

# Combined Sewer Overflow Master Plan for Town of Cape Elizabeth, Maine

Presented at Town Council Public Hearing  
October 7, 2013

Presented by:  
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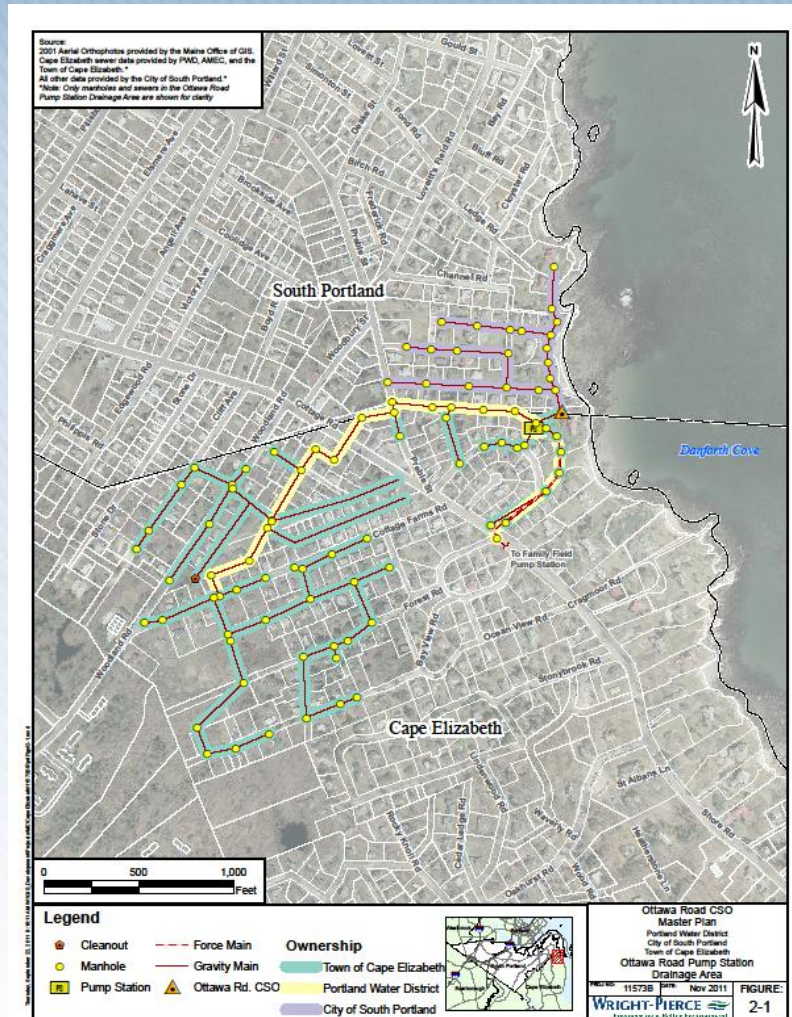


# Where is the CSO?

- One CSO located at Ottawa Road Pump Station
- Jointly owned by Town, City and PWD
- While CSO has overflowed for decades, it was just licensed by Maine DEP in 2009



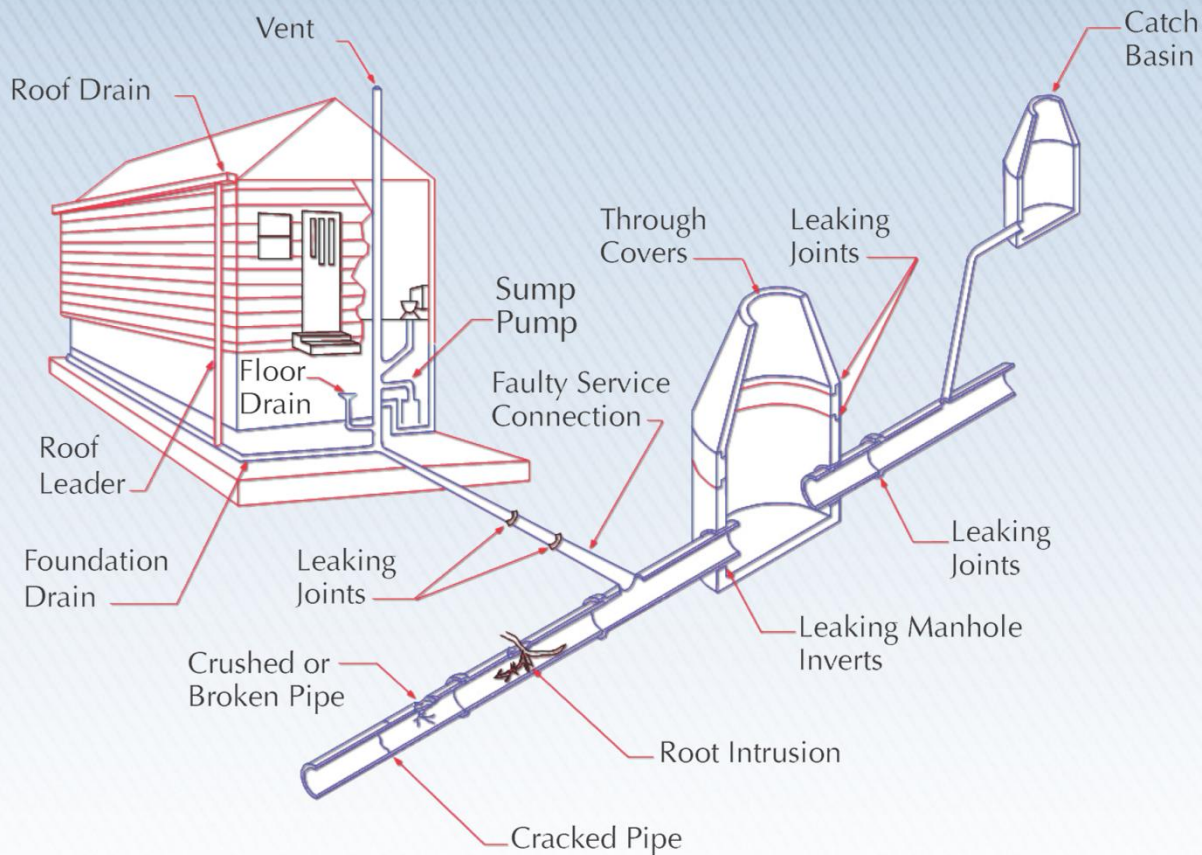
# Ottawa Road Facilities



# What is a CSO?

- Permitted wet weather discharge to Danforth Cove
- Before WWTF, all wastewater & storm water went to water bodies w/o treatment in same pipe-combined system
- With construction of WWTFs and pump station, most of runoff redirected to storm water lines, but not all...
- During dry periods, all wastewater to WWTF
- During wet weather, surface and groundwater (I-I) enter sewer pipes, necessitating overflows to Danforth Cove

# Infiltration-Inflow Sources



# CSOs require Master Plans...

- Required by Maine DEP as part of 2009 discharge permit
- Establish a plan, with schedule and costs, to mitigate/eliminate CSO
- DEP required draft plan be submitted by December 31, 2011
- Town met milestone and plan has been approved by Maine DEP

# How was the plan developed?

- 22 month study–Feb 10 to Dec 11
- Extensive field work to find I/I
  - Flow metering
  - Smoke testing
  - Sewer TV inspection
  - Manhole inspections
  - Pump station flow testing
- Hydraulic modeling of Shore Rd. interceptor



# Deciding how much to mitigate?

- Peak flow from CSO – 1,980 gals/min
- 3.3 million gals overflowed in one storm – football field covered in 9 feet of water
- Goal established to remove 1,100 gpm – 94% reduction in volumes overflowed!



# Alternatives Evaluation

- Evaluated various options
- Feasible improvements include:
  - I-I removal
  - Larger pipes and pump station
  - Off-line storage – U/G tanks
  - Primary treatment with disinfection

# Alternatives Evaluation, cont'd

- Each alternative evaluated for feasibility
  - Financial and technical
  - Social/political acceptance also considered
- End result
  - Focus on infiltration and inflow removal
  - 5-year implementation plan

# 5-Year Plan

2014	Additional I-I investigation and design Phase 1 project	~\$170,000
2015	Complete I-I investigation & construct Ph 1 project	~\$450,000
2016	Design Phase 2 project	~\$230,000
2017	Construct Phase 2 project & pre-design pump station	~\$730,000
2018	Complete Phase 2 project & update CSO plan	~\$790,000

# Estimated Cost of the Plan

- 5-year plan
  - \$2.36 million, 2011 dollars
  - \$2.56 million, future dollars
- Town to look at the sewer fund and decide if additional rate increases are needed to meet the plan obligations
- Mitigation to higher levels would have been 50% to 100% more costly

# Next Steps

- DEP has approved plan
- 30-day public comment period has ended
- Any public comments to address?
- Presentation to South Portland on October 28
- Send final document to DEP
- Start 5-year plan

# Questions / Discussions