

SEMI-ANNUAL REPORT FY 2016



HRSD
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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 three times by agreement of all parties in 2011, 2013, and 2014. 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 an Sanitary Sewer Overflow (SSO) Response Plan;
- Coordinate with the Localities to develop a Regional Wet Weather Management Plan;
- 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, 2015, through December 31, 2015, and the planned work for the remainder of FY 2016.

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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 2016, HRSD has:

- Removed MMPS-172 Flow Meter (State Street PS) on 9/28/15
- Removed four gravity flow meters at Victoria Blvd PS site and replaced with single force main flow meter (Removed MMPS-244 Flow_MH, MMPS-244-3 Flow_Discharge, MMPS-244-2 Flow_Gravity, MMPS-244 Flow, and replaced with MMPS-244-4)

Pressure Sensors:

- Removed MMPS-172 (State Street PS) on 9/28/15
- Installed MMPS-244-4 at Victoria Blvd PS on 11/20/15
- Removed MMPS-244 at Victoria Blvd PS on 12/29/15

Rain Gauges:

- MMPS-172 (State Street PS) removed on 9/28/15 (**Temporarily replaced by MMPS-006 Rain Gauge until construction is completed at State Street PS**)
- MMPS-006 (near State Street PS) installed on 9/16/15

Numerous gravity flow meters were temporarily removed and then replaced due to a change in service provider.

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.

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 61 projects to be completed in three phases. Table 2-1 shows the status of the Plan phases through December 31, 2015.

Phase	Number of Projects Completed	Total Number of Projects	Estimated Cost of Completed Projects	Estimated Total Cost of All Projects in Phase
0	7	10	\$22,600,000	\$27,300,000
1	1	21	\$0	\$60,200,000
2	1	30	\$15,000	\$95,800,000

One Phase 1 project was cancelled per justification provided to and discussed with the EPA:

- CE-R3 (CE-100) - Lynnhaven and Western Trunk FM Chlorine Injection Vault Demolitions

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 each of these projects scheduled as part of its Capital Improvement Program with completion prior to February 23, 2018, with the exception of the recent additions which have a December 2018 deadline. A number of these projects are underway with several in construction during this fiscal year. As required by Paragraph 32 of the Consent Decree, HRSD will provide a certification by a Professional Engineer that each of these projects was completed satisfactorily and in conformance with the scope as originally provided to the EPA and DEQ. HRSD is on schedule to meet the milestones with five (5) projects completed during this period. A complete update for the fiscal year will be provided in the Annual Report. Table 2-2 provides a list of ISI projects that were completed within this reporting period.

Table 2-2. Completed Interim System Improvement Projects

CD Ref Number	CIP Number	Project Name	Consent Decree Project Cost	Actual Project Cost
19	BH-112	Hampton Trunk Sewer Division A Replacement	\$1,000,000	\$5,061,885
35	AT-128	Military Highway Interim Pressure Reducing Station	\$750,000	\$198,926
37	BH-131	Victoria Boulevard Pump Station	\$3,600,000	\$4,212,876
40	GN-142	North Shore Air Vent Replacements	\$1,200,000	\$1,456,175
41	JR-101	Center Avenue Pump Station Service Area I/I Remediation (North Ave. PS)	\$4,000,000	\$3,340,107

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. HRSD performed an annual performance assessment of its MOM Plan in accordance with Section 5 of the MOM Program following completion of FY 2015. An update of the MOM Program was completed in July 2015.

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 2016 Annual Report. HRSD is on track to meet all the performance measures identified in Paragraph 34 of the Consent Decree.

2.5 Regional Wet Weather Management Plan

Modification No. 3 to the Consent Decree was entered by the Court in August 2014 and establishes a new deadline of October 1, 2017 for RWWMP submittal. See Section 7 of this report for additional details.

HRSD has continued in FY 2016 to develop the RWWMP through updates to the Regional Hydraulic Model (RHM) and Locality Hydraulic Models (LHMs). Flow reductions based on I/I reductions were incorporated and the models have been run for a capacity evaluation. This information will be used in the coming months for development of wet weather capacity solutions for the Level of Service Analysis and the Alternatives Analysis Report.

2.6 SSO Emergency Response Plan

An annual update of the approved Sanitary Sewer Overflow (SSO) Response Plan to the EPA and DEQ is being prepared to be submitted to the EPA/DEQ. This plan continues to be implemented by HRSD. A copy of the most recently approved plan 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 2016 amongst HRSD and the localities. These activities included:

- Capacity Team Meetings with the Localities to review progress and responsibilities of the Consent Decree and Memorandum of Agreement;
- Model Users Group (MUG) meetings were held to coordinate data exchanges between HRSD and the localities;
- Briefings of the Directors' of Utilities Committee to share progress on compliance with the SOC and 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, 2016 and published a newsletter by February 23, 2016, 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.

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 2015 Annual Report as required by the Consent Decree, and submitted it to the EPA and DEQ on October 29, 2015.

2.10.2 Quarterly Briefing

Quarterly briefings were held per Paragraph 90 of the Consent Decree, on August 6, 2015 and January 19, 2016, with attendance by HRSD, the EPA, and the DEQ.

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 2016.

Table 2-3. Summary of Consent Decree Submittals

Consent Decree Submittal	Submittal Date
Quarterly Briefing	August 6, 2015
Annual Report	October 29, 2015

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3. COMPLIANCE DEADLINES AND MILESTONES

In the first half of FY 2016, HRSD expended considerable resources in both time and money to achieve the compliance goals of the Consent Decree. 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 2016 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 70 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. The following Table 4-1 provides details on all known Prompt Repairs as of December 31, 2015.

Table 4-1. Summary of Prompt Repairs					
Name	Location	Jurisdiction	Line Number	Summary of defect	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	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	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	Complete
	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	

Table 4-1. Summary of Prompt Repairs					
Name	Location	Jurisdiction	Line Number	Summary of defect	Status
	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	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 Street and 41st Street	Newport News	NG-114	Mainline pipe defects	Complete
	Jefferson Ave between 39th and 40th Street	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	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	To be completed as part of CIP BH-150
	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	Complete
	Old Atlantic Avenue; near intersection with Liberty Street	Chesapeake	SG-148	Pipe lining failure	
	South of Steamboat Creek Pump Station	Norfolk	SG-102	Manhole defects	
Witchduck	South Witchduck Road	Virginia Beach	SF-141	Corroded FM bolts	Complete
Pin Oak Rd	Pin Oak Road; Residential neighborhood	Newport News	NG-175	Mainline Pipe Defects	Complete
Bainbridge Blvd	Bainbridge Blvd near I-464	Norfolk	SG-145	Mainline Pipe Defects	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	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	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	Complete

Table 4-1. Summary of Prompt Repairs					
Name	Location	Jurisdiction	Line Number	Summary of defect	Status
Wythe Lagoon	Wythe Lagoon Siphon	Hampton	NG-151	Siphon defects	Complete
Pump Station Hatches	Ingleside Road Pump Station	Norfolk	PS#148	Wet Well Hatch	Complete
Pump Station Wet Wells	Rodman Ave Pump Station Wet Well	Portsmouth	PS#145	Wet Well Defects	To be completed as part of CIP VIP-173
Luxemburg Ave	Influent line to Luxemburg Avenue pump station.	Norfolk	SPS-113	Defect at manhole connection	Complete
Gowrie and Farragut	Manhole near creek at end of Gowrie Avenue	Norfolk	SG-068	Manhole defects	Complete
	Manhole near creek at end of Farragut Avenue	Norfolk	SG-068	Manhole defects	
Shipyard Sewer	Outside of 33 rd street Pump Station	Newport News	33 rd Street	Mainline pipe defects	Work order in development
	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	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	Complete
Berkley Avenue	Manholes on Berkley Avenue	Norfolk	SG-098	Manhole defects	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	To be completed as part of CIP BH-150
	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	Complete
Elizabeth River	East side of Elizabeth River Crossing	Chesapeake	SF-143	Thin wall	Complete
14 th Street	Manhole at Jefferson Ave and 14 th street	Newport News	NG-130X	Manhole Defects	Complete
Army Base	Baker Street and Hampton Blvd	Norfolk	SF-003	Pipeline defect	Complete
Mercury and Orcutt Intersection	W Mercury Blvd	Hampton	NG-127	Manhole Defect	Complete
Claremont Avenue Discharge	Harbor Lane and 14 th Street	Newport News	NG-130	Pipeline Defect	Complete
Boat Harbor Outlet	Jefferson Avenue and 25 th Street	Newport News	NG-169	Pipeline Defect	Complete
Hickman Branch	Factory Street	Portsmouth	SG-193	Pipeline Defect	Complete
Terminal Avenue	Terminal Avenue	Newport News	NG-125	Pipeline Defect	Complete

Table 4-1. Summary of Prompt Repairs					
Name	Location	Jurisdiction	Line Number	Summary of defect	Status
Swannanoa and Summerset	Intersection of Swannanoa Drive and Summerset Drive	Portsmouth	SF-206	Pipeline Defect	Developing Work Order
Orcutt Avenue Liner	Orcutt Avenue and 79th Street	Hampton / Newport News	NG-127	Pipeline Defect	Complete
Bay Shore Lane	Bay Shore Lane	Hampton	NG-095	Manhole Defect	Developing Work Order
Warwick Blvd	Warwick Blvd	Newport News	NG-130	Pipeline Defect	Complete
Warwick and Woodhaven	Warwick Blvd to Thorncliff Drive	Newport News	NF-015	Pipeline Defect	Complete
Woodland Avenue	Woodland Avenue and Ballentine Blvd	Norfolk	SG-089	Manhole Defect	Developing Work Order
Indian River Road	Indian River Road near Campostella	Norfolk	SF-106	Pipeline Defect	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

The HRSD system was influenced by wet weather events in the first half of FY 2016 that led to flow increases at the treatment facilities. In addition, construction related to the nutrient control program was ongoing at several of the treatment plants with minor operational events that contributed to unusual discharges from the facilities. Table 5-1 provides details on the unusual discharges from July 1 to December 31, 2015. Five of the eight occurrences were fully treated effluent.

5.2 HRSD Conveyance System Performance

For the reporting period of July 1 through December 31, 2015, HRSD experienced 10 capacity-related sanitary sewer overflows (SSOs) from its system. A very significant wet weather event in excess of a 10-year recurrence interval occurred during this period, namely the September 29 to October 4 event. This rainfall event which accounted for all of the SSOs was spread across the HRSD system and included total rainfall of up to 6.2 inches. All of these events are detailed in the Sanitary Sewer Overflow Reporting System (SSORS). Details on these 10 events are available in Table 5-2. All capacity-related SSOs during this reporting period were beyond the control of HRSD and were caused by rainfall amounts exceeding any reasonable level of service.

5.3 Capacity Related SSOs

As part of the recent modification (No. 3) to the 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, 2015)

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
9/1/2015	Army Base	NPW line began leaking at a 2" coupling while the contractor was back filling an excavation. The contractor notified plant staff of the pipe joint failure, and plant personnel closed NPW valves to stop the discharge. NPW is fully treated and chlorinated final effluent.	10	The plant staff immediately secured the NPW line that was leaking and assisted the contractor with setting up pumps to pump spilled NPW back into plant drains. After water was pumped out of the excavation, the contractor repaired the NPW line and the line was tested by plant personnel. After the leak repair was confirmed, the contractor completed back filling of the excavation.	350	50	NPW	Ground/Elizabeth River	
9/17/2015	Army Base	Back up in plant drain system restricting flow to head of plant, causing a manhole to overflow and NPW release. NPW is fully treated, chlorinated final effluent.	45	Sand bagged nearest stormwater drain to contain the spill. The remaining standing water was pumped back into plant drain system. The plant staff reduced the volume of water to the plant drain system, until a contractor can be scheduled to jet line the 8" plant drains.	2000	500	NPW	Ground/Elizabeth River	
10/9/2015	VIP	Bypass - 10/09/15 20:15 hrs. to 22:28 hrs. Loss of all Utility and emergency electrical power began at 19:55. In an effort to prevent an overflow in residential area and upstream manholes the operators were forced to open the bypass gate. Chlorinated raw wastewater amounting to 2.7 MG was discharged into the Elizabeth River. The plant lost a 13200 volt cable supplying power to all of solids handling and 1/2 of all other equipment electrical panels. The underground cable grounded causing the other electrical equipment and generators to shutdown in protection mode. After the problem was identified and isolated the emergency generators did come on and load the plant. The utility was not available until Dominion Power could check out their equipment for damage caused by the ground fault to system.	73	Bypass - The level at the plant and the upstream manholes were continuously monitored after power was lost in an effort to minimize the amount of bypassed flow. The electrical staff identified the problem causing the utility power and the emergency generators to fail. Once the problem was identified and isolated the plant was loaded on the emergency generators. The plant main pumps were started. Once the main pumps were pumping the sewage system levels dropped and the bypass gate was closed.(22:28) After Dominion Power had checked out all the equipment supplying power to plant the plant switched back to utility power on 10/10/15 at 14:30 hrs.	2,700,000	2,700,000	Chlorinated wastewater influent	Elizabeth River	
10/13/2015	James River	A broken drain line serving the sodium hypochlorite building 5 and 30 min analyzer room leaked NPW. This floor drain serves waste 5 and 30 min contact tank samples delivered by sample supply pumps. Immediately outside of the room, the 4" cast iron pipe had settled. The pipe connection was a Fernco rubber sleeve connection. The Fernco sleeve became distorted from the settling and began leaking. NPW is fully treated, chlorinated effluent.	60	Secured the 5 and 30 min sample pumps to stop the leak, then repaired the drain line.	120	120	NPW	Storm drainage ditch.	
11/17/2015	VIP	A plant operator hit a 1-1/2 inch NPW line with a forklift. The accident occurred while the operator was backing the forklift out of a garage area. The NPW line discharged onto the pavement adjacent to the incinerator building. The plant is currently under construction and all storm catch basins are covered to prevent silt from entering the drain lines. This restricted the amount of NPW that entered the storm drain.	15	Storm drains were sandbagged and the NPW leak was isolated. Flow was diverted to plant drains. Once secured, the broken NPW line was repaired and placed back into service.	1000	100	NPW	pavement to storm drain	

Table 5-1. Detailed Listing of HRSD Treatment Plant Unusual Discharges (July 1 to December 31, 2015)

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
11/19/2015	James River	Operator partially opened the gate on the centrifuge hopper to drain centrifuge washwater. Washwater came out of the hopper too quickly and 50 gallons of washwater entered the storm drain. Normally the washwater is contained in the truck loading area where the washwater drains into the plant drain system. The force of the water pushed the flow out of the truck loading area down the road and into the storm drain.	<1	Blocked off storm drain as soon as possible. Some of the solids were left behind on the road. Cleaned the road between the hopper and storm drain. We will investigate ways of containing the washwater in the truck loading area.	50	50	centrifuge washwater	storm drain, creek via Outfall number 005	
11/24/2015	Nansemond	PVC Line carrying Ferric Chloride to #4 and #5 Secondaries became disconnected at one of the joints. This may have been due to not enough glue being applied to joint at time of installation. Line was 5 feet under ground and in an area that is not routinely traveled due to #4 Secondary being out of service. Leak was detected when Ferric Chloride reached the ground surface.	22.5hrs	Once found, the pump was secured. All contaminated soil was removed and stored on plastic to protect it from weather. An environmental services contractor has been contacted to designate the soil hazard category and aid in proper disposal. The broken line was repaired.	1100	N/A - Soil	Ferric Chloride	N/A Soil	Note that this is a chemical spill. The soil was determined to be non-haz during cleanup.
12/16/2015	Army Base	The construction contractor was testing new chemical feed pumps with non-potable water. The contractor was discharging the non-potable water to a fill station where it was to be collected and pumped to the plant drain system by a sump pump. The discharge flow rate from the chemical feed pumps was greater than the capacity of the sump pump. This resulted in a non-potable water overflow of 500 gallons onto the ground.	30	The chemical pump testing activities were secured, and the discharge hose was moved to the effluent box on #2 Secondary Clarifier.	500	500	NPW	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, 2015)

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	Occurred within past 5 years
10/2/2015 11:49:00 AM	Manhole @ Bridge St. and Rudd Lane	21 Rudd Lane	Hampton River	Hampton	Capacity- Weather Related	Rain and tidal flooding resulted in increased system flows. This storm, occurring from September 29 thru October 4, produced approximately 6.18" of rainfall with a max hourly rainfall amount of .47". High tide, occurring during this spill, was preliminary reported at 6.2 Ft.	5 hour(s) 50 minute(s)	Verified pump station operating properly. Upon completion of tide cycle, cleaned area. The original estimate of 26,250 gallons was revised to 96,250 gallons after a more accurate flow rate was determined.	96,250	96,250	SSORS#2016 -T-104355	Yes
10/2/2015 3:58:00 PM	Bridge Street Pump Station (Tide Gate)	4701 Victoria Blvd.	Hampton River	Hampton	Capacity- Weather Related	Rain and tidal flooding resulted in increased system flows. This storm, occurring from September 29 thru October 4, produced approximately 6.18" of rainfall with a max hourly rainfall amount of .47". High tide, occurring during this release, was preliminary reported at 6.2 Ft. A flow estimate was not available at the time of the initial report, and was impossible to determine after the conclusion of the event.	3 hour(s) 55 minute(s)	Verified pump station operating properly. Upon completion of tide cycle, cleaned area.	-1	-1	SSORS#2016 -T-104356	Yes
10/2/2015 12:32:00 PM	Manhole @ Chesapeake Ave. and Clyde	3904 Chesapeake Ave	James River	Hampton	Capacity- Weather Related	Rain and tidal flooding resulted in increased system flows. This storm, occurring from September 29 thru October 4, produced approximately 6.18" of rainfall with a max hourly rainfall amount of .47". High tide, occurring during this release, was preliminary reported at 6.2 Ft.	4 hour(s) 4 minute(s)	HRSD staff verified that the pump station was operating properly. After the event ended, a visual inspection of the area was performed and no signs of a spill were observed.	1,220	1,220	SSORS#2016 -T-104357	Yes
10/2/2015 11:49:00 AM	Manhole @ King St. and Rudd Lane	King St. and Rudd Ln.	Hampton River	Hampton	Capacity- Weather Related	Rain and tidal flooding resulted in increased system flows. This storm, occurring from September 29 thru October 4, produced approximately 6.18" of rainfall with a max hourly rainfall amount of .47". High tide, occurring during this release, was preliminary reported at 6.2 Ft. A flow estimate not available at time of initial report, and was impossible to determine after the completion of the event.	5 hour(s) 20 minute(s)	Verified pump station operating properly. Upon completion of tide cycle, cleaned area.	-1	-1	SSORS#2016 -T-104358	Yes
10/2/2015 1:00:00 PM	Manhole @ Settlers Landing and Eaton	Settlers Landing and Eaton	Hampton River	Hampton	Capacity- Weather Related	Rain and tidal flooding resulted in increased system flows. This storm, occurring from September 29 thru October 4, produced approximately 6.18" of rainfall with a max hourly rainfall amount of .47". High tide, occurring during this release, was preliminary reported at 6.2 Ft. A flow estimate not available at the time of the initial report, but was estimated to be 1255 gallons at the completion of the event.	4 hour(s) 11 minute(s)	HRSD staff verified that the pump station was operating properly, and upon completion of tide cycle, cleaned the area.	1,255	1,255	SSORS#2016 -T-104359	Yes

Table 5-2. Detailed Listing of HRSD Capacity Related SSOs (July 1 to December 31, 2015)

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	Occurred within past 5 years
10/3/2015 1:39:00 AM	Manhole @ Bridge St. and Rudd Lane	21 Rudd Lane	Hampton River	Hampton	Capacity- Weather Related	Rain and tidal flooding resulted in increased system flows. This storm, occurring from September 29 thru October 4, produced approximately 6.18" of rainfall with a max hourly rainfall amount of .47". High tide, occurring during this release, was preliminary reported at 5.5 Ft.	1 hour(s) 41 minute(s)	Verified pump station operating properly. Upon completion of the tide cycle, area was cleaned.	24,050	24,050	SSORS#2016 -T-104364	Yes
10/3/2015 3:50:00 AM	Manhole @ Chesapeake Ave. and Clyde	3904 Chesapeake Ave	James River	Hampton	Capacity- Weather Related	Rain and tidal flooding resulted in increased system flows. This storm, occurring from September 29 thru October 4, produced approximately 6.18" of rainfall with a max hourly rainfall amount of .47". High tide, occurring during this release, was preliminary reported at 5.5 Ft.	3 hour(s) 24 minute(s)	Verified pump station operating properly. Upon completion of tide cycle, the area was cleaned.	425	425	SSORS#2016 -T-104365	Yes
10/3/2015 3:39:00 AM	Bridge Street Pump Station (Tide Gate)	4701 Victoria Blvd.	Hampton River	Hampton	Capacity- Weather Related	Rain and tidal flooding resulted in increased system flows. This storm, occurring from September 29 thru October 4, produced approximately 6.18" of rainfall with a max hourly rainfall amount of .47". High tide, occurring during this release, was preliminary reported at 5.5 Ft. Flow estimates unavailable at time of initial report and were impossible to determine after the event concluded.	6 hour(s) 17 minute(s)	Verified pump station operating properly. Upon completion of tide cycle, cleaned area.	-1	-1	SSORS#2016 -T-104366	Yes
10/3/2015 2:23:00 AM	Manhole @ King St. and Rudd Lane	King St. and Rudd Ln.	Hampton River	Hampton	Capacity- Weather Related	Rain and tidal flooding resulted in increased system flows. This storm, occurring from September 29 thru October 4, produced approximately 6.18" of rainfall with a max hourly rainfall amount of .47". High tide, occurring during this release, was preliminary reported at 5.5 Ft.	14 hour(s) 52 minute(s)	Verified pump station operation. Cleaned area after tide receded.	39,845	39,845	SSORS#2016 -T-104367	Yes
10/4/2015 4:32:00 PM	Manhole @ King St. and Rudd Lane	King St. and Rudd Ln.	Hampton River	Hampton	Capacity- Weather Related	Rain and tidal flooding resulted in increased system flows. This storm, occurring from September 29 thru October 4, produced approximately 6.18" of rainfall with a max hourly rainfall amount of .47". High tide, occurring during this release, was preliminary reported at 6.5 Ft.	4 hour(s) 28 minute(s)	Verified pump station operating properly. Upon completion of tide cycle, cleaned area.	43,925	43,925	SSORS#2016 -T-104369	Yes

6. PLANNED ACTIVITIES

HRSD will be continuing the overall program outlined in the Consent Decree in the remainder of FY 2016. 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 2016, 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). In FY 2016, HRSD will modify the network and delete and/or relocate some monitoring points.

6.1.2 Capacity Related SSOs

In the remainder of FY 2016, 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.

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 2016, HRSD will continue implementing the approved Action Plan.

6.3 Interim System Improvements

HRSD will continue to design and construct the projects listed in Appendix 5 of the Consent Decree that are required to be completed within 8 years of the Date of Entry. The Verification of Completion will be included in upcoming Annual Reports as the projects are completed.

6.4 Management, Operations, and Maintenance Program

6.4.1 Implementation of MOM Program

HRSD will continue to implement its MOM Program.

6.4.2 Quantitative Performance Measures

In the second half of FY 2016, 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 2016 Annual Report.

6.5 Regional Wet Weather Management Plan

Based on the Modification No. 3 to the Consent Decree, the deadline for the RWWMP has been extended to October 1, 2017 to incorporate the new RWWMP development process. In addition, HRSD will be working to prepare the RHM and LHMs for RWWMP development. This work will be focused on the Alternatives Analysis Report which is due by August 1, 2016.

6.6 SSO Emergency Response Plan

HRSD will continue to implement the approved SSO Response Plan.

6.7 Coordination with Localities

HRSD will continue to actively participate and facilitate a wide variety of coordination activities in FY 2016 amongst the regional parties to the SOC. These activities included:

- Meetings of the Capacity Team, as needed, to discuss issues related to the Consent Decree;
- Meetings of the Model Users Group, as needed, to discuss issues related to modeling;
- Periodic briefings 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

7.1 Locality Data Impacting the RWWMP

During this process of I/I reduction planning and modeling the regional and locality systems, the Localities have continued to provide data (facility data and flow parameter changes) that impacts what sewer catchments may be included or not included in the program implementation, and what I/I reductions might be achieved. As the coordination with the Localities continues in FY 2016 and beyond, any delays or extensive changes in the data sets from the Localities impact HRSD's ability to meet the Consent Decree schedule. HRSD will continue to work diligently with the Localities to obtain the best available information for development of the RWWMP.

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

No issues to document in this Semi Annual Report other than the ongoing coordination with and data obtained from localities to develop the RWWMP, as described in Section 7.

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APPENDIX A: INTERIM SYSTEM IMPROVEMENTS VERIFICATION OF COMPLETION

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Interim System Improvements
Verification of Completion

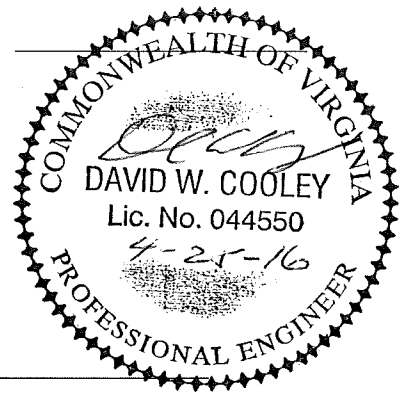
As required by Section IX of the Amended Consent Decree dated February 23, 2010, a set of Interim System Improvements have been identified that must be completed within 8 years of the Date of Entry. Paragraph 32 of that section requires a written certification of completion of each project or group of projects. 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, 2015, 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>
19	BH-112	Hampton Trunk Sewer Division A Replacement	\$5,061,885	November 13, 2015
37	BH-131	Victoria Boulevard Pump Station	\$4,212,876	December 21, 2015
40	GN-142	North Shore Air Vent Replacements	\$1,456,175	April 30, 2015
41	JR-101	Center Avenue Pump Station Service Area I/I Remediation	\$3,340,107	August 21, 2015

Hereby verified by

David Cooley, PE (No. 044550)
Chief of Design and Construction, North Shore
Hampton Roads Sanitation District



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