October 1, 2020

**Memorandum #2020-120**

**TO: Directors of Utilities Committee**

**BY: Whitney Katchmark, Principal Water Resources Engineer**

**RE: Directors of Utilities Committee Meeting– October 7, 2020**
RSVP – October 6, 2020

The next **Directors of Utilities Committee** meeting has been scheduled for **Wednesday, October 7, 2020**. The meeting will begin at **1:30 pm**. The agenda and related materials are attached.

Pursuant to the declared state of emergency in the Commonwealth of Virginia in response to the COVID-19 pandemic and to protect the public health and safety of the committee members, staff, and general public, the Directors of Utilities Committee meeting will be held electronically via Webex. Participants can join using the following information:

**Join by computer:** https://hrpdc-418.my.webex.com/hrpdc-418.my/j.php?MTID=mbdf204fac2f460994579465eddaf1c85

-or-

**Join by phone:** +1-415-655-0001

**Meeting Number/Access Code:** 126 112 9959
**Password:** 1234

If you have any questions or need further information, please do not hesitate to contact me.

KK/kl

Attachments

**Directors of Utilities Committee:**

Bo Clayton, NN
Daniel G. Clayton III, WM
J. Chris Dawson, GL
Wayne Griffin, SM
Edward G. Henifin, HRSD
David Howell, SH
Frank James, NN
Donald Jennings, IW
David Jurgens, CH
Chad Krejcarek, PQ
Yann A. Le Gouellec, NN
Kristen M. Lentz, NO
Jason Mitchell, HA
Bob Montague, VB
Albert Moor II, SU
Russell Pace, FR
Doug Powell, JCSA
Erin Trimyer, PO
Brian K. Woodward, YK

**Directors of Utilities Copy:**

Dennis Beale, SH
Alan Benthall, NN
Kate Bernatitus, NN
Kristin Chhim, NN
Marilyn Crane, VB
Bud Curtis, NN
Barry Dobbins, HA
Joseph Durant, NN
David Fauber, Cape Charles
Garrett Feagans, PQ
Ron Harris, NN
Sue Houser, NN
Phil Hubbard, HRSD
Stephanie Luton, JCSA
Danny Poe, JCSA
Paul Retel, SU
Ellen Roberts, PQ
Kenneth Sims, WN
Joe Sisler, YK
Amanda Smith, SH
Jeff Smith, SM
Jessie Snead, SM
Richard Stahr, Brown and Caldwell
Stephen Watson, FR
Shannon White, NO
Sherry Wright, NN
James J. Young, NN

**HRPDC Staff:**

Keith Cannady
Robert Crum
Katie Cullipher
Rebekah Eastep
Whitney Katchmark
Joe Turner
Katie Krueger

**MEETING OF**
**DIRECTORS OF UTILITIES COMMITTEE**
**AGENDA**
**October 7, 2020**
**1:30 PM**

Pursuant to the declared state of emergency in the Commonwealth of Virginia in response to the COVID-19 pandemic and to protect the public health and safety of the committee members, staff, and general public, the Directors of Utilities Committee meeting will be held electronically.

1. **Summary of the September 2, 2020 Meeting of the Directors of Utilities**

   The summary of the September 2, 2020 meeting of the Directors of Utilities Committee is attached for review and approval.

   Attachments:
   1 September 2, 2020 Meeting Summary

   **ACTION:** Approve the meeting summary.

2. **Public Comment**

3. **AskHRGreen Annual Report**

   HRPDC staff will review the fiscal year 2019-2020 annual report on the AskHRgreen.org regional public outreach program and campaign results. The annual report also reviews the initiatives and results from each of the four askHRgreen.org environmental education committees: Recycling and Beautification, Stormwater Education, Water Awareness, and Fats, Oils & Grease Education.

   Attachments:
   3 Ask HRGreen Annual Report

   **ACTION:** Per Discussion

4. **Water Supply Plan Updates**

   Newport News Waterworks asked for a copy of the updated Regional Water Supply plan. However, there isn't a report. The 2016 plan (5-year update to the original 2011 Water Supply Plan) was completed with DEQ's online database VAHydro. HRPDC staff has reorganized the data that went into the 2016 update so it is easy to follow. Additionally,

HRPDC staff will summarize the state water supply plan updates that will be published by DEQ for public comment this fall.

**ACTION:** Per discussion

5. **2020 Financial Capability Assessments**

The EPA's Water Finance Center recently published a proposal for an expanded/updated Financial Capability Assessment Guidance. The aim of this guidance is to better estimate the financial burden of water and wastewater bills on low income households. HRPDC staff will review the two proposed alternatives outlined in the guidance.

Attachments:
5 EPA Proposed 2020 Financial Capability Assessment

**ACTION:** Decide whether the Committee would like to submit comments on the guidance.

6. **SWIFT Update**

The committee will review the SWIFT schedule and discuss the new groundwater modeling that DEQ presented as part of the Water Resources workshop.

**ACTION:** Per discussion

7. **Utility Directors Roundtable Discussion**

The Utility Directors will have the opportunity to discuss matters of mutual interest. Including:

- Coronavirus updates
  - Link to HRPDC Coronavirus Planning Hub
- Lessons learned from the pandemic

**ACTION:** Per discussion.

8. **Staff Reports**

1. **HRSD Integrated Plan – First Amendment to 2014 MOA:** Staff will review status of locality approvals of the MOA.
2. **FOG MOA –** Staff will review status of locality approvals of the MOA
3. **Groundwater MOA –** Staff will review status of locality approvals of the MOA

9. **Other Business**

**MEETING SUMMARY**
**H2O – Help to Others – Program Board of Directors**
**September 2, 2020**
**Webex**

Pursuant to the declared state of emergency in the Commonwealth of Virginia in response to the COVID-19 pandemic and to protect the public health and safety of the committee members, staff, and general public, the H20 – Help to Others – Program Annual Board of Directors' meeting was be held electronically via Webex. These electronic meetings are required to complete essential business on behalf of the region. A recording of the meeting is available on the website. The following attended electronically:

**Directors of Utilities Committee:**

Bo Clayton, NN
J. Chris Dawson, GL
Wayne Griffin, SM
Edward G. Henifin, HRSD
Frank James, NN
Donald Jennings, IW
David Jurgens, CH
Chad Krejcarek, PQ
Yann A. Le Gouellec, NN
Jason Mitchell, HA
Bob Montague, VB
Doug Powell, JCSA
Erin Trimyer, PO

**Directors of Utilities Copy:**

Kate Bernatitus, NN
Bud Curtis, NN
Robert Carteris, NO
Paul Retel, SU
Chad Edwards, FR
James J. Young, NN

**HRPDC Staff:**

Katie Cullipher
Whitney Katchmark
Katie Krueger

**1. Officers**

The Board decided to continue the terms of current officers. The officers do not have specified terms. The bylaws state that the officers serve at the pleasure of the Board. Current officers are listed below:

| | |
|---|---|
| President: | Doug Powell, JCSA |
| Vice President: | David Jurgens, Chesapeake Public Utilities |
| Secretary/Treasurer: | Ted Henifin, HRSD |
| Director: | Al Moor, Suffolk Public Utilities |
| Director: | Kristen Lentz, Norfolk Utilities |

**ACTION:** Continue the term of current officers.
**Votes:** David Jurgens, CH; J. Chris Dawson, GL; Jason Mitchell, HA; Don Jennings, IOW; Doug Powell, JCSA; Yann A. Le Gouellec, NN; Robert Carteris, NO; Edward G. Henifin, HRSD; Chad Krejcarek, PQ; Wayne Griffin, SM; Bob Montague, VB; Paul Retel, SU

**2. Program Status**

The HRPDC staff reviewed FY2020 program activities, fundraising and distribution results, including a new promotional video. FY20 saw a total of $78,665 in donations, online donations through HRSD increased from $2,020 (FY19) to $40,875 (FY20). Financial assistance was down about 31% from FY19, likely due to CARES Acts funds availability and the lack of service cutoffs during the pandemic. HRPDC staff provided an overview of the FY21 budget which keeps locality contributions flat for the program.

**ACTION:** No action

**MEETING SUMMARY**
**DIRECTORS OF UTILITIES COMMITTEE**
**September 2, 2020**
**Webex**

Pursuant to the declared state of emergency in the Commonwealth of Virginia in response to the COVID-19 pandemic and to protect the public health and safety of the committee members, staff, and general public, the meeting was held on September 2, 2020 at 1:30 pm via Webex. These electronic meetings are required to complete essential business on behalf of the region. A recording of the meeting is available on the website. The following attended electronically:

**Directors of Utilities Committee:**

Bo Clayton, NN
J. Chris Dawson, GL
Wayne Griffin, SM
Edward G. Henifin, HRSD
Frank James, NN
Donald Jennings, IW
David Jurgens, CH
Chad Krejcarek, PQ
Yann A. Le Gouellec, NN
Jason Mitchell, HA
Bob Montague, VB
Doug Powell, JCSA
Erin Trimyer, PO

**Directors of Utilities Copy:**

Kate Bernatitus, NN
Bud Curtis, NN
Robert Carteris, NO
Paul Retel, SU
Chad Edwards, FR
James J. Young, NN

**HRPDC Staff:**

Katie Cullipher
Whitney Katchmark
Katie Krueger

1. **Summary of the August 5, 2020 Meeting of the Directors of Utilities Committee**

   There were no comments on or revisions to the summary of the August 5, 2020 Committee meeting.

   **ACTION:** The summary of the August 5, 2020 meeting of the Directors of Utilities Committee was approved by consensus

2. **Public Comment**

   There were no public comments.

3. **Affordability**

Ms. Whitney Katchmark, HRPDC, gave a quick update on SB1158 that focuses on (EDRP). The changes in the substitute are going to be discussed Thursday (9/3/20). The substitute senate bill now limits all the requirements to utilities regulated by the state corporation commission. For municipal utilities, the substitute is asking for reporting on their repayment programs (i.e. number of accounts, customers enrolled, and amount of money).

Additionally, Ms. Katchmark, discussed the usefulness of collecting information about the local affordability programs including: 1) Number of applications received, 2) Number of applications rejected and why, 3) Amount of utility assistance requested and amount received, 4) How did the applicant find out about the program. Chesapeake and Newport News felt that this would be useful information to track, but some of the information might be more difficult to track.

**ACTION:** HRPDC Staff will send out the questions about tracking the affordability programs. HRPDC Staff will also send out a data call for more information on affordability programs in January. Finally, HRPDC staff will send out a data call requesting rate projections within the next few months.

4. **Project Introduction: What is in Your Floodplain?**

Ms. Katie Krueger, HRPDC, provided an overview of ongoing research to evaluate the potential risks in Hampton Roads associated with storing hazardous materials in facilities located in flood prone areas. The objectives of the project are as follows: 1) identify the location of the hazardous materials, 2) assess the risk related to sea level rise, climate change, and flooding, 3) evaluate social vulnerabilities, and 4) offer policy suggestions for risk minimization. HRPDC staff asked for input from the Committee members, including whether their localities are already looking into these concerns. The next steps will be to develop a report of preliminary findings, then coordinate a group of regional partners, and then seek funding for a more robust analysis.

**ACTION**: No Action

5. **Fats, Oils and Grease MOA**

Ms. Whitney Katchmark, HRPDC, discussed the Fats, Oils, and Grease MOA, originally presented in June 2019. Ms. Katchmark requested that localities let her know if they are planning to not sign the MOA. Portsmouth is not going to sign the MOA. Portsmouth is not going to send in a signature

**ACTION:** HRPDC staff will send out a reminder email with a copy of the FOG MOA for signature.

6. **Source Water Protection Plan Next Steps**

Ms. Katie Krueger, HRPDC, updated the Committee on status of updating the Source Water Protection Program (SWPP) inventory and risk assessment. The subcommittee of

utility directors assigned risk to potential sources of contamination (PSC) based on 1) the potential for the PSC to affect drinking water sources within the next 10 years and 2) the impact level if the PSC does affect the drinking water source. HRPDC staff presented the new SWPP inventory and risk assessment to the Virginia Department of Health and received positive feedback. HRPDC staff is finalizing the map packages and will distribute them to the utility directors for their respective drinking water sources.

**ACTION**: HRPDC staff will update the regional inventory every 2 years.

7. **Utility Directors Roundtable Discussion**
    - HRSD asked for the Committee members to remember to send updates to regional hydraulic model to HRSD.
    - HRSD asked the Committee if anyone is suspending the collection of social security taxes. The general consensus was that no one was planning to suspend the collection of social security taxes.
    - HRPDC asked if anyone had seen any changes in water consumption trends. HRSD and Norfolk saw a significant drop in water use in August.
    - Norfolk asked about how other localities were handling hazard pay for utility workers. Newport News has expanded hazard pay but, is still not giving hazard pay for the utility folks. Chesapeake is working on a one-time payment based on risk tier. Suffolk is considering giving hazard pay to utility workers.

8. **Staff Reports**
    - **HRSD Integrated Plan – First Amendment to 2014 MOA -** Ms. Katchmark requested that localities send the signed MOA to Ms. Katie Krueger, HRPDC.
    - **Lead and Copper Rule, Testing Subcommittee –** Ms. Katchmark presented the four goals for the Lead and Copper Rule Testing Subcommittee and encouraged the Committee members to consider who they would want to be a representative on the subcommittee. Virginia Beach plans to participate and encouraged other members of the Committee to work with schools on this type of data collection. Chesapeake suggested trying to include the plumbing community in this process in addition to the schools in the region. Gloucester is planning on sending their water resources manager. Portsmouth suggested that the subcommittee also looks at supporting the daycares in addition to the schools.
    - **Groundwater MOA –** Ms. Katchmark requested that localities send the signed MOA to Ms. Katie Krueger, HRPDC.
    - **FY 22 Water and Wastewater Budgets –** Ms. Katchmark is working to collect a few more votes on the budget

9. **Other Business**

    No other Business

The next meeting of the Directors of Utilities will be on Wednesday, October 7, 2020 via Webex.

# ANNUAL REPORT

FISCAL YEAR 2019-2020

askHRgreen.org

EE20-01

Attachment 3

**HAMPTON ROADS PLANNING DISTRICT COMMISSION**

**CHESAPEAKE**
Steven Best
Robert Geis
Debbie Ritter
Ella Ward
Christopher Price

**FRANKLIN**
Frank Rabil
Amanda Jarratt

**GLOUCESTER COUNTY**
Phillip Bazzani
Brent Fedors

**HAMPTON**
Steve Brown
Donnie Tuck
Mary Bunting

**ISLE OF WIGHT COUNTY**
William McCarty
Randy Keaton, Treasurer

**JAMES CITY COUNTY**
Michael Hipple, Chair
Scott Stevens

**NEWPORT NEWS**
David Jenkins
McKinley Price
Cynthia Rohlf

**NORFOLK**
Kenneth Alexander
Courtney Doyle
Mamie Johnson
Andria McClellan, Vice-Chair
Larry Filer

**POQUOSON**
Eugene Hunt
Randall Wheeler

**PORTSMOUTH**
John Rowe
Lydia Pettis Patton

**SMITHFIELD**
Carter Williams
Michael Stallings

**SOUTHAMPTON COUNTY**
William Gillette
Michael Johnson

**SUFFOLK**
Leroy Bennett
Patrick Roberts

**SURRY COUNTY**
Robert Elliott
Melissa Rollins

**VIRGINIA BEACH**
Robert Dyer
Barbara Henley
Louis Jones
Guy Tower
Rosemary Wilson
Sabrina Wooten
Patrick Duhaney

**WILLIAMSBURG**
Vacant
Andrew Trivette

**YORK COUNTY**
Sheila Noll
Neil Morgan

Robert A. Crum, Jr., Executive Director / Secretary

**PROJECT STAFF**

| | |
|---|---|
| W. Keith Cannady | Deputy Executive Director |
| Shernita L. Bethea | Housing and Human Services Administrator |
| Katie R. Cullipher | Principal Environmental Education Planner |
| Greg C. Grootendorst | Chief Economist |
| Whitney S. Katchmark | Principal Water Resources Engineer |
| Kendall L. Miller | Administrator, Office of Community Affairs and Civil Rights |
| John A. Sadler | Emergency Management Administrator |
| Krista Lauro | Administrative Assistant II |
| Cynthia A. Mulkey | Administrative Assistant II |
| Christopher W. Vaigneur | Assistant General Services Manager |

EE20-01

## Report Documentation

**TITLE:**
askHRgreen.org Annual Report for Fiscal Year 2019-2020

**REPORT DATE**
September 2020

**GRANT/SPONSORING AGENCY**
Local Funds

**AUTHORS:**
Katie Cullipher
Rebekah Eastep

**ORGANIZATION NAME, ADDRESS AND TELEPHONE**
Hampton Roads Planning District Commission
723 Woodlake Drive
Chesapeake, Virginia 23320
(757) 420-8300
www.hrpdcva.gov

**ABSTRACT**
The Hampton Roads Planning District Commission (HRPDC) is one of 21 Planning District Commissions in the Commonwealth of Virginia and is a regional organization representing the 17 local governments of the Hampton Roads area. This report provides an overview of the askHRgreen.org regional public outreach program and campaign results for fiscal year 2019-2020. It also provides an overview of the individual initiatives and results from each of the four askHRgreen.org environmental education committees: Recycling and Beautification, Stormwater Education, Water Awareness, and Fats, Oils & Grease Education.

**ACKNOWLEDGEMENTS**
This report was prepared by the HRPDC staff in cooperation with the member localities. Preparation of this report was included in the HRPDC Work Program for Fiscal Year 2020, approved by the Commission in May 2019.

## About askHRgreen.org

Launched in 2011, askHRgreen.org is more than just a robust website; it is an award-winning comprehensive public outreach initiative. The program combines traditional and social media with grassroots outreach efforts to not only educate, but inspire residents of Hampton Roads to make changes that have a positive impact on the environment. By combining local expertise and taking advantage of economies of scale, the askHRgreen.org program is able to help local jurisdictions fulfill requirements of MS4 permits, groundwater withdrawal permits, and state consent orders to reduce sanitary sewer overflows. For citizens, it has become a "one-stop shop" to find answers, resources, and inspiration for a cleaner, greener Hampton Roads. From earth-friendly landscaping ideas and pointers for keeping local waterways clean to recycling tips and simple steps to make local living easy on the environment, all you have to do is askHRgreen.org.

Financial support for askHRgreen.org is made possible by the following member localities and agencies: the cities of Chesapeake, Franklin, Hampton, Newport News, Norfolk, Poquoson, Portsmouth, Suffolk, Virginia Beach and Williamsburg; the counties of Gloucester, Isle of Wight, James City, Southampton, Surry and York; the town of Smithfield and HRSD. Members of local staff and HRSD comprise four askHRgreen.org committees who meet monthly to develop and implement the regional program.

***Recycling and Beautification Committee*** *- A coalition of local government staff members from across Hampton Roads who are working together to share ideas and pool resources for various education programs tailored towards community beautification, litter prevention, waste reduction, and recycling education. This group has been working cooperatively since 1981.*

***Fats, Oils, and Grease (FOG) Education Committee*** *- A coalition of local government staff members working together with HRSD to protect wastewater infrastructure, reduce sanitary sewer overflows, and improve local water quality. The Committee shares both technical resources and educational strategies to prevent improper disposal of fats, oils, and grease. This cooperative effort has been underway since 2007 when 13 of the region's localities and HRSD entered into the Regional Special Order by Consent with the Virginia Department of Environmental Quality.*

***Water Awareness Committee*** *- Regional public utilities staff members who work together to educate citizens about aging infrastructure, the value of tap water, and the importance of water conservation. This cooperative effort to promote the vital role water plays in the quality of life of Hampton Roads and the need to conserve it assists localities in meeting requirements of various locality goals as well as water supply and ground water permit education requirements.*

***Stormwater Education Committee*** *- A cooperative partnership of the region's seventeen member cities and counties which has served as a formal adjunct to the required public information component of the Virginia Pollution Discharge Elimination System Permits (VPDES) for Phase I and Phase II Municipal Separate Storm Sewer Systems (MS4) since 1997. Local government staff members work together to share ideas and pool resources for various education programs tailored to stormwater pollution prevention.*

**A message about COVID-19**

Like nearly every other operation around the globe, our askHRgreen.org public outreach program felt the impacts of the COVID-19 pandemic in FY20. Special events were cancelled, planned promotions were put on hold, and we shifted our focus to virtual outreach as much as possible. As people stayed home, waste reduction and responsible disposal practices became a major theme in communications. Public interest in gardening and landscaping surged. The pomp and circumstance that would have surrounded the 50th anniversary of Earth Day in April was replaced with "Fifty Ways to Celebrate Earth Day While Social Distancing." And as schools shut down and remote learning began, askHRgreen.org published weekly virtual lesson plans to keep students at all levels engaged in environmental education principles. Despite the challenges, our regional team members continued to work together to find new, innovative ways to encourage the citizens of Hampton Roads to implement green practices in their daily lives…even in these most uncertain times.

# HIGHLIGHTS

**fourteen million** *opportunities*
to see or hear about askHRgreen.org

**73,379** *visitors to askHRgreen.org*

**19** *community events* with over
**86,000** people in attendance

## BAY STAR PROGRAMS

**3,383** *homes*

**50** *businesses*

**8,096** *students impacted* by **$10,073**
in environmental education mini grants

awarded **33** *pet waste disposal stations*
impacting in neighborhoods across the region

Launched interactive *recycling lookup tool*

**$8,000** *grant funds* received for special projects

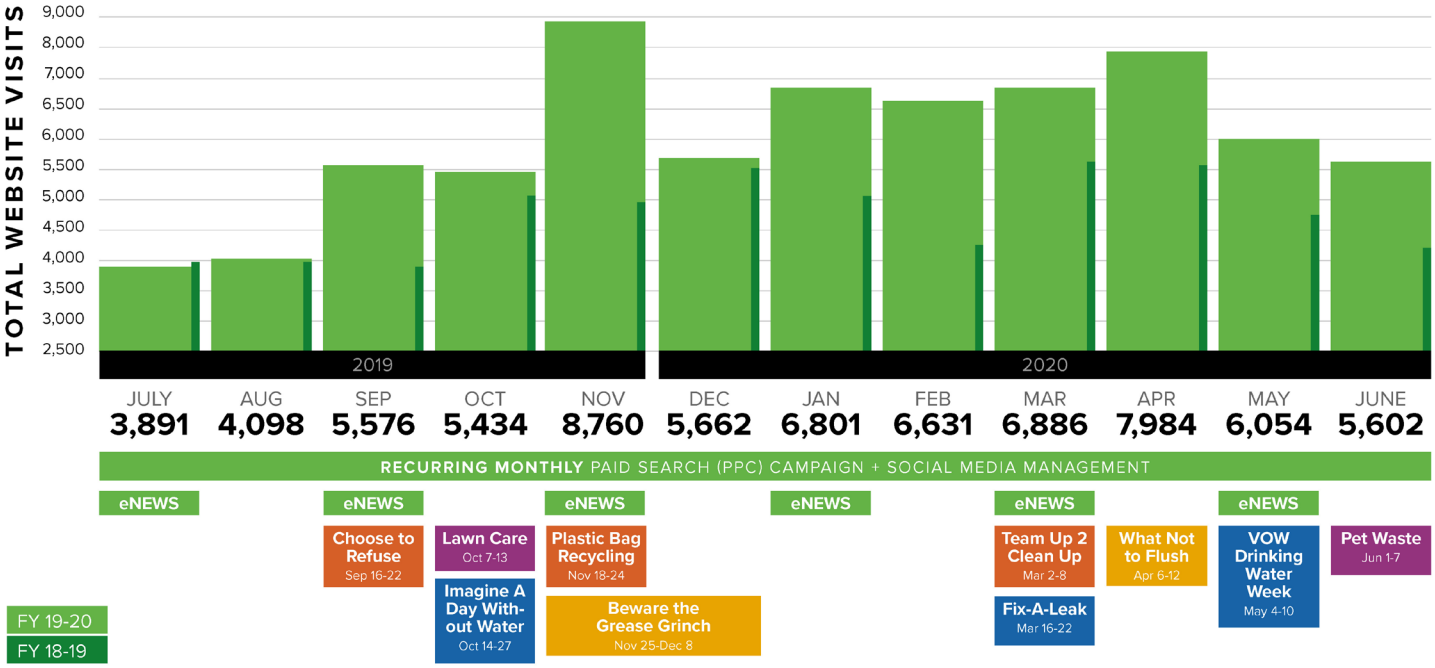
| @askHRgreen | @HRgreen | @askHRgreen | eNews Subscribers |
|---|---|---|---|
| 2,730 | 1,686 | 389 | 6,537 |

# 2019-2020 Media Calendar

| COMMITTEE | CAMPAIGN | MEDIA | JULY | AUG | SEPT | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUNE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| R&B | Choose to Refuse | R, O, S | | | | | | | | | | | | |
| STORMWATER | Lawn Care | PV, R, O, S | | | | | | | | | | | | |
| WATER AWARENESS | Imagine A Day Without Water | PV, R, O, S | | | | | | | | | | | | |
| R&B | Plastic Bags | PV, R, O, S | | | | | | | | | | | | |
| FOG | Grease Grinch | PV, R, O, S | | | | | | | | | | | | |
| R&B | Team Up 2 Clean Up | R, S | | | | | | | | | | | | |
| WATER AWARENESS | Fix-A-Leak | PV, R, O, S | | | | | | | | | | | | |
| FOG | What Not To Flush | PV, R, O, S | | | | | | | | | | | | |
| WATER AWARENESS | Drinking Water Week | AT, PV, R, O, S | | | | | | | | | | | | |
| STORMWATER | Pet Waste | AT, PV, R, O, S | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| ALL | askHRgreen.org Newsletters | E | | | | | | | | | | | | |
| ALL | Public Relations | | | | | | | | | | | | | |
| ALL | Social Media Management | | | | | | | | | | | | | |
| ALL | Search Engine Marketing | | | | | | | | | | | | | |
| ALL | askHRgreen.org Blog Articles | | | | | | | | | | | | | |

MEDIA KEY / **AT** = Advanced TV **PV** = Preroll Video **R** = Radio **P** = Print **O** = Online **S** = Social Media **E** = Email **OD** = Outdoor

# Promotions & Website Traffic






Attachment 3

## Website Analytics

The askHRgreen.org website continues to be the cornerstone of our outreach efforts where campaign news and events are featured prominently and content is delivered seamlessly to users on all types of devices. In FY20, we saw a 25% increase in website traffic over FY19 and a 36% increase in webpage views – up to over 117,000. The majority of web traffic continues to be new visitors, demonstrating the growing awareness and effectiveness of our outreach efforts.

| | 2019-20 | 2018-19 | 2017-18 | 2016-17 | 2015-16 | 2014-15 |
|---|---|---|---|---|---|---|
| Visits | **73,379** | 58,893 | 55,735 | 58,113 | 52,530 | 58,279 |
| Unique Visitors | **63,146** | 49,816 | 45,661 | 46,282 | 42,539 | 46,994 |
| Pageviews | **117,463** | 86,538 | 93,589 | 92,681 | 93,177 | 103,228 |
| Pages per Visit | **1.60** | 1.47 | 1.68 | 1.59 | 1.77 | 1.77 |
| Average Visit Duration | **1:02** | 1:03 | 1:27 | 1:12 | 1:32 | 1:26 |
| Bounce Rate | **79%** | 81% | 77% | 79% | 75% | 75% |
| % New Visits | **86%** | 84% | 81% | 80% | 80% | 80% |
| Mobile Devices | **58%** | 57% | 54% | 53% | 40% | 39% |
| Desktop Devices | **42%** | 43% | 46% | 47% | 60% | 61% |

AVERAGE
**322 PAGES**
VIEWED/DAY

We achieved a **25%** increase in traffic over FY18-19, and have the highest number of pageviews ever! The majority of traffic continues to be new visitors, demonstrating the growing awareness of our efforts.

## Top Website Traffic Sources & Pages Visited

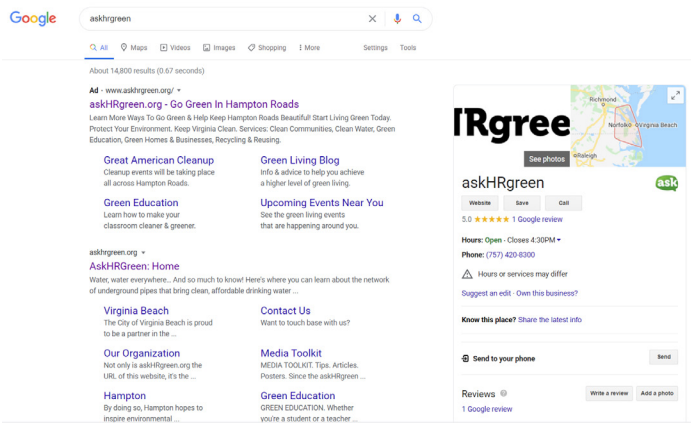
**36.45%** Google Organic Search
**25.59%** Direct +3%
**22.77%** Paid
**15.87%** Pay-Per-Click (SEM)
**6.9%** Digital Ads (Media Campaigns)
**4.56%** Facebook
**1.24%** Bing
**1.04%** PilotOnline.com

### TOP TWENTY VISITED PAGES

9,877 **Home** +4% pageviews
5,945 Good to Know/Do: **Recycling Lookup** Brand New Tool!
3,830 **Events** +17% pageviews
3,739 Blog Article: **Disposable/Flushable diaper liners** +11% pageviews
2,779 Good to Know/Do: **Electronics Recycling** +15% pageviews
2,054 Good to Know/Do: **Recycling Lookup - Virginia Beach**
2,032 Good to Know/Do: **Lawn & Garden Best Practices** +86%
1,868 Good to Know/Do: **Battery Disposal** +23% pageviews
1,762 **Blog** +75% pageviews
1,708 Campaign: **Choose to Refuse Single-Use Plastics** ★ +55% pageviews
1,537 Programs: **Great American Cleanup** +10% pageviews
1,523 Good to Know/Do: **Plant Native Plants** +39% pageviews
1,499 Blog Article: **50 Ways to Celebrate Earth Day**
1,291 Knowledge Center: **Recycling/Reusing**
1,271 Good to Know/Do: **Recycling at Home**
1,225 Good to Know/Do: **Plastic Bag Recycling**
1,224 Programs: **Bay Star Homes**
1,176 Good to Know/Do: **Fat-Free Drains**

## Search Engine Marketing

The askHRgreen.org Search Engine Marketing (SEM) program employs Google pay-per-click advertising to increase traffic to the website. By bidding on select keywords and phrases, our ads direct search traffic to relevant content on the askHRgreen.org website. In FY20, we had more than 340,000 Google search impressions – up 63% over FY19. Those searches drove over 12,000 clicks to relevant content on the askHRgreen.org website. Our electronics disposal and recycling topics routinely lead the campaign in terms of impressions and clicks, but in FY20, we saw a substantial spike in search traffic for lawncare-related keywords - 62,000 ad impressions in that category between March and June. The stay-at-home orders in place during that time may have contributed to the increase. See appendix A for the full SEM campaign report for FY20.




## Search Engine Marketing Results

| | 2019-20 | 2018-19 | 2017-18 | 2016-17 | |
|---|---|---|---|---|---|
| Impressions | **342,690** | 210,695 | 169,140 | 107,920 | **+63%** |
| Clicks | **12,449** | 11,087 | 7,330 | 4,226 | **+12%** |
| Click Thru Rate (CTR) | **3.63%** | 5.26% | 4.33% | 3.92% | |

## Top 10 Keyword Ad Groups

| | Impressions | Clicks | Impression Share | Click Thru Rate |
|---|---|---|---|---|
| Electronics Disposal | 25,719 | 2,516 | 75% | 9.78% |
| Recycling At Home | 40,245 | 1,540 | 61% | 3.83% |
| Native Plants | 38,189 | 1,246 | 35% | 3.26% |
| Lawn Care | 67,630 | 1,012 | 55% | 1.50% |
| Battery Disposal | 12,353 | 1,006 | 69% | 8.14% |
| Reduce Reuse Recycle | 13,040 | 904 | 81% | 6.93% |
| TMDL | 12,800 | 680 | 62% | 5.31% |
| AskHRGreen General | 3,198 | 563 | 81% | 17.60% |
| Medication Disposal | 6,322 | 541 | 79% | 8.56% |
| Plastic Bag Recycling | 5,675 | 361 | 62% | 6.36% |

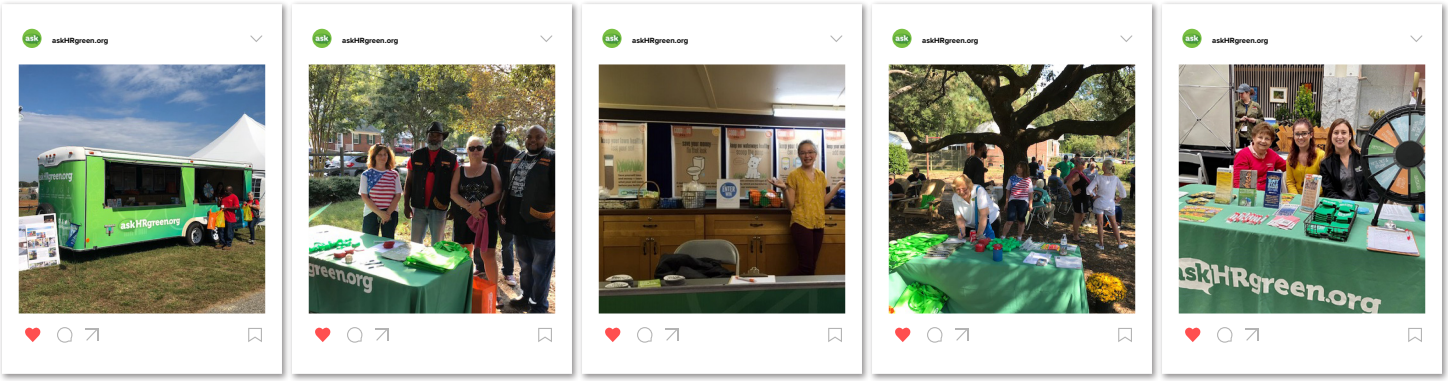
# Community Outreach

## Events

AskHRgreen.org is invited to attend a multitude of community events each year. These events serve as a vital opportunity for our regional committee members to interact with residents and visitors to Hampton Roads. The events span a variety of themes from eco-events to employee appreciation days, regional fairs, concerts, and more. Although some events have an environmental focus, many others appeal to the general public and allow interaction with new audiences who may be learning about eco-friendly behaviors for the very first time. The recently updated askHRgreen.org mobile outreach and education trailer is an important engagement tool for these events. Volunteers staff the trailer at special events and distribute a variety of resources from informational brochures and rack cards to reusable shopping bags, stainless steel straws, rain gauges, and a variety of other eco-themed promotional items. In addition, attendance at these events puts askHRgreen.org messages in front of large audiences.

In FY20, we had the opportunity to interact with more than 86,000 event goers across the Hampton Roads region. Due to COVID-19, our spring and early summer events were cancelled, but we look forward to more outreach events once these types of large gatherings can resume.

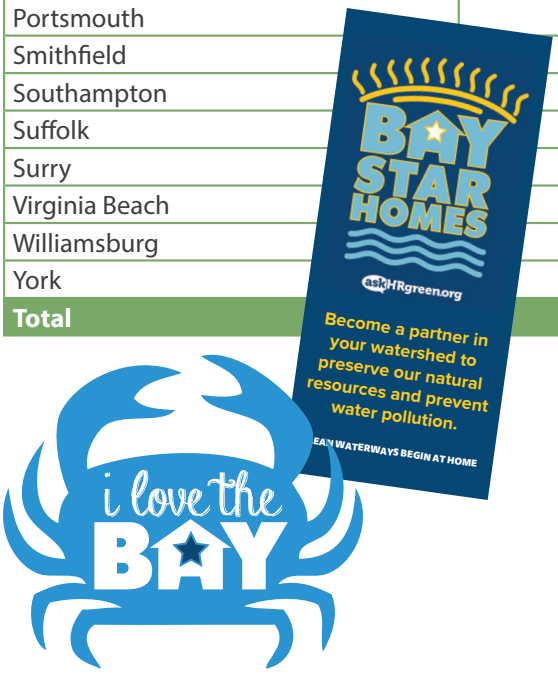
| 2019-2020 Community Events | | | Estimated Attendance |
|---|---|---|---|
| 8/9 | TGIF Summer Concert Series | Suffolk | 3,000 |
| 9/7 | Go Green Expo | Newport News | 1,100 |
| 9/12 | Isle of Wight County Fair | Windsor | 35,170 |
| 9/14 | Community Engagement Event @ VB Sportsplex | Virginia Beach | 4,000 |
| 9/19 | Third Thursdays Live at City Center | Newport News | 150 |
| 9/28 | Bow Creek Block Party | Virginia Beach | 130 |
| 9/28 | Roland Park Civic League Fall Cookout | Norfolk | 70 |
| 10/3 | CNU Farmer's Market | Newport News | 100 |
| 10/10 - | Peanut Festival | Suffolk | 25,000 |
| 10/10 | CNU Farmer's Market | Newport News | 50 |
| 10/12 | Lynnhaven River Now Fall Festival | Virginia Beach | 3,000 |
| 10/12 | Great Bridge High School Craft Show | Chesapeake | 500 |
| 10/24 | Public Works Fall Picnic | Virginia Beach | 520 |
| 11/12 | Anthem Eco Fair | Virginia Beach | 150 |
| 11/14 | Anthem Eco Fair | Norfolk | 250 |
| 1/13 - 1/16 | Mid Atlantic Horticulture Short Course & Home Gardener Day | Norfolk | 762 |
| 1/25 | Jam'n Jamz | Norfolk | 500 |
| 1/28 - 1/29 | Newport News Shipbuilding Health and Safety Expo | Newport News | 4,076 |
| 3/7 - 3/8 | Mid Atlantic Home & Outdoor Living Show | Virginia Beach | 8,125 |
| *4/4 - 4/5* | *Daffodil Festival* | *Gloucester* | *Cancelled* |
| *4/11* | *Go Green Market* | *Yorktown* | *Cancelled* |
| *4/18* | *Virginia Living Museum Earth Day Festival* | *Newport News* | *Cancelled* |
| *4/21* | *TCC Cares Earth Day* | *Chesapeake* | *Cancelled* |
| *4/22* | *Poquoson Earth Day* | *Poquoson* | *Cancelled* |
| *4/22* | *Great Bridge High School Earth Day* | *Chesapeake* | *Cancelled* |
| *4/22* | *NSA Hampton Roads Headquarters Earth Day event* | *Norfolk* | *Cancelled* |
| *4/23* | *NSA Portsmouth Earth Day Event* | *Portsmouth* | *Cancelled* |
| *4/25* | *Paradise Creek Earth & Arbor Day* | *Portsmouth* | *Cancelled* |
| *4/25* | *12th Annual Community Empowerment Fair* | *Newport News* | *Cancelled* |
| *4/25* | *Spring Fling* | *Hampton* | *Cancelled* |



## Bay Star Homes

FY20 was the fourth year of operation for the Bay Star Homes program. This community-based recognition program encourages residents to avoid environmentally-harmful behaviors in their home and be proactive about using voluntary stormwater management practices such as rain barrels, rain gardens, and downspout disconnects on their private property. Residents pledge to do at least eight environmentally-friendly practices as part of the program. Pledges include stormwater best practices as well as other desirable behaviors such as waste reduction, water conservation and energy reduction. In FY20, the total number of participating households for the Bay Star Homes program rose to 3,383, an increase of 279 new households over the previous year.

| Bay Star Homes Registrants | |
|---|---|
| City/County | Number |
| Chesapeake | 149 |
| Franklin | 13 |
| Gloucester | 19 |
| Hampton | 119 |
| Isle of Wight | 9 |
| James City | 12 |
| Newport News | 229 |
| Norfolk | 2301 |
| Poquoson | 17 |
| Portsmouth | 39 |
| Smithfield | 13 |
| Southampton | 4 |
| Suffolk | 139 |
| Surry | 3 |
| Virginia Beach | 236 |
| Williamsburg | 8 |
| York | 72 |
| **Total** | **3,383** |




## Great American Cleanup

For a second year, the askHRgreen.org Recycling & Beautification Committee worked together to clean up and beautify Hampton Roads through the Great American Cleanup (GAC). A part of the committee's "Team Up 2 Clean Up" initiative, GAC engages the public and business community to get involved in beautification projects throughout the region. For FY20, Friday, March 27 and Saturday, March 28 were designated as the regional GAC dates. Over 350 volunteers, including businesses and military commands, signed up to participate in a variety of events during the two-day initiative. Planned projects included neighborhood cleanups, sprucing up local parks, removing litter from roads and waterways, mulching and weeding community gardens, and planting new gardens and trees.

The regional effort caught the attention of state and national partners including Keep Virginia Beautiful, Keep America Beautiful, and the Earth Day Network. The GAC events paired well as a kick off to Earth Month in April 2020, leading to the celebration of the 50th Earth Day on April 22. Unfortunately, in the week leading up to the events, coronavirus began to spread across the United States and stay-at-home orders forced the cancellation of all planned activities. The committee hopes to reschedule the cleanup initiative for September 18-19, 2020 as litter pickup becomes increasingly important due to the growing amount of litter from personal protective equipment (PPE) and hand sanitizing supplies.

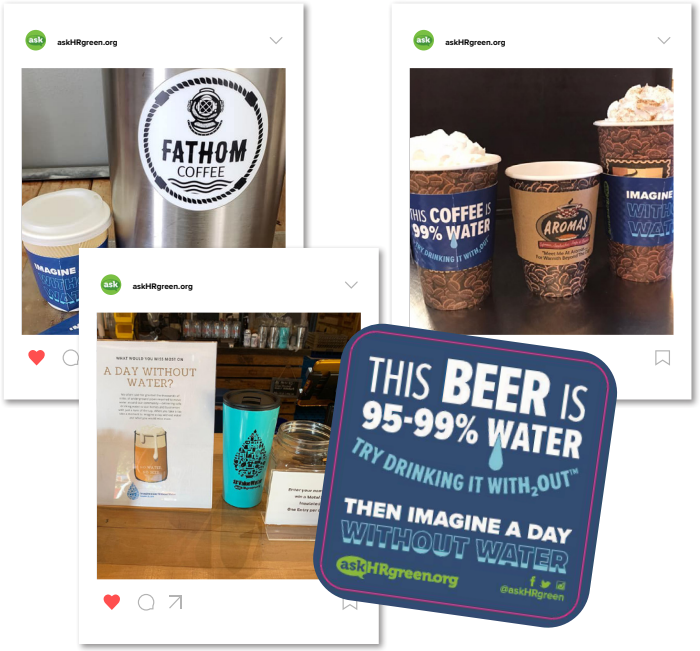


Attachment 3

## Imagine a Day Without Water

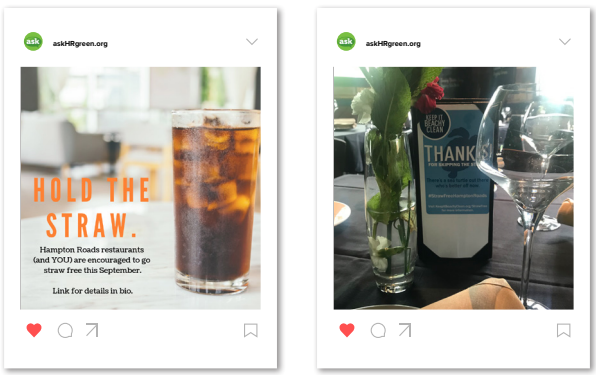
Municipal water services are vital for quality of life in Hampton Roads. Both residents and businesses rely on a consistent supply of tap water to power their days. Breweries and coffee shops are particularly dependent on clean, reliable tap water to brew their custom crafted beverages. For a second year, the askHRgreen.org Water Awareness Committee engaged these natural advocates for clean water as part of a national advocacy and awareness promotion, Imagine a Day Without Water, that addresses the importance of maintaining our water and wastewater systems. Partnering breweries and coffee shops were given branded coffee sleeves or coasters to distribute to customers. The coffee sleeves and coasters convey the message that coffee and beer are 95-99 percent water and neither would be possible without tap water.

In total, the campaign engaged 25 breweries and coffee shops through this campaign. The coffee sleeves and coasters were distributed starting on October 23, 2019, the national recognition day for Imagine a Day Without Water, and continued while supplies lasted. The campaign also included a strong organic social media campaign with partnering businesses. All partners were offered a special #ValueWater tumbler to raffle off to customers or social media followers. The added giveaway component, new in FY20, increased the reach of the campaign through social media and resulted in positive co-branding opportunities with coffee shops and breweries seen as trusted local brands that often have a dedicated following.



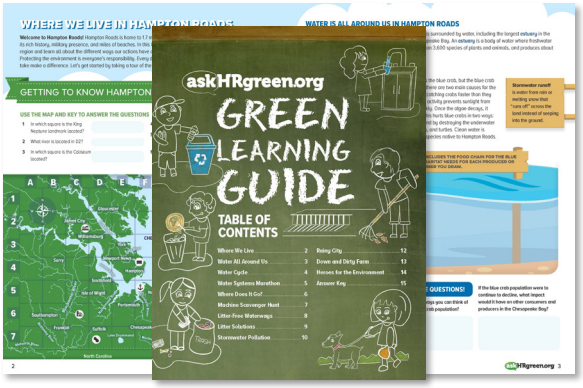

## Straw-Free September

Following up on the success and popularity of Straw-Free Earth Day in April 2019, the askHRgreen.org Recycling & Beautification Committee continued to recruit restaurants to go straw-free in FY20. In a special partnership with Keep It Beachy Clean and Clean Virginia Waterways, the committee encouraged restaurants to be a part of "Straw-free September Days" and supply customers with straws only upon request during the month-long promotion. The initiative was coordinated in support of the International Coastal Cleanup, which happens annually in September. Participating restaurants received a supply of paper straws to provide to customers who requested a straw during the promotion, as well as branded window clings, menu cards, table tents, and educational place mats. All of the materials reinforced the "skip the straw" waste reduction message. Twenty restaurants across seven localities participated in the Straw-Free September Days initiative. While the 2019 Earth Day initiative focused solely on a specific straw-free weekend, FY20 promotional efforts shifted the focus to encouraging a lasting change to restaurant policy. Some restaurant partners have indicated that participating in the straw-free campaigns has led to permanent change in their policy towards providing straws to guests.

## Environmental Education Lesson Plans

In response to coronavirus safety protocols, public schools throughout Hampton Roads closed for in-person learning in late March. Public schools and parents scrambled to continue education via a virtual platform but few were prepared to operate in a completely online environment. In order to assist teachers and parents in need of content for daily lesson plans, askHRgreen.org crafted nine weeks of environmentally-themed lesson plans for elementary and middle school students. While not targeted at specific Virginia Standards of Learning (SOLs), the lesson plans covered topics such as the water cycle, watersheds, wastewater treatment, Earth Day, waste reduction, drinking water, marine debris, biodiversity and healthy habitats, and sustainable living. Many SOL-based activities were pulled from the previously published Green Learning Guides created by askHRgreen.org for third and sixth grade students. The lessons were well received by teachers and parents in need of new ways to keep their young learners engaged during this detour from a formal education atmosphere.




GREEN EDUCATION • HAMPTON ROADS • MAY 26, 2020 • REBEKAH EASTEP

Your Environmental Impact: Lessons for a Sustainable Future

Nine weeks ago Hampton Roads parents began to navigate the realities of distance learning for K-12 students due to coronavirus. askHRgreen.o ...

READ ARTICLE

GREEN EDUCATION • HAMPTON ROADS • MAY 18, 2020 • REBEKAH EASTEP

Biodiversity, Habitats and Humanity

Over the last eight weeks, we've helped Hampton Roads students connect with a variety of important environmental topics through our we ...

READ ARTICLE

GREEN EDUCATION • HAMPTON ROADS • MAY 11, 2020 • REBEKAH EASTEP

Big Ocean, Big Mess: Marine Debris Lessons for Kids

It was the turtle seen around the world. In 2015, marine conservation biologist Christine Figgener posted a now viral video of an olive rid ...

READ ARTICLE

GREEN EDUCATION • HAMPTON ROADS • MAY 4, 2020 • REBEKAH EASTEP

Tap Into This Week's Environmental Lesson Plan

It's Drinking Water Week and askHRgreen.org is focused on all things tap water. Did you know that without tap water social distancing ...

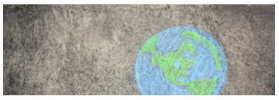
READ ARTICLE

GREEN EDUCATION • HAMPTON ROADS • APR 27, 2020 • REBEKAH EASTEP

Simple Waste Reduction Lesson Plan

Ok, parents. How are we doing? We're five weeks in to this homeschooling adventure and hope everyone is starting to fall into routine. ...

READ ARTICLE



GREEN EDUCATION • HAMPTON ROADS • APR 20, 2020 • REBEKAH EASTEP

Celebrate Earth Day 50 with Simple Lesson Plans

Today we kick off our Earth Day 50 celebration with week four of our environmental lesson plans! The first Earth Day in 1970 mobilized milli ...

READ ARTICLE

GREEN EDUCATION • HAMPTON ROADS , HRSD • APR 13, 2020 • REBEKAH EASTEP

Easy Environmental Lesson Plans: Wastewater Treatment

We continue to bring you a weekly easy-to-use environmental lesson plan for parents to use as part of their homeschooling plan. Each of our ...

READ ARTICLE

## Environmental Education Mini Grant Program

Supporting environmental education in the classroom continues to be a priority of askHRgreen.org. The Mini Grant program offers all Hampton Roads teachers (K-12), youth leaders, or organizations working with youth mini grants of up to $500 to provide funding for environmentally-themed projects. Providing educators with the funding necessary to bring to life environmental subjects has proven successful over the years but particularly in FY20. For the first time since the mini grant program was consolidated into a single, streamlined askHRgreen program, the entire $10,000 budget was exhausted in one fiscal year. In all, the program supported 21 projects and awarded $10,073 in grant funding. The funded projects reached nearly 8,100 students across Hampton Roads. While funded in FY20, many projects will be implemented in FY21 due to the early school closures caused by coronavirus. Examples of projects funded this fiscal year include pollinator gardens and habitat, meaningful watershed experiences, tap water tastings, native tree plantings, and support for in-school waste reduction programs such as composting and recycling.



Attachment 3

# Environmental Education Mini Grant Projects

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| Project | Students | Project Description | School/Organization | City/ County | Grant |
|---|---|---|---|---|---|
| Old Donation Eco-bus | 1,500 | This project will help fund a grease filtration system for Old Donation School's EcoBus (a functioning mobile sustainability classroom constructed from a decommissioned VBCPS school bus). | Old Donation School | Virginia Beach | $500 |
| Pollinator Garden for Girl Scouts | 1 | This project will help fund construction and planting of a garden to offer sanctuary, food, and water to native pollinators at the Norfolk Fitness and Wellness Center. | Girl Scout Council of the Colonial Coast Troop 176 | Norfolk | $413 |
| Healthy Food, Healthy Life | 530 | This was Newtown Elementary School's fifth year in developing a vibrant learning garden for students to use as a real-world learning experience. | Newtown Elementary School | Virginia Beach | $500 |
| Get to Know Your Watershed | 60 | This project provided Green Run High School students a meaningful watershed educational experience through the Chesapeake Bay Foundation's boat field trip. | Green Run High School | Virginia Beach | $440 |
| Bee-utiful Learning Experiences | 260 | This project provided a new Bee Colony for Old Donation School. | Old Donation School | Virginia Beach | $500 |
| Drink More Water! | 500 | This project provided reusable water bottles and water tastings for Newtown Elementary School students. | Newtown Elementary School | Virginia Beach | $500 |
| Water for Caretakers and Children | 500 | The project provided an ecologically sensitive method of drinking water for children and caretakers by providing drinking water stations, a handwashing station, and paper cups for composting. | James River Elementary | Williamsburg | $495 |
| Vesting Up for Deeper Understanding | 130 | This project will fund youth life vests and dip nets for Old Donation School students to participate in an oyster restoration action project. | Old Donation School | Virginia Beach | $450 |
| Green Girls! | 350 | This project helped Girl Scout Council of the Colonial Coast Troop 1019 reinstate John G. Cary school's recycling program. | GSCCC Troop 1019 | Hampton | $260 |
| Recycle for Change | 900 | This project will help establish four recycling bins in the Tabb High School Cafeteria and one recycling bin outside in the Tabb High School Sports Fields. | Tabb High School | Yorktown | $500 |
| Native Tree Project | 84 | This project provided funds for 100 native Eastern redbud bare-root seedlings, plastic nursery pots, and potting soil for Norfolk Academy. | Norfolk Academy | Norfolk | $500 |
| Green Readers – Kindergarten & Third Grade | 1,900 | This project provided a take-home book to every kindergarten and third grade student at 11 schools and volunteer guest reading in classrooms. | Norfolk Environmental Commission | Norfolk | $1,000 |
| Marlin Meadows | 100 | This project funded a Marlins Go Green environmental program on the Virginia Wesleyan University campus to incorporate a new sustainable garden on campus. | Virginia Wesleyan Uni-versity | Virginia Beach | $500 |
| The Bee Byway | 2 | This project will help establish a pollinator corridor called The Bee Byway through an unfragmented section of Newport News. | The Ruling Robot Falcons | Newport News | $315 |
| Hoffler Creek Polli-nator Program for Kids | 25 | This project funded the purchase of seeds, compost, and clay powder for each child to produce "seed bombs" (one egg carton of balls of compost, clay, and native wildflower seeds) for tossing at Hoffler Creek Wildlife Preserve to establish a pollinator garden. | Hoffler Creek Wildlife Foundation | Portsmouth | $200 |
| An Elizabeth River Project – Resilient River School | 249 | This project will help fund an ERP new Resilient River Star School program with Victory Elementary to green their schoolyard with over 100 native trees and 500 native water-tolerant plants to create new habitat and address frequent flooding. | Elizabeth River Project | Portsmouth | $1000 |
| Adopt-A-Pot | 25 | This project will restore the existing flower pots on the City of Hampton's main streets with pollinator-friendly plants. | Partnership for a New Phoebus | Hampton | $500 |
| Community Garden and Recycling Program | 15 | This project will restore Academy for Discovery at Lakewood's community garden to productivity and aesthetic standards as well as provide public awareness for recycling at the school. | Academy for Discovery at Lakewood | Norfolk | $500 |
| Composting Know-How | 100 | This project will provide signage for Williamsburg Community Grower's new three-part composting bin system that will educate community members regarding the three R's, how and why to compost, and how to properly use the composting system. | Williamsburg Community Growers | Lightfoot | $500 |
| Native Pollinator Habitat Stewardship | 865 | This project will provide native and pollinator plants to the Spratley Gifted Center's large schoolyard habitat. | Spratley Gifted Center | Hampton | $500 |
| | **8,096** | | | | **$10,073** |



Attachment 3

## Business Outreach

### Bay Star Business Program

Since 2018, the askHRgreen.org Stormwater Education Committee has engaged local businesses committed to protecting the environment through the Bay Star Business Program. To become part of the free, pledge-based program, business owners sign up online by committing to environmental practices such as conserving water, recycling, cleaning up and preventing litter, properly maintaining company vehicles, organizing a community cleanup, and more. Participation in the program lets Hampton Roads consumers know a business is committed to implementing environmentally-friendly practices in their day-to-day operations. Most action items are also no- or low-cost changes which can help a business run more efficiently while conserving natural resources. Participating businesses receive a welcome packet filled with business-centric information from askHRgreen.org and Bay Star Business window clings to display in their office or on company vehicles. Bay Star Business Partners are also recognized through the askHRgreen.org website and social media accounts. The increased exposure is an incentive for participating and an easy way to thank businesses for doing their part to protect local environmental quality. In FY20, the Bay Star Business program added 15 new partners for a total of 50 diverse participants including multi-family housing developments, landscapers, industrial and professional service providers, plumbers, restaurants, and retail establishments

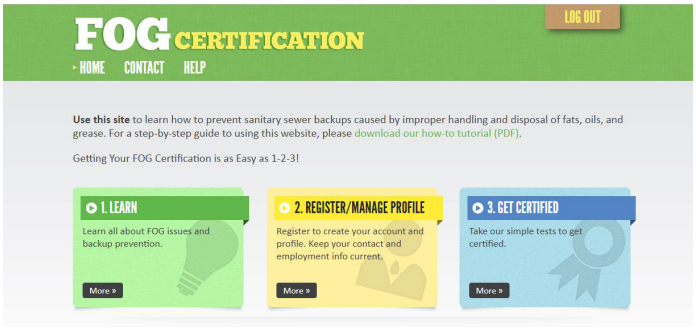

### Fats, Oils, and Grease (FOG) Commercial Training and Certification Program

The regional FOG training and certification program is designed to educate local food service workers and grease haulers on how to prevent sanitary sewer backups caused by improper handling and disposal of fats, oils, and grease. FOG certification requirements vary by locality, and the free certification program is available to anyone through the HRFOG.com website.

Various updates and enhancements were made to HRFOG.com during FY20. The website was converted to a responsive design site, ensuring a user-friendly experience for visitors on any type of device: mobile, tablet, or desktop. In addition, the grease hauler and food service worker training programs and certification tests were updated to reflect modern changes in local FOG program administration and industry best practices.

In FY20, the FOG Education committee updated the Grease Control Device Enforcement Memorandum of Agreement (MOA) between HRSD and participating localities. The updated MOA was approved by the regional Directors of Utilities Committee and several localities have formally adopted it. Due to COVID-19, the adoption process was delayed in some municipalities but it is anticipated that all MOAs will be completed in the coming year.

In January, the FOG Education Committee hosted a full-day training course through Ken Loucks' Interceptor Whisperer FOG Institute Training Program. Registration for the training was open to utility employees across Hampton Roads as well as the general public and those



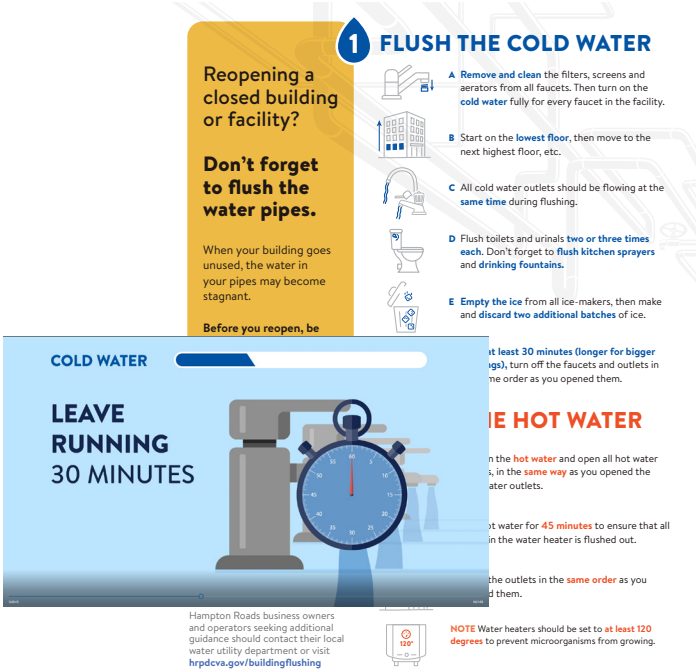
who attended received a comprehensive education in commercial grease interceptors: how they work, product standards, how they are regulated through the plumbing code, and how to properly size, select, and maintain them.

## Illicit Discharge Rack Cards

Certain industries have a greater potential to discharge harmful waste into the stormwater system and local waterways through the course of their work. The askHRgreen.org Stormwater Education Committee continued to distribute industry-specific rack cards for the following high priority industries: lawn care and landscaping, automotive services (such as car dealers, repair shops, and fleet maintenance), and animal services (including animal boarding facilities, animal shelters, pet groomers, and veterinary offices). Each rack card addresses potential sources of pollution and provides industry best practices to prevent illicit discharges.


## COVID-19 Water Quality Outreach

When local businesses that closed due to COVID-19 began preparing to reopen, stagnant water was a concern for building plumbing systems. The Water Awareness Committee worked together with the region's utility directors and the Virginia Department of Health to develop proper flushing guidelines and coordinate a communication strategy to reach building owners and operators with this important information. As a result, a detailed fact sheet, step-by-step instructional infographic, and how-to video were developed and distributed to media outlets and posted on local and regional websites. Because the group works together on other regional communication initiatives, we were able to coordinate this outreach effort and get that vital information disseminated in a timely fashion as businesses prepared to welcome back employees and customers.




## Events

Each year, askHRgreen.org participates in a variety of corporate and industry events across the region. In FY20, askHRgreen.org volunteers had a presence at corporate events for Huntington Ingalls/Newport News Shipbuilding, Anthem, professional landscapers at the Mid-Atlantic Horticulture Association Short Course, and municipal employee events. Additionally, askHRgreen.org engaged businesses through promotions such as Imagine a Day Without Water and Straw-Free September Days. Recognizing restaurants, breweries, and coffee shops as important partners for communicating the value of tap water and waste reduction continued to be a key strategy in FY20.

## 2019-20 Promotional Campaigns

### Waste Reduction

With turbulent recycling markets and changing municipal recycling contracts, the priority of the Recycling & Beautification Committee has increasingly focused on waste reduction. While recycling continues to be an important message, the waste reduction message helps residents decrease their waste contribution no matter the state of recycling. The committee's message for residents is that we should all choose to reduce our waste production first before focusing on what can and cannot be recycled.

**Paid Media.** A one-week radio and digital media campaign ran from September 16-22. The "Choose to Refuse" campaign focuses on single use plastics including bottled water, straws, utensils, take out containers, and plastic bags. Through this outreach, residents are urged to refuse disposable products and choose reusable alternatives. The campaign included radio, digital display ads and retargeting, native content ads, and social media. Throughout the year, specific waste reduction messages were also included in the Google SEM campaign, driving traffic to the askHRgreen.org website from relevant keyword searches.

**Outreach Materials.** In support of the waste reduction message, the committee purchased reusable bags and distributed portable cutlery sets and reusable stainless steel straws at outreach events. All items provide a practical alternative to help residents reduce their use of single use disposable plastics.

**Public Relations.** Public relations efforts supported the waste reduction message through a variety of media channels including news releases, print coverage (Suffolk News Herald), and articles in the askHRgreen.org newsletter.

**Social Media.** We engaged with the community via Facebook, Twitter, and Instagram. Outreach included sharing waste reduction tips, upcycling projects, and stories about the negative environmental impacts of plastics and our throw away culture. The paid social media and digital campaign was the one of the highest performing in FY20, achieving 1,810 clicks.

SEPTEMBER 16 - 22, 2019 ONE WEEK

**Waste Reduction / Choose to Refuse**


### Plastic Bag Recycling

The plastic bag is Public Enemy No. 1 to materials recovery facilities in Hampton Roads and nationwide. When tossed in with comingled recyclables, they get caught in machines, increasing processing time and harming equipment while posing a danger to employees tasked with removing them. In order to combat this nuisance contaminating the recycling stream, the Recycling & Beautification Committee launched a new plastic bag recycling campaign in the fall of FY20. The message for residents is that thin plastic bags and wraps can be recycled, just not in curbside recycling bins. They must be returned to local stores for collection and processing.

**Paid Media.** A one-week radio and digital media campaign ran from November 18-24 and included radio, digital display ads and retargeting, native content ads, social media, and pre-roll video ads. Plastic bag recycling messages were also included in the Google SEM campaign, driving traffic to the askHRgreen.org website from relevant keyword searches.

**Public Relations.** Public relations efforts supported the plastic bag recycling message through interviews and articles in the askHRgreen.org newsletter.

**Social Media.** We engaged with the community via Facebook, Twitter, and Instagram by sharing plastic bag recycling tips and videos.

NOVEMBER 18 - 24, 2019 ONE WEEK

**Back To Basics / Plastic Bags** NEW


## Litter Prevention

Litter is a main focal area for the Recycling & Beautification Committee. In FY20, we once again partnered with Keep Virginia Beautiful to host the national kickoff of the Great American Cleanup. While the region-wide cleanup events planned for March 27-28 had to be cancelled due to the coronavirus, we're looking to mobilize individuals, families, and small groups in the fall of 2020 to host their own cleanup events in their neighborhoods and communities while safely practicing social distancing. The "Team Up 2 Cleanup" campaign was promoted in the following ways:

**Paid Media.** A one-week media campaign ran from March 2-8 on radio and social media. The purpose of the campaign was to educate residents about local litter problems and recruit volunteers to take action by joining the local cleanup events planned for the Great American Cleanup National Kickoff in Hampton Roads. Throughout the year, specific litter prevention messages were included in our Google SEM campaign, driving traffic to the askHRgreen.org website from relevant keyword searches.

**Outreach Materials.** Through the Virginia Litter Prevention and Recycling Competitive Grant, the committee received $5,000 to procure supplies needed to create 70 litter kits to distribute between 12 participating localities. Each litter kit includes one bucket, four litter grabbers, four safety vests, eight trash bags, 10 latex gloves, and one "Team Up 2 Clean Up" promotional decal. The local litter control coordinators developed litter kit lending programs unique to their jurisdictions. Some simply hosted the lending program through their own litter control offices while others engaged various public-facing organizations including public libraries, community centers, and recreation centers to expand program access. The litter kit lending programs are a great way to encourage local cleanups by providing volunteers with the tools and resources to host their own.

**Public Relations.** Public relations outreach about litter prevention and cleanups was conducted via news releases and articles in the askHRgreen.org newsletter.

**Social Media.** We engaged with the community via Facebook, Twitter, and Instagram. Outreach topics included the negative impacts of litter, advertising cleanup opportunities, and reporting the results of local litter cleanups. The influx of masks and other personal protective equipment (PPE) ending up as litter in parking lots and sidewalks was a particularly hot topic on social media in the spring and early summer.

MARCH 2-8, 2020 ONE WEEK

**Great American Cleanup / Team Up 2 Clean Up**


## Residential Recycling Practices

For many, household recycling has become a habit, albeit a good one. If there is a number on the bottom of that yogurt cup or take-out container, many haphazardly toss it into the recycling bin hoping that it will get recycled. That good habit of "wishful recycling" creates a lot of contamination in the recycling stream. To combat that, the Recycling & Beautification Committee launched

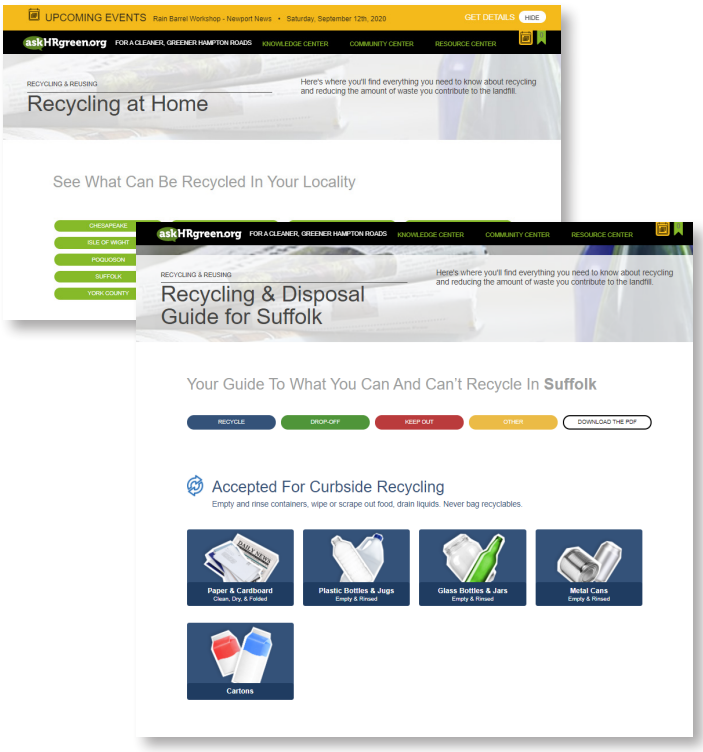


Attachment 3

a new recycling and disposal guide in preparation for America Recycles Day, November 15, 2019. The new online tool, available at www.askHRgreen.org/recycle, connects residents with easy-to-understand visuals of what can and cannot go in the curbside recycling bin, according to individual locality guidelines. It also features helpful information about items residents can drop off at convenience centers, as well as specialty curbside services offered by some localities such as bulk waste pickup and yard waste composting. The recycling tool is easy to use and even includes a downloadable one-page guide residents can print and display in their homes.

**Public Relations.** A press release was distributed in November announcing the new tool available on the askHRgreen.org website. It was featured in the Sunday, November 17, edition of the Virginian-Pilot and also in the askHRgreen.org newsletter.

**Social Media.** We engaged with the community via Facebook, Twitter, and Instagram. Outreach included sharing news about the new recycling lookup tool, answering recycling questions, and promoting local recycling information and collection events.





## Fats, Oils & Grease (FOG) Disposal

The FOG Committee focuses each year on helping residents and local restaurants understand the sources of FOG (fats, oils, and grease) and best management practices that should be followed in order to keep this waste from contributing to sewer blockages and backups. This focal area was addressed with the following strategies:

**Paid Media.** The "Grease Grinch" campaign ran online for two weeks from November 25 – December 8. Ads included radio, digital display ads and retargeting, native content, social media, video pre-roll, and digital streaming TV. Throughout the year, specific FOG messages were included in the Google SEM campaign, driving traffic to the askHRgreen.org website from relevant keyword searches.

**Outreach Materials.** The FOG Committee continued to distribute relevant promotional items including sink strainers, grease can lids, sponges, spatulas, and more.

**Public Relations.** Public relations supported public education and outreach through a variety of media channels including news releases, print coverage (The Virginian-Pilot Flavor Section), and multiple articles in the askHRgreen.org newsletter.

**Social Media.** We engaged with the community via Facebook, Twitter, and Instagram. Outreach topics included the negative impacts of improper grease disposal, fatbergs, canning the grease, and the importance of maintaining infrastructure.

NOVEMBER 25 - DECEMBER 8, 2019 TWO WEEKS

**Grease Grinch**


## What Not to Flush

The FOG Committee continues to educate the public about proper flushing etiquette and the harmful side effects of flushing personal hygiene products, wipes, dental floss, cotton swabs, and more.

**Paid Media.** The committee created a new "What Not To Flush" media campaign that ran from April 6-12. The video shows a variety of commonly flushed items that should go in the trash, not down the toilet and reminds residents to only flush toilet paper along with their personal business. The engaging new video features colorful graphics and engaging audio to encourage people to do the right thing. The one-week media campaign included radio, digital display ads and retargeting, native content, social media, video pre-roll, and digital streaming TV ads. Throughout the year, specific what not to flush messages were included in the Google SEM campaign, driving traffic to the askHRgreen.org website from relevant keyword searches.

**Outreach Materials.** The FOG Committee continued to distribute washcloths, toilet stress squeezers, and "what not to flush" stickers in support of the message. In addition, the committee developed a "flush it or not" magnet game to be used as an engagement tool for future school visits and pubic events.

**Public Relations.** Public relations supported the what not to flush message through a variety of media channels including news releases, local TV news coverage (WVEC article), and the askHRgreen.org newsletter.

**Social Media.** We engaged with the community via Facebook, Twitter, and Instagram. Outreach topics included the damaging side effects of flushing trash, photos showing clogs due to wipes and rags, proper medication disposal, and the myth of flushable wipes. With the increased use of disinfecting wipes due to health and safety concerns regarding COVID-19, proper disposal of wipes became an important topic to promote via all of our outreach channels.

APRIL 6-12, 2020 ONE WEEK

**What Not To Flush** NEW CREATIVE


## Communicating the Value of Water

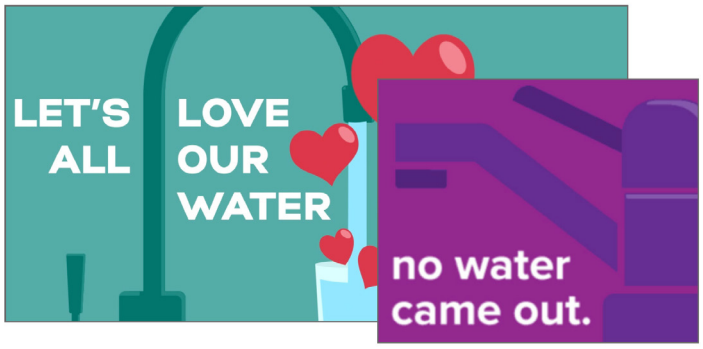
Water is the foundation of our community. From handwashing, a practice made exceptionally important during the COVID-19 pandemic, to cooking, and cleaning, water drives our quality of life in Hampton Roads. It's also vital for our economy, fire protection, and the continued fight against the spread of illness. The Water Awareness Committee continued to focus on communicating the vital role water plays in our lives in the following ways:

**Paid Media.** The Water Awareness Committee conducted two media campaigns during FY20 that leveraged national water awareness initiatives as an opportunity for local outreach.

*Imagine a Day Without Water.* Celebrated each October, Imagine a Day Without Water is a national outreach campaign designed to highlight all the ways we use water each day. A two-week media campaign ran from October 14-27 featuring radio, static and retargeted digital display ads, native content ads, social media, and video pre-roll. The campaign utilized new creative for both radio and video assets. The creative theme included a rhyming poem with vibrant video animation highlighting all the things we'd miss on a day without water. The paid media campaign was supported by grassroots outreach through the partnership with local breweries and coffee shops with branded coasters and coffee sleeves distributed on October 23.

OCTOBER 14-27, 2019 TWO WEEKS

**Imagine a Day Without Water** NEW CREATIVE




*Drinking Water Week*. A one-week media campaign ran from May 4-10 as part of the national Drinking Water Week awareness campaign from American Water Works Association. The campaign included radio, static and retargeted digital display ads, social media, video pre-roll, and digital advanced TV. The campaign utilized an existing radio ad that covered "the honest truth about public water systems" while the video component featured interviews asking Hampton Roads residents what water meant to them. The digital display ads drove home the important role water infrastructure plays in hygiene, business, health care, and fire protection.

MAY 4-10, 2020 ONE WEEK

**Drinking Water Week**


**Outreach Materials.** The committee continued to distribute a variety of promotional items including reusable water bottles, mood pencils, sponges, toothbrushes, and more. Hydro flasks were a particularly engaging outreach tool this year as popular giveaway items for social media contests.

**Public Relations.** Public relations exposure came from features on various media channels including news releases, print coverage (Williamsburg-Yorktown Daily, Southside Daily, Hampton Newport News Daily, The Virginia Gazette), interviews with local radio and TV shows, and articles in the askHRgreen.org newsletter. Of particular note, the Imagine a Day Without Water campaign was featured on WTKR's Coast Live program and in the Inside Business publication.

**Social Media.** We engaged with the community via Facebook, Twitter, and Instagram. The askHRgreen.org social media branding campaign promoted multiple value of water messages in support of both Drinking Water Week and Imagine a Day Without Water. Partnerships with local coffee shops and breweries got the value of water message in front of new and diverse audiences on social media. The hydro flask giveaways also drove engagement on social media.

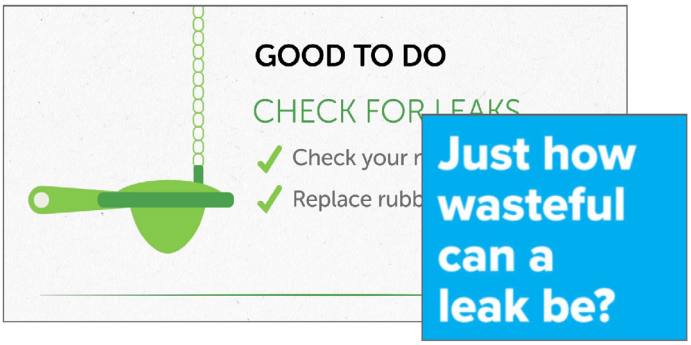
## Water Conservation

The Water Awareness Committee continued to raise awareness about conserving water in Hampton Roads. Central topics for this focal area include fixing leaks,

installing low flow WaterSense plumbing fixtures, and indoor/outdoor water conservation tips.

MARCH 16-22, 2020 ONE WEEK

**Fix-A-Leak**




**Paid Media.** As part of Fix-a-Leak Week, a nationwide campaign from EPA, a one-week radio and online media campaign ran from March 16-22. The campaign used existing creative including a "man on the street" video about water waste and how to find and fix a leaking toilet. The radio creative captured the similar tone of a "man on the street" interview parodying the sounds of household leaks. The campaign included radio, static and retargeted digital display ads, social media, and video pre-roll. Throughout the year, specific water conservation messages were also covered in our Google SEM campaign, driving traffic to the askHRgreen.org website from relevant keyword searches.

**Outreach Materials.** The Water Awareness Committee distributed numerous promotional items to help residents conserve water including rain gauges, shower timers, toilet leak detection dye tabs, seed bookmarks, and hose nozzles.

**Public Relations.** Conservation messages were weaved into public relations through news releases, print coverage, interviews with local radio and TV shows, and articles in the askHRgreen.org newsletter. Of particular note, the topic of native plants was a popular one, featured in multiple media interviews.

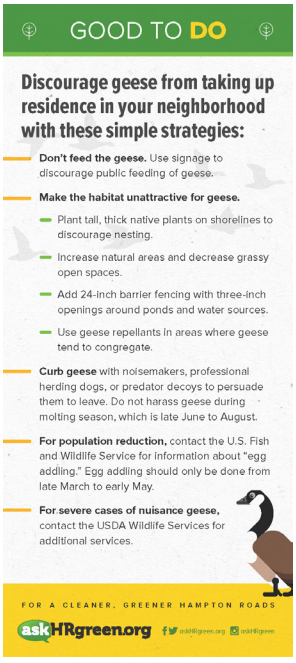
**Social Media.** We engaged with the community via Facebook, Twitter, and Instagram. The askHRgreen.org social media branding campaign covered water conservation topics ranging from rain barrels to fixing leaks to household usage tips.

## Storm Drains & Illicit Discharges

The Stormwater Education Committee continues to educate the public about storm drains: what they are, where they go, and how they can contribute to local water pollution. The popular "only rain down the drain" message was incorporated into a variety of outreach campaigns during FY20 as the best management practices for storm drains overlap with other committee focal areas.

**Paid Media.** Throughout the year, storm drain topics were included in our Google SEM campaign, driving traffic to the askHRgreen.org website from relevant keyword searches.

**Outreach Materials.** The committee added a new resource for the management of wild geese to its comprehensive library of informational brochures and rack cards addressing best management practices. askHRgreen.org also continued to promote the storm drain marking program.

**Public Relations.** Public relations supported this focal area through news releases, print articles, interviews with local radio and TV shows, and features in the askHRgreen.org newsletter. Two planned public relations efforts were delayed due to COVID-19. First, the committee planned to launch a series of sidewalk decals to promote the message "Every Day We Love the Bay, Only Rain Down the Drain" in conjunction with the Chesapeake Bay Foundation's Clean the Bay Day litter cleanup in June 2020. That effort has been rescheduled for June 2021. Similarly, the committee has coordinated with 38 car washes on a "Thank You for Washing Wisely" campaign. The campaign recognizes the value of washing cars at commercial establishments with runoff capture instead of at home on paved surfaces. Originally planned for late spring, this campaign has been rescheduled to August 2020.


**Social Media.** We engaged with the community via Facebook, Twitter, and Instagram. Outreach included awareness of local water quality problems and a diverse variety of best management practices. The askHRgreen.org social media branding campaign was responsible for the majority of creative to support social media outreach.

**Chesapeake Bay Restoration Fund Grant (CBRF).** The committee was awarded grant funds to host four rain barrel workshops in FY20. The first two workshops were held in October 2019 in Newport News and Chesapeake. Spring workshops were scheduled for April 2020 in Hampton and Suffolk, however, COVID-19 stay-at-home orders forced a postponement. Once reopening guidelines were announced, the workshops were reimagined with


safety in mind. The Hampton workshop was split into two smaller events to maintain social distancing among participants. The Suffolk workshop was transitioned to a "take and make" curbside pickup where residents safely picked up their rain barrel and assembly kit from the City of Suffolk and assembled the rain barrels in their own home with the help of instructional tools. All four workshops were popular, sold-out events. The modest $20 registration fee is a strong incentive for residents to participate. Thanks to this grant from CBRF, 60 affordable rain barrels are now helping to improve water quality in Hampton Roads.

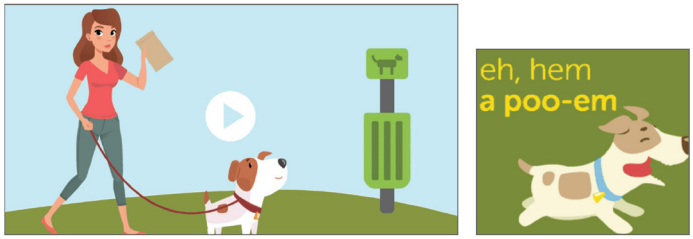
## Pet Waste Disposal

In FY20, the Stormwater Education Committee continued to raise awareness about the importance of scooping the poop and the harmful impacts of bacteria-laden waste on local water quality.

**Paid Media.** The committee ran a one-week media campaign from June 1-7. The campaign used existing creative featuring a whimsical "poo-em" about cleaning up after your pet and the harmful impacts of pet waste on local water quality. The campaign included radio, static and retargeted digital display ads, social media, video pre-roll, and advanced TV. Throughout the year, pet waste and "scoop the poop" messages were also included in our Google SEM campaign, driving traffic

JUNE 1-7, 2020 ONE WEEK

**Pet Waste**



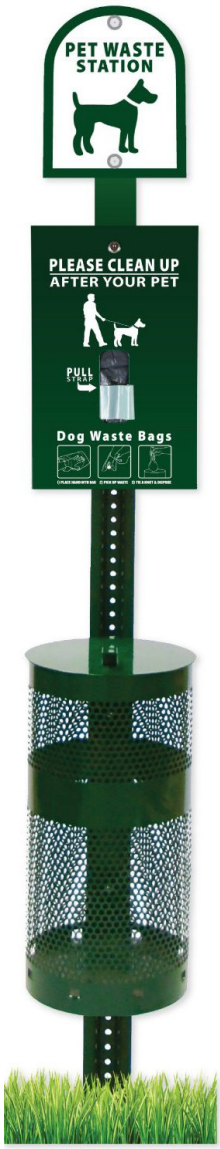

to the askHRgreen.org website from relevant keyword searches.

**Outreach Materials.** The committee purchased 5,000 dog waste bag holders to distribute at community events. The dog waste bag holders accompany scoop the poop rack cards with helpful information for residents.

**Public Relations.** The pet waste message was promoted in news releases, print articles, interviews with local radio and TV shows, and features in the askHRgreen.org newsletter.

**Social Media.** Social media is an important tool for sharing the "scoop the poop" message, and we utilized Facebook, Twitter, and Instagram in our outreach efforts. The public was encouraged to sign the scoop the poop pledge which resulted in 20 new pledges in just one week. Some who completed the pledge also included their pet's name, a picture and their favorite place to walk. These pictures and details were used to extend the social media campaign through additional posts thanking residents who took the pledge and spotlighting their furry friends. The askHRgreen.org social media branding campaign was responsible for the majority of pet waste outreach on social media in FY20.

**Pet Waste Station Grant Program.** Since 2013, the askHRgreen.org Pet Waste Station Grant Program has made it easy for communities across Hampton Roads to add pet waste stations to their streets and common areas. Geared toward neighborhood associations, community groups, and property management companies, the regional program offers communities an opportunity to receive a free pet waste station to install and maintain in their neighborhoods. Approved applicants are responsible for installing the station, emptying the trash regularly, and replacing the bags as needed. The neighborhood is also tasked with spreading the word about the location of the new pet waste station, the negative impact of pet waste on local water quality, and encouraging its use among dog-walking neighbors. Since the launch of the program, more than 382 pet waste stations have been awarded and installed across the region. Of those, 33 were awarded and installed during FY20.




| New Pet Waste Stations in FY20 | |
|---|---|
| Chesapeake | 2 |
| Hampton | 1 |
| James City | 2 |
| Newport News | 6 |
| Norfolk | 2 |
| Portsmouth | 3 |
| Suffolk | 3 |
| Virginia Beach | 13 |
| York | 1 |
| | **33** |

| Total Pet Waste Stations Awarded FY14 to FY20 | |
|---|---|
| Chesapeake | 41 |
| Franklin/Southampton | 8 |
| Gloucester | 5 |
| Hampton | 32 |
| Isle of Wight | 6 |
| James City | 32 |
| Newport News | 78 |
| Norfolk | 15 |
| Poquoson | 5 |
| Portsmouth | 21 |
| Smithfield | 8 |
| Suffolk | 36 |
| Virginia Beach | 70 |
| Williamsburg | 5 |
| York | 20 |
| | **382** |

## Lawn Care & Fertilizer

**Paid Media.** After several years of reusing existing creative for lawn care campaigns, the committee invested in a new chalkboard art-inspired video and rhyming radio campaign. The creative highlights important best management practices including mulch mowing grass and fallen leaves, soil testing, composting, and keeping storm drains clear of yard waste and debris. The creative also highlights the negative impacts on aquatic life and marine habitat when best practices aren't followed. The new campaign creative was used in a one-week media campaign which ran from October 7-13. The campaign included radio, static and retargeted digital display ads, social media, and video pre-roll. Throughout the year, lawn care, native plants, fertilizing, and soil testing topics were included in our Google SEM campaign, driving traffic to the askHRgreen.org website from relevant keyword searches.

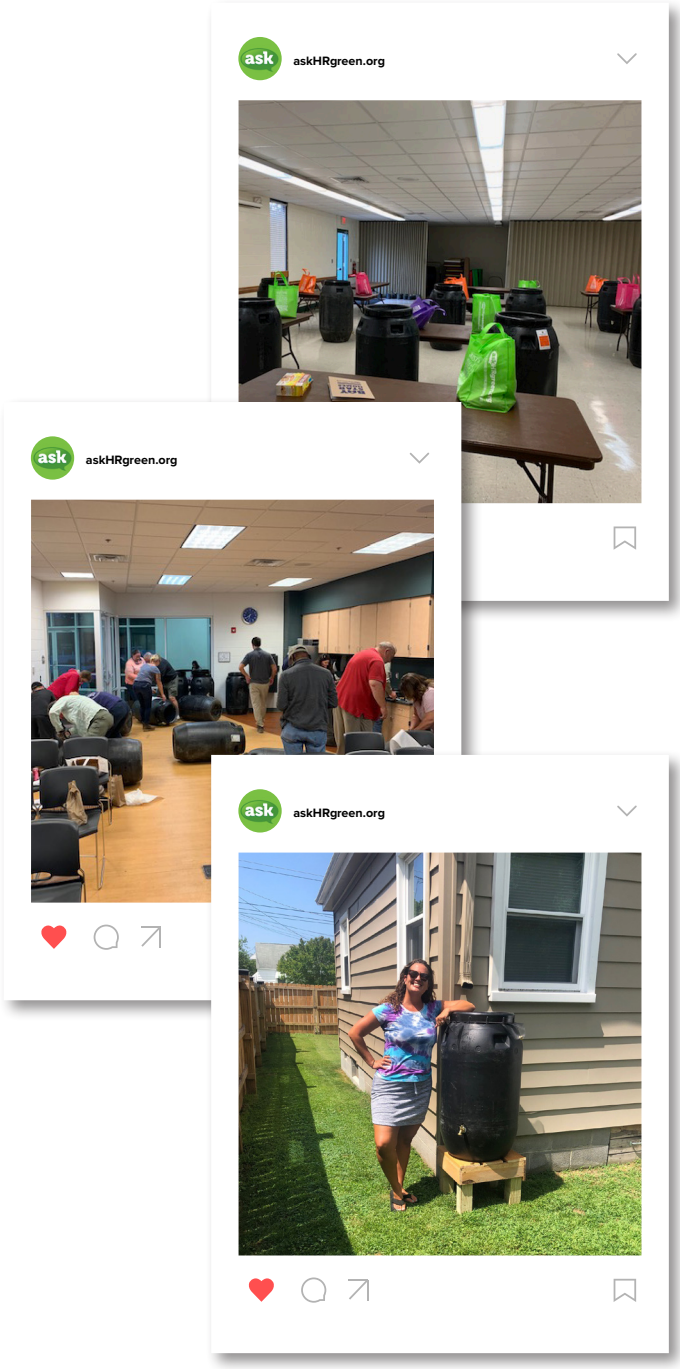
OCTOBER 7-13, 2019 ONE WEEK
**Lawn Care** NEW CREATIVE



**Outreach Materials.** The committee distributes many brochures related to lawn care and fertilizer application including best management practices and how to take a soil test. Free soil test kits and native black-eyed Susan seed packets are made available to residents during public outreach events. The committee also conducts outreach to landscaping and lawn care professionals with a rack card specifically designed for more commercial applications.

**Public Relations.** Fertilizer and lawn care best management practices are commonly included in various public relations strategies throughout the year including news releases, print articles, interviews with local TV and radio stations, and features in the askHRgreen.org newsletter.

**Social Media.** Facebook, Twitter, and Instagram were utilized for sharing fertilizing and lawn care best management practices. Social media was also critical for promoting the four grant-funded rain barrel workshops held in FY20. The majority of lawn care and fertilizer messages shared through social media in FY20 were a part of the askHRgreen.org social media branding campaign.



# 2019-2020 Media Campaign Results

**SEPTEMBER 16-22** ***"Choose to Refuse: Waste Reduction"***
Radio, digital display ads, native content ads, social media

Impressions: 473,586
Clicks/Actions: 1,810

**BUDGET: $6,670 | VALUE: $13,538 | CPM: $14.09**
**ROI: 2.03:1**

**OCTOBER 14-27** ***"Imagine a Day Without Water"***
Radio, digital display ads, native content ads, social media, preroll video

Impressions: 1,155,106
Video Views: 27,013
Clicks/Actions: 1,956

**BUDGET: $16,731 | VALUE: $27,005 | CPM: $14.48**
**ROI: 1.58:1**

**NOVEMBER 25 - DECEMBER 8** ***"Grease Grinch"***
Radio, digital display ads, native content ads, social media, video preroll, advanced TV

Impressions: 1,773,160
Video Views: 62,705
Clicks/Actions: 1,166

**BUDGET: $16,670 | VALUE: $23,993 | CPM: $9.40**
**ROI: 1.44:1**

**MARCH 16-22** ***"Fix-a-Leak"***
Radio, digital display ads, native content ads, social media, preroll video

Impressions: 1,337,483
Video Views: 29,191
Clicks/Actions: 1,735

**BUDGET: $12,821 | VALUE: $27,217 | CPM: $9.59**
**ROI: 2.12:1**

**MAY 4-10** ***"Drinking Water Week/Value of Water"***
Radio, digital display ads, native content ads, social media, preroll video, advanced TV

Impressions: 1,377,444
Video Views: 54,204
Clicks/Actions: 1,056

**BUDGET: $12,822 | VALUE: $19,504 | CPM: $9.31**
**ROI: 1.52:1**

**OCTOBER 7-13** ***"Storm Drains & Lawn Care"***
Radio, digital display ads, native content ads, social media, video preroll

Impressions: 737,850
Video Views: 33,140
Clicks/Actions: 1,552

**BUDGET: $12,333 | VALUE: $18,704 | CPM: $16.72**
**ROI: 1.52:1**

**NOVEMBER 18-24** ***"Plastic Bag Recycling"***
Radio, digital display ads, native content ads, social media, preroll video

Impressions: 596,910
Video Views: 22,032
Clicks/Actions: 790

**BUDGET: $10,580 | VALUE: $14,623 | CPM: $17.72**
**ROI: 1.38:1**

**MARCH 2-8** ***"Great American Cleanup/Team Up 2 Clean Up"***
Radio, social media

Impressions: 616,290
Clicks/Actions: 883

**BUDGET: $6,670 | VALUE: $12,373 | CPM: $10.82**
**ROI: 1.86:1**

**APRIL 6-12** ***"What Not To Flush"***
Radio, digital display ads, native content ads, social media, video preroll, advanced TV

Impressions: 991,576
Video Views: 42,997
Clicks/Actions: 2,427

**BUDGET: $14,832 | VALUE: $21,515 | CPM: $14.96**
**ROI: 1.45:1**

**JUNE 1-7** ***"Pet Waste Disposal"***
Radio, digital display ads, native content ads, social media, video preroll and FEP TV

Impressions: 830,246
Video Views: 23,809
Clicks/Actions: 1,394

**BUDGET: $8,420 | VALUE: $12,819 | CPM: $10.14**
**ROI: 1.52:1**


Attachment 3

# 2019-2020 askHRgreen.org Public Relations Value

| Date | Media Outlet | Topic | Length | Circ./ Imp | PR Value |
|---|---|---|---|---|---|
| Wednesday, October 23, 2019 | WTKR-TV Coast Live | Imagine a day without water interview with Katie Cullipher and Mallory Rugg | 4:45 minutes | 6,000 | $2,295.00 |
| Thursday, Sept. 19, 2020 | Suffolk News-Herald | Restaurants support straw-free September | 10 column inches | 10,431 | $981.00 |
| Monday, November 4, 2019 | Inside Business | Try to imagine our modern lives without water experts column | 30 column inches | 9,000 | $7,740.00 |
| Sunday, November 17, 2019 | The Virginian-Pilot | Confused about what to recycle in Hampton Roads? This regional guide will help | 36 column inches | 328,434 | $23,250.00 |
| Wednesday, November 27, 2019 | The Virginian-Pilot, Flavor Section | Grease is the word, from the bird. Have you heard that you can recycle it? | 36 column inches | 279,187 | $17,755.00 |
| Wednesday, Dec. 18, 2019 | WCTV-48 City of Chesapeake | Green holiday gift ideas | 1:10 minutes | 1,500 | $600.00 |
| Wednesday, Dec. 18, 2019 | WHRV-FM "HearSay" | In the Garden interview with Katie Cullipher | 5:00 minutes | 11,000 | $3,750.00 |
| Friday, Dec. 27, 2019 | WTKR-TV | How to "treecycle" your natural Christmas tree in Hampton Roads | Online report | 12,000 | $1,050.00 |
| Monday, Dec. 30, 2019 | WVEC-TV Online Report | What to do with your Christmas tree after the holidays | Online report | 12,000 | $1,050.00 |
| Saturday, Jan. 4, 2020 | Williamsburg-York County Daily | Tree can be fire hazard, Here's how to get rid of it. | Online report | 12,000 | $1,050.00 |
| Sunday, Jan. 26, 2020 | WVEC-TV Coastal Connections | Five ways to wipe out waste interview with Katie Cullipher | 5:00 minutes | 3,600 | $1,125.00 |
| Wednesday, April 8, 2020 | WCTV-48 City of Chesapeake | Native plants interview with Katie Cullipher | 1:00 minute | 1,500 | $600.00 |
| Friday, April 10, 2020 | WCTV-48 City of Chesapeake | What's flushable video | 2:45 minutes | 1,500 | $600.00 |
| Wednesday, April 22, 2020 | WTKR-TV Coast Live | Earth Day interview with Katie Cullipher | 4:30 minutes | 36,000 | $2,295.00 |
| Wednesday, April 22, 2020 | The Virginian-Pilot | Earth Day tips for the virus crisis | 18 column inches | 279,187 | $8,766.00 |
| Wednesday, April 22, 2020 | The Daily Press | Earth Day tips for the virus crisis | 18 column inches | 95,782 | $1,785.00 |
| Wednesday, April 22, 2020 | RVA/VCU magazine | Virginians spending 50th anniversary of Earth Day at home interview with Katie Cullipher | Online report | 58,000 | $5,295.00 |
| Saturday, May 9, 2020 | The Virginian-Pilot, Home + Living | askHRgreen.org launches homeschool program | 30 column inches | 279,187 | $14,610.00 |
| Wednesday, May 13, 2020 | WVEC-TV | Public Utilities see items other than TP flushed down sewage system | Mentions ask in online report | 12,000 | $1,050.00 |
| | | | | **1,448,308** | **$95,647** |

| | |
|---|---|
| Total circulation or audience | 1,448,308 |
| Total articles and interviews | 19 |
| Total budget | $6,986 |
| Total publicity value | $95,647 |
| Return on Investment (ROI) | 13.7:1 |

Attachment 3

# Media Coverage

Suffolk News-Herald Since 1873

95°



Chesapeake Weekly, Green Gifts


PENINSULANOW

## Public Utilities seeing items other than toilet paper flushed down sewer system in Gloucester County

Public Utilities encourages residents to not flush items such as newspapers, paper towels, hygiene products, diapers, wipes or other trash into the system.


Grease is the word, from the bird, have you heard you can trash with feeling?

By THE VIRGINIAN-PILOT
THE VIRGINIAN-PILOT | NOV 27, 2019 AT 11:04 AM



LATEST FOOD & DRINK

FOOD & DRINK COLUMNISTS

SECTIONS

The Virginian-Pilot

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COLUMN | COLUMNS & GUEST COMMENTARY | OPINION & COMMENTARY

## Katie Cullipher & Rebekah Eastep: Earth Day tips for the virus crisis

By KATIE CULLIPHER and REBEKAH EASTEP
FOR THE VIRGINIAN-PILOT | APR 22, 2020

Our Earth has experienced heart-breaking loss of life over the past fe
spread across the globe at a seemingly unstoppable pace. As inhabita
planet, we have been doing our part to slow the march by washing ou
keeping a safe distance from others.

We're anxious and yearning, frustrated and tired — not exactly in a c
anniversary of Earth Day today. And while askHRgreen.org and t
the program won't be marking this golden year with the fervor and p
there are still things we can do on Earth Day — and every day — to a
planet:

- Conserve water by turning off the faucet while you are singing "
your hands.
- Keep up with your recycling efforts; this service hasn't stopped.
- Be conscientious of what you flush down the toilet; so-called "fl
and facial tissue are not flushable.
- Plant a victory garden. Like Americans who weathered World W
planting vegetables, fruits and herbs to help provide food for th
therapeutic experience of working in a garden.
- Enjoy a "lights off" hour in the evening. Dine by candlelight and
electronics are turned off when not in use.
- If you're ordering a meal in, say "no thanks" to plastic utensils,
condiments.
- Declutter your home and set aside the good stuff for donation.
- Reserve a quiet corner of your yard and let nature do its thing (
- And finally, for this Earth Day especially, take a moment to be
your favorite outdoor spot.

FEEDBACK

"It rounds out the taste room and tour the distill- for choosing the building? pilotonline.com

## This regional guide will offer local recycling tips for confused residents

### Hampton Roads officials launch illustrated plan

By Katherine Hafner
Staff writer

SARAH HOLM/STAFF

Sorters sift through recycling as it passes by on a conveyor belt, pulling out items that cannot be recycled or will damage the machinery at TFC Recycling in Chesapeake.

You don't want to be a "wishful recycler."

Drawing the ire of the industry, these people throw just about anything into the blue bin, hoping for the best. But at least a fifth of everything that goes in is likely getting tossed and can have serious contaminating effects on other recyclable items or jam up machinery at your local recovery facility.

That's why the Hampton Roads Planning District Commission and AskHRGreen.org, a regional education initiative, just launched an illustrated online recycling and disposal guide in cooperation with 17 Hampton Roads localities, from Virginia Beach to Smithfield to Gloucester and James City County.

"Contamination has always been a hot topic in our recycling education efforts. What you can recycle at work in one city may or may not be the same as what you can recycle at home in a different city," Katie Cullipher, environmental education planner for the commission, said in an email.

"The goal of our new tool is to provide a reliable resource for recycling and disposal information to help citizens improve the quality of recycling in Hampton Roads."

Cullipher said the groups have been working on the guide for over a year, pausing briefly as some member localities — such as Norfolk — worked out their recycling contracts.

It's especially important, she added, in a military community with people constantly moving "from other parts of the country where their curbside recycling programs may look really different from ours."

The short answer for what you should be recycling is paper, bottles and cans. Not anything with food waste — ahem, pizza boxes — or plastic wrapping and bags. But each city is a bit different.

You can click on your city on the new guide and check out which items are a no-go, as well as what can be dropped off or picked up by specialty curbside services such as yard waste composting. Regional leaders also urge you to reduce waste in the first place, as well as reuse materials.

You can access the new site at askhrgreen.org/gtk-gtd/recycling-lookup

The issue of wishful recycling has been made more urgent in the wake of China's crackdown on contamination. The recycling industry has been struggling to recover after the country stopped accepting most of our recycling early last year.

"With recycling programs across the nation struggling to turn a profit, improving the content of our curbside recycling bins is more important than ever," Cullipher said. It's "the perfect time to bring attention to the important issue of recycling contamination and what each of us can do to recycle right."

Katherine Hafner,
757-222-5208,
katherine.hafner@pilotonline.com



Attachment 3

# Combined Media Results

| | |
|---|---|
| PAID ADVERTISING WEEKS | 52 consecutive |
| TOTAL MEDIA IMPRESSIONS | 14,771,843 |
| TOTAL VIDEO VIEWS | 295,091 |
| TOTAL CLICKS | 32,596 |
| TOTAL PROMOTIONAL CAMPAIGN BUDGET | $176,735 |
| TOTAL MEDIA ADDED VALUE | $72,742 |
| TOTAL MEDIA EXPOSURE VALUE | $338,138 |
| COST PER THOUSAND IMPRESSIONS | $11.96 |
| RETURN ON INVESTMENT (ROI) | 1.91:1 |

askhrgreen.org
Published by Later · June 25

If you've dedicated more time to your garden 🌱 during this pandemic, you might want to know how to make your own compost to keep it healthy. This rich, organic material, added to your soil to help plants grow, is made up of food scraps and yard waste. (It's a double win in that you keep all that out of the landfill!)

The secret? Equal amounts of "browns" and "greens," mixed with a little water. Browns include dead leaves, branches, and twigs, while greens include grass clippi... See More


askhrgreen.org
Published by Rebekah Jones Eastep · June 11

Willow and her human, Karen, always play it safe. That's why they've pledged to cleanup bacteria-filled pet waste! Will you pledge to scoop the poop and keep our communities poo-free?
https://askhrgreen.org/campaign/pet-waste/

#ScoopThePoop

askhrgreen.org
Published by Later · June 11

It's a safe bet to say that you're probably staying home more than you used to. And, well, since it's June in Hampton Roads, you're probably getting outside and doing more in your yard. 😎🌞

While you're doing all that beautifying, please keep grass 🌱clippings, loose leaves 🍁 and yard waste out of the street. Not only will your neighbors appreciate it, so will our stormwater system; when all that debris gets washed or blown into the storm drains, it causes flooding. Not to ment ... See More


askhrgreen.org
Published by Later · May 21

These days, there's a new kind of litter: Pandemic litter.

And by that, we mean the used masks, gloves and wipes that have been tossed to the ground, littering parking lots, grocery store entrances and other public spaces.

Sure, these are strange times. Everyone's working hard to protect themselves and their families. And that's good.... See More


askhrgreen.org
Published by Later · May 29

What would happen if you turned on the water faucet in your home, and no water came out? Well...

There'd be no showers, no scrubbing, no flushing,
No rinsing of hands, no every-tooth brushing.... See More


askhrgreen.org
Published by Rebekah Jones Eastep · May 11

It was the turtle seen around the world. In 2015, marine conservation biologist Christine Figgener posted a now viral video of an olive ridley sea turtle with a nearly five inch straw lodged in its nostril and changed the world. This week's easy environmental lesson plan covers the issue of litter and marine debris from land to sea, discussing the negative environmental impacts and the simple ways we can all make a difference.

Get the resources: https://askhrgreen.org/big-oc... See More

askhrgreen.org
Published by Rebekah Jones Eastep · May 3

This week we celebrate Drinking Water Week. 💧Now more than ever, we are keenly aware of the value of this most precious resource and its support of public health. Preventing the spread of COVID-19 depends on handwashing and social distancing; two things made possible in part by tap water and the region's water systems. 🧼😁

So let's raise a glass of refreshing tap water to all the water professionals behind the scenes who bring us this life-sustaining service. 🚵‍♀️🚵

Learn mor... See More


askhrgreen.org
Published by Rebekah Jones Eastep · June 24

We're so proud of our local government partners and their sustainability programs. Small changes DO make a difference. Way to lead by example!
#GoGreen

WYDAILY.COM
**Here's how localities are maintaining sustainable practices and saving taxpayer dollars | Williamsburg Yorktown Daily**

askhrgreen.org
Published by Rebekah Jones Eastep · April 13

Toilet paper shortages and homeschooling come together in this week's very timely easy-to-use environmental lesson plan.

Do your kids know where the water goes when the toilet is flushed? Students this week will discover the mystery behind the "flush" and just why it's so important to flush only TP and your "personal" contributions. 🚽💩🧻

Virginia Beach Public Utilities Newport News Waterworks Norfolk Environmental Commission Keep Norfolk Beautiful Keep Suffolk Beautiful Glouc... See More

ASKHRGREEN.ORG
**Easy Environmental Lesson Plans: Wastewater Treatment - AskHRGreen**



Attachment 3

## Terms

**added value**
Earned but unpaid advertising value.

**ad group**
In Search Engine Marketing (SEM), an ad group contains one or more ads which target a shared set of keywords.

**average position**
A ranking system that determines where your search engine marketing ad will display on a web search results page (i.e. top of page v. bottom of page).

**bounce rate**
The percentage of visitors who enter the site and "bounce" (leave the site) rather than continue viewing other pages within the same site.

**click through rate (CTR)**
A way of measuring online advertising. The CTR of an advertisement is defined as the number of clicks on an ad divided by its impressions, expressed as a percentage.

**cost-per-click (CPC)**
The cost associated with a person clicking on a display ad in search engine marketing.

**exposure value**
The combination of advertising cost, added value, and public relations value.

**frequency**
The number of times an individual (among the target audience) is exposed to the message.

**impressions**
The number of times an advertisement or public relations placement can be seen or heard by an audience.

**public relations value**
The equivalent advertising cost of a public relations article, interview, internet placement, etc. times three. Because a public relations placement has a higher value with an audience than advertising, it is assigned a higher value.

**reach**
The number or percentage of people within the target audience who are exposed to an advertising message at least once over a specific period of time.

**search engine marketing (SEM)**
The process of attracting traffic to a website from search engine results pages on a pay-per-click basis.

**search engine marketing (SEO)**
The process of improving the quality of a website so that it appears higher in natural ("organic") search results.

**unique visitors (users)**
The number of people who visit a website within a specific period of time. If they visit more than one time within the period, their initial visit as well as their subsequent visits are counted as sessions. A user may have one session or multiple sessions.

## Appendix A

Search Engine & Online Marketing Results
July 2019- Jun 2020

| Campaign report July 2019 - June 2020 Total |
|---|
| NEWS 3 WTKR askHRgreen.org |

| July 1, 2019 - June 30, 2020<br>Annual Campaign Totals | PPC Impressions | PPC Clicks | Impression Share | Click Thru Rate |
|---|---|---|---|---|
| | 342,690 | 12,449 | 51% | 3.63% |
| July 1, 2018 - June 30, 2019 | 210,695 | 11,087 | | 5.26% |

| Top 10 Keyword Groups | PPC Impressions | PPC Clicks | Impression Share | Click Thru Rate |
|---|---|---|---|---|
| Electronics Disposal | 25,719 | 2,516 | 75% | 9.78% |
| Recycling At Home | 40,245 | 1,540 | 61% | 3.83% |
| Native Plants | 38,189 | 1,246 | 35% | 3.26% |
| Lawn Care | 67,630 | 1,012 | 55% | 1.50% |
| Battery Disposal | 12,353 | 1,006 | 69% | 8.14% |
| Reduce Reuse Recycle | 13,040 | 904 | 81% | 6.93% |
| TMDL | 12,800 | 680 | 62% | 5.31% |
| AskHRGreen General | 3,198 | 563 | 81% | 17.60% |
| Medication Disposal | 6,322 | 541 | 79% | 8.56% |
| Plastic Bag Recycling | 5,675 | 361 | 62% | 6.36% |

| July 1, 2019 - July 31, 2019 | | | | |
|---|---|---|---|---|
| Total Monthly Campaign | PPC Impressions | PPC Clicks | Impression Share | Click Thru Rate |
| | 18,365 | 1,089 | 69% | 5.93% |

| | | | | |
|---|---|---|---|---|
| July 1, 2018 - July 31, 2018 | 18,091 | 920 | | 5.09% |

| Top 10 Keyword Groups | PPC Impressions | PPC Clicks | Impression Share | Click Thru Rate |
|---|---|---|---|---|
| Electronics Disposal | 2,702 | 208 | 75% | 7.70% |
| Reduce Reuse Recycle | 2,249 | 145 | 80% | 6.45% |
| Native Plants | 1,861 | 111 | 49% | 5.96% |
| Battery Disposal | 1,063 | 110 | 83% | 10.35% |
| Recycling At Home | 2,242 | 101 | 69% | 4.50% |
| Great American Cleanup | 1,221 | 70 | 58% | 5.73% |
| TMDL | 1,177 | 66 | 73% | 5.61% |
| Medication Disposal | 629 | 61 | 77% | 9.70% |
| Tap Water | 853 | 38 | 73% | 4.45% |
| Plastic Bag Recycling | 572 | 34 | 74% | 5.94% |

| August 1, 2019 - August 31, 2019 | | | | |
|---|---|---|---|---|
| Total Monthly Campaign | PPC Impressions | PPC Clicks | Impression Share | Click Thru Rate |
| | 17,329 | 1,050 | 68% | 6.06% |

| | | | | |
|---|---|---|---|---|
| Aug 1, 2018 - Aug 31, 2018 | 19,586 | 933 | | 4.76% |

| Top 10 Keyword Groups | PPC Impressions | PPC Clicks | Impression Share | Click Thru Rate |
|---|---|---|---|---|
| Electronics Disposal | 2,467 | 225 | 76% | 9.12% |
| Reduce Reuse Recycle | 2,273 | 160 | 81% | 7.04% |
| Recycling At Home | 2,160 | 99 | 72% | 4.58% |
| Battery Disposal | 1,102 | 91 | 84% | 8.26% |
| Native Plants | 1,982 | 83 | 48% | 4.19% |
| Medication Disposal | 663 | 56 | 76% | 8.45% |
| TMDL | 936 | 52 | 76% | 5.56% |
| Great American Cleanup | 921 | 50 | 50% | 5.43% |
| AskHRGreen General | 238 | 47 | 79% | 19.75% |
| Plastic Bag Recycling | 478 | 44 | 73% | 9.21% |

| September 1, 2019 - September 30, 2019 | | | | |
|---|---|---|---|---|
| Total Monthly Campaign | PPC Impressions | PPC Clicks | Impression Share | Click Thru Rate |
| | 16,777 | 1,055 | 66% | 6.29% |

| | | | | |
|---|---|---|---|---|
| Sept 1, 2018 - Sept 30, 2018 | 15,484 | 764 | | 4.93% |

| Top 10 Keyword Groups | PPC Impressions | PPC Clicks | Impression Share | Click Thru Rate |
|---|---|---|---|---|
| Electronics Disposal | 2,230 | 233 | 73% | 10.45% |
| Reduce Reuse Recycle | 2,327 | 154 | 80% | 6.62% |
| Recycling At Home | 2,127 | 109 | 69% | 5.12% |
| Battery Disposal | 1,022 | 99 | 77% | 9.69% |
| Native Plants | 1,994 | 83 | 42% | 4.16% |
| TMDL | 767 | 72 | 84% | 9.39% |
| AskHRGreen General | 379 | 56 | 87% | 14.78% |
| Medication Disposal | 601 | 44 | 74% | 7.32% |
| Great American Cleanup | 911 | 38 | 53% | 4.17% |
| Plastic Bag Recycling | 394 | 30 | 71% | 7.61% |

| October 1, 2019 - October 31, 2019 | | | | |
|---|---|---|---|---|
| Total Monthly Campaign | PPC Impressions | PPC Clicks | Impression Share | Click Thru Rate |
| | 17,037 | 993 | 69% | 5.83% |

| | | | | |
|---|---|---|---|---|
| Oct 1, 2018 - Oct 31, 2018 | 15,463 | 875 | | 5.66% |

| Top 10 Keyword Groups | PPC Impressions | PPC Clicks | Impression Share | Click Thru Rate |
|---|---|---|---|---|
| Electronics Disposal | 1,847 | 160 | 73% | 8.66% |
| Reduce Reuse Recycle | 2,249 | 140 | 83% | 6.23% |
| Recycling At Home | 2,322 | 114 | 70% | 4.91% |
| Native Plants | 2,065 | 103 | 49% | 4.99% |
| Medication Disposal | 1,011 | 75 | 84% | 7.42% |
| Battery Disposal | 836 | 70 | 78% | 8.37% |
| AskHRGreen General | 343 | 58 | 82% | 16.91% |
| TMDL | 700 | 43 | 83% | 6.14% |
| Tap Water | 512 | 36 | 75% | 7.03% |
| Great American Cleanup | 664 | 32 | 52% | 4.82% |

| November 1, 2019 - November 30, 2019 | | | | |
|---|---|---|---|---|
| Total Monthly Campaign | PPC Impressions | PPC Clicks | Impression Share | Click Thru Rate |
| | 14,451 | 1,066 | 69% | 7.38% |

| | | | | |
|---|---|---|---|---|
| Nov 1, 2018 - Nov 30, 2018 | 17,312 | 848 | | 4.90% |

| Top 10 Keyword Groups | PPC Impressions | PPC Clicks | Impression Share | Click Thru Rate |
|---|---|---|---|---|
| Electronics Disposal | 1,954 | 207 | 74% | 10.59% |
| Recycling At Home | 2,561 | 164 | 71% | 6.40% |
| AskHRGreen General | 449 | 141 | 93% | 31.40% |
| Reduce Reuse Recycle | 1,463 | 114 | 85% | 7.79% |
| Battery Disposal | 835 | 82 | 81% | 9.82% |
| Native Plants | 1,345 | 57 | 47% | 4.24% |
| TMDL | 751 | 57 | 78% | 7.59% |
| Medication Disposal | 512 | 48 | 82% | 9.38% |
| Tap Water | 715 | 33 | 81% | 4.62% |
| Plastic Bag Recycling | 382 | 31 | 75% | 8.12% |

| December 1, 2019 - December 31, 2019 | | | | |
|---|---|---|---|---|
| Total Monthly Campaign | PPC Impressions | PPC Clicks | Impression Share | Click Thru Rate |
| | 9,608 | 691 | 73% | 7.19% |

| | | | | |
|---|---|---|---|---|
| Dec 1, 2018 - Dec 31, 2018 | 15,457 | 793 | | 5.13% |

| Top 10 Keyword Groups | PPC Impressions | PPC Clicks | Impression Share | Click Thru Rate |
|---|---|---|---|---|
| Electronics Disposal | 1,671 | 155 | 75% | 9.28% |
| Recycling At Home | 2,268 | 129 | 72% | 5.69% |
| Battery Disposal | 678 | 65 | 82% | 9.59% |
| TMDL | 563 | 60 | 87% | 10.66% |
| Reduce Reuse Recycle | 486 | 55 | 93% | 11.32% |
| Native Plants | 777 | 39 | 44% | 5.02% |
| Tap Water | 453 | 32 | 87% | 7.06% |
| AskHRGreen General | 194 | 32 | 87% | 16.49% |
| Medication Disposal | 344 | 24 | 81% | 6.98% |
| Plastic Bag Recycling | 297 | 22 | 78% | 7.41% |

| January 1, 2020 - January 31, 2020 | | | | |
|---|---|---|---|---|
| Total Monthly Campaign | PPC Impressions | PPC Clicks | Impression Share | Click Thru Rate |
| | 13,563 | 946 | 70% | 6.97% |

| | | | | |
|---|---|---|---|---|
| Jan 1, 2019 - Jan 31, 2019 | 16,956 | 944 | | 5.57% |

| Top 10 Keyword Groups | PPC Impressions | PPC Clicks | Impression Share | Click Thru Rate |
|---|---|---|---|---|
| Electronics Disposal | 2,213 | 228 | 73% | 10.30% |
| Recycling At Home | 3,176 | 175 | 71% | 5.51% |
| Battery Disposal | 840 | 91 | 82% | 10.83% |
| TMDL | 738 | 80 | 90% | 10.84% |
| Reduce Reuse Recycle | 755 | 65 | 93% | 8.61% |
| Native Plants | 1,472 | 56 | 44% | 3.80% |
| Medication Disposal | 454 | 46 | 84% | 10.13% |
| AskHRGreen General | 185 | 40 | 88% | 21.62% |
| Great American Cleanup | 526 | 35 | 60% | 6.65% |
| Tap Water | 472 | 23 | 77% | 4.87% |

| February 1, 2020 - February 29, 2020 | | | | |
|---|---|---|---|---|
| Total Monthly Campaign | PPC Impressions | PPC Clicks | Impression Share | Click Thru Rate |
| | 17,526 | 994 | 54% | 5.67% |

| | | | | |
|---|---|---|---|---|
| Feb 1, 2019 - Feb 28, 2019 | 16,931 | 902 | | 5.33% |

| Top 10 Keyword Groups | PPC Impressions | PPC Clicks | Impression Share | Click Thru Rate |
|---|---|---|---|---|
| Electronics Disposal | 2,122 | 230 | 74% | 10.84% |
| Recycling At Home | 2,942 | 139 | 58% | 4.72% |
| Native Plants | 2,870 | 122 | 36% | 4.25% |
| Battery Disposal | 919 | 88 | 74% | 9.58% |
| AskHRGreen General | 246 | 65 | 82% | 26.42% |
| Medication Disposal | 496 | 57 | 78% | 11.49% |
| TMDL | 639 | 48 | 72% | 7.51% |
| Plastic Bag Recycling | 416 | 35 | 65% | 8.41% |
| Reduce Reuse Recycle | 502 | 34 | 69% | 6.77% |
| Great American Cleanup | 483 | 33 | 51% | 6.83% |

| March 1, 2020 - March 31, 2020 | | | | |
|---|---|---|---|---|
| Total Monthly Campaign | PPC Impressions | PPC Clicks | Impression Share | Click Thru Rate |
| | 51,856 | 1,013 | 37% | 1.95% |

| March 1, 2019 - March 31, 2019 | 17,931 | 962 | | 5.37% |
|---|---|---|---|---|

| Top 10 Keyword Groups | PPC Impressions | PPC Clicks | Impression Share | Click Thru Rate |
|---|---|---|---|---|
| Electronics Disposal | 1,904 | 166 | 74% | 8.72% |
| Native Plants | 5,401 | 159 | 35% | 2.94% |
| Lawn Care | 10,119 | 123 | 58% | 1.22% |
| Recycling At Home | 4,723 | 116 | 55% | 2.46% |
| TMDL | 1,423 | 61 | 50% | 4.29% |
| Battery Disposal | 1,211 | 60 | 40% | 4.95% |
| Fertilizer Tips | 2,494 | 56 | 66% | 2.25% |
| Reduce Reuse Recycle | 736 | 37 | 59% | 5.03% |
| AskHRGreen General | 311 | 35 | 81% | 11.25% |
| Medication Disposal | 387 | 32 | 76% | 8.27% |

| April 1, 2020 - April 30, 2020 | | | | |
|---|---|---|---|---|
| Total Monthly Campaign | PPC Impressions | PPC Clicks | Impression Share | Click Thru Rate |
| | 53,932 | 1,081 | 36% | 2.00% |

| April 1, 2019 -April 30, 2019 | 20,219 | 1,099 | | 5.44% |
|---|---|---|---|---|

| Top 10 Keyword Groups | PPC Impressions | PPC Clicks | Impression Share | Click Thru Rate |
|---|---|---|---|---|
| Electronics Disposal | 1,941 | 206 | 75% | 8.72% |
| Native Plants | 7,807 | 187 | 26% | 2.94% |
| Recycling At Home | 5,338 | 136 | 56% | 1.22% |
| Lawn Care | 13,539 | 124 | 42% | 2.46% |
| Battery Disposal | 1,278 | 78 | 49% | 4.29% |
| Rain Barrels | 3,044 | 57 | 29% | 4.95% |
| Medication Disposal | 419 | 44 | 75% | 2.25% |
| TMDL | 1,712 | 41 | 35% | 5.03% |
| Fertilizer Tips | 2,873 | 37 | 55% | 11.25% |
| AskHRGreen General | 328 | 31 | 67% | 8.27% |

| May 1, 2020 - May 31, 2020 | | | | |
|---|---|---|---|---|
| Total Monthly Campaign | PPC Impressions | PPC Clicks | Impression Share | Click Thru Rate |
| | 52,544 | 1,226 | 45% | 2.33% |

| | | | | |
|---|---|---|---|---|
| May 1, 2019 -May 31, 2019 | 19,481 | 976 | | 5.01% |

| Top 10 Keyword Groups | PPC Impressions | PPC Clicks | Impression Share | Click Thru Rate |
|---|---|---|---|---|
| Lawn Care | 15,837 | 262 | 60% | 1.65% |
| Electronics Disposal | 2,165 | 217 | 78% | 10.02% |
| Native Plants | 6,803 | 183 | 29% | 2.69% |
| Recycling At Home | 4,671 | 130 | 54% | 2.78% |
| Battery Disposal | 1,109 | 85 | 61% | 7.66% |
| TMDL | 1,839 | 64 | 46% | 3.48% |
| Soil Testing | 1,215 | 52 | 54% | 4.28% |
| Rain Barrels | 2,665 | 39 | 33% | 1.46% |
| Plastic Bag Recycling | 508 | 33 | 48% | 6.50% |
| Fertilizer Tips | 2,636 | 28 | 61% | 1.06% |

| June 1, 2020 - June 30, 2020 | | | | |
|---|---|---|---|---|
| Total Monthly Campaign | PPC Impressions | PPC Clicks | Impression Share | Click Thru Rate |
| | 59,702 | 1,245 | 47% | 2.09% |

| | | | | |
|---|---|---|---|---|
| June 1, 2019 -June 30, 2019 | 17,784 | 1,107 | | 6.22% |

| Top 10 Keyword Groups | PPC Impressions | PPC Clicks | Impression Share | Click Thru Rate |
|---|---|---|---|---|
| Lawn Care | 22,846 | 396 | 59% | 1.73% |
| Electronics Disposal | 2,503 | 281 | 77% | 11.23% |
| Recycling At Home | 5,715 | 128 | 48% | 2.24% |
| Battery Disposal | 1,460 | 87 | 58% | 5.96% |
| Native Plants | 3,812 | 63 | 34% | 1.65% |
| Soil Testing | 1,013 | 53 | 63% | 5.23% |
| Plastic Bag Recycling | 524 | 38 | 66% | 7.25% |
| TMDL | 1,555 | 36 | 52% | 2.32% |
| Medication Disposal | 370 | 32 | 87% | 8.65% |
| Rain Barrels | 1,520 | 24 | 35% | 1.58% |

United States Environmental Protection Agency
Office of Water
Washington, DC 20460
EPA-HQ-OW-2020-0426
September 2020

# Proposed 2020 Financial Capability Assessment Guidance

**September 2020**

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Questions about this document should be directed to:

U.S. EPA Office of Wastewater Management

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Washington, DC 20460

(202) 566-1000

**Table of Contents**

## I. Summary

The proposed 2020 Financial Capability Assessment (2020 FCA) is intended to provide options and flexibilities to communities and offer templates and calculations that local authorities can use when assessing their financial capability to implement control measures needed to meet Clean Water Act (CWA) obligations. The 2020 FCA incorporates aspects of EPA's 1997 Combined Sewer Overflows - Guidance for Financial Capability Assessment and Schedule Development (1997 FCA Guidance) and EPA's 2014 Financial Capability Assessment Framework for Municipal Clean Water Act Requirements (2014 FCA Framework). Once finalized, EPA intends to use the 2020 FCA to evaluate the affordability of CWA control measures applicable to municipalities in both the permitting and enforcement context, including upgrades to publicly owned treatment works; control measures to address combined sewer overflows (CSOs), sanitary sewer overflow (SSO), stormwater, and total maximum daily loads; and integrated planning.

> **Question for Public Comment #1**: **Should EPA's previous FCA documents be consolidated into the 2020 FCA, as proposed, or should EPA continue to use the 1997 FCA Guidance as the controlling guidance with the 2020 revisions serving as a supplement?**

EPA is committed to working with state, tribal, local, and non-government partners to assist communities in meeting CWA obligations in a manner that recognizes unique local financial challenges. The proposed 2020 FCA sets forth two alternatives for assessing financial capability that a community may choose to employ. The first alternative adopts the residential indicator and the financial capability indicator from the 1997 FCA Guidance and adds two new metrics to address how the lowest household incomes and poverty prevalence in a service area can be considered. Additional information such as a community's total water costs (i.e., costs for wastewater, stormwater, and drinking water infrastructure investment) may also be submitted and will be considered when negotiating the length of an implementation schedule for a municipality's CWA obligations. The second alternative utilizes dynamic financial and rate models that evaluate the impacts of debt service on customer bills. These new tools should help standardize and advance the progress made in understanding and considering a community's financial capability.

## II. Background on the Financial Capability Assessment Guidance and Framework

### a. EPA's FCA Guidance and Framework

EPA's 1997 FCA Guidance sets forth a two-phased approach for evaluating a National Pollutant Discharge Elimination System (NPDES) permittee's financial capability to implement CWA NPDES projects. In the first phase, the Residential Indicator (RI) calculates the cost per household as a percentage of median household income (MHI) for the service area of the

permittee using data collected by the U.S. Census Bureau. In the second phase, the Financial Capability Indicator (FCI) evaluates the municipality or wastewater utility's overall fiscal health and local demographics relative to national norms. The RI and FCI results are brought together in a matrix that evaluates the burden (high, medium, or low) a proposed CWA program imposes on the municipality or utility. This two-phased approach is referred to as the Financial Capability Assessment (FCA). While developed for use in assessing the affordability of CSO controls, EPA has also used the 1997 FCA Guidance when negotiating schedules to implement SSO controls.

The 2014 FCA Framework was developed to encourage the use of the flexibility available under the 1997 FCA Guidance. Both the 1997 FCA Guidance and the 2014 FCA Framework were developed with extensive public input and are based on factors for consideration of financial capability[1] as identified in the Combined Sewer Overflow (CSO) Policy, 59 Fed. Reg. 18688, 18894.[2] As emphasized in both the 1997 FCA Guidance and the 2014 FCA Framework, the primary financial indicators found in the 1997 FCA Guidance are a snapshot in time that might not present the most complete picture of a community's financial capability to fund its CWA obligations. However, the indicators did provide common benchmarks for financial burden discussions among the community, EPA, and state or tribal NPDES authorities. Communities were encouraged to submit any additional documentation that would create a more accurate and complete picture of their financial capability, whether as part of the first or second phase of the FCA calculation. Additional information that the community provided on its unique financial circumstances was considered so that schedules could take local considerations into account. Where appropriate, additional information encouraged to be considered pursuant to the 2014 Framework has been used to justify implementation schedules longer than the schedules suggested by the 1997 FCA Guidance baseline analysis.

### b. EPA's Use of the 1997 FCA Guidance and the 2014 FCA Framework

Communities, in consultation with regulators and the public, are responsible for evaluating and selecting controls that will meet CWA requirements. After controls have been selected, an FCA is used to aid in assessing a community's financial capability as a part of negotiating implementation schedules under both permits and enforcement agreements. EPA has used both the 1997 FCA Guidance and the 2014 FCA Framework to support consent decree negotiations with over 100 wastewater utilities throughout the United States and U.S. territories. The results of the FCA analyses provide an important benchmark for EPA decision-makers to consider in CWA permitting and enforcement actions to support consistency across the country.

[1] These factors are: i) Median household income; ii) Total annual wastewater and CSO control costs per household as a percent of median household income; iii) Overall net debt as a percent of full market property value; iv) Property tax revenues as a percent of full market property value; v) Property tax collection rate; vi) Unemployment; and vii) Bond rating.

[2] CWA §402(q) requires that each permit, order and decree shall conform with the CSO Policy.

EPA does not view or use the 1997 FCA as a rigid metric that points to a given schedule length or threshold over which the costs are unaffordable. It is a common misconception that the FCA can be used to cap spending on CWA programs or projects at a percentage of MHI. The FCA does not remove obligations to comply with the CWA nor does it reduce regulatory requirements.[3] Rather, EPA uses the FCA to assess a community's financial capability for the purpose of developing a reasonable implementation schedule that will not overly burden the community. In practice, EPA considers each community's financial capability on a holistic case-by-case basis, and MHI is only one of the metrics that EPA evaluates. EPA has approved implementation schedules for CWA municipal consent decrees that go beyond the general scheduling boundaries in the 1997 FCA Guidance to ensure CWA requirements are met while also taking the financial capability of the community into consideration. In these cases, the implementation schedules were determined to be reasonable based upon the baseline FCA calculation done in accordance with EPA's 1997 FCA Guidance and consideration of supplemental information that was submitted by the community, as encouraged by the 2014 FCA Framework.

## III. EPA's Proposed 2020 Financial Capability Assessment

### a. Purpose of the Proposed 2020 FCA

The proposed 2020 FCA advances the ability of communities to more accurately demonstrate the financial burdens they face and increases the transparency of EPA's considerations as it endeavors to consistently apply FCA methodologies across the country. With the proposed 2020 FCA, EPA intends to allow communities to easily submit information that may indicate the entire community's capability to fund CWA projects/programs. Specifically, the proposed 2020 FCA includes templates and calculations that communities can use when submitting information for consideration regarding LQI, drinking water costs, financial models or studies, and other relevant areas. The templates and calculations include references that direct the community to the applicable publicly available data sources.

The proposed 2020 FCA sets forth two alternative approaches for assessing a community's financial capability to carry out CWA control measures. The first alternative is the existing 1997 FCA methodology with expanded consideration of costs, poverty, and impacts on the population in the service area with incomes in the lowest quintile. The first alternative may be employed by the community or by EPA for the community, as it involves use of publicly available information. Communities with lower cost control measures or an ability to self-finance the cost of CWA controls may wish to employ the first alternative due to its simplicity.

[3] If a permittee cannot meet water quality-based requirements of the CWA, the permittee should work with its state or authorized tribe to evaluate other tools, such as a revision to designated uses under 40 C.F.R. Part 131.

The second alternative is the development of a dynamic financial and rate model that looks at the impacts of rate increases over time on utility customers, including those with incomes in the lowest quintile. Communities with more expensive CWA obligations may choose to employ the second alternative, given its more sophisticated evaluation of affordability over time. However, if a community chooses the second alternative, it must conduct the analysis itself as it involves information known only to the community.

For use in the first alternative, relevant portions of the 1997 FCA Guidance and the 2014 FCA Framework are included as Appendices to the proposed 2020 FCA. While the structure of the included 1997 FCA Guidance worksheets remains for the first alternative, the 2020 FCA also includes standardized instructions for how to define and submit certain additional costs into the portion of the RI calculation that looks at total CWA costs per household as a percent of MHI. EPA intends to not only consider MHI when calculating the impact of costs on a community's households but is also proposing to consider impacts to households in the lowest quintile. MHI is considered a critical metric because it represents the mid-point of income in a geographical area determined by the American Community Survey (ACS). Median is used to express a "middle" value in a set of data. This "middle" value is also known as the central tendency. Median is determined by ranking the data from largest to smallest, and then identifying the middle so that there are an equal number of data values larger and smaller than the middle point. The median is generally used for skewed distributions and is typically used to derive at central tendency since it is not largely affected by outlier values. However, EPA recognizes that many communities have many customers that represent either end of the income spectrum. Some communities have a range of incomes but also have contiguous areas of population that have difficulty paying for their water services. For some communities, these challenges can be shown by looking at the community's Lowest Quintile Income (LQI) along with its MHI. As such, EPA proposes to incorporate LQI as a recommended critical metric when calculating the impact of costs on a community's households.

Based on stakeholder feedback, EPA is basing its LQI metric on data that is available in the ACS. The ACS is conducted every year by the U.S. Census Bureau to provide up-to-date information about the social and economic conditions of communities. The annual updates include key socio-demographic information and can be provided to a fine level of geographic granularity with historic continuity. The ACS can produce data showing the quintiles of household income (each quintile defines the household income range for 20% of a community's households). Use of LQI as an FCA metric meets the following criteria proposed by NAPA:

- Readily available from publicly available data sources;
- Clearly defined and understood;
- Simple, direct, and consistent;
- Valid and reliable measures, according to conventional research standards; and
- Applicable for comparative analyses among permittees.

**Question for Public Comment #2: In addition to the data sets that are discussed in this Notice, what other data sets are you aware of that meet NAPA's criteria as identified in the October 2017 report, "Developing a New Framework for Community Affordability of Clean Water Services"?**

**Question for Public Comment #3: What additional resources are publicly available that can be used to assess financial capability (e.g., the ALICE Essentials Index[4])?**

The proposed 2020 FCA can help to ensure that local challenges related to low-income households are better reflected in CWA implementation schedules. The types of data provided in Alternative 1 of the 2020 FCA are not exhaustive; and consistent with previous policy, EPA will consider any relevant financial or demographic information presented that illustrates the unique or atypical circumstances faced by a community.

**Question for Public Comment #4: What additional examples, calculations, or templates would you like EPA to develop to assist with assessing financial capability?**

### b. Overview of the 2020 FCA

Consideration of affordability requires certain information. Alternative 1 of the proposed 2020 FCA recommends analyzing both the first phase (RI) and the second phase (FCI) of the two-phased approach in the 1997 FCA Guidance as critical metrics and adds two new critical metrics: the Lowest Quintile Residential Indicator (LQRI) and the Poverty Indicator (PI). These four critical metrics would be calculated by the community or the EPA and would be considered equally. The proposed 2020 FCA includes implementation schedule benchmarks applicable to Alternative 1 (Exhibit 6). It should be emphasized that these four recommended critical metrics might not present the most complete picture of a community's financial capability to fund its CWA requirements. However, these metrics do provide a common basis for financial burden discussions among the community, the state or tribe, and EPA. Since flexibility is an important aspect of the CWA, communities are encouraged to submit any additional documentation

[4] Asset Limited, Income Constrained, Employed (ALICE) is measure of poverty that examines a subset of households that earn above the Federal Poverty Level, but not enough to afford a minimal household budget. See https://www.unitedforalice.org/.

(other metrics) for consideration that would create a more accurate and complete picture of their financial capability.

**Question for Public Comment #5: EPA invites comment on the appropriateness of using the four recommended critical metrics to assess financial capability and what their relative importance in considering financial capability should be.**

Alternative 2 of the proposed 2020 FCA recommends analyzing financial and rate models in addition to calculating the Poverty Indicator Score. The proposed 2020 FCA also includes Other Metrics with Standardized Instructions, as well as Other Metrics with Submission of Information to be Determined by the Community. Significant consideration should be given to drinking water costs as well as the cost of meeting CWA obligations. Consideration of other metrics is permitted under either Alternative 1 or 2 and may support an implementation schedule that goes beyond the schedule benchmarks applicable to Alternative 1 (Exhibit 6). However, EPA does not anticipate establishing implementation schedules that would exceed the useful life of the community's water infrastructure assets.[5]

**Question for Public Comment #6: What supplemental information is relevant to support implementation schedules that go beyond the proposed benchmarks in Exhibit 6?**

<u>Alternative 1: Recommended Critical Metrics with Established Thresholds and Instructions</u>

- Residential Indicator – cost per household as a percentage of MHI
- Financial Capability Indicator – six socioeconomic, debt, and financial indicators used to benchmark a community's financial strength
- Lowest Quintile Residential Indicator – cost per low-income household as a percentage of the lowest quintile income
- Poverty Indicator – five poverty indicators used to benchmark the prevalence of poverty throughout the service area.

<u>Alternative 2: Recommended Critical Metrics</u>

- Financial and Rate Models
- Poverty Indicator

<u>Other Metrics with Standardized Instructions:</u>

- Drinking Water Costs

[5] Based on EPA's experience with water programs, the assumed useful life of water infrastructure assets for the purpose of financing is typically 30-40 years.

- Potential Bill Impact Relative to Household Size
- Customer Assistance Programs
- Asset Management Costs
- Stormwater Management Costs

Examples of Other Metrics with Submission Information Determined by the Community

- Unemployment Rates
- Debt Service Coverage Ratio
- Debt to Income Ratio
- Percent Population Decline, or Other Population Trends
- Locality specific information on household size, including the size of households with incomes in the lowest quintile
- State or Local Legal Restrictions or Limitations on Property Taxes, Other Revenue Streams, or Debt Levels
- Other Metrics as Determined by the Community

Schedule Development

- Additional Considerations: Discharges to Sensitive Areas; Use Impairment; Public Health; Environmental Justice
- Schedule Development for Alternative 1
- Schedule Development for Alternative 2
- Schedule Development for Hypothetical Communities

**Question for Public Comment #7: Is EPA distinguishing appropriately between critical and other metrics?**

### c. Alternative 1: Recommended Critical Metrics with Established Thresholds and Instructions

*1. Residential Indicator*

The community or EPA would calculate the Residential Indicator impact level (low, mid-range, or high) by following the worksheets in Appendix A.

*2. Financial Capability Indicator*

The community or EPA would calculate the Financial Capability Indicator impact level (weak, mid-range, or strong) by following the worksheets in Appendix B.

*3. Lowest Quintile Residential Indicator*

The community or EPA would evaluate the financial burden of CWA costs for LQI households in its service area by preparing a table to determine the Cost Per Lowest Quintile Household as a Percent of the Upper Boundary of the LQI. The proposed steps for performing this calculation are described below. This analysis, based on easily acquired Census data, is consistent with and builds off the structure of the Residential Indicator analysis. Exhibit 1 provides a proposed template and a sample calculation that computes the Cost per Household (CPH) and as a percentage of LQI.

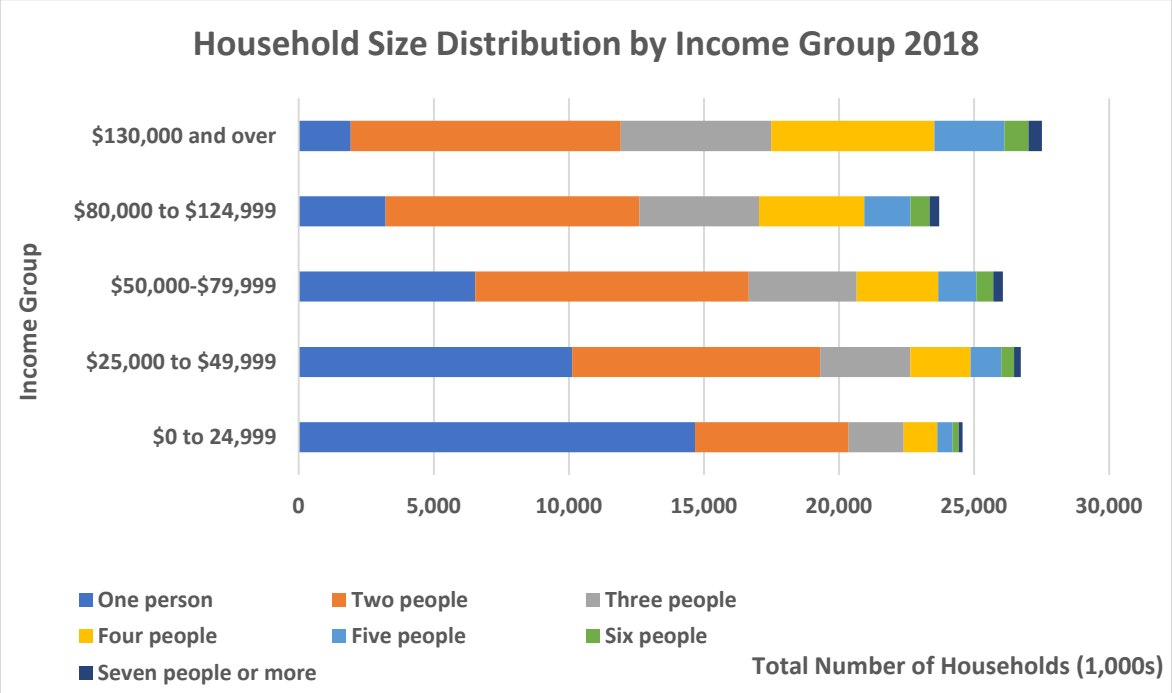
**Exhibit 1: Template (with Sample Numbers) for Calculation of Lowest Quintile Residential Indicator**

| **Calculation of Lowest Quintile Residential Indicator** | | | |
|---|---|---|---|
| 1 | Ratio of Lowest Quintile HH Size to Median HH Size | 70.2% (unless superseded by local information) | 2018 value for United States based on U.S. Census Bureau Current Population Survey data |
| 2 | Cost for Median Household | $860 | Line 109 from FCA Residential Indicator Analysis |
| 3 | Cost for Lowest Quintile Household | $604 | Line 1 * Line 2 |
| 4 | Upper Limit of Lowest Income Quintile for Service Area | $28,500 | 5-Yr ACS value for upper boundary of lowest quintile of household income in service area |
| 5 | Cost as Percentage of Low-Income Household | 2.1% | (Line 3 / Line 4) * 100 |
| 6 | LQRI Impact Rating | High Impact | Based on Line 5 result, select from below impacts. |
| *Lowest Quintile Residential Indicator Benchmarks* | | | |
| | Low Impact | Less than 1.0% | |
| | Mid-Range Impact | 1.0% to 2.0% | |
| | High Impact | Above 2.0% | |

Ratio of Lowest Quintile HH Size to Median HH Size

While not always accurate, in general, water use is correlated with household size, and water use dictates the amount of sewage service billed.[6] National data indicates that lowest quintile households are smaller than the middle or higher quintiles, largely because the lowest quintile contains a disproportionate number of single person households with a single income. Table 1 below shows household size relative to income groups. The income groups approximate quintiles, as the Census data used is from a different source that arrays the information by $5,000 increments.[7] Table 1 shows that the lowest income group (up to $24,999) has the highest proportion of single-person households, and the highest proportion of single and two person households. Six or more person households are the smallest proportion for the lowest income group. Conversely, highest income households have the largest proportion of five or more person households and the lowest proportion of single person households.

*Table 1. Census Data on Household Size Distribution by Income Group*




*Source: U.S. Census Bureau, Current Population Survey, 2019 Annual Social and Economic Supplement.*

[6] A Water Research Foundation study found that as of 2016 the average household (2.65 people) daily water use was 138 gallons, while the average per capita usage was 58.6 gallons. The report notes that there is considerable range in usage across the United States due to the influence of climate and weather patterns. See: Water Research Foundation, "Residential End Uses of Water, Version 2: Executive Report," April 2016. Accessed at https://www.waterrf.org/research/projects/residential-end-uses-water-version-2.

[7] The 2018 quintiles have been approximated based on the Census national 2018 quintile data for household income.

Additionally, the U.S. Department of Housing and Urban Development (HUD) collects data on the characteristics of housing units that are part of HUD's subsidized housing programs. Table 2 summarizes the data for 2018. About 4.6 million housing units are subsidized, serving 9.5 million people (an average of 2.1 people per housing unit). According to the 2018 5-Year ACS data, there are about 119.7 million total occupied housing units (i.e., households) in the United States, or 23.9 million households in each income quintile. The two largest programs show between 1.7 people per unit (Section 8) and 2.3 people per unit (Housing Choice Vouchers). HUD's 2018 subsidized housing program benefits are provided to households based on federal poverty levels, tiered by household size. The limits for larger households are above the national lowest quintile upper limit, but as shown above, some larger households do fall within the lowest quintile.

*Table 2. HUD Data for Subsidized Housing Household Size*

**HUD SUPPORTED HOUSING UNITS 2018**

| Program Label | People per Unit | Number of Units Reported | Number of People |
|---|---|---|---|
| Public Housing | 2.1 | 944,463 | 1,985,172 |
| Housing Choice Vouchers | 2.3 | 2,276,722 | 5,259,207 |
| Mod Rehab | 1.5 | 27,042 | 39,586 |
| Project Based Section 8 | 1.7 | 1,214,021 | 2,063,641 |
| RentSup/RAP | 1.7 | 738 | 1,242 |
| S236/BMIR | 1.9 | 9,833 | 18,423 |
| 202/PRAC | 1.1 | 123,134 | 132,933 |
| 811/PRAC | 1.1 | 32,294 | 35,156 |
| **Summary of All HUD Programs** | **2.1** | **4,628,247** | **9,535,360** |

*Source: U.S. Department of Housing and Urban Development, Office of Policy Development and Research (PD&R). Assisted Housing: National and Local, 2018 U.S. Total - Based on Census 2010 Geographies. Data accessed at: https://www.huduser.gov/portal/datasets/assthsg.html#2009-2019 data*

For the U.S. overall, in 2018 the middle quintile household averaged 2.52 persons while the lowest quintile averaged 1.77 persons, which equals 70.2% of the median sized household. In Exhibit 1, above, the ratio of the size of a lowest quintile household[8] relative to the middle quintile of households is calculated using data from the U.S. Census Bureau Current Population Survey (CPS). Once calculated, this ratio can be applied to the Cost Per Household from the RI calculation to estimate the Cost Per Lowest Quintile Household.

The ACS does not have data defining lowest quintile household size at local levels – thus making it difficult to differentiate and calculate local ratios. EPA recognizes that some factors, such as

[8] Households include all occupied housing units regardless of whether they are owned or rented.

age of infrastructure, housing types (residential one family versus multi-family), and leaky pipes, may impact usage and result in a different ratio. To the extent that a community provides EPA with additional information on circumstances that are impacting usage in certain low-income communities, we intend to use that information. Where local data is available, communities are encouraged to calculate the local ratio using that data, and EPA will consider that ratio in lieu of the 70.2% ratio based on national data. For EPA to consider this information, a community should submit the ratio calculation and all supporting data.

**Question for Public Comment #8: EPA is seeking comment on the proposed methodology for calculating the ratio for lowest quintile household size to median household size.**

The Bureau of Labor Statistics of the U.S. Department of Labor collects data on the details of consumer spending, including for "water and other public services."[9] This data can be used to illustrate current differences in how a median household versus a household in the lowest quintile are impacted by the cost of utilities. A compilation of this 2018 data by Michigan State University[10] shows:

- Lowest quintile income households spend $344 annually on all public utility services (about 1.3 percent of income) while the middle quintile household spends $596 (about 1.15 percent of income).[11]
- For the lowest quintile water and related services costs are about 14.2 percent of total utility costs, while 15 percent for the middle quintile.[12]
- Rural consumer expenditures on utilities have consistently been a higher percentage over time in comparison to urban consumer expenditures, and owners spend more than renters.
- Since about 2009, water and sewer expenditures have increased less than the rate of increase for the water and sewer consumer price index, indicating a decline in volume used.

Although these numbers are a composite of more than just water and sewer bills, there is a clear trend that shows that generally, lower quintile households spend more as a percentage of their income than higher income households on utility services such as wastewater. EPA intends to account for this difference by adjusting the LQRI based on the differences in

[9] BLS's "water and other public services" category includes expenditures such as garbage and trash collection, sewerage maintenance, and septic tank cleaning.

[10] Janice A. Beecher, "Trends in consumer expenditures and prices for public utilities," Institute of Public Utilities/MSU, Revised February 25, 2020. Accessed on June 9, 2020 at http://ipu.msu.edu/wp-content/uploads/2020/02/IPU-MSU-CPI-CES-2020-1.pdf; [Beecher IPU/MSU Study].

[11] Beecher IPU/MSU Study at Page 5. Data shown in the two graphics, based on the light blue blocks for lowest quintile and 3rd quintile.

[12] Id.

household size as a proxy for differences in water usage between the median and lowest quintile households. An example of this adjustment is provided in Exhibit 1.

**Question for Public Comment #9: EPA invites public comment on whether adjusting the LQRI based on household size is appropriate or if there are other ways to calculate a residential indicator for LQI households.**

LQRI Benchmark Ranges

The benchmark ranges in Exhibit 1 are the same as are used for the MHI Residential Indicator (RI) under the 1997 FCA Guidance. Including LQRI as a proposed critical metric represents a change from current practice of looking only at median income to evaluate residential impacts, even though a median number means that 50% of the population will face higher impacts. The RI benchmarks of 1% and 2% can be translated into the lowest quintile results using the ratio of lowest quintile household size to median household size. For example, a $1,200 cost per median household is 2% of the 2018 national MHI of $60,293. The comparable LQI household cost per household is $842 ($1,200 * 0.702). $842 is 3.4% of the national upper bound of the LQI ($24,718). A similar process calculates that $603 per household is 1% of the 2018 national MHI. For an LQI household, that translates to $422, or 1.7% of the LQI income. EPA is not proposing to institutionalize disparate impacts on low income households by changing the RI benchmarks for evaluating burdens on LQI households but is seeking comment on whether that would be appropriate. That is, EPA is seeking comment on whether low impact for households in the lowest income should be identified as below 1.7% of LQI and whether high impact should be identified as above 3.4% of LQI.

**Question for Public Comment #10: EPA is seeking comment on whether the same benchmarks for assessing the MHI Residential Indicator should be used for assessing the Lowest Quintile Residential Indicator (LQRI), as proposed, or if different benchmarks should be used.**

*4. Poverty Indicator*

EPA intends to ask a community to calculate a Poverty Indicator Score by using the list of poverty indicators in Exhibit 2 to benchmark the prevalence of poverty in its service area. These poverty indicators are evaluated using a ±25% benchmark to national values, like the methodology used to calculate the FCI. Using a ±25% MHI benchmark closely aligns with the middle quintile of data for the parameter, which can characterize the "middle class" of Americans. This bracketing of the middle 50% is a common methodology of identifying outliers on either end of the data distribution.

**Question for Public Comment #11: EPA is seeking comment on the list of proposed poverty indicators and on whether the bracketing of the middle 50% is an appropriate method to benchmark the proposed poverty indicators.**

**Exhibit 2: Template for Calculation of the Poverty Indicator Score**

| Indicator | Strong (3) | Mid-Range (2) | Weak (1) | Census Data Code | Rating |
|---|---|---|---|---|---|
| PI #1<br>Percentage of Population with Income Below 200% of Federal Poverty Level | More than **25%** below National value | **±25%** of National value | More than **25%** above National value | **S1701** | |
| PI #2<br>Percentage of Population with Income Below Federal Poverty Level | More than **25%** below National value | **±25%** of National value | More than **25%** above National value | **S1701** | |
| PI #3<br>Upper limit of Lowest Income Quintile | More than **25%** above National LQI | **±25%** of National LQI | More than **25%** below National LQI | **B19080** | |
| PI #4<br>Lowest Quintile Income as a Percentage of Aggregate Income | More than **25%** below National value | **±25%** of National value | More than **25%** above National value | **B19082** | |
| PI #5<br>Percentage of Population Receiving Food Stamps/SNAP Benefits | More than **25%** below National value | **±25%** of National value | More than **25%** above National value | **S2201** | |
| | | | **Sum of ratings** | | |
| | | | **Poverty Indicator Score** (Sum divided by 5) | | |
| | | | **Poverty Indicator Benchmarks**<br>Low Impact (Above 2.5)<br>Mid-Range Impact (2.5 to 1.5)<br>High Impact (Below 1.5) | | |

*5. Expanded Financial Capability Assessment Matrix*

The Expanded FCA Matrix, which incorporates the four recommended critical metrics described above, determines the overall burden level of the community's service area. The Expanded FCA Matrix gives equal consideration to the RI, FCI, LQRI, and PI, first by combining RI and FCI to determine an FCA Burden, then by combining LQRI and PI to determine a Lowest Quintile Burden, and finally by combining the FCA Burden and Lowest Quintile Burden.

**Financial Capability Matrix**

The Financial Capability Matrix determines the FCA Burden by combining RI and FCI. The matrix is included below as Exhibit 3.

**Exhibit 3: Financial Capability Matrix**

| Financial Capability Indicator | Residential Indicator | | |
|---|---|---|---|
| | Low Impact (Below 1.0%) | Mid-Range (1.0% to 2.0%) | High Impact (Above 2.0%) |
| Strong (Above 2.5) | Low Burden | Low Burden | Medium Burden |
| Mid-Range (1.5 to 2.5) | Low Burden | Medium Burden | High Burden |
| Weak (Below 1.5) | Medium Burden | High Burden | High Burden |

**Lowest Quintile Burden Matrix**

The Lowest Quintile Burden Matrix determines the Lowest Quintile Burden by combining LQRI and PI. The Lowest Quintile Burden Matrix is included below as Exhibit 4.

**Exhibit 4: Lowest Quintile Burden Matrix**

| Poverty Indicator | Lowest Quintile Residential Indicator | | |
|---|---|---|---|
| | Low Impact (Below 1.0%) | Mid-Range (1.0% to 2.0%) | High Impact (Above 2.0%) |
| Low Impact (Above 2.5) | Low Burden | Low Burden | Medium Burden |
| Mid-Range (1.5 to 2.5) | Low Burden | Medium Burden | High Burden |
| High Impact (Below 1.5) | Medium Burden | High Burden | High Burden |

**Expanded FCA Matrix and Associated Schedule Recommendations**

The Expanded FCA Matrix determines the overall burden level when combining all four critical metrics (RI, FCI, LQRI, and PI). The Expanded FCA Matrix is included below as Exhibit 5.

**Exhibit 5: Expanded Financial Capability Assessment Matrix**

| **FCA Burden (RI and FCI)** | **LQ Burden (LQRI and PI)** | | |
|---|---|---|---|
| | Low Burden | Medium Burden | High Burden |
| Low Burden | Low Burden | Low Burden | Medium Burden |
| Medium Burden | Low Burden | Medium Burden | High Burden |
| High Burden | Medium Burden | High Burden | High Burden |

The results of the Expanded FCA Matrix correspond to the recommended implementation schedule benchmarks in Exhibit 6, below. EPA has developed new schedule benchmarks to account for the consideration of two new critical metrics, the LQRI and the PI. The proposed schedule benchmarks are based on EPA's experience negotiating over 100 CWA consent decrees with communities of various sizes.

**Question for Public Comment #12: EPA is seeking public comment on the proposed schedule benchmarks in Exhibit 6.**

**Exhibit 6: 2020 FCA Implementation Schedule Benchmarks for Alternative 1**

| **Expanded FCA Matrix Results** | **Recommended Implementation Schedule Benchmarks** |
|---|---|
| Low Burden | Normal Engineering/Construction Schedule |
| Medium Burden | Up to 15 years |
| High Burden | Up to 25 years (absent consideration of additional information) |

In addition, the 1997 FCA Guidance is substantively identical to the public sector sections of the 1995 Interim Economic Guidance for Water Quality Standards (1995 WQS Guidance)[13] which is used for supporting revisions to designated uses, water quality standard (WQS) variances, and antidegradation reviews for WQS. EPA proposes to apply the options and flexibilities from Alternative 1 of the proposed 2020 FCA to the consideration of economic impacts to public entities when making such WQS decisions and EPA seeks comment on this in Section VI (Request for Public Comment).

### d. Alternative 2: Recommended Critical Metrics and Instructions

#### *1. Financial and Rate Models*

According to the CSO Policy, construction phasing for CSO controls should consider previous and current residential, commercial, and industrial sewer user fees and rate structures.[14] In Alternative 2, EPA is providing an opportunity for those communities that wish to use Financial and Rate Model Analyses to submit this information to assist in developing an appropriate compliance schedule.

Communities use financial and rate models to determine how to finance capital costs. Smaller capital programs may be feasibly handled through the additional revenues generated by rate increases (sometimes referred to as "pay-as-you-go" or "pay-go"), but large programs are normally financed through a combination of pay-go and various forms of debt, such as bonds or loans. Customers then pay for the additional costs of servicing the debt or pay-go financing through increased rates. Lenders may impose conditions on the community, such as coverage ratios, that may require additional increases in revenues and rates. Cash flow forecasting is a useful tool that allows communities to determine, on an annual basis, the revenue necessary to cover costs (including the costs of compliance projects) and to meet debt covenants over the implementation period. The community should plan and allow for uncertainty in deciding how to adjust water and sewer rates to finance the major capital improvements. As mentioned above, communities may decide how much should be financed through debt and how much should be directly paid for by sewer rates as the costs are incurred. In evaluating potential rate increases, communities should also balance revenue requirements against the likelihood that users will reduce usage or cease paying utility bills, causing the yield of the revenues from the rate increase to be less than expected or desired, potentially creating "rate shock" to

[13] The 1995 WQS Guidance uses a substantively identical two-phased approach and data as the 1997 FCA Guidance, although the terminology of the two guidances is different. The 1997 FCA Guidance's terms *Residential Indicator* and *Financial Capability Indicator* are based on the same data and metrics as the 1995 WQS Guidance's terms *Muncipal Preliminary Screener* and *Secondary Score*, respectively. In the 1995 WQS Guidance, these indicators are brought together into a matrix to determine the degree of economic impact for a WQS decision whereas, the matrix in the 1997 FCA Guidance is used to determine a community's financial capability to support negotiations of schedules.

[14] CSO Policy, 59 Fed. Reg. 18688, 18694 (April 19, 1994).

communities.[15] In addition, within limits, communities have significant discretion regarding the timing of sewer rate increases. For example, communities may elect to raise rates more than the absolute minimum necessary in early years, thereby creating a cushion against economic uncertainties in later years and providing a strong financial base for bond financing. These calculations inform the annual rate increases and can help a community evaluate a suite of potential compliance schedules. EPA has provided a list of resources related to water infrastructure financing and rate setting in Section IV (Resources), below.

**Question for Public Comment #13: What other resources, in addition to those listed in Section IV, are available to assist communities related to water infrastructure financing?**

While useful, financial and rate models may be complicated or costly to develop, particularly for mid-size or small communities, and may be difficult for a regulator to evaluate. For this reason, EPA proposes that submission of this information is at the discretion of a community. This type of information can be used as an analytic tool in lieu of the recommended critical metrics and schedule benchmarks set forth under Alternative 1. This Alternative 2 may be particularly useful in situations where the community already uses it for its internal financial planning or where multiple constraints affect the community's ability to comply (in terms of costs or timing). EPA is not considering the use of financial and rate model analysis under Alternative 2 in lieu of Alternative 1 in WQS decisions. However, for WQS decisions, the use of financial and rate models could be used in a manner similar to the other metrics in Sections III.E and III.F of the proposed 2020 FCA, i.e., as additional information for consideration.

Communities can provide forward looking, year-by-year financial modeling of capital expenditures necessary to meet CWA obligations to support a proposed schedule for completing projects to bring the system into compliance. Such modeling is commonly used to determine the revenues and rate increases necessary to support the financing of operations and major projects. The typical steps in this process include:

- Determining revenue requirements based on operating costs, debt service payments, asset management, and necessary capital expenditures;
- Allocating the costs of service to customer classes; and
- Developing a schedule of rates and charges.[16]

Models provided in the context of CWA program compliance are normally in spreadsheet form with multiple tabs, including inputs and assumptions, debt service schedules, operations and maintenance costs, and schedule of necessary capital improvements. The models are set up so

[15] Rate shock increases the difficulty of managing program implementation schedules, because financing is contingent on an adequate revenue stream to support the debt service and additional coverage.

[16] An exhaustive discussion of these steps can be found in the WEF "Financing and Charges for Wastewater Systems," Manual of Practice No. 27, Fourth Edition most recently updated in 2018.

that it is possible to evaluate alternative scenarios in terms of cost, length of time to complete a program, or assumptions related to financing strategies. Simpler modeling for smaller communities is possible based on the same concepts, if percentage revenue increases will be passed through to a typical residential customer bill at the same rate of increase.

To assist EPA's review of modeling analyses, EPA recommends that communities submit the following:

- A summary of historical rate increases for the past 5 years.
- A summary of all model input assumptions and their bases, for example: bond rating, ability to borrow, legislative caps on ability to borrow, access to SRF funding, ability to pay back debt, the current operating cost and debt service baseline, current revenue, growth in customers, and inflation in costs and household income.
- A summary of the model results, explaining the community's view of the conclusions relevant to its financial capability to implement the necessary work to achieve compliance.
- A fully functional model of the scenarios presented, with all formulas and interactions among separate worksheets intact. The model should include a tab that clearly lays out the input assumptions used.
- A clear description of the baseline financial status and data in terms of year and source documents that the modeling is built from. This should include the basis for the residential bill that is used to evaluate impacts on household with median income levels and households with income in the lowest quintile. In general, this will be similar to the results in the RI analysis but assumes only current costs.[17]
- All source and supporting documentation that was relied upon when developing the model, including certified financial statements.
- Evaluation of multiple scenarios in terms of program length or other key assumptions and uncertainties.

Communities and EPA have found a summary of scenarios such as the example shown below in Exhibit 7 to be useful. Other examples would yield different results. To develop year-by-year forward-looking rate model scenarios, such as those shown in Exhibit 7, a community should:

1. Include RI and LQRI.
2. Determine whether the modeling will be in current dollars or inflated dollars. If inflated, the modeled costs, including proposed capital expenditures, should be adjusted over time. In addition, MHI and LQI values should be escalated using the historic rate of increase of MHI

[17] In general, EPA is finding that per household billed usage is in the range of 5 to 6 CCF (centum cubic feet, or one hundred cubic feet). If the community serves a significant number of households in multi-family structures, then the usage will likely be lower. EPA intends to accept the community's current "typical bill" usage assumption, if consistent with nationwide averages or intends to accept real information on usage from actual billing.

and LQI or the Consumer Price Index (CPI). The community should provide the bases for all escalation factor assumptions applied in the model.

3. Define a proposed end year for the completion of investments needed to meet CWA obligations. Examining several alternative scenarios is preferred to better understand the impact of various program lengths.
4. Incorporate existing debt service schedules as well as the assumed financing approach for the proposed program costs. This would likely include a mix of already available reserves, cash from incoming revenues, and new debt financing from either the municipal bond market or state-subsidized funding sources.
5. Iterate through proposed capital investment schedules to develop model scenarios and related revenue requirements.
6. Translate the revenue requirements into annual increases in rates and bills for customers. Apply the annual percentage increases to the baseline or current average household bill.

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## Exhibit 7: Examples of Rate Increase Scenarios and Household Impacts for Each Scenario

*Example of Rate Increase Scenarios and Median Household Impacts for Each Scenario*

| Scenario: | Utility Proposed Scenario | | | | Other Scenarios | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| End Year: | 2047 | | | | 2036 | | | | 2041 | | | |
| Measure: | Rate Inc. | CPH ($) | MHI ($) | RI | Rate Inc. | CPH ($) | MHI ($) | RI | Rate Inc. | CPH ($) | MHI ($) | RI |
| 2016 | 0% | 566 | 64,814 | 0.9% | 0% | 566 | 64,814 | 0.9% | 0% | 566 | 64,814 | 0.9% |
| 2017 | 7.5% | 605 | 66,267 | 0.9% | 5% | 593 | 66,267 | 0.9% | 5% | 593 | 66,267 | 0.9% |
| 2018 | 7.5% | 647 | 67,753 | 1.0% | 8.4% | 639 | 67,753 | 0.9% | 6.5% | 629 | 67,753 | 0.9% |
| 2019 | 7.5% | 588 | 69,272 | 0.8% | 8.4% | 584 | 69,272 | 0.8% | 6.5% | 566 | 69,272 | 0.8% |
| 2020 | 7.5% | 629 | 70,825 | 0.9% | 8.4% | 630 | 70,825 | 0.9% | 6.5% | 601 | 70,825 | 0.8% |
| 2021 | 7.5% | 672 | 72,413 | 0.9% | 8.4% | 678 | 72,413 | 0.9% | 6.5% | 637 | 72,413 | 0.9% |
| 2022 | 7.5% | 719 | 74,037 | 1.0% | 8.4% | 731 | 74,037 | 1.0% | 6.5% | 675 | 74,037 | 0.9% |
| 2023 | 7.5% | 770 | 75,697 | 1.0% | 8.4% | 789 | 75,697 | 1.0% | 6.5% | 716 | 75,697 | 0.9% |
| 2024 | 7.5% | 824 | 77,394 | 1.1% | 8.4% | 850 | 77,394 | 1.1% | 6.5% | 760 | 77,394 | 1.0% |
| 2025 | 7.5% | 882 | 79,129 | 1.1% | 8.4% | 917 | 79,129 | 1.2% | 6.5% | 806 | 79,129 | 1.0% |
| 2026 | 7.5% | 944 | 80,903 | 1.2% | 8.4% | 990 | 80,903 | 1.2% | 6.5% | 856 | 80,903 | 1.1% |
| 2027 | 5% | 989 | 82,717 | 1.2% | 8.4% | 1,069 | 82,717 | 1.3% | 6.4% | 907 | 82,717 | 1.1% |
| 2028 | 5% | 1,037 | 84,572 | 1.2% | 8.4% | 1,154 | 84,572 | 1.4% | 6.4% | 962 | 84,572 | 1.1% |
| 2029 | 5% | 1,086 | 86,468 | 1.3% | 8.4% | 1,246 | 86,468 | 1.4% | 6.4% | 1,020 | 86,468 | 1.2% |
| 2030 | 5% | 1,138 | 88,407 | 1.3% | 8.4% | 1,345 | 88,407 | 1.5% | 6.4% | 1,082 | 88,407 | 1.2% |
| 2031 | 5% | 1,193 | 90,389 | 1.3% | 8.4% | 1,453 | 90,389 | 1.6% | 6.4% | 1,148 | 90,389 | 1.3% |
| 2032 | 5% | 1,251 | 92,416 | 1.4% | 8.4% | 1,570 | 92,416 | 1.7% | 6.4% | 1,218 | 92,416 | 1.3% |
| 2033 | 5% | 1,311 | 94,488 | 1.4% | 8.4% | 1,697 | 94,488 | 1.8% | 6.4% | 1,292 | 94,488 | 1.4% |
| 2034 | 5% | 1,374 | 96,607 | 1.4% | 8.4% | 1,834 | 96,607 | 1.9% | 6.4% | 1,372 | 96,607 | 1.4% |
| 2035 | 5% | 1,440 | 98,773 | 1.5% | 8.3% | 1,980 | 98,773 | 2.0% | 6.4% | 1,456 | 98,773 | 1.5% |
| 2036 | 5% | 1,510 | 100,988 | 1.5% | 8.3% | 2,139 | 100,988 | 2.1% | 6.4% | 1,545 | 100,988 | 1.5% |
| 2037 | 5% | 1,582 | 103,252 | 1.5% | 0% | 2,141 | 103,252 | 2.1% | 6.4% | 1,640 | 103,252 | 1.6% |
| 2038 | 5% | 1,659 | 105,567 | 1.6% | 0% | 2,144 | 105,567 | 2.0% | 6.4% | 1,741 | 105,567 | 1.6% |
| 2039 | 5% | 1,739 | 107,934 | 1.6% | 0% | 2,146 | 107,934 | 2.0% | 6.4% | 1,848 | 107,934 | 1.7% |
| 2040 | 1.39% | 1,764 | 110,354 | 1.6% | 0% | 2,148 | 110,354 | 2.0% | 6.4% | 1,962 | 110,354 | 1.8% |
| 2041 | 1.39% | 1,790 | 112,828 | 1.6% | 0% | 2,151 | 112,828 | 1.9% | 6.4% | 2,084 | 112,828 | 1.8% |
| 2042 | 1.39% | 1,816 | 115,358 | 1.6% | 0% | 2,153 | 115,358 | 1.9% | 0% | 2,086 | 115,358 | 1.8% |
| 2043 | 1.39% | 1,842 | 117,944 | 1.6% | 0% | 2,156 | 117,944 | 1.8% | 0% | 2,089 | 117,944 | 1.8% |
| 2044 | 1.39% | 1,869 | 120,588 | 1.5% | 0% | 2,158 | 120,588 | 1.8% | 0% | 2,091 | 120,588 | 1.7% |
| 2045 | 1.39% | 1,896 | 123,292 | 1.5% | 0% | 2,161 | 123,292 | 1.8% | 0% | 2,094 | 123,292 | 1.7% |
| 2046 | 1.39% | 1,923 | 126,056 | 1.5% | 0% | 2,164 | 126,056 | 1.7% | 0% | 2,097 | 126,056 | 1.7% |
| 2047 | 0% | 1,926 | 128,882 | 1.5% | 0% | 2,166 | 128,882 | 1.7% | 0% | 2,099 | 128,882 | 1.6% |

**Key**: Rate Inc. = Annual Rate Increase for Wastewater
CPH = Annual Cost per Median Household for Wastewater and Storm Water Combined
MHI = Median Household Income
Res. Ind. (RI) = Residential Indicator (i.e., CPH as a percent of MHI)

*Example of Rate Increase Scenarios and Lowest Quintile Household Impacts for Each Scenario*

| Scenario: | Utility Proposed Scenario | | | | Other Scenarios | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| End Year: | 2047 | | | | 2036 | | | | 2041 | | | |
| Measure: | Rate Inc. | CPLQH ($) | LQI ($) | LQRI | Rate Inc. | CPLQH ($) | LQI ($) | LQRI | Rate Inc. | CPLQH ($) | LQI ($) | LQRI |
| 2016 | 0% | 397 | 32,197 | 1.2% | 0% | 397 | 32,197 | 1.2% | 0% | 397 | 32,197 | 1.2% |
| 2017 | 7.5% | 425 | 32,919 | 1.3% | 5% | 416 | 32,919 | 1.3% | 5% | 416 | 32,919 | 1.3% |
| 2018 | 7.5% | 454 | 33,657 | 1.4% | 8.4% | 448 | 33,657 | 1.3% | 6.5% | 441 | 33,657 | 1.3% |
| 2019 | 7.5% | 413 | 34,412 | 1.2% | 8.4% | 410 | 34,412 | 1.2% | 6.5% | 398 | 34,412 | 1.2% |
| 2020 | 7.5% | 441 | 35,184 | 1.3% | 8.4% | 442 | 35,184 | 1.3% | 6.5% | 422 | 35,184 | 1.2% |
| 2021 | 7.5% | 472 | 35,973 | 1.3% | 8.4% | 476 | 35,973 | 1.3% | 6.5% | 447 | 35,973 | 1.2% |
| 2022 | 7.5% | 505 | 36,780 | 1.4% | 8.4% | 513 | 36,780 | 1.4% | 6.5% | 474 | 36,780 | 1.3% |
| 2023 | 7.5% | 540 | 37,605 | 1.4% | 8.4% | 554 | 37,605 | 1.5% | 6.5% | 503 | 37,605 | 1.3% |
| 2024 | 7.5% | 578 | 38,448 | 1.5% | 8.4% | 597 | 38,448 | 1.6% | 6.5% | 533 | 38,448 | 1.4% |
| 2025 | 7.5% | 619 | 39,310 | 1.6% | 8.4% | 644 | 39,310 | 1.6% | 6.5% | 566 | 39,310 | 1.4% |
| 2026 | 7.5% | 663 | 40,191 | 1.6% | 8.4% | 695 | 40,191 | 1.7% | 6.5% | 601 | 40,191 | 1.5% |
| 2027 | 5% | 694 | 41,092 | 1.7% | 8.4% | 750 | 41,092 | 1.8% | 6.4% | 637 | 41,092 | 1.5% |
| 2028 | 5% | 728 | 42,013 | 1.7% | 8.4% | 810 | 42,013 | 1.9% | 6.4% | 675 | 42,013 | 1.6% |
| 2029 | 5% | 763 | 42,955 | 1.8% | 8.4% | 874 | 42,955 | 2.0% | 6.4% | 716 | 42,955 | 1.7% |
| 2030 | 5% | 799 | 43,918 | 1.8% | 8.4% | 944 | 43,918 | 2.2% | 6.4% | 760 | 43,918 | 1.7% |
| 2031 | 5% | 838 | 44,903 | 1.9% | 8.4% | 1,020 | 44,903 | 2.3% | 6.4% | 806 | 44,903 | 1.8% |
| 2032 | 5% | 878 | 45,910 | 1.9% | 8.4% | 1,102 | 45,910 | 2.4% | 6.4% | 855 | 45,910 | 1.9% |
| 2033 | 5% | 920 | 46,939 | 2.0% | 8.4% | 1,191 | 46,939 | 2.5% | 6.4% | 907 | 46,939 | 1.9% |
| 2034 | 5% | 964 | 47,991 | 2.0% | 8.4% | 1,287 | 47,991 | 2.7% | 6.4% | 963 | 47,991 | 2.0% |
| 2035 | 5% | 1,011 | 49,067 | 2.1% | 8.3% | 1,390 | 49,067 | 2.8% | 6.4% | 1,022 | 49,067 | 2.1% |
| 2036 | 5% | 1,060 | 50,167 | 2.1% | 8.3% | 1,502 | 50,167 | 3.0% | 6.4% | 1,085 | 50,167 | 2.2% |
| 2037 | 5% | 1,111 | 51,292 | 2.2% | 0% | 1,503 | 51,292 | 2.9% | 6.4% | 1,151 | 51,292 | 2.2% |
| 2038 | 5% | 1,165 | 52,442 | 2.2% | 0% | 1,505 | 52,442 | 2.9% | 6.4% | 1,222 | 52,442 | 2.3% |
| 2039 | 5% | 1,221 | 53,618 | 2.3% | 0% | 1,506 | 53,618 | 2.8% | 6.4% | 1,297 | 53,618 | 2.4% |
| 2040 | 1.39% | 1,239 | 54,820 | 2.3% | 0% | 1,508 | 54,820 | 2.8% | 6.4% | 1,378 | 54,820 | 2.5% |
| 2041 | 1.39% | 1,256 | 56,049 | 2.2% | 0% | 1,510 | 56,049 | 2.7% | 6.4% | 1,463 | 56,049 | 2.6% |
| 2042 | 1.39% | 1,275 | 57,306 | 2.2% | 0% | 1,511 | 57,306 | 2.6% | 0% | 1,464 | 57,306 | 2.6% |
| 2043 | 1.39% | 1,293 | 58,591 | 2.2% | 0% | 1,513 | 58,591 | 2.6% | 0% | 1,466 | 58,591 | 2.5% |
| 2044 | 1.39% | 1,312 | 59,905 | 2.2% | 0% | 1,515 | 59,905 | 2.5% | 0% | 1,468 | 59,905 | 2.5% |
| 2045 | 1.39% | 1,331 | 61,248 | 2.2% | 0% | 1,517 | 61,248 | 2.5% | 0% | 1,470 | 61,248 | 2.4% |
| 2046 | 1.39% | 1,350 | 62,621 | 2.2% | 0% | 1,519 | 62,621 | 2.4% | 0% | 1,472 | 62,621 | 2.4% |
| 2047 | 0% | 1,352 | 64,025 | 2.1% | 0% | 1,521 | 64,025 | 2.4% | 0% | 1,474 | 64,025 | 2.3% |

**Key**: Rate Inc. = Annual Rate Increase for Wastewater
CPLQH = Annual Cost per Lowest Quintile Household for Wastewater and Storm Water Combined
LQI = Lowest Quintile Household Income
LQRI = Residential Indicator for Lowest Quintile Household (i.e., CPLQH as a percent of LQI)

EPA intends to use this information to work with communities to avoid rate shock and to avoid water utility rates that represent an overly burdensome percentage of household income. Unlike Alternative 1, EPA has not established benchmark percentages of household income. However, EPA intends to keep the percentage of household income spent on wastewater utility bills (and if added to the model, drinking water utility bills) within reasonable bounds when

establishing compliance schedules. EPA does not intend for such a schedule to exceed the useful life of the community's water infrastructure assets. Communities are encouraged to provide local information to EPA to support the prediction of a likely occurrence of rate shock. It is important to note that other metrics, such as drinking water costs, may also impact rate shock. As mentioned above, EPA is not considering the use of financial and rate model analysis under Alternative 2 in lieu of Alternative 1 in WQS decisions. However, for WQS decisions, the use of financial and rate models could be used in a manner similar to the other metrics in Sections III.C and III.D of this notice, i.e., as additional information for consideration.

**Question for Public Comment #14: EPA is seeking comment on whether additional detail can be provided to better understand implementation of Alternative 2.**

*2. Consideration of Drinking Water Costs in the Rate Model Analysis*

EPA recognizes that both clean water and drinking water costs are often covered through charges on a single rate base. If a community submits supplemental information on drinking water costs as part of its rate model, EPA requests that the community provide detailed descriptions and cost estimates for the drinking water requirements. The community should also submit the following supporting documentation:

1. Describe the specific improvements and costs required.
2. Describe the underlying requirements for the drinking water improvements (for example, are the drinking water improvements required by a state or federal permit, regulation, or enforcement action?).
3. Describe the relationship of the wastewater system service area to the drinking water system service area(s) geographically and in terms of households served.
4. If the drinking water system and wastewater system are operated by the same utility, identify and explain any issues related to future financing and financial capability expected.
5. Provide the last three years of financial reports for the drinking water system.
6. Provide the current and approved future rate schedule for the drinking water system.
7. Provide a drinking water rate model analysis.
8. Provide all source and supporting documentation that was relied upon when developing the drinking water rate model, including certified financial statements.
9. Propose an implementation schedule that integrates the CWA improvements and drinking water improvements, including a detailed description of the proposed sequencing of the improvements.

3. *Poverty Indicator*

In addition to the Financial and Rate Model Analysis, EPA also intends to ask a community to calculate a Poverty Indicator Score by using the list of poverty indicators in Exhibit 2, above, to benchmark the prevalence of poverty throughout the service area.

**e. Other Metrics with Standardized Instructions**

Based on stakeholder feedback and EPA's experience, providing standardized instructions for incorporating drinking water costs, potential bill impacts relative to household size, a community's customer assistance program, asset management costs, and stormwater management costs should increase transparency and clarity regarding how EPA considers these factors. As noted above, other metrics may be considered under Alternative 1 and Alternative 2 and may support an implementation schedule that goes beyond the Implementation Schedule Benchmarks applicable to Alternative 1 (Exhibit 6), not to exceed the useful life of the community's water infrastructure assets. EPA is also considering the use of these other metrics in WQS decisions.

*1. Drinking Water Costs*

EPA recognizes that both clean water and drinking water costs are often covered through charges on a single rate base. For this reason, the proposed 2020 FCA lays out a new way to incorporate a community's drinking water obligations. Previously, Safe Drinking Water Act (SDWA) obligations were considered primarily as additional information about a community's financial capability. Given the widespread, increasing costs of producing reliable drinking water in communities, EPA is providing standardized instructions along with an explanation of how it intends to develop implementation schedules that will account for the significant impacts of drinking water obligations.

If information on drinking water costs is submitted and supported by the documentation detailed below, under Alternative 1 EPA may permit a community to move from a "low burden" to a "medium burden" or from a "medium burden" to a "high burden" in the 2020 FCA Implementation Schedule Benchmarks (Exhibit 6). Or, if a community is already experiencing a high burden, EPA may use this additional information to support a schedule beyond the schedule benchmarks in Exhibit 6, not to exceed the useful life of the community's water infrastructure assets. EPA is also considering the use of drinking water costs in the same manner in WQS decisions.

**Question for Public Comment #15: Should drinking water costs be considered as part of scheduling considerations and are there appropriate benchmarks for considering the contribution of drinking water costs to household burdens, such as a specific percentage of income?**

If a community submits additional information on drinking water costs, EPA requests that the community provide detailed descriptions and cost estimates for the drinking water requirements. The community may also prepare and submit information on current drinking water rates and/or a cost per household analysis for drinking water costs that is like the RI calculation in Appendix A. The community should also submit the following supporting documentation:

1. Describe the specific improvements and costs required.
2. Describe the underlying requirements for the drinking water improvements (for example, are the drinking water improvements required by a state or federal permit, regulation, or enforcement action?).
3. Describe the relationship of the wastewater system service area to the drinking water system service area(s) geographically and in terms of households served.
4. If the drinking water system and wastewater system are operated by the same utility, identify and explain any issues related to future financing and financial capability expected.
5. Provide the last three years of financial reports for the drinking water system.
6. Provide the current and approved future rate schedule for the drinking water system.
7. Propose an implementation schedule that integrates the CWA improvements and drinking water improvements, including a detailed description of the proposed sequencing of the improvements.

The submitted drinking water information including drinking water rate increase scenarios are intended to be used in Alternative 1 to supplement the four recommended critical metrics and the results of the Expanded FCA Matrix and in Alternative 2 to evaluate the impacts of rates for both wastewater and drinking water on household bills.

### *2. Potential Bill Impact Relative to Household Size*

Another analysis that EPA and communities have found helpful, shown below by example in Exhibit 8, evaluates the maximum potential bill impact relative to household size. Typically, as household size increases, monthly water usage increases.[18] One person households use significantly less water than a three- or four-person household, but also have on average fewer financial resources. Displaying data in this manner (i.e., by household size) provides a more nuanced view of the impact of costs based on likely usage.

The data in Exhibit 8 is an example of how a community can evaluate the feasibility of a capital improvement program relative to various household sizes, using the results of a modeling

[18] A Water Research Foundation study found that as of 2016 the average household (2.65 people) daily water use was 138 gallons, while the average per capita usage was 58.6 gallons. The report notes that there is considerable range in usage across the United States due to the influence of climate and weather patterns. See: Water Research Foundation, "Residential End Uses of Water, Version 2: Executive Report," April 2016. Accessed at https://www.waterrf.org/research/projects/residential-end-uses-water-version-2.

program. This information allows EPA to understand the specific impact of program costs relative to household size by comparing a table that shows the impacts of current rates on various household sizes to a table that shows the impacts of future rates (incorporating required program costs) on various household sizes. Tables like the ones shown in Exhibit 8 can be created by following the below steps:

- To develop a table showing current rate impacts:
    - Obtain current data for Percent of Service Area per household size (column 2) and MHI by household size (column 3), available in the ACS database.
    - Using current rates, calculate the monthly household bill for each CCF usage column (top portion of each row).
    - Calculate impact for each CCF usage column (bottom portion of each row) by multiplying the household bill by 12 to arrive at an annual bill, then dividing the annual bill by the MHI for each household size.
- To develop a table showing modeled future rate impacts:
    - As part of the community's modeling, escalate MHI based on an inflationary adjustment to the year at the end or highest point of the model (in the example in Exhibit 8.b, this is 2047).
    - Calculate the monthly household bill for each CCF usage column based on the rates at the end or highest cost point in the community's model (in the example in Exhibit 8.b, this is the example community's 2047 modeled rates).
    - Calculate impact for each CCH usage column by multiplying the household bill by 12 to arrive at an annual bill, then dividing the annual bill by the MHI for each household size.

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## Exhibit 8: Example Showing Projected Impact of Program Costs by Household Size[19]

*Exhibit 8.a – Table Showing Impacts of Current Rates on MHI*

| Household Size | % of SA HHs | MHI (current) per HH Size | CCF 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 26.83% | $30,540 | $19.08 | $26.10 | $33.12 | $40.14 | $47.16 | $54.18 | $61.20 | $68.22 |
| | | | 0.75% | 1.03% | 1.30% | 1.58% | 1.85% | 2.13% | 2.40% | 2.68% |
| 2 | 33.76% | $64,063 | $19.08 | $26.10 | $33.12 | $40.14 | $47.16 | $54.18 | $61.20 | $68.22 |
| | | | 0.36% | 0.49% | 0.62% | 0.75% | 0.88% | 1.01% | 1.15% | 1.28% |
| 3 | 16.33% | $72,063 | $19.08 | $26.10 | $33.12 | $40.14 | $47.16 | $54.18 | $61.20 | $63.18 |
| | | | 0.32% | 0.43% | 0.55% | 0.67% | 0.79% | 0.90% | 1.02% | 1.05% |
| 4 | 13.37% | $87,972 | $19.08 | $26.10 | $33.12 | $40.14 | $47.16 | $54.18 | $61.20 | $68.22 |
| | | | 0.26% | 0.36% | 0.45% | 0.55% | 0.64% | 0.74% | 0.83% | 0.93% |
| 5 | 6.37% | $88,630 | $19.08 | $26.10 | $33.12 | $40.14 | $47.16 | $54.18 | $61.20 | $68.22 |
| | | | 0.26% | 0.35% | 0.45% | 0.54% | 0.64% | 0.73% | 0.83% | 0.92% |
| 6 | 2.22% | $63,028 | $19.08 | $26.10 | $33.12 | $40.14 | $47.16 | $54.18 | $61.20 | $68.22 |
| | | | 0.36% | 0.50% | 0.63% | 0.76% | 0.90% | 1.03% | 1.17% | 1.30% |
| 7 | 1.11% | $48,621 | $19.08 | $26.10 | $33.12 | $40.14 | $47.16 | $54.18 | $61.20 | $68.22 |
| | | | 0.47% | 0.64% | 0.82% | 0.99% | 1.16% | 1.34% | 1.51% | 1.68% |

| Low Burden | Medium Burden | High Burden |
|---|---|---|

*Exhibit 8.b – Table Showing Modeled Impacts of 2047 Rates on MHI*

| Household Size | % of SA HHs | MHI (escalated to 2047) per HH Size | CCF 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 26.83% | $51,188 | $70.33 | $100.38 | $130.43 | $160.48 | $190.53 | $220.58 | $250.63 | $280.68 |
| | | | 1.65% | 2.35% | 3.06% | 3.76% | 4.47% | 5.17% | 5.88% | 6.58% |
| 2 | 33.76% | $107,376 | $70.33 | $100.38 | $130.43 | $160.48 | $190.53 | $220.58 | $250.63 | $280.68 |
| | | | 0.79% | 1.12% | 1.46% | 1.79% | 2.13% | 2.47% | 2.80% | 3.14% |
| 3 | 16.33% | $120,786 | $70.33 | $100.38 | $130.43 | $160.48 | $190.53 | $220.58 | $250.63 | $280.68 |
| | | | 0.70% | 1.00% | 1.30% | 1.59% | 1.89% | 2.19% | 2.49% | 2.79% |
| 4 | 13.37% | $147,450 | $70.33 | $100.38 | $130.43 | $160.48 | $190.53 | $220.58 | $250.63 | $280.68 |
| | | | 0.57% | 0.82% | 1.06% | 1.31% | 1.55% | 1.80% | 2.04% | 2.28% |
| 5 | 6.37% | $148,553 | $70.33 | $100.38 | $130.43 | $160.48 | $190.53 | $220.58 | $250.63 | $280.68 |
| | | | 0.57% | 0.81% | 1.05% | 1.30% | 1.54% | 1.78% | 2.02% | 2.27% |
| 6 | 2.22% | $105,642 | $70.33 | $100.38 | $130.43 | $160.48 | $190.53 | $220.58 | $250.63 | $280.68 |
| | | | 0.80% | 1.14% | 1.48% | 1.82% | 2.16% | 2.51% | 2.85% | 3.19% |
| 7 | 1.11% | $81,494 | $70.33 | $100.38 | $130.43 | $160.48 | $190.53 | $220.58 | $250.63 | $280.68 |
| | | | 1.04% | 1.48% | 1.92% | 2.36% | 2.81% | 3.25% | 3.69% | 4.13% |

| Low Burden | Medium Burden | High Burden |
|---|---|---|

EPA intends to view this data as an additional way for communities to demonstrate the impacts of program costs on various households. If the table with modeled future rates in aggregate shows most cells in the low burden CPH category, then the program is relatively affordable, as opposed to having most cells in the high burden CPH category. Based on the extent of "high burden" cells, EPA may use this information under Alternative 1 to allow an implementation

[19] SA = Service Area; MHI = Median Household Income; CCF = Centum Cubic Feet.

schedule to go beyond the schedule recommendations in Exhibit 6, or under Alternative 2. However, EPA does not intend such schedule to exceed the useful life of the community's water infrastructure assets. EPA is also considering the use of this additional analysis in WQS decisions.

*3. Customer Assistance Programs (CAPs)*

Numerous drinking water and wastewater utilities have developed Customer Assistance Programs (CAPs) that use bill discounts, special rate structures, and other means as an approach to help financially constrained customers maintain access to drinking water and wastewater services. These water affordability programs typically determine eligibility of individual households through a percentage of the Federal Poverty Level (FPL). These programs help households address issues with affordability and help protect public health throughout the community. They also help ensure the utility can sustainably provide its core services, price services appropriately, and preserve a broad customer base. However, these programs have costs for the community.

If a community has developed a CAP to assist individual households, EPA intends to consider both the costs needed to administer the program as well as the revenue lost from the assistance provided (discounted rates, collection fees foregone, improved water efficiency, etc.).

EPA intends to consider the following information if provided:

- Type of program,
- Program eligibilities,
- Number of customers participating in the program,
- Number of customers eligible for the program (if known),
- Program costs,[20]
- Revenue lost,
- How the program is funded,
- Program benefits, and
- Number of disconnections prevented (if known).

Submission of the above information would allow EPA to confirm that the appropriate CAP costs are being included as part of a community's FCA. Such costs can be included in the calculation of the Residential Indicator[21] and LQRI[22] under Alternative 1, and as part of a

[20] The New England Environmental Finance Center's Water Utility Customer Assistance Program Cost Estimation Tool is designed to help water utilities estimate the costs of implementing a customer assistance program. See https://neefc.org/.

[21] As current and projected Clean Water Act related expenses. See 1997 FCA Guidance, Worksheet 1, Lines Number 100 and 103.

[22] The proposed LQRI Worksheet calculation uses the same costs from the Residential Indicator.

Financial and Rate Model Analysis under Alternative 2. EPA requests that the community should clearly identify if CAP costs have been included in these sections of the FCA and the line items in which these costs appear. EPA is also considering the use of this additional analysis in the same manner in WQS decisions.

*4. Asset Management Costs*

Asset management is a critical foundation for understanding near and long-term operational and capital needs. This information forms the basis for capital planning and a capital funding strategy. Asset management is the practice of managing infrastructure capital assets to minimize the total cost of owning and operating them, while delivering the service level customers desire. It helps answer the following three core questions for long-term infrastructure planning:

1. What assets do you have and where are they located?
2. When do your assets need to be repaired or replaced?
3. How much is each asset going to cost you in the near-term and the long-term?

By implementing asset management practices, a community should have a clear picture of infrastructure related expenses and future investment needs, which should inform the financial planning process.

EPA intends to consider a community's asset management planning if the community can verify that asset management practices are being implemented. These include:

- Acting on the projects in the Capital Improvement Program,
- Inventorying assets,
- Linking maintenance schedules to the inventory,
- Assessing the condition and remaining useful life of the assets in the inventory,
- Determining the capital expenditures needed to replace assets, and
- Planning a funding and financing strategy for operation and maintenance and capital expenditures.

Submission of the above information should allow EPA to confirm that the appropriate asset management costs are being included as part of a community's FCA. Such costs may be reflected in the Residential Indicator and LQRI under Alternative 1 and as part of a Rate Model Analysis under Alternative 2. To be considered, EPA requests that the community should clearly identify when asset management costs have been included in these sections of the FCA and the line items in which these costs appear. EPA is also considering the use of this additional analysis in the same manner in WQS decisions.

*5. Stormwater Management Costs*

EPA's continued commitment to Integrated Planning recognizes that many local governments and authorities have increased investments in their stormwater infrastructure through capital projects to rehabilitate existing systems, improve operation and maintenance, reduce impermeable surfaces, make use of green infrastructure,[23] and address additional regulatory requirements. As programs are implemented to improve water quality and attain CWA objectives, many state and local government partners find themselves facing difficult economic challenges with limited resources and financial capability.

To be considered by EPA, the following information should be submitted for verification of stormwater costs that are not within a community's wastewater-related funds:

- Identify the municipal fund that the stormwater activity is conducted within (for example, identify whether stormwater management is in a separate stormwater enterprise fund or incorporated into the wastewater enterprise fund).
- Describe the specific stormwater activities and associated costs (for example, provide costs for stormwater program development, implementation, and enforcement as well as costs for designing, building and maintaining stormwater infrastructure).
- Include supporting documentation for cost estimates.
- Describe the underlying requirement for the stormwater activities and costs (for example, is this required by a state or federal permit, regulation or enforcement action?).
- Identify projected, current, and historical stormwater fees.

Submission of the above information should allow EPA to confirm that the appropriate stormwater costs are included as part of a community's FCA and will provide EPA with the appropriate assurances that those expenditures will be made. Such costs may be reflected in the Residential Indicator and LQRI under Alternative 1, and, if a community proceeds under Alternative 2, as part of a Rate Model Analysis. To be considered, EPA requests that the community should clearly identify when stormwater management costs have been included in these sections of the FCA and the line items in which these costs appear. EPA is also considering the use of this additional analysis in the same manner in WQS decisions.

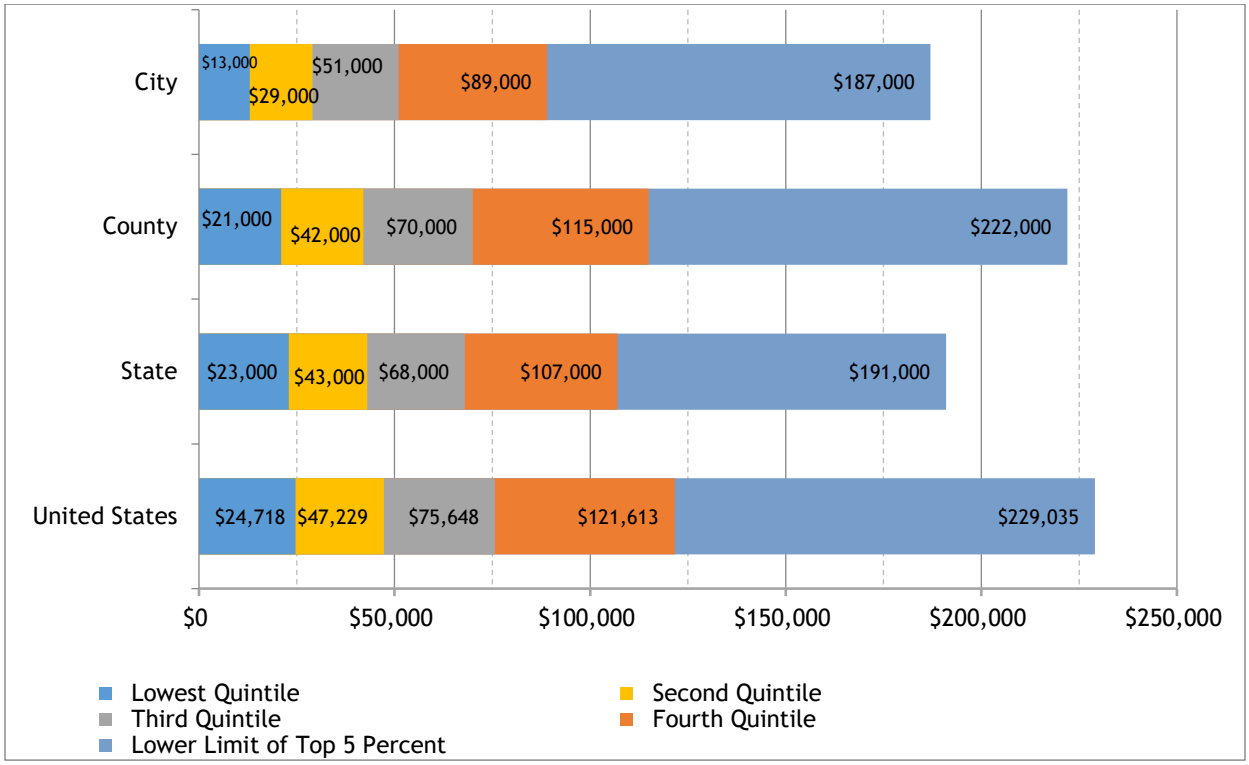
*6. Comparisons to National Data*

For any of the other metrics submitted by a community, the community can provide a graphic or chart that shows the community's data as compared with county, state, and national data. An example is shown below in Exhibit 9. This information would be used to assist EPA in

[23] The term 'green infrastructure' means the range of measures that use plant or soil systems, permeable pavement or other permeable surfaces or substrates, stormwater harvest and reuse, or landscaping to store, infiltrate, or evapotranspirate stormwater and reduce flows to sewer systems or to surface waters.'' Clean Water Act Section 502(27), 33 U.S.C. 1362(27).

assessing a community's circumstances in relation to national averages and as compared to other communities. Such a comparison can be used to highlight a community's unique or atypical circumstances.

**Exhibit 9: Graph comparing quintile distribution in city, county, state, and nationally**




### f. Other Metrics with Submission Information Determined by the Community

EPA continues to encourage communities to provide additional financial and demographic information regarding the community's financial capability to implement CWA obligations. This information would supplement the information provided under either Alternative 1 or Alternative 2. Examples of other metrics include:

- Unemployment Rates
- Debt Service Coverage Ratio
- Debt to Income Ratio
- Percent Population Decline, or Other Population Trends
- State or Local Legal Restrictions or Limitations on Property Taxes, Other Revenue Streams, or Debt Levels
- Other Metrics as Determined by the Community

Additional examples of other metrics that may be submitted are listed in Appendix C. The examples in Appendix C are not intended to be a complete list, nor a list of factors that will be

relevant in every community. Rather, it provides an illustration of information that may prove useful in some instances. For such information to adequately illustrate that a community's situation is atypical, EPA encourages communities to compare any additional information on their circumstances to national averages or to that of other communities.

### g. Schedule Development

#### *1. Additional Considerations*

Discharges to Sensitive Areas: The CSO Policy states that a permittee's long-term control plan (LTCP) should give the highest priority to "sensitive areas." Sensitive areas are identified by NPDES permitting authorities. They include the following: Outstanding National Resource Waters; National Marine Sanctuaries; waters with threatened or endangered species and their habitat; waters with primary contact recreation; public drinking water intakes and their designated protection areas; and shellfish beds. For discharges to sensitive areas, the CSO Control Policy states that LTCPs should: prohibit new or significantly increased overflows; eliminate or relocate overflows; or, where elimination or relocation is not feasible, provide treatment to meet WQS and regularly assess the feasibility of prohibition, relocation, or elimination.[24]

During the LTCP planning process, a community should characterize existing CSO conditions and identify receiving waters that are sensitive areas. The LTCP should give priority to sensitive areas and any implementation schedule should sequence projects to mitigate impacts on sensitive areas as early as possible. Giving highest priority to sensitive areas might mean in some cases that discharges to non-sensitive areas would be addressed later in the implementation schedule than would be the case under normal engineering and construction schedule.

The identification of an area as "sensitive" is based on the designated use of a water body established by a state or authorized tribe as part of a water quality standard. If a use is not attainable for one of the reasons in 40 CFR 131.10(g) and is not an existing use (as defined in 40 CFR 131.3), a state or authorized tribe may revise the designated use with a supporting use attainability analysis (UAA) and must then adopt the highest attainable use.

Use Impairment: LTCPs should also give priority to receiving waters that experience recurring adverse impacts from the permittee on aquatic life, human health or aesthetics. Such waters may be the subject of public concern. As a result of public participation and discussion

[24] See 59 Fed. Reg. 18688, 18696 (April 19, 1994).

with the permitting authority, the community should develop an implementation schedule that gives highest priority to waters with impaired uses and addresses them as soon as possible. As is the case with sensitive areas, giving highest priority to certain use-impaired waters might mean that discharges to other waters would be addressed later in the implementation schedule than would be the case under a normal engineering and construction schedule.

Public Health: While sanitary sewer overflows (SSOs) cannot be permitted they can be the subject of CWA enforcement actions. Even where an SSO does not reach a water of the United States, it can be a violation of a permit obligation to properly maintain and operate a sewer system. Accordingly, where basement backups of raw sewage and the ejection of raw sewage from manholes onto streets are CWA permit violations, reducing exposure to this raw sewage should be a priority in any schedule that is negotiated with the community to protect public health.

Environmental Justice: The guiding principal of environmental justice is the fair treatment and involvement of all people regardless of race, color, culture, national origin, income, and educational levels with respect to the development, implementation, and enforcement of protective environmental laws, regulations, and policies. Communities can use EPA's EJSCREEN tool[25] when assessing whether there may be environmental justice concerns within their service area, such as areas with: minority and/or low-income populations; potential environmental quality issues; and/or a combination of environmental and demographic indicators that is greater than usual. Any implementation schedule should sequence projects to mitigate impacts to areas with potential environmental justice concerns as early as possible.

### *2. Alternative 1 Schedule Development*

This guidance does not dictate specific implementation schedules based on financial capability. It does, however, provide benchmarks in Exhibit 6 to aid all parties in negotiating reasonable and effective schedules for implementation of CWA controls. Exhibit 6 should be used after all four recommended critical metrics in Alternative 1 have been calculated, and the community's burden level has been determined using the Expanded FCA Matrix.

It is important to note that financial capability is on a continuum. Although the Expanded FCA Matrix categorizes burden as "high, medium, or low," this does not necessarily mean that

[25] EPA has developed an environmental justice (EJ) mapping and screening tool called EJSCREEN. It is based on nationally consistent data and an approach that combines environmental and demographic indicators in maps and reports. Screening results should be supplemented with additional information and local knowledge to get a better understanding of the issues in a selected location. EJSCREEN is available at https://www.epa.gov/ejscreen.

schedules would be rigidly set according to the break points between the categories. For example, two communities whose total residential share of costs are 1.1% and 1.9% of MHI are both categorized in the FCA Guidance as having a "medium" burden for the RI. All other things being equal, the appropriate schedules for those communities are likely to be different. Similarly, all other things being equal, two communities whose residential share of costs are 1.9% and 2.1% of MHI would be more likely to have similar overall compliance timeframes, even though one community is ranked as having a "medium" burden and the other as having a "high" burden. Finally, other metrics submitted by the community may affect the length of the schedule regardless of where the community is on the "high, medium, and low" continuum.

As noted above, the four recommended critical metrics under Alternative 1 might not present the most complete picture of a community's financial capability to fund its CWA controls. Therefore, communities are encouraged to submit any additional documentation (other metrics) that would create a more accurate and complete picture of their financial capability. The proposed 2020 FCA includes Other Metrics with Standardized Instructions and Other Metrics with Submission of Information to be Determined by the Community. Any other metrics that have been submitted for consideration would supplement the Expanded FCA Matrix results, and consideration of these metrics may result in implementation schedules that go beyond the schedule benchmarks in Exhibit 6, not to exceed the useful life of the community's water infrastructure assets. EPA is also considering the use of these additional metrics in the same manner in WQS decisions.

Exhibit 10, below, describes four hypothetical schedule determinations where the recommended critical metrics, other metrics, and environmental considerations were assessed together to develop the implementation schedule.

*[space intentionally left blank]*

**Exhibit 10: Scheduling Development for Hypothetical Communities**

| Scheduling Consideration | Community #1 | Community #2 | Community #3 | Community #4 |
|---|---|---|---|---|
| **Engineering/ Construction Schedule** | 9 years | 9 years | 9 years | 9 years |
| **Sensitive Areas** | n/a | 2 years to remove discharges from sensitive areas | n/a | n/a |
| **Use Impairment** | n/a | n/a | 15 years | 15 years |
| **Environmental Justice** | EJ concerns identified | n/a | n/a | EJ concerns identified |
| **Financial Capability** | 2020 FCA Result = Low Burden (engineering schedule) | 2020 FCA Result = Medium Burden (up to 15 years) | 2020 FCA Result = High Burden (up to 25 years unless justified by additional information) | 2020 FCA Result = High Burden (up to 25 years unless justified by additional information) |
| **Drinking Water Costs** | n/a | 2 additional years | n/a | 2 additional years |
| **Schedule:** | **9 years** **(reduction of discharges in EJ areas within first 3 years)** | **17 years** **(removal of discharge from sensitive area within first 2 years)** | **20 years** | **27 years** **(reduction of discharges in EJ areas within first 5 years)** |

*3. Alternative 2 Schedule Development*

Unlike Alternative 1, EPA has not established benchmarks for the development of a schedule under Alternative 2. Instead, EPA will consider the impacts on both households with a median household income and households with income in the lowest quintile and plans to approve implementation schedules that seek to avoid water utility rates that represent an overly burdensome percentage of household income.

## IV. Resources

EPA understands the importance of accounting for a community's ability to pay for CWA controls. EPA plans to work with communities during the negotiation process to identify funding sources and financing strategies that can be used to reduce costs over time. Below is a list of resources to assist communities related to water infrastructure financing. EPA is seeking feedback on whether there are other resources that may be missing or not covered by this list.

- Compendiums and documents on rate setting and CAPs
  - Water Environment Federation (WEF): https://www.e-wef.org/Default.aspx?TabID=251&productId=62500667
  - Drinking Water and Wastewater Utility Customer Assistance Programs: https://www.epa.gov/waterfinancecenter/compendium-drinking-water-and-wastewater-customer-assistance-programs
  - Water Infrastructure Financial Leadership: https://www.epa.gov/waterfinancecenter/water-infrastructure-financial-leadership
- Funding sources
  - Water Finance Clearinghouse: www.epa.gov/wfc
  - Clean Water State Revolving Fund: https://www.epa.gov/cwsrf
  - Drinking Water State Revolving Fund: https://www.epa.gov/dwsrf
  - Water Infrastructure Finance and Innovation Act (WIFIA): https://www.epa.gov/wifia
- Environmental Finance Centers
  - EPA Region 1 – University of Southern Maine https://neefc.org/
    - Water and Wastewater Rates Analysis Model: The model can set water and/or wastewater rates for the following year by projecting the utility's expenses, revenues from rates, and fund balance. Data inputs are minimal.
    - Water Utility Customer Assistance Program Cost Estimation Tool: Tool is designed to help water utilities estimate the costs of implementing a customer assistance program.
  - EPA Region 2 – Syracuse University https://efc.syr.edu/
    - In the "About Us→Environmental Finance Center Network" tab, there is information about trainings and webinars to encourage smarter management of municipal finances and assets, and to help operators conduct day-to-day operations more efficiently.
    - In the "Projects→Drinking Water and Wastewater Infrastructure→EFCN Smart Management for Small Water Systems" tab, there are free workshops, webinars and technical assistance on topics such as asset management, financial management, and others for small water system operators, owners, and municipal representatives.

- In the "Projects→Municipal Development→Public Management and Finance Program" tab, the website discusses how the Environmental Finance Center delivers technical assistance to rural communities that are developing water or wastewater infrastructure projects and other environmental improvement projects. The EFC offers individualized technical assistance in funding and financing advice, asset management guidance, and other topics.

- EPA Region 3 – University of Maryland https://www.efc.umd.edu/
  - Municipal Online Stormwater Training (MOST) Center: The MOST Center is meant to help communities bridge the gap in needed technical and financial resources through a comprehensive training program to help municipalities within the Chesapeake Bay Watershed access and implement innovative stormwater management techniques to improve water quality in the Bay. Formed based on the expressed need from many in the Chesapeake Bay that are faced with limited capacity and resources for meeting stormwater management obligations.
  - Community Stormwater Projects: EFC works each year with several communities in the region to revitalize their stormwater management and financing programs. Projects span across Maryland, Virginia, Pennsylvania, and West Virginia.
  - Small Public Water Systems: EFC is working to build managerial and financial capacity of small public drinking water systems.
  - Applying Asset Management to Stormwater: EFC is working with the City of Scranton and the Scranton Sewer Authority to assess the City's current asset management framework in addressing both combined sewer system and separate storm sewer system.
- EPA Region 4 – University of North Carolina, Chapel Hill https://efc.sog.unc.edu/
  - The main feature of this website is the Utility Financial Sustainability & Rates Dashboards, which can be found within the Resources tab at the top of the homepage. Within this dashboard for selected states, you can do the following:
  - *Rate Comparison*: Compare a selected utility's median water and/or sewer bill to all utilities in the state (or a host of other comparison groups), as well as see the median affordability of annual water and/or sewer bills as a percentage of MHI. You can also raise rates to see how metrics change.
  - *Characteristics*: See selected demographic data for the town in which the water and/or sewer utility operates, compared to total/median demographic data for all utilities in the survey (or a host of other comparison groups) as well as statewide. Demographic data includes: number of systems, estimated number of connections, estimated service population, average household size, median household income; and poverty rate.

- In the homepage, scroll down and select either "Drinking Water" or "Stormwater." From there, you can also see the most recent rate sheet associated with your utility, as well as tables of rate structures and rates.
- There is also a simple template for utility financial planning, and several presentations related to ratemaking and utility financial management.

- EPA Region 5 – Michigan Technical University http://gleic.org/
  - In the "Resources→Publications & Tools" tab, the website list has a link to EPA Water Finance Clearinghouse tool. EPA produced this tool for communities to find funding for drinking-water, wastewater, and stormwater infrastructure projects. It includes grant and loan opportunities searchable by state. Communities can also access reports and guides, case studies, webinars, and other useful information.
- EPA Region 6 – University of New Mexico http://southwestefc.unm.edu/
  - An "Asset Management Switchboard," which is a repository of documentation and tools related to asset management: https://swefcamswitchboard.unm.edu/am/
  - Finance-related services the EFC provides, and related links:
  - Asset Management http://southwestefc.unm.edu/asset-management-overview/
  - Small Systems Project http://southwestefc.unm.edu/small-systems-projects-overview/
  - Water System Finance http://southwestefc.unm.edu/water-system-finance-overview/
- EPA Region 7 – Wichita State University https://www.wichita.edu/academics/fairmount_college_of_liberal_arts_and_sciences/hugowall/efc/
  - Training program designed to teach Kansas municipal officials and utility staff about the managerial and financial aspects of running a water system. The Kansas Capacity Development project seeks to build capacity for municipal officials and utility staff that make financial decisions regarding their community's water utility. The project includes conducting interactive trainings across Kansas, on topics such as utility asset management, financial planning, and promotion of inter-local cooperation.
  - Professional development for water and wastewater professionals to further the implementation of asset management concepts through networking with other systems and content experts.
  - Detailed guidance document on how to successfully form a sewer district in Missouri in a way the average citizen can understand.
  - Training to provide an overview of the importance of capital planning and review the elements necessary to develop and implement a Capital Improvement Program. Participants learn the details of putting together a

capital plan through checklist and matrix tools. Financial research information is also provided on traditional and non-traditional funding sources in order to provide options available for funding capital assets.
    - EFC has curated all funding opportunities for watershed projects in one place, organized by tags in a searchable database: https://www.wichita.edu/academics/fairmount_college_of_liberal_arts_and_sciences/hugowall/efc/news/meramec-funding-sources-landing-page.php
- EPA Region 8 – National Rural Water Association https://efc.nrwa.org/
    - Rural Water Loan Fund: Low-cost loans for short-term repair costs, small capital projects or replacement costs, or pre-development costs associated with proposed water and wastewater projects. Systems must be public entities serving up to 10,000 persons, or in rural areas with no population limits.
    - National Rural Water Association has webinars, workshops and guidebooks on sustainability utility management for small and rural water and wastewater systems.
- EPA Region 9 – California State University, Sacramento https://www.efc.csus.edu
    - The EFC provides asset management, stormwater funding and financing, direct technical assistance, grant application assistance, and other services.
    - Asset management: Tools for collecting, recording, and uploading asset data in your municipal stormwater system. Additionally, there are training and workshops on asset management and utility performance, as well as indicators of financial and technical performance.
    - Stormwater funding and financing: Toolkit to support asset management and funding for municipal stormwater programs. Toolkit includes guidance report and worksheets to help record data on system assets, as well as maintenance needs and long-term costs. Additionally, there are guidance and tools for evaluating benefits and costs in stormwater management, as well as forums/workshops on topics of technical, managerial, and financial aspects of stormwater management.
- EPA Region 10 – Rural Community Assistance Corporation https://www.rcac.org/environmental/environmental-finance-center/
    - The EFC provides the following services:
        - Develops and provides financial modules and tools including a very small system asset management plan.
        - Collects and shares infrastructure finance resources that communities can review or adapt and use to move forward with innovative financial solutions.

- Develop and deliver hands-on, adult learner centered financial and environmental training on topics that include source water protection, tribal infrastructure financing and asset management.
- Provides direct technical assistance to small rural communities and tribes as they plan for and work toward financial sustainability for their environmental and public health utilities and facilities.
- Assists rural communities to build, improve, manage, operate, or finance drinking water and wastewater systems. They help rural communities access millions of dollars in grants and loans, and trained thousands of individuals through customized on-site technical assistance and workshops.

## V. Appendices

a. Appendix A – Residential Indicator Worksheets
b. Appendix B – Financial Capability Indicator Worksheets
c. Appendix C –Examples of Other Metrics
d. Appendix D – Example Expanded Matrices and Recommendations for WQS

## VI. Request for Public Comment

EPA requests public comment on the proposed 2020 FCA. Specifically, EPA is requesting comments on the following:

Requests for Comment on Overarching Matters:

1. Should EPA's previous FCA documents be consolidated into the 2020 FCA, as proposed, or should EPA continue to use the 1997 FCA Guidance as the controlling guidance with the 2020 revisions serving as a supplement?
2. In addition to the data sets that are discussed in this Notice, what other data sets are you aware of that meet NAPA's criteria as identified in the October 2017 report, "Developing a New Framework for Community Affordability of Clean Water Services"?
3. What additional resources are publicly available that can be used to assess financial capability (e.g., the ALICE Essentials Index[26])?
4. What additional examples, calculations, or templates would you like EPA to develop to assist with assessing financial capability?

[26] Asset Limited, Income Constrained, Employed (ALICE) is measure of poverty that examines a subset of households that earn above the Federal Poverty Level, but not enough to afford a minimal household budget. See https://www.unitedforalice.org/.

Requests for Comment on the Proposed FY2020 FCA Supplement:

5. EPA invites comment on the appropriateness of using the four recommended critical metrics to assess financial capability and what their relative importance in considering financial capability should be.
6. What supplemental information is relevant to support implementation schedules that go beyond the proposed benchmarks in Exhibit 6?
7. Is EPA distinguishing appropriately between critical and other metrics?
8. EPA is seeking comment on the proposed methodology for calculating the ratio for lowest quintile household size to median household size.
9. EPA invites public comment on whether adjusting the LQRI based on household size is appropriate or if there are other ways to calculate a residential indicator for LQI households.
10. EPA is seeking comment on whether the same benchmarks for assessing the MHI Residential Indicator should be used for assessing the Lowest Quintile Residential Indicator (LQRI), as proposed, or if different benchmarks should be used.
11. EPA is seeking comment on the list of proposed poverty indicators and on whether the bracketing of the middle 50% is an appropriate method to benchmark the proposed poverty indicators.
12. EPA is seeking public comment on the proposed schedule benchmarks in Exhibit 6.
13. What other resources, in addition to those listed in Section IV, are available to assist communities related to water infrastructure financing?
14. EPA is seeking comment on whether additional detail can be provided to better understand implementation of Alternative 2.
15. Should drinking water costs be considered as part of scheduling considerations and are there appropriate benchmarks for considering the contribution of drinking water costs to household burdens, such as a specific percentage of income?

Requests for Comment Related to Water Quality Standard Decisions

16. EPA is also considering how the LQRI, PI, and other metrics and thresholds discussed in this Federal Register Notice could be used to support WQS decisions. EPA seeks comment on the use of these same metrics and thresholds under Alternative 1 for use in WQS decisions using the proposed expanded matrix in Appendix D. This proposed matrix provides guidance on how to apply the options and flexibilities of Alternative 1 in the proposed 2020 FCA to the consideration of economic impacts to support WQS decisions related to public entities. EPA intends that the proposed expanded matrix for WQS decisions, along with the electronic spreadsheet tools for the public sector at https://www.epa.gov/wqs-tech/spreadsheet-tools-evaluate-economic-impacts-public-sector, would replace the worksheets and calculations for the public sector sections of the 1995 WQS Guidance. This replacement would be used for determining the degree of economic impact for use in WQS decisions for the public sector. The proposed 2020 FCA does not revise the recommended methodology in the private sector sections of the 1995 WQS Guidance. EPA is separately exploring whether there are practical methodologies available to increase the objectivity of the analyses recommended to determine the degree of economic impact on private sector entities when evaluating these same WQS decisions.

# Appendix A

# III. PHASE ONE: THE RESIDENTIAL INDICATOR

The Residential Indicator measures the financial impact of the current and proposed WWT and CSO controls on residential users. Development of this indicator starts with the determination of the current and proposed WWT and CSO control costs per household (CPH). Second, the service area's CPH estimate and the median household income (MHI) are used to calculate the Residential Indicator. Finally, the Residential Indicator is compared to established financial impact ranges to determine whether CSO controls will produce a possible high, mid-range or low financial impact on the permittee's residential users. Worksheets are provided to aid in developing the Residential Indicator.

**Developing CPH Estimate**

The first step in developing the CPH is to determine the permittee's total WWT and CSO costs by adding together the current costs for existing wastewater treatment operations and the projected costs for any proposed WWT and CSO controls. The next step is to calculate the residential share of the total WWT and CSO costs. The final step is to calculate the CPH by dividing the residential share of total WWT and CSO costs by the number of households in the permittee's total wastewater service area.

Current WWT costs are defined as current annual wastewater operating and maintenance expenses (excluding depreciation) plus current annual debt service (principal and interest). This fairly represents cash expenses for current wastewater treatment operations. (Expenses for funded depreciation, capital replacement funds, or other types of capital reserve funds are not included in current WWT costs, because they represent a type of savings account rather than an actual operation and maintenance expense.)

Estimates of projected costs are made for any proposed WWT projects and the CSO controls. Any concerns about including specific proposed WWT projects or CSO controls in the projected costs, or the length of the planning period, should be discussed with the appropriate NPDES permitting and enforcement authorities. These costs are adjusted to current dollars (i.e., deflated). These include projected operation and maintenance expenses plus projected debt service costs for any proposed WWT and the CSO controls. The residential or household costs exclude the portion of expenses attributable to commercial, governmental and industrial wastewater discharges. The information and calculations used to develop the CPH and the Residential Indicator are presented in Worksheets 1 and 2 and their instructions.

Worksheet 1 Instructions

Enter the requested data on lines 100 through 109. The operation and maintenance costs on lines 100 and 103 should include all significant cost categories, such as labor, chemicals, utilities, administration, and equipment replacement. Do not include depreciation on line 100 or line 103. Adjust the projected annual WWT and CSO costs to current dollars using the average annual national Consumer Price Index (CPI) inflation rate for the past five years available from the Bureau of Labor Statistics. The CPI is used as a simple and reliable method of indexing projected WWT costs and household income. For example, if the most recent five year average CPI is 4 percent, and the projected annual O& M and debt service costs will begin in 2 years, adjust the projected costs with the following formula:

$$Adjusted\ Projected\ Costs\ (Current\ Dollars) = Projected\ Costs \times Adjustment\ Factor$$

The adjustment factor can be calculated using the following formula or the present value factor from the table on page 55:

$$Adjustment\ Factor = \frac{1}{(1+CPI)^{years}} = \frac{1}{(1+.04)^2} = .925$$

The annualized debt service cost information for the projected WWT facilities and projected CSO controls (Line 104) can be calculated using an annualization factor obtained from the table on page 56, which reflects the local borrowing interest rate and borrowing term of the permittee. For example, if the adjusted projected debt costs (current dollars) are $25,000,000 and typical borrowing terms include an interest rate of eight percent over 20 years, then costs can be annualized with the following calculation:

$$Annual\ Debt\ Service\ Costs = Adjusted\ Debt\ Costs \times Annualization\ Factor$$

$$Annual\ Debt\ Service\ Cost = \$25,000,000 \times .1019 = \$2,547,500$$

The annualization factor can be calculated using the following formula:

$$Annualization\ Factor = \frac{Interest\ Rate}{(1+Interest\ Rate)^{years} - 1} + Interest\ Rate = \frac{.08}{(1+.08)^{20} - 1} + .08 = .1019$$

The annualized debt service cost for the projected WWT facilities and projected CSO controls is entered on line 104. Add the current and projected wastewater treatment and projected CSO control costs to estimate the total WWT and CSO costs (line 102 + line 105).

Calculate the residential share of the total cost (line 106) and enter on line 107. The residential share of total costs (line 107) is computed by multiplying the percent of total wastewater flow including infiltration and inflow attributable to residential users by the total costs (line 106). For example, for a permittee with the following characteristics:

| | |
|---|---|
| Total Costs: | $12,000,000 |
| Residential Flow: | 10.5 Million Gallons per Day |
| Total Flow: | 13.1 Million Gallons per Day |

The residential share of the total cost is:

$$\textit{Residential Share of Costs} = \textit{Total Costs} \times \frac{\textit{Residential Wastewater Flow}}{\textit{Total Wastewater Flow}}$$

$$\textit{Residential Share of Costs} = \$12{,}000{,}000 \times \frac{10.5\ \textit{Million Gallons Per Day}}{13.1\ \textit{Million Gallons Per Day}}$$

$$\$9{,}600{,}000$$

Calculate the CPH (line 109) by dividing total residential share costs (line 107) by the total number of households (line 108) in the permittee's total wastewater service area.

Data Sources

The permittee's latest financial reports should be available to develop the current wastewater treatment costs. In order to comply with accounting requirements, most permittees develop a combined statement of revenues, expenses, and changes in fund balance. These reports should be available directly from the permittee, or, in some states, from central records kept by the state auditor or other state offices. (Many states conduct audits and generate financial reports - i.e., balance sheet, statement of revenues, expenses, and changes in fund balance, and statement of cash flows, for each permittee.) Projected costs and households in the wastewater service area should be available through planning documents. The Bureau of Labor Statistics frequently has data on the number of households in the service area.

The Consumer Price Index rate (CPI) should be the average rate for the previous five years. The CPI is available through the Bureau of Labor Statistics.

## COST PER HOUSEHOLD
### Worksheet 1

| | | Line Number |
|---|---|---|
| Current WWT Costs | | |
| • Annual Operations and Maintenance Expenses (Excluding Depreciation) | _____ | 100 |
| • Annual Debt Service (Principal and Interest) | _____ | 101 |
| *Subtotal* (Line 100 + Line 101) | _____ | 102 |
| Projected WWT and CSO Costs (Current Dollars) | | |
| • Estimated Annual Operations and Maintenance Expenses (Excluding Depreciation) | _____ | 103 |
| • Annual Debt Service (Principal and Interest) | _____ | 104 |
| *Subtotal* (Line 103 + Line 104) | _____ | 105 |
| Total Current and Projected WWT and CSO Costs (Line 102 + Line 105) | _____ | 106 |
| Residential Share of Total WWT and CSO Costs | _____ | 107 |
| Total number of Households in Service Area | _____ | 108 |
| Cost Per Household (Line 107 ÷ Line 108) | _____ | 109 |

**Developing the MHI Estimate**

The second step in developing the Residential Indicator is to determine the adjusted median household income (MHI) for the permittee's entire wastewater service area. Information and calculations used to develop the adjusted MHI value are presented in Worksheet 2 and its instructions.

Worksheet 2 Instructions

Enter the requested information on Worksheet 2, lines 201 through 203. MHI from the latest census year should be adjusted to current year dollars with the average CPI inflation rate from the latest census year to the current year using the following formula.

$$Adjusted\ MHI = MHI \times Adjustment\ Factor$$

The MHI adjustment factor can be calculated using the following formula or the inflation adjustment factor from the table on page 58:

$$MHI\ Adjustment\ Factor = (1+CPI)^{Current\ Year-Census\ Year}$$

For example, if a permittee's MHI was $30,000 in the 1990 census year, the average annual CPI since 1990 was 4 percent and the current year is 1992, the following calculation would be made to adjust the MHI to current dollars:

$$Adjustment\ Factor = (1+.04)^{1992-1990} = 1.0816$$

$$Adjusted\ MHI = \$30,000 \times 1.0816 = \$32,448$$

On Worksheet 2, calculate the adjusted MHI by entering the latest census MHI value on line 201. Then enter the MHI Adjustment Factor on line 202. Finally, multiply the MHI (line 201) by the Adjustment Factor (line 202) and enter the Adjusted MHI on line 203.

## RESIDENTIAL INDICATOR
**Worksheet 2**

| Median Household Income (MHI) | | Line Number |
|---|---|---|
| • Census Year MHI | _____ | 201 |
| • MHI Adjustment Factor | _____ | 202 |
| • Adjusted MHI (Line 201 x Line 202) | _____ | 203 |
| Annual WWT and CSO Control Cost Per Household (CPH) (Line 109) | _____ | 204 |
| Residential Indicator: | | |
| Annual Wastewater and CSO Control Costs per Household as a percent of Adjusted Median Household Income (CPH as % MHI) (Line 204 ÷ Line 203 x 100) | _____ | 205 |

If the permittee's service area includes more than one jurisdiction, it may be necessary to develop a weighted MHI for the entire service area. The Bureau of Census's designated MHI areas generally encompass most permittees' service areas. For this reason, the calculation of a weighted MHI usually will not be necessary to reasonably represent the permittee's MHI. When a weighted MHI must be acquired, a weight would be assigned to each jurisdiction to reflect its share of the total households.

The following example illustrates how to develop a weighted MHI value before adjusting it to current year dollars. If a permittee is a regional authority that serves three local jurisdictions, the weighted average MHI would be calculated as follows:

| Jurisdiction | MHI | Number of Households (HH) |
|---|---|---|
| A | $30,000 | 100,000 |
| B | $45,000 | 25,000 |
| C | $25,000 | 50,000 |
| | | 175,000 |

$$\text{Weighted MHI} \quad MHI_A\left(\frac{HH_A}{\text{Total HH}}\right) + MHI_B\left(\frac{HH_B}{\text{Total HH}}\right) + MHI_C\left(\frac{HH_C}{\text{Total HH}}\right)$$

$$\$30{,}000\left(\frac{100{,}000}{175{,}000}\right) + \$45{,}000\left(\frac{25{,}000}{175{,}000}\right) + \$25{,}000\left(\frac{50{,}000}{175{,}000}\right)$$

$$\$17{,}143 + \$6{,}429 + \$7{,}143$$

$$\$30{,}715$$

Data Sources

Median household income is available for most communities from the latest census. In the few cases where a local jurisdiction's MHI is not available, the surrounding county's MHI may be sufficient. Each state has a state data center that serves as a local source of census data for public use. This center may be contacted to obtain the information available from the Bureau of Census for use during this assessment (see Appendix B).

**Developing the Residential Indicator**

Worksheet 2 Instructions

To calculate the Residential Indicator (line 205 of Worksheet 2), divide the annual WWT and CSO control cost per household (line 109 transferred to line 204) by the Adjusted MHI (line 203) and multiply by 100.

**Analyzing the Residential Indicator**

The Residential Indicator will be used in the Financial Capability Matrix in Section IV to help permittees, and EPA and state NPDES authorities determine reasonable and workable long-term CSO control schedules. (The Residential Indicator does not provide special recognition for low income groups since their influence is automatically reflected in the median household income component of the indicators.)

To assess the financial impact CSO controls may have on the permittee's residential users, the Residential Indicator is compared to the financial impact ranges that reflect EPA's previous experience with water pollution control programs. These ranges are as follows:

| Financial Impact | Residential Indicator (CPH as % MHI) |
|---|---|
| Low | Less than 1.0 Percent of MHI |
| Mid-Range | 1.0 - 2.0 Percent of MHI |
| High | Greater than 2.0 Percent of MHI |

When the Residential Indicator is less than 1.0 percent, between 1.0 and 2.0 percent, and greater than 2.0 percent, the financial impact on residential users to implement the CSO controls will be characterized as "low," "mid-range," and "high," respectively. Unless there are significant weaknesses in a permittee's financial and socioeconomic conditions, second phase reviews for permittees that have a low residential indicator score (less than 1.0) are unlikely to result in longer implementation schedules. Permittees with low residential indicators may wish to forego the second phase analysis and proceed with the normal engineering and construction implementation schedule developed as part of the CSO planning process.

In situations where a permittee believes that there are unique circumstances that would affect the conclusion of the first phase, the permittee may submit documentation of its unique financial conditions to the appropriate state NPDES and EPA authorities for consideration.

# Appendix B

# IV. PHASE TWO: PERMITTEE FINANCIAL CAPABILITY INDICATORS

In the second phase, selected indicators are assessed to evaluate the financial capability of the permittee. These indicators will examine the permittee's debt burden, socioeconomic conditions, and financial operations. The second-phase review examines three general categories of financial capability indicators for the permittee:

- Debt Indicators - Assess current debt burden of the permittee or the communities within the permittee's service area and their ability to issue additional debt to finance the CSO controls. The indicators selected for this purpose are:
  - Bond Ratings (General Obligation and/or Revenue Bond Fund)
  - Overall Net Debt as a Percent of Full Market Property Value
- Socioeconomic Indicators - Assess the general economic well-being of residential users in the permittee's service area. The indicators selected for this purpose are:
  - Unemployment Rate
  - Median Household Income
- Financial Management Indicators - Evaluate the permittee's overall ability to manage financial operations. The indicators selected for this purpose are:
  - Property Tax Revenue Collection Rate
  - Property Tax Revenues as a Percent of Full Market Property Value

Even though the financial capability analysis reflects current conditions, pending changes in the service area should be considered in development of the second phase indicators. For example, if the current unemployment rate is high, but there is a new plant opening that will stimulate economic growth, the unemployment indicators for the service area would need to be modified to reflect the projected impact of the new plant. The permittee should submit documentation of such conditions to the appropriate EPA and state NPDES authorities for consideration. When the permittee is a sanitary district, sewer authority or similar entity, the second phase indicators related to property values and tax revenues may not be applicable. In those circumstances, the permittee may simply use the remaining indicators or submit other related documentation that will help assess its financial capability to implement the CSO controls.

## DEBT INDICATORS

The debt indicators described below were selected to assess the current debt burden conditions and the ability to issue new debt. These indicators are the bond rating and overall net debt as a percent of full market property value. When these indicators are not available for the permittee, other financial data which illustrates debt burden and debt issuing capacity may be used to assess the permittee's financial capability in this area.

### Bond Rating

The information needed to evaluate the bond ratings is presented in Worksheet 3. Recent bond ratings for the permittee and service area communities summarize a bond rating agency's assessment of a permittee's or community's credit capacity. General obligation (G.O.) bonds are bonds issued by a local government and repaid with taxes (usually property taxes). They are the primary long-term debt funding mechanism in use by local governments. General obligation bond ratings reflect financial and socioeconomic conditions experienced by the community as a whole.

"Revenue bond" ratings, by comparison, reflect the financial conditions and management capability of the wastewater utility. They are repaid with revenues generated from user fees. Revenue bonds are sometimes referred to as water or sewer bonds. In some cases these bonds may have been issued by the state on behalf of local communities. (Additional information on bonds is contained in EPA's Combined Sewer Overflows—Guidance For Funding Options (EPA 832-B-95-007 ).

Bond ratings normally incorporate an analysis of many financial capability indicators. These analyses evaluate the long term trends and current conditions for the indicators. The ultimate bond ratings reflect a general assessment of the current financial conditions. However, if security enhancements like bond insurance have been used for a revenue bond issue, the bond rating may be higher than justified by the local conditions.

Many small and medium-sized communities and permittees have not used debt financing for projects and, as a result, have no bond rating. The absence of bond rating does not indicate strong or weak financial health. When a bond rating is not available, this indicator may be excluded from the financial analysis.

Worksheet 3 Instructions

Enter the most recent bond ratings on Worksheet 3, lines 301 and 302. Note that ratings are requested for general obligation bonds and revenue bonds. When there are several different bond ratings, enter the most recent bond rating on Line 303 as the summary bond rating.

Data Sources

Municipal bond reports from rating agencies (e.g., Moody's Bond Record, Standard & Poor's Corporation) provide recent ratings.

Benchmarks

Moody's Investor Services

"Baa" is the minimum investment grade rating. See *Moody's on Municipals - an Introduction to Issuing Debt* for a description of bond ratings.

Moody's Investor Services' Ratings

- Weak: Ba, B, Caa, Ca, C
- Mid-Range: Baa
- Strong: Aaa, AA, A

Standard & Poor's

"BBB" is the minimum investment grade rating. See Standard & Poor's *Municipal Finance Criteria* for a description of bond ratings.

Standard and Poor's Ratings

- Weak: BB, B, CCC, CC, C, D
- Mid-Range: BBB
- Strong: AAA, AA, A

## BOND RATING
## Worksheet 3

| | | Line Number |
|---|---|---|
| • Most Recent General Obligation Bond Rating | _____ | |
| Date: | _____ | |
| Rating Agency: | _____ | |
| Rating: | _____ | 301 |
| • Most Recent Revenue (Water/Sewer or Sewer) Bond | | |
| Date: | _____ | |
| Rating Agency: | _____ | |
| Bond Insurance (Yes/No) | _____ | |
| Rating: | _____ | 302 |
| Summary Bond Rating: | _____ | 303 |

## Overall Net Debt as a Percent of Full Market Property Value

Description

Overall net debt is debt repaid by property taxes in the permittee's service area. It excludes debt which is repaid by special user fees (e.g., revenue debt). This indicator provides a measure of the debt burden on residents within the permittee's service area and measures the ability of local governmental jurisdictions to issue additional debt. It includes the debt issued directly by the local jurisdiction and debt of overlapping entities, such as school districts. This indicator compares the level of debt owed by the service area population with the full market value of real property used to support that debt and serves as a measure of financial wealth in the permittee's service area. Information needed to develop overall net debt as a percent of full market value is identified on Worksheet 4.

Worksheet 4 Instructions

Enter requested data on Worksheet 4, lines 401 - 405.

Line 401 - Direct Net Debt - Enter the amount of each jurisdiction's general obligation debt outstanding that is supported by the property in the permittee's service area. General obligation bonds are secured by the "full faith and credit" of the community and are payable from general tax revenues. This debt amount excludes general obligation bonds that are payable from some dedicated user fees or specific revenue source other than the general tax revenues. These general obligation bonds are called "double-barreled bonds."

Line 402 - Debt of Overlapping Entities - Calculate the permittee's service area's share of any debt from overlapping entities using the process illustrated below.

1. Identify in Column A below each overlapping entity that has incurred debt that must be partially supported by the permittee's service area. (Check the State assessor's office for this information).
2. Identify the total amount of tax-supported outstanding debt for each overlapping entity in Column B. Money in a sinking fund is not included in the outstanding debt since it represents periodic deposits into an account to ensure the availability of sufficient monies to make timely debt service payments.
3. Identify the percentage of each overlapping entity's outstanding debt charged to persons or property in the permittee's service area in Column C. The percentage is based on the estimated full market value of real property of the respective jurisdictions.

4. Multiply the total outstanding debt of each overlapping entity by the percentage identified for the permittee's service area (Column B x C).
5. Add the figures in Column D to arrive at total overlapping debt for permittee's service area.

| (A) Overlapping Entities | (B) Outstanding Debt (less Sinking Fund) | (C) Percent Chargeable to Permittee's Service Area | (D) Outstanding Debt Attributable to Permittee's Service Area |
|---|---|---|---|
| County | $10,500,000 | 25% | $2,625,000 |
| School District | 16,800,000 | 95% | 15,960,000 |
| Total Overlapping Debt | | | $18,585,000 |

Line 403 - Overall Net Debt - Add lines 401 and 402.

Line 404 - Market Value of Property - The property value should reflect the full market value of property within the permittee's service area. It is possible that the tax assessed property value will not reflect full market value. This occurs when the tax assessment ratio is less than one. In such cases the full market value of property is computed by dividing the total tax assessment value by the assessment ratio (the assessment ratio represents the percentage of the full market value that is taxed at the established tax rate). For example, if the assessed value is $1,000,000 and the assessment ratio is 50 percent then the full market value of real property is $1,000,000/.50= $2,000,000.

Line 405 - Overall Net Debt as a Percent of Full Market Property Value - Divide line 403 by line 404 and multiply by 100.

Data Sources

Debt information is available from the financial statements of each community. In most cases the most recent financial statements are on file with the state (e.g., State Auditor's Office). Overlapping debt may or may not be provided in a community's financial statements. The property assessment data should be readily available through the community or the State's assessor office. The boundary of most permittees' service areas generally conforms to one or more community boundaries. Therefore, prorating community data to reflect specific service area boundaries is not normally necessary for evaluating the general financial capability of the permittee.

Benchmarks

- Weak: Above 5%
- Mid-range: 2-5%
- Strong: Below 2%

## OVERALL NET DEBT AS A PERCENT OF FULL MARKET PROPERTY VALUE
**Worksheet 4**

| | | Line Number |
|---|---|---|
| • Direct Net Debt (G.O. Bonds Excluding Double-Barreled Bonds) | _____ | 401 |
| • Debt of Overlapping Entities (Proportionate Share of Multijurisdictional Debt) | _____ | 402 |
| • Overall Net Debt (Lines 401+402) | _____ | 403 |
| • Market Value of Property | _____ | 404 |
| • Overall Net Debt as a Percent of Full Market Property Value (Line 403 divided by Line 404 x 100) | _____ | 405 |

## SOCIOECONOMIC INDICATORS

The socioeconomic indicators are used to assess the general economic well-being of residential users in the permittee's service area. The indicators used to assess economic conditions are unemployment rate and median household income. When the permittee has additional socioeconomic data, it may want to submit the data to the appropriate EPA and state NPDES authorities to facilitate a better understanding of the permittee's unique economic conditions. Several examples of this type of socioeconomic data could be poverty rate, population growth, and employment projections.

### Unemployment Rate

Unemployment information is entered on Worksheet 5. The unemployment rate is defined as the percent of a permittee's service area residents on the unemployment rolls.

Worksheet 5 Instructions

Unemployment values are entered on lines 501 - 503 on Worksheet 5. If the unemployment rate for a permittee's service area is not available, the unemployment rate for the county in which the service area is located may be used as a substitute. On line 503, enter the average national unemployment rate.

Data Sources

The Bureau of Labor Statistics (BLS) maintains current unemployment rate figures for municipalities and counties over 25,000 population. National and state unemployment data are also available for comparison purposes. This information can be obtained from the BLS by request at (202) 606-6392.

Benchmarks

Compare the permittee's unemployment values with the national average values. National averages are readily available through the Bureau of Labor Statistics.

- Weak: More than 1 percentage point above the National Average
- Mid-range: ± 1 percentage point of the National Average
- Strong: More than 1 percentage point below National Average

For example, if the national average unemployment rate is 6 percent, an unemployment rate greater than 7 percent would be considered weak, while an unemployment rate less than 5 percent would be considered strong.

## UNEMPLOYMENT RATE
**Worksheet 5**

| | | Line Number |
|---|---|---|
| • Unemployment Rate - Permittee | _____ | 501 |
| Source: | _____ | |
| • Unemployment Rate - County (use if permittee's rate is unavailable) | _____ | 502 |
| • Source: | _____ | |

Benchmark:

| | | |
|---|---|---|
| • Average National Unemployment Rate: | _____ | 503 |
| • Source: | _____ | |

## Median Household Income

Median household income (MHI) is defined as the median amount of total income dollars received per household during a calendar year in a given area. It serves as an overall indicator of community earning capacity. Worksheet 6 is used to present information for this indicator.

### Worksheet 6 Instructions

Median household income was discussed during the first phase assessment and is presented on Worksheet 2. On line 601 of Worksheet 6, enter the adjusted MHI from Worksheet 2 (line 203). Use the MHI adjustment factor from Worksheet 2 (line 202) to calculate the adjusted national MHI from the latest census, national MHI value (line 602) and enter the value on Line 604.

### Data Sources

Median household income is available through state data centers. Refer to Worksheet 2 for MHI of the permittee's service area. Refer to Appendix B for the address and telephone number of the state's data center to acquire the latest census national MHI value.

### Benchmarks

Compare the permittee's MHI to the adjusted national MHI:

- Weak: More than 25% below Adjusted National MHI
- Mid-Range: ± 25% of the Adjusted National MHI
- Strong: More than 25% above Adjusted National MHI

## MEDIAN HOUSEHOLD INCOME
**Worksheet 6**

| | | Line Number |
|---|---|---|
| • Median Household Income - Permittee (Line 203) | _____ | 601 |
| • Source: | _____ | |
| Benchmark: | | |
| • Census Year National MHI | _____ | 602 |
| • MHI Adjustment Factor (line 202) | _____ | 603 |
| • Adjusted National MHI: (line 602 x line 603) | _____ | 604 |
| • Source: | _____ | |

## FINANCIAL MANAGEMENT INDICATORS

The financial management indicators used to evaluate a permittee's financial management ability are property tax revenue as a percent of full market value of real property and property tax revenue collection rate.

### Property Tax Revenues as a Percent of Full Market Property Value

This indicator can be referred to as the "property tax burden" since it indicates the funding capacity available to support debt based on the wealth of the community. It also reflects the effectiveness of management in providing community services.

Worksheet 7 Instructions

Property tax burden is computed on Worksheet 7. The full market value of real property was calculated in Worksheet 4, line 404. Enter the full market value on line 701. Enter the most recent year's property tax revenue on line 702. General fund revenues are primarily property tax receipts.

Data Sources

The property assessment data should be readily available through the community or the State's assessor office (see Worksheet 4, Line 404). Property tax revenues are available in communities' annual financial statements. Occasionally, the assessment and tax revenue data of communities partially serviced by the permittee may have to be prorated to provide a clearer picture of the permittee's property tax burden.

Benchmarks

- Weak: Above 4%
- Mid-range: 2%-4%
- Strong: Below 2%.

## PROPERTY TAX REVENUES AS A PERCENT OF FULL MARKET PROPERTY VALUE

**Worksheet** 7

| | | Line Number |
|---|---|---|
| • Full Market Value of Real Property (Line 404) | _____ | 701 |
| • Property Tax Revenues | _____ | 702 |
| • Property Tax Revenue as a Percent of Full Market Property Value (702 ÷ 701 x 100) | _____ | 703 |

## Property Tax Revenue Collection Rate

The property tax revenue collection rate is an indicator of the efficiency of the tax collection system and the acceptability of tax levels to residents.

Worksheet 8 Instructions

The property tax revenue collection rate is calculated on Worksheet 8. The property tax revenues collected was listed in Worksheet 7, Line 702. Enter this value on line 801. Enter the property taxes levied on line 802. Divide the property tax revenue collected by the property taxes levied and multiply by 100 to present the collection rate as a percentage on line 803.

Data Sources

Property taxes levied can be computed by multiplying the assessed value of real property by the property tax rate, both of which are available from a community's financial statements or the state assessor's office (see Worksheet 4, Line 404). Property tax revenues are available in communities' annual financial statements. Occasionally, the assessment and tax revenue data of communities partially serviced by the permittee may have to be prorated to provide a clearer picture of the permittee's property tax revenue collection rate.

Benchmarks

- Weak: Below 94%
- Mid-range: 94-98%
- Strong: Above 98%.

## PROPERTY TAX REVENUE COLLECTION RATE
**Worksheet 8**

| | | Line Number |
|---|---|---|
| • Property Tax Revenue Collected (Line 702) | _____ | 801 |
| • Property Taxes Levied | _____ | 802 |
| • Property Tax Revenue Collection Rate (line 801 ÷ line 802 x 100) | _____ | 803 |

## Analyzing Permittee Financial Capability Indicators

This section describes how the indicators in the second phase may be used to generate an overall score of a permittee's financial capability. The indicators are compared to national benchmarks to form an overall assessment of the permittee's financial capability and its effect on implemention schedules in the long-term CSO control plan.

In situations where a permittee believes that there are unique circumstances that would affect the conclusion of the second phase, the permittee may submit documentation of its unique financial conditions to the appropriate EPA and state NPDES authorities for consideration. The purpose of additional information is to clarify unique circumstances which are not fairly represented by the overall scores of the selected indicators. An example could be where a state or community imposes restrictions on property taxes.

Worksheet 9 Instructions

The indicators generated from the worksheets are compared to the state, national or industry benchmarks presented in Table 2. Information compiled from Worksheets 3 through 8 is summarized in Column A on Worksheet 9. Score each of these values using the rating standards in Table 2 and the following score benchmarks and enter the appropriate number in Column B. The score definitions are:

| Benchmarks | Score |
|---|---|
| • Weak | 1 |
| • Mid-Range | 2 |
| • Strong | 3 |

To calculate an average score for the indicators, total the values in Column B and divide by the number of entries. Enter the average score on Line 907.

If it is not possible to develop one or more of the six indicators, the permittee should explain why the indicator is inappropriate or unavailable. Since the point of the analysis is to measure the overall financial burden of the CSO controls, the debt and socioeconomic indicators are generally better measures of this burden than the financial management indicators. Consequently, if one of the debt or socioeconomic indicators is not available, the two financial management indicators should be averaged and used as a single indicator to average with the available debt and socioeconomic indicators. This averaging is necessary so that undue weight is not given to the financial management indicators.

## PERMITTEE FINANCIAL CAPABILITY INDICATOR BENCHMARKS

**Table 2**

| Indicator | Strong | Mid-Range | Weak |
|---|---|---|---|
| Bond Rating | AAA-A (S&P) or Aaa-A (Moody's) | BBB (S&P) Baa (Moody's) | BB-D (S&P) Ba-C (Moody's) |
| Overall Net Debt as a Percent of Full Market Property Value | Below 2% | 2% - 5% | Above 5% |
| Unemployment Rate | More than 1 Percentage Point Below the National Average | ± 1 Percentage Point of National Average | More than 1 Percentage Point Above the National Average |
| Median Household Income | More than 25% Above Adjusted National MHI | ±25% of Adjusted National MHI | More than 25% Below Adjusted National MHI |
| Property Tax Revenues as a Percent of Full Market Property Value | Below 2% | 2% - 4% | Above 4% |
| Property Tax Collection Rate | Above 98% | 94% - 98% | Below 94% |

## SUMMARY OF PERMITTEE FINANCIAL CAPABILITY INDICATORS
**Worksheet 9**

| Indicator | Column A: Actual Value | Column B: Score | Line Number |
|---|---|---|---|
| Bond Rating (Line 303) | _____ | _____ | 901 |
| Overall Net Debt as a Percent of Full Market Property Value (line 405) | _____ | _____ | 902 |
| Unemployment Rate (Line 501) | _____ | _____ | 903 |
| Median Household Income (Line 601) | _____ | _____ | 904 |
| Property Tax Revenues as a Percent of Full Market Property Value (Line 703) | _____ | _____ | 905 |
| Property Tax Revenue Collection Rate (Line 803) | _____ | _____ | 906 |
| Permittee Indicators Score (Sum of Column B ÷ Number of Entries) | | _____ | 907 |

# Appendix C

Examples of Information Related to Residential Impacts:

1. Income distribution by quintile, geography or other breakdown, illustrating how income distribution in the service area differs from comparable data on the national level or for similar cities.

2. Where cities have adopted differential rates for low income customers, the income distribution that led to that rate structure.

3. Information about service area poverty rates and trends.

4. Projected, current and historical sewer, and stormwater fees as a percentage of household income, quintile, geography or other breakdown.

5. Information on sewer and water usage for various classes of ratepayers or by type of dwelling unit.

6. Information on the percent of households who own versus rent.

Examples of Information Related to Financial Strength:

1. Historical population trends or population projections.

2. Service area unemployment data and trends, or other labor market indicators, including unemployment on an absolute basis.

3. Rate or revenue models, including dynamic financial planning models showing the projections of impacts over the program period. All revenue sources tied to CWA obligations may be included as appropriate.

4. Rate determination studies used to develop and support recent rate increases.

5. Data and trends on late payments, disconnection notices, service terminations, uncollectable accounts, or revenue collection rates.

6. Historical increases in rates or other dedicated revenue streams.

7. State or local legal restrictions or limitations on property taxes, other revenue streams or debt levels.

8. Other costs or financial obligations, such as those that relate to drinking water or other infrastructure, that significantly affect a permittee's ability to raise revenue.

9. Circumstances that may affect a permittee's bond rating. For instance, incurring debt beyond certain thresholds may negatively impact the permittee's bond rating, thus reducing the ability to raise capital.

10. Financial plans that show the implications of incurring additional debt for a permittee's ability to secure financing, including projections of metrics such as debt ratios, debt service coverage, debt per customer, days of cash on hand, days

of working capital and other metrics used by rating agencies. Such data should be benchmarked to metrics such as rating agency medians and relative to similar entities. This will be especially relevant where the permittee does not have a bond rating.

11. Extraordinary stressors such as those from natural disasters, municipal bankruptcies, unusual capital market conditions, or other situations which impact a permittee's ability to raise revenue or acquire needed financing. When such stressors occur, they may also provide support for making changes to existing schedules.

# Appendix D

# Appendix D

## Proposed Expanded Economic Impact Matrix and corresponding Recommendations for WQS Decisions

EPA intends that the proposed expanded matrix for WQS decisions in this Appendix, along with the electronic spreadsheet tools for the public sector at https://www.epa.gov/wqs-tech/spreadsheet-tools-evaluate-economic-impacts-public-sector [1], would replace the worksheets and calculations for the public sector sections of the 1995 WQS Guidance. This replacement would then guide states and authorized tribes in determining the degree of economic impact for use in WQS decisions including revisions to designated uses, WQS variances, and antidegradation reviews. This Appendix includes the expanded economic impact matrix for WQS that incorporates the Muncipal Preliminary Screener (MPS), Secondary Score (SS), Lowest Quintile Residential Indicator (LQRI), and Poverty Indicator (PI) in a multi-step approach. This Appendix does not revise the recommended methodology in the private sector sections of the 1995 WQS Guidance. EPA is separately exploring whether there are practical methodologies available to increase the objectivity of the analyses recommended to determine the degree of economic impact on private sector entities when evaluating these same WQS decisions.

### Step 1: Determine the Initial Economic Impact by Using Table 1 below

Table 1 used to determine the initial economic impact for the public sector is same as the matrix for the public sector in the 1995 WQS guidance. To calculate the Muncipal Preliminary Screener (MPS) and Secondary Score (SS) for use in this step,), please see the electronic spreadsheet tools for the public sector at https://www.epa.gov/wqs-tech/spreadsheet-tools-evaluate-economic-impacts-public-sector.

Table 1:

| **Secondary Score (SS)** | **Municipal Preliminary Screener (Cost Based on Median Household Income) (MPS)** | | |
|---|---|---|---|
| | Below 1.0% | Between 1.0% to 2.0% | Above 2.0% |
| Below 1.5 (Weak Economy)) | Impact Unclear | Substantial Impact | Substantial Impact |
| Between 1.5 to 2.5 (Mid-range Economy) | Impact Not Likely to be Substantial | Impact Unclear | Substantial Impact |
| Above 2.5 (Strong Economy) | Impact Not Likely to be Substantial | Impact Not Likely to be Substantial | Impact Unclear |

[1] These electronic spreadsheet tools for the public sector encompass the data inputs and calculations of the 1995 WQS Guidance.

**Step 2: Determine the Lowest Quintile Impact by Using Table 2**

For more information on how to calculate the Lowest Quintile Residential Indicator and Poverty Indicator, please see Alternative 1 in the proposed 2020 FCA in Section III.A.

Table 2:

| Poverty Indicator | Lowest Quintile Residential Indicator | | |
|---|---|---|---|
| | Low Impact (Below 1.0%) | Mid-Range (1.0% to 2.0%) | High Impact (Above 2.0%) |
| Low Impact (Above 2.5) | Impact Not Likely to be Substantial | Impact Not Likely to be Substantial | Impact Unclear |
| Mid-Range (1.5 to 2.5) | Impact Not Likely to be Substantial | Impact Unclear | Substantial Impact |
| High Impact (Below 1.5) | Impact Unclear | Substantial Impact | Substantial Impact |

**Step 3: Use the Expanded Economic Impact Matrix For WQS Decisions in Table 3 to combine the Results from the Initial Economic Impact (Table 1) and the Lowest Quintile Impact (Table 2)**

Table 3:

| Initial Economic Impact (MPS and SS) | Lowest Quintile Impact (LQRI and PI) | | |
|---|---|---|---|
| | Impact Not Likely to be Substantial | Impact Unclear | Substantial Impact |
| Impact Not Likely to be Substantial | Impact Not Likely to be Substantial | Impact Not Likely to be Substantial | Impact Unclear |
| Impact Unclear | Impact Not Likely to be Substantial | Impact Unclear | Substantial Impact |
| Substantial Impact | Impact Unclear | Substantial Impact | Substantial Impact |

**Proposed Recommendations for WQS Decisions based on the 2020 Expanded Economic Matrix**

The following are recommended WQS Decisions after applying the Expanded Economic Impact Matrix For WQS Decisions from Table 3:

| **Expanded Economic Impact Matrix For WQS Decisions** | **Recommended WQS Decisions** |
|---|---|
| Impact Not Likely to be Substantial | Does not support revisions to designated uses, water quality standard (WQS) variances, or antidegradation reviews leading to downgrading of high quality water |
| Impact Unclear | Unclear support for revisions to designated uses, water quality standard (WQS) variances, or antidegradation reviews leading to downgrading of high quality water; Recommend evaluation of other metrics (described in Sections III.C and III.D of the 2020 FCA) or the financial and rate models (described in Alternative 2 in Section III.B) |
| Substantial Impact | Supports revisions to designated uses, water quality standard (WQS) variances, or antidegradation reviews leading to downgrading of high quality water |