

I/I PROGRAM STATUS UPDATE

EVALUATION OF INFLOW AND INFILTRATION
REDUCTION CONCEPTS PHASE 2

SEPTEMBER 5, 2019



King County

Department of Natural Resources and Parks
Wastewater Treatment Division

REGIONAL INFILTRATION AND INFLOW PROGRAM HISTORY

Created Program as part of the Regional Wastewater Services Plan

1999

Developed Program Plan, the Executive Recommended Regional I/I Control Program

2005

Explore and develop new Program measures to reduce I/I particularly in private side sewers

2015-Today

2000-2005

Completed I/I Control Study

- Levels of I/I for each agency
- Pilot projects
- Model standards, procedures, policies and guidelines
- Cost-benefit analysis on cost effective I/I reduction

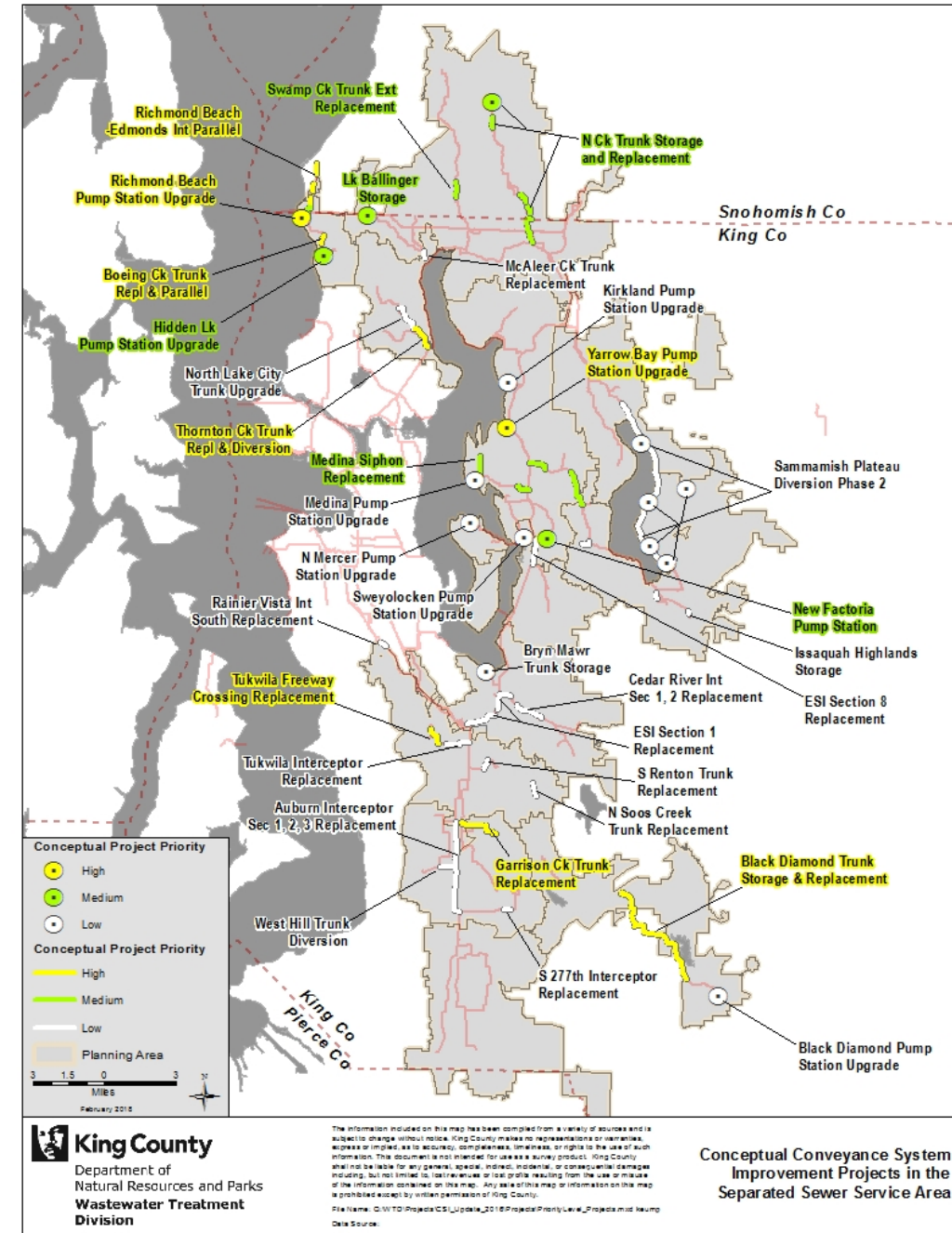
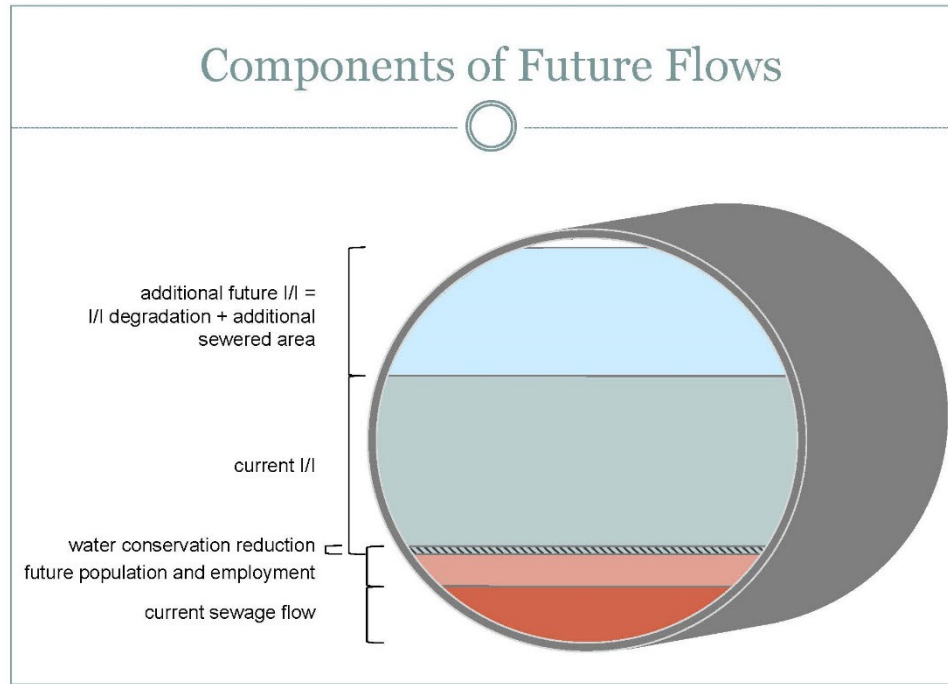
2006-2014

Implemented Program Plan recommendations

- I/I reduction feasibility analysis
- Skyway I/I reduction project
- Informed by decennial flow monitoring

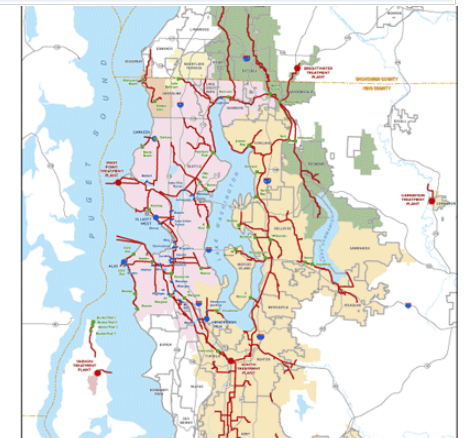
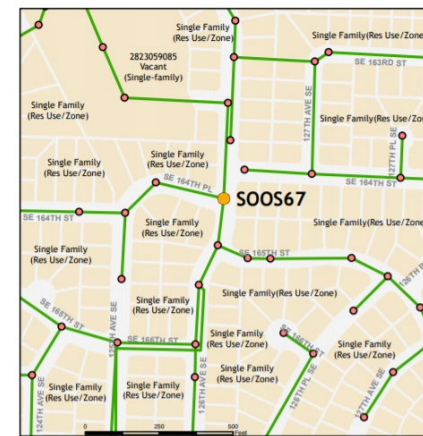
I/I IN THE REGIONAL WASTEWATER SYSTEM

- Approximately 70% of peak flow is I/I
- As much as 50-70% I/I is from private side sewers
- Approximately \$1.7 billion (2016\$) in CSI Projects through 2060

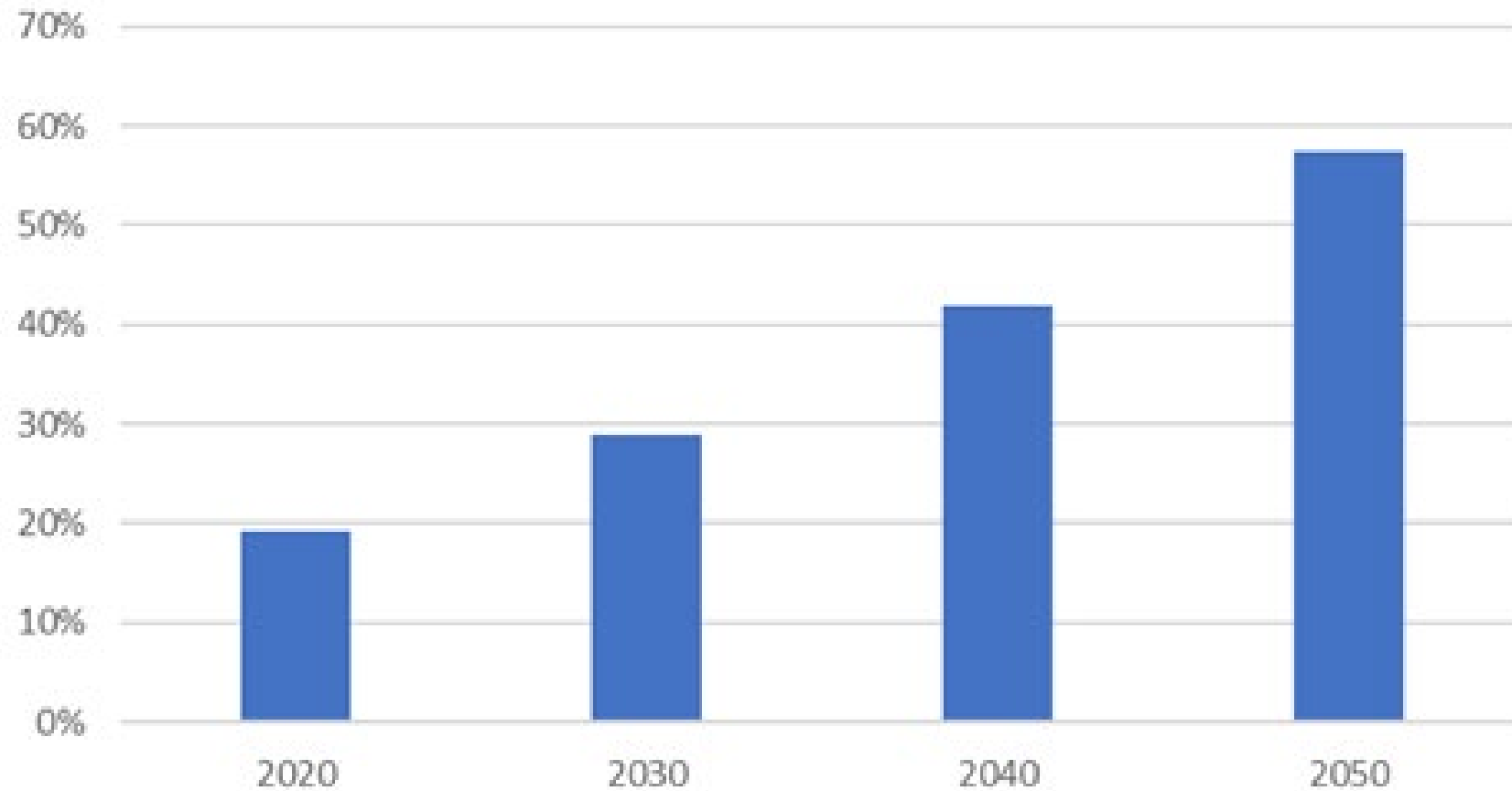


SEPARATED WASTEWATER COLLECTION SYSTEM COMPONENTS

	Side Sewers	Local Agency Sewers	King County Conveyance
Ownership	Private	City/Sewer District	King County
Diameter	4-6 inches	8-20 inches	> 20 inches
System Length	No estimate	5,200 miles	390 miles
Influence on I/I	High	Low	Low



ESTIMATED PERCENTAGE OF SIDE SEWERS OLDER THAN 75 YEARS IN OUR SERVICE AREA



Source: 2016 King County Housing Stock Analysis

BACKGROUND



STATUS OF WORK

- Notice to Proceed given to consultant, Brown and Caldwell, for Phase 2 scope of work
- Kick off meeting held in late August

Project Manager
Nicole Smith

King County

PROJECT MANAGER

■ Tye Simpson, PE

PROJECT DELIVERY OVERSIC

■ Steve Anderson, P.E.

CIVIL ENGINEERING LEAD

■ Bob Jacobsen, P.E.

FINANCIAL/ECONOMIC LEAD

■ Art Griffith, P.E.

**PUBLIC POLICY/PROGRAM
MANAGEMENT LEAD**

■ Andy Lukas, P.E.

I/I REMOVAL SUPPORT

■ Amanda Lawler, E.I.T

SEWER STANDARDS

■ Laurie Chase, P.E.

COMMUNITY RELATIONS

■ Penny Mabie

SURVEY AND MODEL ORDINANCE

■ Jennifer Myers, P.E.

■ Brown and Caldwell ■ Blue Heron Engineering Services ■ EnvirolIssues ■ FG Solutions

SCOPE OF WORK MAJOR TASKS

- Program goals, methods and background information development
 - Goals, objectives, critical success factors, mitigation approaches to lessen/remove barrier to implementation
 - Choose method to evaluate costs and benefits of private side sewer program
 - Describe 3 existing side sewer inspection programs including lessons learned by the utility
- Develop and evaluate options for major components of each program
 - Regional BMPs
 - Inspector training and certification
 - Private side sewer inspection program including financial assistance
 - Conduct a benefit evaluation of I/I reduction
- Develop implementation plans for inspection training and certification (if recommended)

SCOPE OF WORK PLANNED OUTCOMES

- **Regional Best Management Practices**
 - 3-5 regional I/I control BMPs ready for use by local agencies
- **Inspection Training and Certification Program**
 - Major program elements and implications
 - If recommended, Implementation plan
- **Private Side Sewer Inspection Program with Financial Assistance**
 - Major program elements and implications

DRAFT SCHEDULE

TASK	Timeframe
Develop program goals, methods and background information	Sept 2019 - Dec 2019
Develop regional BMPs	June 2020 - Sept 2020
Develop inspection training and certification program options	Oct 2019 - July 2020
Develop private side sewer program options	Oct 2019 - July 2020
Develop implementation plan for inspection training program	July 2020 - Dec 2020

NEXT STEPS

- **Discuss Program Goals, Methods and Background Information Development**
 - Goals and Critical Success Factors
 - Risks/Barriers to Implementation and Mitigation Approaches
 - Method to Evaluate Costs and Benefits of Private Side Sewer Program



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