

UPDATE ON STACY'S BROOK WATER QUALITY IMPROVEMENTS

SELECT BOARD MEETING

March 3, 2021



Source: JOHN TLUMACKI/GLOBE STAFF/FILE



Agenda

- Consent Decree Background
- Review of Approach
- Progress to Date
- Findings
- Phase 1C Scope of Work
- What's Next?

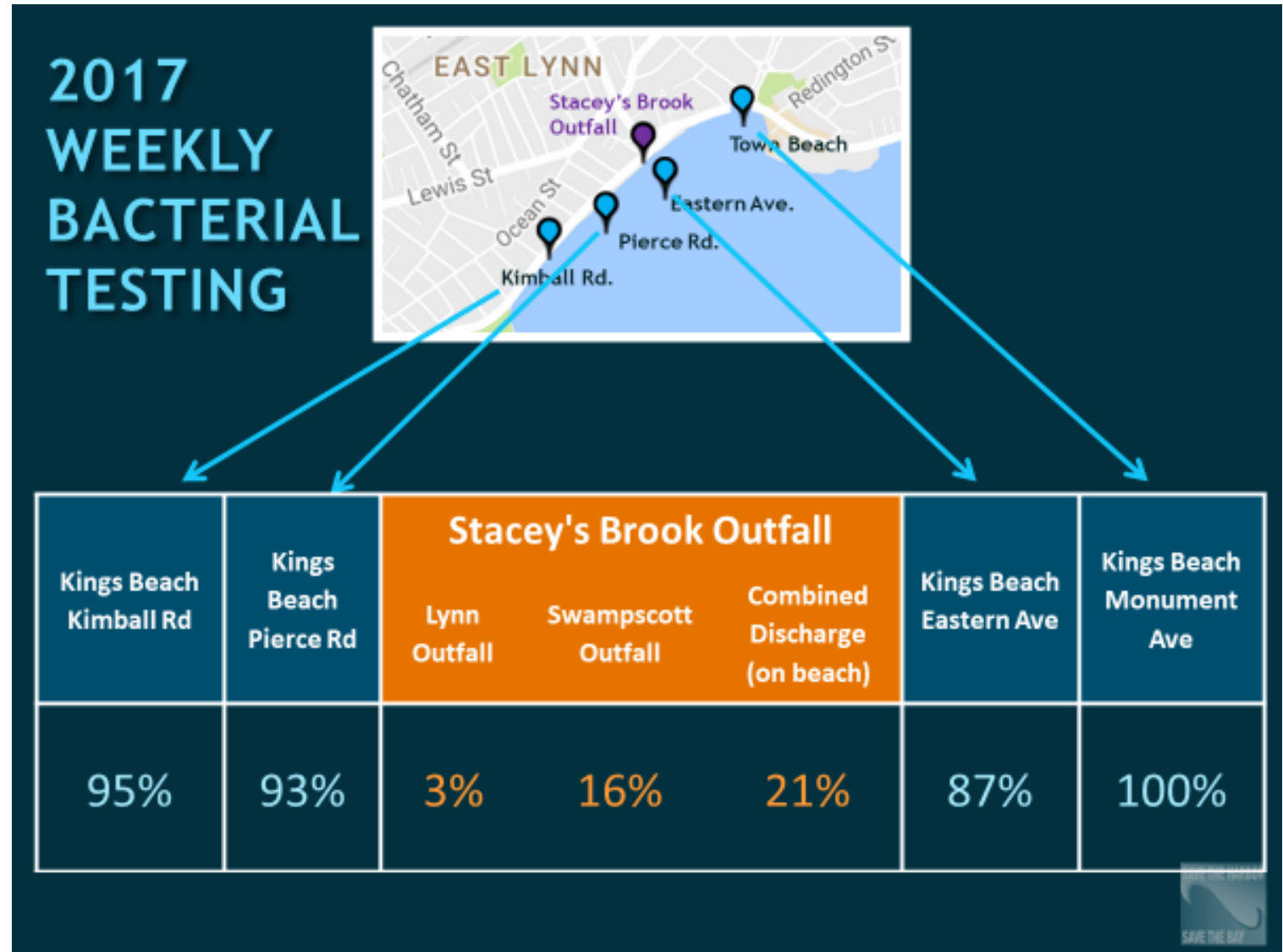
Basis & Objectives

Basis for Consent Decree

- Violations of the Clean Water Act
- Bacteria exceedances to King’s Beach, Fisherman’s Beach, and Phillips Beach [sample data 2010 through 2012]

Objectives

- Identify and eliminate non-stormwater discharges entering Swampscott’s stormwater system



Source: Save the Harbor / Save the Bay (2017)

CD Requirements Met

1. Updated General Bylaws to Prohibit non-stormwater discharges to drain and manage construction and post-construction stormwater
2. Completed Town-Wide sampling of all stormwater outfalls to trace pollutants
- 3. Developed Engineering plans to rehabilitate sewer system within priority Phase 1 area and Fisherman’s Beach area**
4. Continuing to submit routine progress reports and GIS mapping updates

UNITED STATES DISTRICT COURT
DISTRICT OF MASSACHUSETTS

UNITED STATES OF AMERICA,)	
Plaintiff,)	
)	
v.)	CIVIL ACTION NO.
TOWN OF SWAMPSCOTT, MASSACHUSETTS,)	
Defendant,)	
and)	
COMMONWEALTH OF MASSACHUSETTS,)	
Nominal Party required by)	
33 U.S.C. § 1319(e).)	
)	

CONSENT DECREE

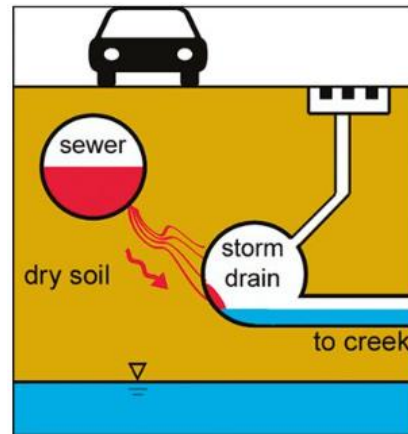
WHEREAS, the Town of Swampscott, Massachusetts (the “Town” or “Swampscott”) discharges pollutants into navigable waters of the United States from a municipal separate storm sewer system (“MS4”) pursuant to NPDES Permit No. MAR041064 (“Small MS4 General Permit”);

WHEREAS, the plaintiff, the United States of America, on behalf of the United States Environmental Protection Agency (“EPA”), has filed a complaint simultaneously with this Consent Decree alleging that the Town has violated the Small MS4 General Permit and Section 301(a) of the Clean Water Act (“Act” or “CWA”), 33 U.S.C. § 1311(a);

WHEREAS, entry of this Consent Decree by the Court will resolve all claims in the complaint of the United States, referred to herein collectively as the “Complaint”;

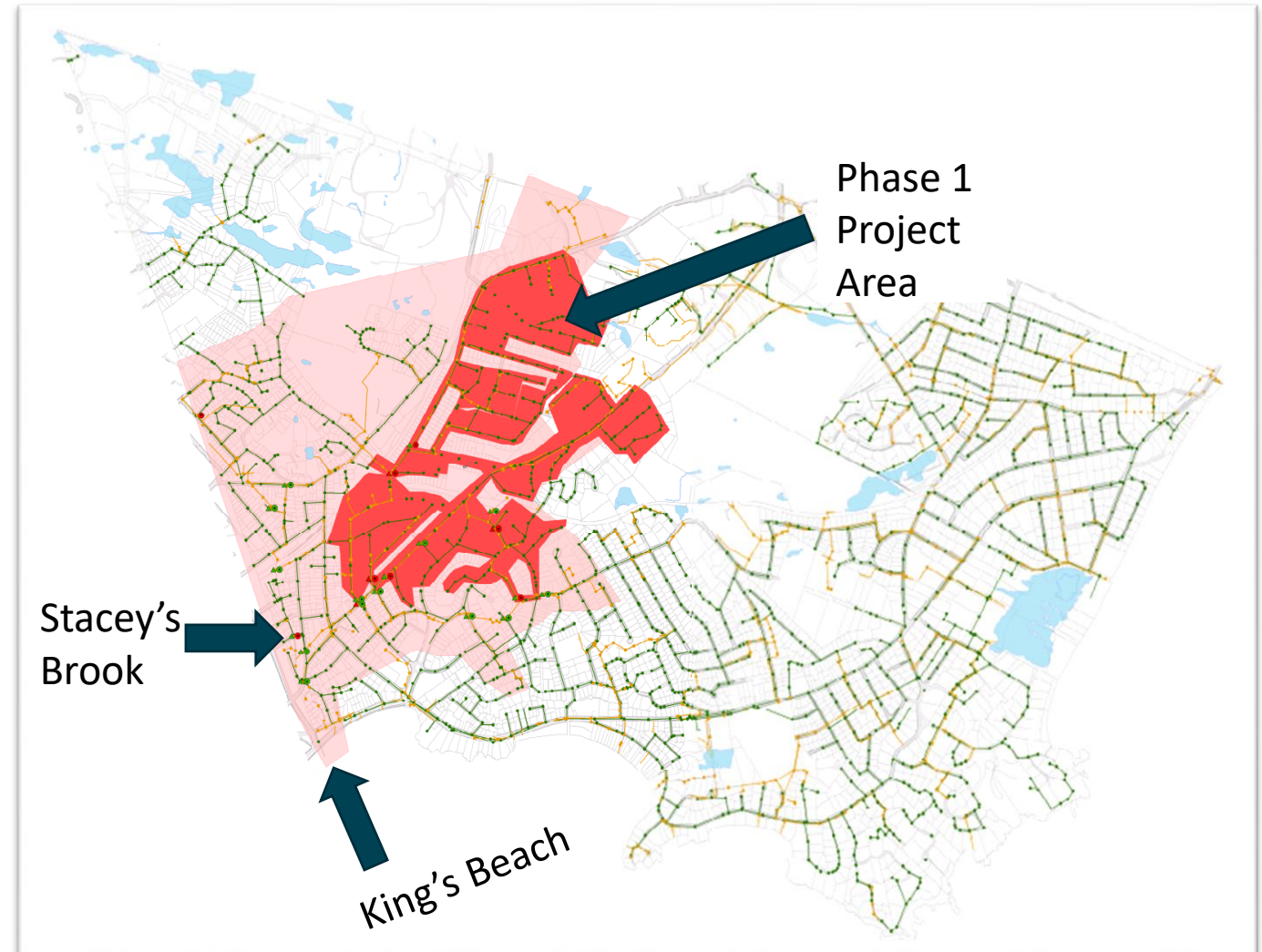
Phase 1 Sewer Rehab Objectives

- ❖ Eliminate non-stormwater discharges into drain system through sewer rehabilitation



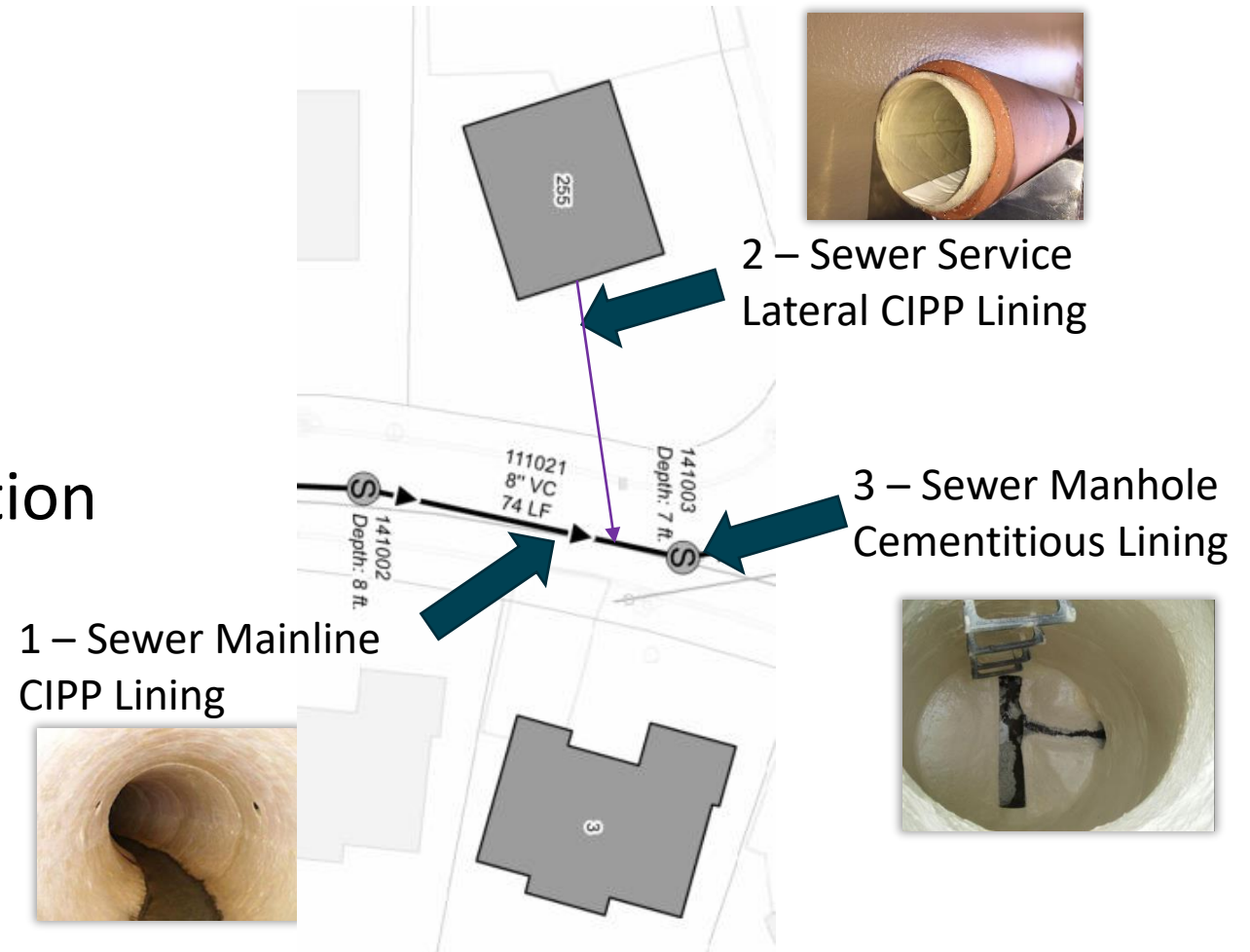
(Sercu et al. 2011, ES&T)

- ❖ Remove Infiltration & Inflow (I/I)
- ❖ Renewal of Sewer System (>100 Yrs Old)



Phase 1 Sewer Rehabilitation Methods

- ❖ Replace 6-inch clay sewer
- ❖ Cured-in-Place Pipeline
- ❖ Line house sewer services
- ❖ Rehabilitate sewer manholes
- ❖ Eliminate potential contamination to drain within underdrain manholes

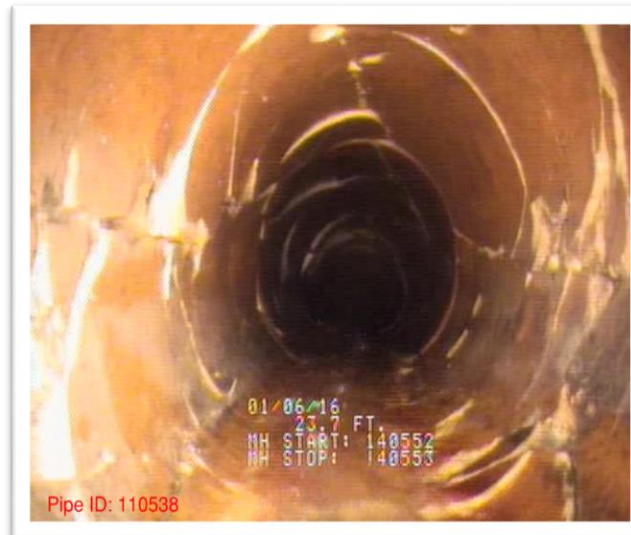


Work To Date Has Affirmed Conditions for Contamination Exist

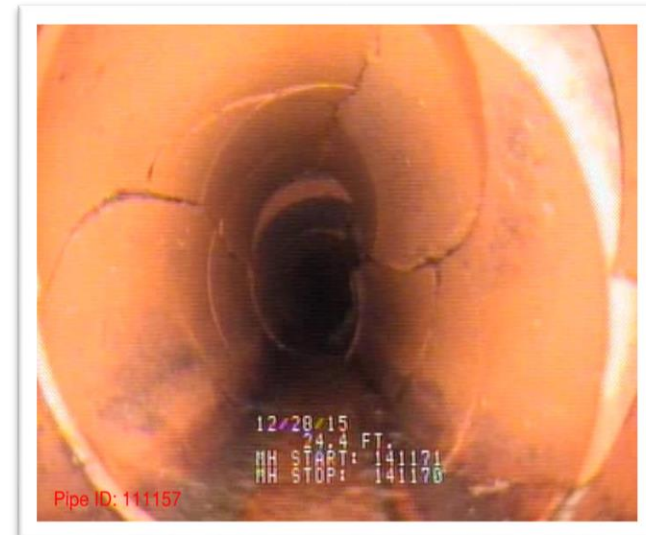
- **Aged, cracked clay sewer lines**
- 80%+ of sewer laterals defective
- Potential for Cross-Connections



Farragut Road



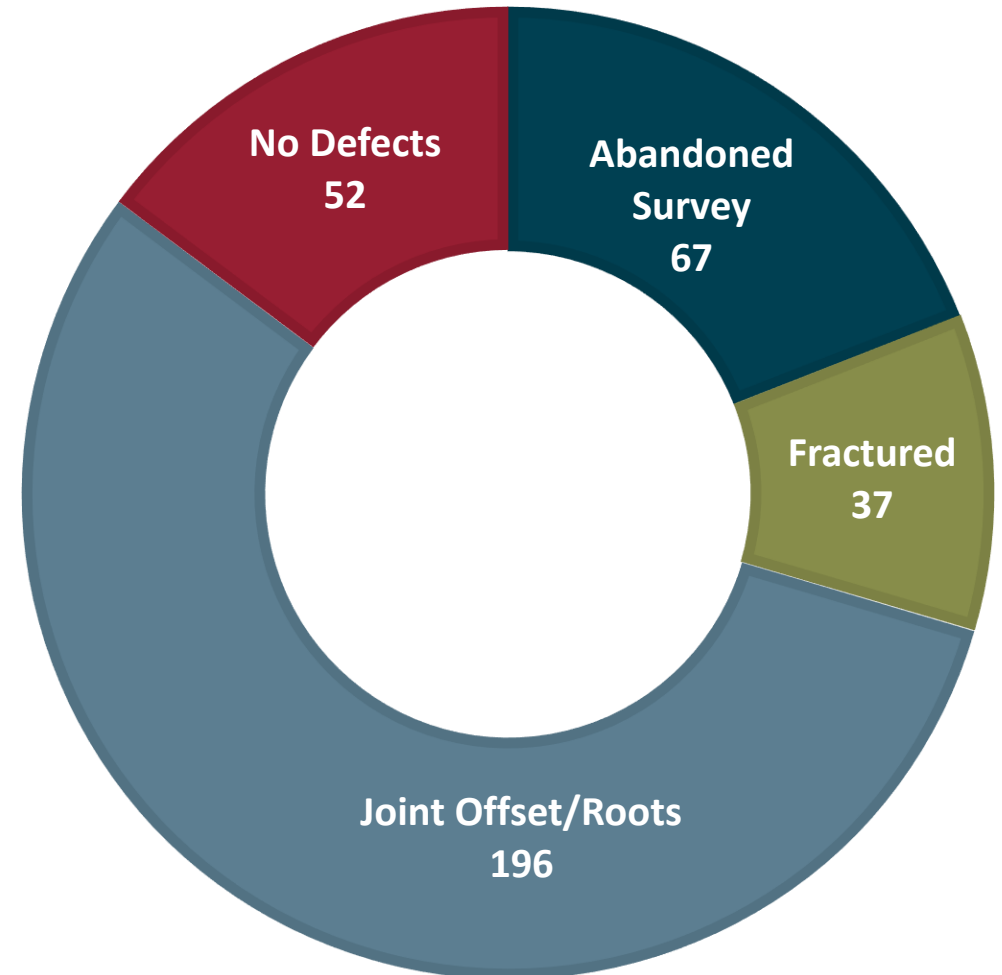
Barnstable Street



Longwood Drive

Work To Date Has Affirmed Conditions for Contamination Exist

- Aged, cracked clay sewer lines
- **80%+ of sewer laterals defective**
- Potential for Cross-Connections



Work To Date Has Affirmed Conditions for Contamination Exist

- Aged, cracked clay sewer lines
- 80%+ of sewer laterals defective
- **Potential for Cross-Connections**

Drain Manhole

Sewer
Pipe



Sewers Crossing
Through Drain

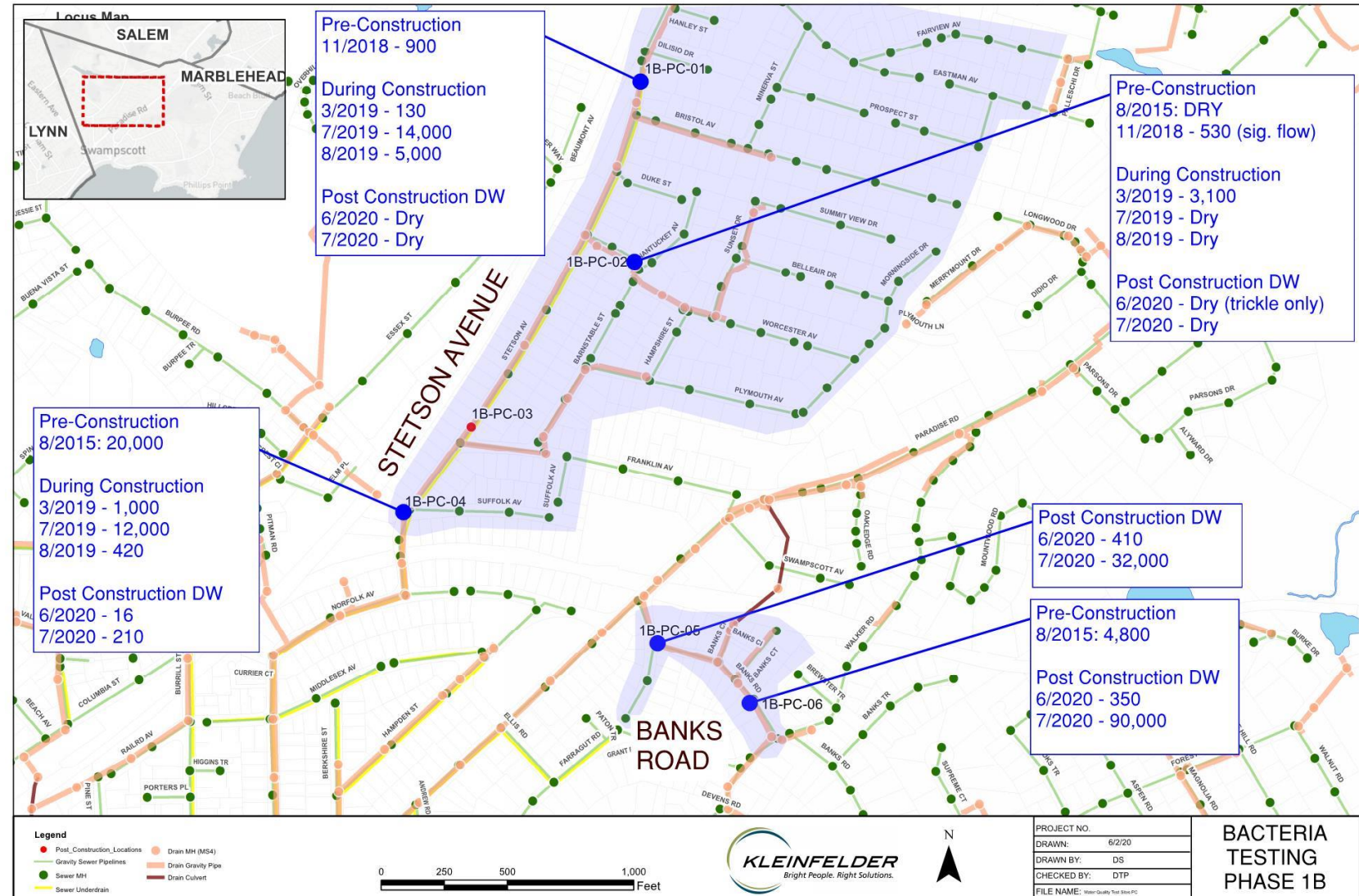
Phase 1B - Dry Weather Sampling

❖ Stetson Avenue Area

- ❖ Focus of Phase 1B
- ❖ Promising Post-Construction Bacteria Results

❖ Banks Road Area

- ❖ Partially Rehabilitated
- ❖ Upgradient from Walker Road Not Yet Improved
- ❖ Suspected Direct Illicit Connection



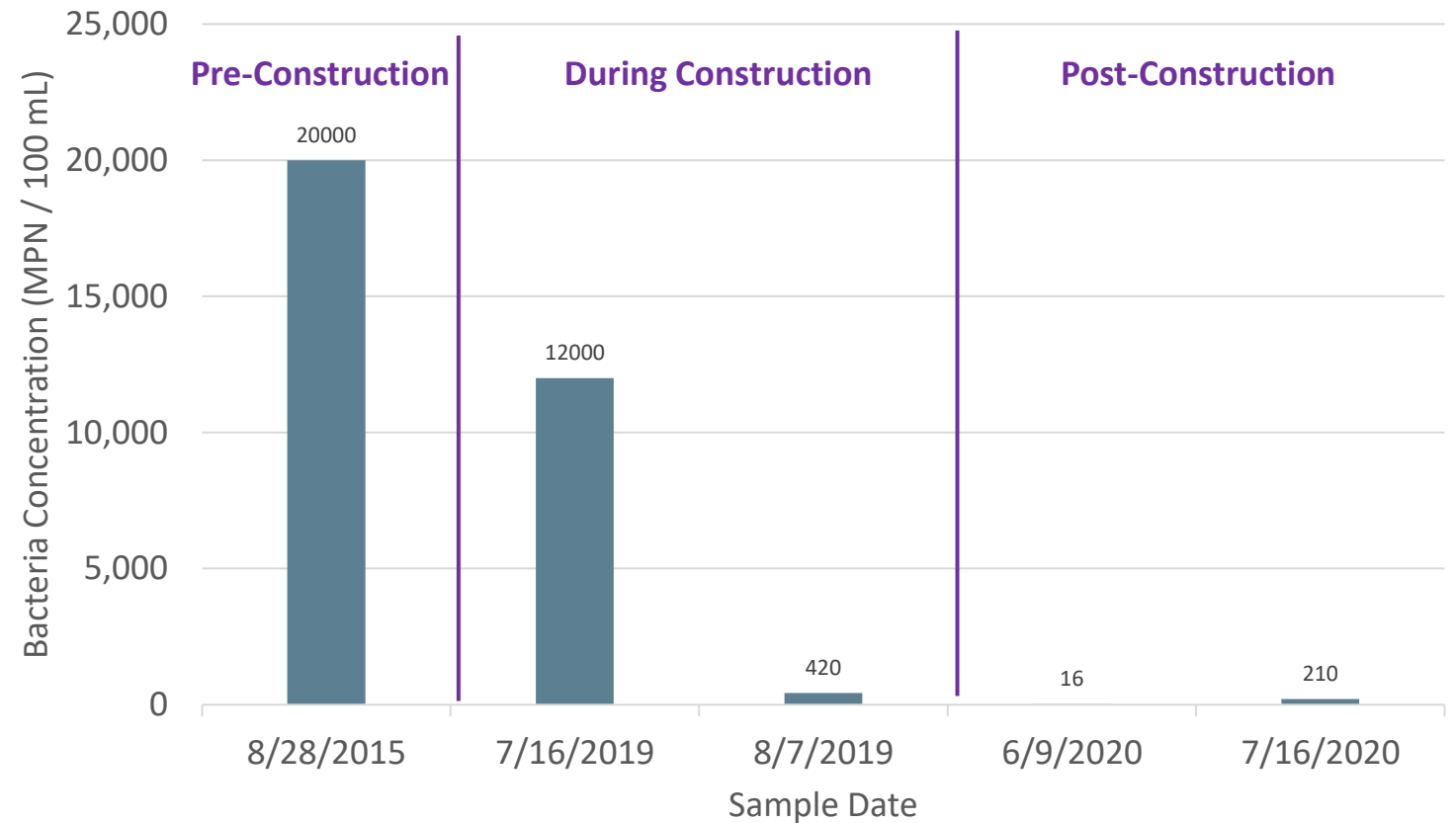
Phase 1B

Dry Weather Sampling

❖ Stetson Avenue

- ❖ Promising results
- ❖ Zero ammonia and undetected surfactants
- ❖ Bacteria decline

Enterococcus Sampling (MPN / 100 mL)
Stetson Ave at Suffolk Ave

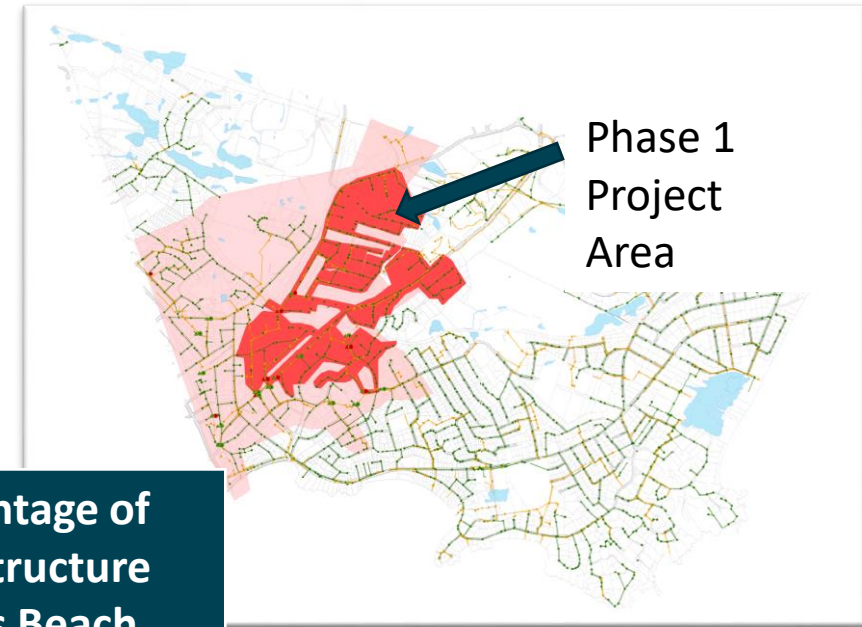


Phase 1 Sewer Rehabilitation Progress (Phase 1A and 1B)

- ❖ Sewer Replaced – **6,000 feet**
- ❖ Sewer Lined – **17,000 feet**
- ❖ Sewer Laterals Rehabilitated – **200**
- ❖ Rehab Sewer Manholes – **1,000 vertical feet**
- ❖ Upgrade Underdrain Manholes - **25**

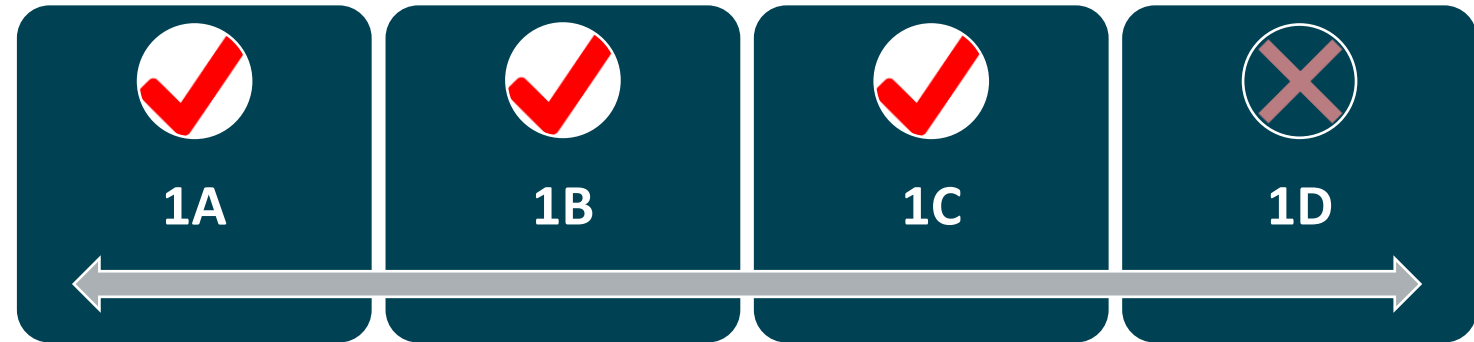


Phase 1C Scope of Work (Bid Quantities)



	Phase 1A and 1B	Phase 1C (Bid)	Total Phase 1	Percentage of Infrastructure King's Beach Drainage Area
Sewer Main Line or Replace	23,000	14,100	37,100	45%
Sewer Manholes Rehab (estimate)	125	54	179	33%
Sewer Services	200	255	455	25%
Underdrain Manholes	25	24	89	~ 100%

Phase 1 Sewer Program Costs & Schedule



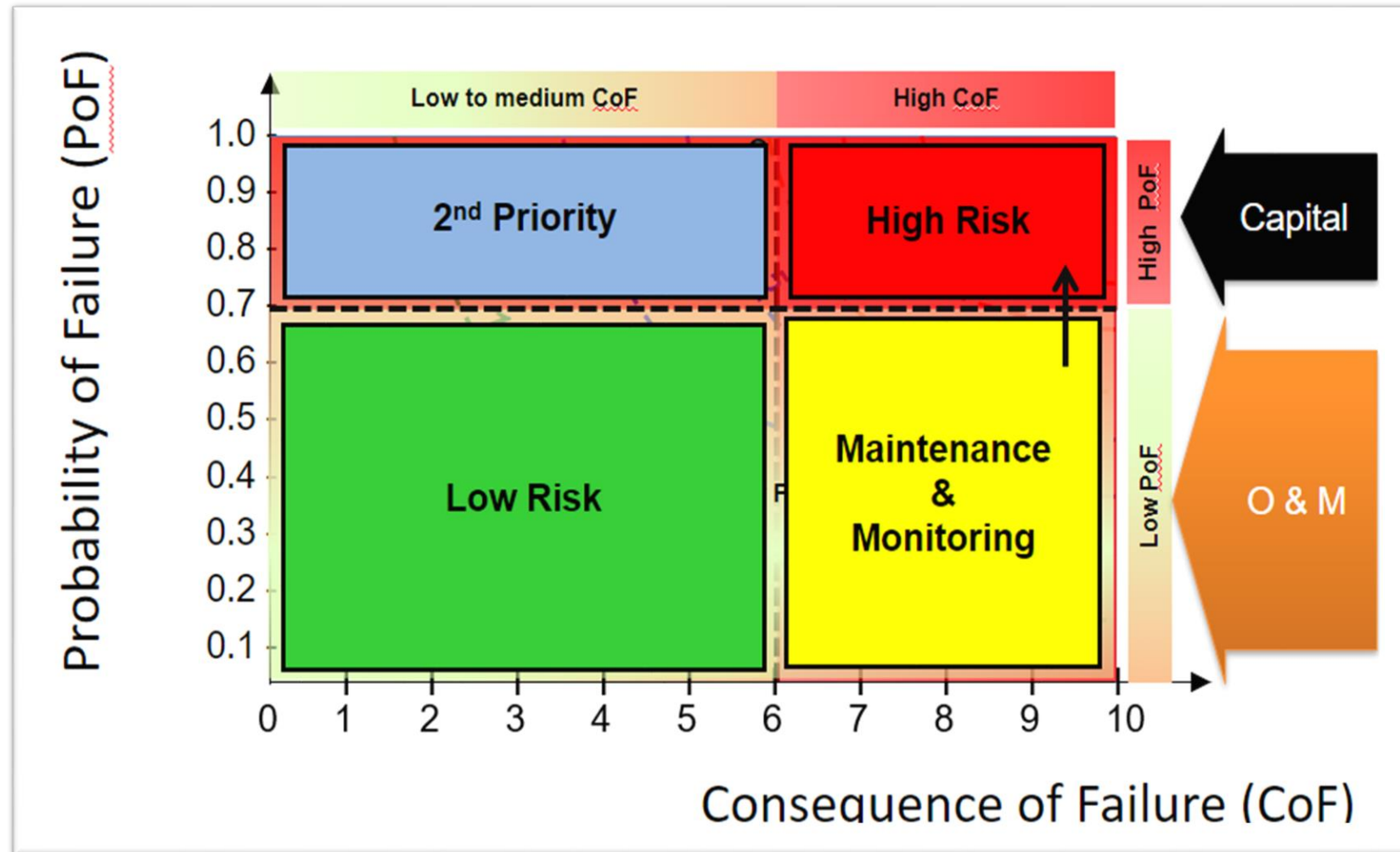
Phase 1 Cost Estimate (\$M)	1A	1B	1C	1D	Total
2016 Estimate (Phases 1A to 1D)	\$1.955	\$1.987	\$2.153	\$3.140	\$9.235
2021 Estimate (Phases 1A to 1C)*	\$1.196	\$1.634	\$1.956	*	\$4.786
Original/Actual Construction Schedule	2017/ 2017	2019/ 2019	2021/ 2021	2023/ *	---

**Note: Phase 1D has been consolidated into Phase 1C*

*** Phase 1 work anticipated to be done 2 years early*

Future Capital Planning

- \$150,000 MassDEP grant to develop:
 - 5-year Capital Plan for water, sewer and drain management
 - 20-year sustainable funding plan
 - Draft of Plan Expected October 2021





What's Next?

- Complete Phase 1C Construction
- Perform Post-Construction sampling
- Capital Improvement Planning
 - Includes planning for continued water quality improvements