Tidal Flooding Impacts

Menu
- Introduction
  - Part 1: Tidal Flooding Impacts
    - Normal Conditions
    - Formation of Extreme High Tides
    - Impacts of Extreme High Tides
    - Flooding and Sea Level Rise
  - Part 2: How to Prepare
  - Resources

NORMAL CONDITIONS

TIDE CALENDAR
The Adapting to Rising Tides Program

Oakland/Alameda Resilience Study

San Francisco Bay Conservation and Development Commission
Meeting Objectives

1) Visit vulnerable assets in the Coliseum area and learn about their geographic and functional relationships

2) Explore possible adaptation actions for the Coliseum Key Planning Issue

3) Develop potential adaptation responses (suites of actions) for the Coliseum area
Where are we in Oakland/Alameda?

Adapting to Rising Tides
Planning Process

SCOPE & ORGANIZE
Convene Partners & Stakeholders
Choose Project Area
Identify Sectors, Services, Assets
Select Climate Scenarios & Impacts
Set Resilience Goals

ASSESS
Review Existing Conditions
Assess Vulnerability
Consider Risks

DEFINE
Characterize Vulnerabilities & Risks
Identify Key Planning Issues

PLAN
Develop Adaptation Responses
Select Evaluation Criteria
Refine Resilience Goals

IMPLEMENT & MONITOR
Integrate Adaptation Responses into Plans
Evaluate & Select Adaptation Responses
Coliseum Area Key Planning Issue

The Oakland Coliseum facilities, transportation assets, and neighborhood are vulnerable to both current and future flooding due to at-capacity flood control channels and rising Bay water levels.
Figure 6-5: The layout and footprint of the living levee (brown) and the section where seawall might be necessary due to space limitations.
Figure 6-4: Conceptual diagrams of a traditional levee (top) and living levee (bottom)

- Traditional Levee
- Living Levee

SWL

Flatter slope with marsh habitat
Damon Slough Flooding

Figure 6-6: A conceptual cross-section of the Damon Slough living levee. The living levee is designed to protect against flooding and inundation associated with water levels up to 13 ft. NAVD88 and provide intertidal and upland habitat zones.
Damon Slough Flooding

Figure 2 – Watershed Map for Oakland Coliseum Focus Area

MTC CLIMATE ADAPTATION
Damon Slough Focus Area

Western Alameda County Streams

0 2,500 5,000 10,000
Feet

AECOM
Coliseum Area Specific Plan
Coliseum Area Specific Plan

Figure 1.3: Conceptual Land Use Plan
What would be allowed in the floodway fringe?

Ground level parking, play areas, lawn & garden areas, golf courses, tennis courts, agricultural activities and other private recreational activity that does not impact the ability of the floodway fringe to store water during a flood event.
Flood Storage
Floodable Development
Flood Storage

Figure 4. Multi-functional underground parking garage used as a reservoir for floodwaters and storm waters (Aerts et al., 2009).
Rebuild by Design
Rebuild by Design

JERSEY CITY/HOBOKEN TYPOLOGIES
stormwater parks + fortified edge