Combined Sewer Overflows

Portsmouth City Council Meeting
January 9, 2017
Introduction

• Recently Received Complaints Regarding Combined Sewer Discharge at South Mill Pond
  – South Mill Pond Conditions
  – Peirce Island WWTF Won’t Treat Runoff
• Why Do CSOs Exist at All
  – Historic Cities Combined Drains and Sewer in One Pipe to Nearest Water Body – Was State of the Art
Regulatory Compliance
Portsmouth Wastewater System

- Peirce Island Treatment Plant (4.8 MGD)
  - In Construction to 6.1 MGD
- Pease Treatment Plant (1.2 MGD)
- ~120 Miles of Collection System (~20% is Combined System)
- 20 Pumping Stations
- 3 Permitted Active CSOs
Wastewater Collection and Treatment

- Wastewater is Collected in a Network of Underground Sewer Pipes
- At Low Points, Pump Stations are Needed to Lift the Sewage to a Higher Elevation
- Wastewater is Treated to Reduce Pollutants, then Discharged to the Receiving Waters
Groundwater
Storm Drain to **Sewer System**
Roof Leader to **Sewer System**
Sump Pump to **Sewer System**

**Groundwater**

**SYSTEM OVERLOAD**
Storm Drain to Storm System
Roof Leader to **Outside**
Sump Pump to **Outside**

*Groundwater*

**BALANCE RESTORED**
What is a CSO?
A permitted discharge point in a combined sewer

Why are they there?
Provides a relief to minimize flooding and backups
Compliance with CWA

• CWA Goal to Eliminate CSO Discharges
• EPA CSO Control Policy
  – Achieve CWA Goals in a Flexible and Cost Effective Manner
• Long Term Control Plan
  – Fiscal Impacts
  – Alternatives Analyses
  – Implementation Schedule

“EPA’s CSO control policy is a national framework for controlling CSOs through the NPDES permitting program. It provides guidance on how communities with CSOs can achieve Clean Water Act (CWA) (274 pp, 571 K, About PDF) goals in a flexible, cost-effective manner.”

Taken from www.epa.gov/npdes/combined-sewer-overflows-csos
Results

- Spent $55M Since 1997 on Sewer Separation Following Long Term Control Plan
- Results
  - 90% Reduction in CSO Volume
  - Significant Reduction in Street Flooding
  - Significant Reduction in Basement Flooding
  - Met 2010 Long Term Control Plan Targets
  - Met EPA Regulatory Deadlines
Next Steps

• Post Construction Monitoring Plan
  – Submitted to EPA

• Long Term Control Plan Update
  – Will Identify Next Projects
  – Funding Through CIP

• Complete Elimination of CSO Water Quality Impact
Questions