

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

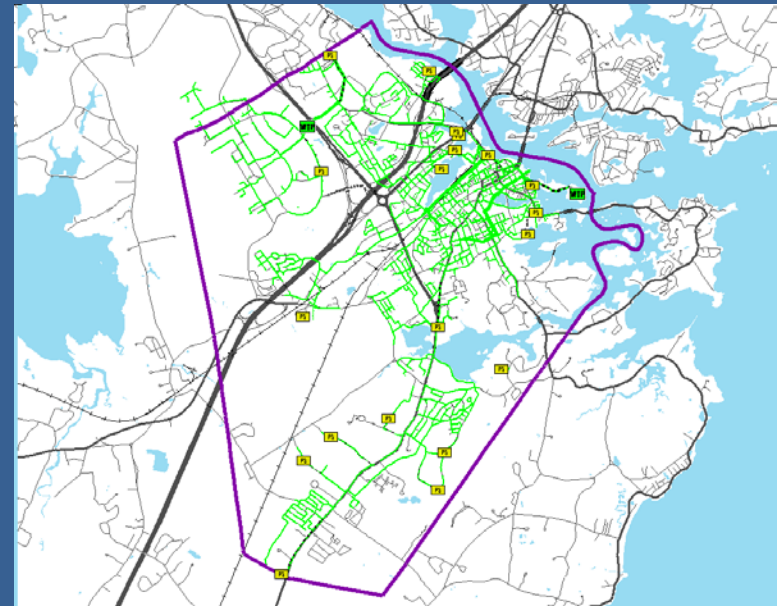


Regulatory Compliance



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



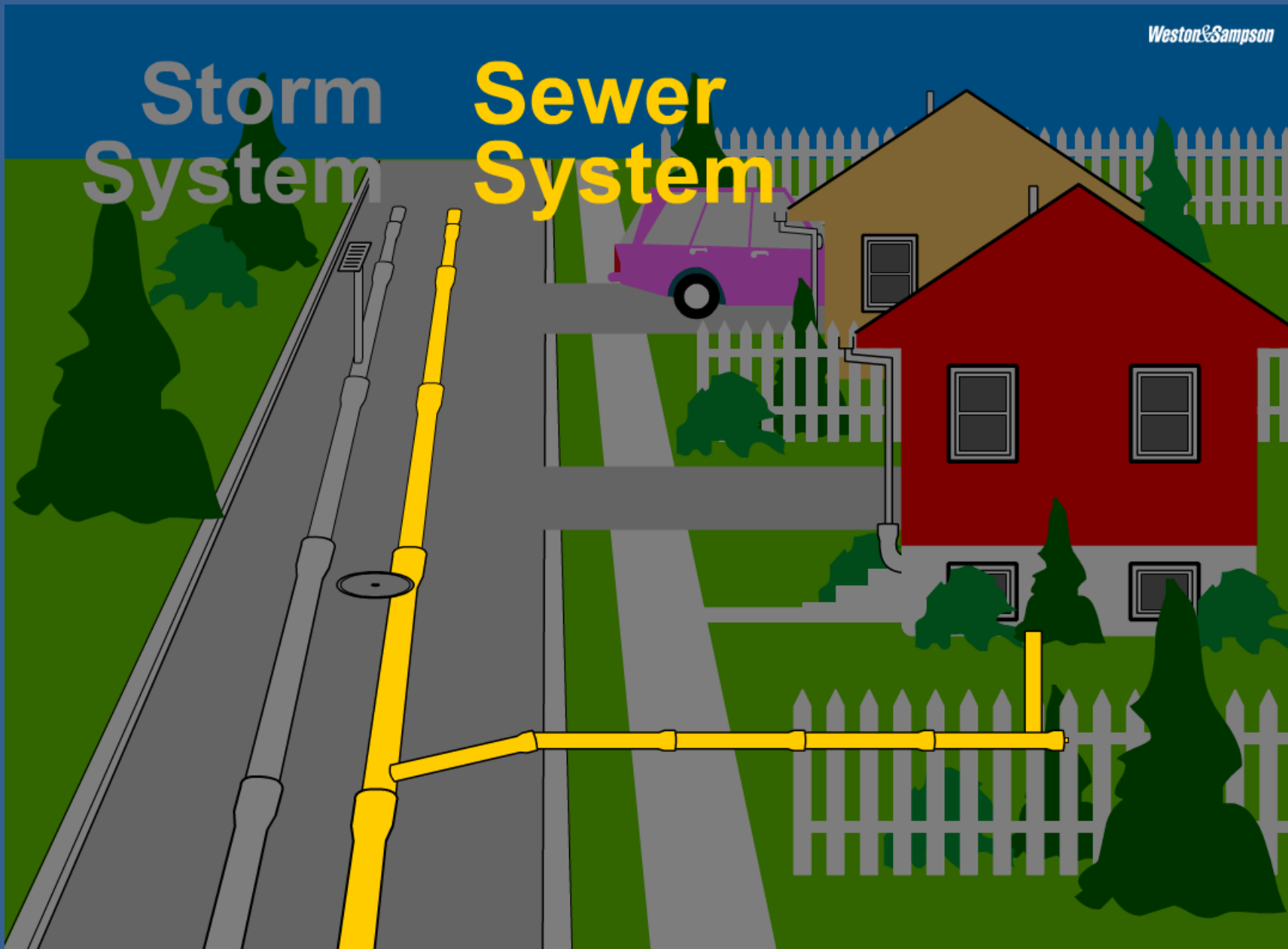
Wastewater Collection and Treatment

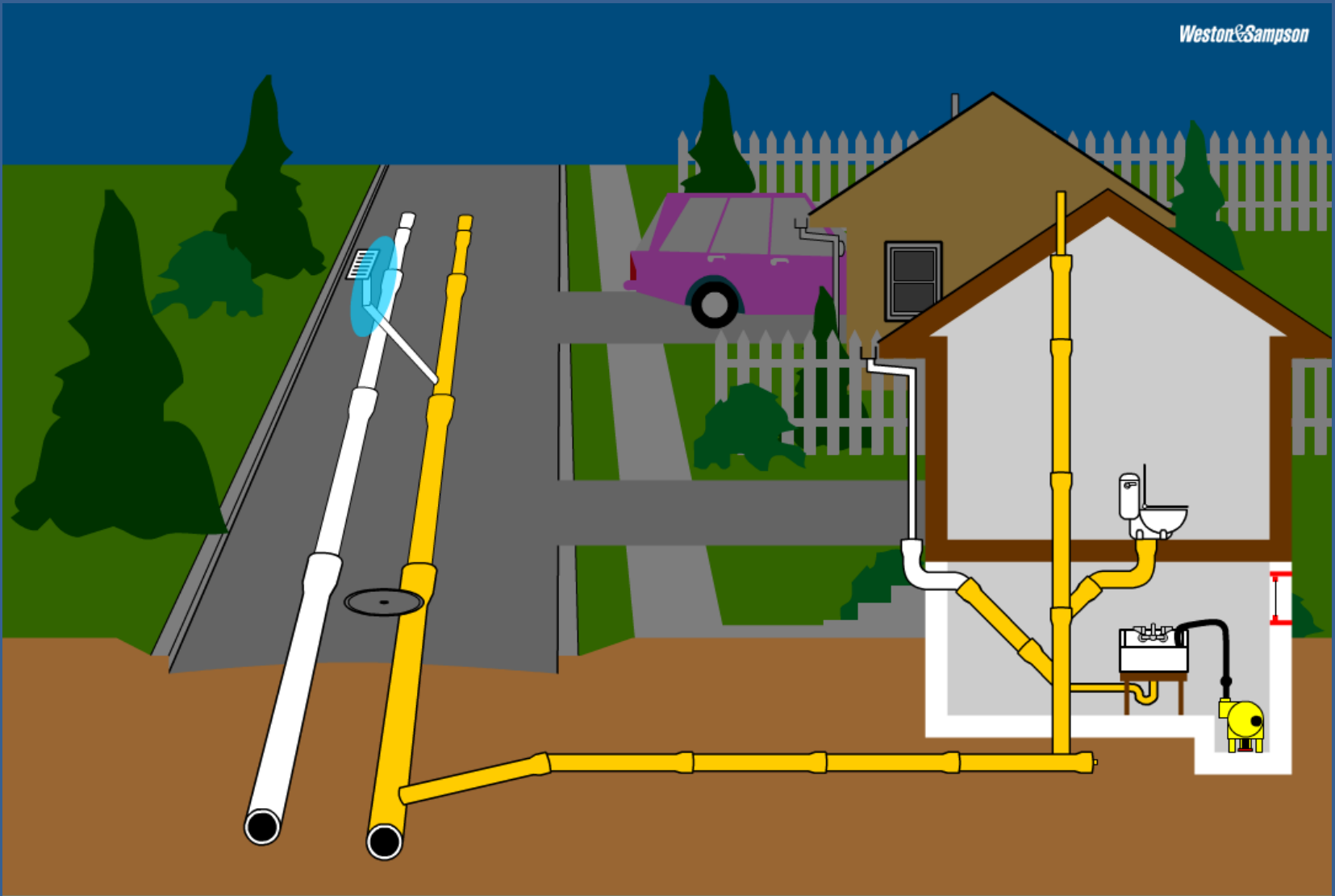
- Wastewater is Collected in a Network of Underground Sewer Pipes
- At Low Points, Pump Stations are Needed to Lift the Sewage to a Higher Elevation
- Wastewater is Treated to Reduce Pollutants, then Discharged to the Receiving Waters



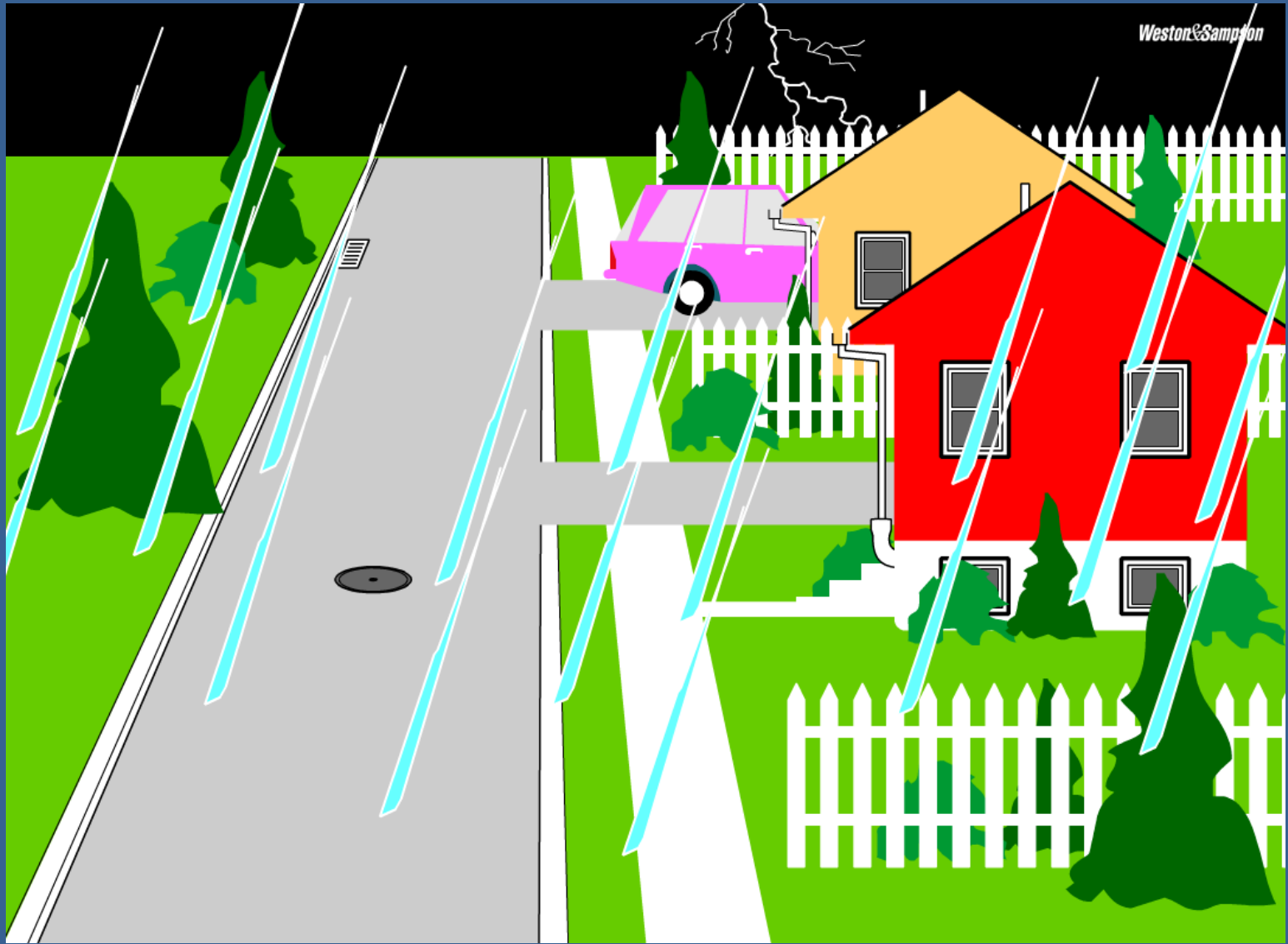
Storm
System

Sewer
System





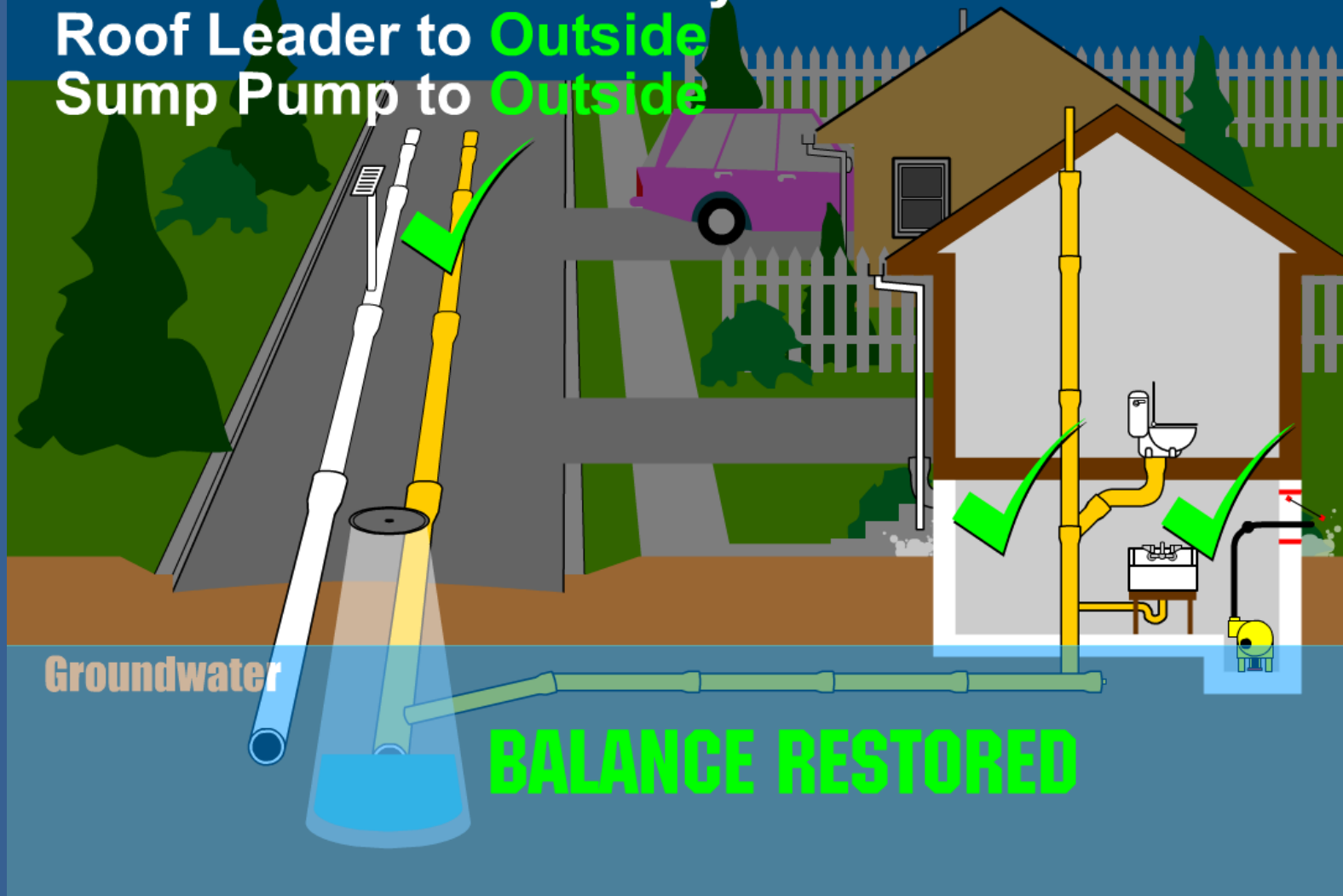
Groundwater



Storm Drain to Sewer System
Roof Leader to Sewer System
Sump Pump to Sewer System



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



Bartlett Street

STOP \$EABROOK!!

LOW
CLEARANCE



Lovell Street



Basement Back-up



Pease
Outfall

14 CSOs pre – 1980's

What is a CSO?

A permitted discharge point in a combined sewer

Why are they there?

Provides a relief to minimize flooding and backups

WWTF &
Outfall

Portsmouth, NH



CSO 013

CSO 10A

CSO 10B

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

