Financial Assessment of the OCWP

Addressing Oklahoma’s $82 Billion Water and Wastewater Project Need
Emergency Grants

Income Source: FAP Bond Reserve Interest

<table>
<thead>
<tr>
<th>Since 1983 grants funded for</th>
<th>$33,482,977.17</th>
</tr>
</thead>
<tbody>
<tr>
<td>Funds Available</td>
<td>$507,047.06</td>
</tr>
</tbody>
</table>
**Rural Economic Action Plan Grants (REAP)**

Income Source: State Appropriations of $52,043,813.00

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Since 1996 grants funded for</td>
<td>$49,948,322.65</td>
</tr>
<tr>
<td>FY 2011 Carryover</td>
<td>$467,425.44</td>
</tr>
<tr>
<td>2012 Appropriations</td>
<td>$1,628,065.00</td>
</tr>
<tr>
<td>Total Funds Available</td>
<td>$2,095,490.44</td>
</tr>
</tbody>
</table>
# State Revenue Bond Issue Loan Program (FAP)

<table>
<thead>
<tr>
<th>Reserve Funds</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>State Funds</td>
<td>$18,115,948.67</td>
</tr>
<tr>
<td>Gross Production Tax</td>
<td>$1,845,000.00</td>
</tr>
<tr>
<td>AMBAC Surety Policies</td>
<td>$28,500,000.00</td>
</tr>
<tr>
<td><strong>TOTAL RESERVES</strong></td>
<td><strong>$48,460,948.67</strong></td>
</tr>
</tbody>
</table>

- Since 1985 loans funded for: $704,840,000.00
- Available Funds: $0.00
### Clean Water State Revolving Fund Loan Program (CWSRF)

<table>
<thead>
<tr>
<th>State Match Funds</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>State Funds</td>
<td>$14,261,359.40</td>
</tr>
<tr>
<td>Ute Reservoir Settlement Funds</td>
<td>$200,000.00</td>
</tr>
<tr>
<td>Debt Issuance</td>
<td>$33,708,740.60</td>
</tr>
<tr>
<td><strong>Total State Match</strong></td>
<td><strong>$48,170,100.00</strong></td>
</tr>
</tbody>
</table>

**Since 1990 loans funded for:** $1,006,107,003.59

<table>
<thead>
<tr>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Available Funds</td>
</tr>
<tr>
<td>Fund Commitments</td>
</tr>
<tr>
<td>Additional Funds Needed</td>
</tr>
</tbody>
</table>
Drinking Water State Revolving Fund Loan Program (DWSRF)

<table>
<thead>
<tr>
<th>State Match Funds</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>State Funds</td>
<td>$5,500,000.00</td>
</tr>
<tr>
<td>Gross Production Tax</td>
<td>$4,800,320.00</td>
</tr>
<tr>
<td>Debt Issuance</td>
<td>$25,903,080.00</td>
</tr>
<tr>
<td>Total State Match</td>
<td>$36,203,400.00</td>
</tr>
</tbody>
</table>

Since 1997 loans funded for: $697,064,642.40

| Fund Commitments                  | $371,550,000.00 |
| Available Funds                   | $90,900,000.00  |
| Additional Funds Needed           | ($280,640,000.00) |
The DWSRF, CWSRF and the FAP have funded on a combined basis $2.6 billion in water and wastewater related projects and have saved communities $898 million in debt service costs.
Funding Agency Coordinating Team

• Group of federal and state organizations that offer financing to eligible Oklahoma public entities for water and wastewater projects

• Meet quarterly with the purpose of facilitating infrastructure funding through communication and streamlined application

<table>
<thead>
<tr>
<th>Members</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oklahoma Water Resources Board</td>
</tr>
<tr>
<td>USDA Rural Development</td>
</tr>
<tr>
<td>Oklahoma Department of Commerce</td>
</tr>
<tr>
<td>Oklahoma Council of Governments</td>
</tr>
<tr>
<td>Indian Health Service</td>
</tr>
<tr>
<td>Community Resource Group</td>
</tr>
<tr>
<td>Oklahoma Department of Environmental Quality</td>
</tr>
</tbody>
</table>

Working together to find solutions to Oklahoma’s most challenging water and wastewater infrastructure needs!
Infrastructure Investment Impacts

• Economic growth
• Quality of life
• System sustainability

• Increased property values
• Reduced health risks
• Energy cost savings

Analysis Shows each additional:
• $1 in Construction Increases Economic Output by $2.37
• $1 million in Construction creates 25 jobs

Oklahoma Advantages Assessment and Scoring for Infrastructure Solutions (OASIS) is a web based application which quantifies the social, economic and environmental benefits of infrastructure investments to communities and the state beyond regulatory compliance.
What is the Urgency for Infrastructure Funding?

- Address health concerns related to water and wastewater
- Aging Infrastructure
- Need infrastructure for economic development
- DWSRF Capacity has been strained
- SRF need over the next five years is over $565M
- Financial need over the next 50 years
Review of the Projected Drinking Water Infrastructure Costs
For Small, Medium, & Large Providers:

1. Select water supply provider for modeling
2. Develop project list for selected provider
3. Calculate costs for projects using cost models or available information
4. Sum project costs by infrastructure type
5. Apply weighting equation to calculate regional cost by infrastructure type
6. Apply summation equation to calculate regional cost

For Reservoir Projects:

1. Using major reservoir list by region, develop rehabilitation project list
2. Calculate costs for projects using cost models
3. Sum project costs to calculate regional cost for major reservoir projects
Drinking Water Infrastructure Needs Assessment by Region

**For Small, Medium, & Large Providers:**

1. Select water supply provider for modeling
2. Develop project list for selected provider
3. Calculate costs for projects using cost models or available information
4. Sum project costs by infrastructure type
5. Apply weighting equation to calculate regional cost by infrastructure type
6. Apply summation equation to calculate regional cost

**For Reservoir Projects:**

1. Using major reservoir list by region, develop rehabilitation project list
2. Calculate costs for projects using cost models
3. Sum project costs to calculate regional cost for major reservoir projects
Water Supply Provider Selected for Cost Modeling

- Cities
- Streams
- Lakes
- Watershed planning regions
- OCWP stream systems

Utility Size
- Large
- Medium
- Small

Source Water Type
- Surface water
- Groundwater

10/7/2011
For Small, Medium, & Large Providers:

1. Select water supply provider for modeling
2. Develop project list for selected provider
3. Calculate costs for projects using cost models or available information
4. Sum project costs by infrastructure type
5. Apply weighting equation to calculate regional cost by infrastructure type
6. Apply summation equation to calculate regional cost

For Reservoir Projects:

1. Using major reservoir list by region, develop rehabilitation project list
2. Calculate costs for projects using cost models
3. Sum project costs to calculate regional cost for major reservoir projects
Develop Project List for Selected Provider

- Known capital improvements
- Projects were developed based on evaluation of capacity and age of existing infrastructure
  - Raw water infrastructure
  - Water treatment
  - Distribution system
Drinking Water Infrastructure Needs Assessment by Region

For Small, Medium, & Large Providers:

1. Select water supply provider for modeling
2. Develop project list for selected provider
3. Calculate costs for projects using cost models or available information
4. Sum project costs by infrastructure type
5. Apply weighting equation to calculate regional cost by infrastructure type
6. Apply summation equation to calculate regional cost

For Reservoir Projects:

1. Using major reservoir list by region, develop rehabilitation project list
2. Calculate costs for projects using cost models
3. Sum project costs to calculate regional cost for major reservoir projects
Calculate Costs for Water Supply Providers

- Use EPA cost models to create project costs
- Sum provider’s project cost to create cost by infrastructure type
- Use weighting equation to calculate regional costs by infrastructure type and stratum

<table>
<thead>
<tr>
<th>Name</th>
<th>Category</th>
<th>Possible Components</th>
<th>Parameters Required for Modeling Costs</th>
<th>Formula</th>
</tr>
</thead>
<tbody>
<tr>
<td>M1 Distribution Rehab</td>
<td>Distribution and Transmission</td>
<td>Should be used for any mains that transport water through a piping grid servicing customers. Components include mains, trenching, bedding, backfill, hydrants, valves, site work, road repair, easements and service leads from the main to the curb stop. It does not include transmission mains.</td>
<td>Pipe diameter in inches and pipe length in feet.</td>
<td>[=\text{round}((\text{vlookup}(d1, \text{Pipeline Costs}!B5:G5, 16, 0)/10000000, 2))\times d]</td>
</tr>
<tr>
<td>M1 Distribution Replace</td>
<td>Distribution and Transmission</td>
<td>Should be used for any mains that transport water through a piping grid servicing customers. Components include mains, trenching, bedding, backfill, hydrants, valves, site work, road repair, easements and service leads from the main to the curb stop. It does not include transmission mains.</td>
<td>Pipe diameter in inches and pipe length in feet.</td>
<td>[=\text{round}((\text{vlookup}(d1, \text{Pipeline Costs}!B5:G5, 16, 0)/10000000, 2))\times d]</td>
</tr>
<tr>
<td>M2 Lead Service Line Replacement</td>
<td>Distribution and Transmission</td>
<td>Service lines from the curb-stop to the building</td>
<td>Number of service lines.</td>
<td>[=\text{round}(29650N/1000000, 2)]</td>
</tr>
<tr>
<td>M4 Hydrants used for flushing</td>
<td>Distribution and Transmission</td>
<td>Hydrant lead to the transmission of distribution main, drain, hydrant and auxiliary valve (not included in another pipe project).</td>
<td>Number of hydrants and diameter (in inches)</td>
<td>[=\text{round}(25777/1000000, 2)]</td>
</tr>
</tbody>
</table>

**Drinking Water Infrastructure Costs by Infrastructure Type and by Stratum**

\[\text{Number of Systems in Stratum} / \text{Number of System Sampled} \times \text{Sum of Project Costs for Systems Sampled by Infrastructure Type}\]

**Equation 1-1 Cost by Infrastructure Type and by Stratum (or Size)**

**Drinking Water Infrastructure Costs by Stratum**

\[\text{Sum of Drinking Water Infrastructure Costs by Infrastructure Type and by Stratum}\]

**Equation 1-2 Cost by Region for Stratum**
Drinking Water Infrastructure Needs Assessment by Region

**For Small, Medium, & Large Providers:**
- Select water supply provider for modeling
- Develop project list for selected provider
- Calculate costs for projects using cost models or available information
- Sum project costs by infrastructure type
- Apply weighting equation to calculate regional cost by infrastructure type

**For Reservoir Projects:**
- Using major reservoir list by region, develop rehabilitation project list
- Calculate costs for projects using cost models
- Sum project costs to calculate regional cost for major reservoir projects

Apply summation equation to calculate regional cost
Drinking Water Infrastructure Needs Assessment by Region

**For Small, Medium, & Large Providers:**

1. Select water supply provider for modeling
2. Develop project list for selected provider
3. Calculate costs for projects using cost models or available information
4. Sum project costs by infrastructure type
5. Apply weighting equation to calculate regional cost by infrastructure type

**For Reservoir Projects:**

1. Using major reservoir list by region, develop rehabilitation project list
2. Calculate costs for projects using cost models
3. Sum project costs to calculate regional cost for major reservoir projects

**Apply summation equation to calculate regional cost**
<table>
<thead>
<tr>
<th>Category</th>
<th>Potential Funding Source</th>
<th>Present - 2020 Infrastructure Need (millions of 2007 dollars)</th>
<th>2021-2040 Infrastructure Need (millions of 2007 dollars)</th>
<th>2041-2060 Infrastructure Need (millions of 2007 dollars)</th>
<th>Total Period Infrastructure Need (millions of 2007 dollars)</th>
<th>Total Period Infrastructure Need (percent by category)</th>
<th>Total Period Infrastructure Need (percent by population)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Small</td>
<td>DWSRF Eligible</td>
<td>$3,395.29</td>
<td>$5,059.79</td>
<td>$8,766.65</td>
<td>$17,221.73</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Non-DWSRF Eligible</td>
<td>$43.97</td>
<td>$66.94</td>
<td>$66.93</td>
<td>$177.84</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Small Subtotal</td>
<td></td>
<td>$3,439.26</td>
<td>$5,126.72</td>
<td>$8,833.59</td>
<td>$17,399.57</td>
<td>45%</td>
<td>13%</td>
</tr>
<tr>
<td>Medium</td>
<td>DWSRF Eligible</td>
<td>$4,323.54</td>
<td>$4,054.95</td>
<td>$6,122.61</td>
<td>$14,501.09</td>
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<td></td>
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<tr>
<td></td>
<td>Non-DWSRF Eligible</td>
<td>$53.42</td>
<td>$61.91</td>
<td>$61.90</td>
<td>$177.23</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medium Subtotal</td>
<td></td>
<td>$4,376.96</td>
<td>$4,116.85</td>
<td>$6,184.51</td>
<td>$14,678.32</td>
<td>39%</td>
<td>51%</td>
</tr>
<tr>
<td>Large</td>
<td>DWSRF Eligible</td>
<td>$1,720.54</td>
<td>$1,173.15</td>
<td>$1,689.45</td>
<td>$4,583.14</td>
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<tr>
<td></td>
<td>Non-DWSRF Eligible</td>
<td>$50.48</td>
<td>$16.78</td>
<td>$16.78</td>
<td>$84.04</td>
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<tr>
<td>Large Subtotal</td>
<td></td>
<td>$1,771.02</td>
<td>$1,189.93</td>
<td>$1,706.23</td>
<td>$4,667.18</td>
<td>12%</td>
<td>36%</td>
</tr>
<tr>
<td>Reservoir</td>
<td>DWSRF Eligible</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Non-DWSRF Eligible</td>
<td>$95.27</td>
<td>$256.52</td>
<td>$806.61</td>
<td>$1,158.40</td>
<td></td>
<td></td>
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<tr>
<td>Reservoir Subtotal</td>
<td></td>
<td>$95.27</td>
<td>$256.52</td>
<td>$806.61</td>
<td>$1,158.40</td>
<td>4%</td>
<td>0%</td>
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<tr>
<td>Total</td>
<td></td>
<td>$9,682.51</td>
<td>$10,690.02</td>
<td>$17,530.94</td>
<td>$37,903.46</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
- Infrastructure cost projections from CDM were provided in 2007 dollars
- Figures will be impacted by inflation over time

<table>
<thead>
<tr>
<th>DRINKING WATER INFRASTRUCTURE NEED</th>
<th>Present - 2020</th>
<th>2021-2040</th>
<th>2041-2060</th>
<th>Total Period</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Period Costs</td>
<td>$9,682.51</td>
<td>$10,687.86</td>
<td>$17,530.94</td>
<td>$37,901.31</td>
</tr>
<tr>
<td>Average Cost per Year</td>
<td>$968.25</td>
<td>$534.39</td>
<td>$876.55</td>
<td>$758.03</td>
</tr>
</tbody>
</table>

(All shown in Millions of 2007 Dollars)
Review of OCWP

- Debt is often the tool utilized to finance projects that have long useful lives like the proposed infrastructure projects.
Review of the Projected Wastewater Infrastructure Costs
For Small, Medium, & Large Utilities
Categories I, II, III and IV:

1. Select wastewater utility for modeling
2. Develop project list for selected utility
3. Calculate costs for projects using cost models or available information
4. Sum project costs by category groups
5. Apply weighting equation to calculate regional cost by category groups

Apply summation equation to calculate regional cost

For Regional Projects
Categories VI and VII:

1. Using 2008 CWNS, develop Category VI project list
2. Calculate costs for projects
3. Sum project costs to calculate regional cost
4. Using list from Oklahoma Conservation Commission, develop Category VII project list

Apply summation equation to calculate regional cost
Wastewater Infrastructure Needs Assessment by Region

For Small, Medium, & Large Utilities
Categories I, II, III and IV:

Select wastewater utility for modeling

Develop project list for selected utility

Calculate costs for projects using cost models or available information

Sum project costs by category groups

Apply weighting equation to calculate regional cost by category groups

Apply summation equation to calculate regional cost

For Regional Projects
Categories VI and VII:

Using 2008 CWNS, develop Category VI project list

Calculate costs for projects

Using list from Oklahoma Conservation Commission, develop Category VII project list

Sum project costs to calculate regional cost

Apply summation equation to calculate regional cost
Wastewater Utilities Selected for Cost Modeling

2060 Utility Size
- Large
- Medium
- Small

Treatment Type
- Mechanical
- Mechanical - Advanced
- Lagoon
- Lagoon - Total Retention
- Lagoon - Advanced
- Cities
Wastewater Infrastructure Needs Assessment by Region

For Small, Medium, & Large Utilities
Categories I, II, III and IV:

1. Select wastewater utility for modeling
2. Develop project list for selected utility
3. Calculate costs for projects using cost models or available information
4. Sum project costs by category groups
5. Apply weighting equation to calculate regional cost by category groups

For Regional Projects
Categories VI and VII:

1. Using 2008 CWNS, develop Category VI project list
2. Using list from Oklahoma Conservation Commission, develop Category VII project list
3. Calculate costs for projects
4. Sum project costs to calculate regional cost
5. Apply summation equation to calculate regional cost
Regional Projects

Estimate of NPS Needs for Clean Water Needs Survey/OK Comprehensive Water Plan

The Oklahoma Nonpoint Source Program currently receives approximately $3 million annually from USEPA Clean Water Act §319 Nonpoint Source funds. However, these funds are slated for an approximately 20% reduction beginning in calendar year 2013. Oklahoma utilizes these funds to 1) assess the sources and causes of nonpoint source pollution in the state's waters as well as to determine waters of the state impacted by nonpoint source pollution, 2) educate citizens about the importance of protecting water resources and about what they can do to reduce nonpoint source pollution, 3) plan for and evaluate programs by which nonpoint source pollution is addressed including the development of Watershed Based Plans, and 4) implementation of best management practices to reduce nonpoint source pollution to waters of the state. These federal funds must be matched by 40% non-federal funds. Currently, the state uses a portion of the Gross Production Tax Income for the Infrastructure Revolving Fund Program which funds the installation of best management practices and provides a portion of the required $2 million of matching funds. This combination of federal and state dollars is only a small fraction of the resources needed to adequately address nonpoint source pollution to waters of our state.

Estimates of funding necessary to address nonpoint source (NPS) pollution in impaired watersheds in the State of Oklahoma are even more difficult to prepare than determinant assessments of the sources of pollution and the degree to which each source must be addressed in order to achieve water quality success. For instance, we know for example, that in some smaller NPS impaired watersheds, that investments by USDA Natural Resources Conservation Service of as little as $96,860 worth of investment in the implementation of best management practices (BMPs) in Wolf Creek in northwestern Oklahoma as necessary to reduce turbidity sufficiently to fully attain the fish and wildlife beneficial use. We know that in other, similarly sized watersheds, restoration has not been achieved with investments greater than tenfold that investment in BMPs. Therefore, estimation of NPS needs is far from an exact science, however, the Oklahoma NPS program does have published EPA-accepted estimates of NPS needs in several Watershed Based Plans, which provide a preliminary, but far from comprehensive estimate of the state's resource needs related to reductions in NPS-impaired waterbodies in the state.

The most critical and overarching need related to NPS pollution reduction pertains to the cost of monitoring Oklahoma waters for impacts of NPS pollution. Without dedicated, NPS-focused stream monitoring, evaluation of causes and sources of NPS pollution or success at reducing NPS pollution cannot be determined. The state currently devotes approximately $1.1 million per year in federal EPA Clean Water Act §319 Nonpoint Source funds toward this monitoring program. However, these federal funds are under significant threat of reductions and therefore the state should make plans to utilize state funding to cover these costs.

The State of Oklahoma has developed Watershed Based Plans that have been accepted by EPA in the following watersheds: Illinois River and Lake Tenkiller, Eucha-Sapulpa Watershed, Honey Creek of Grand Lake, Thunderbird Lake, Port Cobb Lake, North Canadian River (between lakes Canton and Overholser), and Elk City Lake. One critical component of an accepted plan is an estimate of financial resources necessary to address NPS pollution in the watershed. However, these plans are intended to be evolving documents and therefore, may or may not include an estimate of the entirety of funding for these needs.
Wastewater Infrastructure Needs Assessment by Region

**For Small, Medium, & Large Utilities**

- Categories I, II, III and IV:
  - Select wastewater utility for modeling
  - Develop project list for selected utility
  - Calculate costs for projects using cost models or available information
  - Sum project costs by category groups
  - Apply weighting equation to calculate regional cost by category groups

**For Regional Projects**

- Categories VI and VII:
  - Using 2008 CWNS, develop Category VI project list
  - Calculate costs for projects
  - Sum project costs to calculate regional cost
  - Using list from Oklahoma Conservation Commission, develop Category VII project list
  - Calculate costs for projects
  - Sum project costs to calculate regional cost

Apply summation equation to calculate regional cost
<table>
<thead>
<tr>
<th>Category</th>
<th>Official Needs by Category Group</th>
<th>Present - 2020 Infrastructure Need (millions of 2010 dollars)</th>
<th>2021 - 2040 Infrastructure Need (millions of 2010 dollars)</th>
<th>2041 - 2060 Infrastructure Need (millions of 2010 dollars)</th>
<th>Total Period Infrastructure Need (millions of 2010 dollars)</th>
<th>Total Period Infrastructure Need (percent by category)</th>
<th>Total Period Infrastructure Need (percent by population)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Small</td>
<td>I and II</td>
<td>$170</td>
<td>$1,300</td>
<td>$530</td>
<td>$2,000</td>
<td>23%</td>
<td>13%</td>
</tr>
<tr>
<td></td>
<td>III and IV</td>
<td>$2,200</td>
<td>$5,000</td>
<td>$1,100</td>
<td>$8,300</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Small Subtotal</td>
<td>$2,370</td>
<td>$6,300</td>
<td>$1,630</td>
<td>$10,300</td>
<td>23%</td>
<td>13%</td>
</tr>
<tr>
<td>Medium</td>
<td>I and II</td>
<td>$1,100</td>
<td>$4,000</td>
<td>$1,150</td>
<td>$6,250</td>
<td>63%</td>
<td>51%</td>
</tr>
<tr>
<td></td>
<td>III and IV</td>
<td>$7,500</td>
<td>$10,000</td>
<td>$4,000</td>
<td>$21,500</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Medium Subtotal</td>
<td>$8,600</td>
<td>$14,000</td>
<td>$5,150</td>
<td>$27,750</td>
<td>63%</td>
<td>51%</td>
</tr>
<tr>
<td>Large</td>
<td>I and II</td>
<td>$310</td>
<td>$1,010</td>
<td>$830</td>
<td>$2,150</td>
<td>12%</td>
<td>36%</td>
</tr>
<tr>
<td></td>
<td>III and IV</td>
<td>$900</td>
<td>$1,600</td>
<td>$780</td>
<td>$3,280</td>
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<tr>
<td></td>
<td>Large Subtotal</td>
<td>$1,210</td>
<td>$2,610</td>
<td>$1,610</td>
<td>$5,430</td>
<td>12%</td>
<td>36%</td>
</tr>
<tr>
<td>Regional</td>
<td>VI</td>
<td>$240</td>
<td>-</td>
<td>-</td>
<td>$240</td>
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<td></td>
</tr>
<tr>
<td></td>
<td>VII</td>
<td>$170</td>
<td>$130</td>
<td>$130</td>
<td>$430</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Regional Subtotal</td>
<td>$410</td>
<td>$130</td>
<td>$130</td>
<td>$670</td>
<td>1.5%</td>
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</tr>
<tr>
<td></td>
<td>Total</td>
<td>$12,590</td>
<td>$23,040</td>
<td>$8,520</td>
<td>$44,150</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Infrastructure cost projections from CDM were provided in 2010 dollars.

Figures will be impacted by inflation over time.

<table>
<thead>
<tr>
<th>WASTEWATER INFRASTRUCTURE NEED</th>
<th>Present - 2020</th>
<th>2021-2040</th>
<th>2041-2060</th>
<th>Total Period</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Period Costs</td>
<td>$12,590</td>
<td>$23,040</td>
<td>$8,520</td>
<td>$44,150</td>
</tr>
<tr>
<td>Average Cost per Year</td>
<td>$1,238</td>
<td>$1,121</td>
<td>$407</td>
<td>$883</td>
</tr>
</tbody>
</table>
Debt is often the tool utilized to finance projects that have long useful lives like the proposed infrastructure projects.
Impact of Leveraging

- The Financial Assistance Program (FAP) provided the first loan in 1985
- The $20 million in funding has been utilized to fund approximately $705 million in loans
- The FAP has the highest rating of AAA
  - Given the AAA rating, we recommend the borrower credit analysis, loan administration and ongoing surveillance of those programs be the foundation for any new program
“… a team of financial and water/wastewater infrastructure professionals, led by the OWRB, should investigate development of a more robust state funding program to meet the state’s projected $82 billion water and wastewater infrastructure need between now and 2060…. ”
Recommendations

• Additional State Investments
• Maintain Gross Production Tax revenue
• Develop new methods to encourage regionalization
• Explore new alternative funding sources
Recommendations

• Creation of new or restructured Financial Assistance Program (FAP)
• Creation of a small loan initiative
Financial and Programmatic Analysis of Existing Programs

• Given the magnitude of the funding gap, we suggest that a new program be created or the FAP be restructured

• Utilize the same framework and statutory authority that provided for the creation of the FAP

• Will allow the maximum flexibility in creating the program guidelines, legal parameters and bond requirements
Small Issuer Strategies

- The OCWP identifies small entities have the largest overall drinking water infrastructure cost
- Comprises 46% of the State’s drinking water and 24% of the wastewater needs

Some challenges in funding small systems include:
- Credit and financial implications to the program
- Difficulties meeting financial ratios and credit thresholds
- On-going surveillance performance considerations
- Lack of audited financial statements

Drinking Water Infrastructure Needs
- Small Systems: $17,400, 46%
- Medium Systems: $4,667, 12%
- Large Systems: $1,158, 3%
- Reservoir: $14,678, 39%

Wastewater Infrastructure Needs
- Small Systems: $3,990, 9%
- Medium Systems: $670, 2%
- Large Systems: $1,158, 3%
- Reservoir: $27,970, 65%
- Regional Systems: $10,300, 24%
Small Issuer Strategies

There are ways to ensure funding while minimizing the impact of the challenges:

• Define annual funding goal to ensure funding levels
• Create a second smaller revolving fund for direct loans to communities with weak credits and financial circumstances
Recommendations

• Consider interest rate subsidy reduction and other methodologies
A strategic planning model has been developed in conjunction with Oklahoma Comprehensive Water and Wastewater Plan.

The model integrates data from the 50-year study period.
- The model actually extends 70 years to potentially incorporate the issuance of debt.

The model was created to be a tool in analyzing various strategies and alternatives related to the funding gap.

The model has the ability to run multiple “What if?” scenarios.

Comprehensive Model
Comprehensive Model

• The model includes the following variables each of which can be modified independently or simultaneously

• While each of these variables are important, they are best evaluated based on the overall impact to the funding gap

  • Projected Program Demand
  • Underlying Borrower loans
  • Lending Rates
  • Capitalization Levels
  • Project Funding Levels

  • Investment of Funds
  • Interest Rates
  • Interest Rate Subsidy Levels
  • Credit Enhancement
Comprehensive Model

There are two types of program and funding methodologies:

**NON-PERPETUITY**

- Contribute only the amount of funding needed to subsidize the debt service
- Once the funding stops, the program ceases
- Lowest cost option

**PERPETUITY**

- Contribute more capital than is required to subsidize debt service
- After the funding period, the accumulated equity creates a revolving fund program
- More expensive option, but provides a more sustainable funding options
Comprehensive Model

Program recommendations and additional alternatives can be evaluated utilizing the model in order to better:

• Qualify the potential financial impact of an alternative in order to assist in making the business decision as to whether to utilize it or not

• Compare various alternatives

• Value of the multi-year model is to better identify the impact of compounding
  • Small changes in the near-term can have significant impacts in the future, especially with a 50-Year planning horizon
Comprehensive Model

Model has additional benefits that extend over time

- Be utilized as part of the process in educating the rating agency(ies) about the program
- Shift into more of a capacity model once the program alternatives have been defined by updating the variables
- Be a tool to assist program leadership in actively managing the program based on the prevailing market conditions
- Should additional funding sources become available over time, the impact can be factored into the model
Recommendations

• Creation of State-backed Credit Enhancement Reserve Fund (CERF)
Water/Wastewater Financing in Oklahoma – Our History

Fact #1: State of Oklahoma invested $20 million with the OWRB for the purpose of creating a low-cost statewide loan program

Fact #2: OWRB has become the primary lender for water/wastewater project in Oklahoma

Fact #3: OWRB has an outstanding lending history

Fact #4: Oklahoma municipalities have saved $900 million in interest by borrowing from the OWRB

Fact #5: $20 million investment = $900 million in savings for Oklahoma municipalities
Water/Wastewater Financing in Oklahoma – Our Future

• Additional funding required to keep OWRB financing programs viable
• Oklahoma at a crossroads
  – To invest or not to invest
• Not investing = Tax Increase
Water/Wastewater Financing in Oklahoma – Our Future

OWRB Credit Enhancement Reserve Fund

• 1985 State investment was a direct appropriation
• Monies placed in bond reserve fund
• Large bond reserves allowed OWRB to obtain AAA credit rating, which is what allows the OWRB to offer “below-market” loans
Water/Wastewater Financing in Oklahoma – Our Future

OWRB Credit Enhancement Reserve Fund

- Fund bond reserve only if needed to avoid payment default
- State-wide vote
- Voters pre-approve the issuance of general obligation bonds to fund future deposits to bond reserve (if needed)
- Bonds would only be issued in the event of a future payment default
- Based upon OWRB lending history, the bonds would likely never be issued
Water/Wastewater Financing in Oklahoma – Our Future

OWRB Credit Enhancement Reserve Fund

1. This is a plan that can be done
   1. Modeled after an existing program in the State (ODFA)

2. This is a plan that should be done
   1. Far better option than asking the State to appropriate current dollars or not investing at all
   2. Will allow OWRB to continue to provide “below-market’ loans
   3. Will result in lower utility bills for all Oklahoman’s
   4. Will likely cost the State of Oklahoma NOTHING