

# South Shore of Staten Island, New York

December 2019



**US Army Corps of Engineers**  
New York District  
BUILDING STRONG

## Dec '92 Nor'easter



## Oct 2012 Sandy



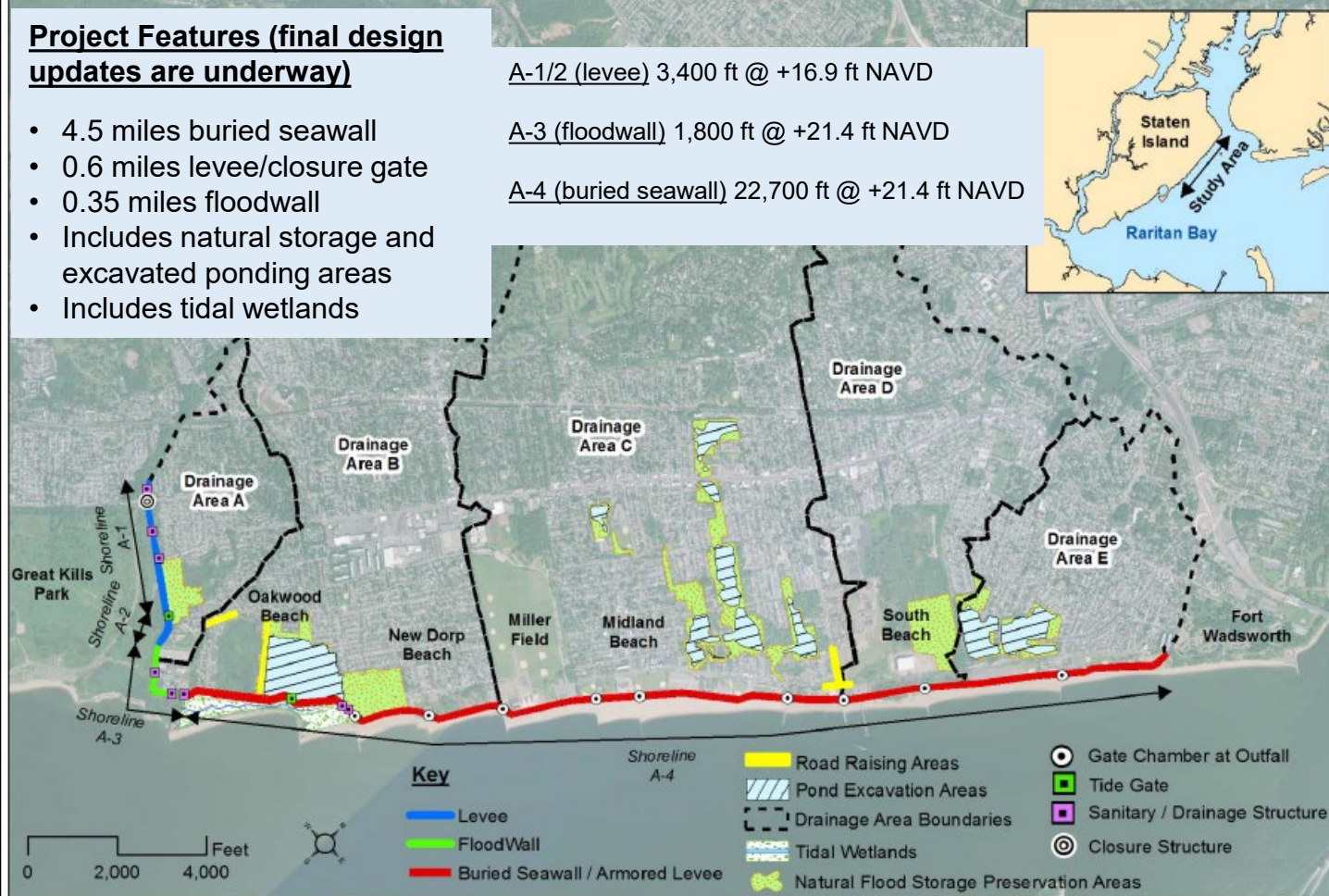
## Hurricane Sandy

- Water levels peaked at 12.5 ft NAVD
- Flooding depths over 10 ft
- 4 ft higher than prior record
- 24 Staten Island deaths
- 43 total in New York City
- 80% structures damaged in project area
- Over \$1B in damages

## Project Features (final design updates are underway)

- 4.5 miles buried seawall
- 0.6 miles levee/closure gate
- 0.35 miles floodwall
- Includes natural storage and excavated ponding areas
- Includes tidal wetlands

- A-1/2 (levee) 3,400 ft @ +16.9 ft NAVD
- A-3 (floodwall) 1,800 ft @ +21.4 ft NAVD
- A-4 (buried seawall) 22,700 ft @ +21.4 ft NAVD



## Project Area Key Facts

- Flood-prone, high risk, low-lying area, low capacity storm sewers
- Nearly 7,300 structures; over 30,000 people

### Critical infrastructure:

Wastewater Plant; SI University Hospital; Fire/police stations; schools & senior centers

## Hurricane Sandy Inundation

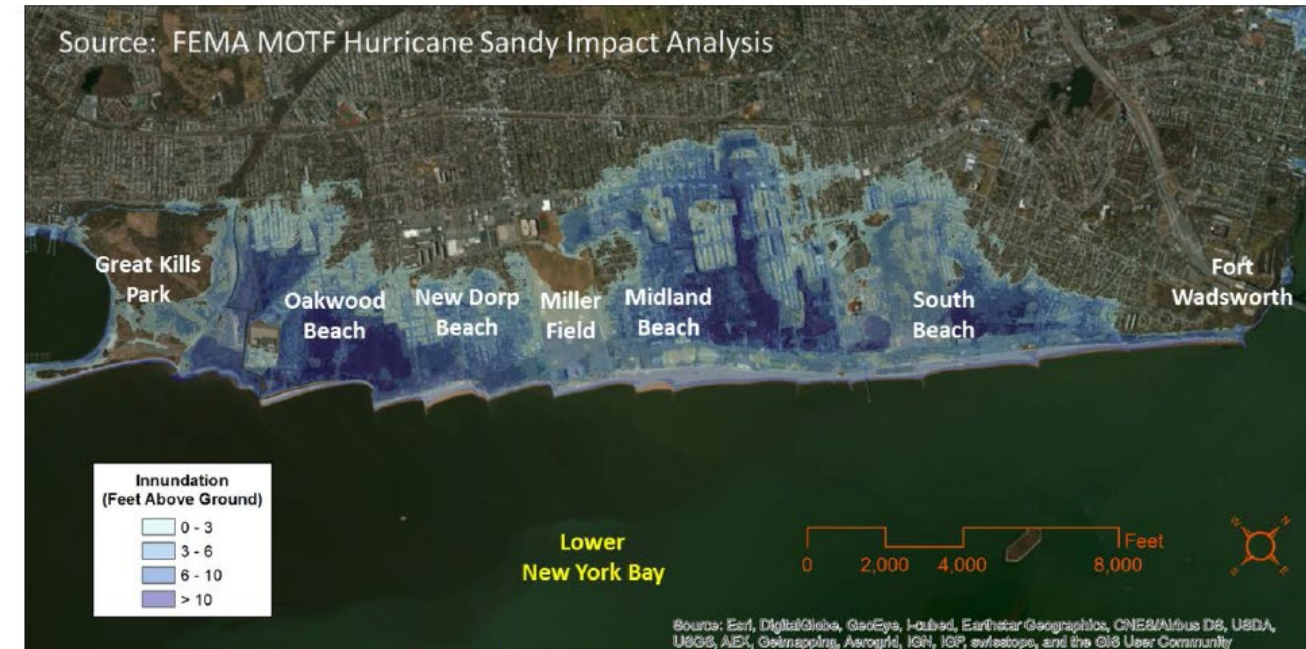
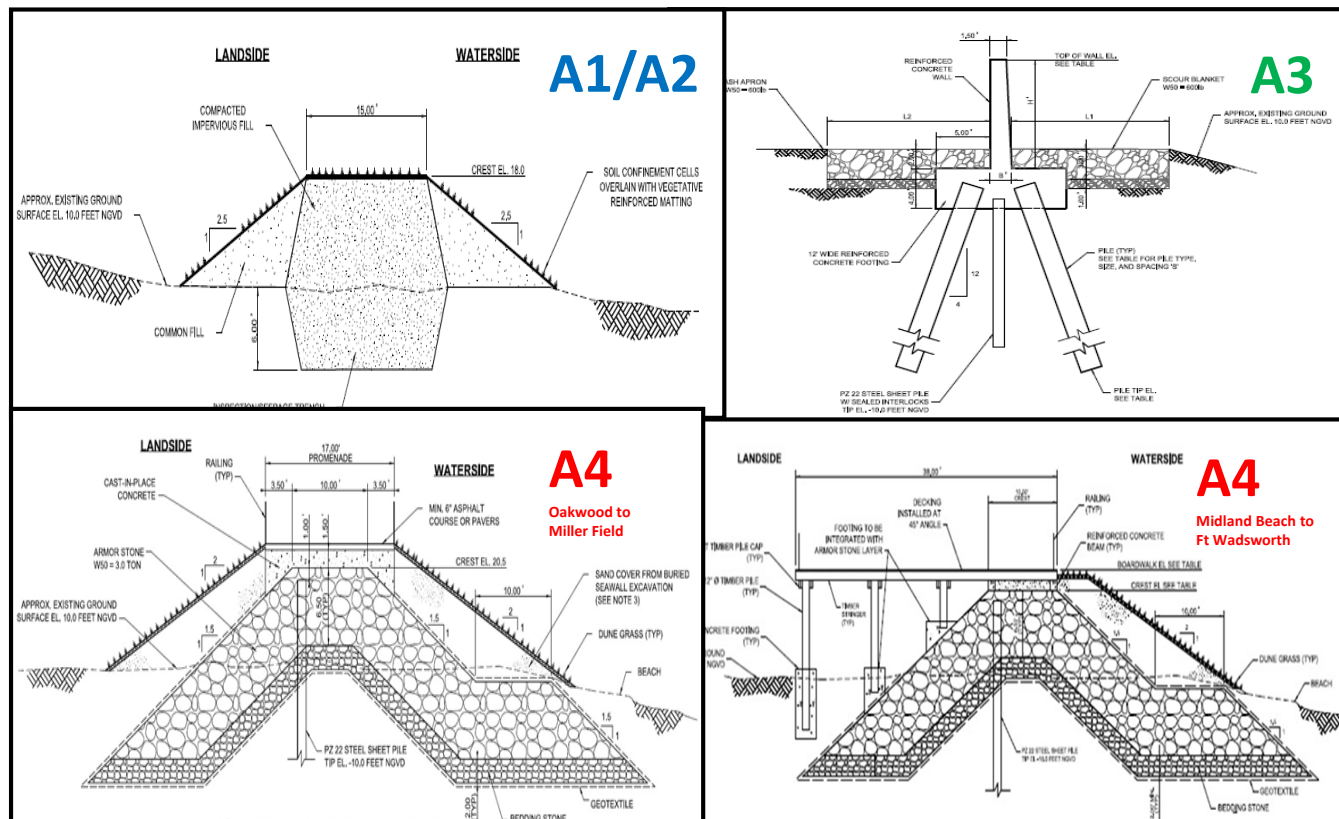
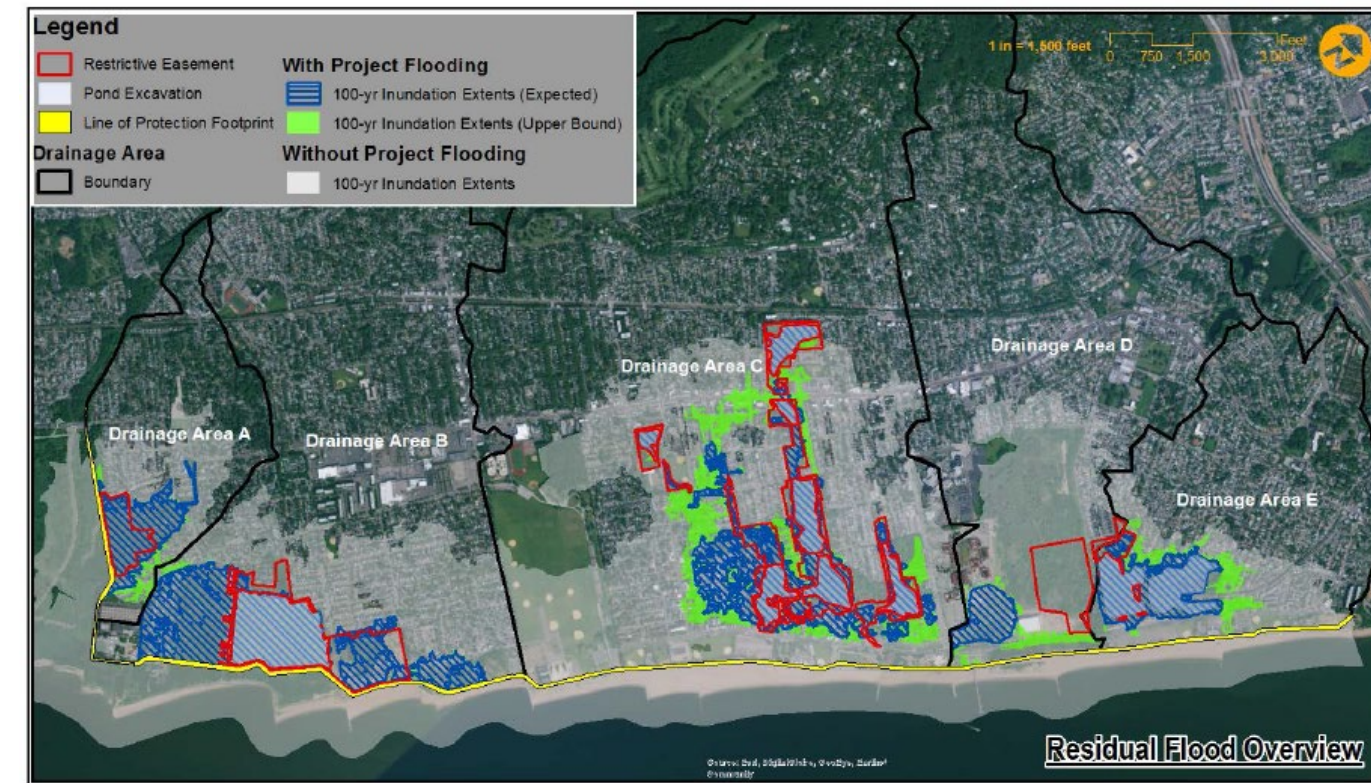


Figure 11 - Hurricane Sandy Flood Inundation

## Typical Project Cross-Sections (final designs are currently underway)



## Residual Flooding After Project Construction



Residual Flood Overview

## Project Renderings (Before & After)



Existing Boardwalk  
South Beach Area looking South



Buried Seawall with New Boardwalk  
South Beach Area looking South



Existing Promenade  
Midland Beach Area looking North



Buried Seawall with NEW Boardwalk  
Midland Beach Area looking North

- ✓ Project is technically feasible, economically justified, environmentally acceptable
- ✓ Federally funded through Public Law 113-2
- ✓ Initial Construction will be cost-shared 65% Federal and 35% Non-Federal
- ✓ Project Operation & Maintenance is State/City of New York 100% responsibility
  
- ✓ Assistant Secretary of the Army approved Final Feasibility Report, Environmental Impact Statement, Record Of Decision, Director's Report, with Congressional notification, Dec 2016
  
- ✓ Residual Risk – project annual exceedance probability is 0.3% (300-yr event)
- ✓ Resiliency – project allows emergency vehicle response in previously flooded areas; recovery is accelerated due to improved drainage
- ✓ Reliability – project a proven engineering solution to withstand multiple storms
- ✓ Adaptability - project can be modified in future to address sea level rise, if required
  
- ✓ Design Phase underway: Surveys/mapping, utilities, geotechnical borings, hazardous material and cultural investigations, physical modeling, interior drainage modeling, project construction contract designs
- ✓ Coordination underway with various sponsors/stakeholders
  - ✓ Corps of Engineers, State of New York, City of New York (Mayor's Office, City Parks, City DEP, City DOT), National Park Service, USDA/NRCS, FEMA, and various Congressional and local interests
  
- ✓ Project 3-party agreement (Corps/NYS/NYC) executed 15 Feb 2019

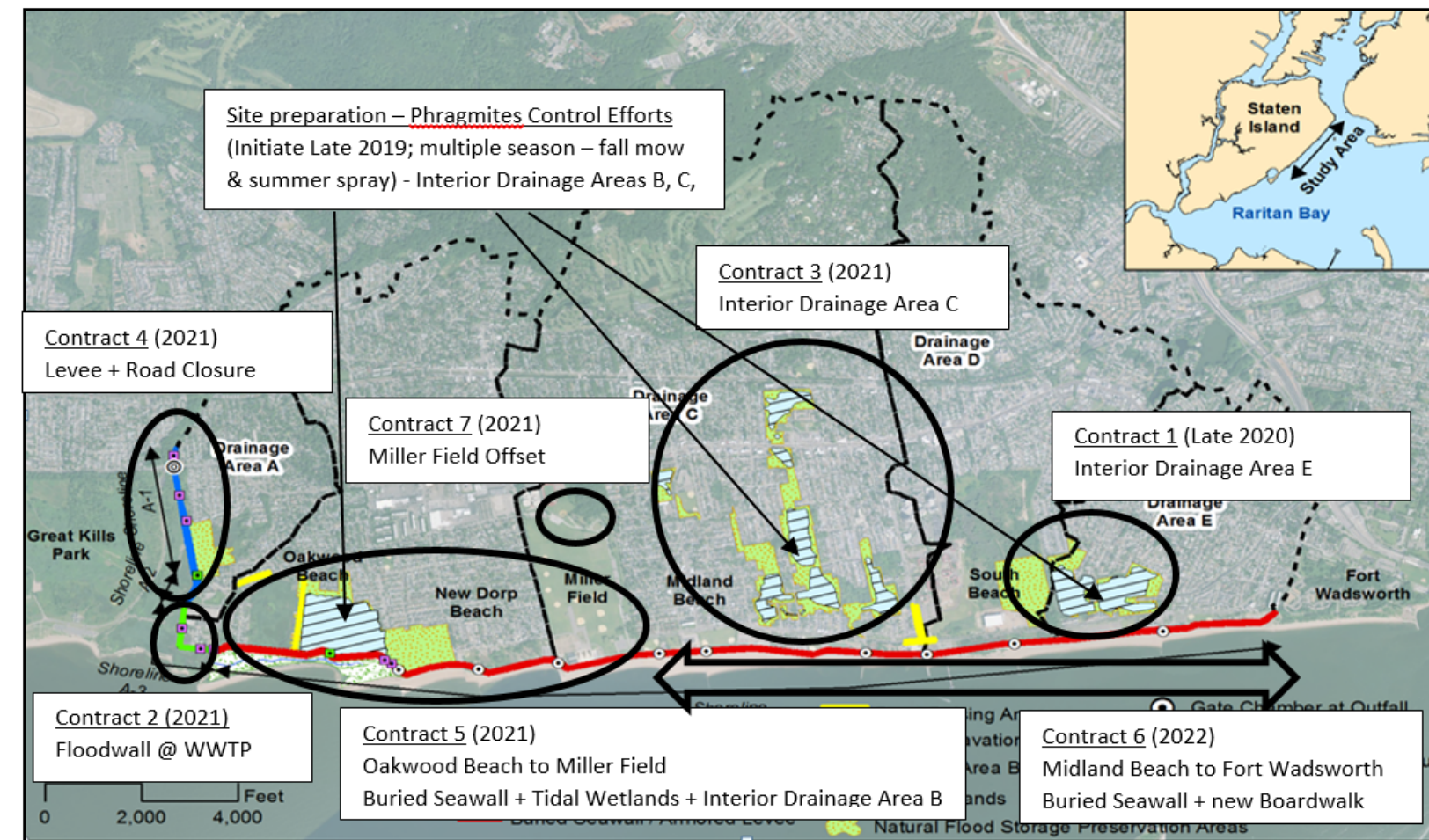
## Estimated Project Cost

<b>Initial Construction Cost</b>	<b>\$615,231,000</b>
Project Cost-share – Federal (65%)	\$399,900,150
Project Cost-share – Non Federal (35%)	\$215,330,850
Annual Operation & Maintenance (Non Federal)	\$679,000

## Estimated Project Schedule

Project Partnership Agreement Executed between Corps, NYS, NYC	15 Feb 2019
Estimated Start of phragmites control effort (multi-season)	Dec 2019
Estimated Start Project Construction (Contract 1) (multiple contracts to follow)	Fall 2020
Estimated Project Total Completion	2025

## Anticipated Contract Breakouts with Estimated Contract Award dates



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NYC Parks



US Army Corps of Engineers (website)  
<http://www.nan.usace.army.mil/Missions/Civil-Works/Projects-in-New-York/South-Shore-of-Staten-Island/>