

Core Area Inflow & Infiltration Management Plan: 5-year Update

Presentation to the Core Area Liquid Waste Management Committee

September 13, 2017

Inflow & Infiltration



inflow

Rainwater that enters the sewer through cross connections (i.e. catch basin, roof drain)



infiltration

Groundwater that enters the sewer through cracks, leaky joints, etc.

Problems Related to I&I

CRD



OVERFLOWS



DETERIORATING SEWER PIPE



BASEMENT FLOODING



SINKHOLES

OVERVIEW

The Inflow & Infiltration (I&I) Management Plan is a requirement of the Core Area Liquid Waste Management Plan (LWMP)

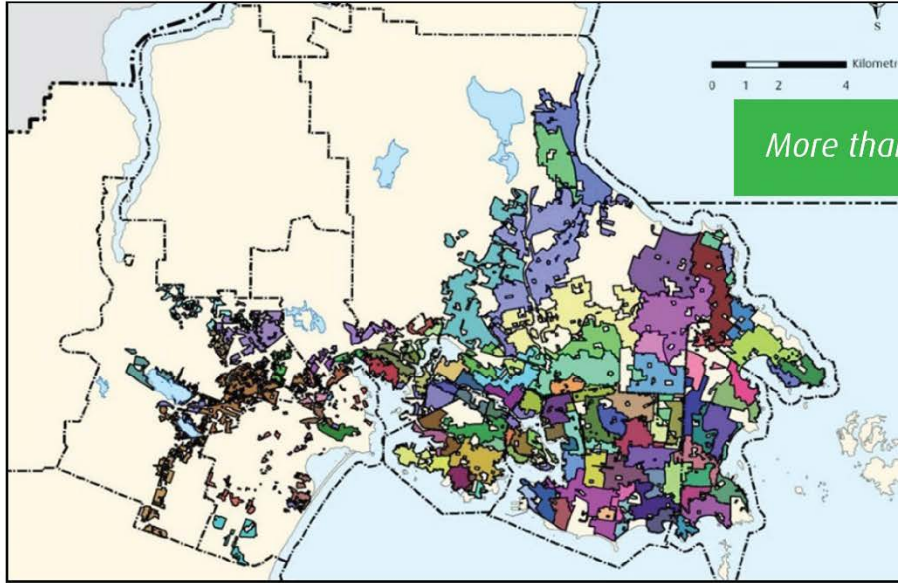
The plan was developed in collaboration with CRD and municipal staff

The 2012 LWMP contains a commitment for 5-year reviews

KEY COMMITMENT

To reduce flows to **less than 4x average dry weather flow** at Clover Point and the McLoughlin treatment plant **by 2030**

I&I Management Plan: Systematic Approach



More than 100 long-term monitoring catchments

1

Divide municipality into catchments and monitor flows

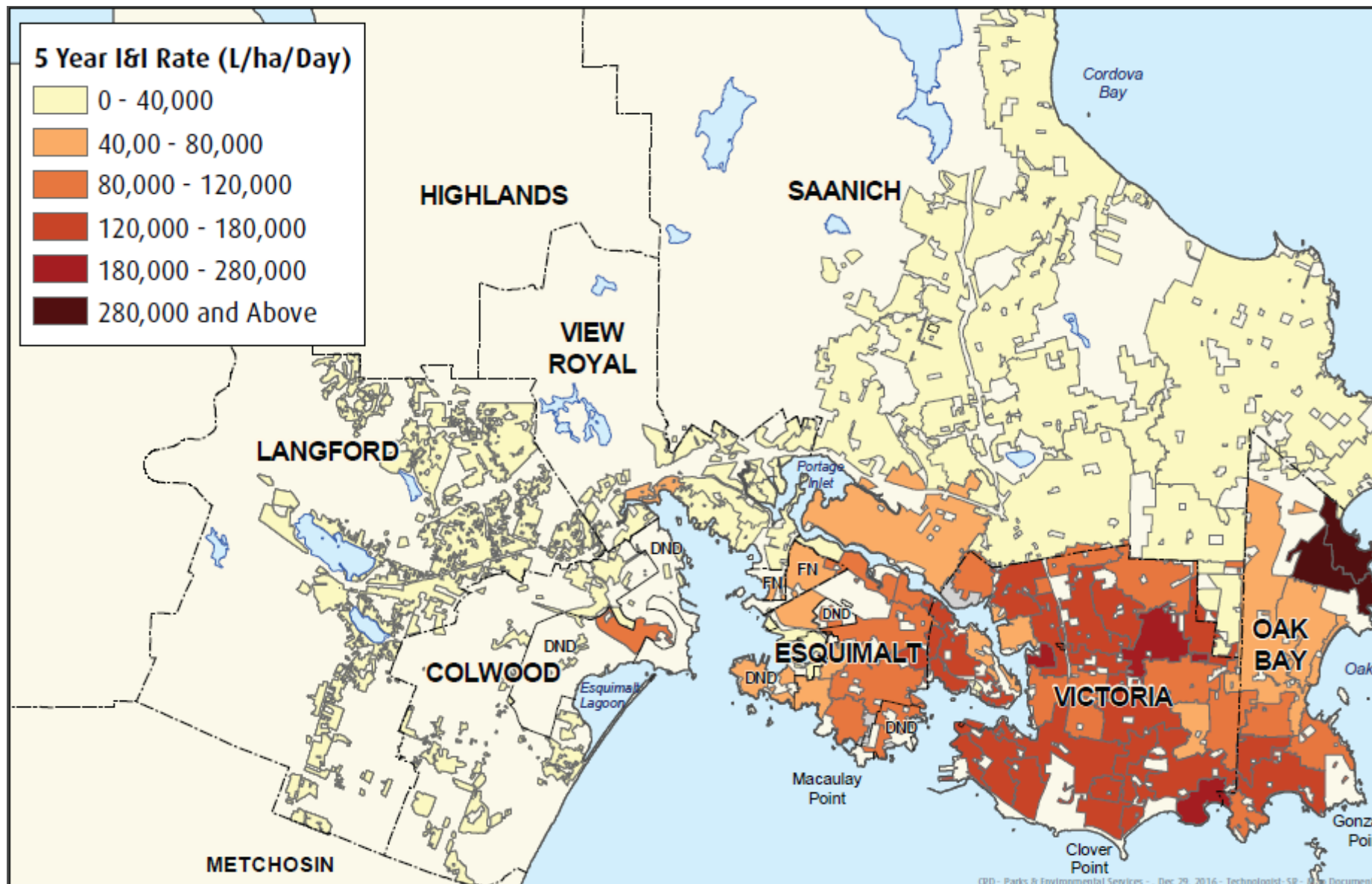
2

Investigate catchments that exceed the agreed upon I&I rate threshold using camera inspections

3

Create and schedule long-term rehab plans based on available budget & priority

I&I Rates



Key Actions to Date

CRD



Substantial sewer investigation and maintenance work
(BY EACH MUNICIPALITY)

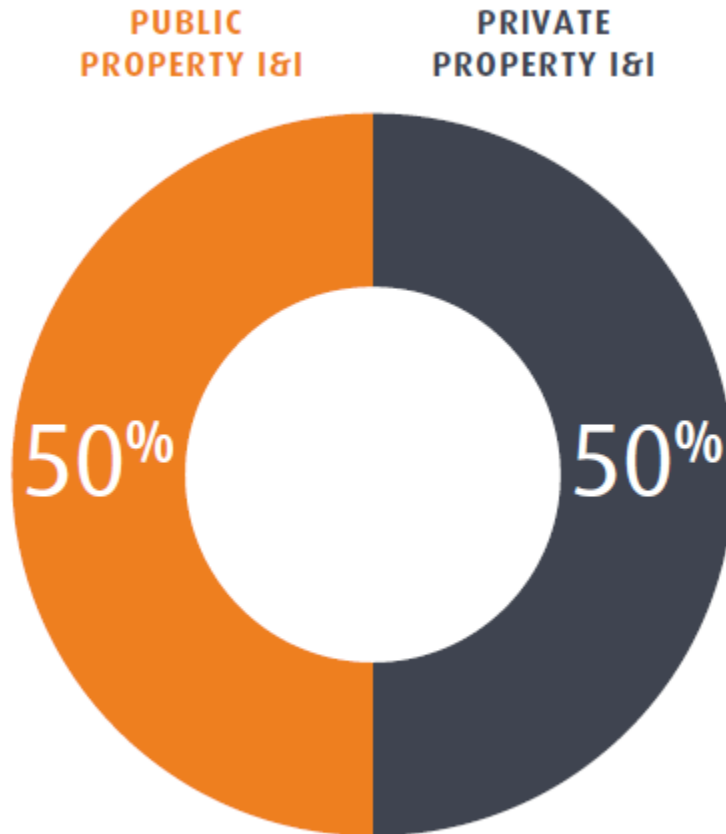
Esquimalt's \$6.75M sewer rehab project
(2005 - 2010)

Victoria's James Bay Project

Oak Bay's Uplands separation plan
(UNDER PROVINCIAL REVIEW)

Private Property I&I

CRD



Municipalities have different needs making a single regional approach impractical.

CRD will continue to work with municipalities to create custom plans

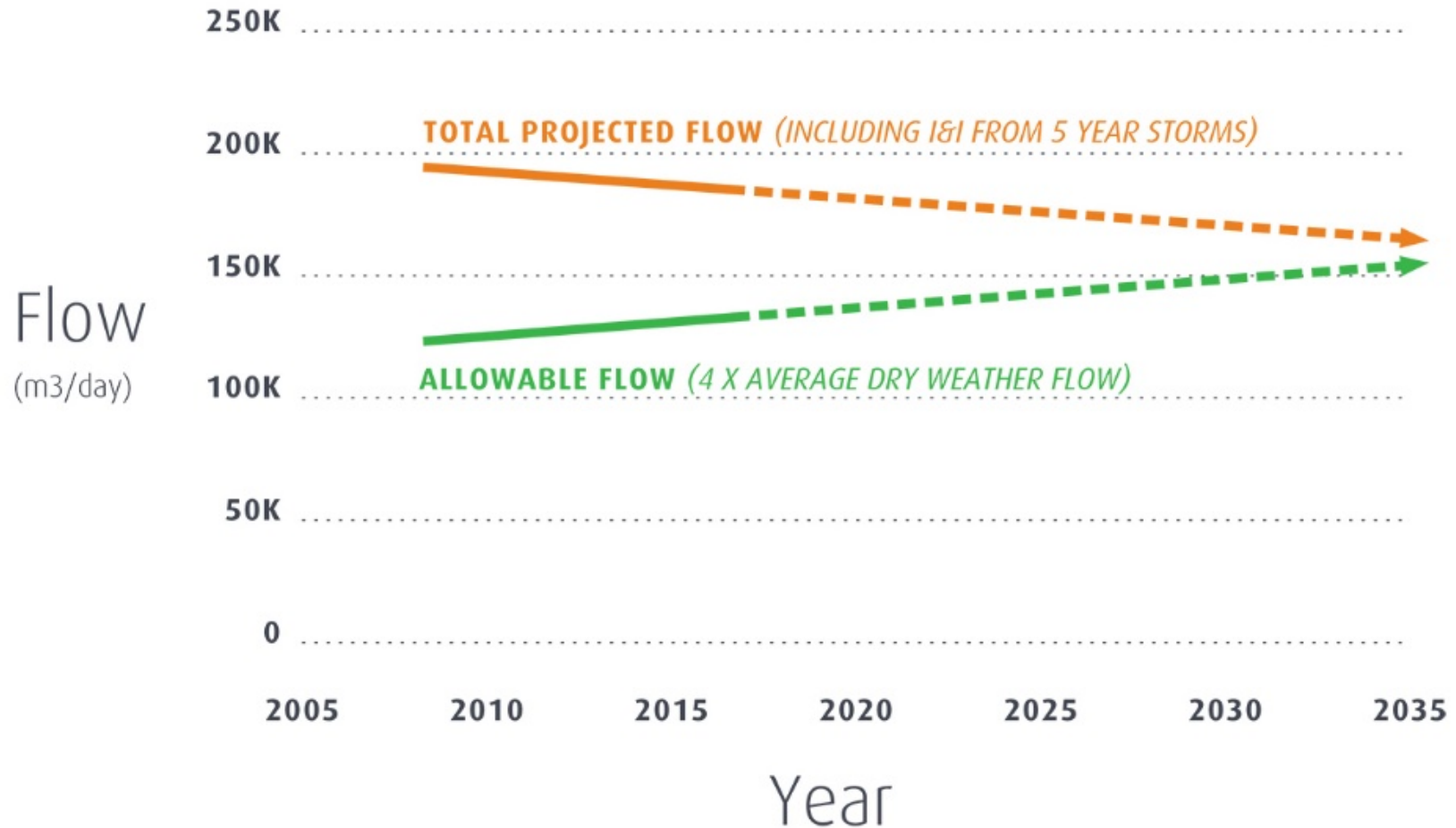
Municipalities with elevated I&I may require additional programs (public and/or private) to achieve their flow rate goals.

CRD has initiated a process to incorporate sample private property I&I model bylaw into existing municipal sewer bylaws.

I&I Rate Reduction Plan (private and public)



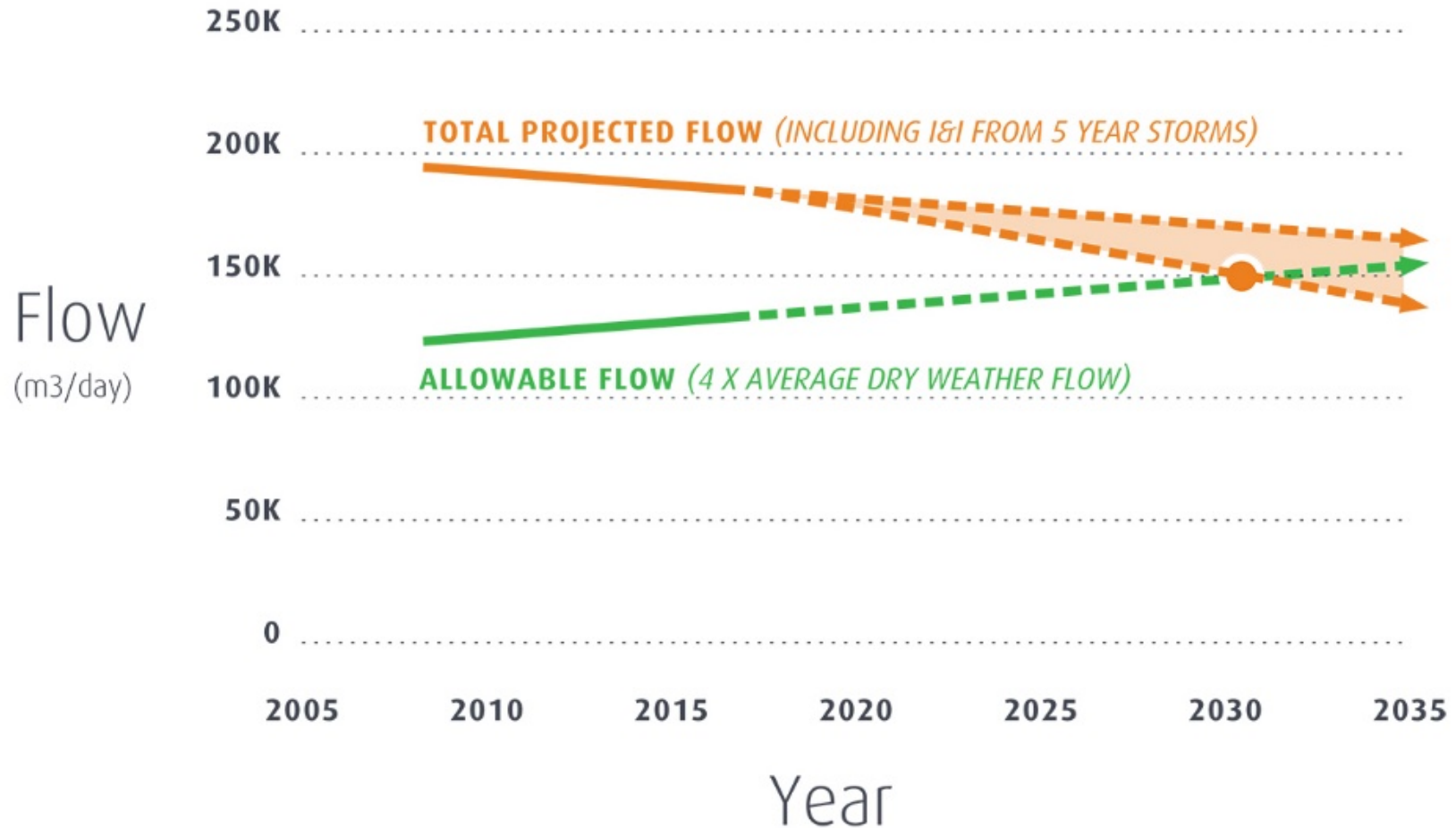
Making a difference...together



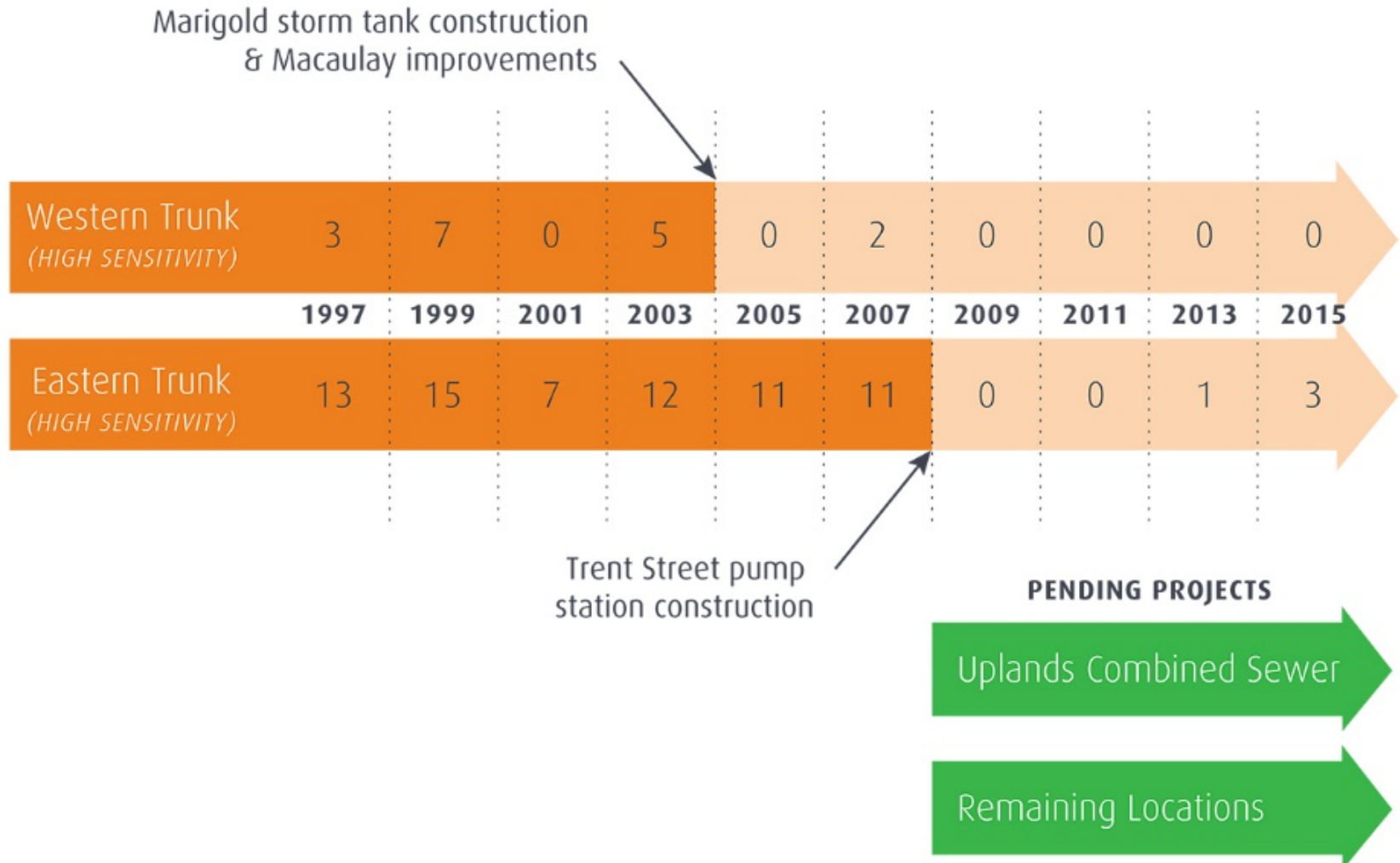
I&I Rate Reduction Plan (private and public)



Making a difference...together



Trends: Overflows



Key Initiatives

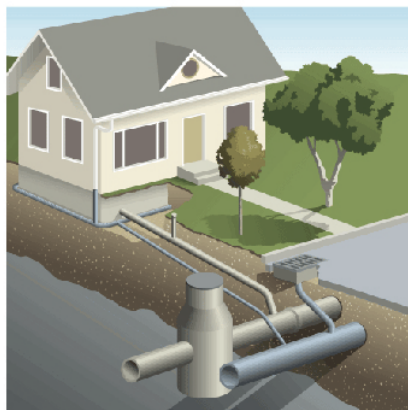
CRD



EDUCATION

Drafting industry stakeholder-focused materials

Development of homeowner-focused materials on prevention of basement flooding.



BENCHMARKING

National presentation of I&I benchmarking method planned for fall.



INNOVATIVE PILOT PROJECT

GIS pilot project designed to identify historical semi-combined inflow sources.



CLIMATE CHANGE

Updating the core area sewer model and using it to model various climate change scenarios.



PROGRAM DELIVERY

Continuing implementation of CRD I&I Management Plan.

Support in development of municipal specific private property I&I reduction programs.

Ongoing I&I metering, analysis and program development.