Failing Systems:
Desperate Measures for Desperate Times

Department of Environmental Quality
Desperate Measures for Desperate Times

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Halloween Eve, 2017
Indianapolis
Topics

1. Common causes of despair and hardship
2. A case study
3. Solutions
What causes the desperate situations in your state?
Overview

- State Water Infrastructure Authority
  - Master plan
  - Troubled System Protocol
- Hurricane Matthew
- Fair Bluff – all three above come together …

A couple of themes throughout:
- Multiple organizations working together
- Water infrastructure issues are a significant source of financial stress for small systems
- Funding programs can provide comprehensive assistance

Department of Environmental Quality
Fostering Partnerships

- UNC School of Government / Environmental Finance Center
- NC Rural Water Association
- NC AWWA-WEA
- NC Councils of Government (COGs)
- NC Local Government Commission
- Buried Asset Management Institute – International

- NC Dept. of Commerce – Rural Economic Development
- US Dept. of Agriculture – Rural Development
- NC League of Municipalities
- NC Association of County Commissioners
- Southeast Rural Community Assistance Project (SERCAP)
Master Plan Vision

The state will best be able to meet its water infrastructure needs by ensuring individual utilities are, or are on a path to be, viable systems.

A viable system is one that functions as a long-term, self-sufficient business enterprise, establishes organizational excellence, and provides appropriate levels of infrastructure maintenance, operation, and reinvestment that allow the utility to provide reliable water services now and in the future.
Best Practices in Utility Management

Infrastructure management
- Proactive approaches
- Life-cycle costs
- Risk management

Organizational management
- Long-term nature of system needs
- Governing boards prioritize the most critical projects

Financial management
- Sufficient revenue generation for O&M, renewal/replacement, reserves
- Permanent local funding solutions
Operating as an Enterprise System?

Local Government-Owned Water and Wastewater Utilities' Cost Recovery in FY 2016

- Operating revenues < operating expenditures (10%)
- Operating revenues < operating expenditures + principal + interest on long-term debt (10%)
- Operating revenues > operating expenditures + principal + interest on long-term debt (81%)

<table>
<thead>
<tr>
<th>Number of service connections</th>
<th># of utilities</th>
<th>▢ (10%)</th>
<th>□ (10%)</th>
<th>● (81%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 1,000</td>
<td>143</td>
<td>17%</td>
<td>11%</td>
<td>72%</td>
</tr>
<tr>
<td>1,000 - 10,000</td>
<td>163</td>
<td>2%</td>
<td>10%</td>
<td>87%</td>
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<tr>
<td>&gt; 10,000</td>
<td>48</td>
<td>0%</td>
<td>4%</td>
<td>96%</td>
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Source: UNC-CH Environmental Finance Center

Department of Environmental Quality
Troubled System Protocol

• Authority statutory task; follow up to master plan
• Started with ‘what is a troubled system?’
• Work with Local Government Commission
• Hired contractor –
  • Retired utilities director
  • Former town manager
  • Certified finance officer
• Working to define troubled systems and the protocol when …
  Hurricane Matthew - 2016
September 2016 – Monthly Precipitation

1/2 - 2/3 of the rainfall occurred September 29
October 2016 – Monthly Precipitation

Most of the rainfall occurred in a two day period – Oct 8-9
Fair Bluff, NC
Small System Assistance

• Governor’s Recovery Office
  • Routine meeting with various funders
  • April - May, 2017 – Fairmont may not make debt service payment

• Response to Hurricane Matthew – Fair Bluff
  • Enterprise fund losing money (before hurricane)
  • Connected to other town for treatment
  • Most of town flooded with many customers leaving – revenue down 30%

• Long-term solution
  • Comprehensive assessment with recommendations to town(s)
  • Team: DWI staff, contractor, Environmental Finance Center, Local Government Commission, and engineering firm (tbd)
Fair Bluff, NC
McCrory says Matthew now poses deadly threat; Hurricane warnings issued in NC

RALEIGH, N.C. (WNCN) — Gov. Pat McCrory said Hurricane Matthew has shifted and...
Slow Moving Storm

Number of W01 water bills

PRELIMINARY RESULTS
Slow Moving Storm

12-month running average volume of water per W01 bill (1,000 gallons/month)

PRELIMINARY RESULTS
Median Age of the Population in 2015

Sources: U.S. Census Bureau’s 2011-2015 American Community Surveys, Environmental Finance Center at the UNC School of Government, NC Center for Geographic Information and Analysis (NC DneMap).
Not Just a Small Community Problem
<table>
<thead>
<tr>
<th>Selected city</th>
<th>Percentage of population change, 1980-2010</th>
<th>Percentage of poverty</th>
<th>Percentage of unemployment</th>
<th>Median household income (dollars)</th>
<th>Per capita income (dollars)</th>
<th>Percentage of vacant housing</th>
<th>Median home value (dollars)</th>
<th>Median year housing stock was built</th>
<th>Percentage of households with food stamp benefits</th>
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<tbody>
<tr>
<td>Birmingham, AL</td>
<td>-25.4</td>
<td>31.0</td>
<td>14.5</td>
<td>$31,217</td>
<td>19,640</td>
<td>20.2</td>
<td>86,100</td>
<td>1963</td>
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<td>34,944</td>
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<td>45,100</td>
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<td>18.8</td>
<td>$27,458</td>
<td>15,983</td>
<td>26.6</td>
<td>65,500</td>
<td>1955</td>
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<tr>
<td>Macon, GA³</td>
<td>-21.9</td>
<td>35.0⁴</td>
<td>8.9³</td>
<td>$25,773³</td>
<td>16,051³³</td>
<td>22.5³</td>
<td>87,400³³</td>
<td>1964³³</td>
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<td>$36,964</td>
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<td>1939</td>
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<td>91,500</td>
<td>1939</td>
<td>18.6</td>
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<td>118,600</td>
<td>1939</td>
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<td>Youngstown, OH</td>
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<td>21.2</td>
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<td>1947</td>
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Source: GAO analysis of U.S. Census Bureau’s American Community Survey data (5-year estimates, 2010 through 2014) and decennial census data. GAO-16-785
Partial Solutions....

• New regional treatment facilities when capacity already exists in the region
• Funding projects for community with declining customer base
• Funding projects based on optimistic growth (or stable) projections
• Creating a “regional” system without considering key issues
Going Beyond Project Financing

- Inter-agency collaboration
- Creation of better forecasting models
- Promote purchase of capacity and consolidation over new projects
- Incentivize system to take over failing system
- Creation of statewide receiver-ship program
- Incentive acquisition by multi-system private owners
- Forced transfer to another utility….
Mandatory Consolidation or Extension of Service for Disadvantaged Communities

Effective June 24, 2015, Senate Bill 88 (Statutes 2015, Chapter 27) added sections 116680-116684 to the California Health and Safety Code, allowing the State Water Board to require certain water systems that consistently fail to provide safe drinking water to consolidate with, or receive an extension of service from, another public water system. The consolidation can be physical or managerial. Although for many years the Drinking Water program has encouraged -- and will continue to encourage -- voluntary consolidations of public water systems, the new authority will allow it to mandate consolidation of water systems where appropriate. Please note that extension of service to domestic wells is authorized only when agreed to by the well owner. The changes to the Health and Safety Code give the Division of Drinking Water authority to mandate such consolidations or extension of service following a series of specific actions. The State Water Board's Division of Drinking Water will issue letters to water systems to consolidate with, or seek an extension of service, from a public water system. The recipients of such letters have up to six months from the date the letter is issued to voluntarily consolidate with, or receive extension of service from, a public water system. As letters to public water systems are issued, they are made publicly available on this resource page. See the links to the letters below.

Frequently Asked Questions on Mandatory Consolidation or Extension of Service for Public Water Systems

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<thead>
<tr>
<th>Date</th>
<th>Water Systems</th>
<th>Consolidation Letter</th>
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<tr>
<td>10/24/2017</td>
<td>Hillview Water Company</td>
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<td>Yosemite High School</td>
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<td>08/23/2017</td>
<td>City of Ceres</td>
<td>Letter Letter</td>
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<tr>
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<td>Ceres West Mobile Home Park</td>
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