



ACEC – Utilities & Energy Conference

BWSC's Project Summary

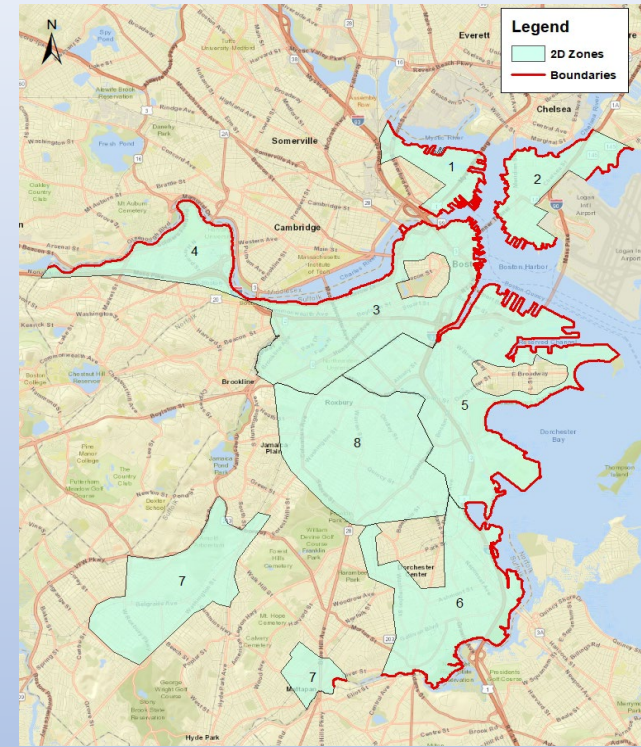
May 21, 2024

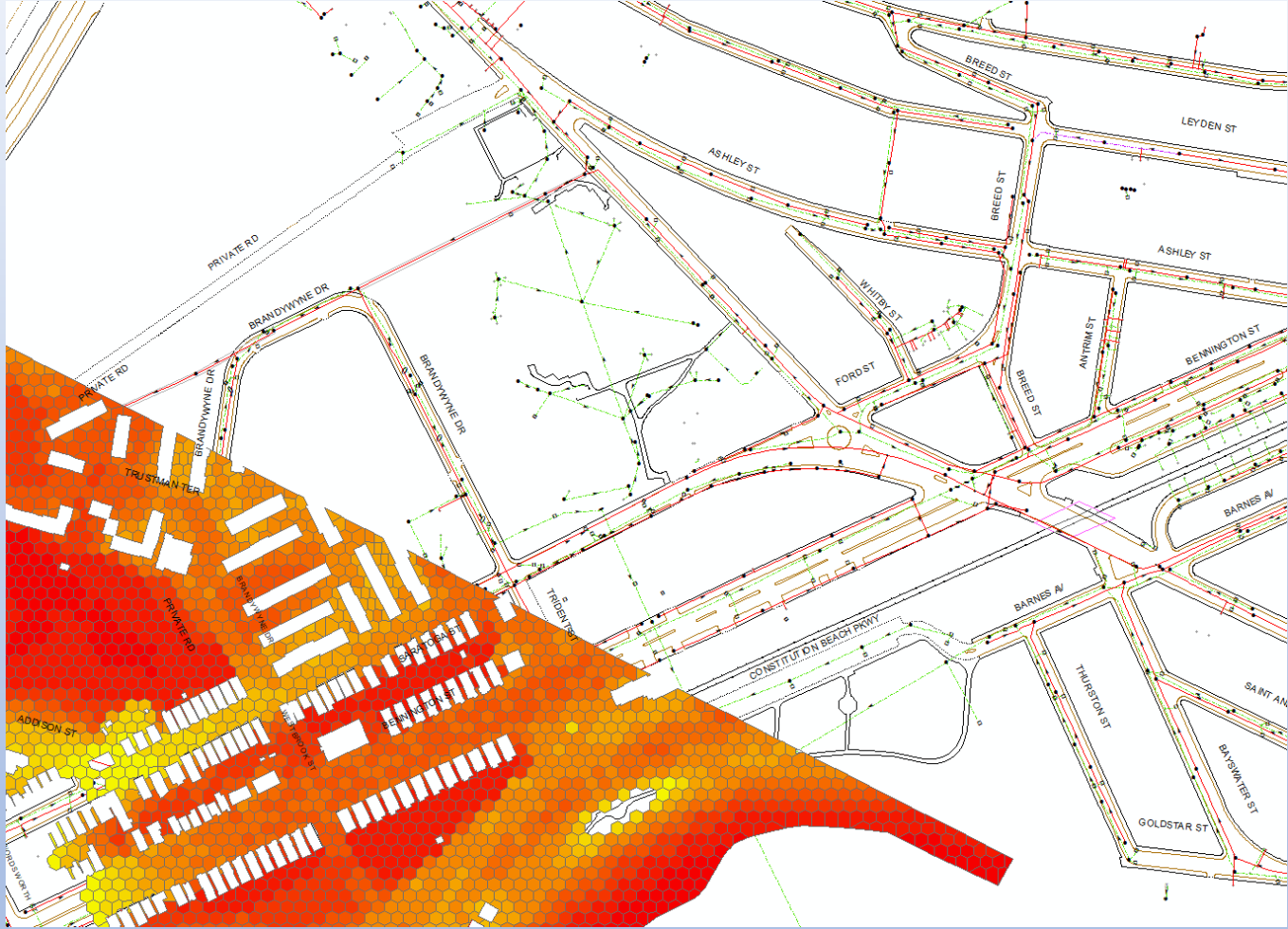
Peter Salvatore
Director of Engineering

Charlie Jewell
Director of Planning and
Sustainability

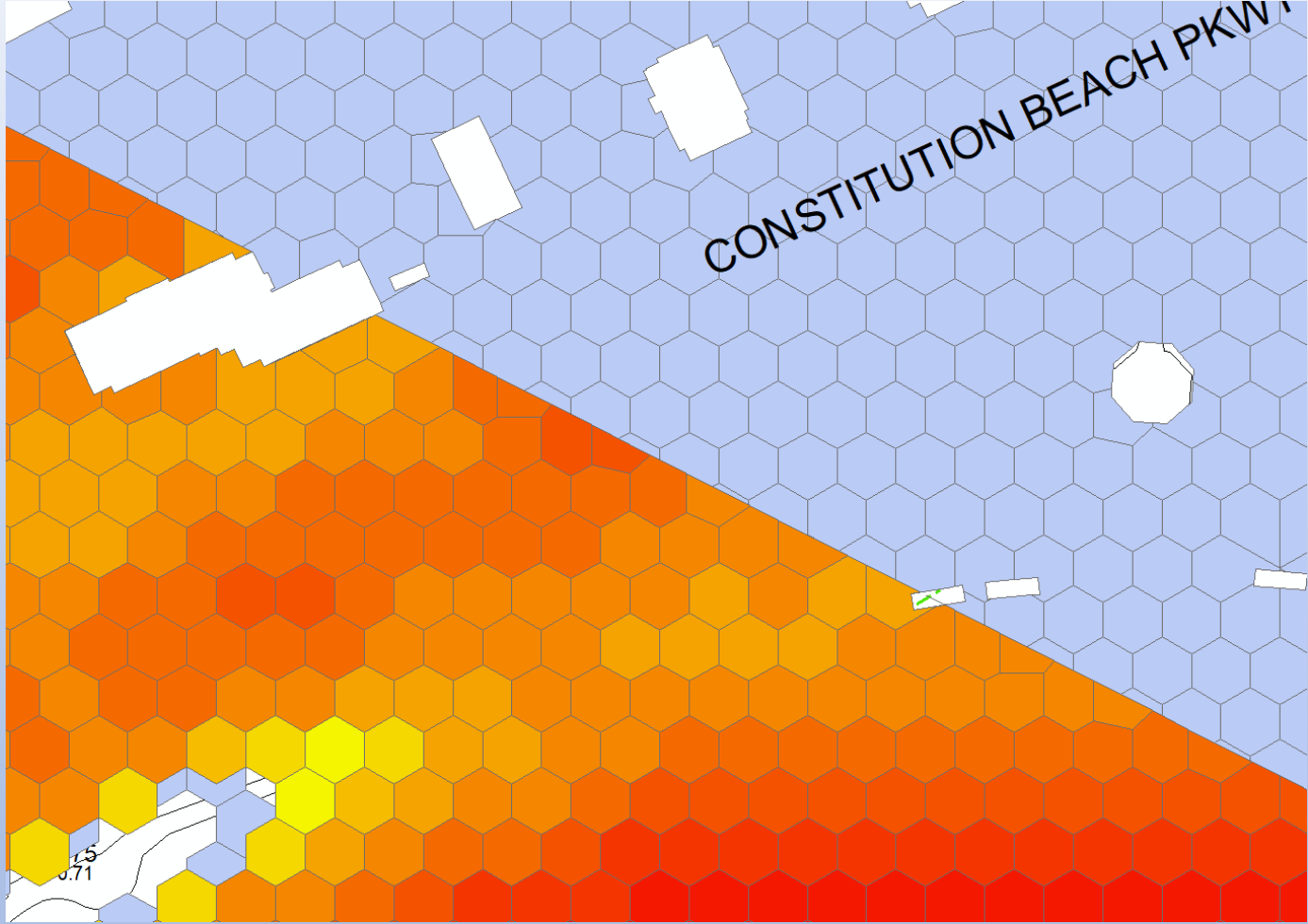
Update Inundation Model

- Expend Mesh
- Update LIDAR
- Woods Hole Group
- Incorporate Recommendations
 - Climate Ready Boston
 - GI Installations
 - Coastal Stormwater Discharge Analysis Project
- Analyze Inland Inundation





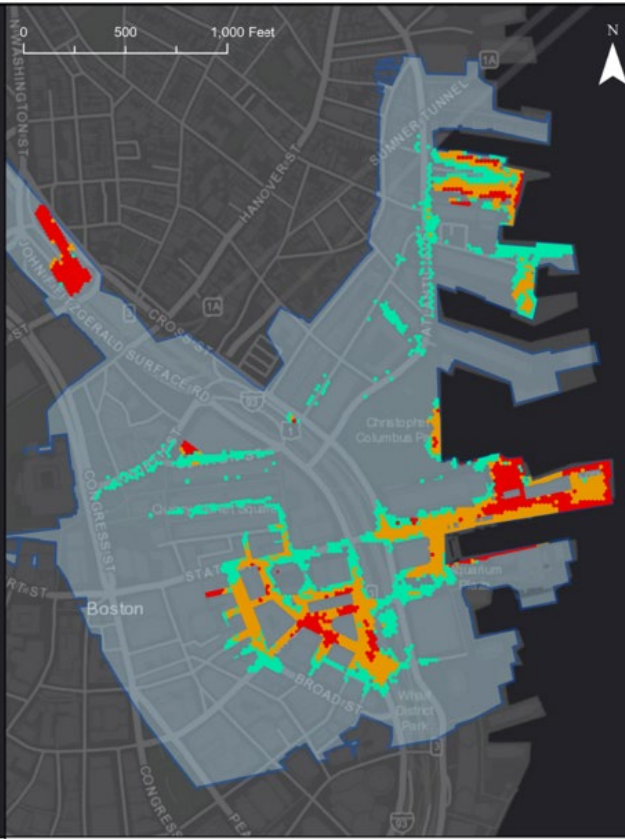




Flood Modeling of Columbus Park Pump Station



CRB Shoreline Protection Only

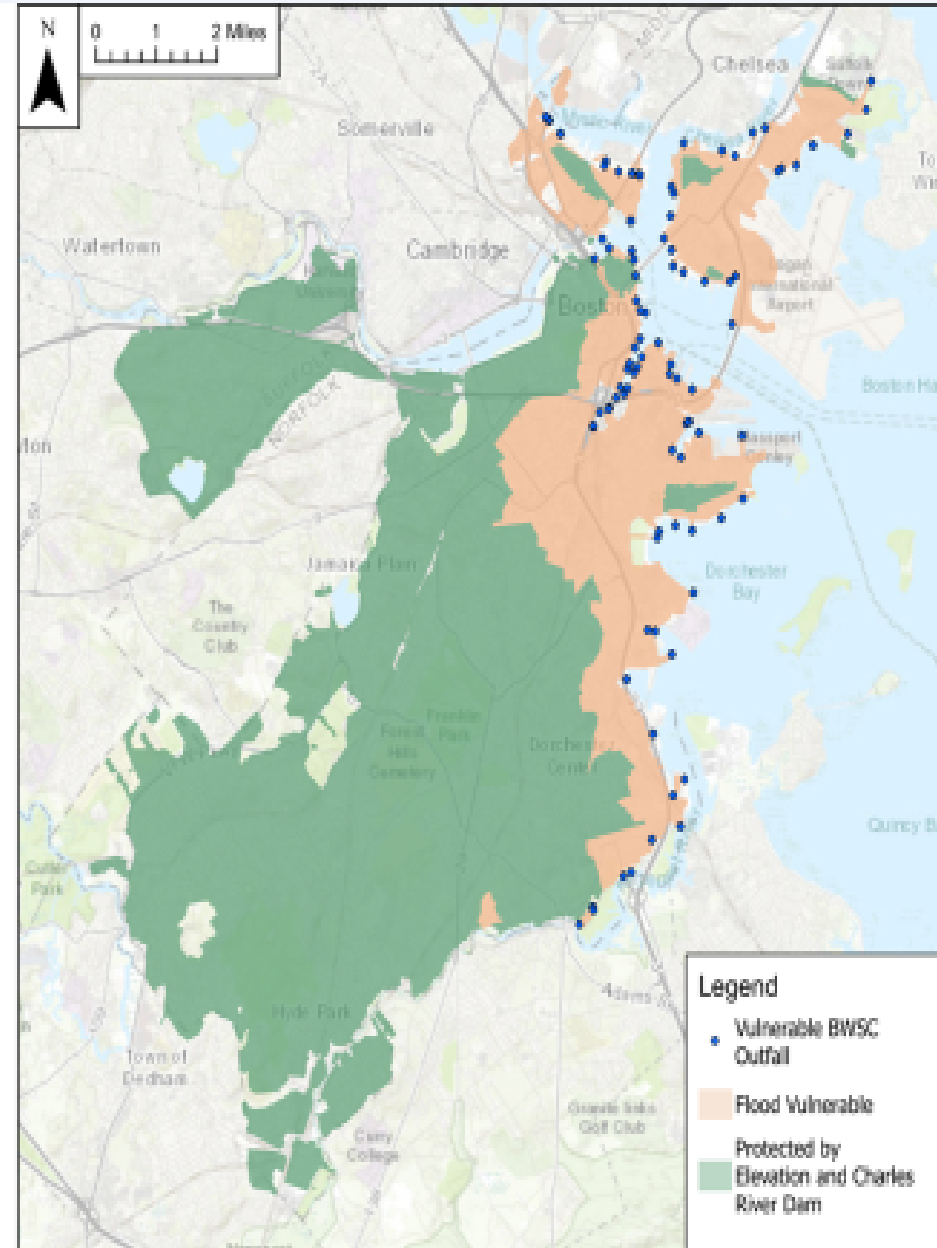


Columbus Park Pump Station and Tide Gates

Legend	
■	Flood Depth > 4 in and < 1 ft
■	Flood Depth > 1 ft and < 2 ft
■	Flood Depth > 2 ft
	Drainage Area Analyzed
Simulation Parameters	
Storm Type	100yr Tropical Storm
Rainfall Depth	9.6 inches
Peak WSE 2070 SLR + 100yr Surge	13.8 feet NAVD88

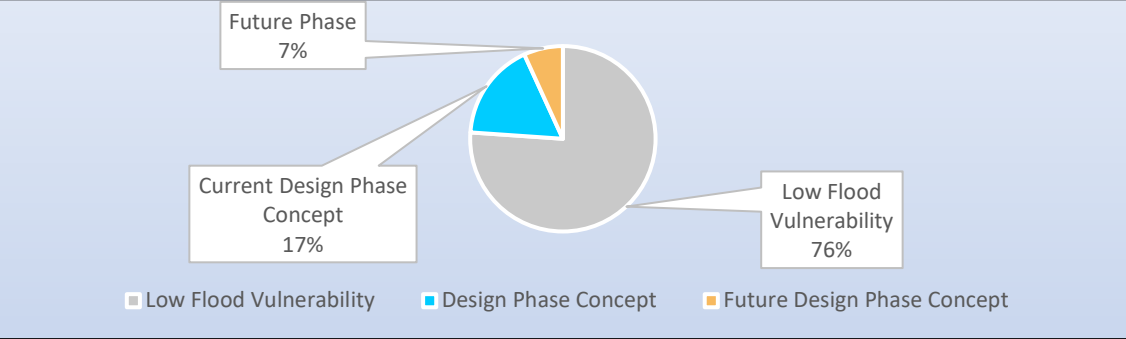
Coastal Flood Vulnerability In Boston

- Approximately 76% of Boston has low coastal vulnerability flooding due to sea level rise and storm surge
- Approximately 24% of Boston is at lower elevations and more vulnerable to flooding
- Approximately 100 **BWSC** owned outfalls provide drainage in coastal flood vulnerable areas
- The City of Boston's *Climate Ready Boston* initiative is designing shoreline protection projects to prevent coastal flooding
- BWSC has undertaken the Coastal Stormwater Discharge Analysis to develop a strategy to adapt stormwater infrastructure to higher sea level
- Development of plans and concept designs to adapt almost 100 **BWSC** outfalls

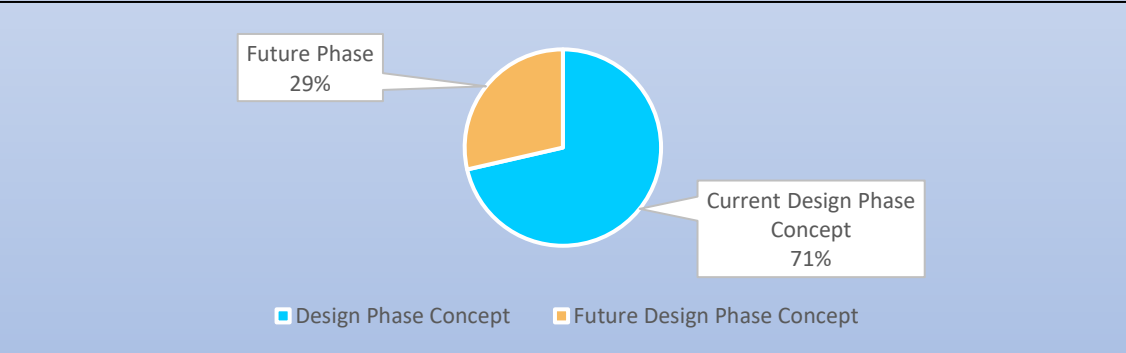


Citywide Coastal Flood Vulnerable Drainage Area Progress

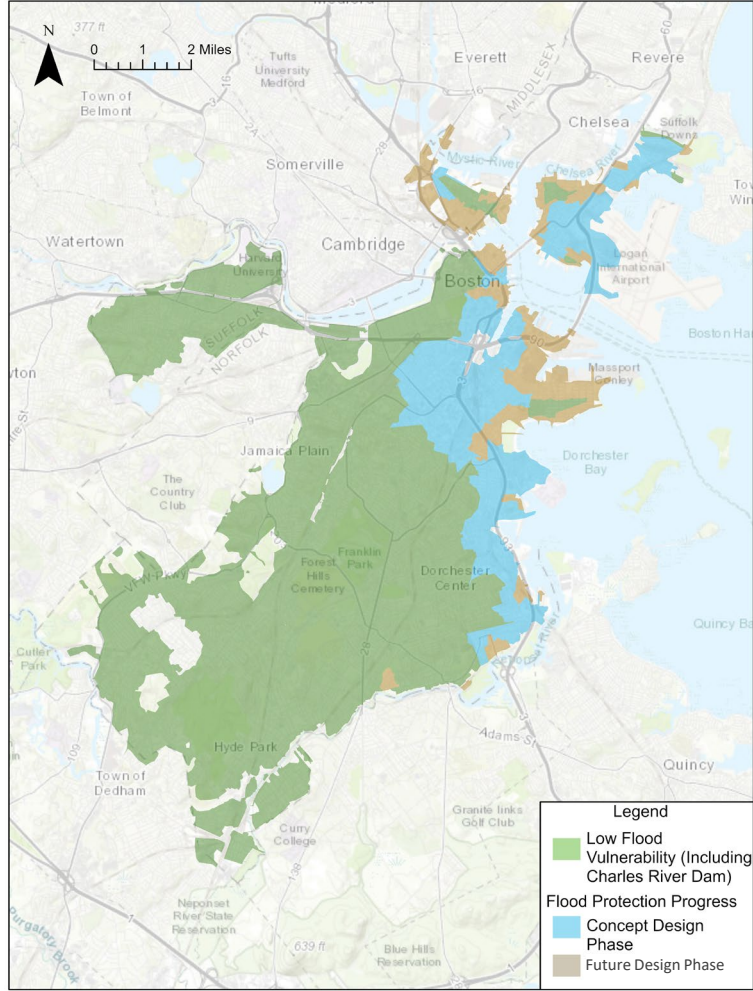
Citywide Drainage Area by Coastal Flood Vulnerability

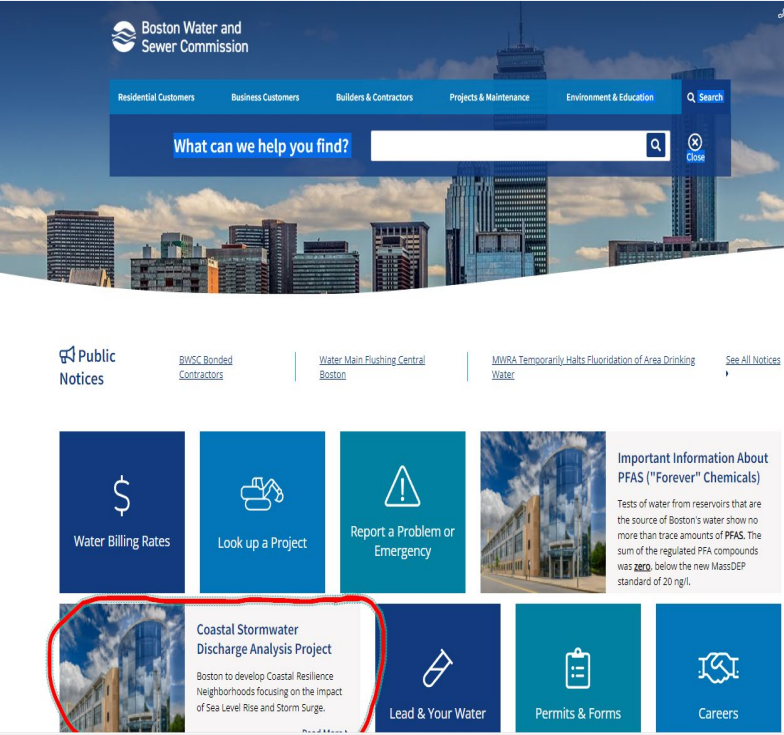


Coastal Stormwater Discharge Analysis – Protection of Coastal Flood Vulnerable Drainage Areas

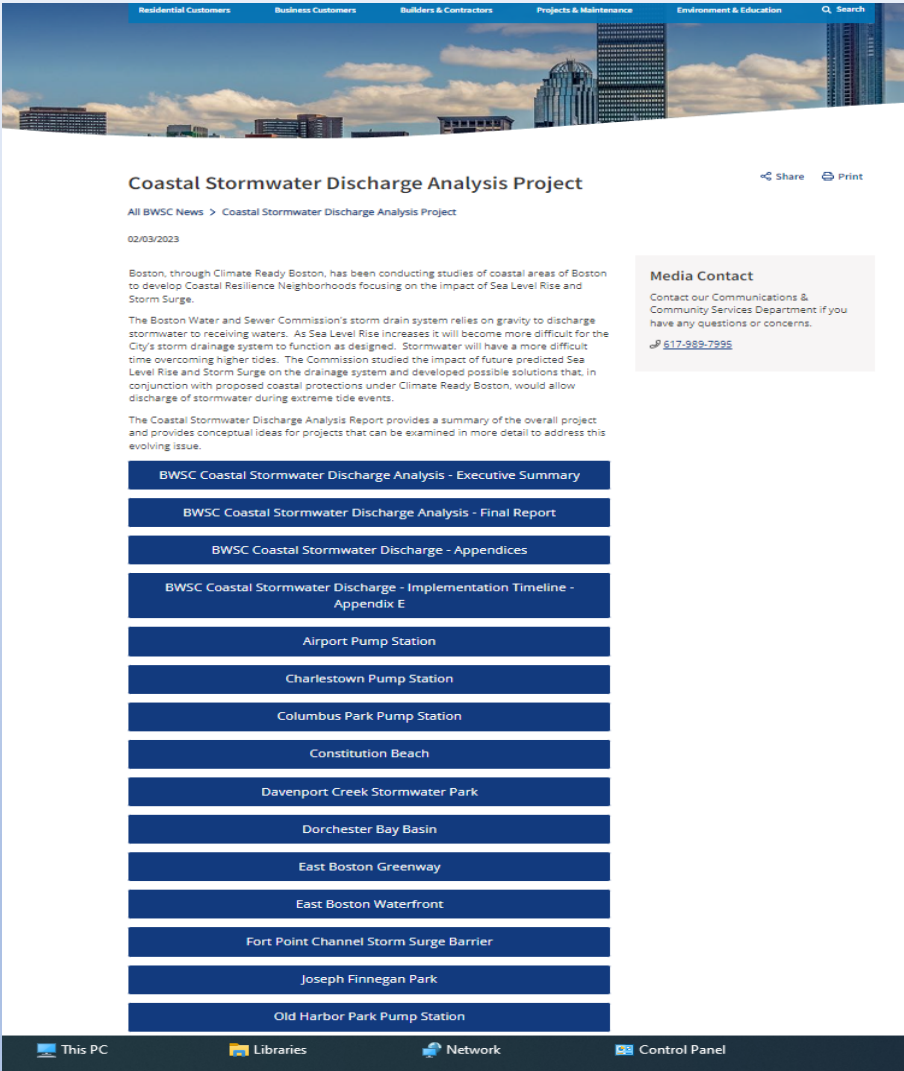


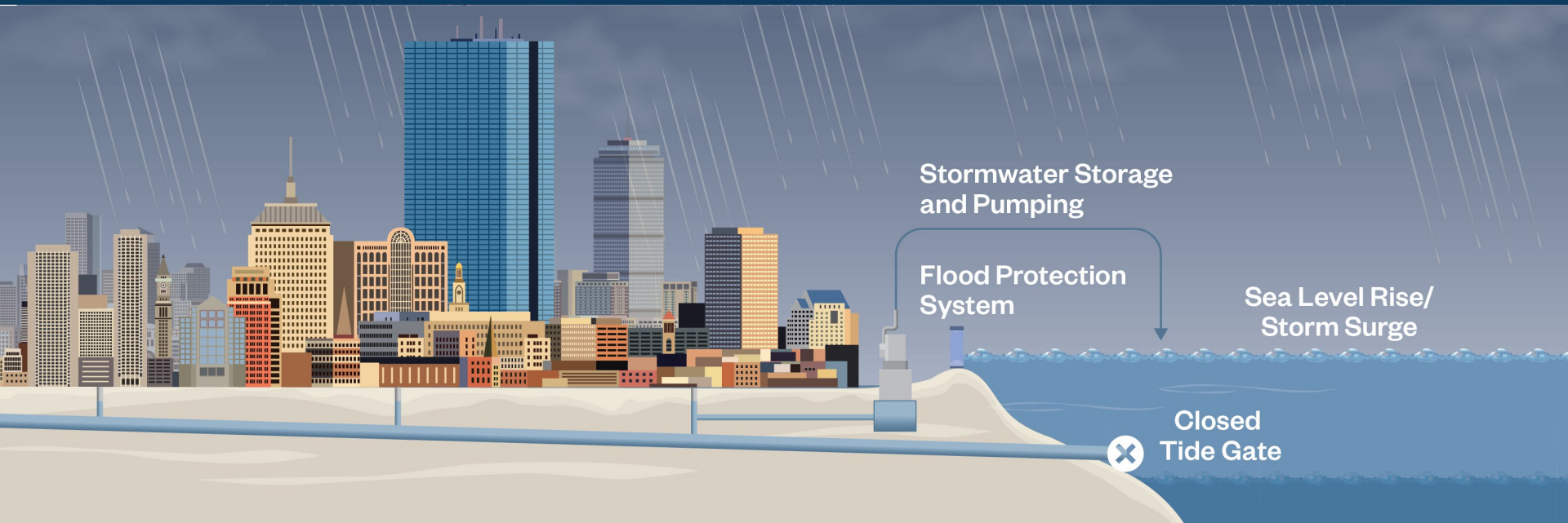
- Current design phase concepts protect 71% of coastal flood vulnerable drainage areas in Boston
- Potential solutions identified at remaining outfalls for future design phase





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[Climate Ready](#)

[Coastal Stormwater Discharge](#)

[Flood Modeling](#)

[Read Our Report](#)

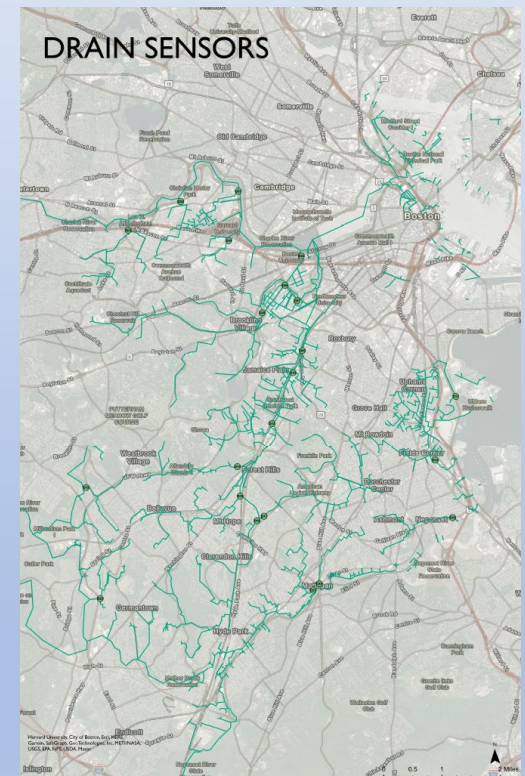
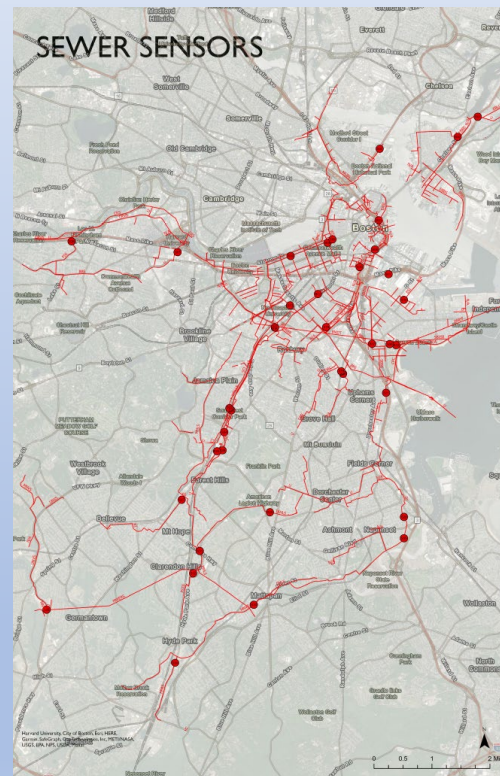
Sewer and Drain System Sensor Project

Sensors installed – 60
Sewer System Sensors - 38
Storm Drain Sensors - 22

Available as we get more insight –
15

Rain Gauges

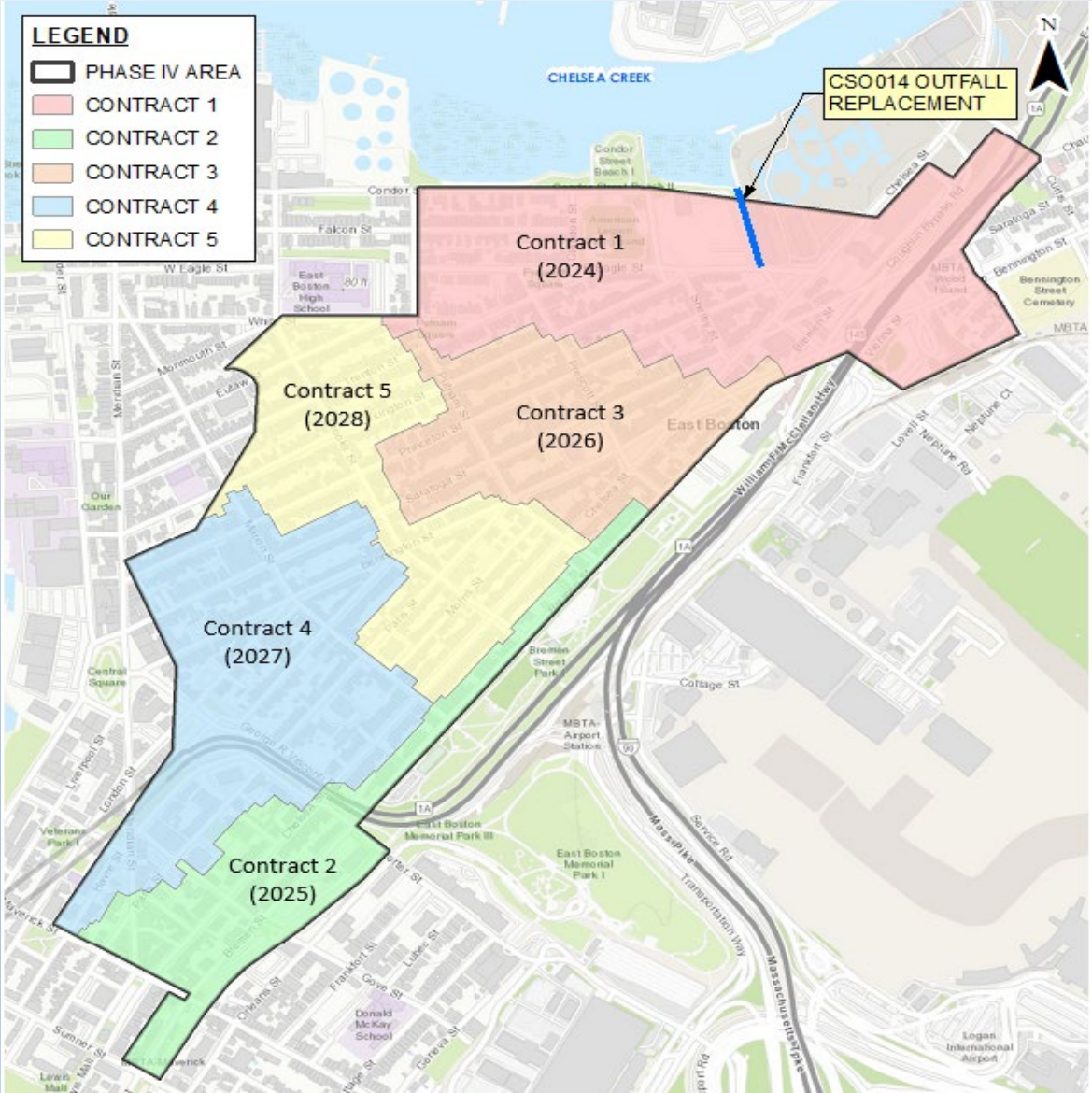
Gather Information - AI



South Boston Construction Schedule

Phase	Start Date	End Date	Duration (Months)	2021	2022	2023	2024	2025	2026	2027	2028
South Boston Sewer Separation Contracts	7/6/2021	10/1/2028	86								
Contract 1 (Substantially Complete)	7/6/2021	8/24/2023	25								
Contract 2 (Ongoing)	9/11/2023	4/1/2026	30								
Contract 3	6/26/2024	6/1/2027	35								
Contract 4	4/1/2025	10/1/2027	30								
Contract 5	4/1/2026	10/1/2028	30								
SBINB	4/1/2026	10/1/2028	30								
NBMI (Ongoing)	10/1/2022	12/31/2027	62	<p>PHASE I - COMPLETE</p> <p>PHASE II - ONGOING</p> <p>PHASE III - PENDING</p>							

Upcoming East Boston Sewer Separation Work



East Boston Construction Schedule

Phase	Start Date	End Date	Duration (Months)	2024	2025	2026	2027	2028	2029	2030		
East Boston Sewer Separation IV Contracts	8/15/2024	8/15/2030	72									
Contract 1	8/15/2024	8/15/2026	24									
Contract 2	8/15/2025	8/15/2027	24									
Contract 3	8/15/2026	8/15/2028	24									
Contract 4	8/15/2027	8/15/2029	24									
Contract 5	8/15/2028	8/15/2030	24									

East Boston Construction Contract Estimates

CONTRACTS		2024	2025	2026	2027	2028	2029	2030	TOTAL
Contract 1	Drain	\$ 433,163	\$ 5,197,957	\$ 4,764,793	\$ -	\$ -	\$ -	\$ -	\$ 10,395,913
	Sewer	\$ 391,803	\$ 4,701,632	\$ 4,309,829	\$ -	\$ -	\$ -	\$ -	\$ 9,403,264
	Water	\$ 571,371	\$ 6,856,453	\$ 6,285,082	\$ -	\$ -	\$ -	\$ -	\$ 13,712,906
Contract 2	Drain	\$ -	\$ 491,789	\$ 5,901,471	\$ 5,409,682	\$ -	\$ -	\$ -	\$ 11,802,942
	Sewer	\$ -	\$ 277,087	\$ 3,325,053	\$ 3,047,965	\$ -	\$ -	\$ -	\$ 6,650,105
	Water	\$ -	\$ 241,223	\$ 2,894,671	\$ 2,653,448	\$ -	\$ -	\$ -	\$ 5,789,342
Contract 3	Drain	\$ -	\$ -	\$ 363,870	\$ 4,366,446	\$ 4,002,576	\$ -	\$ -	\$ 8,732,892
	Sewer	\$ -	\$ -	\$ 261,861	\$ 3,142,343	\$ 2,880,481	\$ -	\$ -	\$ 6,284,685
	Water	\$ -	\$ -	\$ 351,371	\$ 4,216,459	\$ 3,865,087	\$ -	\$ -	\$ 8,432,917
Contract 4	Drain	\$ -	\$ -	\$ -	\$ 448,318	\$ 5,379,825	\$ 4,931,506	\$ -	\$ 10,759,649
	Sewer	\$ -	\$ -	\$ -	\$ 389,123	\$ 4,669,479	\$ 4,280,355	\$ -	\$ 9,338,957
	Water	\$ -	\$ -	\$ -	\$ 318,239	\$ 3,818,875	\$ 3,500,635	\$ -	\$ 7,637,749
Contract 5	Drain	\$ -	\$ -	\$ -	\$ -	\$ 429,225	\$ 5,150,703	\$ 4,721,478	\$ 10,301,406
	Sewer	\$ -	\$ -	\$ -	\$ -	\$ 334,939	\$ 4,019,271	\$ 3,684,332	\$ 8,038,542
	Water	\$ -	\$ -	\$ -	\$ -	\$ 556,517	\$ 6,678,203	\$ 6,121,686	\$ 13,356,406
TOTAL		\$ 1,396,337	\$ 17,766,141	\$ 28,458,001	\$ 23,992,023	\$ 25,937,004	\$ 28,560,673	\$ 14,527,496	\$ 140,637,675

Upcoming Water Main Replacement Work

Contract Number	Neighborhood	Water Length	Sewer/ Drain Length	Estimated Cost	Advertise Date
19-308-002	Charlestown	10,160	5,675	\$17,355,000	June 2024
24-308-001	City Proper	2,900	0	\$4,700,000	June 2024
22-308-003	Roslindale and West Roxbury	7,340	800	\$4,887,000	August 2024
20-308-002	South End	6,330	2,190	\$4,178,000	November 2024
23-308-001	Roxbury	5,390	270	\$8,500,000	December 2024
	TOTAL	32,120	8,935	\$39,620,000	

Upcoming Sewer and Drain Work

Contract Number	Neighborhood	Sewer/ Drain Length	Water Length	Estimated Cost	Advertise
19-309-001	Tide Gate Installations	0	0	\$6,630,000	June 2024
22-309-001	Roslindale and West Roxbury	47,250	1,000	\$3,500,000	August 2024
22-309-003	Roxbury	9,085	2,375	\$7,490,000	July 2024
23-309-001	Allston/Brighton	57,250	0	\$5,611,900	July 2024
18-309-003	Hyde Park, Mattapan and Roslindale	6,735	7,390	\$8,670,000	September 2024
20-309-007	Allston/ Brighton	3,880	870	\$6,500,000	November 2024
21-309-001	Hyde Park and Roxbury	6,030	TBD	\$2,400,000	November 2024
22-309-002	City-Wide	8,300	750	\$6,000,000	November 2024
24-309-006	Charlestown	4,000	3,000	\$3,500,000	December 2024
	TOTAL	142,530	15,385	\$50,301,900	

Questions

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