

Stormwater Advisory Committee Meeting #1

Hannibal Board of Public Works, Hannibal, MO

MAY 04, 2023

Our Discussions Today

1

The Context

Key Drivers



2

Financial Plan & Strategies

Five-Year Financial Forecast



3

Cost Recovery Approaches

Impervious Analysis & Rate Schedule



4

Customer Implications

Example Stormwater Charges



The Context

Key Drivers for Sustainable Stormwater Management

Key Drivers

Drainage Infrastructure

- Engage in proactive management of infrastructure for community safety and health

Regulatory Compliance

- Protect our water resources and improve our MS4 Permit compliance and community health

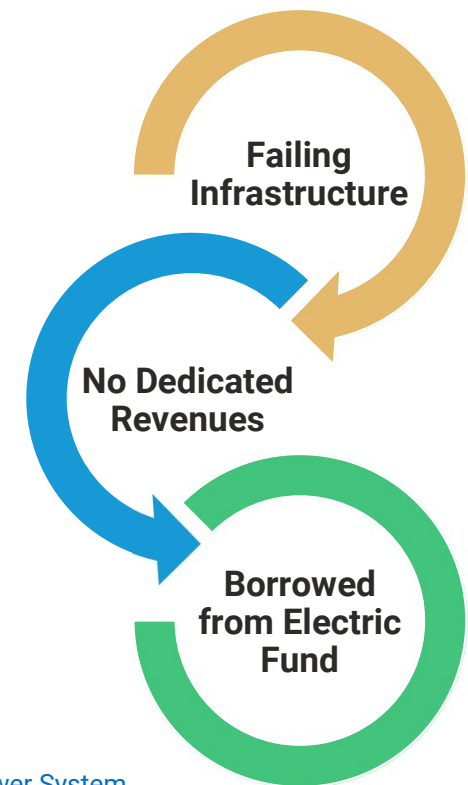
Enhance Levels of Service

- Address deferred maintenance, known and emerging needs, infrastructure integrity and safety

Organizational Capacity

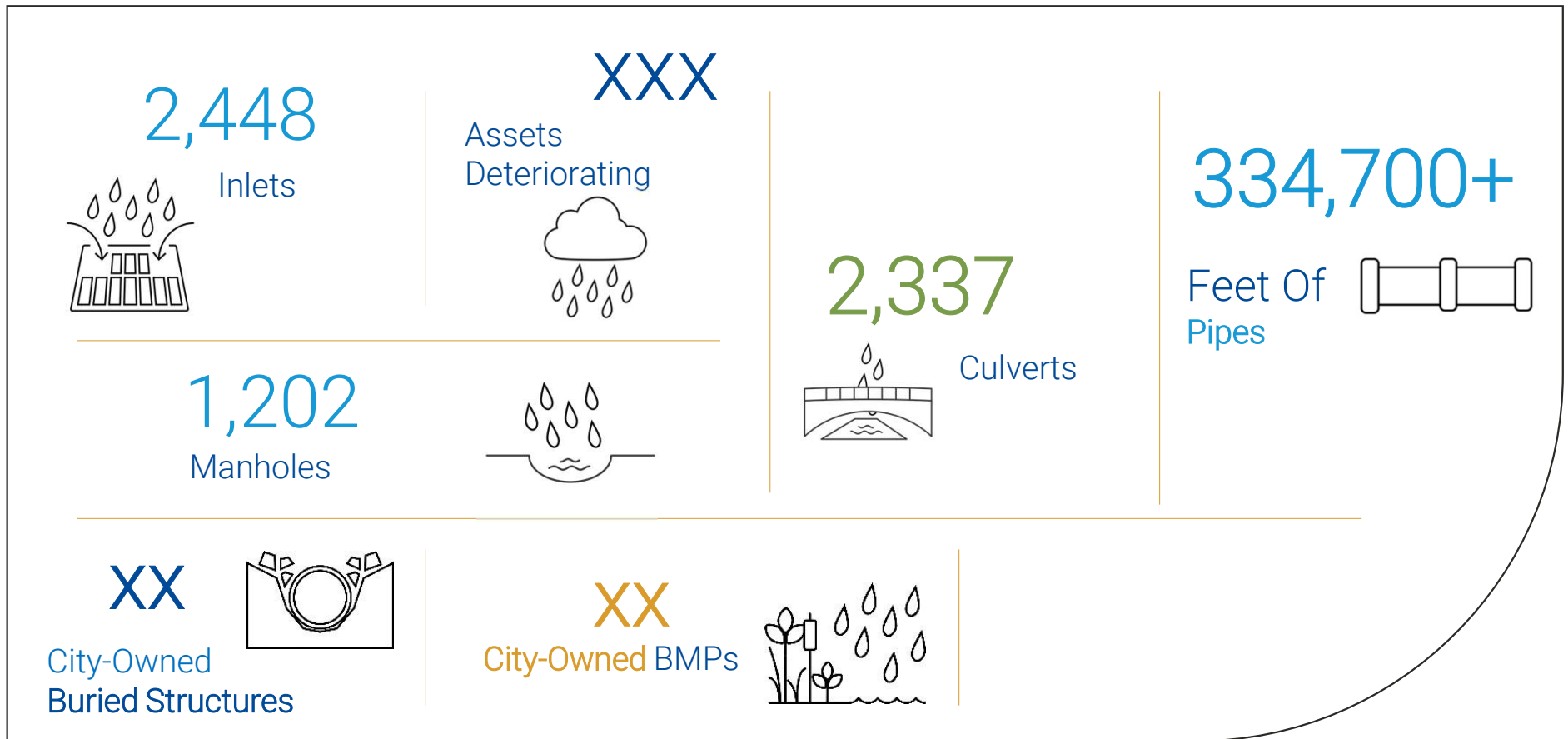
- Increase resources & funding capacity

Our Current Challenges

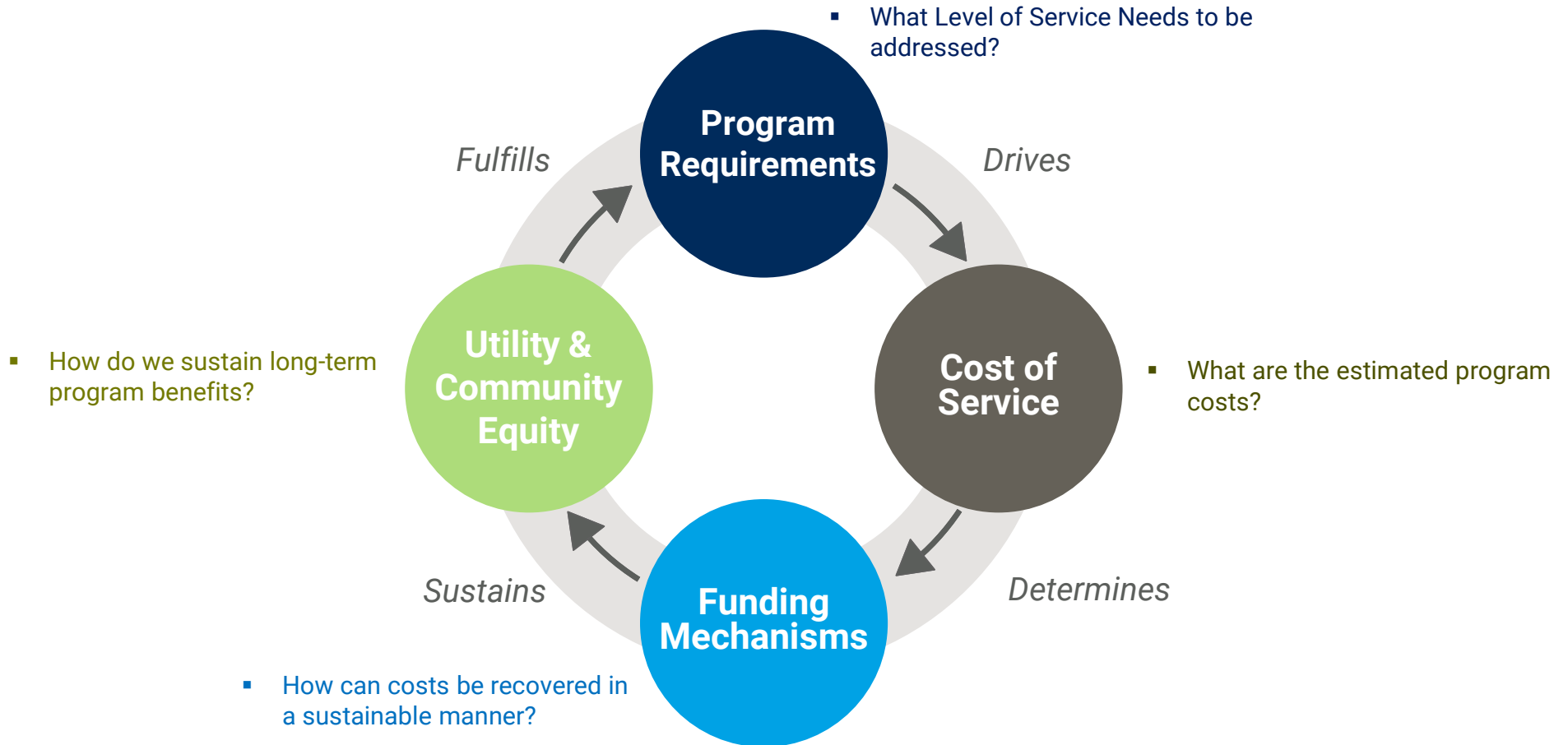


*MS4 = Municipal Separate Storm Sewer System

Hannibal's MS4 System



Long-term Program Resilience Solution



Collaborative Process: SWAC Schedule and Topics

	SESSION #1	SESSION #2
Potential Discussion Topics --->	Stormwater Financial Plan & User Charge Methodology a. Drivers and Objectives b. Five-year Financial Plan and Strategies c. Cost Recovery Approaches d. Customer Implications	SWAC Feedback Session a. Recap of SWAC #1 b. Legal Perspectives c. SWAC Feedback d. Public Outreach and Ballot Measure
STORMWATER ADVISORY COMMITTEE (SWAC)	MAY 4th, 2023	Week of June 5th

Stormwater Advisory Committee (SWAC)

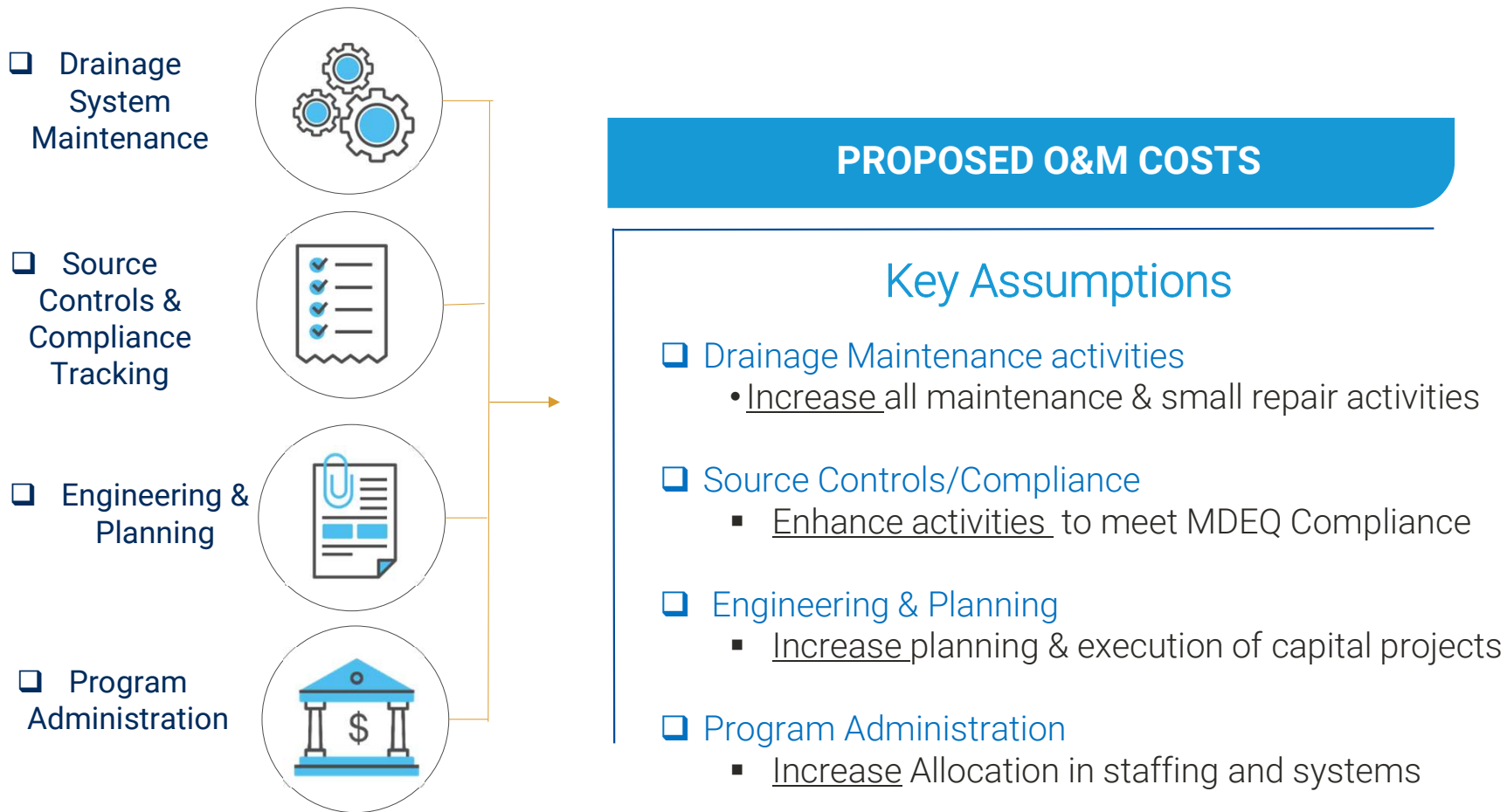
Roles & Responsibilities

- Participate in the two (2) SWAC meetings

- Provide feedback and recommendations on
 - Financial Plan and Phase-in Strategies
 - Preferred cost recovery approaches
 - Utility rate structure parameters
 - Customer affordability and cost recovery nexus

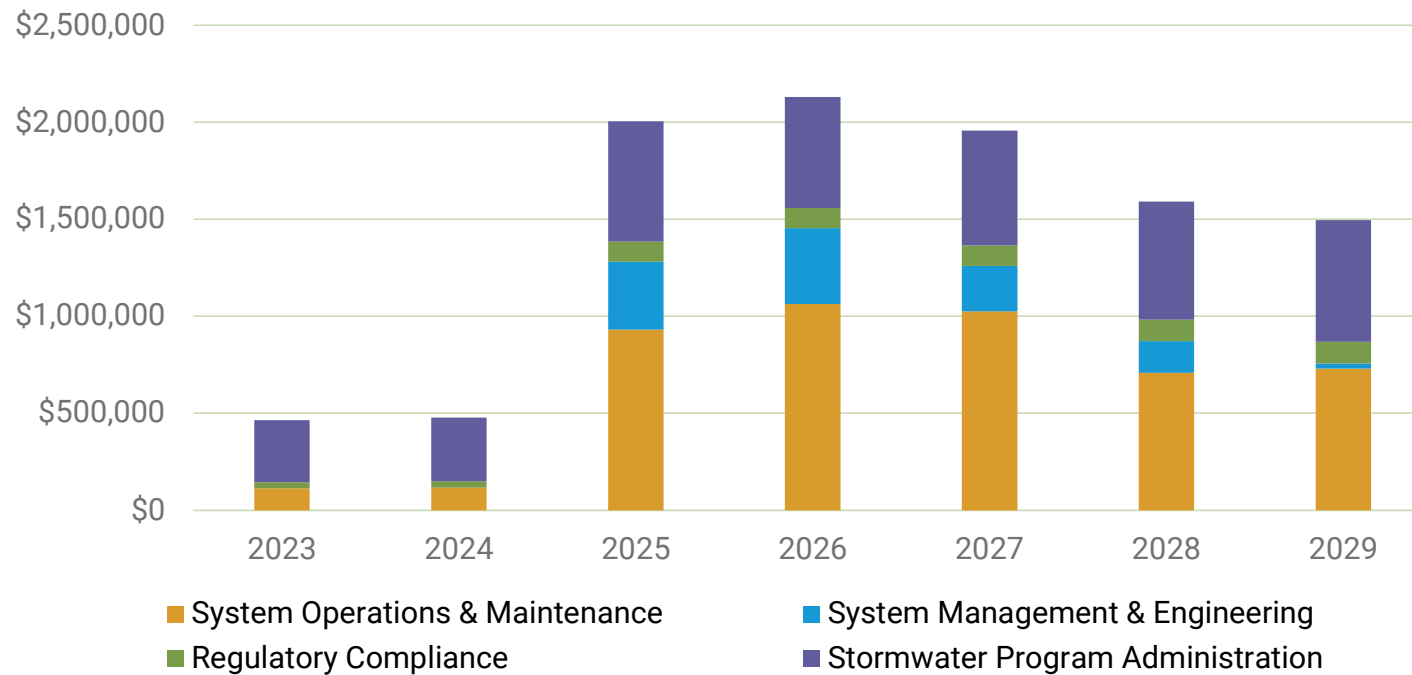
Financial Plan & Strategies

Stormwater O&M Program Level of Service (LOS)



Summary O&M Cost Projection

Projected O&M Expenditure



Key Facts

Funding Source:

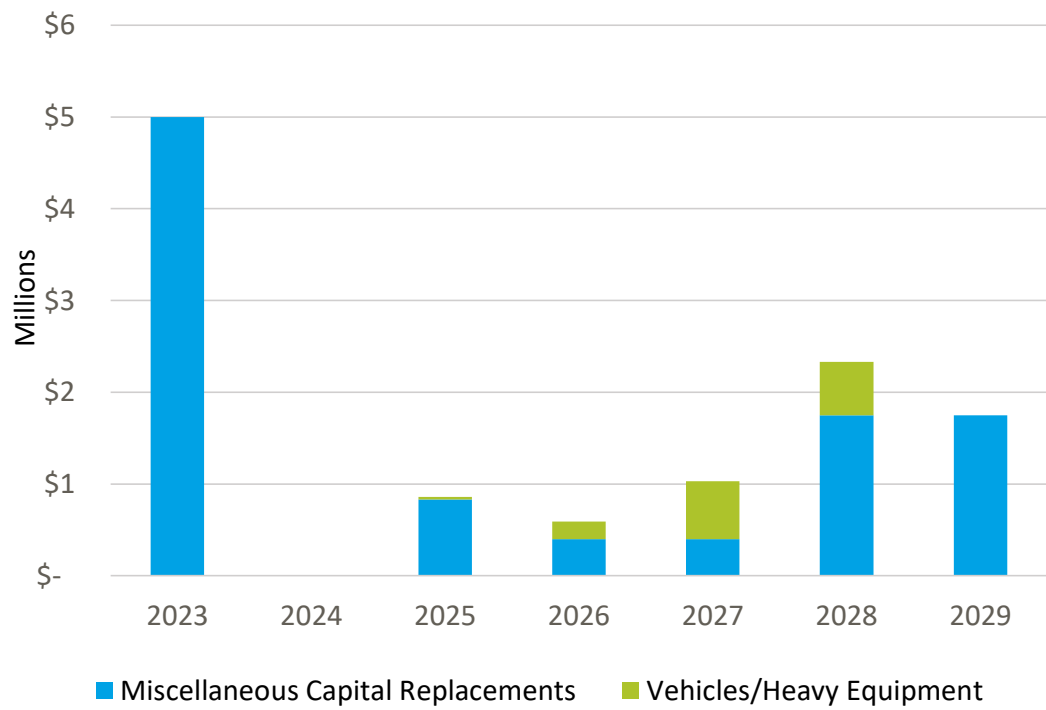
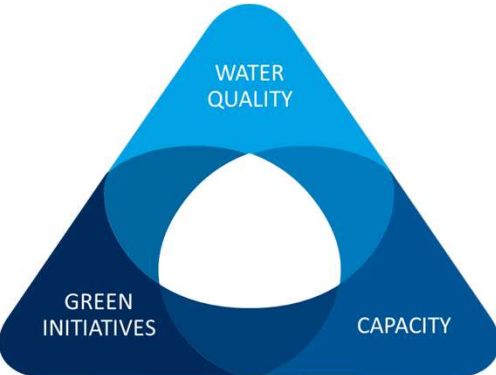
2023 & Prior: Loan from the Electric Fund

Proposed 2024: Loan from the Sewer Fund

Proposed Funding:

2025 & Beyond: Stormwater Tax Funding Source

Proposed Capital Program (2025 – 2029)

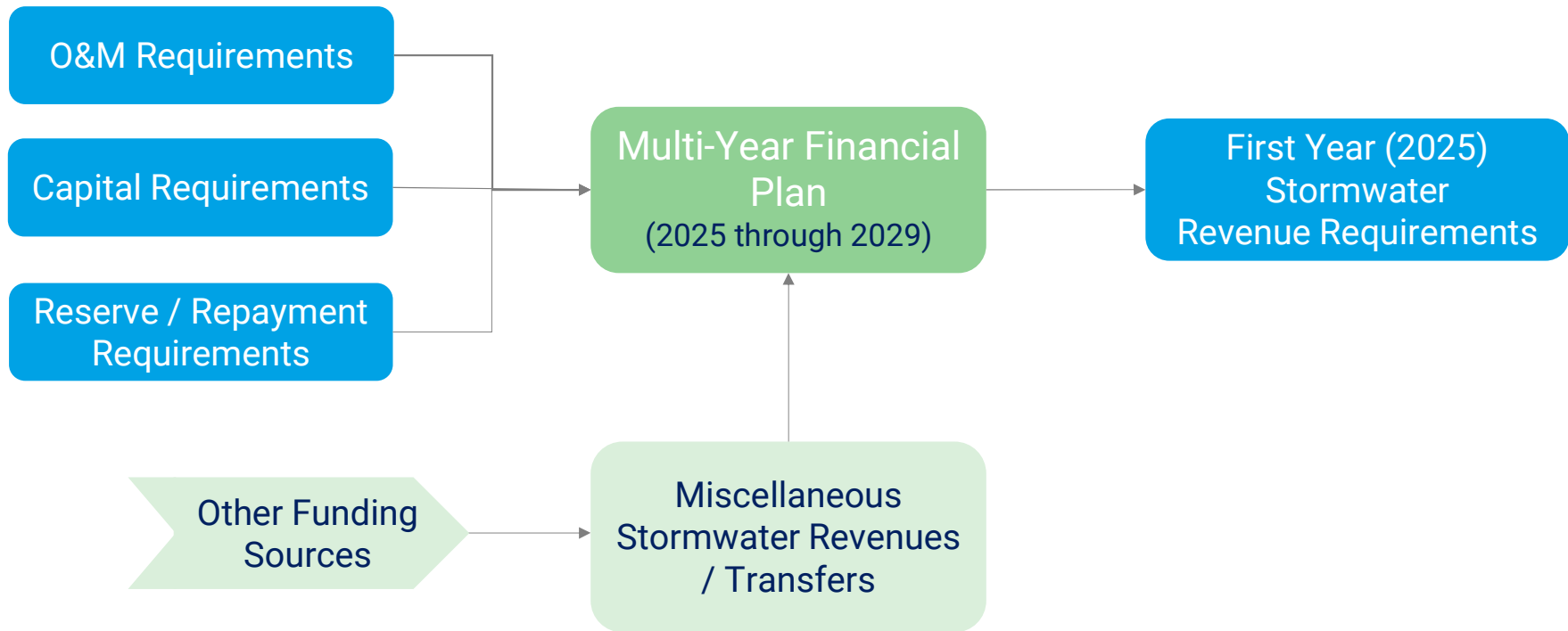


Key Facts

Funding Source:
2023: ARPA Funding (one-time)

Proposed Funding:
2025 & Beyond: Cash Financing from Stormwater Tax funding mechanism

Stormwater Financial Plan Process



Stormwater Revenue Requirement: 2025 – 2029

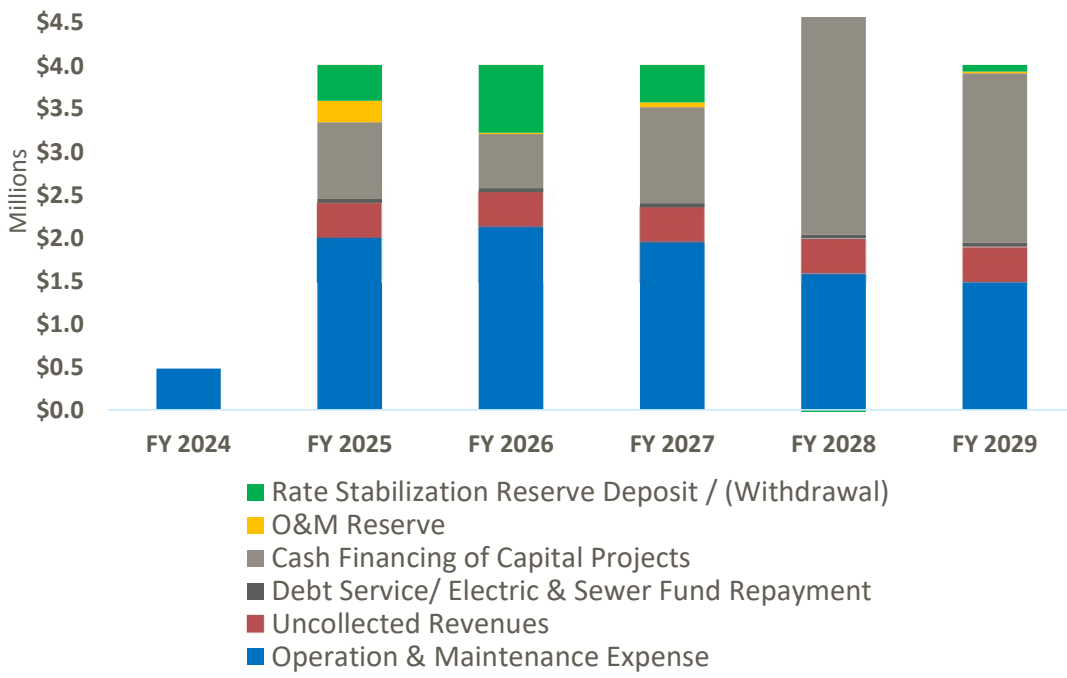
Line No.	Description	Projected					
		FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029
		\$	\$	\$	\$	\$	\$
1	Operation & Maintenance Expense	478,100	2,004,700	2,130,600	1,956,200	1,590,700	1,495,300
2	Uncollected Revenues	0	400,760	400,760	400,760	400,760	400,760
3	Debt Service/ Electric & Sewer Fund Repayment	0	43,400	43,400	43,400	43,400	43,400
4	Cash Financing of Capital Projects	0	894,700	628,200	1,114,900	2,574,700	1,970,800
5	O&M Reserve	0	247,155	15,522	58,890	27,079	20,058
6	Rate Stabilization Reserve Deposit / (Withdrawal)	0	416,885	789,118	433,450	(629,039)	77,282
7	Total Revenue Requirements	478,100	4,007,600	4,007,600	4,007,600	4,007,600	4,007,600

Disclaimer: This plan reflects figures that are based on anticipated needs and assumptions and is subject to change.

Key Highlights: 2025 – 2029 Revenue Requirements

- Extend the debt repayment to the Electric Fund (2025 through 2035)
- Phase-in Cash Financing of Capital Program
- Gradually Build O&M Reserves (45 – 90 Days)

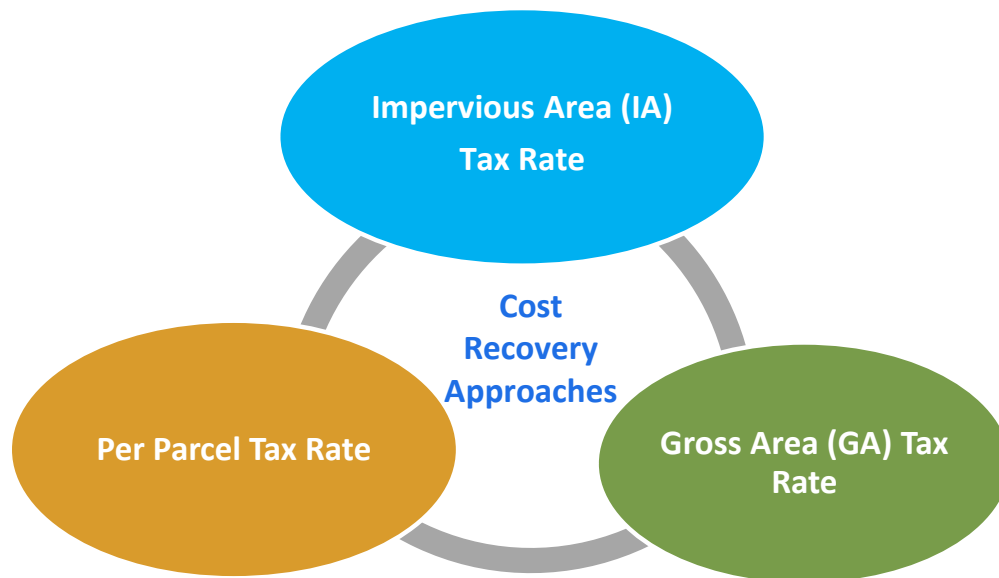
PROPOSED FIVE-YEAR FINANCIAL PLAN
Projected Revenue Requirements and Revenues



Disclaimer: This plan reflects figures that are based on anticipated needs and assumptions and is subject to change.

Cost Recovery Approaches

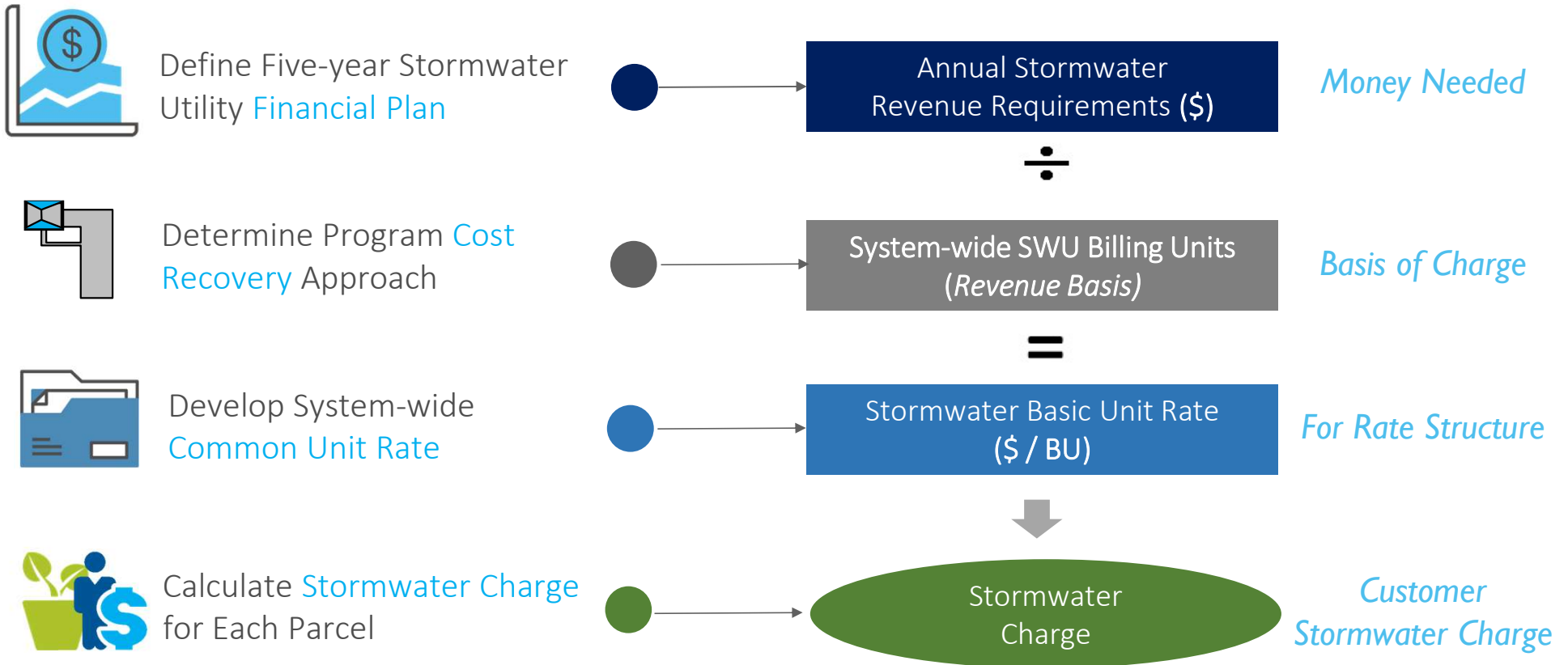
Types of Dedicated Cost Recovery Approaches



The Industry Best Practice Principles

- Stormwater Management is a utility like Water, Sewer, Electric, Gas utilities
- Funding adequacy, certainty and stability are essential for a sustainable program
- Dedicated funding mechanisms provide for long-term resilience and service delivery

Dedicated Funding Approach: Key Steps



Impervious Area (IA) Tax Rate

Annual Stormwater
Revenue Requirements (\$)

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System-wide SWU Billing Units
(*IA Billing Units*)

=

Stormwater Basic Unit Rate
(\$ / 500 sf of IA)

Cost Recovery Basis: Property Impervious Area

Rationale: More Impervious Area (IA) = More Stormwater Runoff



Residence



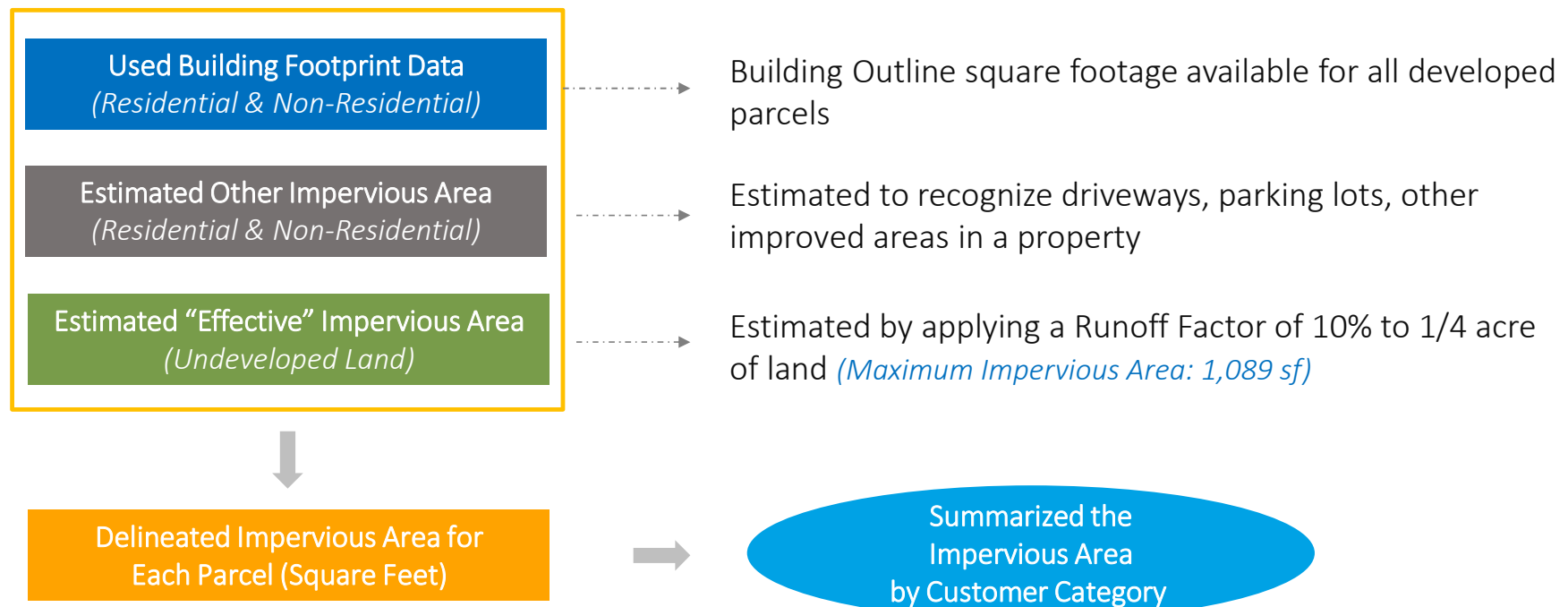
Big Box Store



Medical Center

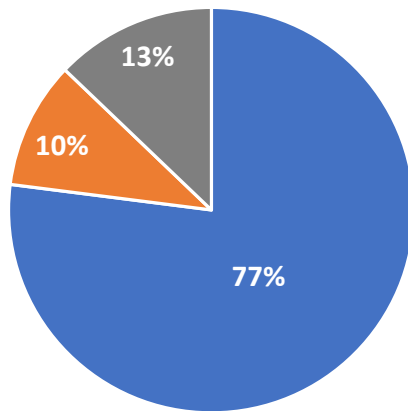
- Charges can be based on Property's Impervious Area (IA)
- Impervious area provides a reasonable approximation of the demand a property places on the System

Development of Parcel Level Impervious Area



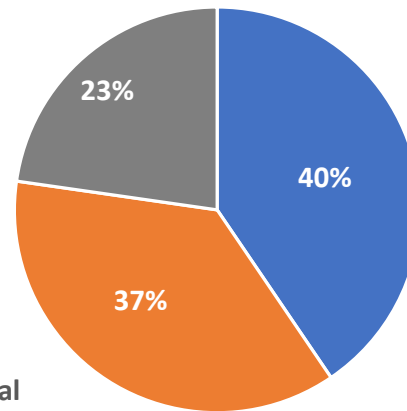
System-wide Parcels Profile

Parcel Count Distribution (%)



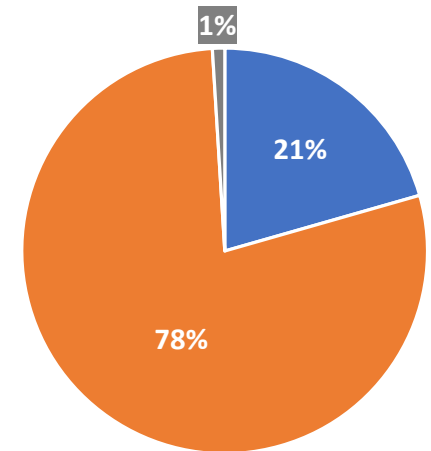
- Residential
- Non-Residential
- Undeveloped (a)

Gross Area Distribution (%)



- Residential
- Non-Residential
- Undeveloped (a)

Impervious Area Distribution (%)



- Residential
- Non-Residential
- Undeveloped (a)

(a) Parcels with no building footprint or those with less than 50 square feet are deemed as “undeveloped”.

Estimate of System-wide Stormwater Parcels, GA, and IA

Line No.	Customer Class	Parcels	Gross Area (sf)	Impervious Area (sf)	Gross Area %	Impervious Area %	Average Gross Area (sf)	Average Impervious Area (sf)
1	Residential	6,234	150,750,737	19,419,744	41%	21%	24,182	3,115
2	Non Residential	819	136,799,320	73,960,967	37%	78%	167,032	90,306
3	Undeveloped	1,039	84,634,018	904,387	23%	1%	81,457	870
4	Total	8,092	372,184,075	94,285,098	100%	100%	45,994	11,652

GA: Gross Area Square Feet; IA: Impervious Area Square Feet

Estimate of Stormwater GA and IA Billing Units

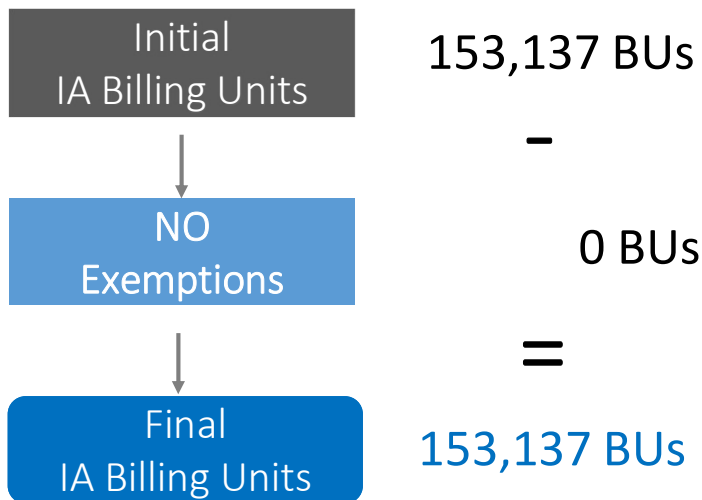
Line No.	Customer Class	Parcels	GA Billing Units	IA Billing Units
1	Residential	6,234	226,158	38,839
2	Non Residential	750	82,735	112,871
3	Undeveloped	896	62,177	1,427
4	Total	7,880	371,070	153,137

- **GA:** Gross Area Square Feet; **IA:** Impervious Area Square Feet
- GA Billing Units are based on using total lot size of only up to 5.0 acres of lot size
- One GA Billing Unit = 500 square feet (sf) of GA
- One IA Billing Unit = 500 square feet (sf) of IA

Estimate of Final IA Billing Units (IA BUs)

Scenario 1:

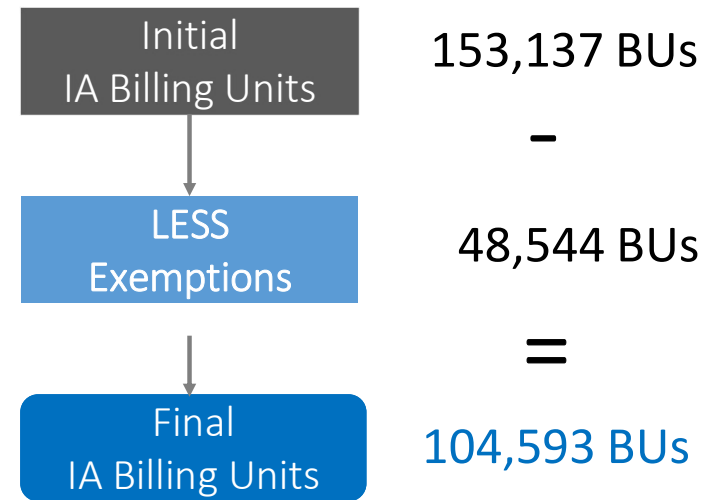
(Includes “Exempt Properties”)



One BU = 500 sf of Impervious Area (IA)

Scenario 2:

(Excludes “Exempt Properties”)*



* If per legal opinion, “Tax Exempt” properties are to be exempted from stormwater charge

System-wide Stormwater IA Tax Rate (2025)

Scenario 1:

(Includes “Exempt Properties”)

Scenario 2:

(Excludes “Exempt Properties”)*

Annual Stormwater Revenue Requirements (\$)	→ \$4,007,600	\$4,007,600
÷		
System-wide SW Billing Units (Impervious Area)	→ 153,137 BUs	104,593 BUs
=		
Stormwater IA Tax Rate (\$ / 500 sf of IA)	→ \$26.17/500 sf/Year	\$38.32/500 sf/Year

* If per legal opinion, “Tax Exempt” properties are to be exempted from stormwater charge

Gross Area (GA) Tax Rate

Annual Stormwater
Revenue Requirements (\$)

÷

System-wide SWU Billing Units
(GA Billing Units)

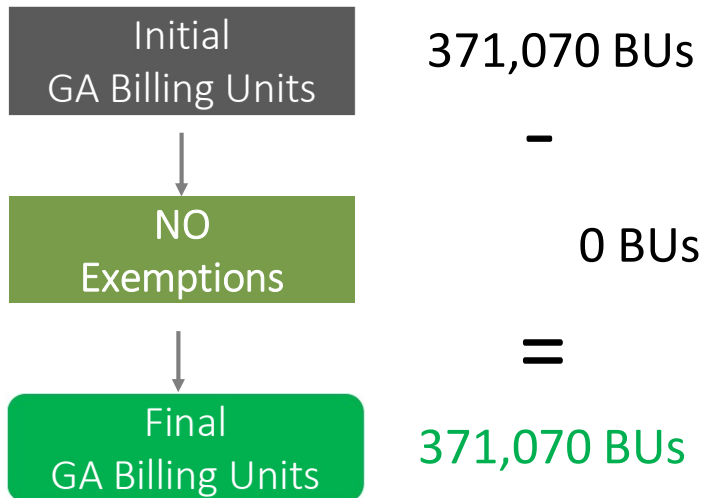
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Stormwater Basic Unit Rate
(\$ / 500 sf of GA)

Estimate of Final GA Billing Units (GA BUs)

Scenario 1:

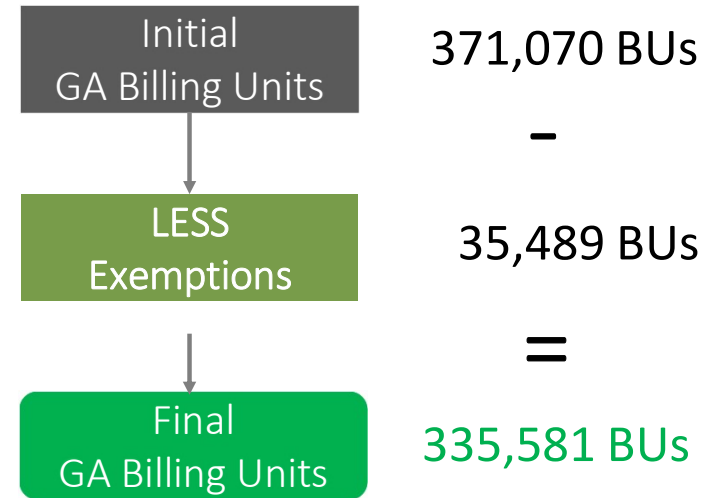
(Includes “Exempt Properties”)



One BU = 500 sf of Gross Area (GA)

Scenario 2:

(Excludes “Exempt Properties”)*



* If per legal opinion, “Tax Exempt” properties are to be exempted from stormwater charge

System-wide Stormwater GA Tax Rate (2025)

Scenario 1:

(Includes “Exempt Properties”)

Scenario 2:

(Excludes “Exempt Properties”)*

Annual Stormwater Revenue Requirements (\$)

\$4,007,600

\$4,007,600

÷

System-wide SW Billing Units (Gross Area)

371,070 BUs

335,581 BUs

=

Stormwater GA Tax Rate (\$ / 500 sf of GA)

\$10.80/500 sf/Year

\$11.94/500 sf/Year

* If per legal opinion, “Tax Exempt” properties are to be exempted from stormwater charge

Per Parcel Tax Rate

Annual Stormwater
Revenue Requirements (\$)

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System-wide SWU Billing Units
(# of *Parcels*)

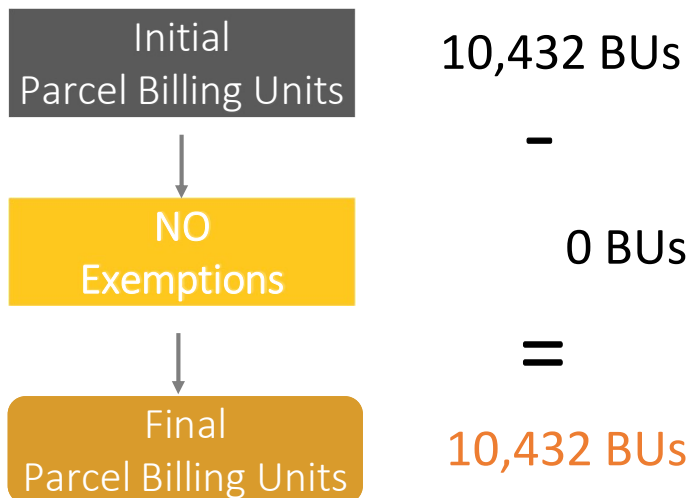
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Stormwater Basic Unit Rate
(\$ / Parcel)

Estimate of Parcel Billing Units (GA BUs)

Scenario 1:

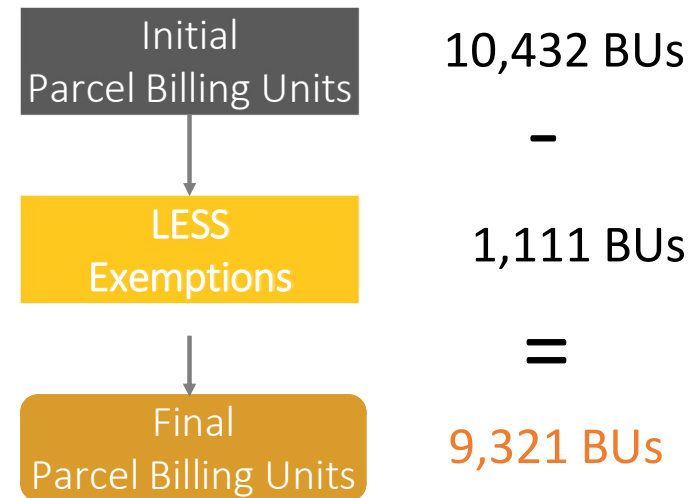
(Includes “Exempt Properties”)



One BU = One Weighted Parcel

Scenario 2:

(Excludes “Exempt Properties”)*



* If per legal opinion, “Tax Exempt” properties are to be exempted from stormwater charge

System-wide Stormwater Parcel Tax Rate (2025)

Scenario 1:

(Includes “Exempt Properties”)

Scenario 2:

(Excludes “Exempt Properties”)*

Annual Stormwater Revenue Requirements (\$)	\$4,007,600	\$4,007,600
÷		
System-wide SW Billing Units (# of Parcels)	10,432 BUs	9,321 BUs
=		
Stormwater Parcel Tax Rate (\$ / Parcel)	\$384.16/Parcel/Year	\$429.98/Parcel/Year

* If per legal opinion, “Tax Exempt” properties are to be exempted from stormwater charge

Summary: Comparison of System-wide Tax Rate (2025)

		Scenario 1	Scenario 2
Line No.	Cost Recovery Approaches	INCLUDES "Exempt Properties"	EXCLUDES "Exempt Properties"
1	Impervious Area Annual Tax Rate (Per 500 sf of IA)	\$26.17	\$38.32
2	Gross Area Annual Tax Rate (Per 500 sf of GA)	\$10.80	\$11.94
3	Per Parcel Tax Rate		
a	Residential	\$384.16	\$429.98
b	Non Residential	\$1,920.80	\$2,149.90
c	Undeveloped	\$192.08	\$214.99

- a Residential Parcel Weighting = 1.0
- b Non-Residential Parcel Weighting = 5.0
- c Undeveloped Parcel Weighting = 0.5

Summary: Comparison of Annual Revenue (2025)

Line No.	Customer Class	Annual Revenues			Annual Revenues Distribution (%)		
		IA Tax Rate	GA Tax Rate	Per Parcel Tax Rate	IA Tax Rate	GA Tax Rate	Per Parcel Tax Rate
1	Residential	\$1,488,200	\$2,700,800	\$2,680,500	37%	67%	67%
2	Non Residential	\$2,471,600	\$667,800	\$1,171,700	62%	17%	29%
3	Undeveloped	\$47,800	\$639,000	\$155,400	1%	16%	4%
4	Total	\$4,007,600	\$4,007,600	\$4,007,600	100%	100%	100%

Note: The annual revenues presented in the table excludes all exempt properties.

Customer Bill Implications

Potential Rate Structure Considerations

Rate Structure

Rate Structure Considerations

- ✓ Properties treated with “Similarity” and “Proportionality”
- ✓ Supports equitable cost recovery
- ✓ Is Easy to understand
- ✓ Feasible to implement and administer

- Individually Calculated for Each Parcel

Residential



- Individually Calculated for Each Parcel

Non-Residential



- Individually Calculated for Each Parcel

No Impervious Area



Example Stormwater Charge (IA Tax Rate Based)

Scenario 1: (Includes “Exempt Properties”)

\$26.17/500 sf of IA /Year

Scenario 2: (Excludes “Exempt Properties”)*

\$38.32/500 sf of IA /Year

Annual Charge = \$41.87
(Residential)

IA = 800 sf



Annual Charge = \$130.85
(Residential)

IA = 2,500 sf



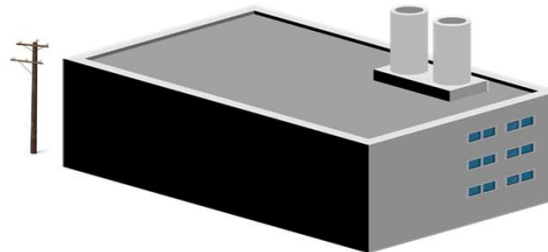
Annual Charge = \$183.19
(Residential)

IA = 3,500 sf



Annual Charge = \$1,046.80
(All Commercial & Industrial)

IA = 20,000 sf



Annual Charge = \$61.31
(Residential)

Annual Charge = \$191.58
(Residential)

Annual Charge = \$268.21
(Residential)

Annual Charge = \$1,532.65
(All Commercial & Industrial)

Example Stormwater Charge (GA Tax Rate Based)

Scenario 1: (Includes “Exempt Properties”)

\$10.80/500 sf of GA /Year

Scenario 2: (Excludes “Exempt Properties”)*

\$11.94/500 sf of GA /Year

Annual Charge = \$21.60
(Residential)

GA = 1,000 sf



Annual Charge = \$23.88
(Residential)

Annual Charge = \$216.00
(Residential)

GA = 10,000 sf



Annual Charge = \$238.85
(Residential)

Annual Charge = \$432.00
(Residential)

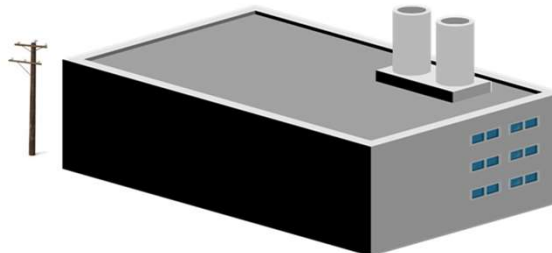
GA = 20,000 sf



Annual Charge = \$477.69
(Residential)

Annual Charge = \$648.00
(All Commercial & Industrial)

GA = 30,000 sf



Annual Charge = \$716.54
(All Commercial & Industrial)

Example Stormwater Charge (Per Parcel Rate Based)

Scenario 1: (Includes "Exempt Properties")

\$384.16/per Parcel/Year

Scenario 2: (Excludes "Exempt Properties")*

\$429.98/per Parcel/Year

*Annual Charge = \$384.16
(Residential)*



*Annual Charge = \$429.98
(Residential)*

*Annual Charge = \$384.16
(Residential)*



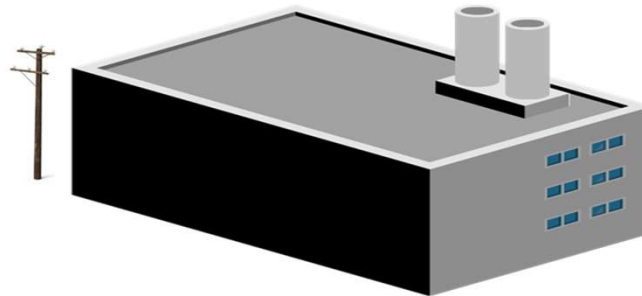
*Annual Charge = \$429.98
(Residential)*

*Annual Charge = \$384.16
(Residential)*



*Annual Charge = \$429.98
(Residential)*

*Annual Charge = \$1,920.80
(All Commercial & Industrial)*



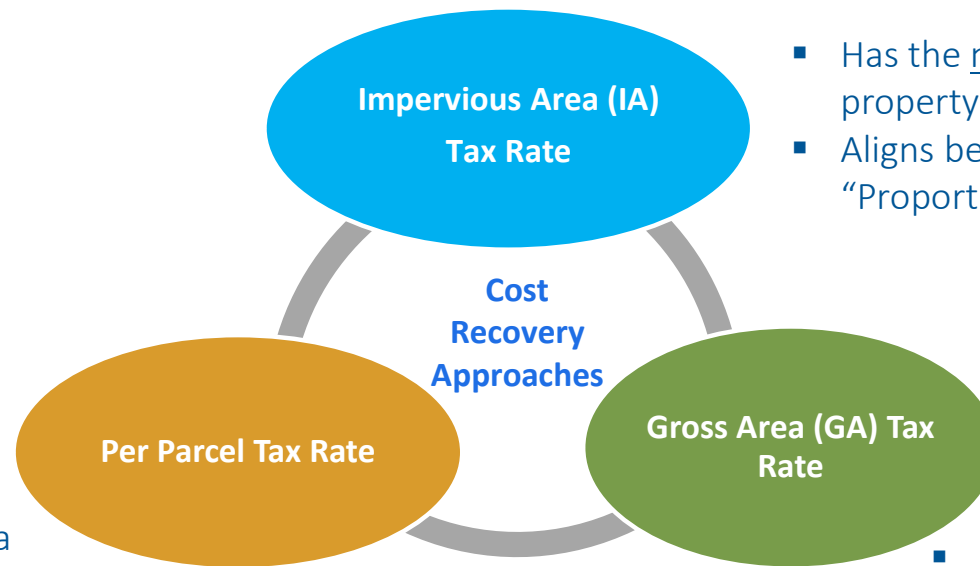
*Annual Charge = \$2,149.90
(All Commercial & Industrial)*

Summary: Comparison of Annual Charge (2025)

Line No.	Property Type	Property Size		Annual Charge		
		IA (sf)	GA (sf)	IA Tax Rate	GA Tax Rate	Per Parcel Tax Rate
1	Residential	800	1,000	\$61.31	\$23.88	\$429.98
2	Residential	2,500	10,000	\$191.58	\$238.85	\$429.98
3	Residential	3,500	20,000	\$268.21	\$477.69	\$429.98
4	Commercial and Industrial	20,000	30,000	\$1,532.65	\$716.54	\$2,149.90

Note: The annual charge presented in the table excludes all exempt properties.

Cost Recovery Approaches: Key Implications



- Has the most direct correlation to a property's runoff contribution characteristics
- Aligns best with the principle of "Proportionality"

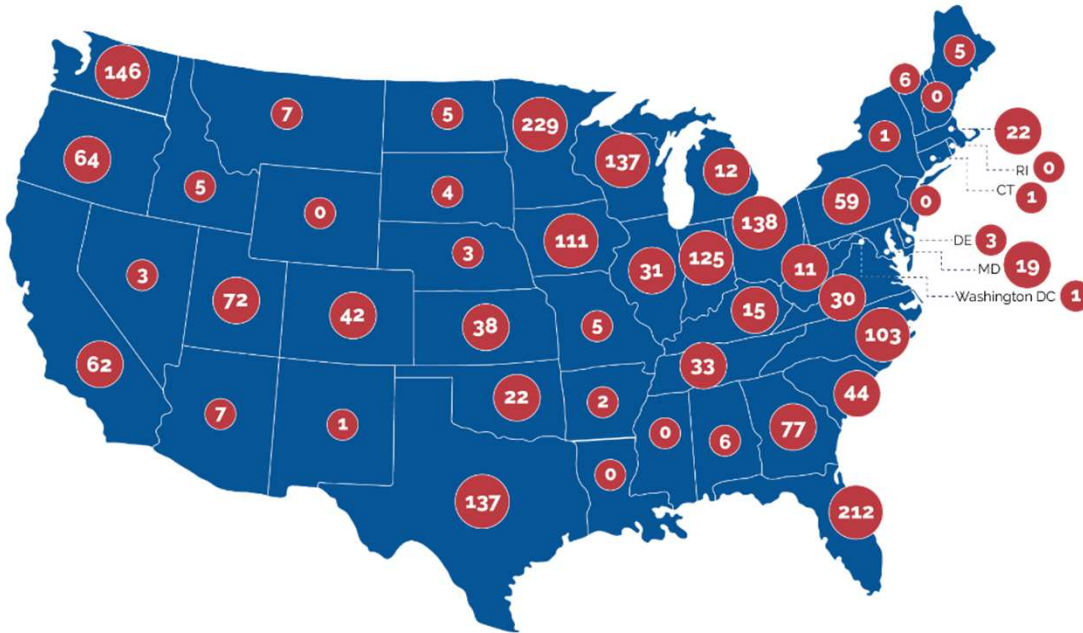
- Has limited correlation to a property's runoff contribution characteristics
- Has limited alignment with the principle of "Proportionality"

- Has the least correlation to a property's runoff contribution characteristics
- Does not reflect the principle of "Proportionality"

In Summary ...

A dedicated stormwater cost recovery approach is needed to enable ...

Stormwater User Fee Funded Utilities Landscape



Source: 2022 Western Kentucky University Stormwater Survey



Until Next Time:

- Provide SWAC #1 Presentation

We'll Meet Again:

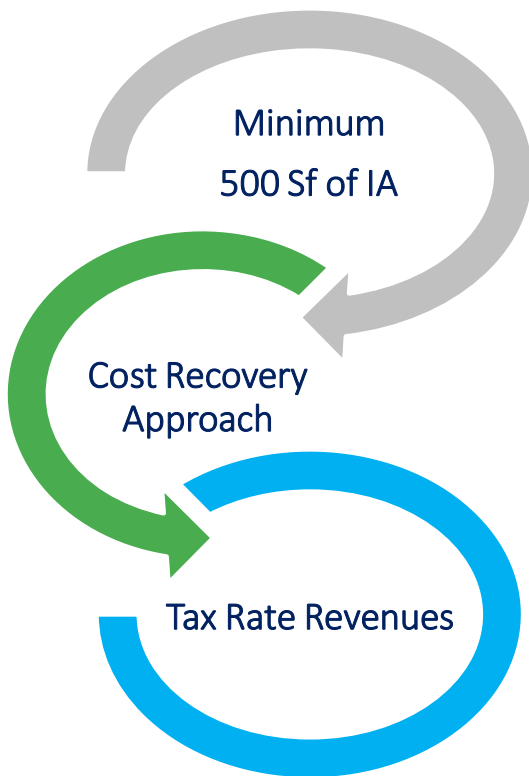
- SWAC #2: To be Decided



Discussion

Billing Units and Cost Recovery Approaches

Key Issues



Key Questions to SWAC Members

Would you concur with defining a minimum of 500 sf of IA designated to parcels if charging on a IA Tax Rate based cost recovery?

Would you concur with defining a maximum cap of 5.0 acres of Lot Size if charging on a GA Tax Rate based cost recovery?

What are your thoughts on the cost recovery approaches with respect to Community Equity and Reasonableness?

HBPW needs to have a dedicated Tax Rate funding mechanism effective Fiscal Year 2025? What are your thoughts?