DPW&YOU

Making a difference, together

Cattail Creek Rt 2 FM Replacement/Repair

July 16, 2024

Important Information

- The presentation will be recorded via the ZOOM.US platform.
- Please hold your questions until the end.
- Please type your questions in the Q & A box.

Agenda

- Team Introduction
- Project Purpose
- Project Background
- Project Planning
- Construction Method
- Benefits for the Community
- Potential Inconveniences
- Safety and Mitigation Measures
- Overview Schedule

Team Introduction

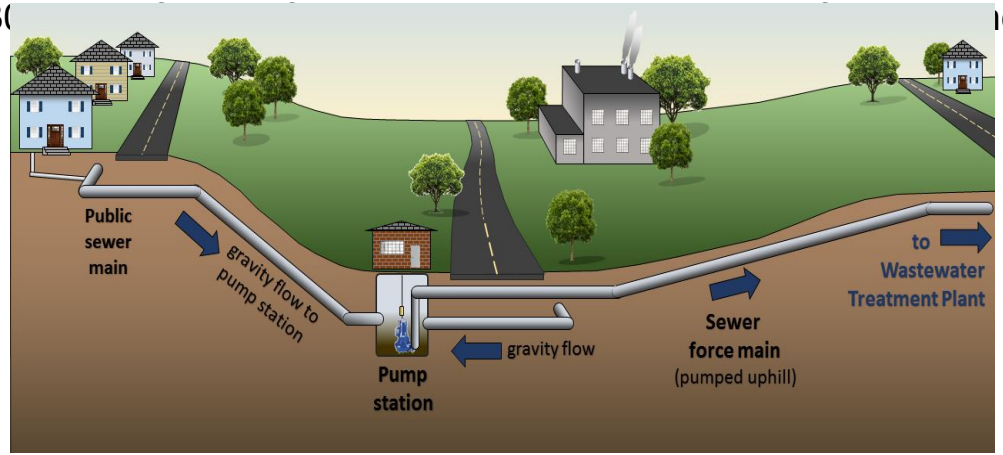
- AACo DPW Engineering Project Manager: Lee Greenwald
- Engineer of Record: Brown and Caldwell Project Manager: Erica Whorley
- Construction Manager: Arcadis: Scott Stangle
- Construction Inspectors: Arcadis: Larry Dring (443.790.4665)
  Mike Scott (202.765.6234)
- Contractor Project Manager: J. Fletcher Creamer: Patrick Shannon

Project Purpose

- Rehabilitate an aged, large critical pressurized sewer force main made of Pre-stressed Concrete Cylinder Pipe (PCCP), a material that is vulnerable to internal and external corrosion and possible failure.
- Ensure the reliability of our wastewater infrastructure to limit the potential for sanitary sewer overflows.

Project Background

- This project is part of the Anne Arundel County's (AACo) Department of Public Works Capital Improvement Program aimed at maintaining the reliability and safety of the County's water and sewer infrastructure.
- AACo annually collects, conveys and treats 12 billion gallons of wastewater from 415,000 residents.
- AACo maintains over 23(...es to 42 inches.



Facts About Cattail Creek Force Main

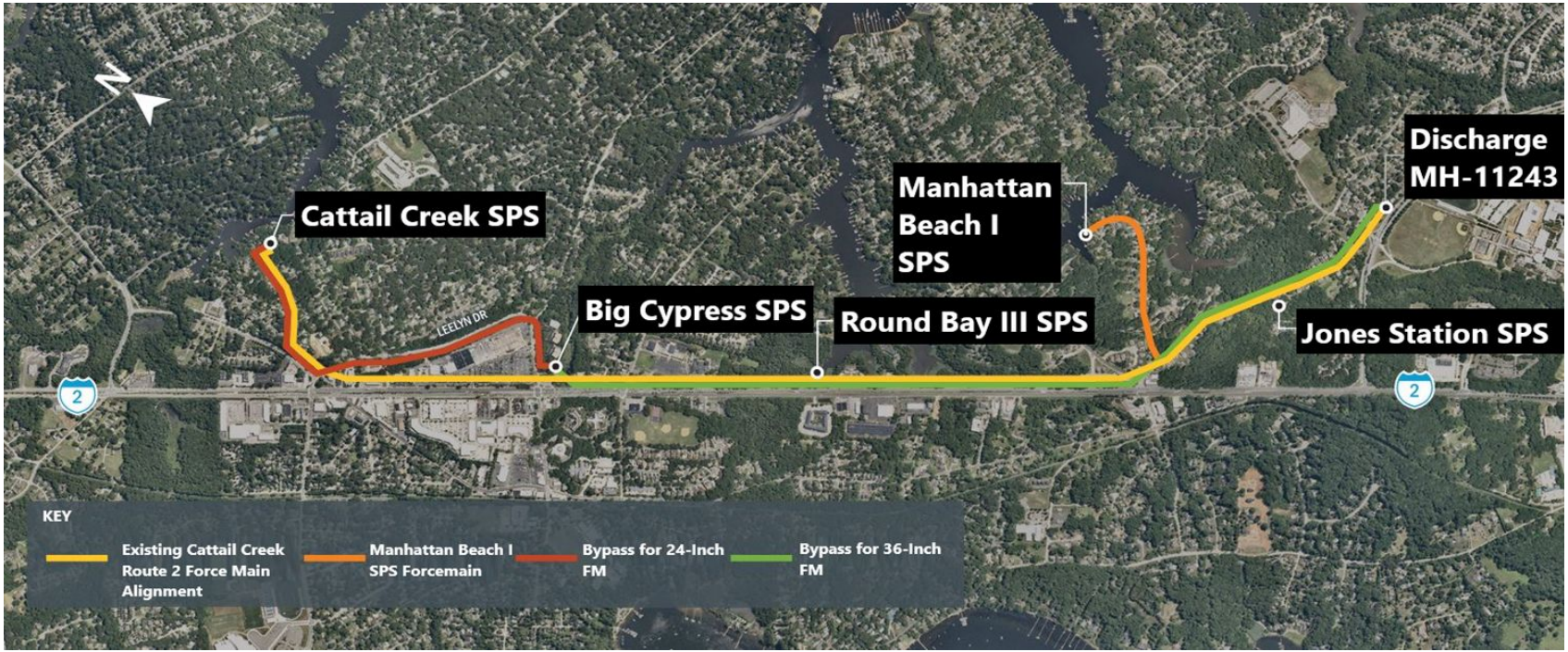
An Olympic sized pool is 164’ long, 82’ wide and 6’ deep

- Force main was built in the 1970s
- Force main is ~6,250 feet of 24” and ~11,250 feet of 36” pipe
- How much sewage flows in the force main?
  - At existing wet weather flows: ~6,150 gallons/minute (gpm) - enough to fill an Olympic sized swimming pool in ~ 1 hour and 47 minutes
  - At Build-out flows: ~13,600 gpm enough to fill an Olympic sized swimming pool in ~48 minutes

Project Planning

- In 2018, Black & Veatch and Anne Arundel County evaluated 10 new pipe alignment alternatives. These included:
  - Moving sections to Baltimore-Annapolis Blvd.
  - Routing along River Drive, Arundel Beach Road, Leelyn Drive and McKinsey Drive.
  - Installation in median of Rt. 2.
- Staying within the existing alignment was selected as it minimized:
  - Operational requirements.
  - Private property impacts.
  - Hydraulic impacts.
  - Easement Requirements.
  - Traffic Disruptions.

Construction Method-Project Layout



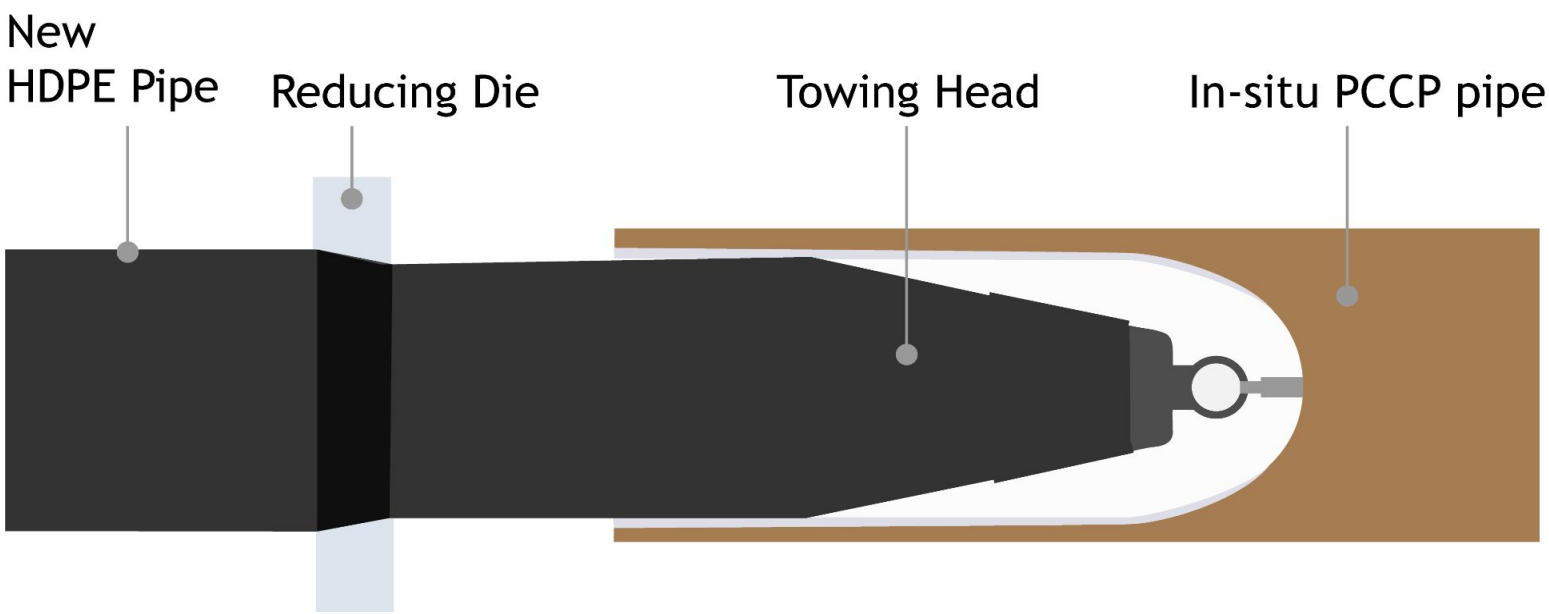
Construction Method – What is Swagelining?

- The high-density polyethylene (HDPE) pipe's diameter will be temporarily reduced by pulling the pipe through a reduction die, and then pulling the reduced diameter pipe through the host pipe.
- The pipe will relax in place snug against the inside host pipe's diameter. No grout is need to fill the annular space.
- The HDPE pipe is fused together above or below ground to make a single pipe.

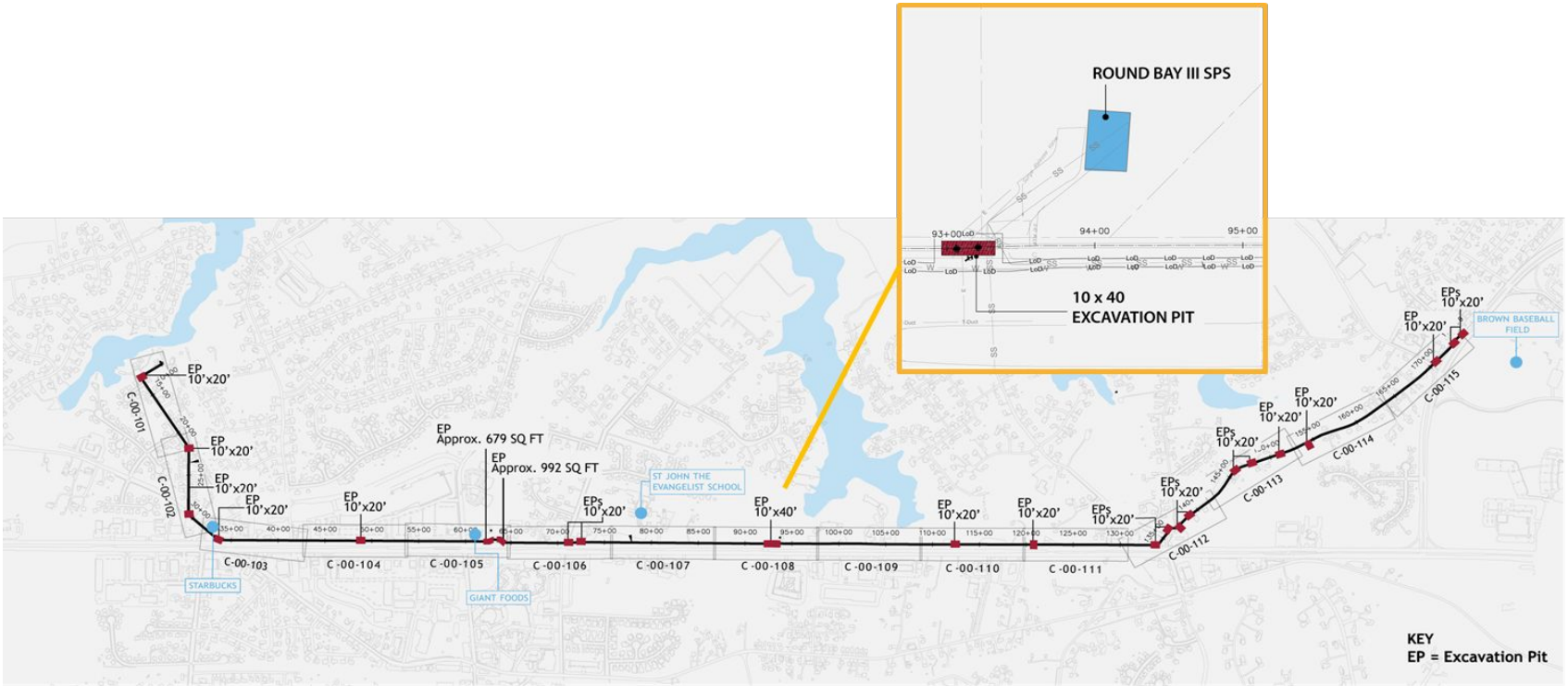
Reduction Die

Pipe Being Pulled

Construction Method- Swagelining



Construction Method- Excavation Pits



DPW&YOU

Construction Method - Pits

Source: Downer PipeTech
https://www.itspipetech.com.au/products/sliplining/

Construction Method- Bypass Pipeline

Benefits for the Community

- Rehabilitating the 44+ year asset before significant problems occur is environmentally and economically beneficial.
- Compressed fit lining is a faster construction method and less disruptive to the residents/business owners.
- HDPE is more corrosion resistant.
- Compressed fit lining does not rely on the host pipe, so the life expectancy is the same as a new installation.
- Cattail Creek SPS' improved wet well access/installation of emergency bypass vault allows AACo DPW staff to respond to emergencies more quickly.

Community Impacts

- Parking will be temporarily impacted due to excavations and bypass installation.
- Where bypass pipe is installed above ground, it will be buried at driveway entrances to allow access.
- Trash pickup and mail delivery is not anticipated to be affected.
- Rocks at entrance to Cattail Creek SPS Driveway will be removed and not replaced.
- Excavations needed for more than one day will be covered by inset steel plates.
- Route 2 turning lanes will be impacted short-term during some excavations.

Safety Measures

- Maintenance of traffic plans require approval by SHA and AACo staff.
- An approved Emergency Response Plan will be required before construction begins.
- The above ground bypass piping will be inspected multiple times a day for leaks and to prevent vandalism and any other damage.
- Contractor and onsite inspector are required to coordinate any disruption to driveways with owners in advance of installing the bypass or new pipe.
- Arcadis will be providing full-time, onsite, 3rd party CM/Inspection service anytime the contractor is onsite. Residents or business owners can address concerns or questions to the onsite inspector. If the question or concern cannot be immediately resolved, then the inspector will contact the construction manager and/or project manager to address the issue. Project information sheets will be distributed by the County in advance of the work that will include phone numbers for Construction Inspectors and AACo.

Schedule

- Construction NTP: June 3, 2024
- Submittals: June 3, 2024 – August 30, 2024
- Contractor On-site Preliminary Work: Late July 2024
- Cattail Creek PS Upgrades Start: Early Fall 2024
- Bypass Installation Start: Fall 2024
- Swagelining Installation Start: Winter 2025
- Last Expected Day of Construction: December 1, 2025

Follow **DPW**

FACEBOOK

@annearundeldpw

YOUTUBE

Anne Arundel County DPW

INSTAGRAM

@annearundelcountydpw

LINKEDIN

Anne Arundel County

Department of Public Works

TWITTER

@AACoDPW

Bureau of Utility **Operations**

24-Hour Emergency Water Service:
(410) 222-8400
Billing Inquiries: (410) 222-1144

Bureau of Waste Management **Services**

Bulk Trash Service / Curbside Collections: (410) 222-6100

Bureau of **Engineering**

General Inquiries: (410) 222-7500

Bureau of **Highways**

General Inquiries: (410) 222-7321
Snow Line: (410) 222-4040
Email: hwyscustomercare@aacounty.org

Bureau of Watershed **Protection and Restoration**

General Inquiries: (410) 222-4240

Customer **Relations**

General Inquiries: (410) 222-7582
Email: pwcust00@aacounty.org