

Annual Update

February 2013

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- Background information
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Inside this issue:

Wastewater System Regionalization Study	2
Sewer Lateral Inspection Program (SLIP) Pilot	2
Tips to Protect Area Waterways	2
Pump Station Fact Sheet	3
How to Report SSOs	4
Locality Team Participants	4
HRSD Service Area Map	4

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Go to: www.elizabethriver.org to learn how to make restoration a reality.

HRSD Reports Progress on Sanitary Sewer Overflow Reduction Program

HRSD held its annual meeting to review the status of the Regional Wet Weather Management Plan (RWWMP) on January 22, 2013. The public was invited to attend this session, which included information about the extensive cooperation between HRSD and the localities it serves.

HRSD is engaged in a multi-year effort to reduce Sanitary Sewer Overflows (SSOs) in the Hampton Roads area. These overflows occur when the system is overloaded with excess storm water or groundwater that enters the system during rain events, or when pipes or pumps fail due to unexpected mechanical problems or pipe breaks.

The SSO reduction program includes wide-scale monitoring of wastewater flows, pressures and rainfall; development of a computer model of the pipe network; inspection of the system's many assets (pipes and pump stations); and development of a RWWMP.

During 2012, HRSD completed a preliminary capacity assessment of the regional wastewater system. This creates a baseline showing which parts of the infrastructure are unable to convey the peak wet weather flows without SSOs prior to any effects of rehabilitation. The wet

weather flows will be reduced based on the extensive wastewater system rehabilitation programs proposed by the localities. Following the capacity assessment, HRSD will be loading the computer model with reduced wet weather flows based on the rehabilitation plans to determine what capacity limitations remain in the system. Alternatives and solutions to the capacity limitations will be identified and compiled into a RWWMP, due to be completed following the ongoing regionalization study (see article on page 2).

The other component of the SSO reduction program is assessment of the condition of many parts of the wastewater collection system. HRSD has been performing these inspections on a routine basis. The comprehensive assessment of the system that began in 2008 will continue through 2013. The majority of the condition assessment work was completed in 2011. Some of the more complicated pipe inspections extend into 2013. HRSD met a major milestone in February 2013 with the completion of a Rehabilitation Action Plan that defines which pipeline and pumping assets to rehabilitate and when. An update to this plan will be completed in 2014 following completion of the condition assessment activities in 2013.

Study Underway to Assess Benefits of Wastewater System Regionalization

The wastewater system in the Hampton Roads region includes city and county owned local sewer collection systems and pump stations, as well as HRSD owned regional pipelines, pumping stations and treatment plants. This requires multiple utility departments, billing systems, equipment fleets and management organizations, and leads to different approaches to wastewater management. In 2012, the concept of regionalizing the

wastewater utilities into a single entity was proposed. HRSD and all of the localities it serves agreed to pursue a regionalization study that is currently being overseen by the Hampton Roads Planning District Commission (HRPDC). The study consultant will investigate the benefits and drawbacks of system regionalization, including an impact on sewer rates. The results of this study are expected in the fall of 2013.

HRSD Develops New Sewer Lateral Inspection Program

HRSD has embarked on a pilot project that will identify and repair defective laterals (the pipes in yards that connect a house's plumbing to the city sewer pipeline in the street). Cracks and defects in these pipes have been known in other parts of the country to be a significant contributor to excess storm water and groundwater in the sewer system. The data we gather and the feedback we receive from the Sewer Lateral Inspection Program (SLIP) participants will help us determine whether this is a program we should implement in other parts of Hampton Roads. If expanded, the project areas will be selected through coordinated efforts among HRSD and the localities it serves.

The main components of the SLIP include testing the lateral through non-destructive means and repair or replacement of sewer laterals determined to be contributing excess flow into the wastewater system. The testing may include wet weather simulation where the area above the lateral pipe is soaked with a "rain storm" from sprinklers and the groundwater infiltration is observed from a sewer camera in the main line.

HRSD expects to complete the SLIP pilot work in late 2013 and will determine if the benefits for reduced wet weather flows outweigh the cost to continue with the program.

Tips to Protect Area Waterways

- **"SCOOP the POOP"** after your dogs. When pet waste washes into waterways, bacteria levels make swimming unsafe.
- **REDUCE FERTILIZERS** on your lawn. Over-fertilized lawns lead to algae blooms that can choke aquatic life.
- **PROTECT STORM DRAINS** from grass clippings, leaves and oil. Storm drains lead to waterways. Even leaves add excess nutrients.
- **NO GREASE DOWN THE DRAIN.** Pouring grease into the kitchen sink or a toilet can cause clogged drains, leading to sewer overflows.
- **HELP GEESE MIGRATE** by not feeding them. Overpopulations of geese mean too much poop washing into waterways and unsafe swimming.
- **PUMP OUT** boat sewage at proper facilities. When boats dump directly into waterways, it adds to unswimmable conditions.
- **DON'T FLUSH UNUSED MEDICATIONS.** Treatment facilities are not designed to remove medicines from sewage. Keep unused pharmaceuticals and personal care products out of our waterways by following safe disposal methods.

Pump Station Fact Sheet



HRSD pump stations



What is a Pump Station?

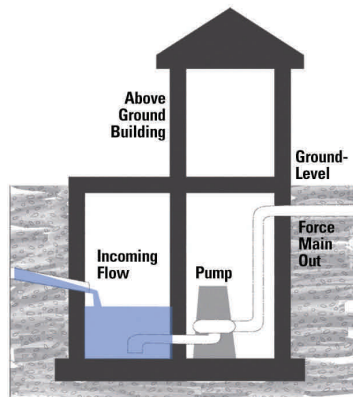
- Pump stations are part of the infrastructure built and maintained by utility providers (such as cities and HRSD) to move sewage from a community to a wastewater treatment plant.
- Most of the pump station is below ground. This includes the pumps, piping and sewage flows.
- Pump stations are designed to fit their sites. The portion above ground is typically constructed of brick. Their exteriors vary in appearance due to when and where they were built. Some even look like houses so they blend into the community they serve.

What is inside a Pump Station?

Below ground: pumps, piping, valves, vaults and sewage.

In the building: electrical equipment and controls, communication equipment to notify HRSD in the event of a maintenance issue, ventilation equipment and odor control equipment, if necessary.

On the site: residential style driveway and landscaping, emergency power generator or connection for portable generator and connections for temporary portable pumps.



Frequently Asked QUESTIONS

Are pump stations noisy?

Because the pumps are below ground and in a concrete vault, they generally do not generate noise that can be heard outside the pump station.

Will a new pump station reduce the likelihood of sewer overflows?

HRSD's investment in replacing infrastructure is intended to continuously improve the system and reduce sanitary sewer overflows.

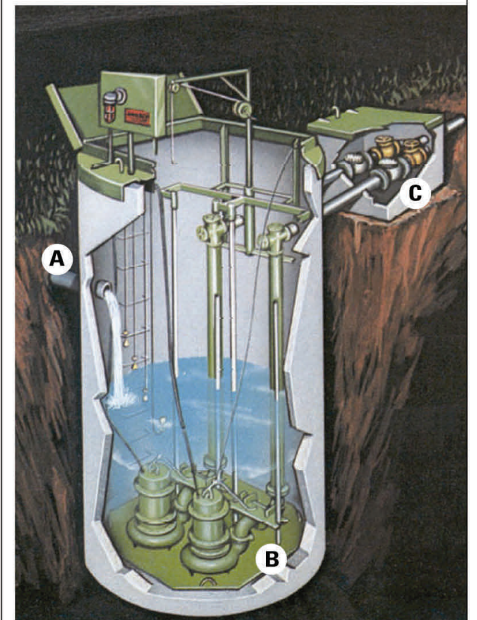
Do pump stations generate odor?

In the Hampton Roads area, sewage is pumped through thousands of pump stations, the vast majority of which generate little or no odor that is detectable outside the station and do not require odor control devices. If conditions do occur that require odor control, there are a number of methods to address it.



How does a Pump Station Work?

- A. Sewage from homes and businesses flows by gravity piping into an underground concrete vault called a wet well.
- B. Pumps are programmed to run automatically when the wet well fills to a pre-set level. Pumps automatically stop running when the water level is sufficiently reduced.
- C. Flows are pumped by pressure through pipes called force mains to the treatment plant.



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Regional Wet Weather Management Plan

Annual Update

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Locality Team Participants

- Chesapeake
- Gloucester
- Hampton
- Hampton Roads Planning District Commission
- HRSD
- Isle of Wight
- James City Service Authority
- Newport News
- Norfolk
- Poquoson
- Portsmouth
- Smithfield
- Suffolk
- Virginia Beach

Help Protect Our Waterways by Reporting Suspected Sanitary Sewer Overflows (SSOs)

Please call the number listed for your locality if you observe an SSO.

Locality	During Business Hours	After Business Hours
Chesapeake Public Utilities	757-382-6352	757-382-3550
Gloucester Public Utilities	804-693-4044	804-693-3890
Hampton Public Works	757-727-8311	757-727-8311
Isle of Wight Public Utilities	757-365-6284	757-357-2151
James City Service Authority	757-229-7421	757-566-0112
Newport News Public Works	757-269-2700	757-247-2500
Norfolk Public Utilities	757-823-1000	757-823-1000
Poquoson Public Works	757-868-3590	757-868-3501
Portsmouth Public Utilities	757-393-8561	757-393-8561
Suffolk Public Utilities	757-514-7000	757-514-7000
Town of Smithfield	757-365-4200	757-357-2151
Virginia Beach Public Utilities	757-385-1400	757-385-3111
Williamsburg Public Works	757-220-6140	757-220-6196
York Environmental & Development Services	757-890-3773	757-890-3773

