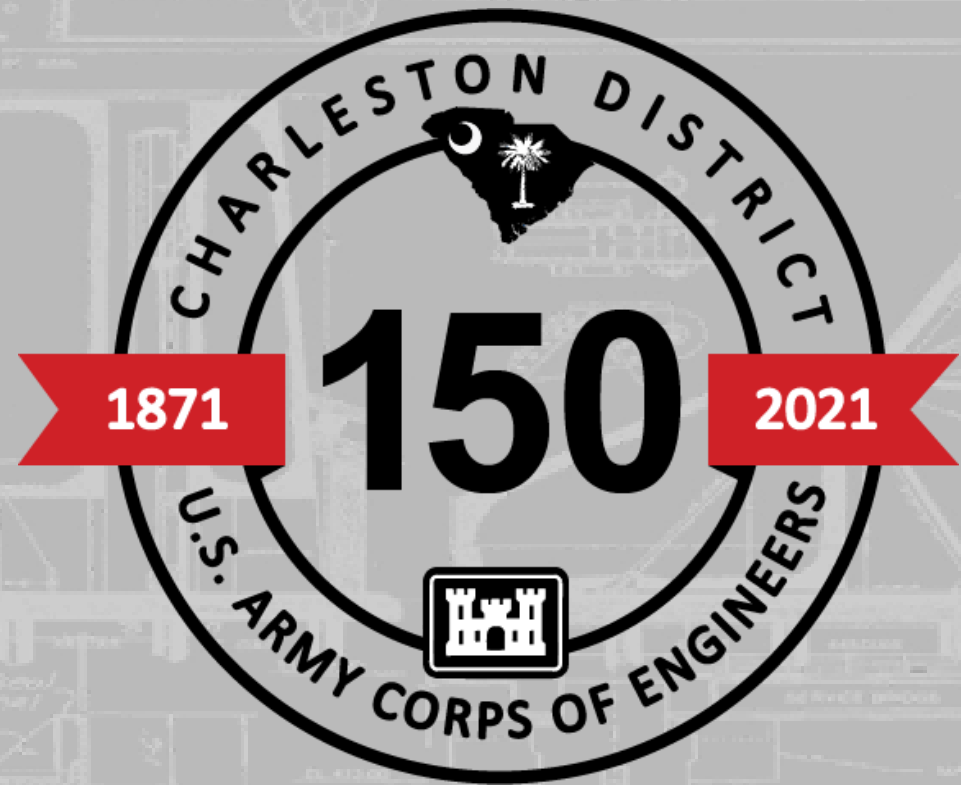


USACE PENINSULA STUDY UPDATE TO CHARLESTON CITY COUNCIL

USACE Charleston District
February 18, 2021



Working Today to Build a Better Tomorrow

**Celebrating 150 Years of
Serving South Carolina
and the Nation**



**US Army Corps
of Engineers®**



AGENDA



- Opening
- Engineering Optimization
- Environmental Optimization
- Economics Optimization
- Timeline



SHAMELESS PLUG



Celebrating **150** Years of Serving
South Carolina and the Nation

Working Today to Build a Better Tomorrow



USACE TEAM ON PENINSULA



Experts in all 4 time zones represented.

Leadership in Atlanta and DC are paying close attention to this study.

Subject matter experts:

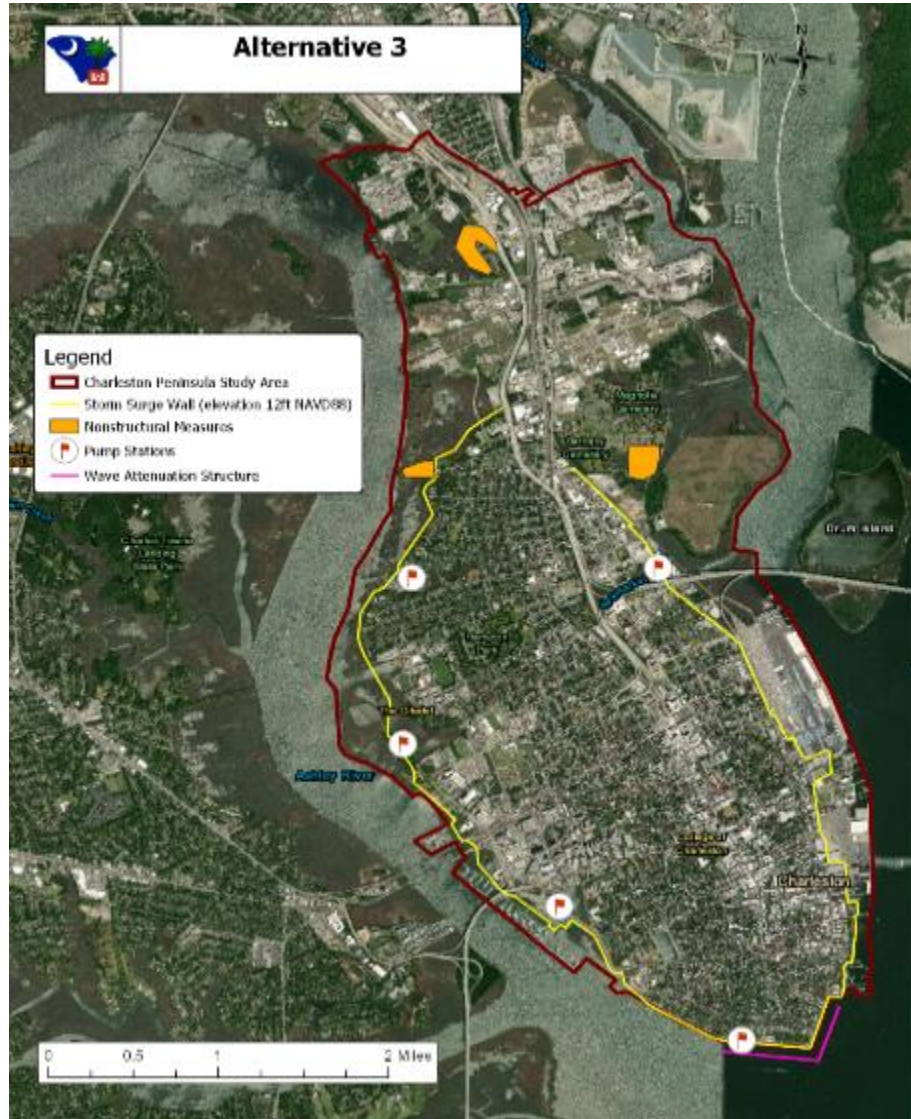
Economics Team
NEPA/Environmental (2)
Landscape Architect
Cultural Resource
Real Estate
Policy/Plan Formulation

Coastal Engineer
Geotechnical Engineer
Hydraulic Engineer
Structural Engineer
Mechanical Engineer
Cost Engineer

Expended ~20,000 hours of USACE modeling/labor on analysis to date!



TENTATIVELY SELECTED PLAN



- BBA2018 (Supplemental) Feasibility Study for Charleston Peninsula, South Carolina
- Draft EA/Feasibility Report Released from April 2020 to June 2020
- TSP Total Project First Cost - \$1.75B
- TSP Annual Net Benefits - \$94M
- TSP Benefit-Cost Ratio – 2.2
- Significant number of Public & Agency Comments
- Optimization of Tentatively Selected Plan continues with Engineering/Economic Modeling



ENGINEERING OPTIMIZATION



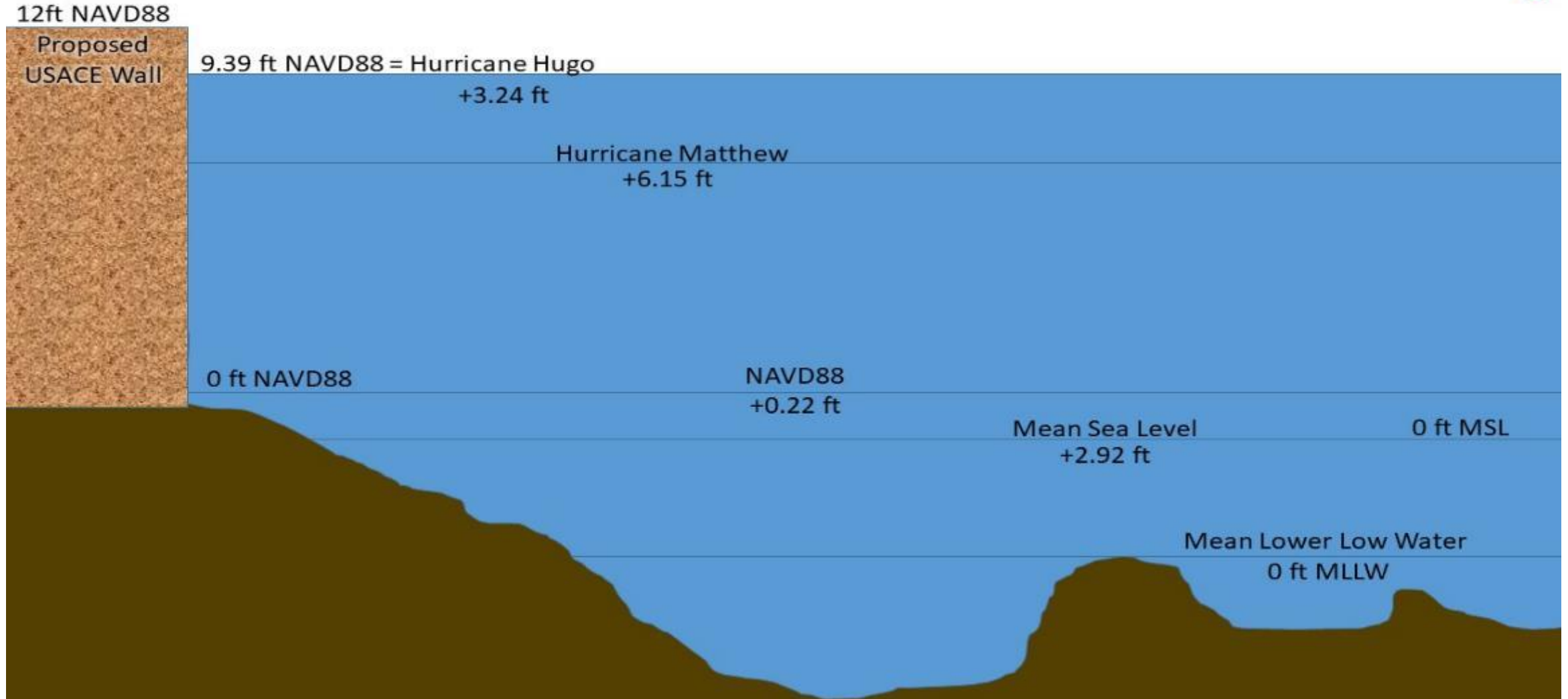
- Changed 50-year planning horizon from 2025-2075 to 2032-2082.
- Eliminated wave attenuator/breakwater from consideration (~\$300M).
- Updated intermediate sea level rise from 1.13ft to 1.65ft.
- Analyzed nonstructural option for Wagener Terrace vs. Storm Surge Wall.
- Updated storm surge wall alignment.
- Completed interior hydrology analysis.
- Determined phased design/construction.
- Completed qualitative risk assessment.
- Updated combination wall design (precast concrete panels and pilings in marsh).

In-Progress:

- Continue modeling impacts to surrounding communities.
- Continue refining construction costs based on updated storm surge wall alignment.
- Analysis of low (.93ft) and high (3.93ft) sea level rise curves.

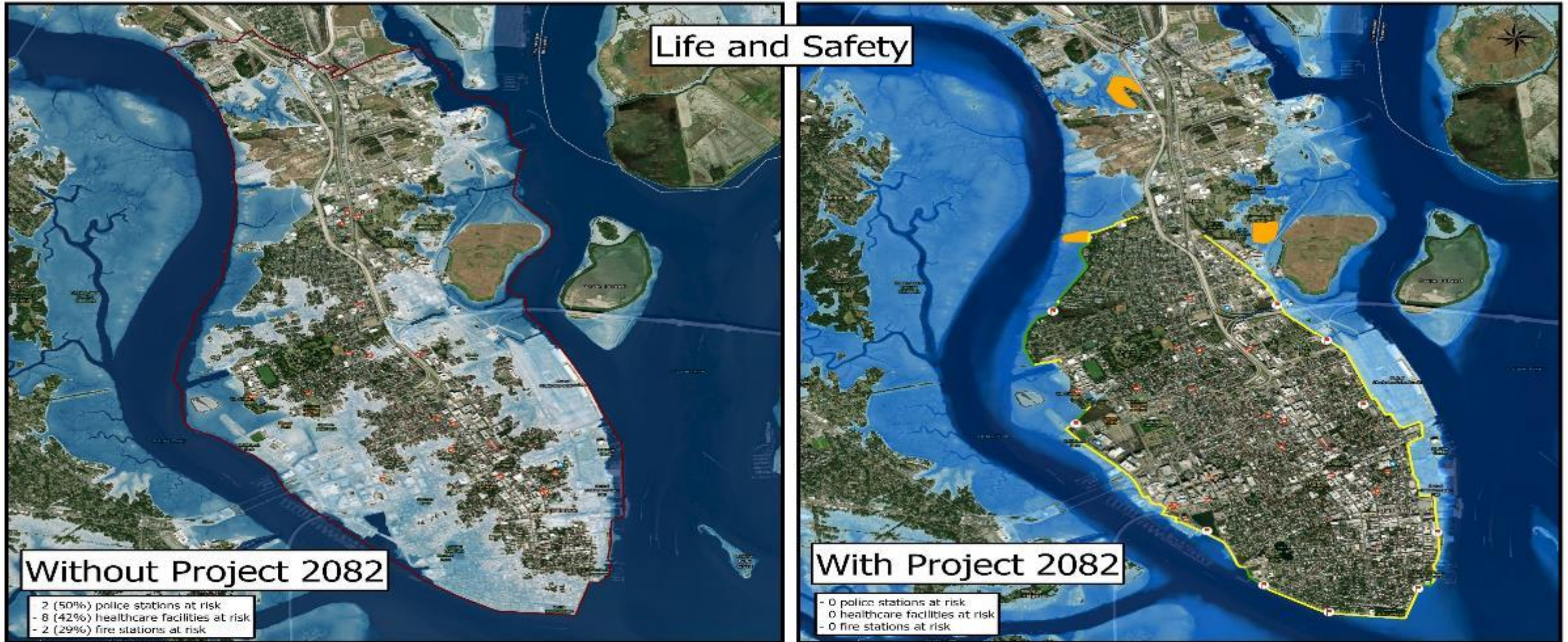


HISTORICAL STORM SURGE





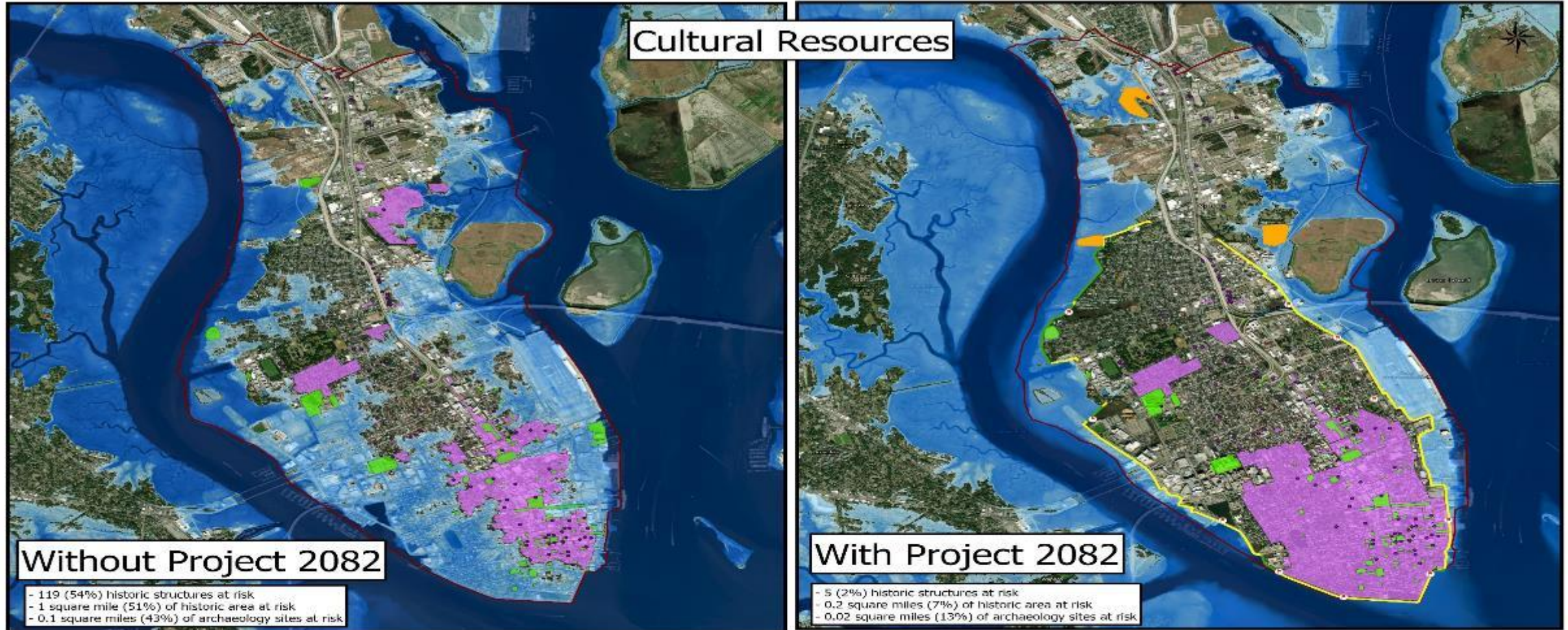
LIFE/SAFETY WITHOUT PROJECT



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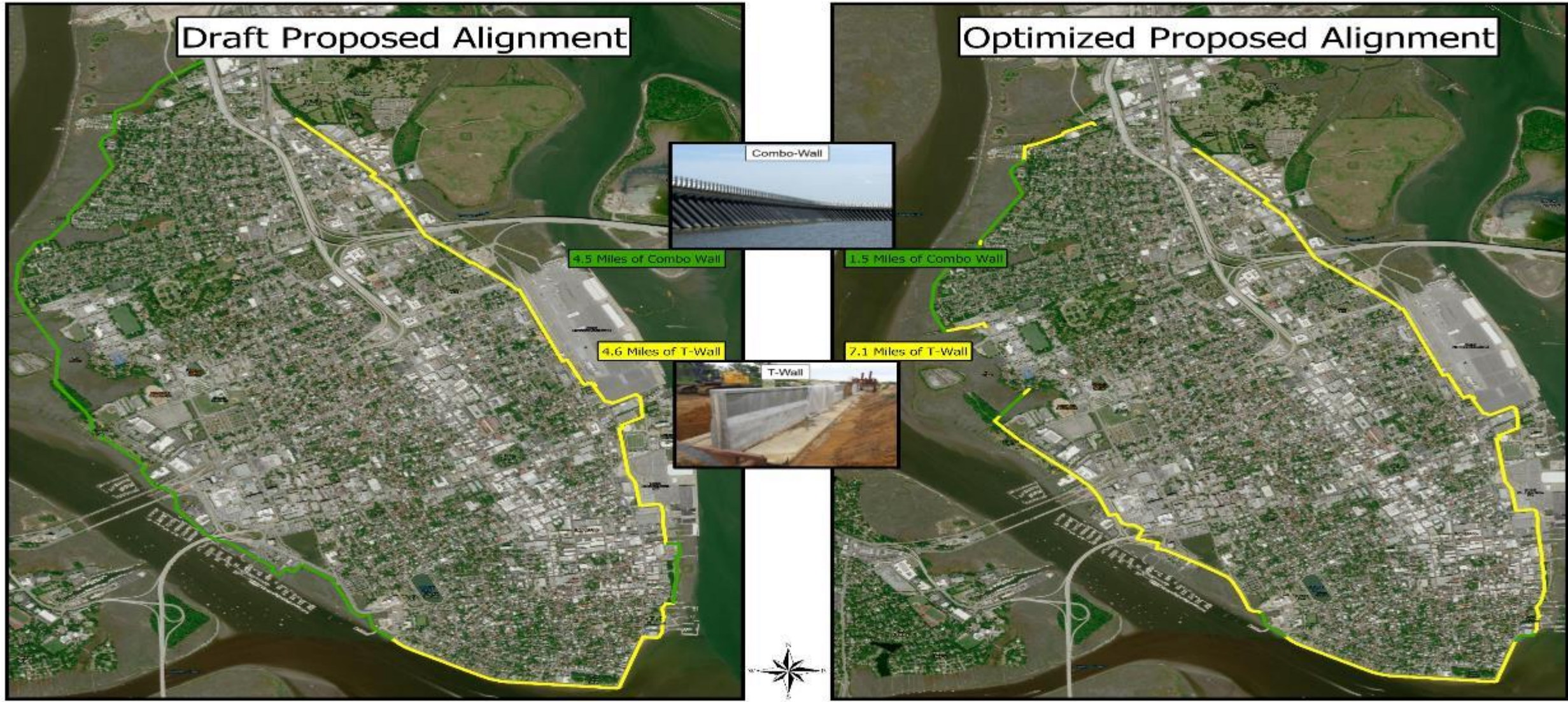


HISTORICAL IMPACTS WITHOUT PROJECT





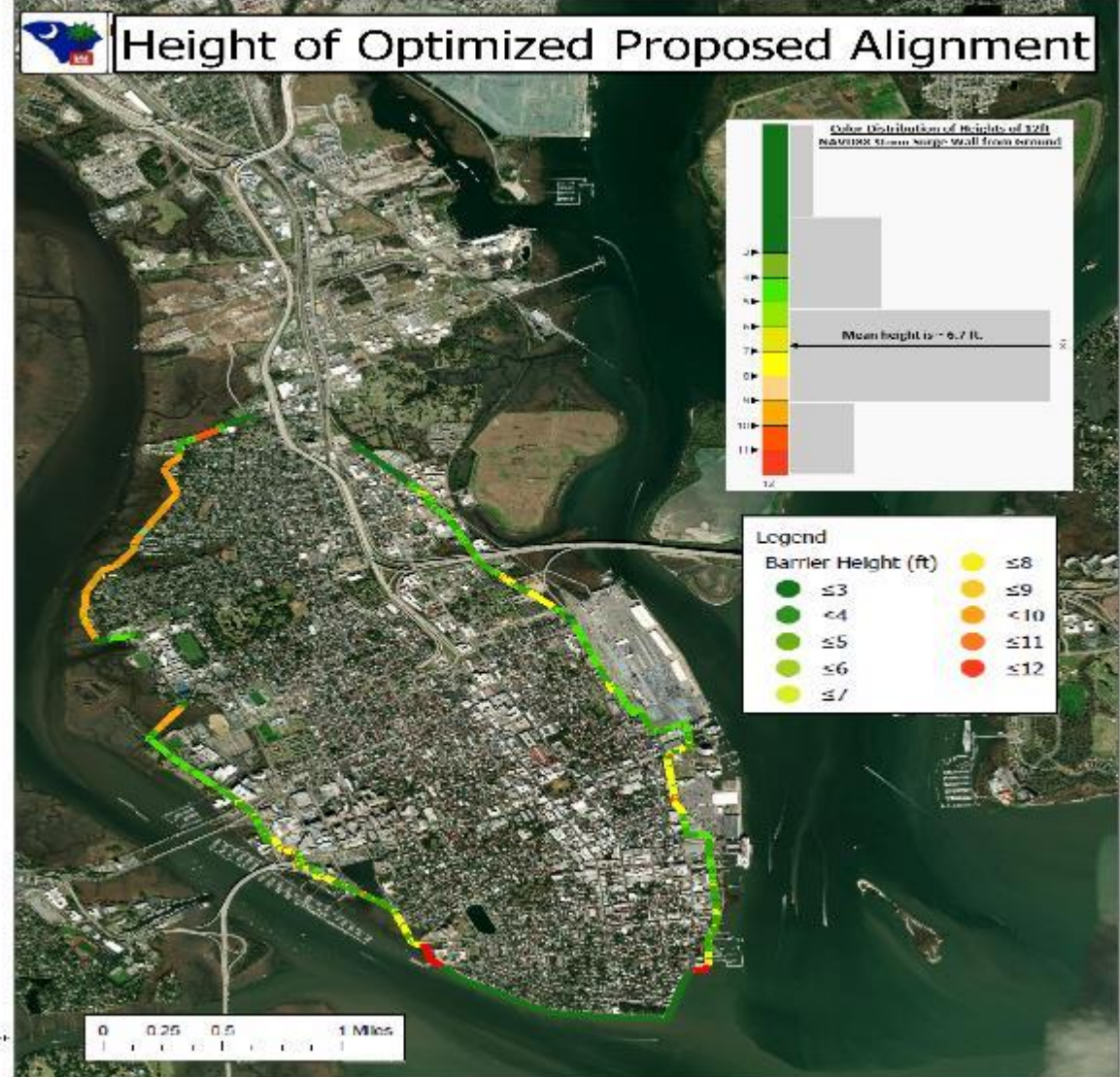
UPDATED ALIGNMENT



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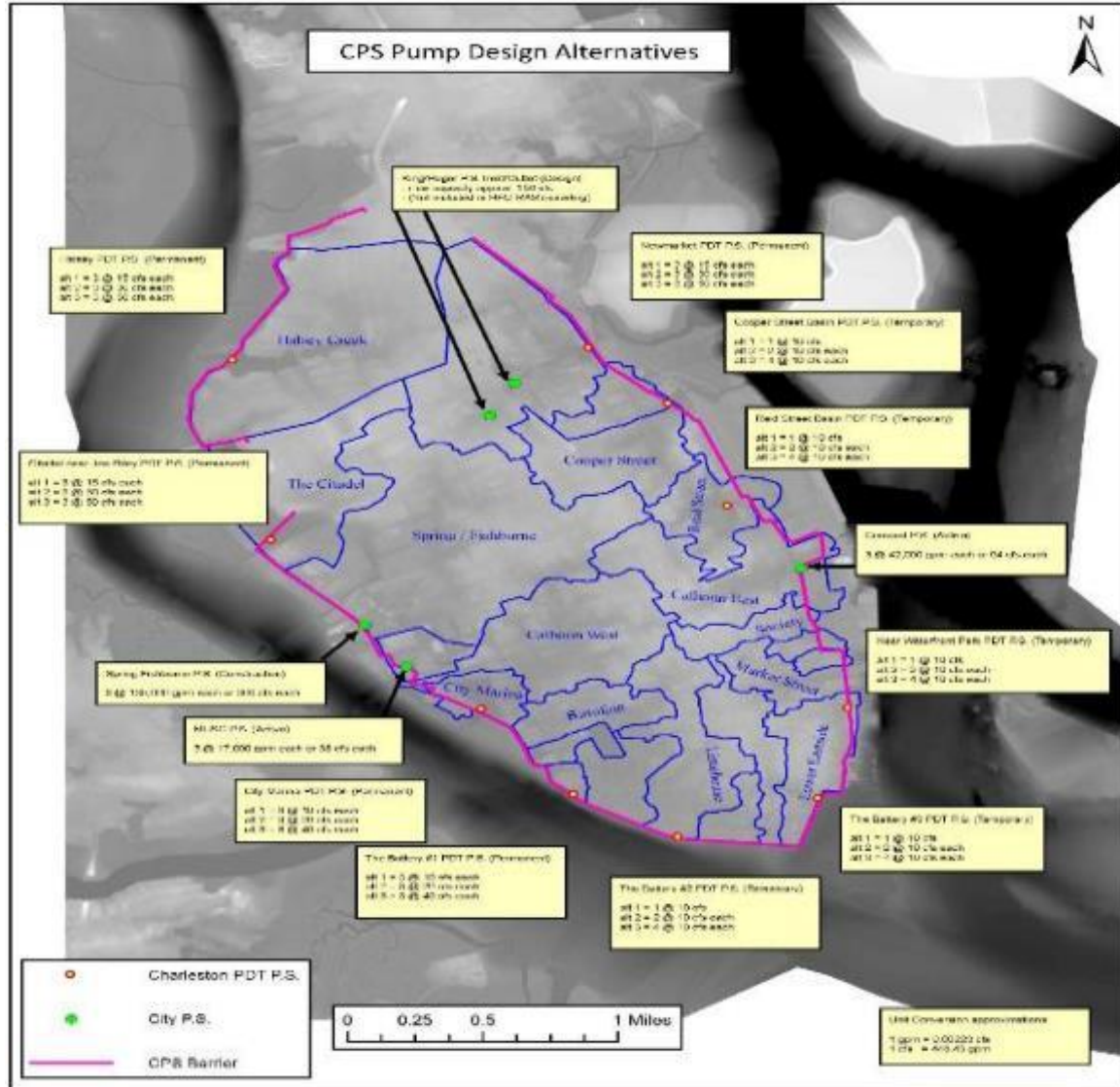


UPDATED ALIGNMENT W/ELEVATION





INTERIOR HYDROLOGY





ENVIRONMENTAL OPTIMIZATION



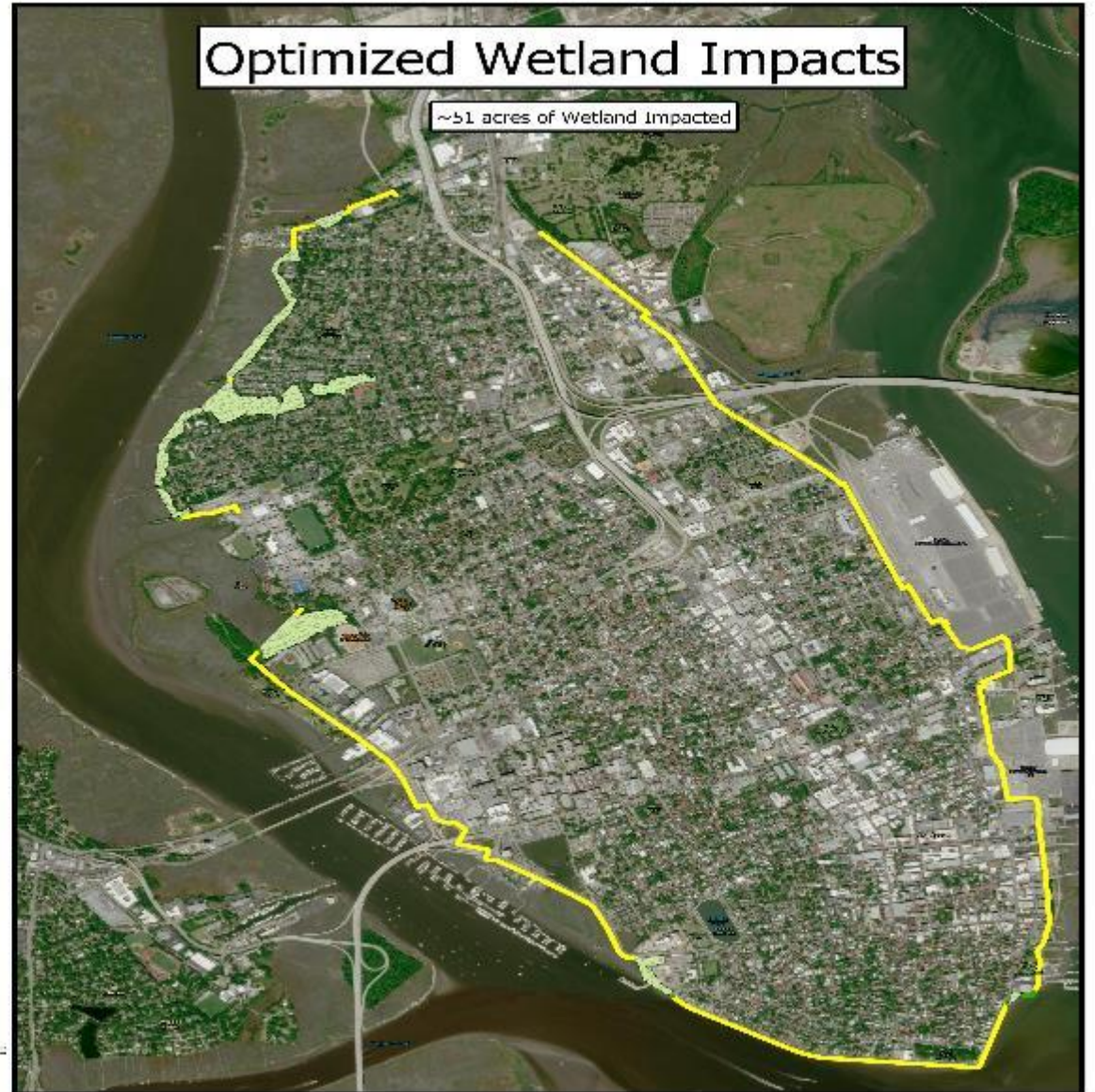
- Reduced environmental wetland impacts from 111 acres to 51 acres.
- Revised programmatic agreement and sent to consulting parties for review.

In-Progress:

- Continue review of public/agency comments for incorporation into report.
- Updating mitigation plan and mitigation costs.
- Level 2 visual impact analysis with outside stakeholders.
- Develop memorandum of agreement with City of Charleston to agree on the process for determining visual impacts in design phase.



WETLAND IMPACTS





NEPA UPDATE



- USACE determined Environmental Impact Statement is appropriate
 - Further explore visual impacts, wetland mitigation, cultural impacts (programmatic agreement), environmental justice.
 - Publish notice of intent in March (outline process).
 - Virtual public meeting in March. Details will be published on Corps Peninsula website.
 - Re-release draft report for Public/Agency Review late summer 2021
 - Moves study completion date from Oct 2021 to July 2022.
 - Still feasibility study; does not fund design activities or new data collection.
 - More time to complete consultations.
 - Opportunity for additional public input.



SECTION 106 PROCESS



FEDERAL COMPLIANCE FOR HISTORIC PROPERTIES - Section 106 of the **National Historic Preservation Act** (36 CFR § 800) outlines the process by which federal agencies take into account the effects of their activities on **historic properties**.

As part of these statutory responsibilities, the **federal agency** is **obligated** to consult with the State Historic Preservation Officer (SHPO), the **public**, Tribes, and other **interested parties** early in the planning process.

The goal of this **consultation** is to **identify historic properties** that might be affected by a federal project, **assess the effects** of the project on **historic properties**, and **seek ways to avoid, minimize, or mitigate any adverse impact to them**.



ECONOMICS OPTIMIZATION

Damages	FWOP	Wall 7ft	Wall 9ft	Wall 12ft
Damages Reduced	\$0	\$1,280,000,000	\$2,118,000,000	\$4,154,000,000
*Project First Cost	\$0	\$1,063,000,000	\$1,116,000,000	\$1,417,000,000
Net Benefits	N/A	\$217,000,000	\$1,002,000,000	\$2,737,000,000

Cost/Benefit Item	Alternative 2
Investment Costs	
Project First Cost	\$1,416,989,000
Average Annual Cost	
Average Annual First Cost	\$60,295,000
Annual O&M Cost	\$ 5,594,000
Average Annual Costs	\$65,889,000
Benefits	
Average Annualized Benefits	\$153,858,000
Net Benefits	\$ 87,968,000
BCR	2.3



TIMELINE



- February 2021 – Provide Comments on Draft Programmatic Agreement (Sec 106)
- March 2021 – Public Meeting
- August 2021 – Re-Release of Draft Report to Public/Agencies (45 Days)
- September 2021 – Public Meeting/Workshops
- November 2021 – City Self Financial Certification & Support of Recommended Plan
- March 2022 – Submit Final Report to USACE Division Office
- Spring 2022 – State/Agency Review Final Report
- July 2022 – Final Report Signed by Chief of Engineers

- 2023 – Request Funding for Phase 1, Year 1 design in FY25 President Budget
- 2024 – WRDA Authorization for Construction?
- 2025 – Request Funding for Phase 1 construction in FY27 President Budget