RESEARCH BRIEF

Keeping the Clean Rivers Impervious Area Charge (CRIAC) Affordable and Equitable

Nine Strategies for Managing the CRIAC's Cost Burden While Ensuring the Clean Rivers Project's Financial Viability

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March 2019

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COUNCIL of the DISTRICT of COLUMBIA
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D.C. Water's Clean Rivers Project is an infrastructure initiative aimed at reducing 96% of the District of Columbia's combined sewer overflows by 2030. The project is federally mandated, but the costs have largely fallen on District utility customers through a fee called the Clean Rivers Impervious Area Charge (CRIAC).

This policy brief examines nine strategies that the D.C. Council could take to reduce the financial strain that the CRIAC has placed on ratepayers while ensuring that the infrastructure project is adequately funded.

1. Protect financially vulnerable utility customers by extending the CRIAC Residential & Nonprofit Relief Programs
2. Alter the CRIAC rate structure to include a water and sewer volumetric component
3 Increase progressivity by subjecting public rights-of-way to the CRIAC
4. Promote green solutions by raising the value of CRIAC Incentive Program
5. Lower customers' costs by reducing or eliminating D.C. government's pass-through fees from D.C. Water's monthly bills
6. Ensure that the Blue Plains Intermunicipal Agreement requires all jurisdictions pay their fair share
7. Lobby Congress for regular and significant support from the federal government to solve a problem that it helped create
8. Improve accountability by re-examining D.C. Water's governance structure
9. Reduce ratepayer costs by re-negotiating the Consent Decree

Introduction

The District of Columbia, like many municipalities in the Northeast and Midwest, is partially served by a combined sewer system (CSS) that conveys wastewater and stormwater through the same tunnel. D.C.'s 80-mile, 150-year-old CSS covers one-third (12,478 acres) of its land area.[1] The CSS serves some of the oldest neighborhoods, running from Georgetown to Trinidad and Manor Park to Navy Yard. Sewers that transport wastewater and sewage separately serve the rest of the jurisdiction. The federal government designed D.C.'s sewer system and managed it through 1973.

In dry weather, wastewater that enters the CSS flows to the Blue Plains Advanced Wastewater Treatment Plant for purification before being discharged into the Potomac River. However, rainstorms can overwhelm the CSS's capacity and cause combined sewer overflows (CSOs).[2] When this happens, some of the waste and stormwater flows to Blue Plains, but the rest spills untreated into the Anacostia and Potomac Rivers, Rock Creek, and Piney Branch Stream. CSO introduces sewage and other hazardous materials into the District's waterways.[3]

CSO poses serious risks to human health, and it is one of the major threats to water quality in the United States. Exposure to CSO-polluted water can cause chronic and acute illnesses. For instance, one study found that a city with a CSS had a significant increase in the number of pediatric emergency department visits for acute gastrointestinal illness after rainstorms.[4] Before the D.C. Water and Sewer Authority (also known as D.C. Water) began remediation efforts through its Clean Rivers Project, an average of 3.25 billion gallons of CSO streamed into D.C.'s waterways annually, enough to fill 5,000 Olympic-sized swimming pools.[5]

Preventing CSO is expensive, but federal law and a legal settlement require the District to act. The Clean Water Act of 1972 and subsequent federal laws and policies mandate municipalities eliminate their CSO. A coalition of environmental organizations and citizen groups sued the District and D.C. Water alleging that they had failed to comply with these federal standards. To settle this lawsuit, the parties entered a CSO Consent Decree with the U.S. Environmental Protection Agency (EPA) in 2005.[6] Under the modified Consent Decree's terms, the District and D.C. Water must reduce 96% of CSO by 2030. The parties agreed that D.C. Water would achieve this goal by constructing a system of underground stor-

Before remediation began, an average of 3.25 billion gallons of CSO streamed into D.C. waterways annually, enough to fill 5,000 Olympic-sized swimming pools.

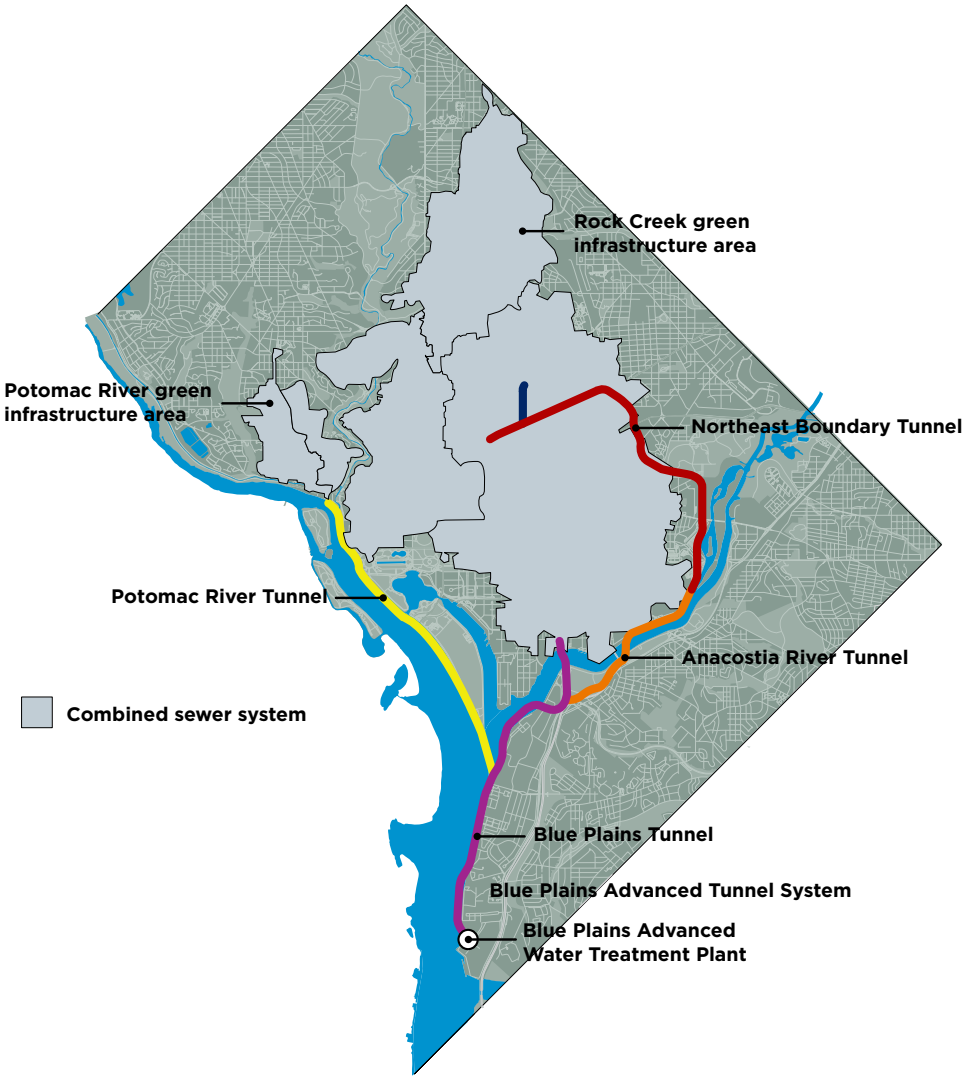
age and conveyance tunnels, upgrading and expanding pump stations, building street diversion sewers and overflow structures, and installing green infrastructure for a cost of $3.15 billion plus debt service.[7]

The District, like many jurisdictions around the country, faces the challenge of meeting the federal government's unfunded CSO mitigation mandate while striving to provide clean and low-cost water.[8] This paper examines nine different strategies to improve the affordability and equity of meeting the terms of the Consent Decree, weighing the pros and cons of each approach.

CRIAC Funds Most of the Clean Rivers Project

D.C. Water is implementing the Clean Rivers Project with the help of three funding sources. First, it raises money by adding a fee to customers' monthly bills called the Clean Rivers Impervious Area Charge (CRIAC). From the outset, D.C. Water expected that this charge would fund most of the Project's costs. However, when D.C. Water debuted the CRIAC in

ILLUSTRATION 1: CSS and the Clean River Project's Tunnel System



2009, it set an unsustainably low rate.[9] As the Project assumes more debt to reach its construction milestones, the CRIAC rate has risen sharply.

Bond issuances have allowed D.C. Water to spread the Clean River Project's costs across generations of ratepayers, including a century bond that will not mature until 2114. D.C. Water uses about 70% of CRIAC revenue for debt service and interest.[10] This debt includes a green bond structured in such a way to share the Project's risks between D.C. Water and credit holders, a decision that has been met with both praise and criticism.[11] The Clean Rivers Project represents a significant share (32.8%) of D.C. Water's fiscal year (FY) 2018-2027 capital infrastructure plan, and some fear that it could crowd out other important infrastructure projects.[12] The utility has relatively low borrowing costs due to its high bond ratings.[13]

Second, D.C. Water raises funds by charging surrounding jurisdictions that use Blue Plains' wastewater services. These wholesale customers include the counties of Montgomery, Prince George's, and Fairfax. Per the terms of the Blue Plains Intermunicipal Agreement of 2012, wholesale customers are responsible for 7.1% of the CSO mitigation's costs.[14]

Third, appropriations from Congress help fund the Clean Rivers Project. This payment is part of the federal discretionary budget, meaning that the appropriation is not guaranteed each year. In FY 2017, Congress appropriated $14 million for D.C. Water but in FY 2019 reduced their contribution to $8 million.[15] Since FY 2003, D.C. Water has received $252.8 million in Congressional appropriations for CSO mitigation.[16] Despite the large cost associated with technologies for controlling CSO, federal construction grants for wastewater projects were effectively eliminated in 1987. CSO requirements represent a large unfunded federal mandate that falls disproportionately on older communities in the Northeast and the Great Lakes region.[17] While states may apply for financial assistance from the EPA's Clean Water State Revolving Fund, these are loans that must be repaid.

Residential customers' monthly bills rose by an average of 141% from FY 2009 to FY 2018, or $41.26 to $99.63. They are projected to reach $155 in FY 2027.

The Rising CRIAC Rate Has Placed a Financial Strain on Some Ratepayers

D.C. Water uses the CRIAC to recover most of the capital and operating expenses of meeting the Consent Decree. The utility estimated that it will collect $108.95 million in CRIAC revenue in FY 2019, or 20.2% of total revenue from retail customers.[18] The CRIAC's basic structure has remained the same, but rates have risen sharply as the Clean River Project has progressed and incurred expenses. In its first decade, the CRIAC rose by 1,755%, or an average annual increase of 37.1%. The monthly fee started at $1.24 per Equivalent Residential Unit (ERU) in FY 2009 and soared to $25.18 per ERU by FY 2018. The charge was lowered to $23.00 per ERU for FY 2019 but was offset by an increase in water and sewer rates. The utility anticipates that the fee will reach $33.59 per ERU by FY 2028.[19]

The CRIAC places financial pressure on some D.C. Water customers yet is only one of ten items on their monthly bill. In one stakeholder's words, "the CRIAC is a symptom of a larger problem."[20] From FY 2009 to FY 2018, residential customers' monthly bill rose by an average of 141% from $41.26 to $99.63. The utility expects that rates will continue to increase, projecting that on average residential customers will pay $155 per month in FY 2027. Still, residential bills remain affordable for most D.C. households.

Funding a major infrastructure program such as the Clean Rivers Project through a fee-based approach allows the District to spread the costs to its many property tax-exempt entities—such as federal agencies, embassies, educational institutions, and nonprofit organizations—but not without downsides. User fees like the CRIAC are economically regressive because they charge all users the same rate regardless of their ability to pay. The steady rise in the CRIAC has created economic hardship for some, especially those who are low-income or own large amounts of impervious surface area. Low-income families already devote a significant share of their income to utility costs; D.C. Water estimates that 15.9%

FIGURE 1: D.C. Water's Actual and Projected CRIAC Rate (Monthly Fee per ERU), FY 2009-2028

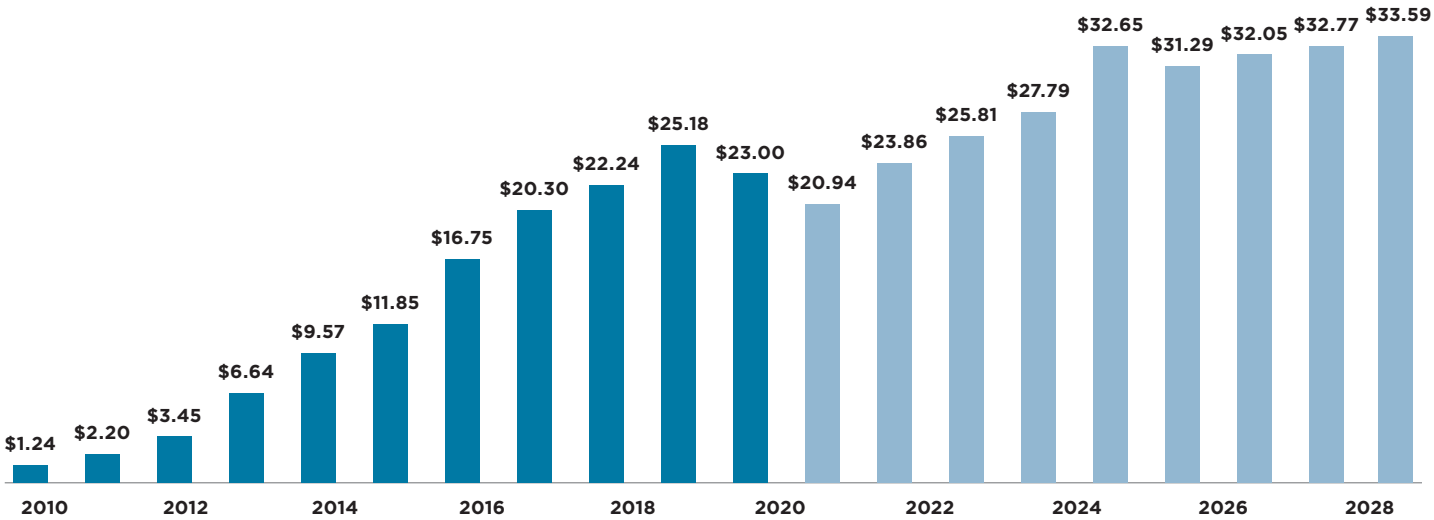
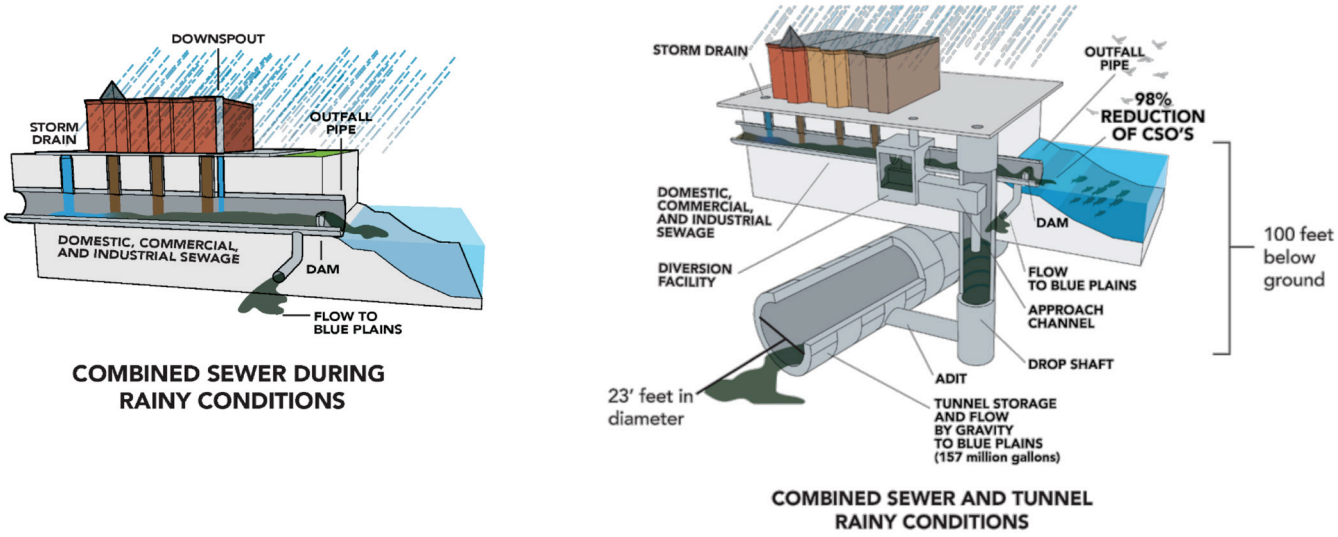


ILLUSTRATION 2: **CSS Before and After the Clean Rivers Project**



The CRIAC adheres to the "polluter pays" principle, meaning the entities which produce pollution bear the cost of managing the damage.

of households in the District spend more than 7.1% of their income on water bills.[21] Several researchers have shown that this increase is largely driven by a national trend of rising water and sewer rates. Over the last two decades, affordability issues have intensified as water and sewer costs have outpaced the Consumer Price Index.[22]

D.C. Water assesses the CRIAC based on customers' impervious surface area, regardless of whether they receive metered water services. Consequently, a parking lot that does not have running water must still pay the CRIAC. The majority (92%) of stormwater utilities also use impervious area as their fee basis, but D.C. may be unique in using this as its primary way of funding a federal CSO mandate.[23] For each 1,000 square feet of impervious area, D.C. Water charges ratepayers one ERU.[24] Most U.S. water and sewer utilities also use ERUs to assess their stormwater fees. On average, single family homes in D.C. occupy one ERU and will pay $276 for the CRIAC in FY 2019.[25] This charge makes up about 25% of residential customers' bills.[26] The utility estimates that in FY 2019, absent any discounts, a typical church will spend $16,339 to $35,493 on CRIAC; hotels will pay about $14,407; cemeteries will be charged approximately $31,768; and multi-family buildings will owe around $1,739.[27] Approximately 196 customers pay $60,000 or more per year.[28]

The CRIAC was intended to adhere to the "polluter pays" principle, a widely-accepted practice whereby the entity that produces pollution bears the cost of managing the damage to prevent damage to human health and the environment.[29] Roofs, pavement, and other impervious areas produce stormwater runoff because they cannot absorb precipitation. Stormwater that is not absorbed into the ground can wash hazardous materials such as oils, gasoline, trash, metals, and pesticides into the District's sewers and to its waterways.[30] All ratepayers in D.C. are subject to the CRIAC, regardless of whether they are served by the CSS or the separated sewer system. The federal government was responsible for creating and maintaining the CSS until 1973, but it is not currently required to support the Clean Rivers Project over and above any other ratepayer.

Nine Strategies for Keeping the CRIAC Affordable

This section examines nine policy options for the Council's consideration to reduce the financial burden that the CRIAC imposes on vulnerable households and organizations:

1. Extend the CRIAC Residential and Nonprofit Relief Programs
2. Alter the rate structure to include a volumetric component
3. Subject public roads, alleys, and sidewalks to the CRIAC
4. Promote green solutions by increasing the value of the CRIAC Incentive Program
5. Reduce or eliminate D.C. government's pass-through fees from D.C. Water customer bills
6. Ensure that all jurisdictions in the Blue Plains Intermunicipal Agreement pay their fair share
7. Lobby Congress to enhance the federal contribution
8. Re-examine D.C. Water's governance structure
9. Amend the terms of the Consent Decree

Any solution must raise $3.15 billion plus interest costs and account for the size and makeup of D.C. Water's customer base.

Some of the choices would provide immediate relief, while others have the potential to address the underlying challenge of providing clean and affordable water and sewer services but would take many years to implement. Several of them are entirely within the control of the District government; others require participation from regional partners or the federal government. Each of these proposals offers benefits and tradeoffs.

The memo's authors drew together these options by consulting D.C. Council, agency staff, and stakeholders; considering choices made by other jurisdictions; and conducting a literature review. The authors selected these policy proposals because they would raise enough revenue to meet the Consent Decree's terms, promote an equitable funding scheme, incentivize stormwater retention, protect the CRIAC's legal status as a fee, and be easily understood and feasible to implement.

Two factors constrain the range of solutions available. First, the CSO mitigation capital program has a fixed price of $3.15 billion plus interest costs.[31] Second, D.C. Water has a small customer base, with just 125,000 retail customers including a few large institutions that pay an outsized proportion of total revenues. For instance, D.C. Water projects that 10.3% or $67.1 million of its FY 2019 operating revenue will be from federal agencies. Any changes to the CRIAC that lowers these large ratepayers' costs would have to be balanced out with increases for other ratepayers.

In the short-term, the Council's main levers for keeping the CRIAC affordable is by recommending that costs are shifted among ratepayers or subsidizing it with local tax revenue. Over the long-term, the Council may be able to engage in strategies that will help raise contributions from other jurisdictions or the federal government. The Council might also be able to rein in rate increases and promote transparency by continuing its oversight efforts or adjusting D.C. Water's governance structure. The Council could also consider lowering customer costs by extending the Consent Decree's terms.

1. Protect financially vulnerable customers by extending the CRIAC Residential & Nonprofit Relief Programs

Relief programs direct assistance to ratepayers that have the greatest need without disrupting the overall rate structure.

The Council may choose to continue supporting targeted relief for ratepayers with financial hardship. This approach has the advantage of being relatively simple for the District to implement. It directs assistance to ratepayers that have the greatest need without disrupting the overall rate structure. It could also be a relatively inexpensive solution which nevertheless alleviates pressure on financially-vulnerable ratepayers. Customer assistance programs have taken on greater importance in cities around the country, including Philadelphia, Detroit, and Baltimore. A quarter of water and sewer utilities offer some form of customer assistance.[32]

Low-income households in the District have been eligible to receive subsidized water and sewer services from the Customer Assistance Program (CAP) since 2001. D.C. Water expanded CAP in FY 2016 to include a 50% CRIAC discount. CAP now provides households with about $760 in annual benefits. It is open to residential customers with incomes up to 60% of the State Median Income (SMI).[33] In FY 2018, CAP helped 3,281 customers and provided $1.19 million in assistance. The utility expects to spend $2.4 million on CAP in FY 2019.[34]

CRIAC discounts are temporarily expanded in FY 2019, with the District providing $7 million on a one-time basis and D.C. Water making a $6 million single-year commitment. Section 6052 of the "Fiscal Year 2019 Budget Support Act of 2018" stipulated that these one-time funds be used to open new avenues for CRIAC assistance for moderate-income residential customers and non-profit organizations.[35] The Customer Assistance Programs II and III (CAP2 and CAP3) provide CRIAC discounts to residential customers. Both the CAP2 and CAP3 are underutilized, but the D.C. Department of Energy and Environment (DOEE) expects to see an increase in applications after D.C. Water inserted a pamphlet in customers' February bills.[36] The CRIAC Nonprofit Relief Program lowers the charge for eligible nonprofit organizations. The Council will need to appropriate additional funds in the FY 2020 budget to continue the expansion; DOEE anticipates needing $9.1 million for CAP2 and CAP3 and $4.1 million for the Nonprofit Relief Program.[37]

CAP2 is open to households with annual income between 60% of the SMI and 80% of the Area Median Income (AMI).[38] CAP2 provides a 50% CRIAC discount,

STRATEGY 1: Extend CRIAC Residential & Nonprofit Relief Programs

D.C. Government's Fiscal Impact

$4 million to $15 million cost per year (approximate)

Ratepayer Impact

LOWER CRIAC BILL

- Low- and moderate-income households
- Certain types of non-profit organizations

HIGHER CRIAC BILL

- If funded by D.C. gov't, no impact.
- If funded by D.C. Water, some may pay more.

PROs	CONs
• Easy to implement • Relatively low cost • Targets assistance to those with greatest need • Maintains rate structure • Offers immediate relief • Continues existing programs • Widely-used strategy	• Residential relief programs have low enrollment • Puts D.C. gov't in position of picking non-profit winners and losers • Lack of generally-accepted standard for defining financially vulnerable non-profits

as well as a reduction on water and sewer services. Together these discounts are worth about $520 annually. Enough funds were set aside to serve 10,200 customers in FY 2019. Forty-seven ratepayers applied as of mid-February 2019.[39] Middle-class households with annual income ranging from 80 to 100% of the AMI can qualify for CAP3.[40] This program offers a 75% reduction on eligible customers' CRIAC, meaning an annual discount of approximately $210. The D.C. government will provide up to $3.1 million of CAP3 discounts in FY 2019. Only seven customers had requested the CAP3 subsidy as of mid-February.

Nonprofit organizations that have difficulty paying their CRIAC can qualify for up to a 90% discount from DOEE. To be eligible for the CRIAC Nonprofit Relief Program, organizations must demonstrate that they face significant financial hardship. The Program defines financial hardship as having an annual CRIAC that is equal to 1% or more of their revenue minus expenses. They must also complete a stormwater mitigation project. In addition, organizations must have a property tax exemption from the OCFO's Office of Tax and Revenue by virtue of being a public charity principally in the District, a church or a religious building, or a cemetery. Thus, hospitals, schools, colleges, universities, museums, performance art

TABLE 1: CRIAC Residential and Nonprofit Relief Programs

	CAP	CAP2	CAP3	Nonprofit Relief
Eligibility	• Household income: 0-60% of SMI • Max income of 4-person household: $59,457	• Household income: 61% of SMI to 80% of AMI • Max income of 4-person household: $93,750	• Household income: 81% to 100% AMI (calibrated for 1 to 4-person households) • Max income of 4-person household: $117,200	• Registered nonprofit in D.C. • Real property tax exemption as a charity, house of worship, or cemetery • Annual CRIAC is ≥1% of their annual revenue, after expenses • Stormwater mitigation project
CRIAC Discount	50%	50%	75%	90%
Additional Discounts	• First 3,000 gallons of water and sewer services used monthly • PILOT and ROW Fees • Waiver on the Water Service Replacement Fee	First 2,250 gallons of water and sewer services used monthly	N/A	N/A
Estimated Average Annual Benefit	$760	$520	$210	$2,800
FY19 DC Gov't Contribution	$0	$3 million, includes $500k for admin		$4 million, includes $150k for admin
FY19 D.C. Water Contribution	$2.4 million	$6 million, includes $500k for admin	$0	$0
FY19 Enrollment, YTD	3,281 (FY18)	47	7	61

spaces, and housing cooperatives do not qualify for this program. As of mid-February, DOEE had granted CRIAC relief to 61 nonprofits, most of which are houses of worship, and awarded $819,000 in benefits. Organizations will receive an average of $2,800 in assistance during FY 2019.[41]

There are several downsides to offering targeted relief. First, few low-income District households qualify for these programs, and enrollment is low. Residential benefits are only available to D.C. Water ratepayers, and few low-income households have separately metered water and sewer services. Low-income households are less likely to own their own home than those with greater earnings, and most apartment building tenants do not pay their own water and sewer bills.[42] Neither the District nor D.C. Water can provide a CRIAC discount to landlords who primarily serve low-income tenants, because they would be unable to verify that landlords shared these savings with their tenants. Second, some critics argue that CAP2 and CAP3's income eligibility standards for residential customers are too high, as they provide benefits to middle-income households. Third, offering targeted assistance for nonprofits could put the D.C. government in the position of picking winners and losers. While there are generally accepted standards for what qualifies a household as low-income, one critic posits that no similar standard exists to means test organizations.[43]

2. Alter the CRIAC rate structure to include a water and sewer volumetric component

D.C. Water's FY 2020 proposed budget shifts 18% of the CRIAC to a sewer volumetric rate. Its CRIAC Stakeholder Alliance and several advocacy groups propose that the fee would be more equitably distributed if it included ratepayers' water and sewer usage as well as their impervious surface area This change could be justified since CSO is made up of a combination of stormwater and wastewater. For example, the Council could recommend that 18 to 37% of the CRIAC be assessed on a sewer volumetric basis, which reflects a preliminary estimate of how much of the District's CSO is wastewater. This policy proposal would incentivize customers to use less water and create a new avenue for individual customers to take charge of their CRIAC. However, such a change could compromise the fee revenue in the long-term, since each year customers use less water as they switch to more efficient bathroom fixtures and appliances.[44]

Including a volumetric weight in the CRIAC would incentivize customers to use less water and help them take charge of their bill.

Including customers' water and sewer usage would lower costs for those with large impervious areas but relatively little sewer usage—such as parking lots, single-family homes, cemeteries, the District government, and the federal government. In contrast, customers with relatively small amounts of impervious area but relatively higher sewer usage—including multi-family buildings, high-rise hotels, and schools—would pay a higher CRIAC.[45]

STRATEGY 2: **Assess CRIAC based on Volume and Impervious Area**

D.C. Government's Fiscal Impact

Savings for most agencies, except those with high water and sewage usage

Ratepayer Impact

LOWER CRIAC BILL	HIGHER CRIAC BILL
• D.C. and federal government • Single-family homes • Properties with low water and sewer usage	• Multi-family buildings • Properties with high water and sewer usage

PROs	CONs
• Could promote equity since CSO is made up of wastewater and stormwater • Would lower D.C. government's water bills • Incentivize customers to reduce their water consumption	• Disrupts the rate structure. Could weaken the link between the charge and the source of the pollution it is trying to mitigate • Shifts costs among ratepayers without addressing underlying issues • Increases costs multi-family buildings whose residents are also unlikely to be eligible for relief programs • Lowers the federal gov't's contribution • Could politicize the rate setting process and compromise D.C. Water's independence • Not a widely-accepted practice

Critics of this plan argue that it would weaken the link between the CRIAC and the source of the pollution that it is meant to abate, namely, water contamination that occurs as a result of stormwater runoff. It undermines the CRIAC rate structure's "polluter pays" rationale of charging a higher fee to property owners that generate more stormwater runoff by virtue of having more impervious surface area.[46] For example, the current rate structure allows D.C. Water to charge a relatively high fee to surface parking lots that generate a lot of stormwater runoff but may not have other metered water or sewer service. Moreover, adding a volumetric component would likely move CRIAC costs between ratepayers without addressing the underlying financial burden that it has placed on some customers. Further, if the Council weighs in on this matter, it would potentially politicize the utility's rate setting process and undermine its independence.[47]

3. Increase economic progressivity by subjecting public rights-of-way to the CRIAC

Charging the CRIAC to rights-of-way would raise $45 million annually and allow the rate to be lowered by about $9.15 per ERU. However, it would shift costs to District taxpayers.

Several advocacy groups and D.C. Water's CRIAC Stakeholder Alliance suggest that the CRIAC would be more equitably distributed if public roadways and sidewalks were subject to the fee.[48] D.C. Water estimates that this change would raise approximately $45 million annually and could allow the CRIAC to be lowered by about $9.15 per ERU. In addition to providing broad-based relief, some of these revenues could be used for targeted relief to the financially vulnerable or increasing the value of the stormwater retention credit. The D.C. Council could control costs by recommending that a new rate class be established for public rights-of-way or that the full charge be phased in over time.[49]

STRATEGY 3: Charge Public Rights of Way for the CRIAC

D.C. Government's Fiscal Impact

Up to $45 million cost per year (approximate)

Ratepayers Impact

LOWER CRIAC BILL

All retail ratepayers

HIGHER CRIAC BILL

District gov't

PROs	CONs
• Provides broad-based relief and/or makes revenue available for targeted interventions • Would apply the "polluter pays" principle to public roadways • Could enhance progressivity by shifting Clean River Project's costs to taxpayers	• Large fiscal impact, with costs rising over time. Might require raising tax rates • Provides relief to many customers who do not need it • Lowers the federal gov't's contribution • Transfers local tax revenue to the federal gov't

Most public roadways and sidewalks are paved with impervious materials and are a major source of stormwater runoff. Public rights-of-way constitute about 40% of impervious surface in the District.[50] According to one estimate, the public rights-of-way comprises 26% of the District's total land area.[51] Current District law and D.C. Water policy prevent the utility from imposing the CRIAC on streets, alleys, and sidewalks owned by the District or federal government.[52] The D.C. Water Board of Directors decided to exclude public rights-of-way from the CRIAC based on the recommendation of consultants who showed that this is standard practice.[53] A recent survey of stormwater utilities confirmed that 64% offer this dispensation, making it the second most common type of exemption.[54]

Imposing the CRIAC on public rights-of-way would shift a substantial portion of the Clean Rivers Project's cost to District taxpayers from D.C. Water retail customers, including federal agencies. The D.C. government would be responsible for most of these costs because it owns between 64% and 95% of the jurisdiction's public roadways.[55] Federal agencies are D.C. Water's largest customers and contribute the most to CRIAC revenues while owning a relatively small share of roadways and sidewalks in the jurisdiction.[56]

The D.C. Council has two main options for funding a CRIAC fee on public rights-of-way. First, the Council could use general fund revenue by either finding savings in the existing budget or raising certain tax rates or government fees. The District's tax base may be larger and broader than D.C. Water's pool of ratepayers. Residents, firms, organizations, and visitors pay District taxes, while D.C. Water can charge the CRIAC to its 125,000 retail customers and receive payments from surrounding jurisdictions whose wastewater is treated at Blue Plains. The D.C. government could choose to raise tax revenue in an economically progressive manner. In contrast, D.C. Water can only charge user fees. Still, federal law prevents the District from collecting taxes from all entities that are subject to D.C. Water's fees, including the federal government and foreign embassies, while local law exempts many non-profit organizations from property and franchise taxes. Further, taxes can be structured to be just as regressive as user fees. For example, a sales tax on food is generally a regressive way to raise revenue.[57]

Second, the District government could explore the possibility of using federal resources in the form of the Highway Trust Fund's $12.137 billion Surface Transportation Block Grant Program and its set-aside for Transportation Alternatives to pay the CRIAC on public rights-of-way. States can use the Transportation Alternatives funds to support environmental mitigation activity, including stormwater pollution prevention.[58]

4. Support green solutions by raising the value of CRIAC Incentive Program

Increasing stormwater runoff reduction credits in targeted areas could maximize its impact and help avoid the pitfall of reducing costs for large institutional customers.

Many D.C. Water customers perceive a dissonance in the Clean River Project over the fact that an initiative that aims to reduce stormwater runoff offers only modest monetary incentives to those who take steps to prevent runoff from their property. As a result, the unsubsidized cost of installing stormwater retention features such as green roofs, rain gardens, rain barrels, and pervious pavement outstrips the value of D.C. Water and DOEE incentive programs.[59] D.C. Council might consider increasing the value of stormwater runoff reduction credits for select classes of ratepayers that have the greatest need or within certain geographic areas where stormwater runoff is most damaging rather than enhancing the existing, broad-based incentive.[60]

Customers can receive up to a 4% reduction on their CRIAC fee by increasing their stormwater retention. This means that a residential customer who pays $276 for CRIAC per year can qualify for up to an $11.04 annual discount. D.C. Water spends about $200,000 per year to fund this customer incentive. The utility's FY 2020 proposed budget raises the maximum credit to 20%.[61]

In contrast, DOEE provides up to a 55% discount on the Stormwater Fee to ratepayers who install stormwater retention features. Residential customers paying $32.04 per year in Stormwater Fees can get a maximum credit of $17.62. Relatively few ratepayers receive Stormwater Fee discounts, and only 14.6% of them receive the maximum credit.[62] Around a third fewer customers receive a discount on their CRIAC, since D.C. Water has a greater runoff retention standard on its discount program than DOEE.[63]

There are two main barriers to increasing the value of CRIAC Stormwater Retention Credits.

STRATEGY 4: Increase the Value of Stormwater Retention Credits

D.C. Government's Fiscal Impact

Savings if D.C. gov't installs stormwater retention features

If D.C. gov't contributes, cost for funding the ratepayer subsidy

Ratepayer Impact

LOWER CRIAC BILL

Ratepayers who install stormwater retention features

HIGHER CRIAC BILL

- If funded by D.C. gov't, no impact
- If subsidized by D.C. Water, those who do not install stormwater retention features

PROs	CONs
• Incentivizes green solutions to runoff • Better aligns cost of installing water retention features with the value of the CRIAC discount	• Benefits might primarily accrue to institutions that can afford to install stormwater retention features • Lowering the cost on one group of ratepayers would require charging other ratepayers more

TABLE 2: Stormwater Retention Incentive Programs

	CRIAC Incentive	Stormwater Fee Incentive
Maximum Credit	4% discount	55% discount
Annual value of maximum credit for residential customers, average	$11.04	$17.62
FY19 Enrollment	856 (estimated)	1,276

First, regardless of how successful private property owners are at reducing their stormwater runoff, D.C. Water must still raise $3.15 billion plus debt service costs to comply with the Consent Decree. Therefore, if the utility provides an incentive to ratepayers who install a rain garden on their property, it must make up for this lost revenue by charging others more. Second, if D.C. Water were to increase the value of the CRIAC Stormwater Retention Credit, much of the benefit would likely go to governments and large institutions with open land that can afford to install and maintain stormwater retention features. An expansion of the discount program might mean that residential and small commercial customers subsidize the CRIAC for governments, universities, and embassies.

5. Lower customer bills by reducing or eliminating D.C. government's pass-through fees

For every $1.00 that D.C. Water charges residential customers, $0.07 is for District government pass-through fees.

The Council could help lower ratepayer costs by reducing or eliminating three fees that D.C. Water charges on behalf of the District government: the Payment-in-Lieu of Taxes (PILOT) Fee, the Right-of-Way (ROW) Fee, and the Stormwater Fee. For every $1.00 that D.C. Water bills residential customers, $0.07 is for District government pass-through fees. The District uses this fee revenue to fund essential government services; if the Council chose to lower or eliminate them, it would most likely have to raise revenue from other sources or make cuts elsewhere in the District's budget.

Advocates are especially critical of the PILOT and ROW Fees because of D.C. Water's status within the District government. Some contend that there is no justification for these fees because D.C. Water is an instrumentality of the District government, and it therefore should not be charged for using core government services.[64] The District charges privately-owned utility companies PILOT and ROW fees, but the Budget Office could not find any other District instrumentality that was subject to them. D.C. Water acts independently and has a separate legal existence, but it is still a government corporation. A 1996 District law established D.C. Water and transferred all publicly-owned water and sewer property and assets. Further, the Mayor appoints all members of its Board of Directors.[65]

The District began assessing the PILOT fee in 1998 for the cost of providing municipal services to D.C. Water. In FY 2019, residential customers pay an average of $3.10 per month for this fee, while wholesale customers (the suburban jurisdictions) are not charged.[66] Under the terms of

TABLE 3: D.C. Government Pass-Through Fees Charged to D.C. Water Customers

	PILOT Fee	ROW Fee	Stormwater Fee
Average cost for residential customers, monthly	$3.10	$1.12	$2.67
FY19 Rate	$0.50 per CCF	$0.19 per CCF	$2.67 per ERU
FY18 Revenue	$15.957 million	$5.1 million	$12.665 million
D.C. Water's FY18 administrative charge	Unknown	Unknown	$1.248 million
D.C. government's use of funds	General Fund	Road maintenance	Stormwater Permit Compliance Enterprise Fund

STRATEGY 5: Lower or Eliminate D.C. Government Pass-Through Fees

D.C. Government's Fiscal Impact

Up to $33.102 million cost per year

Ratepayer Impact

LOWER CRIAC BILL	HIGHER CRIAC BILL
Retail ratepayers	N/A

PROs	CONs
• Provides broad-based relief • Eliminates charges not made on other D.C. government instrumentalities	• Would provide marginal relief. Government pass-throughs make up only 7% of ratepayer costs and costs have remained flat. • Has a fiscal impact, which might require raising tax rates • Does not target benefits at those with greatest need • Provides relief that is not extended to other utilities

a 2014 memorandum of understanding (MOU), D.C. Water is responsible for a PILOT Fee of $15.337 million per year which increases 2% annually from 2016 to 2024. The utility is entitled to retain part of the PILOT Fee for fire protection service fees, but it has not done so since 2015.[67] The District deposits PILOT revenue into the General Fund.

The D.C. government requires all public utilities and telecommunications companies in the area to pay a fee for using its public roadways. D.C. Water is responsible for a $5.1 million annual ROW charge, which it passes on to ratepayers in the form of a monthly fee. Residential customers spend an average of $1.12 per month for the ROW Fee. D.C. Water assumed responsibility for this charge in FY 2003 after entering an MOU with the D.C. government. The District uses this pass-through revenue to fund road maintenance.[68]

D.C. Water also collects the Stormwater Fee for the District to prevent stormwater in the parts of the city served by the separated sewer system from polluting the area's waterways.[69] The DOEE asses the Stormwater Fee based on impervious area using the same methodology as the CRIAC, but the rate is far lower at $2.67 per ERU and has remained flat since 2010. By improving their property's stormwater retention, customers can qualify for up to a 55% discount on their Stormwater Fee through DOEE's RiverSmart programs.[70] D.C. Water raised $12.665 million in Stormwater Fees on behalf of DOEE in FY 2018, and DOEE provided customers with $116,000 in Stormwater Fee discounts. The utility retained $1.248 million or 9.85% of these revenues to cover administrative expenses. The District

government relies on revenue from this pass-through fee to support the implementation of its MS4 permit. The DOEE uses these funds to prevent stormwater from polluting the District's rivers, install green infrastructure, ensure that new construction and redevelopment projects incorporate green infrastructure, and incentivize voluntary green infrastructure retrofit projects.[71] The District deposits these revenues in the non-lapsing Stormwater Permit Compliance Enterprise Fund. This Fund ended FY 2018 with a $14.2 million balance, having begun the year with a $10.8 million balance.[72] While some of these moneys are committed for the Stormwater Retention Credit Price Lock Program, it is nevertheless a sizable fund balance. The Council should consider reducing the Stormwater fee and scrutinizing D.C. Water's administrative charges.

6. Ensure that all jurisdictions in the Blue Plains Intermunicipal Agreement pay their fair share

D.C. ratepayers may be shouldering more than their fair share of the CSO mitigation costs.

The Blue Plains Intermunicipal Agreement (IMA) of 2012 governs the terms for managing wastewater treatment, biosolids, and cost allocation among the jurisdictions and authorities that have their wastewater treated by D.C. Water.[73] Under the terms of the agreement, only 41.7% of Blue Plain's flow capacity is allocated to the District. The wastewater from these other jurisdictions passes through D.C.'s sewer system as it makes its way to Blue Plains, and some of it flows through the CSS and contributes to CSO. Most of the pollution in the District's waterways comes from other jurisdictions. Further, D.C. constitutes a small share of local watersheds' land area, and many of the benefits of reducing stormwater pollution accrue downstream.[74] However, the IMA dictates that D.C. pay the vast majority (92.9%) of the Clean Rivers Project's costs.[75] On average, District residents' monthly water and sewer bills are 14.8% higher than other customers in the region.[76]

It seems possible that District ratepayers are shouldering more than their fair share of the infrastructure project's costs relative to Blue Plains' wholesale customers. The authors of this report have been unable to conclusively determine how the IMA signatories determined the 92.9% District/7.1% non-District cost allocation.[77] According to the IMA, the cost allocations are based on modeling. When there is a modification to the CSO Long-Term Control Plan, as there was when the Consent Decree was amended in 2015, D.C. Water is to evaluate the performance assumptions to determine if cost allocations should be modified.[78] It does not appear that this was

STRATEGY 6: Re-Examine Intermunicipal Agreement

D.C. Government's Fiscal Impact

Savings possible

Ratepayer Impact

LOWER CRIAC BILL	HIGHER CRIAC BILL
Savings possible for retail ratepayers	Wholesale ratepayers

PROs	CONs
• Could provide broad-based relief without a fiscal impact • Could increase equity between the District and suburban jurisdictions	• Could take years to negotiate • Positive outcome not guaranteed

done. In February 2019, the Metropolitan Washington Council of Governments submitted written testimony to the Council stating that it will work with D.C. Water to assess whether the cost allocation assumptions in the IMA should be modified. The Council should also examine if Maryland and Virginia are doing enough to redirect their stormwater from the District during torrential rain events. While there are no guarantees that D.C. would be able to negotiate more favorable terms if the IMA were re-opened, it may be a strategy worth pursuing especially if the District could provide robust evidence demonstrating that their residents are being overcharged.

7. Lobby Congress for regular and significant federal support for solving a problem that it helped create

Following the "polluter pays" logic of environmental law, the federal government ought to make regular and significant contributions.

The D.C. Council should consider applying more pressure to Congress to enhance the federal contribution for CSO mitigation. The federal government is arguably responsible for CSO in the District, since it designed the sewer system and chose to keep a flawed structure in place long after it had been shown to be a major source of water pollution.[79] Following the "polluter pays" logic of environmental law, the federal government ought to make regular and significant contributions to the Clean Rivers Project rather than the small, periodic earmarks that have characterized its support to date.[80] Moreover, the benefits of D.C. Water's CSO remediation investments will accrue well beyond the District's borders, suggesting that the cost should be shared across a broader geographic area. A CBO report noted that there is a strong case for federal investments in wastewater treatment for "communities whose water eventually flows into a major resource such as the Chesapeake Bay."[81]

However, the federal government's financial support for the infrastructure project has waned. Congress's FY 2019 appropriation is a sharp decline from the previous year, and it is a shadow of the approximately $50 million annual contribution that it once made. According to Doug Siglin, the former Executive Director of the Anacostia Watershed Trust, stakeholders used to regularly lobby Congress for federal contributions, but these efforts have dried up in recent years. By making the federal government's contribution to the Clean Rivers Project a cornerstone of its congressional lobbying efforts, the Council could potentially reduce the burden on ratepayers and pressure the federal government into paying its fair share.

STRATEGY 7: **Lobby Congress to Increase Federal Contribution**

D.C. Government's Fiscal Impact

Savings possible

Ratepayer Impact

LOWER CRIAC BILL	HIGHER CRIAC BILL
All ratepayers	N/A

PROs	CONs
• Could provide broad-based relief without a fiscal impact • Could encourage the federal government to pay its fair share	• Could take years to achieve • Positive outcome not guaranteed

8. Improve accountability by re-examining D.C. Water's governance structure

The Council should continue its vigorous oversight of D.C. Water.

The Council should continue its vigorous oversight of D.C. Water. It could also consider introducing legislation that would subject D.C. Water to the same level of rate-setting scrutiny that other utilities regulated by the Public Service Commission (PSC) face or alter the makeup of its Board of Directors.[82]

D.C. Water is different from other utilities in that it both sets and approves its rates, while other utilities must justify their rates to the PSC. The dual role that D.C. Water plays may present a conflict of interest, and it has drawn attention in an era in which ratepayers face double-digit annual increases in their water and sewer rates while the utility has amassed over 250 days' worth of fund reserves.

The Council could amend the law to require that appointees possess relevant qualification— such as a background in engineering, water treatment, municipal finance, environmental stewardship, or rate setting—which may further the goal of controlling the utility's costs and the burden placed on ratepayers. Current law grants the Mayor the authority to appoint all 11 members of D.C. Water's Board of Directors with approval from Council. The only restrictions placed on the Mayor is limiting the number of District government employees, requiring that one of the seats be held by a cabinet-level officer, and mandating that five of the seats must be reserved for other jurisdictions whose wastewater is treated at Blue Plains. Notably, the D.C. Code does not require appointees possess skills or qualifications related to overseeing a public water utility, reside in the District, or lack financial ties to public utilities in the District. While the Mayor may to decide to appoint people to the D.C. Water Board that have strong qualifications even if it is not mandated by statue, enshrining these requirements in law may promote transparency and accountability.[83]

STRATEGY 8: Re-Examine D.C. Water's Governance Structure

D.C. Government's Fiscal Impact

Savings possible

Ratepayer Impact

LOWER CRIAC BILL	HIGHER CRIAC BILL
Savings possible for all ratepayers	N/A

PROs	CONs
• Could increase transparency and accountability • Could improve D.C. Water's governance structure	• Could politicize D.C. Water and compromise its independence • Would not necessarily result in lower rates or better outcomes for customers

9. Reduce ratepayers' bills by re-negotiating the Consent Decree

The District government, D.C. Water, the EPA, and environmental and citizens groups agreed to amend the Consent Decree in 2015 to reduce ratepayer costs and change some of its infrastructure requirements. The parties found that the rapid escalation in stormwater fees placed a significant financial burden on customers. They agreed to lower this burden by extending the

Long-Term Control Plan's deadline from 2025 to 2030. Even after the first amendment to the Consent Decree, D.C. Water projects that the CRIAC will rise by 46.0% between FY 2019 and FY 2027, or an average annual growth of 6.6%. This outpaces the Congressional Budget Office (CBO)'s estimate that U.S. personal income will increase by 4.4% per year over the next decade. Amending the Consent Decree to extend the remediation deadline beyond 2030 could reduce its cost. For example, residential customers would pay an estimated 14.5% less per year if the implementation schedule were extended from 30 to 40 years.[84]

STRATEGY 9: Amend the Consent Decree

D.C. Government's Fiscal Impact

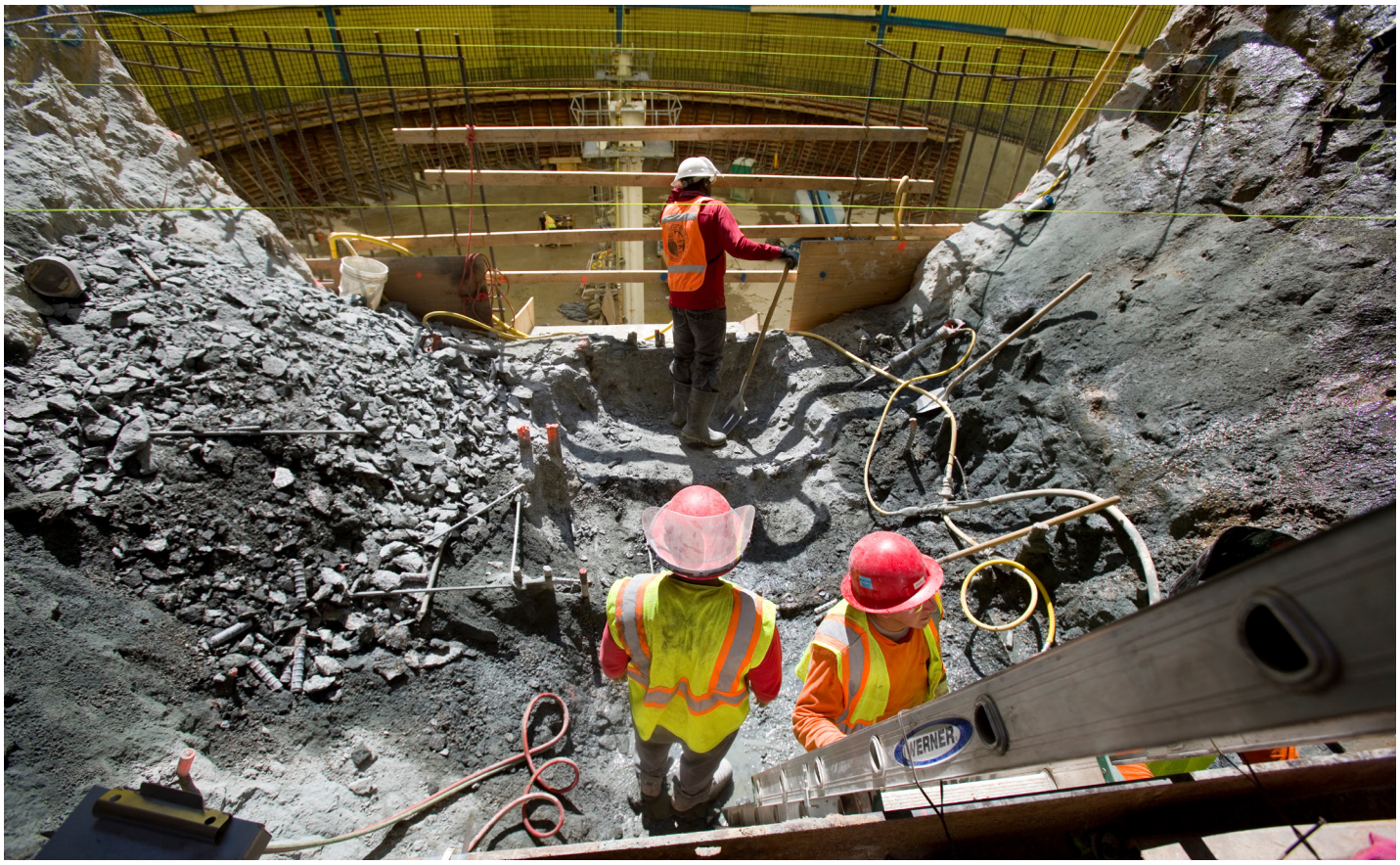
Savings possible

Ratepayer Impact

LOWER CRIAC BILL	HIGHER CRIAC BILL
Savings possible for all ratepayers	N/A

PROs	CONs
• Could provide broad-based relief without a fiscal impact	• Success unlikely • Would take years to achieve • Positive outcome not guaranteed • Extend the health and safety risks of CSOs

However, any changes to the agreement would take many years to achieve with no promise of success. The Consent Decree was recently amended, and the EPA and other signatories may be reluctant to again re-negotiate its terms for the same purpose. If the completion schedule were to be extended, CSOs would continue to damage local waterways for a longer period. The change would also face fierce opposition from environmental organizations, some of which are signatories to the Consent Decree.[85]



Conclusion

Raising $3.15 billion plus debt service costs to mitigate CSO in an affordable and equitable manner is not easy, and many other municipalities under consent decrees have grappled with similar challenges. The nine strategies laid out in this report represent a range of the Council's policy options, but it is by no means complete. Many stakeholder groups have been engaged on this issue, and they have put forth other proposals worthy of consideration. Of the nine proposals that the Budget Office analyzed in this memo, no single option emerges as a silver bullet. Each offers benefits as well as tradeoffs, providing savings to some while increasing costs on others.

As Councilmembers contemplate the various approaches, they may want to consider them through four different lenses. First, the Clean Rivers Project is D.C. Water's fiscal obligation, and thus the Council must decide whether it is appropriate to subsidize it with local tax revenue. Second, Councilmembers may want to consider which solutions would help meet ratepayers' immediate needs versus which would address long-term structural barriers. Third, Council may wish to decide if it is more effective to offer broad-based assistance or provide targeted relief. Fourth, Councilmembers should be aware of how the actions they take might open D.C. Water's rate structure to legal challenges.

Remediating CSO is just one of the District's many water and sewer infrastructure needs. D.C. Water must also invest in repairing and upgrading aging systems, improving resiliency to the adverse impacts of climate change, and complying with other federal rules and regulations. For instance, the District's water main pipes are an average of 79 years old, and in the coming decades, many of them will have to be replaced. Like the Clean Rivers Project, some of these infrastructure initiatives will cost billions of dollars to complete and strain D.C. Water's financial resources. Effectively addressing the economic hardship that CRIAC has created will not only keep this fee affordable, it will also provide a roadmap for how D.C. Water can fund its other infrastructure needs without unduly burdening ratepayers.

Endnotes

1 "Briefing on DC Clean Rivers Project Northeast Boundary Tunnel Project," updated February 10, 2018, https://www.dcwater.com/sites/default/files/Final%20-%20NEBT%202018%20Workshop%20Presentation_0.pdf.

2 Heavy levels of precipitation strain the CSS and increase water pollution levels, as happened in 2018. "State of the Bay 2018," (Annapolis, MD2018); Jason Samenow and Ian Livingston, "Drenched City: 2018 Is Now Washington's Wettest Year Ever Recorded," *Washington Post*, December 15 2018.

3 Of the 47 CSO outfall points, 13 discharge into the Anacostia, 10 into the Potomac, and 24 into Rock Creek.

4 Stephen Gaffield et al., "Public Health Effects of Inadequately Managed Stormwater Runoff," *American Journal of Public Health* 93, no. 9 (2003); Andrea Lund et al., "Long Term Impacts of Combined Sewer Overflow Remediation on Water Quality and Population Dynamics of Culex Quinquefasciatus, the Main Urban West Nile Virus Vector in Atlanta, GA," *Environmental Research* 126 (2014); Patrick Drayna et al., "Association between Rainfall and Pediatric Emergency Department Visits for Acute Gastrointestinal Illness," *Environmental Health Perspectives* 118, no. 10 (2010).

5 Of this CSO, 2.142 billion gallons (65.8%) emptied into the Anacostia River, 1.063 billion gallons (32.7%) into the Potomac River, and 49 million gallons (1.5%) into Rock Creek. D.C. Water, interview by Budget Office, January, 2019.

6 The lawsuit was filed by the Anacostia Watershed Society, Kingman Park Civic Association, American Canoe Association, Friends of the Earth, Sierra Club, and Mary Stuart Bick Ferguson. The parties agreed to modify some aspects of this consent decree in 2015. They extended the implementation schedule to reduce ratepayer burden and eliminated a planned underground tunnel for Rock Creek, instead agreeing that some area's CSP could be controlled with green infrastructure and targeted sewer separation. *First Amendment to Consent Decree*, (2015).

7 D.C. Water expects the tunnels will cost $2.7 billion to construct, with another $387.665 million for other CSO mitigation projects required by the Consent Decree and program management. The project's most expensive component is its underground water storage tunnel system. When the system is complete, 18-miles of tunnels will wind their way under the District. These tunnels are activated during wet weather, capturing and storing up to 400 million gallons of CSO at a time before piping it to Blue Plains. D.C. Water finished the first stretch of tunnel in March 2018. The tunnels are 23-feet in diameter and are buried six to nine stories (80 to 120 feet) below the surface. In 2018, D.C. Water activated the tunnel system 35 times, capturing 4.5 billion gallons of sewage that would have otherwise been discharged into the Anacostia River. "D.C. Water's Anacostia River Tunnel Saves River from 4.5 Billion Gallons of Sewage Overflow in 2018," updated January 7, 2019, accessed January 25, 2019, https://www.dcwater.com/whats-going-on/news/dc-water%E2%80%99s-anacostia-river-tunnel-saves-river-45-billion-gallons-sewage-overflow; D.C. Water, "FY 2019 Approved Budget," (D.C. Water, 2018).

8 D.C. is one of 38 jurisdictions with a CSS consent decrees. The EPA expects 29 of these projects to cost more than $100 million to complete. The District has the fourth most expensive CSO mitigation plan in the country, only surpassed by those of St. Louis, Cincinnati, and Cleveland. U.S. Environmental Protection Agency, "EPA National Enforcement Initiative: Keeping Raw Sewage and Contaminated Stormwater out of Our Nation's Waters," (2017).

9 Yvette Downs, "Allocating CSO Costs Using Impervious Area," *Water Environment Federation Magazine*, May 2012. Carol O'Cleireacain, "Cleaner Rivers for the National Capital Region: Sharing the Cost," (Washington, DC: Brookings Institute, 2012).

10 Committee on Transporation and the Environment, *FY 2019 Performance Oversight Responses*, 2019; "District of Columbia Water and Sewer Authority Public Utility Senior Lien Revenue Bonds, Series 2014a (Federally Taxable) (Green Bonds) (DC)," updated July 23, 2014, accessed January 29, 2019, https://emma.msrb.org/IssueView/Details/EA352047.

11 U.S. Environmental Protection Agency, *D.C. Water's Environmental Impact Bond: A First of Its Kind* (2017); Jennifer North and Gloria Gong, "D.C. Water Environmental Impact Bond," (Cambridge, MA: Harvard Kennedy School, Government Performance Lab, 2017); "Cleaner Rivers."

12 D.C. Water, "FY 2019 Approved Budget, Approved by the Board of Directors on March 1, 2018," (2018); O'Cleireacain, "Cleaner Rivers."

13 As of April 2018, D.C. Water held an AAA rating from Standard & Poor's, an Aa1 rating from Moody's, and an AA rating from Fitch. The utility believes that if their rating were to slip by even one degree, their $2 billion capital program's borrowing costs would rise by $40 million. "Senior Bond Ratings," 2018, accessed February 19, 2019, https://www.dcwater.com/sites/default/files/finance/rates/DC%20Water%20Bond%20Ratings.pdf. "Board of Directors, Special DC Retail and Sewer Rates Committee - Meeting Documents for December 6, 2018," (2018).

14 *Blue Plains Intermunicpal Agreement of 2012, among the District of Columbia; District of Columbia Water and Sewer Authority; Fairfax County, Virginia; Montgomery County, Maryland; Prince George's County, Maryland; Washington Suburban Sanitary Commission* (2012).

15 Committee on Transportation and the Environment, *FY 2018 Performance Oversight Responses*, 2018; U.S. House of Representatives, *Consolidated Appropriations Act, 2019* (2019).

16 D.C. Water, "Board of Directors, Special DC Retail Water and Sewer Rates Committee - Meeting Documents from December 8, 2018," (2018).

17 Aaron M. Renn, "Wasted: How to Fix America's Sewers," (New York City: Manhattan Institute, 2016); National Association of Counties, "Unfunded Mandates and Other Regulatory Impacts on Counties," (Washington, DC: National Association of Counties, 2015).

18 Prior to 2009 D.C. Water used sewer charges to pay for the Clean Rivers Project. Separating out the CRIAC from other charges helped the utility justify that it is a fee not a tax. A charge that has no direct relationship to the service provided is considered a tax since it supports the general government. Downs; D.C. Water, "FY19 Approved Budget."

19 *FY19 Performance Oversight Responses*.

20 Apartment and Office Building Association (AOBA) of Metropolitan Washington, interview by Budget Office, January 9, 2019.

21 D.C. Water, "FY 2018 Comprehensive Annual Financial Report," (2018); "FY19 Approved Budget."

22 "Can People Afford American Infrastructure?," Brookings Metropolitan Infrastructure Initiative, updated May 9, 2018, https://www.brookings.edu/blog/the-avenue/2018/05/09/can-people-afford-american-infrastructure/; Joseph Kane, "Water Affordability Is Not Just a Local Challenge, but a Federal One Too," *Brookings* (2018); "Striking a Better Balance between Water Investment and Affordability," Brookings Metropolitan Infrastructure Initiative, updated September 12, 2016, https://www.brookings.edu/blog/the-avenue/2016/09/12/striking-a-better-balance-between-water-investment-and-affordability/; O'Cleireacain, "Cleaner Rivers."; National Academy of Public Administration, "Developing a New Framework for Community Affordability of Clean Water Services," (Washington, DC: National Academy of Public Administration, 2017).

23 Black & Veatch Management Consulting LLC, "2018 Stormwater Uitlity Survey," (Overland Park: Black & Veatch Management Consulting LLC, 2018); Downs.

24 D.C. Water uses aerial photographs and data from the OCFO's Office of Tax and Revenue to estimate the amount of impervious area on each ratepayer's property. Some have criticized D.C. Water for what updating ERU estimates with greater frequency. DC Sierra Club of Washington, "Sierra Club Recommendations on CRIAC Restructuring," (2019).

25 Residential customers are divided into six ERU tiers based on impervious surface area. All residential customers will pay the CRIAC on at least 0.6 ERUs, but they will not be charged beyond 13.5 ERUs. Commercial and multi-family buildings are charged based on their actual square footage of impervious cover. "Clean Rivers and Impervious Cover," updated

October 26, 2017, accessed February 22, 2019, https://dcwater.com/whats-going-on/blog/clean-rivers-and-impervious-cover.

26 D.C. Water, "FY18 CAFR."

27 "The Clean Rivers Impervious Area Charge: Discussion with the Stakeholder Alliance," (2018); *FY18 Performance Oversight Responses*.

28 The majority (107) of these accounts belong to the federal or District governments. *FY18 Performance Oversight Responses*.

29 "What Is the Polluter Pays Principle?," updated May 11, 2018, accessed January 23, 2019, http://www.lse.ac.uk/GranthamInstitute/faqs/what-is-the-polluter-pays-principle/; Alan Roth, interview by Budget Office, January 19, 2019.

30 Approximately 43% of the District's land area is covered by impervious surfaces. "Greening DC Streets: A Guide to Green Infrastructure in the District of Columbia," (2014).

31 D.C. Water, "FY18 CAFR."; "FY19 Approved Budget, as Approved by the Board."

32 Kane; U.S. Environmental Protection Agency, "Drinking Water and Wastewater Utility Customer Assistance Programs," (2016).

33 DCMR 21 § 4102

34 In comparison, the Low-Income Heat and Energy Program (LIHEAP) has about 20,000 enrollees. CAP has far fewer participants than LIHEAP in large part because relatively few low-income households live in a unit with separately metered water services. The FY 2018 CAP enrollment numbers are a significant decline from FY 2017, when 4,244 customers participated. D.C. Water also helps customers that experience a financial emergency maintain their water service through the SPLASH (Serving People by Lending a Supporting Hand) Program and by offering extended payment plans. Department of Energy and Environment, interview by Budget Office, 2019; "Clean Rivers Impervious Area Charge Residential Relief Program," 2019, accessed February 15, 2019, https://doee.dc.gov/service/residential.criacrelief; *FY19 Performance Oversight Responses*. D.C. Water, "FY19 Approved Budget."

35 D.C. Law 22-168; D.C. Official Code § 2202.16

36 Department of Energy and Environment, "CRIAC Residential Relief Program."; , February 13, 2019; D.C. Water, "Board of Directors, Finance and Budget Committee - Meeting Documents for March 22, 2018," (2018).

37 Department of Energy and Environment, "Written Responses to Questions Submitted by the Budget Office," (2019).

38 The SMI is a metric set by the U.S. Department of Health and Human Services (HHS), whereas the U.S. Department of Housing and Urban Development (HUD) determines the AMI. The use of these two different metrics originated in the "Fiscal Year 2019 Budget Support Act of 2018."

39 Department of Energy and Environment, "CRIAC Residential Relief Program."; ; D.C. Water, "Board of Directors, Special DC Retail Water and Sewer Rates Committee - Meeting Documents for November 29, 2018," (2018); "Board of Directors, 15th Special Meeting - Meeting Documents for August 16, 2018," (2018).

40 Unlike CAP and CAP2, the authorizing legislation for CAP3 does not provide for a greater income threshold for households that have more than four members. This means that the maximum income to qualify for CAP3 is the same for an eight-person household as it would be for a four-person household: $117,200.

41 Department of Energy and Environment; *Notice of Emergency and Proposed Rulemaking: Clean Rivers Impervious Surface Area Charge Relief Programs* (2018).

42 Apartment and Office Building Association (AOBA) of Metropolitan Washington.

43 Committee on Transportation and the Environment, *Testimony of Alan J. Roth on the Clean Rivers Impervious Area Charge*, May 22 2018; Roth.

44 For example, water consumption among retail customers declined by 1.7% in FY 2017. D.C. Water, "FY19 Approved Budget."; interview by Budget Office, January 10, 2019.

45 According to one publication, residential customers, federal customers, and municipal customers made up a larger share of the District's ERU than their share of metered water consumption at a rate of 24.4% vs. 21.3%, 21.0% vs. 16.9%, and 6.7% vs. 3.2%, respectively. In contrast, multifamily homes constituted 10.9% of the District's ERU but consumed 20.7% of the metered water. Downs.

46 Department of Energy and Environment; Doug Siglin, interview by Budget Office, January 20, 2019.

47 Roth.

48 Anacostia Watershed Society, interview by Budget Office, January 18, 2019; Sierra Club of Washington, "Recommendations."; Siglin; D.C. Water, "Discussion with the Stakeholder Alliance."

49 "Discussion with the Stakeholder Alliance."; Downs.

50 D.C. Water, "Meeting Documents from December 8, 2018."

51 District Department of Transportation, "Greening DC Streets."

52 The authorizing legislative language for levying the fee defines impervious surface as "rooftops, footprints of patios, driveways, private streets, other paved areas, athletic courts and swimming pools, and any path or walkway that is covered by impervious material." The D.C. Water Board Resolution states: "Impervious surface rates shall be applied to all lots, parcels, properties, and private streets throughout the District of Columbia (but not City or federally-owned rights of way)." *Water and Sewer Authority Equitable Ratemaking Amendment Act of 2008*, (2009); D.C. Water, "Board of Directors, Resolution #7-86 Policy on Impervious Surface Rates," (2007).

53 *Testimony of Alan J. Roth*.

54 Black & Veatch Management Consulting LLC, "Stormwater Uitlity Survey."

55 "DDOT by the Numbers," 2019, accessed February 8, 2019, https://ddot.dc.gov/page/ddot-numbers; U.S. Department of Transportation, "Highway Statistics 2017," (Washington, DC: Federal Highway Administration, U.S. Department of Transportation, 2017); D.C. Water; Department of Energy and Environment; District Department of Transportation, "Greening DC Streets."

56 D.C. Water, "FY18 CAFR."; "Meeting Documents from December 8, 2018."

57 When food is subject to a sales tax, low-income households must spend a greater share of their income on this tax than higher-income households.

58 "Surface Transportation Block Grant Program," updated February 8, 2017, accessed February 13, 2019, https://www.fhwa.dot.gov/fastact/factsheets/stbgfs.cfm; U.S. Department of Transportation, *FHWA FY 2019 Budget* (2019).

59 For example, the cost of installing pervious, interlocking pavers may range from $5 to $10 per square foot. "Permeable Pavement Fact Sheet: Information for Howard County, Maryland Homeowners," 2011, https://extension.umd.edu/sites/extension.umd.edu/files/_docs/programs/master-gardeners/Howardcounty/Baywise/meablePavingHowardCountyMasterGardeners10_5_11%20Final.pdf.

60 To qualify for the CRIAC Nonprofit Relief program, organizations must complete a stormwater mitigation project. A similar requirement does not exist for residential customers in the CAP, CAP2, or CAP3 programs.

61 D.C. Water; *FY19 Performance Oversight Responses*.

62 When calculating a customer's runoff reduction for the purposes of a discount, DOEE chooses to round up while D.C. Water rounds down. Those who receive a Stormwater Fee discount must apply to DOEE to renew their eligibility every three years. About 70% of customers choose to re-enroll.

63 Department of Energy and Environment.

64 Roth.

65 "Water and Sewer Authority Establishment Act and Department of Public Works Reorganization Act of 1996" (D.C. Law 11-111; D.C. Official Code § 34-2201).

66 The FY 2019 monthly PILOT Fee is $0.50 per CCF (1 CCF = 748 gallons) for all rate classes. On average, D.C. Water residential customers consume 6.2 CCFs or 4,638 gallons per month. D.C. Water, "Meeting Documents for March 22, 2018."; "FY18 CAFR." "Approved Rates," 2019, accessed February 11, 2019, https://www.dcwater.com/approved-rates.

67 In addition to the funds that D.C. Water is entitled to receive for fire protection service from the PILOT fee, it bills the District government for a Fire Protection Service Fee. This fee is intended to ensure water delivery for firefighters as well as upgrade and maintain fire hydrants. The District and D.C. Water agreed to set the annual charge at $12,527,000 for FY 2019 through FY 2021. "Board of Directors,

Resolution #13-38 Approval of Amendments to the District of Columbia Fire Protection Service Fee," (2018).

68 The ROW Fee is $0.19 per CCF. The District government deposits revenue it receives from this pass-through fee and Motor Fuel Tax revenue into the DC Highway Trust Fund (#6330). This fund is used to provide the local match for federal highway aid. Any excess revenues in this fund are transferred to the District's Capital Improvements Program (CIP) for maintaining transportation infrastructure (D.C. Official Code § 9-111). The District's revenue from the public utility pass-through fees and the Motor Fuel Tax has outstripped the local match requirement since FY 2016. The District budgeted $24.9 million for the local match in FY 2018 but collected $45.33 million in ROW revenue. D.C. Water, "Approved Rates."; "Meeting Documents for March 22, 2018."

69 The District's separated sewer system is also a source of stormwater pollution, since it allows for untreated stormwater runoff to flow into the District's waterways. The EPA requires that the District's separated sewer system meet certain stormwater control requirements, as laid out in the Municipal Separate Storm Sewer System (MS4) Permit and the Long-Term Control Plan. The Department of Energy and Environment (DOEE) manages these efforts. The wastewater from the separated sewer system does not flow into the tunnel system being built for the Clean Rivers Project.

70 The RiverSmart program offers rebates and reimbursements for customers that install rain barrels, rain gardens, landscape with native plants (BayScaping), plant trees, replace impervious surfaces with permeable pavement, or retrofit a conventional roof with a green roof.

71 "Stormwater Fee Background," 2019, accessed February 19, 2019, https://doee.dc.gov/service/stormwater-fee-background; Department of Energy and Environment, "Written Responses."; D.C. Water, "FY18 CAFR."

72 D.C. Official Code § 8-152.02.

73 The IMA includes the governments of District of Columbia, Fairfax County, Montgomery County, and Prince George's County, D.C. Water, and the Washington Suburban Sanitary Commission. Blue Plains also treats wastewater from these non-IMA signatories: Loudoun County, Dulles Airport, the Town of Vienna, the Naval Ship Research and Development Center in Maryland, and the National Park Service in Maryland.

74 The District makes up 25% of the Anacostia River's watershed, 21% of Rock Creek's, and just 4% of the Potomac River's watershed. "Anacostia River Initiatives," 2019, accessed February 24, 2019, https://doee.dc.gov/trashfreedc; "Potomac Basin Facts," 2019, accessed February 24, 2019, https://www.potomacriver.org/potomac-basin-facts/; "Rock Creek Watershed Implementation Plan," (2010); Committee on Public Works and the Environment, *Testimony of Diane M. Cameron on the "Water and Sewer Authority Equitable Ratemaking Amendment Act of 2008" (Bill 17-935)*, October 10 2008; Anacostia Watershed Society.

75 The cost division among the outlying jurisdictions are as follows: 5.54% is paid by the Washington Suburban Sanitary Commission (WSSC); 1.01% by Fairfax County; and 0.55% by other users, including Loudoun County Sanitation Authority, the Town of Vienna, Dulles Airport, the National Parks Service in Maryland, and the Naval Ship Research and Development Center.

76 D.C. Water, "FY19 Approved Budget."

77 One source suggested that this might have been a rate negotiated by City Administrator Daniel Tangherlini based on a recommended range for the District's contribution of 87.3% to 92%.

78 *First Amendment to Consent Decree*.

79 The District's CSS is the direct result of federal decisions. The federal government was responsible for the District's infrastructure until 1973. For much of the 19th century, the District was plagued with sewage backups and waterborne disease epidemics including cholera and typhoid fever. In the hopes of improving drainage and public health, in the 1870s a presidentially-appointed board and the U.S. Army Corps of Engineers oversaw the construction of new sewer lines using a CSS design. Most cities that developed sewers at this time also used a CSS design, which was a vast improvement over the urban cesspool ditches which ran along city streets and overflowed whenever it rained. However, the logic of CSS's soon proved to be faulty. Large outbreaks of cholera in U.S. cities were linked to sewage-contaminated water supplies, and views of the safety of discharging untreated wastewater directly into receiving waters began to shift towards the end of the century. In the 1890s, President Benjamin Harrison appointed a Board of Engineers to overhaul the District's sewer system. Despite the drawbacks of maintaining the District's CSS, the Board directed that the existing CSS remain in place but new sewer sections should be constructed with separate lines for stormwater and sewage flows. O'Cleireacain, "Cleaner Rivers." "Combined Sewer Overflow (CSO) Control Activities: Clean Rivers Project News," (Washington, DC2018). "History - Sewerage System," 2017, accessed January 9, 2019, https://www.dcwater.com/history-sewerage-system; "Our Sewer System Is over 200 Years Old," 2017, accessed January 9, 2019, https://www.dcwater.com/wastewater-collection-history; *First Amendment to Consent Decree*. Renn, "Wasted."; John Tibbetts, "Combined Sewer Systems: Down, Dirty, and out of Date," *Environmental Health Perspectives* 113, no. 7 (2005). *Report to Congress: Impacts and Control of Csos and Ssos* (Washington, DC 2004).

80 D.C. Water's former Director of Finance and Budget Yvette Downs wrote that the utility believes that "the federal share of this project should be 50%, which would make the government's total $1.3 billion."

81 Congressional Buget Office, "Issues and Options in Infrastructure Investment: Federal Capital Spending on Transportation and Water Infrastructure," (Washington, DC: Congress of the United States, 2008); O'Cleireacain, "Cleaner Rivers."; Renn, "Wasted."

82 The "D.C. Water Consumer Protection Act of 2018" enhanced consumer protections by granting the OPC the authority to represent and advocate for D.C. Water ratepayer and investigate complaints over D.C. Water services and rates (B22-662; 66 DCR 2020).

83 Jewish Community Relations Council of Greater Washington and the Archiocese of Washington, "Supplemental Statement Regarding Long-Term Legislative Solutions to the CRIAC Issue," (2018); Sierra Club of Washington, "Recommendations."; D.C. Official Code § 32-2202.

84 Congressional Budget Office, "The Budget and Economic Outlook: 2018 to 2028," (Washington, DC: Congress of the United States, 2018); *First Amendment to Consent Decree*; *FY19 Performance Oversight Responses*.

85 Siglin; Anacostia Riverkeepers, interview by Budget Office, January 24, 2019; Anacostia Watershed Society.

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