

## **Appendix A: Organization and Summary of the Final Condition Assessment Report**

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## List of Abbreviations

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AC	Asbestos Cement	PACP	Pipeline Assessment and Certification Program
ALD	Acoustic Leak Detection	PCAR	Preliminary Condition Assessment Report
ARV	Air Release Valve or AV	PCCP	Prestressed Concrete Cylinder Pipe
BEM	Broadband Electromagnetic	PCV	Pressure Control Valve
BO	Blow Off Valve	PE	Polyethylene
BP	Bypass Valve	PFTs	Peak Flow Thresholds
CA	Condition Assessment	PM	Preventive Maintenance
CAP	Condition Assessment Program	PR	Prompt Repair
CCTV	Closed Circuit Television	PRS	Pressure Reducing Station
CMMS	Computerized Maintenance Management System	PS	Pumping Station
CIP	Cast Iron Pipe	PVC	Polyvinyl Chloride
CP	Cathodic Protection	RCP	Reinforced Concrete Pipe
DEQ	(Virginia) Department of Environmental Quality	RCCP	Reinforced Concrete Cylinder Pipe
DIP	Ductile Iron Pipe	RTS	Regional Technical Standards
EC	Emergency Pump Connection or EPC	RWWMP	Regional Wet Weather Management Plan
EPA	(United States) Environmental Protection Agency	SCADA	Supervisory Control and Data Acquisition
ESVC	Extra Strength Vitriified Clay	SCAT	Sewage Collection and Treatment
FCAR	Final Condition Assessment Report	SOC	Special Order by Consent
FM	Force Main	SP	Steel Pipe
FPR	Flow, Pressure, Rainfall	SSES	Sanitary Sewer Evaluation and Survey
FSL	Free Swimming Leak Detection	SSO	Sanitary Sewer Overflow
GV	Gate Valve	SSORS	Sanitary Sewer Overflow Reporting System
HDPE	High Density Polyethylene	STP	Sewage Treatment Plant
HRPDC	Hampton Roads Planning District Commission	TDH	Total Dynamic Head
ICCP	Impressed Current Cathodic Protection	TBD	To Be Determined
LD	Leak Detector	TS	CP Test Station or CPTS
LF	Linear Feet	UST	Ultrasonic Testing
MACP	Manhole Assessment and Certification Program	VC	Vitriified Clay
MCC	Motor Control Center	VFD	Variable Frequency Drive
MH	Manhole		
ML	Mainline Valve		
MOM	Management, Operations and Maintenance		
N/A	Not applicable		
NACE	National Association of Corrosion Engineers		
NASSCO	National Association of Sewer Service Companies		
NOAA	National Oceanic & Atmospheric Administration		

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# Executive Summary

This report is an Appendix to HRSD's Rehabilitation Action Plan to satisfy the requirements of the United State's Environmental Protection Agency (EPA) Consent Decree as well as the Virginia Department of Environmental Quality (DEQ) Special Order by Consent (SOC) for reporting on results of the Condition Assessment Program (CAP). This document summarizes rehabilitation activities that took place during the CAP. Appendices B, C, D, and E satisfy the remaining reporting requirements of the CAP as well as the Action Plan Update due February 12, 2014 as required by the Consent Decree.

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## Section 1

# Condition Assessment Program

The primary purpose of the HRSD CAP was to find sanitary sewer assets presenting an actual material risk of failure. For the purposes of this document, “failure” means any condition resulting in a sanitary sewer overflow, pipe leakage, or interruption of service to HRSD’s customers due to a physical condition defect in the system. The CAP involved assessments which included record review, historic data review, field inspections and desktop analysis. Through October 15, 2013, HRSD has assessed approximately:

- 265,000 linear feet (LF) of force main (FM),
- 6,500 FM appurtenances,
- 260,000 LF of gravity main,
- 1,290 manholes,
- 81 pumping facilities

The CAP and Sanitary Sewer Evaluation and Survey (SSES) Plan require HRSD to submit a Final Condition Assessment Report (FCAR) which summarizes the condition assessment activities and identifies assets presenting a material risk of failure. Both the CAP and SSES Plan also require HRSD to develop a plan to address those assets presenting material risk of failure; this plan is referred to herein as the Rehabilitation Action (Rehab) Plan.

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## Section 2

# Final Condition Assessment Report

The FCAR is being submitted as a series five of appendices to the Rehabilitation Action Plan. The following list describes information on how the appendices are organized:

- Appendix A – Organization and Summary of the FCAR
- Appendix B – Pumping Facility Final Condition Assessment Report
- Appendix C – Gravity Sewer System Final Condition Assessment Report
- Appendix D – Force Main System Final Condition Assessment Report
- Appendix E – Rehabilitation Performed during CAP

Appendices B, C and D each contain a summary of the condition assessment activities by system as well as a listing of assets presenting a material risk of failure. Appendix E describes rehabilitation that took place during the CAP. These appendices were updated with information obtained from the start of the CAP through the final field activity completion deadline of October 15, 2013 as listed in the PCAR.

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