Instructions for Completing Restoration Project Portfolios

As part of the new MS4 Phase I permit development process, the Maryland Department of the Environment (Department) requests each MS4 permittee to submit an updated Restoration Project Portfolio, detailing restoration projects to be planned, designed, and/or constructed during the next permit term. Updates to this portfolio will allow the MS4 permittee to report equivalent impervious acres and total nitrogen (TN), total phosphorus (TP), and total suspended sediment (TSS) load reductions for all proposed restoration projects. This Updated Restoration Project Portfolio shall be completed using the updated Excel workbook, "Restoration Project Portfolio_3-15-21.xlsx". Changes to this workbook include the addition of six columns to report TP load reductions, rainfall depth (P_E) treated, green infrastructure credit achieved, watershed management credit achieved, updated total impervious acre credits achieved, length of stream restored and street lane miles swept. Most of the requirements for completing the previous version of the spreadsheet remain and are repeated here. However there are a few revisions and additions to note. Requirements for completing this workbook are summarized below.

DESCRIPTION OF REQUIREMENTS

Complete the provided spreadsheet for restoration projects to be planned, designed, and/or under construction from the end of the 4th generation permit through 2026. These projects can be annual BMPs (including water quality trading credits) and capital projects. Additional years 2027 and 2028 are optional to show those projects that require more than five years to complete due to their size or complexity.

The updated restoration portfolio acts as an extension of the recent FAP submittal; thus, proposed activities for the next five years can include those practices reported in the 2020 Financial Assurance Plan. However, the Department requests that the portfolio identify nutrient and sediment reductions as well as the local concerns that would be addressed. This information should be more specific for the first reporting year but may be more generalized for the remaining reporting years.

HOW TO SUBMIT INFORMATION

Below, each section of the spreadsheet is outlined along with guidance on providing data. General instructions for calculating impervious surface restoration and pollutant load reductions may be found in the DRAFT 2020 *Accounting for Stormwater Wasteload Allocations and Impervious Acres Treated*. Please submit all files electronically via compact disc, email, or ftp and as a hard copy. Also, please ensure that the following actions are taken:

- **Remaining Unmet Restoration Obligation from Previous Permit (Impervious Acres)**
  - Please enter the number of acres remaining that must be treated to meet your previous permit restoration requirement. This value would be zero if you completed restoration of the full impervious acres required under your previous permit.

- **Remaining Unmet Restoration Obligations from Previous Permit**
  - In this section you should report any unmet impervious surface restoration obligation remaining from the previous permit. The BMPs listed in this section are those proposed to be implemented in the next five-year permit term to address this unmet restoration obligation.
  - All stormwater management BMPs, programmatic initiatives, and perennial alternative control practices and water quality trades used to address unmet restoration obligations shall be reported in terms of impervious acres treated or equivalent impervious acres as well as TN, TP, and TSS reductions. Projects should be credited using the Draft 2020 Accounting Guidance and any additional guidance updates found on the Department's webpage, e.g., stream restoration, outfall stabilization, CMAC (continuous monitoring and adaptive control).
  - The projected implementation year should be from the end of the 4th generation permit through 2026.
  - For additional guidance, refer to the section below titled "Reporting Specific Projects".

- **Obligations from Previous Permit That Must Be Continued**

  In this section you should report any obligations from the previous permit that must be continued through the next five-year permit term and/or replaced with a stormwater management BMP, programmatic initiative, or alternative control practices in accordance with the Draft 2020 Accounting Guidance.

  Water Quality Trades
  - Water quality trades must continue annually and be replaced prior to the end of the permit term.
  - These practices and the associated data should be reported in the section titled "Other (Proposed to Replace Annual Obligations)".
  - Equivalent impervious acres treated by water quality trades must be continued yearly or replaced at a one to one impervious acre ratio. In addition, please report the TN, TP and TSS reductions expected from these water quality trades.

  Annual Alternative Practices
  - For annual alternative control practices implemented during the previous permit, impervious acre equivalencies were computed using the 2014 Accounting Guidance. The portfolio shall include annual alternative control practices that are continued each year or replaced in accordance with the Draft 2020 Accounting Guidance. Impervious acres treated by each annual alternative control practices must be continued yearly or replaced at a one to one impervious acre ratio. In addition, please report the TN, TP and TSS reductions expected from these annual alternative BMPs.
  - These practices and the associated data should be reported under the section titled "Annual Operational Programs Required to be Maintained from Previous Permit".
  - If annual septic pumping was utilized in the previous permit and is required to be maintained, it should be reported in this section.

Replacement BMPs

- When these water quality trades or annual practices are converted to new stormwater management BMPs, programmatic initiatives, or permanent alternative control practices, the impervious acres managed and the TN, TP and TSS load reductions shall be reported using the Draft 2020 Accounting Guidance.
- When replacing water quality trades, the projected implementation year should be from the end of the 4th generation permit through 2026. When replacing annual practices, the projected implementation year should be from the end of the current permit through 2028. It is acceptable if a project will not be completed by 2028.
- For additional guidance, refer to the section below titled "Reporting Specific Projects".

- **Proposed Restoration for the Next Permit**
  - In this section you should report proposed BMPs to implement as part of the next permit restoration requirement.
  - All stormwater management BMPs, programmatic initiatives, and perennial alternative control practices and water quality trades proposed as new restoration for the next permit shall be reported in terms of impervious acres treated or equivalent impervious acres as well as TN, TP, and TSS reductions. Projects should be credited using the Draft 2020 Accounting Guidance and any additional guidance updates found on the Department's webpage, e.g., stream restoration, outfall stabilization, CMAC (continuous monitoring and adaptive control).
  - The projected implementation year should be from the end of the current permit through 2026. Additional projects may be planned up through 2028.
  - Provide line items for annual operations and maintenance costs. If possible, also include annual capital improvement project information (e.g., costs) for:
    - Stormwater/flood control BMPs that are being repaired for safety but do not achieve any additional water quality credit (e.g., a dam repair or enhanced emergency spillway project). In the comment field note "watershed management".
    - Stream monitoring.
    - Other TMDLs (e.g., monitoring for PCBs) the County is addressing that impact the resources and funds available for BMPs implemented for impervious acre restoration.
  - For additional guidance, refer to the section below titled "Reporting Specific Projects".

REPORTING SPECIFIC PROJECTS

General

- Use BMP types and classes from the MDE Geodatabase. Additional BMP types (e.g., IDDE) from the Draft 2020 Accounting Guidance may also be used.
- If a project has multiple types of a single BMP, identify the amount in the Number of BMPs column. If using septic pumping or denitrification, report the number of affected septic systems in this column.
- For upland BMPs, provide the total drainage area for the project. If there is no drainage area for specific programmatic initiatives or alternative control practices, leave this field blank.
- Impervious Acres and Reductions for TN, TP, and TSS for proposed projects shall be reported using the Draft 2020 Accounting Guidance.

- Provide the estimated cost for the entire project. If needed, identify additional planning or design costs as a separate line item in the spreadsheet.
- Implementation status should be: Planning, Design, or Under Construction.
- Identify any total maximum daily load (TMDL) parameters, local water quality objectives (e.g., sediment, phosphorus, trash), and local concerns (e.g., watershed management) that will be addressed. Please use the comments column to describe in detail the co-benefits of a BMP.
- If green stormwater infrastructure (GSI) or watershed management (WM) credits are claimed for stormwater ponds or wetlands, include an example calculation.
- Please ensure that all formulas for subtotals and totals are updated to reflect the applicable time periods.

BMPs for Upland Applications

- Provide the P_E for the project. When the P_E is unknown for a planned project or initiative, use a default of 1 inch to be conservative.
- For stormwater BMPs eligible for the GSI credit, report in the GSI Credit column the value of the impervious acres treated multiplied by 0.35. In the WM Credit column, report the value of the additional acres. Provide the total impervious acres treated in the column labeled Total Impervious Acres (w/ GSI and WM Credits). If a practice is not eligible for GSI credit, the Total Impervious Acres column equals the Impervious Acres column. Note: the GSI and WM credits are applied only to the impervious acres; TN, TP, and TSS calculations are not affected.

Alternative BMPS

- For alternative practices, provide the equivalent impervious acres treated for each project in the Impervious Acres column. Refer to the Draft 2020 Accounting Guidance for further guidance on how to determine equivalent impervious acres for alternative practices.
- For stream restoration, shoreline stabilization, or outfall stabilization (or "prevented sediment practices"), provide the estimated linear feet in the Length Restored column.
- Street lane miles and/or mass loading reductions may be noted in the comments column.
- For land-use conversion BMPs or programmatic initiatives, identify if the BMP is an annual or permanent practice.
- For street sweeping and inlet cleaning, report lane miles/frequency or mass loading reductions in the comments column.

Part II. Physical Capacity Questionnaire

1. What is the typical implementation time frame (from planning through construction) for a restoration project? Provide a typical Gantt chart for the following three main classes of BMPs and break down into planning, design, and construction phases: 1. Large upland stormwater projects (e.g., new and retrofits for ponds, bioretention, infiltration basins, etc.); 2. Instream restoration projects; and, 3. Alternative projects (not annual) (e.g., tree planting). Provide a written justification to explain the time frames for each BMP class and phase.

2. Provide the average time to authorize capital improvement project (CIP) budgets for the initial project planning phase and for the design phase of a typical restoration project (assumes CIP approval for each phase is required). Do you have the ability to combine these two phases or do you have to get CIP approval for each phase consecutively?

3. Provide the average time to procure professional planning, design, and construction services. Is procurement done in phases (e.g., procurement for planning, then procurement for design, and then procurement for construction)? How would a pay for performance type of contract or a design-build-operation-maintenance contract affect these time frames? Please provide information on any innovative contracting mechanism you use to reduce procurement timeframes and what those reduced time frames are.

4. Provide the number of requests for proposals (RFPs) for BMP construction and for BMP design advertised during the past 5-year permit term. Of these, how many bids were submitted for each RFP and how many required re-advertising? Was there a trend over the permit term in the number of bid submittals received? How many unique companies provided bids for all RFPs?

5. Provide information on contracting limitations that result in longer project implementation times. Examples: Limited qualified construction contractors; Woman owned business enterprise (WBE) or minority owned business enterprise (MBE) requirements limit available qualified construction contractors and/or engineering contractors. Describe the issue and provide the time extension that results due to the issue.

6. Provide a typical time frame required to obtain permits from local, State, and federal agencies for the three main BMP project classes (i.e., upland stormwater ponds, instream restoration, and alternative projects) prior to construction. Describe how these time frames affect the overall project implementation time frames described in Question #1. How can these time frames be reduced to help get these projects out the door faster?

7. What type of a project do you consider as “low-hanging fruit”? What is your remaining capacity of available “low-hanging fruit” projects (estimate the number and impervious acre treatment total)?

8. Complete the spreadsheet provided for restoration projects to be planned, designed, and/or constructed from the end of the 4th generation permit through 2028. Include for each restoration project the estimated impervious acres treated, estimated total nitrogen (TN) reduction, estimated total phosphorus (TP) reduction, and estimated total suspended sediments (TSS) reduction; any local total maximum daily load (TMDL) parameter (or other water quality objective) addressed; estimated cost; implementation status; and projected completion year. Include projects that will be in the planning or design phase but will not be completed until after 2026. This information should be more specific for the first reporting year but may be more generalized for the remaining reporting years.

9. Provide a copy of your 5-year CIP for restoration projects (End of 4th Generation Permit-2028).

10. Provide a copy of your operating budget for annual restoration projects (FY2020).

11. Provide a copy of your operating and maintenance budget for all BMPs implemented under the MS4 permit? (FY2020)

Part III. Instructions for Completing the Financial Capacity Spreadsheet

For the development of the new Phase I Medium Municipal Separate Storm Sewer System (MS4) permit, the Maryland Department of the Environment (Department) will consider each permittee's determination of what is the maximum extent practicable (MEP) for the implementation of stormwater permit requirements. In order to do this, the Department recommends a Financial Capacity Analysis (FCA) process that includes a spreadsheet for relevant data input and a questionnaire for providing the context behind the data. The FCA builds on the information developed during the previous permit cycle and provides further information on how the cost of stormwater management can be viewed in context with median household income (MHI), socioeconomic considerations, and the financial wherewithal of each local government. To assist jurisdictions in completing this analysis, the Department developed the Excel workbook, "Financial Capacity Spreadsheet.xlsx". This spreadsheet compiles information related to the municipal cost of stormwater services on households, key socioeconomic indicators, and financial capacity indicators regarding Phase I Medium MS4 Programs.

The Financial Capacity Spreadsheet and associated data and calculations were developed in coordination with the University of Maryland's Environmental Finance Center, which provided important research, analysis, and recommendations. The data requested by the Department can be gathered easily from accessible U.S. Census Bureau information, financial reporting websites, and county/city budgets.

HOW TO COMPILE AND SUBMIT INFORMATION

The spreadsheet can be completed using the instructions below. All data for items 2 through 4 should be a five-year average (e.g., permit term). Data found in the 2019 American Community Survey (ACS) at https://data.census.gov/cedsci/ already combines census data for the five-year period 2015-2019, and is acceptable for completing this spreadsheet.

1. County/City Name

Enter Name of County or City Permittee.

2. Cost as a Percent of Household Income

The total annual municipal expenses for public stormwater-related infrastructure can be compared to the median household income (MHI). This comparison can be used to describe the financial impact to the residential community of these services if they were paid for by each household. Go to the 2019 ACS website (i.e., https://data.census.gov/cedsci/). In the search box, type the name of your county plus ", Maryland" (e.g., Howard County, Maryland), and then select "Search". Select "Explore Data", located on the right side of the webpage. Use the "Income and Poverty" and "Housing" options found in menu of the left side of the webpage.

Enter the following data in the spreadsheet:

2a. Determine the median household income (MHI)

This information can be obtained from the 2019 ACS 5-Year Estimates under the "Income and Poverty" option found on the left side of the webpage.

2b. Determine the total number of households (H_{total})

The "Total Households" (or "Housing Units") can be found in the ACS's 2019 American Community Survey 5-Year Estimates under the "Housing" option found in the menu on the left side of the webpage. According to the ACS and Puerto Rico Community Survey 2017 Subject Definitions, "A household includes all the people who occupy a housing unit. (People not living in households are classified as living in group quarters.) A housing unit is a house, an apartment, a mobile home, a group of rooms, or a single room that is occupied (or if vacant, is intended for occupancy) as separate living quarters. Separate living quarters are those in which the occupants live separately from any other people in the building and which have direct access from the outside of the building or through a common hall. The occupants may be a single family, one person living alone, two or more families living together, or any other group of related or unrelated people who share living arrangements."

2c. Determine the average annual cost (total cost averaged over past 5 years) for public stormwater related infrastructure (flood control, water quality, conveyance, quantity management). Services should include maintenance, construction, design, restoration, management, inspection, etc. (TAC_{storm})

2d. Determine the total annual cost for public stormwater management programs per household (HC_{storm})

$$HC_{storm} = TAC_{storm} \div H_{total}$$

2e. Determine the percent of MHI spent on public stormwater related management programs ($\%MHI_{storm}$)

$$\%MHI_{storm} = HC_{storm} \div MHI$$

2f. Determine the total annual stormwater remediation fee per household (HC_{fee})

Maryland's stormwater management law allows for a County or municipality to establish stormwater remediation fees (also known as stormwater fees, stormwater utility fees, water quality protection and restoration fees, or water quality protection charges). These fees serve as a source of revenue for expenses of stormwater services such as capital improvements for stormwater management, operations and maintenance, and planning. Because county and city fee structures can vary (equivalent residential units, impervious acres), it is important to determine the average fee paid for the various household sizes. For MS4s with fees, information on funding structures and the cost for households can be obtained through the county/city public works or environmental departments. Medium MS4s can also use data from Watershed Protection and Restoration Program annual reports to determine the average fee per household. This

information represents the total revenue that could be collected from each residential household from the stormwater remediation fee. This amount can be compared to the total annual household costs of providing stormwater-related management services.

2g. Determine the average percent of MHI spent annually on the stormwater remediation fee ($\%MHI_{storm}$)

$$\%MHI_{fee} = HC_{fee} \div MHI$$

This information can be used to help characterize the relative cost of stormwater remediation per household. For jurisdictions where the stormwater remediation fee covers only a portion of the total cost of stormwater-related services, additional costs may be incurred by each household.

3. Cost of Impervious Surface Restoration as a Percent of Household Income

3a. Determine the total spent in the previous permit term on the impervious surface restoration plan (ISRP)

The ISRP describes the list of stormwater projects the jurisdiction implemented to restore 20% of a jurisdiction's unmanaged impervious area. While it is one of many requirements of the NPDES MS4 permit, it is the most expensive and difficult to implement and therefore is a good representation of the level of effort. This information can come from an MS4's most recent Financial Assurance Plan (FAP) submission or from its annual reports.

3b. Determine the average annual cost of the ISRP during the previous permit term (TAC_{ISRP})

Determine the annual cost of the ISRP by dividing the total cost by the number of years of ISRP implementation under the previous permit term.

3c. Determine the annual cost per household for the ISRP during the previous permit term (HC_{ISRP})

$$HC_{ISRP} = TAC_{ISRP} \div H_{total}$$

3d. Determine the percent of MHI spent on the ISRP during the previous permit term ($\%MHI_{ISRP}$)

$$\%MHI_{ISRP} = HC_{ISRP} \div MHI$$

This information can be used to determine the relative cost of restoration activities per household.

3e. Determine the total projected cost for the proposed restoration portfolio

The restoration portfolio represents a jurisdiction's proposed MS4 restoration activity for the next permit term.

3f. Determine the projected annual cost for the proposed restoration portfolio (TAC_{Rest})

Determine the annual cost of the proposed restoration portfolio by dividing the total cost by the number of years in the proposal.

3g. Determine the projected annual cost per household for the proposed restoration portfolio (HC_{Rest})

$$HC_{Rest} = TAC_{Rest} \div H_{total}$$

3h. Determine the percent of MHI spent on projected cost for the proposed restoration portfolio ($\%MHI_{Rest}$)

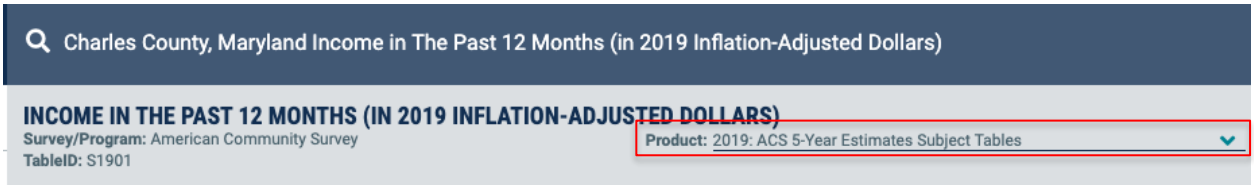
$$\%MHI_{Rest} = HC_{Rest} \div MHI$$

This information can be used to determine the relative cost of proposed restoration projects per household. This percent of MHI for proposed restoration can be compared to the percent of MHI for the previous permit term's ISRP.

4. Cost for Low Income Residential Customers as a Percent of Household Income

Compare the cost of all stormwater services, including the ISRP proposed restoration portfolio, operation and maintenance of the stormwater system, and other permit costs to income in the lower income brackets. An income of $25,000 is used to represent the upper bound of the lower low income bracket.

From the ACS website for the "2019 American Community Survey", enter the name of your county (e.g., Harford County) plus ", Maryland Income in The Past 12 Months (in 2019 Inflation-Adjusted Dollars)" (e.g., Charles County, Maryland Income in The Past 12 Months (in 2019 Inflation-Adjusted Dollars)"). Select the search result for "Income in The Past 12 Months (in 2019 Inflation-Adjusted Dollars)" and then under "Product" near the top middle of the webpage, use the drop-down arrow to select "2019: ACS 5-Year Estimate Subject Tables".



Collect the following data:

4a. Determine the percentage of households with income <$25,000/yr

Aggregate percentages for all household income brackets <$25,000/yr. An income of $25,000 is used to represent the upper boundary of the lower median household income of the low income bracket. The percentage of households earning less than $25,000 can be used to show the distribution of income levels in the community.

4b. Determine the percentage of income for low income households spent on public stormwater related management programs ($\%LHI_{storm}$)

$$\%LHI_{storm} = HC_{storm} \div \$25{,}000$$

This information can be used to determine whether the costs of services if paid for by each household disproportionately impacts lower income households.

4c. Determine the percentage of income for low income households spent on stormwater remediation fees ($\%LHI_{fee}$)

$$\%LHI_{fee} = HC_{fee} \div \$25{,}000$$

This information can be used to determine whether the stormwater remediation fees paid by each household disproportionately impacts lower income households.

4d. Determine the percentage of income for low income households spent on the ISRP during the previous permit term ($\%LHI_{ISRP}$)

$$\%LHI_{ISRP} = HC_{ISRP} \div \$25{,}000$$

This information can be used to determine whether the costs of restoration if paid for by each household disproportionately impacts lower income households.

4e. Determine the percentage of income for low income households spent on the projected cost of the restoration portfolio ($\%LHI_{Rest}$)

$$\%LHI_{Rest} = HC_{Rest} \div \$25{,}000$$

This information can be used to determine whether the projected costs of the proposed restoration portfolio if paid for by each household will disproportionately impact lower income households.

5. Key Socioeconomic Indicators

The percent unemployed and percent of individuals below the poverty level are additional economic indicators of an MS4 community.

From the ACS website for the "2019 American Community Survey", collect the following data:

5a. Determine the percent unemployed for the population 16 years and over in the labor force

In the search box, type the name of your county plus ", Maryland Selected Economic Characteristics" (e.g., Carroll County, Maryland Selected Economic Characteristics), and then select "Search". Select the search result titled "Selected Economic Characteristics". Then, near the top middle of the webpage, use the drop-down arrow to select "2019: ACS 5-Year Estimates Data Profiles". The percentage may be found under "Employment Status" "Population 16 years and over" "In labor force" "Civilian labor force" "Unemployed". This percentage can be compared to the 2019 national average reported in the ACS "Selected Economic Characteristics" (2019: ACS 5-Year Estimates Data Profiles) for the United States under "Population 16 years and over" "In labor force" "Civilian labor force" "Unemployed" (i.e., 3.4%). Per the U.S. Environmental Protection Agency's 1997 "Combined Sewer Overflows – Guidance for Financial Capability Assessment and Schedule Development"[1] (hereafter referred to as EPA's CSO Guidance), the jurisdiction's unemployment values can be compared to the national average to characterize the strength of the local economy.

5b. Determine the median household income (same as 2a above)

This rate should be compared to the 2019 national average reported in the ACS for the United States (i.e., $62,843). The jurisdiction's median household income can be compared to the national average to characterize the jurisdiction's overall earning capacity.

5c. Determine the percent of individuals (all people) below the poverty level

In the search box, type the name of your county plus ", Maryland Poverty Status in The Past 12 Months" (e.g., Frederick County, Maryland Poverty Status in The Past 12 Months), and then select "Search". Select the search result titled "Poverty Status in The Past 12 Months". Then, near the top middle of the webpage, use the drop-down arrow to select "2019: ACS 5-Year Estimates Data Profiles". The rate may be found in the row labeled "Population for whom poverty status is determined" and the column labeled "Percent below poverty level". This rate should be compared to the 2019 national average reported in the ACS "Poverty Status in The Past 12 Months" (2019: ACS 5-Year Estimates Subject Tables) for the United States (i.e., 13.4%).

6. Financial Capacity Indicators

The general obligation (GO) bond rating, revenue bond rating, and net debt as a percentage of full market property value (FMPV) all indicate how the municipality fares in reference to debt. Financial management indicators help determine how great the tax burden is on existing properties within the community. It is an indication of whether the community has a relatively

[1] U.S. EPA. 1997. "Combined Sewer Overflows – Guidance for Financial Capability Assessment and Schedule Development." Accessed at https://www3.epa.gov/npdes/pubs/csofc.pdf.

high or low tax rate which would indicate a potential for concern if additional fees are added. Bond ratings can be obtained from Moody's Investors Services (https://www.moodys.com/) or Standard & Poor's (S&P) (https://www.standardandpoors.com/en_US/web/guest/home). Debt information is typically available through a jurisdiction's annual financial statements. The FMPV data should be available through the local assessor's office or the Maryland Department of Taxation and Assessment. Collect the following data:

6a. Provide permittee's government GO bond rating

Strong: S&P (AAA, AA, A) or Moody's (Aaa, Aa, A)
Mid-range: S&P (BBB) or Moody's (Baa)
Weak: S&P (BB, B, CCC, CC, C, D, R, SD) or Moody's (Ba, B, Caa, Ca, C)

6b. Provide permittee's government revenue bond rating

Strong: S&P (AAA, AA, A) or Moody's (Aaa, Aa, A)
Mid-range: S&P (BBB) or Moody's (Baa)
Weak: S&P (BB, B, CCC, CC, C, D, R, SD) or Moody's (Ba, B, Caa, Ca, C)

6c. Calculate the net debt as a percentage of % FMPV

Determine the jurisdiction's FMPV and net debt. Then, divide the government's net debt by the FMPV. Values less than 2% indicate a strong rating.

6d. Calculate the property tax revenues as a % of FMPV

Determine the jurisdiction's total annual property tax revenues. Divide total annual property tax revenues by FMPV. Values less than 2% indicate a strong rating. Combined, these values help characterize the jurisdiction's ability to issue additional debt.

6e. Provide permittee's tax collection rate

Provide the rate of collection for annual property tax revenues. Values above 98% indicate a strong system. This information helps characterize the jurisdictions ability to manage financial obligations.

REFERENCES

U.S. Census Bureau. 2017. "American Community Survey and Puerto Rico Community Survey 2017 Subject Definitions". Accessed at https://www2.census.gov/programs-surveys/acs/tech_docs/subject_definitions/2017_ACSSubjectDefinitions.pdf?#

U.S. Conference of Mayors, American Water Works Association and Water Environment Federation. 2013. "Affordability Assessment Tool for Federal Water Mandates". Accessed at http://www.mayors.org/urbanwater/media/2013/0529-report-WaterAffordability.pdf."

U.S. Environmental Protection Agency. 1997. "Combined Sewer Overflows – Guidance for Financial Capability Assessment and Schedule Development". Accessed at https://www3.epa.gov/npdes/pubs/csofc.pdf.

Part IV. Recommendations on Evaluating Financial Capacity as Part of an MEP Analysis

Evaluating the financial capacity of a local jurisdiction to perform all stormwater services, is an important factor in determining the maximum extent practicable (MEP) level of implementation for Phase I Medium municipal separate storm sewer system (MS4) permittees. A jurisdiction's financial capacity can be informed by characterizing the economic conditions of the community, estimating the per household municipal costs and expenditures, and characterizing the financial wherewithal of its government to pay for stormwater-related services. The Department recognizes that each Phase I Medium MS4 jurisdiction is unique in its socioeconomic makeup and how stormwater programs are funded. Generally, sources of revenue used to pay for stormwater-related services include a combination of a dedicated fee or utility; general property and income tax revenues; grants and loans; and bond sales. The ability of a jurisdiction to adequately manage these funding sources is critical to the level of stormwater services provided. The data gathered in the Financial Capacity Analysis (FCA) spreadsheet and the narrative responses to the questions below will help each jurisdiction describe its MEP for performing stormwater-related services; economic status and its ability to afford these services; and its capacity to generate funds for these services.

It is recommended that each jurisdiction first complete the FCA spreadsheet. Then, the Department suggests that each jurisdiction answer the following questions that provide important local context regarding its FCA data and MEP analysis.

1. **What was the prior per household municipal cost of stormwater services and restoration activities for a jurisdiction's residents?**

   This first set of calculations in the FCA spreadsheet can be used to describe the municipal cost per household for stormwater-related services provided to the residential community in the past five years. Including the past and planned restoration costs and the costs of infrastructure maintenance and repair, inspection and education programs allows the jurisdiction to account for various costs - both capital and operational. These calculations can help characterize the relationship between these costs and residential household income.

   a. **What was the estimated annual municipal cost of providing stormwater-related management services to residential customers?**

      The five-year average annual cost of providing the full range of stormwater-related services can be compared to the median household income (MHI) of the community. The MHI provides a middle value of all the income ranges in a community. As the middle value, the MHI represents the income for at least half of the households.[1]

[1] U.S. Census Bureau. 2017. "American Community Survey and Puerto Rico Community Survey 2017 Subject Definitions" at pp. 86. Accessed at https://www2.census.gov/programs-surveys/acs/tech_docs/subject_definitions/2017_ACSSubjectDefinitions.pdf?#

While percent of MHI may be a good indicator for communities that are homogeneous in income, each MS4 jurisdiction has unique income distributions. Capturing information on lower income brackets can help "tease out" the impacts of stormwater service costs on lower income households. The U.S. Census Bureau developed a Supplemental Poverty Measure (SPM) and determined that "At the national level, for a two-adult, two-child household in 2010, the SPM income threshold was set at $24,343."[2] Based on this, the FCA spreadsheet uses an income of $25,000/year, which represents the upper bound of the low-income brackets, as a surrogate to provide information on this income group. While this does not reflect all lower income households, it is a good starting point for this analysis. Information collected in question 2c. below can be used to further characterize stormwater-related services on low income residents.

b. What is the estimated annual cost of the stormwater remediation fee to residential customers?

A similar analysis can be performed using just the stormwater remediation fee to isolate the annual cost of this revenue-generating mechanism for providing stormwater services to residential customers. The five-year average annual cost of the stormwater fee can be compared to MHI. This information can be used to help characterize the relative cost of stormwater remediation fee per household. For jurisdictions where the stormwater remediation fee covers only a portion of the total costs of stormwater related services, additional costs may be incurred by each household.

The Department recommends determining whether the stormwater remediation fee paid by each household disproportionately impacts lower income households. The Department recommends using the income of $25,000/year to represent the upper bound of the lower low income bracket.

c. What was the annual cost of the impervious surface restoration plan (ISRP) to residential customers?

Using the total cost of the ISRP during the previous permit term, the average annual cost can be compared to the MHI. Again, the Department recommends determining whether the stormwater remediation fee paid by each household disproportionately impacts lower income households. In addition, the percent of MHI for stormwater remediation fee can be compared to past ISRP spending.

[2] U.S. Conference of Mayors, American Water Works Association and Water Environment Federation. 2013. "Affordability Assessment Tool for Federal Water Mandates" at pp 19. Accessed at https://www.awwa.org/Portals/0/AWWA/ETS/Resources/AffordabilityAssessmentTool.pdf.

d. What is the projected annual cost of the proposed restoration portfolio to residential customers?

Using the projected total cost of the proposed restoration portfolio, the average annual cost can be compared to the MHI. Again, the Department recommends determining whether the proposed restoration portfolio cost that may be paid by each household disproportionately impacts lower income households. The percent of MHI for stormwater remediation fee can be compared to the projected cost of the restoration portfolio. Additionally, the percent of MHI for the previous permit term's ISRP can be compared to the percent of MHI for the proposed restoration portfolio.

2. How do socioeconomic factors characterize the economic health of a jurisdiction? Are there indications that there are vulnerable populations in a jurisdiction that need to be considered?

Information on income distribution in a jurisdiction can be used to determine if lower income populations are disproportionately impacted by the costs of stormwater services. Household income statistics are broken down in the Census Data to help with this evaluation. While this low income indicator is important, many jurisdictions have programs to reduce the cost of these stormwater services.

a. How does the percent unemployed compare to the national average?

The percent unemployed shows the total number of unemployed people in a community.[3] This percentage can be compared to the national average reported in the American Community Survey (ACS) to help characterize the socioeconomic conditions of a jurisdiction. An unemployment percentage of greater than 1% above the national average is a local economic indicator that helps to show how stormwater costs may impact the unemployed. This 1% parameter comes from the U.S. Environmental Protection Agency's 1997 "Combined Sewer Overflows – Guidance for Financial Capability Assessment and Schedule Development"[4] (hereafter referred to as EPA's CSO Guidance).

b. How does the MHI compare to the national average?

Although the MHI does not specifically represent impacts of costs on lower income residents, comparing the MHI to the national average shows the overall earning capacity in a jurisdiction and provides additional information on the economic conditions of the residential community. According to the EPA's CSO Guidance, if the MHI of the community is more than 25% below the national average, the community would be considered economically vulnerable.

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[3] U.S. Census Bureau. 2017. "American Community Survey and Puerto Rico Community Survey 2017 Subject Definitions" at pp. 66. Accessed at https://www2.census.gov/programs-surveys/acs/tech_docs/subject_definitions/2017_ACSSubjectDefinitions.pdf?#

[4] U.S. EPA. 1997. "Combined Sewer Overflows – Guidance for Financial Capability Assessment and Schedule Development." Accessed at https://www3.epa.gov/npdes/pubs/csofc.pdf.

c. What is the percentage of individuals below the poverty level and how does it compare to the national average?

The U.S. Census Bureau uses family size and income thresholds to determine estimates for the percentage of families and people whose income is below the poverty level.[5] This information can be used to describe the percentage of individuals in a jurisdiction that are below the poverty level compared to the national average. Percentages greater than 1% above the national average may indicate that a jurisdiction has a greater number of residents in poverty.

d. Are there any methods in place to reduce the annual cost of public stormwater-related services? Is a method in place to reduce the annual cost of stormwater-related services for low income residential customers?

Based on the answers in questions 1a, 1b, 1c, and 1d of this document, the costs on low income residents for providing stormwater-related services may be a large percentage of household income. Using the answers to questions 2a and 2c of this document, as well as the calculated cost for stormwater-related services on low income residents, describe all methods in place to reduce the cost on vulnerable populations. Additionally, have fee reduction requests from low income households impacted water or stormwater service revenues?

3. What is the financial capacity of a jurisdiction to borrow additional funds for stormwater-related management programs?

The ability of a jurisdiction to borrow additional funds can provide further information on how stormwater-related cost represents the community's MEP. The General Obligation (GO) and revenue bond ratings as well as the net debt as a percentage of full market property value (FMPV) all indicate how a jurisdiction fares in reference to debt. Known as debt burden, this information can characterize a jurisdiction's ability to issue additional debt to finance stormwater-related services.

a. Does the GO bond rating indicate a strong borrowing capacity?

GO bond ratings represent the ability of a jurisdiction to repay its debt. GO bond debt is paid by revenue from taxes (usually local property taxes). Revenue from the sale of GO bonds are the primary long-term debt funding mechanism of a community.[6] Moody's ratings of Aaa, Aa, and A, or Standard & Poor's ratings of AAA, AA, and A indicate a financially stable jurisdiction.

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[5] U.S. Census Bureau. 2016. "How the Census Bureau Measures Poverty". Accessed at https://www.census.gov/topics/income-poverty/poverty/about.html

[6] U.S. EPA. 1997. "Combined Sewer Overflows – Guidance for Financial Capability Assessment and Schedule Development." at pp. 21. Accessed at https://www3.epa.gov/npdes/pubs/csofc.pdf.

b. Does the revenue bond rating indicate a strong borrowing capacity?

Revenue bond ratings reflect the financial conditions and management of a jurisdiction. These bonds are repaid from revenue generated from user or service fees.[7] Moody's ratings of Aaa, Aa, and A, or Standard & Poor's ratings of AAA, AA, and A indicate a financially stable jurisdiction.

c. Have either one of the bond ratings impacted past borrowing capacity and is there a potential for impacts to future borrowing?

A strong borrowing capacity will indicate a jurisdiction's ability to sufficiently borrow funds to pay for stormwater-related services. A weaker borrowing capacity will show a jurisdiction may be limited in the ability to increase debt to fund additional projects. Based on the bond ratings, jurisdictions should explain how borrowing during the previous permit term was impacted by bond ratings. The jurisdiction should also explain how borrowing during the next permit term could be impacted by current bond ratings.

d. Net debt as a percentage of FMPV?

Net debt is debt repaid by property taxes. The FMPV is the price a willing buyer would pay for real property and in this context it represents the full market value of real property in the jurisdiction. The calculated net debt as a percentage of FMPV provides a measurement of the debt burden on residents. It accounts for all debt issued by the jurisdiction and can be compared to a benchmark found in EPA's CSO Guidance to serve as an indicator of financial stability.

4. How great is the tax burden on existing properties within the community?

Financial management indicators help determine how great the tax burden is on existing properties within the community. These indicators can show whether a jurisdiction has a relatively high or low tax rate, which would indicate potential for concern if additional fees are added.

e. What is the property tax revenue collection rate and does it indicate a large amount of contributions from the tax base?

The property tax revenue collection rate serves as a measurement of tax collection system performance and residents' acceptance of tax levels.[8] The rate can be compared to an EPA CSO Guidance benchmark to indicate performance. A collection rate above 98% would be indicative of strong performance. A poor collection rate would be indicative of a tax structure that is burdensome on the residential population of the jurisdiction.

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[7] U.S. EPA. 1997. "Combined Sewer Overflows – Guidance for Financial Capability Assessment and Schedule Development." at pp. 21. Accessed at https://www3.epa.gov/npdes/pubs/csofc.pdf.

[8] U.S. EPA. 1997. "Combined Sewer Overflows – Guidance for Financial Capability Assessment and Schedule Development." at pp. 34. Accessed at https://www3.epa.gov/npdes/pubs/csofc.pdf.

f. Do the property tax revenues as a percentage of FMPV indicate that additional fees would cause an increased strain on the community?

The property tax revenues as a percentage of FMPV can be used to characterize the financial ability of a jurisdiction to support debt.[9] This comparison also provides information on how effective the local government is in providing services. A value below 2% indicates a financially strong community.

[9] U.S. EPA. 1997. "Combined Sewer Overflows – Guidance for Financial Capability Assessment and Schedule Development." at pp. 32. Accessed at https://www3.epa.gov/npdes/pubs/csofc.pdf.

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