Sewer Extension Needs for Unserved and Underserved Neighborhoods

Final Recommendations of the Bi-County Infrastructure Funding Working Group

October 2021

TABLE OF CONTENTS

Index of Table & Figures

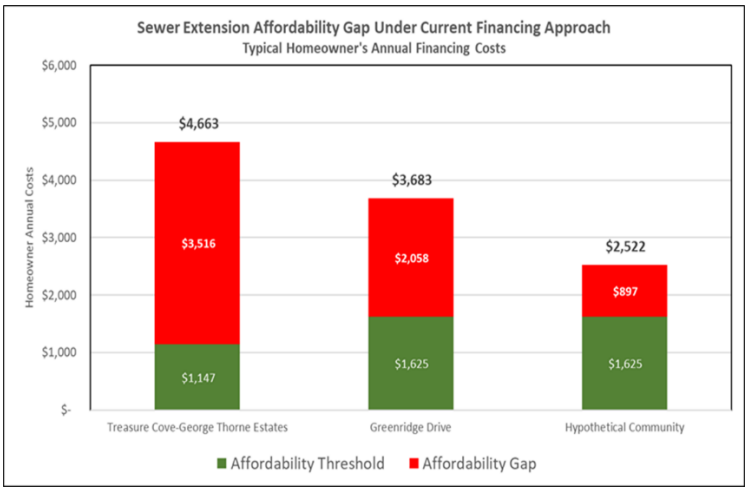
EXECUTIVE SUMMARY

Background

Thousands of homes throughout Prince George's and Montgomery Counties have septic systems despite being in communities that were planned for public sewer service. Many of these homes have old septic systems that are beginning to fail and many of these failing systems cannot be easily repaired or replaced because the lot is too small, or soil conditions are inadequate.

These "Underserved", and "Unserved" homes cannot access sewer service from WSSC Water until sewer mains are extended into their community and under current Maryland statute homeowners are responsible for the cost of any new water or sewer infrastructure that is required to extend service to their homes. A typical sewer extension can cost up to $700.00 per foot and total project costs can range from hundreds of thousands to over a million dollars.

To put this affordability problem into perspective, the costs to extend sewer service in three example underserved and unserved communities were analyzed and compared to community affordability guidelines developed by the Environmental Protection Agency. Under the current extension financing approach, homeowners seeking WSSC sewer service would have to pay between $2,500 to $4,600 per year for 30 years for this service. These costs, which are shown in the figure below, are double or triple the level that would be considered to be affordable under EPA's guidelines.



Although the current application process provides for long-term financing and limited subsidies in cases where failing septic systems are causing a public health problem in the community, very few homeowners can afford to extend water or sewer service into their communities. Since 2005, only 16 sewer extension projects have been constructed to provide service to approximately 84 homes with septic systems.

A subgroup of the Bi-county Infrastructure Working Group ("The workgroup") has been working over the past three years to identify policy challenges and deficiencies of the current system and build a roadmap for an "improved" system of extending water and sewer service to unserved and underserved areas. Building on the work of previous workgroups the current workgroup has identified the key legal, financial and policy challenges that will have to be addressed in any comprehensive solution to the problems facing underserved and unserved communities. These challenges include:

- The current approach places all of the burden of project financing on the homeowner, which makes most sewer extension projects unaffordable for the majority of homeowners.
- There is a lack of fairness and equity in the current approach to extending sewer service to underserved and unserved areas because only homeowners who are requesting service pay for the extension project deficit costs over and above front foot benefit assessments. Homeowners who decide to take advantage of the availability of sewer service in the future get a free ride because they only pay a front foot benefit assessment after they connect.
- The current sewer extension process, which is applicant driven, impedes the counties' ability to address septic system problems and other potential community health hazards comprehensively. Sewer service is not being extended into communities where it is most needed. This is preventing the counties' from addressing the public and environmental health impacts of septic systems in a systematic, cost-effective manner.

Policy Objectives

The workgroup identified six policy objectives to guide its consideration of various options and alternatives. Recognizing that the development of a new approach to extension financing would require potential tradeoffs and compromises, the workgroup focused on alternatives that met the following objectives:

- **Financial Sustainability** - A reliable, consistent source of funding must be identified to ensure that the program can be sustainably funded over the long-term.
- **Affordability** – Costs must be affordable for all homeowners, including low to moderate income homeowners and households with fixed incomes.
- **Equity**: For every proposed new sewer extension request, the costs of the project must be weighed against the benefits to the community and the public at large.
- **Simplicity & Transparency**: The roles and responsibilities and financial requirements for any new program should be easy to understand and simple to communicate to all stakeholders.
- **Prioritize Public Health**: The program should ultimately improve public health outcomes for communities with current or pending septic system problems.

- **Maximize Participation within a Community**: Any new approach should incentivize a maximum number of homeowners within an underserved/unserved community to connect to the new system.

Workgroup Recommendations

The workgroup believes that WSSC Water and the counties must adopt a collaborative approach to addressing the needs of homeowners in underserved and unserved communities. The members of the workgroup also reached consensus on eight discrete recommendations that lay the groundwork for a comprehensive, programmatic solution to the problems facing residents in underserved and unserved communities in the bi-county area.

Recommendation 1 – Increase Public Subsidies for Sewer Extension Projects in Underserved and Unserved Communities

Additional public subsidies for sewer extension projects, funded through rate increases, new fees, or annual contributions by each county, should be made available to create a program that begins to address the growing public health problem in the hundreds of underserved communities throughout the bi-county area. The workgroup recommends that initial funding levels of up to $1,000,000 per year should be provided to complete one moderately sized sewer extension project in each county per year.

Recommendation 2 – Implement a uniform, affordable fee for sewer service for homeowners in Underserved and Unserved Communities

The workgroup recommends that capping homeowner sewer extension costs at an affordable level is the fairest, simplest way to encourage homeowners to seek solutions for their aging septic systems.

Based on the workgroup's financial analysis, presented in the "Options and Alternatives" section of this report, the easiest way to achieve this is to provide additional public subsidies for sewer extension projects and limit deficit payments to keep total homeowner extension costs, including up-front costs, at affordable levels.

Recommendation 3 – Provide additional assistance with up-front costs for homeowners who are experiencing other financial hardship

Additional assistance should be made available to low-income homeowners and other applicants who may need additional financial assistance due to financial hardship to help defray the up-front costs.

The workgroup recommends, as a starting point, that WSSC Water's Customer Assistance Program (CAP) eligibility requirements be used to identify homeowners in underserved and unserved communities who would need additional assistance with up-front costs.

Recommendation 4 – Establish a pay-as-you-go capital improvement program for sewer extensions to underserved and unserved communities

Funding for the Underserved and Unserved Program should be clearly identified through WSSC Water's annual budget process and managed on a pay-as-you-go basis. This will ensure that WSSC Water does not incur additional debt for program costs and provide transparency to the funding process.

Recommendation 5 – Allocate Program Funding Equitably between Prince George's and Montgomery Counties

The workgroup recommends that funding for sewer extension projects in underserved and unserved communities be allocated in proportion to source of program revenue. This will ensure that the counties are able to maintain some control over project planning and implementation and communicate funding availability to communities they are working with.

Recommendation 6 – The Counties and WSSC Water should aggressively pursue funding from the State's Bay Restoration Fund for sewer extension projects in underserved and unserved communities

The workgroup recommends that the counties and WSSC Water should work collaboratively to maximize funding contributions from the State's Bay Restoration Fund (BRF). This includes working with MDE to secure BRF funding for every eligible household in an underserved and unserved project area, seeking additional grants from unused allocations of BRF septic account funds, identifying projects that would be eligible for competitively awarded BRF wastewater account funds, and proposing legislative changes to the current BRF allocation formulas described in current State statute.

Recommendation 7 – Establish a Subdistrict process to secure support within underserved and unserved communities for sewer connection projects

The workgroup reached a consensus that creating subdistricts - discrete, well defined sewer service areas within underserved and unserved communities - was the best way to achieve the objectives of affordability, simplicity, and maximizing participation in an open and transparent way. The authority to create subdistricts exists in current statute and this approach would allow WSSC Water to treat the cost of service differently in underserved and unserved communities than the rest of the service area.

Recommendation 8 – Each County should develop an approach to identify and prioritize communities with the greatest need for sewer extensions

Limits on funding for sewer extensions will dictate how and when projects move forward through the planning, design, and construction sequence. To ensure that available funding is being used effectively and sewer service is being extended in a manner that is consistent with each County's Comprehensive Water & Sewer Plans, each jurisdiction should establish its own prioritization criteria to identify which underserved and unserved communities will receive any available program funding as it becomes available.

Roadmap to an Improved System of Financing

The workgroup's eight policy recommendations provide a starting point for further discussions between WSSC Water and the two counties on the development of an effective, long-term program to address the lack of water and sewer service in underserved and unserved communities. Although the members of the workgroup were able to reach a consensus on many of the key elements of this program, several important decisions will have to be made by WSSC Water's Commissioners and elected officials in Prince George's and Montgomery Counties. These decisions include:

1. Identifying a source of funding to provide increased subsidies for water and sewer extension projects in underserved and unserved communities is the first step in moving the process forward. The workgroup identified four potential sources of funding for increased subsidies
    - A new dedicated fee levied on existing WSSC Water customers.
    - Rate increases paid by existing WSSC Water customers
    - County revenue sources
    - A combination of funding from WSSC Water and County revenue sources.

2. Defining the roles and responsibilities for a new "subdistrict" process that will be used to identify and prioritize which underserved and unserved communities will be targeted for water or sewer extensions. The workgroup has recommended that each county develop its own requirements for minimum levels of homeowner participation in the subdistrict process (50% plus 1) and its own prioritization criteria to identify which communities should receive project funding.

3. Establishing how much homeowners in underserved and unserved communities should pay for water or sewer service in the form of connection fees, front foot benefit assessments, and deficit payments. This includes homeowners who intend to connect to WSSC Water's sewer system immediately as well as property owners who choose to defer connection or will never connect. The workgroup has recommended that homeowner costs be capped at levels based on county median household income levels and EPA affordability guidelines, which equate to $1,147 per year in Prince George's County and $1,625 in Montgomery County.

4. Deciding how much additional financial assistance will be provided to lower income homeowners or those who are experiencing financial hardship. The workgroup has suggested that the criteria used in WSSC Water's Customer Assistance Program (CAP) could be used to identify households who may need additional financial assistance, but the form of this assistance will have to be determined. The workgroup has noted that some of the additional affordability options, such as certain fee waivers, will require changes to existing laws and regulations.

5. Identifying when or if homeowners in underserved or unserved communities will be required to connect to water or sewer mains when service becomes available. Many Maryland jurisdictions use a

formal petition process with mandatory connection requirements to designate new communities for service, but homeowners in WSSC Water's service area cannot be forced to connect under current law. This issue was extensively discussed within the workgroup and ultimately no consensus could be reached between the WSSC Water and county representatives.

Funding Options

The Workgroup did not reach a consensus on which of these funding options was preferred. However, there was agreement that a decision on identifying and implementing a dedicated source of funding was critical to resolving the affordability problems with financing these extensions.

The workgroup recommends that an initial source of funding be identified to provide up to $1,000,000 in public subsidies annually for extension projects to underserved and underserved communities. This level of funding would be sufficient to initiate one small-to-moderate sized extension project in each county.

The workgroup identified four potential sources of funding for the underserved and unserved extension program: a new fee on WSSC Water customers, a WSSC Water rate increase, County revenue sources, or a combination of WSSC Water and County revenue sources. The advantages and disadvantages of each funding option are summarized in the table below:

Source of Funding	Description	Analysis
New WSSC WATER Fee	A new fee would be imposed on all customer's quarterly bills to raise approximately $1 million per year to finance extensions. On average this would be a fee of $0.50 per quarter across 490,000 accounts	Pros: The new fee could be efficiently administered and allocated in a separate account for the dedicated purpose. Cons: Some existing customers may not support an additional fee that is collected for the benefit of non-customers especially if they self-financed their own connection costs or are currently paying the front foot benefit charge to connect to the WSSC Water system. In addition, obtaining approval for the authorizing legislation is uncertain and may take several years to gain support.
WSSC WATER Rate Increase	An increase of 0.14% would be imposed on all customer's quarterly bills to raise approximately $1 million per year to finance extensions. The rate increase would need to be the same for commercial and residential accounts because of prevailing state law requiring rate uniformity across the district. According to the WSSC Water General Counsel's Office, state legislation would be required to authorize the use of the volumetric rate for this purpose.	Pros: The new fee could be efficiently administered and allocated in a separate account for the dedicated purpose. Cons: Existing customers are likely not to be supportive of an additional fee that is collected for the benefit of non-customers especially if they self-financed their own connection costs or are currently paying the front foot benefit charge to connect to the WSSC Water system. In addition, obtaining approval for the authorizing legislation is uncertain and may take several years to gain support.

County Revenue	An initial contribution from both Counties of at least $500,000 that would pay for a small project in each County. The source of this funding would be determined by the governing body of each County but could be general revenues. Subsequent to this, there would be an annual determination of the appropriate funding level.	Pros: The revenue allocation could be built into each County's annual operating budget and would not require state legislative approval. Cons: Allocation each year would be uncertain given the changing economic and fiscal condition of each County Government and the normal competition within each County for the limited resources for general services including police, fire and rescue, social services, and education.
Combined County & WSSC Revenues	This option would be a combination of two or more of the funding options identified immediately above with the relative share from WSSC Water and the County Governments to be determined based on an agreed to allocation methodology.	Pros: Same as previous options. This option would lessen the relative impact on WSSC Water customers and the County Government's annual budget. Cons: Same as previous options.

Conclusion

The findings and recommendations presented in this report are intended to lay the groundwork for a comprehensive solution to lack of access to adequate water and wastewater service faced by thousands of homeowners in Prince George's and Montgomery Counties. Although the workgroup did not reach a consensus on every issue, this final report on sewer extension needs for unserved and underserved neighborhoods should convey a clear and unambiguous message that:

- There is a growing public health problem in underserved and unserved communities due to a lack of access to public water and sewer service.
- The current approach to water and sewer extensions is not working for homeowners who need services from WSSC Water.
- Extension costs are unaffordable for most homeowners.
- Additional public subsidies are needed to make extension projects affordable.

All of these decisions will have legal and regulatory implications that will have to be addressed if a new approach to utility extensions is adopted by the counties and WSSC Water. The workgroup recognizes that many of the recommendations cannot be implemented without changes in laws or regulations and, in many cases, the development of additional guidelines and standard operating procedures.

INTRODUCTION

PROBLEM STATEMENT

Prince George's and Montgomery Counties estimate that there are approximately 4,000 homes in underserved or unserved communities throughout the bi-county area. An "unserved" community is defined as an area within the sewer service envelope where a new sewer main greater than 1,500 feet is required to extend sewer service to the homes within the area. An "underserved" community is defined as an area within the sewer service envelope where public sewer service is available to some homes within the community, but one or more houses cannot access this service until a new sewer main greater than 200 feet is built. [1]

Many of the houses in underserved and unserved communities have septic systems that were constructed prior to development of modern design criteria and regulations. This means that they do not meet modern standards for septic system placement, are in areas with poor soil conditions or high groundwater, or lack a sufficient reserve area for a replacement drain field. Because the estimated operating life of a typical septic system is approximately 30 years, this problem is growing and is expected to get worse as more systems get older and begin to fail. A failing septic system is one that does not treat wastewater to the level for which the system was designed.

Older communities with failing septic systems pose a potential threat to public health and the environment. Failing or non-conforming septic systems can create a public health hazard when untreated wastewater reaches the surface or nearby streams or is backing up into homes. Septic systems are also a significant source of nutrient pollution to the Chesapeake Bay and other local tributaries, and reducing nitrogen loads from septic systems is a key strategy in the State of Maryland's Watershed Implementation Plan.

There is also an equity and environmental justice element to the problems faced by underserved and unserved communities. Changes in law that were enacted in the late 1990's shifted financial responsibility for new sewer construction from ratepayers to developers and failed to address the need for affordable utility service for thousands of low to moderate income residents in both counties. For residents living in communities with public and environmental health problems, the lack of affordable options is inconsistent with both counties' efforts to promote sustainability and social justice throughout their jurisdictions.

[1] For the purposes of this report, the Bi-County workgroup adopted the definitions for unserved and underserved communities used by the Prince George's County Health Department.

Under current Maryland state laws, homeowners are responsible for all costs to extend sewer service to their properties. For new construction, developers are responsible for planning, designing, and building new utility lines within new subdivisions. In this case, the cost of the utility lines can be incorporated into the overall cost of development.

In areas where homes were constructed before public sewer service was accessible, homeowners are financially responsible for the construction of new sewer mains into the community as well as any up-front costs to connect the home to the new sewer main. In these cases, the cost to extend service is generally financed through a combination of front foot benefit charges ("FFBC"), paid over 30 years, and additional deficit payments to make up any remaining project costs.

The workgroup's analysis of potential homeowner costs, which is presented in the "Affordability Challenges" section of this report, reveals that sewer extension projects can range from tens of thousands to hundreds of thousands of dollars. In three communities that were analyzed by the workgroup, each homeowner's total cost to secure WSSC Water sewer service ranges from $88,000 to almost $107,000, inclusive of the public sewer extension and up-front sewer connection and septic system abandonment costs.

It is clear that the current approach to financing for sewer extensions is impractical for many households in these older underserved and unserved communities and a new approach is needed to address a growing public and environmental health problem in the two counties.

Although the issue of access to public water is not the focus of this report, the workgroup notes that many households in underserved and unserved communities face similar challenges due to failing or contaminated wells. In some cases, providing public water to a property can provide more on-site flexibility for addressing septic system problems. Identifying a process that makes access to sewer service more affordable for underserved and unserved communities may lead to solutions that improve access to public water service, although further work will have to be done to assess the extent of well-related problems in the bi-county service area.

BACKGROUND

In the past, WSSC Water was responsible for the design, construction and financing of all water and sewer extensions built within the Sanitary District. This included all types of projects ranging from large multi-part subdivisions to those serving just one property. The Commission built and financed the cost of construction of new water and sewer mains and recovered a portion of that cost through front foot benefit charges assessed on property owners and, if needed, deficit charges paid by main extension applicants.

By the late 1990's, WSSC Water's General Bonds (which funded subdivision line construction) were 50% of WSSC Water's total $1.8 billion outstanding debt, and the General Bond portion on the Commission annual debt service was 46%. In WSSC Water's FY'98 budget, debt service costs were 49% of total

expenses and rating agencies and the counties were concerned about the large percentage of total revenues that were devoted to debt service.

In 1997, a WSSC Water task force examined how other local jurisdictions financed new water and sewer construction and concluded that the process should be changed to require developers to finance water and sewer lines that were required for new subdivisions. In 1998, WSSC Water proposed legislation requiring that subdivision lines be constructed at the expense of the owner/developer. House Bill 824 was sponsored by the Montgomery County and Prince George's County delegations and supported by WSSC Water. HB 824 passed and was phased in over three years.

This change had a significant impact on the costs associated with smaller service extensions needed for properties with failing septic systems and single residential extension projects. The cost of constructing service extensions for these projects has always been very expensive, but these few, costly projects were offset by the many less costly developer projects which generated economies of scale that lowered the average cost for existing homeowners.

Addressing the need for public sewer service in underserved and unserved areas has been discussed in both counties' Comprehensive Water Supply and Sewerage System Plans for many years. The lack of public sewer service in these communities' conflicts with the counties' general approach to water and sewer service planning, which establishes designated service areas based on county-wide zoning and land use classifications. Each county's water and sewer service area designations are intended to promote the use of public services within these envelopes for new and existing development. Allowing small communities within the sewer service envelope to exist indefinitely without the possibility of hookup conflicts with this basic water and sewer planning principle.

- WATER & SEWER EXTENSION WORK TEAM

This issue has been an area of focus for several interjurisdictional workgroups over the past decade and a half. In 2006, a working group made up of staff from WSSC Water, the Prince George's County Department of Environmental Resources, the Prince George's County Health Department, the Montgomery County Council, and the Montgomery County Department of Environmental Protection identified six possible financing alternatives for health hazard extension projects and five separate alternatives for single family water and sewer service extensions. The Water and Sewer Extension Cost Work Team published its findings and recommendations in a December 2006 draft report. A copy of this report can be found on-line at https://www.wsscwater.com/sites/default/files/2021-08/2006%20Report%20-%20Water%20and%20Sewer%20Extension%20Cost%20Work%20Team.pdf

Although this workgroup could not reach a consensus on recommended alternatives, they identified two "least objectionable" options that came the closest to satisfying the group's objective related to simplicity, affordability, equity, health hazard priorities, and consistency with county Water and Sewer Plans.

For properties with a documented septic failure or areas designated as public health problem areas, Alternative 3b established a "property frontage rate" that would be paid over time by all property owners abutting the new sewer extension, with remaining project costs covered by a WSSC Water health hazard subsidy. For other cases, the least objectionable option provided was for all costs to be shared proportionately with all benefitting properties if the applicant owns at least 51% of property frontage.

2014 SUBGROUP ON UNDERSERVED AND UNSERVED AREAS

In 2014, a subgroup of the Bi-county Infrastructure Working Group ("The Working Group") was established to study policy issues related to the extension of public water and/or sewer service to unserved and underserved areas of Montgomery and Prince George's Counties. The primary goals of this subgroup were to document the current unserved and underserved conditions in each county, evaluate the pros/cons of the current system using "sample communities" from each county, evaluate financing criteria and alternatives, identify policy challenges and deficiencies of the current system, identify a roadmap to an "improved" system of extending water and sewer service to unserved and underserved areas, and develop financing options to implement an "improved" system.

The key findings of the 2014 Subgroup on Unserved and Underserved Areas, contained in the group's July 2014 report entitled "Water and Sewer Extension Needs for Existing Neighborhoods", include the following:

- The current system of financing extensions is flawed.
- The current system does not work for small scale extensions or health hazard situations.
- The current system has significant financial and policy challenges including affordability for applicants, financial sufficiency, equity and participation.
- Maintaining the status quo will not systematically address the issue of failing septic systems in unserved and underserved areas.

The 2014 Subgroup on Unserved and Underserved Areas concluded that the creation of subdistricts would be the basis of an improved system of financing for water and sewer extensions. Subdistricts would spread large infrastructure costs over many properties and would remedy a number of the challenges and issues under the current system. The Subgroup highlighted the facts that both the counties and WSSC Water have experience using sub districts to finance infrastructure and existing legal authority for subdistricts was contained in current statutes.

By consensus, the Bi-county Infrastructure Working Group accepted the Subgroup's findings and framework for moving toward an improved system based on subdistricts. The Working Group transmitted its consensus to WSSC Water's Commissioners. WSSC Water's Commissioners unanimously accepted the findings of the Subgroup on March 19, 2014 and authorized the transmittal of such findings to the legislative and executive branches of both counties for consideration and proposals for next steps. However, no further action was taken by either county on this recommendation.

A full copy of the report from the 2014 Subgroup on Unserved and Underserved Areas can be found on-line https://www.wsscwater.com/sites/default/files/2021-08/Unserved%20and%20Underserved%20Areas%20-%202014%20FINAL%20Report.pdf

CURRENT SUBGROUP

The current subgroup was convened in early 2018. This subgroup has built upon the findings and recommendations of the previous workgroups and has sought to develop a comprehensive solution framework for underserved and unserved communities.

The current members of the Underserved & Unserved Subgroup are:

- Shirley Branch, Prince George's County Department of Permitting, Inspections, & Enforcement
- J. Kenneth Battle, Jr., Committee Director, Prince George's County Council
- Evelyn Hoban, Prince George's County Health Department
- Maria Martin, Prince George's County Park and Planning
- Lavinia Baxter, Prince George's County Executive's Office
- Keith Levchenko, Senior Legislative Analyst, Montgomery County Council
- Steve Shofar, Montgomery County Department of Environmental Protection
- Alan Soukup, Montgomery County Department of Environmental Protection
- Joe Beach, Deputy General Manager, Administration, WSSC Water
- Patricia Colihan, Chief Financial Officer, WSSC Water
- Letitia Carolina-Powell, Budget Division Manager, WSSC Water
- Mark Brackett, Sr. Strategic Financial Advisor, WSSC Water
- Ray Chicca, Development Service Division Manager, WSSC Water
- Art Atencio, Development Services Division Project Manager, WSSC Water

This report contains the final findings and recommendations of the Bi-county Infrastructure Financing Workgroup's study of sewer extensions for underserved and unserved areas. The extent of the current problem in each county is presented in Section 2. A detailed analysis of homeowner affordability challenges in presented in Section 3. A discussion of practices in other Maryland jurisdictions is presented in Section 4. Options and alternatives are presented in Section 5 of this report and the Subgroup's final recommendations are presented in Section 6 of this report.

CURRENT CONDITIONS

PRINCE GEORGE'S COUNTY

The Prince George's County Department of Environmental Resources analyzed sewer service GIS data and determined there are approximately 4,977 properties on septic systems within the sewer service envelope. Typically, these properties are located in 30+ year old neighborhoods and subdivisions constructed prior to being planned for sewer service, or before sewer service was made available. It was expected that lots would connect when sewer service was made available and would relinquish the use of septic systems. However, these lines have either gone unconstructed or were not constructed within a reasonable distance for lot owners to connect, and the cost to extend and connect is beyond their means. Staff identified approximately 2,087 properties (approximately 42%) that are within underserved or unserved areas.

Providing sewer service to all properties inside the Sewer Envelope, particularly homes with failing septic systems, is a priority for the county. This includes properties in sewer service category areas 3, 4, and 5. Some of these properties have been in the "pipeline" sewer service for decades. Communities within the Chesapeake Bay Critical Area (CBCA) are also a high priority for receiving sewer service because these areas have been designated as a high priority in the State's Chesapeake Bay Watershed Implementation Plan.

The map below depicts the approximate locations (countywide) of underserved and unserved areas that met the criteria of five or greater lots.

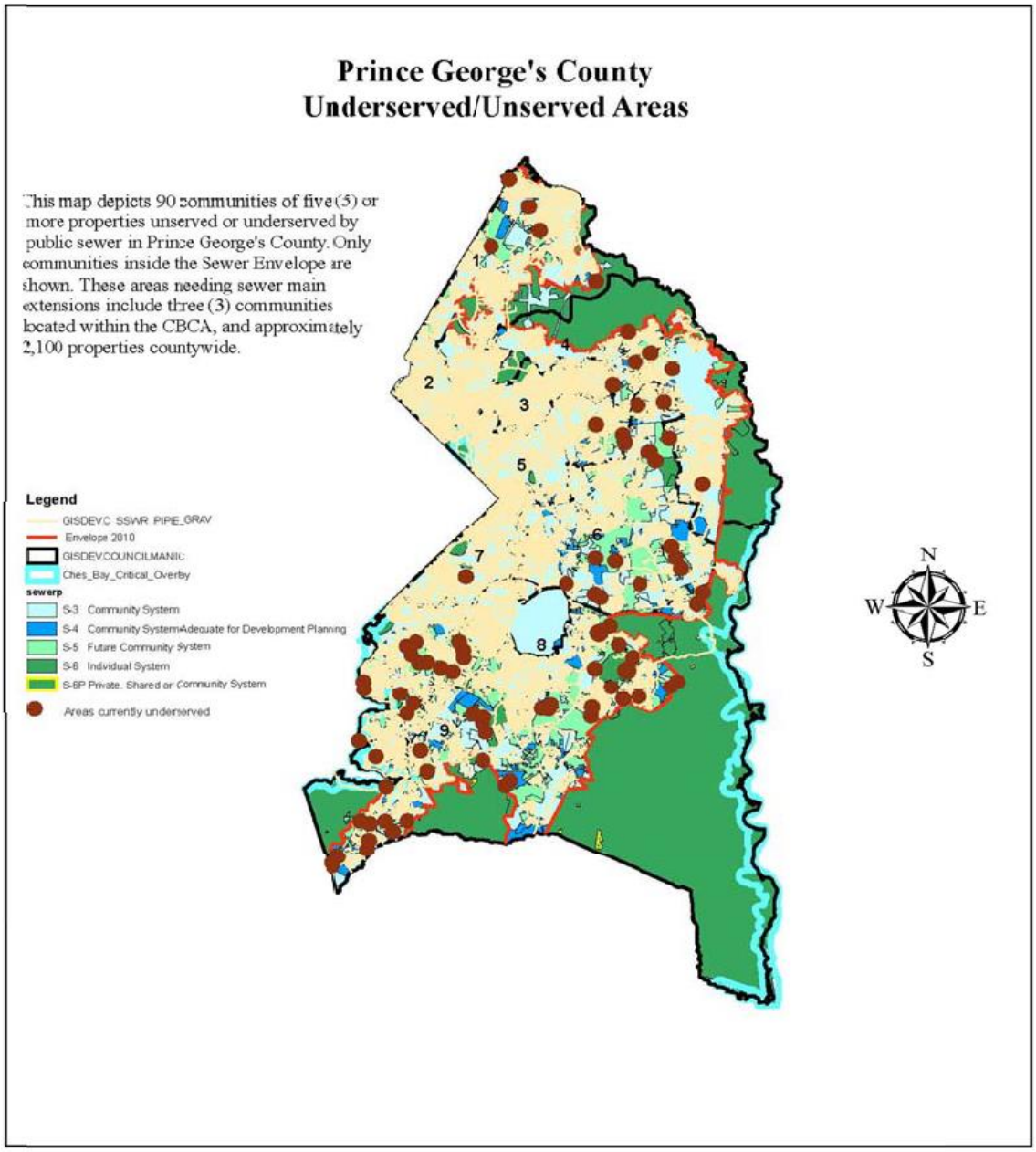


Figure 1 : Map of Current Conditions in Prince George's County

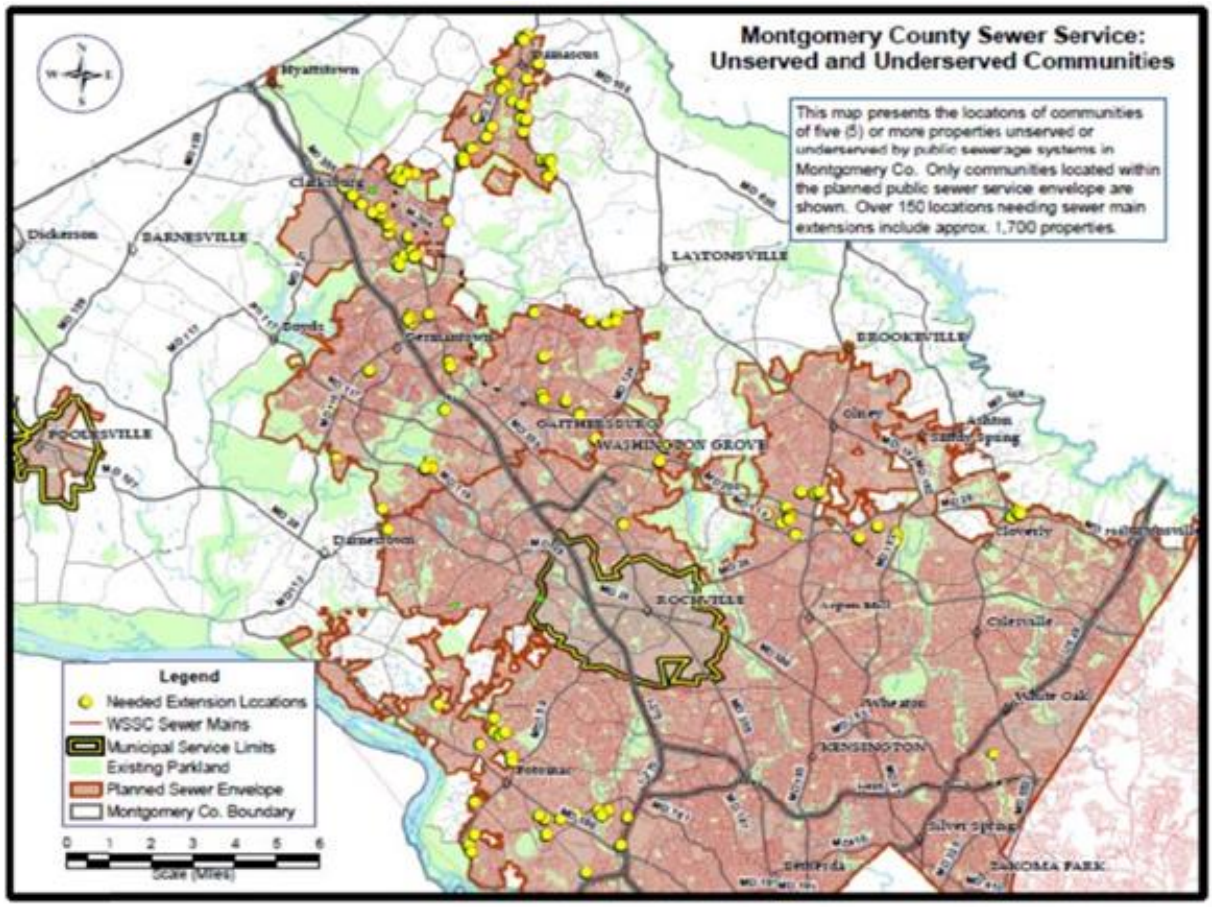
MONTGOMERY COUNTY

Within Montgomery County's defined community water and sewer service envelopes are properties that were initially developed on and continue to be served by individual on-site wells and septic systems. The homes on these properties were typically constructed either prior to the area being planned for

community water or sewer service or before community systems were available. These homes are commonly 30 to 60+ years old. They are often located near areas that have subsequently been planned for subdivision and development where water and sewer infrastructure has been built for the newer development. Accordingly, it is not uncommon for these older houses on wells and septic systems to be located near (within 1,000 feet) existing community water and sewer infrastructure. They are often surrounded by newer developments using community water and sewer systems.

In some cases, homes that need sewer service only require a new lateral to connect to WSSC Water's sewer system. However, in many underserved and unserved communities, a new public sewer main must be constructed to extend sewer service to the homes that need it. Montgomery County previously identified 150 communities within the county's defined sewer service envelope – encompassing more than 1,700 individual homes – who lack access to WSSC Water's sewer system. These underserved and unserved communities, which are shown in Figure 2 below, are scattered widely across the county but prevalent in Clarksburg, Damascus, Germantown, Norbeck, and Potomac.

Figure 2 Map of Current Conditions in Montgomery County



CURRENT SEWER EXTENSION PROCESS

Property owners have the option of undertaking a sewer extension project on their own, with their own engineer and contractor, or asking WSSC Water to plan, design, and construct the new sewer line. In either case, the homeowners requesting the service are responsible for covering all project planning, design, and construction costs.

The processes and requirements that WSSC Water has enacted in its development regulations for utility extensions are based on current statutes. WSSC Water maintains a comprehensive set of regulations, described in the Commission's "Development Services Code" (DSC), which cover all aspects of the water and sewer extension process, including plan review and approval, hydraulic planning, capacity management, design and construction standards, inspections, utility relocation, easements, setbacks, and financial obligations. Property owners in underserved or unserved areas generally request sewer service from WSSC Water through one of two different regulatory processes.

For developers or homeowners who intend to hire their own engineers and contractors to design and construct new public sewer lines to their communities, the "System Extension Process" (SEP) described in Chapter 5 of the DSC is used. Under the SEP process, the planning, design, and construction of the new sewer main is handled by entities hired and paid by the developer or homeowner and WSSC Water's role is limited to review, approval, and inspection. Under the SEP process, the homeowners are responsible for payment of all project costs, including WSSC Water application processing, review and inspection fees. Front foot benefit assessments are not calculated for SEP projects because it is presumed that the entire sewer extension project will be paid with private funds.

Homeowners in underserved or unserved areas have the option of having WSSC Water provide the planning, design and construction aspect of a sewer extension project through the "WSSC Water Built Process". This process, which is described in Chapter 16 of WSSC Water's Code of Regulations, is depicted in the figure below. The full text of the WSSC Water Built Process regulations can be found in Appendix C.

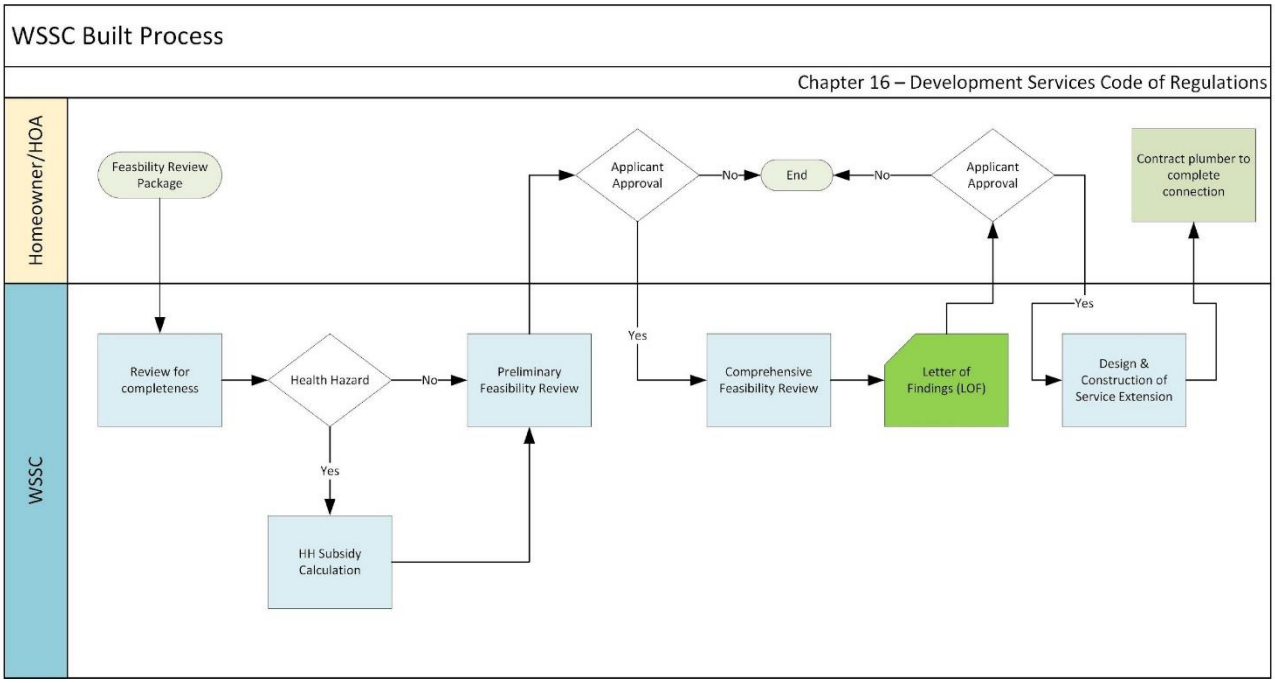


Figure 3 Flowchart of WSSC Water Built Process

Under the WSSC Water Built Process, applicants initiate a request for service by submitting a "Feasibility Review Package" to WSSC Water. This package of information contains the "Feasibility Review Application", a non-refundable review fee (currently $1,956), and, in cases where a public health issue is present, documentation from the county Health Department and an environmental questionnaire.

WSSC Water will conduct a "Preliminary Feasibility Review" which involves determining the most feasible location of water and sewer lines, calculating front foot benefit assessments, conducting a preliminary hydraulic analysis, and developing an initial construction cost estimate. If the applicant decides to move forward with the project – which requires payment of another fee (currently $13,048), WSSC Water will complete a Comprehensive Feasibility Review Study and provide the applicant with a "Letter of Findings" that describes a proposed alignment for the extension, estimated design and construction costs, projected front foot benefit assessments and project deficit payments, and a breakdown of other fees and costs that are the applicants are responsible for.

Letter of Findings are subject to expiration if they are not acted on by the applicants within 3 years. If the applicants decide to move forward with the project, they must agree to the conditions of financing prior to the design and construction of the sewer extension.

Under the WSSC Water Built Process, the applicant or applicants will generally bear most of the responsibility for the cost of the public sewer extension, regardless of how many other properties abut the new sewer line. This means that if a single homeowner within a community needs to be connected

to the public system, but no other property owners want to participate in the project, all of the project deficit will be borne by the sole applicant.

The only project cost offsets – or reductions – that are available to underserved or unserved homeowners are in cases where the sewer extension is being requested to address a documented failing septic system. In these cases, WSSC Water can provide a subsidy of up to $15,000 per property to offset the cost of sewer construction, but this amount is reduced by the estimated front foot benefit income that is expected over a 30-year assessment period. Typically, this reduces the actual subsidy to zero or a small fraction of the total project cost.

A portion of the sewer extension cost is recovered by WSSC Water through a front foot benefit assessment (FFB) that is applied to all properties that abut the new sewer line. The remainder of the project costs, described in WSSC Water's Development Services Code as the "project deficit", is allocated to all homeowners who intend to connect to the new sewer at the time of construction.

As with SEP projects, property owners are also responsible for connection fees and any costs associated with hooking up the property to the new sewer and abandoning the existing septic system. These "up-front" costs amount to over $15,000 for a typical homeowner.

CHALLENGES FOR UNDERSERVED AND UNSERVED COMMUNITIES

There are three major challenges homeowners in underserved and unserved communities face when seeking sewer service from WSSC Water. These challenges are preventing them from seeking sewer extensions to resolve failing septic systems and are impeding the counties' ability to address chronic septic system problem areas.

The first challenge is the high cost to homeowners. The current approach places all of the burden of project financing on the homeowner, which makes most sewer extension projects unaffordable for the majority of homeowners.

The second challenge is the lack of fairness and equity in the overall approach to extending sewer service to underserved and unserved areas. Under the SEP and WSSC Water Built Process approaches, only homeowners who are requesting service pay for the cost to extend service into the community. Homeowners who decide to take advantage of the availability of sewer service in the future only have to pay for the cost of connection. In essence, they get a free ride.

Lastly, the current sewer extension process, which is applicant driven, impedes the counties' ability to address septic system problems and other potential community health hazards comprehensively. The WSSC Water Built Process is designed to deliver new sewer service only for those homeowners who want service and have demonstrated a willingness to pay for the new infrastructure. This approach does not prioritize the extension of sewer service into communities where it is most needed and impedes the counties' efforts to address the public and environmental health impacts of septic systems in a systematic, cost-effective manner.

The flaws in the current system are evident in the fact that since 2005, only 16 extensions have been completed to approximately 84 properties. The current front foot benefit system was designed to pool large and small extensions and allocate costs over many households, but this approach is unworkable for smaller communities and single properties that need service.

AFFORDABILITY CHALLENGES

To better illustrate the affordability challenges faced by typical homeowners in underserved and unserved communities, we have analyzed the potential cost to extend sewer service for typical homeowners in three underserved/unserved communities:

- Treasure Cove-George Thorne Estates in Prince George's County
- Sunnyview Court in Montgomery County
- Greenridge Drive in Montgomery County.

This analysis relies on the United States Environmental Protection Agency's (EPA) affordability criteria described in the agency's guidance document entitled "Guidance for Financial Capability Assessment and

Schedule Development"[2]. These criteria use a threshold of 2% of a community's median household income to determine if sewer-related infrastructure investments were generally affordable. Based on recent data from the American Community Survey published by the Census Bureau (2015-2019 ACS), the median household income for Prince George's and Montgomery Counties was $84,920 and $108,820, respectively.

Based on WSSC Water's FY21 sewer rates and fees, a typical family of 3 would pay approximately $551 annually for sewer service, assuming an average level of usage of 165 gallons per day. Using EPA's affordability guidelines, a sewer extension project that adds no more than $1,147 in Prince George's County and $1,625 in Montgomery County in recurring cost to an average family's annual sewer bill would be deemed affordable. The derivation of these affordability thresholds is provided in the table below.

Table 1 : Derivation of Affordability Thresholds for Sewer Extension Financing

	Montgomery County	Prince George's
Median Household Income [(1)]	$ 108,820	$ 84,920
2% Affordability Threshold [(2)]	$ 2,176	$ 1,698
Estimated Annual Sewer Service Cost [(3)]	$ 551	$ 551
Available for Sewer Extensions	**$ 1,625**	**$ 1,147**

[1] **2015-2019 American Community Survey 5-Year Estimates, US Census Bureau.**

[2] **Combined Sewer Overflows: Guidance for Financial Capability Assessment and Schedule Development, USEPA, Publication**

[3] **WSSC 2021 Sewer Rates. Assumes 165 gallons per day, 50% of Account Maintenance Fee, 50% of Infrastructure Investment Fee, $60 BRF fee.**

It is important to note that these thresholds are based on affordability criteria that EPA developed based on a community's *median* household income level. For an individual household, affordability is a much more complex calculation that must consider many other factors, such as household size, housing costs, and other non-discretionary expenses like medical care, transportation, and energy consumption. For that reason, the thresholds derived above are intended to be used only as a common reference point in the comparison of funding options. For instance, a financing option that raises the average homeowner's annual costs for sewer service to over $2,176 in Montgomery County or $1,147 in Prince George's County will, according to EPA's guidelines, cause some level of financial hardship in at least half of the households in the county. But the level of hardship will vary considerably from household to household.

For this reason, the Subgroup notes that any program that is developed to provide financial assistance to underserved and unserved communities must include additional support for low to moderate income households. For example, a three-person household that would otherwise qualify for water bill assistance through WSSC Water's Customer Assistance Program (CAP), has an income level at or below $38,430 per year, based on 2021 eligibility guidelines. At this income level, the homeowner should be able to afford up to $769 per year for sewer service and only $218 per year for the extension. Realistically, this household has little or no discretionary income, and even a nominal assessment would be beyond the homeowner's means. Therefore, additional financial supports, such as additional subsidies, fee waivers,

[2] Ref: "Combined Sewer Overflows – Guidance for Financial Capability Assessment & Schedule Development"; United State Environmental Protection Agency; Document EPA 832-B-97-004; February 1997.

or other assistance with up-front costs will have to considered for lower income households. This recommendation is discussed further in the "Recommendations" section of this report.

All of the examples use a set of common financial assumptions that are based on WSSC Water's current front foot benefit rates and the "WSSC Water Built Process" regulations described in Chapter 16 of WSSC Water's Development Services Code. These assumptions include:

- Annual Front Foot Benefit assessments for sewer service are based on a current rate of $6.00 per foot.
- Projected Front Foot Benefit income is based on a discount rate of 3.0% over a 30-year period.
- All abutting properties will pay a full front foot benefit assessment, including unimproved properties.
- WSSC Water's Health Hazard Subsidy is $15,000 per property. The subsidy is applied to all properties that are eligible to connect to the proposed extension. This total amount of the subsidy is reduced by the total amount of front foot benefit assessment income that will be realized over a 30-year period.
- Deficit payments are only apportioned to improved properties.
- Based on WSSC Water's analysis of the 16 sewer extension projects completed since 2005, the average cost of a sewer extensions over 500 feet is $694 per foot and the average cost of sewer extensions less than 500 feet is $991 per foot.
- It is assumed that a sewer lateral to each improved property is installed when the sewer extension is built, at a cost of $3,500 per connection. Homeowners have the option to defer this expense, however the cost of laterals installed after the fact increases to $14,500 because of additional mobilization, restoration, and paving costs.
- Total project costs include the cost of the sewer extension and the cost of all laterals.
- Each homeowner will incur one-time, up-front costs amounting to $15,550, including:
    - A $2,850 WSSC Water System Development Charge
    - $200 for WSSC Water inspections and permit processing fees
    - $10,000 for on-site plumbing
    - $2,500 for septic system abandonment
- Annualized up-front costs are included in the calculation of a homeowner's total cost to connect.

The workgroup acknowledges that cost estimates based on WSSC Water's Built Process regulations do not accurately characterize homeowner costs under different funding scenarios. For instance, developer funded extensions or homeowner-initiated extensions built under WSSC Water's Sewer Extension Process (SEP), may utilize different financing terms and generate lower homeowner costs by directly contracting for engineering and construction services.

Detailed project descriptions and breakdowns of homeowner costs for the three example communities can be found in Appendix A. A summary results from the cost analysis is presented in the table below.

Table 2 Summary of Sewer Extension Costs in 3 example communities

	Treasure Cove-George Thorne Estates	Greenridge Drive	Sunnyview Court
Total Project Cost	$3,565,100	$756,880	$314,800
Homeowner Extension Cost	$91,403	$72,192	$75,270
Homeowner Up-Front Cost	$15,550	$15,550	$15,550
Total Homeowner Cost	$106,953	$87,742	$90,820
Homeowner Annual Cost	$4,663	$3,683	$3,840
Front Foot Benefit Assessment	$1,008	$744	$600
Deficit Payment	$2,862	$2,146	$2,447
Annualized Up-Front Costs	$793	$793	$793
Affordability Threshold	$1,147	$1,625	$1,625
Affordability Gap	$3,516	$2,058	$2,215
Additional Subsidy Required to Close Gap	$3,238,941	$524,335	$217,059

Project costs range from over $3.5 million for a 4,900 foot extension in the Treasure Cove-George Thorne Estates Community, to $756,000 for a 1,000-foot extension in the Greenridge Drive community and $315,000 for a short 300 foot extension in the Sunnyview Court community.

Homeowner costs, inclusive of up-front costs, ranged from over $106,953 to $87,742, or $4,663 to $3,683 annually if financed over a 30-year period. These costs, when added to a typical household's annual sewer service bill, would exceed EPA's affordability limits by several thousand dollars annually. For example, in the Treasure Cove-George Thorne Estates community, a typical household with a median household income of $85,000 would pay 300% more than the EPA affordability threshold under the WSSC Water Built Process.

The chart below shows how large the margin is between EPA's affordability criteria and estimated sewer extension costs for homeowners in the three example communities.

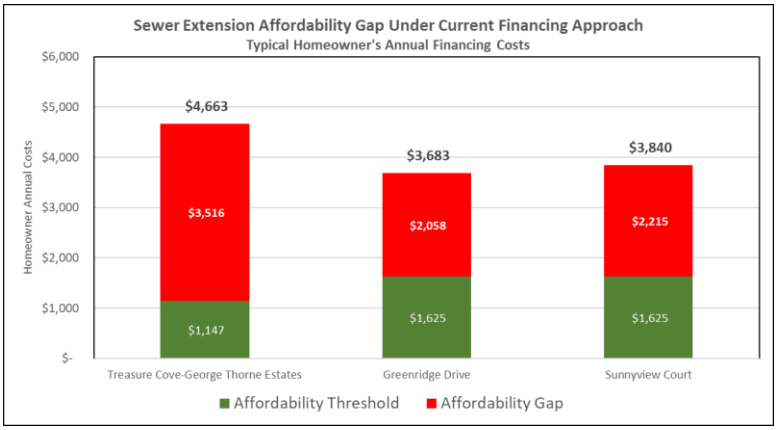


Figure 4 Sewer Extension Affordability Gap

This analysis revealed several other insights about homeowner sewer extension costs under the current system, including:

- The current front foot benefit rate for sewer projects – $6.00 per foot of frontage – has not been changed in many years and is covering only 19% to 27% of sewer extension project costs. The front foot benefit rate would have to increase to over $33.00 per frontage foot per year to fully cover sewer extension costs in all three example communities.

- WSSC Water's Health Hazard Subsidy is providing little or no help in reducing project deficits after adjustments for front foot benefit income are applied.

- Additional project subsidies ranging from 70% to 90% of total project costs are required to reduce homeowner's annual costs to affordable levels.

FAIRNESS & EQUITY CHALLENGES

The WSSC Water Built Process, which relies on individual homeowners or communities to initiate the project planning and feasibility review, is not targeted toward communities where sewer extension projects might be more cost-effective.

So even if there are significant cost benefits and long-term environmental benefits to taking a community approach to the problem of failing septic systems, there are no incentives or legal requirements to compel homeowners with functioning septic systems to participate in a sewer extension project.

The Public Utilities Article 23-202(b)(1) states:

"When the Commission declares a water main or sewer complete, after notice, every abutting property owner *may* hook up spigots, hydrants, toilets, and waste drains with the water main or sewer, as appropriate, within the time set by the Commission."

The implication of the word "may" in the statute, which was changed from "shall" after legislation was passed in 1998 (HB 832), means that homeowners within underserved and unserved communities can choose not to participate in a sewer extension project. As a result, there is no legal mechanism to equitably allocate infrastructure costs across all potential beneficiaries. This makes it difficult to generate economies of scale that might make extension projects more cost effective and means that extension projects cannot be targeted toward communities with current and developing septic system problems.

Under the Built Process, applicants are solely responsible for garnering support within a community and costs are simply allocated to those who choose to participate in a project.

For instance, the example below shows a 700-foot sewer extension that is to alleviate a homeowner's failing septic system (unit #15). If that owner is the only applicant, under the current process they will be responsible for paying for over $313,000 in project deficit costs beyond annual front foot assessments.

After construction, if any of the other 14 homeowners choose to connect, they would be responsible for front foot assessments and one-time connection costs, but none of the deficit cost.

This situation raises fundamental fairness and equity issues because costs are not allocated equally among everyone who benefits from the project and the community's ability to pay for service is not considered in the allocation of project costs and subsidies.

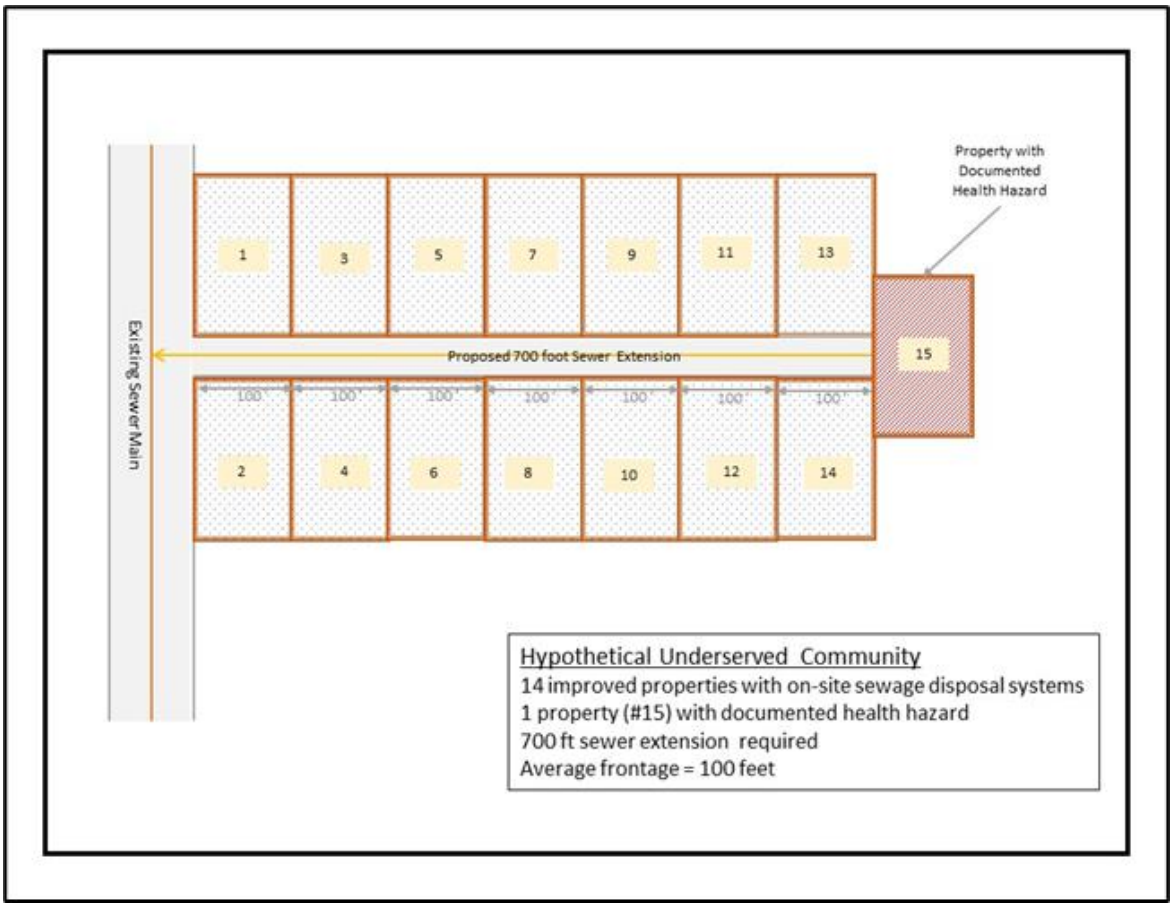


Figure 5 Hypothetical Underserved Community

PUBLIC HEALTH CHALLENGES

In the past, the extension of sewer service was more closely integrated with the counties' water and sewer planning efforts. Areas designated for public service could be expected to be brought into the service envelope based on the priorities established in each counties' Comprehensive Water and Sewer Plans. When the sewer extension process was moved to a developer-driven model, fewer and fewer sewer extensions were undertaken by WSSC Water and there was no longer a mechanism to link capital spending on sewer infrastructure with public health needs in underserved and unserved communities.

This public health challenge is further complicated by the fact that Maryland laws limit the counties' ability to address failing septic systems to instances where an existing public sewer abuts a problem property and the Commission has determined that "a condition exists that appears to be a menace to the health

of the occupants of the property or the occupants of a nearby or adjoining property"[3]. Neither the counties nor WSSC Water have the authority to compel a homeowner to finance the construction of a sewer extension, so there is currently no way for county health departments to proactively begin to address communities with growing number of failing septic systems.

The current approach to extension financing also limits access to external sources of funding that are available to communities with failing septic systems. Grant funding from the State's Bay Restoration Fund is available for sewer extension projects, but the assistance is conditioned on the homeowner agreeing to abandon their septic system and connect to the public system. The current WSSC Water Built Process has no provisions for seeking external funding from State sources, so a potential source of funding that could be used to address these potential public health problems is being overlooked.

[3] Ref: Annotated Code of Maryland, Public Utilities Article §23–202]

PRACTICES IN OTHER MARYLAND JURISDICTIONS

ANNE ARUNDEL COUNTY

Existing homeowners in Anne Arundel County who wish to request public wastewater service must petition the county to have their community evaluated for service. The petition must be supported by a majority (51%) of the property owners in the community to move forward. The county requires all property owners to share in the cost of the sewer extension and pay standard sewer connection fees. Unlike WSSC Water, the county has no programs to subsidize the cost of connection. The county has been exploring potential funding options for communities with failing septic system for many years. The county's current task force is exploring ways to address nutrient pollution from county septic systems to meet the Chesapeake Bay Total Maximum Daily Load (TMDL)[4]. This task force made several recommendations to guide the development of the county's "Septic to Sewers" strategy. These recommendations include:

- Anchoring policy decisions and outreach efforts on improving water quality, mitigating public health risks, and enhancing climate change resilience.
- Developing a program that is affordable, fair, and comprehensible for residents.
- Creating an adaptable and financially stable program for DPW and the county.
- Developing an outreach-driven voluntary program with mandatory connection once community votes ("voluntary-mandatory").
- Developing prioritization criteria for connection projects.
- Mandatory connections in communities where a majority of residents have voted for public sewer service.
- Changing assessments from front footage to an equivalent dwelling unit (EDU) basis.

The latest Septic Task Force report can be found at: https://www.aacounty.org/departments/public-works/septic-task-force/index.html.

BALTIMORE COUNTY

Baltimore County uses a petition process similar to Anne Arundel County's for existing homeowners who wish to request public sewer service, however three-fifths of the property owners in the community must

[4] A total maximum daily load (TMDL) is a regulatory term in the U.S. Clean Water Act, describing a plan for restoring impaired waters that identifies the maximum amount of a pollutant that a body of water can receive while still meeting water quality standards. On December 29, 2010, the U.S. Environmental Protection Agency established the Chesapeake Bay TMDL.

support any petition for service in Baltimore County. Petitions for service in Baltimore County generally involve extension of the public sewer service boundary, known as the Metropolitan District, and require approval from the County Executive and County Council. In general, petition projects are required to be financially self-sustaining. Petitioners are required to pay water and sewer deficit charges, which are the property owner's share of the difference between the actual cost of constructing the water or sewer mains and the revenue derived from the benefit assessments. These charges are based on the same average width footage used to calculate the benefit assessment; however, there is no standard rate per foot. The cost per foot is determined by actual contract costs and therefore will vary by contract. These charges are normally amortized over 40 years at five percent interest.

The county code contains a special provision for "health projects", which are a special class of extension projects that are required to mitigate public or environmental health issues such as failing septic systems. This class of projects does not have to be financially self-supporting however they still require legislative approval and a review by the county's Department of Environmental Sustainability. With County Council approval, deficit charges may be financed for 40 years at five percent interest; however, financing is limited to residential properties with existing dwellings.

HOWARD COUNTY

Howard County has two separate capital programs that address existing residents within the Metropolitan District, but not currently fronting water or sewer. They are S6698 – Routine Sewer Extension Program and W8698 – Routine Water Extension Program. These are ongoing programs that were established and are funded in the county's annual capital improvement budget.

Howard County's Capital Project S6698, Routine Sewer Extension Program provides funding to design and construct routine sewer main extensions in the Metropolitan District requested by landowners. The Metropolitan District consists of those properties within the planned service area subject to fees, assessments and charges required to finance the construction, operation and maintenance of the public water and sewer system. Howard county does not construct extensions for private developments.

This project is used for extensions to serve parcels with existing dwellings or an existing dwelling in recorded residential subdivisions where sewer mains have not been constructed and where existing dwellings or businesses have failing private systems as identified by the County Health Department. The routine extensions must also meet the following criteria and business process requirements:

1. A written request has been made by a property owner who is without a water main fronting their property.
2. Properties to be served must abut a county or state road.
3. The extension is less than 1,000 feet.
4. The extension is a gravity sewer main and continues a gravity sewer system currently in service within the sewer shed.
5. Acquisition of utility easements are not required.

6. Capacity is available per section 18.122B of the County Code.
7. The extension is supported by at least 50% of the abutting property owners.

In order to be considered for funding the property owner must make a request for extension to the Public Works Director and that request is checked against the criteria above. If their circumstances meet the criteria, then a request for a routine water or sewer extension is advertised (a public meeting) and brought before the Public Works Board for review and approval. If the requesting owner's circumstances do not meet the criteria (e.g. extension distance greater than 1,000 linear feet or the acquisition of easements would be required to extend service) then the request is held for consideration at the time of the next year's budget preparation.

Another capital project, S6699 – On Site Septic Conversion Program, allows for larger scale sewer extensions and is typically used and is geared toward a request that impacts multiple owners or community-based extensions of the sewer system. As with the routine sewer extension program, this capital program is for improved properties within the Metropolitan District.

Front Foot Benefit assessment charges were removed in Howard County for capital constructed projects started after FY 2004.

OPTIONS & ALTERNATIVES

The workgroup has explored numerous legal, financial, and policy options and alternatives to improved access to water and sewer service in underserved and unserved communities. These options and alternatives ranged from increasing currently available project subsidies to a total redesign of the entire sewer extension application process.

The workgroup examined minor changes to the current regulatory process that could be implemented within the existing statutory framework. These alternatives included increasing WSSC Water's Health Hazard Subsidy from its current $15,000 per household level, eliminating the subsidy's front foot benefit income reduction, and seeking external funding from the State of Maryland's Chesapeake Bay Restoration Fund (BRF).

The workgroup looked at also options that involved more significant changes to the current process, some of which would require changes to state laws or local ordinances. These options included increased public subsidies for extension projects, capping the amount of project costs that homeowners would be responsible for, and generating economies of scale within underserved and unserved communities by grouping homeowners into sewer service subdistricts

The workgroup developed a cost model to determine how much additional public financing would be required to make sewer extension projects affordable under five different scenarios:

1. **Current System Scenario** – These are projected homeowner costs for projects that are implemented under the WSSC Water Built Process regulations. In this scenario, 50% of the properties in the underserved/unserved community are assumed to be eligible for a $20,000 BRF grant.

2. **Enhanced Health Hazard Subsidy Scenario** – This scenario examines the impact of doubling WSSC Water's Health Hazard Subsidy to $30,000, eliminating the front foot benefit income reduction, and adding a $20,000 BRF grant for half the houses in the community.

3. **Chesapeake Bay Restoration Fund Grant-Only Scenario** – This scenario demonstrates the impact of securing State grants of $20,000 for half of the houses in the community.

4. **Deficit Cap Scenario** – This scenario shows the additional project subsidy that is required to keep each homeowner's annual financing charges – front foot benefit assessments and project deficit payments – below the affordability threshold, after $20,000 BRF grants are applied to half the houses in the community. In the examples presented below, the payment cap was set at $1,147 in Prince George's County and $1,625 in Montgomery County.

5. **Front Foot Benefit Payment Only Scenario** – This scenario shows how much in additional project subsidies would be required if homeowners only paid front foot benefit sewer assessments for each project, as was the case before the law was changed in 1998. This scenario is being presented to highlight the funding gap that results if homeowners only pay a front foot benefit assessment at the current rate of $6.00 per foot.

All of these examples use the same set of common financial assumptions that were used in the affordability analysis that was presented earlier in this report. The results of our analysis of financing alternatives are summarized in the table below. A full presentation of scenario results can be found in Appendix E.

Table 3 Summary of Financing Scenarios

Sunnyview Court	Scenario				
Project Cost = $ 314,800	S1 - Current System	S2- Full HH Subsidy	S3-BRF Grant	S4 - Deficit Cap	S5 - FFB Payment Only
Homeoner's Total Cost to Connect [1]	$ 75,270	$ 36,510	$ 63,270	$ 31,859	$ 27,310
Homeowner Annual Financing Cost [2]	$ 3,840	$ 1,863	$ 3,228	$ 1,625	$ 1,393
Affordability Gap [3]	$2,215	$237	$1,603	$0	$232
WSSC Health Hazard Subsidy	$ 16,199	$ 150,000	$ 16,199	$ -	
BRF Grant			$ 60,000		
Funding Gap [4]	$ 217,059	$ 23,257	$ 157,059	$ 233,257	$ 255,999

Greenridge Drive	Scenario				
Project Cost = $ 756,880	S1 - Current System	S2- Full HH Subsidy	S3-BRF Grant	S4 - Deficit Cap	S5 - FFB Payment Only
Homeoner's Total Cost to Connect [1]	$ 72,192	$ 29,574	$ 61,423	$ 31,859	$ 30,124
Homeowner Annual Financing Cost [2]	$ 3,683	$ 1,509	$ 3,134	$ 1,625	$ 1,537
Affordability Gap [3]	$2,058	$117	$1,508	$0	$88
WSSC Health Hazard Subsidy	$ 5,959	$ 420,000	$ 5,959	$ -	
BRF Grant			$ 140,000		
Funding Gap [4]	$ 524,335	$ -	$ 384,335	$ 404,869	$ 552,839

Treasure Cove- George Thorne Est	Scenario				
Project Cost = $ 3,565,100	S1 - Current System	S2- Full HH Subsidy	S3-BRF Grant	S4 - Deficit Cap	S5 - FFB Payment Only
Homeoner's Total Cost to Connect [1]	$ 91,403	$ 51,190	$ 81,190	$ 22,490	$ 35,300
Homeowner Annual Financing Cost [2]	$ 4,663	$ 2,612	$ 4,142	$ 1,147	$ 1,801
Affordability Gap [3]	$3,516	$1,464	$2,995	$0	$654
WSSC Health Hazard Subsidy	$ -	$ 1,410,000	$ -	$ -	
BRF Grant			$ 480,000		
Funding Gap [4]	$ 3,238,941	$ 1,348,941	$ 2,758,941	$ 2,758,941	$ 2,636,862

Notes

[1] Sewer Extension cost plus up-front costs (sewer connection, septic abandonment, internal plumbing, fees)

[2] Annual financing ocst @3.0% over 30 years.

[3] Difference between annual cost and County Affordability Threshold (red if cost exceeds threshold)

[4] The amount of additional funding that is needed to close an affordability or project funding gap.

Under Scenario 1, which represents the financing approach used by WSSC Water today, homeowner annual costs range from $3,683 to $4,663 and exceed each county's affordability threshold in all three communities. Subsidies ranging $217,059 (Sunnyview Ct.) to over $3,238,000 (Treasure Cove) would have to be provided to reduce homeowner costs to affordable levels.

The impact of the enhanced $30,000 health hazard subsidy on homeowner costs can be seen in the Scenario 2 results. This financing change substantially reduces homeowner costs in the three example areas by approximately 50% and lowers costs in the Greenridge Drive example to affordable levels. Homeowner costs in the two other example communities still exceed affordability thresholds. This alternative would require WSSC Water's Health Hazard Subsidy contributions to increase by almost $2,000,000 for all three projects.

Under Scenario 3, seven properties in Greenridge Drive, three properties in Sunnyview Court, and 24 properties in Treasure Cove-George Thorne Estates were assumed to have documented septic system problems and would qualify for BRF funding. The addition of BRF grant funding provides an offset of 13% to 19% in sewer extension project costs, which lowers the average annual cost for homeowners by $500 to $600. This scenario leaves homeowners in all three areas with annual costs that exceed affordability thresholds. This scenario highlights the benefit of targeting communities where a large percentage of homes have documented septic system problems.

Scenario 4 shows how much additional public subsidy is required to reduce costs to affordable levels after securing BRF funding for each project. Under this scenario, homeowner's annual payments are capped at the county Affordability Threshold - $1,147 in Prince George's County and $1,625 in Montgomery County - and additional funding from public sources would be needed to close any project funding gaps. To implement this scenario, $2,759,000 in public funding would be needed in the Treasure Cove-George Thorne Estates community, $405,000 would be needed for the Greenridge Drive project, and $233,000 would be needed in the Sunnyview Court community to reduce homeowner costs to affordable levels.

Scenario 5 provides an historical reference point for this discussion on sewer extension financing by showing how project costs are allocated if homeowners only pay front foot benefit assessments and WSSC Water is required to finance any project deficits, as was the case before the law was changed in 1998. Under this scenario, homeowners are responsible for annual front foot benefit assessments and all up-front costs. This mode of financing generates a project funding gap of $2,636,000 in Treasure Cove-George Thorne Estates, $553,000 in Greenridge Drive, and $256,000 in Sunnyview Court.

The affordability impact of the five financing scenarios is summarized in the table below. If a financing alternative resulted in average homeowner annual costs that were more than 10% higher than the county's Affordability Threshold, it was deemed to be "Unaffordable". Scenarios that resulted in annual homeowner costs – inclusive of annualized up-front homeowner expenses related to sewer connection, internal plumbing, and septic system abandonment – that were less than 110% of the county Affordability Threshold were deemed to be "Affordable".

Table 4 Affordability Assessment of Funding Options

Scenario		Underserved Area		
		Treasure Cove-George Thorne Estates	Greenridge Drive	Sunnyview Court
S1	Current System, Reduced Health Hazard Subsidy, Homeowners pay deficit	Unaffordable	Unaffordable	Unaffordable
S2	Current System with full $30,000 Health Hazard Subsidy (No reduction for front foot benefit income), Homeowners pay deficit	Unaffordable	Affordable	Unaffordable
S3	Current System + $20,000 BRF Grant for eligible properties	Unaffordable	Unaffordable	Unaffordable
S4	Homeowners pay a maximum annual contribution based on affordability limits, remaining project costs paid by others	Affordable	Affordable	Affordable
S5	Homeowners pay current front foot benefit assessment only, remaining project costs paid by others	Unaffordable	Affordable	Affordable

EVALUATION OF ALTERNATIVES

ALTERNATIVE 1: INCREASING THE HEALTH HAZARD SUBSIDY

The status quo alternative leaves the WSSC Water Built Process in place as the primary means for homeowners in underserved and unserved communities to apply for sewer service. The workgroup examined two modifications to the current regulatory process to determine if projects could be made more affordable.

The first modification was increasing WSSC Water's Health Hazard subsidy from the current $15,000 level to $30,000 per household. WSSC Water's Health Hazard subsidy has not increased in several decades, so doubling the subsidy to account for inflation seemed like a reasonable alternative to consider.

The second modification was eliminating the front foot benefit reduction to Health Hazard subsidy. The previous affordability assessment clearly shows that this reduction effectively negates WSSC Water's Health Hazard subsidy as an affordability measure since the reduction often results in a zero subsidy.

The analysis shows that eliminating the front foot benefit income reduction from WSSC Water's $15,000 Health Hazard Subsidy is ineffective as a stand-alone strategy to improve the affordability of sewer extension projects, even when combined with additional funding from the State in the form of Bay Restoration Fund grants. Doubling the subsidy to $30,000 per household and eliminating the reduction for front foot benefit income lowers costs to affordable levels for the Greenridge Drive project, but only under an assumption that BRF grants would be available for at least half of the homes. The analysis reveals that WSSC Water's Health Hazard Subsidy would have to be increased to over $65,000 to reduce homeowner costs to affordable levels in all three example communities.

Increasing the amount of subsidy through changes in WSSC Water's Health Hazard subsidy, either by increasing the amount of the subsidy, eliminating the front foot benefit income reduction, or both, does not require a change in law and could be implemented with a simple regulation change.

ALTERNATIVE 2: SEEK EXTERNAL FUNDING FROM STATE OR FEDERAL PROGRAMS

Although there are a number of State and federal funding sources that could be used to help fund sewer connections to unserved or underserved properties, only one of these sources provides direct grant assistance in a form that can directly offset the cost to homeowners.

The Chesapeake Bay Restoration Fund (BRF) is a State program administered by the Maryland Department of the Environment that was established to address nutrient pollution to the Chesapeake Bay from three primary sources: Wastewater Treatment Plants, Septic Systems, and agricultural runoff. The BRF was created in 2004 and is funded through statewide collection of fees on wastewater customers and septic system owners. It provides up to 100 percent in grant funding to upgrade wastewater treatment plants with enhanced nutrient removal (ENR) technologies, grant funding to homeowners for upgrades of existing septic systems to best available technology for nitrogen removal, and payments to farmers who plant cover crops. Since the inception of the program, the Maryland legislature has authorized other uses for the fund, including stormwater remediation, overflow elimination projects, operation and maintenance of wastewater treatment plants, low-income assistance for On-Site Sewage Disposal System (OSDS) replacement, and subsidizing sewer extension costs for homes with failing septic systems.

A 2008 change in Bay Restoration Fund statute expanded the use of the fund to include sewer extensions to communities with septic systems. The BRF can currently provide up to $20,000 in grant assistance for every residential property on septic system that is subsequently connected to an advanced wastewater treatment plant. The application process for BRF septic grants is competitive and subject to numerous complex criteria, so BRF funding applications are typically completed by local governments on behalf of communities and homeowner associations. It is also important to note that funds for septic connections are limited by statute to 60% of the portion of the BRF that is funded by fees charged to existing septic system owners, or approximately $18 million annually.

The Maryland Department of the Environment (MDE) has indicated that the counties have broad latitude in determining how BRF septic system funding is allocated, but the basic requirements of the funding statute have to be met. These requirements include:

- Documentation by local and state officials of the public and environmental health impacts in the existing community.
- Demonstration that connection of community systems is more cost effective than individual retrofits or demonstration that individual replacement is not feasible.
- Consistency with the County Water & Sewer Plan.
- Documentation that the septic systems were installed on or before October 1, 2008 and community is located in the Priority Funding Area (PFA) or meets the requirements for a PFA exception.
- Demonstration that the project area would otherwise meet the PFA requirements.

- Documentation that the area has been designated as a public health area of concern in the County Water & Sewer Plan or has been certified as such by County Health Department & MDE with an agreement to add to the plan at a later date.
- Agreement that the new sewer line will be designated as "denied-access" for future connections not in the proposed service area.
- Stipulation by the county that the project will not limit available funding for future installation of "Best-Available-Technology" (BAT) retrofits.

A copy of MDE's current BRF funding program guidance for septic system upgrades can be found in Appendix D.

The addition of external funding through the State's Bay Restoration Program was included in Scenarios 2, 3, and 4. The analysis indicates that BRF funding can help lower overall project costs, but the impact is usually not large enough to make sewer extension projects affordable, even if 100% of the homes in a project area were eligible to receive a State of Maryland grant.

MDE has indicated that BRF funding can be used to offset either sewer extension costs or a homeowner's on-site sewer connection costs, so this source of funding would be an effective way to offset homeowner's up-front costs and incentivize property owners to connect to the new sewer system.

ALTERNATIVE 3: INCREASING PUBLIC SUBSIDIES WITH ADDITIONAL FUNDING FROM WSSC WATER OR THE COUNTIES.

The third alternative that was considered by Subgroup was increased subsidies for sewer extension projects in underserved and unserved communities. To develop an understanding of how much additional funding would be needed to bring typical sewer extension projects into an affordable range for most homeowners, a financial scenario was developed – Scenario 4 – to determine how much support would be needed to limit homeowner s' costs to affordable levels.

In all three examples, 53% to 77% of the total cost to extend sewer service would have to be supported through public subsidies to limit homeowners out of pocket costs to affordable levels. Homeowner costs under Scenario 4 are similar to what they would pay under a front foot benefit only scenario, so implementation of this alternative would be akin to returning to the pre-1998 mode of financing sewer construction, with either WSSC Water or the counties paying for all of the cost of construction and a nominal level of cost recovery being generated by homeowners' annual payments.

The Subgroup has examined several different potential sources of funding for increased subsidies. These sources include:

- Funding with current WSSC Water rate revenue.
- A new WSSC Water dedicated fee.
- A county general revenue subsidy.
- A new county ad valorem tax.
- New county fees or special assessments.

Subsidies funded by WSSC Water ratepayers through a system-wide method of financing could be implemented in several different ways. A budget for a dedicated sewer extension program could be developed and identified within WSSC Water's annual operating budget and funded with current or new revenue. Funding with current revenue would require reallocation from an existing program. Sources of new revenue include rate increases or a new user fee. WSSC Water estimates that a 0.29% rate increase would be required to generate $1,000,000 in new program funding. WSSC Water is operating at the limits of its current debt ceiling, so financing sewer extensions through the issuance of additional debt is not recommended. Funding through a rate increase or implementation of a new fee would require approval from WSSC Water's Commissioners and both County Councils. WSSC Water's General Counsel has also indicated that enactment of a new dedicated fee for sewer extensions would require new legislation.

Subsidies funded by Prince George's and Montgomery Counties could be provided through several different avenues. Under current regulations, either county could assume the role of a private developer and construct a sewer extension under WSSC Water's SEP regulations. The counties could also provide direct funding for a sewer extension program within WSSC Water through a general revenue subsidy or a targeted tax surcharge, such as an Ad Valorem tax or Special District tax. All of these options would require the approval of the county Executive and county Councils.

ALTERNATIVE 4: CREATION OF SUBDISTRICTS

The 2014 Subgroup suggested sub- districts as a possible improved system for funding water and sewer extensions. Sub-districts would spread large infrastructure costs over a large number of properties and would remedy a number of the challenges and issues under the current system. Both the counties and WSSC Water have experience using sub-districts to finance capital program infrastructure projects, but the concept has never been used for water distribution or sewer collection systems. The fundamental goal is to equitably allocate the large costs of extending public sewer extensions over a large number of properties to be served.

The current subgroup has looked at the subdistricts mechanism as a way to target and prioritize underserved and unserved communities who need sewer service. As envisioned by the Subgroup, subdistrict boundaries would be created based on the properties that can be served by a single main extension. Subdistricts could be as small as one property and as large as an entire community.

The subdistrict process could be initiated in one of two ways. The county could identify an area that was in need of sewer service and work with residents in that area to secure approval for the creation of the subdistrict, or residents could initiate the process by expressing their interest to the county. In either case, the county will establish the boundaries of the subdistrict and work with residents in the community to secure approval from a majority of the residents.

The benefit of the subdistrict approach comes from the economies of scale that are generated when project costs can be spread across multiple homes. In our hypothetical 14 home community, a 700-foot extension to serve one house would generate a potential deficit of $474,000, requiring the homeowner to pay over $25,000 annually over 30 years in combined front foot benefit assessment and deficit payment.

Using a subdistrict approach, which would spread project costs over all 14 households in the community, each homeowner would pay about $2,600 annually to secure sewer service, inclusive of up-front costs and sewer connection charges.

The impact of more households participating financially in a sewer extension project is shown graphically in the figure below.

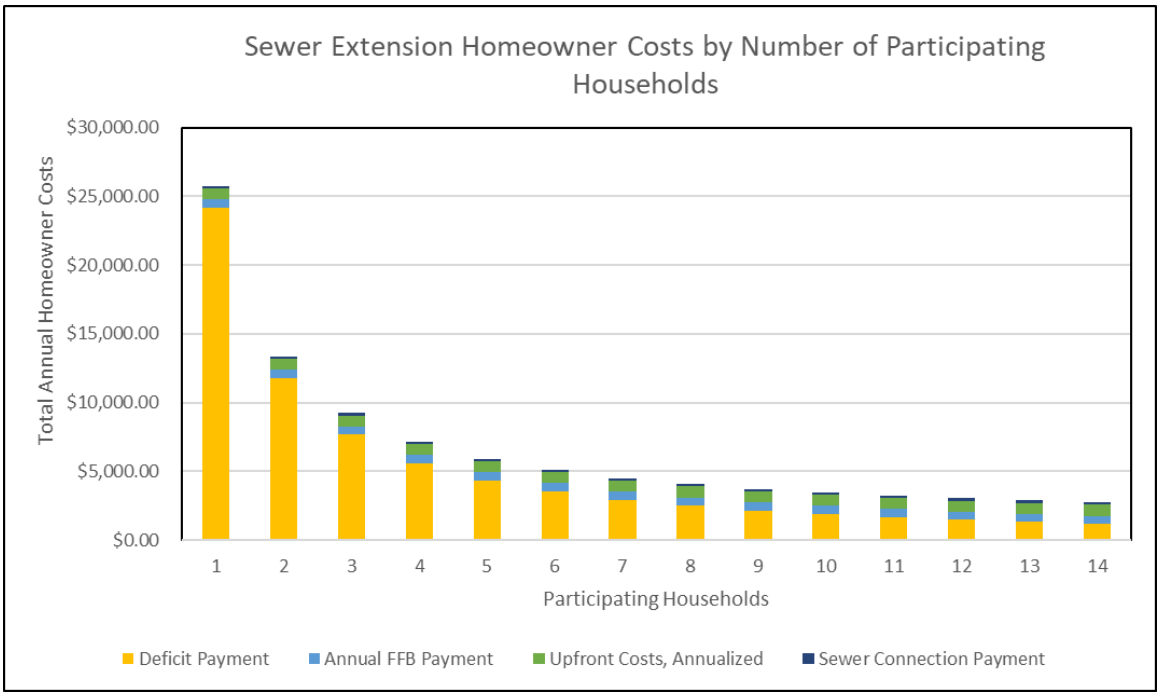


Figure 6 - Homeowner Costs by Number of Households

FRAMEWORK FOR AN IMPROVED APPROACH

The workgroup recognizes that addressing the deficiencies with the current system will require potential tradeoffs and compromises to balance the following policy objectives:

- **Financial Sustainability** - A reliable, consistent source of funding must be identified to ensure that the program can be sustainably funded over the long-term.
- **Affordability –** Costs must be affordable for all homeowners, including low to moderate income homeowners and households with fixed incomes.
- **Equity:** For every proposed new sewer extension request, the costs of the project must be weighed against the benefits to the community and the public at large.
- **Simplicity & Transparency:** The roles and responsibilities and financial requirements for any new program should be easy to understand and simple to communicate to all stakeholders.
- **Prioritize Public Health:** The program should ultimately improve public health outcomes for communities with current or pending septic system problems.
- **Maximize Participation within a Community**: Any new approach should incentivize a maximum number of homeowners within an underserved/unserved community to connect to the new system.

To achieve these objectives the workgroup has identified seven key elements that should be part of any successful, sustainable financing program for underserved or unserved communities. These elements, which are shown in the following figure, will ensure that sewer extension projects are affordable for homeowners, program costs are predictable, and funding is used in the most cost-effective manner to address each county's most pressing public health concerns.

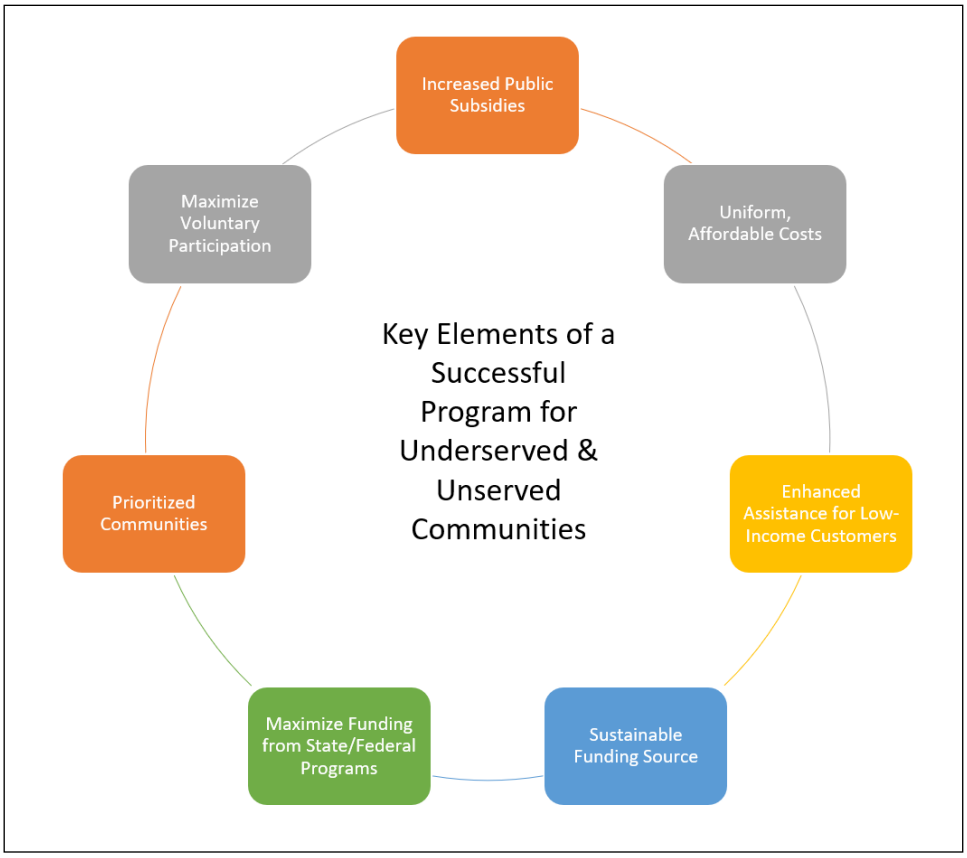


Figure 7 Key Elements of a Comprehensive Program

Key Element #1: increased public subsidies that lower financing costs to homeowners to affordable levels.

The affordability analysis presented in this report clearly shows that the current approach to financing, which makes homeowners responsible for most of the cost to plan, design, and build public sewer infrastructure, is unaffordable in most communities. WSSC Water's Health Hazard Subsidy program, in its current form, only provides limited assistance that still leaves homeowners with most of the financial burden of extending sewer service.

Key Element # 2: A uniform sewer extension contribution from all homeowners in underserved or unserved communities.

To meet the program's financial sustainability, equity, and transparency goals, the workgroup believes that a simple approach that establishes a uniform, affordable homeowner contribution is the fairest, simplest way to communicate the costs and benefits of extending public sewer service into an underserved or unserved community. This approach would essentially cap a homeowner's annual front foot benefit and deficit financing obligations at a uniform level by creating subdistricts within underserved or unserved communities.

Key Element #3: Additional assistance for lower income homeowners who meet WSSC Water's customer assistance criteria.

The workgroup recognizes that there are limited-income homeowners in many of these communities who will need additional financial assistance to make this program affordable. Beyond the high cost of extension project financing, homeowners face substantial up-front costs – estimated at over $19,000 – for connection fees, on-site plumbing, inspections, and abandonment of their existing septic systems. Providing additional support to low-income homeowners to reduce up-front costs should be an integral part of any comprehensive program for underserved and unserved communities.

Key Element #4: Identifying sustainable sources of program funding will be necessary to ensure that the needs of underserved and unserved communities can be met within WSSC Water's debt ceiling.

The changes in law that were enacted in 1998 to shift the burden of financing from WSSC Water's rate payers to developers and private property owners were made because the previous approach to infrastructure financing – which made the Commission responsible for forward funding most project costs in excess of front foot benefit income – was unsustainable because it and led to excessively high levels of debt service. A sustainable source of funding for additional program subsidies will have to be identified to support the counties' goal of addressing one to three underserved and unserved communities per year.

Key Element #5: Maximizing outside sources of funding from the State's Bay Restoration Fund and Water Quality Revolving Loan Fund.

The workgroup has identified two sources of State funding that could be used to help offset the high cost of sewer extensions for underserved and unserved communities. The Maryland Department of the Environment (MDE) administers the Chesapeake Bay Restoration Fund (BRF) and the State's Revolving Loan Fund (SRF), both which can be used to offset some of the costs of extending sewer service into communities with septic systems. The BRF can provide up to $20,000 in grant assistance for every residential property on a septic system that is subsequently connected to the WSSC Water sewer system. Both Montgomery and Prince George's Counties have been receiving limited annual allocations of money from the State's BRF program to replace and repair existing septic systems, but this source of funding can also be used for sewer extensions to underserved and unserved communities. One of the advantages of BRF funding is that it can be used to offset any expenses related to a sewer connection project, including a homeowner's up-front costs.

The SRF is another source of external funding that can be used to secure low interest loans for sewer construction projects. Interest rates for SRF loans are typically at or below market and this source of financing has been used by other jurisdictions to lower borrowing costs for large scale sewer extension projects.

Key Element #6: Prioritize funding to communities with the greatest need for sewer extensions.

To ensure that each sewer extension project achieves the biggest bang for the buck and the program meets the overall objective of addressing critical public health issues within each county, the workgroup believes that the counties establish prioritization criteria to identify which underserved and unserved communities will receive any available program funding as it becomes available. Identifying communities where a single extension can connect the highest number of homes and address multiple failing septic systems will ensure that limited funding is being used to efficiently and effectively.

Key Element #7: Establishment of a public process to secure community buy-in and maximize the number of homeowners who agree to abandon their septic systems and connect to the new sewer.

Maximizing the number of homeowners who participate in a sewer extension project is a critical element of this program. Most other jurisdictions throughout Maryland utilize some form of a petition process to secure community approval for water or sewer extensions. In Anne Arundel and Baltimore Counties, for example, communities who want to request water or sewer service must formally petition the county to initiate the extension process. In both cases, a majority of the homeowners within the community requesting service must agree to have service extended and all homeowners are required to connect once service has been established to the community.

Homeowners in the bi-county area, however, cannot be compelled to connect to the public sewer, even when it abuts the property, so developing support within a community for public sewer service will be critical to the viability of any sewer extension project.

The workgroup reached a consensus that creating subdistricts, or discrete, well defined sewer service areas within underserved and unserved communities was the best way to achieve the objectives of affordability, simplicity, and maximizing participation in an open and transparent way. The authority to create subdistricts exists in current statute and this approach would allow WSSC Water to treat the cost of service differently in underserved and unserved communities than the rest of the service area.

RECOMMENDATIONS

The workgroup believes that WSSC Water and the counties must adopt a collaborative approach to addressing the needs of homeowners in underserved and unserved communities. The current approach, which places all of the financial burden on individual homeowners, is clearly not working. Failing septic systems have far reaching, county-wide impacts to public and environment health, and a comprehensive program is needed to begin to address this growing problem.

There was a clear consensus among workgroup members on the following findings:

- The current system of financing sewer extensions is unaffordable for most homeowners.
- External funding from the State's Bay Restoration Program should be sought wherever possible to help offset sewer extension costs.
- Additional public subsidies are needed to make sewer extension projects feasible and affordable for most communities.
- The current system is neither fair nor equitable.

The members of the workgroup also reached consensus on eight discrete recommendations that lay the groundwork for a comprehensive, programmatic solution to the problems facing residents in underserved and unserved communities in the bi-county area. Each of these recommendations is discussed below.

Recommendation 1 – Increase Public Subsidies for Sewer Extension Projects in Underserved and Unserved Communities

Additional public subsidies for sewer extension projects, funded through rate increases, new fees, or annual contributions by each county, should be made available to create a program that begins to address the growing public health problem in the hundreds of underserved communities throughout the bi-county area. The workgroup recommends that initial funding levels of up to $1,000,000 per year should be provided to complete one moderately sized sewer extension project in each county per year.

The workgroup has identified four potential funding options for sewer extension subsidies:

1. Establish a new fee or charge that would be paid by all WSSC Water customers specifically to provide public financing support for sewer extensions to underserved and unserved communities. This approach would provide a stable and consistent source of funding for the program and ensure that

projects could be planned and scheduled in advance. This approach would require new authorizing legislation since it would be a new fee or charge that is not currently authorized by the State Code.

2. Funding for an "Underserved Program" could be designated by each County through the annual approval process of WSSC Water's budget. Under this approach, each County would designate the annual level of funding to be used for sewer extension projects to underserved and unserved communities and, if necessary, approve any required rates increases that might be needed to provide adequate program funding. The counties could adjust funding on a year-to-year basis based on funding needs and public health priorities. This approach would also require new authorizing legislation since it would supersede the existing authorized financing scheme for system extensions. Maryland Annotated Code, Public Utilities Article (PUA) § 25-204 (for front foot benefit charges) and § 25-207 (for the deficit payment)

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3. The County could provide direct contributions to a WSSC Water pay-as-you-go sewer extension capital project account to be used to provide additional subsidies for sewer extension projects in underserved and unserved communities or, alternatively, act as a private developer and build sewer extension projects under the WSSC Water's existing Sewer Extension Process. In either case, the source of funding for increased subsidies would come from County revenue sources. No changes to existing laws are required to implement this funding option.

4. The fourth option is a hybrid of the previous options, with some funding from County sources and some from WSSC Water sources. For example, WSSC Water could increase the amount of health hazard subsidy for future extension projects to reduce homeowner costs, and the Counties could provide funding for additional subsidies to make projects more affordable. No changes to existing laws are required to implement this funding option.

Recommendation 2 – Implement a uniform, affordable fee for sewer service for homeowners in Underserved and Unserved Communities

The workgroup recommends that capping homeowner sewer extension costs at an affordable level is the fairest, simplest way to encourage homeowners to seek solutions for their aging septic systems.

Based on the workgroup's financial analysis, presented in the "Options and Alternatives" section of this report, the easiest way to achieve this is to provide additional public subsidies for sewer extension project and limit deficit payments to keep total homeowner extension costs, including up-front costs, at affordable levels.

The workgroup recommends that homeowner extension costs be capped at or below EPA's affordability guidelines (2% of median household income). Based on 2021 projected median household income levels, the cost cap would be $1,147 per year in Prince George's County and $1,625 per year in Montgomery County. This means that a homeowner in Prince George's County would pay a total of $22,481 for sewer service and a homeowner in Montgomery County would pay a total of $31,850 for sewer service, regardless of how much the extension project cost or how many homeowners participated in the project initially. The cost caps should be reviewed and updated on a regular basis to account for inflation.

Recommendation 3 – Provide additional assistance with up-front costs for homeowners who are experiencing other financial hardship

Additional assistance should be made available to low-income homeowners and other applicants who may need additional financial assistance due to financial hardship to help defray the up-front costs.

The workgroup recommends, as a starting point, that WSSC Water's Customer Assistance Program (CAP) eligibility requirements be used to identify homeowners in underserved and unserved communities who would need additional assistance with up-front costs. WSSC Water's CAP program requirements are based on enrollment in Maryland's Office of Home Energy Programs (OHEP), which use 175% of the federal poverty index guidelines. These guidelines currently equate to $38,430 per year for a three-person household.

This assistance could take the form of any of the following options:

- Relief from WSSC Water's $2,850 System Development Charge
- Relief from additional inspection fees and permit processing charges
- Lower minimum homeowner contributions for sewer extension charges.
- Direct assistance (additional subsidies) for on-site plumbing costs.

Some of these options will require changes in law, regulations, or both. For instance, providing relief from WSSC Water's System Development Charge or creating a new program to provide direct assistance to homeowners for on-site plumbing costs would likely require changes to the Public Utilities Article and WSSC Water's regulations to implement.

Recommendation 4 – Establish a pay-as-you-go capital improvement program for sewer extensions to underserved and unserved communities

Funding for the Underserved and Unserved Program should be clearly identified through WSSC Water's annual budget process and managed on a pay-as-you-go basis. This will ensure that WSSC Water does not incur additional debt for program costs and provide transparency to the funding process.

Recommendation 5 – Allocate Program Funding Equitably between Prince George's and Montgomery Counties

The workgroup recommends that funding for sewer extension projects in underserved and unserved communities be allocated in proportion to source of program revenue. This will ensure that the counties are able to maintain some control over project planning and implementation and communicate funding availability to communities they are working with.

Recommendation 6 – The Counties and WSSC Water should aggressively pursue funding from the State's Bay Restoration Fund for sewer extension projects in underserved and unserved communities

The workgroup has confirmed that sewer extension projects are eligible for grant funding from the State's BRF program. Grants up to $20,000 per household are available from the Maryland Department of the Environment's (MDE) Water Quality Financing Administration and the department distributes up to $12,000,000 annually to Maryland counties for septic system projects. In fiscal year 2018, MDE allocated $964,000 in grants specifically for septic connection projects. This funding can be used to offset homeowner costs or the publicly financed portion of a sewer connection project.

The workgroup recommends that the counties and WSSC Water should work collaboratively to maximize funding contributions from the State's Bay Restoration Fund (BRF). This includes working with MDE to secure BRF funding for every eligible household in an underserved and unserved project area, seeking additional grants from unused allocations of BRF septic account funds, identifying projects that

would be eligible, for competitively awarded BRF wastewater account funds, and proposing legislative changes to the current BRF allocation formulas described in current State statute.

Recommendation 7 – Establish a Subdistrict process to secure support within underserved and unserved communities for sewer connection projects

The workgroup considered several different policy options to address key element #7, ranging from legislative changes to re-enact the mandatory connection requirement to implementation of a formal petition process similar to the approach used in several Maryland counties.

The workgroup reached a consensus that creating subdistricts - discrete, well defined sewer service areas within underserved and unserved communities - was the best way to achieve the objectives of affordability, simplicity, and maximizing participation in an open and transparent way. The authority to create subdistricts exists in current statute and this approach would allow WSSC Water to treat the cost of service differently in underserved and unserved communities than the rest of the service area.

The Subdistrict concept, which was also proposed by the 2014 Underserved & Unserved Area Workgroup, is based on the following principles:

- A subdistrict will be established to define the limits of a proposed sewer extension project area.
- The subdistrict process can be initiated by a homeowner, a community association, or the County.
- The County will prioritize the need for sewer service in the proposed subdistrict based on established prioritization criteria.
- There must be a significant level of interest in a community to move the subdistrict process forward.
- WSSC Water will provide technical support and develop preliminary cost estimates for subdistricts that have received community support.
- A majority of homeowners (greater than 50%) within a Subdistrict must agree to connect and apply for sewer service for a sewer extension project to move to the design and construction phase.

Under this proposed subdistrict process, County staff are involved at the beginning stages of the project planning phase to identify priority underserved and unserved communities and conduct outreach to develop support within these communities for sewer service.

WSSC Water will have to support the Counties efforts by providing technical, engineering, and financial management services to develop alternatives, assess feasibility, and develop preliminary cost estimates.

Developing a commitment from a majority of homeowners within subdistrict is critical to the viability of these projects, so it is anticipated that the Counties will develop some form of agreement to formalize homeowner's willingness to connect to the new sewer.

The new process will be iterative and require community buy-in and approval at various stages. It is likely that costs will change as project planning reaches different stages, and homeowners should have the opportunity to provide input along the way.

The new Subdistrict process would replace the existing WSSC Water Built Process. WSSC Water's existing Sewer Extension Process (SEP) would be retained for homeowners and communities who would prefer to pursue sewer service extensions without going through the Subdistrict process.

A generalized depiction of the proposed Subdistrict process is shown the figure below.

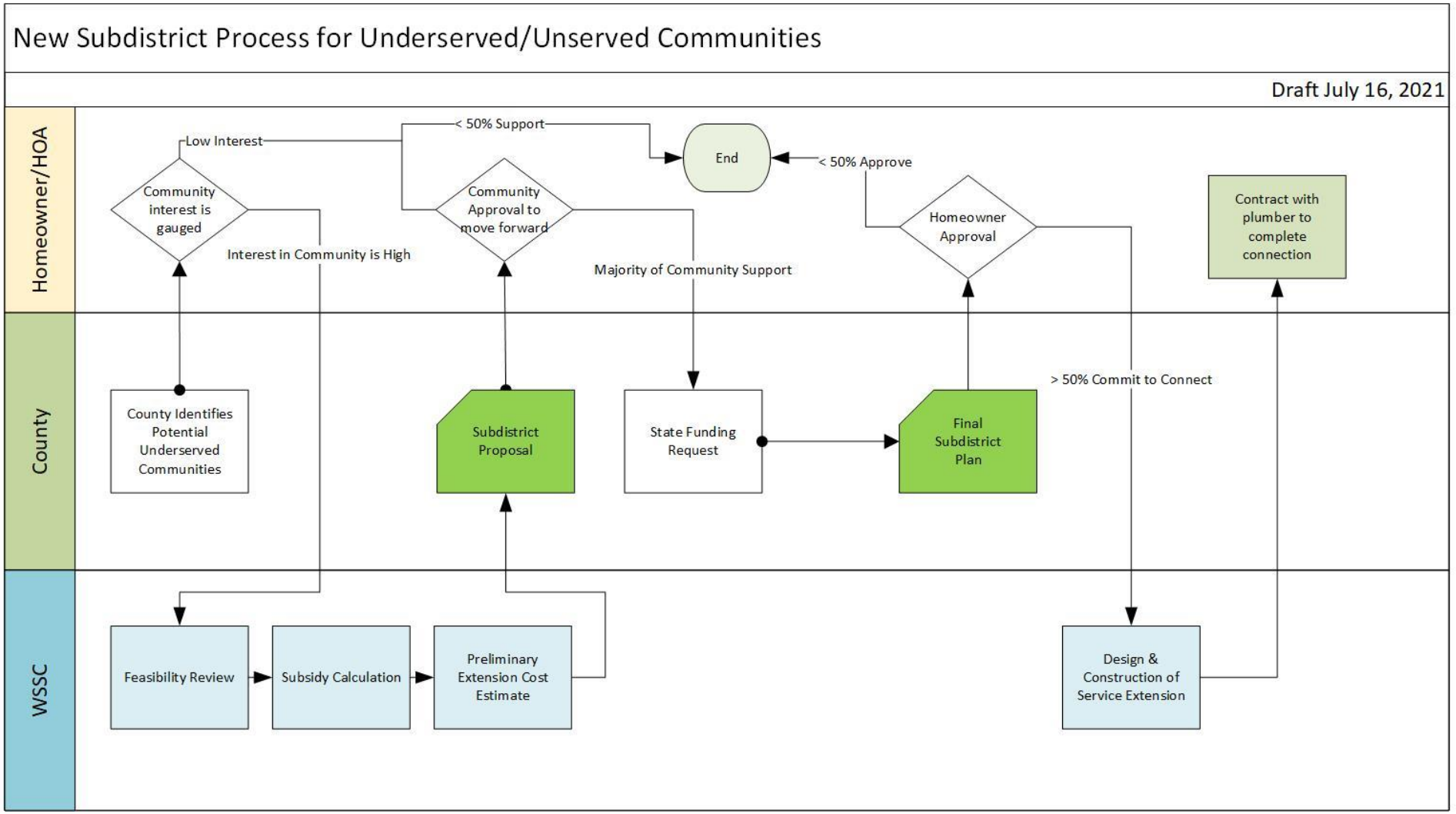

Figure 8 Proposed Subdistrict process for Underserved/Unserved Communities

To implement an improved process that contains all of the elements described above, all stakeholders will have to take on new roles and responsibilities. These are summarized in the figure below:

County	WSSC	Community
Identify Potential Underserved Communities	Preliminary Feasibility Review	Survey/Gauge Interest in Project
Prepare Preliminary Subdistrict Proposal	Front Foot Benefit and Subsidy Determination	Approve Preliminary Subdistrict proposal
Conduct Affordability Assessment	Preliminary Extension Project Cost Estimate	More than 50% of Homeowners commit to project
Apply for State Funding	Design & Construct Sewer Extension	Connect to New Sewer
Coordinate Final Subdistrict Plan	Coordinate Service Connections	Abandon Septic Systems

Figure 9 Subdistrict Process Roles & Responsibilities

Recommendation 8 – Each County should develop an approach to identify and prioritize communities with the greatest need for sewer extensions

Limits on funding for sewer extensions will dictate how and when projects move forward through the planning, design, and construction sequence. To ensure that available funding is being used effectively and sewer service is being extended in a manner that is consistent with County's Comprehensive Water & Sewer Plans, each jurisdiction should establish its own prioritization criteria to identify which underserved and unserved communities will receive any available program funding as it becomes available.

Montgomery County staff have preliminarily recommended the following prioritization criteria:

- Within the planned public service area.
- Areas with known (especially unresolved) onsite system failures.
- Areas with existing onsite systems that are close to the end of their useful life.
- Areas with small lots (less than 1/2 ac., less than 1 ac.).
- Areas that are a short distance from existing public mains.
- Areas that provide the maximum benefit (in terms of the number of properties connected) relative to the length of the extension.
- Areas within watersheds that have water quality issues related to failing septic systems (Note: Montgomery County does not have any areas in the Chesapeake Bay Critical Area).

Prince George's County staff have recommended prioritizing underserved and unserved areas in the county that are:

- Within the planned Sewer Service Envelope.
- Designated Category 3 - planned for public service.
- In communities where at least 5 or more adjacent lots need to be connected.
- In communities with lots that are less than 1 acre, with known septic system failure.
- In communities with health hazards.
- Located in environmentally sensitive areas.

Sections of Prince George's County's environmentally sensitive areas are part of the Chesapeake Bay Critical Area (CBCA). Therefore, county staff prioritized homes located within the CBCA, and having met other prioritization criteria, as having the highest priority.

IMPLEMENTATION CONSIDERATIONS

Implementation of many of the previous recommendations will require a new set of policies, procedures, and guidelines to be developed by both WSSC Water and each county. Although the workgroup reached a consensus on the goals, objectives, and general principles of a general solution framework, there were a number of legal and policy-related issues that cannot be resolved until decisions are made on sources of funding and the regulatory details for the underserved and unserved sewer extension program.

LEGAL CONSIDERATIONS

Replacing the current financing mechanism for sewer extensions, which uses a combination of front foot benefit assessments, health hazard subsidies and deficit payments, with a new Subdistrict approach that relies on public subsidies to lower homeowner costs, will require substantial changes to WSSC Water's Developments Services Code of Regulations and may require statutory changes depending on the source of funding for public subsidies and how homeowner extension costs are assessed.

The cost of constructing water and sewer extensions is currently financed through a combination of 1) front foot benefit charges ("FFBC") and 2) deficit payments when the front foot benefit charges are insufficient to cover the cost of construction. This method is directly authorized by Maryland Annotated Code, Public Utilities Article (PUA) § 25-204 (for front foot benefit charges) and § 25-207 (for the deficit payment). The FFBC is charged to the property owner annually "for a period of years equal to the period of maturity of the bonds the proceeds of which financed the construction of the water main or sewer."

The workgroup considered a number of options for implementing the second recommendation – a uniform, affordable fee for sewer service – and concluded that the current front foot benefit assessment mechanism should be retained within the underserved and unserved sewer extension program and that public subsidies replace WSSC Water's Health Hazard subsidies to keep projects affordable for homeowners. If the source of funding for the public subsidy is County General Revenues, it would eliminate the need to amend sections § 25-204 and § 25-207 of the Public Utilities Article and minimize changes to WSSC's Development Services Code.

As future sewer extension projects are considered in underserved and unserved communities, decisions on when or if homeowners should be obligated to connect to public sewer service will have to be made. PUA §23–202 makes connecting to public system voluntary except in rare instances where the Commission has determined that a property has a condition that is a "menace to the health of the occupants of the property or the occupants of a nearby or adjoining property", so a change in law will be required to adopt a legally binding connection mandate. Adopting a County-based petition process similar to what is used in neighboring counties will also require changes to the Prince George's and Montgomery County codes.

Finally, the development of additional affordability assistance for low-income customers, as discussed in Recommendation #3, would require changes to the law if waivers of certain WSSC Water fees and charges are included in the program.

POLICY CONSIDERATIONS

The workgroup did not reach a consensus on the issue of requiring homeowners to connect to a new sewer extension. WSSC Water workgroup representatives believe some form of mandatory connection requirement should be incorporated into a petition process if public funding is used to pay for new sewer extensions. The petition process should require, at a minimum, approval from a supermajority of residents within a Subdistrict to ensure that there is widespread support within the community for an extension project. This approach is consistent with current petition policies in most Maryland jurisdictions and would ensure that the costs and benefits of new infrastructure are fairly and equitably allocated to every household. In the past, when WSSC Water rate payers financed most of the cost of construction of new sewer lines, homeowners were required to abandon their septic systems and connect to the new sewer system. If the requirement to connect remains voluntary for existing homes within a community, front foot benefit charges and any additional Subdistrict charges should be applied to all properties that abut the proposed new sewer, whether they connect or not. This approach would require a change in legislation to Public Utilities Article §23–202 and the creation of a formal petition process within County code.

County workgroup representatives believe that voluntary participation is vital to the success of any new subdistrict process because homeowners with working septic systems are unlikely to approve the creation of a subdistrict within their communities. In lieu of a mandatory connection requirement, the counties support the idea that properties that do not hook up immediately should be required to pay their fair share when they ultimately decide to connect. This approach will require WSSC or the counties to “float” the cost of sewer extension projects and the disposition of future connection fees will need to be factored into how these projects are financed. The County workgroup representative's preferred approach is to perform outreach to homeowners within underserved and unserved communities, secure the approval of a simple majority of residents for the extension project, and use financial incentives to encourage homeowners to participate in each project. This approach is consistent with Public Utilities Article §23–202 and would not require any changes to state or local laws.

As the underserved and unserved program develops, the Counties will have to consider how and when to address problem properties and health hazards within communities. While PUA §23–202 restricts both WSSC Water and the counties from requiring homeowners to connect to the public sewer system, WSSC Water does have the latitude to begin charging abutting homeowners some or all of a front foot benefit assessment, regardless of their connection status. Adopting a new policy requiring all homeowners to

begin paying an annual front foot benefit charge may incentivize some homeowners to use the new service.

The workgroup also considered other alternatives to a mandated connection requirement that might be used to increase support for sewer extension project in underserved and unserved communities. These alternatives include:

- Adjusting the Subdistrict connection charge for inflation so homeowners who defer connection have a higher future cost - The workgroup was cognizant of concerns that changing the current sewer extension financing process might incentivize homeowners to delay or defer connection. One of the significant flaws with the current WSSC Water Built Process approach is that it assigns all of the responsibility for deficit payments on the applicants, which means that homeowners who decide to connect post-construction essentially get a "free ride".

- Assessing the homeowner for the full cost of the sewer lateral if they defer connection at the time the main is constructed - To provide an additional incentive to homeowners in underserved and unserved communities to participate in a sewer extension project, the cost of the sewer lateral, which is normally considered to be the homeowner's responsibility, could be included in the Subdistrict connection charge. This change would lower each participating homeowner's up-front costs by approximately $10,000 compared to the homeowners who defer connection.

- Requiring any property in an underserved and unserved community with access to WSSC sewer service to connect if the property changes ownership - Although this alternative would require legislation, strengthening the counties' ability to move properties with failing septic system to public sewer service will ensure that the inventory of problem properties in underserved and unserved communities decreases over time.

Guidelines and procedures to account for future access to new sewer extensions will also have to be developed. For example, if an existing homeowner or developer decides to connect to a new public sewer after construction has been completed, a fair and equitable basis of determining future connection fees and charges will have to be established by WSSC Water. The BRF statute (and current MDE financing regulations) have specific rules about future accessibility to infrastructure financed with State funding. In some cases, future connections are precluded from sewer extensions that are paid for directly with BRF funding.

Finally, addressing affordability within low to moderate income communities will be an important part of any workable sewer extension program. In many cases, even a modest front foot benefit assessment or project deficit will not be affordable to homeowners with limited means or on fixed incomes. The development of affordability guidelines and additional funding offsets for low-income homeowners will be needed to address health hazards in vulnerable communities. We recommend, as a starting point, that eligibility requirements used in WSSC Water's current customer assistance programs be used to

determine which homeowners will receive additional subsidies for sewer connection costs. WSSC Water's CAP program uses Maryland Energy Assistance Program (MEAP) enrollment to determine which customers require assistance with water bills. The MEAP program uses 175% of the federal poverty level as a maximum household income level for receiving energy assistance. Under current poverty guidelines, this equates to $3,821 per month ($45,852 annually) for a household of four members.

There are several options that could be considered to provide additional subsidies to income-limited applicants. These options include, but are not limited to:

- Lower annual payment caps
- Increased Health Hazard Subsides
- Fee Waivers
- Reductions in Sewer Connection and System Development Charges
- Water Fund Grants
- Plumbing Assistance through existing housing assistance programs
- County Grants

It is important to note that a policy change to reduce or waive existing WSSC Water fees or charges will require state authorizing legislation.

APPENDIX A – AFFORDABILITY ANALYSIS EXAMPLES

EXAMPLE 1: TREASURE COVE – GEORGE THORNE ESTATES, PRINCE GEORGE'S COUNTY.

Multiple sewer extensions are required to provide service to 47 dwellings in these waterfront communities in southern Prince George's County. These communities are within the county's Critical Area and are designated as Priority Funding Areas. All of the dwellings in question are within the sewer service envelope and the area is designated as S-3 (Planned community sewer service) in the county's Water and Sewer Plan.

The limits of this underserved area are shown in the map below. This area encompasses 391 individual lots and approximately 183 single family dwellings. WSSC Water and sewer service has been extended to over 70% of these dwellings in this underserved area, but approximately 47 dwellings still have septic systems and will require a sewer extension to access WSSC Water's system. Because of this community's proximity to the Potomac River, the replacement of these existing septic systems is a high priority for the county.

To develop an estimate of the potential financial impact of extending sewer service into this underserved area, several funding scenarios were developed using some basic assumptions about how service would be provided and how it would be paid for. A planning level project cost estimate was developed using proposed sewer extension alignments along existing rights-of-ways and providing service to the closest available WSSC Water sewer. A more detailed engineering analysis will be needed to verify final alignment and actual project costs.

For this example, we assume that four separate sewer extensions totaling 4,900 feet will be needed to provide service to all 47 dwellings with septic systems. Using the WSSC Water's current cost factors of $694 per foot and $3,500 per lateral, this extension project will cost approximately $ 3,565,100.

Based on the proposed alignment, an estimated 7,900 of frontage would be assessable by WSSC Water if the new sewers were constructed. For this example, we are assuming that all front foot benefit assessments would be equally apportioned to the 47 dwellings that could be served by the new sewer extensions.

Homeowner costs for this project example were calculated as follows:

The cost of the sewer extension for this underserved area is estimated to be $3,565,100. Front foot benefit assessments will cover $928,238 (26%) of this cost, leaving the 47 homeowners with septic systems a project deficit of $2,636,862 ($56,103 per household).

There is no WSSC Water Health Hazard Subsidy for this project because total assessment income is greater than the $705,000 unadjusted subsidy amount.

Each homeowner in this area who connects to the new sewer will pay, on average, $1,008 in annual front foot benefit assessments, $2,862 in annual deficit payments, and $793 in annualized up-front costs. The total annual cost for this project - $4,663 per homeowner – would exceed the affordability threshold for Prince George's County by $3,516. An additional $3,238,941 project subsidy would have to be provided to reduce the average homeowner's annual cost to affordable levels.

The total cost of sewer service for each homeowner in this underserved area, inclusive of up-front costs, is approximately $91,403.

Example 1 - Treasure Cove- George Thorne Estates		
Project Cost	$ 3,565,100	4900 feet @ 694 per ft
Projected Front Foot Benefit Income [1]	$ 928,238	7893. ft. of frontage @$6. per foot
Unadjusted Health Hazard Subsidy [2]	$ 705,000	47 dwellings @$15000
Adjusted Health Hazard Subsidy	**$ -**	subtraction for FFB income
Project Deficit	$2,636,862	Paid by Homeowner
Deficit Allocation per Homeowner [3]	$ 56,103	47 dwellings
One-Time Up-Front Costs for sewer connection, plumbing, septic system abandonment	$ 15,550	
Total Cost of Connection per Homeowner	**$91,403**	Sewer Extension + Up Front Costs
Annual Front Foot Benefit Charge	$ 1,008	167.9 ft. of frontage @$6. per foot
Annual Deficit Payment	$ 2,862	@ 3.0% over 30 years
Annualized Up-Front Costs	$ 793	$15,550 @ 3.0% over 30 years
Total Annual Cost	**$ 4,663**	
County Affordability Threshold	$ 1,147	
Exceeds Affordability Threshold	$3,516	
Project Funding Gap [4]	**$3,238,941**	

[1] Present Value of annual front foot benefit assessments over 30 year term, all properties assessed FFB.

[2] Health Hazard applied to all properties in underserved area.

[3] Deficit costs are allocated only to improved properties.

[4] Additional Funding needed lower homeowner annual costs to affordability threshold.

EXAMPLE 2: GREENRIDGE DRIVE, CLARKSBURG, MONTGOMERY COUNTY.

A 1,020-foot sewer extension is required to provide service to 13 properties with developing septic system problems. The sewer extension could potentially serve one additional unimproved lot. The community is in an S-3 (planned community system) sewer service area and is designated as a priority funding area.

The proposed gravity sewer extension has an estimated cost of $756,880. Based on 1,735 feet of frontage for the 14 properties that will abut the new sewer, approximately $204,040 in front foot benefit income will be generated over the 30-year assessment period.

Homeowner costs for this project example were calculated as follows:

The cost of the sewer extension for this unserved area is estimated to be $756,880. Front foot benefit assessments will cover $204,041 (27%) of this cost.

There is a modest $5,959 WSSC Water Health Hazard Subsidy for this project, leaving the 13 homeowners with septic systems a project deficit of $546,880 ($42,068 per household).

Each homeowner in this area who connects to the new sewer will pay, on average, $744 in annual front foot benefit assessments, $2,146 in annual deficit payments, and $793 in annualized up-front costs. The total annual cost for this project - $3,683 per homeowner – would exceed the affordability threshold for Montgomery County by $2,058. An additional $524,335 project subsidy would have to be provided to reduce the average homeowner's annual cost to affordable levels.

The total cost of sewer service for each homeowner in this unserved area, inclusive of up-front costs, is approximately $72,192.

Example 2 - Greenridge Drive		
Project Cost	$ 756,880	1020 feet @ 694 per ft
Projected Front Foot Benefit Income [1]	$ 204,041	1735. ft. of frontage @$6. per foot
Unadjusted Health Hazard Subsidy [2]	$ 210,000	14 properties @$15000
Adjusted Health Hazard Subsidy	$ 5,959	subtraction for FFB income
Project Deficit	$546,880	Paid by Homeowner
Deficit Allocation per Homeowner [3]	$ 42,068	13 properties
One-Time Up-Front Costs for sewer connection, plumbing, septic system abandonment	$ 15,550	
Total Cost of Connection per Homeowner	**$72,192**	Sewer Extension + Up Front Costs
Annual Front Foot Benefit Charge	$ 744	123.9 ft. of frontage @$6. per foot
Annual Deficit Payment	$ 2,146	@ 3.0% over 30 years
Annualized Up-Front Costs	$ 793	$15,550 @ 3.0% over 30 years
Total Annual Cost	**$ 3,683**	
County Affordability Threshold	$ 1,625	
Exceeds Affordability Threshold	$2,058	
Project Funding Gap [4]	**$524,335**	


Canterfield Way
12209
12205
12201
12109
12215
12219
12212
12209
12200
12112
12108
12216
8
Greenbrook Dr
Frederick Rd
Sources: Esri, HERE, DeLorme, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), MapmyIndia, NGCC, © OpenStreetMap contributors, and the GIS User Community

EXAMPLE 3: 18 SUNNYVIEW COURT, GERMANTOWN, MONTGOMERY COUNTY

A 300-foot sewer extension is required to address a health hazard at 18 Sunnyview Court. The sewer extension could potentially serve four other neighboring properties, all of which have septic systems. The community is in an S-3 (planned community system) sewer service area and is designated as a priority funding area.

The proposed 300 Foot gravity sewer extension has an estimated cost of $314,800. Based on 500 feet of frontage for the 5 properties that will abut the new sewer, approximately $58,801 in front foot benefit income will be generated over the 30-year assessment period, reducing WSSC Water's Health Hazard Subsidy to $16,199. This will leave a $239,800 project deficit that will have to be made up by the applicants.

Homeowner costs for this project example were calculated as follows:

The cost of the sewer extension for this unserved area is estimated to be $314,800. Front foot benefit assessments will cover $58,801 (19%) of this cost.

There is a modest $16,199 WSSC Water Health Hazard Subsidy for this project, leaving the 5 homeowners with septic systems a project deficit of $239,800 ($47,960 per household).

Each homeowner in this area who connects to the new sewer will pay, on average, $600 in annual front foot benefit assessments, $2,447 in annual deficit payments, and $793 in annualized up-front costs. The total annual cost for this project - $3,840 per homeowner – would exceed the affordability threshold for Montgomery County by $2,215. An additional $217,059 project subsidy would have to be provided to reduce the average homeowner's annual cost to affordable levels.

The total cost of sewer service for each homeowner in this unserved area, inclusive of up-front costs, is approximately $75,270.

Example 3 - Sunnyview Ct.			
Project Cost	$	314,800	300 feet @ 991 per ft
Projected Front Foot Benefit Income [1]	$	58,801	500. ft. of frontage @$6. per foot
Unadjusted Health Hazard Subsidy [2]	$	75,000	5 properties @$15000
Adjusted Health Hazard Subsidy	$	16,199	subtraction for FFB income
State Grant			
Project Deficit		$239,800	Paid by Homeowner
Deficit Allocation per Homeowner [3]	$	47,960	5 properties
One-Time Up-Front Costs for sewer connection, plumbing, septic system abandonment	$	15,550	
Total Cost of Connection per Homeowner		**$75,270**	Sewer Extension + Up Front Costs
Annual Front Foot Benefit Charge	$	600	100. ft. of frontage @$6. per foot
Annual Deficit Payment	$	2,447	@ 3.0% over 30 years
Annualized Up-Front Costs	$	793	$15,550 @ 3.0% over 30 years
Total Annual Cost	**$**	**3,840**	
County Affordability Threshold	$	1,625	
Exceeds Affordability Threshold		$2,215	
Project Funding Gap [4]		**$217,059**	


18
22
25
14
21
Greenfield Rd
Sunnyview Dr
Seneca Meadows Pkwy
Sources: Esri, HERE, DeLorme, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), MapmyIndia, NGCC, © OpenStreetMap contributors, and the GIS User Community

APPENDIX B - SEWER EXTENSION COST ANALYSIS

Comparison of Costs by length of Extension (2018 dollars)

Front Foot Benefit Year	Project Number	Type of Extension	County	Total Constructed Footage	Number of Connections	Total Project Costs	Cost per Foot	2018 Cost index multiplier[1]	Project costs (2018 dollars)	2018 Cost per foot	2021 Cost Index Multiplier [(2)]	Project costs (2021 dollars)	2021 Cost per foot
2005	AS3434X02	Sewer	Montgomery	523	1	$ 303,815.00	$ 581.00	1.47	$ 446,608.05	$ 854.07	1.58	$ 480,775.20	$ 919.26
2005	AS3495X02	Sewer	Montgomery	854	3	$ 553,503.00	$ 648.00	1.47	$ 813,649.41	$ 952.56	1.58	$ 875,896.57	$ 1,025.64
2005	AW3678X03	Water	Montgomery	1,132	9	$ 249,643.00	$ 221.00	1.47	$ 366,975.21	$ 324.87	1.58	$ 395,050.16	$ 348.98
2005	AS3441X02	Sewer	Montgomery	1,434	8	$ 480,123.00	$ 335.00	1.47	$ 705,780.81	$ 492.45	1.58	$ 759,775.63	$ 529.83
2006	AS9743X93	Sewer	Prince George's	963	10	$ 537,809.00	$ 558.00	1.38	$ 742,176.42	$ 770.04	1.52	$ 817,572.37	$ 848.98
2007	AS3419X02	Sewer	Montgomery	532	2	$ 353,756.00	$ 665.00	1.31	$ 463,420.36	$ 871.15	1.48	$ 523,262.23	$ 983.58
2007	AS3639X03	Sewer	Montgomery	940	13	$ 511,777.00	$ 544.00	1.31	$ 670,427.87	$ 712.64	1.48	$ 757,000.80	$ 805.32
2008	AS3576X03	Sewer	Montgomery	1,181	17	$ 461,464.00	$ 391.00	1.27	$ 586,059.28	$ 496.57	1.42	$ 654,323.74	$ 554.04
2009	AW3588X03	Water	Montgomery	1,283	8	$ 617,926.00	$ 482.00	1.18	$ 729,152.68	$ 568.76	1.37	$ 849,594.17	$ 662.19
2009	AS2075X97	Sewer	Prince George's	1,551	5	$ 800,800.00	$ 516.00	1.18	$ 944,944.00	$ 608.88	1.37	$ 1,101,029.92	$ 709.88
			TOTAL =	**10,393**	**76**	**$ 4,870,616.00**	**$ 468.64**						
								TOTAL (2018 $)=	**$ 6,469,194.09**	**$ 622.46**	**TOTAL (2021 $)=**	**$ 7,214,280.79**	**$ 694.15**

1. 2018 Cost index is from RS Means Historical Cost Indexes, 2018.
2. 2021 Cost index is from ENR Historical Cost Indexes, 2021.

Front Foot Benefit Year	Project Number	Type of Extension	County	Total Constructed Footage	Number of Connections	Total Project Costs	Cost per Foot	2018 Cost index multiplier[1]	Project costs (2018 dollars)	2018 Cost per foot	2021 Cost Index Multiplier [(2)]	Project costs (2021 dollars)	2021 Cost per foot
2005	AS3423X02	Sewer	Prince George's	323	2	$ 206,003.00	$ 638.00	1.47	$ 302,824.41	$ 937.86	1.58	$ 325,991.59	$ 1,009.26
2006	AS3616X03	Sewer	Montgomery	126	2	$ 134,296.00	$ 1,066.00	1.38	$ 185,328.48	$ 1,471.08	1.52	$ 204,155.56	$ 1,620.28
2007	AS2337A98	Sewer	Prince George's	234	1	$ 85,045.00	$ 363.00	1.31	$ 111,408.95	$ 475.53	1.48	$ 125,795.28	$ 537.59
2007	AS3792X04	Sewer	Prince George's	286	2	$ 234,957.00	$ 822.00	1.31	$ 307,793.67	$ 1,076.82	1.48	$ 347,539.33	$ 1,215.17
2007	AS1615X96	Sewer	Montgomery	292	1	$ 67,323.00	$ 231.00	1.31	$ 88,193.13	$ 302.61	1.48	$ 99,581.59	$ 341.03
2008	AS3885X04	Sewer	Montgomery	159	unknown	$ 214,545.00	$ 1,349.00	1.27	$ 272,472.15	$ 1,713.23	1.42	$ 304,209.84	$ 1,913.27
			TOTAL =	**1,420**	**8**	**$ 942,169.00**	**$ 663.50**						
								TOTAL (2018 $)=	**$ 1,268,020.79**	**$ 892.97**	**TOTAL (2021 $)=**	**$ 1,407,273.19**	**$ 991.04**

1. 2018 Cost index is from RS Means Historical Cost Indexes, 2018.
2. 2021 Cost index is from ENR Historical Cost Indexes, 2021.

CHAPTER 16

WSSC Water Built Process

SECTION 1601

PRELIMINARY FEASIBILITY REVIEW SUBMISSION

1601 General. This section applies to WSSC Water designed and constructed extension(s), usually to alleviate residential health hazard(s) or to provide service to residential areas only. This Section does not apply to commercial properties.

1601.1 Preliminary Feasibility Review Submission. A preliminary feasibility review study is required for one existing or proposed residential single family unit and/or health hazard type projects (WSSC Water Built). Multiple homeowners may apply jointly and share the costs of a desired extension. In the case of a multiple homeowner's project, a Lead Applicant must be named for WSSC Water to correspond with who is responsible for relaying all communications and information tothe remaining applicants/homeowners throughout the process. When reference is made to Applicant in this section, it includes Lead Applicant.

1601.1.1 The Applicant(s) will submit a Feasibility Review Package to the WSSC Water including the following:

a) Feasibility Review Application;

b) Feasibility Submission Fee (a non-refundable portion of the Review and Report Fee deposit);

c) Health Hazard Letter (if applicable);

d) Environmental Questionnaire or a Phase 1 Environmental Site Assessment. This may be submitted after the feasibility review study has been completed however it will be required prior to the start of Phase-2 Design.

1601.2 WSSC Water Intake. WSSC Water will review the package for completeness, assign a project number,verify water or sewer availability, and gather general information that may pertain to the propertyand other abutting properties that could potentially be served by the extension. If service is available for direct connection, the Lead Applicant will be notified what steps are needed to obtainhouse connections. If the package is incomplete, it will be returned to the Lead Applicant with a letter of explanation.

1601.3 Health Hazard Subsidy. Owner occupied dwelling units that have been classified as a 'Health Hazard' by their appropriate County agency due to a failed well and/or private sewage disposal system qualify for a 'health hazard subsidy' which is used to offset the design and construction costs of the proposed extension. The Applicant must provide WSSC Water with a copy of

the appropriate county issued health hazard letter to verify its status before WSSC Water staff seeks approval for the *health hazard* subsidy by the WSSC Water General Manager or Commissioners.

1601.3.1 Subsidy Calculation. WSSC Water provides a deficit subsidy for property owners with certified residential health hazards. For any owner occupied, single family residential Applicant with a Health Department certified failing well or septic system, a $15,000 subsidy of the cost of the extension is allowed for every property which could be served by the proposed extension. The subsidy is reduced by the assessment returns from those properties. The subsidy is funded by Water and Sewer Bonds.

1601.4 Preliminary Feasibility Review. Upon completion of processing the application and conducting a preliminary feasibility review of project scope which involves determining the most feasible location of water and sewer lines, front foot benefit assessment, preliminary hydraulic analysis, and a construction estimate, WSSC Water will contact the Applicant regarding its findings. Based on this preliminary information the Applicant must decide if they wish WSSC Water to completea Comprehensive Feasibility Review Study and Report. If WSSC Water has not received a written request to complete the Comprehensive Feasibility Review Study and Report within 1-year from this date, the project will be cancelled and the previously submitted Feasibility Submission Fee deposit will be forfeited.

SECTION 1602

COMPREHENSIVE FEASIBILITY REVIEW

STUDY AND REPORT

1602.1 Comprehensive Feasibility Review Study and Report. If the Applicant has decided they want the Comprehensive Feasibility Review Report and Study completed, they must submit the request in writing and submit the Feasibility Review and Report Fee amount owed. Always refer to WSSC Water's website for current approved fee amounts.

1602.2 Feasibility Letter of Findings (LOF). Once requested by the Applicant, WSSC Water will complete a Comprehensive Feasibility Review Study and Report determining the nearest tie-in, design conditions, line sizing, estimated construction cost calculations, estimated health hazard subsidy and corresponding Front Foot Benefit assessment. Upon completion of the study, WSSC Water will prepare a Letter of Findings for the Applicant stating the conditions by which WSSC Water can provide water and/or sewer service. In the case of 'Health Hazard' projects, the LOF will project the date the WSSC Water Commissioners will consider the project for Health Hazard Subsidy approval.

In addition to the Letter of Findings, the Applicant will receive a sketch delineating the proposed alignment of the extension and an estimated cost sheet summarizing the project's estimated deficit payment (if one is determined) and front foot assessments. A deficit represents the project costs in

excess of expected front foot benefit collections.

The Applicant will also be informed of other required fees due such as the estimated in-house design deposit, service connection fees and system development charges. Lastly, the LOF will alsolist and inform the Applicant of all items identified as their responsibility.

1602.3 Recosting of Projects. A number of conditions can and do influence the financial status of an authorizations. From the time service is authorized until a project is bid, surplus or deficit calculations may fluctuate. Such changes may include: how long a builder/developer waits to proceed with construction; inflation; tie-ins to other jobs; change of service areas to be traversed; preliminary plan revisions; differing lengths of pipe based on final design; and changes in benefit assessments. These variables require recosting of any project prior to bid when water and/or sewer plans are completed. Re-costings are based on record plat data for the determination of frontages used in assessment yields and precise pipe footage from the final engineering plans.

1602.4 Sunset Clause for Feasibility LOF. If no action is taken by the Applicant on a project over the 3-year period following the issuance of the Feasibility Review and Study Report LOF, the LOF will expire. A Transfer of Ownership or Name/Address change does not reset a LOF expiration date. Action is defined as:

a) The Applicant submits an Engineering Agreement along with the estimated In-house Design Deposit listed in the LOF; or

b) The Applicant submits written notification that they choose to continue their project however, they wish to hire a private engineer to design and a private contractor to build the extension(s) amending the project to an SEP; or

c) The Applicant submits written notification that they would like to cancel the project.

Once a LOF is expired, the Applicant will forfeit the reserved capacity making any WSSC Water commitments in the Comprehensive Feasibility Review and Study Report LOF or any other verbal, written WSSC Water capacity commitments null and void. WSSC Water is not responsible for notifying the Applicant of the expiration of the LOF. Should the project move forward in the future, the Applicant would need to start the process over and apply for a new Feasibility Review. All projectssubmitted prior to April 15, 2016 are subject to the Sunset Clause for Feasibility Review and StudyLOF which will expire April 15, 2019.

WSSC Water BUILT PROCESS

(PHASE 2 – DESIGN)

SECTION 1603 GENERAL

1603.1 General. At this phase of the project, the Applicant must decide:

- To proceed as a WSSC Water Built Project with WSSC Water completing the design; or
- Amend their application and convert the project to an SEP and hire a private engineer to complete the extension(s) design; or
- Cancel their project.

Should the Applicant change their mind at any time after this point in the process, they will be required to reapply and start from the beginning.

1603.1.1 Remain a WSSC Water Built project. The Applicant will:

1) Submit a signed 'Engineering Agreement' and;

2) Submit the estimated 'In-house Design Deposit' listed in the LOF. Note: later in the process this deposit amount will be applied towards any deficit owed at the time the project proceeds to construction or refunded to the Applicant if the final costing results in a surplus.

1603.1.2 Amend and convert the project. The Applicant must send WSSC Water written notification they choose to continue their project but wish to amend it to an SEP. As anSEP, the Applicant is responsible for hiring a private Engineer to complete the designand a private Contractor for construction of the project following all the requirements of an SEP as described in Chapter 5 of this Code.

1603.1.3 Cancel the project. The Applicant must send WSSC Water written notification they wish to cancel their project.

1603.2 In-house Design. Upon receipt of the *In-house Design Deposit* and the signed *Engineering Agreement*, WSSC Water will begin preparing detailed water and/or sewer plans including project management, permit acquisition, and coordination of contract specifications. The WSSC Water Engineerwill design the plans using sound engineering protocols in conjunction with the following documents as applicable:

a) WSSC Water Design Checklist;

b) Development Services Code (this Code);

c) WSSC Water Pipeline Design Manual;

d) WSSC Water Standard Details for Construction;

e) WSSC Water General Conditions and Standard Specifications including Special Provisions;

f) WSSC Water Plumbing and Fuel Gas Code;

g) WSSC Water Base Sheet Template; and

h) WSSC Water Drafting Standards.

1603.3 Abutting Properties. During the design phase, WSSC Water will canvass abutting property owners to notify them of the opportunity to obtain service. If anyone objects to the proposed projector front foot benefit charge, they must submit the objection in writing to WSSC Water. The aggrieved property owner may be required to present their concern at a WSSC Water Commission meeting.

1603.4 In-house Design Plan Approval. The drawings may be approved upon completion of the design, acquisitions of any off-site easement(s) required, and the Applicant's transfer to WSSC Water ofany necessary on-site easements. The project will then be:

a) Recosted to ensure current costing factors are applied to the final construction requirements and determine if there were any changes to the deficit amount due if applicable. Note: any deficit amount owed may be deferred to the owner's county tax bill;

b) Identify any remaining outstanding conditions as set forth in the Feasibility Review LOF;

c) Provide the Applicant with a copy of the signed plan;

d) Provide the Applicant with a letter identifying any outstanding conditions needing to be met before the project can proceed to Phase-3 Construction such as the Service Connection fee amount owed. As with the deficit, this amount may be deferred to the owner's county tax bill.

1603.5 Outstanding Conditions Met. Once all of the outstanding conditions have been met, including acquisition of all required construction permits, WSSC Water will prepare a bid information package to initiate Phase-3 Construction of the process. The *In-house Design* deposit is applied towards any deficit amount owed when the construction contract has received a *Notice to Proceed*.If recosting of the project determines no deficit payment is required because the project has a surplus, the *In-house Design Deposit* will be refunded to the Applicant once construction begins. WSSC Water will send notification to property owners that may be affected by the

construction prior tobid.

WSSC Water BUILT PROCESS

(PHASE 3 – CONSTRUCTION)

SECTION 1604GENERAL

1604.1 Bid Package. WSSC Water will prepare a bid package and forward it to the Procurement Groupfor processing.

1604.2 Advertise for Bid. The project will then be Advertised for Bid through the WSSC Water Procurement Office.

1604.3 Bid/Award. Bids will be received by the WSSC Water's Procurement Office and the contract will be awarded in accordance with WSSC Water established procedures.

1604.4 Notice to Proceed. Once awarded, the contractor has a designated time period to submit final required documents such as but not limited to, proof of insurance, bonds, and an executed contract with WSSC Water. Upon receipt and verification of all required documents, the contract is counter-executed by WSSC Water. Note: this point of the bid process may take time because backgroundchecks are completed for all of the contractor's employees. Once that has been completed, the contractor is given a Notice to Proceed.

1604.5 Begin Construction. Upon receiving a Notice to Proceed, the contractor has 10 business days to begin construction. WSSC Water's Pipeline Construction Division will inspect the project throughout its construction phase.

1604.6 Substantial Completion. When the project is ready to be used for its intended purpose but has not been released for service yet. All as-builts have been approved, testing is complete, and the system or facility is now ready to be placed into service.

1604.7 Release for Service. The contractor now gathers and submits the last remaining final documents such as a 2-year Maintenance Bond and all test results. When all outstanding punch list items have been taken care of (if any), and the remaining documents are submitted, the WSSC Water Inspector will release the contract for service.

1604.8 Ready for use. WSSC Water will notify the Applicant when the water and/or sewer project extension has been completed and released for service. This means the water and/or sewer main extension and the individual service connection(s) have been built to the private property line andare now ready for connection.

1) Once notified the project has been released for service, the Applicant(s) must hire a WSSC Water registered Master Plumber to complete the private property on-site connection.This is done

through a Plumbing Inspection Permit the Master Plumber will apply to WSSC Water for. At this time, the one-time *System Development Charge* is due and must bepaid by the Applicant in full.

The privately hired master plumber will construct the on-site pipe from the point whereWSSC Water finished the service connection at the property line and continue through the Applicant's property and in to the house/building. The cost will vary depending on the length of the Applicant's property pipe and the plumber's charges. WSSC Water will inspectthe plumber's work and once satisfied, will allow the plumber to connect the private on-site pipe to the WSSC Water house connection to complete the process. WSSC Water is not responsible for the payment or construction of the water or sewer service connections to the WSSC Water mainline. WSSC Water is not responsible for the maintenance, reconstruction or repair of the water or sewer service on-property connection(s).

BAY RESTORATION FUND (BRF)
SEPTIC SYSTEM UPGRADE PROGRAM (SSUP)
PROGRAM IMPLEMENTATION GUIDANCE FOR FY 2021
(Annotated Code of MD §9-1605.2 & COMAR 26.03.13)
FOR ON-SITE SEWAGE DISPOSAL SYSTEM (OSDS) UPGRADES USING BEST AVAILABLE TECHNOLOGY (BAT) FOR NITROGEN REMOVAL

I. Prioritization

The **"grant recipients"** (local government, health department, others, who are awarded BRF SSUP funds by the Board of Public Works) should prioritize applications for financial assistance as follows:

1. Failing OSDS in the Critical Areas
2. Failing OSDS outside the Critical Areas
3. Non-Conforming OSDS in the Critical Areas
4. Non-conforming OSDS outside the Critical Areas
5. Other OSDS in Critical Areas/new construction
6. Other OSDS outside Critical Areas/new const.

Note: BAT upgrade is **not required** on individual septic systems outside the Chesapeake Bay or Atlantic Coastal Bays Critical Areas under COMAR 26.04.02; the local jurisdiction may require a BAT to protect public health or water quality.

II. Income Based Grant Eligibility

Grant assistance should be based on the following Income Criteria:

	% Eligibility Up To
Homeowners (may include homes under a housing cooperative)	
1. Household income* less than or equal to $300,000/year	100%
2. Household income* more than $300,000/year	50%
Non-profit Entities	100%
Small Businesses	75%
For-profit Businesses	50%

* For income, use federal tax return (line for Total income)

III. Eligible Projects for SSUP Grant Funding

Based on the above prioritization, the SSUP grant funding may be used for any **one** of the following eligible project options:

1. The cost attributable to upgrading an existing OSDS to BAT for nitrogen removal. Note: This section also applies to BAT upgrade of shared/large-flow OSDS, many of which will require a MDE groundwater discharge permit and will need to be designed, secure MDE sewerage construction permit, and bid to determine BRF grant eligible cost.

2. The cost differential* between a conventional OSDS and one that utilizes BAT for Nitrogen Removal for new construction. ** For "cost differential" purposes on new construction, use a statewide average cost of $1,200 as the cost of a traditional septic tank.* *Maximum BRF grant = (BAT Cost - $1,200) x % eligibility (based on income in Section II)*

3. The cost, up to the sum of the cost of each "individual BAT system", of replacing multiple OSDS located in the same community with a new community system that is owned by a local government and meets Enhanced Nutrient Removal Standards *(MDE prior approval required)*.

4. The cost, up to the sum of the cost of each "individual OSDS system using BAT", to connect properties to an existing municipal biological or enhanced nutrient removal wastewater treatment plant *(MDE prior approval required.)* Use the Tables below to see if a project meets the statutory requirements.

Connecting OSDS/Septic system to a Wastewater Treatment Plant

The sewer connection project can be funded with BRF Septic grant funds, only if all of the following conditions are met:

1. Are BRF grant funds available to connect OSDS to sewers based on "prioritization" criteria (Item I above)? (For a community of several OSDS, at least 50% OSDS must fall within the qualifying priority criteria)

2. Is the proposed sewer connection to a BNR or ENR Wastewater Treatment Plant?

3. Is the Environmental Impact of the OSDS documented by the local government?

4. Is the sewer connection more cost-effective than the cost of repairing/replacing the OSDS with BAT? (e.g., cost is less than $20K per sewer connection) OR Is the Individual replacement of the OSDS not feasible? (Environmental Health Director certifies individual replacement on more than 50% of existing OSDS is not feasible or County does not allow replacements due sewer availability)

5. Is the proposed sewer connection consistent with the County Comprehensive Plan and Water/Sewer Plan?

6. Did the OSDS/Septic system being connected to the WWTP exist as of 10/1/2008?

7. Is the OSDS/Septic system being connected to the WWTP located in the State Priority Funding Area?

In addition to above, for an OSDS system located <u>outside</u> the State Priority Funding Area:

a. The OSDS proposed for sewer connections must be specifically identified in the County W/S plan as an area of "public health concern" or the County environmental health director must "certify" this as an area of public health concern with the intent to incorporate this in the W/S plan at a later date.

b. MDE will require additional information (such as public health issues; potential future in-fill development; mitigation measures proposed to limit growth; net nitrogen reduction after accounting for maximum future in-fill development) to determine if a PFA exception is warranted and provide an opportunity for public comments.

If a PFA exception is approved by the "smart growth coordinating committee", the sewer connection project can be funded with BRF Septic grant funds. Special grant conditions regarding denied access to sewer main, limits on maximum new in-fill development etc. will apply.

100% grant: eligible costs up to a maximum of $20,000, whichever is lower.
75% grant: eligible costs up to a maximum of $15,000, whichever is lower.
50% grant: eligible costs up to a maximum of $10,000, whichever is lower.
To help calculate the maximum eligible BRF grant amount, you may use the attached Excel spreadsheet (Attachment-1)

5. If BRF funds are available after allocating funds for "BAT" upgrades under Section III - 1 & 2, to all applicants (irrespective of income), the grant funds may also be provided for the repair or replacement of Non-BAT components (e.g., drainfields) for a "low income" household applicant with a "failing" OSDS (this option is not available to businesses or non-profit entities). At least three bids are required for the non-BAT components and one bid can be from the vendor providing the BAT system. The current low-income (DHR energy assistance program) eligibility criteria* is:

Income Eligibility Limits
Effective July 1, 2020 to June 30, 2021

Household Size	Maximum Gross Monthly Income Standards	Maximum Gross Yearly Income Standards
1	$1,861	$22,332
2	$2,515	$30,180
3	$3,168	$38,016
4	$3,821	$45,852
5	$4,475	$53,700
6	$5,128	$61,536
7	$5,781	$69,372
8	$6,435	$77,220
Each Additional Person, Add	$654	$7,848

* See web link for updates: http://dhr.maryland.gov/office-of-home-energy -programs/how-do-you-apply/

Grant allowable BAT Cost: Includes the capital cost of BAT plus the cost of **2**-years of operations and maintenance (O&M), performed by a certified service provider at a minimum of once per year or the minimum frequency recommended by the manufacturer **(This O&M funding is not applicable to BRF grant funded projects under categories "3" and "4" above.)**

IV. MDE Approved BAT for Nitrogen Removal

1. Ranking of BAT Systems: Consistent with HB 347 (2011 Session), effective June 1, 2011, and every 2-years thereafter, MDE is required to provide on its website an Evaluation and Ranking of all best available nitrogen removal technologies for on-site sewage disposal systems. The evaluation will include for each BAT technology:
   - Total Nitrogen Reduction
   - Total cost including Operation, Maintenance and Electricity
   - Cost per pound of Nitrogen Reduction

You MUST provide a copy of the MDE evaluation/ranking (see link below) to all BAT grant applicants (i.e., homeowners, businesses), so that they can make an informed decision in selecting a BAT system. A homeowner may select any of the field-verified BAT systems for BRF grant purposes.

http://mde.maryland.gov/programs/water/BayRestorationFund/OnsiteDisposalSystems/Documents/BAT%20Ranking%20Document.pdf

2. Lowest Cost per Pound of Nitrogen Removal BAT: To simplify the procurement process MDE undertook an Invitation for Bids in 2017, from the field-verified BAT technology vendors.

   SEE ATTACHMENT-2 FOR BAT UNIT PRICES BASED ON 2017 IFB Extension for FY21.

NOTE: UNIT PRICES FOR GRANT REIMBURSEMENT INCLUDE "BAT INSTALLATION COST PLUS ONE-YEAR OF MAINTENANCE" AND DO NOT INCLUDE THE COST OF LOCAL HEALTH DEPARTMENT PERMITS. THE PAYMENT FOR SECOND-YEAR MAINTENANCE WILL BE MADE TO THE VENDORS BY MDE, AFTER SATISFACTORY COMPLETION OF FIRST-YEAR ANNUAL MAINTENANCE.

The Grant Recipient/Local Health Department will be responsible for monitoring the two-year post-construction annual maintenance using BATMN.

For Class IV System BRF grant funding eligibility, please contact MDE.

V. Grant Recipient BAT Selection, Procurement, and Price

Use the State approved BAT Unit Price in Section IV-(2) above. The grant recipient enters into a contract with the vendor for the installation of the selected BAT by the homeowner or business for the grant eligible fixed unit price. No further local procurement action is needed.

In cases where the BRF grant is funding holding tanks to replace failing septic systems, low income drainfields (or sewer connection to BNR/ENR WWTP) at least three bids/price proposals should be sought from installers and the grant eligibility will be limited to the lowest price (or maximum $20K/home for sewer connections). This supporting documentation should be included with the payment request to MDE.

In cases where a "composite" tank in lieu of a concrete tank or a "larger" tank is necessary, the recipient may negotiate a reasonable cost change order with the selected BAT vendor. This supporting documentation, along with the justification, should be included with the payment request to MDE.

Note 1: BRF grant payment should be made directly to the BAT vendor/installer and not to the homeowner/business applicant.

Note 2: For BAT upgrades, the BRF grant funds can only be used towards a field-verified BAT technologies approved by MDE.

Note 3: HB 90 (2016 Legislative Session): Effective October 1, 2016, a low income household (same criteria as page 3) is eligible for 50% grant to cover the annual O&M cost, beyond the initial O&M period as provided for at time of BAT installation. You may approve these O&M grants under the guidelines below, and MDE will award you additional funds during FY 2021, if needed.

- Verify the homeowner is eligible as a low income household.
- Verify the initial BAT/O&M grant period has expired or will expire in FY 2021.
- Review the new O&M contract for amount and term being offered by the vendor to the homeowner. Note, the contract can be for a term of up to than 5 years.
- Allocate 50% of O&M cost as grant for payment to vendor from your existing FY grant award. Advise the homeowner and vendor of grant eligibility.
- After proof of payment by the homeowner to vendor for their 50% share, make the 50% grant payment to vendor.

Note 4: HB 1765 (2018 Legislative Session) promotes the development of local Septic Stewardship Plans and expands the Bay Restoration Fund to provide financial incentives to promote septic pump-outs for homeowners. Grant funds may be used in FY 2020 and 2021 to set up and develop this stewardship plan. Once your stewardship plan is approved by MDE, up to 10% of annual grant allocation can be used for septic pump-outs

Contact MDE if you have questions.

Related Documents:
Attachment-1 (Excel Spreadsheet for Sewer Connection Grant Calculation)
Attachment-2 (State BAT Bid Tabulation)

Updated

APPENDIX E – FINANCING ANALYSIS SCENARIO RESULTS

Scenario 1: Current System, Reduced Health Hazard Subsidy, Homeowners pay deficit

Example 1 - Treasure Cove- George Thorne Estates		
Project Cost	$ 3,565,100	4900 feet @ 694 per ft
Projected Front Foot Benefit Income [1]	$ 928,238	7893. ft. of frontage @$6. per foot
Unadjusted Health Hazard Subsidy [2]	$ 705,000	47 dwellings @$15000
Adjusted Health Hazard Subsidy	**$** -	subtraction for FFB income
State Grant		
Project Deficit	$2,636,862	Paid by Homeowner
Deficit Allocation per Homeowner [3]	$ 56,103	47 dwellings
One-Time Up-Front Costs for sewer connection, plumbing, septic system abandonment	$ 15,550	
Total Cost of Connection per Homeowner	**$91,403**	Sewer Extension + Up Front Costs
Annual Front Foot Benefit Charge	$ 1,008	167.9 ft. of frontage @$6. per foot
Annual Deficit Payment	$ 2,862	@ 3.0% over 30 years
Annualized Up-Front Costs	$ 793	$15,550 @ 3.0% over 30 years
Total Annual Cost	**$ 4,663**	
County Affordability Threshold	$ 1,147	
Exceeds Affordability Threshold	$3,516	
Project Funding Gap [4]	**$3,238,941**	

Example 2 - Greenridge Drive		
Project Cost	$ 756,880	1020 feet @ 694 per ft
Projected Front Foot Benefit Income [1]	$ 204,041	1735. ft. of frontage @$6. per foot
Unadjusted Health Hazard Subsidy [2]	$ 210,000	14 properties @$15000
Adjusted Health Hazard Subsidy	$ 5,959	subtraction for FFB income
State Grant		
Project Deficit	$546,880	Paid by Homeowner
Deficit Allocation per Homeowner [3]	$ 42,068	13 properties
One-Time Up-Front Costs for sewer connection, plumbing, septic system abandonment	$ 15,550	
Total Cost of Connection per Homeowner	**$72,192**	Sewer Extension + Up Front Costs
Annual Front Foot Benefit Charge	$ 744	123.9 ft. of frontage @$6. per foot
Annual Deficit Payment	$ 2,146	@ 3.0% over 30 years
Annualized Up-Front Costs	$ 793	$15,550 @ 3.0% over 30 years
Total Annual Cost	**$ 3,683**	
County Affordability Threshold	$ 1,625	
Exceeds Affordability Threshold	$2,058	
Project Funding Gap [4]	**$524,335**	

Example 3 - Sunnyview Ct.		
Project Cost	$ 314,800	300 feet @ 991 per ft
Projected Front Foot Benefit Income [1]	$ 58,801	500. ft. of frontage @$6. per foot
Unadjusted Health Hazard Subsidy [2]	$ 75,000	5 properties @$15000
Adjusted Health Hazard Subsidy	$ 16,199	subtraction for FFB income
State Grant		
Project Deficit	$239,800	Paid by Homeowner
Deficit Allocation per Homeowner [3]	$ 47,960	5 properties
One-Time Up-Front Costs for sewer connection, plumbing, septic system abandonment	$ 15,550	
Total Cost of Connection per Homeowner	**$75,270**	Sewer Extension + Up Front Costs
Annual Front Foot Benefit Charge	$ 600	100. ft. of frontage @$6. per foot
Annual Deficit Payment	$ 2,447	@ 3.0% over 30 years
Annualized Up-Front Costs	$ 793	$15,550 @ 3.0% over 30 years
Total Annual Cost	**$ 3,840**	
County Affordability Threshold	$ 1,625	
Exceeds Affordability Threshold	$2,215	
Project Funding Gap [4]	**$217,059**	

[1] Present Value of annual front foot benefit assessments over 30 year term, all properties assessed FFB.

[2] Health Hazard applied to all properties in underserved area.

[3] Deficit costs are allocated only to improved properties.

[4] Additional Funding needed lower homeowner annual costs to affordability threshold.

Scenario 2- $20,000 BRF Grants + $30,000 Health Hazard Subsidy (No reduction for front foot benefit income), Homeowners pay deficit

Example 1 - Treasure Cove- George Thorne Estates			
Project Cost	**$**	**3,565,100**	4900 feet @ 694 per ft
Projected Front Foot Benefit Income [1]	$	928,238	7893. ft. of frontage @$6. per foot
Unadjusted Health Hazard Subsidy [2]	$	1,410,000	47 dwellings @$30000
Adjusted Health Hazard Subsidy	**$**	**1,410,000**	No subtraction for FFB income
State Grant		$480,000	24 property(ies) eligible for BRF Grant
Project Deficit		$746,862	Paid by Homeowner
Deficit Allocation per Homeowner [3]	$	15,891	47 dwellings
One-Time Up-Front Costs for sewer connection, plumbing, septic system abandonment	$	15,550	
Total Cost of Connection per Homeowner		**$51,190**	Sewer Extension + Up Front Costs
Annual Front Foot Benefit Charge	$	1,008	167.9 ft. of frontage @$6. per foot
Annual Deficit Payment	$	811	@ 3.0% over 30 years
Annualized Up-Front Costs	$	793	$15,550 @ 3.0% over 30 years
Total Annual Cost	**$**	**2,612**	
County Affordability Threshold	$	1,147	
Exceeds Affordability Threshold		$1,464	
Project Funding Gap [4]		**$1,348,941**	

Example 2 - Greenridge Drive			
Project Cost	**$**	**756,880**	1020 feet @ 694 per ft
Projected Front Foot Benefit Income [1]	$	204,041	1735. ft. of frontage @$6. per foot
Unadjusted Health Hazard Subsidy [2]	$	420,000	14 dwellings @$30000
Adjusted Health Hazard Subsidy	**$**	**420,000**	No subtraction for FFB income
State Grant		$140,000	7 property(ies) eligible for BRF Grant
Project Deficit		($7,161)	Paid by Homeowner
Deficit Allocation per Homeowner [3]	$	(551)	13 properties
One-Time Up-Front Costs for sewer connection, plumbing, septic system abandonment	$	15,550	
Total Cost of Connection per Homeowner		**$29,574**	Sewer Extension + Up Front Costs
Annual Front Foot Benefit Charge	$	744	123.9 ft. of frontage @$6. per foot
Annual Deficit Payment	$	(28)	@ 3.0% over 30 years
Annualized Up-Front Costs	$	793	$15,550 @ 3.0% over 30 years
Total Annual Cost	**$**	**1,509**	
County Affordability Threshold	$	1,625	
Exceeds Affordability Threshold		$117	
Project Funding Gap [4]		**($29,706)**	

Example 3 - Sunnyview Ct.			
Project Cost	**$**	**314,800**	300 feet @ 991 per ft
Projected Front Foot Benefit Income [1]	$	58,801	500. ft. of frontage @$6. per foot
Unadjusted Health Hazard Subsidy [2]	$	150,000	5 dwellings @$30000
Adjusted Health Hazard Subsidy	**$**	**150,000**	No subtraction for FFB income
State Grant		$60,000	3 property(ies) eligible for BRF Grant
Project Deficit		$45,999	Paid by Homeowner
Deficit Allocation per Homeowner [3]	$	9,200	5 properties
One-Time Up-Front Costs for sewer connection, plumbing, septic system abandonment	$	15,550	
Total Cost of Connection per Homeowner		**$36,510**	Sewer Extension + Up Front Costs
Annual Front Foot Benefit Charge	$	600	100. ft. of frontage @$6. per foot
Annual Deficit Payment	$	469	@ 3.0% over 30 years
Annualized Up-Front Costs	$	793	$15,550 @ 3.0% over 30 years
Total Annual Cost	**$**	**1,863**	
County Affordability Threshold	$	1,625	
Exceeds Affordability Threshold		$237	
Project Funding Gap [4]		**$23,257**	

[1] Present Value of annual front foot benefit assessments over 30 year term, all properties assessed FFB.

[2] Health Hazard applied to all properties in underserved area.

[3] Deficit costs are allocated only to improved properties.

[4] Additional Funding needed lower homeowner annual costs to affordability threshold.

Scenario 3- S1 -Current System + BRF Grant Funding

Example 1 - Treasure Cove- George Thorne Estates			
Project Cost	$	3,565,100	4900 feet @ 694 per ft
Projected Front Foot Benefit Income [1]	$	928,238	7893. ft. of frontage @$6. per foot
Unadjusted Health Hazard Subsidy [2]	$	705,000	47 dwellings @$15000
Adjusted Health Hazard Subsidy	$	-	subtraction for FFB income
State Grant		**$480,000**	24 property(ies) eligible for BRF Grant
Project Deficit		$2,156,862	Paid by Homeowner
Deficit Allocation per Homeowner [3]	$	45,891	47 dwellings
One-Time Up-Front Costs for sewer connection, plumbing, septic system abandonment	$	15,550	
Total Cost of Connection per Homeowner		**$81,190**	Sewer Extension + Up Front Costs
Annual Front Foot Benefit Charge	$	1,008	167.9 ft. of frontage @$6. per foot
Annual Deficit Payment	$	2,341	@ 3.0% over 30 years
Annualized Up-Front Costs	$	793	$15,550 @ 3.0% over 30 years
Total Annual Cost	**$**	**4,142**	
County Affordability Threshold	$	1,147	
Exceeds Affordability Threshold		$2,995	
Project Funding Gap [4]		**$2,758,941**	

Example 2 - Greenridge Drive			
Project Cost	$	756,880	1020 feet @ 694 per ft
Projected Front Foot Benefit Income [1]	$	204,041	1735. ft. of frontage @$6. per foot
Unadjusted Health Hazard Subsidy [2]	$	210,000	14 properties @$15000
Adjusted Health Hazard Subsidy	$	5,959	subtraction for FFB income
State Grant		**$140,000**	7 property(ies) eligible for BRF Grant
Project Deficit	$	406,880	Paid by Homeowner
Deficit Allocation per Homeowner [3]	$	31,298	13 properties
One-Time Up-Front Costs for sewer connection, plumbing, septic system abandonment	$	15,550	
Total Cost of Connection per Homeowner		**$61,423**	Sewer Extension + Up Front Costs
Annual Front Foot Benefit Charge	$	744	123.9 ft. of frontage @$6. per foot
Annual Deficit Payment	$	1,597	@ 3.0% over 30 years
Annualized Up-Front Costs	$	793	$15,550 @ 3.0% over 30 years
Total Annual Cost	**$**	**3,134**	
County Affordability Threshold	$	1,625	
Exceeds Affordability Threshold		$1,508	
Project Funding Gap [4]		**$384,335**	

Example 3 - Sunnyview Ct.			
Project Cost	$	314,800	300 feet @ 991 per ft
Projected Front Foot Benefit Income [1]	$	58,801	500. ft. of frontage @$6. per foot
Unadjusted Health Hazard Subsidy [2]	$	75,000	5 properties @$15000
Adjusted Health Hazard Subsidy	$	16,199	subtraction for FFB income
State Grant		**$60,000**	3 property(ies) eligible for BRF Grant
Project Deficit	$	179,800	Paid by Homeowner
Deficit Allocation per Homeowner [3]	$	35,960	5 properties
One-Time Up-Front Costs for sewer connection, plumbing, septic system abandonment	$	15,550	
Total Cost of Connection per Homeowner		**$63,270**	Sewer Extension + Up Front Costs
Annual Front Foot Benefit Charge	$	600	100. ft. of frontage @$6. per foot
Annual Deficit Payment	$	1,835	@ 3.0% over 30 years
Annualized Up-Front Costs	$	793	$15,550 @ 3.0% over 30 years
Total Annual Cost	**$**	**3,228**	
County Affordability Threshold	$	1,625	
Exceeds Affordability Threshold		$1,603	
Project Funding Gap [4]		**$157,059**	

[1] Present Value of annual front foot benefit assessments over 30 year term, all properties assessed FFB.

[2] Health Hazard applied to all properties in underserved area.

[3] Deficit costs are allocated only to improved properties.

[4] Additional Funding needed lower homeowner annual costs to affordability threshold.

Scenario 4 - BRF Funding, Homeowners pay fixed annual charge, all other costs paid by others

Example 1 - Treasure Cove- George Thorne Estates		
Project Cost	**$ 3,565,100**	4900 feet @ 694 per ft
Projected Front Foot Benefit Income [1]	$ -	
Unadjusted Health Hazard Subsidy		
Adjusted Health Hazard Subsidy	$ -	
State Grant	**$480,000**	24 property(ies) eligible for BRF Grant
Homeowner Deficit Contribution [2]	$326,159	47 dwellings
Deficit Allocation per Homeowner [3]	$ 6,940	
One-Time Up-Front Costs for sewer connection, plumbing, septic system abandonment	$ 15,550	
Total Cost of Connection per Homeowner	**$22,490**	Sewer Extension + Up Front Costs
Annual Front Foot Benefit Charge		
Annual Deficit Payment [3]	$ 354	
Annualized Up-Front Costs	$ 793	$15,550 @ 3.0% over 30 years
Capped Annual Cost	**$ 1,147**	
County Affordability Threshold	$ 1,147	
Exceeds Affordability Threshold	$0	
Project Funding Gap [4]	**$2,758,941**	

Example 2 - Greenridge Drive		
Project Cost	**$ 756,880**	1020 feet @ 694 per ft
Projected Front Foot Benefit Income [1]	$ -	
Unadjusted Health Hazard Subsidy		
Adjusted Health Hazard Subsidy	$ -	
State Grant	**$140,000**	7 property(ies) eligible for BRF Grant
Homeowner Deficit Contribution [2]	$212,011	13 properties
Deficit Allocation per Homeowner [3]	$ 16,309	
One-Time Up-Front Costs for sewer connection, plumbing, septic system abandonment	$ 15,550	
Total Cost of Connection per Homeowner	**$31,859**	Sewer Extension + Up Front Costs
Annual Front Foot Benefit Charge		
Annual Deficit Payment [3]	$ 832	
Annualized Up-Front Costs	$ 793	$15,550 @ 3.0% over 30 years
Capped Annual Cost	**$ 1,625**	
County Affordability Threshold	$ 1,625	
Exceeds Affordability Threshold	$0	
Project Funding Gap [4]	**$404,869**	

Example 3 - Sunnyview Ct.		
Project Cost	**$ 314,800**	300 feet @ 991 per ft
Projected Front Foot Benefit Income [1]	$ -	
Unadjusted Health Hazard Subsidy		
Adjusted Health Hazard Subsidy	$ -	
State Grant	**$60,000**	3 property(ies) eligible for BRF Grant
Homeowner Deficit Contribution [2]	$81,543	5 properties
Deficit Allocation per Homeowner [3]	$ 16,309	
connection, plumbing, septic system abandonment	$ 15,550	
Total Cost of Connection per Homeowne	**$31,859**	Sewer Extension + Up Front Costs
Annual Front Foot Benefit Charge		
Annual Deficit Payment [3]	$ 832	
Annualized Up-Front Costs	$ 793	
Capped Annual Cost	**$ 1,625**	
County Affordability Threshold	$ 1,625	
Exceeds Affordability Threshold	$0	
Project Funding Gap [4]	**$233,257**	

[1] No Front Foot Benefit Assessed in this scenario

[2] Present value of homeowner contributions @3% over 30 years

[3] Amount below Affordability Threshold available for deficit payments after Up-Front costs are paid

[4] Additional Funding needed to cover remaining project costs

Scenario 5- Homeowners pay Front Foot Benefit Only

Example 1 - Treasure Cove- George Thorne Estates		
Project Cost	$ 3,565,100	4900 feet @ 694 per ft
Projected Front Foot Benefit Income [1]	$ 928,238	7893. ft. of frontage @$6. per foot
Unadjusted Health Hazard Subsidy [2]	$ -	
Adjusted Health Hazard Subsidy	$ -	
Project Deficit [3]	$0	
Deficit Allocation per Property	$ -	
Total Cost of Connection per Homeowner	**$35,300**	Total FFB income + Up Front Costs
One-Time Up-Front Costs for sewer connection, plumbing, septic system abandonment	$ 15,550	
Annual Front Foot Benefit Charge	$ 1,008	167.9 ft. of frontage @$6. per foot
Annual Deficit Payment		
Annualized Up-Front Costs	$ 793	$15,550 @ 3.0% over 30 years
Total Annual Cost	**$ 1,801**	
County Affordability Threshold	$ 1,147	
Exceeds Affordability Threshold	$654	
Project Funding Gap [4]	**$ 2,636,862**	

Example 2 - Greenridge Drive		
Project Cost	$ 756,880	1020 feet @ 694 per ft
Projected Front Foot Benefit Income [1]	$ 204,041	1735. ft. of frontage @$6. per foot
Unadjusted Health Hazard Subsidy [2]	$ -	
Adjusted Health Hazard Subsidy	$ -	
Project Deficit [3]	$0	
Deficit Allocation per Property	$ -	
Total Cost of Connection per Homeowner	**$30,124**	Total FFB income + Up Front Costs
One-Time Up-Front Costs for sewer connection, plumbing, septic system abandonment	$ 15,550	
Annual Front Foot Benefit Charge	$ 744	123.9 ft. of frontage @$6. per foot
Annual Deficit Payment		
Annualized Up-Front Costs	$ 793	$15,550 @ 3.0% over 30 years
Total Annual Cost	**$ 1,537**	
County Affordability Threshold	$ 1,625	
Exceeds Affordability Threshold	$88	
Project Funding Gap [4]	**$ 552,839**	

Example 3 - Sunnyview Ct.		
Project Cost	$ 314,800	300 feet @ 991 per ft
Projected Front Foot Benefit Income [1]	$ 58,801	500. ft. of frontage @$6. per foot
Unadjusted Health Hazard Subsidy [2]	$ -	
Adjusted Health Hazard Subsidy	$ -	
Project Deficit [3]	$0	
Deficit Allocation per Property	$ -	
Total Cost of Connection per Homeowner	**$27,310**	Total FFB income + Up Front Costs
connection, plumbing, septic system abandonment	$ 15,550	
Annual Front Foot Benefit Charge	$ 600	100. ft. of frontage @$6. per foot
Annual Deficit Payment		
Annualized Up-Front Costs	$ 793	$15,550 @ 3.0% over 30 years
Total Annual Cost	**$ 1,393**	
County Affordability Threshold	$ 1,625	
Exceeds Affordability Threshold	$232	
Project Funding Gap [4]	**$ 255,999**	

[1] Present Value of annual front foot benefit assessments over 30 year term, all properties assessed FFB.

[2] No Health Hazard used in this scenario

[3] No Project Deficit allocated to homeowners in this scenario

[4] Additional Funding needed to cover remaining project costs