



# Modified Consent Decree for the Sanitary Sewer System

BALTIMORE CITY  
**DPW**  
DEPARTMENT OF PUBLIC WORKS  
MATTHEW W. GARBARK  
ACTING DIRECTOR

## **ANNUAL PUBLIC INFORMATION SESSION**

Virtual Event using Microsoft Teams

Thursday, January 21, 2021



# Modified Consent Decree for the Sanitary Sewer System

## Tonight's Agenda

- Opening Remarks
- Microsoft Teams Orientation
- Program Overview and Update
- Breakout Rooms: Learning Stations
- Virtual Open House Session



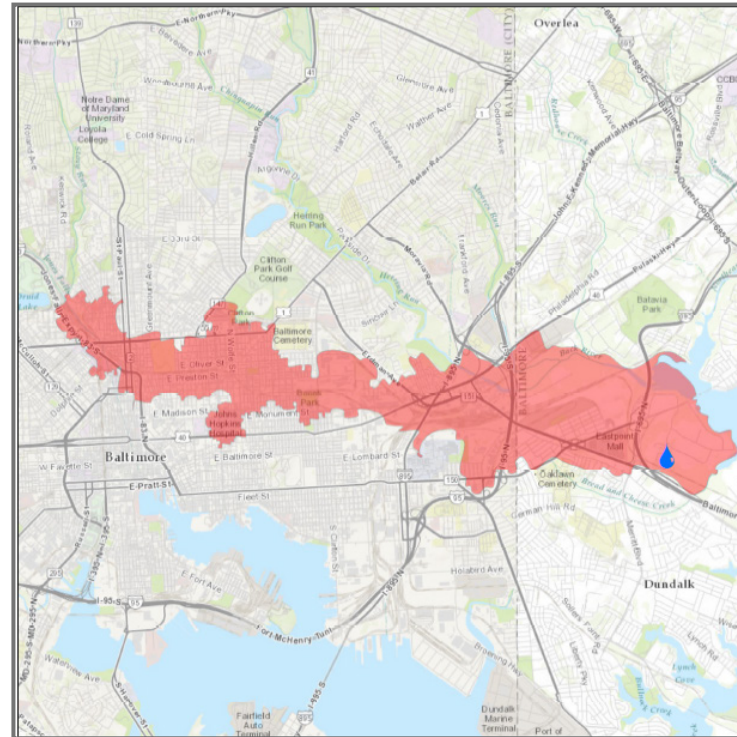
## Program Overview

- A **Consent Decree** is a legal agreement or settlement that resolves a dispute between parties without admission of guilt or liability.
- On September 30, 2002, Baltimore City entered into a Consent Decree with the United States Environmental Protection Agency (EPA), Department of Justice (DOJ) and the Maryland Department of the Environment to address sanitary sewer overflows (SSOs) from the City's collection system.



## Program Overview (cont'd)

- The City was not able to comply with the initial Consent Decree deadline, in part, because of a hydraulic restriction discovered at the Back River Wastewater Treatment Plant (WWTP)





## Meeting Purpose

- To educate you on the progress of the Modified Consent Decree (MCD) program for the sanitary sewer system
- To answer questions and solicit feedback on program elements
- To connect you with DPW and the work being performed in the City to address sanitary sewer overflows



## Modified Consent Decree

- Entered by the U.S. District Court on October 6, 2017
  - Phase I deadline – January 1, 2021
    - Phase I includes rehabilitation of collection system and elimination of Sanitary Sewer Overflows (SSOs)
  - Phase II deadline – December 31, 2030
    - Reducing infiltration/inflow and upgrading hydraulic capacity of the collection system citywide
- Deadlines are extended for CD compliance because:
  1. The City is doing more
  2. It allows the City to work smart, completing projects for less money



## MCD Project Team

- DPW Office of Engineering & Construction
- DPW Operations & Maintenance
- DPW Facilities
- Baltimore City Office of Boards and Commissions
- DPW Communications
- Program Management Consultant Team



## MCD Program Elements

- Elimination of SSO Structures (8)
- Implementation of Sewershed Plans (9)
- Regulatory Studies and Deliverables (9)
- Illegal Sewer Connections (10)
- Pumping Station Inspection, Repair and Rehabilitation (11)
- Collection and Transmission System Model (12)
- Collection System Operation and Maintenance (13)
- Information Management System Program (14)
- Sanitary Discharges of Unknown Origin (15)
- Revised Emergency Response Plan (16)
- Reporting Overflows and Recordkeeping (17)
- Stream Quality Monitoring (19)
- Review and Approval of Deliverables (20)





## Elimination of SSO Structures (Paragraph 8)

*The City of Baltimore shall eliminate the identified Sanitary Sewer Overflow (SSO) Structures and comply at all times with the Clean Water Act.*

- 60 of 62 SSO structures identified in 2002 CD have been eliminated.
- Remaining 2 SSO structures from 2002 CD can't be eliminated until Back River WWTP Headworks Project is completed.
- An additional 15 SSO structures identified since 2002; 6 have been eliminated.
- Currently, 11 SSO structures are being monitored.
- DPW has submitted action plans and schedules to eliminate the remaining SSO Structures.



## Implementation of Sewershed Plans (Paragraph 9)

*The City of Baltimore shall complete all projects specified in Phase I and Phase II Plans by implementing an adaptive management process.*

- Over the last 12 months
  - 6 consent decree construction projects completed
  - 8 active consent decree projects in construction (including Headworks)
  - 0 project in pre-construction
- As of public meeting, construction has been completed for 32 Consent Decree projects.



# Implementation of Sewershed Plans (Paragraph 9)

*The City of Baltimore shall complete all projects specified in Phase I and Phase II Plans by implementing an adaptive management process.*

- Types of Projects
  - Cured-in place pipe (CIPP)
  - Point repair
  - Manhole rehabilitation
  - Sanitary House Connection / rehabilitation
- Back River WWTP Headworks Project
  - New Influent Pumping Station
  - New screening & grit removal facilities
  - 36 MG Storage



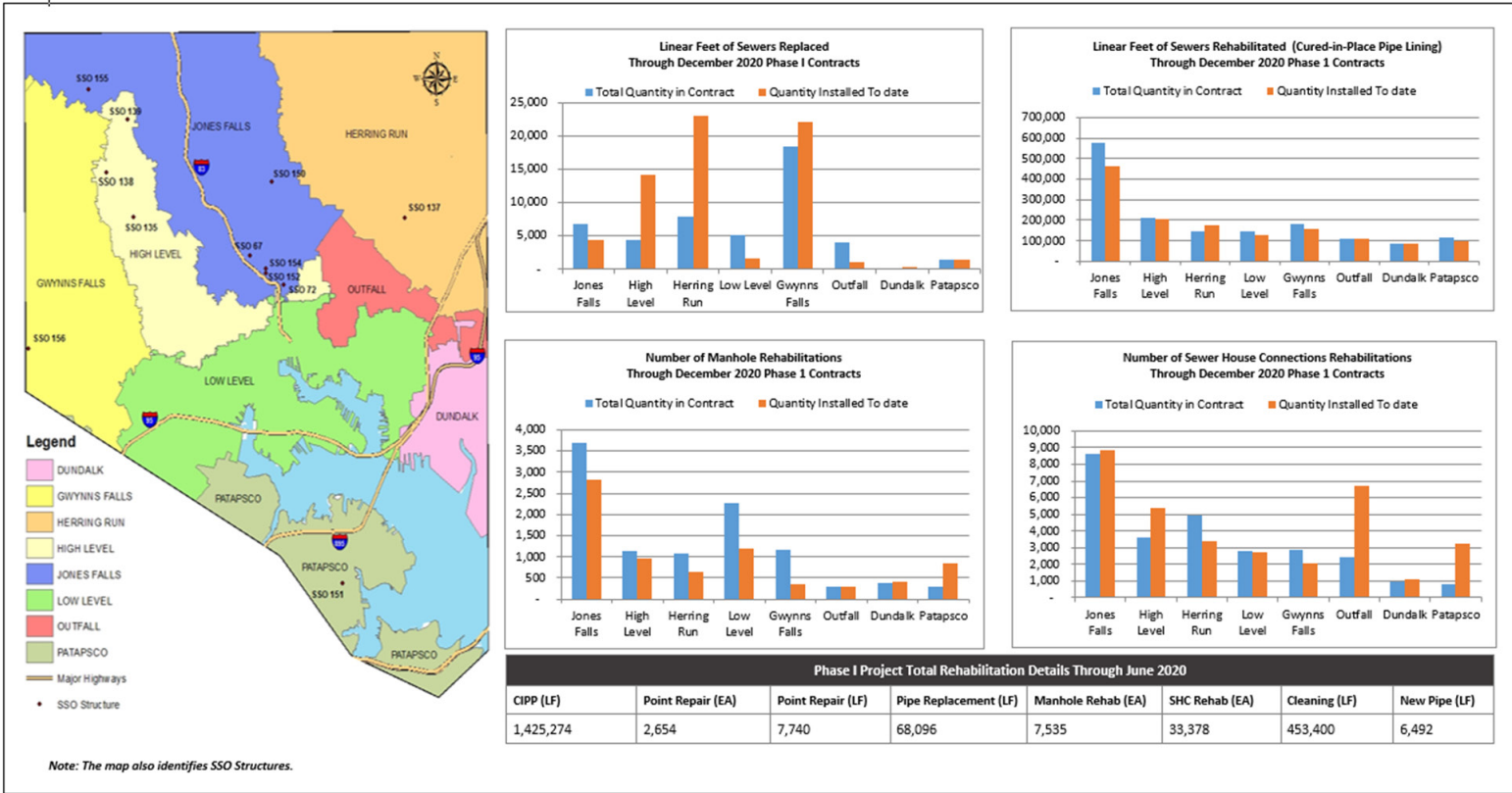
# Regulatory Studies and Deliverables (Paragraph 9)

## Over the past 12 months...

- Installed 20 additional rainfall and flow monitors at:
  - Phase I post-construction flow monitoring (PCFM) basins
  - Areas with recurring basement flooding
  - Locations to re-calibrate baseline model conditions
- Submitted progress reporting to EPA and MDE for each calendar quarter, including annual costs for Phase I projects



# Regulatory Studies and Deliverables (Paragraph 9)





# Back River WWTP Headworks Project (Paragraph 9)

- Approximately \$430 Million.
- Helps fulfill Baltimore City's Consent Decree requirements to address sewage overflows.
- Contributes to more than 80% reduction in the volume of SSOs.





# Illegal Sewer Connections (Paragraph 10)

*The City of Baltimore shall continue to identify and eliminate each illegal connection to the Collection System.*

- Baltimore continues to implement its illegal private connections enforcement action plan
- Illegal connections are identified in the Quarterly Progress Reports
- Baltimore will notify owners of privately-owned portions of laterals that cause or contribute to overflow of the collection system

## **Over the past 12 months...**

- No enforcement actions were implemented or illegal connections abated



# Pumping Station Inspection, Repair & Rehabilitation (Paragraph 11)

*The City of Baltimore shall continue to perform the following activities:*

- Daily pumping station inspections
- Pumping station remote monitoring and SCADA system maintenance
- Pumping station preventative maintenance program
- Pumping station updates provided in Quarterly Progress Reports

**Over the past 12 months...**

- No overflows
- No Near misses





# Collection and Transmission System Model (Paragraph 12)

*The City of Baltimore shall maintain the computerized collection and transmission system model for the Collection System*

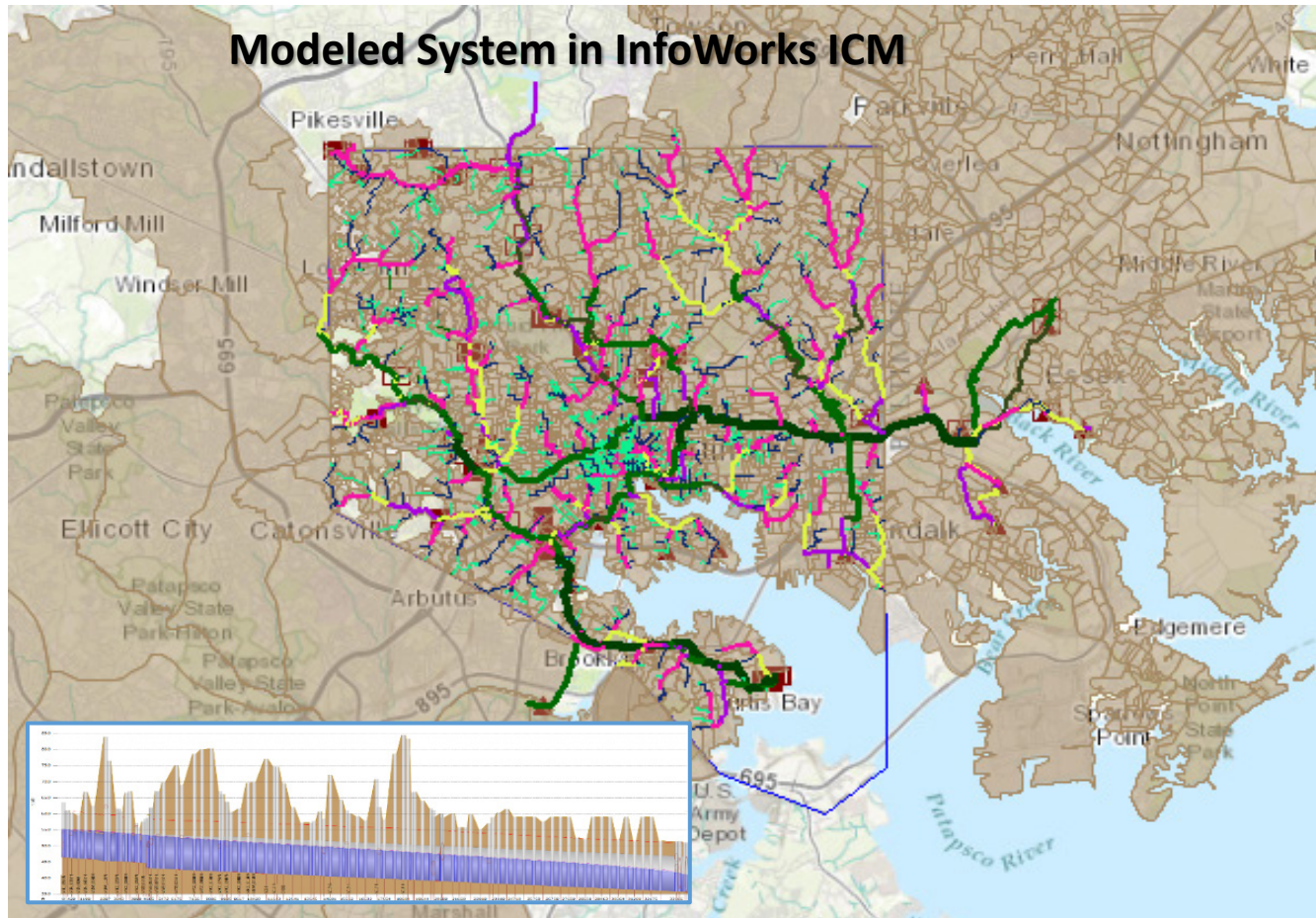
- The model establishes baseline and future or build-out conditions hydraulic performances

## **Over the past 12 months...**

- Developed and started implementing Phase 1 Post-Construction Flow Monitoring (PCFM)
- Deployed 12 flow meters for Phase I PCFM in addition to the 5 meters deployed for Pilot Area PCFM in Dundalk Sewershed
- Updated and calibrated portions of the model based on improvements to the collection and transmission system including MCD projects, CIP projects and projects implemented by Baltimore County.



# Collection and Transmission System Model (Paragraph 12)





## Collection System Operation and Maintenance (Paragraph 13)

*The City of Baltimore shall perform a comprehensive review of its operation and maintenance (“O&M”) Plan and prepare a revised O&M Plan for the Collection System, detailing how Baltimore will evaluate and maintain an effective program to prevent and minimize dry weather overflows.*

### Over the past 12 months...

- Revised O&M Plan approved by EPA and MDE November 29, 2018
- An annual update to the O&M Plan was submitted to EPA and MDE December 3, 2020



# Collection System Operation and Maintenance (Paragraph 13)

Over the past 12 months...

Activity	Results
O&M Progress Report published to DPW website for public comment	Submitted 10/31/2020
Developed Targeted Cleaning program to inspect and clean collection system sewers	51 miles cleaned
Conducted Fats, Oils, and Grease (FOG) treatment of sewer lines	12 miles Treated
Treated sewer lines for root intrusion	43 miles Treated
Conducted Food Service Establishments (FSE) inspections	1,835 inspections



# Information Management System Program (Paragraph 14)

*The City of Baltimore shall maintain its information management system for the collection system including:*

- GIS database
- Inventory of collection system assets
- Updates to inventory based on rehabilitation
- Baltimore uses the Cityworks application for customer service requests (coming into the 311 system) and work order management

## **Over the past 12 months...**

- Achieved in-house management and expanded use of Cityworks
- Maintained services and level of engagement during the COVID-19 pandemic



## Addressing Sanitary Discharges of Unknown Origin (SDUO) (Paragraph 15)

*The City of Baltimore shall develop and implement a plan for the investigation and the elimination of SDUOs.*

- SDUO plan approved by MDE/EPA on November 29, 2018
- An SDUO is a discharge of sewage through Baltimore's separate storm sewer system, where the source of the sewage is unknown

**Over the past 12 months...**

- 11 SDUO's discovered, 15 abated
- 5 from previous year (2019) identified
- 3 SDUO's are outstanding



## Revised Emergency Response Plan (Paragraph 16)

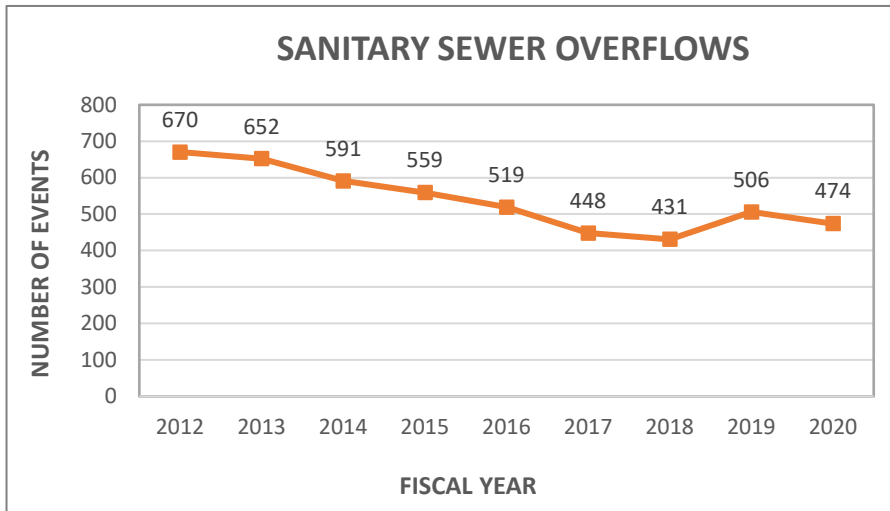
*The City of Baltimore shall revise and submit to EPA and MDE its Emergency Response Plan (ERP) to adequately protect the health and welfare of persons in the event of an unpermitted release, spill or discharge of pollutants from the Collection System or in the event of a reported Building Backup.*

- ERP training conducted annually for DPW operations, maintenance and response staff
- ERP Submitted to MDE/EPA on April 4, 2018 including building backups and SDUOs; Approval Pending



# Reporting of Overflows and Recordkeeping (Paragraph 17)

*Baltimore continues to see overall reductions in SSOs due to various collection system improvements, repairs, and continued implementation of preventive maintenance programs*



## Programs to reduce SSOs

- Sewer Target Cleaning
- FOG Abatement
- Root Control
- Trunk Walk
- Lateral Assessment/Repair
- SSO Root cause analysis
- Collection system repairs/upgrades

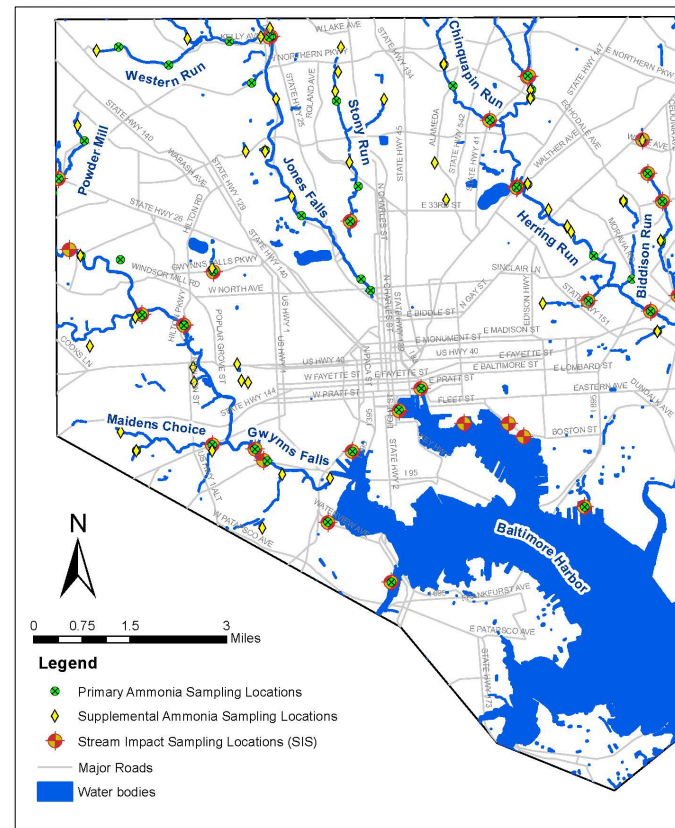




# Stream Quality Monitoring (Paragraph 19)

*Baltimore shall post on the DPW website the results of its water quality monitoring programs.*

- Baltimore continues to take action to monitor stream quality including:
  - Ammonia Screening, weekly
  - Stream Impact Sampling, monthly





# Water Quality Monitoring In 2020



**12**

Engineers and Scientists

**2,680**

Ammonia Screening Samples



**89**

Stations Routinely Sampled

**158**

PST Investigations Initiated



**348**

Samples Tested for Bacteria

**43**

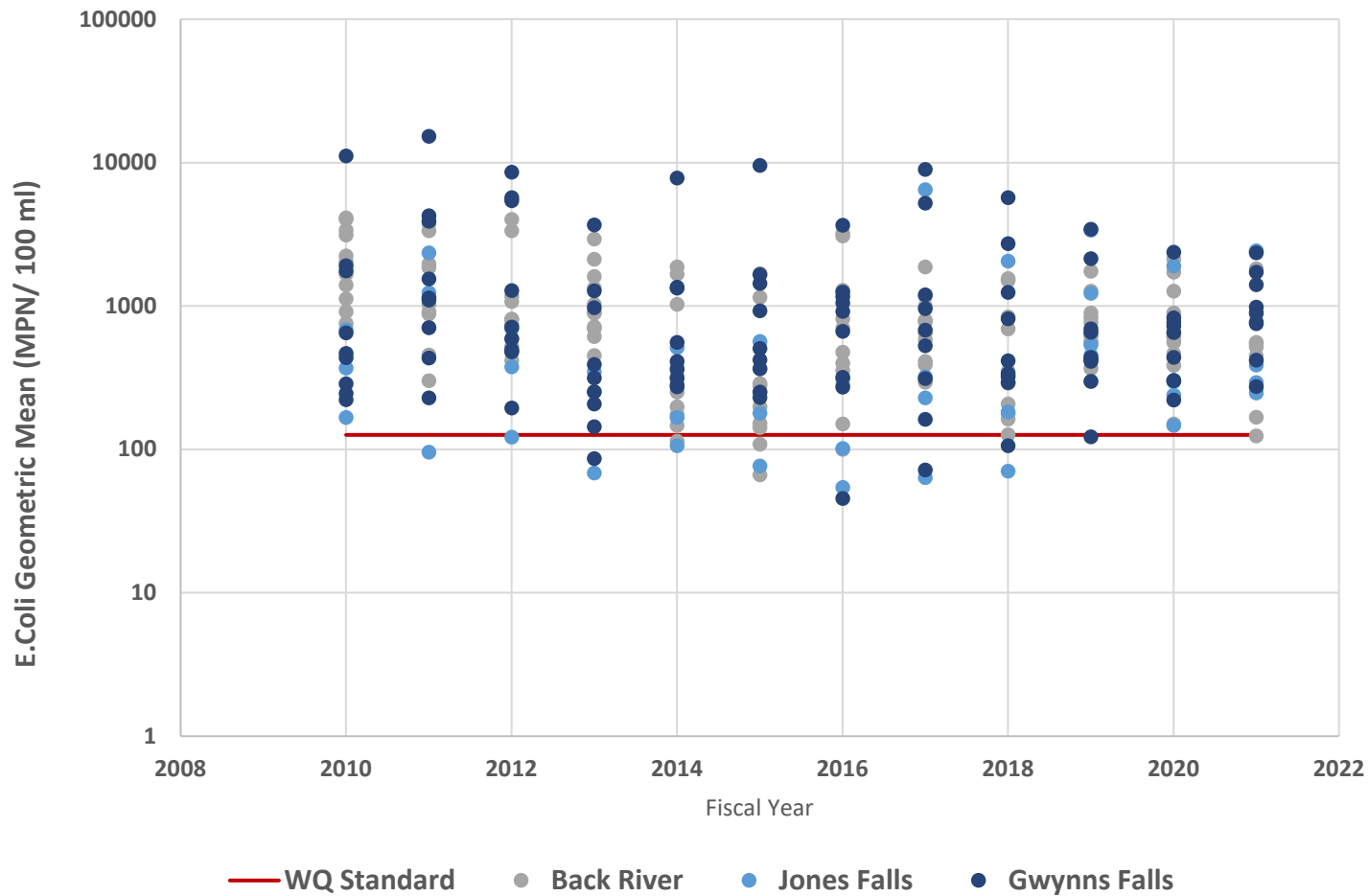
Sewage Discharges Found

**11**

SDUOs Identified



# E. Coli (Non-tidal)





# Enterococcus (Tidal)





# Review and Approval of Deliverables (Paragraph 20)

- Created separate brochures for:
  - Handling Sewage Backups
  - Preventing Building Backups
  - Expedited Reimbursement Program





   
BALTIMORE CITY  
Department of Public Works  
**HANDLING  
SEWAGE BACKUPS**  
PUBLICWORKS.BALTIMORECITY.GOV  
Call 311 to Report Backups



   
BALTIMORE CITY  
Department of Public Works  
**SEWAGE BACKUP  
EXPEDITED REIMBURSEMENT  
PROGRAM**  
PUBLICWORKS.BALTIMORECITY.GOV  
Call 311 to Report Backups



   
BALTIMORE CITY  
Department of Public Works  
**UNDERSTANDING  
AND PREVENTING  
SEWAGE BACKUPS**  
PUBLICWORKS.BALTIMORECITY.GOV  
Call 311 to Report Backups



# Review and Approval of Deliverables (Paragraph 20)

- Produced social media campaigns related to Fats, Oils, and Grease

## CLEAR THE FOG FATS, OILS, GREASE

Fats, Oils and Grease (FOG) come from food preparation and kitchen clean-up. FOG may look like liquid when drained, but it solidifies when discharged into the sanitary sewer. This results in clogged drains, sewage backups and the discharge of raw sewage into our local waterways.

MYTH	FACT
I can pour grease down the drain if I run hot water with it.	Grease poured down the drain, even with hot water, will eventually cool and solidify in the sewer pipe.
I can scrape kitchen waste down the drain if I use the garbage disposal.	The garbage disposal only grinds up items before discharging them to the sewer system but does not eliminate FOG.
Pouring grease down the drain with dish soap will completely dissolve the grease.	Most dish soaps break up grease, but once cooled, the grease will still solidify in the sewer system.
I can discard grease in my tub, shower, or toilet.	FOG poured in a bathtub, shower, or toilet will end up in the same sewer system that the sink drains to and may cause damage.

### WHAT SHOULD I DO?

- Wipe loose food and grease from dishes before washing them in the sink.
- Scrape food scraps into a garbage can or compost bin.
- Pour all grease and cooking oil into a covered container and dispose of it in the garbage.
- Clean grease with absorbent materials, like paper towels, and then throw the material in the garbage.

## COST OF FOG

Improper disposal of Fats, Oils, and Grease (FOG) can cost you money, time and your health.

### MONEY

Don't let FOG cost you money! When the pipes in your home backup due to FOG, it can cause costly repairs for your home and your community. If you cannot determine what may have caused the sewer backup, a professional may have to perform a Camera Inspection to identify where the issue occurred and why; the cost for these inspections can be as much as \$450!

Once you have determined the cause of the backup, it's time to get it fixed. The national average cost for a sewer line repair is \$3,818. In extreme cases, a more complicated sewer line repair could cost up to \$30,000.

You may also incur added fees when replacing your sewer line based on its location on your property. Reseeding your yard could cost \$14 - \$16 per square foot. Repaving your driveway or a slab could cost from \$121 to \$131 per cubic yard.

### TIME

Don't let FOG cost you time. Replacing a sewer line is a large construction project. On average, it can take from 3 - 5 days to complete. Once all work is complete, it could take 1 - 6 months for your grass to return to its pre-existing condition.

### HEALTH

Don't let FOG put your health at risk. Never try to clean up sewage backup in your home. Attempting to clean up a sewer backup can cause viral infections if not done correctly. It's always best to hire a professional company to clean up a sewage overflow which can cost \$500 or more. Items damaged by sewage must be replaced; nothing is salvageable or safe to use after sewage damage.

### CONTACT INFORMATION

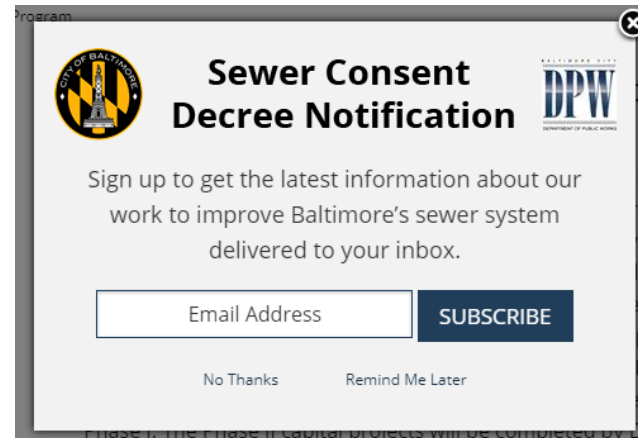
DPW  
DEPARTMENT OF PUBLIC WORKS

LOREM IPSUM DOLOR SIT AMET, CONSECUTATUR ADIPISCING ELIT, SED DIAM NUNCUPY NIBH EUISMOD THICKUNT UT SACCENT DOLORI MAGNA ALIQUAM ERAT VOLUPTATE. UT WISIT ORIAM AD MITTAM VELITAM, QUIE NOSTRUD SACCENTI TARDUM ULLANOCORPUS NOSTRUD. LOREM IPSUM DOLOR SIT AMET, CONSECUTATUR ADIPISCING ELIT, SED DIAM NUNCUPY NIBH EUISMOD THICKUNT UT SACCENT DOLORI MAGNA ALIQUAM ERAT VOLUPTATE. UT WISIT ORIAM AD MITTAM VELITAM, QUIE NOSTRUD SACCENTI TARDUM ULLANOCORPUS NOSTRUD.



# Review and Approval of Deliverables (Paragraph 20)

- Updated website to improve access to information on the Modified Consent Decree
- Provided signup for Consent Decree-related notifications



Learn more about the Consent Decree

Publication	Public Comment Posting Date	Links to Comment Form	Comments Accepted Until	Final Version submitted to the Regulators
<a href="#">SDUO Plan</a>	December 20, 2017	<a href="#">SDUO Plan Comments</a>	January 20, 2018	
<a href="#">O&amp;M Plan</a>	December 20, 2017	<a href="#">O&amp;M Plan Comments</a>	January 20, 2018	



**New class starting September 2021**

## Small Business Development Program

The Small Business Development Program positions Minority/Women Business Enterprises (M/WBE) to successfully compete for utility construction work, including Consent Decree sewer rehabilitation.

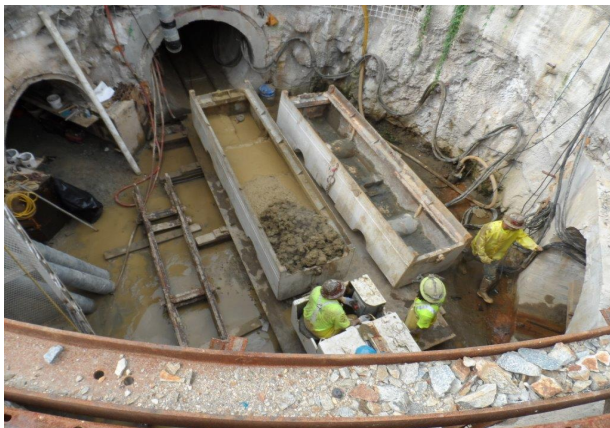
- Over 290 firms graduated
- Over 100 firms M/WBE certified
- 44 firms prequalified for \$50K to \$2.5 MM
- Over \$3.0 MM in contracts, related services
- Recognized by Greater Baltimore Committee
- B&B, a graduate of the program was awarded two contracts for CCTV services totaling \$510,000





# Modified Consent Decree 2021 In Review

- The City is doing more to prevent SSOs
- The City is thoroughly evaluating the collection system
- The City is working smart, completing projects in a way that is economical for the people of Baltimore
- The City is investing in local small businesses
- CHALLENGES





# THANK YOU FOR ATTENDING

**Please submit comments here**

[https://www.surveymonkey.com/r/BaltimoreSanitaryMCD\\_Mtg](https://www.surveymonkey.com/r/BaltimoreSanitaryMCD_Mtg)

Scan this QR  
code using  
your mobile  
device



**Visit our website:**

[publicworks.baltimorecity.gov/sewer-consent-decree](http://publicworks.baltimorecity.gov/sewer-consent-decree)