

Chula Vista Bayfront Sea Level Rise Analysis & Emergency Shoreline Stabilization February 10, 2017



Where solutions
& service meet.

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SOURCE: Jones Lang LaSalle, 2016

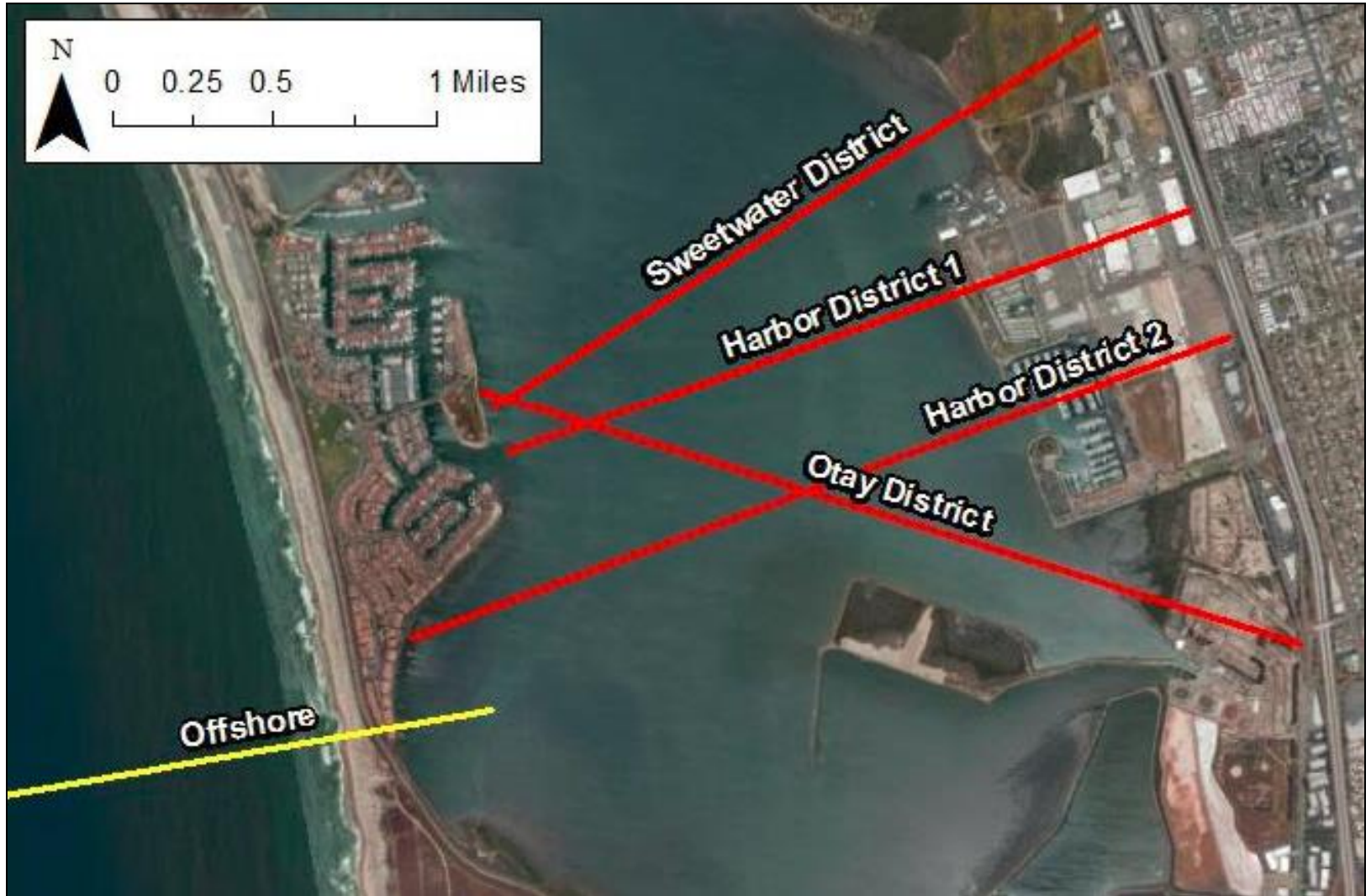
Project Overview

- Planning
 - Sea Level Rise Study
 - Coastal Resiliency/Vulnerability Study
- Projects
 - Bayside Park
 - Kellogg Beach
 - Marsh Restoration/Oyster Reefs



Timeline

- October 2014 – ESA Sea-Level Rise Analysis
- July 2015 - ESA Coastal Vulnerability Study
- December 18, 2015 - Emergency design and permitting – 10 days for design and permitting!
- December 29, 2015 – Bid accepted
- February 2015 - Emergency project complete!



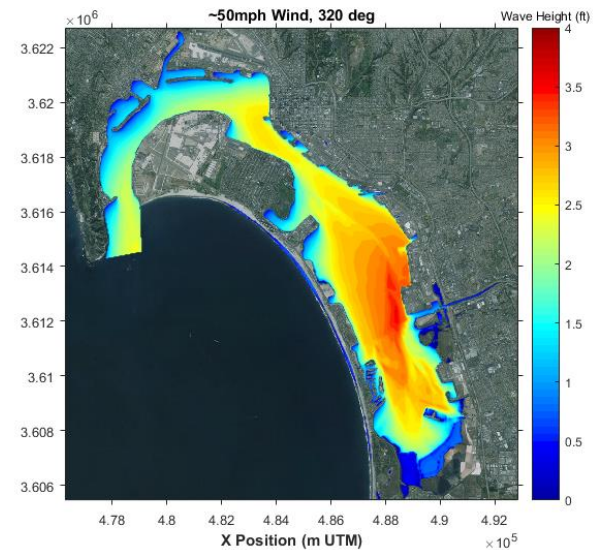
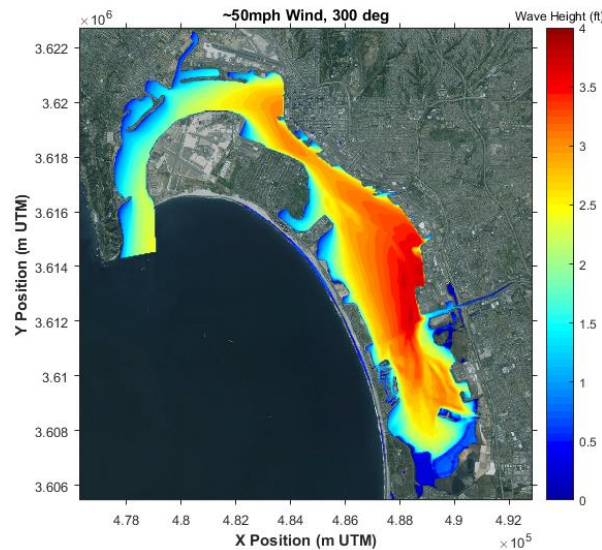
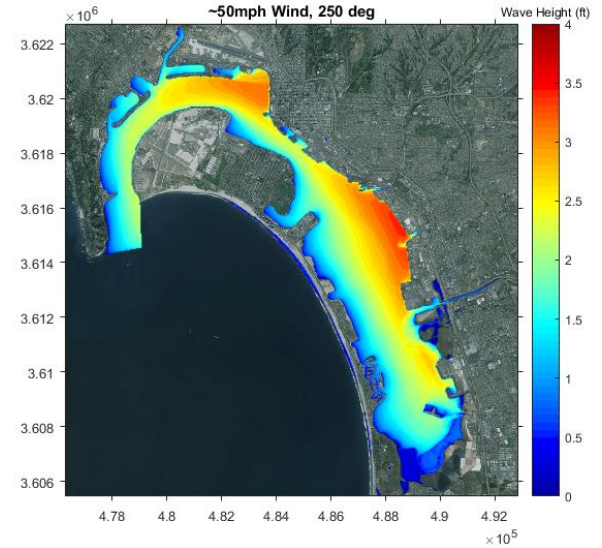
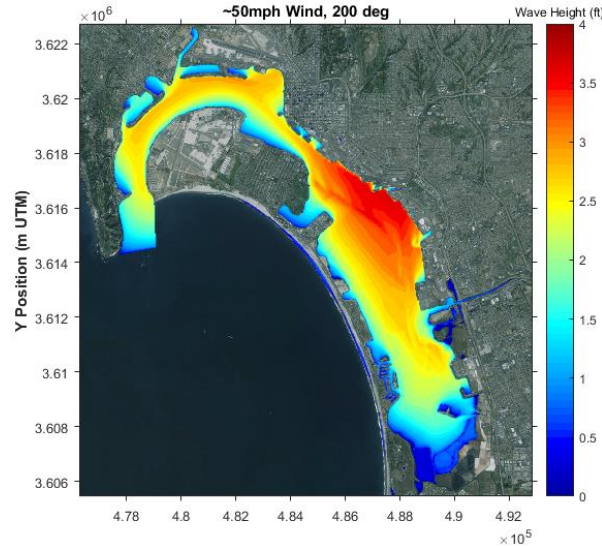
ESA Coastal Resiliency Study

- Flood hazard analysis
 - Additional transects
 - Wave overtopping
 - Mapping refinements
- Vulnerability assessment
 - Impact of flood hazards on assets
 - Ability to cope with impact
- Adaptation plan
 - Raise ground elevation
 - Construct raised levee/flood defense
 - Phase measures over time



Modeling

- Delft3D with SWAN



Project Parameters

Need to consider:

- Cannot work below
MHW = 4.18 ft (NAVD 88)
- Managed Retreat
- Blend grading with the rip rap
on either end
- “Soft shoreline protection”
- Cobble selection critical
- Resilient with SLR



Before

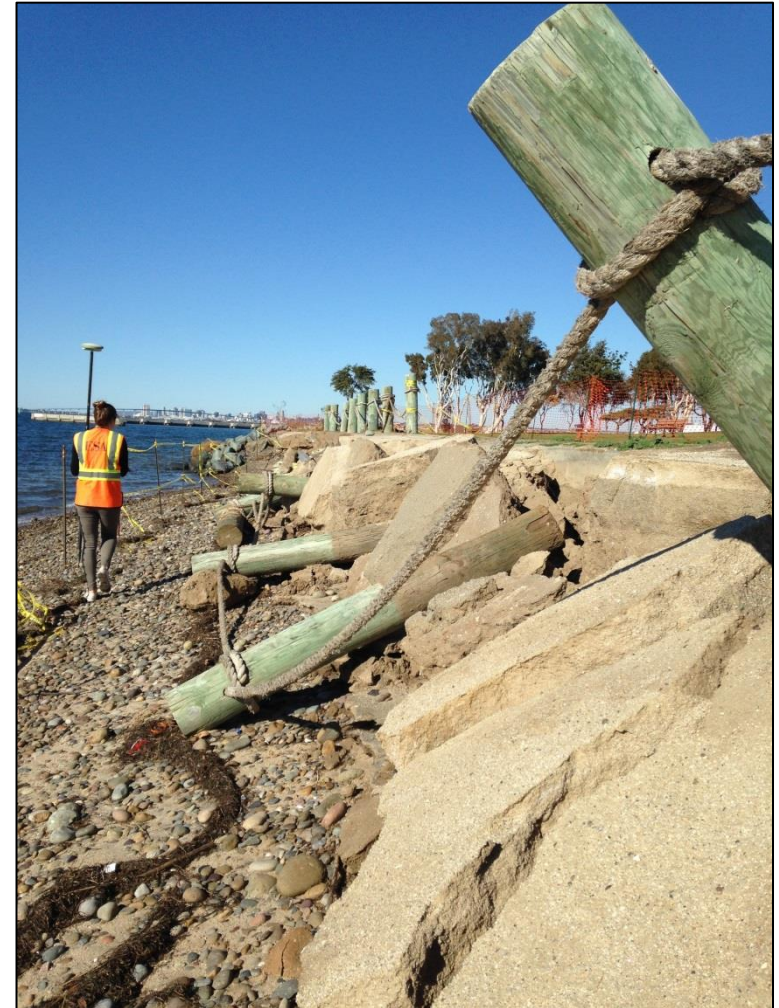
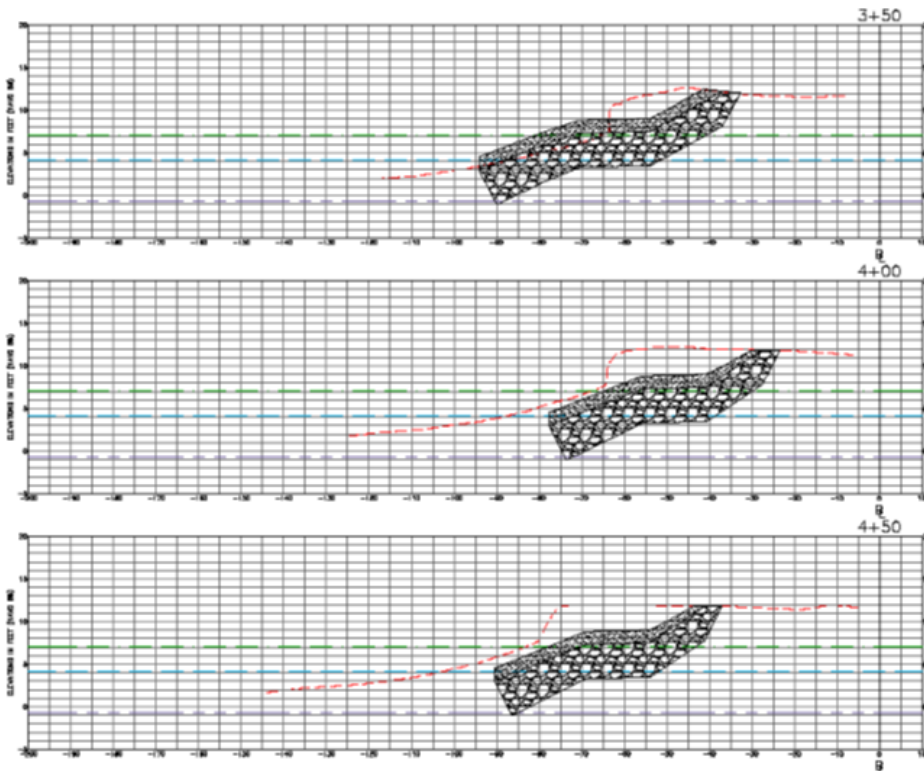


After



Design

- RTK survey data collection
- Civil 3D DTM surfaces
- Estimated Quantities & Costs



Costs

Excavation – \$84,000

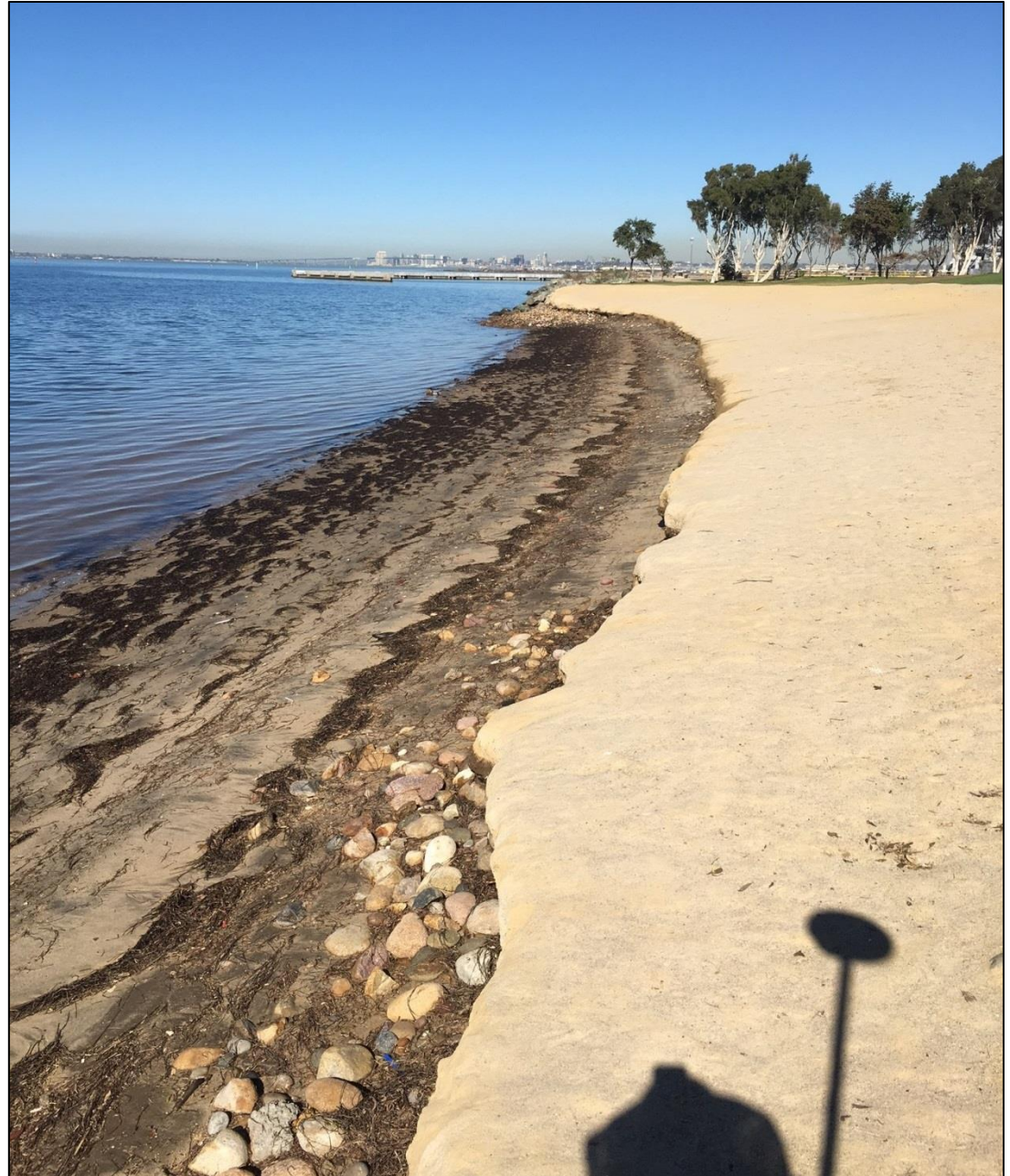
2,745 tons sand – \$26.88/ton

5,550 tons 6” stone cobble – \$44/ton

TOTAL - \$423,380

November 2016

Minor scarp
exposes top of
cobble sill



Questions?

