Stormwater Financing 101

Southern New England Project Webinar

August 30, 2022



UNC SCHOOL OF GOVERNMENT

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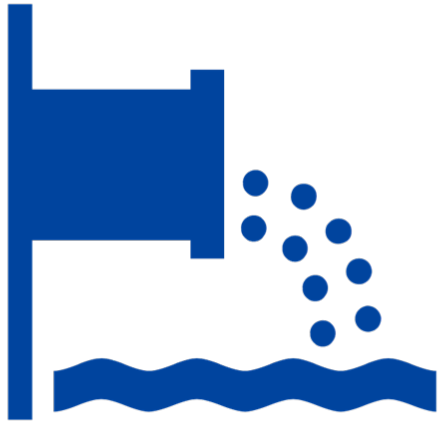
Paying for stormwater management



How does a municipality pay for stormwater services if it doesn't have a utility?

General Fund vs. Stormwater Utility

- Regulation requires action, but doesn’t identify revenue source
- Stormwater utilities provide a dedicated source of revenue for stormwater spending.
- Stormwater utility fees can be proactive. General fund is more reactive.



How does a municipality pay for stormwater services if it DOES have a utility?

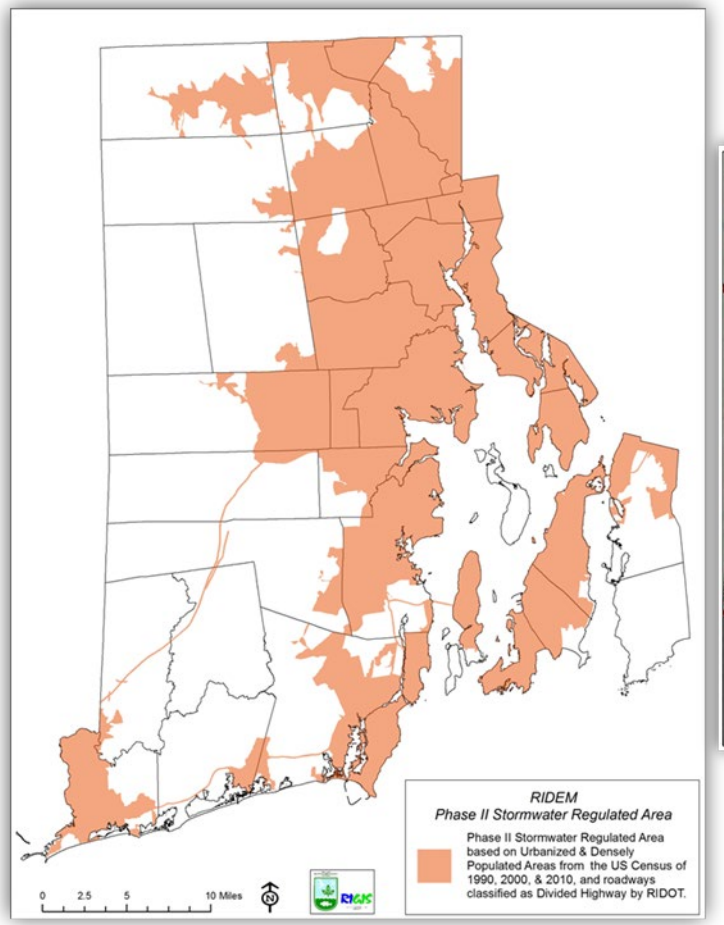
- Still a variety of sources
- Many utilities have not raised their fees in a substantial way for many years
- Plan to have some consistency in funding with a fee but it’s not the end all of what you need
- Debt? – revenue bonds, SRF Green Reserve, EIB/Green Bonds?

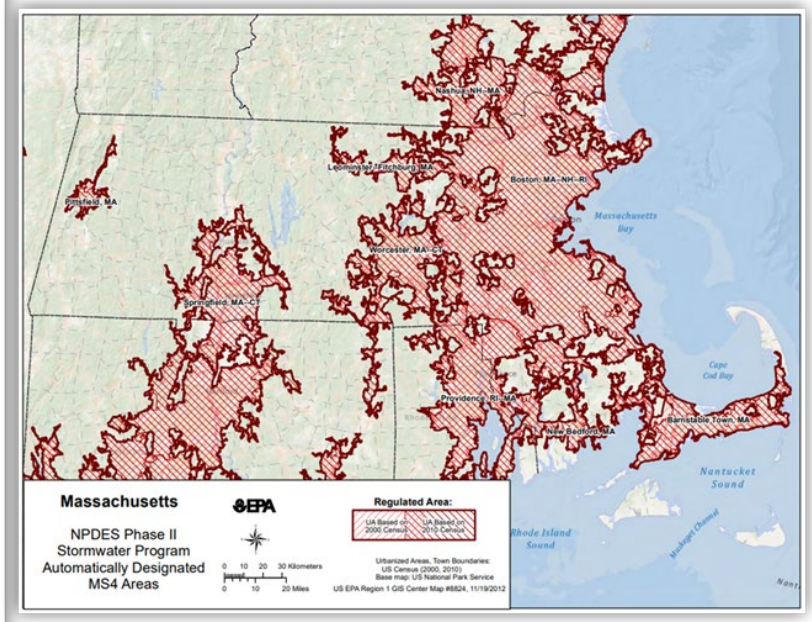
New drivers for setting up a stormwater utility

- Influx of State and Federal funding to invest in stormwater projects which will need to be maintained
- Increasing flooding issues
- Emerging contaminants or other worsening water quality challenges
- Growth!

Regulatory drivers that may affect how much you need for a stormwater budget

- MS4 – Phase I or Phase II communities
- Nutrient Management rules
  - Planning, monitoring, etc requirements for new and existing development
- Local Level regulations
  - Building setbacks/density requirements or mitigation
  - Other impaired waters in local jurisdiction





How much money do I need to comply with regulations?

It depends…

- What we do know:
  - Estimates for MS4 compliance from similarly situated/sized communities
  - Estimates for internal staffing and external consulting firm costs
  - Estimates for costs of BMPs and maintenance
  - What fees utilities across the state are charging and how much they are subsidizing with general fund dollars

- Talk to your neighbors and look for examples!

Understanding needs is critical…

- Setting fees based on needs provides justification for fee level
  - When increased fees are proposed, perceived public resistance
  - Public resistance is lessened when increases are justified
  - Board resistance is also lessened when needs are justified
    - Plan ahead for resistance and do your homework

- Understanding needs allows for capital planning
  - Proactive

Exemptions, Waivers and Credits

- Credits linked to costs of providing service conform with rate variation guidance
- Exemptions for factors not related to stormwater costs not allowed

Stormwater credits



Who is the target of your credit program?



Are you incentivizing customers to utilize the credit program?



Ensure you have language mandating maintenance. Ensure customer is compliant with existing regulations and that credit is for project above and beyond.

STATUTORY AUTHORITY FOR STORMWATER FEES

MA – Part 1. Title XIV – 83 – 16 Charge of Use of Sewers

The aldermen of any city or the sewer commissioners, selectmen or road commissioners of a town, may from time to time establish just and equitable annual charges for the use of common sewers and main drains and related stormwater facilities, which shall be paid by every person who enters his particular sewer therein. The money so received may be applied to the payment of the cost of maintenance and repairs of such sewers or of any debt contracted for sewer purposes. In establishing quarterly or annual charges for the use of main drains and related stormwater facilities, the city, town, or district may either charge a uniform fee for residential properties and a separate uniform fee for commercial properties or establish an annual charge based upon a uniform unit method; but, the charge shall be assessed in a fair and equitable manner. The annual charge shall be calculated to supplement other available funds as may be necessary to plan, construct, operate and maintain stormwater facilities and to conduct stormwater programs. The city, town or district may grant credits against the amount of the quarterly or annual charge to those property owners who maintain on-site functioning retention/detention basins or other filtration structures as approved by the stormwater utility, conservation commission, or other governmental entity with appropriate authority.

R.I General Laws § 45-61-4 Stormwater Management Districts

The city or town council of any city or town in the state, by itself or with other cities and towns, pursuant to chapter 43 of this title, and in accordance with the purposes of this chapter, are hereby authorized to adopt ordinances creating stormwater management districts, which will be empowered, pursuant to such ordinance, to:

(1) Establish a fee system and raise funds for administration and operation of the district. The fee system shall be reasonable and equitable so that each contributor of runoff to the system shall pay to the extent to which runoff is contributed and the state shall be exempted from the fee system. However, the state department of transportation shall cooperate with the municipalities in the planning and implementation of wastewater management ordinances, including the providing of funds, if available, to match the fees collected by the municipalities annually;

(2) Prepare long range stormwater management master plans;

(3) Implement a stormwater management district in accordance with regulations and model ordinances promulgated under this chapter;

(4) Retrofit existing structures to improve water quality or alleviate downstream flooding or erosion;

(5) Properly maintain existing structures within the district;

(6) Borrow for capital improvement projects by issuing bonds or notes of the city or town;

(7) Hire personnel to carry out the functions of the districts;

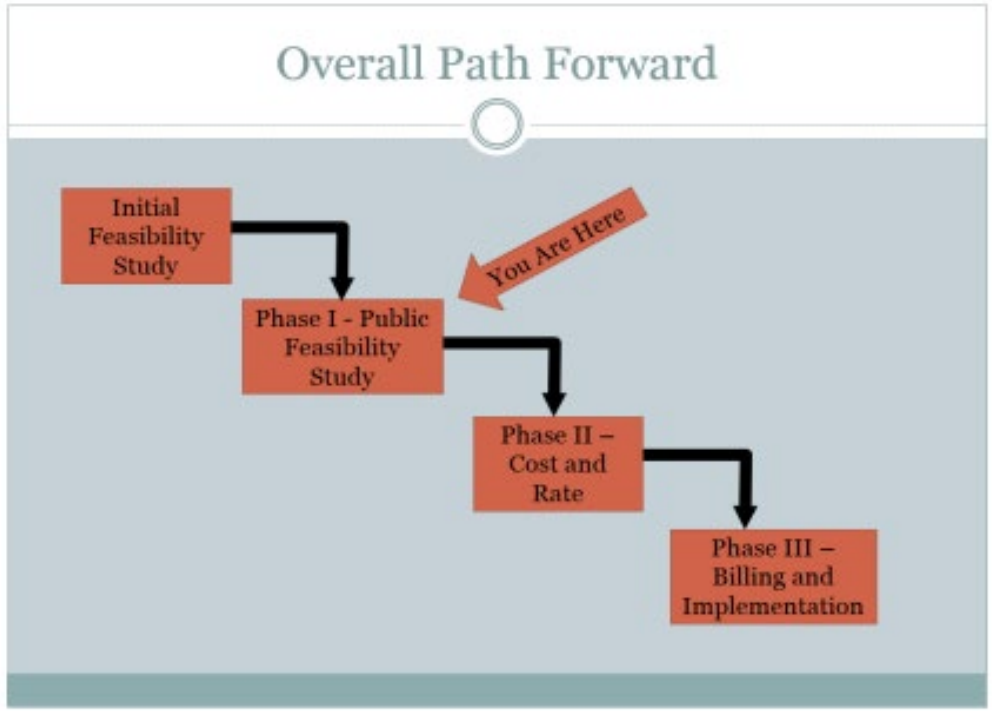
(8) Receive grants, loans or funding from state and federal water quality programs;

(9) Grant credits to property owners who maintain retention and detention basins or other filtration structures on their property;

(10) Make grants for implementation of stormwater management district plans;

Bristol, RI – Stormwater Feasibility Assessment

- Study completed in 2016
- $117 per SFR needed to fund stormwater management program
- Based on Equivalent Residential Unit (ERU)
- Non SFR would pay more based on impervious lot area
- Provided a draft implementation plan



Fall River, MA

- Mill town on Mount Hope Bay with early sewer system from the mid 1800s
  - 260 miles of pipe (~85% combined)
- Stormwater diverted directly into Bay until 1948 when the first wastewater treatment plant commissioned.
  - Still had Combined Sewer Overflows
- 1992 – Federal court order to address the CSOs
  - $200M spend to address CSOs
  - Funding from sources including federal grants, MA SRF, & water rate increases

Fall River, MA

- The city implemented a stormwater fee in 2008 to pay for the cost of the city's stormwater management costs and combined sewer overflow abatement program.
  - Creation of a stormwater fund with stable funding source
- $47.00 per quarter per 2,800 sq. ft. of impermeable surface



Fall River, MA

2021 – 5 year agreement with EPA to fix wastewater infrastructure and reduce CSOs

- CSO separation
- CSO storage
- Infiltration/inflow reduction projects
- ~$20M per year
- Stormwater fee a steady source for financing
  - May require other funds as well though

FEDERAL FUNDING FOR STORMWATER PROJECTS

Bipartisan Infrastructure Law (BIL)

- Increased funds to SRFs in next 5 years; some for specific foci
  - Specific State SRF programs will need to be consulted

- Increased focus on grants to disadvantaged communities through SRFs

THE BIPARTISAN INFRASTRUCTURE LAW
A Historic Investment in Water

On November 15, 2021, President Biden signed the Bipartisan Infrastructure Law



The Bipartisan Infrastructure Law provides more than $50 billion to the US EPA for water infrastructure investments

- $35 billion for Safe Drinking Water
- $12 billion for Clean Water
- $1.8 billion for Regional Waters
- $135 million for Additional Water Investments

$35 BILLION FOR SAFE DRINKING WATER

$11.7 billion through the Drinking Water State Revolving Fund (DWSRF) for various drinking water infrastructure projects

$15 billion through the DWSRF for lead service line identification and replacement





$4 billion through the DWSRF for emerging contaminants, including PFAS

$5 billion for the Small and Disadvantaged Emerging Contaminant Grant to address emerging contaminants

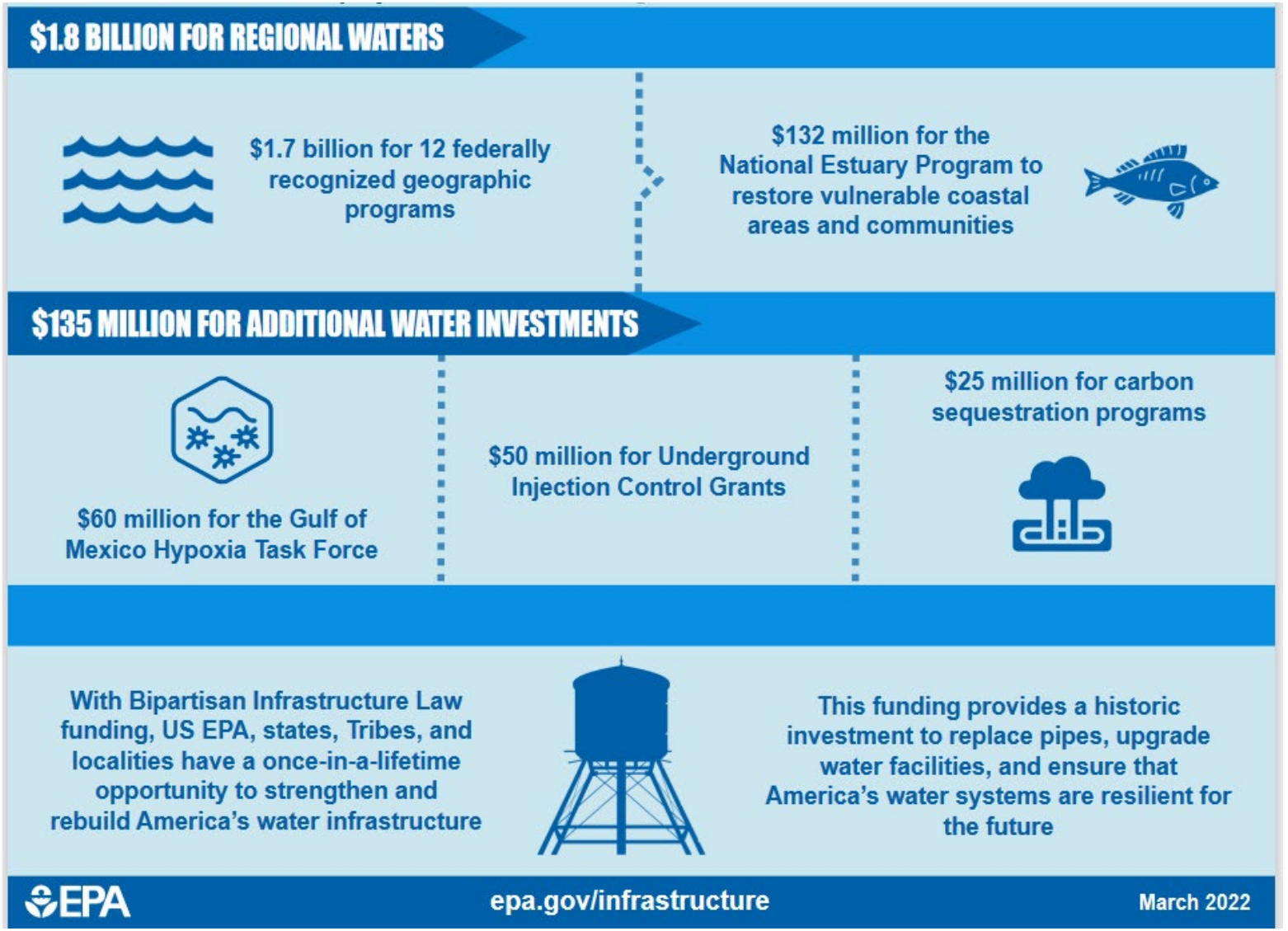
$12 BILLION FOR CLEAN WATER



$11.7 billion through the Clean Water State Revolving Fund (CWSRF) for wastewater, storm water, and nonpoint source infrastructure projects

$1 billion through the CWSRF for emerging contaminants





https://www.epa.gov/system/files/documents/2022-03/bipartisan-infrastructure-law_water_infographic_march-2022.pdf

Inflation Reduction Act

Farmers, Forestland Owners and Resilient Rural Communities

- Investments to make sure that rural communities are included in climate solutions
  - $5 Billion in grants for healthy, fire resilient forests, forest conservation, and urban tree planting
  - $2.6 Billion in grants to conserve and restore coastal habitats and protect communities that depend on those habitats.

Inflation Reduction Act

Invest in Communities and Environmental Justice – Better Quality of Life and Good Jobs

- $1.5 Billion to plant trees, establish community and urban forests, and expand green spaces in cities
- $50 Million in grants for investments in urban parks
  - acquisition of land or interests in land
  - Development of rec facilities to create or significantly enhance access to urban parks
- $550 Million – for planning design and construction of EJ community water supply projects
  - Particularly for communities that do not have reliable domestic water supplies

STORMWATER UTILITY RATE SETTING

Waterdale, RI

- Typical medium-sized town in Southern New England
- Evaluating a proposed stormwater fee structure
- Finance director is concerned about ‘equitable’ revenue generation



Calculating Fees for Waterdale, RI

- $170,830: target monthly stormwater revenue
- 38,904 total parcels
  - 28,995 residential, 9,909 non-residential
- 281 million sq ft impervious
  - 82.3 million sq ft residential, 198.7 million sq ft non-residential

How this may impact customers



1,000 sq ft impervious



3,000 sq ft impervious



10,000 sq ft impervious



20,000 sq ft impervious

Flat fee for all classes

Stormwater Fee

Stormwater Charge	$2.00 per month per utility account

Flat fee for all classes

- $\frac{\text{Monthly Revenue}}{\text{Total Parcels}}$ = $ per month per parcel

- $\frac{\$170{,}830}{38{,}904} =$ $4.39 per parcel

Option 1: Flat fee for all classes









$4.39	**$4.39**	**$4.39**	**$4.39**

Flat fee for all properties





Flat fee by customer class

Stormwater	Residential	$3.07 per month
	Commercial	$6.00 per month
	Industrial	$12.00 per month

Flat fee by customer class

- Separate fees for residential versus non-residential
- Multiplier$= \frac{NR\ IA}{Res.\ IA} = \frac{198.7\ million\ sq\ ft}{82.3\ million\ sq\ ft} = 2.41$
- Residential fee $= \frac{Monthly\ Revenue}{(multiplier)(No.\ NR\ Parcels)+(No.\ Res.\ Parcels)} = \frac{\$170{,}830}{(2.41)(9{,}909)+(28{,}995)} = \$3.23$
- Nonres fee $= (multiplier)(Res.\ rate) =$ (2.41)(3.23) = $7.78

Option 2: Flat fee by customer class









$3.23	**$3.23**	**$3.23**	**$7.78**

Per ERU fee

Single Family or Single Owner Properties

IMPERVIOUS SURFACE AREA (SQUARE FEET)	FEE
0 – 199	$0.00
200 – 1,000	$32.15
1,001 – 2,000	$64.30
2,001 – 3,000	$96.45
3,001 – 4,000	$128.60
4,001 – 5,000	$160.75
5,001 – 6,000	$192.90

The fee increases by $32.15 for every additional 1,000 square feet or portion thereof.

Calculating ERU size

- Comprehensive impervious surface area study (most expensive)
- Sample of ~100 residential properties (least expensive, must implement flat fee for residential)



Per ERU fee

- $ERU = \frac{Res.\ Impervious\ Area}{No.\ Res.\ parcels} = \frac{82.3\ million\ sq\ ft}{28{,}995} = 2{,}838$ sq ft

- Total ERUs = $\frac{Total\ Impervious\ Area}{ERU\ Size} = \frac{281\ million\ sq\ ft}{2{,}838\ sq\ ft} = 99{,}013$ ERUs

- ERU Rate = $\frac{Monthly\ Revenue}{Total\ Number\ of\ ERUs} = \frac{\$170{,}830}{99{,}013} = \$1.73$

Option 3: Per ERU









0.35 ERU	1.05 ERU	3.52 ERU	7.04 ERU
$0.61 or $1.73	$1.82 or $3.46	$6.09 or $6.92	$12.18 or $13.84

Flat fee residential, per ERU nonresidential

Why is there a stormwater fee?

The City created a stormwater utility fee to fund the Federal and State mandated Phase II Stormwater Program. The City's Stormwater Management Program is funded completely through this stormwater fee. This is a separate utility fee, not tax dollars. The residential fee is $3 per month. The nonresidential fee is based on the amount of impervious surfaces on each property at $3 per 2,500 square feet of impervious surfaces per month.

Flat fee residential, per ERU nonresidential

- Rate = $\frac{Monthly\ Revenue}{(No.\ Res.\ Parcels)+(Total\ NR\ ERUs)} = \frac{\$170{,}830}{(28{,}995)+(70{,}014)} = \$1.73$
- Residential bill = Rate = $1.73
- Non-residential bill = (Rate)(Total ERUs) = ($1.73)(Total ERUs)

Option 4: Flat fee residential, per ERU nonresidential









0.35 ERU	1.05 ERU	3.52 ERU	7.04 ERU
$1.73	$1.73	$1.73	$12.18 or $13.84

Percentage of monthly revenue paid by each customer class

Residential: 29.3% of impervious area
Non-residential: 70.7% of impervious area

Fee structure	Residential	Non-Residential
Flat for all customer class	74.5%	25.5%
Flat by customer class	67.7%	32.3%
Per ERU	29.3%	70.7%
Flat (Res), Per ERU (NR)	30.1%	69.9%

So, what and how should I charge?



1. Set your revenue target first and then work backwards to a fee structure
2. Decide on the rate structure based on stakeholder input
3. Re-evaluate regularly

What will my expenses be?

- Rate study (In house - ~$34,000)
- Staffing (~$80,000 for stormwater director, $50,000 for other staff)
- Billing, supplies, training
- Equipment (varies, see example)
- Cost to map MS4 ($5,000-$125,000) (n=6)
- Capital needs (varies greatly)
- Maintenance (varies greatly, see example)

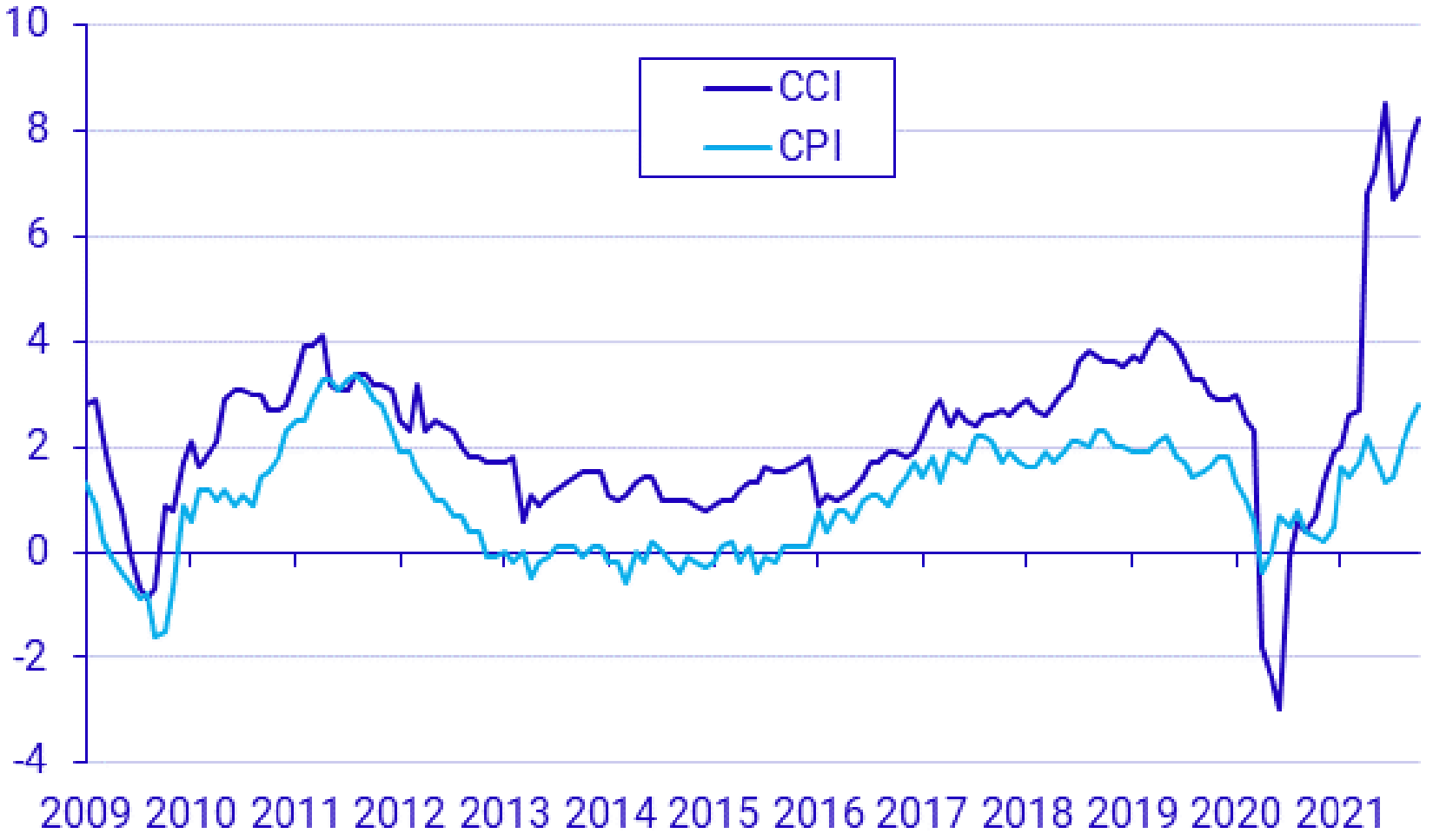
REVENUES:						
FEES		337,919	348,057	358,498	369,253	380,331
NEW SOURCES OF REVENUE:						
REVENUE FROM FEE INCREASE			0	0	0	0
PERCENTAGE INCREASE			0%	0%	0%	0%
TOTAL REVENUES	0	337,919	348,057	358,498	369,253	380,331
EXPENDITURES:						
SALARIES AND BENEFITS	83,514	123,433	178,371	185,506	192,926	200,643
PROFESSIONAL SERVICES	0	50,000	51,500	53,045	54,636	56,275
MAINTENANCE AND REPAIRS	5,000	15,000	5,000	5,150	5,305	5,464
SUPPLIES	1,900	8,500	15,000	20,000	23,000	26,450
TRAVEL AND TRAINING	1,000	1,750	1,803	1,857	1,912	1,970
OTHER	1,500	3,350	3,451	3,554	3,661	3,770
PUBLIC OUTREACH		1,000	1,030	1,061	1,093	1,126
TOTAL OPERATING EXPENDITURES	92,914	203,033	256,154	270,172	282,532	295,698
DEBT SERVICE	16,133	34,278	34,278	34,278	30,095	29,770
CAPITAL OUTLAY			50,000	50,000	50,000	50,000
TOTAL EXPENDITURES	109,047	237,311	340,431	354,450	362,627	375,467
NET INCOME	-109,047	100,608	7,625	4,049	6,626	4,864
FUND BALANCE		100,608	108,233	112,282	118,908	123,772
FUND BALANCE / TOTAL EXPENDITURES		42.39%	31.79%	31.68%	32.79%	32.96%
STORMWATER MONTHLY FEE		$ 6.75	$ 6.75	$ 6.75	$ 6.75	$ 6.75
STORMWATER ANNUAL FEE		$ 81.00	$ 81.00	$ 81.00	$ 81.00	$ 81.00
ASSUMPTIONS:						

DRAFT

Equipment cost

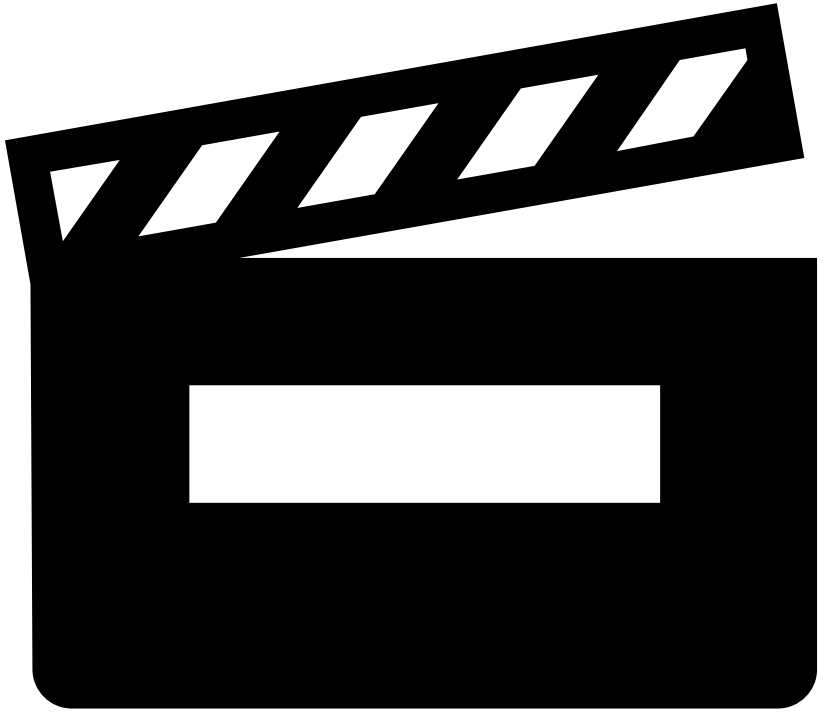
NAME	YEAR 1 2022	YEAR 2 2023	YEAR 3 2024	YEAR 4 2025	YEAR 5 2026	YEAR 6 2027
BACKHOE (40%)	6,219	6,219	6,219	6,219	6,219	6,219
F-750 Dump Truck (40% SW)	4,710	4,710	4,710	4,710	4,710	4,710
Chevy 3500 (40% SW)	4,183	4,183	4,183			
Leaf Vacuum (100% SW)	15,064	15,064	15,064	15,064	15,064	11,298
Jet Vac (25% SW)	2,801	2,801	2,801	2,801	2,801	2,801
Push Cam (50% SW)	1,301	1,301	1,301	1,301	976	
TOTAL	**34,278**	**34,278**	**34,278**	**30,095**	**29,770**	**25,028**

Trends in costs



Data up to and including October 2021

Action items



- Review your costs and revenues annually
- Communicate this to your board or Council
- Plan for cost inflation and unexpected costs
- Reach out to UNC EFC for technical assistance questions!

Questions?

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