



Modified Consent Decree for the Sanitary Sewer System



WELCOME

**Thanks for joining. The meeting will
begin at 6:00 pm.**



Modified Consent Decree for the Sanitary Sewer System



ANNUAL PUBLIC INFORMATION SESSION

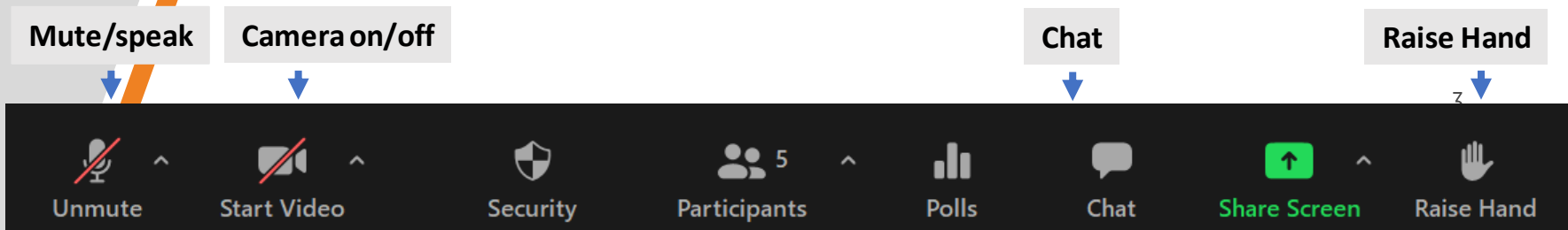
Virtual Meeting using Zoom

Thursday, January 20, 2022



HOUSEKEEPING – USING ZOOM

- Upon entering the meeting your microphone will be muted and your camera will be off.
- This meeting is being **recorded** and will be published on the DPW website
- Questions or comments may be placed in the chat. We will have Q&A in breakout rooms following this presentation





Modified Consent Decree for the Sanitary Sewer System



Tonight's Agenda

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



Modified Consent Decree for the Sanitary Sewer System



WELCOME BY DPW DIRECTOR

- Jason W. Mitchell





Meeting Purpose

- To inform 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



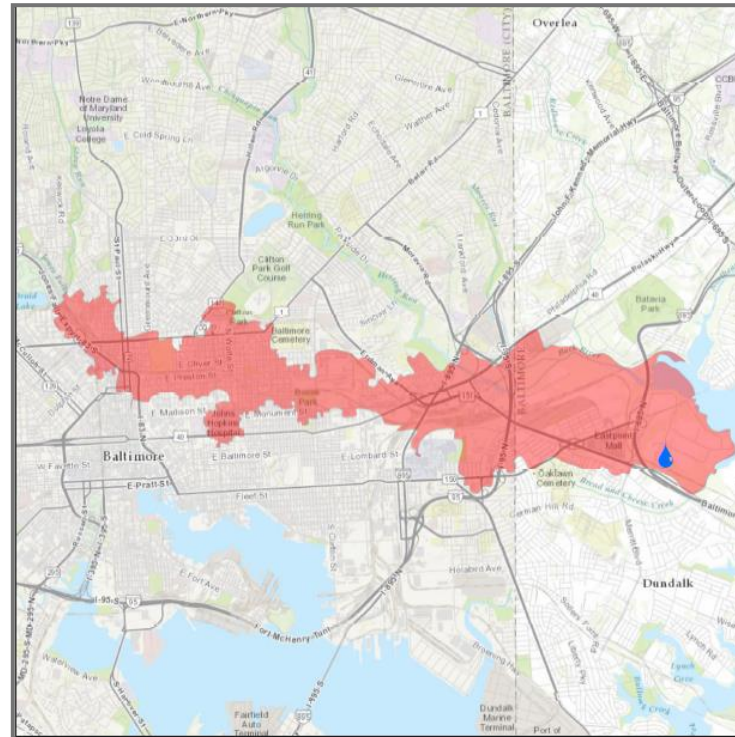
Program Overview

- 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)





Modified Consent Decree

- Entered by the U.S. District Court on October 6, 2017
 - Phase I deadline – January 1, 2021 – **MOSTLY COMPLETE**
 - Phase I included rehabilitation of collection system and reduction/mitigation of Sanitary Sewer Overflows (SSOs)
 - Phase II deadline – December 31, 2030
 - Reducing infiltration/inflow and upgrading hydraulic capacity of the collection system citywide
- Some CD compliance Deadlines are extended because:
 1. Extenuating circumstances
 2. The City is embarking on selected Phase II activity in advance of finalizing Phase II Plan (due Dec 31, 2022)



MCD Project Team

- Department of Public Works
 - Office of Engineering and Construction
 - Office of Asset Management
 - Wastewater Facilities Division
 - Utility Maintenance Division
 - Office of Compliance and Research
 - Office of Boards and Commissions
 - Office of Communications and Strategic Alliances
 - Office of Fiscal Management
 - Program Management Team (AECOM)



MCD Program Elements

- Elimination of SSO Structures (8)
- Implementation of Sewer shed 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 will be eliminated once sediment issues have been mitigated in the large interceptors upstream of the Back River WWTP
- An additional 15 SSO structures identified since 2002; 6 have been eliminated
- Currently, 11 SSO structures are being monitored
- DPW is progressing on approved action plans and schedules to eliminate the remaining SSO Structures



Elimination of SSO Structures (Paragraph 8)

Over the past 12 months...

- Developed project to clean interceptors upstream of Back River WWTP to mitigate SSO Structures # 67, 72, 152, 154
- Continued monitoring SSO Structures # 135, 138, 139 that are dependent on Project SC 940 that is delayed
- Completed design of project needed to eliminate SSO Structure #155
- Coordinated with Baltimore County on project needed to eliminate SSO Structure #156
- Initiated rehabilitation of basins needed to eliminate SSO Structure #157
- Continued pipe re-routing project needed to eliminate SSO Structure #158



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
 - 4 consent decree construction projects reached MCD completion (including Headworks)
 - 5 consent decree projects in construction
 - Advance Phase II projects are in progress
- As of public meeting, construction has been completed for 36 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



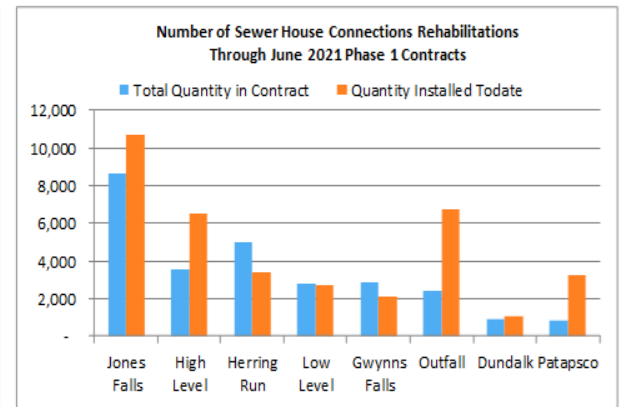
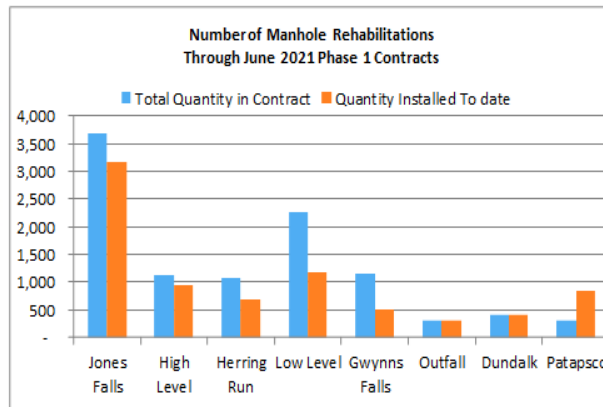
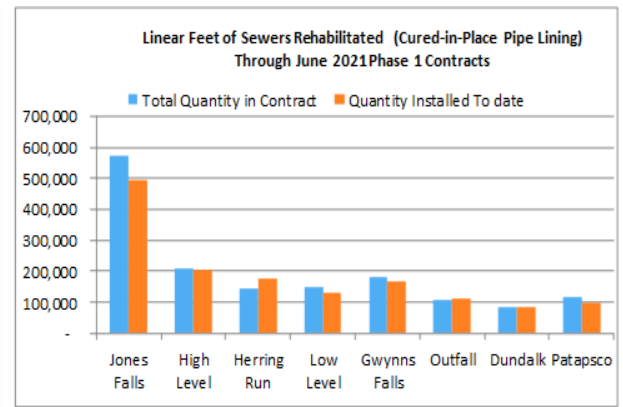
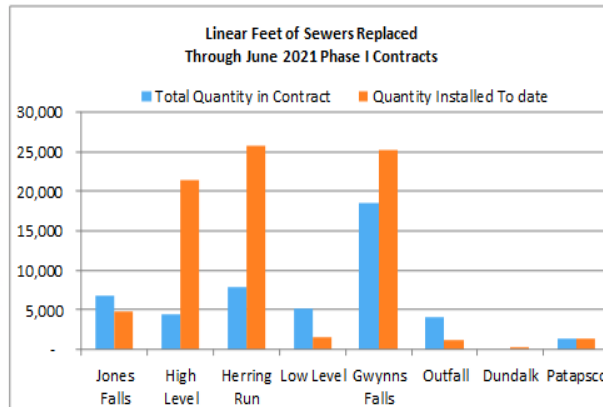
Regulatory Studies and Deliverables (Paragraph 9)

Over the past 12 months...

- Developed and implemented Phase 1 Post-Construction Flow Monitoring (PCFM)
- Deployed 110 flow meters for PCFM in order to quantify the efficacy of Phase I sewer improvements and to recalibrate the hydraulic model



Regulatory Studies and Deliverables (Paragraph 9)



Phase I Project Total Rehabilitation Details Through December 2021							
CIPP (LF)	Point Repair (EA)	Point Repair (LF)	Pipe Replacement (LF)	Manhole Rehab (EA)	SHC Rehab (EA)	Cleaning (LF)	New Pipe (LF)
1,468,218	2,738	7,881	82,408	8,069	36,559	461,288	11,451

Note: The map also identifies SSO Structures.



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 69% reduction in the volume of SSOs (additional reduction to be realized once upstream interceptors have been cleaned)





Headworks Ribbon Cutting Ceremony



The City of Baltimore held the Headworks Ribbon Cutting Ceremony on May 10, 2021

Attended by:

- Mayor Brandon M. Scott
- Governor Boyd K. Rutherford
- U.S. Senators Benjamin L. Cardin and Christopher J. Van Hollen, Jr.
- Baltimore County Executive John A. Olszewski, Jr.,
- Waterfront Partnership Board Member Michael Hankin
- Department of Public Works (DPW) Director Jason W. Mitchell





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 illegal connections discovered, therefore, no enforcement actions were needed by City



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

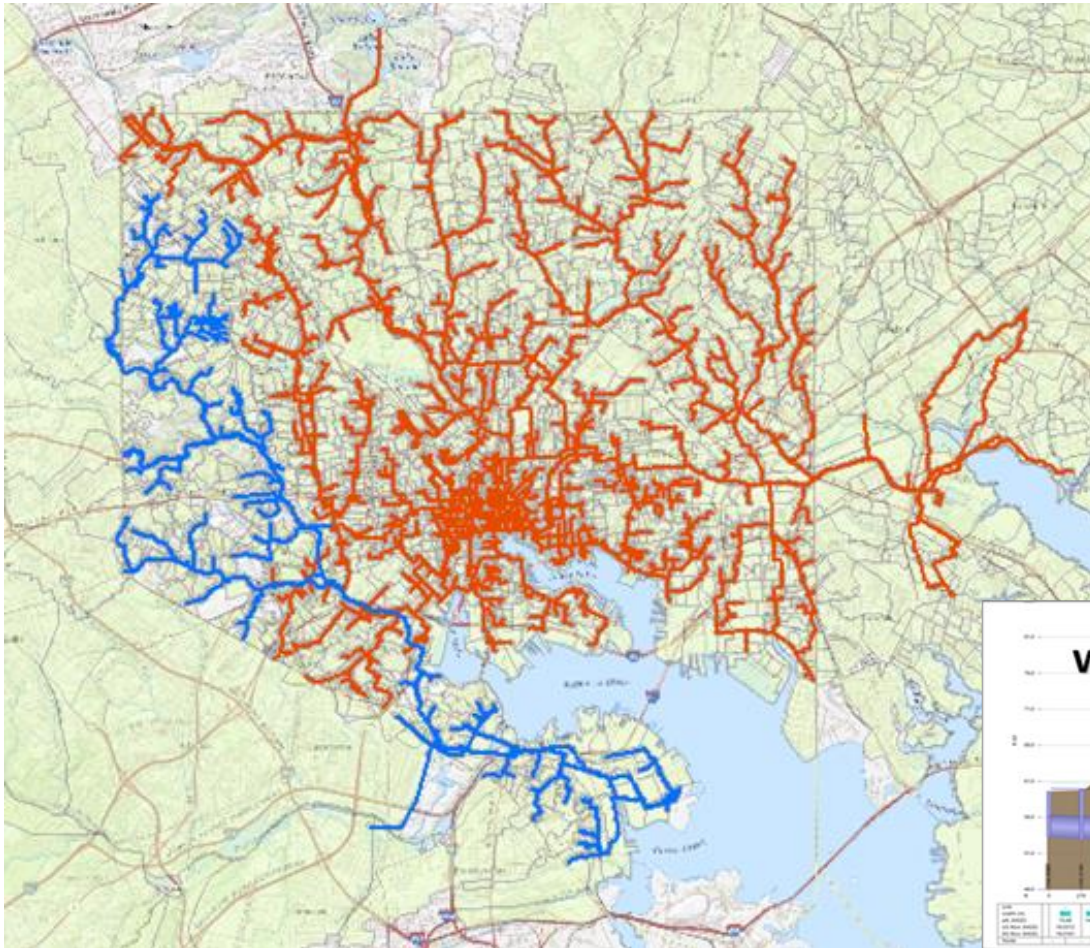
- The model simulates baseline and future or build-out conditions

Over the past 12 months...

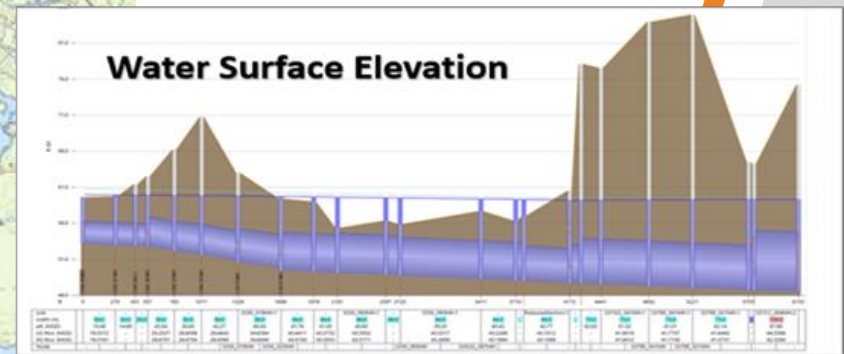
- Updated and calibrated portions of the model based on recent flow data measured at the City and County connection points
- Extended the sewer model to include additional 30 miles of sewers covering 840 acres of service area based on recent SSO incident frequency



Collection and Transmission System Model (Paragraph 12)



- Back River System
- Patapsco System





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.

Activity	Results
O&M Progress Report published to DPW website for public comment	Submitted 10/28/2021
Annual Update for O&M Plan Publish to website for public comment	Submitted 11/30/2021
Developed Targeted Cleaning program to inspect and clean collection system sewers	46 miles cleaned
Conducted Fats, Oils, and Grease (FOG) treatment of sewer lines	6 miles treated
Treated sewer lines for root intrusion	87 miles treated
Conducted Food Service Establishments (FSE) inspections in 2021	1,787 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...

- Expanded use of *Cityworks*, DPW's computerized maintenance management system (CMMS)
- 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...

- 16 SDUO's discovered, 4 abated
- 5 abated, identified from previous years (2019 & 2020)
- 12 SDUO's are outstanding



Revised Emergency Response Plan (Paragraph 16)

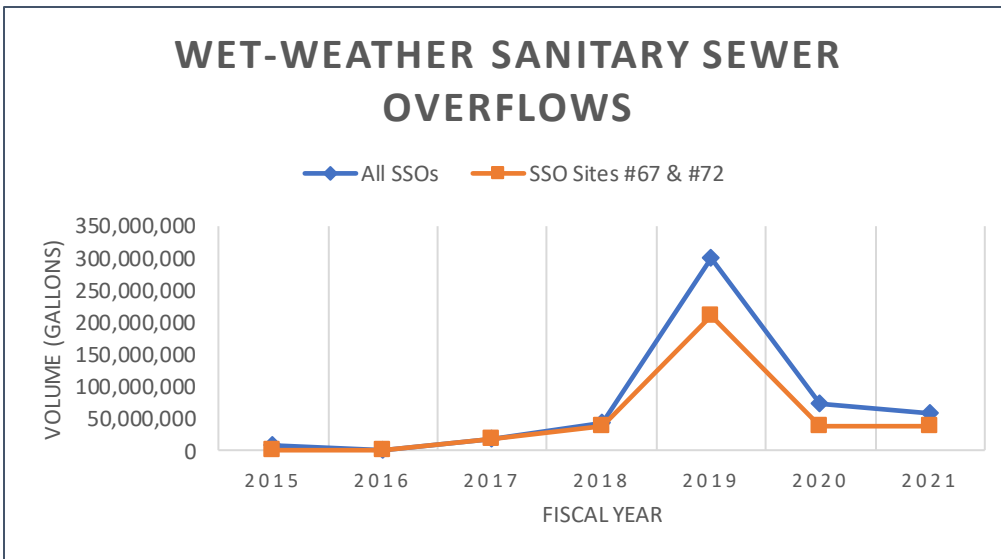
The City of Baltimore shall revise and submit to EPA and MDE its Emergency Response Plan (ERP) to adequately protect the health and welfare of persons in the event of an unpermitted release, spill or discharge of pollutants from the Collection System or in the event of a reported Building Backup.

- 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
- Partial approval received; MDE/EPA evaluation of remaining items related to public notification still pending



Reporting of Overflows and Recordkeeping (Paragraph 17)

Baltimore continues to implement various collection system improvements, repairs, and 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

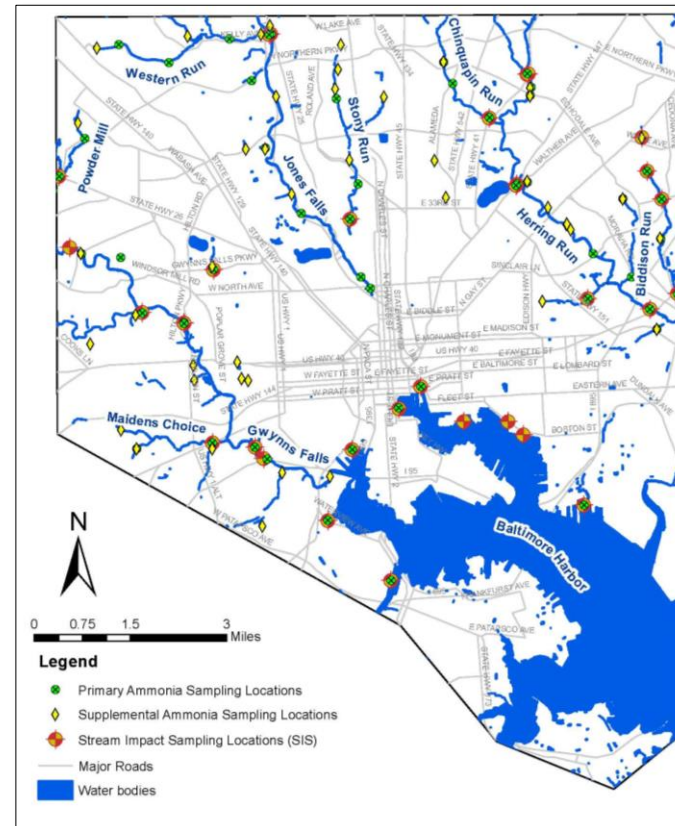
Note: Approximately 72% of Wet Weather SSO Volume Occurs at SSO Structures #67&72



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 2021



12
Scientists

3,438
Ammonia Screening Samples



104
Stations Routinely Sampled

205
PST Investigations Initiated



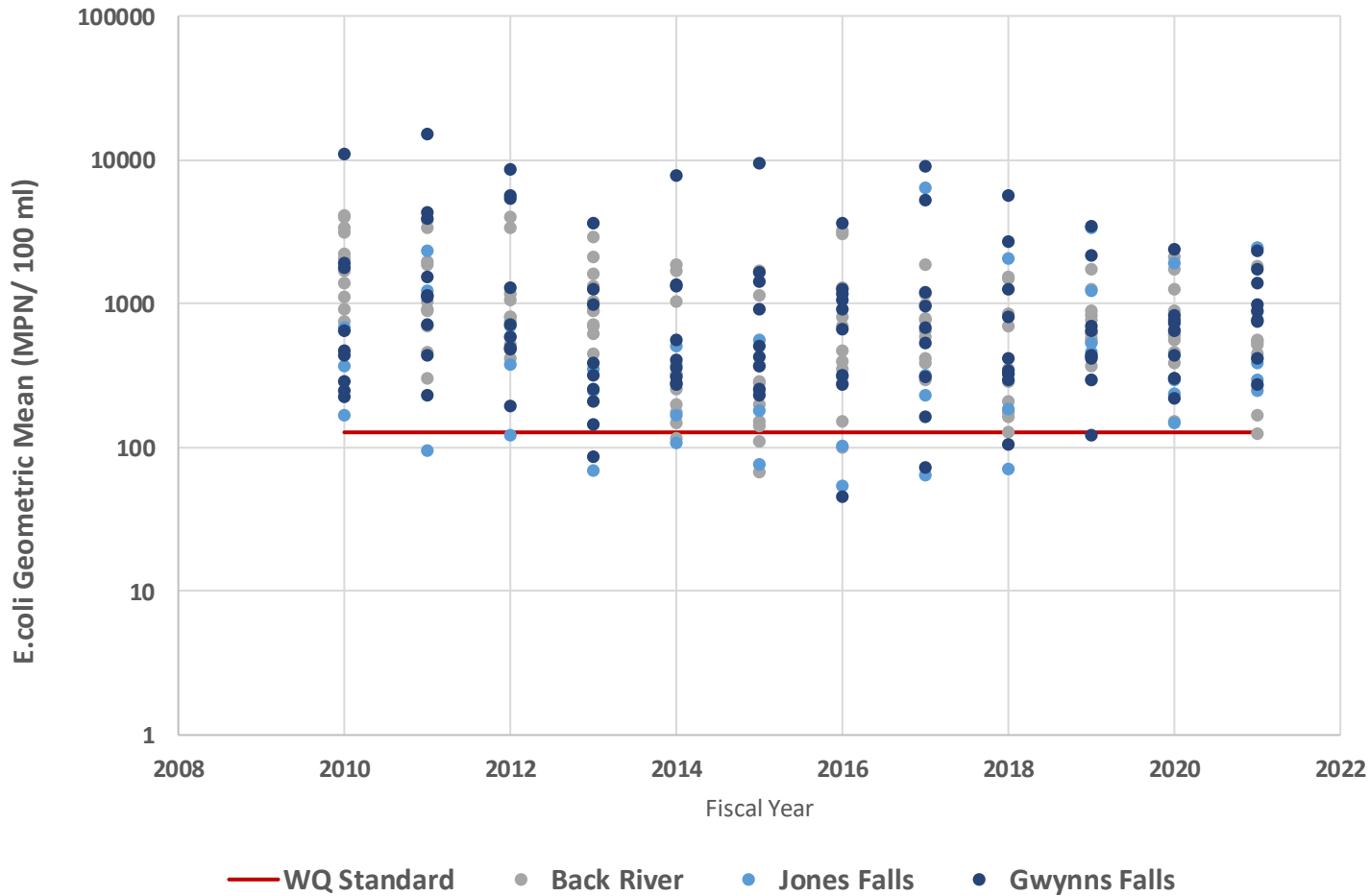
577
Samples Tested for Bacteria

32
Sewage Discharges Found

16
SDUOs Identified

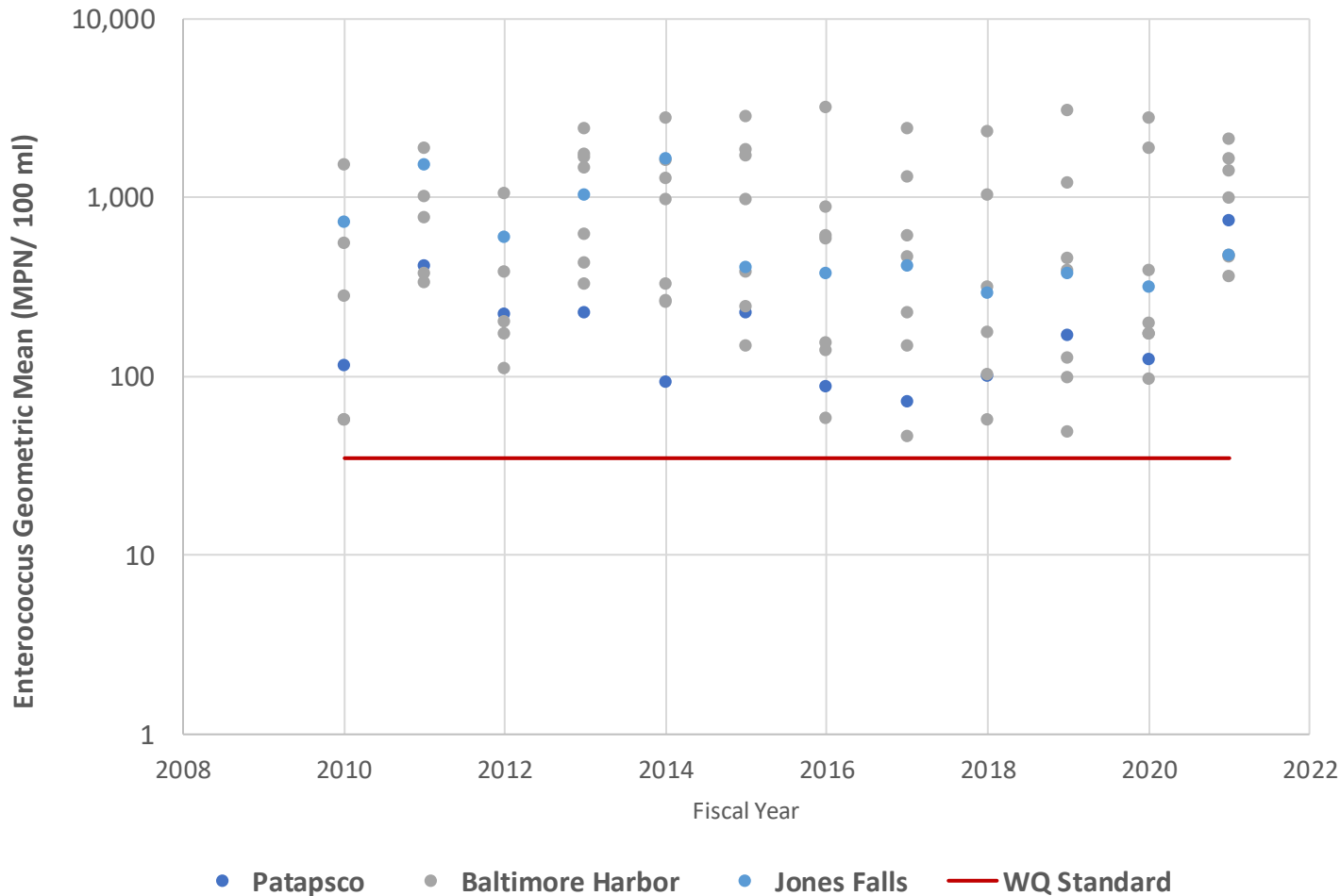


E. Coli (Non-tidal)





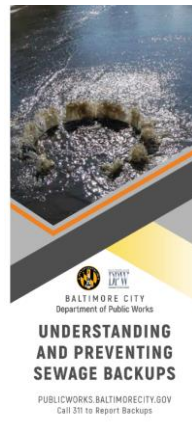
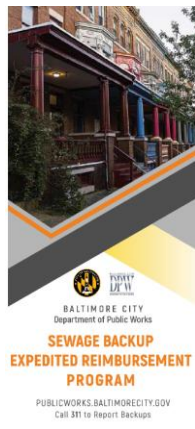
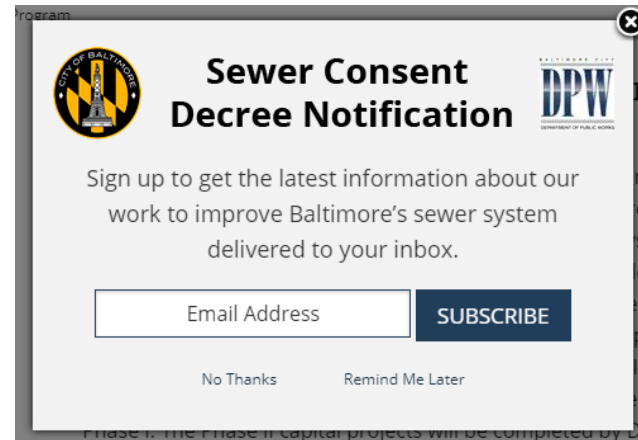
Enterococcus (Tidal)





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

- Reports
- FAQ's
- Glossary
- Upcoming Projects & Public Meetings

Publication	Public Comment Posting Date	Links to Comment Form	Comments Accepted Until	Final Version submitted to the Regulators
SDUO Plan	December 20, 2017	SDUO Plan Comments	January 20, 2018	
O&M Plan	December 20, 2017	O&M Plan Comments	January 20, 2018	



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 329 firms graduated
- Over 100 firms M/WBE certified
- 60 firms prequalified for \$50K to \$2.5 MM
- Over \$3.5 MM in contracts, related services
- 2021 class successfully completed; new class to begin in Fall 2022



Modified Consent Decree 2021 In Review HIGH LEVEL ACCOMPLISHMENTS

- 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
- In 2021 the City invested \$94,335,655.86 on PHASE I projects





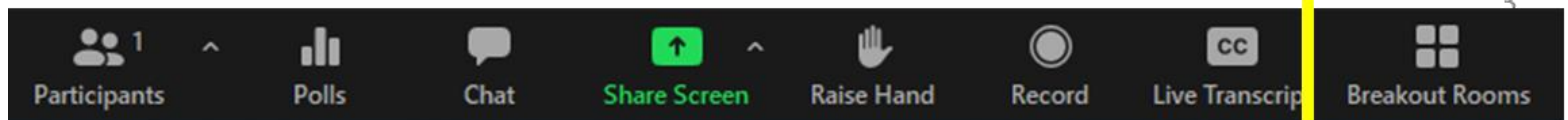
HOUSEKEEPING – BREAKOUT ROOMS ZOOM

- Learning Stations are being held in various breakout rooms with subject matter experts
- When entering the room, please mute yourself and deactivate your camera. This meeting is being **recorded** and will be published on the DPW website
- Instructions for joining the Breakout Rooms are on the next slides



HOUSEKEEPING – JOINING BREAKOUT ROOMS

- Click on the Breakout Rooms button at the bottom of your screen
- Please choose your breakout room based on the color of the subject topic(s) [See next slide]
- If you are calling in to this meeting, please hold the line for a few moments while others move to the breakout rooms. We will unmute you and ask you which breakout room you want to attend





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HOUSEKEEPING – JOINING BREAKOUT ROOMS

Breakout Rooms - In Progress

▼ Blue	0	Join
▼ Orange	0	Join
▼ Purple	0	Join
▼ Green	0	Join

Participants 1 Polls Chat **Share Screen** Raise Hand Record Live Transcription **Breakout Rooms**



Proceed to Breakout Rooms

BLUE BREAKOUT ROOM

- **Station 1** – Collection System and Tools (Paragraphs 8, 9, and 12)
- **Station 2** – Maintenance & Preventive Maintenance (Paragraphs 13, 14, and 17)

ORANGE BREAKOUT ROOM

- **Station 3** – Expedited Reimbursement Program (Paragraphs 9 and 16)
- **Station 4** – Compliance (Paragraphs 10, 15, and 19)

PURPLE BREAKOUT ROOM

- **Station 5** – Facilities (Paragraphs 9 and 11)
- **Station 6** – Design Projects
- **Station 7** – Construction Projects

GREEN BREAKOUT ROOM

- **Station 8** – Office of Communications and Strategic Alliances (Paragraph 20)
- **Station 9** – Office of Boards and Commissions (Paragraph 20)
- **Station 10** – DPW Small Business Development Program (Paragraph 20)



THANK YOU FOR ATTENDING

Please submit comments here

https://www.surveymonkey.com/r/BaltimoreSanitaryMCD_Mtg2022

Scan this QR code using
your mobile device



Visit our virtual room:

<https://aecomviz.com/Baltimore-MCD/>

Visit our website:

publicworks.baltimorecity.gov/sewer-consent-decree