1000 Friends of Florida
Martin County 2070 Workshop
October 12, 2018

Martin County Utilities & Solid Waste
Sam Amerson, P.E., Director
Mission

To provide residents a sustainable, safe, and dependable drinking water supply, enhance our water resources by collecting and treating wastewater, promote a legacy of responsible economic and environmental stewardship with excellent customer service.

Source: Martin County Utilities 5 Year Strategic Plan
Utility Overview

Medium sized utility system with two treatment facilities serving 93,500 people

<table>
<thead>
<tr>
<th>Type</th>
<th>Allocation (MMADF)</th>
<th>Treatment Capacity (MGD)</th>
<th>Actual Flows (MGD)</th>
<th>% of Treatment Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water</td>
<td>25.41</td>
<td>18.8</td>
<td>14 (MDF/12 months)</td>
<td>74</td>
</tr>
<tr>
<td>Wastewater</td>
<td>----</td>
<td>8.66</td>
<td>4.912 (MMADF)</td>
<td>57</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Type Reuse</th>
<th>Capacity (MGD)</th>
<th>Service Agreements</th>
<th>% of Capacity²</th>
</tr>
</thead>
<tbody>
<tr>
<td>North &amp; Tropical Farms¹</td>
<td>4.359</td>
<td>4.705</td>
<td></td>
</tr>
<tr>
<td>City of Stuart Interconnect</td>
<td>0.375</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>4.734</td>
<td>4.705</td>
<td>99</td>
</tr>
</tbody>
</table>

¹Limited to 3 Month Lowest 3 Month ADF
²Note: Does not include 1.440 MGD Martin Downs SAS supplemental water

Future Water Demands

2045 Build-out Demand is 22.24 MGD maximum daily flow

Source: Martin County Utilities Water Supply System Master Plan Update, Kimley Horn, 2016
Strategy to Meet Demands

- Use and development of alternative water supplies
- Protection of water sources and natural recharge areas
- Water quality protection and restoration
- Focused conservation efforts
- Climate change resiliency and adaptation actions
- Local and regional water management planning
- Regional cooperation
Alternative Water Supplies

What we use currently:
- Floridan Aquifer System (deep artesian)
- Reuse water
- Regional water interconnects

Examples of other technologies:
- Aquifer Storage & Recovery
- Stormwater reuse

Benefits:
- Reduce dependence on the shallow surficial aquifer
- Sustainability through various water sources
- Reliance on lowest quality water for irrigation
Water Source and Recharge Area Protection

- Wellfield protection regulations to prevent excessive drawdown or contamination
- Land and water management policies to preserve and enhance natural storage and recharge areas (retention/detention, open space, wetlands and flowways)
- Well siting criteria and use of groundwater modeling
- Water level and chloride level monitoring
Water Quality Protection Restoration / Nutrient Reduction

- Eliminated 70 package plants since utility acquisition in 1981
- 10-year Septic to Sewer Conversion Program
- Class AA Biosolids Treatment Facilities at North & Tropical Farms WWTF (2015)
- Boat sewage pump-out program “M.S. POOP”
- Reuse water treatment and high level disinfection (average removal efficiency of 92% N and 66% P)
Water Conservation

• Public Education
  • Presentations /Events (community, schools, CARES Tours)
  • Landscape Irrigation Audit Program
  • Public Messaging

• Ordinances & Programs
  ✓ Ordinances
    • Irrigation Restrictions
    • Florida Friendly Landscaping
    • Ultra-low Volume Plumbing Fixtures
    • Rain Sensor Devices
  ✓ Programs
    • Reclaimed Water Use & Facility Upgrades
    • Tiered Rate Structure
    • Water Use Accounting (calibrated meters)
    • Water Loss Reduction Program (<8%)
Climate Change Adaptation

Programs/Efforts Include:

- Asset Hardening
- Critical Facility Protection
- Resiliency & Adaptation Planning
  - 2012 Treasure Coast Vulnerability Analysis to 2060
  - 2012 Coastal Resiliency Report Properties in Coastal High Hazard Zone
  - 2012 Post Disaster Redevelopment Plan
  - 2018 Martin County Resilient Coastlines Program (in progress)
- State Statute Compliance
  - Chapter 8, Coastal Management Element amended to include policies that address storm surge and sea level rise per Chapter 163 Florida Statutes revisions (2016)
- Monitoring Programs– surface water, groundwater and ocean
- LiDAR high resolution elevation mapping
Water Management Planning

- 5-year SFWMD Water Supply Plan Updates (to 2030)
- 5-year Utility Master Plan Updates (to 2045)
- 20-year Consumptive Use Permitting (to 2035)
- County Comprehensive Plan Updates
- State Statute Compliance
- County Development Review
- Interdepartmental Coordination
- Intergovernmental Coordination
Regional Cooperation

Intergovernmental

Interconnects
- City of Stuart (3)
- Ft. Pierce
- Port St. Lucie
- South Florida Water Management District

Organizational

- Treasure Coast Regional Utilities Organization
- Southeast Florida Utility Council
- Florida Water Environment Association
- American Water Works Association
- American Water Resource Association
- Florida Rural Water Association
- Others
First Constructed Martin County Government Certified Green Building
Summary/Conclusions

Martin County Utilities

- Forecasts water demands through 2045
- Utilizes alternative water supplies
- Reuses 100% wastewater
- Optimizes water conservation
- Protects natural resources
- Engages in state and local water management efforts
- Monitors water levels and quality
- Implements nutrient reduction programs
- Collaborates with regional partners