

ANNUAL REPORT FY 2015



Hampton Roads Sanitation District
1434 Air Rail Avenue
Virginia Beach, VA 23455

October 29, 2015

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1. INTRODUCTION AND PURPOSE

On September 26, 2007, the Hampton Roads Sanitation District (HRSD) entered into a Special Order by Consent (SOC) with the Virginia Department of Environmental Quality (DEQ) and thirteen (13) area Localities for the purpose of resolving certain alleged violations of environmental laws and regulations related to Sanitary Sewer Overflows (SSOs). 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 SOC was eliminated by DEQ and HRSD is no longer under state enforcement.

The Consent Decree requirements include the following major tasks:

- Implement a flow, pressure, and rainfall monitoring program;
- Consult 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 SSO Response Plan;
- Develop a Regional Wet Weather Management Plan in consultation with Localities;
- Update and implement a Management, Operations and Maintenance (MOM) Program; and
- Prepare and submit a variety of periodic and event-driven reports.

This annual report is submitted pursuant to Section XVII of the Consent Decree. HRSD has prepared this 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 annual report summarizes the work and activities undertaken by HRSD from July 1, 2014, through June 30, 2015, and the resulting benefits to the sanitary sewer system.

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2. ACTIVITIES UNDERTAKEN PREVIOUS FISCAL YEAR

2.1 Flow, Pressure, and Rainfall Monitoring Program

2.1.1 Ongoing System Monitoring

Following completion of the 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 to verify data reliability. In FY 2015, HRSD has made several changes to its monitoring network. Table 2-1 below lists the changes in detail.

Table 2-1. FY 2015 Flow, Pressure, and Rainfall Monitoring Actions		
Site Number	Name	Action
MMPS-118	Bloxoms Corner Pump Station	Reinstalled force main flow meter on 7/8/14
GFM-63	Orcutt Avenue and 80th Street	Reinstalled gravity flow meter on 10/9/14
GFM-012	Willard Avenue	Reinstalled gravity flow meter on 10/9/14
MMPS-149	Luxembourg Pump Station	Removed flow meter on 2/2/15 on the combined line from PS and the HRSD force main. PS flow meter remains.
MMPS-149	Luxembourg Pump Station	Removed rain gauge on 2/2/15 and reinstalled on 6/2/15
MMPS-033	Norchester Pump Station	Removed pressure monitor on 9/11/14 due to construction
MMPS-163	Providence Road Pressure Reducing Station	Removed pressure monitors on 9/19/14 due to construction

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 Final Condition Assessment Report and Action Plan

HRSD provided an updated Final Condition Assessment Report and Rehabilitation Action Plan on December 2, 2014. The updates were made in response to comments on the February 2014 Final Condition Assessment Report and Action Plan provided by EPA and DEQ in a letter received on June 11, 2014. HRSD received a final approval letter on May 5, 2015.

2.2.2 Rehabilitation Action Plan Implementation

The Plan contains 61 projects to be completed in three phases. Table 2-2 shows the status of the Plan phases through FY 2015.

Table 2-2. 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	7	10	\$22,600,000	\$27,300,000
1	0	21	\$0	\$60,200,000
2	1	30	\$15,000	\$95,800,000

The projects which have been completed through FY 2015 are listed below. Project certification, as required under Paragraph 87 of the Consent Decree, is included in Appendix A.

- Phase 0
 - AT-R5 (AT-127) – Battlefield Blvd/Johnstown Rd Valve Replacement
 - BH-R6 (BH-121) – Hampton Trunk Sewer Extension Div M Replacement
 - BH-R7 (BH-125) - Bayshore, Copeland Park, and Newmarket PS Elec Equip Improvements
 - BH-R10 (BH-139) - Jefferson Avenue Emergency Gravity Repairs
 - VIP-R5 (VIP-138) - South Trunk Sewer Section C 24-Inch Force Main Replacement
 - VIP-R7 (VIP-146) - South Trunk Sewers Section B and C 48-Inch Force Main Replacement
 - VIP-R12 (VIP-161) - Granby Street Pump Station Improvements
- Phase 2
 - AB-R1 - Taussig Boulevard Pump Station Instrumentation Improvements

2.3 Interim System Improvements

Appendix 5 to the February 2010 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 of projects at the VIP Sewage Treatment Plant (STP), 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, and five projects were completed during this period, listed in Table 2-3. The certification forms are included in Appendix A.

Table 2-3. Completed Interim System Improvement Projects

CD Ref Number	CIP Number	Project Name	Consent Decree Project Cost	Actual Project Cost
24	JR-100	Center Avenue Pump Station Replacement	\$4,000,000	\$3,156,152
34	AT-126	Great Neck Road Interceptor Force Main Replacement Section A	\$4,500,000	\$7,267,776
42	JR-110	Middle Ground Boulevard – City Center Interconnect Force Main	\$5,000,000	\$6,094,642

Table 2-3. Completed Interim System Improvement Projects

49	VIP-164	Lafayette River Crossing / Norview – Estabrook Force Main Replacement	\$3,000,000	\$4,224,173
52	VIP-163-1	Virginia Initiative Plan Nutrient Reduction Improvements, Contract A	\$18,000,000	\$17,890,888

2.4 Management, Operations, and Maintenance 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 conveyance 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. In addition, HRSD completed an update of the MOM Program document in July 2015.

2.4.1.1 MOM Program Update

During FY 2015, HRSD updated its MOM Program based on policy and procedure changes, as well as organizational changes. These changes were effective on July 1, 2015 and include:

- Updates to the RWWMP requirements based on the Consent Decree Modification No. 3, use of the Regional Hydraulic Model and Locality Hydraulic Models, financing RWWMP projects, and updated submittal dates;
- Changes to the regional consultation as a result of different regulatory framework, the HRSD MOA with the localities, reduced meeting frequency, and the online website;
- Capital project planning has been updated to expand beyond the Planning Division, integrating existing software (GIS, model, CAD), and new project management software;
- Capital project design and construction, responsible for the execution of the CIP, separated from Capital Planning function, with updated performance measures;
- Flow acceptance is updated with a new MOM section and addition of two key policies and removal of conditional acceptance; and,
- HRSD organizational changes with updated leadership chart and restructured departments.

The next major MOM Program updated will be scheduled for 2018.

2.4.1.2 HR FOG

HR FOG is a regional effort aimed at fats, oils, and grease (FOG) in the sewer system and is coordinated by the Hampton Roads Planning District Commission that includes participation from HRSD and the Localities. In FY 2015, HRSD has continued to support the Localities as they implement FOG reduction efforts. HRSD has also supported the region through various training workshops and an education effort to make food service establishments (FSEs) aware of the requirements.

2.4.1.3 Ongoing Condition Assessment Activities

2.4.1.3.1 Field Activities

See Section 4 of this report for details on the MOM-related Condition Assessment Field Activities.

2.4.1.3.2 Prompt Repairs

HRSD continues to implement a program to identify and address collection system infrastructure deficiencies found during the course of condition assessment field activities that require prompt attention. 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. Data received from the condition assessment contractors continues to be reviewed to make that assessment.

2.4.2 Quantitative Performance Measures

The revised MOM Program includes many performance measures that HRSD uses to evaluate its progress. Paragraph 34 of the Consent Decree established a list of six 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. Targets for all these six measures explicit in the Consent Decree were achieved in FY 2015. The details of HRSD's performance are provided in Section 5 of this report.

2.5 Regional Wet Weather Management Plan

Modification No. 3 to the Consent Decree, in August 2014, has dramatically changed the critical path for completion of the RWWMP. Rather than relying on Peak Flow Commitments from the Localities to load post rehabilitation flows into the Regional Hydraulic Model for the RWWMP, HRSD has taken the responsibility of estimating the I/I reductions it expects to achieve and the associated flows. To appropriately select these I/I reductions, a significant effort has been underway in FY 2015 to collect additional flow monitoring data in locality sewer catchments with limited existing data, as well as collecting sanitary sewer evaluation survey (SSES) data in certain catchments identified for inclusion in the I/I reduction efforts. More than 613,000 feet of sewer main was smoke tested, 2,000 manholes were inspected, and 473,000 LF of CCTV was completed. In addition, more than 90 flow meters were installed to collect data from locality catchments that had insufficient monitoring previously completed. This work has been completed and is being used for I/I reduction estimates to be included in preparation of the RWWMP.

During this process of I/I reduction planning, 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 reductions might be achieved.

HRSD has continued in FY 2015 to prepare for the RWWMP through updates to the Regional Hydraulic Model and refinement of an approach to hydrologic and hydraulic modeling of the various peak flow recurrence events. This information was presented to the EPA/DEQ in a workshop held on August 7, 2014. Following presentation of the approach, HRSD received concurrence from the EPA and DEQ to proceed using it in the RWWMP.

Modification No. 3 establishes a deadline of August 1, 2016, for submittal of an Alternatives Analysis Report, and for RWWMP submittal by October 1, 2017.

2.5.1 Private Property I/I Abatement Program

HRSD has continued to develop a regional program that will reduce infiltration/inflow (I/I) from private sources over the long term. Work in FY 2015 largely consisted of pilot efforts.

In FY 2015, HRSD continued implementation of a set of pilot projects to evaluate the effectiveness of a private property I/I abatement program. The pilot project for the Campostella area in Norfolk was completed and post-rehabilitation flow monitoring and modeling was completed to evaluate the effectiveness of the project. Several additional pilots in Virginia Beach and Newport News were initiated to further refine the assumptions of the regional program, gain experience on multi-family apartment complexes and test a variety of contracting methods for implementing individual rehabilitation projects.

2.6 SSO Emergency Response Plan

On January 7, 2015, HRSD submitted an annual update of the approved Sanitary Sewer Overflow (SSO) Response Plan to the EPA and DEQ. It was approved on February 9, 2015. 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 Consultation with Localities

There was a wide variety of consultation activities in FY 2015 with Localities. These activities included:

- Quarterly meetings of the Capacity Team 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 Semi Annual Report and Annual Report were provided from HRSD to the Localities.

2.8 Public Participation

HRSD conducted an annual information meeting regarding the progress of the Consent Decree on January 27, 2015. In addition, HRSD published a newsletter on February 18, 2015, which is available on the www.hrsd.com website. 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 FY2014 Annual Report as required by both the SOC and Consent Decree, and submitted it to the EPA and DEQ on October 31, 2014. This report covered SOC and Consent Decree activities from July 1, 2013, through June 30, 2014.

2.10.2 Semi-Annual Report

HRSD completed a FY 2015 Semi-Annual Report as required by the Consent Decree, and submitted it to the EPA and DEQ on April 29, 2015. This report covered Consent Decree activities from July 1, 2014, through December 31, 2014.

2.10.3 Quarterly Briefing

Quarterly briefings were held per Paragraph 90 of the Consent Decree, on July 22, 2014, and January 27, 2015, with attendance by HRSD, the EPA, and the DEQ. Representatives from Localities also attended the briefings. HRSD provided a summary for each of the briefings.

2.10.4 Technical Calls and Workshops

A workshop to discuss the technical details of the Consent Decree was held with DEQ, EPA and HRSD on August 7, 2014.

2.11 Summary of Submittals

Table 2-4 summarizes the status of the documentation that HRSD has submitted to the EPA and DEQ under the Consent Decree in FY 2015.

Consent Decree Submittal	Submittal Date
Quarterly Briefing	July 22, 2014
Annual Report	October 31, 2014
Final Condition Assessment Report and Rehabilitation Action Plan Update	December 3, 2014
SSO Response Plan Annual Update	January 7, 2015
Quarterly Briefing	January 27, 2015
Annual Public Meeting	January 27, 2015
Annual Newsletter	February 18, 2015
Semi-Annual Report	April 29, 2015

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3. COMPLIANCE DEADLINES AND MILESTONES

In FY 2015, 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, including those with short timeframes for response. Table 3-1 below provides a general summary of the major Consent Decree deadlines and the status of each.

Table 3-1. Consent Decree Milestones		
Consent Decree Paragraph	Consent Decree Submittal	Status
13	Quality Assurance Program Plan	Complete
15	Flow, Pressure, and Rainfall (FPR) Monitoring Plan Implementation	Complete
16	Interim and Final FPR Monitoring Reports	Complete
22	Regional Hydraulic Model Plan Implementation	Complete
23	Regional Hydraulic Model Report	Complete
25	Condition Assessment Plan Implementation	Complete
26	Preliminary Condition Assessment Report	Complete
27	Final Condition Assessment Report (FY 2013)	Complete
27	Final Condition Assessment Report (FY 2015)	Complete
29	Interim System Improvements	Ongoing
33	Management, Operations, and Maintenance Program	Complete
39	Preliminary Capacity Assessment Report	Complete
40	Comparative Analysis	Complete
40	Alternatives Analysis Report	Ongoing
40	Regional Wet Weather Management Plan	Ongoing
60	Short Term Wet Weather Operational Plan	Complete
69	Sanitary Sewer Overflow (SSO) Response Plan	Complete
71	Annual Updates to SSO Response Plan	Ongoing
77	Annual Informational Newsletters	Ongoing
78	Annual Public Meetings	Ongoing
87	Annual Reports	Ongoing
88	Semi-Annual Reports	Ongoing
90	Quarterly Briefings	Ongoing

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4. MOM PROGRAM CONDITION ASSESSMENT ACTIVITIES DURING FY 2015

HRSD has continued with its MOM-related Condition Assessment Field Activities in FY 2015. The following subsections describe the progress made in each aspect.

4.1 Gravity Main

HRSD completed 67,954 LF of gravity sewer inspections of its system in FY 2015. More than 208,000 LF of sewer main was cleaned.

4.2 Force Main

HRSD inspected 16 sewer force main segments in FY 2015 using a variety of approaches and technologies. This includes more than 4,300 LF of non-invasive force main inspections near drinking water reservoirs.

4.3 Pumping Facilities

In addition to the regular inspection and preventive maintenance performed by HRSD staff, another round of third party pump station inspections was begun in FY 2015 with completion of 50 pumping facilities. The remainder of the stations will be inspected in FY 2016.

4.4 Prompt Repairs

As part of 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 through June 30, 2015. These 70 defects have been grouped into 46 repair work orders and are currently in various stages of planning, design, construction or are complete. Of the 70 defects, 46 have been repaired through June 30, 2015. The following Table 4-1 provides details on all the Prompt Repairs identified to date.

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	
	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

Table 4-1. Summary of Prompt Repairs

Name	Location	Jurisdiction	Line Number	Summary of defect	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	Complete
	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	
	North King St.	Hampton	NG-063	Manhole defects	
	North King St.	Hampton	NG-078	Manhole defects	
Various Manholes	E. Pembroke Ave. at Washington St.	Hampton	NG-084	Manhole defects	Complete
	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 Rd. at Virginia Beach Blvd (ne corner of intersection)	Virginia Beach	SG-112	Manhole defects and mainline pipe defects	
Newtown Road	Newtown Rd. approx. 415 ft. north of Princess Anne Rd.	Virginia Beach	SG-113	Manhole defects	Complete
	Newtown Rd. at Elam Ave.	Virginia Beach	SG-113	Manhole defects	
	West Mercury Blvd	Hampton	NG-057	Mainline pipe defects	
Mercury Blvd	West Mercury Blvd; near Beechwood Rd.	Hampton	NG-057	Mainline pipe defects	Developing Work Order (CIP BH 150)
	West Mercury Blvd (addl defect)	Hampton	NG-057	Mainline pipe defects	
	North Hope Street	Hampton	NG-160	Pipe lining failure	
Various Repairs	Old Atlantic Avenue; near intersection with Liberty Street	Chesapeake	SG-148	Pipe lining failure	Complete
	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	Complete
Shell Rd - Hampton	Shell Road	Hampton	NG-141	Mainline Pipe Defects	Complete
	Harris Creek Road	Hampton	NG-086	Mainline Pipe Defects	Complete

Table 4-1. Summary of Prompt Repairs

Name	Location	Jurisdiction	Line Number	Summary of defect	Status
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
Wythe Lagoon	Chesapeake Ave at Wythe Lagoon	Hampton	NG-151	Siphon defects	Complete
Shipyard Sewer	31 st Street	Newport News	31 st connector	Mainline Pipe Defects	Developing Work Order
	33 rd Street	Newport News	33 rd Connector	Mainline Pipe Defects	
	38 th Street	Newport News	38 th Connector	Mainline Pipe Defects	
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	Developing Work Order
Chesterfield Blvd	Pipeline section near Chesterfield Blvd PS	Norfolk	SG-207	Mainline Pipe Defects	Complete
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	
State Street FM	Replace section of force main	Norfolk	SF-097	Thin pipe wall discovered	Complete
Berkley Ave	Manhole rehab	Norfolk	SG-098	Wall defects	Complete
	Manhole rehab	Norfolk	SG-098	Wall defects	
Newmarket Creek	Manhole upstream of Newmarket Creek PS north of creek	Newport News	NG-127	Wall defects	Developing Work Order (CIP BH 150)
	Orcutt Ave and Paul Street	Newport News	NG-127	Corroded pipe	
	Orcutt Ave and Paul Street	Newport News	NG-127	Old repair needs correction	
Laskin Road	Replace section of force main	Virginia Beach	SF-135	Pipe damaged by contractor	Complete
Elizabeth River	Replace section of force main	Chesapeake	SF-143	Corroded pipe	Complete

Table 4-1. Summary of Prompt Repairs

Name	Location	Jurisdiction	Line Number	Summary of defect	Status
14 th Street	Replace manhole	Newport News	MH-NG-130X-9601	Manhole defects	Complete
Mercury and Orcutt	Repair pipe and manhole	Hampton	MH-NG-127-3791 NG-127	Manhole and pipe defects	Complete
Army Base	Pipe repair	Norfolk	SG-003-13950	Pipe deteriorated	Complete
Claremont Avenue	14th Street near Harbor Lane	Newport News	NG-130X	Pipe liner failure	Active Work Order (CIP BH 112)
Boat Harbor Outlet	Near 25th Street and Jefferson Avenue	Newport News	NG-169	Mainline defects	Complete
Hickman's Branch	Near Factory Street and Warwick Street	Suffolk	SG-193	Mainline defects	Developing Work Order
Terminal Avenue	Near Boat Harbor Treatment Plant	Newport News	NG-125	Mainline defects	Active Work Order (CIP BH 112)
Swannanoa Drive	At Summerset Drive	Portsmouth	SF-206	Mainline defect	Developing Work Order
Orcutt Avenue	At Newport News and Hampton Line	Newport News and Hampton	NG-177	Pipe Liner Failure	Complete
Bay Shore Lane	Influent Sewer to Bay Shore Lane PS	Hampton	NG-095	Multiple Manhole Defects	Developing Work Order
Warwick Blvd	At Woodhaven Road	Newport News	NF-015	Mainline Failure	Complete
Warwick and Woodhaven	Between Woodhaven and Thorncliff	Newport News	NF-015	Mainline defects	Active Work Order
Indian River Road	Near Campostella Road	Norfolk	NF-106	Mainline Failure	Complete
Lee Street	At 11th Street	West Point	WPG 53	Pipe Collapse	Complete
Portsmouth Blvd	Near I 664	Chesapeake	SF-027	Mainline Failure	Active Work Order
Boat Harbor Influent	Along Terminal Avenue	Newport News	NG-125	Hole in Pipe	Active Work Order (CIP BH 112)
Beach Road South	Beach Road Near Eastlawn Drive	Hampton	NG-088	Corroded Pipe	Developing Work Order
Hampton Institute Influent	Beach Road Near Eastlawn Drive	Hampton	NPS 211 2160	Corroded Pipe	Developing Work Order

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5. MOM PERFORMANCE MEASURES FOR FY 2015

HRSD has implemented its MOM Program activities in conjunction with the requirements of the Consent Decree. Table 5-1 below provides a status update on the specific Performance Measures listed in Paragraph 34 of the Consent Decree. HRSD has substantially outperformed key performance measures such as CCTV inspections (more than twice the required footage), gravity sewer cleaning (approximately eight times the amount required) and air vent inspections (more than twice the required number).

Table 5-1. MOM Performance Measures

Consent Decree Paragraph	Section	Goal	Performance Measure	Target	FY 2015 Actual Performance	Comment	MOM Program Section No.
34.a.	Gravity System CCTV Inspections	Internal inspection of the Gravity System lines provides useful information to assess the condition of the lines allowing proactive measures to be taken to reduce infiltration and identify conditions that may lead to failure.	Perform internal inspection of HRSD gravity sewers, linear feet inspected per year	39,600 linear feet inspected per year	67,954 LF Inspected	Performance exceeded target	2.9
34.b.	Force Main PM - Air Venting	Force mains must periodically have air and gases vented to prevent loss of efficiency of pump stations and to prevent corrosion of piping due to hydrogen sulfide gas.	Perform air release valve PM, No. of PMs per year	1,550 ARVs vented per year	3,486 ARV PMs	Performance exceeded target	2.8
34.c.	Gravity Sewer Cleaning	Obstructions in Gravity Sewer systems are a primary cause of SSOs in these systems, and the systematic cleaning of the system is necessary to remove debris and accumulations of solids from all sources and reduce SSOs.	Perform cleaning of HRSD gravity sewers to remove debris. Linear feet cleaned per year	26,400 linear feet cleaned per year	208,059 LF Cleaned	Performance exceeded target	2.9

Table 5-1. MOM Performance Measures

Consent Decree Paragraph	Section	Goal	Performance Measure	Target	FY 2015 Actual Performance	Comment	MOM Program Section No.
34.d.	Pump Station Annual PMs (Mechanical)	Maintain the pump stations to protect the public safety, to protect the environment, reduce SSOs and to achieve the maximum service life from the pump stations.	All pump stations are to receive the Annual Inspection as described in the Interceptor Systems Preventive Maintenance Manual.	81 pump stations inspected per year	82 (101%)	Performance exceeded target	2.7
34.d.	Pump Station Annual PMs (Electrical)	Maintain the pump stations electrical equipment to protect the public safety, to protect the environment, reduce SSOs and to achieve the maximum service life from the pump stations.	All pump stations are to receive the Annual Electrical PM as described in the Interceptor Systems Preventive Maintenance Manual.	81 pump stations inspected per year	82 (101%)	Performance exceeded target	2.7
34.e.	Annual PM for Back-up Generators	Preventive maintenance is performed on the emergency generators to protect the safety of the public, to protect the environment and reduce SSOs when electrical power to the pump motors from the public utility has been disrupted.	Each back up generator is to receive an annual preventive maintenance inspection.	55 generators to receive PM per year	129 (235%)	Performance exceeded target	2.7
34.f.	Non-Invasive FM Inspection Near Drinking Water Reservoirs	Inspect Force Mains Near Reservoirs to Identify Conditions that may lead to Problems Prior to Failure.	Perform non-invasive inspections of FMs to identify air pockets and leaks. No. of linear feet of FM inspected per year.	2,400 linear feet inspected per year	4,355 LF Inspected	Performance exceeded target	2.8

Annual Pump Station PM has been divided into two categories as seen in the fourth and fifth lines of the table. The Annual Mechanical PMs are performed by Interceptor Operations and Annual Electrical Pump Station PMs are performed by Facility Support.

6. SYSTEM PERFORMANCE DURING FY 2015

6.1 Modifications to HRSD Operating Pressures

HRSD revised its System Operating Pressure Policy with adoption by the HRSD Commission on December 16, 2014. It is based on the concept of a hydraulic grade line as opposed to the flat line of the previous policy. HRSD's interceptor system pressure is dynamic and varies based on the connection point and flow rate. HRSD shall provide a range of pressures that a terminal pump station should expect to operate in. This range shall be based on the RHM and available pressure meter data.

6.2 STP Performance

The HRSD system experienced several significant wet weather events in FY 2015 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 6-1 provides details on the fifteen (15) unusual discharges from July 1, 2014, to June 30, 2015. Nearly all of these occurrences were fully treated effluent.

6.3 Conveyance System Performance

For the reporting period of July 1, 2014, through June 30, 2015, HRSD experienced 22 sanitary sewer overflows (SSOs) from its system. Eleven (11) of the 22 SSOs were capacity-related and occurred in response to significant wet weather events on July 10, September 8-9, and December 24, and June 27. See Section 6.4 below for more details on these events.

All of these events are detailed in the Sanitary Sewer Overflow Reporting System (SSORS). Details on all the FY 2015 SSOs are available in Table 6-2.

6.4 Regional System Capacity Related SSOs

As required by Paragraph 88 of the Consent Decree, HRSD must report on wet weather or capacity related SSOs that occur in the Regional SS System. Table B-1 in Appendix B provides the listing of these SSOs along with a summary of cause and action being taken. Many capacity-related SSOs occurred during events with a recurrence interval in excess of the Consent Decree service levels of interest. A few other SSOs were initially identified as capacity-related but were subsequently associated with other causes. The remainder will either be addressed by CIP projects or in the RWWMP.

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Table 6-1. Detailed Listing of HRS Treatment Plant Unusual Discharges (July 1, 2014 to June 30, 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
8/4/2014	VIP	Assistant opened drain valve on #6 primary clarifier to drain tank for maintenance inspection. The process drain line overflowed at a manhole on the south side of the plant.	7	Closed drain valve on clarifier to stop overflow. Sandbagged the storm drain to prevent additional flow from getting into it. Pump was set up to recover as much liquid as possible. Used sand to absorb rest of the liquid.	3,000	1,000	wastewater	Elizabeth River	
8/28/2014	York River	The plant operator discovered a leak at the centrate transfer pump station while making one of his routine rounds. Centrate filled the centrate pumping vault then overflowed into grassy area beside the building. The leak was caused by a 4-inch pump discharge line that blew out of a full circle clamp due to high line pressure from a clogged line.	15	Operator shut down and isolated pump to stop the leak. The discharge line was cleaned, the full circle clamp was reinstalled and the discharge line was supported so it would not blow out of the clamp again.	2,266	478	wastewater	ground	
9/9/2014	VIP	Plant discharged fully treated final effluent from permitted short outfall 002 intermittently over a 5-hour period. There is a float which activates an alarm when water goes over the weir to the short outfall. A review of alarm records showed that it was activated multiple times but the duration was only for a few seconds each time. The plant service area received rainfall ranging from 4.73" to 9.42" during the day.	Unknown	Other than notification to DEQ-TRO, no action is necessary as discharge is fully treated and outfall is permitted under VPDES permit.	unknown	unknown	fully treated final effluent	Elizabeth River	Severe wet weather event
10/10/2014	Boat Harbor	The 8" combined vertical drain pipe of the odor scrubber system had a buildup of scale in it. Flow backed up and leaked from the cleanout flanges of the odor scrubber drain system. The scrubber dilution non-potable water (NPW) flow was shut off to allow the drain system to empty. The three clean-out flanges were removed in preparation for a contracted pipe cleaning company to clean the lines. A couple of hours later it was noticed that a small amount of flow was coming out of the open flanges. Plant staff determined that the NPW seal water to each of the recirculation pumps was adding volume into the drain system. All four recirculation pumps and their NPW seal water lines were secured. Stopping the recirculation pumps caused the scrubber towers to empty quickly into the sump and flow into the scrubber drain system. The flow surge into the scaled up drain system caused about 1,100 gallons of spent scrubber water to overflow. Spent scrubber water is NPW containing a small amount of sodium hydroxide and sodium hypochlorite. The majority of the overflow entered the plant drain system which goes back to the head of the plant.	280	All NPW systems contributing flow to the scaled up drainage system were secured. The pipe cleaning contractor removed the scaling in the pipes restoring the drainage system's full capacity.	1,100	100	NPW* with small amount of sodium hydroxide	ground	
10/28/2014	Boat Harbor	The contractor excavating for the SCADA tower hit the sodium bisulfite feed line to the chlorine contact tank on 10/27/14. Plant discharge was contained by diverting flow to out-of-service tanks and the line was repaired. The excavation was not backfilled and the next morning it began to overflow when the carrying water for the bisulfite was increased. Approximately 230 gallons of non-potable water (NPW) with a small amount of sodium bisulfite overflowed the excavation.	2	Flow to the feed line was secured immediately upon discovery. The entire line was dug up and a substantial portion of it was replaced as a precaution in case it may have incurred damage during the excavation that was not visibly evident at the time.	230	230	NPW with small amount of sodium bisulfite	James River	

Table 6-1. Detailed Listing of HRS D Treatment Plant Unusual Discharges (July 1, 2014 to June 30, 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
12/18/2014	Army Base	Grit washer clogged and overflowed. A slurry of grit and non-potable water (NPW) spilled onto the ground and into ditch. NPW is fully treated and chlorinated final effluent.	5	Plant staff unclogged grit washer. Recovered the majority of the water discharged in the ditch and pumped it back into the plant drain system. The rest of the spill soaked into the ground.	100	20	NPW*/grit	ground	
12/19/2014	Army Base	A 3" PVC non-potable water line (NPW) ruptured due to a fluctuation in system pressure. Plant staff was testing the NPW system in anticipation of restarting the incinerator. A valve was exercised on one of the main NPW lines which resulted in a water hammer that damaged the smaller line. NPW is fully treated and chlorinated final effluent.	15	Isolated the damaged section of the NPW system by closing valves. Contractor on site had covered valves and there was a delay in locating them. Repaired the ruptured pipe. Part of the spill was recovered but the majority of the spill soaked into the ground and could not be recovered.	500	400	NPW*	ground	
12/22/2014	Boat Harbor	Foam overflowed from three Return Activated Sludge (RAS) vaults due to treatment process upset. Most of the foam was recovered but an estimated 120 gallons of foam from the vault located closest to the storm drain entered the storm drain before plant staff could secure flow.	25	One RAS pump was secured to stop overflow. The foam on the ground was shoveled into a front end loader and the disposed in the plant headworks. An additional aeration tank and secondary clarifier were placed in service to prevent a reoccurrence while the plant staff addressed the treatment upset.	750	120	foam	James River	
1/26/2015	York River	The Plant Operator discovered a leak at the centrate transfer pump station. Centrate filled the centrate piping vault and then overflowed onto grassy area beside the building. The leak was caused by a failed full circle clamp on a 4-inch pump discharge line.	3	The Operator shut down and isolated the pump to stop the leak. The failed full circle clamp was replaced and tested to verify that the leak was fixed. It is estimated that a total of 2282 gallons was spilled based on the dimensions of the centrate piping vault and the area of ground affected by the spill. Plant staff recovered 1788 gallons of centrate that was contained in the centrate piping vault and returned it to the system. An estimated 494 gallons soaked into the ground and could not be recovered.	2,282	494	wastewater	ground	
2/14/2015	Boat Harbor	A 1- inch non-potable water (NPW) hose was running into an aeration tank access port for freeze protection. The plant operator discovered that the hose had flipped out of the port when he checked the area at 11:30 am as part of his shift duties. The NPW flowed across the tank deck and down the side where it soaked into a grassy area. A portion of the flow went over the curb and across the road into a nearby storm drain. The area had been checked by the plant operator at 9:30 am and he observed no problem at the time.	5	The operator secured the valve feeding the hose. Operator covered the storm drain but the flow had stopped by the time he accomplished that. The flow rate from the hose was estimated at 25 gpm but there is no way to estimate the amount of NPW that went down the storm drain or soaked into the ground.	unknown	unknown	NPW*	ground and James River	
2/21/2015	Atlantic	The 4" non-potable water (NPW) line located at Odor B caustic storage area froze and burst at the section where it transitions from cast iron to PVC pipe. The problem was discovered when the ambient temperature rose from 12 deg F to 40 deg F and the line thawed, releasing the NPW partly into a containment area and the balance to the storm water drain across a short distance of frozen ground.	10	Plant staff stopped the NPW flow by closing the in-ground supply valve and closed the storm drain slide gate at the front of the plant to contain flow. The NPW in the odor control containment area was drained to the plant drain system and the contents of the storm drain were pumped to the plant drain system. Based on the increase of NPW flow indicated on the distributed control system (DCS) which monitors trends, it is estimated that no more than 5000 gallons of NPW was	5,000	0	NPW*	not applicable	

Table 6-1. Detailed Listing of HRS D Treatment Plant Unusual Discharges (July 1, 2014 to June 30, 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
				discharged from the broken pipe. An estimated 14,400 gallons of snow melt, rainwater, and NPW was recovered from the storm water system based on rate and duration of pumping.					
3/3/2015	York River	The Plant Operator discovered primary scum coming out of the ground at the sidewalk across the street from the headworks building. The problem was caused by a failed joint in the 4-inch PVC scum line.	10	The Plant Operator turned off the primary scum pumps and isolated the leaking scum line. The failed PVC joint was replaced and tested to verify the leak was fixed. It is estimated that 700 gallons of a primary effluent/scum mixture spilled on the ground and down the storm drain that leads to Back Creek.	700	700	wastewater	ground and Back Creek	
4/2/2015	Army Base	Contractor was excavating on the south side of the old septic offloading station and hit a 2" PVC NPW line damaging the flange.	25	The contractor immediately built a berm to prevent any more of the spill from going into the storm drain. Plant personnel closed the NPW valve to stop the spill and isolate the broken line. The damaged flange was replaced. Part of the spill entered the storm drain. After the storm drain was blocked off with the berm, the remainder of the spill flowed down the road where it was diverted into the plant drain system which goes back to the head of the plant.	500	250	NPW*	Elizabeth River	
5/12/2015	Army Base	The construction engineer tested new plant influent pumps and equipment without coordinating the activities with the plant staff. This resulted in pumps operating without the proper configuration of plant sluice gates. According to the plant flow meter, 45,900 gallons of non-potable water was pumped through a 48" pipe and overflowed the primary clarifier influent channel.	14	The plant staff immediately contacted the construction engineer and stopped the equipment testing operations. The construction contractor built a berm to contain the part of the overflow and pumped the non-potable water into the primary clarifiers. The remainder of the spill flowed into the storm drains or soaked into the ground.	45,900	35000	NPW*	Elizabeth River	
5/24/2015	Nansemond	Spill occurred in centrate building which contains the equipment for struvite recovery. There is a sump pump installed in the trough which collects the harvest carrying water. The ball check valve on the sump pump became stuck in the open position which resulted in non-potable water (NPW) overflowing the trough and flowing out the door of the SRF building.	30	Operator secured flow to the equipment to stop the spill. The check valve was cleaned and checked before placing the equipment back into service. Operators have been instructed to check the valve when the struvite harvesting is in operation. The water that flowed outside the building drained off the road and soaked into the ground before recovery efforts could be implemented. There was no running or ponding water that would allow an estimate of the spill amount.	unknown	unknown	NPW*	ground	

*NPW – Non-potable water (treated effluent)

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Table 6-2. Detailed Listing of HRSD SSDs (July 1, 2014 to June 30, 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 in previous five years at same location
7/7/2014 11:46	Foot of La Vallette Avenue	Force Main	Ground	Norfolk	Infrastructure	Pump station discharge line is leaking. The pipe has a crack in it due to settling.	0 hour(s) 29 minute(s)	Installed auxiliary pumps to pump around the station and isolate the line. Brought in Vaccon to recover most of the leak. -----July 7, 2014 02:35 PM----- Damaged section of pipe was removed. New pipe was installed from outside of the station wall back to where the line penetrates the dry well wall inside the station. Lime was spread on the affected area of the spill. Start and stop times of event were modified slightly from initial notification. -----July 9, 2014 01:50 PM-----	100	50	SSORS#2015-T-104001	No
7/10/2014 16:50	5734 Chesapeake Blvd	Chesapeake Blvd Pump Station	Wayne Creek	Norfolk	Capacity-Weather Related	High flows from torrential rainfall caused pump station to go into alarm status for overflow briefly from 4:50 to 5:02 pm and then from 5:08 to 5:19 pm. Rain gauge at Luxembourg Avenue Pump Station recorded 1.23" of rainfall within 15 minutes with a total of 1.8" in 30 minutes.	0 hour(s) 29 minute(s)	Checked pump station to ensure pumps were operating properly. Overflow gate was under water so flow could not be estimated. -----July 11, 2014 07:51 AM-----	-1	-1	SSORS#2015-T-104005	Yes
7/10/2014 19:34	1015 Fentress Road	Force Main	storm drain to Intracoastal Waterway	Chesapeake	Infrastructure	Failure of 16-inch PVC force main. Estimated flow rate of 500 gpm. It appears that improper backfill material was used during installation; a large piece of asphalt was removed from directly beneath the area of the break. This may have caused a point loading on the PVC force main that led to the failure. Spill damaged roadway and the front yards of three residences.	1 hour(s) 56 minute(s)	Isolated line to stop flow. Vaccons recovering as much of spill as possible from affected area. Cleanup is hampered by water already in ditches from storm that produced heavy rainfall. ----- July 10, 2014 10:23 PM----- Address location corrected from Ferrell Parkway to Fentress Road.-July 11, 2014 06:40 AM-- The damaged section of pipe was removed and replaced with new PVC pipe. The affected area was washed down and lime was spread. The amount of water recovered was greater than the estimated amount of wastewater spilled due to rainwater already in the ditches and water used in cleanup. -----July 15, 2014 11:05 AM-----	58,000	-1	SSORS#2015-T-104004	Yes
7/11/2014 10:10	503 Park Avenue	Park Ave Pump Station	Scuffletown Creek	Chesapeake	Infrastructure	HRSD staff discovered wastewater beside station while checking manholes in the area. The pump station has an auxiliary pump for use during high flows. The pump went into operation when area experienced heavy rainfall from storms on 7/10. The rain gauge at Ferebee Pump Station recorded 1.3" of rainfall in 30 minutes. The float balls on the pump failed and the pump continued to operate after flows decreased which caused the pump to cavitate and vibrate. The vibration caused a bleed off valve on the pump to break off and allowed wastewater to escape.	0 hour(s) 26 minute(s)	Turned off pump. -----July 11, 2014 12:53 PM----- The bleed off valve and float balls were replaced. Approximately 100 gallons were recovered using Vaccon. -----July 15, 2014 11:26 AM-----	2,600	2,500	SSORS#2015-T-104010	Yes

Table 6-2. Detailed Listing of HRSD SSDs (July 1, 2014 to June 30, 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 in previous five years at same location
7/24/2014 12:45	2472 Gum Road	Force Main	ditch to Baileys Creek to western branch of Elizabeth River	Chesapeake	Infrastructure	Force main failure between mainline valve and suction piping going to the station. Wastewater is being released through riser pipes beside the station at estimated 500 gpm. Area received severe storms with heavy rainfall during the evening of 7/24 which temporarily increased spill flow rate. Efforts to contain spill were delayed as lightning from storm made work conditions unsafe. Once the pipe was uncovered, it was determined that the dresser coupling had failed and there was a 4" hole in bottom of pipe due to external corrosion.	18 hour(s) 15 minute(s)	Currently determining best method to reduce flow at station. -- ---July 24, 2014 05:49 PM----- A pit was dug and portable pump installed to pump wastewater into discharge header of PRS. PRS is being operated to keep pit from overflowing by maintaining suction on leaking force main. Pipe is being prepared to install linestops. Once linestops are installed and line is isolated, then it can be uncovered and method of repair determined. An unknown amount of the spill was recovered during the night of 7/24. An 8-inch Godwin pump was used to pump wastewater from a containment pit for 12 hours. However, the pump lost prime multiple times due to pulling down the level in the pit quickly which made it impossible to calculate a flow estimate. -----July 29, 2014 07:34 AM----- Sixteen feet of pipe and mainline valve were replaced using ductile iron sleeves on August 2. -----August 4, 2014 10:44 AM-----	919,500	919,500	SSORS#2015-T-104014	No
9/8/2014 15:39	4701 Victoria Blvd	Bridge Street tide gate	Hampton River	Hampton	Capacity-Weather Related	Storms in area dropped massive amounts of rainfall which increased flow and caused station to overflow at tide gate. Rain gauge at station recorded over 5 inches of rain in 12 hours.	2 hour(s) 9 minute(s)	Checked station to ensure pumps were operating properly. Flow could not be estimated because tide gate was under water. -----September 9, 2014 09:02 AM-----	-1	-1	SSORS#2015-T-104040	Yes
9/8/2014 15:45	1509 Bainbridge Boulevard	3 manholes	Scuffletown Creek	Chesapeake	Capacity-Weather Related	Storms in area dropped massive amounts of rain which increased flow and caused three manholes near intersection of Bainbridge and Holly Avenue to overflow. The rain gauge at Ferebee Pump Station recorded 1.62" of rainfall within one hour with a total of 3.14" of rain in twelve hours.	3 hour(s) 40 minute(s)	Checked Park Avenue Pump Station to ensure pumps were operating properly. -----September 9, 2014 09:50 AM-----The pumps inside of the station were operating properly. The auxiliary pump that is onsite for emergencies did not start automatically. The pump was started manually to increase pumping capacity at the station. The pump and associated controls will be checked to ensure reliability in the future. -----September 10, 2014 12:56 PM-----	19,200	19,200	SSORS#2015-T-104044	Yes
9/9/2014 3:26	223 River Road	Manhole	James River	Newport News	Capacity-Weather Related	Storms in area dropped massive amounts of rain which caused flows to increase and overflow manhole beside station. Rain gauge at station recorded 12.23 inches over a 24-hour period.	3 hour(s) 27 minute(s)	Checked station to ensure pumps were operating properly. Area was flooded so flow estimate could not be determined. Start and stop times are from alarm system. -----September 9, 2014 09:35 AM-----Manhole was submerged during event. Start and stop times modified slightly on final notification report upon further review of the event. -----September 11, 2014 01:35 PM-----	-1	-1	SSORS#2015-T-104042	Yes
9/9/2014 3:30	315 Center Avenue	Center Ave Pump Station (weir)	Government Ditch to James River	Newport News	Capacity-Weather Related	Storms in area dropped massive amounts of rain which increased flow and caused station to overflow at weir structure. Rain gauge at Hilton School Pump Station recorded 12.23" of rainfall in a 24-hour period.	11 hour(s) 39 minute(s)	Checked station to ensure pumps were operating properly. ---- -September 9, 2014 09:42 AM-----	373,158	373,158	SSORS#2015-T-104043	Yes

Table 6-2. Detailed Listing of HRSD SSDs (July 1, 2014 to June 30, 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 in previous five years at same location
9/9/2014 5:54	1509 Bainbridge Blvd	3 manholes	Scuffletown Creek	Chesapeake	Capacity- Weather Related	Storms in area dropped massive amounts of rain which caused flow to increase and overflow three manholes near the intersection of Bainbridge and Holly Avenue. The rain gauge at Ferebee Pump Station recorded 5.39" of rainfall over a period of 24 hours.	3 hour(s) 14 minute(s)	Checked Park Avenue Pump Station to ensure pumps were operating properly. -----September 9, 2014 09:57 AM-----	9,300	9,300	SSORS#2015- T-104045	Yes
9/9/2014 6:35	300 Terminal Avenue	Manhole	Boat Harbor	Newport News	Capacity- Weather Related	Manhole overflow due to high flows. Area received massive amount of rainfall. Manhole is located outside of fence of the Boat Harbor STP. The STP rain gauge recorded a total of 15.5" of rainfall during September 8-9. Plant flow peaked at 66 MGD at approximately 4:40 am. Operator leaving the plant at end of shift observed water coming up along the roadway even though the area was flooded.	1 hour(s) 55 minute(s)	Cleaned area around manhole. Problem was discovered when vehicle hit open manhole. Overflow had stopped by the time of discovery so a spill amount cannot be determined. ----- September 10, 2014 06:13 AM-----Time of discovery was modified from initial notification based on further review with plant staff. -----September 12, 2014 02:53 PM-----	-1	-1	SSORS#2015- T-104081	Yes
9/9/2014 6:47	4701 Victoria Blvd	Bridge Street tide gate	Hampton River	Hampton	Capacity- Weather Related	Storms in area dropped massive amounts of rain which increased flow at station and caused it to overflow at tide gate. Rain gauge at station recorded 7.65 inches over a 27-hour period.	5 hour(s) 34 minute(s)	Checked station to ensure pumps were operating properly. ---- -September 9, 2014 09:29 AM-----Flow amount could not be determined because tide gate was underwater. -----September 11, 2014 01:30 PM-----	-1	-1	SSORS#2015- T-104041	Yes
9/9/2014 8:28	King Street and Rudd Lane	2 manholes	Hampton River	Hampton	Capacity- Weather Related	Storms in area produced massive rain which increased flow and overflowed two manholes. Rain gauge at Bridge Street Pump Station recorded 7.65 inches over a 27-hour period.	3 hour(s) 22 minute(s)	Checked pump station to ensure pumps were operating properly. -----September 9, 2014 02:22 PM-----Start time modified from initial notification report upon further review of the event. -----September 11, 2014 01:42 PM-----	101,000	101,000	SSORS#2015- T-104058	Yes
9/25/2014 11:30	1828 S. Military Highway	Air Vent	Storm drain ditches	Chesapeake	Damage By Others	Force main leaking near air vent. The riser pipe was bent and the corp stop had snapped off, causing the spill. It is suspected that the vent was damaged by a third party.	1 hour(s) 15 minute(s)	Nearby pressure reducing station was placed in manual operation to draw a suction on the pipe. This action contained the leak and recovered water in the ditches. Crew on site excavating pipe. -----September 25, 2014 01:34 PM----- The broken corp stop was replaced. The amount of water recovered was higher than the spill release amount because the ditches already contained storm water from rainfall that occurred on the previous day. The start and stop times were corrected from the initial notification. -----September 29, 2014 01:03 PM-----	7,500	7,500	SSORS#2015- T-104115	No
11/30/2014 16:51	2110 East Indian River Road	Force Main	Steamboat Creek	Norfolk	Infrastructure	12-inch cast iron force main leaked due to crack in the pipe.	2 hour(s) 26 minute(s)	Diverted flow to contain leak. -----December 1, 2014 07:17 AM-----Set up sump pump at site and diverted flow to gravity at Steamboat Creek Pump Station. Pipe is surrounded by other utility lines and crack extends into sleeve going under the road which makes repair to existing line impractical. Contractor will install new pipe across the road and tie it into the force main at a point beyond the damaged section. ----- December 5, 2014 06:49 AM-----	1,168	918	SSORS#2015- T-104153	No

Table 6-2. Detailed Listing of HRSD SSDs (July 1, 2014 to June 30, 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 in previous five years at same location
12/24/2014 15:42	4701 Victoria Blvd	Bridge Street tide gate	Hampton River	Hampton	Capacity- Weather Related	Heavy rains caused high flows in system resulting in overflow at tide gate of station. Rain gauge recorded 1.82" of rainfall in 24-hour period.	1 hour(s) 50 minute(s)	Checked station to ensure pumps were operating properly. ---- -December 24, 2014 10:26 PM-----	-1	-1	SSORS#2015- T-104170	Yes
1/20/2015 8:20	Arlington Avenue & Waltham Street	Manhole	Elizabeth River	Norfolk	Maintenance- Debris	Clog in 10-inch gravity line caused manhole to overflow at estimated rate of 4 gpm.	0 hour(s) 50 minute(s)	Cleared line and cleaned area. -----January 20, 2015 09:49 AM-----Used Vaccon to remove obstruction. Manhole level decreased and overflow stopped. -----January 21, 2015 03:05 PM-----	200	200	SSORS#2015- T-104189	No
3/31/2015 9:40	Old Donation Parkway and Great Neck Road	Branch valve	storm drain to Trant Lake	Virginia Beach	Third Party Action	Branch valve was left open by contractor. It was discovered during activation of new force main.	0 hour(s) 40 minute(s)	Closed valve. Vaccon on site to clean area. -----March 31, 2015 10:58 AM----- Final amount reaching state waters is updated in final notification. Amount recovered by Vaccon was not known at the time of the initial notification. -----April 2, 2015 07:23 AM-----	1,200	700	SSORS#2015- T-104237	No
4/5/2015 23:30	711 Hornsbyville Road	Force Main (full circle clamp)	Ground/ Wormley Creek	York	Infrastructure	Force main failure discovered by fire department. HRSD and DEQ were notified of problem by fire department. The full circle clamp on the pipe failed due to external corrosion of bolts installed in 1976 with original force main installation.	13 hour(s) 15 minute(s)	Vaccons on site attempting to control flow so that pipe can be repaired. -----April 6, 2015 11:27 AM----- Repair clamp installed on pipe. -----April 6, 2015 03:15 PM-----Force main was isolated using valves in order to install new full circle clamp. Pump trucks were used to recover as much of the spill as possible. Affected areas were cleaned and limed. Time of when the spill was under control was modified from previous report upon further discussion with crew on site. -----April 9, 2015 09:44 AM-----	162,000	61,000	SSORS#2015- T-104240	No
4/24/2015 21:31	4700 Portsmouth Boulevard	Force Main	ditch to Bailey Creek	Chesapeake	Infrastructure	force main leak of 36-inch ductile iron pipe	2 hour(s) 12 minute(s)	Leak contained. Crew on site excavating pipe to determine method of repair. -----April 25, 2015 09:28 AM-----Contractor was brought in to excavate pipe as it is at a depth beyond the capability of HRSD equipment. Pumps at HRSD Route 337 pump station were adjusted to draw a suction on the pipe and minimize the leak. Alternate piping has been installed to isolate the section of pipe being excavated to facilitate repairs once it is uncovered. -----April 29, 2015 02:45 PM-----	6,600	6,600	SSORS#2015- T-104259	No
6/24/2015 4:04	4701 Victoria Blvd., Hampton, VA	Bridge Street Pump Station	Hampton River	Hampton	Other	Mechanical failure of pump VFDs due to overtemp. After the failure of the third pump, wet well levels increased quickly due to excessive flows from 1.69 inches of rain over the 1.25 hour period.	0 hour(s) 17 minute(s)	Operations personnel reset the VFDs and initiated the bypass contactors to resume pumping operation. -----June 24, 2015 04:03 PM-----	134,827	134,827	SSORS#2015- T-104290	Yes
6/27/2015 17:02	720 Bay Shore Lane, Hampton, VA	Bay Shore Lane Pump Station	Chesapeake Bay	Hampton	Capacity- Weather Related	Heavy rain produced high flows which resulted in the pump station wetwell to overflow. Rain gauges in the area showed a rainfall of 0.93" during a 15 minute period, with 1.93" falling over 45 minutes. Total rainfall for this storm event was 2.24".	0 hour(s) 51 minute(s)	HRSD personnel checked the Pump Station and ensured that all pumps were operating properly. -----June 27, 2015 08:40 PM----- Manholes were monitored until the overflow stopped. - ----June 30, 2015 01:06 PM-----	207	207	SSORS#2015- T-104293	Yes

*Comments have been added for the Annual Report that were not part of SSORS original report.

7. PLANNED ACTIVITIES FOR FY 2016

HRSD will be continuing the overall program outlined in the Consent Decree in FY 2016. The following sub-sections provide specifics on this work.

7.1 Flow, Pressure, and Rainfall Monitoring Program

7.1.1 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.

7.2 Condition Assessment Plan

HRSD will continue to implement the approved Rehabilitation Action Plan.

7.3 Interim System Improvements

HRSD will continue to design and construct the projects listed in Appendix 5 of the Consent Decree. The Verification of Completion for these projects will be included in upcoming Annual Reports as the projects are completed.

7.4 Management, Operations, and Maintenance Program

7.4.1 Implementation of MOM Program

HRSD will continue to implement its MOM Program per the approved submittal, including MOM-related Condition Assessment activities.

7.4.1.1 Prompt Repairs

As ongoing Condition Assessment Field Activities are performed, HRSD will continue to review the data for issues that meet the criteria for Prompt Repair. Once a defect is identified as requiring Prompt Repair, HRSD will implement an action plan to make the repairs necessary.

7.4.2 Quantitative Performance Measures

In FY 2016, HRSD will continue tracking the performance measures to assess the program. This will include the list of six measures that are subject to stipulated penalties per Paragraph 34 of the Consent Decree.

7.5 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. In FY 2016, HRSD will spend significant effort to complete preparation of the Regional

Hydraulic Model and Locality Hydraulic Models and develop solution sets for the required Level of Service analysis. This will be summarized in the Alternatives Analysis Report due August 1, 2016.

7.5.1.1 Private Property I/I Abatement Program

In FY 2016, HRSD will continue to develop a Private Property I/I Abatement Program through pilot programs. HRSD will continue to perform pilot work to test the feasibility and effectiveness of a private property I/I abatement program.

7.6 Short Term Wet Weather Operational Plan

HRSD will continue to implement the approved plan.

7.7 SSO Emergency Response Plan

HRSD will continue to implement its approved SSO Response Plan. An annual update to the plan will be submitted in the second quarter of FY 2016.

7.8 Consultation with Localities

HRSD will continue to actively participate and facilitate a wide variety of consultation activities in FY 2016. These activities include:

- Periodic meetings of the Capacity Team to discuss RWWMP development and other Consent Decree issues;
- Periodic briefings of the Directors' of Utilities Committee to share progress on compliance with the Consent Decree and MOA; and
- Maintain a regional SharePoint website to collaborate with and provide documents to the regional Capacity Team.

7.9 Public Participation

HRSD will have an annual information meeting and publish a newsletter by the next anniversary of the Date of Entry, February 23, 2016. Information and approved plans continue to be posted to HRSD's website which is accessible to the public.

7.10 Reporting

HRSD will prepare a Semi-Annual Report in addition to this Annual Report in FY 2016. Quarterly Briefings will be held with the EPA and DEQ in or around July and January of FY 2016.

8. FORESEEABLE ISSUES RELATED TO UPCOMING
COMPLIANCE DEADLINES AND MILESTONES

None to report during this period.

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

None to report during this period.

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10. SUMMARY OF SYSTEM BENEFITS FOR PREVIOUS FISCAL YEAR

As reported in the earlier sections of this report, HRSD continues to make important strides in the process of preparing a Regional Wet Weather Management Plan and overall system improvement. Some of the major milestones include:

- Maintenance of a Telog web portal to allow Localities access to HRSD flow, pressure, and rainfall data;
- Implementation of multiple contracts for inspection of HRSD's gravity sewers, manholes, and force mains;
- Completion of the condition assessment of HRSD's pumping stations, gravity sewers, manholes, and force main inspection program;
- Completion of more than 46 Prompt Repair defects throughout the system;
- Completion and submission of the Final Condition Assessment Report and Rehabilitation Action Plan;
- Completion of five Interim System Improvements as required by the Consent Decree;
- Completion of several Rehabilitation Action Plan projects;
- Collection of flow monitoring data from more than 90 gravity flow meters throughout the HRSD and Localities' systems to improve the wet weather flow parameters;
- Collection of SSES data from numerous locality systems, including more than 600,000 feet of pipe smoke tested, 2,000 manholes inspected, and 473,000 feet of CCTV completed;
- Implementation of an approved MOM Program and an update to the MOM Program;
- Implementation of an approved SSO Response Plan;
- Ongoing use of a "SharePoint" web portal to share information between HRSD and the Localities (www.hrsdlive.com);
- Submission of an Annual Report and Semi-Annual Report;
- Facilitation of an annual public informational meeting and newsletter;
- Quarterly Briefings with the EPA and DEQ;
- Technical workshop with EPA and DEQ (August 2014);
- Periodic Capacity Team meetings to foster cooperation and coordination in the region; and
- Ongoing development of a regional I/I Reduction Program.

HRSD will continue in FY 2016 with implementation of the Consent Decree to develop a Regional Wet Weather Management Plan in consultation with the Localities for overall system benefit.

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APPENDIX A. PROJECT CERTIFICATION FORMS

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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.

Between the period of January 1, 2015 through June 30, 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>
34	AT012600	Great Neck Road Interceptor Force Main Replacement Section A	\$7,267,776	May 15, 2015
52	VP016310	Virginia Initiative Plant Nutrient Reduction Improvements - Contract A	\$17,890,888	April 2, 2015
49	VP016400	SF-065 Lafayette River Crossing SF-066 Norview-Estabrook Replacement	\$4,224,173	March 11, 2015

Hereby verified by



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





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.

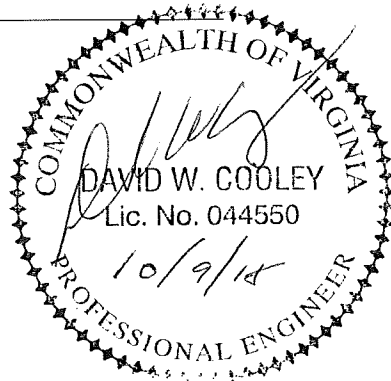
Through June 30, 2015, the following projects have been completed satisfactorily and consistent with the scope provided to the EPA and DEQ in the Consent Decree:

<u>Ref No.</u>	<u>CIP No.</u>	<u>Project Name</u>	<u>Project Cost</u>	<u>Completion Date</u>
24	JR100	Center Avenue Pump Station Replacement	\$3,156,152.45	May 28, 2015
42	JR110	Middle Ground Boulevard - City Center Interconnect Force Main	\$6,094,642.25	March 6, 2015

Hereby verified by



 David Cooley, PE (No. 044550)
 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.

Through June 30, 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>
VIP-R5	VIP-138	South Trunk Sewer Section C 24-inch Force Main Replacement	\$2,803,985	March 17, 2014
VIP-R7	VIP-146	South Trunk Sewer Section B and C 48-inch Force Main Replacement	\$14,012,157	March 17, 2014

Hereby verified by



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



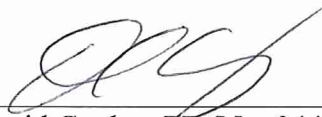
Rehabilitation Action Plan Projects
Verification of Completion

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.

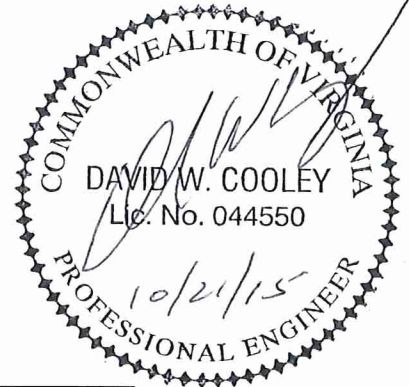
Through June 30, 2015, the following projects have been completed satisfactorily and consistent with the scope provided to the EPA and DEQ in the Consent Decree:

<u>Ref No.</u>	<u>CIP No.</u>	<u>Project Name</u>	<u>Project Cost</u>	<u>Completion Date</u>
BH-R6	BH-121	Hampton Trunk Sewer Extension Division M Replacement	\$1,857,261.15	March 21, 2012
BH-R7	BH-125	Bayshore, Copeland Park, and Newmarket Pump Station Electrical Equipment Improvements	\$1,209,905.22	June 21, 2013
BH-R10	BH-139	Jefferson Avenue Emergency Gravity Repairs	\$2,993,697.89	September 26, 2012

Hereby verified by



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



APPENDIX B. REGIONAL SS SYSTEM CAPACITY RELATED SSOS

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Table B-1. Regional SS System Capacity Related SSOs (July 1, 2014 to June 30, 2015)

Date and Time of Incident	Location	Sewer System Component	Jurisdiction	SSORS ID	Description of Incident from SSORS	Corrective Action from SSORS	Quantity from SSORS	Comments and Response
7/10/14 4:50 PM	5734 Chesapeake Blvd	Chesapeake Blvd Pump Station	HRSD	SSORS#2015 -T-104005	High flows from torrential rainfall caused pump station to go into alarm status for overflow briefly from 4:50 to 5:02 pm and then from 5:08 to 5:19 pm. Rain gauge at Luxembourg Avenue Pump Station recorded 1.23" of rainfall within 15 minutes with a total of 1.8" in 30 minutes.	Checked pump station to ensure pumps were operating properly. Overflow gate was under water so flow could not be estimated. -----July 11, 2014 07:51 AM-----	-1	HRSD Chesapeake Blvd PS service area, which has a history of overflows, experienced a 5-year, 24-hr rainfall amount. HRSD has CIP projects scheduled as part of ISI and Rehab Plan commitments. These projects include VIP016400 (complete), VIP010910, VIP01020 and VIP016700. Any remaining issues will be addressed in the RWWMP.
7/10/14 6:30 PM	4100 block George Washington HWY	ManHole	Portsmouth Public Utilities	SSORS#2015 -T-104006	Excessive rainfall and flooding caused overflow from Manhole.	Rainfall stopped -----July 11, 2014 09:10 AM-----	-1	HRSD Rodman Ave PS service area experienced a 5-year, 24 rainfall amount. The service area has a history of overflows and the overflow location is an identified LOP location which will be addressed in the RWWMP.
7/10/14 7:30 PM	115 Wright Rd	cleanout	Portsmouth Public Utilities	SSORS#2014 -T-104007	Excessive rainfall and flooding caused overflow from cleanout	Rainfall stopped -----July 11, 2014 09:17 AM-----	-1	HRSD Rodman Ave PS service area experienced a 5-year, 24 rainfall amount. The service area has a history of overflows which will be addressed in the RWWMP.
7/10/14 8:30 PM	3400 Deep Creek Blvd at Pennock Street	Manholes	Portsmouth Public Utilities	SSORS#2015 -T-104008	Excessive rainfall and flooding caused overflow from manholes.	Rainfall stopped -----July 11, 2014 09:22 AM-----	-1	HRSD Rodman Ave PS service area experienced a 5-year, 24 rainfall amount. The service area has a history of overflows which will be addressed in the RWWMP.
7/24/14 9:30 PM	Manning Rd.	Manning Rd.	City of Suffolk (Public Utilities)	SSORS#2015 -T-104018	PS 023 was being maintained by an emergency due to high head and heavy rain conditions. The emergency pump ran out of fuel and this failure resulted in the manhole on Manning Rd overflowing.	The maintenance staff refueled the emergency pump and put it back in operation. -----July 25, 2014 02:26 PM-----	9850	This overflow was not necessarily due to limited capacity, but rather to limited fuel resources to the emergency pump which ran out during the wet weather event.

Table B-1. Regional SS System Capacity Related SSOs (July 1, 2014 to June 30, 2015)

Date and Time of Incident	Location	Sewer System Component	Jurisdiction	SSORS ID	Description of Incident from SSORS	Corrective Action from SSORS	Quantity from SSORS	Comments and Response
7/24/14 8:30 PM	Garfield Ave.	Garfield Ave.	City of Suffolk (Public Utilities)	SSORS#2015 -T-104019	PS 004 was not operating due to high head and heavy rain conditions. The emergency pump did not operate because it was in the off position. This failure caused the manhole on Garfield Ave to overflow. Overflow occurred due in part to a significant rain event. The average rainfall amount collected from 14 out of 15 rain gauges (1 reported an error) throughout the City over the 21 hour event between 7/24/14 and 7/25/14 was 4.07 inches. The rain event is being identified as between a 5 and 10 year event.	The maintenance staff turned the emergency pump on and it maintained PS 004 until the weather and head conditions return to normal. PS 004 is now back in normal operation -----July 25, 2014 02:51 PM-----	13500	This overflow was not necessarily due to limited capacity, but rather to operator error which had the emergency pump in the off position, so unable to respond to the increased flows.
7/24/14 9:15 PM	1807 North Main St	PS 012:	City of Suffolk	SSORS#2015 -T-104020	PS 012 telemetry indicates that an overflow occurred, but it was not observed. Overflow occurred due in part to a significant rain event. The average rainfall amount collected from 14 out of 15 rain gauges (1 reported an error) throughout the City over the 21 hour event between 7/24/14 and 7/25/14 was 4.07 inches. The rain event is being identified as between a 5 and 10 year event.	Unable to give a reliable estimate to this event because it was not observed during the overflow. -----July 25, 2014 03:38 PM-----	0	City of Suffolk PS 12 service area experienced a 5-yr, 24-hr rainfall recurrence which resulted in an overflow. Will be further addressed in RWWMP.
7/24/14 8:30 PM	806A East Riverview Drive	PS 003: Riverview #2	City of Suffolk (Public Utilities)	SSORS#2015 -T-104021	The review of PS 003 telemetry data indicates that an overflow occurred during a heavy rain event. This event was not observed. Overflow occurred due in part to a significant rain event. The average rainfall amount collected from 14 out of 15 rain gauges (1 reported an error) throughout the City over the 21 hour event between 7/24/14 and 7/25/14 was 4.07 inches. The rain event is being identified as between a 5 and 10 year event.	This event was not observed. -----July 31, 2014 11:29 AM-----	0	City of Suffolk PS 3 service area, which has a history of overflows, experienced a 5-year, 24-hour rainfall. Overflows will be evaluated and addressed in the RWWMP.

Table B-1. Regional SS System Capacity Related SSOs (July 1, 2014 to June 30, 2015)

Date and Time of Incident	Location	Sewer System Component	Jurisdiction	SSORS ID	Description of Incident from SSORS	Corrective Action from SSORS	Quantity from SSORS	Comments and Response
7/24/14 8:45 PM	120 East Constance Rd.	PS 048: Constance Wharf	City of Suffolk (Public Utilities)	SSORS#2015 -T-104022	PS 048 telemetry data review indicates that during a heavy rain event an overflow occurred. This event was not observed. Overflow occurred due in part to a significant rain event. The average rainfall amount collected from 14 out of 15 rain gauges (1 reported an error) throughout the City over the 21 hour event between 7/24/14 and 7/25/14 was 4.07 inches. The rain event is being identified as between a 5 and 10 year event.	This event was not observed. -----July 31, 2014 11:39 AM-----	0	City of Suffolk PS 48 service area, which has a history of overflows, experienced a 5-year, 24-hour rainfall amount. HRSD will address pressures in the interceptor lines serving this pump station with additions and improvements to the system of pressure reducing stations via CIP projects: NP010610 (Wilroy Interim PRS), NP01630 (Wilroy PRS), NP012000 (Driver PRS) and NP012200 (Pughsville PRS Upgrades).
7/24/14 8:00 PM	1321 Bethlehem Street	PS 076:North Jericho	City of Suffolk(Public Utilities)	SSORS#2015 -T-104023	PS 076 telemetry data review indicates than an overflow occurred during a heavy rain event. This event was not observed.Overflow occurred due in part to a significant rain event. The average rainfall amount collected from 14 out of 15 rain gauges (1 reported an error) throughout the City over the 21 hour event between 7/24/14 and 7/25/14 was 4.07 inches. The rain event is being identified as between a 5 and 10 year event.	This event was not observed. -----July 31, 2014 11:48 AM-----	0	City of Suffolk PS 76 service area experienced a 5-year, 24-hour rainfall amount that resulted in increased flows to the pump station. Overflows will be evaluated and addressed in the RWWMP.
7/24/14 9:15 PM	985 Pitchkettle Rd.	PS 120: Westhaven Lakes #1	City of Suffolk(Public Utilities)	SSORS#2015 -T-104024	PS 120 telemetry data review indicates that an overflow occurred during a heavy rain event. This event was not observed.Overflow occurred due in part to a significant rain event. The average rainfall amount collected from 14 out of 15 rain gauges (1 reported an error) throughout the City over the 21 hour event between 7/24/14 and 7/25/14 was 4.07 inches. The rain event is being identified as between a 5 and 10 year event.	This event was not observed. -----July 31, 2014 11:56 AM-----	0	City of Suffolk PS 120 service area experienced a 5-year, 24-hour rainfall amount. HRSD will address pressures in the interceptor lines serving this pump station with additions and improvements to the system of pressure reducing stations via CIP projects: NP010610 (Wilroy Interim PRS), NP01630 (Wilroy PRS), NP012000 (Driver PRS) and NP012200 (Pughsville PRS Upgrades).
9/8/14 5:30 PM	3013 bayview ave	clean out	Portsmouth Public Utilities	SSORS#2015 -T-104037	Excessive rainfall and flooding caused overflow from clean out to storm drain system.	Rainfall stopped -----September 9, 2014 08:24 AM-----	-1	Extreme wet weather measured between a 25-yr and 100-yr, 24-hr event

Table B-1. Regional SS System Capacity Related SSOs (July 1, 2014 to June 30, 2015)

Date and Time of Incident	Location	Sewer System Component	Jurisdiction	SSORS ID	Description of Incident from SSORS	Corrective Action from SSORS	Quantity from SSORS	Comments and Response
9/8/14 5:15 PM	3528 Cedar lane	clean out	Portsmouth Public Utilities	SSORS#2015 -T-104038	Excessive rainfall and flooding caused overflow from cleanout to storm drain system.	rainfall stopped -----September 9, 2014 08:39 AM-----	-1	Extreme wet weather measured between a 25-yr and 100-yr, 24-hr event
9/8/14 5:17 PM	3617 Cedar Lane	clean out	Portsmouth Public Utilities	SSORS#2015 -T-104039	Excessive rainfall and flooding caused overflow from cleanout to storm drain system.	Rainfall stopped -----September 9, 2014 08:44 AM-----	-1	Extreme wet weather measured between a 25-yr and 100-yr, 24-hr event
9/8/14 3:39 PM	4701 Victoria Blvd	Bridge Street Pump Station	HRSD	SSORS#2015 -T-104040	Storms in area dropped massive amounts of rainfall which increased flow and caused station to overflow at tide gate. Rain gauge at station recorded over 5 inches of rain in 12 hours.	Checked station to ensure pumps were operating properly. Flow could not be estimated because tide gate was under water. -----September 9, 2014 09:02 AM-----	-1	Extreme wet weather measured between a 25-yr and 100-yr, 24-hr event
9/9/14 6:47 AM	4701 Victoria Blvd	Bridge Street Pump Station	HRSD	SSORS#2015 -T-104041	Storms in area dropped massive amounts of rain which increased flow at station and caused it to overflow at tide gate. Rain gauge at station recorded 7.65 inches over a 27-hour period.	Checked station to ensure pumps were operating properly. -----September 9, 2014 09:29 AM-----Flow amount could not be determined because tide gate was underwater. -----September 11, 2014 01:30 PM-----	-1	Extreme wet weather measured between a 25-yr and 100-yr, 24-hr event
9/9/14 3:26 AM	223 River Road	Hilton School Pump Station	HRSD	SSORS#2015 -T-104042	Storms in area dropped massive amounts of rain which caused flows to increase and overflow manhole beside station. Rain gauge at station recorded 12.23 inches over a 24-hour period.	Checked station to ensure pumps were operating properly. Area was flooded so flow estimate could not be determined. Start and stop times are from alarm system. -----September 9, 2014 09:35 AM-----Manhole was submerged during event. Start and stop times modified slightly on final notification report upon further review of the event. -----September 11, 2014 01:35 PM-----	-1	Extreme wet weather measured between a 25-yr and 100-yr, 24-hr event
9/9/14 3:30 AM	315 Center Avenue	Center Avenue Pump Station	HRSD	SSORS#2015 -T-104043	Storms in area dropped massive amounts of rain which increased flow and caused station to overflow at weir structure. Rain gauge at Hilton School Pump Station recorded 12.23" of rainfall in a 24-hour period.	Checked station to ensure pumps were operating properly. -----September 9, 2014 09:42 AM-----	373158	Extreme wet weather measured between a 25-yr and 100-yr, 24-hr event

Table B-1. Regional SS System Capacity Related SSOs (July 1, 2014 to June 30, 2015)

Date and Time of Incident	Location	Sewer System Component	Jurisdiction	SSORS ID	Description of Incident from SSORS	Corrective Action from SSORS	Quantity from SSORS	Comments and Response
9/8/14 3:45 PM	1509 Bainbridge Boulevard	Manholes	HRSD	SSORS#2015 -T-104044	Storms in area dropped massive amounts of rain which increased flow and caused three manholes near intersection of Bainbridge and Holly Avenue to overflow. The rain gauge at Ferebee Pump Station recorded 1.62" of rainfall within one hour with a total of 3.14" of rain in twelve hours.	Checked Park Avenue Pump Station to ensure pumps were operating properly. -----September 9, 2014 09:50 AM-----The pumps inside of the station were operating properly. The auxiliary pump that is onsite for emergencies did not start automatically. The pump was started manually to increase pumping capacity at the station. The pump and associated controls will be checked to ensure reliability in the future. --- --September 10, 2014 12:56 PM-----	19200	Extreme wet weather measured between a 25-yr and 100-yr, 24-hr event
9/9/14 5:54 AM	1509 Bainbridge Blvd	manholes	HRSD	SSORS#2015 -T-104045	Storms in area dropped massive amounts of rain which caused flow to increase and overflow three manholes near the intersection of Bainbridge and Holly Avenue. The rain gauge at Ferebee Pump Station recorded 5.39" of rainfall over a period of 24 hours.	Checked Park Avenue Pump Station to ensure pumps were operating properly. -----September 9, 2014 09:57 AM-----	9300	Extreme wet weather measured between a 25-yr and 100-yr, 24-hr event
9/8/14 7:18 AM	4500 Westmoreland terrace	Man Hole and cleanout	Portsmouth Public Utilities	SSORS#2015 -T-104046	Excessive rainfall and flooding caused overflow from Man hole into storm drain and yard.	Rainfall Stopped -----September 9, 2014 10:11 AM-----	-1	Extreme wet weather measured between a 25-yr and 100-yr, 24-hr event
9/9/14 10:10 AM	910 Darren Drive	man holes	Portsmouth Public Utilities	SSORS#2015 -T-104047	Excessive rainfall and flooding caused overflow from man hole into storm drain system	rainfall stopped -----September 9, 2014 10:31 AM-----	-1	Extreme wet weather measured between a 25-yr and 100-yr, 24-hr event
9/9/14 8:00 AM	1000 Block Cavalier	man holes	Portsmouth Public Utilities	SSORS#2015 -T-104048	Excessive rainfall and flooding caused overflow from man holes into storm drain system.	Rainfall stopped -----September 9, 2014 10:41 AM-----	-1	Extreme wet weather measured between a 25-yr and 100-yr, 24-hr event
9/9/14 9:00 AM	30 Pennock St & Deep Creek Blvd	manholes	Portsmouth Public Utilities	SSORS#2015 -T-104049	Excessive rainfall and flooding caused overflow from manhole into storm drain system.	Rainfall stopped -----September 9, 2014 10:47 AM-----	-1	Extreme wet weather measured between a 25-yr and 100-yr, 24-hr event
9/9/14 10:00 AM	22 Pennock St	man hole	Portsmouth Public Utilities	SSORS#2015 -T-104050	Excessive rainfall and flooding caused overflow from manhole into storm drain system.	Rainfall stopped -----September 9, 2014 10:51 AM-----	-1	Extreme wet weather measured between a 25-yr and 100-yr, 24-hr event

Table B-1. Regional SS System Capacity Related SSOs (July 1, 2014 to June 30, 2015)

Date and Time of Incident	Location	Sewer System Component	Jurisdiction	SSORS ID	Description of Incident from SSORS	Corrective Action from SSORS	Quantity from SSORS	Comments and Response
9/9/14 10:50 AM	1445 Lasalle	manhole	Portsmouth Public Utilities	SSORS#2015 -T-104051	Excessive rainfall and flooding caused overflow from manhole into storm drain system.	Rainfall stopped -----September 9, 2014 10:54 AM-----	-1	Extreme wet weather measured between a 25-yr and 100-yr, 24-hr event
9/9/14 9:56 AM	173 allard rd	man hole and wash out box	Portsmouth Public Utilities	SSORS#2015 -T-104052	Excessive rainfall and flooding caused overflow from manhole into storm drain system.	Rainfall stopped -----September 9, 2014 11:02 AM-----	-1	Extreme wet weather measured between a 25-yr and 100-yr, 24-hr event
9/9/14 10:30 AM	800 BLK of Eden Way N.	Greenbrier	City of Chesapeake	SSORS#2015 -T-104053	Untreated domestic sewage overflowed from several sewer manholes in the 800 BLK of Eden Way N., and spilled into the storm water system. This action occurred because Pumping Station #144 malfunctioned.	Public Utilities Wastewater Collections responded to the complaint, identified the problem and referred the complaint to the Pumping Station section. -----September 9, 2014 11:27 AM----- During the heavy rain event the high pressure by pass pump lost prime and the inflow levels were greater then normal. Re-priming the pump to get the system down and monitor progress until station return normal. --- --September 10, 2014 07:28 PM-----	20000	Overflow occurred upstream of City of Chesapeake PS 144 due to loss of fluid column prime to pumping equipment. Once prime was restored to the pump, expected operation continued.
9/9/14 10:30 AM	234 Cary Street Smithfield VA	James Street Pump Station	Town of Smithfield	SSORS#2015 -T-104054	High head pressure on HRSD line due to excessive rainfall (over 10 inches) - caused overflow out of manhole. Backup bypass pumps installed and running but not able to keep up due to excessive head pressure and large volume of water.	Reset pumps in station, cleaned and limed area. -----September 9, 2014 11:34 AM-----	1200	Extreme wet weather measured between a 25-yr and 100-yr, 24-hr event
9/9/14 9:54 AM	3800 BLK of Cook Blvd	CAVALIER INDUSTRIAL PARK	City of Chesapeake	SSORS#2015 -T-104055	Untreated domestic sewage overflowed from several manholes in the 3800 BLK of Cook Blvd, and spilled into the storm water system. This action occurred because Pumping Station #112 Malfunctioned.	Public Utilities Wastewater Collections responded to the complaint and found it to be a malfunctioning pumping station. The complaint was referred to the Pumping Station section for further investigation. -----September 9, 2014 11:59 AM----- The pump in service lost prime and due to heavy rain event, flooding in areas of the station inflow was greater then normal. Priming of that pump and setting up a high pressure by pass pump return system to normal. -----September 10, 2014 07:10 PM-----	10000	Overflow occurred upstream of City of Chesapeake PS 112 due to loss of fluid column prime to pumping equipment. Once prime was restored to the pump, expected operation continued.

Table B-1. Regional SS System Capacity Related SSOs (July 1, 2014 to June 30, 2015)

Date and Time of Incident	Location	Sewer System Component	Jurisdiction	SSORS ID	Description of Incident from SSORS	Corrective Action from SSORS	Quantity from SSORS	Comments and Response
9/9/14 12:36 PM	2408 Gilmerton Rd.	Gilmerton	City of Chesapeake	SSORS#2015 -T-104056	Untreated domestic sewage overflow from the sewer mainline inspection box 018-SIB-142, at 2408 Gilmerton Rd. This action occurred because Pumping Station #018 did not have the ability to pump against the force main head pressure.	Public Utilities Wastewater Collections investigated the complaint and traced the problem back to Pumping Station #018. We deferred the complaint to the Pumping Station section for further investigation. -----September 9, 2014 01:32 PM----- Due to heavy rain event the HRSD force main pressure of 40 to 50 PSI and more, contributed to the pump motor starting circuit which had tripped out from the soft start internal protection as the motor was running long hours heating up to where it tripped. Reset pump fail circuit to restart motors 1 and 2 as it was running under high head conditions. This station was monitored until levels returned normal. -----September 10, 2014 06:55 PM-----	200	Extreme wet weather measured between a 25-yr and 100-yr, 24-hr event
9/9/14 12:00 PM	King & Halifax	sink hole	Portsmouth Public Utilities	SSORS#2015 -T-104057	Excessive rainfall and flooding caused overflow from hole in street into storm drain system.	rainfall stopped/ safed up area -----September 9, 2014 01:50 PM-----	-1	Extreme wet weather measured between a 25-yr and 100-yr, 24-hr event
9/9/14 8:28 AM	King Street and Rudd Lane	manholes	HRSD	SSORS#2015 -T-104058	Storms in area produced massive rain which increased flow and overflowed two manholes. Rain gauge at Bridge Street Pump Station recorded 7.65 inches over a 27-hour period.	Checked pump station to ensure pumps were operating properly. -----September 9, 2014 02:22 PM-----Start time modified from initial notification report upon further review of the event. -----September 11, 2014 01:42 PM-----	101000	Extreme wet weather measured between a 25-yr and 100-yr, 24-hr event
9/9/14 1:00 PM	205 douglas Ave (alley way0	clean out and washout box	Portsmouth Public Utilities	SSORS#2015 -T-104059	Excessive rainfall and flooding caused overflow from clean out into storm drain system.	rainfall stopped -----September 9, 2014 02:48 PM-----	-1	Extreme wet weather measured between a 25-yr and 100-yr, 24-hr event

Table B-1. Regional SS System Capacity Related SSOs (July 1, 2014 to June 30, 2015)

Date and Time of Incident	Location	Sewer System Component	Jurisdiction	SSORS ID	Description of Incident from SSORS	Corrective Action from SSORS	Quantity from SSORS	Comments and Response
9/9/14 1:06 PM	1015 Cavalier Blvd	CAVALIER INDUSTRIAL PARK	City of Chesapeake	SSORS#2015 -T-104060	Untreated domestic sewage overflowed from several locations and spilled into the storm water system. This action occurred because Pumping Station #089 could not pump above the force main head pressure.	Public Utilities Wastewater Collections responded to the sewer overflow complaint and found it to be related to Pumping Station #089. The complaint was deferred to the Pumping Station section for further investigation. -----September 9, 2014 03:03 PM----- Due to heavy rain event the force main pressure were in the 40 to 50 PSI range causing pump equipment to run long hours and pump 1 starter heaters had tripped out leaving only one pump running. Resetting of that starter and putting into series pumping, draw down the system and stop the over flow. The station was monitored until levels returned to normal. -----September 10, 2014 05:31 PM-----	20000	Extreme wet weather measured between a 25-yr and 100-yr, 24-hr event
9/8/14 1:00 PM	12080 Greenbrier Lane	Rising Star Pump Station	Town of Smithfield	SSORS#2015 -T-104061	High head pressure on HRSD line due to excessive rainfall (over 10 inches) - caused overflow out of manhole.	cleaned and limed area -----September 9, 2014 03:14 PM-----	100	Extreme wet weather measured between a 25-yr and 100-yr, 24-hr event
9/8/14 1:15 PM	Cedar Street Smithfield VA	Manhole at Cedar Street	Town of Smithfield	SSORS#2015 -T-104062	High head pressure on HRSD line due to excessive rainfall (over 10 inches) - caused overflow out of manhole.	cleaned and limed area -----September 9, 2014 03:19 PM-----	400	Extreme wet weather measured between a 25-yr and 100-yr, 24-hr event
9/9/14 10:00 AM	4100 block George Washington HWY	manholes	Portsmouth Public Utilities	SSORS#2015 -T-104063	Excessive rainfall and flooding caused overflow from manholes into storm drain system.	rainfall stopped -----September 9, 2014 03:33 PM-----	-1	Extreme wet weather measured between a 25-yr and 100-yr, 24-hr event
9/9/14 7:00 AM	328 Joynes Road	Joynes Road	City of Hampton	SSORS#2015 -T-104065	Overflow due to heavy rain	Collection system caught back up due to heavy rains and overflow stopped. Area was washed down and limed. -----September 9, 2014 05:09 PM-----	31500	Extreme wet weather measured between a 25-yr and 100-yr, 24-hr event
9/9/14 7:00 AM	536 Settlers landing Road	Settlers Landing Road	City of Hampton	SSORS#2015 -T-104066	Overflows due to heavy rains.	Collection system caught back up after rain stopped. Area was washed down and lime was put down. -----September 9, 2014 05:18 PM-----	31500	Extreme wet weather measured between a 25-yr and 100-yr, 24-hr event

Table B-1. Regional SS System Capacity Related SSOs (July 1, 2014 to June 30, 2015)

Date and Time of Incident	Location	Sewer System Component	Jurisdiction	SSORS ID	Description of Incident from SSORS	Corrective Action from SSORS	Quantity from SSORS	Comments and Response
9/9/14 7:00 AM	4124 Candlewood Drive	Candlewood Dr	City of Hampton	SSORS#2015 -T-104067	Overflows due to heavy rains	Collection system caught back up as rain stopped. Washed down spill area and put down lime. -----September 9, 2014 05:24 PM-----	13500	Extreme wet weather measured between a 25-yr and 100-yr, 24-hr event
9/9/14 7:00 AM	1 South Armistead Ave	Armistead & Queens St	City of Hampton	SSORS#2015 -T-104068	Overflow due to heavy rain	Collection system caught back up as rain stopped. Washed down spill area and put down lime. -----September 9, 2014 05:33 PM-----	27000	Extreme wet weather measured between a 25-yr and 100-yr, 24-hr event
9/9/14 7:00 AM	Congress Ave and Ericson Drive	Congress ave	City of Hampton	SSORS#2015 -T-104069	Overflow due to heavy rains	Collection system caught back up as rain stopped. Washed down spill area and put down lime. -----September 9, 2014 05:36 PM-----	6000	Extreme wet weather measured between a 25-yr and 100-yr, 24-hr event
9/9/14 7:00 AM	148 Lasalle Ave	148 Lasalle Ave	City of Hampton	SSORS#2015 -T-104070	Overflow due to heavy rains	Collection system caught back up as rain stopped. Washed down spill area and put down lime. -----September 9, 2014 05:39 PM-----	6000	Extreme wet weather measured between a 25-yr and 100-yr, 24-hr event
9/8/14 8:00 PM	2111 Shell Road	Shell Rd & Teach St	City of Hampton	SSORS#2015 -T-104071	Overflows due to heavy rains	Collection system caught back up as rain stopped. Washed down spill area and put down lime. -----September 9, 2014 05:50 PM-----	97200	Extreme wet weather measured between a 25-yr and 100-yr, 24-hr event
9/9/14 8:00 AM	535 J. Clyde Morris Blvd	Pump Station #25	City of Newport News	SSORS#2015 -T-104072	Rainfall from intense Rainstorms (5-6") on 9/8/14 into 9/9/14 overwhelmed the Pump Stations ability to pump against the high head pressure in the force main line to the HRSD system.	Pump Station placed into bypass operations. Contaminated area disinfected with lime. WO #240423 -----September 9, 2014 05:54 PM----- ---September 14, 2014 12:23 PM----- September 19, 2014 06:37 PM-----	9000	Extreme wet weather measured between a 25-yr and 100-yr, 24-hr event
9/8/14 8:00 PM	1615 Victoria Blvd	1615 Victoria Blvd	City of Hampton	SSORS#2015 -T-104073	Overflows due to heavy rains	Collection system caught back up as rain stopped. Washed down spill area and put down lime. -----September 9, 2014 05:55 PM-----	27000	Extreme wet weather measured between a 25-yr and 100-yr, 24-hr event
9/9/14 8:00 AM	14432 Old Courthouse Way	Pump Station #49	City of Newport News	SSORS#2015 -T-104074	Rainfall from intense Rainstorms (5-6") on 9/8/14 into 9/9/14 overwhelmed the Pump Stations ability to pump against the high head pressure in the force main line to the HRSD system.	Pump Station placed into bypass operations. Contaminated area disinfected with lime. WO #240444 used. -----September 9, 2014 06:07 PM----- -----September 14, 2014 12:25 PM----- ---September 19, 2014 06:31 PM-----	60000	Extreme wet weather measured between a 25-yr and 100-yr, 24-hr event

Table B-1. Regional SS System Capacity Related SSOs (July 1, 2014 to June 30, 2015)

Date and Time of Incident	Location	Sewer System Component	Jurisdiction	SSORS ID	Description of Incident from SSORS	Corrective Action from SSORS	Quantity from SSORS	Comments and Response
9/9/14 8:30 AM	233 River Road	Pump Station #99	City of Newport News	SSORS#2015 -T-104075	Rainfall from intense Rainstorms (5-6") on 9/8/14 into 9/9/14 overwhelmed the Pump Station's incoming manholes that feed the PS while the PS cycled to pump into the gravity manhole that feeds the HSRD main gravity interceptor which were overwhelmed with the same rainfall impacts as the NN sewer lines.	Use of Combi-Vector trucks to lower manhole levels that drain to the Pump Station to keep the manholes from overflowing, allowing the Pump Station to pump out. Maintained vector operations until HRSD mainlines reduced their line capacities allowing the City's lines & PS 99 to properly drain/FM into them. Contaminated area disinfected with lime. WO #240411 was used. -----September 9, 2014 06:27 PM----- September 14, 2014 12:35 PM----- September 19, 2014 06:12 PM-----	9000	Extreme wet weather measured between a 25-yr and 100-yr, 24-hr event
9/9/14 9:00 AM	7 Ricks Lane	Pump Station #13	City of Newport News	SSORS#2015 -T-104076	Rainfall from intense Rainstorms (5-6") on 9/8/14 into 9/9/14 overwhelmed the Pump Stations ability to pump to Pump Station #15 due to its inability to pump against the high head pressure in the force main line to the HRSD interceptor FM system.	Pump Station #15 placed into bypass operations allowing the force main flows from PS #13 to gain entry to the PS #15 wetwell. Contaminated area disinfected with lime. WO #240406 used. ---September 9, 2014 06:41 PM----- September 14, 2014 12:37 PM----- September 19, 2014 06:39 PM-----	27000	Extreme wet weather measured between a 25-yr and 100-yr, 24-hr event
9/9/14 4:30 AM	1072 J. Clyde Morris Blvd	Pump Station #61	City of Newport News	SSORS#2015 -T-104077	Rainfall from intense Rainstorms (5-6") on 9/8/14 into 9/9/14 overwhelmed the Pump Stations ability to pump against the high head pressure in the force main line to the HRSD system.	Pump Station placed into bypass operation. Contaminated area disinfected with lime. WO #104077. Correction on the WO# it should be 240441 -----September 9, 2014 07:00 PM----- --September 14, 2014 12:37 PM----- September 19, 2014 06:14 PM----- September 19, 2014 06:17 PM-----	3000	Extreme wet weather measured between a 25-yr and 100-yr, 24-hr event
9/9/14 4:00 AM	15 Gwynn Circle	Pump Station #38	City of Newport News	SSORS#2015 -T-104078	Rainfall from intense Rainstorms (5-6") on 9/8/14 into 9/9/14 overwhelmed the Pump Stations ability to pump against the high head pressure in the force mainline to the HRSD system.	Pump Station placed into bypass operations. Contaminated area disinfected with lime. WO #241060 was used. -----September 9, 2014 07:07 PM----- -----September 14, 2014 12:38 PM----- -----September 19, 2014 06:34 PM-----	9000	Extreme wet weather measured between a 25-yr and 100-yr, 24-hr event
9/9/14 4:00 AM	907 Colleen Drive	Pump Station #56	City of Newport News	SSORS#2015 -T-104079	Rainfall from intense Rainstorms (5-6") on 9/8/14 into 9/9/14 overwhelmed the Pump Stations ability to pump against the high head pressure in the force mainline to the HRSD system.	Pump Station placed into bypass operations. Contaminated area disinfected with lime. WO # used is 240443. -----September 9, 2014 07:15 PM----- -----September 14, 2014 12:39 PM----- ---September 19, 2014 06:20 PM-----	6000	Extreme wet weather measured between a 25-yr and 100-yr, 24-hr event

Table B-1. Regional SS System Capacity Related SSOs (July 1, 2014 to June 30, 2015)

Date and Time of Incident	Location	Sewer System Component	Jurisdiction	SSORS ID	Description of Incident from SSORS	Corrective Action from SSORS	Quantity from SSORS	Comments and Response
9/9/14 5:00 AM	8-B Larchmont Crescent	Pump Station #12	City of Newport News	SSORS#2015 -T-104080	Rainfall from intense Rainstorms (5-6") on 9/8/14 into 9/9/14 overwhelmed the Pump Stations ability to pump against the high head pressure in the force mainline to the HRSD system.	Pump Station placed into Bypass Operations. --- --September 9, 2014 07:23 PM----- Contaminated area disinfected with lime. WO #240417 used. -----September 14, 2014 12:41 PM----- -----September 19, 2014 06:42 PM-----	3000	Extreme wet weather measured between a 25-yr and 100-yr, 24-hr event
9/9/14 6:35 AM	300 Terminal Avenue	manhole	HRSD	SSORS#2015 -T-104081	Manhole overflow due to high flows. Area received massive amount of rainfall. Manhole is located outside of fence of the Boat Harbor STP. The STP rain gauge recorded a total of 15.5" of rainfall during September 8-9. Plant flow peaked at 66 MGD at approximately 4:40 am. Operator leaving the plant at end of shift observed water coming up along the roadway even though the area was flooded.	Cleaned area around manhole. Problem was discovered when vehicle hit open manhole. Overflow had stopped by the time of discovery so a spill amount cannot be determined. ----- September 10, 2014 06:13 AM-----Time of discovery was modified from initial notification based on further review with plant staff. ----- September 12, 2014 02:53 PM-----	-1	Extreme wet weather measured between a 25-yr and 100-yr, 24-hr event
9/9/14 8:45 AM	2700 Block Portsmouth blvd at Marly st	man holes	Portsmouth Public Utilities	SSORS#2015 -T-104082	Excessive rainfall and flooding caused overflow from manholes into storm drain system.	rainfall stopped -----September 10, 2014 08:31 AM-----	-1	Extreme wet weather measured between a 25-yr and 100-yr, 24-hr event
9/9/14 9:00 AM	2800 block Portsmouth Blvd at Arcadia st	man holes	Portsmouth Public Utilities	SSORS#2015 -T-104083	Excessive rainfall and flooding caused overflow from manholes into storm drain system.	rainfall stopped -----September 10, 2014 08:37 AM-----	-1	Extreme wet weather measured between a 25-yr and 100-yr, 24-hr event
9/9/14 9:15 AM	116 allen Rd	Washout box	Portsmouth Public Utilities	SSORS#2015 -T-104084	Excessive rainfall and flooding caused overflow from washout box into storm drain system.	rainfall stopped -----September 10, 2014 08:41 AM-----	-1	Extreme wet weather measured between a 25-yr and 100-yr, 24-hr event
9/9/14 9:00 AM	3504 Fulton Ave	clean out	Portsmouth Public Utilities	SSORS#2015 -T-104085	Excessive rainfall and flooding caused overflow from Cleanout into storm drain system.	rainfall stopped -----September 10, 2014 08:52 AM-----	-1	Extreme wet weather measured between a 25-yr and 100-yr, 24-hr event
9/9/14 9:30 AM	115 Wright Ave	clean out	Portsmouth Public Utilities	SSORS#2015 -T-104086	Excessive rainfall and flooding caused overflow from clean out into storm drain system.	rainfall stopped -----September 10, 2014 09:04 AM-----	-1	Extreme wet weather measured between a 25-yr and 100-yr, 24-hr event
9/9/14 11:30 PM	1533 Leckie	Wash Out Box	City of Portsmouth Public Utilities	SSORS#2015 -T-104087	Excessive rainfall and flooding caused overflow from wash out box into storm drain system.	rainfall stopped -----September 10, 2014 09:12 AM-----	-1	Extreme wet weather measured between a 25-yr and 100-yr, 24-hr event

Table B-1. Regional SS System Capacity Related SSOs (July 1, 2014 to June 30, 2015)

Date and Time of Incident	Location	Sewer System Component	Jurisdiction	SSORS ID	Description of Incident from SSORS	Corrective Action from SSORS	Quantity from SSORS	Comments and Response
9/9/14 11:57 PM	916 Dandridge Dr	man hole	Portsmouth Public Utilities	SSORS#2015 -T-104088	Excessive rainfall and flooding caused overflow from man hole into storm drain system.	rainfall stopped -----September 10, 2014 09:18 AM-----	-1	Extreme wet weather measured between a 25-yr and 100-yr, 24-hr event
9/9/14 10:59 PM	630 Mclean st	Man Hole	Portsmouth Public Utilities	SSORS#2015 -T-104089	Excessive rainfall and flooding caused overflow from man hole into storm drain system.	rainfall stopped -----September 10, 2014 09:23 AM-----	-1	Extreme wet weather measured between a 25-yr and 100-yr, 24-hr event
9/9/14 9:00 AM	163 Douglas	Man Hole	Portsmouth Public Utilities	SSORS#2015 -T-104090	Excessive rainfall and flooding caused overflow from manhole into storm drain system.	rainfall stopped -----September 10, 2014 09:28 AM-----	-1	Extreme wet weather measured between a 25-yr and 100-yr, 24-hr event
9/9/14 9:00 AM	2915 hartord st	Man Hole	Portsmouth Public Utilities	SSORS#2015 -T-104091	Excessive rainfall and flooding caused overflow from man hole into storm drain system.	rainfall stopped -----September 10, 2014 09:32 AM-----	-1	Extreme wet weather measured between a 25-yr and 100-yr, 24-hr event
9/9/14 3:00 PM	627,635,642 Douglas Ave	clean out	Portsmouth Public Utilities	SSORS#2015 -T-104092	Excessive rainfall and flooding caused overflow from cleanouts into storm drain system.	rainfall stopped -----September 10, 2014 09:37 AM-----	-1	Extreme wet weather measured between a 25-yr and 100-yr, 24-hr event
9/9/14 9:30 AM	2915 Mt vernon	Man Hole	Portsmouth Public Utilities	SSORS#2015 -T-104093	Excessive rainfall and flooding caused overflow from man hole into storm drain system.	Rain fall stopped -----September 10, 2014 09:41 AM-----	-1	Extreme wet weather measured between a 25-yr and 100-yr, 24-hr event
9/9/14 10:20 AM	910 Darren Dr	Man Holes	Portsmouth Public Utilities	SSORS#2015 -T-104094	Excessive rainfall and flooding caused overflow from manholes into storm drain system.	rainfall stopped -----September 10, 2014 09:46 AM-----	-1	Extreme wet weather measured between a 25-yr and 100-yr, 24-hr event
9/9/14 5:45 PM	1037 Harrell st	clean out	Portsmouth Public Utilities	SSORS#2015 -T-104095	Excessive rainfall and flooding caused overflow from cleanout into storm drain system.	rainfall stopped -----September 10, 2014 09:52 AM-----	-1	Extreme wet weather measured between a 25-yr and 100-yr, 24-hr event
9/9/14 5:45 PM	300 Dinwiddie st	Man Hole and cleanout	Portsmouth Public Utilities	SSORS#2015 -T-104096	Excessive rainfall and flooding caused overflow from manhole and cleanout into storm drain system.	rainfall stopped -----September 10, 2014 09:57 AM-----	-1	Extreme wet weather measured between a 25-yr and 100-yr, 24-hr event
9/9/14 5:45 PM	501 Hampton Pl	Man Hole	Portsmouth Public Utilities	SSORS#2015 -T-104097	Excessive rainfall and flooding caused overflow from manhole into storm drian system.	Rainfall stopped -----September 10, 2014 10:18 AM-----	-1	Extreme wet weather measured between a 25-yr and 100-yr, 24-hr event

Table B-1. Regional SS System Capacity Related SSOs (July 1, 2014 to June 30, 2015)

Date and Time of Incident	Location	Sewer System Component	Jurisdiction	SSORS ID	Description of Incident from SSORS	Corrective Action from SSORS	Quantity from SSORS	Comments and Response
9/9/14 4:00 PM	127 york dr	Wash Out Box	Portsmouth Public Utilities	SSORS#2015 -T-104102	Excessive rainfall and flooding caused overflow from washout box to storm drain system.	rainfall stopped -----September 10, 2014 12:25 PM-----	-1	Extreme wet weather measured between a 25-yr and 100-yr, 24-hr event
9/9/14 12:00 AM	507 Kent Dr	Wash Out Box	Portsmouth Public Utilities	SSORS#2015 -T-104103	excessive rainfall and flooding caused over flow from washout box into storm drain system.	rainfall stopped -----September 10, 2014 12:31 PM-----	-1	Extreme wet weather measured between a 25-yr and 100-yr, 24-hr event
9/9/14 3:00 PM	400 block Chautauque Ave	Man Hole and cleanout	Portsmouth Public Utilities	SSORS#2015 -T-104105	Excessive rainfall and flooding caused overflowing from man holes and cleanout into storm drain system.	rainfall stopped -----September 10, 2014 12:49 PM-----	-1	Extreme wet weather measured between a 25-yr and 100-yr, 24-hr event
9/9/14 1:00 PM	300 block washington place	Man Holes	Portsmouth Public Utilities	SSORS#2015 -T-104106	Excessive rainfall and flooding caused overflow from manholes into storm drain system.	rainfall stopped -----September 10, 2014 12:55 PM-----	-1	Extreme wet weather measured between a 25-yr and 100-yr, 24-hr event
9/9/14 8:00 PM	542 florida	Wash Out Box	Portsmouth Public Utilities	SSORS#2015 -T-104107	Excessive rainfall and flooding caused overflow from washout box into storm drain system.	rainfall stopped -----September 10, 2014 01:12 PM-----	-1	Extreme wet weather measured between a 25-yr and 100-yr, 24-hr event
9/9/14 6:00 PM	4 Fairview	Man Holes	Portsmouth Public Utilities	SSORS#2015 -T-104108	Excessive rainfall and flooding caused overflow from man hole into storm drain system.	rainfall stopped -----September 10, 2014 01:33 PM-----	-1	Extreme wet weather measured between a 25-yr and 100-yr, 24-hr event
9/9/14 10:30 AM	212 James River Drive	212 James River Drive manhole	City of Newport News	SSORS#2015 -T-104114	Rainfall from intense Rainstorms (5-6" on 9/8/14 into 9/9/14) overwhelmed the collector lines feeding into the HRSD main gravity interceptor system and overflowed at the low & only city manhole on this line that feeds directly to the HRSD gravity collector system.	Use of Combi-Vector trucks to lower manhole levels that drain to the Pump Station(PS) #99 which force mains to an HRSD MH upstream of the overflow manhole (the low pt in the line)kept the lower end manholes down and allowed the PS to cycle properly with reduced I/I flows. This allowed the low MH on the line to stop overflowing and return proper gravity flow into the HRSD system. WO #241470----- September 15, 2014 05:10 PM----- September 19, 2014 06:08 PM-----	1500	Extreme wet weather measured between a 25-yr and 100-yr, 24-hr event

Table B-1. Regional SS System Capacity Related SSOs (July 1, 2014 to June 30, 2015)

Date and Time of Incident	Location	Sewer System Component	Jurisdiction	SSORS ID	Description of Incident from SSORS	Corrective Action from SSORS	Quantity from SSORS	Comments and Response
12/24/14 3:42 PM	4701 Victoria Blvd	Bridge Street Pump Station tide gate	HRSD	SSORS#2015-T-104170	Heavy rains caused high flows in system resulting in overflow at tide gate of station. Rain gauge recorded 1.82" of rainfall in 24-hour period.	Checked station to ensure pumps were operating properly. -----December 24, 2014 10:26 PM-----	-1	HRSD Bridge St. PS service area experienced wet weather that resulted in an overflow from the HRSD Bridge St. tide gate. Overflow will be addressed by the required Interim System Improvement project (CD #28) to replace / rehab the HRSD Bridge St. PS will be accomplished via HRSD CIP project BH011600. Will be further addressed in RWWMP.
12/24/14 3:24 PM	1090 Holland Rd	Holland Heights:	City of Suffolk(Public Utilities)	SSORS#2015-T-104171	PS 136 failed to pump due to high head conditions during a heavy rain event. The result of this failure caused the manhole on Holland Rd. to overflow.	The maintenance crew used a pump and haul truck to maintain the station until they got an emergency pump to place at the station. PS 136 is now back in normal operation. -----December 25, 2014 10:35 AM-----	700	City of Suffolk PS 136 service area experienced a 5-year, 24-hour rainfall amount. HRSD will address pressures in the interceptor lines serving this pump station with additions and improvements to the system of pressure reducing stations via CIP projects: NP011800 (Holland IFM), NP010610 (Wilroy Interim PRS), NP01630 (Wilroy PRS), NP012000 (Driver PRS) and NP012200 (Pughsville PRS Upgrades). Will be further addressed in RWWMP.
12/24/14 1:59 PM	120 East Constance Rd.	Constance Wharf:	City of Suffolk (Public Utilities)	SSORS#2015-T-104172	PS 048 telemetry data indicates that an overflow occurred during a heavy rain event. This event was not observed.	The maintenance crew used an emergency pump to maintain the station. PS 048 is now back in normal operation. -----December 25, 2014 10:45 AM-----	0	City of Suffolk PS 48 service area, which has a history of overflows, experienced a 5-year, 24-hour rainfall amount. HRSD will address pressures in the interceptor lines serving this pump station with additions and improvements to the system of pressure reducing stations via CIP projects: NP010610 (Wilroy Interim PRS), NP01630 (Wilroy PRS), NP012000 (Driver PRS) and NP012200 (Pughsville PRS Upgrades). Will be further addressed in RWWMP.

Table B-1. Regional SS System Capacity Related SSOs (July 1, 2014 to June 30, 2015)

Date and Time of Incident	Location	Sewer System Component	Jurisdiction	SSORS ID	Description of Incident from SSORS	Corrective Action from SSORS	Quantity from SSORS	Comments and Response
3/14/15 6:08 PM	99 Patrick Henry Dr.	PS# 7	City of Williamsburg	SSORS#2015 -T-104222	During wet weather respondent received high level alarm. When he arrived he checked the pressures in the force main which were too high for the station to pump into. Both pumps were running at the time, to protect the pump station was shut down until pressures dropped to a manageable level. Spill rate is estimated at 75 gpm.	Personnel monitored station until pressures dropped to allow normal operations -----March 16, 2015 08:34 AM-----	8400	City of Williamsburg PS #7 service area experienced wet weather that resulted in an overflow. Downstream HRSD pressure reducing station CIP project will help lower pressures on this location: Route 199 PRS (WB011520). Will be further addressed in RWWMP.
3/14/15 6:03 PM	76-z Carlton Ct	PS # 9	City of Williamsburg	SSORS#2015 -T-104223	During wet weather respondent received high level alarm. When he arrived he checked the pressures in the force main which were too high for the station to pump into. Both pumps were running at the time, to protect the pump station was shut down until pressures dropped to a manageable level. Spill rate is estimated at 50 gpm.	Station was monitored until pressures dropped to allow normal operations -----March 16, 2015 08:40 AM-----	6350	City of Williamsburg PS #9 service area, which has a history of overflows, experienced wet weather that resulted in an overflow. Downstream HRSD pressure reducing station CIP project will help lower pressures on this location: Route 199 PRS (WB011520). Will be further addressed in RWWMP.
4/20/15 6:48 AM	Garfield Ave.	PS 004:	City of Suffolk(Public Utilities)	SSORS#2015 -T-104256	PS 004 wet weather operations were being assisted by a by-pass emergency pump located on site. Due to an oversight by City staff both normal duty pumps were left off. During the rain event the emergency pump was not able to keep up on its own resulting in an overflow. The oversight by staff has been addressed with the employee.	PS 004 is back in normal operation. -----April 20, 2015 02:05 PM----- 26 June 2015 description of incident changed. -----June 26, 2015 03:09 PM-----	100	City of Suffolk PS 4 service area experienced wet weather, which produced flows that could not be handled by the only pump left in service by station operators. City has addressed the issue with staff. HRSD will address any capacity related issue in RWWMP.
6/4/15 5:31 PM	99 Patrick Henry Dr	PS # 7	City of Williamsburg	SSORS#2015 -T-104279	During wet weather force main pressures were too high for pump station to pump into force main. Pressures were seen to exceed 70 psi, pump station started pumping once pressures dropped below 50 psi. Estimate overflow amount 75 gpm	System analysis is on going -----June 5, 2015 08:55 AM-----	21025	City of Williamsburg PS #7 service area experienced wet weather that resulted in an overflow. Downstream HRSD pressure reducing station CIP project will help lower pressures on this location: Route 199 PRS (WB011520). Will be further addressed in RWWMP.

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6/4/15 4:30 PM	3904 John Tyler Highway Williamsburg VA.	JCSA LS 1-2 Service area.	James City Service Authority	SSORS#2015 -T-104280	Heavy rains in the area and issues with HRSD temporary bypass pumps at Greensprings PS caused the MH to leak at cracks in frame mortar joint.	HRSD responded and resolved pump issues. Heavy rain subsided. -----June 5, 2015 09:24 AM-----	120	JCSA LS 1-2 service area experienced wet weather resulting in increased flows to the pump station. Overflow was a leakage through manhole joints. Will be further addressed in RWWMP.
6/13/15 4:30 PM	106 Lytham Smithfield	Manhole by Golfcourse Pump Station	Town of Smithfield	SSORS#2015 -T-104285	Heavy rain caused overflow out of manhole - sewer main line blocked with grease	Used vactor truck to clean the line - sewer main line cleaned every 6 months -----June 14, 2015 09:08 AM----- -----June 15, 2015 08:30 AM-----	100	Overflow was caused by grease blockage in the line. Not Capacity-Related.
6/27/15 5:02 PM	720 Bay Shore Lane, Hampton, VA	Bay Shore Pump Station	HRSD	SSORS#2015 -T-104293	Heavy rain produced high flows which resulted in the pump station wetwell to overflow. Rain gauges in the area showed a rainfall of 0.93 inches during a 15 minute period, with 1.93 inches falling over 45 minutes. Total rainfall for this storm event was 2.24 inches.	HRSD personnel checked the Pump Station and ensured that all pumps were operating properly. -----June 27, 2015 08:40 PM----- Manholes were monitored until the overflow stopped. -----June 30, 2015 01:06 PM-----	207	HRSD Bay Shore PS service area experienced approximately a 10-year rainfall recurrence, which resulted in an overflow. Overflow will be addressed by the RWWMP.
6/27/15 9:00 PM	99 Patrick Henry Dr	ps 7	City of Williamsburg	SSORS#2015 -T-104294	High force main pressures during wet weather event caused emergency pump to over heat. A piece of the discharge hard pipe split and the pump had to be shut down until it could be replaced.	Discharge pipe was replaced and pumping resumed. -----June 29, 2015 08:13 AM-----	9000	Wastewater release was due to failure of pipe wall on discharge side of pumps in City of Williamsburg PS #7. Not Capacity Related.
6/27/15 10:00 PM	76 z Carlton Ct	Ps 9	City of Williamsburg	SSORS#2015 -T-104295	During wet weather event high force main pressures stopped the pump station from pumping	station was monitored until pressure subsided - ----June 29, 2015 08:18 AM-----	2250	City of Williamsburg PS #9 service area, which has a history of overflows, experienced wet weather that resulted in an overflow. Downstream HRSD pressure reducing station CIP project will help lower pressures on this location: Route 199 PRS (WB011520). Will be further addressed in RWWMP.