



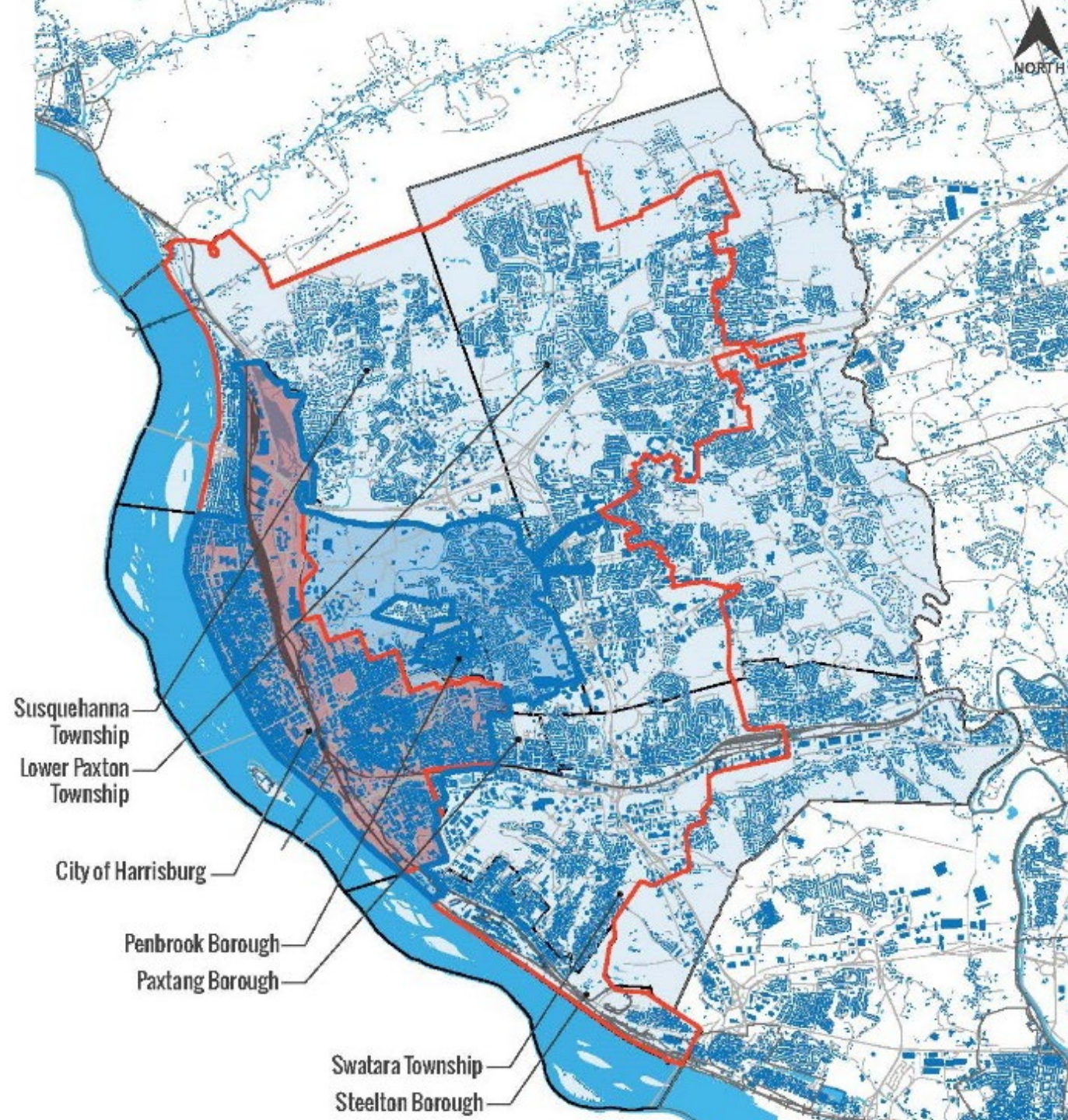
Rate Restructuring - Stormwater Fee

Recommendations for Funding the Stormwater
Management Costs of our City Beautiful H₂O
Program

Who We Are

We provide:

- Drinking Water (~67,000 people)
- Wastewater (~120,000 people)
- Stormwater (~50,000 people)



Why are we here?

Local Clean Streams + System Rehabilitation + Localized Flooding

AND

Clean Water Act + US EPA / US DOJ / PA DEP + Partial Consent Decree +

Paxton Creek TMDL/Chesapeake Bay Pollution Reduction

=

City Beautiful H₂O Program Plan

Process for Developing Stormwater Fee

- **Drivers**

- Increased Stormwater Program Needs
 - Regulatory Compliance
 - Aging Infrastructure
 - Localized Flooding
- Financial Modeling
 - City Beautiful H₂O Program Financial Capability Analysis –
 - Equity Considerations – Nexus between User Fee and Service

- **Defining the Stormwater Program**

- Outlined in our ***Community Greening Plan*** and ***CBH₂O Program Plan***

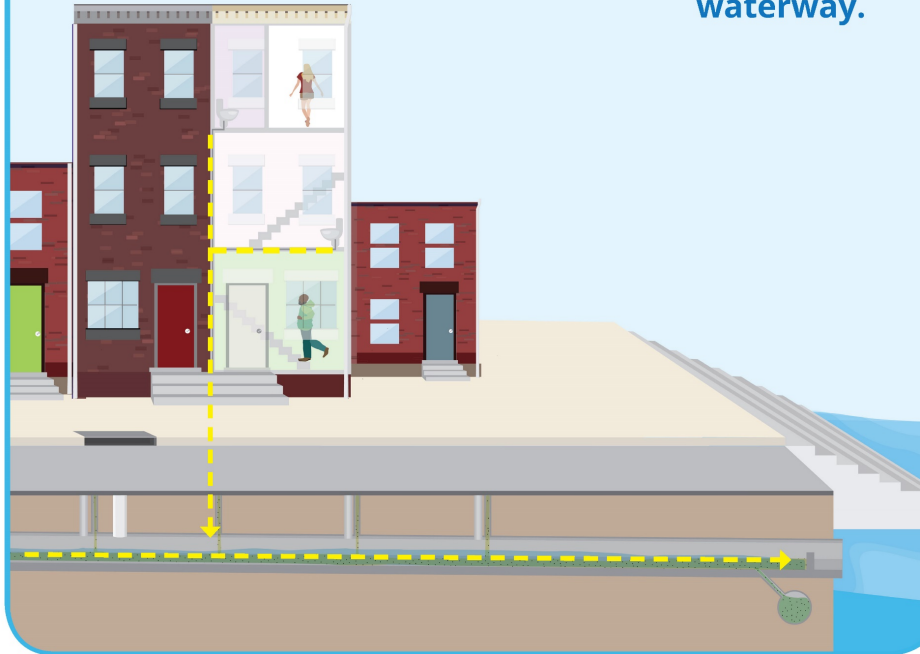
- **SW Fee Planning and Implementation Report (Raftelis Report)**

- Explored Funding Options and determined a Funding Approach

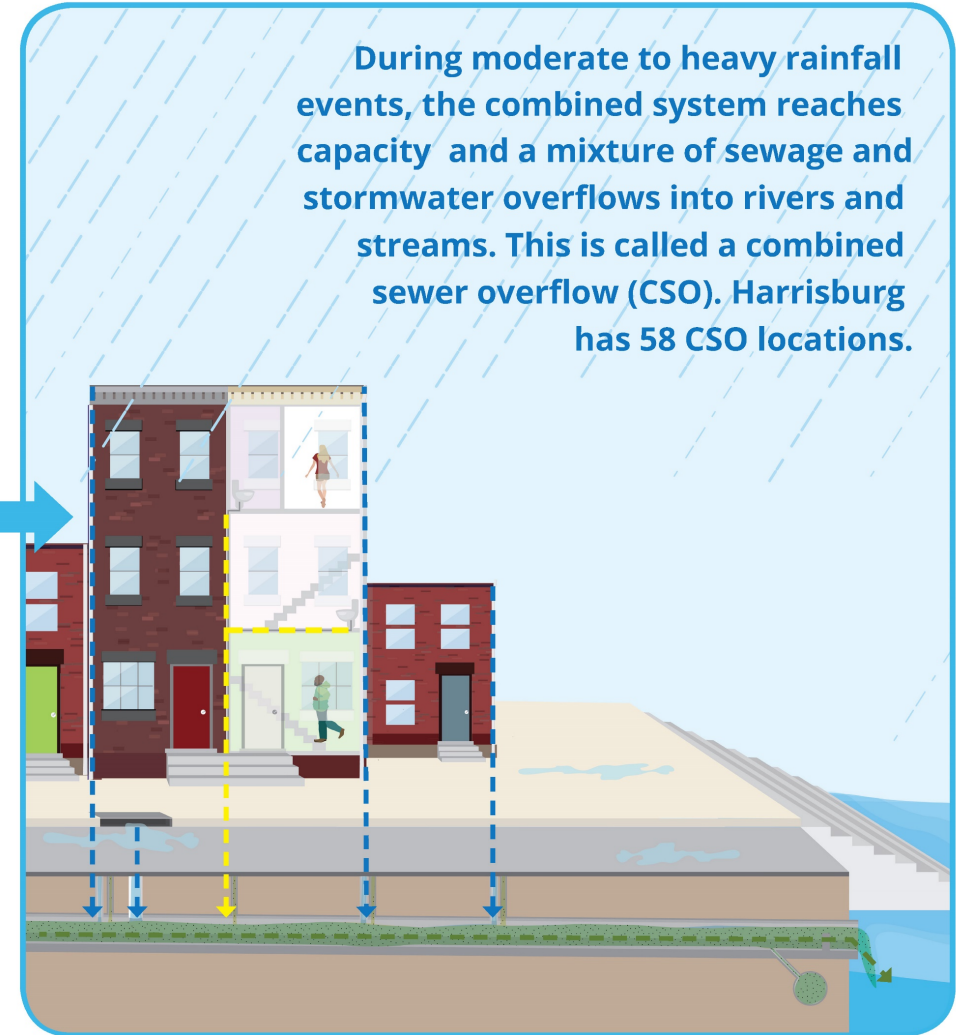
The Problem

Combined Sewer System

In a combined sewer system (CSS), the same pipe carries sanitary sewage from buildings and stormwater from rooftops and pavement. During light rainfall events, both stormwater and sewage are carried to a water pollution control plant for treatment before being released to a waterway.



During moderate to heavy rainfall events, the combined system reaches capacity and a mixture of sewage and stormwater overflows into rivers and streams. This is called a combined sewer overflow (CSO). Harrisburg has 58 CSO locations.

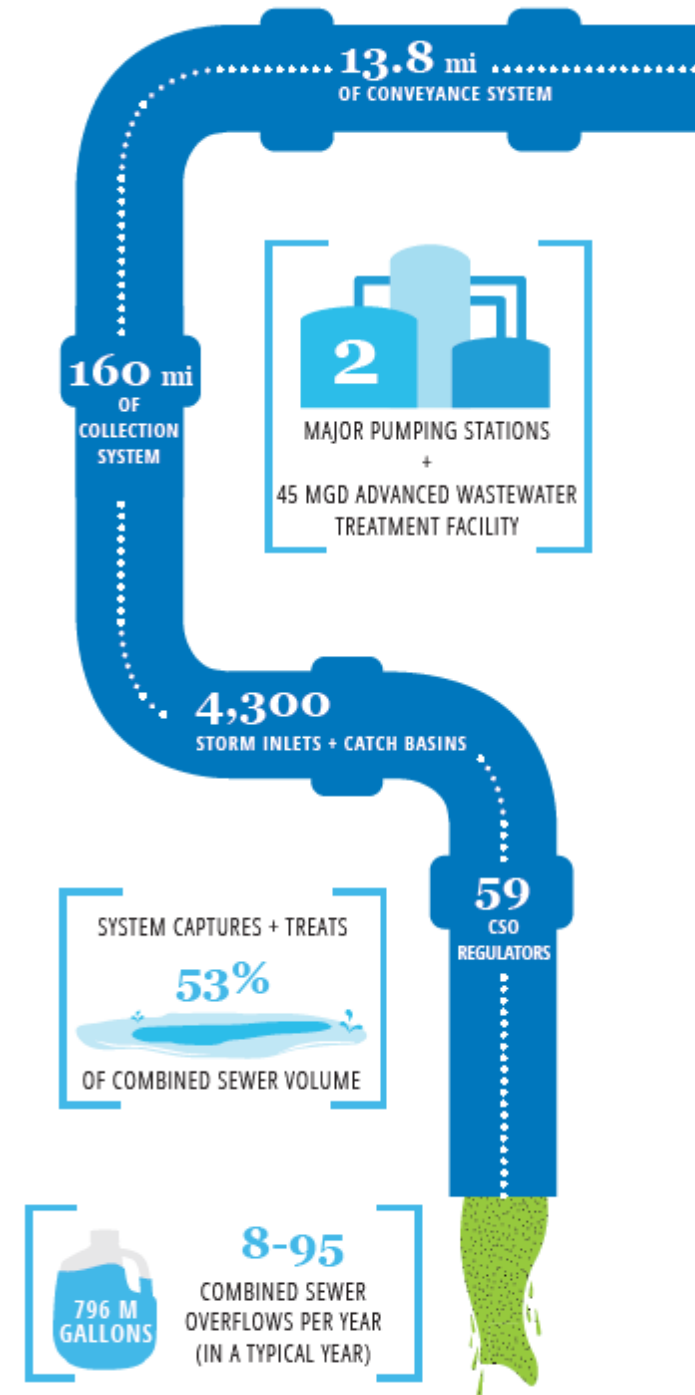


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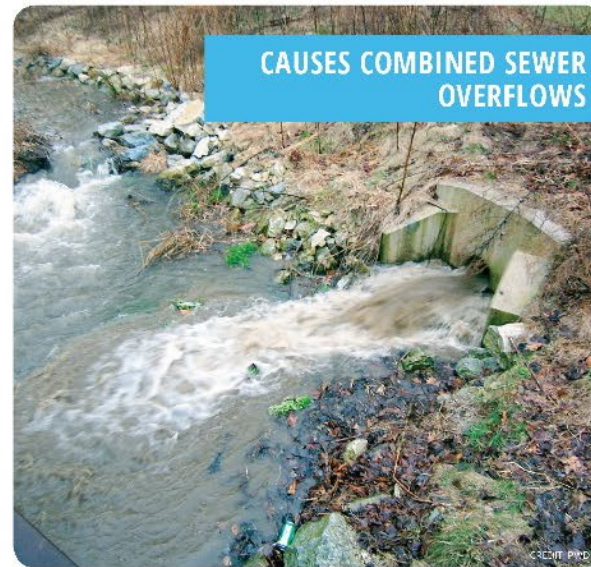
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Combined Sewer Overflows

The existing system, on average, captures and treats 53 percent of the combined wastewater volume, overflows from 8 to 95 times a year, and discharges 796 million gallons into receiving waters under typical year precipitation conditions.



Why is Stormwater a Problem?



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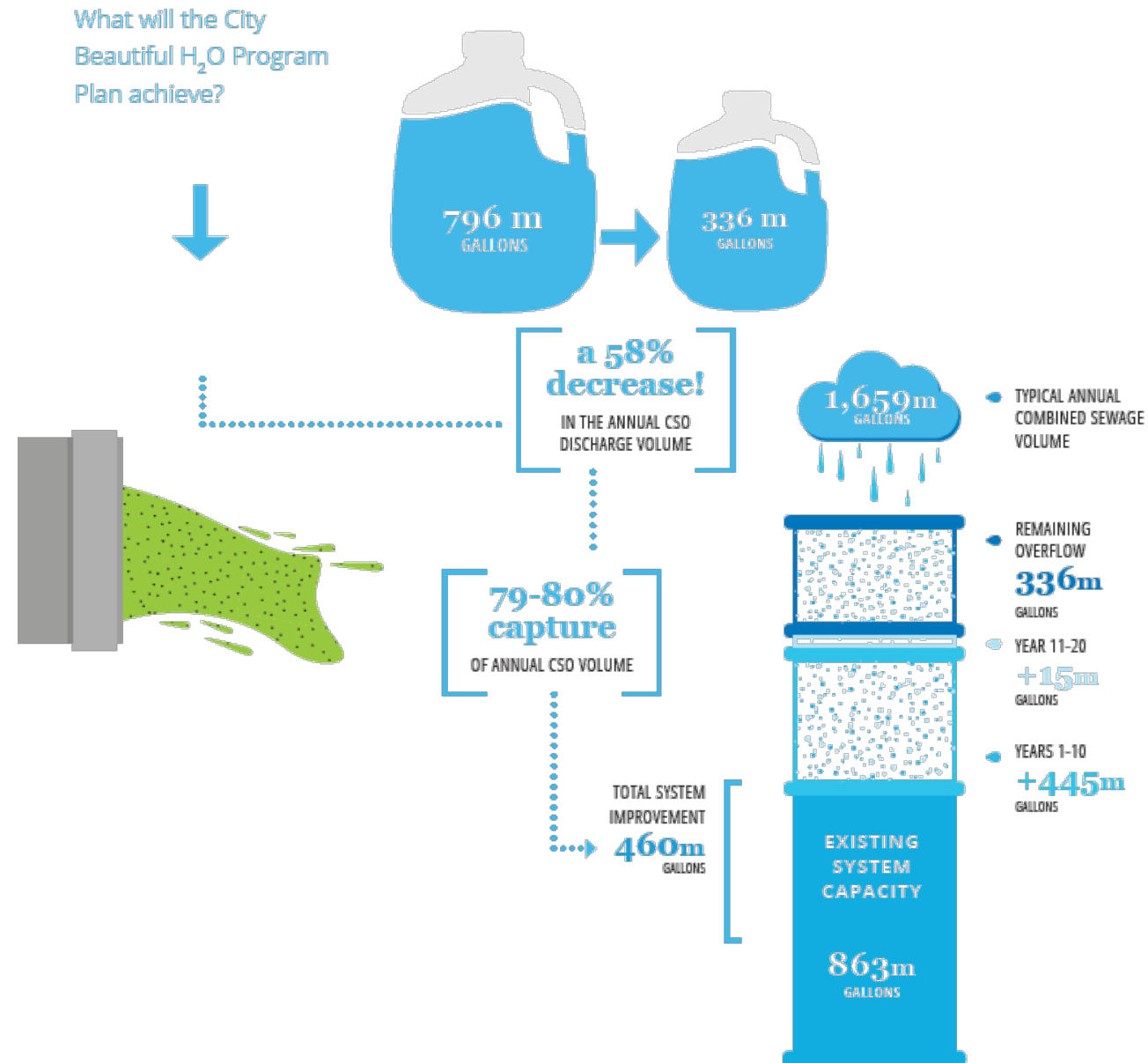


Stormwater in Our System

- 1.6 Billion Gallons of Annual Combined Sewage volume enters our pipe system (stormwater & wastewater)
- Currently, our system can handle just over half of the volume and with improvements to our existing infrastructure we will be able to handle about 75 percent.

HOW DO WE HANDLE THE REST?

- Option 1 -
 - Install Gray Infrastructure ONLY = Over \$1 billion dollars
- Option 2 -
 - Install Decentralized Green/ Small Gray Infrastructure = Approx. \$500 million dollars







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The Cost

Program-Wide Costs - Basis of the Stormwater Fee

- The long-term stormwater costs are based on the proposed City Beautiful H2O Program that have been submitted to EPA. This plan is not approved yet.
- If we must spend more due to EPA's feedback fees, wastewater and stormwater, may increase.
- Implementation of Stormwater Rate is built into our FCA and projects the ability to increase revenue by approx. \$1 million/year

\$315 Million Total Investment
(escalated costs)

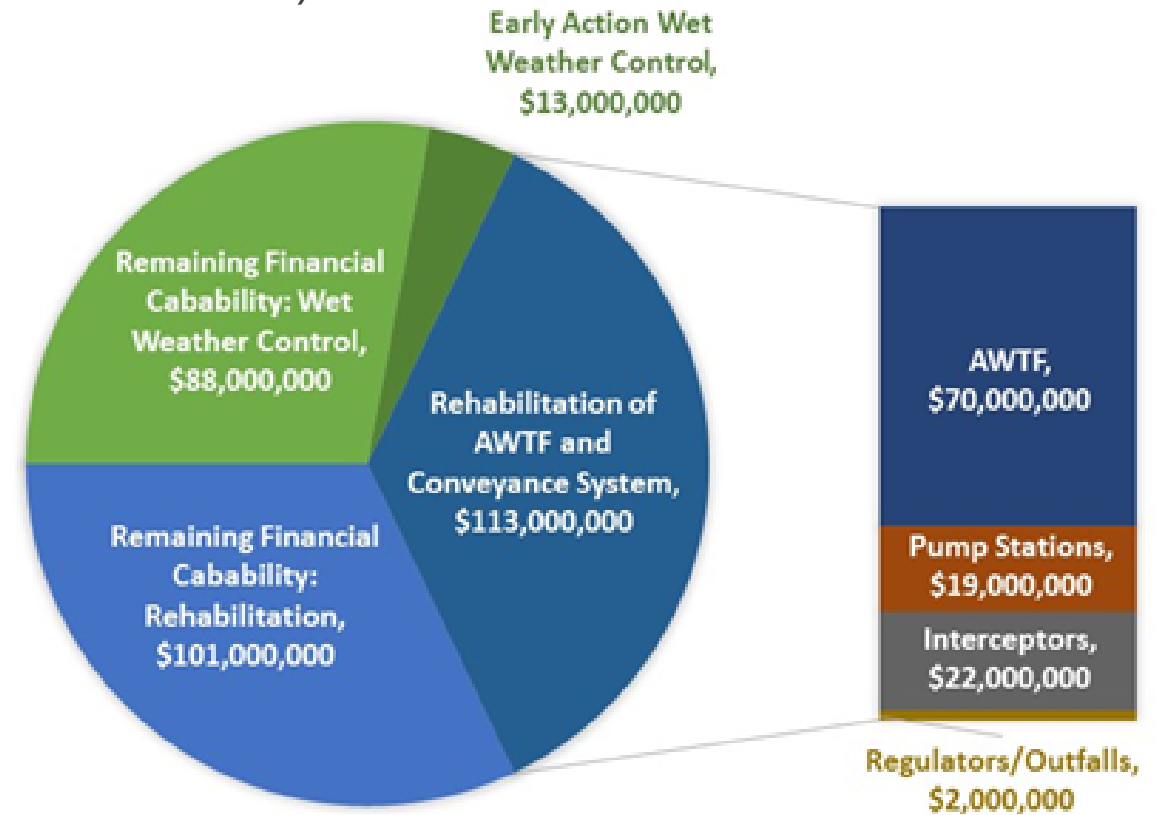


Figure 11-3. Estimated Capital Cost of Affordable Rehabilitation and Wet Weather Control Projects over the 20-year Planning Horizon

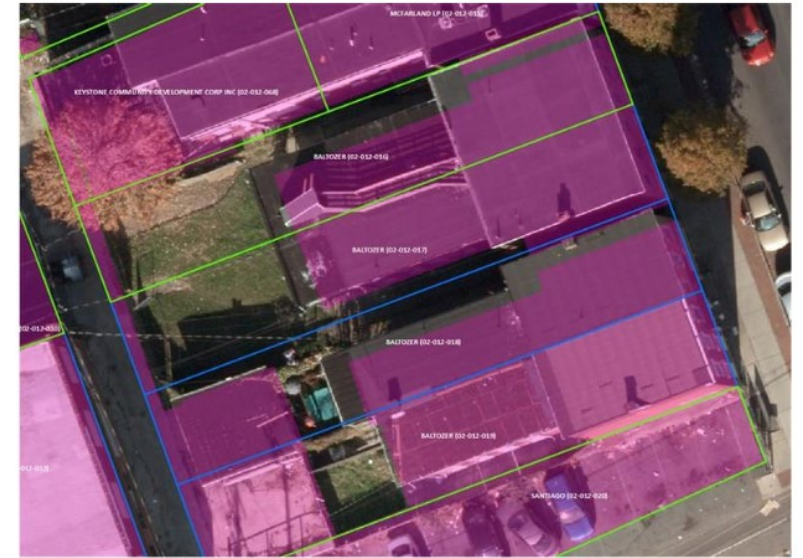
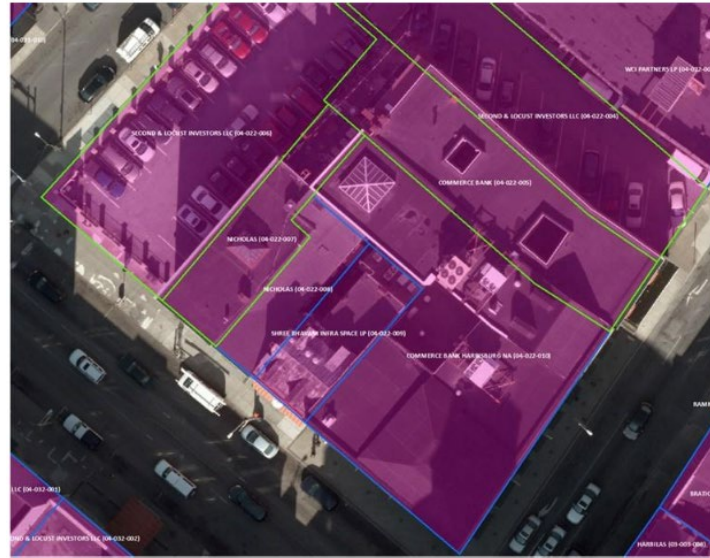
Why Implement a Stormwater Fee?

- **More equitable way to recover stormwater-related costs:**
 - Stormwater costs recovered through sewer rates if no stormwater fee.
 - Sewer billing based on water consumption does not correlate to the amount of stormwater runoff from an individual property.
 - A stormwater fee is assessed based on impervious area
 - Impervious area is a more equitable means of recovering stormwater costs.
- **A stormwater fee structure:**
 - Provides a dedicated revenue source for regulatory compliance
 - Typically shifts costs away from residential customers and is therefore more equitable to already burdened low income rate payers.
 - Can provide an incentive for property owners to implement Green Infrastructure.
 - Promotes improved facility maintenance and better management of SW runoff.



Basis of the Stormwater Fee

- Property Impervious Area ("IA")
- Measured for each property based on high resolution aerial photography and Light Light Detection and Ranging (LIDAR) imported into the Geographic Information System (GIS) data

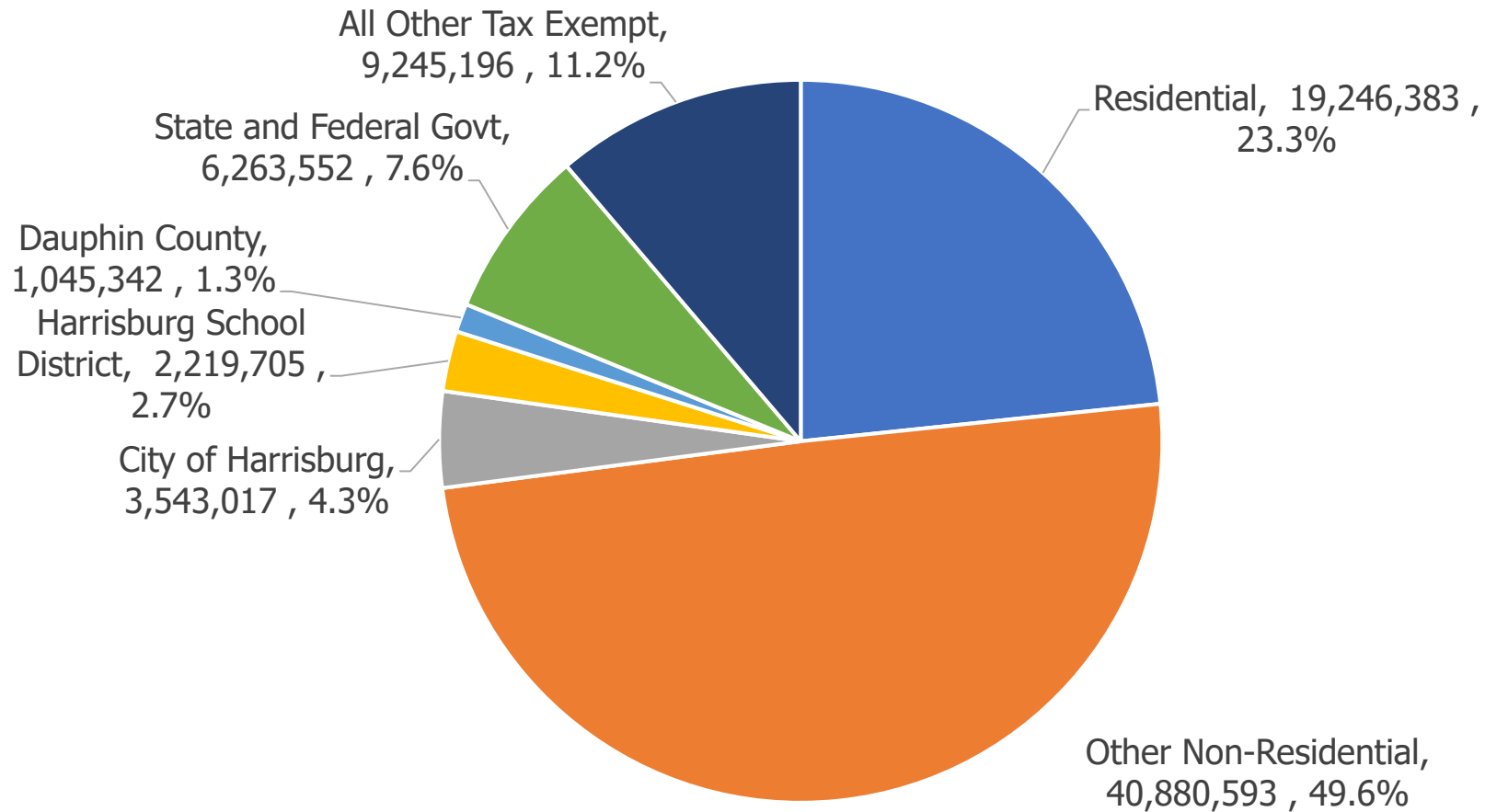


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Basis of the Stormwater Fee

Impervious Area by Property Type within CRW's Service Area



Why a Stormwater Fee Based on Impervious Area of Each Property?

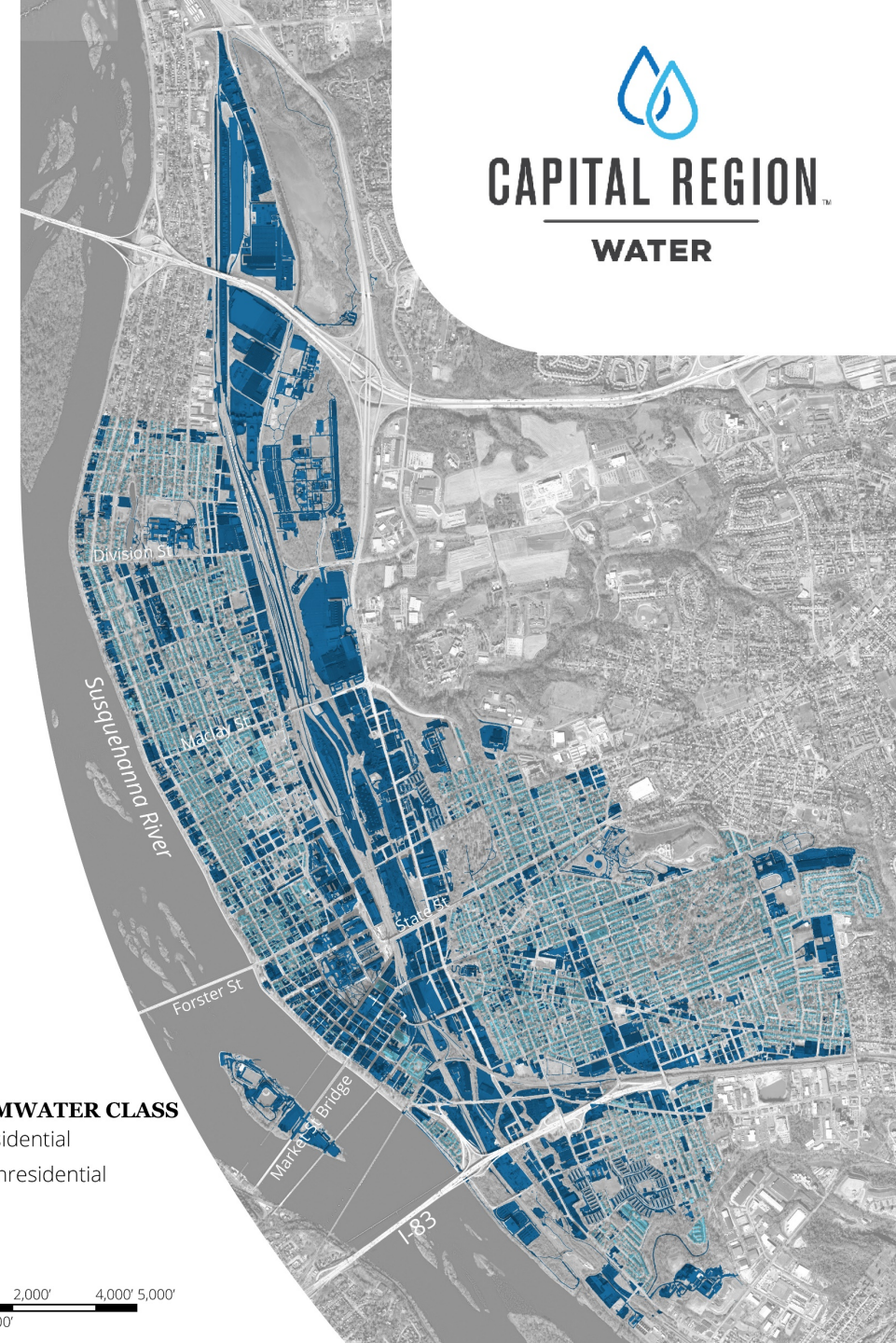
- Mapping the impervious area
 - Shows the major impact of larger impervious properties covering more than 75% of the city.

STORMWATER CLASS

-  Residential
-  Nonresidential



0' 2,000' 4,000' 5,000'
1 inch: 2,000'



Estimated Stormwater Program Costs

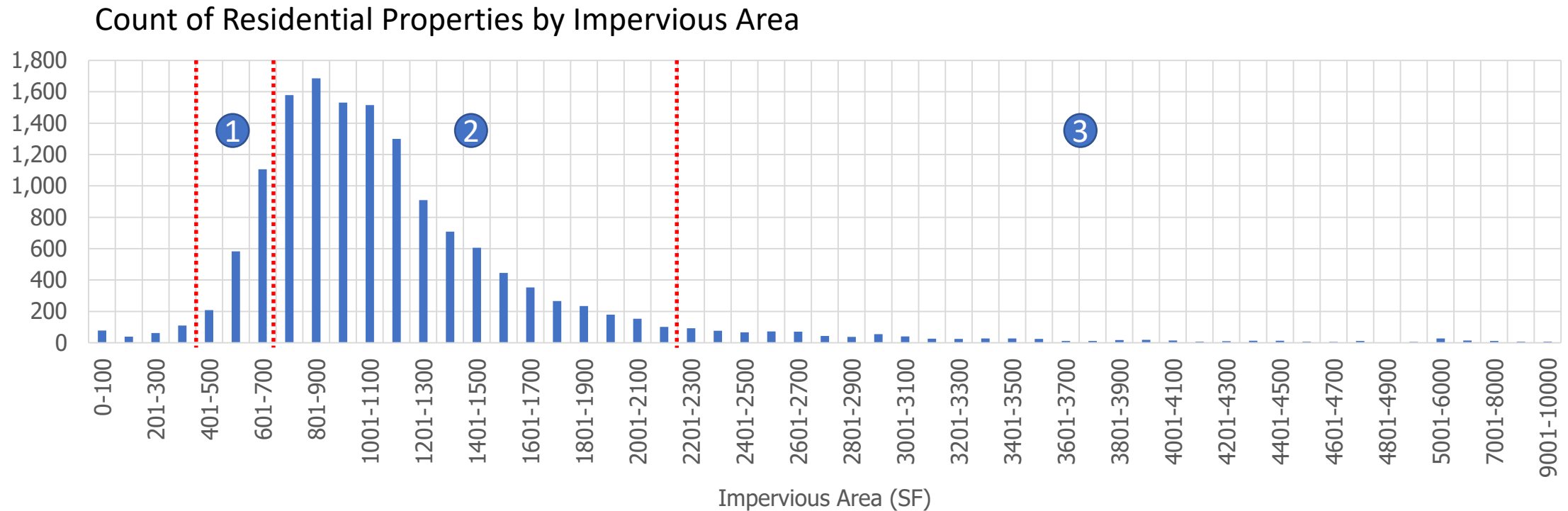
Description	FY 2020	FY 2021	FY 2022
O&M Costs:			
Field Maintenance Personnel	\$860,461	\$895,551	\$932,251
Administrative Personnel	506,978	526,133	546,098
Administrative Non-Personnel	153,108	157,395	161,802
Street Sweeping	668,200	686,910	706,143
GSI Related	<u>401,000</u>	<u>465,000</u>	<u>539,000</u>
Total O&M Costs	\$2,589,747	\$2,730,989	\$2,885,295
Capital Related Costs:			
Cash-Funded Capital	<u>\$2,278,875</u>	<u>\$2,347,241</u>	<u>\$2,417,658</u>
Total Stormwater System Costs	\$4,868,622	\$5,078,230	\$5,302,953

- Program costs will continue for the next 20+ years.
- Assumptions for Capital Related Costs:
 - 177 acres of Green Infrastructure over 20 years.
 - 8.85 acres (1/20th) of GI added per year.
 - Average Cost of \$250,000 per acre of GI.

Updated from March 2018 report based on FY 2019 Wastewater budget, GSI-related O&M costs, and CRW's latest Stormwater capital plan scenarios.

Basis of the Stormwater Rate

- The average residential property contains 1,023 SF of impervious area



How Would the Stormwater Fee be Structured?

Residential:

Tier	Thresholds	Total IA	Number of Properties	Fee Scaling
1	400 to 700 SF	1,144,951	1,897	Flat Fee x 0.50
2	701 to 2,200 SF	13,165,906	11,565	Flat Fee
3	> Than 2,200 SF	4,935,526	941	Fee per IA

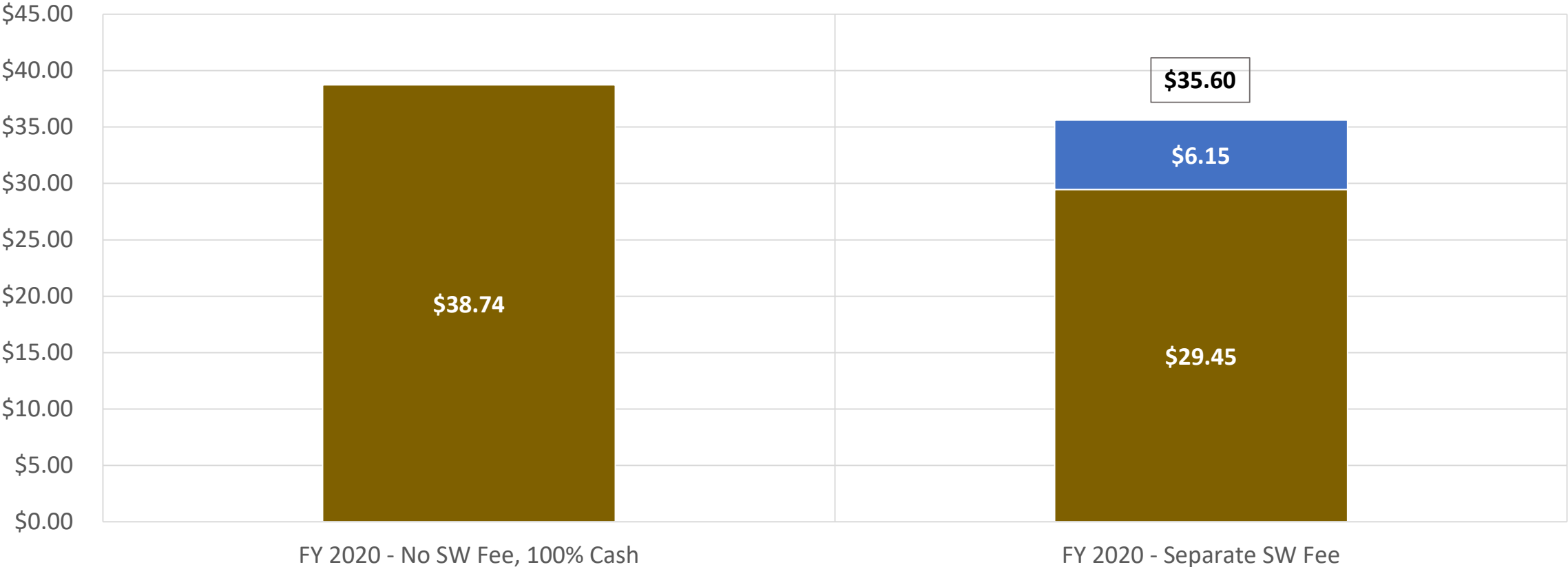
Non-Residential:

Thresholds	Total IA	Number of Properties	Fee Scaling
400 to 700 SF	132,313	238	Flat Fee x 0.50
> Than 700 SF	63,065,093	2,752	Fee per IA

Typical Residential Monthly Bill Comparison

Assumes 3,750 gallons of usage per month for Residential customers

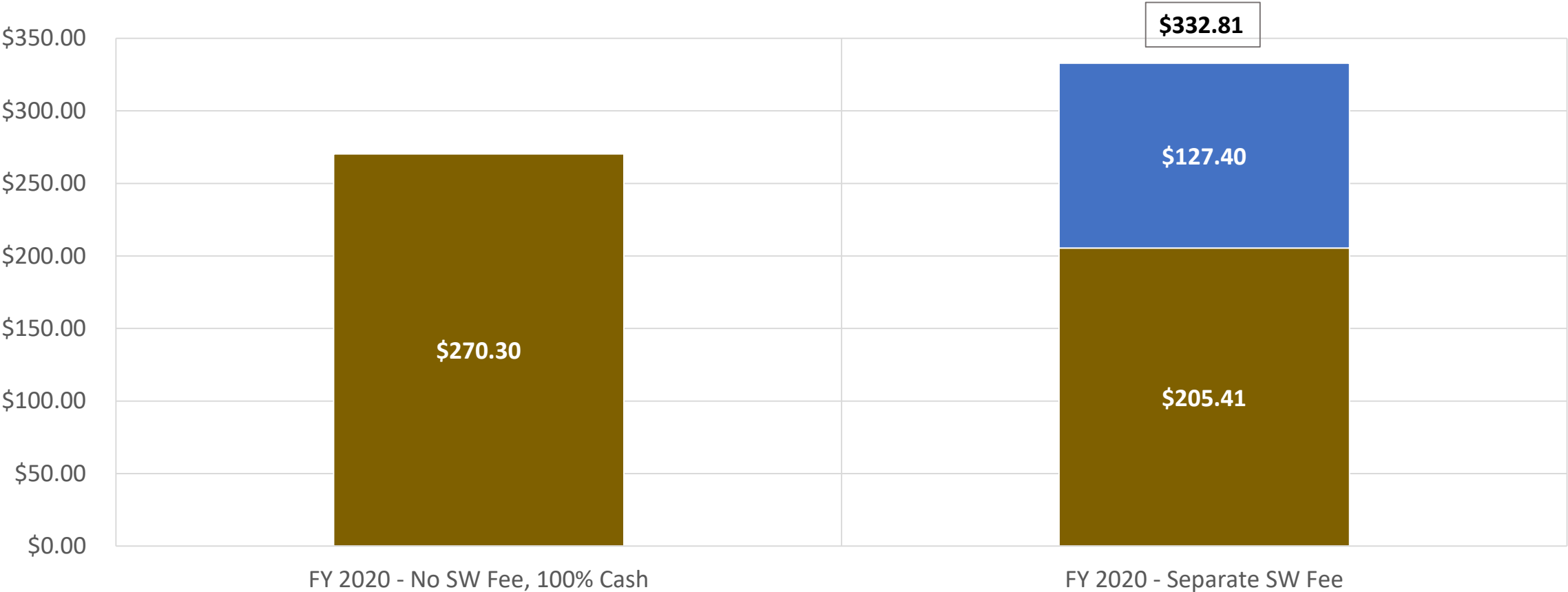
■ Wastewater Portion ■ Stormwater Portion



Typical Commercial Monthly Bill Comparison

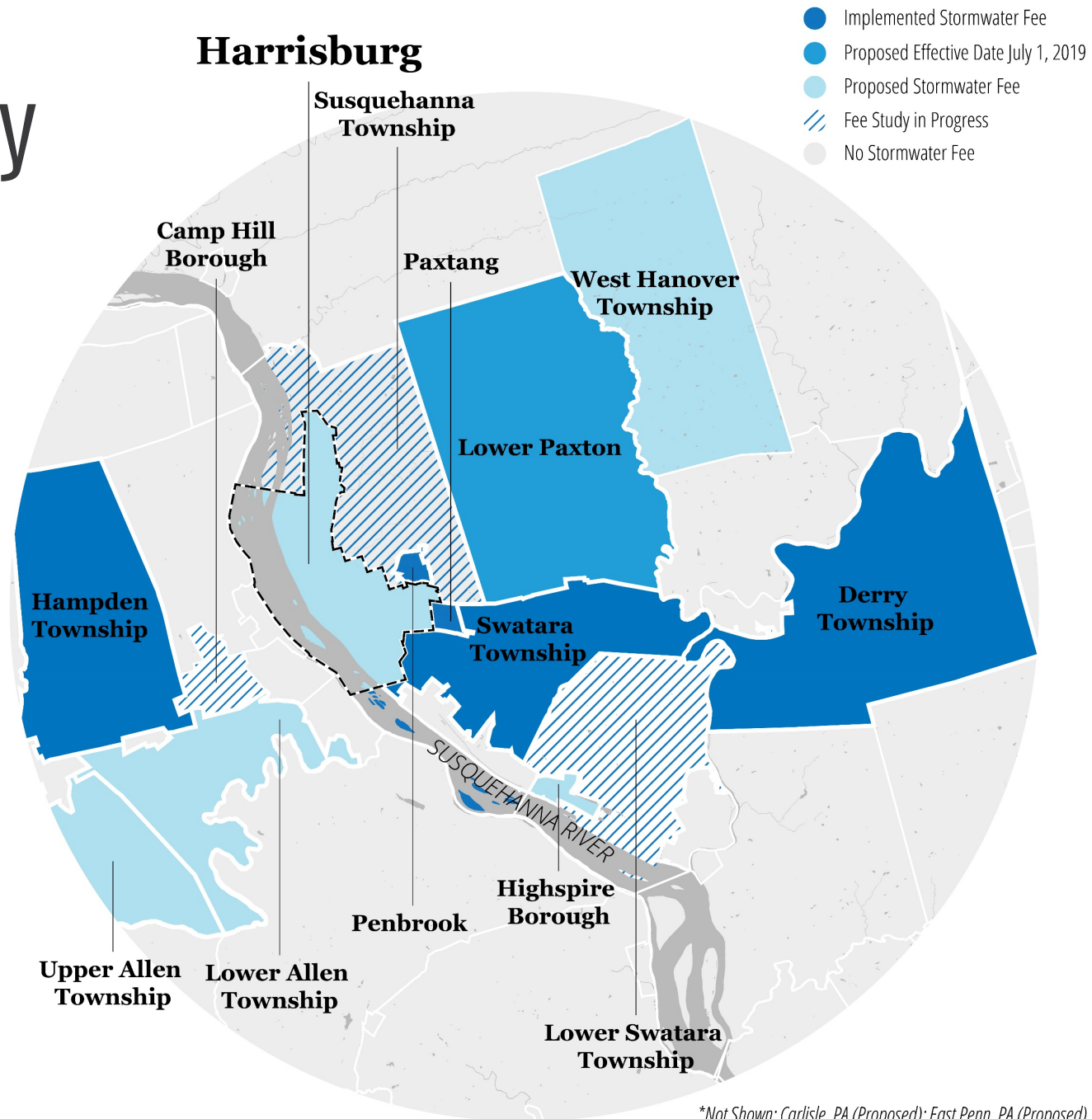
Assumes 21,200 gallons of usage per month for Commercial customers

■ Wastewater Portion ■ Stormwater Portion



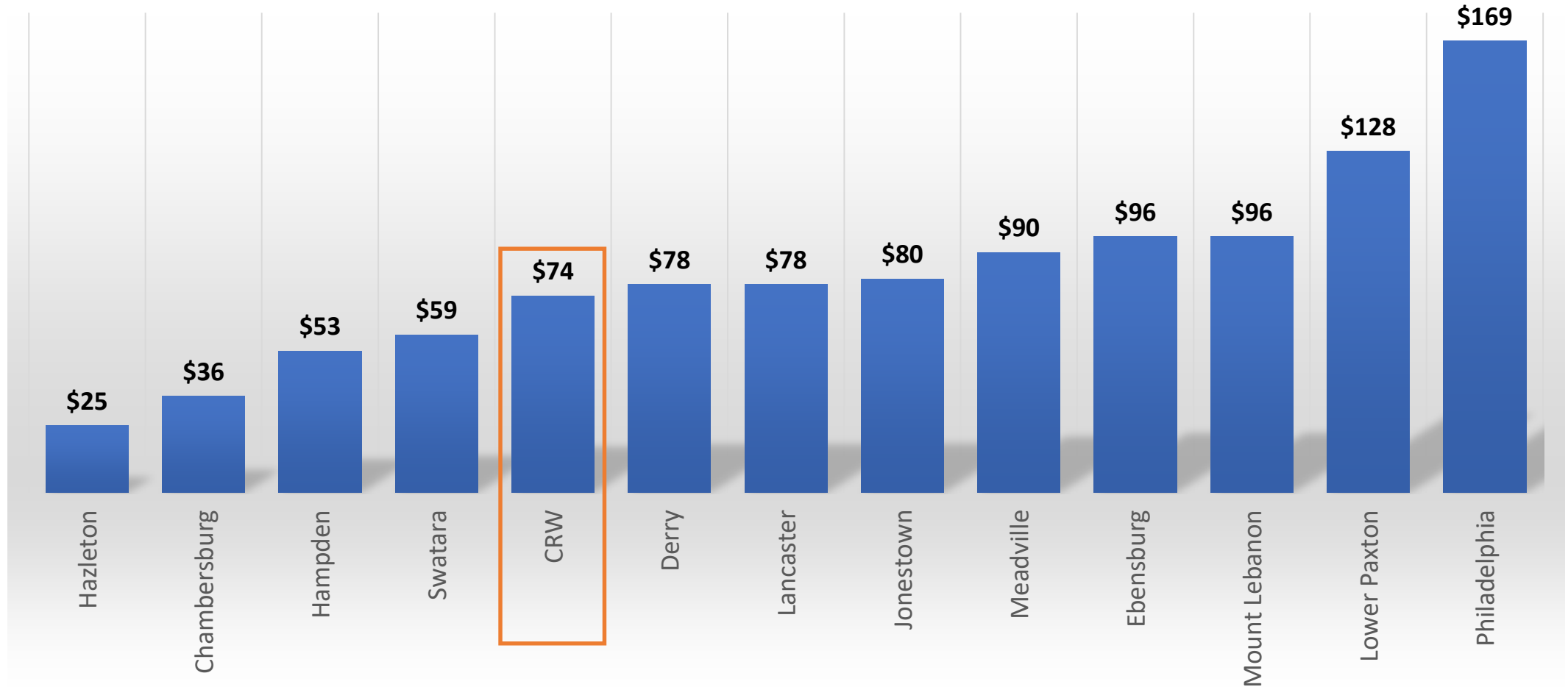
Stormwater fees Locally

- We are not the first, even in our region, to propose a stormwater fee.
- Fifteen other municipalities have implemented or plan to implement a stormwater fee in the next few years.



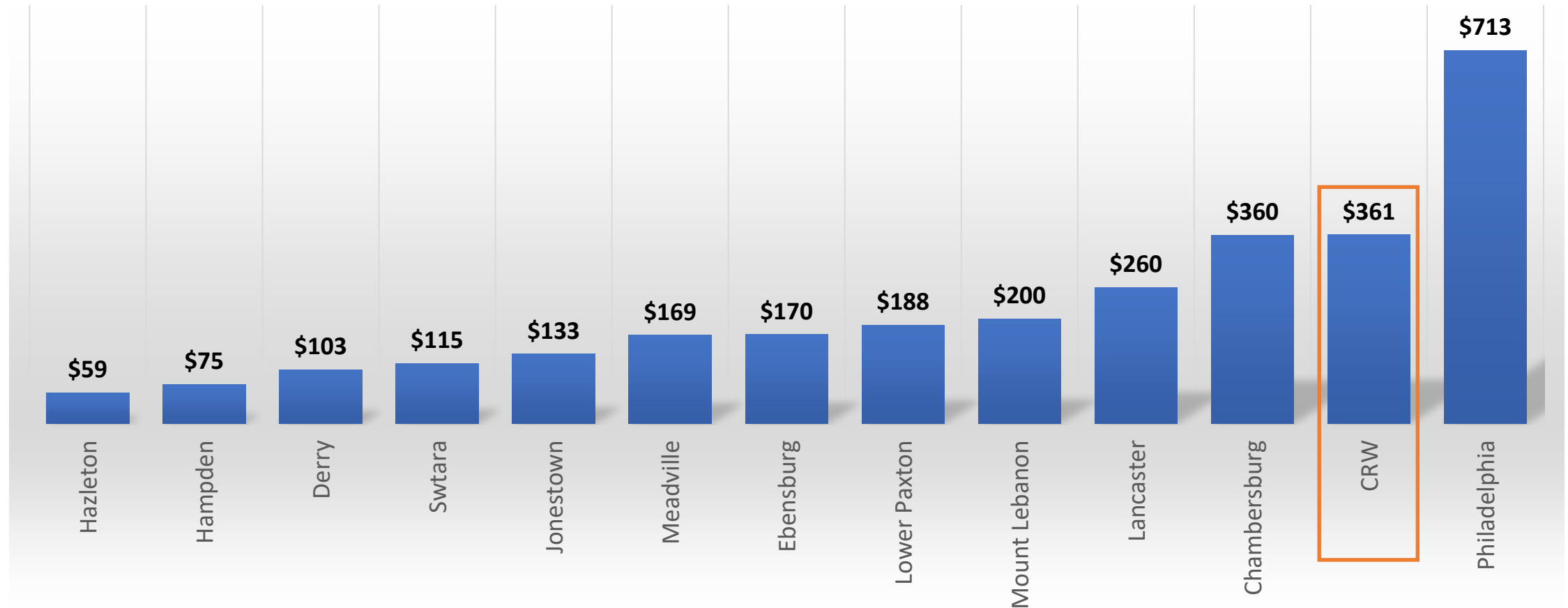
Comparing stormwater fees across PA

Residential Stormwater Customer - Bill Comparison (Annual)



Comparing stormwater fees across PA

Commercial Stormwater Customer - Bill Comparison (5,000 SF of AI)



How Can Customers Reduce Their Stormwater Fee?

Potential Rebate and Credit Options

Customers can implement stormwater control measures and obtain credits **up to 50% of their total fee.**

Description	Typical Credit / Incentive Amount
<u>Residential:</u>	
Downspout disconnection credit	10%
<u>Non-Residential:</u>	
Peak/rate controls credit	10 to 40%
Volume control credit	Maximum of 25%
Credit for water quality improvements	Maximum of 25%
Credit for education program (Schools)	10% to 20%
Credit for separate MS4 permit compliance	25%

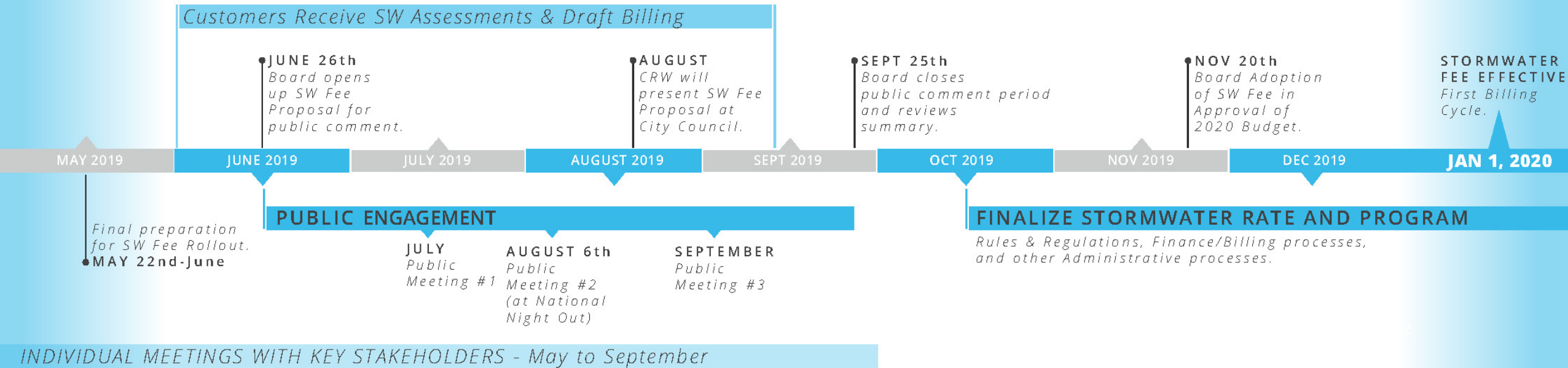
Stormwater Fee Appeals Process

- **Reasons for a potential appeal:**
 - Incorrect parcel
 - Inaccurate property classification (i.e., residential vs. non-residential)
 - Inaccurate impervious area or tier assignment
 - Request reallocation of SW Fee among multiple water accounts on a single parcel.
- **Appeals process:**
 - Appeals process occurs once per year.
 - Customer completes appeals application form.
 - Customer provides supporting information, if necessary.
 - CRW reviews application and provides a written approval or denial.
 - Adjustment to stormwater billing occurs in the billing cycle following approval.
- **Appeals process is not for customers who oppose the stormwater fee. These appeals will be denied.**

WHAT'S NEXT?

TIMELINE

STORMWATER FEE IMPLEMENTATION





A COMMUNITY-BASED APPROACH TO GREEN INFRASTRUCTURE



COMMUNITY GREENING CONCEPTS

GREEN PARKS



COMMUNITY GREENING CONCEPTS

GREEN SCHOOLS

Green Vacant Lots

SUMMIT TERRACE NEIGHBORHOOD

- Transformation of 12 vacant lots
- Beautify underserved neighborhood through community greening
- Removal Contaminants: Top 2 ft of soil elevated levels of arsenic, lead, and total chromium



Green Vacant Lots

SUMMIT TERRACE NEIGHBORHOOD

- Annual runoff capture:
 - ~950,000 gal/yr (\$0.40/gal/yr)
 - 1.15 Greened Acres
- Final Cost:
 - Total Project - \$379,100
 - GSI Costs - \$349,000
- Cost per impervious acre:
 - ~ \$300,000/acre

After – 13th and Bailey Lots



After – Bailey Lots (8 vacant lots)



Questions and Comments

We want to hear from you!

To review and comment, please visit:
capitalregionwater.com/cbh2o/