

# PROTECTING CRITICAL INFRASTRUCTURE: RESILIENCY PLANNING AND INVESTMENTS IN BOSTON PART II

The Massport Experience

November 1, 2019



Property of Massachusetts Port Authority

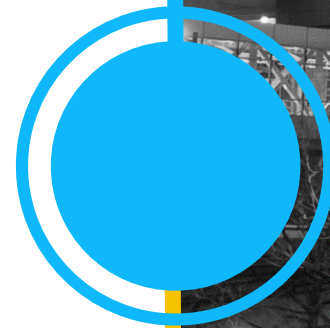
Michael Meyran, Acting Port Director  
Massachusetts Port Authority



LOGAN AIRPORT



MARITIME



WORCESTER AIRPORT



HANSCOM AIRPORT



## ■ Introduction

- Massport is an independent authority governed by a board of directors, appointed by the state's governor
- Massport owns three lines of business:



- Logan Airport
- Hanscom Field
- Worcester Airport

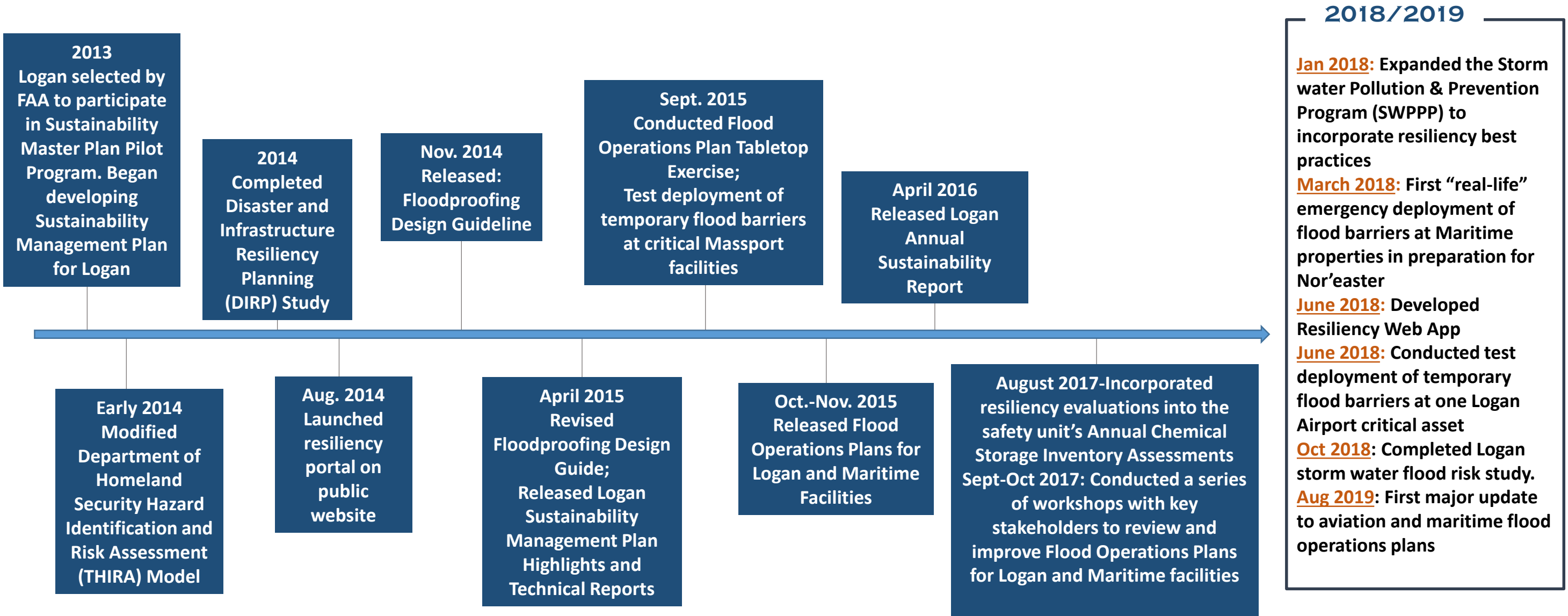


- Conley Terminal
- Flynn Cruiseport Boston
- Seafood Landlord
- Boston Autoport



- South Boston
- East Boston
- Charlestown

# Massport's Resiliency Timeline





# Disaster Infrastructure Resiliency Plan

## Goals of the project:

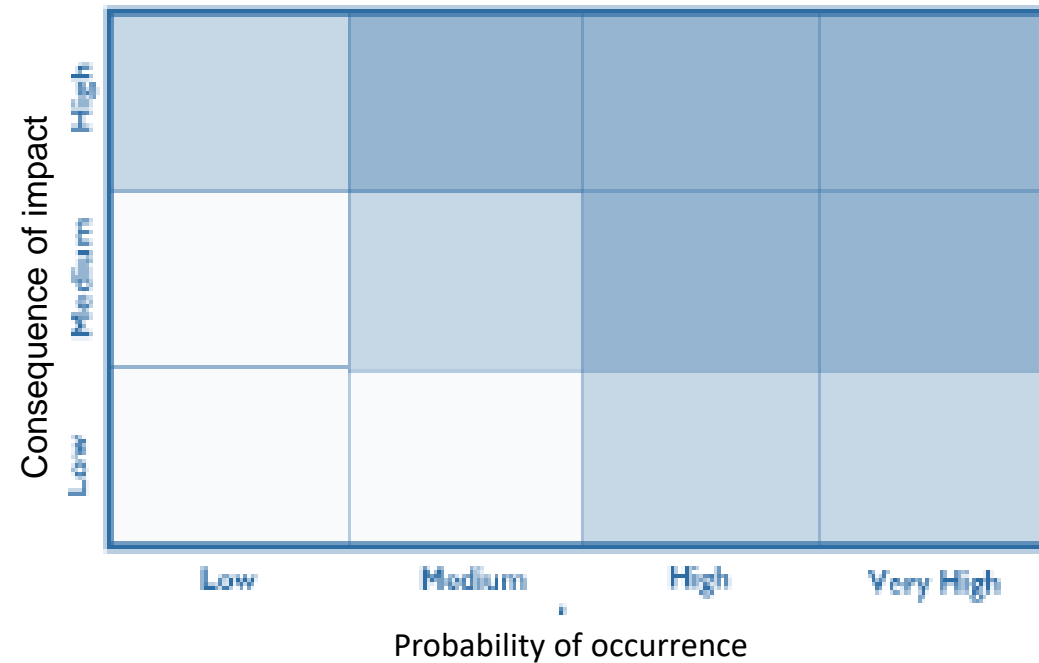
- Understand Massport’s vulnerability to climate impacts
- Develop short-term and long-term resiliency strategies

Project approach:

1- Climate projections



2- Vulnerability and risk assessment

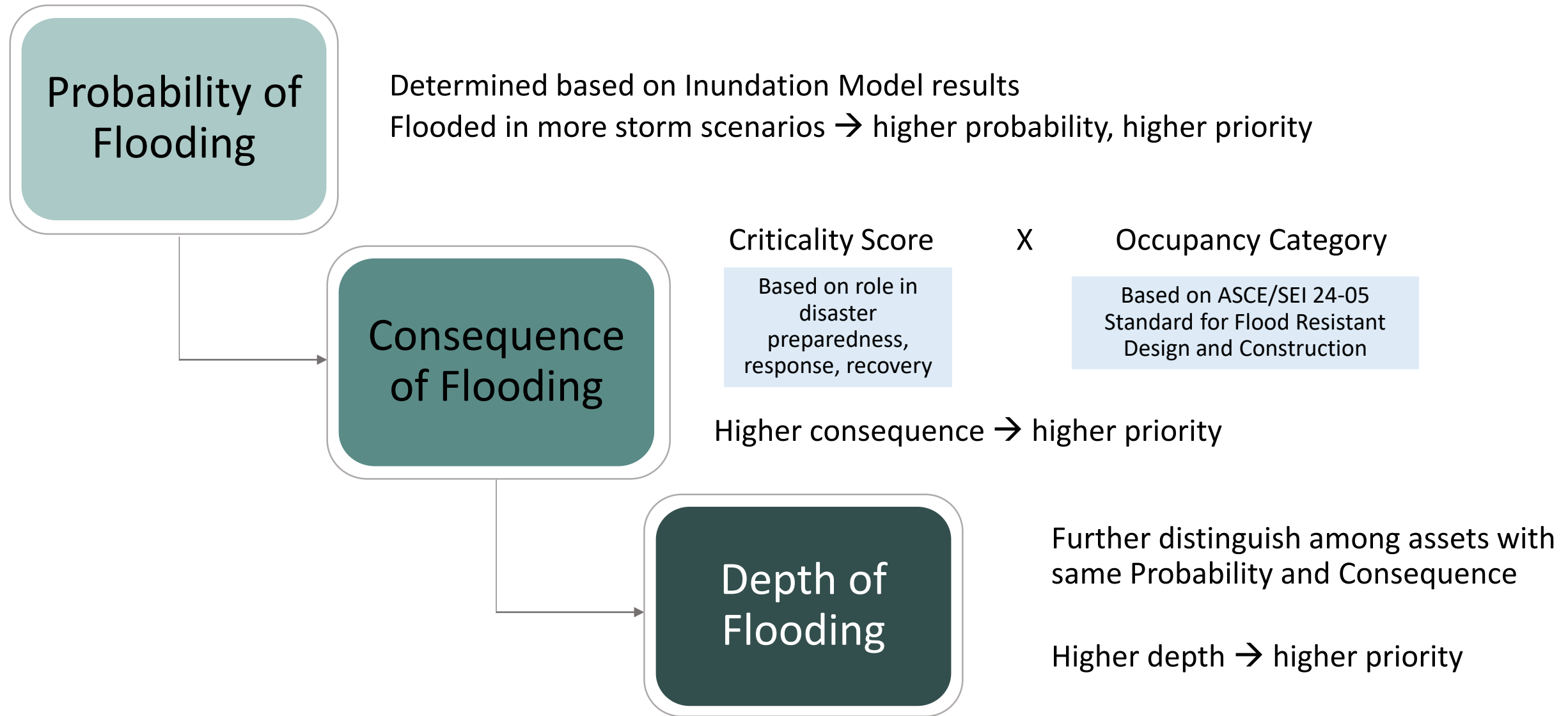


3- Adaptation planning & design





# Risk-Based Prioritization of Assets





# Flood Scenario Elevations – Fish Pier East



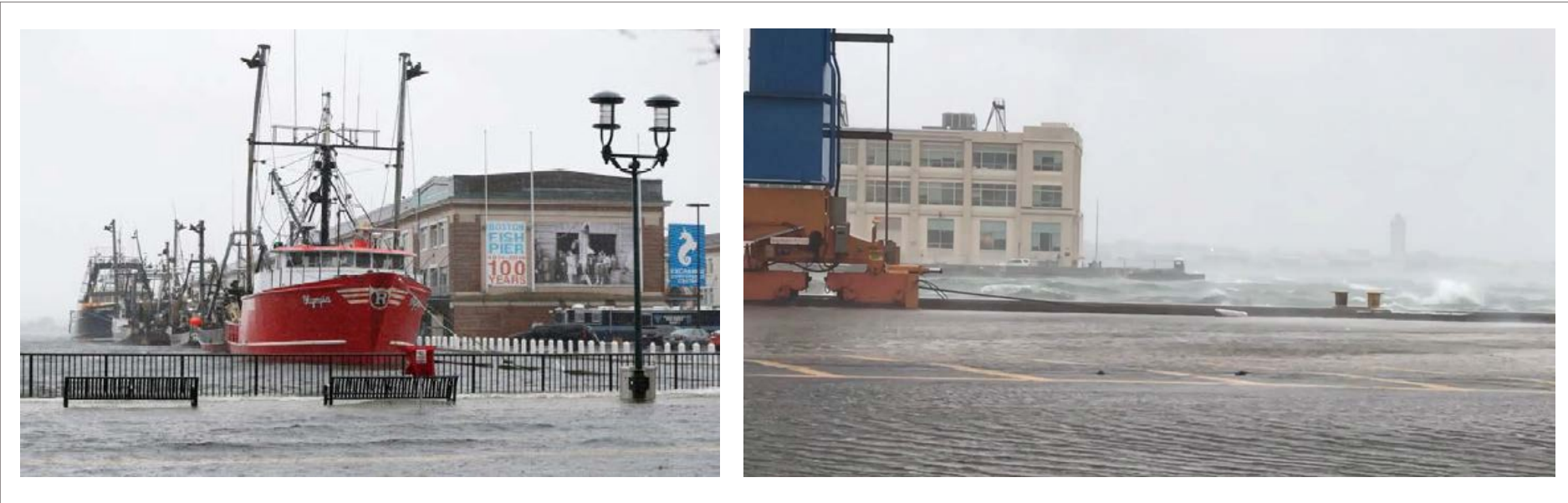
**CAT. 2 HURRICANE  
(HAT)  
EST. FLOOD EL. = 17.5'**

**CAT. 3 HURRICANE  
(MHHW)  
FLOOD EL. = 19.7'**

**GROUND  
FLOOR  
EL. = 10.0'**



# Flood Barriers





# Elevated Platforms

Generator Combo Unit



Elevated Platform at CTDFC



State Police Generator







# Annual Training/Test Temporary Flood Barriers

Temporary Flood Barriers deployed May 2019

Logan Airport – 4 facilities

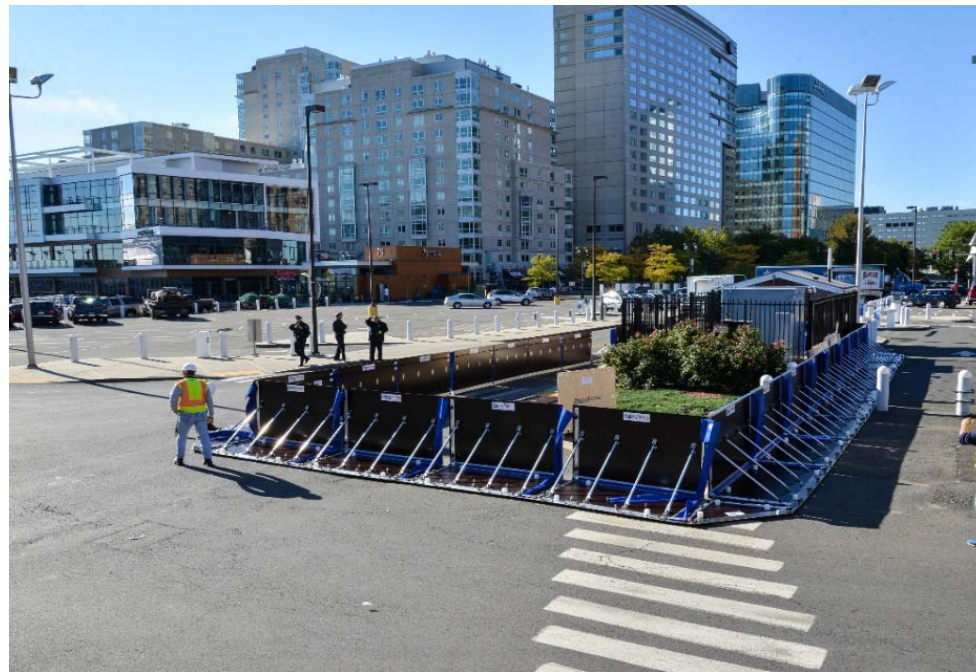
Conley Terminal - 2 facilities

Fish Pier – 3 Facilities

Initially deployed in September 2015



Access Stairs





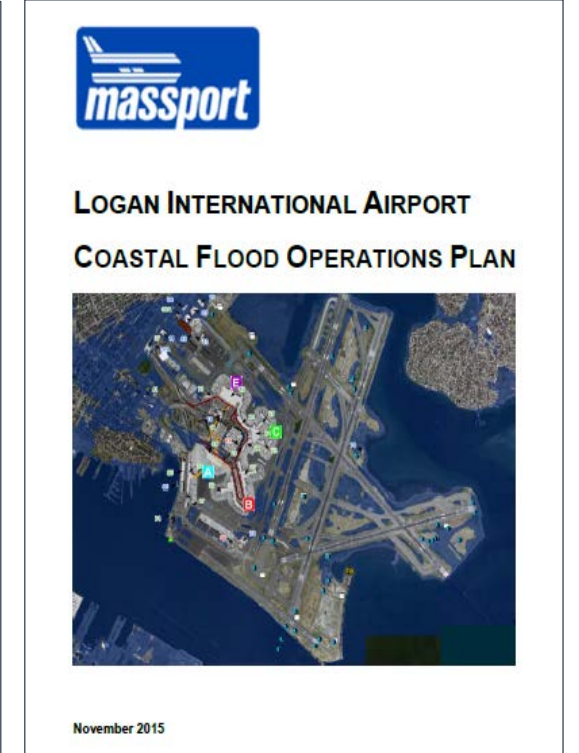
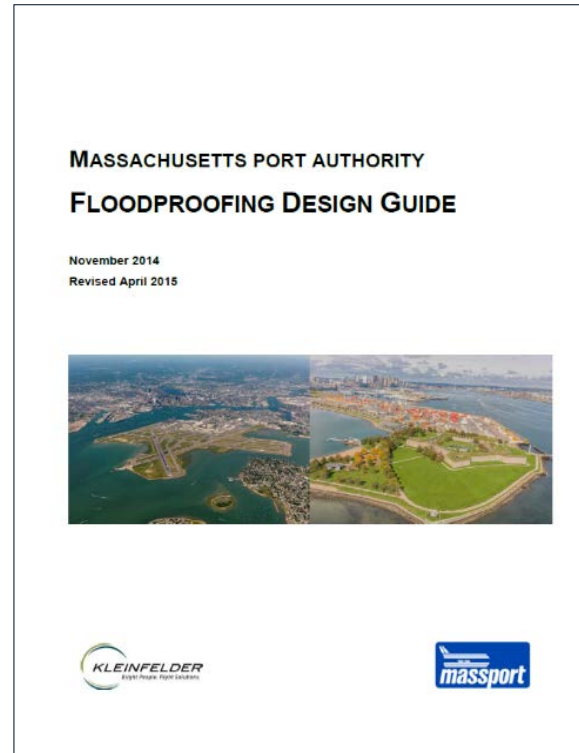
# Implemented Operational Plans and Guidelines

## Flood Operations Plans:

- Specific to Logan and Maritime sites
- Identifies detailed actions, timelines and responsible parties
- Created through collaborative process with MPA stakeholders
- Tabletop exercise to engage functions

## Flood-proofing Design Guide:

- Design Flood Elevations for construction
  - Different heights for new & existing facilities
- Floodproofing Strategies
  - Wet & dry floodproofing
- Performance standards



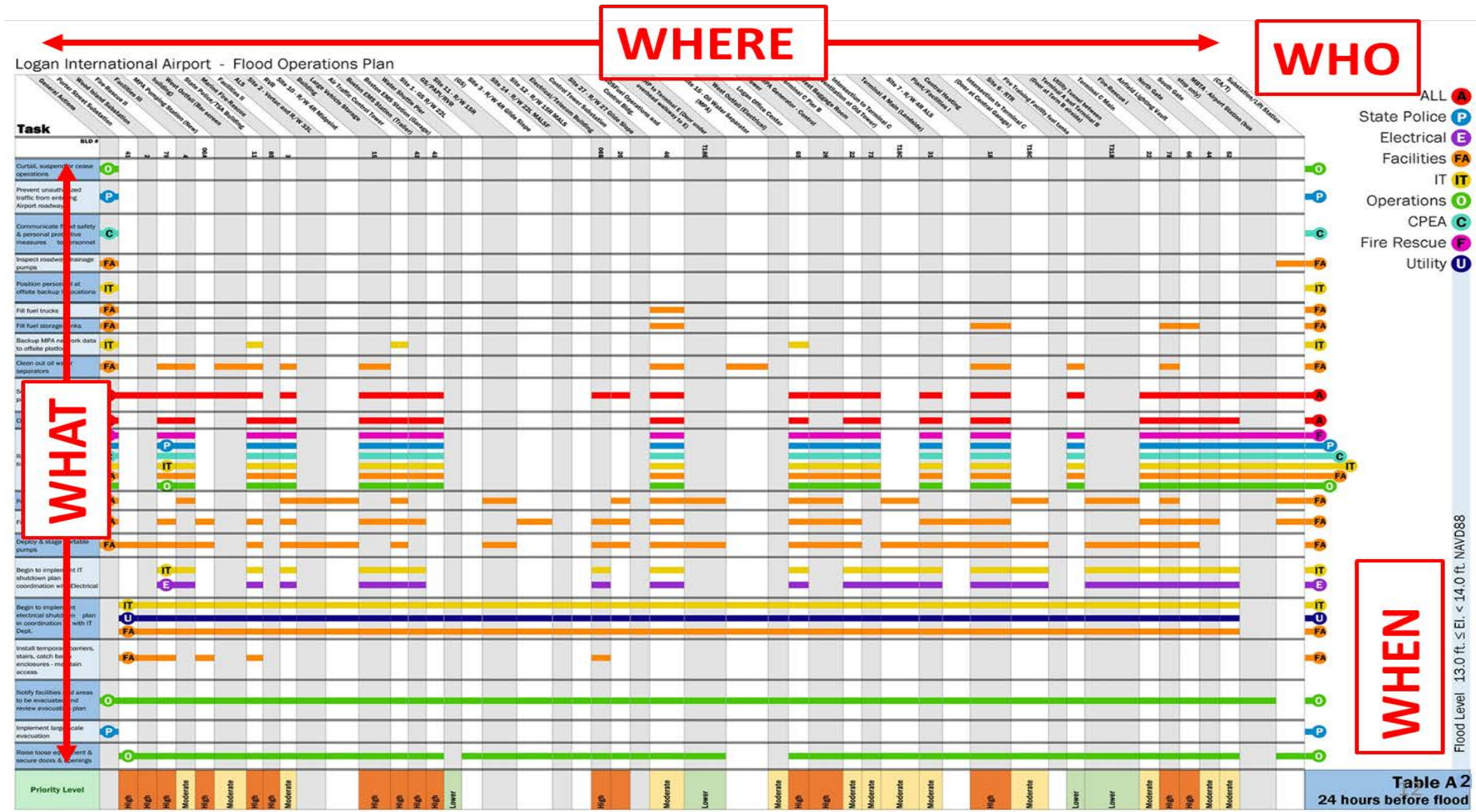
Test deployment of temporary flood barriers Electrical Telecom Building at Logan



Conley Terminal test deployment



# Flooding Actions and Timelines



# Application

1. Facilitate management oversight of flooding or heavy precipitation events impacting Massport infrastructure

2. Inform decision-making during a flood event where Massport flood operations plans may or have been activated;

3. Enable real-time field updates via mobile devices of:

- i. flood water encroachment
- ii. barrier and resource deployments
- iii. equipment status or activity milestones
- iv. site inspections

The screenshot displays the Massport Resiliency Web Application interface. At the top, it shows the application title and navigation options. The main area features a satellite map of Boston Harbor with various facilities marked by colored dots (red for high priority, blue for moderate, green for lower). To the right of the map is a 'Facilities Impacted' list with 53 items, including Marine Fire-Rescue, Marine Operations Center, and various police buildings. Below the map is a 'Boston Harbor at Boston [NOAA]' section showing a water level graph and current status of 8.66 ft MLLW. On the far right, there is an 'Incident List' with recent events such as 'water pump running out of gas' and 'Flood pumps are both operational'. The interface also includes a legend, a filter for incident list, and a 'State Police/TSA Building' section with a photo and attachments.