

# INFILTRATION AND INFLOW (I/I) CONTROL PROGRAM

## REGIONAL INSPECTOR TRAINING AND CERTIFICATION PROGRAM DEVELOPMENT

EVALUATION OF INFLOW AND INFILTRATION  
REDUCTION CONCEPTS PHASE 2

MWPAAC ENGINEERING AND PLANNING  
SUBCOMMITTEE

AUGUST 5, 2021



**King County**

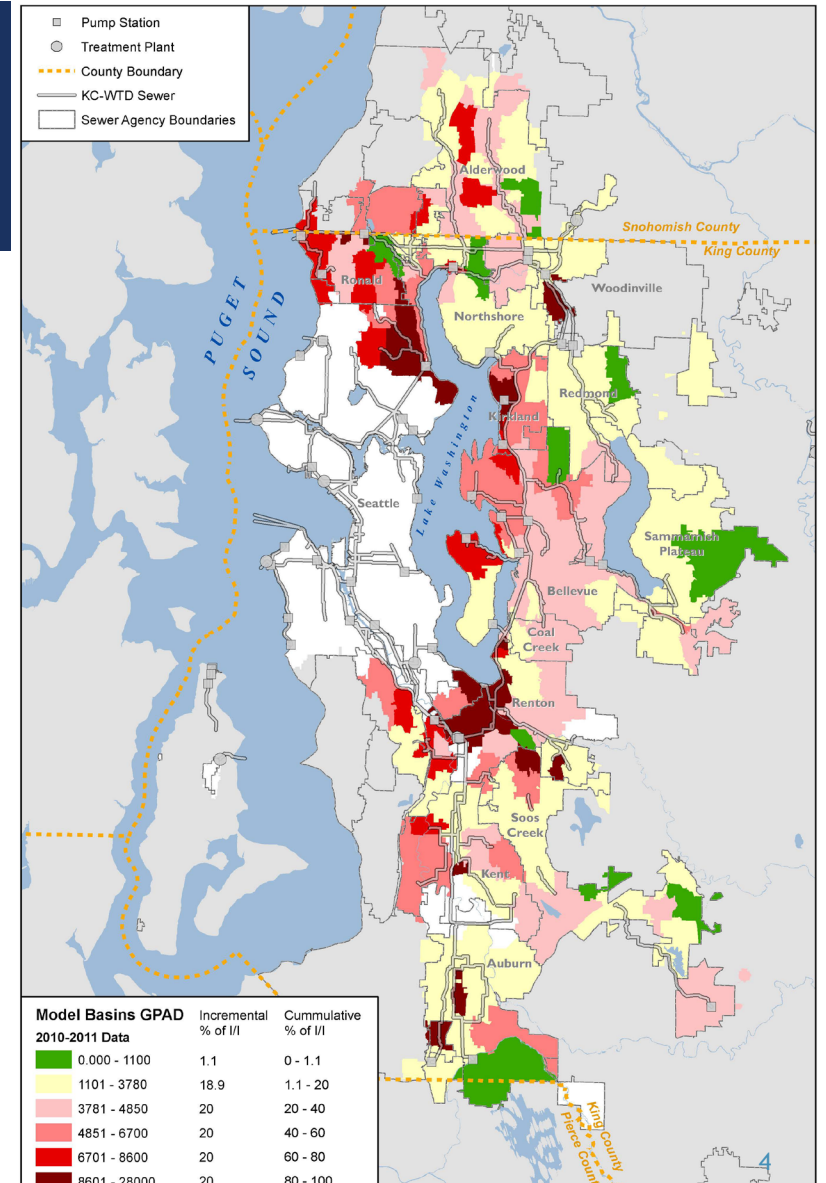
Department of Natural Resources and Parks  
**Wastewater Treatment Division**

# TODAY'S REQUEST

- **Review Draft Technical Memo on Inspector Training and Certification Program Development**
- **Consider your agency's:**
  - **Overall need and importance that program concept be implemented**
  - **Level of interest in participation**
  - **Actual costs and other implications**



# PEAK I/I HOURLY FLOW RATES VARY IN THE REGIONAL SYSTEM



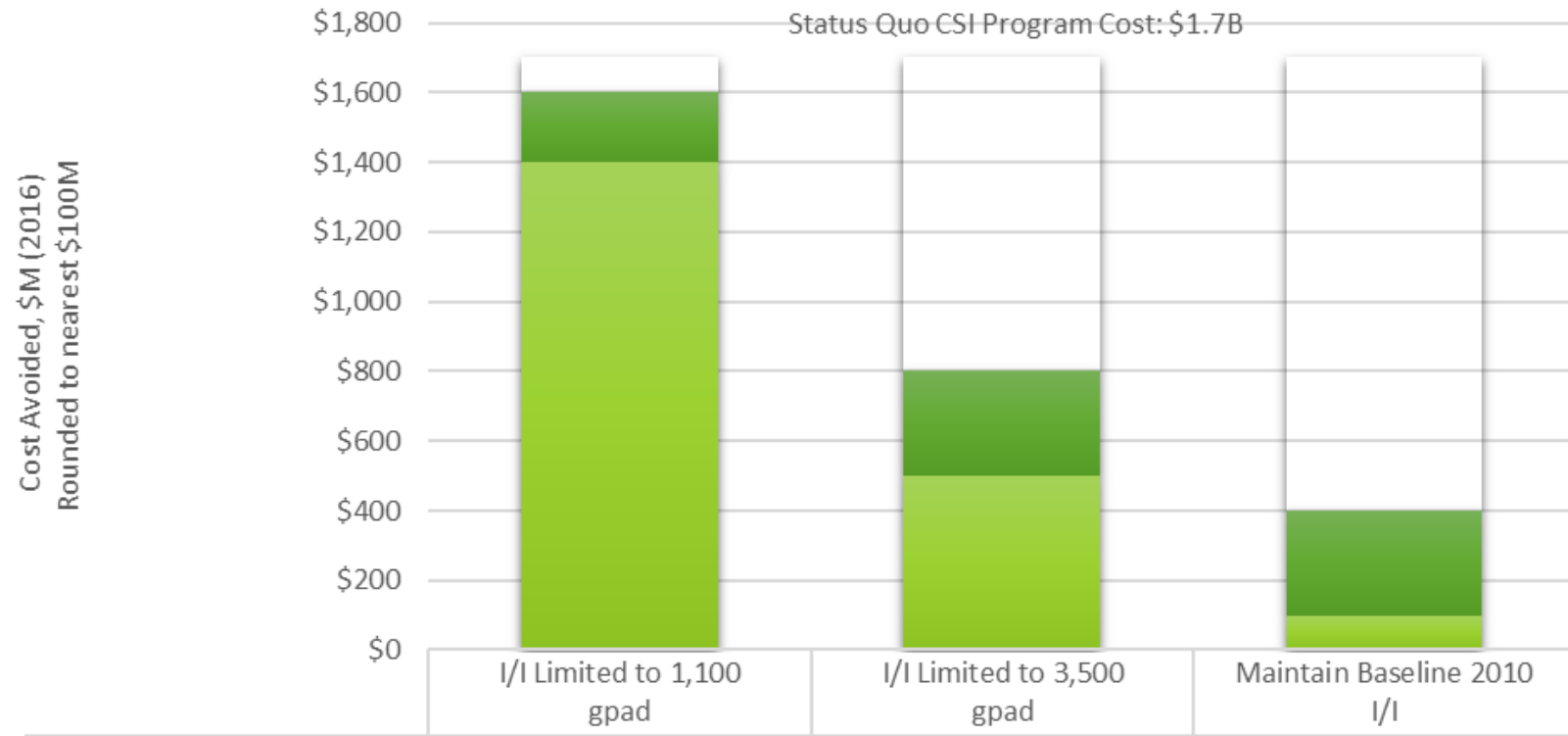
**20-year Peak I/I Flow Rates**  
2010-2011 data

# WHY I/I REDUCTION?

## I/I reduction avoids costs

- Cost avoidance is difference between status quo cost and other scenarios
- Higher levels of I/I removed = higher avoided capital costs
- Avoided costs are seen over time
- I/I control equal to I/I degradation rates would delay most projects

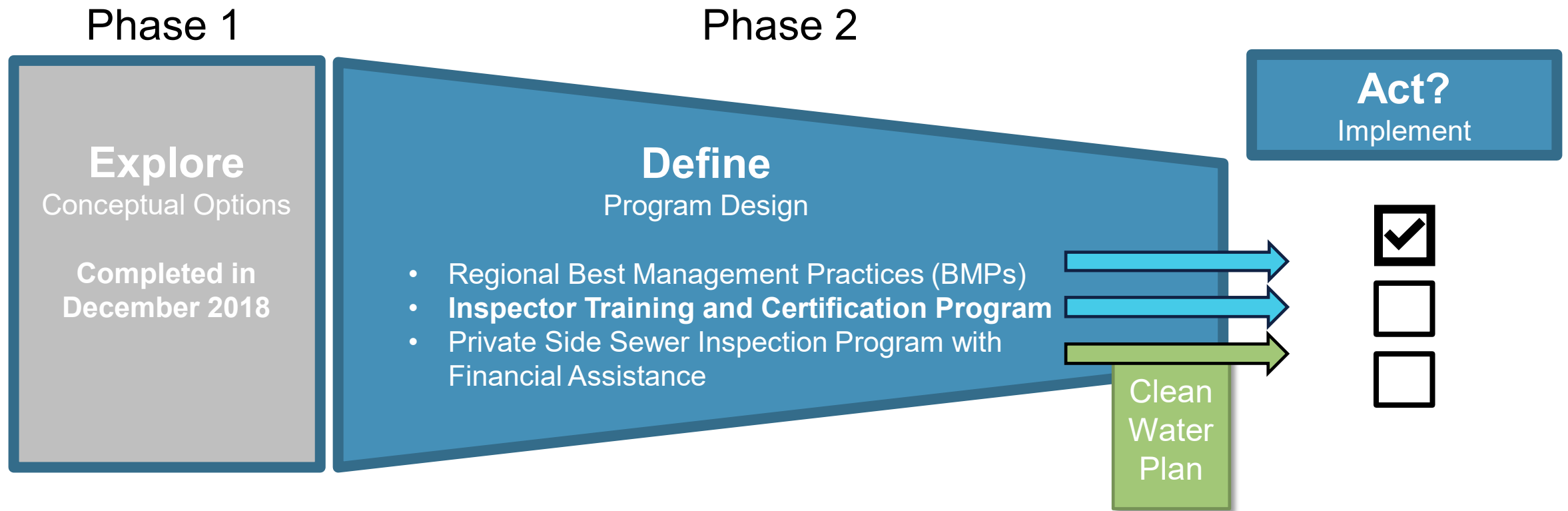
Range of Total CSI Project Cost Savings by I/I Reduction over 40-Years



Costs Avoided - Low range	\$1,400 M	\$500 M	\$100 M
Costs Avoided - High Range	\$1,600 M	\$800 M	\$400 M

Remaining CSI Program Cost	\$100 - 300 M	\$900 - 1,200 M	\$1,300 - 1,600 M
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# OVERVIEW OF CURRENT I/I WORK



# REVISED SCHEDULE

## Regional BMP Development

- **Final Technical Memo – August/September 2021**

## Inspection Training & Certification Program Development

- **Draft Technical Memo – July 2021**
- **Final Technical Memo – October 2021**

## MWPAAC Recommended Regional BMPs

- Unauthorized connection prohibition
- Courtesy notice to property owner / occupant regarding roots in lateral connections
- Side sewer maintenance guideline documents
- Illicit source disconnection public education materials

# I/I AND CLEAN WATER PLAN

- Inspector training and certification program could complement Clean Water Plan outcomes.
- The Clean Water Plan will consider the significant I/I in the regional system and the related capacity improvement costs.
- I/I Actions explored by the Plan are:
  - I/I Reduction – Point of Sale Side Sewer Inspection Program
  - I/I Reduction – Peak Flow Limitation Program



# INSPECTOR TRAINING AND CERTIFICATION PROGRAM CONCEPT

## DRAFT TECHNICAL MEMO

- Available for your review – draft technical memo on County I/I Program website:  
<https://kingcounty.gov/services/environment/wastewater/ii/resources.aspx>

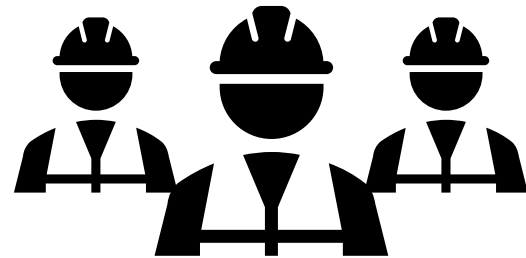
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# INSPECTOR TRAINING AND CERTIFICATION PROGRAM CONCEPT

## GOAL

- **All component agency sewer inspectors (staff and contractors) are consistently trained and certified to inspect the side sewers of the sanitary sewer system and enforce proper installation, rehabilitation, and repair to reduce I/I**
  - **Training focuses on lateral connections and side sewers; areas with high influence on I/I**



# INSPECTOR TRAINING AND CERTIFICATION PROGRAM CONCEPT

## RATEPAYER BENEFITS

- **Cost avoidance due to delayed or avoided capital costs for regional conveyance improvements**
- **Reduced risk of overflows caused by side sewer failure and defects, and therefore reduced risk of related repair costs and public health concerns.**
- **Regulatory compliance and good standing by making progress on I/I reduction**

# PROGRAM CONCEPT UNDER CONSIDERATION

**Voluntary inspector training and certification program focused on side sewers and side sewer connections, where strong majority of the 34 component agencies commit to participation for the next 10 years. Includes:**

- **Commitment agreeing to estimated resources and costs expenditures**
- **Inspectors, both staff and contractors, to be certified within 3 years of program launching**
- **Minimum qualifications for inspector training participation**
- **Estimated 8-12 hours of online training or proof of equivalent certification**
- **Passing score on online certification exam**
- **Recertification every 5 years with a focus on new and changed inspection practices/content**
- **Review benefit and as appropriate define concept of Inspector In-training Program to increase accessibility of inspector career path and incentivize participation by priority communities**

## **Equity consideration**



**FAMILY WAGE JOBS  
AND JOB TRAINING**

# PROGRAM CONCEPT UNDER CONSIDERATION

This module outlines the methods typically used to complete inspections.

This module discusses various construction and repair methods for inspectors to be fully aware of the limitations of each method.

**Introduction to Program**

**Inspection Methods and Standards**

**Testing Standards**

**Construction Best Management Practices**

**Safety Issues and Customer Service**



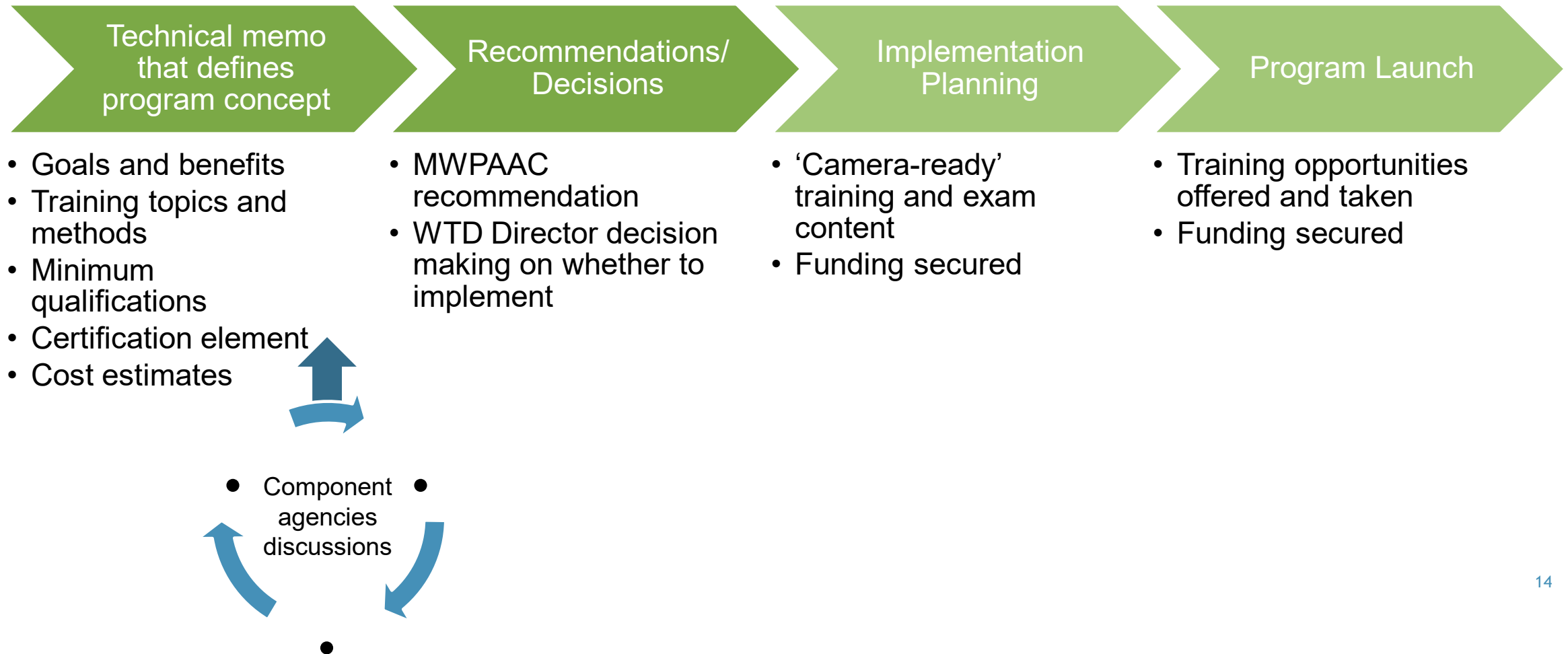
**EQUITY IN COUNTY PRACTICES**

This module provides an overview of the inspector certification process, reporting requirements, and construction means and methods requirements

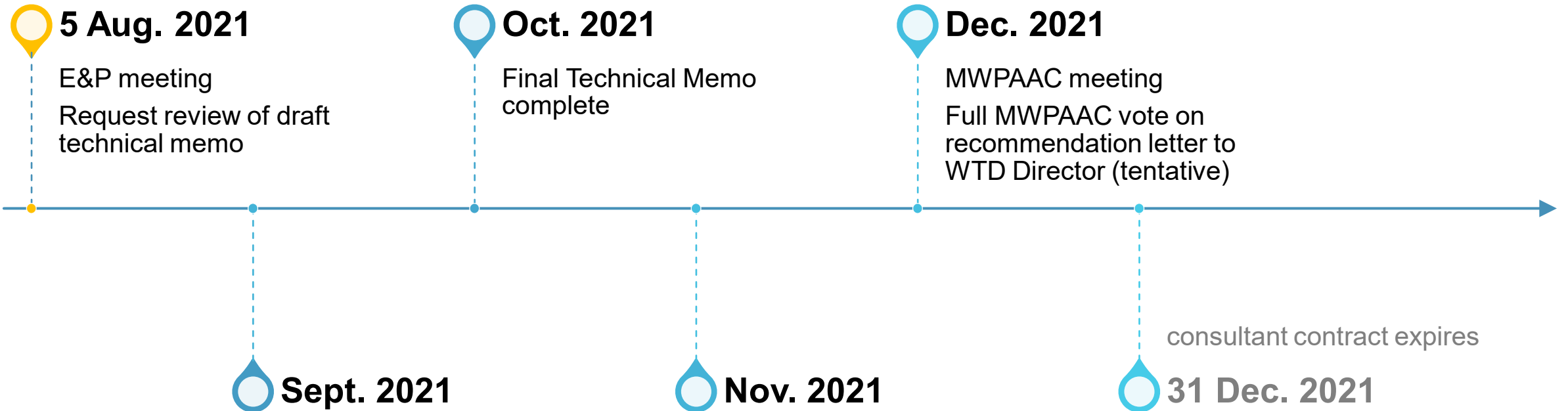
This module covers how an inspector properly completes/ oversees testing of various sewer components.

This module focuses on safety issues that inspectors must consider as well as effectively communicating with property owners and occupants with diverse backgrounds.

# PLANNING PROCESS OVERVIEW



# LOOKING AHEAD



THANK YOU

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