

Prepared for
City of South Bend,
Indiana

CSO Control Facilities Reassessment Advisory Committee Kickoff

22 April 2015



AMERICAN
STRUCTUREPOINT
INC.



LimnoTech 

Welcome

Combined Sewer Overflow Long Term Control Plan Reassessment

- Current LTCP based on engineering and financial analysis completed prior to 2012
- LTCP presents significant financial burden and does not reflect system improvements to date
- EPA policy changes open door for reassessment and renegotiation; however, require specific analysis and documentation
- City has hired consultants to perform reassessment and compile documentation
- Stakeholder engagement and input is vital to reassessment

Advisory Committee mission

- Provide guidance to the DPW and consultant team so that the selection of alternatives and prioritization of projects reflect the community's priorities
- Provide data and information for the development and analysis of alternatives
- Help demonstrate community's commitment to the redefined LTCP

Advisory Committee kickoff meeting

- Introduction of Advisory Committee members
- Today's presentation
 - Introduction to CSO program and objectives for reassessment
 - Disconnect between current requirements and current conditions
 - Regulatory and policy changes enabling reassessment
 - The mechanics of reassessment
 - Upcoming Advisory Committee Meetings
- Advisory Committee discussion
- Questions from the public

CSO Control Facilities Reassessment Overview

Consent decree requires South Bend to control Combined Sewer Overflow discharges

UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF INDIANA
SOUTH BEND DIVISION

UNITED STATES OF AMERICA, and)
STATE OF INDIANA,)
)
Plaintiffs,)
)
v.)
)
CITY OF SOUTH BEND, INDIANA,)
)
Defendant.)
_____)

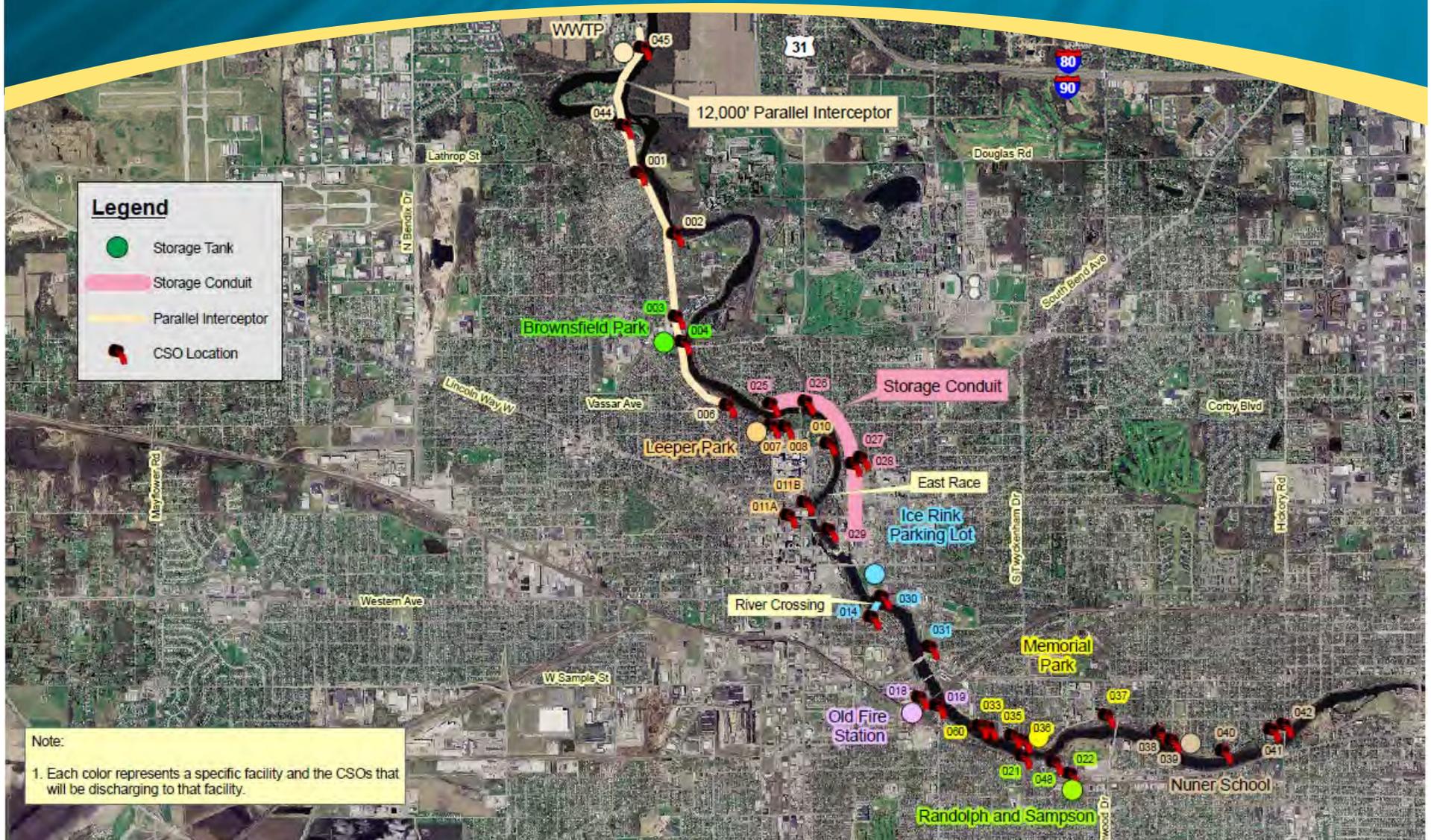
Case No. 3:11-CV-505-JD

CONSENT DECREE

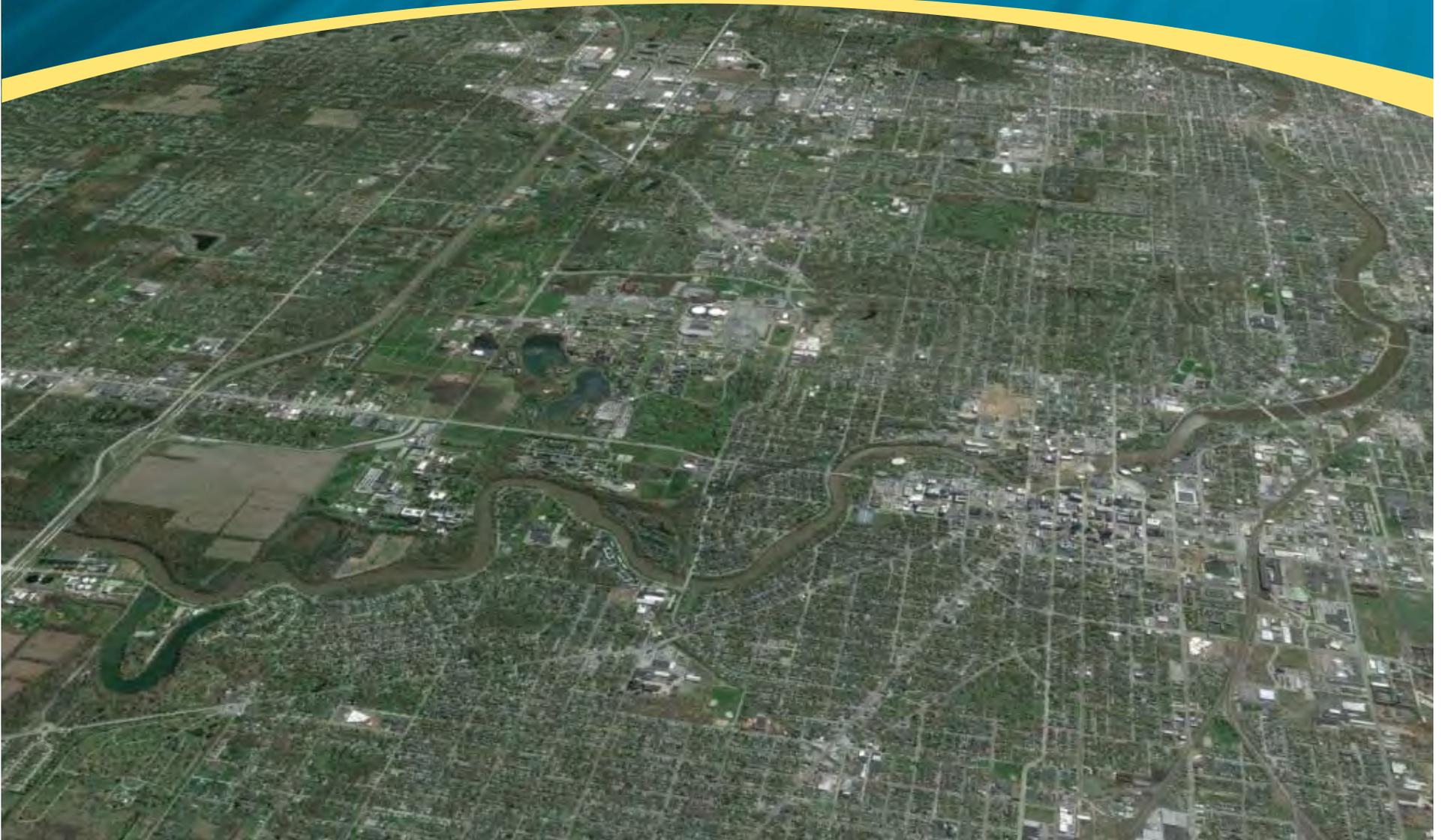
City needs the Advisory Committee to help
redefine Phase II



Consent Decree is prescriptive & expensive



City needs an affordable, intelligent plan that reflects community priorities



EPA policy changes afford opportunities Stakeholder input legitimize changes

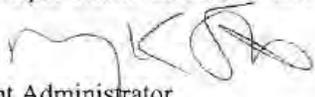


UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

JUN - 5 2012

MEMORANDUM

SUBJECT: Integrated Municipal Stormwater and Wastewater Planning Approach Framework

FROM: Nancy Stoner 
Acting Assistant Administrator
Office of Water

Cynthia Giles 
Assistant Administrator
Office of Enforcement and Compliance Assurance

TO: EPA Regional Administrators
Regional Permit and Enforcement Division Directors



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

NOV 24 2014

MEMORANDUM

SUBJECT: Financial Capability Assessment Framework for Municipal Clean Water Act Requirements

FROM: Ken Kopocis 
Deputy Assistant Administrator
Office of Water (OW)

Cynthia Giles 
Assistant Administrator
Office of Enforcement and Compliance Assurance (OECA)

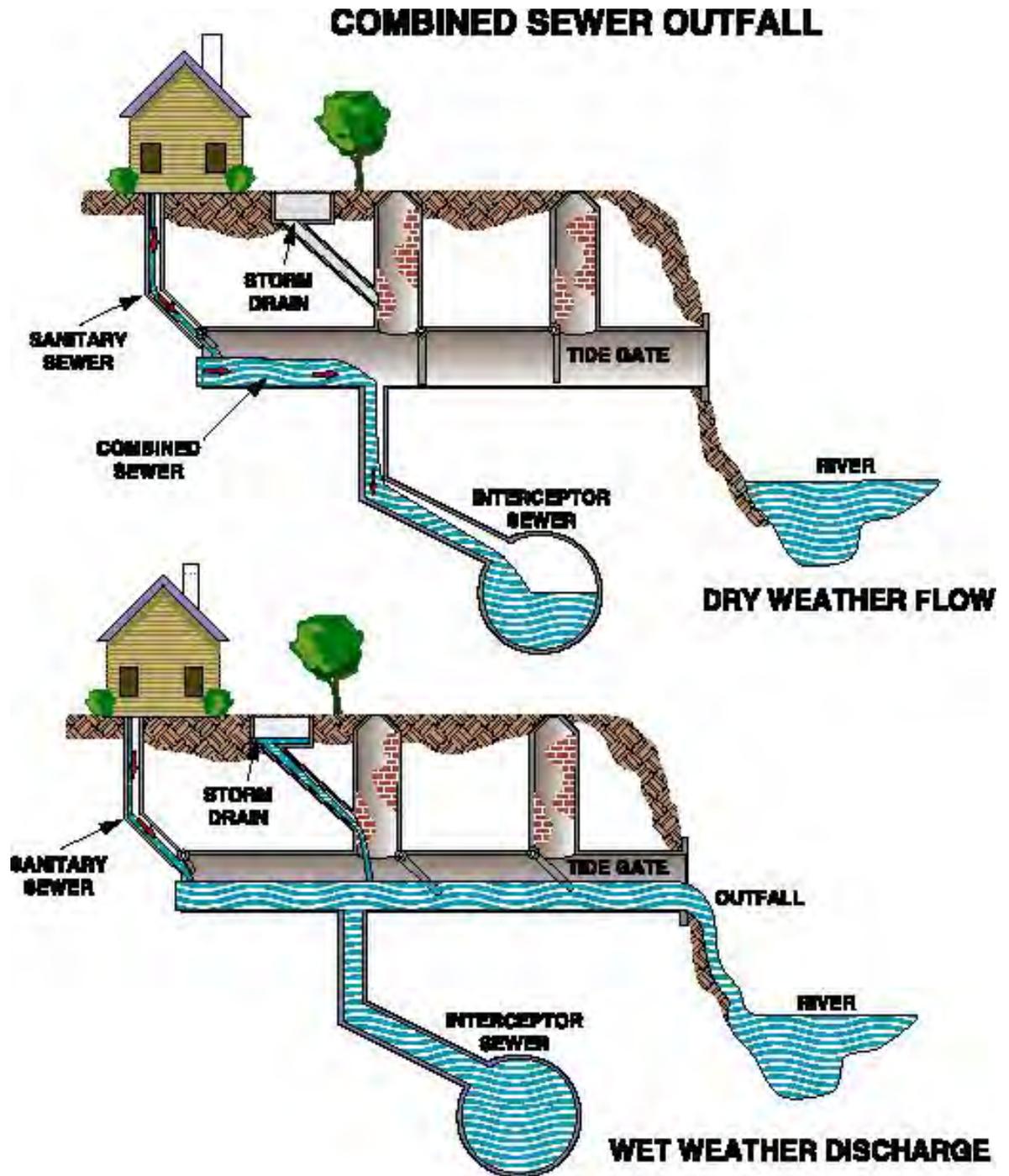
CSO Control Facilities Reassessment Orientation

**A disconnect exists between
current requirements & current
conditions**

Consent Decree & Rebaselined CSO Long Term Control Plan

What is a CSO?

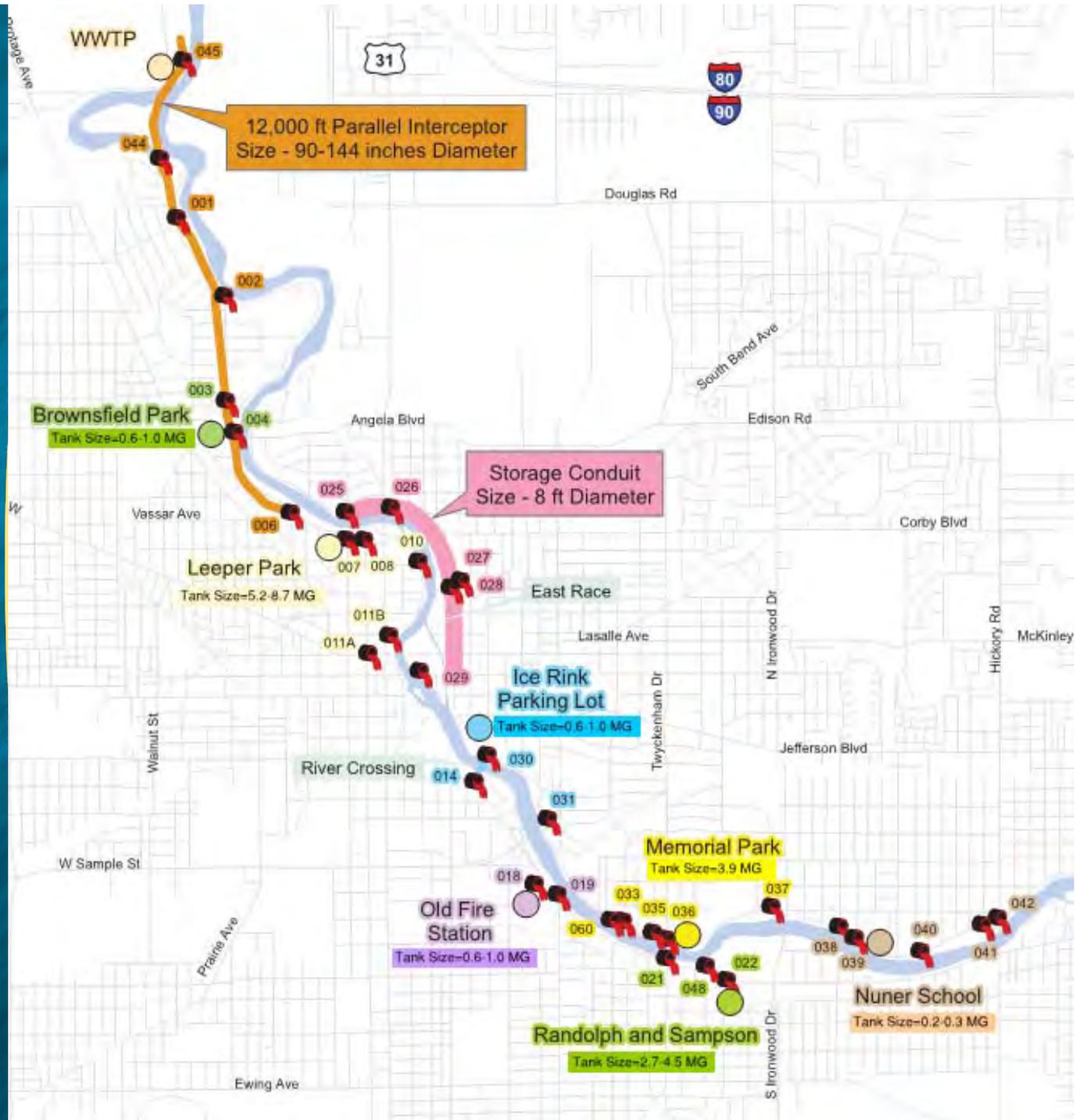
- By Federal Law, CSO's must be addressed to meet Water Quality standards. Bacteria is the pollutant of primary concern.



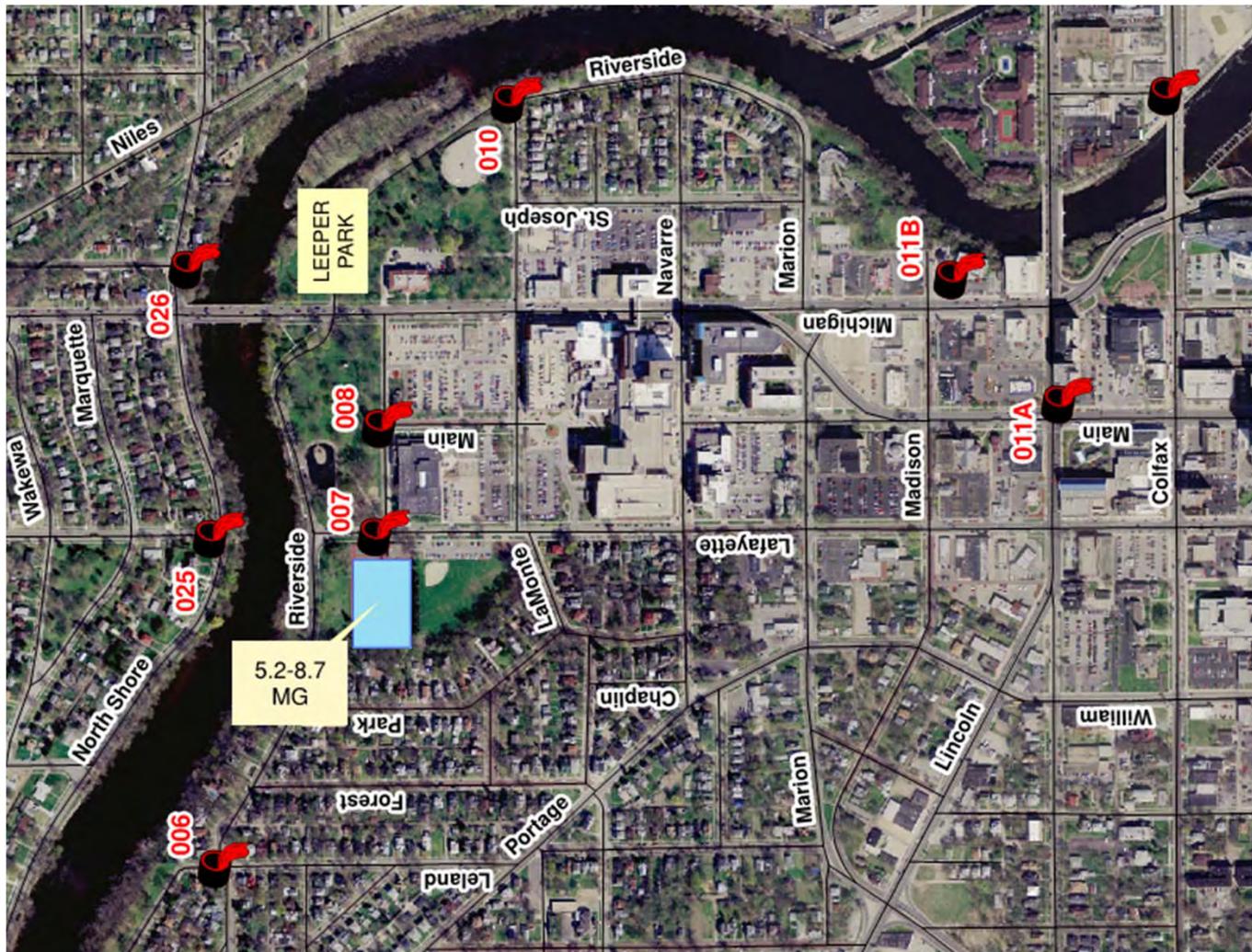
Completed and active projects

- Pump station and wastewater treatment facility upgrades
- Stormwater and sewer separation projects
 - Edison Park
 - Harter Heights
 - Huey/Adams
 - Burbank/Washington
 - Pleasant Street
 - Oliver Plow
 - Edison Park
 - Twyckenhiam
 - Kennedy Park
 - East Bank
 - LaSalle
 - Diamond Ave

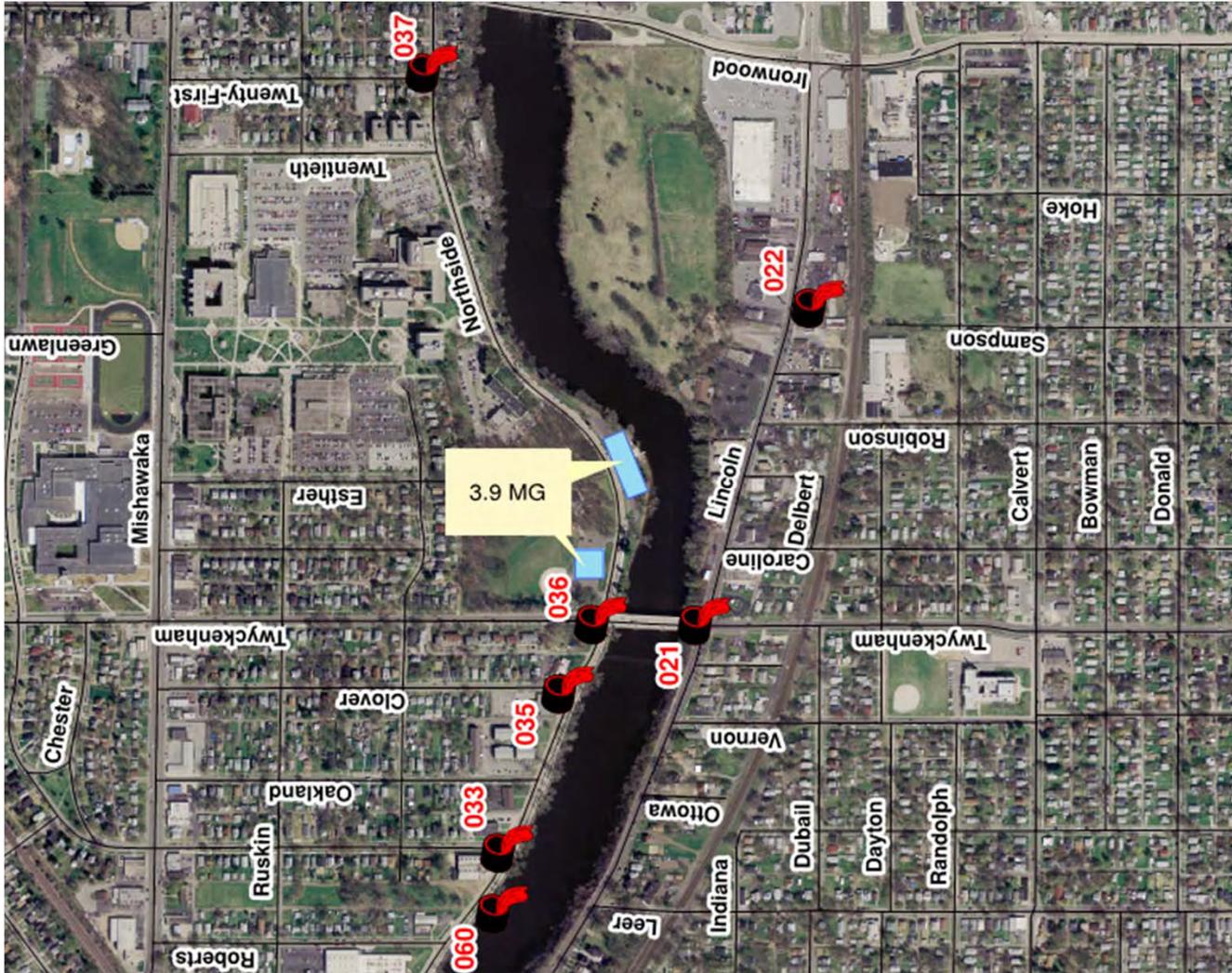
Phase II overview



Leeper Park Storage Tank



Memorial Park Storage Tank



Randolph and Sampson Storage Tank



Old Fire Station Storage Tank



Ice Rink Parking Lot Storage Tank



Brownsfield Park Storage Tank



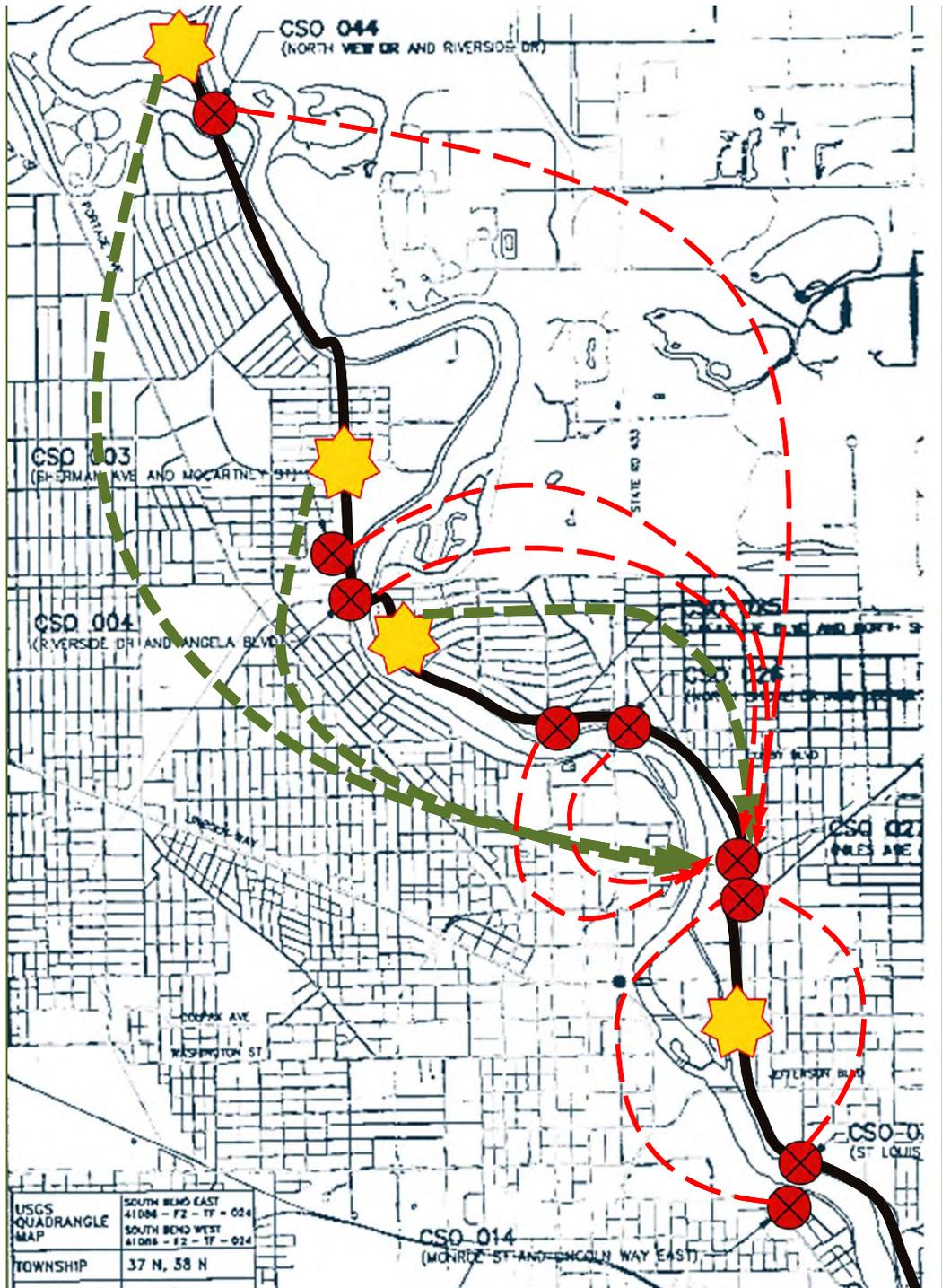
Nuner School Storage Tank



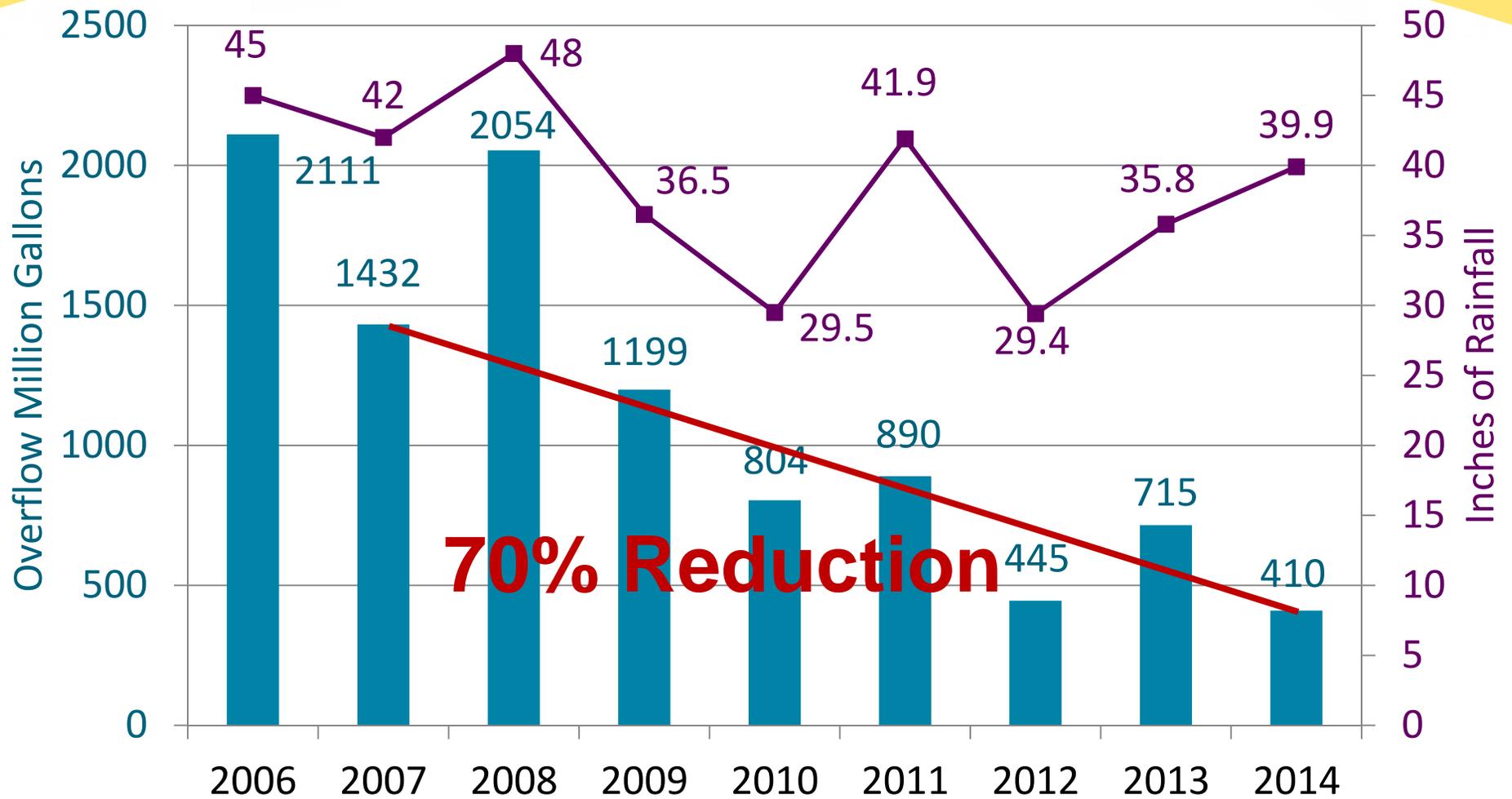
Collection System Improvements

Real Time Controls & System Optimization

- Each storm is different
- RTC adjusts the system in response to the storm
- Like traffic lights for the sewers
- Coordinate all assets
- Reduce overflows 54% at these 9 sites
- Double effectiveness of storage basins
- Prevent flooding



Overflow Reductions



Rate Impacts & Affordability

EPA Methodology (1997)

PHASE 2: Economic Indicators	PHASE 1 : Residential Indicator		
	Low (below 1.0 %)	Mid-Range (between 1.0 and 2.0 %)	High (greater than 2.0 %)
Weak (Below 1.5)	Medium Burden	High Burden	High Burden
Mid-Range (Between 1.5 and 2.5)	Low Burden	Medium Burden	High Burden
Strong (Above 2.5)	Low Burden	Low Burden	Medium Burden

Indicator	Strong	Mid-Range	Weak
Bond Rating	AAA-A (S&P) or Aaa-A (MIS)	BBB (S&P) or Baa (MIS)	BB-D (S&P) or Ba-C (MIS)
Net Debt/Property Value	Below 2%	2% - 5%	Above 5%
Unemployment Rate	>1% below National Ave.	±1% of National Ave.	>1% above National Ave.
Median Household Income	>25% above adj. Nat'l MHI	±25% of adj. Nat'l MHI	>25% below adj. Nat'l MHI
Prop. Tax/Property Value	Below 2%	2% - 4%	Above 4%
Prop. Tax Collection Rate	Above 98%	94% - 98%	Below 94%

2008 EPA Financial Capacity Analysis

PHASE 2: Economic Indicators	PHASE 1 : Residential Indicator		
	Low (below 1.0 %)	Mid-Range (between 1.0 and 2.0 %)	High (greater than 2.0 %)
Weak (Below 1.5)	Medium Burden	High Burden	High Burden
Mid-Range (Between 1.5 and 2.5)	Low Burden	Medium Burden	High Burden
Strong (Above 2.5)	Low Burden	Low Burden	Medium Burden

- **Medium Burden**

- Phase 1 – 2.4%
- Phase 2 – Strong

- Schedule extension allowed by CD only if indicators exceed 2.5%

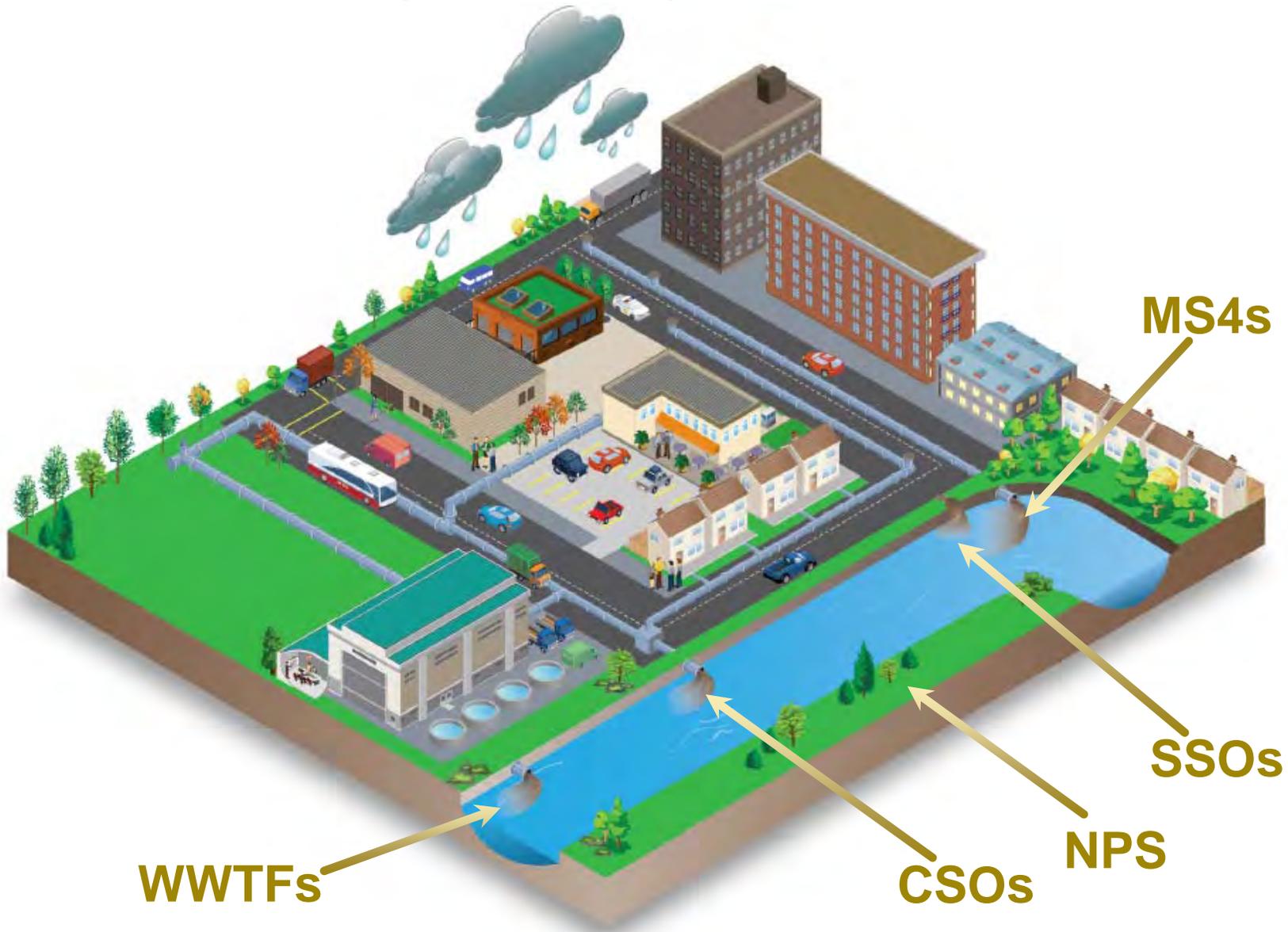
- Adjusted MHI
- Remaining CSO capital projects
- Debt service
- O&M
- Excludes monitoring costs and other capital projects

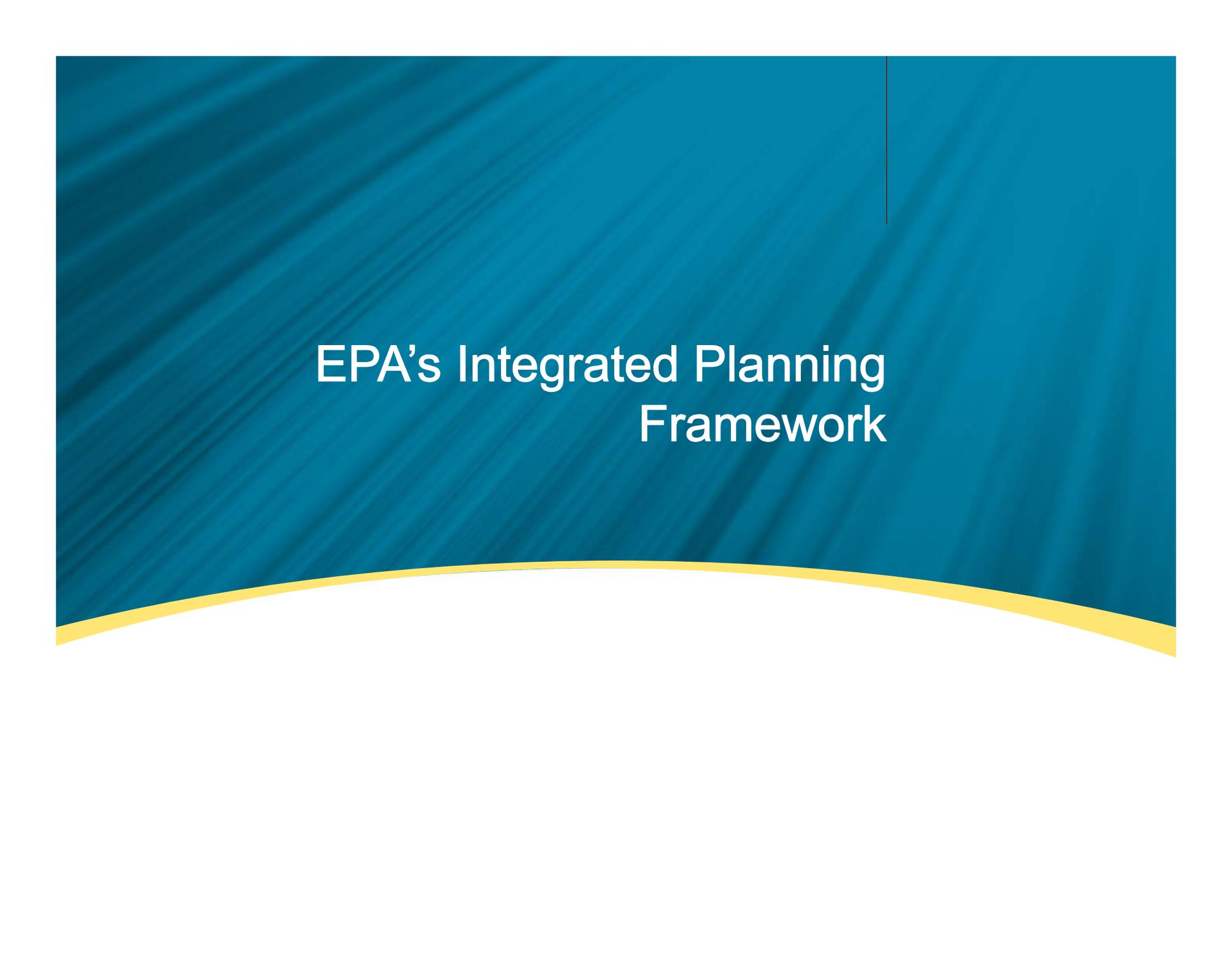
**Regulatory & policy changes
provide opportunity to reevaluate
LTCP**

Driving Regulation: Clean Water Act – 1972

Achieve water quality standards for designated uses all of the time

Various programs regulate various discharges



The slide features a dark teal background with a subtle pattern of diagonal lines. A thin vertical line is positioned on the right side. A yellow curved line runs along the bottom edge of the teal area. The title text is centered in white.

EPA's Integrated Planning Framework

Integrated Municipal Stormwater and Wastewater Planning Approach Framework

Framework Guidance to Approach and Content

- **Overarching Principles** – “EPA will use [these] in working with municipalities to implement an integrated approach to meet their wastewater and stormwater program obligations under the CWA.”
- **Principles to Guide the Development of an Integrated Plan** – “EPA recommends municipalities use [these] in the development of their integrated plans.”
- **Elements** – “An integrated program should be tailored to the size and complexity of the wastewater and stormwater infrastructure addressed in the plan. Although the details of each integrated plan will vary depending on the unique challenges of each community, an integrated plan generally should address [these] elements.” (*to be discussed later*)

Integrated Municipal Stormwater and Wastewater Planning Approach Framework

Overarching Principles

1. “This effort will maintain existing regulatory standards that **protect public health and water quality.**”
2. This effort will allow a municipality to **balance CWA requirements** in a manner that addresses the most pressing public health and environmental issues first.
3. The responsibility to develop an integrated plan rest with the municipality that chooses to pursue this approach. Where a municipality has developed an initial plan, **EPA and/or the State will determine appropriate actions**, which may include developing requirements and schedules in enforceable documents.
4. **Innovative technologies, including green infrastructure, are important tools that can generate many benefits**, and may be fundamental aspects of municipalities’ plans for integrated solutions.”

Integrated Municipal Stormwater and Wastewater Planning Approach Framework

Principles to Guide the Development of an Integrated Plan

“Integrated plans should:

1. **Reflect State requirements and planning efforts** and incorporate State input on priority setting and other key implementation issues.
2. Provide for meeting **water quality standards** and other CWA obligations by **utilizing existing flexibilities in the CWA** and its implementing regulations, policies and guidance.
3. Maximize the **effectiveness of funds through analysis of alternatives** and the selection and sequencing of actions needed to address human health and water quality related challenges and non-compliance.
4. Evaluate and incorporate, where appropriate, effective sustainable **technologies**, approaches, and practices, particularly including green infrastructure measures, in integrated plans where they provide **more sustainable solutions** for municipal wet weather control.”

Integrated Municipal Stormwater and Wastewater Planning Approach Framework

Principles to Guide the Development of an Integrated Plan (continued)

“Integrated plans should:

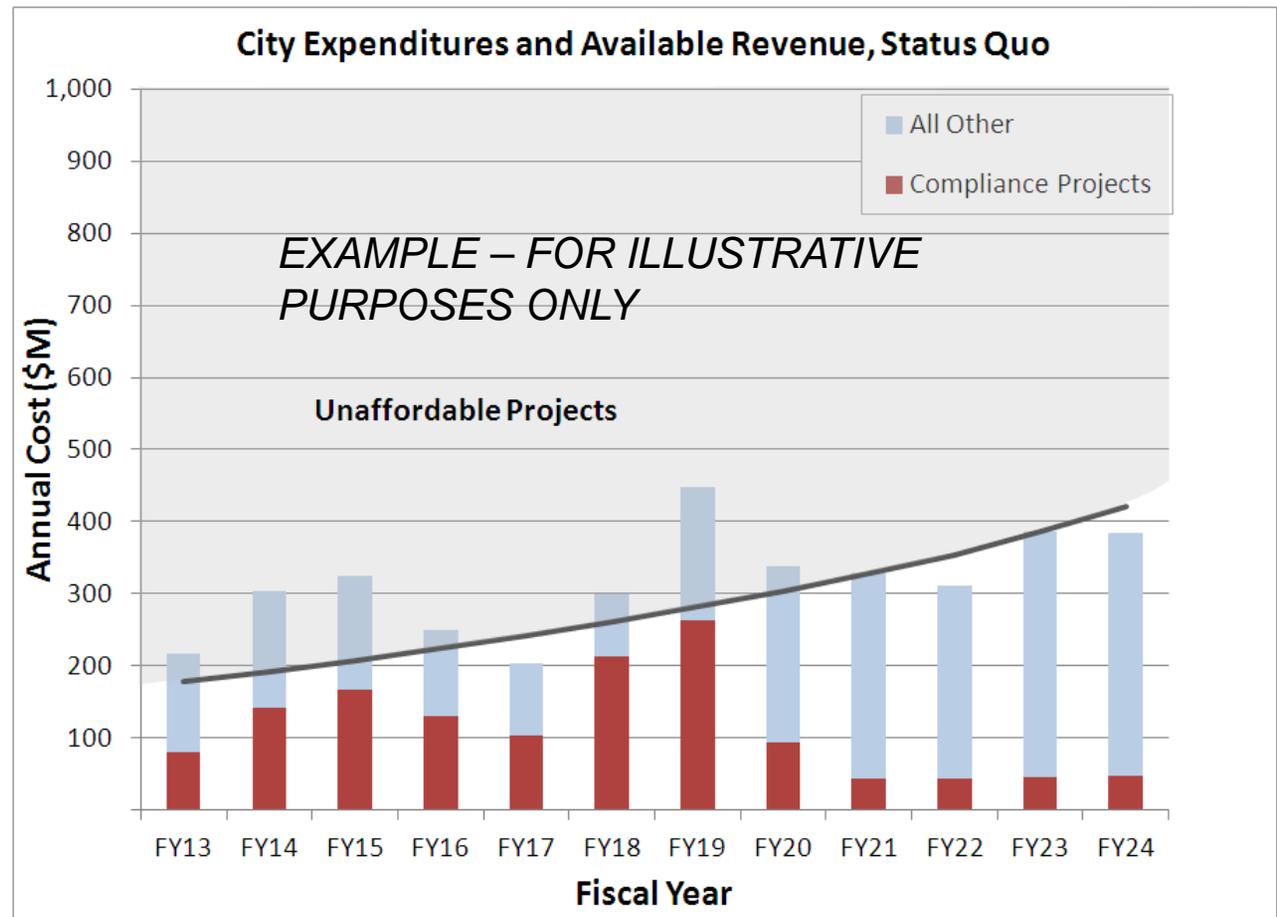
5. Evaluate and address community impacts and consider **disproportionate burdens** resulting from current approaches as well as proposed options.
6. Ensure that existing requirements to comply with technology-based and **core requirements are not delayed.**
7. Ensure that a financial strategy is in place, including **appropriate fee structures.**
8. Provide appropriate opportunity for **meaningful stakeholder input** throughout the development of the plan.”

Integrated Planning Framework (IPF)

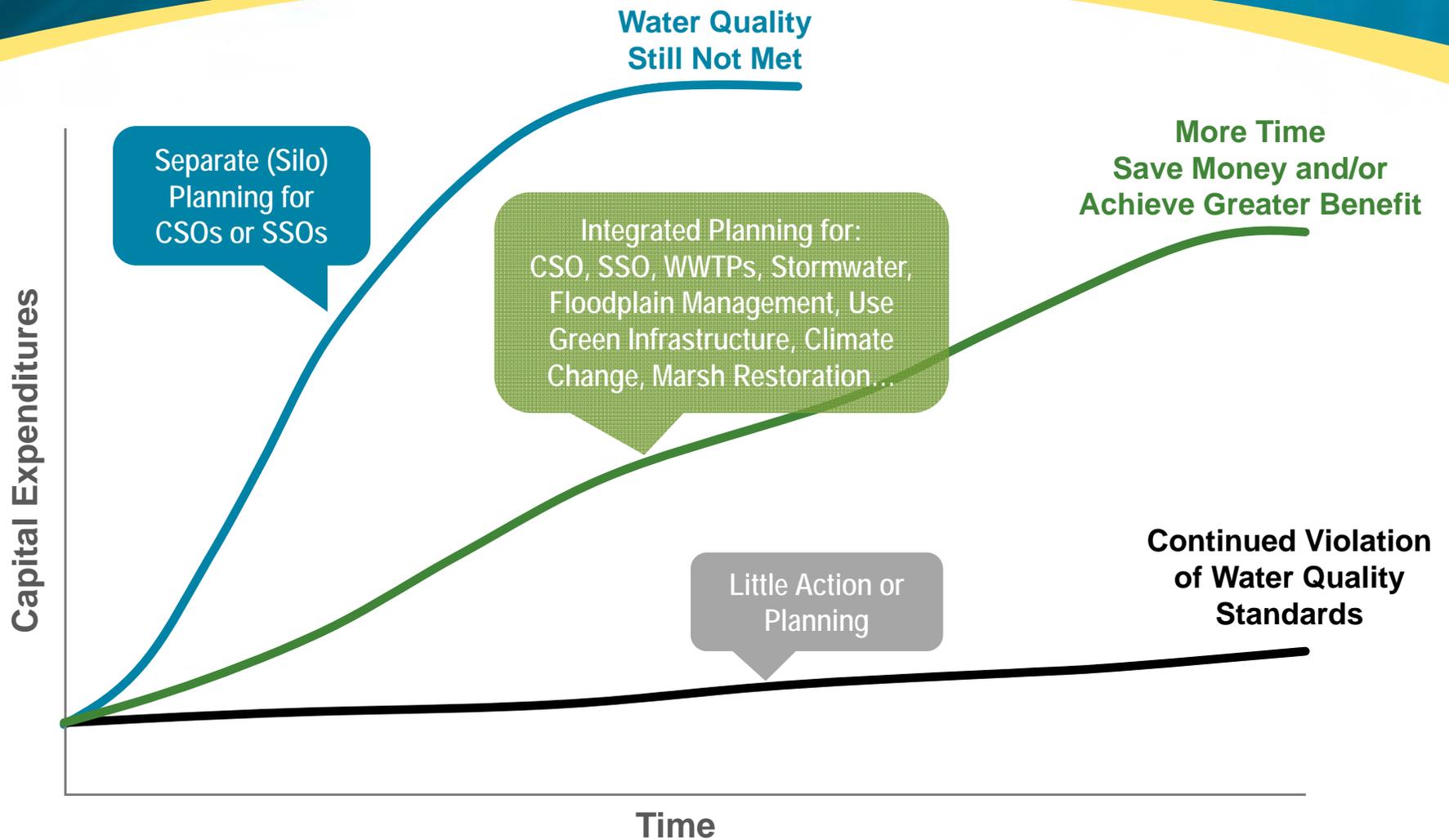
- Coordinates
 - WWTF Program
 - CSO Program
 - Stormwater Program
 - Sanitary System Improvements

THE GOAL: BALANCE FUNDING (& STABILIZE RATES) ACROSS INFRASTRUCTURE NEEDS

Cities' planning efforts are often hampered by the need to make complex trade off decisions around multi-sector financial, technical, regulatory and community requirements



Integrated planning – shared goals



EPA Interest in and Guidance for Green Stormwater Infrastructure

GSI within EPA CSO Enforcement Actions

- Chicago, Illinois Consent Decree 2014
 - Reduce flooding, focus on vacant parcels, improve socio-economic conditions
- Chattanooga, Tennessee Consent Decree 2013
 - Produce land use policy, public participation process, implementation schedule
- Kansas City, Kansas Consent Decree 2013
 - Pilot GSI projects that may replace or supplement grey infrastructure
- Seattle, Washington Consent Decree 2013
 - Provides opportunity for GSI to replace grey infrastructure
- Washington DC Consent Decree 2005, Partnership Agreement 2012
 - “Green Design Challenge” to private sector
- Boston, Massachusetts Consent Decree 2012
 - GSI demonstration projects, includes CSO and other pollutant controls

EPA Guidance – GSI Considerations



- Select a sample set of sewersheds that are generally representative of the service area as a whole, in terms of land uses, land ownership, soils, and topography.
- Characterize existing land use/land cover in the subwatersheds; this can often be done using aerial photographs and/or a community's geographic information system (GIS) coverages.
- Create templates for the various land uses in the sewersheds (e.g., typical single family residential lot, typical commercial/office site). Estimate the pervious and impervious areas for the templates.
- Identify green infrastructure opportunities for the different land use categories (templates) in the sewersheds, taking into account space needs, soil types, and slopes.
- Estimate the total green infrastructure that could be implemented in the sewershed by extrapolating from the templates to the sewershed as a whole. This estimate should take into account current and future zoning and institutional considerations, such as acceptance by property owners of green infrastructure features on private property. The level of buy-in to the green infrastructure program on the part of local property owners is an important variable, and needs to be explicitly considered in CSO planning. The estimate should also consider public properties and parks that may be good candidates for green infrastructure practices.
- Examine the cost-effectiveness of green infrastructure approaches. Will the green solutions reduce upfront or operational costs? Experiment with various combinations of green and grey infrastructure to determine what combination results in the lowest costs.
- Estimate the green infrastructure opportunities for the CSO service area as a whole by extrapolating from the sample set of sewersheds studied.
- Estimate the stormwater volumes that can be kept out of the system by the green infrastructure, taking into account the level of estimated implementation and the size of the practices. Also consider if there should be a margin of safety to reflect actual green implementation that may vary from projections, especially for sites not under the direct control of the sewer authority.

EPA Guidance – Green for Grey



- Proposals to Meet Performance Criteria in Appendix 1 by Substituting Green Infrastructure Measure(s) for Grey Infrastructure Control Measure(s)
- Provisions Applicable to Proposals to Substitute Green Infrastructure Control Measures for Tunnel Capacity
- Reviews/Approvals of Green for Grey Substitution Proposals
- Provisions Applicable to Approved Green Infrastructure Control Measures

EPA Guidance – CSO & LTCP Integration



“For LTCPs incorporating green infrastructure approaches, an **adaptive management** approach can be employed during the implementation process. Adaptive management means monitoring and evaluating green infrastructure projects and practices as work proceeds, and adapting or revising plans and designs as appropriate based on lessons learned. Evaluating practices as work proceeds can often be a more effective approach than adopting a monitoring program confined to the post-construction phase.”

New Affordability Guidance

November 2014 Updates to EPA FCA

- Embraces IPF philosophy of including all CWA obligations
- Considers Safe Drinking Water Act obligations as well
- Includes “additional information that would create a more accurate and complete picture of their financial conditions”
 - Income distribution statistically or geographically
 - CWA obligation trends
 - Poverty rates and trends
- Acknowledges that “financial capability is on a continuum”
 - Unemployment / market rates and trends
 - Rate & revenue models
 - Limitations on taxes / debt levels
 - Bond rating impacts

❖ **Used to justify schedule extensions**

The mechanics of redefining the LTCP

Engineering Systems Analysis

Source - Pathway - Receptor

SOURCE > PATHWAY > RECEPTOR

Different *Sources* of the problem;

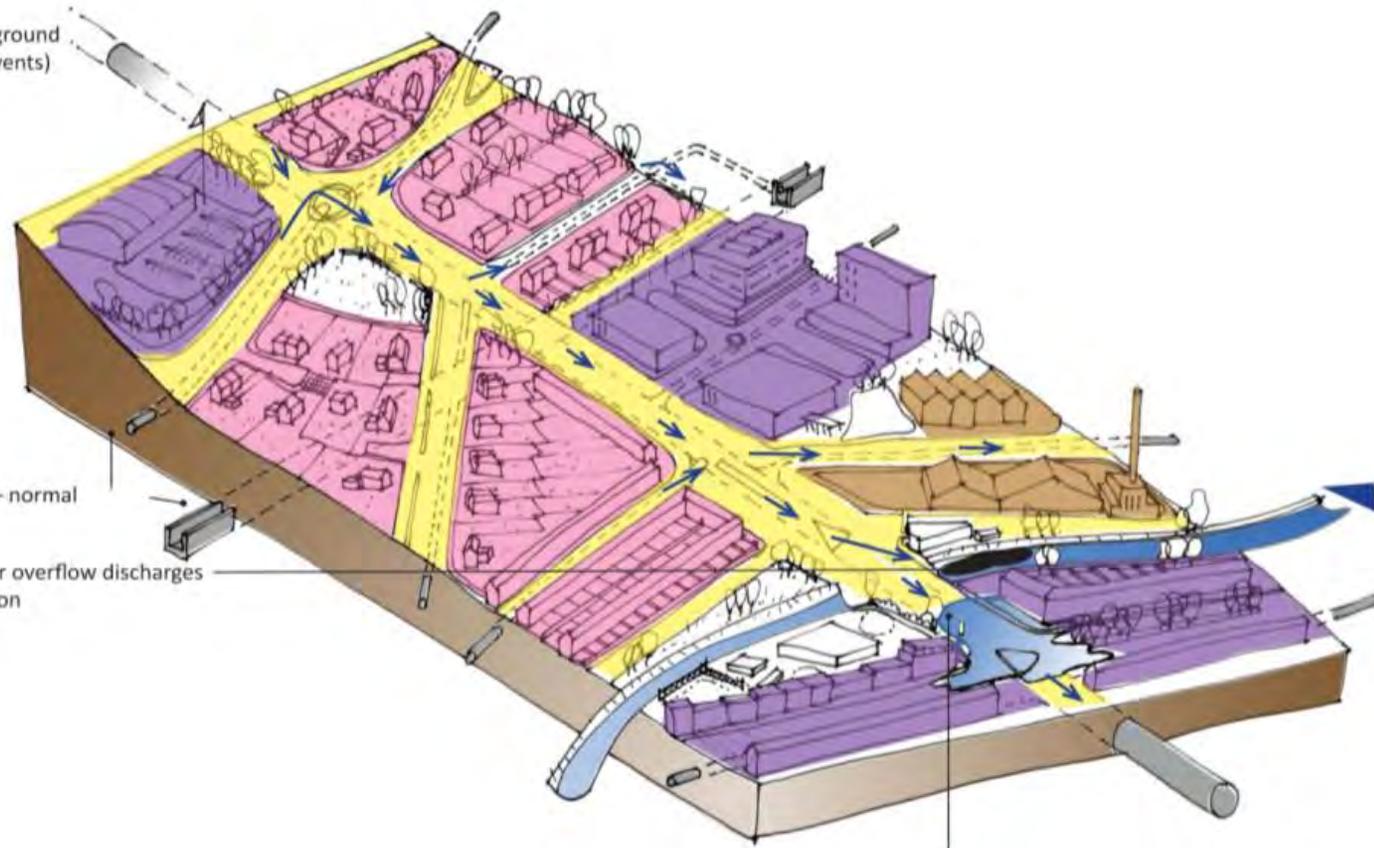


Highways
Residential
Commercial / Business
Industrial

(Arrows indicate above ground pathways for extreme events)

Below ground *Pathways* – normal events

Receptor; combined sewer overflow discharges to river and causes pollution



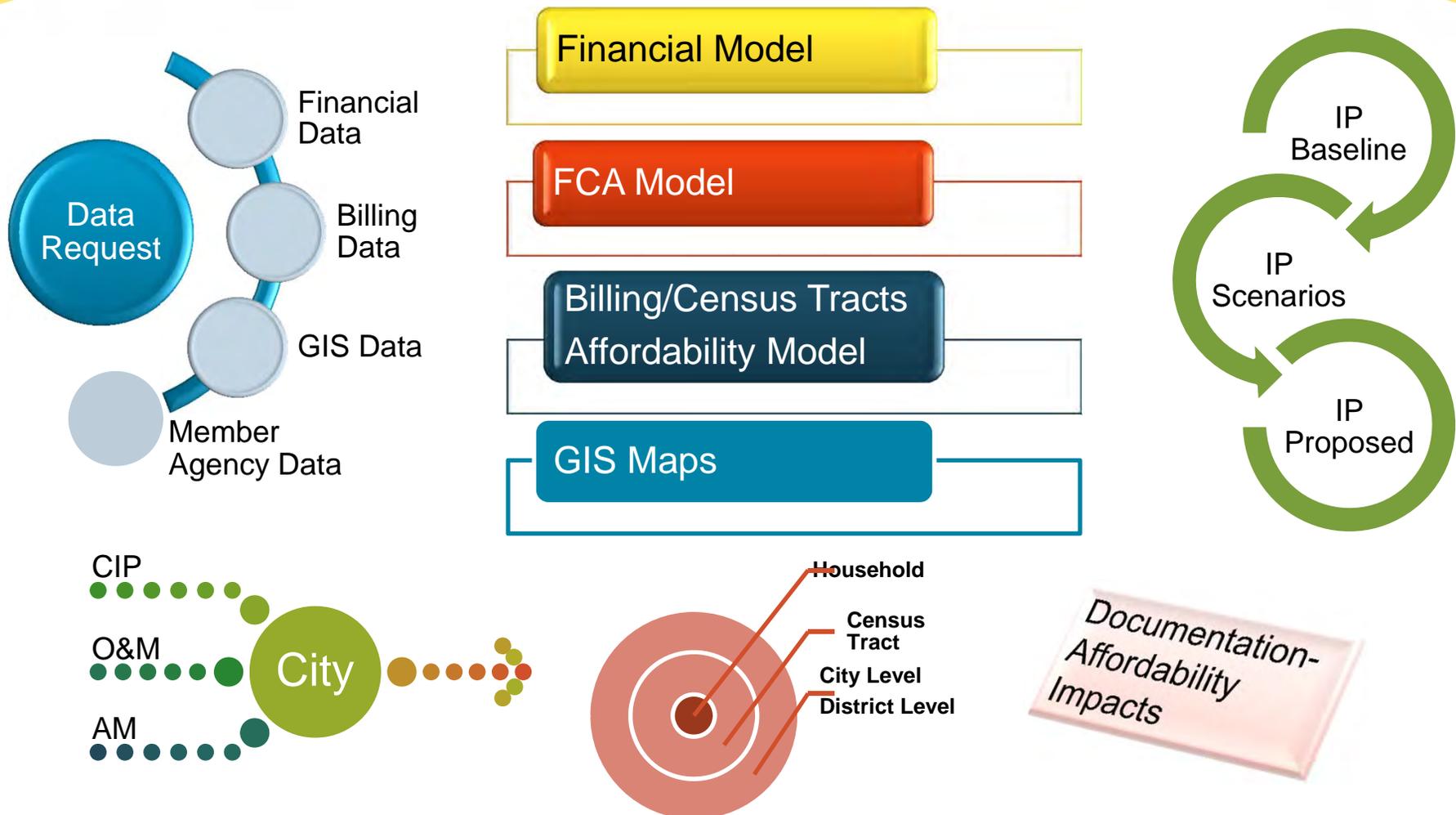
Receptor; area impacted by flooding

Green and Grey Infrastructure



Affordability Analysis

The Financial Capacity Assessment Process Integrated as a Strategy with IPF



How Weighted Average Residential Index (WARI™) Works



**Population-Weighted Average of
16 Standard Income Groups
Across All Census Tracts in
Service Area**

1. Gather census tract data
2. Determine percent of population in each income group
3. Calculate actual average bills by tract
4. Calculate burden by tract from tract MHI and actual bills
5. Weight burden by tract income distribution
6. Apply to all census tracts in service area

Output of the Financial Model Drives the Affordability Impacts

Budget 2014	Projected 2015	Projected 2016	Projected 2017	Projected 2018	Projected 2019
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Operating and Maintenance Expenses	\$56,399,999	\$58,509,203	\$60,701,729	\$62,981,007	\$65,350,614	\$67,364,278
Annual Debt Service - Outstanding Debt	22,821,092	22,549,076	22,649,124	22,133,026	20,902,872	17,429,694
Annual Debt-Service - Projected Issues	0	4,793,321	4,793,321	7,493,634	7,493,634	8,225,541
Capital Projects	26,889,280	43,915,818	48,025,823	38,986,978	37,366,127	31,095,606
Bond Issuance Costs	0	371,733	0	232,422	0	0

Census Tract	City/Town	Number of Households	MHI	Current 2014	Projected 2015	Projected 2016	Projected 2017	Projected 2018	Projected 2019	Projected 2020	Projected 2021	Projected 2022	Projected 2023	Projected 2024	Projected 2025	Projected 2026
150	Pawtucket city	1,736	\$42,500	1.02%	1.11%	1.18%	1.20%	1.23%	1.30%	1.41%	1.57%	1.75%	1.85%	1.91%	1.95%	2.00%
151	Pawtucket city	1,745	23,882	1.79%	1.94%	2.07%	2.11%	2.16%	2.28%	2.47%	2.76%	3.08%	3.25%	3.35%	3.43%	3.51%
152	Pawtucket city	1,451	11,612	3.82%	4.14%	4.40%	4.49%	4.60%	4.84%	5.25%	5.85%	6.53%	6.89%	7.11%	7.28%	7.44%
153	Pawtucket city	866	33,281	1.29%	1.40%	1.49%	1.52%	1.55%	1.64%	1.78%	1.98%	2.21%	2.33%	2.41%	2.47%	2.52%
154	Pawtucket city	901	33,750	1.28%	1.39%	1.48%	1.51%	1.55%	1.63%	1.77%	1.97%	2.20%	2.32%	2.40%	2.45%	2.51%
155	Pawtucket city	1,655	50,670	0.85%	0.92%	0.97%	0.99%	1.02%	1.07%	1.17%	1.30%	1.45%	1.53%	1.58%	1.62%	1.65%
156	Pawtucket city	1,024	52,576	0.78%	0.85%	0.90%	0.92%	0.95%	1.00%	1.08%	1.21%	1.35%	1.42%	1.47%	1.51%	1.54%
157	Pawtucket city	1,382	52,000	0.86%	0.93%	0.99%	1.01%	1.03%	1.09%	1.18%	1.31%	1.47%	1.55%	1.60%	1.63%	1.67%
158	Pawtucket city	1,491	60,223	0.72%	0.78%	0.83%	0.85%	0.87%	0.92%	1.00%	1.11%	1.24%	1.31%	1.35%	1.38%	1.41%
159	Pawtucket city	1,108	49,972	0.86%	0.94%	1.00%	1.02%	1.04%	1.10%	1.19%	1.33%	1.48%	1.56%	1.61%	1.65%	1.69%
160	Pawtucket city	1,523	27,313	1.56%	1.69%	1.80%	1.84%	1.89%	1.99%	2.16%	2.40%	2.68%	2.83%	2.92%	2.99%	3.06%
161	Pawtucket city	1,839	28,456	1.56%	1.69%	1.80%	1.83%	1.88%	1.98%	2.14%	2.39%	2.66%	2.81%	2.90%	2.97%	3.03%
163	Pawtucket city	1,135	56,509	0.79%	0.85%	0.91%	0.92%	0.95%	1.00%	1.08%	1.20%	1.34%	1.42%	1.46%	1.50%	1.53%
164	Pawtucket city	1,698	30,729	1.39%	1.50%	1.60%	1.63%	1.67%	1.76%	1.91%	2.13%	2.38%	2.51%	2.59%	2.66%	2.71%
165	Pawtucket city	1,812	53,682	0.85%	0.92%	0.97%	0.99%	1.01%	1.07%	1.16%	1.29%	1.44%	1.52%	1.57%	1.60%	1.64%
166	Pawtucket city	707	35,313	1.24%	1.34%	1.42%	1.45%	1.49%	1.57%	1.70%	1.89%	2.11%	2.23%	2.30%	2.36%	2.41%
167	Pawtucket city	1,238	31,421	1.34%	1.45%	1.55%	1.58%	1.62%	1.71%	1.85%	2.07%	2.31%	2.43%	2.51%	2.57%	2.63%
168	Pawtucket city	1,308	64,625	0.68%	0.73%	0.78%	0.80%	0.82%	0.86%	0.93%	1.04%	1.16%	1.22%	1.26%	1.29%	1.32%
169	Pawtucket city	850	65,455	0.72%	0.78%	0.82%	0.84%	0.86%	0.90%	0.98%	1.09%	1.22%	1.28%	1.32%	1.35%	1.38%
170	Pawtucket city	1,762	51,384	0.87%	0.94%	1.00%	1.02%	1.05%	1.10%	1.19%	1.33%	1.49%	1.57%	1.62%	1.66%	1.69%
171	Pawtucket city	1,844	39,038	1.11%	1.20%	1.28%	1.31%	1.34%	1.41%	1.53%	1.71%	1.90%	2.01%	2.07%	2.12%	2.17%

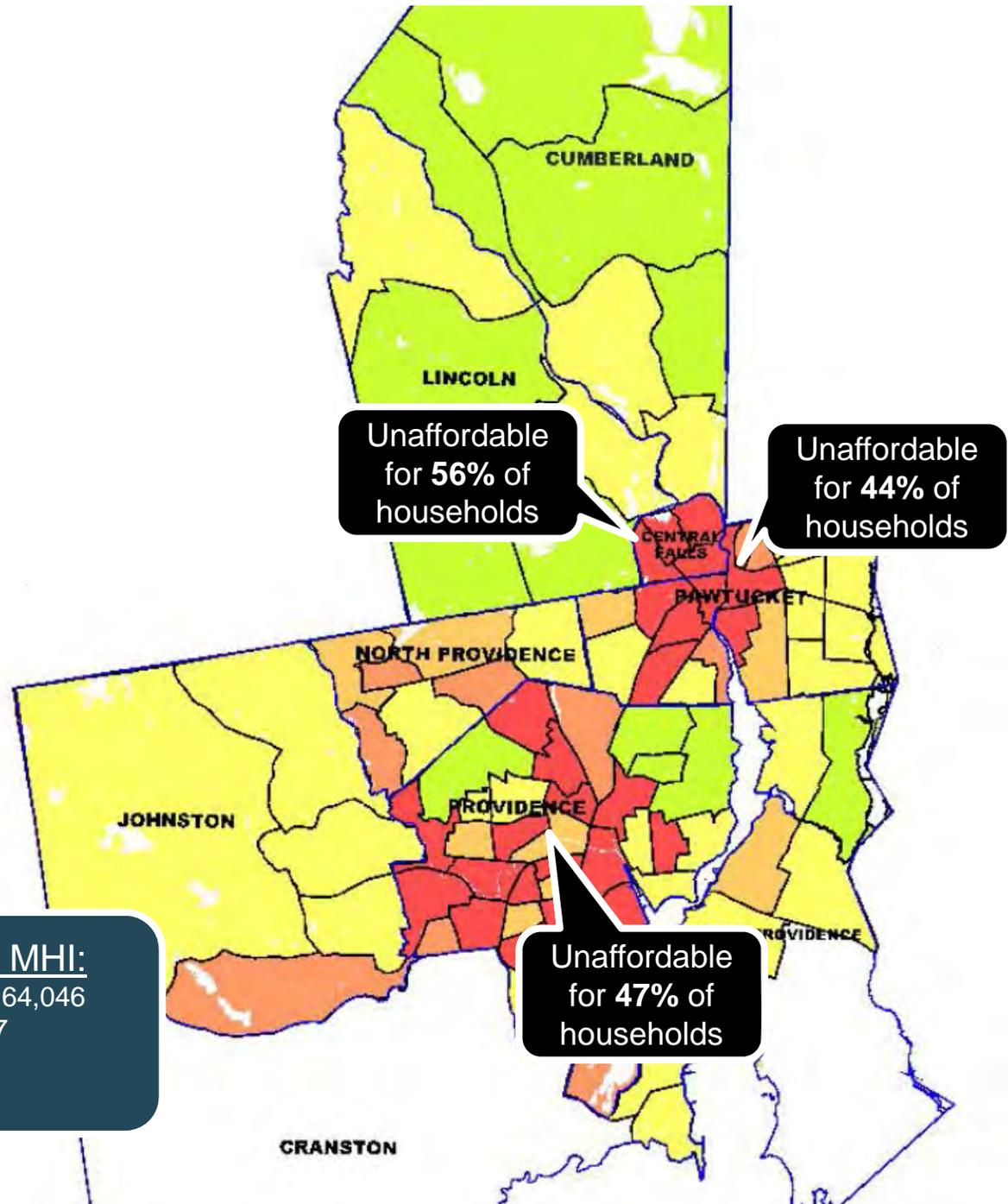
User Charges at Present Rate	\$86,082,204	\$86,082,204	\$86,082,204	\$86,082,204	\$86,082,204	\$86,082,204
Revenue Surplus/(Deficiency)	\$2,820,000	\$6,102,078	\$9,513,799	\$12,652,976	\$15,901,984	\$18,884,981
Revenue Increase Required	3.3%	7.1%	11.1%	14.7%	18.5%	21.9%
Total Revenues from Customers	\$90,687,978	\$94,040,595	\$97,525,640	\$100,731,992	\$104,050,516	\$107,097,515

NBC CSO Baseline Plan Impact of Affordability Over Time

2026

Households > 2% of MHI:

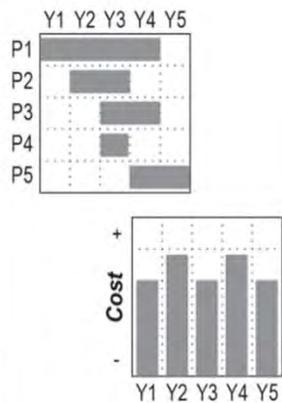
Entire NBC Service Area = 64,046
City of Providence = 29,067
City of Pawtucket = 12,894
City of Central Fall = 3,723



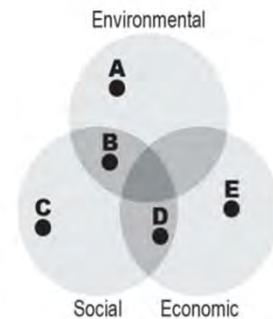
IPF Methodology

Integrated Planning Approach

Step 1 Project List



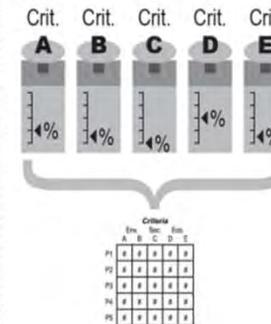
Step 2 Prioritization Criteria



Step 3 Project Scores

	Criteria				
	Env.		Soc.		Eco.
	A	B	C	D	E
P1	#	#	#	#	#
P2	#	#	#	#	#
P3	#	#	#	#	#
P4	#	#	#	#	#
P5	#	#	#	#	#

Step 4 Importance Weighting



Step 5 Calculation Algorithm

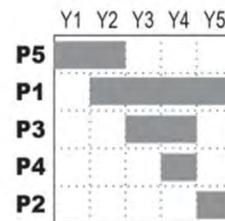


Step 6 Weighted Total Scores

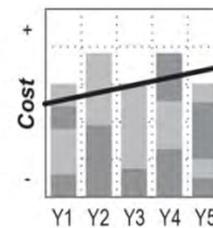
	Criteria					
	Env.		Soc.		Eco.	
	A	B	C	D	E	
P5	#	#	#	#	#	#
P1	#	#	#	#	#	#
P3	#	#	#	#	#	#
P4	#	#	#	#	#	#
P2	#	#	#	#	#	#

Output:
Prioritized List

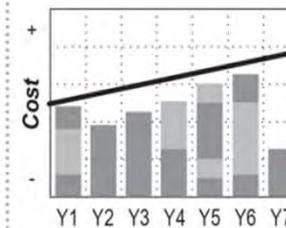
Step 7 Priority Schedule



Step 8 Financial Analysis



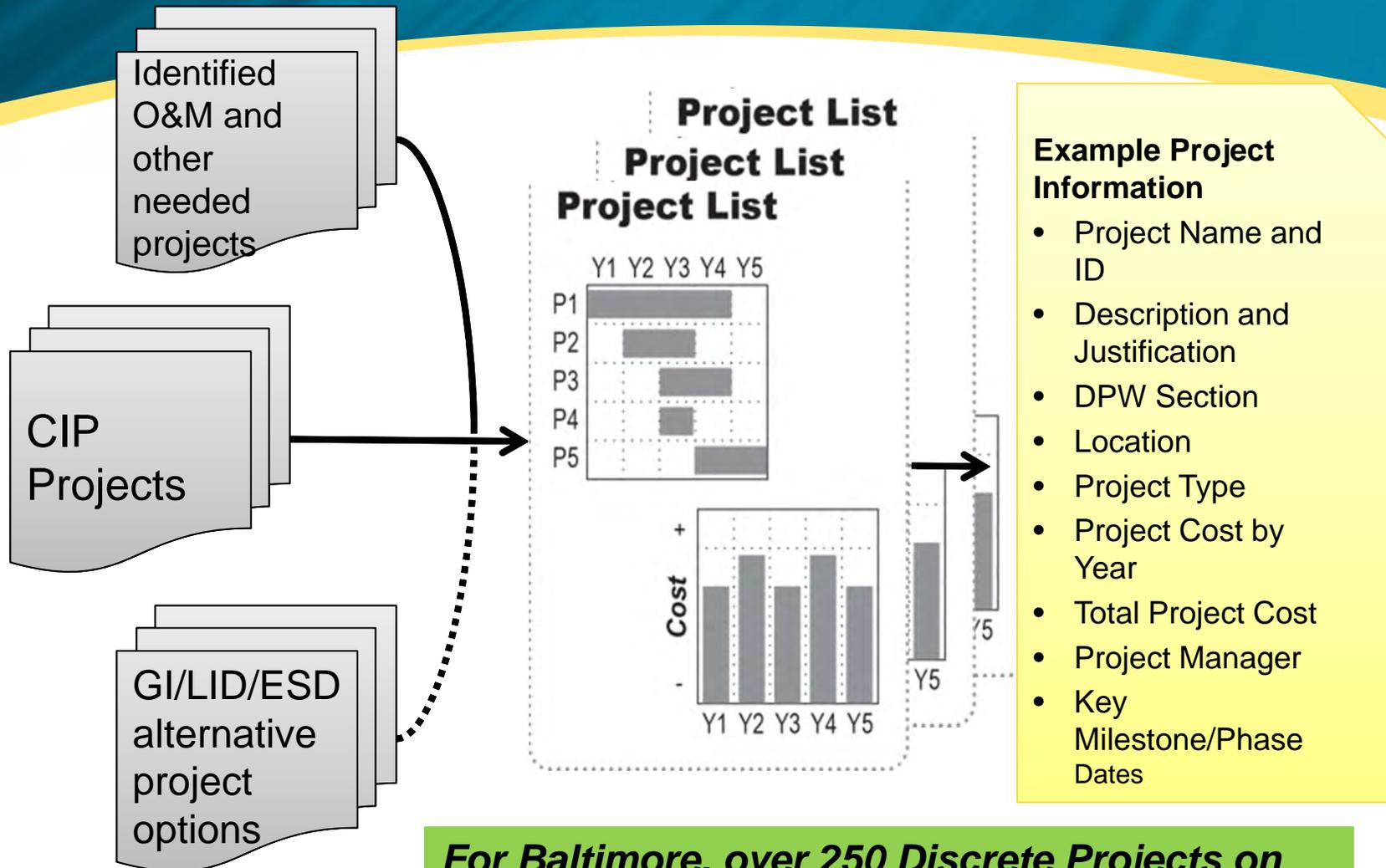
Step 9 Final Integrated Plan



Step 10 Repeatable Process



Comprehensive Project Data Collection for Water, Wastewater & Storm Water



For Baltimore, over 250 Discrete Projects on the IPF List Over a 12-Year Planning Horizon

Triple Bottom Line Criteria to Measure Benefits

Social Criteria

- Example: Creates attractive open spaces

Social

Bearable

Equitable

Sustainable

Environment

Viable

Economic

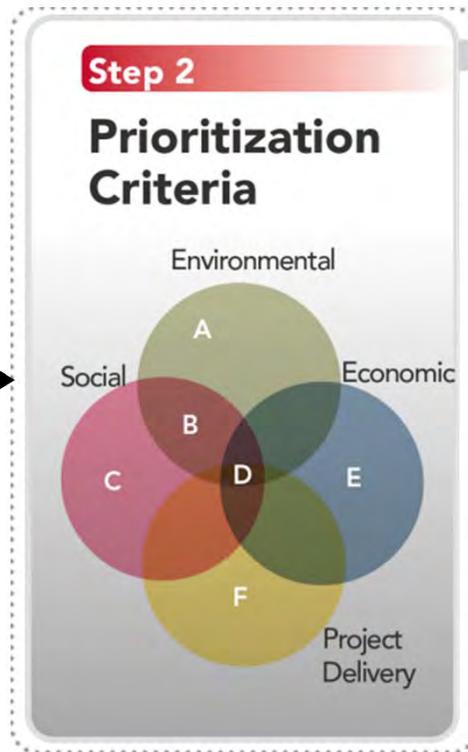
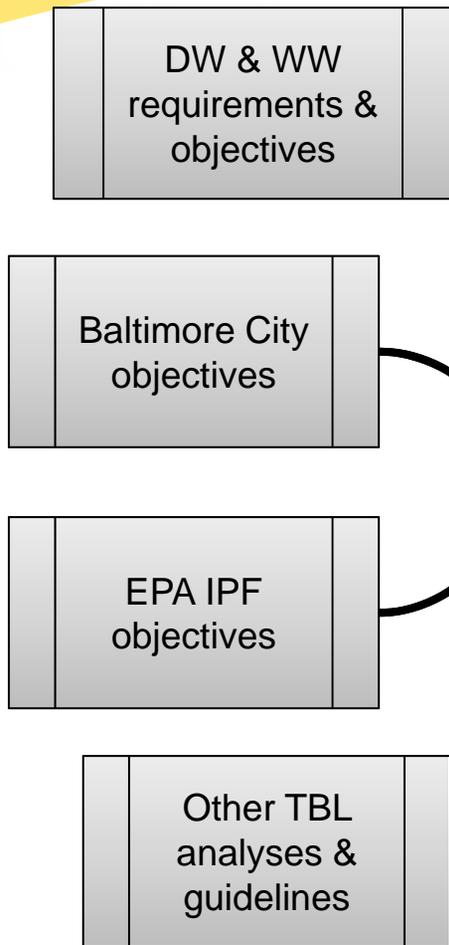
Environmental & Regulatory Criteria

- Example: Pathogens Removed from Discharges to Receiving Waters

Financial Criteria

- Example: Capital costs
- Example: Opportunity to Stimulate Job Creation

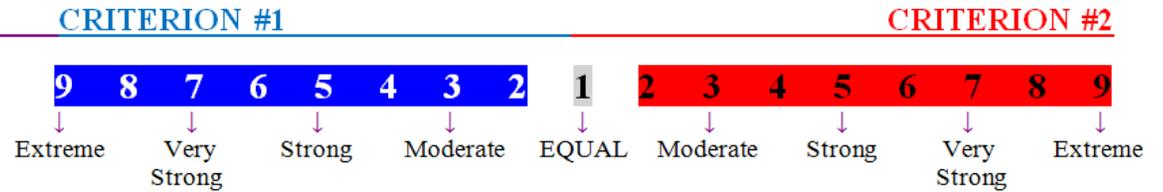
PRIORITIZE NEED - ESTABLISH TBL BENEFITS CRITERIA



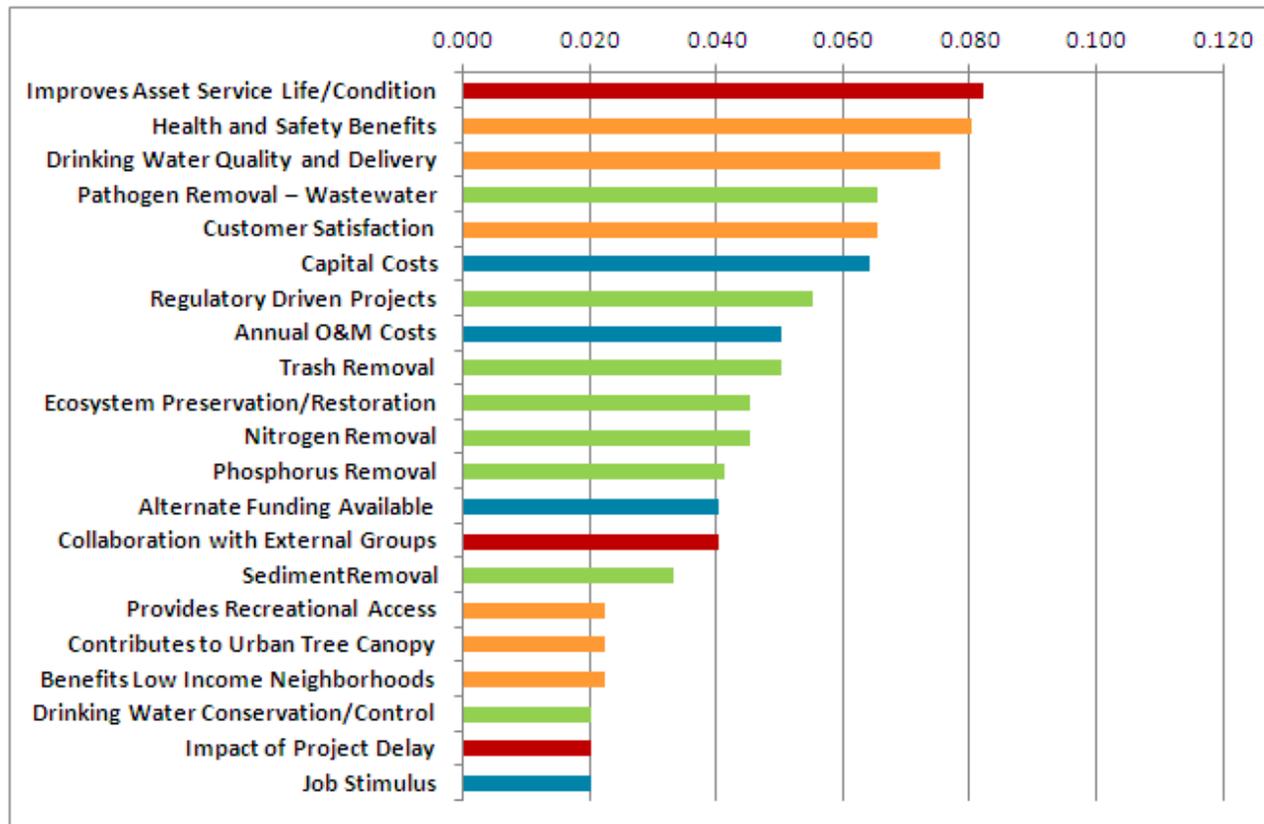
ENVIRONMENTAL
Pollutant Loading to Receiving Waters
Regulatory
Habitat Preservation and Restoration
Drinking Water Conservation and Control
SOCIAL
Health and Safety
Recreational Access
Urban Tree Canopy
Customer Satisfaction
Drinking Water Quality
Lower Income or Blight Neighborhoods
FINANCIAL
Alternative Funding
Annual O&M Costs
Job Stimulus
Capital Costs
PROJECT
Service Life / Condition
Project Delay
Collaboration

PRIORITIZE NEED – WEIGHT CRITERIA

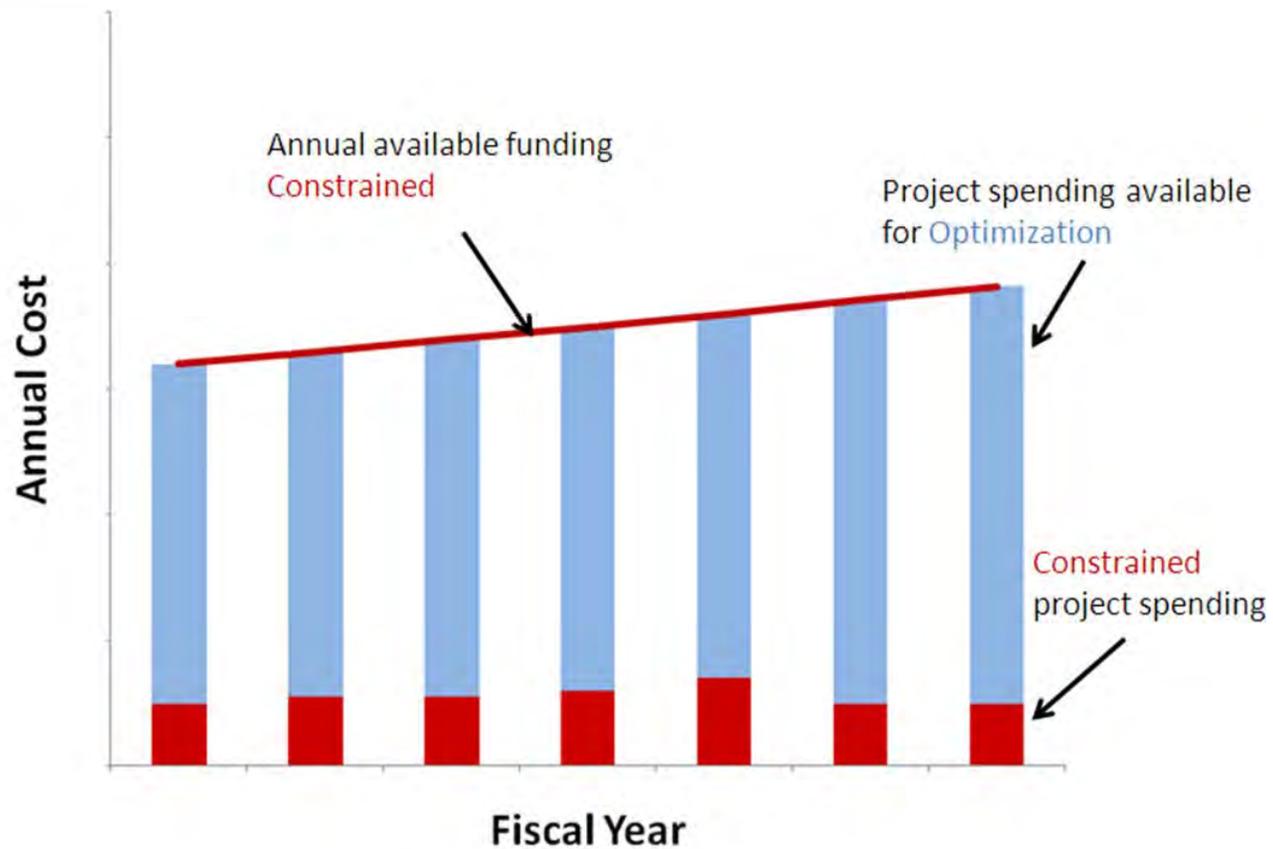
Pairwise Comparison Scale



Please identify which objective (criterion) you feel is more important and by how much



ID FINANCIAL AND SCHEDULE CONSTRAINTS



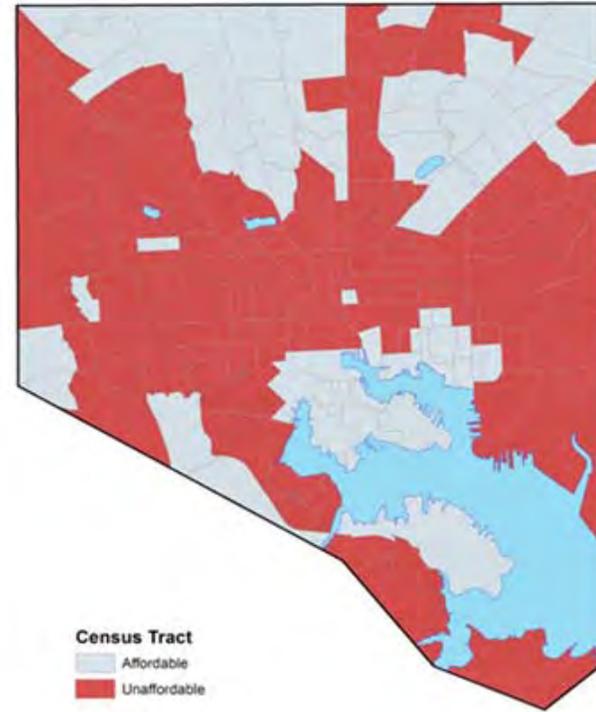
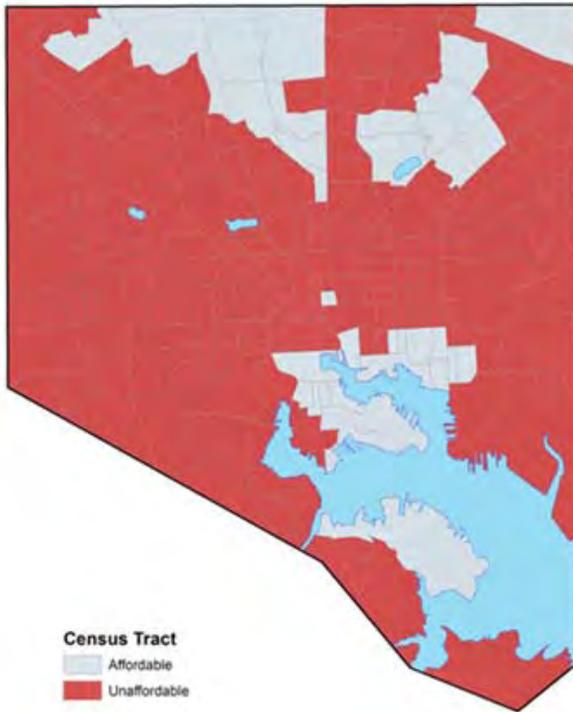
EVALUATE AFFORDABILITY IMPACTS

Scenario # 1

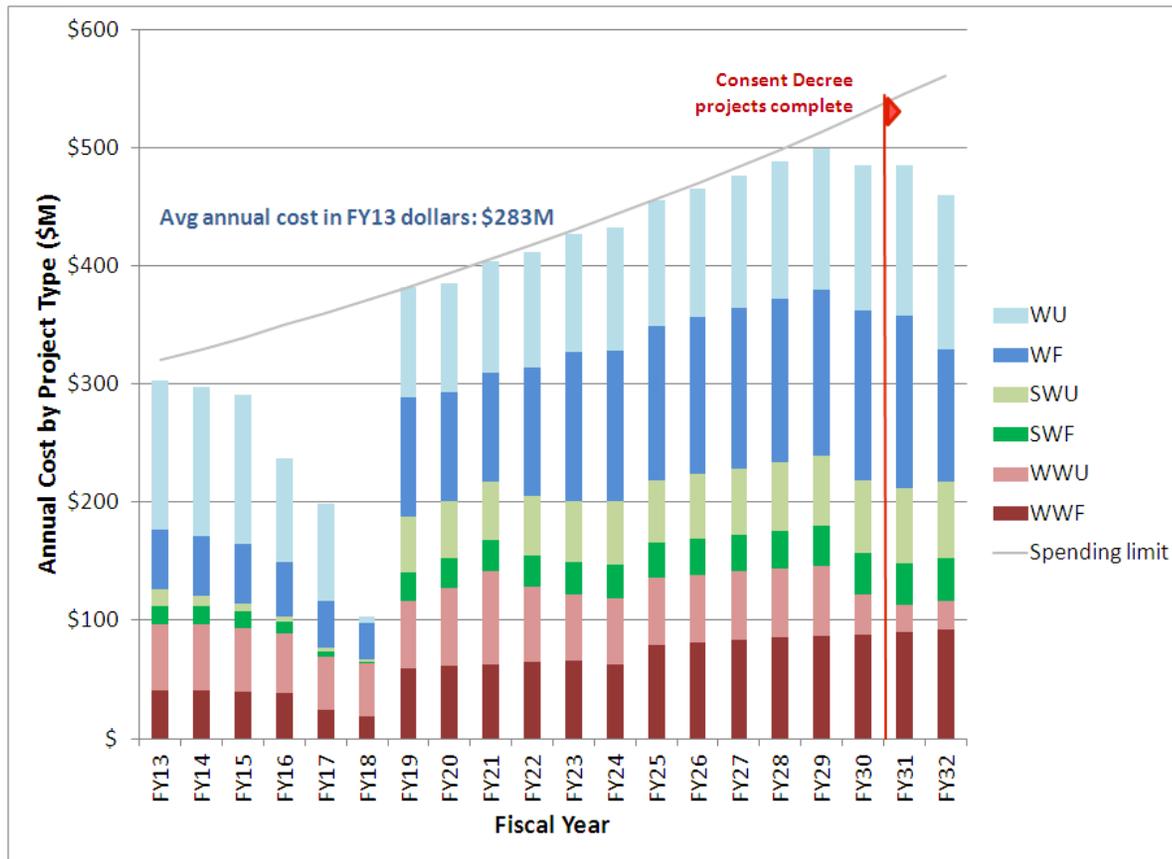
Scenario # 2

2019

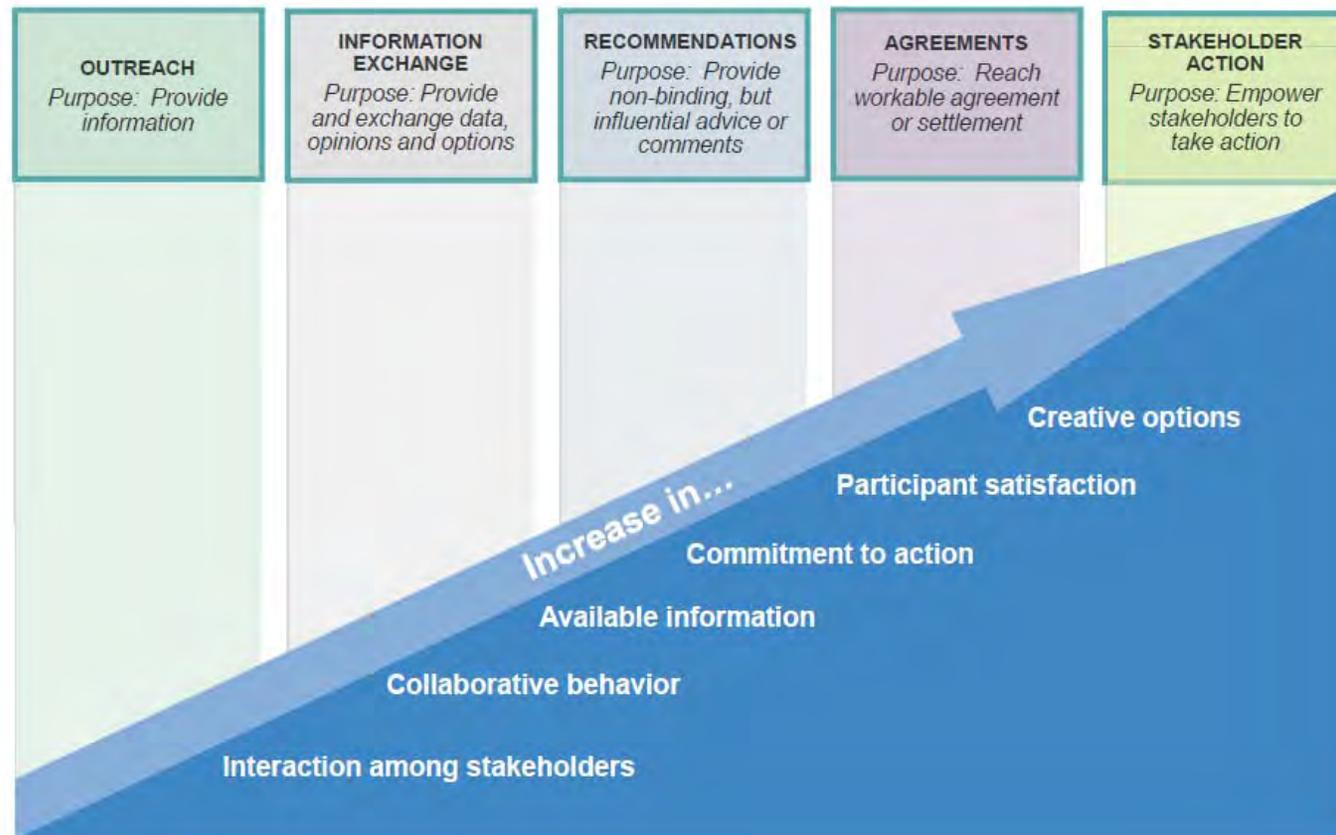
2019



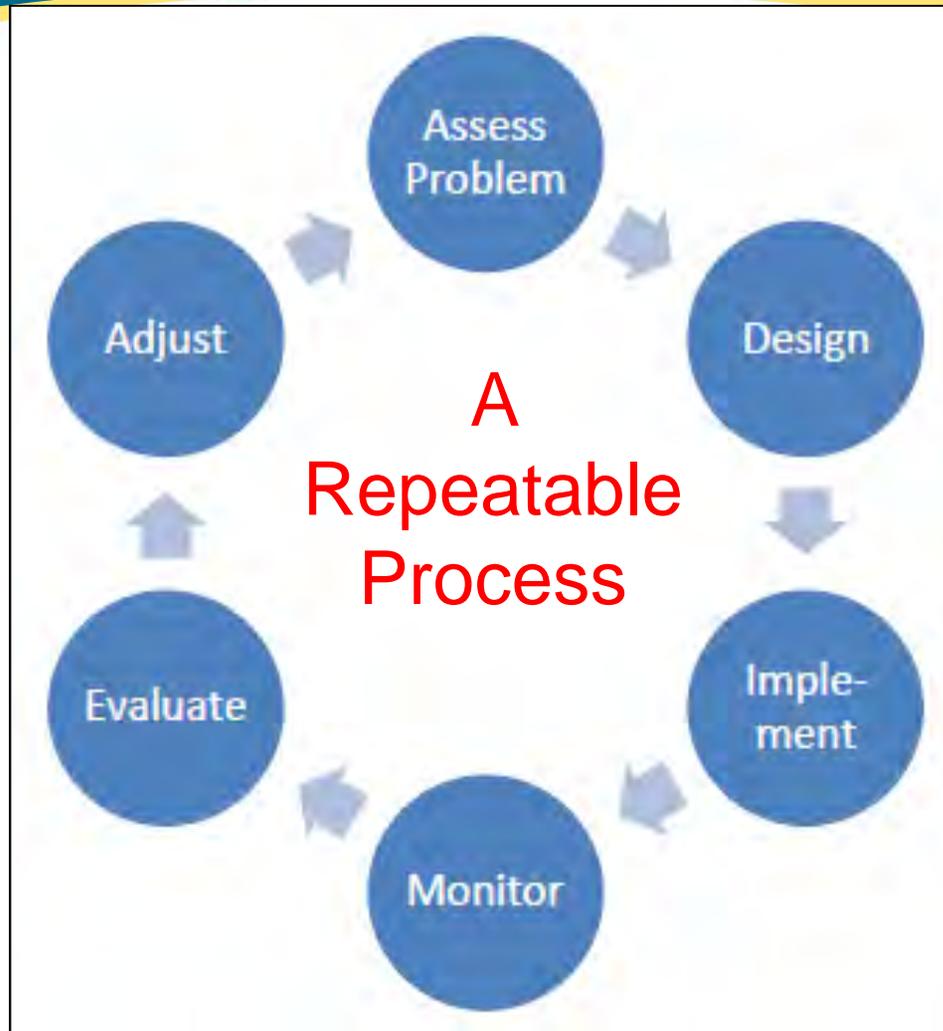
FORMULATE AN INTEGRATED PLAN



BUILD ADVOCACY - ENGAGE STAKEHOLDERS



REVIEW AND REFINE PLAN



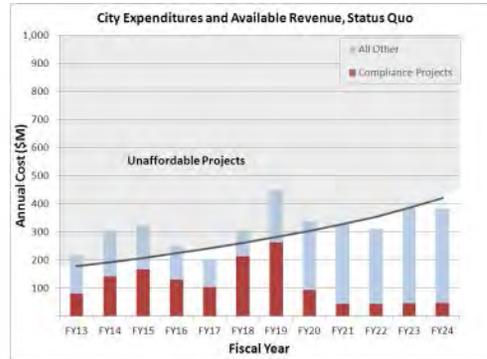
Baltimore IPF

Financial / Affordability Scenario Analysis

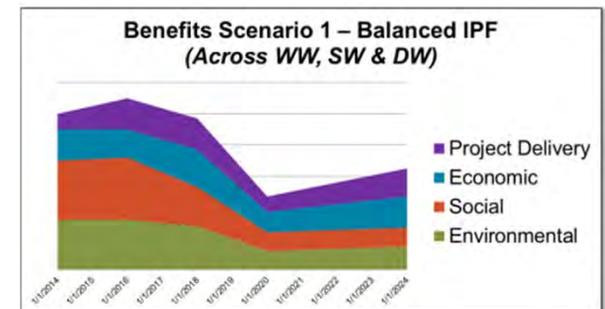
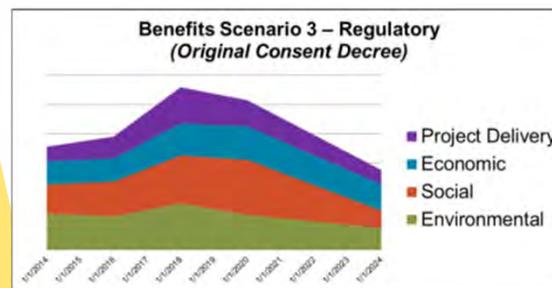
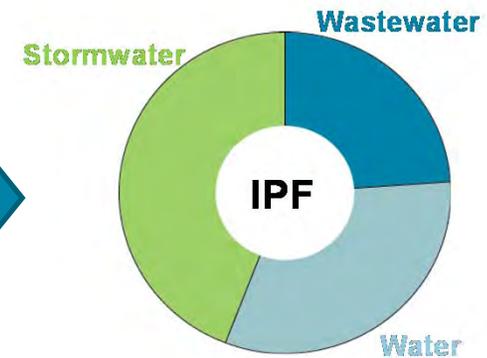
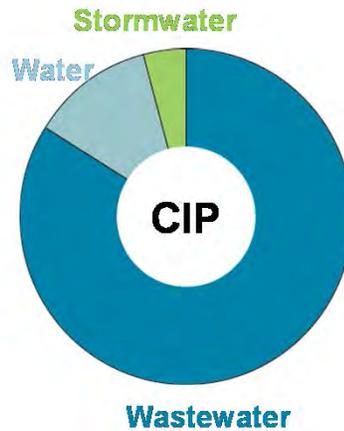
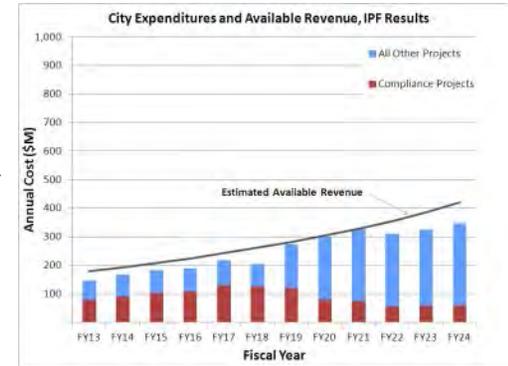
Balanced Investments

TBL Analysis for Stakeholder Communications

Business as Usual



IPF Planning Process



CSO Control Facilities Reassessment Advisory Committee

**What is the role of the Advisory
Committee?**

Advisory Committee role

- Provide input for IPF evaluation criteria development
 - Reflect community priorities
 - Capture details overlooked by EPA
- Provide data to inform alternatives development
 - Identify specific deal breakers
 - Identify details that impact cost
- Provide feedback on alternatives analysis
 - Refine evaluation of alternatives
- Provide feedback on IPF process
 - Confirm application of evaluation criteria and project prioritization

**What is the Advisory Committee
process?**

Anticipated meeting schedule

- July 8th: TBL evaluation criteria workshop
- September: Green stormwater infrastructure workshop
- December: Alternatives review
- March: IPF project prioritization

Advisory Committee Discussion

Open Floor Questions

Prepared for
City of South Bend,
Indiana

CSO Control Facilities Reassessment Advisory Committee Kickoff

22 April 2015



AMERICAN
STRUCTUREPOINT
INC.



LimnoTech