

Champions
WELLAND LEADING THE WAY

2011 Combined Sewer Separation Update

Presented By: **MARVIN INGEBRIGTSEN, P.Eng.,
TECHNICAL ANALYST INFRASTRUCTURE PROGRAMS**

**LARA WIDDIFIELD, C.E.T.,
INFRASTRUCTURE PLANNING TECHNOLOGIST**

ENGINEERING, PUBLIC WORKS, AND TRANSPORTATION SERVICES

Work Completed to Date

- Extensive Sewer Separation in the OAW (Oxford-Atlas-Wellington) Area, the largest contributor of combined sewage flow - \$9.2M since 2004
- Together with the Region, the new OAW sewer is now complete and we are making preparations to complete final connections. Estimated combined sewage reduction is 5-10%, increasing the estimated total wet weather flow capture rate to approx. 73%.
- Sewer Separation in other areas - \$6.4M since 2004

Recent Initiatives

- Flow monitoring to study the wet weather reactions of our sewer system and determine best course of action for Infiltration/Inflow Reduction
- Flow monitoring and construction of a Regional Interceptor model in order to facilitate reporting of CSO output to the MOE

Recent Initiatives – Con't

- Prioritization of the OAW Area sewer separation in order to allow final connections to the new OAW Regional tunnel. This will remove storm water from the Wastewater Treatment Plant collection system, thereby reducing treatment plant bypass
- Sewer Use Bylaw Study – Re-budgeted for 2011, flow monitoring on Foundation Drain Systems in order to quantify Extraneous Flow from foundation weeping tiles and assist in determination of user-pay water-sewer rates

Recent Initiatives – Con't

New project with Engineers Canada: PIEVC and IDF Curve Study

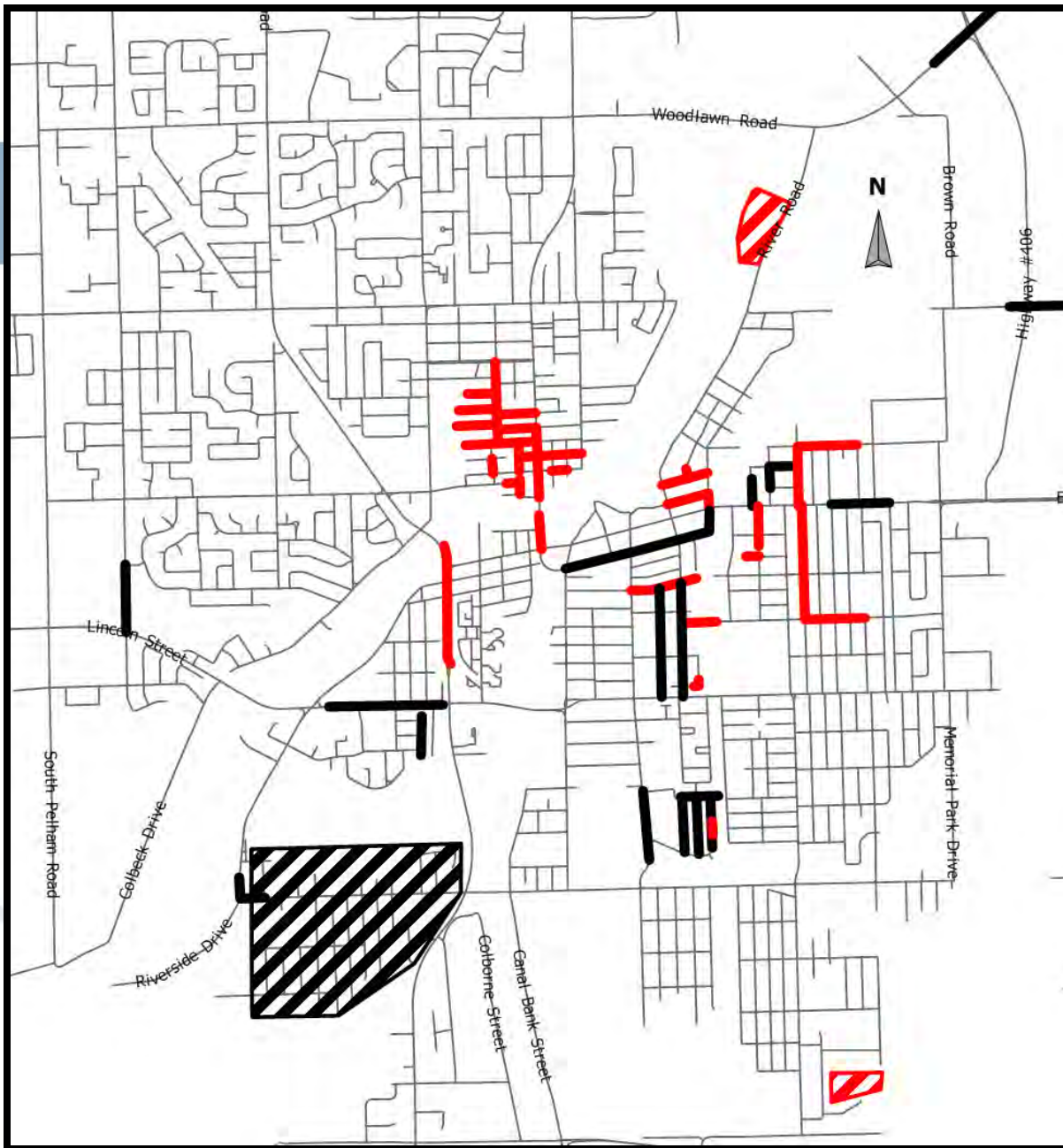
- Public Infrastructure Engineering Vulnerability Committee (PIEVC) Study
- Assess vulnerability to climate change of City of Welland Storm and Sanitary systems;
- Update of IDF (Intensity-Duration-Frequency) curves;
- 100% externally funded – thank you to our collaborators
- Funding partners are Canadian Council of Professional Engineers, WaterSmart Niagara and MOE
- Steering Committee will include above, Region of Niagara, Environment Canada, and Great Lakes and St. Lawrence Cities Initiative
- Commencement right away and completion by July 2011

Future Initiatives

- Update of Pollution Protection Control Program (PPCP) to address MOE regulated discharge of sewage to receiving waters, to commence in 2015
- Continued Sewer Separation for the purpose of reducing Combined Sewer Overflows (CSO's)
- Work with Region to ensure proposed High Rate Treatment Facility (HRT) is appropriately sized
- Replacement of aging Infrastructure (leaking pipes contributing to Infiltration/Inflow)

2011-2015 Sewer Separation Work

- Contingent on budget
- Focus on CSO reduction and Sewer Separation
- CSO projects must be balanced with replacement of assets in critical condition

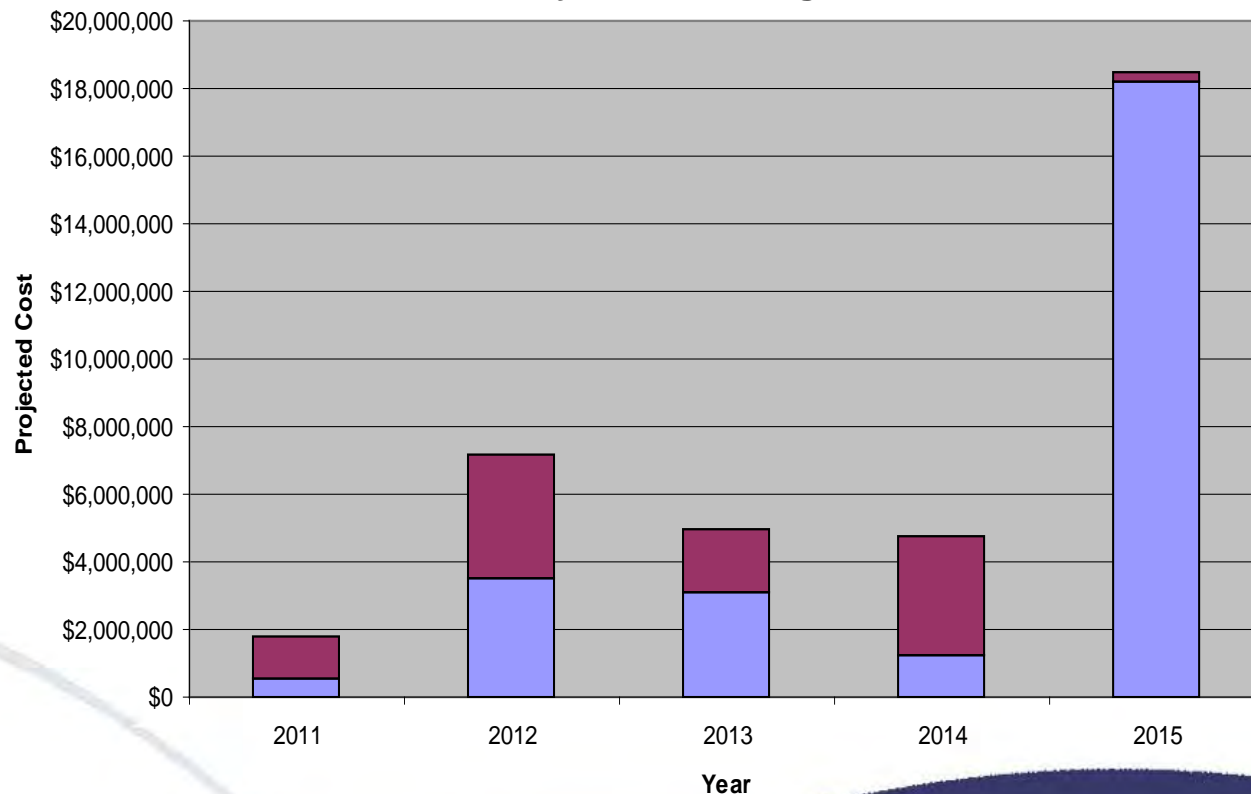


LEGEND



- Sewer Works proposed for 2011-2015
- CSO Remediation Works proposed for 2011-2015

Remaining Sewer Separation Work

Preliminary Sewer Budget 2011-2015



- Estimated completion of Sewer Separation by 2015, however
- Funding cuts delay entire 10-year plan; note \$7 million backlog in 2012
- HRT and PPCP Update scheduled to commence in 2015

	Sewer Replacement / Rehabilitation
	Planned CSO Expenditures

Challenges

- Prioritizing CSO reduction works with shrinking water-sewer budget; in 2009 and 2010 several projects were deferred to offset deficit between billed rates and actual treatment costs
- Meeting MOE requirements for conformance to Regulation F-5-5
- Balancing CSO projects with needs of deficient Infrastructure
- Attempting to raise rehabilitation works to a sustainable level for maintaining infrastructure

In Summary...

- Emphasis is being placed on Combined Sewer Separation and CSO reduction works, however
- Limited budgets and forecast of further funding reductions are crippling efforts to reduce CSOs and maintain existing infrastructure
- The sewer separation of largest contributor of wet weather flow (the OAW Area) is in final stages
- Sewer separation completion planned by 2015 at earliest due to funding limitations

Champions
WELLAND LEADING THE WAY



Questions?