapeake Boulevard PS was operating properly. Once the rain subsided the PS was able to pull the levels within the gravity system down enough to stop the overflow. All sewage from this overflow was conveyed directly to the creek behind the station via gravity overflow pipe. No sewage was spilled onto the ground.	32,500	32,500	SSOR S#202 3-T- 106362
12/24/2023 4:30:00PM	Intersection of Great Bridge Boulevard and Neal Street	Great Bridge Boulevard Gravity at Neal Street	Storm drain to Newton Creek / Elizabeth River	Chesapeake	Third Party Action	HRSD contractor's plug from adjacent CIP project plugged line causing overflows at HRSD's manholes and numerous City of Chesapeake sanitary sewer manholes and clean outs.	1 hour(s) 30 minute(s)	Responding to a call from Chesapeake Public Utilities, staff discovered manhole SG-162-3194 at the corner of Great Bridge Boulevard and Neal Street was surcharged to the rim of the structure. This manhole is a discharge point for an active bypass system supporting HRSD's CIP AT013000. The bypass system, which pumped sewage from a City of Chesapeake manhole several hundred feet to the east, was still in operation and when called to run caused the surcharged manhole to spill onto the ground. The contractor was on site and was instructed to turn the bypass system off. Once the bypass was turned off, the spill at the HRSD manholes stopped. However, City manholes and cleanouts in the north-east area of the neighborhood, the lowest part of the collection system, continued to spill for several more hours. Staff shut off Doziers Corner PS and coordinated a shutdown of Chesapeake PS-12 to minimize the sewage lost. Anticipating a blockage in the downstream pipe, staff jetted the line several times to attempt to free up the perceived blockage. After the jetting did not produce results, the contractor and HRSD pumper trucks pumped out of local manholes while a bypass system was put in place to pump around the apparent blockage. After the spilling from City manholes was stopped and the collection system upstream from SG-162-3194 was pumped down, a plug belonging to the CIPP contractor was visible in the manhole in the downstream pipe. Bypass system stayed online until contractor's	2,500	2,500	SSOR S#202 3-T- 106364

								plug was removed on 12/25/2023. Clean-up of the area was performed by HRSD and contractor staff. Vactor trucks were deployed to collect debris and contractor and HRSD staff spread bleach and lime in the spill areas.				
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## 6. PLANNED ACTIVITIES

HRSD will be continuing the overall program outlined in the Consent Decree in the remainder of FY 2024. The following sub-sections provide specifics on this work.

### 6.1 Flow, Pressure, and Rainfall Monitoring Program

#### 6.1.1 Implementation of the FPR Monitoring Plan

Although not required by the Consent Decree, HRSD intends to continue to collect data from flow, pressure, and rainfall sensors in FY 2024, and plans to continue to operate a portal to allow access for the Localities to the HRSD flow, pressure, and rainfall data from the FPR sites HRSD will continue regular modifications of the network and delete and/or relocate some monitoring points as determined to be most efficient and effective to meet on-going operational requirements.

#### 6.1.2 Capacity Related SSOs

HRSD will continue to coordinate with Localities following capacity-related SSOs in the Localities system. This will include coordinating with the Locality to review the occurrence, assist with evaluation of the problem, and, if practicable, help the Locality with interim or final solutions to mitigate the LOP.

HRSD will continue to provide post-storm synopses and annual post-SSO analyses to EPA and DEQ.

### 6.2 Condition Assessment Plan

#### 6.2.1 Implementation of the Condition Assessment Plan

##### 6.2.1.1 Prompt Repairs

HRSD will continue to implement action plans to address the Prompt Repairs identified.

##### 6.2.2 Rehabilitation Action Plan

In the remainder of FY 2024, HRSD will continue implementing the approved Rehabilitation Action Plan.

### 6.3 Interim System Improvements

All interim system improvement projects have been completed.

### 6.4 Management, Operations, and Maintenance Program

#### 6.4.1 Implementation of MOM Program

HRSD will continue to implement its MOM Program in FY 2024.

## **6.4.2 Quantitative Performance Measures**

In the second half of FY 2024, HRSD will continue tracking the performance measures to determine how HRSD is implementing the program. This will include the list of six measures that are subject to stipulated penalties per Paragraph 34 of the Consent Decree. Progress on these measures will be documented in the FY 2024 Annual Report.

## **6.5 Regional Wet Weather Management Plan**

The RWWMP (Integrated Plan) was approved on February 8, 2022 and implementation will continue throughout FY 2024.

## **6.6 SSO Emergency Response Plan**

HRSD will continue to implement the approved plan and review annually as required. If review results in changes to the plan, the plan will be revised and submitted for approval.

## **6.7 Consultation with Localities**

HRSD will continue to actively participate and facilitate a wide variety of consultation activities in FY 2024 amongst the regional parties. These activities included:

- Two meetings of the Capacity Team are planned with others as needed, to discuss issues related to the Consent Decree;
- HRSD.com will be updated to provide documents to the regional Capacity Team; and,
- Copies of the Quarterly Reports and Semi-Annual Report will be provided from HRSD to the Localities on the HRSD.com website.
- Meet with the regional Director of Utilities monthly

## **6.8 Public Participation**

HRSD will continue to hold annual information meetings and publish newsletters by the anniversary of the Date of Entry. Information and approved plans continue to be posted to HRSD's website which is accessible to the public.

## 7. FORESEEABLE ISSUES RELATED TO UPCOMING COMPLIANCE DEADLINES AND MILESTONES

HRSD and the Agencies entered into a Sixth Amendment to the Consent Decree on January 19, 2024 that made a number of changes to a range of projects and activities. Outside of the issues addressed in the Sixth Amendment, there are no foreseeable issues related to upcoming compliance deadlines and milestones.

8. SIGNIFICANT ISSUES THAT REQUIRE A CHANGE IN THE  
CONSENT DECREE REQUIREMENTS

None noted.

**9. IDENTIFICATION OF CHANGES IN KEY PERSONNEL  
DIRECTLY RESPONSIBLE FOR COMPLIANCE ACTIVITIES**

Beginning in FY2024 third quarter, Rob Martz and Steve Poe will assume HCS responsibility for Consent Decree Compliance Reporting including the SSO Report.

APPENDIX A: INTERIM SYSTEM IMPROVEMENTS AND  
REHABILITATION ACTION PLAN PROJECT VERIFICATION OF  
COMPLETION

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No completion statements are required during this period.