

# REVITALIZING YOUNGSTOWN:

## Feasibility Analysis of a Community-Based P3 to Implement Green Infrastructure

October 18, 2018



# AGENDA

The City's Story

P3 Framework

Community Based P3

Feasibility Analysis

# YOUNGSTOWN'S STORY



# City of Youngstown Collection System

728 miles of combined sewer, 100 CSOs

## Drainage Area Contributing to WWTP

22,000 ac

Youngstown

15,000 ac

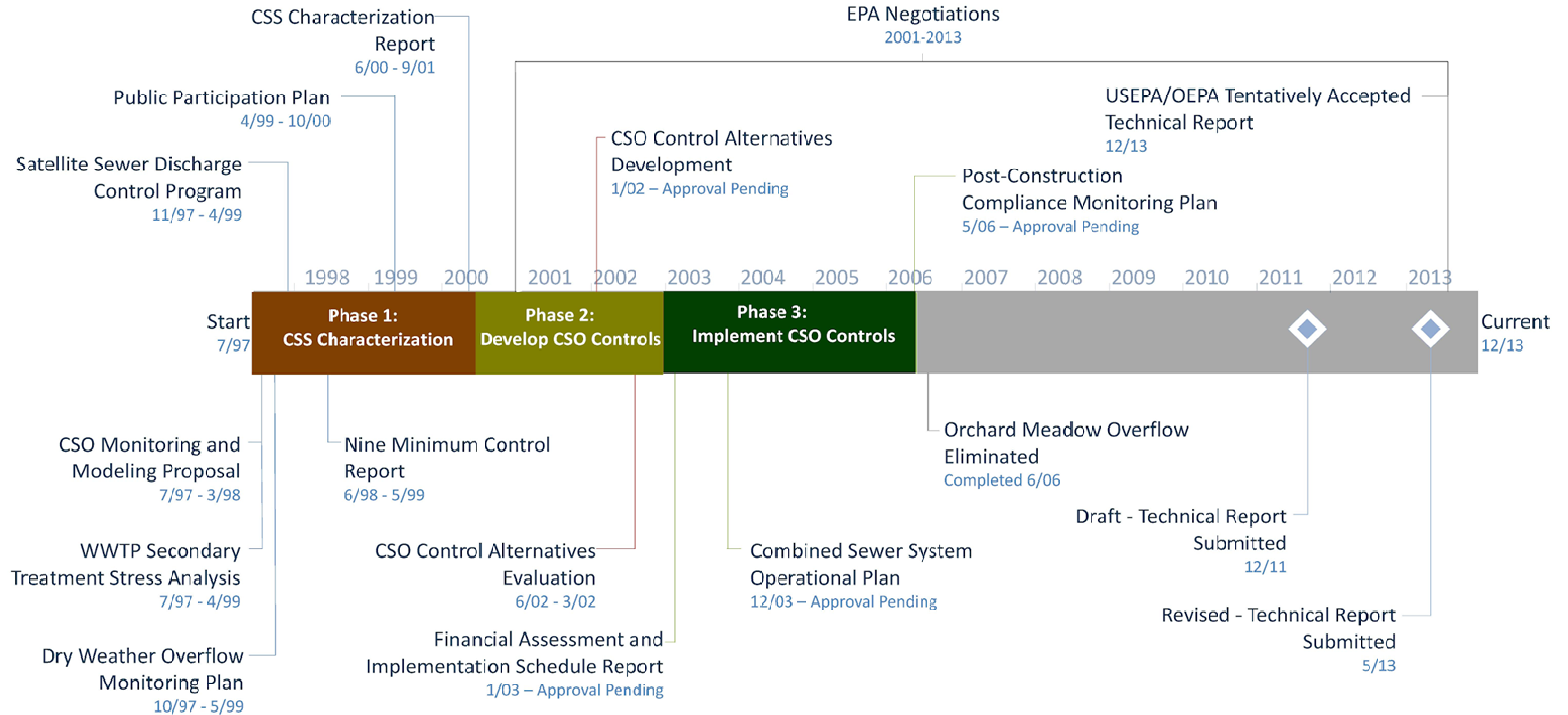
Mahoning and Trumbull Counties

35,000 ac

Total

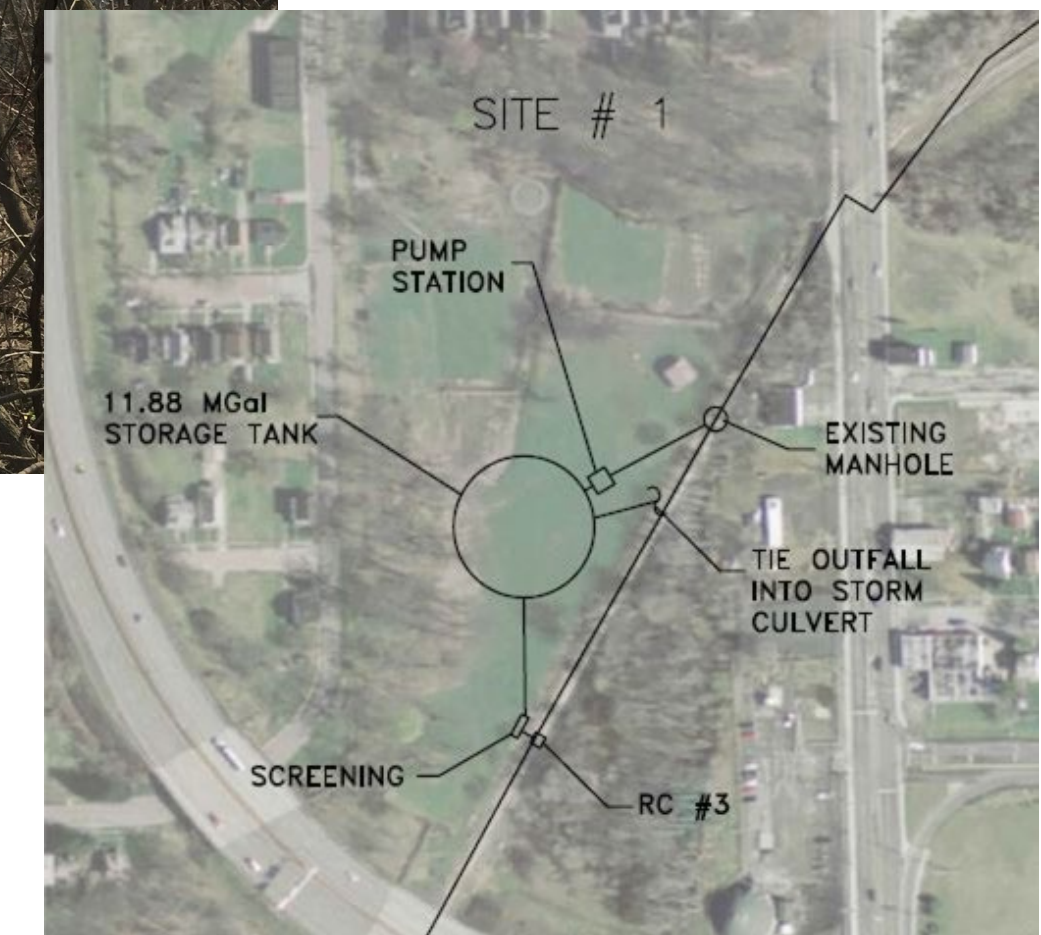
Consent Decree Initiated October 1997, Finalized 2002

# Pre-LTCP Planning Efforts



# City of Youngstown Long Term Control Plan

	Schedule	Cost
PHASE 1:		
WWTP Improvements	2014-2020	\$37M
100 MGD WWF	2016-2029	\$62M
new plant influent sewer from CSO 6057	2018-2033	\$47M
Mill Creek Sewer Interceptor		
PHASE 2:	2032-2037	
Provide storage for CSOs 6015, 6016, 6017		\$33M
Provide storage at CSO 6043		\$15M
Green Infrastructure Plan		



# Mill Creek Park



First Park District in Ohio

Over 2,658 acres

Mill Creek tributary to the Mahoning River



## **Fish kill at Mill Creek Park blamed on heavy rainfall**

*Posted: Jul 01, 2015 6:12 AM EDT*

## **Sewage in Lake Newport contributed to fish kill in Mill Creek Park**

*Posted: Jul 06, 2015 12:35 PM EDT*

# City of Youngstown & Greenprint Partners

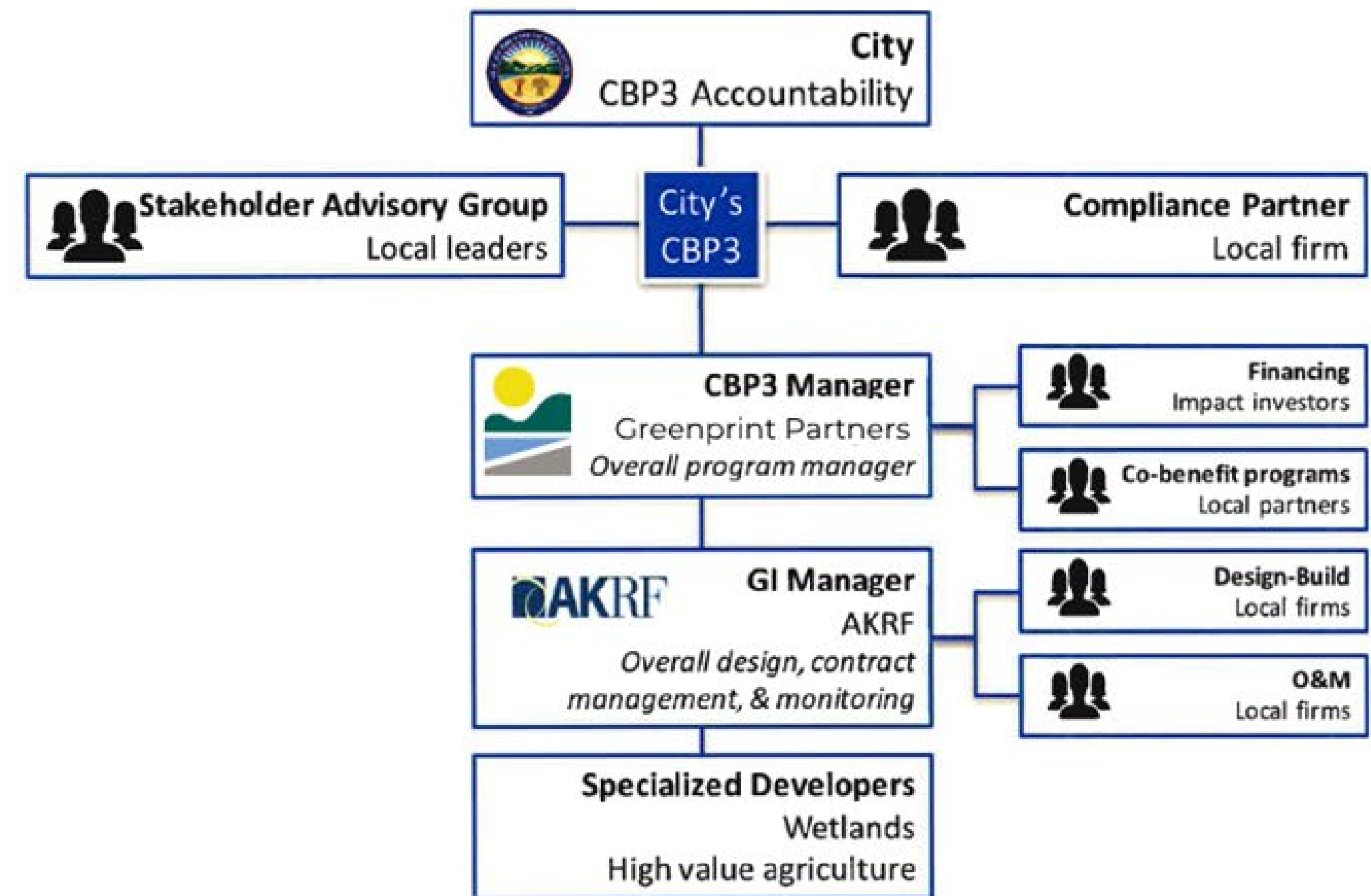
## The Opportunity to Finance Diverse Green Infrastructure Strategies in Youngstown through Impact Investment

A proposal for:



Presented by: **GREENPRINT PARTNERS**

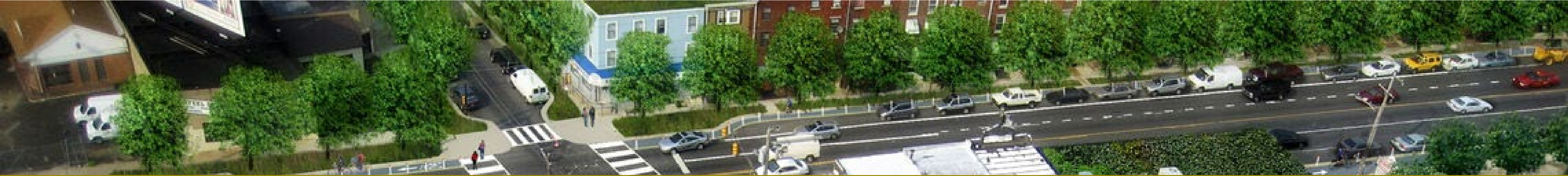
Our CBP3 will work closely with local partners and will receive expert management from Greenprint Partners





Community -  
Based  
Public Private  
Partnership





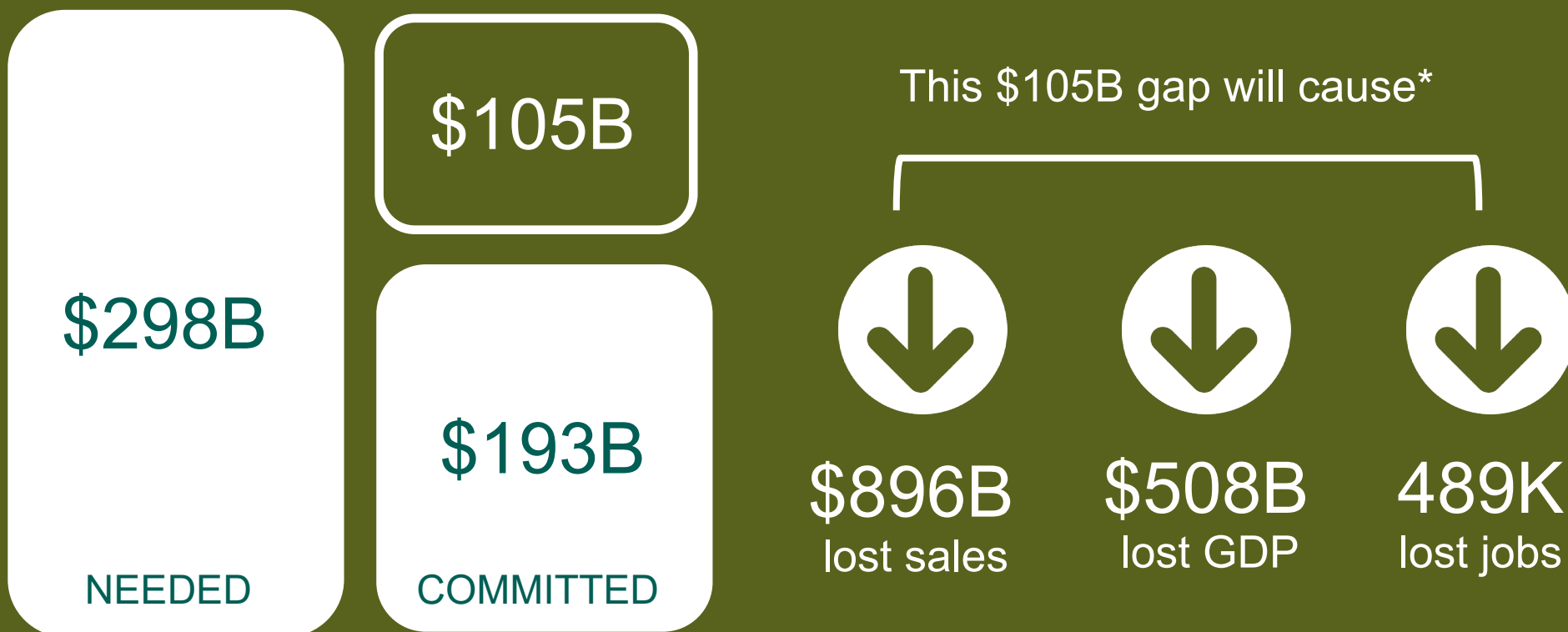
Greenprint Partners is a green infrastructure delivery partner that helps cities build high-impact, community-driven green infrastructure at scale.



# Massive infrastructure investment needs are especially painful for cities facing decline

## ECONOMIC

The public sector needs to invest \$298B in water infrastructure by 2025



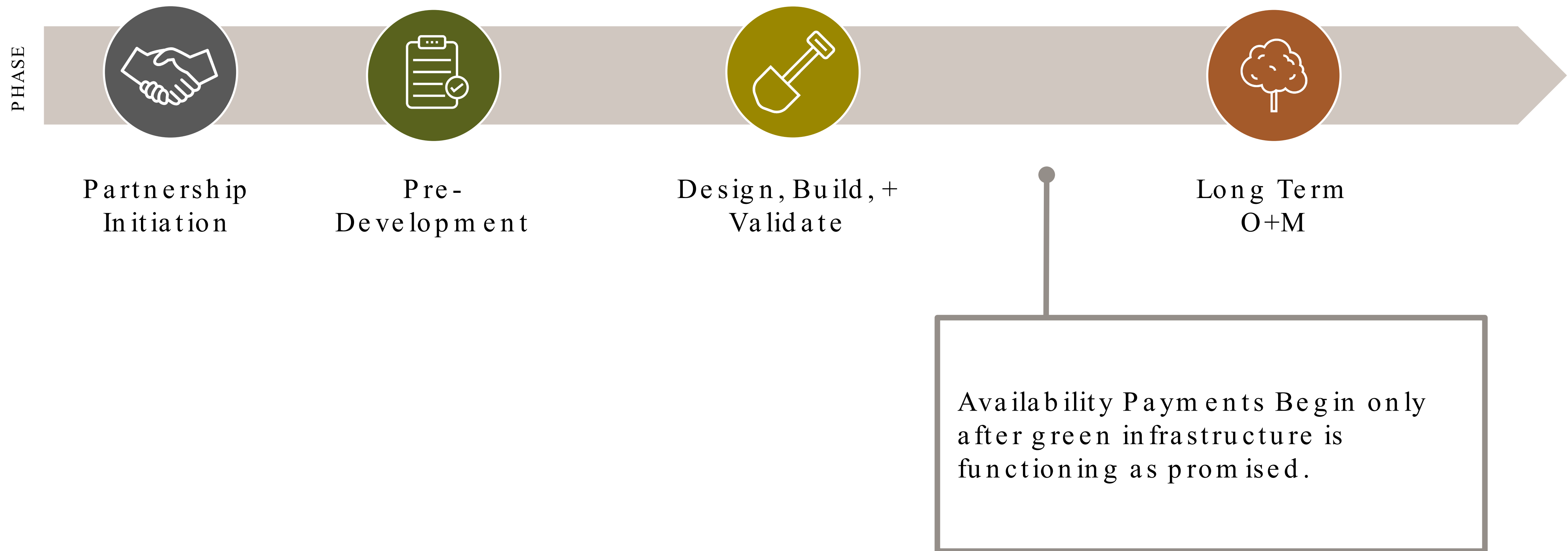
## REGULATORY

The public sector needs to prevent 7.2T gallons of raw sewage from discharging into waterways



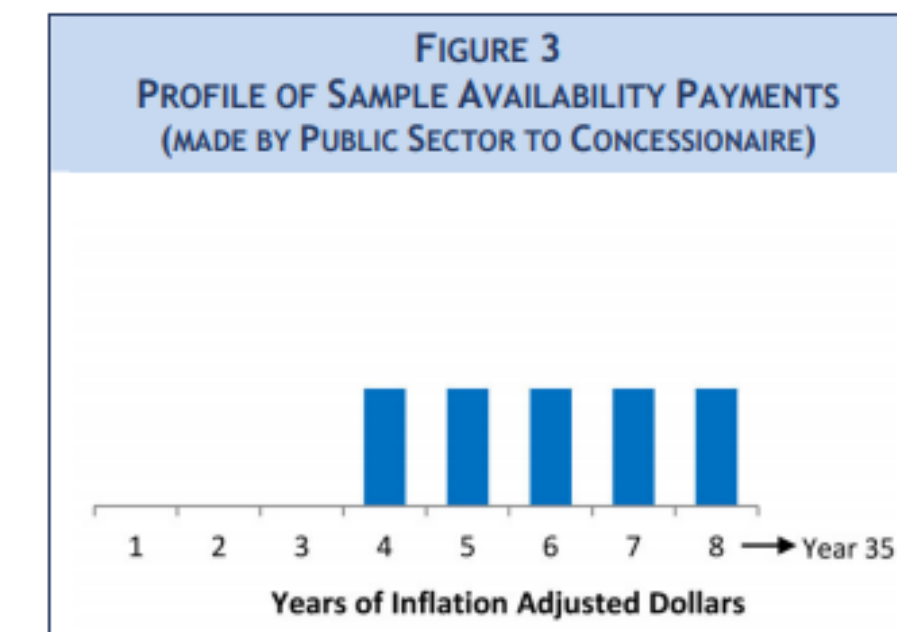
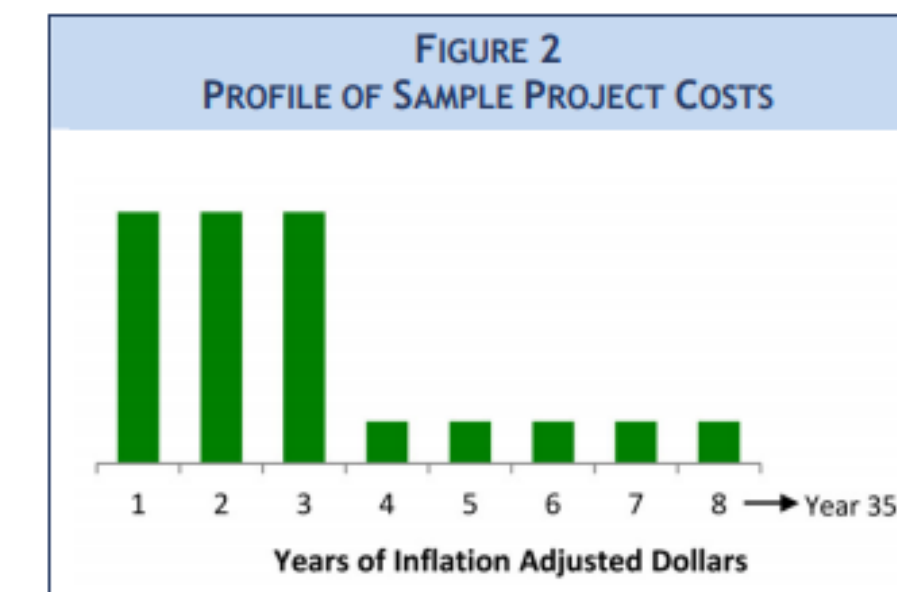
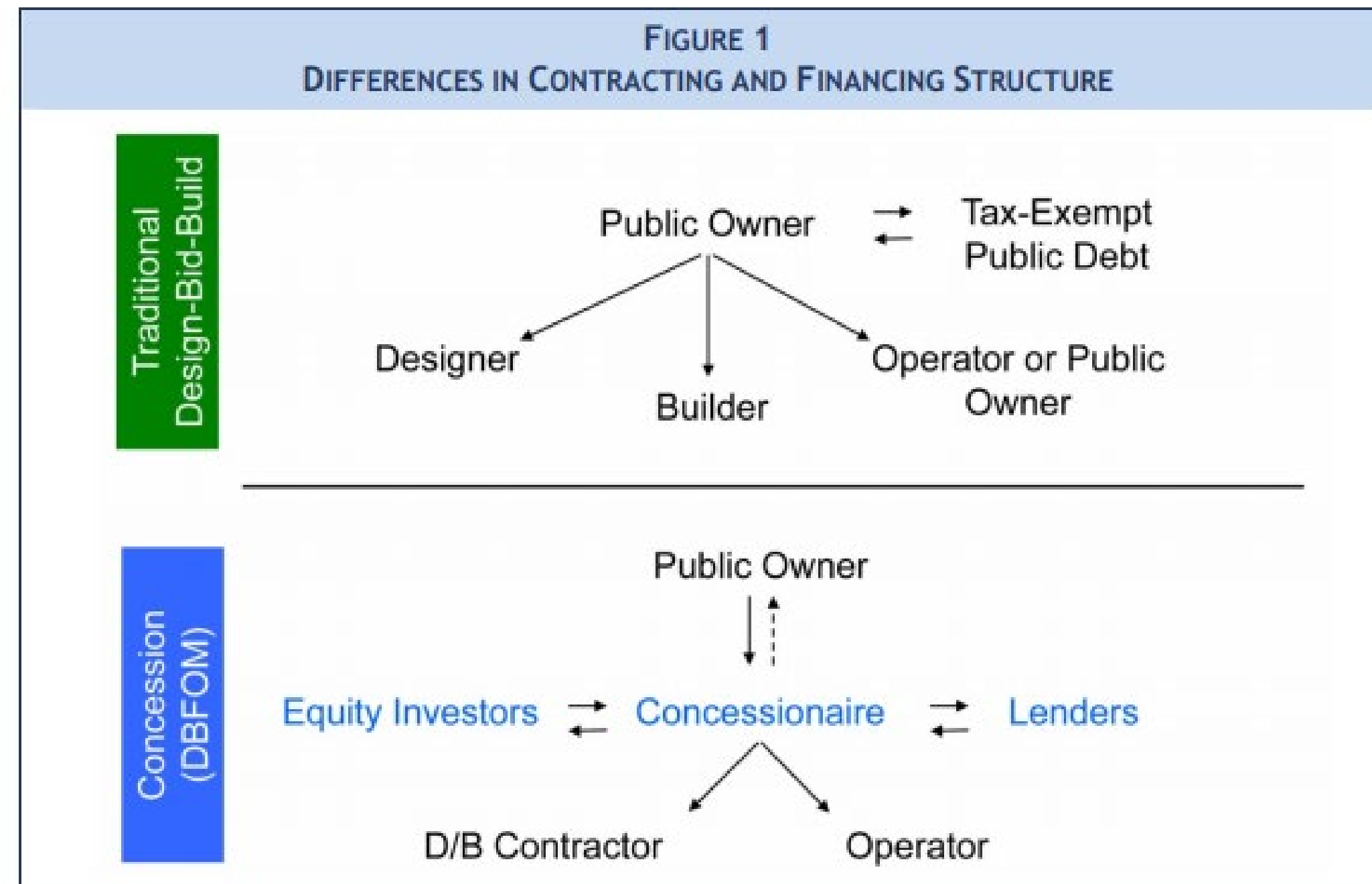
# THE YOUNGSTOWN MODEL: “AVAILABILITY PAYMENT” P 3

This structure can help cities like Youngstown achieve high-impact, citywide GSI faster.



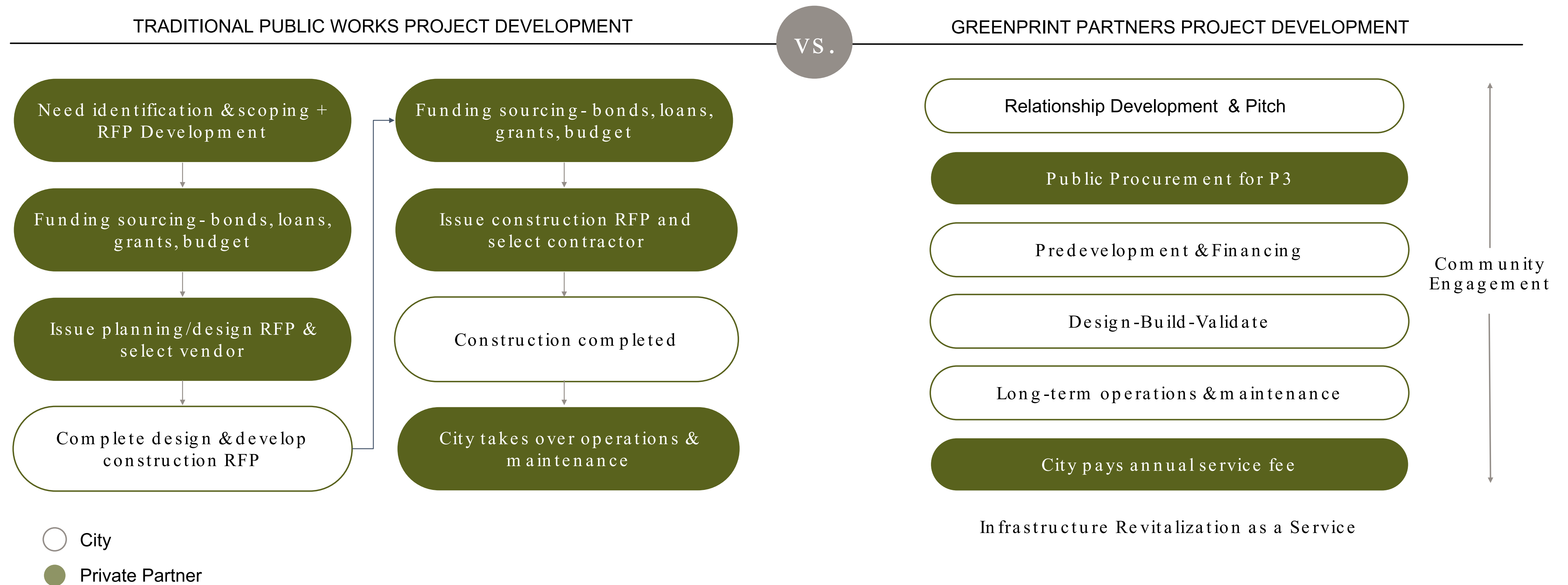
# PUBLIC-PRIVATE PARTNERSHIP

Availability payment P3 vs. traditional delivery model



# PUBLIC-PRIVATE PARTNERSHIP

P3s offer the most efficient delivery model.



# P3s allows us to offer municipalities like Youngstown...

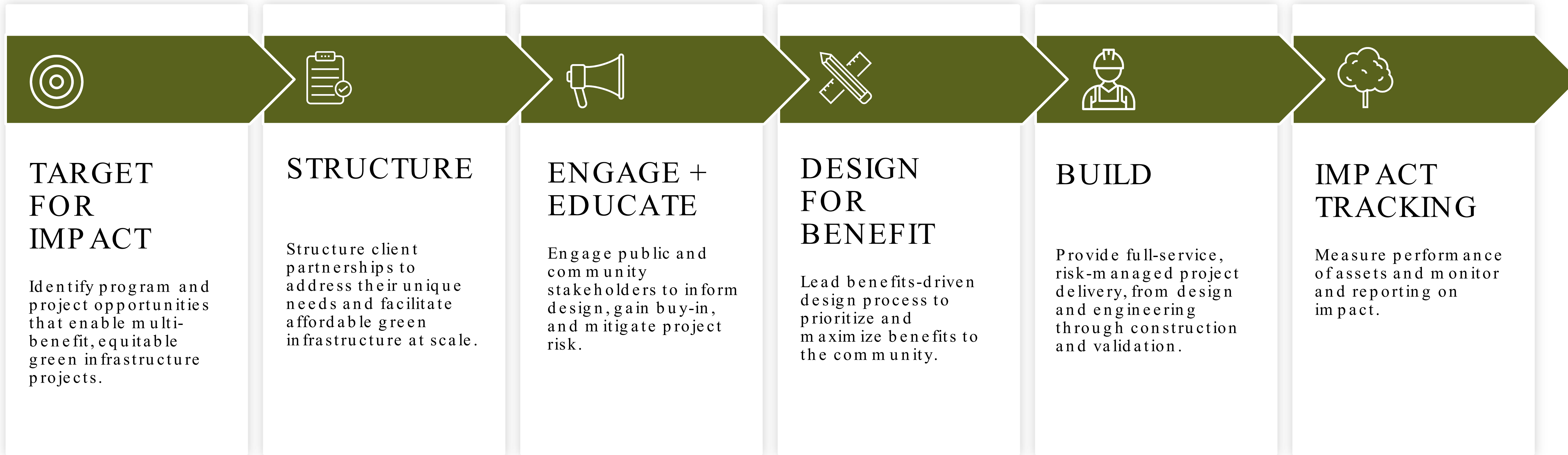
More Efficient,  
Scalable Delivery

Reduced Risk for  
Public Sector

Predictable  
Life-cycle Costs

Maximized Co-  
Benefits

# OUR BLUEPRINT





# COMMUNITY EDUCATION



Launched a citywide #GreenisGood social media and PR campaign which secured 80K+ Facebook impressions and 250K+ media impressions.



Led two green infrastructure tours, in Pittsburgh and Youngstown.



Educated residents at local fairs, festivals, and concerts.

# COMMUNITY AUTHORSHIP

We used city-wide workshops to gather input on siting and design preferences for GSI and formed a *Stakeholder Advisory Group* through which a group of committed leaders provide guidance



# THE IMPACT WE SEEK

## STRENGTHENED COMMUNITY

Our projects include community oriented designs and programming, which increases pride and engagement among community members

## SHARED PROSPERITY

Projects improve the health and livelihood of residents, create new jobs in the green economy, catalyze further investment activity, and lead to cost reductions and tax revenue increases for municipalities

## ECOLOGICAL HEALTH

Our turnkey green stormwater infrastructure projects improve water, soil and air quality while helping communities manage flooding and other impacts

# YOUNGSTOWN'S PRIORITIES

- COMMUNITY PRIDE
- CRIME REDUCTION

- ACTIVE LIVING IMPROVEMENT
- ECONOMIC DEVELOPMENT
- JOB CREATION
- FLOOD REDUCTION

- CSO VOLUME REDUCTION
- IMPROVE MILL CREEK PARK WATERWAY HEALTH

# FEASIBILITY ANAYLSIS



# Feasibility Analysis Timeline

## Spring 2016: Greenprint approaches City

- Team is formed to review feasibility of GI
- Review LTCP to determine cost savings potential
- Review existing data to determine impacts to wet weather flows
- Review economic development strategies and existing projects for cost savings potential

## Fall 2016: Team presents findings to City officials

- More information is needed to accurately determine GI potential
- Unknown: wet weather flow coming to system from County (existing data no longer relevant)
- Team agrees that in addition to providing stormwater management, green infrastructure could be used for economic development and neighborhood revitalization

## Spring 2017: Pre-development Agreement is Drafted

- Agreement includes 3 phases to give City opportunity to opt out, should data indicate that GI cannot provide desired benefit
- Agreement includes investigation of both stormwater management impact and revitalization efforts
- Change in administration gives opportunity to team to engage officials and staff on scope of work

## Spring 2018: Agreement is signed to begin pre-development work

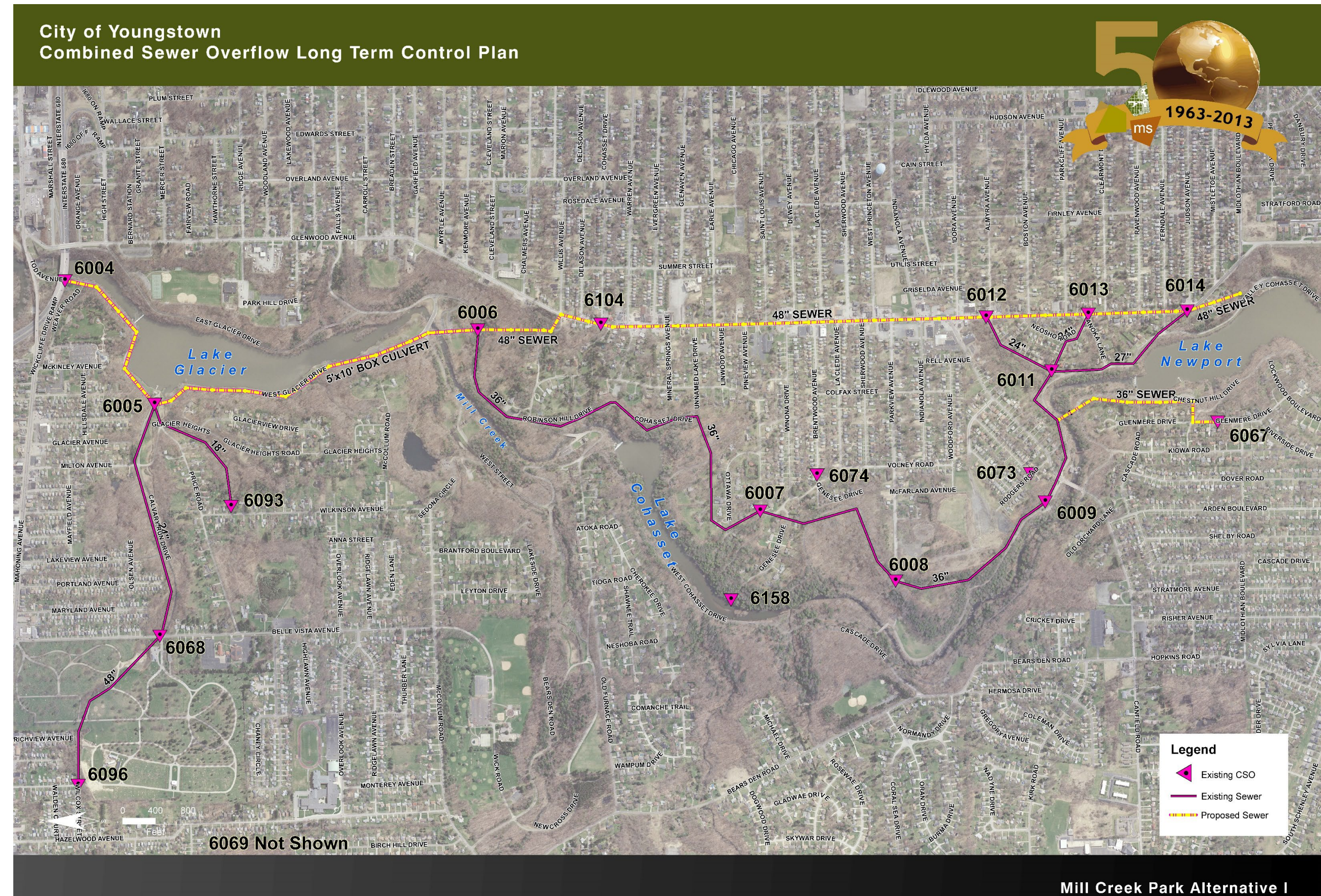
- Schedule is shifted to accommodate new timeline
- Flow monitoring delayed to capture peak RDII conditions, scheduled March -May 2019
- Co-benefits analysis and project prioritization begins

# Mill Creek Interceptor

Eliminates CSOs in Mill Creek Park for Design Storm

- 2300 lf of 36"
- 9500 lf of 48"
- 6400 lf of 5' x 10' box culvert

Possibility to right-size MCI with Green Infrastructure



# Predevelopment Scope of Work

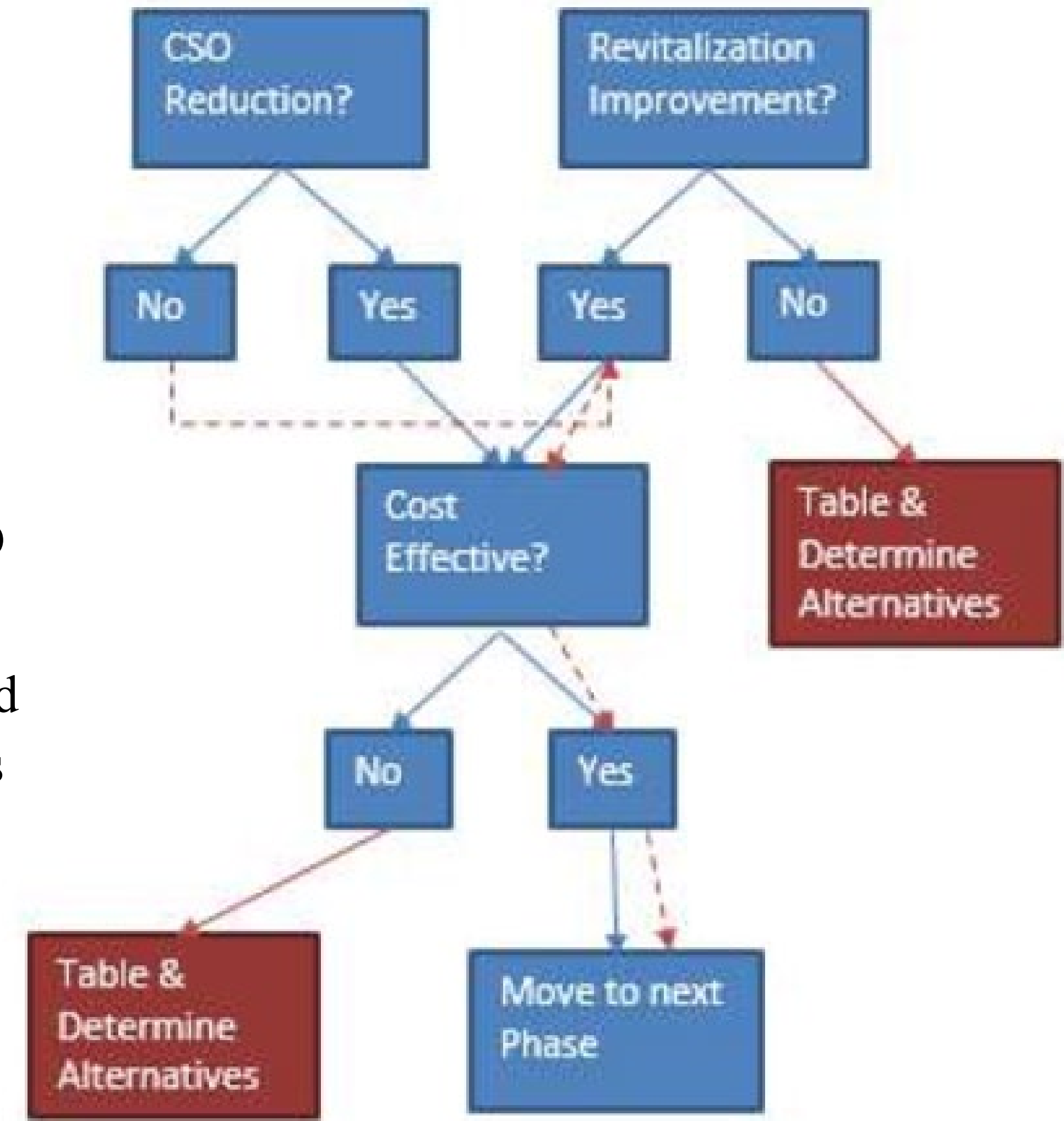
PHASE 1	POTENTIAL PROJECTS: FEASIBILITY AND COST-BENEFIT ANALYSIS		
Feasibility investigations and cost-benefit estimates completed for all areas, leading to choice of priority focus for further phases.	Goal refinement and early stakeholder engagement		
	Area 1: Mill Creek	Area 2: Neighborhoods with Action Plans	Area 3: Commercial & Downtown Corridors
	Prioritization and refined scope/budget for Phases 2-3		
PHASE 2	PRIORITIZED PROJECTS: DRAFT DESIGN AND EVALUATION	GIPLAN NEEDS DISCOVERY	
Preliminary designs and planning level due diligence completed.	Draft selection of sites & preliminary design	Research scope of work necessary to complete the GI Plan called for in LTCP	
	Site geotechnical analysis		
	Determine land control arrangements		
	Draft co-benefits evaluation plan		
	Continued stakeholder engagement		

PHASE 3	PRIORITIZED PROJECTS: IMPLEMENTATION PLAN	GIPLAN SCOPING
Implementation plans created based on findings in Phase 2 and Project Agreement is scoped and submitted.	Site designs refined	Define scope toward completing the GI Plan to be included in Project Agreement
	Planning	
	Procurement Planning	
	O&M Planning	
	Cost-benefit analysis updated	
	Project Agreement drafted and submitted	

## KEY MILESTONES FOR PHASE 1

- Revitalization goals/research methodologies developed
- Stakeholder Advisory Group (SAG) formed and functioning
- High level analysis completed for neighborhood revitalization initiatives
- Data gathered on wet weather flows for Mill Creek Interceptor
- Complete sewershed calculations to show reduction in CSO flow/volume
- Cost-benefit analysis for up to 3 GI scenarios completed, and integrates revitalization and storm water estimated benefits
- Confirmation of U.S. EPA and Ohio EPA support for the use of GI for Youngstown

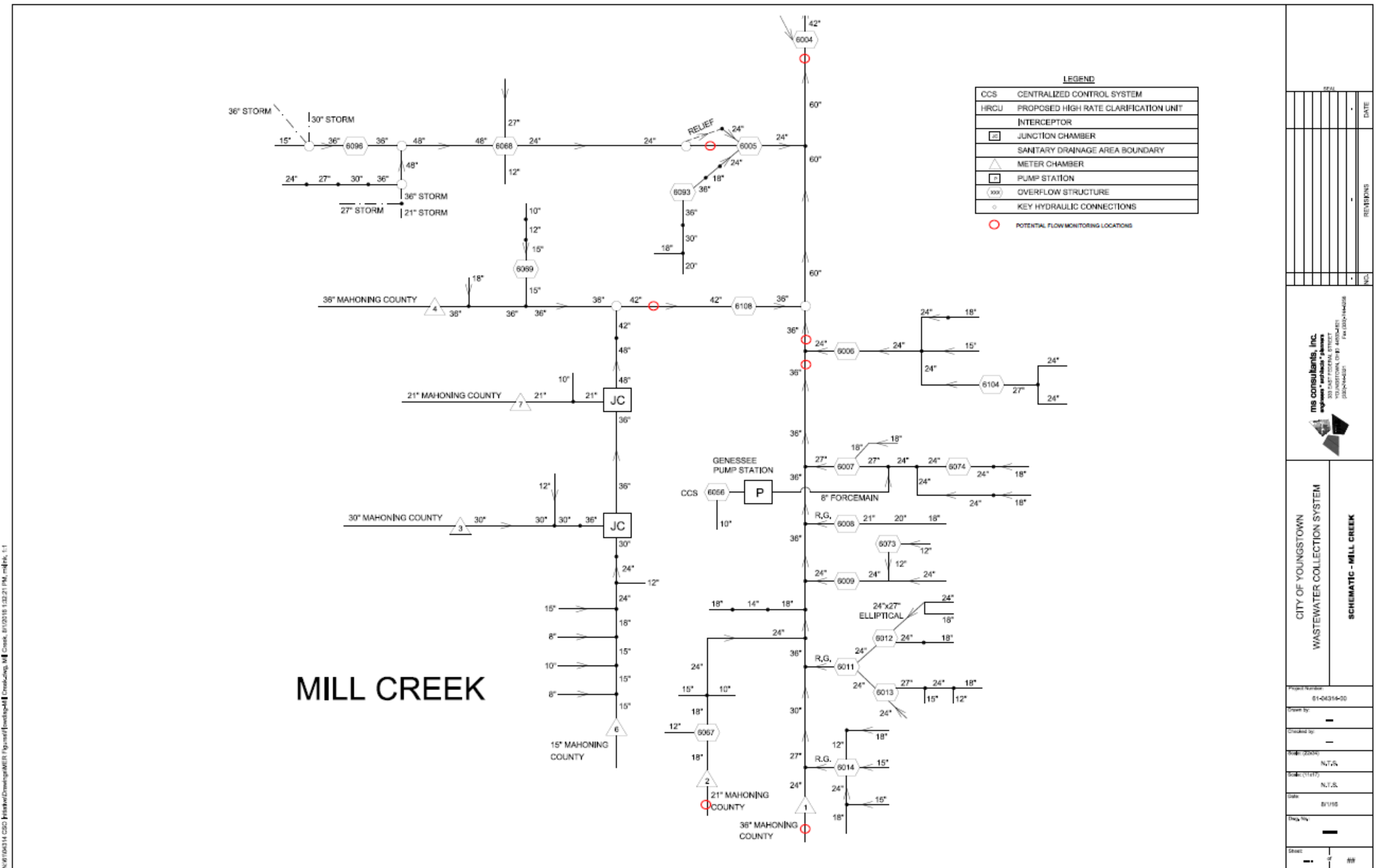
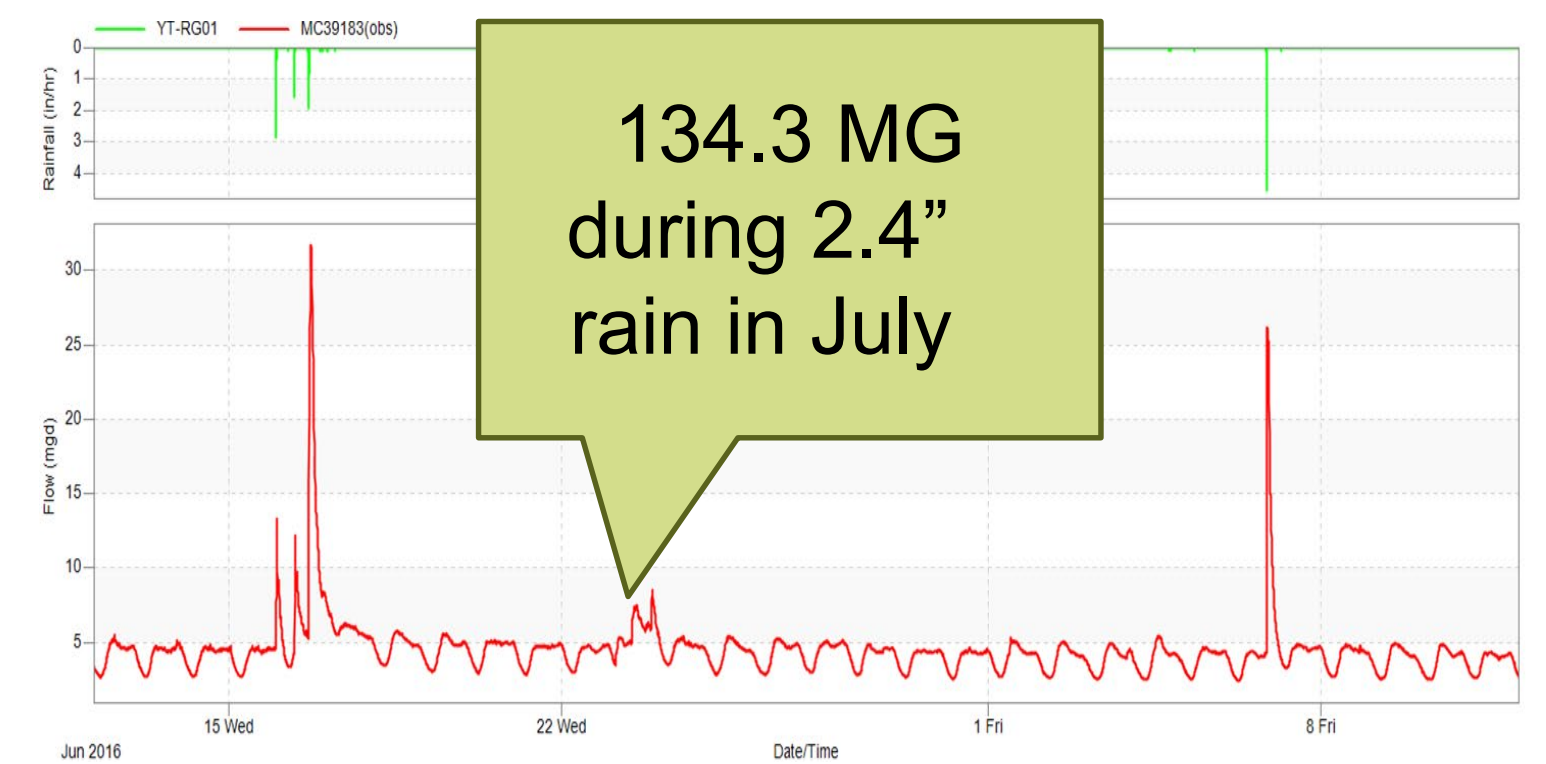
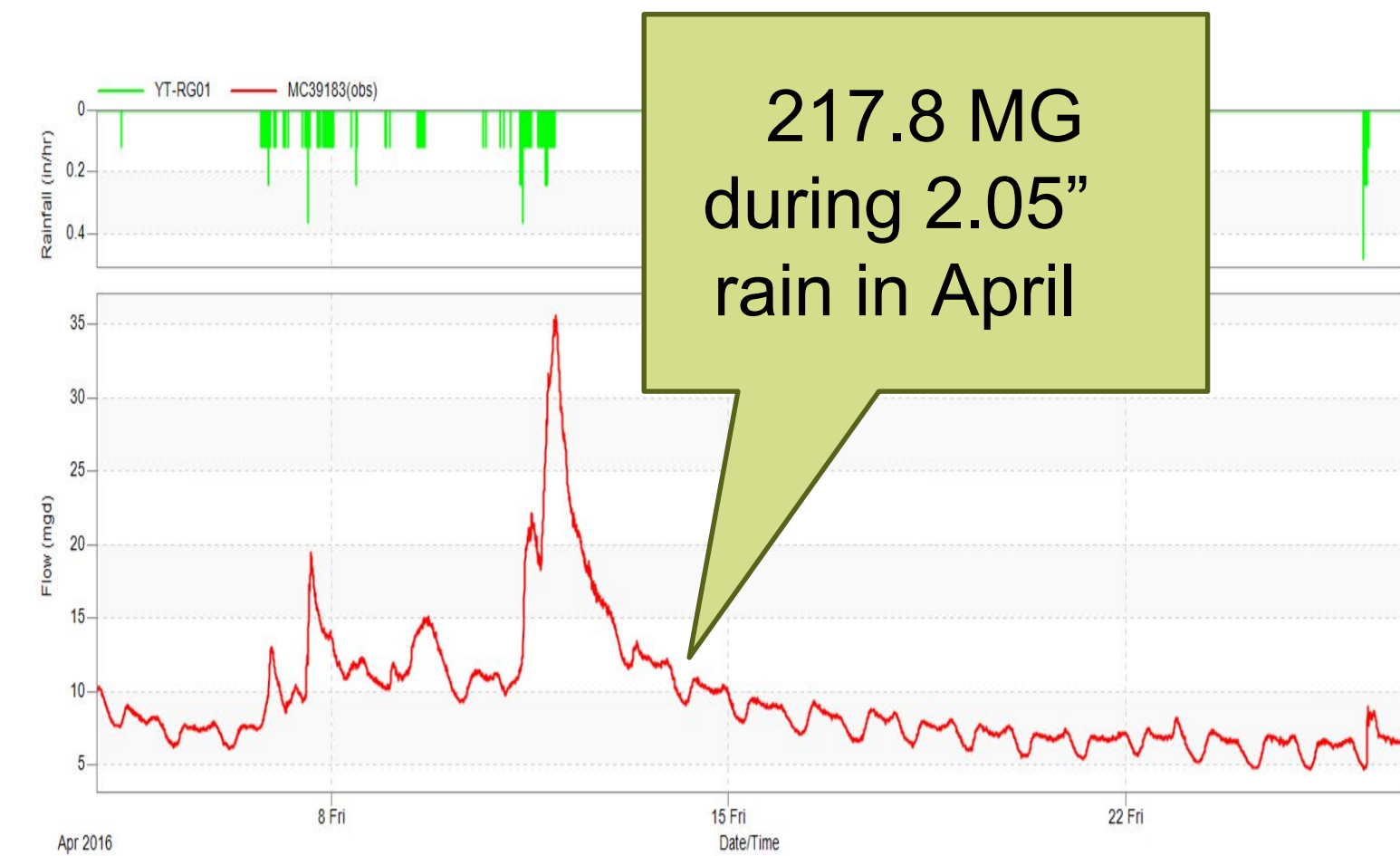
## Planning Decision Tree





# FLOW MONITORING EFFORT

Scheduled for March-May 2019



# Lessons Learned

- Prepare for changes in administration or other staff changes
- Add contingency into schedule
- It only rains in August if you don't have meters in
- Timing is everything

# Our Successes

- Community Ownership/Authorship
- Engage Public Early
- Building Relationships with Community Organizations
- Securing Local and National Funding Sources
- Technical Team includes local experts
- Education highlights local projects



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