

Downtown Olympia Flooding

**City of Olympia | Public Works, Water Resources
January 2015**



Potential for Flooding

- Landforms
 - Much of downtown is low-lying fill
- Tidal cycles
 - 14 foot swings
- Weather systems
 - Low pressure.....+1.5 feet?

Existing Flood Potential – 10-year Event

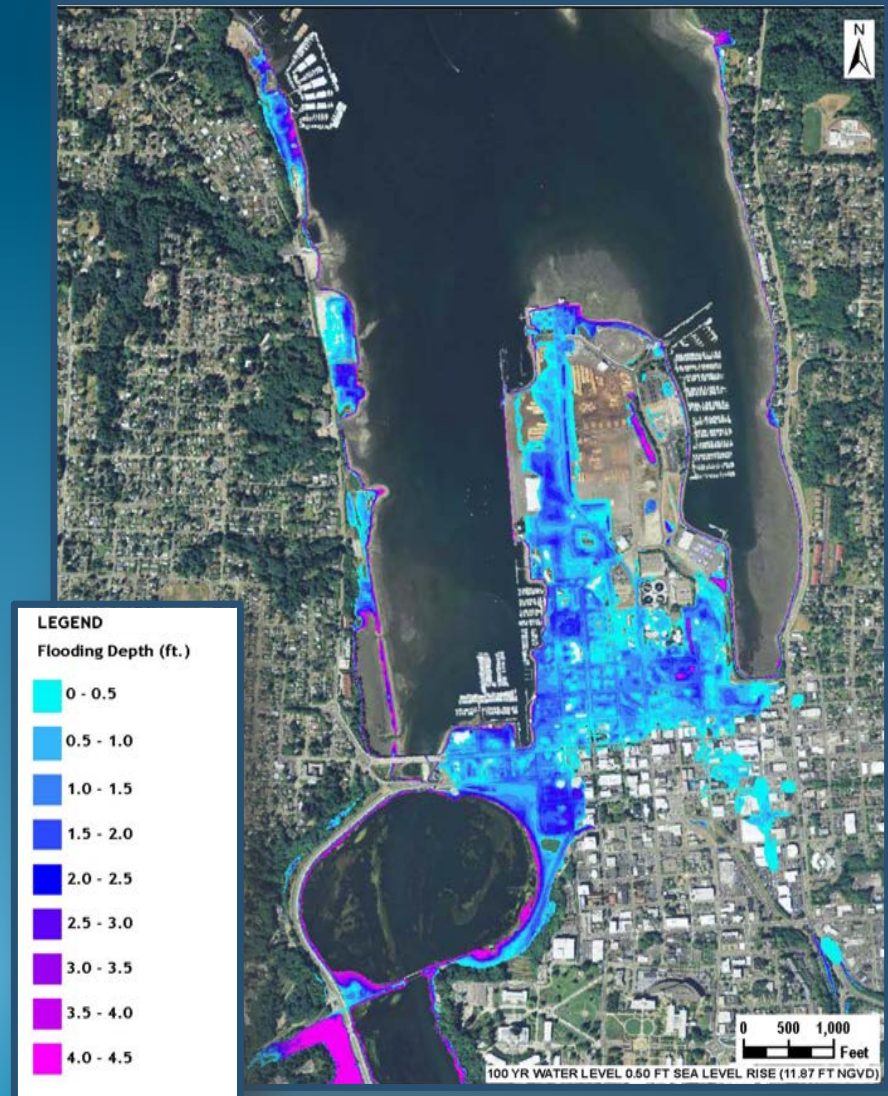


100-year Event



2011 Analysis of Budd Inlet Flood Dynamics

- *Tides:* Extreme events, storm surge, historical events
- *Wind and waves:* Water levels, shoreline interactions and overtopping
- *Land elevation*
- *Rainfall and runoff*
- *Piped Indian/Moxlie Creek*
- *Deschutes River/Capitol Lake*
- *Sea level rise*



Importance of Weather



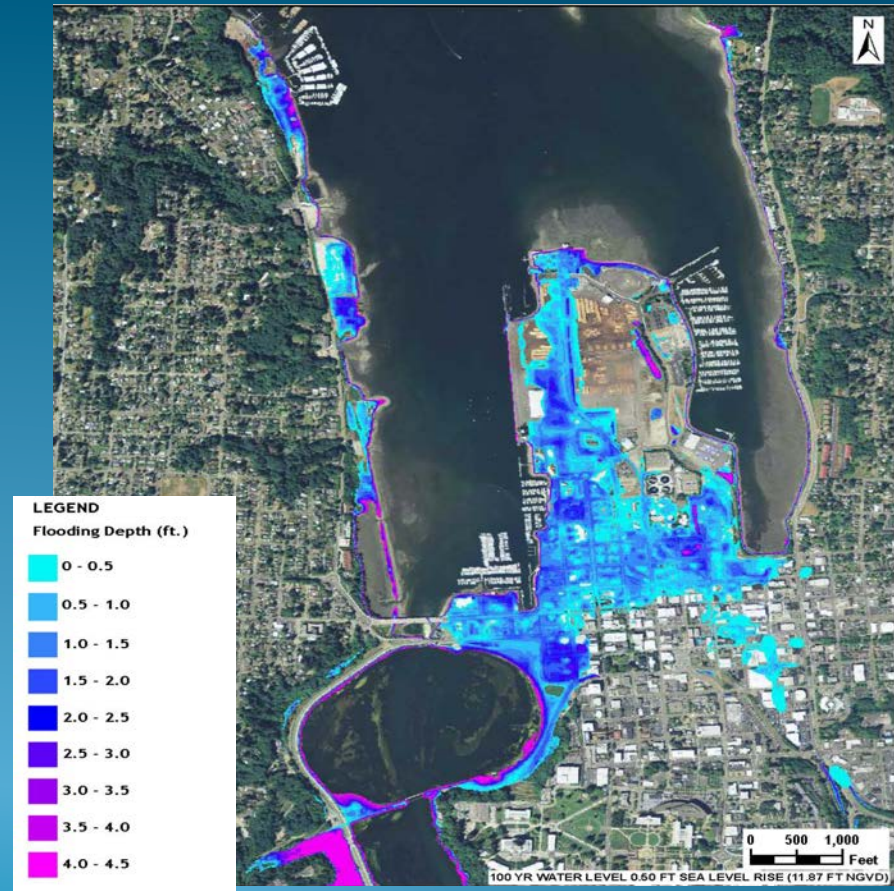
Fiddlehead Marina – Dec 17, 2012

Actively Track Weather and Tides

- Astronomical tides
- Atmospheric pressure
 - Low pressure systems forecasts.....10 days
 - NOAA warnings....several days
- Deschutes River
- Precipitation

100 Year Tide plus 6 inches of Sea Rise

- How will we plan for and respond to more flooding as climate change continues?



Downtown Flooding Mechanisms

- Overtopping Budd Inlet and Capitol Lake Shorelines
- Stormwater Pipe Backflow
- Precipitation

Shoreline Flooding: Dec 17, 2012

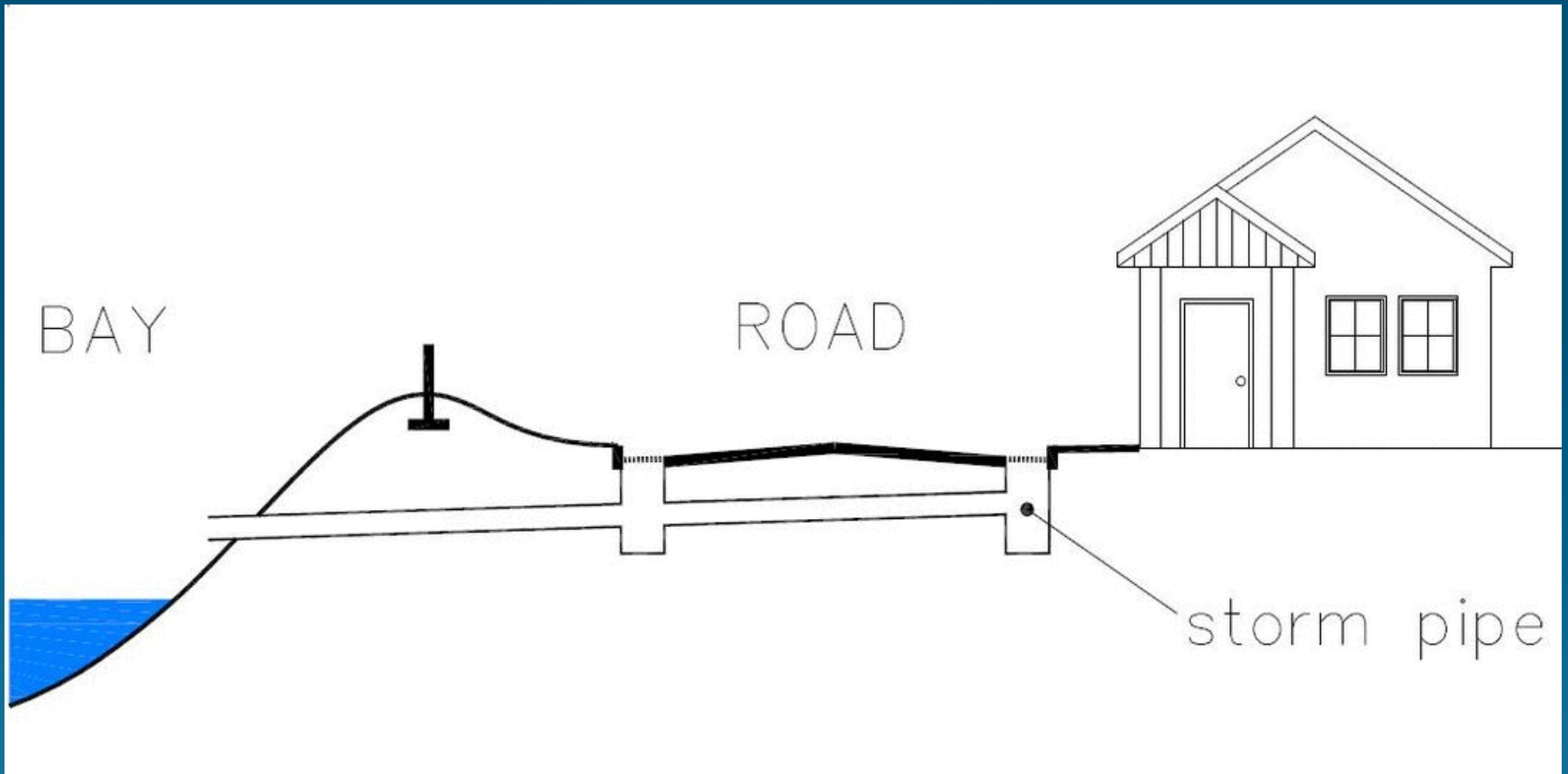




Capitol Lake



Stormwater Pipe Backflow





Budd Inlet



Budd Bay Cafe

Current Understanding

- Downtown has always been vulnerable
- Been managed in recent years
- Could have widespread, shallow flooding with a high tide and low atmospheric pressure
- Sea level rise exacerbates the problem
- Lots of upfront work is needed before sea rise becomes pronounced

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