

SEMI-ANNUAL REPORT FY 2021



HRSD
1434 Air Rail Avenue
Virginia Beach, VA 23455

April 30, 2021

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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 modified four times by agreement of all parties in 2011, 2013, 2014, and 2017. 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 Consent Decree 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.

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, 2020, through December 31, 2020, and the planned work for the remainder of FY 2021.

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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 2021, HRSD has:

- Added one flow meter at MMPS-234 HRSD PCV - Wolf Trappe PCV on 10/7/20
- Added one flow meter and one pressure sensor at MMPS-319 HRSD NF - Huxley Pl @ City Center Blvd on 9/11/20

A portal to allow access for the Localities to the HRSD flow, pressure, and rainfall data from the FPR sites (Telog server data) was developed and implemented in February 2009 and continues to be used and enhanced. In addition, a new data historian has been installed and 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, 2020. One project in Phase 1 (CE-R3) was cancelled with EPA/DEQ approval and reduces the total to 66 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	12	20	\$45,950,013	\$83,970,808
2	3	36	\$7,905,713	\$219,329,188

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

- Phase 1
 - GN-R13 (GN0011700), Pump Station Generators
 - GN-R3 (GN012140), Pump Station Wet Well Rehabilitation Phase I
 - BH-R2 (BH-148), Jefferson Avenue Extension Gravity Improvements
 - NP-R3 (NP012600), Deep Creek Interceptor Force Main Replacement
- Phase 2
 - NP-R2 (NP012500), Shingle Creek and Hickmans Branch Gravity Sewer Improvements

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.

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 2021 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 completed an Integrated Plan/RWWMP and submitted it to the EPA and DEQ on September 28, 2017, to meet the compliance obligation of the Consent Decree. Negotiations continue with EPA and DEQ.

2.6 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 website.

2.7 Coordination with Localities

There was a wide variety of coordination activities in the first half of FY 2021 amongst HRSD and the localities. These activities included:

- One Capacity Team Meeting was held with the Localities to review progress;
- Regular updates were provided at the monthly meetings of the Directors' of Utilities Committee to share progress on compliance with the Consent Decree;
- A regional SharePoint website continues to be updated to collaborate with and provide documents to the regional Capacity Team; and
- Copies of the Annual Report were provided from HRSD to the Localities.

2.8 Public Participation

HRSD held its annual information meeting on January 26, 2021 and published a newsletter on February 17, 2021. Information and approved plans continue to be posted to HRSD's website, which is accessible to the public.

2.9 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.

2.10 Reporting

2.10.1 Annual Report

HRSD completed an FY 2020 Annual Report as required by the Consent Decree, and submitted it to the EPA and DEQ on October 20, 2020.

2.10.2 Quarterly Briefing

In accordance with Paragraph 90, these are no longer required as HRSD has submitted the Integrated Plan in accordance with the requirements of section XVIII on September 28, 2017.

2.11 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 2021.

Table 2-2. Summary of Consent Decree Submittals	
Consent Decree Submittal	Submittal Date
FY2020 Annual Report	October 30, 2021

3. COMPLIANCE DEADLINES AND MILESTONES

In the first half of FY 2021, 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 2021 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 83 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. Seventy-nine (79) have been completed. The following Table 4-1 provides details on all known Prompt Repairs as of December 31, 2020.

Table 4-1. Summary of Prompt Repairs						
Name	Location	Jurisdiction	Line Number	Summary of defect	Number of Defects	Status
41st Street	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
Beach Road	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
Beach Road	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		
Shipyards Sewer	Outside of 33 rd street Pump Station	Newport News	33 rd Street	Mainline pipe defects	3	33rd Street Repair Completed. The two remaining projects are in Design-Construction.
	31 st Street	Newport News	31 st Street	Mainline pipe defects		
	38 th Street	Newport News	38 th 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

Table 4-1. Summary of Prompt Repairs

Name	Location	Jurisdiction	Line Number	Summary of defect	Number of Defects	Status
Berkley Avenue	Manholes on Berkley Avenue	Norfolk	SG-098	Manhole defects	2	Complete
	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 th Street	Manhole at Jefferson Ave and 14 th 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 th Street	Newport News	NG-130	Pipeline Defect	1	Complete
Boat Harbor Outlet	Jefferson Avenue and 25 th 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 th 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 Thornclyff 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

Table 4-1. Summary of Prompt Repairs

Name	Location	Jurisdiction	Line Number	Summary of defect	Number of Defects	Status
Powhatan Ave	Powhatan Ave	Norfolk	SG-044	Manhole Defect	1	Complete
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 Design
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	In Design
Myers/Atlantic Ave	Atlantic Ave Gravity main at Myers St intersection	Chesapeake	SG-151	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	Pipeline Defect	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.

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5. SYSTEM PERFORMANCE

5.1 STP Performance

The HRSD system was influenced by wet weather events in the first half of FY 2021 that led to flow increases at the treatment facilities. Table 5-1 provides details on the unusual discharges from July 1 to December 31, 2020. Three of the nineteen occurrences were fully treated effluent.

5.2 HRSD Conveyance System Performance

For the reporting period of July 1 through December 31, 2020, HRSD experienced 19 capacity-related sanitary sewer overflows (SSOs) from its system and 4 releases related to infrastructure. Additionally, one was related to a site power outage resulting from a storm event, and one was categorized as maintenance-other. All of these events are detailed in the Sanitary Sewer Overflow Reporting System (SSORS). Details on these 25 events are 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.

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Table 5-1. Detailed Listing of HRSD Treatment Plant Unusual Discharges (July 1 to December 31, 2020)

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
7/18/2020	Chesapeake Elizabeth	Septic truck discharge line was disconnected from truck by driver to clear a clog and spilled the load in the septic receiving area.	65	Plant staff had the septic driver secure the discharge valve on their truck. HRSD P3 staff are evaluating the appropriate enforcement action to be taken against the permittee/truck owner.	1200	600	Raw Sewage	Storm drain to onsite BMP/Pond	
7/22/2020	Nansemond	A new HVAC unit was installed that uses NPW for cooling water and it was discovered that the return (discharge) of the cooling water was piped to a storm drain. The piping of the unit was completed on 7/16/20 with intermittent operation up to the time of discovery.	6	The unit has been secured until repiping of the discharge can be completed to a plant drain that will return to head of the treatment process	60	60	NPW	Storm Drain	
8/3/2020	Williamsburg	The plant effluent flow was over 30 MGD at 2238pm and the train A outfall valves didn't open. This resulted in short outfall discharges between 2238-2303 and 0022-0039.	201	Standby personnel entered the outfall vault and found one of the valve actuators in manual. The actuator was placed back in the automatic position and we resumed normal operation.	42000	42000	FNE	James River	
8/6/2020	York River	Centrate hose ruptured, causing the centrate sump to overflow.	85	Secured centrate feed line and recovered standing centrate with a sump pump,	620	500	CCT	Ground	
8/25/2020	James River	Centrate line clogged with struvite causing centrate to back up into hopper. Centrate spilled out into bay which overwhelmed the capacity of the plant drain system, backing up, and some centrate going down a storm drain.	30	Shut centrifuge down and blocked off nearby storm drain.	3870	1935	Centrate	Storm Drain	
9/17/2020	Nansemond	Both SWIFT sanitary well grinder pumps failed, groundwater from monitoring wells, and some process sample lines were pumping to the wet well and the well overflowed. Of the 150 gallons, we estimate 85% was groundwater, 5% SWIFT, and 10% Other (NPW)	90	Securing monitoring well pumps and sample points / sinks stopped the flow going to the wet well, the wet well was emptied using a submersible sump pump.	150	150	Groundwater, SCE, SWIFT	Ground	

Table 5-1. Detailed Listing of HRSD Treatment Plant Unusual Discharges (July 1 to December 31, 2020)

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
9/17/2020	York River	The 60" Primary Clarifier Influent line failed causing a total of 6.808 million gallons of Screened Raw sewage to enter York River's Back Creek. 6.76 million gallons were lost from 9/17/20 at 2105 until 9/18/20 at 1600. On 9/19, at 2030 until 0130, one of the pumps being used to contain the spill lost prime causing an additional 3,000 gallons to go to Back Creek. On 9/21, at 0600, it was discovered that there was Screened Raw sewage coming from a Storm Drain located at the Break site. This was not leaking previously that we could notice, probably due to the Storm drain manhole being blocked by debris, not allowing flow to pass and then becoming unblocked during the morning hours of 9/21/20. The estimated spill amount from this occurrence is 45,000 gallons, for a total of 6.808 million gallons. Note: York River TP observed 4.0" of rainfall during the remnants of Hurricane Sally storm event	5035	The immediate action taken was to set up portable pumps to keep up with the leak in order to keep the leak contained. Once installed and pumping, Contractors started setting up portable pumps to pump directly from the Grit tanks in order to eliminate the flow going through the failed 60" line so that damage can be evaluated and repaired. This effort is still in progress but, as of 9/22/20, at 0930, the spill is being contained.	6,808,000	6,808,000	Screened RWI	Creek	
9/18/2020	Army Base	Plant Operator discovered Primary clarifier overflowing during a rain event (remnants of Hurricane Sally). The Taussig Blvd PS saw a maximum rainfall of 0.41" in 15 minutes (9/18/20 at 03:15), with a total of 1.16" falling in 1 hour. The total rainfall observed at Taussig Blvd PS for the rain event was 5.40".	31	Plant Operator opened influent valves to offline primary clarifier.	800	800	Primary Clarifying Influent	Ground / Storm drain / Elizabeth River	
9/18/2020	Boat Harbor	No more than 10,000 gallons of process flow from the secondary clarifier distribution chamber was found to be overflowing into the fill dirt area on top of the secondary clarifiers. The process liquid filtered through the fill dirt between the tanks and spilled out onto and into the soil around the secondary clarifiers predominantly between secondaries 1 and 2, and 1 and 4. The flow came out of the expansion joint seams between the tanks and then traveled to the storm drain in the southwest corner of the plant near the electrical shop. Boat Harbor TP saw rainfall amounts of 4.2" over 24-hours, with a total of 0.87" falling in one hour during the remnants of Hurricane Sally.	165	Once the spill was noticed plant staff started assembling sump pumps and spill kits on top of the clarifiers. These sump pumps were able to pull the process flow from the fill area and pump it to the secondary clarifiers. Influent gates on the in-service tanks were opened up fully where they had been throttled down some. Secondary #5 which is OOS for coatings as well as a repair for a hole in the sidewall of the tank was used to provide some relief. With partial flow going into tank #5 the process flow stopped overflowing and plant staff maintained the level as low as possible to reduce the risk of spilling from the damaged area of tank #5. Plant staff stopped flow from going into the storm drain with a PIG drain cover and set up a sump pump to pump the remaining water into a nearby tote.	10000	9000	SCE	Ground	
9/21/2020	Army Base	Gasket failure on non-potable water line on methanol fire suppression system	15	Closed potable water valve to fire suppression system which stopped discharge of water cannon.	100	100	AFFF/NPW	Elizabeth River	

Table 5-1. Detailed Listing of HRSD Treatment Plant Unusual Discharges (July 1 to December 31, 2020)

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
9/29/2020	Williamsburg	Heavy rain in the area brought in significant flow. Both outfall trains functioned as intended but the flow (45MGD) exceeded their capacity for 1 hour and 32 minutes resulting in 250,000 gallons of treated effluent to be discharged through the short outfall into the James River.	92	No immediate action during event. Plant Staff verified the overflow point with a manual measurement and calculated the flow with information through the DCS.	250000	250000	FNE	James River	
10/8/2020	Atlantic	Acid Phase Digester overflowed due to foaming. The level indicator was reading the liquid level correctly however it couldn't read the foam. This resulted in foam spilling out. It is estimated that 5000 gals of foam reached the ground. The overflow had stopped prior to discovery.	5	The spill on plant site was found and cleaned up. Foam was cleaned up using a Vactor truck and the top layer of ground was removed and disposed of. Topsoil was added after cleanup and lime was spread on the ground. More foam from the spill was found the next day (10/9) on the other side of the fence line and was cleaned up with vactor trucks. The plant is running the Acid Phase Digester level lower to compensate for foam and prevent this from happening again.	5000	500	Digested Sludge	Ground	
10/27/2020	James River	Barb fitting failed causing centrate to spill on the ground and run into a nearby storm	10	Shut pump down and blocked off nearby storm drain	1200	600	Centrate	Storm Drain	
10/28/2020	Williamsburg	A contractor vacuum truck was dumping grit removed from plant tanks at Headworks septic unloading station. We estimate that 100 gallons ran out of the bay and down the road with 50 gallons running down the storm drain before absorbent material could be put down to stop it.	5	Plant personnel mobilized and soaked up the remaining liquid in the road with absorbent materials.	100	50	RWI	Storm Drain	
11/4/2020	Army Base	The plant operator was doing a wet well cleaning in the Preliminary Treatment Facility. The pumps were running in the wrong mode during the cleaning causing a surge at the intermediate pump station.	6	Wet well cleaning was stopped and the SOP was updated to include verifying the pump mode during cleaning and notifying maintenance of the wet well cleaning.	500	500	RWI	Storm drain to Elizabeth River	
11/12/2020	Army Base	High flows this morning from the heavy rains in the area caused the influent channel of the primary clarifiers to overflow. Taussig Blvd PS saw a maximum rainfall of 0.44" in 15 minutes (11/12/20 at 6:15 am), with a total of 1.29" falling in 1 hour. Total rainfall for the rain event for this rain gauge was 6.4".	29	Staff put a third primary clarifier in service	6000	6000	RWI	Storm drain to Elizabeth River	

Table 5-1. Detailed Listing of HRSD Treatment Plant Unusual Discharges (July 1 to December 31, 2020)

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
11/13/2020	Army Base	As the plant staff was draining the #1 secondary clarifier the drain line surcharged and overflowed aeration effluent at manhole 214. Heavy rains in the area 11/11/20- 11/12/20 caused high flows making the plant drain surcharge as staff drained tanks and plant recycles flows were elevated. Taussig Blvd PS saw a maximum rainfall of 0.44" in 15 minutes (11/12/20 at 6:15 am), with a total of 1.29" falling in 1 hour. Total rainfall for the rain event for this rain gauge was 6.4".	15	The on-call operator closed the sec tank 1 drain line to stop the overflow.	2500	2500	ARE (RWI)	Storm drain / Elizabeth River	
12/7/2020	James River	11/11/20- 11/12/20 caused high flows making the plant drain surcharge as staff drained tanks and plant recycles flows were elevated. Taussig Blvd PS saw a maximum rainfall of 0.44" in 15 minutes (11/12/20 at 6:15 am), with a total of 1.29" falling in 1 hour. Total rainfall for the rain event for this rain gauge was 6.4".	30	The linkseal was tightened to stop the leak, the recirculation pump was shut off, and the critical valve was closed. In addition, the water/caustic mixture on the sidewalk was pumped into a nearby plant drain. The soil affected by the caustic spray was dug up and stored in totes for proper disposal following the recommendations of Potomac Environmental.	70	20	Sodium Hydroxide	Flax Mill Creek	
12/21/2020	Nansemond	Hot Water line from Boilers broke in Polymer Sump. This caused chemically treated potable boiler water to fill up a chemical sump and overflow into process area, with some leak by a door.	35	Staff placed sand bags by door to stop water from leaving the building, secured hot water transfer from boiler to hot water system, and pumped excess water from polymer sump into the plant drain system.	50	50	Potable Water / Trace Chem	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, 2020)

Date and Time of Incident	Sewer System Component	Location	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	Occurred within past 5 years
7/22/2020 8:30	NF-036-2931	360 Barclay Road	soaked into the ground/James River	Newport News	Infrastructure	Asbestos cement (AC) force main developed a circumferential crack and failed.	3 hour(s) 30 minute(s)	Isolated force main and installed a full circle repair clamp. -----July 24, 2020 01:25 PM-----	200	200	105695	No
8/4/2020 4:38	FLWCTRL-SG-191-1923 & 24	1136 Saunders Drive, Suffolk, VA	Shingle Creek	Suffolk	Power Outages (Storm Event)	High winds associated with Tropical Storm Isiasis caused the station to lose power. The emergency bypass pump began operating but soon failed as well resulting in an overflow at the upstream siphon chamber.	0 hour(s) 5 minute(s)	Staff arrived onsite and manually started the emergency bypass pump. -----August 4, 2020 07:08 AM-----	250	250	105703	Yes, but different cause
8/15/2020 11:29	NS-PS-219	6000 Orcutt Avenue, Newport News, VA	Government Ditch	Newport News	Capacity-Weather Related	Heavy rainfall - Weather related PS overflow	13 hour(s) 0 minute(s)	Overflow under control by HRSD personnel ----- August 16, 2020 09:09 AM-----	132,650	132,650	105720	No
8/15/2020 12:50	MH-NG-082-1500	King Street @ I-64, Hampton, VA	Hampton River	Hampton	Capacity-Weather Related	Manhole overflow - Weather related - heavy rainfall. maximum rainfall of 0.44" in 15 minutes (8/15/20 at 06:45), with a total of 0.85" falling in 1 hour. Total rainfall for the rain event for this rain gauge was 2.7"	1 hour(s) 4 minute(s)	HRSD personnel ensured the overflow ended ----- August 16, 2020 09:17 AM-----	460	460	105721	Yes
8/15/2020 23:22	NS-PS-227	1619 Taylor Rd, Newport News	James River	Newport News	Capacity-Weather Related	overflow - weather related - heavy rainfall Fort Eustis PS saw a maximum rainfall of 0.32" in 15 minutes (8/15/20 at 16:45), with a total of 0.96" falling in 1 hour. Total rainfall for the rain event for this rain gauge was 3.5".	4 hour(s) 17 minute(s)	HRSD personnel ensured event was under control -----August 16, 2020 09:23 AM-----	2,280	2,280	105722	No
8/15/2020 20:58	MH-NP-226-68	602 S. England St., Williamsburg VA	Paper Mill Creek	Williamsburg	Capacity-Weather Related	Significant wet weather resulted in increased system flows and pressures. Pump failures at Rt. 199 and Williamsburg PS contributed to the overflow	2 hour(s) 2 minute(s)	Checked station to ensure all pumps were operating properly. Found pumps had failed and reset pumps. Overflow cleared after pumps reset and operating properly. -----August 19, 2020 03:41 PM-----	6,750	6,750	105745	Yes
9/1/2020 17:00	FLWCTRL-SG-191-1923	1136 Saunders Drive	Shingle Creek	Suffolk	Infrastructure	A 4 inch hole developed in the top of the gravity pipe, which led to an overflow when the pipe was surcharged due to wet weather flows. The Suffolk PS recorded 1.0" over the course of the rain event. A nearby rain gauge at Lake Kilby PS recorded 2.8".	1 hour(s) 30 minute(s)	Turned on standby Godwin pump to pull down high well and relieve surcharge in the system. The pipe was repaired. -----September 2, 2020 03:25 PM-----	2,700	2,700	105749	Yes, but different cause
9/16/2020 8:37		2814 Arctic Avenue	Stormwater system leading to Little Neck Creek	Virginia Beach	Maintenance-Other	While making improvements to the yard pipe at the Arctic Avenue Pump Station, HRSD removed the incorrect section of pipe. This resulted in an overflow impacting the site and the nearby storm sewer system.	0 hour(s) 10 minute(s)	Staff were able to isolate the flow and clean the surrounding areas by applying lime and pressure washing hard surfaces. Vactors that were deployed were able to capture 2,000 gallons prior to release to the local storm sewer system. ----- September 21, 2020 10:59 AM-----	15,000	13,000	105762	No

Table 5-2. Detailed Listing of HRSD Capacity Related SSOs (July 1 to December 31, 2020)

Date and Time of Incident	Sewer System Component	Location	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	Occurred within past 5 years
9/18/2020 2:40	SS-PS-135- 1/SG-191- 21795	1136 Saunders Drive	Shingle Creek	Suffolk	Capacity- Weather Related	The remnants of Hurricane Sally caused high flows and pressures in the Suffolk sewer system. As a result, the Suffolk PS duty pumps were unable to keep up with the flows entering the wet well. The standby pump was unable to prime for reasons unknown at this time. As a result, all flow entering the station overflowed into Shingle Creek. Simultaneously, it was discovered that a new hole had developed on the 16 inch siphon line crossing Shingle Creek. This line has been temporarily repaired two times in the past few weeks and an active repair is underway, but not yet complete. The Suffolk PS saw 1.30" of rain falling in 1 hour with 4.5 " total over the event.	12 hour(s) 30 minute(s)	Staff are working with Godwin representative and repair crews to get the station bypass pump operational. HRSD's on-call contractor is mobilizing bypass pumps to bypass flow around the siphon lines so that this repair work can be completed immediately. -----September 22, 2020 07:43 PM-----	2,489,000	2,489,000	105767	Yes, but different cause
9/18/2020 5:18	NS-PS-236	321 North Ave.	ground	Newport News	Capacity- Weather Related	Significant rainfall from the remnants of Hurricane Sally resulted in increased system flows and pressures. Hilton School PS saw a maximum rainfall of 0.22" in 15 minutes, with maximum single hour total of 0.65". The total rainfall for this event was 3.4".	0 hour(s) 42 minute(s)	Verified that the pumps and pump stations were operating properly -----September 18, 2020 01:30 PM-----	84	84	105771	No
9/18/2020 4:05	SS-PS-125	3541 Seay Avenue	Stormdrain to Elizabeth River	Norfolk	Capacity- Weather Related	The remnants of Hurricane Sally caused high flows and pressures in the Norfolk sewer system. As a result, the Seay Ave PS duty pumps and the standby emergency pump were unable to keep up with the flows entering the wet well. An overflow occurred into the Elizabeth River. The Virginia Beach Blvd PS saw a maximum rainfall of 0.38" in 15 minutes, with a total of 1.12" falling in 1 hour. Total rainfall for the rain event was 5.5".	3 hour(s) 11 minute(s)	Once downstream pressures decreased, the station pumps were able to keep up with flows coming into the station. -----September 22, 2020 02:48 PM-----	6,600	6,600	105774	No
9/18/2020 4:36	SS-PS-105	5734 Chesapeake Blvd	Lafayette River via Wayne Creek	Norfolk	Capacity- Weather Related	The remnants of Hurricane Sally caused high flows and pressures in the Norfolk sewer system. As a result, the Chesapeake Blvd PS duty pumps were unable to keep up with the flows entering the wet well. An overflow occurred into Wayne Creek, which is a tributary to the Lafayette River. The Luxembourg Ave PS saw a maximum rainfall of 0.43" in 15 minutes, with a total of 0.92" falling in 1 hour. Total rainfall for the event was 5.1".	10 hour(s) 0 minute(s)	Once downstream pressures decrease, the station pumps will be able to keep up with flows coming into the station. -----September 22, 2020 02:53 PM-----	300,000	300,000	105775	Yes

Table 5-2. Detailed Listing of HRSD Capacity Related SSOs (July 1 to December 31, 2020)

Date and Time of Incident	Sewer System Component	Location	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	Occurred within past 5 years
9/18/2020 4:33	SS-PS-119	503 Park Avenue	storm drain to Elizabeth River	Chesapeake	Capacity-Weather Related	The remnants of Hurricane Sally caused high flows and pressures in the Chesapeake sewer system. As a result, the Park Ave PS duty pumps were unable to keep up with the flows entering the wet well. Flow was released from manholes at 1500 Bainbridge Blvd as well. This overflow released to the Elizabeth River. Ferebee Ave PS saw a maximum rainfall of 0.43" in 15 minutes, with a total of 1.34" falling in 1 hour. The total rainfall for the event was 5.3".	2 hour(s) 4 minute(s)	Once downstream pressures decreased, the station pumps were able to keep up with flows coming into the station. Note: quantity on this report was increased to include manhole activity at Quick T's (SSORS ID 105784). -----September 22, 2020 02:58 PM-----	74,800	74,800	105776	Yes
9/19/2020 9:00	SF-069-9631	3900 Robin Hood Road	storm system to ditch to Wayne Creek/Lafayette River	Norfolk	Infrastructure	A failure occurred on the 12-in cast iron force main located on Robin Hood Rd just west of Sherwood Elementary School in Norfolk. The cause of the failure was attributed to an abandoned 2-in tap. Flow from the failure was conveyed to the local storm sewer system, then to a ditch, and ultimately into Wayne Creek.	2 hour(s) 0 minute(s)	HRSD staff arrived onsite and isolated the impacted section of force main. Pump and haul was utilized to maintain service to the surrounding area. The failed tap was removed and a new air vent was installed in its place. -----September 22, 2020 03:20 PM-----	84,000	84,000	105781	No
10/28/2020 16:25	NF-042-11138	1221 Tyler Ave	Storm drain to Lake Maury	Newport News	Infrastructure	Bolts on full circle repair clamp corroded causing the clamp to fail.	3 hour(s) 35 minute(s)	Replaced broken full circle repair clamp and returned system to normal operation. -----November 2, 2020 08:05 AM-----	34,075	34,075	105796	No
11/12/2020 10:40	SS-PS-125	3541 Seay Avenue	Elizabeth River	Norfolk	Capacity-Weather Related	Significant wet weather resulted in increased system flows. Va Beach Blvd PS saw a maximum rainfall of 0.58" in 15 minutes (11/12/20 at 9:15 am), with a total of 1.58" falling in 1 hour. Total rainfall for the rain event for this rain gauge was 6.3".	9 hour(s) 52 minute(s)	Once downstream pressures decreased, the station pumps were able to keep up with flows coming into the station. -----November 13, 2020 06:22 AM-----	14,800	14,800	105804	Yes
11/12/2020 10:27	MH-SPS-114-150	5808 Monroe Place	Lafayette River	Norfolk	Capacity-Weather Related	Significant wet weather caused high flows and pressures in the Chesapeake sewer system. As a result, the Monroe Place PS duty pumps were unable to keep up with the flows entering the wet well. VIP TP saw a maximum rainfall of 0.41" in 15 minutes (11/12/20 at 9:00 am), with a total of 1.18" falling in 1 hour. Total rainfall for the rain event for this rain gauge was 5.4".	11 hour(s) 8 minute(s)	Once downstream pressures decreased, the station pumps were able to keep up with flows coming into the station. -----November 13, 2020 06:27 AM-----	66,800	66,800	105805	Yes

Table 5-2. Detailed Listing of HRSD Capacity Related SSOs (July 1 to December 31, 2020)

Date and Time of Incident	Sewer System Component	Location	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	Occurred within past 5 years
11/12/2020 10:36	SS-PS-119	503 Park Ave	Elizabeth River	Chesapeake	Capacity-Weather Related	Significant wet weather caused high flows and pressures in the Chesapeake sewer system. As a result, the Park Ave PS duty pumps were unable to keep up with the flows entering the wet well. Ferebee Ave PS saw a maximum rainfall of 0.44" in 15 minutes (11/12/20 at 9:15 am), with a total of 1.36" falling in 1 hour. Total rainfall for the rain event for this rain gauge was 6.4".	3 hour(s) 22 minute(s)	Once downstream pressures decreased, the station pumps were able to keep up with flows coming into the station. -----November 13, 2020 06:33 AM-----	54,540	54,540	105806	Yes
11/12/2020 10:16	SS-PS-105	5734 Chesapeake Blvd	Lafayette River via Wayne Creek	Norfolk	Capacity-Weather Related	Significant wet weather caused high flows and pressures in the Norfolk sewer system. As a result, the Chesapeake Blvd PS duty pumps were unable to keep up with the flows entering the wet well. Luxembourg Ave PS saw a maximum rainfall of 0.43" in 15 minutes (11/12/20 at 9:15 am), with a total of 1.43" falling in 1 hour. Total rainfall for the rain event for this rain gauge was 6.2".	36 hour(s) 18 minute(s)	Once downstream pressures decrease, the station pumps will be able to keep up with flows coming into the station. -----November 17, 2020 09:21 AM-----	2,400,000	2,400,000	105807	Yes
11/12/2020 8:32	NS-PS-136	321 North Ave	Government Ditch	Newport News	Capacity-Weather Related	Significant wet weather resulted in increased system flows. Hilton School PS saw a maximum rainfall of 0.47" in 15 minutes (11/12/20 at 8:15 am), with a total of 1.31" falling in 1 hour. Total rainfall for the rain event for this rain gauge was 4.8".	11 hour(s) 8 minute(s)	Verified pump station operating properly and monitored the SSO. -----November 13, 2020 08:01 AM-----	212,275	212,275	105808	Yes
11/12/2020 8:29	NS-MH-095-150	720 Bayshore Ln	Chesapeake Bay	Hampton	Capacity-Weather Related	Significant wet weather resulted in increased system flows. Bayshore PS saw a maximum rainfall of 0.52" in 15 minutes (11/12/20 at 8:45 am), with a total of 1.55" falling in 1 hour. Total rainfall for the rain event for this rain gauge was 5.9".	17 hour(s) 21 minute(s)	Verified pump station operating properly and monitored the SSO. -----November 13, 2020 08:07 AM-----	162,125	162,125	105809	Yes
11/12/2020 9:08	NS-MH-142-2371	Victoria Blvd & Ivy Home Road	ditch to Hampton River	Hampton	Capacity-Weather Related	Significant wet weather resulted in increased system flows. Bridge St PS saw a maximum rainfall of 0.64" in 15 minutes (11/12/20 at 8:30 am), with a total of 1.39" falling in 1 hour. Total rainfall for the rain event for this rain gauge was 5.6".	18 hour(s) 27 minute(s)	Verified pump station operating properly and monitored the SSO. -----November 13, 2020 08:18 AM-----	239,785	239,785	105810	Yes
11/12/2020 9:17	NS-MH-160-27234	612 Hope Street N	Mill Creek	Hampton	Capacity-Weather Related	Significant wet weather resulted in increased system flows. Bayshore PS saw a maximum rainfall of 0.52" in 15 minutes (11/12/20 at 8:45 am), with a total of 1.55" falling in 1 hour. Total rainfall for the rain event for this rain gauge was 5.9".	2 hour(s) 50 minute(s)	Verified pump station operating properly and monitored the SSO. -----November 13, 2020 08:23 AM-----	17,000	17,000	105811	Yes

Table 5-2. Detailed Listing of HRSD Capacity Related SSOs (July 1 to December 31, 2020)

Date and Time of Incident	Sewer System Component	Location	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	Occurred within past 5 years
11/12/2020 9:11	NS-MH- 143-3749	3904 Chesapeake Ave	James River	Hampton	Capacity- Weather Related	Significant wet weather resulted in increased system flows. Bridge St PS saw a maximum rainfall of 0.64" in 15 minutes (11/12/20 at 8:30 am), with a total of 1.39" falling in 1 hour. Total rainfall for the rain event for this rain gauge was 5.6".	26 hour(s) 9 minute(s)	Verified pump station operating properly and monitored the SSO. -----November 13, 2020 08:27 AM-----	149,275	149,275	105812	Yes
11/12/2020 12:10	NS-MH- 143-2581	3748 Chesapeake Ave	James River	Hampton	Capacity- Weather Related	Significant wet weather resulted in increased system flows. Bridge St PS saw a maximum rainfall of 0.64" in 15 minutes (11/12/20 at 8:30 am), with a total of 1.39" falling in 1 hour. Total rainfall for the rain event for this rain gauge was 5.6".	23 hour(s) 10 minute(s)	Verified pump station operating properly and monitored the SSO. -----November 13, 2020 08:30 AM-----	165,800	165,800	105813	Yes

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6. PLANNED ACTIVITIES

HRSD will be continuing the overall program outlined in the Consent Decree in the remainder of FY 2021. 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 2021, 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 (Telog server data). 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 has begun providing post-storm synopses and annual post-SSO analyses to EPA and DEQ fifteen days after each report is completed.

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 2021, 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 2021.

6.4.2 Quantitative Performance Measures

In the second half of FY 2021, 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 2021 Annual Report.

6.5 Regional Wet Weather Management Plan

HRSD will respond to comments and question regarding the submitted Integrated Plan/RWWMP and then implement the plan upon approval.

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 2021 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;
- Continued updates will be provided at the monthly meetings of the Directors' of Utilities Committee to share progress on compliance with the Consent Decree; and
- Maintain a regional SharePoint website to collaborate with and provide documents to the regional Capacity Team.

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

Continued delay in getting final approval for the 5th amendment threatens HRSD's ability to meet early compliance dates in the final plan. Five months have elapsed since HRSD provide signatures (July 24, 2020).

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

None beyond the terms of the 5th Amendment and associated Final RWWMP pending final signatures, lodging and entry by the court.

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

There have been no changes in key personnel during this reporting period.

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

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March 30, 2021

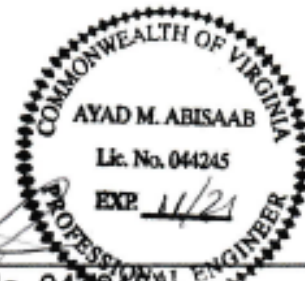
Rehabilitation Action Plan Projects
Verification of Completion

As required by Section VIII of the Third Amended Consent Decree dated May 30, 2015, a set of Rehabilitation Action Plan projects have been identified that must be completed according to the schedule in that document. For capital projects in excess of \$1,000,000, Paragraph 87a of the Consent Decree requires that verification be made by a Professional Engineer that the project was completed satisfactorily.

Through December 31, 2020 the following project has been completed satisfactorily and consistent with the scope provided to the EPA and DEQ in the Consent Decree:

<u>Ref No.</u>	<u>CIP No.</u>	<u>Project Name</u>	<u>Project Cost</u>	<u>Completion Date</u>
BH-R2	BH-148	Jefferson Ave Extension Gravity Improvements	\$3,394,571	July 7, 2020

Hereby verified by



Ayad M. Abisaab, PE (No. 044245)
Chief of Design and Construction, North Shore
Hampton Roads Sanitation District



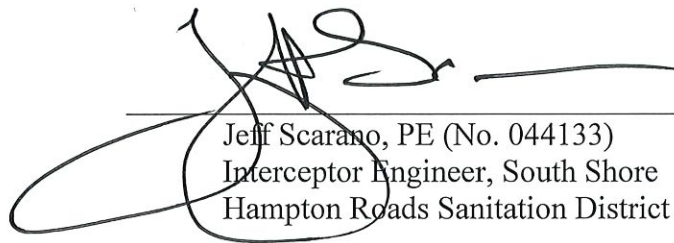
Rehabilitation Action Plan Projects
Verification of Completion

As required by Section VIII of the Third Amended Consent Decree dated May 30, 2015, a set of Rehabilitation Action Plan projects have been identified that must be completed according to the schedule in that document. For capital projects in excess of \$1,000,000, Paragraph 87a of the Consent Decree requires that verification be made by a Professional Engineer that the project was completed satisfactorily.

As of April 15, 2021, the following project has been completed satisfactorily and consistent with the scope provided to the EPA and DEQ in the Consent Decree:

<u>Ref No.</u>	<u>CIP No.</u>	<u>Project Name</u>	<u>Project Cost</u>	<u>Completion Date</u>
GN-R13	GN011700	Pump Station Generators	\$5,710,000	April 13, 2021

Hereby verified by


Jeff Scarano, PE (No. 044133)
Interceptor Engineer, South Shore
Hampton Roads Sanitation District





Rehabilitation Action Plan Projects
Verification of Completion

As required by Section VIII of the Third Amended Consent Decree dated May 30, 2015, a set of Rehabilitation Action Plan projects have been identified that must be completed according to the schedule in that document. For capital projects in excess of \$1,000,000, Paragraph 87a of the Consent Decree requires that verification be made by a Professional Engineer that the project was completed satisfactorily.

Through June 30, 2020, the following projects have been completed satisfactorily and consistent with the scope provided to the EPA and DEQ in the Consent Decree:

<u>Ref No.</u>	<u>CIP No.</u>	<u>Project Name</u>	<u>Project Cost</u>	<u>Completion Date</u>
GN-R3	GN012140	Pump Station Wet Well Rehabilitation Phase I	\$3,212,913	November 27, 2019

Hereby verified by

Gary Hart, PE (No. 017583)
Chief of Design and Construction, South Shore
Hampton Roads Sanitation District



The pump stations listed in the original project description for GN-R3 were completed under three separate projects or moved per authorization from EPA into other ongoing capital projects by HRSD as detailed in the following paragraphs.

GN-R3 project included the following ten referenced pump stations:

- Bainbridge Boulevard PS
- Bloxoms Corner PS
- Dovercourt Road PS
- Ferebee Avenue PS
- Fords Colony PS
- Newtown Road PS
- North Shore Road PS
- Norview Avenue PS
- Virginia Beach Boulevard PS
- Willoughby Avenue PS

HRSD CIP Project GN012140 wet well rehabilitation construction was completed on November 27, 2019 at a project cost of \$3,133,962 and included the following nine pump stations:

- Bainbridge Boulevard PS
- Dovercourt Road PS
- Luxembourg Avenue PS
- Newtown Road PS
- North Shore Road PS
- Norview Avenue PS
- Virginia Beach Boulevard PS
- Washington District PS
- Willoughby Avenue PS

HRSD's Bloxoms Corner Pump Station wet well rehabilitation was completed by the HRSD North Shore Operations Department as an inhouse project using operating budget in lieu of capital budget at a project cost of \$78,951. This project was completed April 30, 2014.

HRSD's Fords Colony Pump Station wet well rehabilitation was completed by HRSD under CIP GN013600 North Shore Pump Station Wet Well Rehabilitation that was previously reported to EPA as completed on April 28, 2017. This project also included HRSD's Fort Eustis PS, Lodge Road PS, and Greensprings PS.

HRSD's Ferebee Avenue Pump Station was approved by EPA based upon a written request from HRSD to move this project from Phase 1 to Phase 2 completion schedule under the Rehabilitation Action Plan as this pump station is being replaced with a new pumping station

that is currently under late stage design status. This is identified as HRSD CIP# VP014010 Ferebee Avenue Pump Station Replacement.

The combined costs for the Bloxoms Corner Pump Station wet well rehabilitation and the pump stations completed under HRSD GN012140 as detailed in this letter equals \$3,212,913 and is the cost being reported to EPA.



Rehabilitation Action Plan Projects
Verification of Completion

As required by Section VIII of the Third Amended Consent Decree dated May 30, 2015, a set of Rehabilitation Action Plan projects have been identified that must be completed according to the schedule in that document. For capital projects in excess of \$1,000,000, Paragraph 87a of the Consent Decree requires that verification be made by a Professional Engineer that the project was completed satisfactorily.

Through December 31, 2020, the following projects have been completed satisfactorily and consistent with the scope provided to the EPA and DEQ in the Consent Decree:

<u>Ref No.</u>	<u>CIP No.</u>	<u>Project Name</u>	<u>Project Cost</u>	<u>Completion Date</u>
NP-R2	NP012500	Shingle Creek and Hickmans Branch Gravity Sewer Improvements	\$546,873	November 27, 2020
NP-R3	NP012600	Deep Creek Interceptor Force Main Replacement	\$6,233,000	December 23, 2020

Hereby verified by

Gary Hart, PE (No. 017583)
Chief of Design and Construction, South Shore
Hampton Roads Sanitation District

