



CCU Policies and Inventory Maintenance Programs

***Asset Management
Is An Ongoing Process!***

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Asset Management Is An Ongoing Process

What is the present state of the assets?

You can't answer this question without collecting the right data.

- **What do I own?**
- **Where is it?**
- **What condition is it in?**
- **What is its remaining useful life?**



What do I own?

- 5 Treatment Facilities
- 4 Water Storage/Booster Stations
- 2 Reclaimed Water Storage/Booster Stations
- 1,300 + miles of water mains
- 4,445 fire hydrants
- 12,500+ valves
- 923 miles of wastewater mains
- 302 wastewater lift stations
- 9,512 manholes
- 138-square-mile service area
- 56,534 water customer connections
- 34,265 wastewater customer connections



Where is it?

- Field verify maps from all of the purchased Utilities (age, size and type of material)
 - General Development Utilities 1991, Fivelands Utility 1998, Rampart 1999, Rotonda, 2000, Burnt Store Dec 2003
- Identified other infrastructure from existing CAD drawings and as-builts
- Obtained Global Positioning System (GPS) data of field assets
- Create Geographic Information Systems (GIS) mapping





What Condition Is It In?

Preventative Maintenance Program

- Computerized maintenance management program schedules, tracks and controls the maintenance of all assets.
- Current Allocation of Personnel by Division for Preventative Maintenance
 - Water Treatment Facility – 83% of man hours
 - Water Distribution System – 33% of man hours
 - Water Reclamation Facilities – 91% of man hours
 - Wastewater Collection System – 61% of man hours
- Balance of man hours allocated to corrective maintenance



What condition is it in?

Status of Treatment Facilities

- West Port Water Reclamation Facility upgrade 2004
- Rotonda Water Reclamation Facility upgrade 2009
- Burnt Store Water Treatment Plant upgrade 2010
- Burnt Store Water Reclamation Facility upgrade 2004
- East Port Water Reclamation Facility upgrade 2014

ALL are meeting or exceeding regulatory standards





What condition is it in?

Status of Water Storage / Booster Stations

- Rotonda Upgrades completed 2010 – 2013
- Gulf Cove Upgrade completed 2010 – 2013
- Golf Course Upgrades completed 2010 – 2013
- Walenda Upgrades completed 2009 – 2013

ALL are meeting or exceeding regulatory standards





What condition is it in?

Water Distribution System

- Approximately 100 line breaks a month due to poor quality pipe (AC and thin walled PVC)
 - 275 miles of poor quality pipe
 - 14 miles of water main could be replaced each year in 20 year replacement program
- Exercise valves & hydrants





What condition is it in?

Fire flow all Hydrants and color code

- ISO Fire Flow Ratings
 - Developed Hydrant Maintenance Program (3 year cycle) 4,445 fire hydrants
 - Developed Valve Maintenance Program (9+ year cycle) 12,500 valves





What condition is it in?

Wastewater Collection

- Inflow/Infiltration Program
- Exercise valves, maintain ARVs
- LPS tank and line maintenance
- 85 miles of clay gravity lines with manholes
 - 50.5 miles of clay gravity lines have been lined since mid 1990
 - Goal 8 miles of lines cleaned and inspected annually





What condition is it in?

Wastewater Lift Stations

- 291 Lift Stations with remaining 20 year life span
- 42 will require re-evaluation in 15 years
- 26 will require re-evaluation in 10 years
- 184 scheduled for re-evaluation in 5 years
- 39 currently identified for rehabilitation

Goal 8 lift stations rehabilitated each year.





What is its remaining useful life?

- Review of asset records
- Video observations of assets
- Visual onsite inspections
- Computer modelling of utility systems
- SCADA systems allows CCU to obtain instantaneous data on pump performance, flows, pressures, temperatures, etc.
 - 5 treatment facilities
 - 4 Water Storage/Booster Stations
 - 2 Reclaimed Water Storage/Booster Stations
 - 302 wastewater lift stations





The Next Step!

- Prepare detailed R&R schedule
- Evaluate outsourcing vs insourcing of R&R projects
- Establish budget funding to transition wastewater collections and water distribution operations from corrective to more preventative maintenance

