Metropolitan Sewerage District

Update for Buncombe County Board of Commissioners
August 2, 2022
MSD HISTORY

• MSD was formed in 1962 by State Statute as a Special District with the sole purpose to collect and treat wastewater and to eliminate the direct discharges to the surrounding rivers and streams.

• Between 1962 and 1989 MSD built over 100 miles of large interceptor lines and a 25 MGD treatment plant. The Treatment Plant was later upgraded to a 40 MGD Plant in the mid 1990’s.

• In 1990 all the local governments and special districts gave all of their collection lines (720 miles) to MSD for ownership and maintenance in agreements we call “Sewer Consolidation.”
Consolidation of Fifteen Separate Sewer Systems in 1990

Five Municipalities
- City of Asheville
- Town of Biltmore Forest
- Town of Black Mountain
- Town of Montreat
- Town Of Weaverville

Ten Special Districts
- Beaverdam Water and Sewer District
- Busbee Sanitary Sewer District
- Caney Valley Sanitary Sewer District
- Crescent Hill Sanitary Sewer District
- Enka-Candler Water and Sewer District
- Fairview Sanitary Sewer District
- Venable Sanitary District
- Skyland Sanitary Sewer District
- Swannanoa Water and Sewer District
- Woodfin Sanitary Water and Sewer District

Over 170,000 people
<table>
<thead>
<tr>
<th>Name</th>
<th>Location</th>
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<tbody>
<tr>
<td>Matt Ashley, Jr.</td>
<td>Montreat</td>
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<tr>
<td>Jackie W. Bryson</td>
<td>Woodfin SWSD</td>
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<tr>
<td>Sheila Franklin</td>
<td>Henderson County</td>
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<tr>
<td>Glenn Kelly</td>
<td>Biltmore Forest</td>
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<tr>
<td>William Lapsley</td>
<td>Henderson County</td>
</tr>
<tr>
<td>Esther Manheimer</td>
<td>Asheville</td>
</tr>
<tr>
<td>Chris Pelly</td>
<td>Asheville</td>
</tr>
<tr>
<td>Nathan Pennington</td>
<td>Buncombe County</td>
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<tr>
<td>Robert Pressley</td>
<td>Buncombe County</td>
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<tr>
<td>Doug Dearth</td>
<td>Weaverville</td>
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<tr>
<td>Jerry Vehaun</td>
<td>Woodfin</td>
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<tr>
<td>Robert Watts</td>
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<tr>
<td>Gwen Wisler</td>
<td>Asheville</td>
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<tr>
<td>Al Whitesides</td>
<td>Buncombe County</td>
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</table>
MSD Collection System Overview

- MSD serves ~201,000 people via 57,000 customer accounts
- Service District spans 263 square miles
- MSD currently owns and maintains:
  - 1,133 miles of sewer lines
  - 33,581 manholes
  - 40 pump stations
• Built in 1960’s
• Upgraded to 40 MGD in mid 1990’s
• Rated at 40 MGD
• Currently at 23.9 MGD
Current Hydroelectric Production

- Can Generate 2880 KW
- FY 2021 Avoided Power Cost $483,824
Plant Headworks Project

- New Bar Screens
- Improved Fine Screens
- Grit Removal
- Surge System for Peak Flows
- Construction complete
- Total Project cost approx. $9.6 Million
Influent bar screens - 1/2"

Fine Screens - 1/4"

Vortex grit removal units

Surge Pump Station
So how’s it working?

New process is removing much more debris

System Startup – Feb. 2019
High Rate Primary Clarification

- New technology
- Will significantly improve treatment
- Under Construction
- Total Project Cost $17 Million
Ballasted Flocculation Process
COLLECTION SYSTEM

LAST 12 MONTHS

• PREVENTATIVE MAINTENANCE CLEANING OF 874,899 FEET OF SEWER MAIN.

• CONSTRUCTED 21,000 FEET OF NEW SEWER LINES TO REPLACE AGING SYSTEM.
Ductile Iron wye fitting
Last Fiscal Year (’20/’21), MSD spent $1.57M on asphalt paving.
Pipe bursting bore pit (top left); bursting head and HDPE pipe (top right); winch machine (lower left); bursting head entering old manhole (lower right)
24" jack and bore auger inside steel casing pipe

Bore pit in parking lot of Eurosport Asheville (top & bottom photos)
Carrier bridge pump station replacement

- MSD’s largest pump station, constructed in 1966
- Serves large portions of South & West Buncombe, North Henderson
- Capacity increase from 22mgd to 40mgd (2070 flow projection)
- Design by HDR 90% Complete
- Permitting phase
- Construction anticipated to begin Fall 2023
- $50M price tag
Project details

- Located next to existing PS
- 800 LF of new 60-inch inlet piping
- Two (2) 36-inch discharge force mains
  - Exploring “open-cut” option
- Enclosed PS with odor control
- Project Cost $50 million
**CAPITAL IMPROVEMENT PROGRAM**

*FY23 through FY32 (10 years)*

- Total Estimated Expenditures over 10-yr CIP

$389.3M

- Consolidation thru end of FY21 Capital Expenditures total $461.1 million.

<table>
<thead>
<tr>
<th>Description</th>
<th>Proposed Expenditures</th>
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<tbody>
<tr>
<td>Interceptors/Wet Weather Rehab</td>
<td>$86.8M</td>
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<tr>
<td>Collection System Rehabilitation</td>
<td>$110.9M</td>
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<tr>
<td>Treatment Plant &amp; PS</td>
<td>$153.7M</td>
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<td>Reimbursement Projects</td>
<td>$1.5M</td>
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<tr>
<td>Design/ROW/Const. Mgmt. Expenses</td>
<td>$35.4M</td>
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FY 23 Budgeted Expenditures

Construction Projects, $30,314,882, 50.6%
Debt Service, $8,899,361, 14.9%
Capital Equipment, $875,835, 1.5%
Operations & Maintenance, $19,762,020, 33.0%
FY 23 Budgeted Revenues

Domestic User Fees, $37,820,971, 63.2%
Industrial User Fees, $3,370,488, 5.6%
Facility & Tap Fees, $3,175,000, 5.3%
Interest & Misc. Income, $1,656,205, 2.8%
Other Sources & Uses, $13,829,434, 23.1%

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Our End Product

Questions ?