



December 31, 2022 Storm Event Impacts on District Operations

Board of Directors Meeting
February 8, 2023



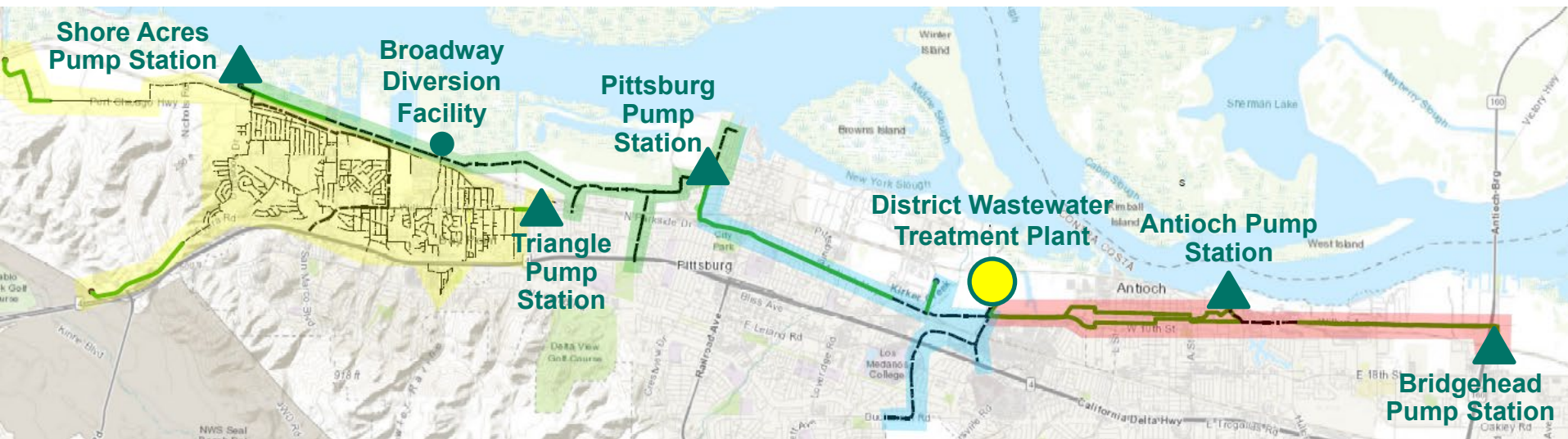
Overview

December 31st Storm Event



- High intensity, long duration rainfall event caused localized flooding and regional infrastructure damage
 - Over 4.0 inches of rain in 15-hour period (~500-year return period) in District service area
- Staff response focused on maximizing flow to District's Wastewater Treatment Plant (WWTP) and available storage in wastewater conveyance system to minimize number and volume of sanitary sewer overflows (SSOs)
 - Dry weather WWTP flow = 14 million gallons per day (MGD)
 - Wet weather WWTP flow = 40-45+ MGD during storm event
- Due to high, sustained flows that exceeded available capacity, District experienced a total of five largely unavoidable SSOs
 - Two >50,000 gallons, three <6,000 gallons (All Category 1 SSOs)

Wastewater Conveyance/Treatment System Maximized Available Storage, Flow Capacity



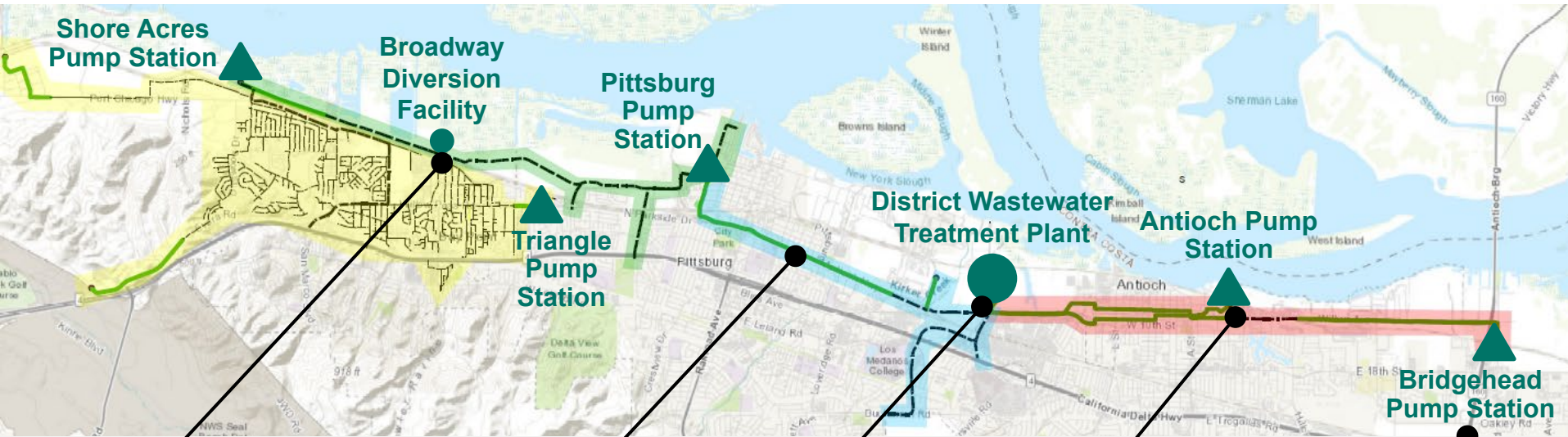
- Available storage (5.2 MG) capacity in conveyance system was full within first few hours of storm event with all five pump stations at maximum discharge flows
- Historically high influent flows (40-45+ MGD)
 - Utilized most of ~18 MG of storage capacity at WWTP
 - Exceeded WWTP wet weather design capacity (33.1 MGD vs. 31.1 MGD) and experienced effluent outfall flow limitations

Key Wet Weather Flow Management Actions by District



- Conducted wet weather preparation and operational readiness activities prior to storm event
- Called in multiple standby and additional operations and maintenance (O&M) team members, who responded quickly and effectively
- Maximized flow storage and pumping to mitigate potential SSO conditions as flow progressed through service area
- Implemented critical actions to deploy temporary pumping systems at Antioch PS despite facility access issues to mitigate unexpected flooding of pump dry well area
 - Narrowly prevented complete loss of critical Antioch PS facility and a major sustained SSO (likely would have required weeks to repair)
 - Extraordinary decisions, actions, and quick thinking by multiple O&M team members under significant pressure to achieve outcome

SSOs during Severe Storm Event



1,080-gallon SSO
from valve pit
penetration

5,775-gallon SSO
from Pittsburg Force Main
Air Relief Valve Manhole
(corrected w/temporary
containment structure)

3,750-gallon SSO
associated with
larger flooding event
that damaged
aerated grit blowers

67,250-gallon SSO
no remaining
storage; Antioch PS
at maximum
capacity

250k-750k gallon SSO
multiple locations; no
remaining storage;
downstream Antioch PS
at max capacity;
reduced Bridgehead PS
flow due to flooding at
Antioch PS

- Completed initial regulatory notifications, sign posting, water sampling
- Working to refine SSO volumes and complete technical reports for two major SSOs (Antioch PS, Bridgehead PS)

Severe Storm Event Photos



**Pittsburg FM
ARV MH SSO**



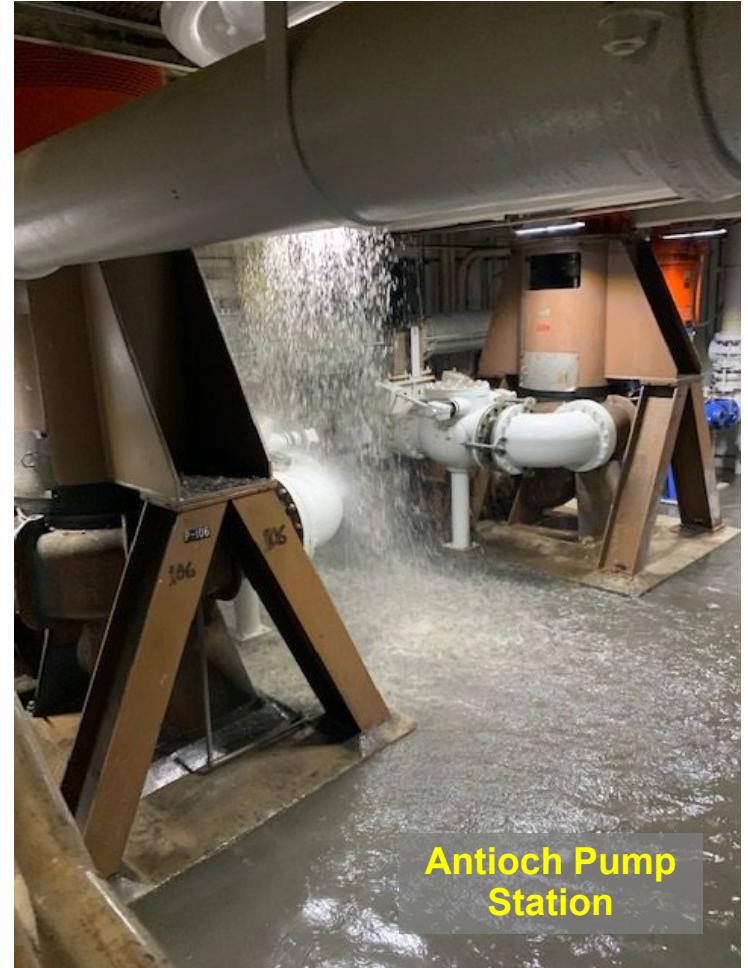
**Bridgehead
PS MH SSO**



**Sandbags around
WWTP Grit Pump
and Blower Room
Entrance**



**Pittsburg PS
flooding**



**Antioch Pump
Station**

Next Steps

- Immediately following storm event, staff engaged to conduct follow-up condition assessments, lessons learned debriefing, and complete required repair activities
 - Ensure operational readiness for remainder of wet weather season
 - Board authorized \$400,000 (January 11, 2023) to repair two damaged grit removal system blowers at WWTP
- Staff is pursuing cost recovery opportunities through insurance and external funding sources due to emergency declarations at state and federal level
- District will conduct Employee Recognition event in near term to recognize outstanding storm response actions and other staff achievements