Florida Administrative Code Chapters

- Chapter 62-40 – Water Resource Implementation Rule
- Chapter 62-528 – Underground Injection Control
- Chapter 62-555 – Permitting, Construction, Operation, and Maintenance of Public Water Systems
- Chapter 62-550 – Drinking Water Standards, Monitoring, and Reporting
- Chapter 62-600 – Domestic Wastewater Facilities
- Chapter 62-610 – Reuse of Reclaimed Water and Land Application
A Brief History of Reuse in Florida – Then and Now

Effluent Disposal

Water Conservation
Dedicated Land Application Systems and Restricted Access Irrigation of Non-Food Crops
In the early 1990’s Florida adopted Comprehensive Rules for Reclaimed Water

- Land application
- Agricultural irrigation
  - Non-food crops
  - Food crops
- Urban reuse
  - Landscape irrigation
  - Non-irrigation urban uses
- Industrial reuse
- Environmental, aesthetic & recreational uses
- Groundwater recharge
- Indirect/direct potable reuse
Figure 3. Florida’s Reuse Growth

- Actual Reuse Flow, mgd
- Reuse Capacity, mgd
- Capacity Ratio
- Flow Ratio

Year
1998 1,019
1999 1,243
2000 1,136
2001 1,233
2002 1,286
2003 1,273
2004 1,225
2005 1,368
2006 1,417
2007 1,536
2008 1,659
2009 1,582
2010 1,618
2011 1,711
2012 1,941
2013 1,683
2014 1,688
2015 1,645
2016 1,645

Flow (mgd)
0 200 400 600 800 1000 1200 1400 1600 1800
0.0 0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8

Year
How Florida Reuses Water According to the FDEP 2016 Reuse Inventory

Figure 1. Reclaimed Water Utilization by Flow

- Public Access Areas: 58%
- Agriculture Irrigation: 8%
- Groundwater Recharge: 12%
- Industrial Uses: 17%
- Wetlands & Other: 5%
Chapter 62-610 - Reuse of Reclaimed Water and Land Application

- Part I
  - General

- Part II
  - Slow-rate Land Application Systems; Restricted Public Access

- Part III
  - Slow-rate Land Application Systems; Public Access Areas, Residential Irrigation, and Edible Crops

- Part IV
  - Rapid-rate Land Application Systems (Rapid Infiltration Basins and Absorption Fields)

- Part V
  - Ground Water Recharge and Indirect Potable Reuse

- Part VI
  - Overland Flow Systems

- Part VII
  - Industrial Uses of Reclaimed Water

- Part VIII
  - Permitting
Part V specifies two levels of treatment

**Waste Treatment and Disinfection**

- **Principal Treatment and Disinfection**
  - Meets secondary wastewater treatment and high-level disinfection at a minimum
  - TSS < 5 mg/L (pre-disinfection)
  - TN = 10 mg/L as N (max annual average limit)

- **Full Treatment and Disinfection**
  - Meet Primary Drinking Water Standards (as max single sample limit)
  - Multiple Barriers for control of organic compounds and pathogens
  - Meet Secondary Drinking Water Standards (max annual average limit)
    - TOC = 3 mg/L NTE
    - TOX = 0.2 mg/L NTE

1. N/A for asbestos; applied as max annual average limit for Sodium
2. pH shall fall within secondary standards range
3. Refer to Rule 62-610.563(6) for TOC and TOX limits on injection projects
62-610.554
Discharge to Class I Surface Water and 62-610.555
Discharge to Other Surface Waters

Potable Water Treatment Plant

Class I Water Body

Tributary to the reservoir

Principal Treatment
Secondary WW Treatment
High Level Disinfection
TSS < 5 mg/L
TN < 10 mg/L
TOC = 3 mg/L
TOX = 0.2 mg/L

Full Treatment
Primary MCLs
Secondary MCLs
TOC = 3 mg/L
TOX = 0.2 mg/L

< 4 hrs Travel Time

> 4 hrs and < 24 hrs Travel Time

Fall Outside of Part V

Discharge to Class I Surface Water

Discharge to Other Surface Waters
62-610.560 Ground Water Recharge by Injection

**Water Supply Well**

- **Principal Treatment**
  - Secondary WW Treatment
  - High Level Disinfection
- **Full Treatment**
  - Primary MCLs
  - Secondary MCLs
  - TOC = 3 mg/L
  - TOX = 0.2 mg/L
- **Recharge Zone Greater than 3,000 mg/L TDS**
  - Zone of Discharge Allowed for Secondary MCLs, Prohibited for Primary MCLs

**Recharge Zone Less than or equal to 3,000 mg/L TDS**

- **Unclear if Zone of Discharge Allowed for Secondary MCLs**

Less Restrictive limits allowed if:
- Aquifer Exemption has been Granted
- Parameter Exemption has been Granted
62-610.562 Salinity Barrier Systems

Requires demonstration of need to control the landward or upward movement of salt water and the ability of the project to mitigate this movement.

- Less Restrictive limits allowed if:
  - Aquifer Exemption has been Granted
  - Parameter Exemption has been Granted

Recharge Zone
Greater than 3,000 mg/L TDS

Water Supply Well
To WTP

Must be > 1,000 Feet

Designed to Prohibit Recovery of Injected Water

- TSS < 5 mg/L
- TN < 10 mg/L
- TOC = 3 mg/L
- TOX = 0.2 mg/L
Other Part V Requirements

- Pilot Testing
- Reliability and Staffing
- Monitoring
- Operating Protocols
- Setbacks
# Pilot Testing (for projects requiring full treatment)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary Standards</td>
<td>Applied as maximum single sample limit</td>
</tr>
<tr>
<td></td>
<td>Standard for asbestos does not apply</td>
</tr>
<tr>
<td></td>
<td>Standard for Sodium is applied as maximum annual average limit</td>
</tr>
<tr>
<td>Secondary Standards</td>
<td>Applied as maximum annual average limit, except pH</td>
</tr>
<tr>
<td>TOC</td>
<td>NTE 3 mg/L; single sample NTE 5 mg/L</td>
</tr>
<tr>
<td>TOX</td>
<td>NTE 0.2 mg/L; single sample NTE 0.3 mg/L</td>
</tr>
<tr>
<td>Pathogen Monitoring</td>
<td>Including Cryptosporidium, Giardia, and helminths</td>
</tr>
<tr>
<td>Other</td>
<td>Mutagenicity</td>
</tr>
<tr>
<td>Testing Duration</td>
<td>Up to 12 months</td>
</tr>
</tbody>
</table>
## Staffing

<table>
<thead>
<tr>
<th>Staff</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Full Treatment and Disinfection NOT Required</strong></td>
<td></td>
</tr>
<tr>
<td>Lead Operator</td>
<td>Class B</td>
</tr>
<tr>
<td>Operator</td>
<td>Class C or higher 24 hours per day, 7 days per week</td>
</tr>
<tr>
<td><strong>Full Treatment and Disinfection Required</strong></td>
<td></td>
</tr>
<tr>
<td>Lead Operator</td>
<td>Class A</td>
</tr>
<tr>
<td>Operator</td>
<td>Class C or higher operator 24 hours per day, 7 days per week</td>
</tr>
</tbody>
</table>
## Monitoring

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Frequency</th>
<th>Limit/Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>All Part V Systems</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Turbidity</td>
<td>Continuous</td>
<td>Site specific; online monitoring before application of disinfectant</td>
</tr>
<tr>
<td>Disinfectant</td>
<td>Continuous</td>
<td>From injection well to potable water supply well.</td>
</tr>
<tr>
<td><strong>Systems Required to Provide Full Treatment</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOC</td>
<td>Daily, 7 days/wk</td>
<td>3 mg/L Average</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5 mg/L Single Sample Max</td>
</tr>
<tr>
<td>TOX</td>
<td>Daily, 7 days/wk</td>
<td>0.2 mg/L Average</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.3 mg/L Single Sample Max</td>
</tr>
<tr>
<td><strong>Systems Required to Meet Drinking Water Standards</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total coliform</td>
<td>Daily</td>
<td>Non-detect</td>
</tr>
<tr>
<td>TSS</td>
<td>Daily</td>
<td>&lt; 5 mg/L</td>
</tr>
<tr>
<td><strong>Primary Drinking Water Standards</strong></td>
<td>Monthly (1)</td>
<td>Primary MCL single sample maximum; except total coliform, all samples to be 24-hour composite samples</td>
</tr>
<tr>
<td><strong>Secondary Drinking Water Standards</strong></td>
<td>Quarterly (1)</td>
<td>Secondary MCL as maximum annual average; except pH, all samples to be 24-hour composite samples</td>
</tr>
<tr>
<td><strong>For Surface or Ground Water Receiving Reclaimed Water</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Primary Drinking Water Standards</td>
<td>Quarterly (2)</td>
<td></td>
</tr>
<tr>
<td>Discharge to Class I Surface Water (62-610.554)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Discharge to Water Contiguous to or Tributary to Class I Surface Waters (62-610.555(1))</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Injection for Ground Water Recharge or Salinity Barrier Control (62-610.560 or 62-610.562)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Discharge to Surface Water Directly Connected to Ground Water (62-610.555(4))</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cryptosporidium and Giardia</td>
<td>Quarterly (intervals between sampling NTE 3 months)</td>
<td>Samples taken at a point immediately following the final treatment or disinfection process within treatment facility</td>
</tr>
<tr>
<td><strong>Discharge to Waters Upstream of Class I Surface Waters</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cryptosporidium and Giardia</td>
<td>Once every two years (interval between sampling NTE 2 years)</td>
<td>Samples taken at a point immediately following disinfection process.</td>
</tr>
</tbody>
</table>
## Setbacks

<table>
<thead>
<tr>
<th>Item</th>
<th>Value</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outfalls to Surface Waters</td>
<td>500 feet</td>
<td>From intakes within Class I surface waters</td>
</tr>
<tr>
<td>Injection Facilities</td>
<td>--</td>
<td>Per Rule 62-610.521, F.A.C.</td>
</tr>
<tr>
<td>Salinity Barrier Control</td>
<td>1000 feet</td>
<td>From injection well to potable water supply well</td>
</tr>
<tr>
<td>RIB, percolation ponds, trench embankments</td>
<td>500 feet</td>
<td>From potable water supply wells, Class I and II surface waters</td>
</tr>
<tr>
<td></td>
<td>100 feet</td>
<td>From Class I and II waters when high level disinfection is provided</td>
</tr>
<tr>
<td>Unlined Storage Ponds</td>
<td>500 feet</td>
<td>From potable water wells</td>
</tr>
<tr>
<td>Zone of Discharge</td>
<td>500 feet</td>
<td>From potable water supply well</td>
</tr>
</tbody>
</table>