



# Drinking Water Services

**Mission Statement:** To provide technical assistance, training, and professional advice to drinking water system owners, drinking water operators, distribution operators, and maintenance personnel so that they can make the best, most economical and environmentally sound decisions to maintain compliance with local, state and federal regulations and provide the best, most healthful drinking water to their customers.

## DRINKING WATER SERVICES:

*We assist drinking water systems in all phases of operations, maintenance, management, finance, and compliance.*

**Public Health Protection & Safe Drinking Water Act (SDWA) Compliance** ~ FRWA responds immediately to assist systems with addressing any and all issues related to public health protection, SDWA & FDEP compliance, Sanitary Survey deficiencies, Warning Letters, and Consent Orders.

1. WATER SOURCES, WELLS
  - Protection, Physical Components & Condition
  - Watershed Management
  - Wellhead Protection, Maintenance & Sanitation
  - Source Vulnerability Assessment
  - Source Water Quality & Quantity
  - Capacity & Location of Source Facilities
  - Design & Condition of Source Facilities
  - Transmission of Raw Water
2. WATER TREATMENT PROCESSES
  - Treatment Processes and Facilities
  - Treatment Plant Location, Sequence & Layout
  - Capacity of Treatment Facilities
  - Troubleshooting & Training
3. WATER SUPPLY PUMPS & PUMPING FACILITIES
  - Pump Types, Capacity & Condition
  - Lubrication, Cavitation &
  - Troubleshooting & Preventative Maintenance
  - Pumping Station Evaluation
4. STORAGE FACILITIES, TANKS
  - Storage Types, Location & Capacity
  - Design of Storage Tanks
  - Mixing, Turn-Over, Baffling & Venting
  - Inspection & Painting of Storage Tanks
  - Cleaning & Maintenance of Tanks
  - Tank & Site Security, Signage & Alarms
5. DISTRIBUTION SYSTEMS, PRESSURE, FLOW, FLUSHING
  - Distribution Maps, Records & Water Loss
  - Field Sampling/Measurements
  - Distribution System Design & Maintenance
  - Valve & Fire Hydrant Exercising Training & Programs
  - Automatic Flushing Valves vs. Manual Blow-offs
  - Traditional vs. Unidirectional Flushing
6. MONITORING, REPORTING & DATA VERIFICATION, DBPS
  - Notices - Precautionary Boil Water, etc.
  - Regulatory Records Review & Benchmarking
  - Water Quality Monitoring Plans & Strategies
  - Groundwater, Revised Total Coliform & D/DBP Rules
7. WATER SYSTEM MANAGEMENT & OPERATIONS
  - Record Keeping, Review & Retention
  - Water Quality Goals & Consumer Confidence Reports
  - Public Relations, Marketing, Policies & Ordinances
  - Water System Staffing, Work Orders & Priorities
  - Asset Management, Inventories & Remaining Useful Life
  - O&M Manuals, Preventative Maintenance & Procedures
8. WATER SYSTEM FINANCIAL REQUIREMENTS
  - Budgeting, Financial Planning & Reserves / Contingencies
  - Capital Improvement Plans & Fiscal Sustainability
  - Rates, Impact Fees & Revenue Needs
  - Water System Funding & Sources
9. OPERATOR COMPLIANCE WITH STATE REQUIREMENTS
  - Operator Certification, Competency & Training
10. FRWA RESOURCES FOR WATER SYSTEMS
  - Operator Certification, Competency & Training

We help systems prepare for Sanitary Surveys.

We also assist systems with other regulatory agencies regulations and requirements when necessary

- Water Management Districts,
- County Health Departments,
- Local / Regional agencies, etc.

## 1. ~ WATER SOURCES, WELLS

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FRWA Circuit Riders and the Groundwater personnel are ready and able to assist your water system with any and all source water / wellhead issues.

**Wellhead Protection, Physical Components, Maintenance & Condition** ~ FRWA Circuit Riders are trained to identify potential sources of contamination at the wellhead, and to advise systems how to eliminate contamination and protect vital source water. We have years of experience with successful well disinfection techniques, and can also assist systems with locating or eliminating potential future well sites. We would be happy to inspect your wells to identify any potential problems and assist you with wellhead sanitation issues.

**Well Capacity & Quantity** ~ We can help you determine if your wells are adequate for your demands – peak hour and maximum day demands per FDEP Rule 62-555.315(2) & (3), FAC. This accomplished by testing flow meters and checking monthly operations reports for peak demands. Our Ground Water personnel can also assist with well drawdown testing and recommend methods to improve yield or reduce screen plugging.

**Location of Proposed New Wells** ~ FRWA can help identify and site new wells to areas / zones that are not influenced by potential contamination per Rule 62-555.520(4)(a)4c, FAC. FRWA Circuit Riders are available to identify any Sanitary Hazards located within 500 feet of new wells or located less than 500 feet upstream of new surface water intakes.

**Well Water Quality** ~ FRWA Circuit Riders have sampling equipment to test for common impurities such as: pH, temperature, total dissolved solids (TDS), iron, alkalinity, chlorine, and sulfate. We can review raw water sampling results to assess quality and treatability issues and provide treatment recommendations.

**Wells Disinfection, Bacteriological Surveys, and Wells Evaluations** ~ per FDEP Rule 62-555.315 (6) FAC.

**Design & Condition of Source Facilities** ~ We are ready to evaluate the design, piping configuration, and condition of your wells, well pumps, valves, piping, etc. and recommend changes / maintenance actions.

**Groundwater Services** ~ Our Ground Water personnel are available to help with:

- Wellhead Protection Plans & Ordinances
- Wellhead Protection Zone Signage
- Watershed Management
- Source Vulnerability Assessment
- Water Management District Consumptive Use Permit Applications

Ground Water personnel will provide your system with Wellhead Protection Plans designed specifically for your water system which will assist you with protecting your source water through proper maintenance and setbacks. FRWA will show you how your source water arrives at its destination through delineation of “capture zones”. We can also provide assistance with wellhead protection zone signage. Our staff can also assist your system with compilation and completion of Water Management District consumptive use permit applications.

**Revised Total Coliform Rule (RTCR) Compliance** ~ FRWA Circuit Riders are available to help your system comply with the RTCR, complete monitoring plans, and Level 1 or 2 Assessments. The RTCR establishes a maximum contaminant level (MCL) for E. coli and uses E. coli and total coliforms to initiate a “find and fix” approach to address fecal contamination that could enter into the distribution system. It requires public water systems to perform assessments to identify sanitary defects and subsequently take action to correct them. Before April 1, 2016, Public Water Systems must develop a written sample siting plan that identifies the system’s sample collection schedule and all sample sites, including sites for routine and repeat monitoring. Systems monitoring quarterly or annually must also identify additional routine monitoring sites in their sample siting plans. Plans are subject to FDEP review and revision.

**The Groundwater Rule and Achieving 4-Log Virus Inactivation using CT Calculations** ~ FRWA Circuit Riders and Engineers can help you determine if you can meet 4-log virus inactivation using CT Calcs if your water source is *Microbially Contaminated* or *susceptible* to microbial contamination per paragraph 62-555.315(6)(b) or (f) FAC. Additionally you must demonstrate it daily in your MORs that treatment reliably achieves at least four-log (99.99 percent) inactivation or removal of viruses before or at the first customer at all flow rates. Achieving this level of treatment may or may not be difficult depending on the unique conditions of the system, i.e. storage time, water temperature, peak flow and chlorine concentration. Inactivation is a function of the disinfectant concentration and the amount of time the water spends in contact with the disinfectant before the first service connection.

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## 2. ~ WATER TREATMENT PROCESSES

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**Source Water Treatment** ~ FRWA Circuit Riders are ready & able to assist your system with water treatment issues.

- Capacity & Adequacy of drinking water source and treatment facilities per FDEP Rule 62-555.320 (6) FAC
- Wells under the direct influence of surface water shall comply with Rule 62-550.817, FAC
- Disinfection per 62-555.320 (12) & (13) FAC
- Processes, Sequence & Layout
- Treatment Facilities Condition
- Troubleshooting & Training
- Color Coding of Piping per 62-555.320 (10) FAC

**Stage 2 Disinfection By-Product Reduction Assistance** – Your FRWA circuit rider can assist you with planning and implementing a strategy to reduce your system’s DBP levels and assist you with compliance.

- Reduced chlorine dosing,
- Disinfectant residual management including relocation of injection point,
- Treatment & reduction of DBP precursors,
  - Filtration with GAC or alternative medias,
  - Alternative pre-treatment / oxidation methods (e.g. Hydrogen Peroxide),
  - Alternative disinfectants,
  - logarithm of the reciprocal of Hydrogen Ion concentration (pH) control
- Distribution system management and maintenance,
  - Unidirectional flushing,
  - Design, installation & maintenance of Automatic Flushing Valves at remote locations,
  - Storage tank level control and maintenance,
  - Improved storage tank mixing,
  - Strategic location and installation of manual flushing points,
- etc.

**Treatment Recommendations to Improve Water Quality, Taste and Aesthetics** ~ FRWA Circuit Riders regularly assist systems with water treatment recommendations including:

- Process Control,
- Laboratory Procedures & Organization,
- Sampling & Monitoring,
- Jar & Bench Testing,
- Testing New Treatment with Pilot Studies,
- Daily Logging Procedures,
- Chemical Dosing / Feed Systems,
- Coagulation / Flocculation
- Filtration (GAC, green sand, multi-media, iron, etc.)
- Sedimentation / Clarification, etc.

We can assist systems with any and all aspects of water treatment at your facility. Our engineers assist systems with design and permitting of treatment changes or improvements that can help you improve the quality of water that you provide to your customers.

**Other Treatment Strategies** ~ FRWA Circuit Riders have a broad range of experience with treatment strategies for primary and secondary contaminants. We have assisted systems treatment for impurities, including but not limited to:

- | <b>Primary Drinking Water Contaminants</b>   | <b>Secondary Drinking Water Contaminants</b> |
|--|--|
| ▪ Microorganisms, viruses, total coliforms, fecal coliform & e. coli   | ▪ Aluminum                                   |
| ▪ Turbidity  | ▪ Chloride                                   |
| ▪ Disinfection By-Products   | ▪ Color                                      |
| ▪ Inorganic Chemicals (including) <ul style="list-style-type: none"><li>○ Arsenic</li><li>○ Asbestos</li><li>○ Cadmium</li><li>○ Cyanide</li><li>○ Fluoride</li><li>○ Lead</li><li>○ Nitrate / Nitrite</li></ul> | ▪ Copper                                     |
| ▪ Organic Chemicals & Pesticides   | ▪ Corrosivity                                |
| ▪ Radionuclides  | ▪ Fluoride                                   |
|  | ▪ Foaming Agents                             |
|  | ▪ Iron                                       |
|  | ▪ Manganese                                  |
|  | ▪ Odor                                       |
|  | ▪ pH   |
|  | ▪ Silver                                     |
|  | ▪ Sulfate – black water 62-555.315 (5) FAC   |
|  | ▪ Total Dissolved Solids                     |
|  | ▪ Zinc                                       |
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### 3. ~ WATER SUPPLY PUMPS & PUMPING FACILITIES

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**Evaluation of Pumping Facilities** ~ FRWA Circuit Riders can assist with evaluation of your pumping facilities and appurtenances – including operation, maintenance, condition, troubleshooting, preventative maintenance, and recommendations per FDEP Rule 62-555.320(8), (15), (16) & (17) FAC :

- Visually Inspecting Gages, Valves, etc.
- Checking sources of noise and vibration
- Shaft Misalignment
- Identifying Cavitation, Vortexing/loss of suction
- Troubleshooting obstructions in discharge / suction,
- Drive Problems & Reverse Rotation,
- Design-Performance Problems,
- Venting & Air Conditioning,
- Identifying causes of performance loss (i.e.- pressure/volume problems and efficiency decrease due to wear),
- Electrical / Temperatures Problems,
- Pump bearing wear / life,
- Proper lubrication material & techniques,
- Proper logs & records maintenance, and
- Identifying and repairing leaking glands / seals, etc.
- Finished-Drinking-Water Meters
- Finished-Drinking-Water Sampling Taps

**Pump Types, Capacity & Adequacy** ~ Circuit Riders have expertise with pump station design and capacity. We can help you determine if your pumps are adequate for your demands – peak hour and maximum day:

- Recommending the proper pump for the application, fluid, pressures, and flows
- Hydraulic Tests
- Pump Capacity Adequacy per FDEP Rule 62-555.320(6), FAC
  - Total Capacity > MDD + Fire-Flow Demand

#### **Pump Station Work Area and Equipment Conditions Safety**

- Demonstrate proper safety procedures and use of safety equipment
  - safe work environment
  - electrical hazards
  - mechanical hazards
- Keeping pump stations clean from:
  - pest control, herbicides,
  - gasoline, solvents
  - paint, etc.
- handling spills, debris removal, etc.

**Flooding Protection** ~ Circuit Riders provide recommendations for relocating or protecting pumps, motors & controls not above the 100-year floodplain as required by FDEP Rule 62-555.320 (4), FAC.

**Protection from Tampering, Vandalism & Sabotage** ~ We can provide suggestions to increase site security.

- Site should be fenced & locked per FDEP Rule 62-555.315(1) & 62-555.320(5), FAC
- No trespassing signs,
- Lighting,
- Web cameras, and
- Entry alarms

**Pump Station Electrical Equipment, Motors & Controls** ~ Recommendations and troubleshooting are available for:

- Station and Equipment Grounding
- Surge Protection
- Lightning Protection
- Voltage Drop / Brownout Protection
- Short Circuit Studies
- Soft-Start Controls
- Variable Frequency Drives
- Add-a-phase equipment
- Power Factor Correction
- Auxiliary Power / Generator per 62-555.320 (14), FAC
- Starting Current Limitations
- Programmable Controllers
- Water Level, Pressure, Flow Sensors
- Elapsed Time Meters
- Alternators
- Timing Relays
- SCADA (supervisory control & data acquisition)

### 4. ~ STORAGE FACILITIES, TANKS

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Finished water storage is critical to the efficient operation of water distribution systems. The major purposes of storage are to provide (1) storage volume for daily equalization and flow balancing; (2) fire flow volume; (3) pressure to the distribution system; and (4) for emergency situations including hurricanes, power failures, etc.

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**Evaluation of Storage Tanks** ~ FRWA Circuit Riders can assist with evaluation of your storage facilities / tanks – operation, maintenance, condition, troubleshooting, preventative maintenance, and recommendations including:

- FDEP requires ANNUAL removal of accumulated sludge and biogrowths from tanks per Rule 62-555.350(2) FAC.,
- 5-year Storage Tank Inspections by a PE,
- Maintenance & painting tanks
- Liquid level gauges, floats, cables, etc.
- Tank Mixers,
- Turn-Over,
- Baffling,
- Venting, Overflow pipes & splash pads
- Safety and access equipment, and
- Cathodic protection (passive / active).

**Storage Tank Visual Inspections for Sanitary Conditions or Vandalism** ~ Your Circuit Riders can help you establish routines for frequent visual inspections for your storage tanks or sanitary conditions or vandalism. These are recommended to be performed daily or the very least weekly, annually for other items

- Identify tank closure / security defects,
- Ensure access hatches are closed and locked,
- Ensure vents, overflows, and drains are screened to stop access by insects, birds, rats, and other animals.

Evidence of these activities should be placed in the Logbook and O&M Logs. Thus, annual inspections are vital and more frequent inspections (monthly / quarterly) are highly recommended.

Finished water storage tanks impact water quality. Systems that have water quality compliance issues frequently also have high water age and poorly maintained storage tanks. Problems resulting from high water age can include depletion of chlorine residual; formation of disinfection by-products; bacteriological hits in the distribution system; corrosion leading to lead / copper leaching; increased color, odor, and taste; blackwater formation from sulfates converted by sulfide bacteria; or nitrification by bacterial conversion of ammonia when chloramines are used.

**Tanks, Capacity & Adequacy** ~ Circuit Riders have expertise with tank design and capacity. We can help you determine if your tanks are adequate for your maximum day demands and fire protection storage per FDEP Rule 62-555.320 (19) FAC:

- Tank location, capacity and hydraulics
- Operational storage volume analysis in conjunction with the capacity of its source, treatment, and finished-water pumping facilities, its finished-water storage
- capacity is sufficient to meet peak-hour demand for at least four consecutive hours.
- Tank / Site Security, Signage & Alarms 62-555.320 (5)

**Storage Tank Operations & Maintenance Checklist** ~ Water Circuit Riders are prepared to recommend that you use this checklist as a supplement to your O&M Manual and Preventive Maintenance Logs for your system. This checklist is designed to comply with FDEP Rule 62-555.350(2) FAC that encourages and requires operators and suppliers of water to “keep all necessary public water system components in operation and maintain such components in good operating condition so the components function as intended.”

**5-year Storage Tank Inspections by a Florida Professional Engineer** ~ FRWA maintains a list of Associate Members that Perform Storage Tank Inspections under the responsible charge of a professional engineer per FDEP Rule 62-555.350(2) FAC. ALL water systems regardless of size must clean and inspect tanks for structural and coating integrity -- finished-drinking-water storage tanks, including conventional hydropneumatic tanks with an access manhole but excluding HDPE, bladder or diaphragm-type hydropneumatic tanks.

**Hydropneumatic Tank Replacement Recommendations** ~ Water Circuit Riders can help you with replacing your old leaking hydropneumatic tank. Once your tank starts to leak it has failed and CANNOT NOT be safely repaired / patched. You have several options to consider and your Circuit Rider and the FRWA Engineer are available to help you through the process: 1) Replace your existing tank with one of the same size (like-for-like) built to ASME standards – no permitting / engineering would be involved; 2) Install a new tank built to ASME standards, but sized for your system – this requires engineering evaluation / permitting and may be less expensive; or 3) Install several ANSI/WSC Standard PST 2000 pressurized 119-gallon water storage tanks – requires engineering / permitting and may be the least expensive.

FRWA also maintains a list of hydropneumatic tank suppliers / installers per FDEP Rule 62-555.320 (20), FAC

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## 5. ~ DISTRIBUTION SYSTEMS, PRESSURE, FLOW, FLUSHING

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**Importance of Maintaining Your Distribution System.** A properly maintained distribution system is important for ensuring that you can provide high quality water to your customers, continue operating in the event of an emergency, extend system life, minimize water main breaks, isolate damages segments and minimize property damage because of responding to an emergency, and help prevent contamination events.

**Distribution System Management & Assistance** ~ Experienced FRWA Drinking Water Circuit Riders provide the following assistance to you and your water distribution system.

- Distribution Maps & Records,
- Distribution System Design & Adequacy,
  - testing & logging distribution system pressures and flow capacities for the purposes firefighting flow certification
- Field Sampling, Measurements & Analysis,
- Preventative Maintenance,
- Valve & Hydrant Exercising & Training
- Backflow / Cross-Connection Control,
  - Contamination reduction,
  - Security,
- Meters – testing, replacing, etc.,
- Corrosion Control,
- New pipe and existing distribution system disinfection
- In-ground pipe condition analysis
- Water Conservation,
- Water loss reduction,
- Water quality improvement,
- Flushing
  - Automatic Flushing Valves vs. Manual Blow-offs,
  - Traditional vs. Unidirectional Flushing,
- Customer Concerns,
- Remote/Online Monitoring/Water Quality Parameters/Alerts,
- Asset Management,
- Staffing,
- Locates (GPR)
- etc.
- in-ground pipe flow capacity study
- Precautionary boil water notice assistance

### **Corrosion Control Plans and Lead and Copper/Water Quality Parameter Sampling and Monitoring Plans** ~

FRWA can assist systems with desktop studies (RTW) of corrosion potential of their water system and assist them with treatment change recommendations and permitting that will reduce the potential for corrosion in their distribution system. We provide guidance and assistance with completion and implementation of Lead and Copper Sampling Plans and Water Quality Parameters sampling when required, using our field laboratory sampling equipment.

**Meter Accuracy Testing as required by FDEP and Water Management Districts** ~ FRWA has state-of-the-art flow meter testing equipment that we will use to check the accuracy of system water meters as required by regulatory agencies. We can test meters of all sizes and shapes and will provide systems and regulatory agencies with required verification of accuracy to return systems to compliance. These portable flow testers can also be used for daily or overnight logging of flow rates to help systems determine if elevated flows may be due to leaks, water theft, faulty check valves, etc.

**Water Main and Valve Location and GIS Mapping** ~ FRWA Drinking Water Circuit Riders use cutting edge technology such as Ground Penetrating Radar (GPR) to assist water systems with location of water mains, valves, service lines, etc., even difficult to locate non-traced PVC pipe. We can locate and advise systems regarding onsite excavation to reduce and/or avoid the potential for damage to existing infrastructure (gas mains, cables, phone lines, electrical lines, etc.) We use GPR in conjunction with Global Positioning System (GPS) location technology to mark existing maps for future use, as well compiling locational data in a database for use in building highly accurate maps of distribution systems. FRWA can even build and print full sized maps using a graphic plotter. Our personnel use the latest ARCview Software to assist systems with their specific mapping needs. We also employ Multi-Frequency Pipe and Cable locators and Sondes (transmitting beacons) capable of locating pipes of all materials in all types of soils.

**Water System Maps** ~ All Water Systems should have an up-to-date map of all water lines, valves, hydrants, tanks, wells, treatment plants, etc. Community Water Systems are required to keep these maps per FDEP Rule 62-555.350(14), FAC. Your Water Circuit Rider or FRWA Engineer are available to get you started and to assist you. Your water system map needs to include:

- Water Mains – location, size, material
  - Pumping Facilities
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- Location of Valves & Fire Hydrants
- Storage Tanks
- Wells & Treatment Plants
- Interconnections with Other Public Water Systems

The intent is to have a map that shows basic system components, but the rule doesn't say that you have to spend a lot of money or hire engineers / surveyors to do your map for you. The rule doesn't specify the map size or scale. Your map may be a single map or system atlas; may be on paper or computer.

**Fire Hydrant Exercising & Flow Testing** ~ We have fire hydrant testing equipment available to our members such as pressure loggers and recorders and pitot gauges. FRWA Circuit Riders can assist your system with flow testing as well as train your distribution personnel in the use of this equipment. This flow/pressure testing can assist with insurance rate reduction as well as result in improvements in public safety.

**Hydrant Pressure Relief & Flow Diverters**~ FRWA fire hydrant pressure relief valves can be used to prevent damage to your distribution system while any required water storage tank cleaning and inspection is being performed on your system. FRWA fire hydrant flow diverters can be used by systems to safely flush water mains to reduce water age and improve water quality.

**Valve Exercising Program** ~ FRWA valve exercisers assist systems with ensuring longer service life for system valves and help reduce damage caused by manual operation. EPA recommends that valves should be exercised annually, and your Water Circuit Rider can help you get started. The benefits of a valve exercise program include improved reliability – use it or lose it; familiarizing crews with valve locations; identify lost or inoperable valves; locate obstructed valve boxes; and ensures isolation of distribution system sections when necessary.

**Flushing, Unidirectional Flushing & Automatic Flushing Valves** ~ FRWA Drinking Water Circuit Riders are ready to explain the difference between random hydrant flushing and systematic unidirectional flushing – and then will help you start a unidirectional flushing program and install Automatic Flushing Valves. Unidirectional Flushing forces flow in a single direction and single pipeline, the resulting flow approaches the scouring velocity (5 feet per second) necessary to scour deposits and debris from the mains. Traditional flushing is not as effective at cleaning and tends to stir up sediment increasing customer complaints. You are required to flush dead-end mains at least quarterly per FDEP Rule 62-555.350(2), FAC – you should be more proactive and flush more frequently and regularly! More frequent flushing is likely to maintain good water quality. Your Circuit Riders can refer you to vendors for purchasing Automatic Flushing Valves or you can build your own using a battery powered irrigation valve assembly.

**Leak Detection** ~ FRWA Circuit Riders are trained and equipped in the use of multiple leak location technologies. We can provide exhaustive leak surveys on your entire water distribution system using state-of-the-art equipment, including sub-surface acoustical leak detectors and advanced leak correlation technology. We can also provide flow data logging using multiple technologies, allowing for isolation of suspected leaky areas of your distribution system. This data can be used to determine the extent of leaks, as well as their location. We also provide onsite guidance for leak repair and prevention.

**Water Loss Audits / Recommendations** ~ FRWA Circuit Riders can help your system complete a water loss audit to help you better understand where your water is going and how to account for any water loss experienced by your system. We compare the amount of water pumped by your system to the total billed gallons and can help you estimate and account for any water loss you may be experiencing. Unaccounted for water losses are a major cost to water systems, as well as a major conservation concern to regulatory agencies. If your system is experiencing excessive unaccounted for water losses, FRWA will assist you with water loss reduction techniques including leak detection, water theft prevention and many other conservation practices. Once water losses are corrected, FRWA will help your system implement water conservation policies that will assist you with monitoring and correcting future water losses.

**Cross Connection Control Plans and Distribution System Evaluations** ~ FRWA can assist your system with creation or improvement of your cross-connection control plan. We can perform a system evaluation to help you determine proper backflow devices required for specific customers and can help you locate qualified and reliable backflow inspection providers. FRWA works closely with FDEP to assist systems with understanding and complying with cross connection control regulations.

## 6. ~ MONITORING, REPORTING & DATA VERIFICATION, DBPS

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**Monitoring & Reporting** ~ FRWA Water Circuit Riders assist systems with all phases of drinking water monitoring and reporting.

- Monthly Operating Reports (MOR's)
- Water Quality Monitoring Plans & Strategies
- Regulatory Records Requirements & Storage
- Benchmarking Water Quality
- Groundwater Rule Monitoring Requirements
- Revised Total Coliform Rule Monitoring Requirements
- D/DBP Rule Locational Running Annual Average
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**Electronic Monthly Operating Reports (MOR's)** ~ FRWA Circuit Riders provide assistance and training of your operations personnel on use and completion of electronic MOR's and e-Logs for distribution operators, to improve communication between systems and FDEP and improve water system accountability.

**Sampling / Monitoring Plans and Proper Sampling Techniques** ~ We assist systems with completion and implementation of:

- Microbiological sampling plans,
- Lead & Copper sampling plans,
- Stage 2 (TTHM and HAA5) sampling plans,
- Nitrate / Nitrite monitoring,
- Radionuclide monitoring, Revised Total Coliform Rule (RTCR) Assessments,
- Primary & Secondary contaminant monitoring,
- Volatile & Synthetic organic monitoring, etc.

FRWA will also train system personnel on proper sampling techniques for all required sampling.

**Reduced Monitoring and Monitoring Waivers** ~ FRWA assists systems with completion and submission of:

- Asbestos waivers,
- Volatile Organic Contaminant waivers,
- Synthetic Organic Contaminant waivers,
- Pesticide waivers, etc.

FRWA can help systems apply for reduced sampling monitoring and waivers. FDEP accepts FRWA verification of these waivers when required. FRWA can also assist your system with reduced staffing requests.

**Public Notices** ~ FRWA Water Circuit Riders assist systems in issuing public notification when exceeding primary, secondary and unregulated standards as well as customer friendly explanations as required by 62-560 FAC. Your circuit rider will advise your operations personnel on any and all issues related to public notification.

- Precautionary Boil Water Notices per Rule 62-555.335, FAC
- Tier 1 Public Notice, 62-560.410(1)(a)1, FAC
- Tier 2 Public Notice, 62-560.410(1)(a)2, FAC
- Tier 3 Public Notice, 62-560.410(1)(a)3, FAC
- Suspicious Activity notify the State Warning Point (800) 320-0519 immediately (within 2 hours) per 62-555.350(10)
- Primary Standards Public Notice, 62-560.410, FAC
- Secondary Standards Public Notice, 62-560.430 FAC

## 7. ~ WATER SYSTEM MANAGEMENT & OPERATIONS

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**Effective Water System Management & Operations** ~ You are probably surprised to learn that FRWA Water Circuit Riders can also assist your system with effective managerial capacity. The 1996 amendments to the Safe Drinking Water Act (SDWA) made developing financial, managerial, and technical capacity equal priorities for utilities operating in the United States. FRWA has resources available to your system to improve leadership, accountability, staffing, organization, and effective internal and external communication. Effective Management can be difficult to define and measure. It is far easier to spot insufficient managerial capacity than it is to define appropriate managerial strength. FRWA can provide training for effective utility leadership and recommend ways to develop and improve managerial capacity.

- Utility demonstrates pride of ownership
- Governing body & manager fully understands their accountability / fiduciary responsibly
- Organizational Chart (clearly defined)
  - Staffing & organization
  - Clear roles & responsibilities
- Utility demonstrates regulatory compliance
- Staff fully understands & meets all current monitoring requirements
  - Understands what it will take to meet future operational demands
- Sets Water Quality Goals



- Clear lines of authority
- Communications
- Human Resource Management
  - Clear rules & standards
  - Personnel policies
  - Staff training & credentials
- Effective regulator relations - FDEP, WMD, etc.
- Good / clear media communications & messaging
- Effective customer communication
  - Public Relations, marketing & policies
- Anticipates new rules / compliance
  - Consistent Record Keeping & Retention
  - Organized / systematic approach to maintenance
  - Established Standard Operating Procedures
  - Utility conducts safe operations
  - Utility prepared to handle emergencies
  - Utility has a Comprehensive Business Plan for compliance, performance and improvement

**Board & Management Training** ~ FRWA Financial/Management Circuit Riders offer comprehensive Council / Board / Commission training. This training helps decision-makers understand their accountability and fiduciary responsibly. Additionally, we acquaint and update boards on current financial and managerial issues. We also provide system staff with managerial and financial training.

**Utility Management Certification** ~ FRWA offers the “Utility Management Certification” program designed to recognize the professional educational achievements of individuals and to market their achievements and skills to increase the value of today's utility manager.

**Hiring Consulting Engineers** ~ FRWA Circuit Riders assist systems in preparing notices, forms, and assistance for hiring engineering consultants through the Request for Proposal (RFP) process. Florida Statutes Section 287.055 dictates how public entities must hire engineering firms -- known by the term Consultants Competitive Negotiation Act (CCNA). FRWA has a standard format and can help you through this process including sitting on the selection committee as an unbiased third party. Municipalities, cities, counties, and special districts must follow CCNA and use a Request for Proposals (RFP) procedure whenever:

- For any engineering **study** activity with the fee greater than **\$35,000** (Category Two, per 287.017);
- For any **individual project** with estimated construction costs greater than **\$325,000** (Category Five, per 287.017);
- Continuing contract consultants have different threshold amounts (\$200,000 for reports and \$2M for construction projects) and must be hired specifically under CCNA as continuing consultants.

**Management & Operations Tools** ~ FRWA Water Circuit Riders have the following tools / sample documents to help you and your system with management & operations.

- Consumer Confidence Reports
- O&M Manuals
- Preventative Maintenance Logs / Procedures
- Emergency Preparedness / Response Plans (ERP)
- Vulnerability Assessments (VA)
- Water Users Agreements
  - Ordinances
  - Policies & Procedures
- Public Relations / Customer Relations
- Educational materials for Customers or children
- Water System Work Orders & Priorities
  - Standard Operating Procedures
- Asset Management
  - Utility Inventories
  - Remaining Useful Life
- New water systems start-up checklist
- Coastal Resilience Evaluations
  - enhance resilience to climate-related coastal impacts

**Operations & Maintenance (O&M) Manuals** ~ FRWA Circuit Riders can provide assistance and a template for completion of required O&M Manual per FDEP Rule 62-555.350(13), FAC. Our Circuit Riders will assist your system in compiling the information. The O&M Manual should be a quick reference for successful daily operation and include anything from trouble shooting to emergency procedures. The rule requires the O&M Manual to contain:

- Bound and Indexed Equipment Manufacturer Manuals (you can download most of these manuals off of the web or get them from equipment manufacturers)
- Operation and Control Procedures
- Preventive Maintenance and Repair Procedures

We recommend that you make at least two copies of the O&M Manual and store one in a safe place in case the plant copy gets lost or damaged by normal use. Your O&M Manual and PM Logs can be stored in a 3-ring binder.

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**Preventive Maintenance (PM) Logs** ~ FRWA can assist your system with creation and improvement of up-to-date Preventive Maintenance Logs of your system per FDEP Rules 62-555.350 (2) & (12), FAC. We recommend that you include the Preventive Maintenance Logs in your O&M Manual Binder. The Preventive Maintenance Logs show the date and type of all maintenance performed, which requires the following:

- Preventive Maintenance Logs on Electrical and Mechanical Equipment
- Cleaning and Inspection Logs of Treatment Facilities and Storage Tanks
- Records of Coatings and Linings Rehabilitation or Repair
- Licensed Engineer Inspection Report (once every 5-years) for Finished-Drinking-Water Storage Tanks and Hydropneumatic Tanks
- Written Flushing Program and Logs showing that Dead-End Water Mains are being flushed at least quarterly
- Isolation Valves Exercise Logs

**Consumer Confidence Reports (CCR)** ~ FRWA partners with FDEP in conducting annual workshops located conveniently around the State to assist systems with the completion and final regulatory approval of these required documents. FRWA annually produces templates to guide systems with completion of CCR's. FRWA can provide your system with the template and direction on how to complete your CCR. Our services now include hosting electronic consumer confidence report posting online, for those systems that qualify and that do not have a dedicated website.

**Emergency Preparedness / Response Plans (ERP) and Vulnerability Assessments (VA)** ~ FRWA Circuit Riders can provide assistance and a template with completion of the required Emergency Response Plan and Vulnerability Assessment per FDEP Rule 62-555.350 (15) FAC. Your plan must include:

- Communication Procedures / Charts
- Copies of Inter-local or Mutual Aid Agreements (FlaWARN)
- Results of a Vulnerability Assessment
- Standby Power-Requirements, Compliance and Details (amount of fuel)
- Cybersecurity
- Disaster-Specific Preparedness Response Plan for: Vandalism or Sabotage; Drought; Hurricane; Structure Fire; and if applicable - Flood, Forest or Brush Fire, Hazardous Material Release
- Emergency Drinking Water
- Chemicals Storage
- Bio Incidents/Contamination concerns

You are required to coordinate the Emergency Response Plan with your Local County Emergency Planning Committee and Law Enforcement Agencies, and update and implement the plan as necessary afterward.

## 8. ~ WATER SYSTEM FINANCIAL REQUIREMENTS

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**Effective Water System Financial Capacity** ~ FRWA Water Circuit Riders can assist your system with effective financial capacity. Financial Capacity refers specifically to having appropriate accounting practices and financial planning to ensure current and future compliance. For many utilities, this emphasis on financial capacity will require additional management training. FRWA can provide training to develop and improve FRWA can provide training for effective utility leadership and recommend ways to develop and improve financial capacity.

- Budgeting,
- Financial Planning & Reserves / Contingencies,
- Capital Improvement Plans & Fiscal Sustainability ,
- Rates, Impact Fees & Revenue Needs,
- Water System Funding & Sources,
- Financial Capacity,
- Revenue Sufficiency,
- Full life-cycle cost recovery,
- Capital financing,
- Affordability & Customer diversity,
- Credit Worthiness,
- Financial health,
- Ability to service debt,
- Fiscal Management & Controls,
- Budget,
- Accounting system,
- Cash management,

**Rate Studies** ~ FRWA Financial/Management Circuit Riders prepare system specific utility rate studies based on full cost pricing and the rational nexus approach. FRWA uses contemporary industry standards for recommending and establishing utility rates, these include American Water Works Association (AWWA) Manuals of Practice, Generally Accepted Accounting Principles (GAAP), Governmental Accounting Standards Board (GASB34), and Florida Public

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Service Commission guidelines. FRWA presents the rate study findings and recommendations to the decision-makers (Council / Board / Commission) and will defend our findings as necessary. FRWA advocates for syncing water rates to annual verifiable cost-of-living adjustments (example: the Florida Public Service Commission Price Index <sup>1</sup> to automatically adjust rates annually). We recommend that water systems reinvest in vital infrastructure and strongly discourage transfers out of the enterprise fund.

**Impact Fee Studies** ~ FRWA Financial/Management Circuit Riders assist systems with Impact / Capacity Fees studies presents the impact fee study findings and recommendations to the decision-makers (Council / Board / Commission). Impact Fees are one-time charges assessed to the new development or connections to reimburse utility systems for costs to supply water, collect, treat, and dispose of wastewater. Impact Fees are proportional to the capacity set aside for the new development or connection. In some systems these charges are sometimes called Capacity Fees while others may be called Benefit Assessments, User Fees, Contributions In Aid of Construction (CIAC), or Connection Charges.

**Asset Management Plans, Fiscal Sustainability and Capital Improvement Plans (CIP)** ~ FRWA Water Circuit Riders can help you prepare Asset Management Plans including:

- ❖ **Critical Asset Evaluation and Management (Fiscal Sustainability)** – This is a new program being provided by FDEP and FRWA through the Drinking Water State Revolving Fund Program (DWSRF). The purpose of the Fiscal Sustainability Program is to prepare a plan for each qualifying system at the request of the DWSRF program.
  - ✓ Inventorying the condition, age, and performance of Critical Assets
  - ✓ Plan for maintaining, repairing, and, as necessary, replacing the treatment works and a plan for funding such activities = modifications to Capital Improvements Program (CIP)
  - ✓ Project funding options and application assistance
  - ✓ Provide certification that the system has been evaluated and is implementing a water and energy conservation plan as part of the Fiscal Sustainability Plan. FRWA will be completing the Fiscal Sustainability/ Asset Management Plans for the DWSRF Program.
  - ✓ Other Financial and Management Services Available:
    - Utility Management – assistance, training, certification, promotion
    - Rate Analysis and Cost of Service – Analysis of cost of providing service and presentation to governing board
    - Interim Finance Program – lowest cost required Interim/Gap financing required by USDA, FDEP State Revolving Fund (SRF)
    - Finance Programs, Grants, and Loans, etc. – all funding program assistance
    - Long Range Planning and Capacity Analysis – evaluate present and future expansions
    - Customer Relations and Services – improve Customer Service and Public Awareness about WWTFs and collection systems
    - Regulatory Updates and Assistance – provide regulatory updates and clarification of the rules and regulations
    - Emergency Response Planning and Vulnerability Assessments – all required and essential plans assistance
- ❖ **REVPlan** The Florida Rural Water Association has partnered with Raftelis to offer the systems of Florida a free online tool called RevPlan that is designed to enhance the asset and financial management for small water utilities.
- ❖ **Energy Audits** ~ Water and wastewater systems are significant energy consumers with an estimated 3%-4% of total U.S. electricity consumption used for the movement and treatment of water and wastewater. FRWA can help utilities to find efficiencies, both in water and energy use by performing energy audits to identify opportunities to save money, energy, and water.

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<sup>1</sup> Florida Public Service Commission Price Index is found at <http://www.psc.state.fl.us/utilities/waterwastewater/>, click on “Price Index and Pass through Application for Water and Wastewater Utilities”.

**Capital Project Funding** ~ FRWA works closely with USDA Rural Development Loans and Grants program and the FDEP State Revolving Fund Loans Funding Assistance program to provide funding sources for interim loans and system improvements.

## 9. ~ OPERATOR COMPLIANCE WITH STATE REQUIREMENTS

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**Water Operator Compliance & Training** ~ FRWA is committed to operator training. FRWA Water Circuit Riders are here to improve system operations and encourage higher levels of certification, professionalism, and expertise. FRWA can provide training for:

- Operator Certification
- Ongoing Training (including one-on-one)
- Regulatory Update Sessions (Focus-On-Change)
- Improved Operator Competency
- Improved Technical Knowledge
- Implementation for enhanced operations
- Effective O&M Programs

**Water Treatment & Distribution System Operator Training Services** ~ FRWA provides ongoing operator certification training for drinking water license levels A, B, C, & D – we also provide an FDEP approved course required for Distribution Operator Certification. We regularly conduct test review sessions to provide prospective drinking water operators and distribution operators with the tools they need to confidently approach the state examinations. Circuit riders have also offered individual training for operator trainees in need of targeted assistance.

FRWA holds over 100 training sessions throughout the year on timely subjects to help keep operators, management personnel and trainees informed about new technology, ideas, rules, best management practices, etc. Required Continuing Education Units (C.E.U.'s) are provided for licensed operators of any level through both online and onsite training courses located conveniently throughout the State of Florida. Our training classes score consistently high marks from our students. Our annual **“Focus on Change”** sessions are the industry’s premier update and training event for operators and system personnel in Florida. FRWA’s **“Annual Technical and Training Conference”** provides industry professionals with in-depth training on a variety of drinking water related subjects, along with intensive operator license review sessions.

**Apprenticeship Program** ~ The Florida Rural Water Association offers an apprenticeship program to enhance Water Utility Operators and Workers capabilities. The program will help provide water and wastewater utilities develop skilled and trained employees through apprenticeship. Apprenticeship is a tried-and-true method of enhancing employees' skills and technical knowledge backed by the US Department of Labor and Florida Department of Education. Our goal is to provide the future work force the technical training and on-the-job learning needed to become effective operators.

New hires and current employees can take advantage of the combined classroom, hands on, and on-the-job training to hone their skills as they prepare for their certification tests. In addition to obtaining a C license, apprentices receive training and support in obtaining a CDL, confined space safety certification, and many more industry certifications that make them a valuable well-rounded employee.

FRWA currently has two ongoing apprenticeship programs with more to come.

**Contract Operations & Agreements** ~ FRWA provides training, instructions, and a checklist for important issues to be included and considered in any Contract Operation Agreement. The checklist delineates Owner’s and Contract Operator’s duties, assignments, and responsibilities with respect to the operation of the water and wastewater systems in Florida under FDEP Rules – it may be attached to or included an Exhibit or Attachment to Contract Operator agreements. The Owner is ultimately responsible for the operation of the system in compliance with FDEP rules and regulations. This responsibility cannot be delegated to the Contract Operator per Florida Statute.

**Safety Training** ~ FRWA provides training and support to treatment plant personnel for all safety related drinking water issues including:

- Chlorine Gas & Sodium Hypochlorite Safety,
  - Standard Operating Procedures (SOPs),
  - Confined Space Entry Training,
  - Slip, Trip & Fall Protection on walking and/or working surfaces,
  - Hazardous Gas monitoring and/or equipment,
  - Arc Flash Safety
  - High Voltage Lockout / Tag out program training,
  - Personal Protective Equipment (PPE) – protection for eyes, face, head, foot, hand, etc.,
  - Proper Clothing,
  - Self-Contained Breathing Apparatus (SCBA) inspection & certification,
  - Chemical Storage and Handling,
  - Eyewash Maintenance,
  - Safety Data Sheets (SDS),
  - Chlorine Tank and equipment repair and maintenance,
  - Lab and Environmental Sampling and Safety,
  - Ladder Safety Devices, Handrail & Walkway Maintenance,
  - Proactive Water Plant Housekeeping, etc.
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## 10 ~ FRWA RESOURCES AVAILABLE TO WATER SYSTEMS

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**FRWA Drinking Water Library** – FRWA has developed an extensive library of drinking water related papers and publications that will assist your system with everyday operations and simplify complex rules and regulations. These publications include: Contract Operators Checklist and Contract Operators Service Agreements, various chemical safety manuals, Water Board Management Training Program and Handbook, Energy Reduction Planning for Utilities, Practical Water Conservation, Drought Preparedness, Preventative Maintenance for Small Systems, public relations advise, Hydrogen Sulfide Removal, Water Loss Control, Water System Startup Manual, youth drinking water pamphlets, water distribution safety and maintenance and many, many more.

### Water Equipment Available to FRWA Members:

- 4" Trash Pump
- 6" By-pass Pump
- Activity Chart Recorders
- Advanced Drinking Water Laboratory
- Amp Meters
- Backflow Test Kits
- Basic Drinking Water Laboratory
- Calibrated Thermometer
- Chemical Feed Pumps
- Chlorine Meters
- Chlorine Repair Kits
- Chlorine Tracer Studies
- Colorimeters
- Conductivity/UV 254 Meter
- Corrosion Control Test Kit
- Electric Meters (volt)
- Electric Motors
- Fire Hydrant Flow Gauges
- Flowmeters
- Fuel Pumps and Tanks
- Generator Load Bank
- Generators (10 to 150 kW)
- GPS Mapping Systems
- GPS Unit (sub-meter)
- Ground Penetrating Radar (GPR)
- Groundwater Model
- Hach DR-5000 Spectrophotometer
- Handheld Infrared Device
- Hydrant Flowmeters
- Hydrant Pressure & Flow Kits
- Hydrant Pressure Relief Valve
- Jar Tester
- Large Ultrasonic Meter Testers
- Lead Test Kits
- Leak Correlators/Leak Loggers
- Leak Detectors
- Line Tracers
- Magnetic Locators
- Magnetic Stirrer
- Microscopes
- Multi-Meters
- Optical Range Finders
- ORP Meters
- pH Meters
- Portable Jar Mixer/Testing
- Pressure Recorders/Loggers
- Pressure Relief Valves
- Rain Gauge
- Rapid Development Repeater/Radios/Sat Phones
- Regal Gas Chlorinator
- Rotation Meters/SCBA/Cl<sub>2</sub> Kits
- Semi-Trailer
- Small Meter Analyzer
- Small Meter Tester
- Hydrogen Sulfide Test Kit
- Total Dissolved Solids tester
- Test Kit (Oxygen)
- Test Kits/Lab
- Test Kits/Water Quality
- Thickness Gauges
- Trash Pump
- TTHM/TOC Test Kits
- Turbidimeters
- Ultrasonic Flowmeter
- Valve Exercisers
- Valve Locator (Magnetic)
- Various individual parameter test kits
- VFD's
- Voltage Converter
- Water Level Indicators
- Water Quality Parameter Test Kit
- Weatherproof Recorders
- Well Sounders

**Emergency Response and Equipment** – FRWA Circuit Riders are first responders for emergency response situations and will be among the first people to contact systems before, during and after these events. FRWA, in conjunction with FlaWarn, provides emergency assistance and the necessary equipment to help keep water systems functional in an emergency situation. Events such as hurricanes, tornadoes, lightning strikes, and flooding prompt FRWA Staff to provide the resources needed, at a moment's notice. Our people are responsible for onsite staging of equipment and relief operations and maintenance during recovery. FRWA's emergency equipment available to FRWA Members includes:

- (20) Stand-By Generators (50 kW to 150 kW)
- (10) Portable Generators (2000 to 6500 Watt, and 15 kW)
- Variable Frequency Drive (VFDs) Controllers (10 -20 HP)
- By-pass and trash pumps (6-in and 4-in)
- By-pass quick disconnects
- Self-Contained 2006 Emergency Response Trailer
- 15 kW PTO generator
- Emergency Fuel Tanks (gas & diesel)
- Satellite phones
- 5-ft x 8-ft enclosed single axel trailers to haul equipment
- Various lab equipment – pH Meters, Chlorine Analyzers and Dissolved Oxygen Probe, etc.
- Meter Detectors – valve locators, pipe probes, line locates, etc.
- Flow Meter and Flow and Pressure Recorders
- Fire Hydrant Flow Meters
- Winches – 12 volt and 500 lb. hitch to tailgate
- Hand Tools – shovels, wrenches, voltage and amp meters, electrical connectors, etc.
- Valve tool – electric valve exercisers, and curb wrenches
- Sewer Cameras
- Regal Gas Chlorinator
- 53-ft single drop semi-trailer capable of carrying 5 large generators
- Lift Station Control Panel
- Leak Detection equipment
- Storage tank wall thickness gauge
- Ground Penetrating Radar (GPR)
- Active and Passive line locators
- Safety Equipment – Self-Contained Breathing Apparatus (SCBA), Chlorine A & B Kits, Chlorine Gas Detectors, etc.

**Drinking Water Engineering Support** ~ FRWA has professional engineers on staff with over fifty years of combined experience to assist members with engineering, design and permitting. FRWA does ask for member contributions to support engineering salaries and costs, which is still less than most engineers charge for their services. Engineering support includes all phases of the project:

### Engineering Studies, Design, Permitting, Financing, Bidding, Construction Management, Operations Troubleshooting, etc.:

- FDEP Consent Order Assistance,
  - System Design Adequacy
  - Assistance in Hiring an Engineering Consultant through the Request For Proposal (RFP) & CCNA Process,
-

- Redundancy & Reliability,
- Hydraulic Studies,
- Capacity Analysis Reports,
- New / Emergency Well Construction,
- Treatment Improvements, Troubleshooting, or Expansion,
- DBP Reduction Assistance,
- 4-Log (CT) Treatment Calculation Certifications,
- Corrosion Control / Iron Sequestration,
- Minor Facility Modifications,
- Storage & Hydropneumatic Tanks,
- Water Main Extensions / Replacements,
- Pumps & Pump Stations,
- Engineering Reports
  - Feasibility Studies,
  - Preliminary Engineering Reports,
  - Environmental Reports,
- Unidirectional Flushing Plans,
- Pilot Studies, and Jar / Bench Testing,
- Evaluation of new / alternative / state-of-the-art treatment methods,
- Operation and Maintenance Performance Reports,
- Troubleshooting Project Design / Construction
  - Value Engineering,
  - Constructability Reviews,
- Construction Management
  - Support,
  - Training,
  - Troubleshooting,
- Planning Assistance,
  - Capital Improvements Plans
  - Fiscal Sustainability,
  - Asset Management,
- Utility Inventories
- Remaining Useful Life
  - Master Planning,
  - Facility Plans,
  - Water Supply Plans,
  - Comprehensive Plans,
- Funding
  - USDA Rural Development
  - State Revolving Fund
  - Short-term financing
- Risk Management Plans (RMP) and On-Site Compliance Audits, and many more services, just ask.

**FDEP State Revolving Fund (SRF) Engineers and Project Liaison.** The SRF Professional Engineers work with SRF applicants (water and wastewater systems) and their engineers as they submit Requests for Inclusion (RFI) to make sure that the projects are right sized for the community and fit community needs. The PEs will also review Facility Plans and Business Plans and provide comments – they may also be asked to author Facility Plans and Business Plans for small communities. The PEs will also review Design Drawings, Specs, and Contract Drawings to assure that the project matches the Facility Plan. They will perform some of the site visits as well, attend the pre-construction conference, during construction and at the end of construction.

Some of the other activities that the engineers will be involved with include review of planning documents and asset management for water, wastewater, and storm water treatment projects; review of design and bid documents; value engineering; field engineering; construction inspections; site meetings with project sponsors, construction contractors, and design professionals; and other programmatic support activities. Reviews will be documented. Asset Management Plans (AMPs) may be completed and adopted prior to the end of construction but the program will examine the implementation of the AMPs as they are updated to attain sustainability.

**The SRF Project Liaison** will coordinate with SRF Staff and PEs by performing periodic site visits to assure and assist the engineer, owner, and contractor with compliance with SRF procedures and standards (Davis-Bacon Wages, American Iron & Steel requirements, record keeping, reports, etc.). Specialists may attend the pre-construction conference, during construction and at the end of construction.

The SRF Project Liaison functions as an intermediary between stakeholders involved in the funding process for utilities. Those stakeholders involved in the State Revolving Fund process include those members seeking funding (Sponsors), DEP, FRWA, Engineers, Consultants, and others. The Florida Department of Environmental Protection appropriates approximately \$250 million dollars each year to Water, Wastewater, Storm Water, and other projects through low cost loans from the SRF. The SRF Program Liaison coordinates stakeholder meeting and activities throughout the funding process to insure an orderly transition from the application process through the end of construction. Oversight and assistance to members/sponsors helps to insure orderly project development. This assistance is designed to minimize project costs and delays, and to inform members/sponsors what to anticipate throughout the process.

**Energy Efficiency Program** On average, a water utility spends 30% of their annual budget on energy costs. This cost continues to grow as new regulations require electric companies to reduce their impact on the environment. By improving your system's energy efficiency, you can reduce the cost of purchasing electricity. FRWA's Energy Efficiency Program helps your system reduce energy costs. The process is simple. You schedule an on-site visit and provide the last twelve months' electric bills. Following the visit, a report is written which gives you helpful tips and customized advice for your unique system. The report can help your system secure funding from SRF or USDA Rural development, as well as inform you of other funding sources and incentives. This service is FREE to our members; these services typically cost \$15,000.

**DW Security/Vulnerability Assessment Program** Due to a number of catastrophic events that have taken place over the past 15 years, a few key presidential directives and Executive orders have been issued which eventually led to a water sector specific risk assessment along with guidelines for implementing both physical, and cyber security measures. Florida Rural Water Association was selected to do a drinking water and wastewater security and Vulnerability Assessment program throughout the state of Florida by

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the FDEP. FRWA meets with the water utilities to improve the benchmarking of standards for both the water and wastewater Utility business. The reports that are generated will assist the strengthening of Florida's water system against cybersecurity, intrusion, natural disasters, Terrorism, vandalism, and will benefit the stake holders of Florida in the same manner. By assisting systems in identifying areas of vulnerability, including vulnerable areas within the SCADA systems, all systems within Florida will benefit. The new regulations that have been developed with the drafting of the new America's Water Infrastructure Act is a driving factor for the increased awareness and concern for improving our water resources and the Vulnerability Assessment reports are being developed to protect the Utilities.

**Lead in Schools sampling program** The Florida Rural Water Association is assisting FDOE and FDEP with the voluntary Lead Sampling in Schools program. FRWA is having lead samples pulled at various schools that obtain their water from local utilities. These samples will include running Point of Entry samples to ensure that no lead is coming from the water supplier. Standing samples and 30 second running samples will be pulled from various locations in the school that are used for drinking. This information will then be used to determine if further actions are needed to reduce lead contamination in the schools.

**SRF inspections on both Water and Wastewater projects.** FRWA provides a suite of services to assist members with funding opportunities through the DEP State Revolving Fund loan program. These services extend to Drinking Water, Wastewater, and Storm Water projects and include but are not limited to assisting members with the development and implementation of Asset Management Plans, Rate Studies, associated Engineering Services, attendance at preliminary, pre-bid, pre-construction, and progress meetings of funded projects. FRWA provides inspection services of funded projects to insure compliance of these projects with required oversight including Contract Management, American Iron and Steel Requirements (AIS), and Davis Bacon Wage Rate Compliance and assistance."

**New state generators** FDEP SRF has funded sixteen (16) 100kw trailer mounted generators for use in emergency response that are FRWA property. These generators can provide 3 phase power in 240V and 480V applications. Featuring an easy-to-use control panel, these generators also feature noise dampening foam for use in or near residential areas and a large Diesel fuel tank.

**Cybersecurity and Mitigation assistance program** Since the Risk and Resilience program is approaching the deadline of completion on June 30 2021, and the requirements for planning Mitigation Plans and securing funding for Florida Water Utilities is ramping up and is a growing service requirement, we are in the process of transitioning Jim McClaugherty from the Risk and Resilience Program over to helping Utilities with their Operating Revenues and to assist with mitigation funding applications for securing financing arrangements for our growing list of Florida Utilities that are in need of this service. Jim is being reassigned as our Utility Assessment Specialist.

**New water infrastructure dollars and project promotion/management** On March 31, 2021, the White House released The American Jobs Plan, a \$2 trillion infrastructure plan aimed at creating jobs and rebuilding U.S. infrastructure. The plan proposes prioritizing federal spending on several aspects of water quality – proposing \$56 billion toward upgrading and modernizing America's wastewater, storm water and drinking water systems through grant and low-cost loans, and another \$45 billion specifically toward a goal of removing 100 percent of lead service lines across the country. An additional \$10 billion would go toward monitoring and remediating PFAS in drinking water.

**Mapping** Over the past few years, FRWA has invested a great amount of time and money researching the best GPS equipment and software. We searched for user friendly software and accurate equipment that would benefit our members and operators.

We now can achieve sub-meter or less accuracy. Also with Diamond Maps, it is easier than ever to create the necessary maps and data needed for each system. So let FRWA help you with the mapping of your system and retain the information that is vital to your system!

**Drones** FRWA has invested in both an above ground and underwater drone to assist our membership with a very safe and cost-effective method of collecting your system's information. Drones are invaluable in lowering risks, decreasing costs, and inspecting critical infrastructure by giving us the ability to navigate to remote or hard to reach locations. The high quality 4k camera can perform visual inspections of elevated storage tanks, water and wastewater treatment plants, or give you an aerial view of a potential project area.

Our use of Diamond Maps enables us to give you accurate asset data collection as an efficient solution to monitor and inspect conditions of your assets while transmitting live feed in real time. The underwater drone is ideal for water tank inspections since you can keep your tank online during the inspection.

Please contact FRWA at [frwa@frwa.net](mailto:frwa@frwa.net) or call 850.668.2746 to make an appointment for an FRWA drone operator to come to your system.

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**FLORIDA RURAL WATER ASSOCIATION**  
 2970 Wellington Circle  
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## FRWA Drinking Water Staff

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 District 2 NE Florida  
 District 3 Central Florida  
 District 4 SE Florida  
 District 5 South Florida  
 District 6 SW Florida  
 State Water Trainer  
 Professional Engineer  
 FRWA Engineer  
 SRF Engineer  
 SRF Engineer  
 Energy Efficiency Circuit Rider  
 SRF Project Liaison  
 SRF Project Liaison  
 NW Fin/Mgmt. Circuit Rider  
 S Fin/Mgmt. Circuit Rider  
 N Fin/Mgmt. Circuit Rider  
 Utility Asset Management  
 Utility Asset Management  
 Utility Asset Management  
 Utility Asset Management  
 Utility Assessment Specialist

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 Stan Epperly  
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