Thank you to our event Patrons!
Upcoming Events

September 23
Wine Down Wednesday

September 24
ACEC/MW Colleges & Universities Virtual Event

October 8
ACEC/MW MD & VA Local Governments Virtual Event

October 14
ACEC/MW Scholarship Golf Tournament
1757 Golf Club in Dulles, Virginia

Visit acecmw.org for more info and to register
MODERATOR

ACEC/MW Water Infrastructure Committee Chair
Aaron Briggs
MEETING AGENDA

11:00 - 11:10am – ACEC WELCOME & INTRODUCTION
- Mac Cannon - ACEC/MW Executive Director
- Pedro Capestany – ACEC/MW President

11:10 - 12:45 – SPEAKER PRESENTATIONS & AWARD PRESENTATION
DC Water
Loudoun Water
Fairfax DPWES
WSSC Water

12:45-1:00pm – MODERATED PANEL DISCUSSION & CLOSING REMARKS
- Aaron Briggs - ACEC/MW Water Infrastructure Committee Chair
SPEAKER

DC Water
Kishia L. Powell, P.E. - Chief Operating Officer & Executive Vice President
DC Water’s Evolving 10 Year CIP

Presentation to ACEC’s Water / Wastewater Luncheon – LIVE Virtual Event

Kishia L. Powell, Chief Operating Officer and Executive Vice President
Introduction to DC Water ................................................................. 3
10-Year Capital Improvement Program ........................................ 5
Water and Sewer Linear System ................................................. 11
Business Diversity and Inclusion .......................................... 20
New Capital Procurement Program ..................................... 23
Upcoming and Ongoing A/E Opportunities ........................ 24
Introduction to DC Water

DC WATER

Provides
- Drinking water distribution for DC – 1,320 miles of pipes & 4 pump stations
- Required wastewater collection and treatment – 1,900 miles of pipes & 9 pump stations
- Stormwater collection and conveyance – 580 miles & 15 pump stations

Treats wastewater for a population of 2.1 million
- District of Columbia
- Montgomery & Prince George’s counties, MD
- Fairfax & Loudoun counties, VA

Operates the world’s largest advanced wastewater treatment plant
- Average daily capacity, 384 mgd
- Peak daily capacity, 1 billion+ gallons

Serves a regional area of approximately 725 square miles

10-Year CIP – $4.9B

Annual Operating Budget – $618M
Introduction to DC Water

BLUE PLAINS SERVICE AREA
10-Year Capital Improvement Program

The 10-year capital program Engineering Projects

- Begins the implementation of the Board of Director's plan approved last year, and adds additional funds to reach 1.5% replacement plans for water and sewer linear infrastructure within the ten-year plan, balancing infrastructure renewal and affordability.

- Fully funds the Clean Rivers program to meet all consent decree deadlines.

- Funds non-process facilities including the new Fleet and Sewer Facilities, renovations to the Historic Main Pump Station, and restoration of the Main & O campus seawall.

- At Blue Plains funds upgrades to Screens, Grit and Primary Facilities, and Process Control Computer System, Efficiency Improvements, and Long-term Concrete Rehabilitation projects.

- Advances major rehabilitation of sanitary collection sewers, upgrades to sewer pump stations, rehabilitation of the Potomac Interceptor and increased funding to ramp up to 1.5% replacements per year starting FY 2027 and onwards for the small diameter water mains and small sewer lines.
10-Year Capital Improvement Program

FINDING THE RIGHT BALANCE

The CIP balances financial and affordability concerns with additional investment in our assets that begin to address aging water and sewer infrastructure during this 10-year period.

Capital Construction Projects – $4.92 billion, highlights include:

- $1.2 billion fully funds the DC Clean Rivers’ project to meet Consent Decree requirements
- $57 million increase in the Sewer Service area to ramp up to 1.5% small sewer lines replacement from FY 2027 onwards, ten-year total of $1.2 billion in Sewer
- $102 million increase in the Water Service area to ramp up to the 1.5% of small diameter water mains replacement per year from FY 2027 onwards, ten-year total of $1.1 billion in Water
- $72 million for New Project – Blue Plains Long Term Concrete Rehabilitation, applied asset management principles to prioritize and re-schedule out-year projects to maintain ten-year total of $1.0 billion in Wastewater Treatment
## SERVICE AREA SUMMARY
Ramp-up to the BOD CIP Plan beginning in FY 2021

### SERVICE AREA ($000's)

<table>
<thead>
<tr>
<th>Service Area</th>
<th>FY20</th>
<th>FY21</th>
<th>FY22</th>
<th>FY23</th>
<th>FY24</th>
<th>FY25</th>
<th>FY26</th>
<th>FY27</th>
<th>FY28</th>
<th>FY29</th>
<th>10-Year Total</th>
<th>Last Year’s CIP</th>
<th>(Increase) / (Decrease)</th>
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</thead>
<tbody>
<tr>
<td>Non-Process Facilities</td>
<td>$42,066</td>
<td>$31,849</td>
<td>$20,665</td>
<td>$6,831</td>
<td>$11,058</td>
<td>$10,396</td>
<td>$3,901</td>
<td>$3,553</td>
<td>$3,560</td>
<td>$3,600</td>
<td>$137,479</td>
<td>$138,067</td>
<td>$598</td>
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<tr>
<td>Wastewater Treatment</td>
<td>77,536</td>
<td>102,976</td>
<td>113,378</td>
<td>107,232</td>
<td>107,312</td>
<td>70,680</td>
<td>97,878</td>
<td>101,839</td>
<td>132,256</td>
<td>138,165</td>
<td>1,049,252</td>
<td>978,738</td>
<td>(70,514)</td>
</tr>
<tr>
<td>Clean Rivers</td>
<td>162,197</td>
<td>147,565</td>
<td>179,833</td>
<td>129,272</td>
<td>67,536</td>
<td>59,909</td>
<td>148,771</td>
<td>103,265</td>
<td>88,890</td>
<td>115,049</td>
<td>1,202,288</td>
<td>1,262,589</td>
<td>60,301</td>
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<tr>
<td>Combined Sewer</td>
<td>9,239</td>
<td>9,493</td>
<td>12,816</td>
<td>16,553</td>
<td>16,731</td>
<td>8,568</td>
<td>6,699</td>
<td>7,572</td>
<td>8,972</td>
<td>12,435</td>
<td>109,078</td>
<td>79,178</td>
<td>(29,900)</td>
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<tr>
<td>Stormwater</td>
<td>6,869</td>
<td>9,631</td>
<td>7,535</td>
<td>4,170</td>
<td>5,392</td>
<td>4,660</td>
<td>4,201</td>
<td>4,306</td>
<td>6,869</td>
<td>5,057</td>
<td>58,690</td>
<td>68,608</td>
<td>9,918</td>
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<tr>
<td>Sanitary Sewer</td>
<td>44,933</td>
<td>63,926</td>
<td>115,541</td>
<td>88,110</td>
<td>91,562</td>
<td>138,341</td>
<td>159,814</td>
<td>176,789</td>
<td>175,873</td>
<td>174,032</td>
<td>1,288,922</td>
<td>957,135</td>
<td>(271,787)</td>
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<td>Water</td>
<td>62,163</td>
<td>88,677</td>
<td>108,878</td>
<td>109,000</td>
<td>92,905</td>
<td>101,765</td>
<td>116,319</td>
<td>146,791</td>
<td>154,916</td>
<td>154,697</td>
<td>1,136,112</td>
<td>945,015</td>
<td>(191,097)</td>
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### CAPITAL PROJECTS

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<tr>
<th>Capital Projects</th>
<th>FY20</th>
<th>FY21</th>
<th>FY22</th>
<th>FY23</th>
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<th>FY25</th>
<th>FY26</th>
<th>FY27</th>
<th>FY28</th>
<th>FY29</th>
<th>10-Year Total</th>
<th>Last Year’s CIP</th>
<th>(Increase) / (Decrease)</th>
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</thead>
<tbody>
<tr>
<td>Capital Equipment</td>
<td>405,004</td>
<td>454,118</td>
<td>558,645</td>
<td>461,168</td>
<td>392,496</td>
<td>394,318</td>
<td>537,584</td>
<td>544,115</td>
<td>571,337</td>
<td>603,035</td>
<td>4,921,821</td>
<td>4,429,330</td>
<td>(492,491)</td>
</tr>
<tr>
<td>Washington Aqueduct</td>
<td>31,703</td>
<td>37,207</td>
<td>33,790</td>
<td>32,315</td>
<td>33,000</td>
<td>33,000</td>
<td>33,000</td>
<td>33,000</td>
<td>33,000</td>
<td>33,000</td>
<td>333,015</td>
<td>340,324</td>
<td>7,309</td>
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### ADDITIONAL CAPITAL PROGRAMS

<table>
<thead>
<tr>
<th>Additional Capital Programs</th>
<th>FY20</th>
<th>FY21</th>
<th>FY22</th>
<th>FY23</th>
<th>FY24</th>
<th>FY25</th>
<th>FY26</th>
<th>FY27</th>
<th>FY28</th>
<th>FY29</th>
<th>10-Year Total</th>
<th>Last Year’s CIP</th>
<th>(Increase) / (Decrease)</th>
</tr>
</thead>
<tbody>
<tr>
<td>47,218</td>
<td>53,473</td>
<td>52,362</td>
<td>70,156</td>
<td>45,698</td>
<td>66,875</td>
<td>42,509</td>
<td>45,863</td>
<td>57,048</td>
<td>46,971</td>
<td>528,193</td>
<td>527,450</td>
<td>(743)</td>
<td></td>
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</table>

### TOTAL CIP

<table>
<thead>
<tr>
<th>Total CIP</th>
<th>FY20</th>
<th>FY21</th>
<th>FY22</th>
<th>FY23</th>
<th>FY24</th>
<th>FY25</th>
<th>FY26</th>
<th>FY27</th>
<th>FY28</th>
<th>FY29</th>
<th>10-Year Total</th>
<th>Last Year’s CIP</th>
<th>(Increase) / (Decrease)</th>
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</thead>
<tbody>
<tr>
<td>$452,223</td>
<td>$507,590</td>
<td>$611,008</td>
<td>$531,322</td>
<td>$438,194</td>
<td>$461,193</td>
<td>$580,093</td>
<td>$589,978</td>
<td>$628,404</td>
<td>$650,006</td>
<td>$5,450,013</td>
<td>$4,956,780</td>
<td>($493,233)</td>
<td></td>
</tr>
</tbody>
</table>

Last Year’s CIP

<table>
<thead>
<tr>
<th>(Increase) / (Decrease)</th>
<th>FY20</th>
<th>FY21</th>
<th>FY22</th>
<th>FY23</th>
<th>FY24</th>
<th>FY25</th>
<th>FY26</th>
<th>FY27</th>
<th>FY28</th>
<th>FY29</th>
<th>10-Year Total</th>
<th>Last Year’s CIP</th>
<th>(Increase) / (Decrease)</th>
</tr>
</thead>
</table>
10-Year Capital Improvement Program

MAJOR INITIATIVES FUNDED IN PROPOSED CIP

DC Clean Rivers ($1,202 million)
- Anacostia LTCP Projects ($471 million)
- Potomac LTCP Projects ($510 million)
- Rock Creek LTCP Projects ($221 million)

Wastewater Blue Plains ($1,049 million)
- Enhanced Nitrogen Removal Facilities ($36 million)
- Liquid Processing ($574 million)
- Solids Processing ($258 million)
- Plant wide ($181 million)

Water Program ($1,136 million)
- Water Distribution System ($748 million)
- Water Lead Program ($55 million)
- Water Ongoing ($165 million)
- Water Pumping Facilities ($43 million)
- Water Storage Facilities ($68 million)
- Water Program Management ($55 million)

$’s – Projected FY 2020 - FY 2029 Disbursements

PSW Pump - Seal Failures
SDWM unlined Cast Iron pipe
10-Year Capital Improvement Program

MAJOR INITIATIVES FUNDED IN PROPOSED CIP

Sewer Program ($1,229 million)
- Sanitary Collection Sewers ($370 million)
- Sewer Ongoing ($141 million)
- Sanitary Pumping Facilities ($124 million)
- Sanitary Interceptor/Trunk/Force Sewers ($549 million)
- Sewer Program Management ($44 million)

Combined Sewer Overflow ($85 million)
- Pump Station & Facilities ($63 million)
- Large Sewers ($22 million)

Stormwater ($59 million)
- Local storm drainage & program mgt ($16 million)
- DSS Stormwater ongoing projects ($9 million)
- Pump Stations Rehabilitation ($34 million)

Non-Process ($137 million)
- New Headquarters Building ($3 million)
- Main & O Redevelopment Efforts ($43 million)
- Roof and HVAC Replacements ($26 million)
- Historic Building Restoration ($17 million)
- Main & O Seawall Restoration ($12 million)

$’s – Projected FY 2020 - FY 2029 Disbursements
## 10-Year Capital Improvement Program

### 10-Year Engineering CIP Options Compared

<table>
<thead>
<tr>
<th>Service Area</th>
<th>Approved Baseline $4.4B (FY19-28)</th>
<th>Updated Baseline $4.9B (FY20-29)</th>
<th>Fully Funded $5.8B (FY20-29)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clean Rivers</td>
<td>Fully funded to meet Consent Decree</td>
<td>Fully funded to meet Consent Decree</td>
<td>Fully funded to meet Consent Decree</td>
</tr>
<tr>
<td>Wastewater</td>
<td>Fully funded to meet NPDES Permit and established levels of service</td>
<td>Fully funded to meet NPDES Permit and established levels of service</td>
<td>Fully funded to meet NPDES Permit and established levels of service</td>
</tr>
<tr>
<td>Stormwater</td>
<td>Fully funded</td>
<td>Fully funded</td>
<td>Fully funded</td>
</tr>
<tr>
<td>Water</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pump Stations &amp; Storage Facilities</td>
<td>Generally funded</td>
<td>Fully funded</td>
<td>Fully funded</td>
</tr>
<tr>
<td>Small Diameter Water Mains</td>
<td>Underfunded (Funded to meet 1% per year replacement level [11 mi/year])</td>
<td>Increased funding to ramp up to 1.5% per year replacement level from FY2027 onwards [16.5 mi/year]</td>
<td>Fully funded to ramp up to 2% replacement level [22 mi/year]</td>
</tr>
<tr>
<td>Large Diameter Water Mains</td>
<td>Generally funded</td>
<td>Generally funded</td>
<td>Fully funded</td>
</tr>
<tr>
<td>Sewer</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pump Stations</td>
<td>Fully funded</td>
<td>Fully funded</td>
<td>Fully funded</td>
</tr>
<tr>
<td>Sewer Lines &lt; 60” diameter</td>
<td>Underfunded (Funded to ramp up to 1.0% per year rehabilitation level [17.5 mi/year]) by FY2023</td>
<td>Increased funding to ramp up to 1.5% per year rehabilitation level from FY2027 onwards [26 mi/year]</td>
<td>Fully funded to ramp up to 2.3% rehabilitation level [40 mi/year]</td>
</tr>
<tr>
<td>Sewer Lines ≥ 60” diameter</td>
<td>Generally funded</td>
<td>Generally funded</td>
<td>Fully funded</td>
</tr>
<tr>
<td>Non Process</td>
<td>Fully funded</td>
<td>Fully funded</td>
<td>Fully funded</td>
</tr>
</tbody>
</table>

*‘Generally Funded’ = What we know or expect to find can be rehabilitated  
‘Underfunded’ = What we know or expect to find is not all funded  
‘Fully Funded’ = All needs known or expected are met*
Water and Sewer Linear System

WATER DISTRIBUTION SYSTEM AGE
Small Diameter Water Mains

Average Age – 81 Years

- Ductile Iron: 148 mi; 14%
- Lined Spun Cast Iron: 215 mi; 20%
- United Spun Cast Iron: 369 mi; 35%
- United Pit Cast Iron: 331 mi; 31%

19 years remaining service life
14 years remaining service life

Average Age  Service Life Expectancy
Water and Sewer Linear System

SMALL DIAMETER WATER MAIN BREAK HISTORY
Distribution System Water Mains - Total Main Breaks

EPA Safe Drinking Water Act Grants Received:
2016 - $8.0M
2017 - $6.9M
2018 - $8.6M
Water and Sewer Linear System

WATER SYSTEM INFRASTRUCTURE – WATER MAIN BREAKS
Water and Sewer Linear System

WATER QUALITY COMPLAINTS DISTRIBUTION
Water Quality Complaints from January 2016 to August 2020
Water and Sewer Linear System

SEWER COLLECTION SYSTEM AGE
Sanitary Sewer Linear

Average Age – 82 Years

- Brick/CP-L: 11 mi; 1.6%
- Brick/CP-S: 26 mi; 3.8%
- RCP-L: 42 mi; 6.2%
- RCP-S: 45 mi; 6.6%
- VCP/Other-L: 12 mi; 1.8%
- VCP/Other-S: 541 mi; 80%

20 years remaining service life
Water and Sewer Linear System

BENEFITS OF PROACTIVE INVESTMENT

Proactive investment strategy minimizes direct (DC Water) cost and social & environmental (community impact) costs:

- Reactive approach has about a 1.5-fold to over 15-fold increase in direct costs to DC Water when compared to a proactive (planned) approach.
- Reactive approach has about a 5-fold to 19-fold increase in socioeconomic costs to the community, when compared to a proactive (planned) approach.

Emergency repairs on linear assets do not extend the service life of the repaired asset:

- Generally does not address the root problem or cause.
- Is wasted money when more comprehensive proactive project is done.

Repeated emergency repairs and associated impacts can negatively impact DC Water’s reputation and customer confidence.
Water and Sewer Linear System

FUTURE FOCUS ON LINEAR INFRASTRUCTURE

*Includes the following Service Areas: Water, Sanitary Sewer, Stormwater, and non-Clean Rivers portion of Combined Sewer Overflow.
Water and Sewer Linear System

FUTURE FOCUS ON LINEAR INFRASTRUCTURE

The CIP is on the cusp of an inflection point with upcoming major investment in linear infrastructure not seen for decades.
Water and Sewer Linear System

INFRASTRUCTURE REPAIRS BEFORE AND AFTER

Potomac Pump Station

1st & Canal Stormwater Pump Station

Low Area Trunk Sewer
Certified Business Utilization

DC Water is a strong advocate of the certified business community and is committed to ensuring local, small, disadvantaged, and women business enterprises have equitable access to procurement opportunities at all tiers on DC Water projects.

DC Water’s Business Development Plan (BDP) provides the framework for the design and implementation of activities and programs that will promote and enhance participation of certified businesses. These include, but are not limited to:

- The Disadvantaged/Women Business Enterprise (D/WBE) Program.
- The Fairshare Objectives for Federally Supported Projects.
- The Local and Small Business Enterprise (LSBE) Program.
- Strategically targeted outreach efforts that are designed to maximize the certified business communities’ interest in DC Water opportunities.
- Capacity building activities designed to expand the capabilities of firms to perform on DC Water Projects.
Business Diversity and Inclusion

DC Water historically sets and achieves aggressive utilization goals for disadvantaged and women business enterprises
- Annual overall goals as well as project specific goals.

To achieve those goals DC Water has developed a set of mandatory Good Faith Efforts.

Compliance monitoring is a “cradle to grave effort.” Goals are measured by dollars paid to certified firms, not just by contracts awarded.

Active Certified Firm Participation – as of September 30, 2019

- **DBE Awards**
  - $232.7M
- **WBE Awards**
  - $47.9M

- **DBE Awards**
  - $324.9M
- **WBE Awards**
  - $59M

- **LSBE Awards**
  - $58.1M

CONSTRUCTION

A/E SERVICES

GOOD & SERVICES
As part of DC Water’s Strategic Initiatives, the DC Water Works Program was developed to encourage and support the development and employment of local residents as employees on DC Water construction and service projects.

**Program Goals**
Seventy-five percent (75%) of new jobs created by contracts or procurements entered into by DC Water with contractors will be filled by local residents.

- DC Water Works is the principal referral source for all new jobs created for our projects – with an emphasis on placing District residents in those positions.

**Skills Training**
In support of its employment goals, DC Water developed a skills training component into the program. The Skills Training component consists of three (3) stages: 1) Job Readiness Training; 2) Skills Training (Paid); 3) Job Placement Services for the Graduates of Stage 2.

- Actual training areas are based on the construction forecast and the expressed needs of project contractors. In FY 19, DC Water Works implemented four trainings: Commercial Driver’s License (Class A) Program; Facilities Training Program; Welding Training Program; and the Green Infrastructure Certification Program.

**Results**
Since its inception, more than 300 local residents have been employed through the Water Works Program as:

- Administrative Professionals, Engineers, Laborers, Operators, Safety Personnel and Apprentices
New Capital Procurement Program

DC Water’s New Capital Procurement Program

- DC Water consolidated the capital procurement and goods and service procurement into a single procurement program within the Department of Procurement
- New Capital Procurement Team is established to manage all future capital procurement opportunities
- Focus on integrity, fairness, and transparency with open competition to any firms interested in doing business with DC Water

New Procurement System: Oracle Advanced Procurement

- DC Water is implementing Oracle as our new ERP, Procurement, and HR solutions (all in one integrated system)
- On October 1, 2020, DC Water is going live with this new procurement solution
- All future opportunities will be made available in Oracle Supplier Portal
- All future solicitations and contracting will be conducted online using the new Oracle Procurement solution
- All interested firms must register in our new Oracle Supplier Portal to participate in our new bid opportunities
- Visit www.dcwater.com/procurement for more information
## Upcoming and Ongoing A/E Opportunities

<table>
<thead>
<tr>
<th>Title of Procurement</th>
<th>DCFA #</th>
<th>RFP Issue Date</th>
<th>NTP Issue Date</th>
<th>Estimated Value</th>
<th>Additional Information</th>
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<tbody>
<tr>
<td><strong>DC CLEAN RIVERS</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>CM for Potomac River Tunnel</td>
<td>TBD</td>
<td>Summer 2023</td>
<td>Fall 2023</td>
<td>TBD</td>
<td>Construction Management Services for the Potomac River Tunnel</td>
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<tr>
<td><strong>WATER AND SEWER PLANNING</strong></td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Planning and Engineering Services for the Sewer System</td>
<td>508</td>
<td>May 2020</td>
<td>January 2021</td>
<td>NTE $20M</td>
<td>Provide planning and engineering services in support of the CIP in the Sewer Service Areas in CIP planning, condition assessment, hydraulic modeling, asset management, operations support, studies, and others</td>
</tr>
<tr>
<td><strong>WASTEWATER (BLUE PLAINS)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Electrical Power Distribution monitoring system</td>
<td>480</td>
<td>August 2021</td>
<td>March 2022</td>
<td>~$1M</td>
<td>Services will include power system evaluations, electrical studies, design, and services during construction of a large distributed control system for monitoring and controlling complex electrical power distribution system</td>
</tr>
</tbody>
</table>
# Upcoming and Ongoing A/E Opportunities

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</tr>
</thead>
<tbody>
<tr>
<td><strong>WASTEWATER (BLUE PLAINS) CONTINUED</strong></td>
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</tr>
<tr>
<td>Filter Underdrain and Backwash System Upgrade</td>
<td>TBD</td>
<td>October 2020</td>
<td>August 2021</td>
<td>$5M to $10M</td>
<td>Services include design, and services during construction of concrete repairs to the filter and gullet walls and filter flumes, underdrain replacement, wastewater system upgrades, and air scour system upgrades.</td>
</tr>
<tr>
<td>CM BOA</td>
<td>TBD</td>
<td>April 2021</td>
<td>October 2021</td>
<td>~$5M</td>
<td>CM services for Wastewater Treatment Projects</td>
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<td><strong>SEWER AND STORMWATER PUMP STATIONS</strong></td>
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<td>Engineering Services BOA</td>
<td>TBD</td>
<td>October 2020</td>
<td>March 2021</td>
<td>~$5M</td>
<td>Engineering services for stormwater, sewer and CSO pump stations, which includes planning, studies, and engineering services during construction</td>
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## Upcoming and Ongoing A/E Opportunities

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<tr>
<th>Title of Procurement</th>
<th>DCFA #</th>
<th>RFP Issue Date</th>
<th>NTP Issue Date</th>
<th>Estimated Value</th>
<th>Additional Information</th>
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<td>WATER AND SEWER LINEAR</td>
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<td>Water and Sewer Linear Design BOA</td>
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<td>September 2020</td>
<td>June 2021</td>
<td>~$7M</td>
<td>Design Services for Water and Sewer Linear Projects</td>
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<tr>
<td>Water and Sewer Linear Design BOA</td>
<td>510</td>
<td>September 2021</td>
<td>June 2021</td>
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<td>Design Services for Water and Sewer Linear Projects</td>
</tr>
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</table>
SPEAKERS

Loudoun Water
Thom Lipinski, P.E. - Director of Planning & Engineering

Sarah Lothman, P.E. - Manager of Capital Design
ACEC of Metropolitan Washington
Annual Water/Wastewater Business Opportunities & Networking Luncheon

Capital Improvement Highlights
2020-2024

Thomas Lipinski, PE
Dir. of Planning & Engineering
Sarah Lothman, PE
Mgr. of Capital Design
Central Systems (Suburban)

- **Wastewater**
  - Broad Run Water Reclamation Facility (10 MGD)
  - Blue Plains & UOSA (contracts)
  - 1,300 miles of sanitary sewer mains
  - 18 sewage pumping stations

- **Water**
  - Trap Rock Water Treatment Facility (20 MGD)
  - Goose Creek Water Treatment Facility (9 MGD)
  - Fairfax Water (contract)
  - 1,400 miles water mains
  - 5 booster pumping stations
  - 8 storage tanks (19 MG)

- **Reclaimed Water**
  - 1 pumping station (7 MGD)
  - 19 miles “purple” reuse mains
  - 2 storage tanks
Community Systems (Rural)

- **Wastewater**
  - 11 wastewater treatment plants
  - 36 miles of sanitary sewer mains

- **Water**
  - 16 water treatment plants
  - 48 miles of water mains

Treatment plants range in size from <1,000 GPD up to 250,000 GPD
Growth as Significant Driver

- **2015-40**: Population will increase by one-third, bringing another 135,000 residents.
- **2015-40**: Jobs will increase by two-thirds, adding another 110,000 employees.
- **2021**: Washington DC Metro (light rail) to connect Loudoun to nation’s capital.
- **2020 Data Centers**: 20 million S.F. in Loudoun + 5 million S.F. currently under construction + millions S.F. more in development.

**Loudoun Population**
- 368,700 (2015)
- 424,000 (2020)
- 460,000 (2025)
- 480,000 (2030)
- 495,000 (2035)
- 502,000 (2040)
- 507,000 (2045)
Approximately 8 sq. miles of JLMA/TPA
- Residential
- Commercial
- Data center
- Parks
- Rock quarries
Project Sheet (Form)

General Information
Project Name, Project #, CIP
Program, Division, Contact

Project Description
Brief scope and included phases
(plan, design, construction)

Project Driver
Brief description of the issue(s)
and consequences

Project Prioritization
Rating based on five (5)
standard criteria

10-Year Spending
Projects expenditures itemized
for planning, design, constr.,
land, equip/other – cost and
Schedule

Current Year Spending (Budget)
Projected expenditures on monthly
basis – cost and schedule
## Project Prioritization

### Capital Project Evaluation Criteria

Rating of 1-5

<table>
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<tr>
<th>Criteria</th>
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<tr>
<td>Level of Service</td>
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<tr>
<td>Regulatory or Mandated Requirement</td>
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<tr>
<td>Implication of Deferring</td>
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<tr>
<td>Alignment with Strategic and Master Plans</td>
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<tr>
<td>Funding and Other Opportunities</td>
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</table>

### Criteria Weighting

- Level of Service: 25%
- Regulatory or Mandated Requirement: 25%
- Implication of Deferring: 20%
- Alignment with Strategic and Master Plans: 20%
- Funding and Other Opportunities: 10%
CIP Review – Priority & Resources

➢ Evaluate Organization’s competing needs based on priority rating & available resources

<table>
<thead>
<tr>
<th>Program</th>
<th>Project Name</th>
<th>Project Manager</th>
<th>Requesting Dept.</th>
<th>Managing Dept.</th>
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Projects
Current Projects - Water

**Beaverdam Creek Reservoir Dam Improvements**
- Price: $18 M
- Gannett Fleming
- Concrete spillway, embankment improvements, transfer pump station
- 2020 completion (Reservoir opened in May)

**Beaverdam Reservoir Park**
- Price: $9 M
- Nelson Byrd Woltz
- With NOVA Parks; to manage recreation at the reservoir and provide educational opportunities
- 2022 completion
Current Projects - Water

Goose Creek Emergency Water Supply Connection
Price: $5 M
Hazen and Sawyer
Connecting Goose Creek Reservoir to Trap Rock WTP for use as an emergency supply
2021 completion

Milestone Reservoir (Quarry A)
Price: $75-85 M
Arcadis / Black & Veatch
Conversion of rock quarry to 1.3 Bgal reservoir including 40 MGD pump station; using CMAR
2024 completion
New Projects - Water

New JLMA & TPA Service Area

Loudoun County Comprehensive Plan 2019

Projects

• Water and Sewer Main Design
  • ~30,000 LF 16-24" watermain
  • ~10,000 LF 20" gravity sewer
  • ~15,000 LF > 16" force main
  • Major highway and creek crossings

• Pump Station Design
  • 2 sewer pump stations
New Projects - Water

Trap Rock WTF
- Phase 1 complete (20 MGD)
- Expansion to 30 MGD
- Operations support
- Misc. improvements
Current Projects - Wastewater

**BRIIPPI Phase 5/Horsepen Run Parallel Sewer**

Price: $29 M  
Hazen and Sawyer  
Three miles of large diameter (30-in to 72-in) sewer pipe to BRWRF; including 4,500 LF deep tunnels  
2020 completion

**Broad Run WRF Expansion**

Price: $77 M  
Hazen and Sawyer  
Increase treatment capacity from 10 to 15 MGD  
2024 completion
Current Projects - Wastewater

**Brambleton Sewage Pumping Station**
- Price: $5.8 M
- Dewberry
- Expandable 3 MGD sewage pumping station with emergency storage and standby power
- 2020 completion

**Courtland Sewage Pumping Station**
- Price: $4 M
- Hazen and Sawyer
- 2 MGD sewage pumping station with emergency storage and standby power
- 2021 completion
New Projects - Wastewater
Community Systems Ammonia Removal Upgrades

Lagoon Facilities
- St. Louis WWTP
- Waterford WWTP

Extended-Aeration Facilities
- Aldie WWTP
- Elysian Heights WWTP
- Raspberry Falls WWTP
- Skills WWTP

Six surface discharging wastewater plants
New Projects - Wastewater

**Broad Run WRF Expansion beyond 15 MGD (Future)**

- Price: $TBD M
- Planning, design & construction support for the next expansion increment beyond 15 MGD

**One Water Strategy**

- Price: $TBD M
- Understand benefits, challenges and opportunities for future surface water augmentation
New Projects - One Water Strategy
Reclaimed Water

Projects
• Raw water monitoring and analysis
• Technology demonstrations
• Regulatory landscape & strategy

- 2008: Commission BRWRF
- 2010: Reclaimed Water for Industrial Customers
- 2014: Acquire reservoirs
- 2018: Commission TRWTF
- 2020: Reuse strategic planning
New Projects - Asset Management

Renewal programs
- Pipe replacement
- Sanitary sewer lining

Ongoing initiatives
- Water valve replacement
- Lg.-diameter water meter replacements

Statistics based on 2019 activities:
- 2,399 Miles Linear Pipe Maintained
- 43,332 Valves Maintained
- 13,127 Hydrants Maintained
- 5,700 Manholes Inspected
- 61,000 Maintenance Hours Completed
- 882,589 Feet Sewer Inspected
Professional Services
Basic Ordering Agreements

Primarily through Basic Ordering Agreement (BOA)
  • Typical 5-year duration (1+1+1+1+1)

Currently three (3) active BOAs
  • Environmental BOA (2016) – thru **Feb. 2021**
  • Community Systems BOA (2016) – thru **Mar. 2021**
  • Civil BOA (2020) – thru Jul. 2025
Schedules for BOAs

OCT
RFP for Environ BOA

NOV
RFP for Comm Sys BOA

2021

DEC
Proposals for Comm Sys BOA

NOV
Proposals for Environ BOA

FEB
Signed agreements for Environ BOA

MAR
Signed agreements for Comm Sys BOA
Thank You

Thomas Lipinski, P.E.
tlipinski@loudounwater.org

and

Sarah Lothman, P.E.
slothman@loudounwater.org
American Council of Engineering Companies of Metropolitan Washington

Water & Wastewater Business Opportunities Networking Luncheon

Presented by Matthew J. Doyle, Branch Chief, Wastewater Design and Construction Division
Introduction

• Matthew J. Doyle, PE, CCM
  • Working as a Civil Engineer at Fairfax County, DPWES
  • BSCE West Virginia University
  • MSCE Johns Hopkins University
  • 28 years in the industry (Mid-Atlantic Only)
  • Adjunct Hydraulics Professor at GMU
  • Director GMU-EFID (Student Organization at GMU)
Presentation Objectives

- Overview of Fairfax County Wastewater Infrastructure
- Overview of Fairfax County Wastewater Organization (Staff)
- Snapshot of our Current Projects
- New Opportunities To work with DPWES
- Use of Technologies and Trends
- Helpful Hyperlinks
Overview of Fairfax County Wastewater Infrastructure

- **Wastewater Collection System**
  - 3,400 Miles of Sanitary Sewer (Average Age 60 years old)
  - 61 Pumping Stations (flow ranges are from 45 GPM to 45 MGD)
  - 90 Flow Meters (Mostly billing meters)
  - 135 Grinder pumps

- **Wastewater Treatment Plant**
  - 1 Wastewater Treatment Plant
  - Noman M. Cole Pollution Control Plant, Lorton
  - 67 MGD
  - Laboratory

- **Reclaimed Water Reuse System**
  - 6.6 MGD
  - 2 Pump Stations
  - 0.750 MG Storage Tank
  - Level 1 Compliance
Overview of Fairfax County Wastewater Organization

- **Wastewater Management Program (Three Areas)**
  - **Planning & Monitoring:**
    - Financial, long range planning, modeling, GIS, fund managers,
    - Fully Functional Laboratory to ensure regulatory compliance
    - 45 staff (+/-) at the Government Center and NMCPCP
  - **Collection:**
    - Gravity Sewer Branch
    - Pump Station Branch
    - Projects Asset Management Branch
    - 150 Staff (+/-) at Fred's Oak Road Facility
  - **Treatment:**
    - Operations Branch
    - Maintenance Branch
    - Project Support Branch
    - 175 Staff (+/-) located at NMCPCP
Overview of Fairfax County Wastewater Organization

- Capital Facilitates, Wastewater Design and Construction Division
  - **Wastewater Treatment Branch:**
    - The wastewater treatment branch manages the planning, design and construction of Fairfax County’s NMCP CP.
    - Approximately 13 staff members
    - Located at NMCP CP
    - Currently managing 16 projects
    - Managing $900 Million

- **Collection System Branch:**
  - The Collection system branch manages the planning, design and construction of Fairfax County’s wastewater collection system.
  - Approximately 14 staff members
  - Located at the Government Center
  - Currently managing 52 projects
  - Managing $530 Million
Current Activities
Current Activities

- FY-2020 CIP (Last Year)
  - $22.0 Million in Expenditures in the Wastewater Collection
  - $70.0 Million (+/-) in Expenditures in Wastewater Treatment
  - Completed Twelve Construction Projects
  - Started 20 plus New Projects
  - Approximately 50 Active Wastewater Projects
Existing Basic Ordering Agreements

- We currently have six BOAs for General Wastewater Engineering
  - We will advertise for new BOAs in September 2021
  - $6.0M/year max
  - $2.0M/project max
- Typical Projects include
  - Misc. Small Treatment plant Projects
  - Renew or Replacement of our Smaller Pump Stations (< 2 MGD)
  - Condition Assessment
  - Replacement of Small Diameter Gravity Sewer Sections
  - Replacement of Small Diameter Forcemain
  - Planning Studies
  - Emergency Engineering
  - Construction Services
- Approximately $2.0 to $3.0 Million per year per BOA
• Tysons West Pump Station Facility
  – New 25 MGD Pump Station
  – 4-miles of 36” Forcemain
  – 2-miles of Gravity Sewer
  – $120 Million Total Project Estimate
  – Designer: CDM Smith
  – CMAR: Ulliman Schutte Construction
  – DPWES Contact Person: (Doyle)
Current Activities

• Little Hunting Creek Forcemain
  – Construction to start in FY 2021
  – 2,000 LF of 42” in Diameter
  – Baker International as the Designer
  – Under Little Hunting Creek Potentially Using HDD
  – $10 Million Construction
Current Activities

- Filter Rehabilitation and New Filter Facility
  - $140 Million Total Project Estimate
  - Rehab Existing Units
  - Arcadis is the Designer
  - Just Reached Substantial Completion
Current Activities

- MCC/DC Rehabilitation
  - $103 Million Total Project Estimate
  - Jacobs is the Designer
  - Currently in Construction Phase.
  - Clark Construction Group is the Contractor
  - Going Great!
Current Activities

- **Countywide Wastewater Master Plan**
  - Awarded in the Spring 2020 (B&V)
  - Provide a complete masterplan for the entire wastewater collection system
  - Main Areas of focus:
    - EMBARK Project
    - Route 7 Corridor
    - Herndon Area
    - Tysons Area
    - Large Diameter (450 miles)
    - Pump Stations
Current Activities

- Disinfection Facility Replacement
  - $100 Million Total Project Estimate
  - Using CMAR as a delivery method (2 GMPs)
    - GMP #1 Issued in April 2017
    - GMP #2 expected Fall 2017
  - Trojan Sigma UV System
  - BIM / VR / AR
  - Hazen is the Designer
  - USC is the Construction Manager
  - Going Great!
Accotink New Forcemain and Pump Station

- $50 Million Construction (D/B/B)
- 2 miles of 42” Diameter Forcemain
- Rehabilitation or Replacement of a 42 MGD Pump Station
- Designer: HDR
New Opportunities
To work with DPWES
FY-2021 CIP

- $60.0 Million Projected Expenditures in the Wastewater Collection
- $70.0 Million (+/-) Projected Expenditures in the Wastewater Treatment
- Starting Approximately 20 new projects
- Approximately 70 Active Wastewater Projects
• Accotink Interceptor
  – Capacity Upgrades
  – 4-Miles of New 48” Interceptor
  – $40 Million Total Project Estimate
  – D/B/B
  – Designer: TBD
    • RFQ Due in June 2020
    • RFP Due in September 2020
    • A/E Selection October 2020
  – DPWES Contact Person: (Colleen Block)
Snapshot of our Future Projects and Programs

• Little Pimmit Run Gravity Sewer
  – Relocation of 5,000 LF of 21” Diameter Gravity Sewer
  – $10 Million Total Project Estimate
  – D/B/B
  – A/E Request for Qualifications September 2020
  – DPWES Contact Person: (Colleen Block)
Snapshot of our Future Projects and Programs

- Two New Basic Ordering Agreements (Wastewater Planning)
  - Basin Planning, Facility Planning, I/I Studies, Flow Analysis, Condition Assessment
  - Request for Qualifications for Professional Services (September 2020)
  - Up to two firms may be selected
  - $6.0M/year max
  - $2.0M/project max
  - 1 year with up to 4 renewal years.
  - DPWES Contact Person: Shwan Fatah
• Tysons East Pump Station Facility
  – New 10 MGD Pump Station
  – 3-miles of 24” Forcemain
  – 2-miles of Gravity Sewer
  – $80 Million Total Project Estimate
  – A/E Request for Qualifications October 2020
  – CMAR Request for Qualifications January 2021
  – DPWES Contact Person: (Ag Fallon)
Snapshot of our Future Projects and Programs

- **Pohick Interceptor**
  - Request for Qualifications **March 2021**
    - Phase 1: 800 linear feet of open cut 6-8 feet in Diameter
    - Phase 2: 1,500 linear feet of open cut 6-8 feet in Diameter
    - Phase 3: 1,000 LF of Tunneling 6-8 feet in Diameter
  - DPWES Contact Person: Chris Mata
  - Construction Procurement: (TBD)
Snapshot of our Future Projects and Programs

• EMBARK Project (Expansion of Richmond Highway)
  • Request for Qualifications: (TBD)
  • 20+ miles of Gravity Sewer
  • Open Cut and Trenchless Technologies
  • DPWES Contact Person: (TBD)
  • Construction Procurement: (TBD)
  • $50 Million
Snapshot of our Future Projects and Programs

- **Pump Station Rehabilitation Program**
  - BOA Consultants or a Stand-Alone Procurement
    - $5.0M Springfield Estates PS
    - $8.0M Jones Point PS/FM
    - $10.0M Braddock Road PS
    - $5.0M Oxford PS
    - $5.0M Washington Woods PS
    - $3.0M Penderbrook PS
    - $3.0M Wesley House PS
    - $8.0M Waynewood PS
    - $6.0M Langley School PS
Snapshot of our Future Projects and Programs

• New Alexandria Project
  • Request for Qualifications for Professional Services *(November 2020)*
  • 35 miles of Gravity Sewer in need of repair
  • Open Cut and Trenchless Technologies
  • $35 Million
  • DPWES Contact Person: (TBD)
  • Construction Procurement: (TBD)
We are embracing new technology.

- Pumpstation Condition Assessment Model with fancy Dashboards
- 360 Photos of all Pumpstations
- Construction Project Management Information System (CPMiS)
- Building Information Modeling (Revit)
- Biowin software (Treatment Plant Modeling)
- Infoworks (Collection System Modeling)
- Electronic Plan Review (Blue Beam)
- WinCan VX
- LIDAR Scanning
- Docusign
- MS Teams
Outreach Programs

- New Project Websites
- Sewer Science Education Program for K-12
- Internship Opportunities for University Students
- Facebook: [Fairfax County Environment](http://fairfaxcountyenvironment.com)
Closing
Procurement

DPWES

- E-mail notification subscription
  Design: http://www.fairfaxcounty.gov/dpwes/construction/subscribe_des.htm
  Construction: http://www.fairfaxcounty.gov/dpwes/construction/subscribe_cmdl.htm

- Design and Construction Ads

- eVA
## New Projects for FY 2021

<table>
<thead>
<tr>
<th>Item</th>
<th>Project Title</th>
<th>Start Date</th>
<th>A/E Procurement Type</th>
<th>Construction Method</th>
<th>TPE (Millions)</th>
<th>Current Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Accotink GS</td>
<td>6/1/2020</td>
<td>Stand Alone</td>
<td>BID</td>
<td>$30.0</td>
<td>RFQ/RFP Stage</td>
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<td>2</td>
<td>Langley School PS/FM</td>
<td>6/22/2020</td>
<td>Task Order</td>
<td>BID</td>
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<td>3</td>
<td>Little Pimmitt Run</td>
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<td>BID</td>
<td>$8.0</td>
<td>Pending RFQ Sept 2020</td>
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<td>4</td>
<td>Lakevale GS</td>
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<td>5</td>
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<td>Tysons East PS</td>
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<td>CMAR</td>
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<td>7</td>
<td>Belleview System</td>
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<td>CMAR</td>
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<td>8</td>
<td>Springfield PS</td>
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<td>9</td>
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<td>Jones Point PS/FM</td>
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<td>BID</td>
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<td>11</td>
<td>Lake Barcroft Odor Control</td>
<td>12/7/2020</td>
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<td>BID</td>
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<td>Pohick Interceptor</td>
<td>3/15/2021</td>
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<td>13</td>
<td>Oxford and Washington Woods PS</td>
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<td>TBD</td>
<td>BID</td>
<td>$5.0</td>
<td>Not Started</td>
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<tr>
<td>14</td>
<td>Penderbook and Wesley PS</td>
<td>3/18/2021</td>
<td>TBD</td>
<td>BID</td>
<td>$5.8</td>
<td>Not Started</td>
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<tr>
<td>15</td>
<td>Meter Rehab #4</td>
<td>5/10/2021</td>
<td>Task Order</td>
<td>BID</td>
<td>$3.0</td>
<td>Not Started</td>
</tr>
</tbody>
</table>

**Total:** $264.8
Department of Public Works and Environmental Services really appreciates the work that you do for us.

We can’t do this without you.
You are important to us.
We need you more than you need us.
ACEC/MW Water Infrastructure Committee
MERITORIOUS SERVICE AWARD

2020 Recipient
Michael T. Harmer, P.E. - Chief Engineer at WSSC Water
SPEAKER

WSSC Water
Michael T. Harmer, P.E. - Chief Engineer
AGENDA

• WSSC Water At-A-Glance
• WSSC Water Service Area
• WSSC Water Leadership
• WSSC Water Strategic Plan
• WSSC Water Upcoming Projects - A/E or Professional
• Questions
WSSC Water At-A-Glance

- 1.8 million people = 480,000 customer accounts
- 1,700 #H₂₀ People (employees)
- 102 miles of Acoustic Fiber Optic (AFO) cables
- 2 watersheds
➢ Provides water & sewer service for Montgomery and Prince George’s counties
➢ Maintained AAA Bond Rating since 2001 - all three bond rating agencies
➢ Budget is recommended by County Executives and approved by County Councils
➢ Rates established annually to recover costs – WSSC Water does not make a profit and does not receive any tax dollars
➢ Recognized leader in water and wastewater industry
WSSC Water Service Area

➢ Spans nearly 1,000 square miles

➢ Serving 1.8 million residents

➢ 480K customer accounts
#WeAreWSSCWate

Howard A. Denis  
Chairman  
Montgomery County

Keith Bell  
Vice Chair  
Prince George’s County

Fausto R. Bayonet  
Commissioner  
Montgomery County

Chris Lawson  
Commissioner  
Prince George’s County

T. Eloise Foster  
Commissioner  
Montgomery County

Sandra L. Thompson  
Commissioner  
Prince George’s County
Strategic Plan

WSSC WATER STRATEGIC PLAN
Journey to World Class

MISSION: We are entrusted by our community to provide safe and reliable water, life’s most precious resource, and return clean water to our environment, all in an ethical, sustainable, and financially responsible manner.

CORE VALUES
- Accountability
- Collaboration
- Environmental Stewardship
- Excellence
- Innovation
- Protect Our Resources

VISION
To be THE world-class water utility, where excellent products and services are always on tap.

STRATEGIC PRIORITIES
- Enhance Customer Experience
- Optimize Infrastructure
- Spend Customer Dollars Wisely
- Transform Employee Engagement

GUIDING PRINCIPLES
- Simplify
- Focus
- Connect
Upcoming Projects

ENGINEERING & CONSTRUCTION DEPARTMENT
PROJECT NAME – ESTIMATED ADVERTISEMENT DATE

• Facility Process Engineering Design Services BOA – Oct. 2020 - $12,000,000.00
• Environmental and Effluent Channel Design Services BOA – Oct. 2020 - $5,000,000.00
• Facility General Engineering Design Services BOA (multiple awards) – Dec. 2020 - $20,000,000.00
• Pipeline Construction Inspection Services/Staff Augmentation Professional Services Contract – August 2020 - $9,000,000.00
• Sewer Planning BOA – November 2021 - $6,000,000.00
• Water Planning BOA – June 2022 - $6,000,000.00
• Water Main BOA for Distribution and Transmission (multiple awards) – Summer 2020 - $5,000,000.00
Upcoming Projects

• Sewer Main BOA for Roads + Environmentally Sensitive Areas (multiple awards) – Fall 2020 - $5,000,000.00
• Relocations BOA (multiple awards) – Fall 2020 - $5,000,000.00
• General Engineering Support BOA (Multiple Awards) – October 2020 - $3,000,000.00
• Dam Civil Engineer Support BOA – January 2021 - $2,000,000.00
• FRP Design BOA – December 2021 - $2,000,000.00
• GIS BOA – Winter 2020 - $1,500,000.00
• Pollution Prevention BOA – Summer 2021 - $1,000,000.00
Upcoming Projects

PRODUCTION
PROJECT NAME – ESTIMATED ADVERTISEMENT DATE

• HVAC System Replacement Design FY-21 estimated $500,00.00/year
• Electrical System Evaluation (Arc Flash Study) FY-21 estimated $1,200,000.00/year

STRATEGY AND INNOVATION
PROJECT NAME – ESTIMATED ADVERTISEMENT DATE

• Strategy and Innovation Office (SIO) BOA - (3yrs.) $1,200,000.00
## Upcoming Projects

<table>
<thead>
<tr>
<th>Utility Services</th>
<th>Project Name</th>
<th>Estimated Advertisement Date</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>PCCP Condition Assessment and Monitoring Services</td>
<td>June 2020</td>
<td>$20,000,000.00</td>
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<tr>
<td></td>
<td>PCCP Engineering Services BOA</td>
<td>June 2021</td>
<td>$12,000,000.00</td>
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<tr>
<td></td>
<td>Engineering SSO Consent Decree BOA</td>
<td>July 2022</td>
<td>$1,500,000.00</td>
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<tr>
<td></td>
<td>Wastewater Engineering Services</td>
<td>February 2020</td>
<td>$2,000,000.00</td>
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<tr>
<td></td>
<td>General Engineering Services/Pipe Armoring</td>
<td>May 2020</td>
<td>$3,000,000.00</td>
</tr>
<tr>
<td></td>
<td>Trunk Walk</td>
<td>June 2021</td>
<td>$16,000,000.00</td>
</tr>
<tr>
<td></td>
<td>Western Branch SSES</td>
<td>October 2020</td>
<td>$7,471,176.25</td>
</tr>
</tbody>
</table>
Upcoming Projects

UTILITY SERVICES CONTINUED
PROJECT NAME – ESTIMATED ADVERTISEMENT DATE

- Wastewater Engineering Services – September 2021 - $4,000,000.00
- Flow Monitoring – April 2022 - $11,380,941.60
- AMI Project Manager – August 2023 - $8,667,982.00
- Small Valves Contract - November 2022 - $4,500,000.00
- Large Water Meter Testing, Repair, and Replacement Services – March 2021 - $148,308.50
- Condition Assessment of Large Air Release Valves – October 2022 - $5,100,000.00
- Condition Assessment of Buried Water Assets, Metallic Pipe – March 2023 - $3,000,000.00
Upcoming Projects

UTILITY SERVICES CONTINUED
PROJECT NAME – ESTIMATED ADVERTISEMENT DATE

- SSES - Basin to be determined – TBD - $4,500,000.00
- Inflow/Infiltration Consulting Services – TBD - $1,500,000.00
- Asset Management Consulting Services – TBD - $750,000.00
- Leak Detection - TBD - $500,000.00
Questions?
Individual Speaker Presentations Completed

Panel Discussion Up Next

Moderated by Aaron Briggs - ACEC/MW Water Infrastructure Committee Chair