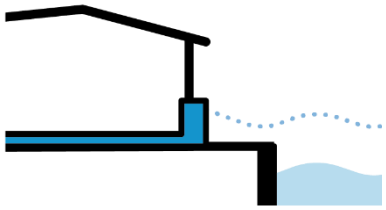
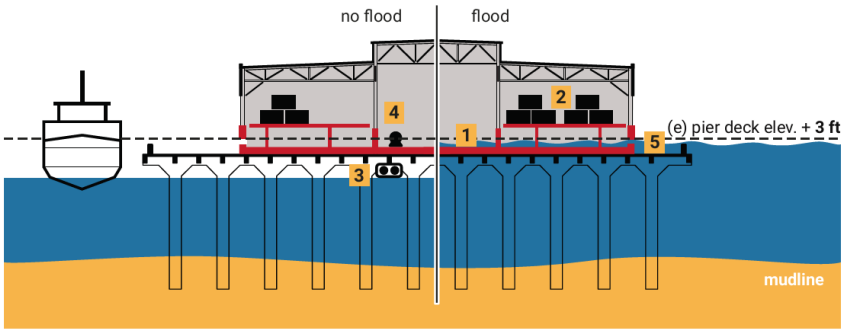
Measure Profile

Wet Floodproofing

Flood Adaptation Measure

PHYSICAL INFRASTRUCTURE

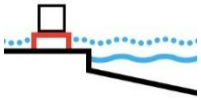




Wet-floodproofing scheme on pier shed. ©Port of San Francisco

1. Materials below base flood elevation (construction and finish) should be resistant to flood damage.
2. Install raised platforms for valuable contents.
3. Protect in place or relocate utilities.
4. Re-grade surfaces, install pumps and sump pit to evacuate water after flood event.
5. Flood openings to equalize hydrostatic pressure.

SHORELINE LOCATION:



Asset Specific

DESIGN LIFE	ADAPTABILITY	IMPACT ON THE WATERFRONT	CONSTRUCTION COST
N/A	N/A	Living with Water	TBD

COASTAL FLOOD HAZARDS MITIGATED:

Sea Level Rise

Storm Surge

Groundwater

Waves

Erosion

MEASURES COMPATIBILITY:

Flood	Seismic
All	All

ECOSYSTEM SERVICES: Measure may affect these shoreline values

Aquatic Habitat — Terrestrial Habitat — Water Quality — Carbon Storage

DESCRIPTION:

The space below the design flood elevation is constructed with flood-damage resistant materials in combination with flood vents to allow water to enter the structure and allow hydrostatic pressures to equalize. The enclosed space is built with flood damage resistant materials that do not need to be replaced if flooded, including pressure-treated plywood, concrete, and cement board. Flood vents are installed in the walls of the enclosure to let flood waters enter and leave by gravity, which allows forces on either side of the structure's walls to equalize. This prevents the structure and foundation from collapsing in the event of a flood.

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CONSIDERATIONS:	ADVANTAGES:	DISADVANTAGES:
• Provides asset scale protection only. • Operations and maintenance obligations and costs must be considered in life cycle analysis.	• Wet floodproofing is generally less expensive than dry flood-proofing. • Wet floodproofing, unlike dry floodproofing, does not rely on advanced planning or preparation. • Allows internal and external hydrostatic pressures to equalize, lessening the loads on walls and floors.	• Extensive cleanup may be necessary if the structure becomes wet inside and possibly contaminated by sewage, chemicals, and other materials borne by floodwaters. • Pumping floodwaters out too soon after a flood may lead to structural damage. • Periodic maintenance may be required. • Does not minimize the potential damage from high-velocity flood flow and wave action.
CONSTRUCTION IMPACTS TO THE PUBLIC: • Site-specific construction closures would be required.	**SEA LEVEL RISE ADAPTATION OPPORTUNITIES:** • May be a supplement to other measures, limited effectiveness for long-term sea level rise.	**CASE STUDIES:** • New York City

DESIGN OPPORTUNITIES:

Ecological Enhancements	Urban Design	Form
• N/A	• N/A	• N/A

INSTALLATION AND CONSTRUCTABILITY CONSIDERATIONS:

- If the duration of the flood is longer than 1 day, wet floodproofing is not a reasonable approach to protecting a structure.
- Flood vents must be engineered to comply with energy code requirements for the building envelope.
- If basement utilities cannot be relocated to a higher level, they can be protected by being placed in a watertight room or enclosure made of impermeable material such as concrete.

OPERATION AND MAINTENANCE CONSIDERATIONS:

- Wet floodproofed spaces require extensive cleaning and/or replacement of finishes following flooding, and may present exposure to sewage, chemical, or other hazardous materials in floodwaters.
- Annual maintenance of wet proofing equipment is required to ensure proper performance.