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Modified Consent Decree

Public Information Session

January 23, 2019

MDE Building
1800 Washington Blvd, First Floor Lobby



Catherine E. Pugh
Mayor

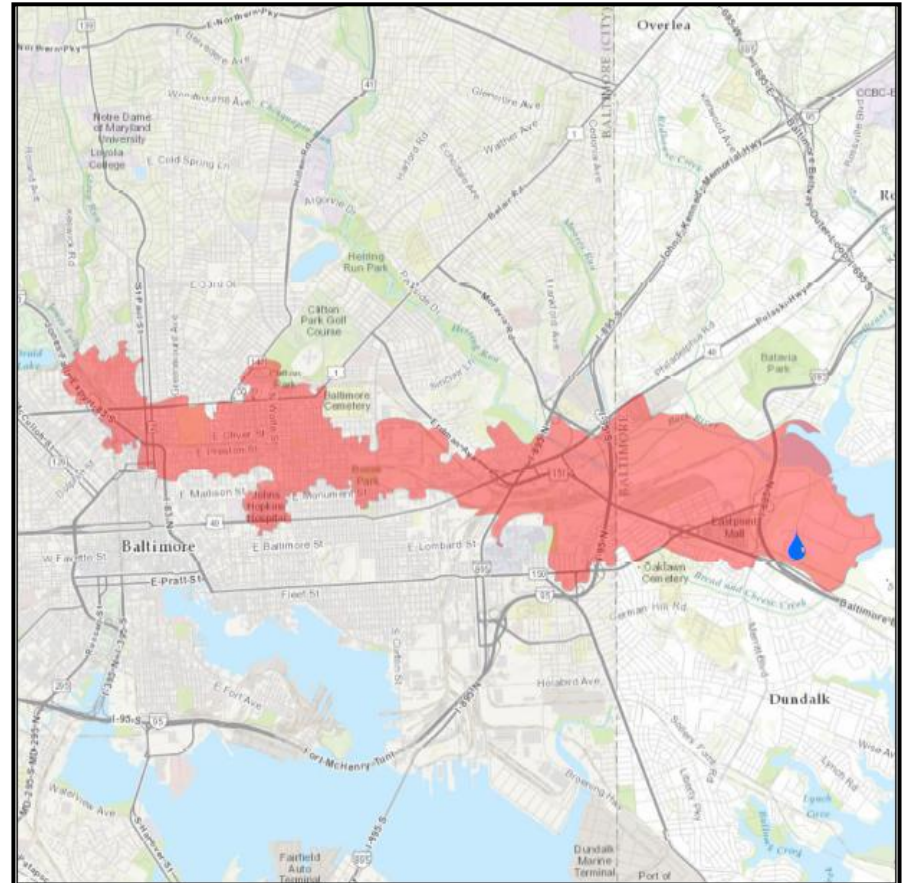
Baltimore City Department of Public Works



2002 Consent Decree

Baltimore City entered into a Consent Decree (CD) with EPA, DOJ, and MDE on September 30, 2002.

- Evaluate the sewersheds & build a hydraulic model.
- The CD addresses sanitary sewer overflows (SSOs) from the City's collection system.
- The City was not able to comply with the initial CD deadline, in part, because of a hydraulic restriction discovered at Back River Wastewater Treatment Plant (WWTP)



Modified Consent Decree

The City of Baltimore went back to the drawing board with EPA and MDE to draft a modified agreement. Through negotiations a new and more robust strategy was agreed upon.

- 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
- The MCD was entered by the U.S. District Court on October 6, 2017,
 - **Phase I deadline – January 1, 2021**
Rehabilitation of collection system and elimination of SSOs
 - **Phase II deadline – December 31, 2030**
Reducing infiltration/inflow and upgrading hydraulic capacity of the collection system citywide



Paragraph 8 – Elimination of SSO Structures

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

- 60 out of the 62 original SSO structures identified have been eliminated.
- Currently, 12 SSO structures are being monitored. Baltimore has created action plans and these structures are on track to being eliminated per the requirements of the MCD



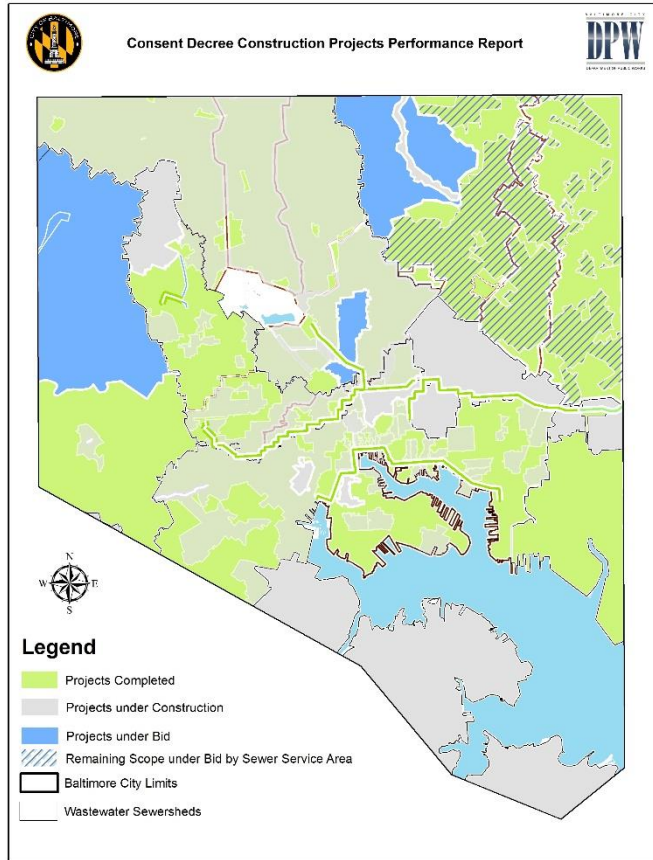
Paragraph 9 – Implementation of Sewershed Plans

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

- **Activity to date:**
 - 23 CD construction projects completed
 - 11 active CD construction projects
 - 7 projects in pre-construction
- **Types of Projects:**
 - Cured-in-place pipe (CIPP)
 - Point repair
 - Manhole rehabilitation
 - Sanitary House Connection/rehabilitation or reinstatement
- **Back River WWTP Headworks Project**
 - New Influent Pumping Station
 - New screening and grit removal facilities
 - 36 MG Storage



Over the Past 12 Months...



Over the past 12 months...

- 4 projects completed Design phase
- 6 projects started Construction phase
- 2 projects completed Construction phase

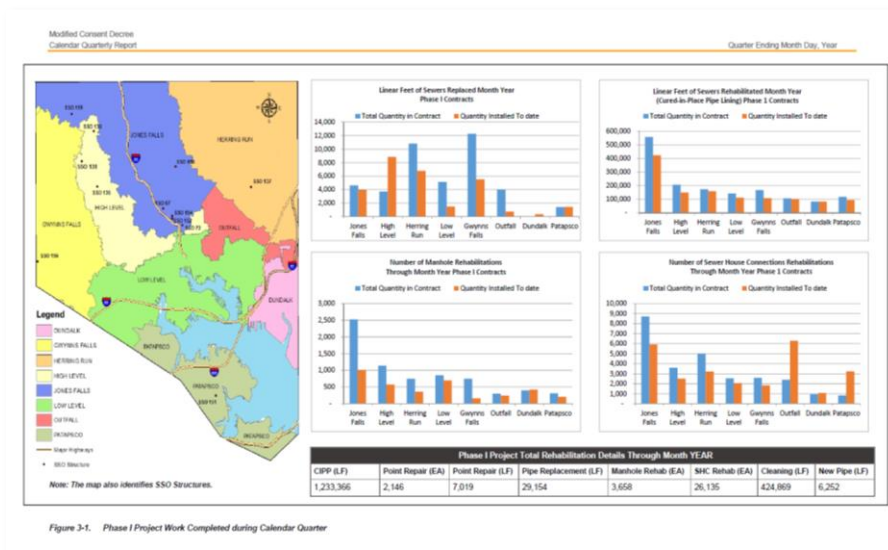


Paragraph 9 – Regulatory Studies and Deliverables

- Rainfall and flow monitoring
- Quarterly Progress Reporting

Over the past 12 months...

- Installed 20 additional rainfall and flow monitors at:
 - ENS sites
 - 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



Back River WWTP Headworks Project

- The Headworks Project, totaling approximately \$430 Million, helps fulfill Baltimore City's Consent Decree requirements to address sewage overflows.
- Contributing to more than 80% reduction in the volume of SSOs



Paragraph 10 – Illegal Sewer Connections

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



Paragraph 11 – Pumping Station Inspection, Repair, and Rehabilitation

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...

Type of Maintenance	Work Orders Completed	Percent of Total Work Orders
Preventive	2,179	87%
Corrective	329	13%
TOTAL	2,508	

No near-miss incidents or overflows



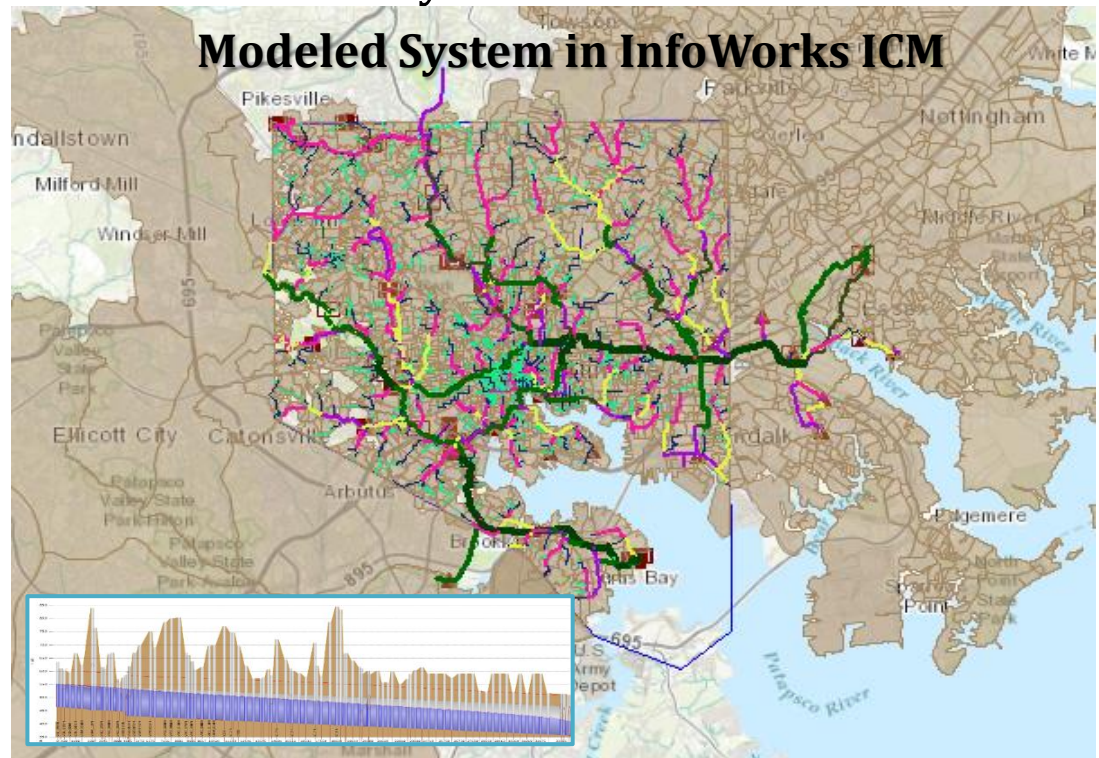
Paragraph 12 – Collection and Transmission System Model

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

- The model establishes baseline performance and informs of overall system impact of potential projects

Over the past 12 months...

- Hydraulic modeling analyses to support Phase I projects
- Analyses resulted in elimination of 2 SSO Structures



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Paragraph 13 – Collection System Operation and Maintenance

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.

- Annual O&M Progress Report was submitted to EPA and MDE October 31, 2018

Revised O&M Plan
Public: 12/20/18
MDE/EPA: 2/2/18
Approved: 11/29/18



Over the Past 12 Months...

Activity	Results
Develop revised O&M Plan and publish to DPW website for public comment	Plan approved 11/29/18
Develop Targeted Cleaning program to inspect and clean collection system sewers	51 miles cleaned
Conduct Fats, Oils, and Grease(FOG) treatment of sewer lines	12 miles treated
Treat sewer lines for root intrusion	68 miles treated
Conduct Food Service Establishments (FSE) inspections	3,582 inspections

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Paragraph 14 – Information Management System Program

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 and work order management

Over the past 12 months...

- Achieved in-house management and expanded use of Cityworks
- Expanded the measurement of preventive maintenance programs using KPIs and LOSs

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

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

- 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...

- 12 SDUOs discovered, 8 abated
- 17 from previous year abated
- Average abatement time 97 days

SDUO Plan

Public: 12/20/18

MDE/EPA: 2/2/18

Approved: 11/29/18



Paragraph 16 – Revised Emergency Response Plan

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

New ERP inclusions:

- Building Backups
- SDUOs

Revised ERP

Public: 2/16/18

MDE/EPA: 4/4/18

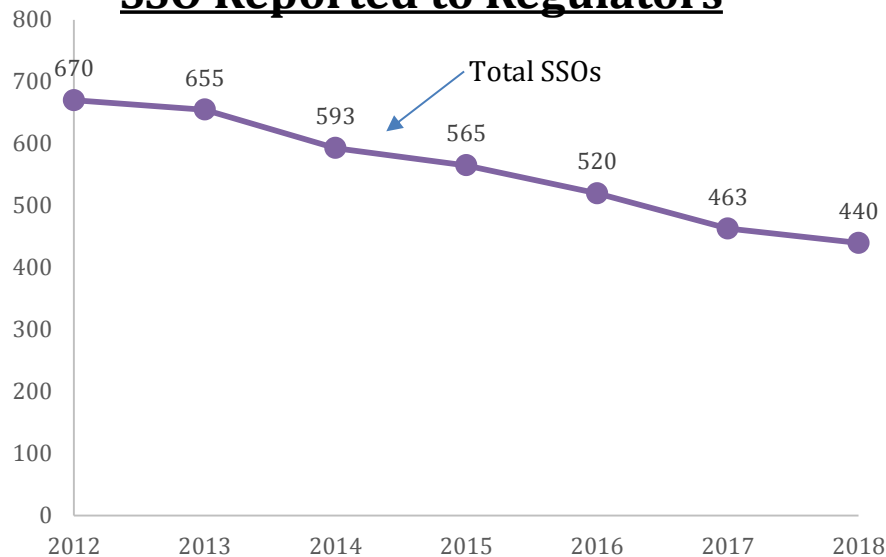
Approval Pending



Paragraph 17 – Reporting of Overflows and Recordkeeping

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

SSO Reported to Regulators



Programs to reduce SSOs

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



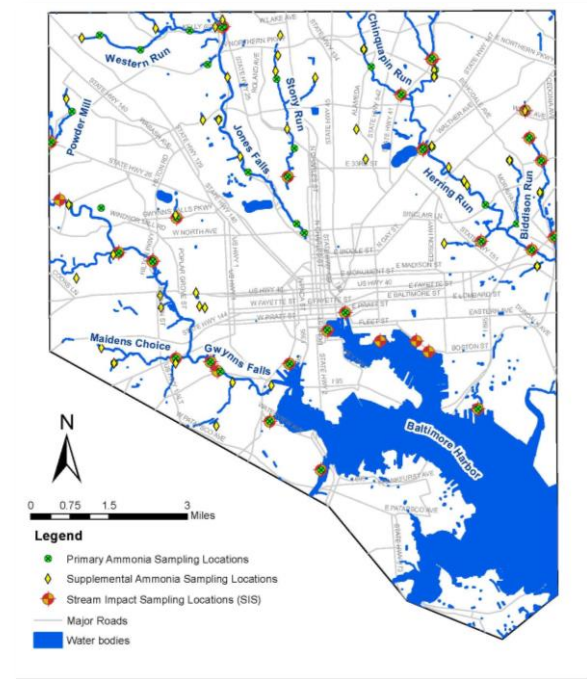
Paragraph 19 – Stream Quality Monitoring

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 (AS), weekly
 - Stream Impact Sampling (SIS), monthly

Over the past 12 months...

- Updated protocol for web posting
- Sampling completed at:
 - Over 88 AS locations
 - Over 35 SIS locations



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Paragraph 19 – Stream Quality Monitoring

Water Quality Standard: E. Coli

Station	Water-shed	E. Coli (MPN/100 ml)			Min. DO (mg/L)	Max. Temp (°C)	pH Range		
		GM 17	GM 18	% > SVT					
Criteria		126	126	< 10%	5	23.9 / 32	6.5	to	8.5
Areas Closest to Meeting Criteria									
Mt. Pleasant GC	BR	389	126	42%	8.41	23.4	7.22	to	8.36
Dead Run DS	GF	162	106	17%	8.63	23.65	7.58	to	8.47
Smith Ave.	JF	63	71	25%	7.42	25.83	6.35	to	9.08
Areas of Concern									
Mary Ave.	BR-MR	775	1,508	67%	8.55	22.49	6.8	to	8.13
Hamilton Ave.	BR-MR	1,165	1,550	83%	7.74	23.21	7.19	to	8.19
Radecke Ave.	BR-MR	996	694	75%	8.34	23.55	7.29	to	8.21
Biddle St. & 62nd	BR-MR	795	840	75%	7.83	24.72	6.02	to	8.08
JF 11.5	JF	6,474	2,054	83%	8.58	21.27	6.57	to	8.83
Grun Hilton St.	GF	1,197	1,245	75%	8.42	24.29	7.81	to	8.54
Grun Carroll Park	GF	8,964	5,703	83%	6.54	20.83	7.69	to	8.37
Washington Blvd	GF	5,206	2,721	75%	8.23	24.98	7.82	to	8.4



Paragraph 19 – Stream Quality Monitoring

Water Quality Standard: Enterococci

Station	Water-shed	Enterococci (MPN/100 ml)			Min. DO	Max. Temp	pH Range		
		GM 17	GM 18	% < SVT					
Criteria		35	35	< 10%	5	32	6.5	to	8.5
Areas Closest to Meeting Criteria									
Light St.	BH	46	57	33	4.26	27.15	6.92	to	7.72
Janey Run	BH	225	101	33	6.73	30.09	6.88	to	8.8
Reedbird Ave.	LNBP	72	100	33	6.09	29.62	6.71	to	7.9
Areas of Concern									
Warner & Alluvion	I	607	313	81	2.73	25.65	7.39	to	8.53
Lakewood & Hudson	I	1,289	1,022	90	7.59	22.36	8.02	to	8.97
Linwood & Elliot	I	2,401	2,304	95	2.54	24.47	7.12	to	8.3

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Paragraph 19 – Stream Quality Monitoring

Total Nitrogen, 3 mg/L Threshold

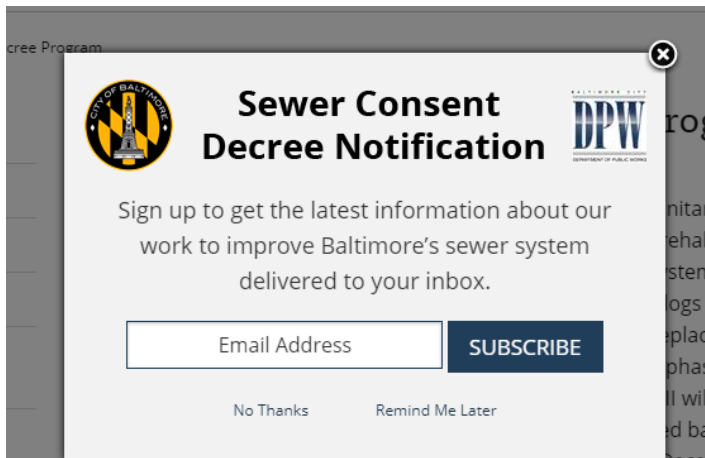
Station	2009-2018	FY 2018	2009-17	Station	2009-2018	FY 2018	2009-17
Back River Watershed Herring Run Sub-watershed				Gwynns Falls Watershed			
Perring Parkway	3%	0%	4%	Powder Mill	13%	33%	10%
Mt. Pleasant GC	8%	10%	8%	Purnell Driv.	1%	0%	1%
Chinquapin Run	24%	10%	26%	Dead Run DS	2%	8%	1%
Tiffany run	5%	33%	3%	Gwynns Falls Pkwy	11%	17%	10%
Harford Run	5%	17%	5%	Gwynns Run Hilton St	9%	0%	10%
Wright Ave.	1%	0%	1%	Gwynns Falls Hilton St	0%	0%	0%
Pulaski Hwy	5%	0%	6%	Maidens Choice	5%	0%	6%
Back River Watershed Moores Run Sub-watershed				Gwynns Run Carrol Park	44%	17%	47%
Mary Ave.	15%	10%	15%	Washington Blvd	2%	0%	2%
Hamilton Ave	54%	82%	50%	Baltimore Harbor Watershed			
Radecke Ave	10%	0%	11%	Linwood & Elliot 2	90%	100%	87%
Biddle St. & 62nd	1%	0%	1%	Lakewood & Hudson	73%	64%	76%
Jones Falls Watershed				Light St.	12%	0%	14%
Smith Ave.	3%	0%	3%	Warner & Alluvion	17%	9%	18%
Western Run	3%	0%	3%	Waterview Ave.	14%	9%	14%
Stony Run	24%	8%	26%	Janey Run	10%	9%	11%
JF 11.5	93%	92%	94%	Patapsco River Watershed			
Lombard St.	7%	17%	6%	Reedbird Ave.	9%	9%	9%

Key	
	Normal: <= 11% of Samples
	Elevated: Between 11-25% of Samples
	High: >25% of Samples



Paragraph 20 – Review and Approval of Deliverables

- Brochure on Building Backup/Expedited Reimbursement program
- List and links for various reports and plans
- Signup for Consent Decree-related notifications



The screenshot shows a sign-up form titled "Sewer Consent Decree Notification" with the City of Baltimore and DPW logos. The text reads: "Sign up to get the latest information about our work to improve Baltimore's sewer system delivered to your inbox." Below this is an "Email Address" input field and a "SUBSCRIBE" button. At the bottom, there are links for "No Thanks" and "Remind Me Later".

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		

<https://publicworks.baltimorecity.gov/sewer-consent-decree>

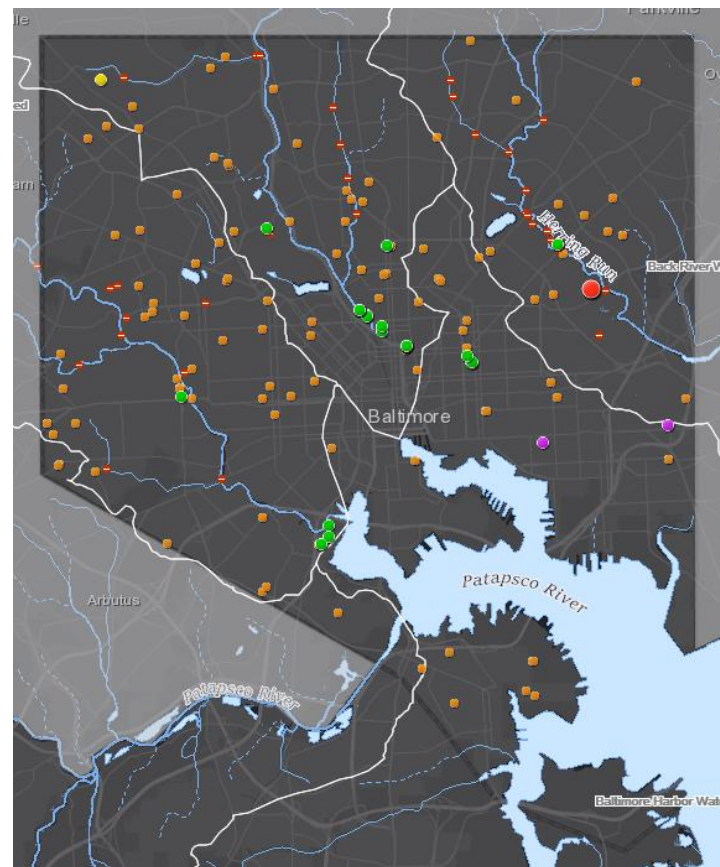
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Paragraph 20 – Review and Approval of Deliverables

What's to come to DPW website

New SSO map features

- Spatial notification of SSOs throughout the City
- SSOs categorized by New, Interim, Ongoing
- Locations of posted Pollution Signs
- Links to the SSO description



<https://publicworks.baltimorecity.gov/sewer-consent-decree>

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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 140 firms graduated
- 80 firms M/WBE certified
- 40 firms prequalified for \$50K to \$2.5M
- Over \$2.5M in contracts, related services
- Recognized by Greater Baltimore Committee



New class forming for September 2019

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Modified Consent Decree

- 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



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Questions?

Proceed to Information Learning Stations

- **Learning Station 1 – Collection System and Tools (Paragraphs 8, 9, and 12)**
 - SSO Structures
 - Rainfall and flow monitoring
 - Hydraulic modeling
 - Phase I Construction progress
- **Learning Station 2 – Communications/Local Economic Development (Paragraph 20)**
 - Customer Service/Affordability
 - Small Business Development Program
- **Learning Station 3 – Maintenance & Preventive Maintenance (Paragraph 13, 14, and 17)**
 - O&M Plan
 - Preventive Maintenance Programs
 - Cleaning program
 - Fats, Oils, and Grease (FOG)
 - Root Control
- **Learning Station 4 – Compliance (Paragraph 10, 15, and 19)**
 - Sanitary Discharges of Unknown Origin
 - Water quality monitoring
 - Illegal sewer connections
- **Learning Station 5 – Facilities (Paragraph 9 and 11)**
 - Back River Headworks Project
 - Wastewater pumping stations
- **Learning Station 6 – Regulatory Requirements (Paragraph 9 and 16)**
 - Building backups/SSOs
 - HomeServe
 - Emergency Response Plan
 - Expedited Reimbursement Program

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