Auxiliary Water Overview

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Robert Stefani
Environmental Program Coordinator
Austin Water
Auxiliary water is.....

- A water supply from a source other than the City’s potable water supply.

- Sources include:
  - Rainwater
  - Graywater
  - A/C Condensate
  - Reclaimed or Recycled water
  - Raw water
  - others
Rainwater harvesting is...

• Capturing, diverting, and storing rainwater for later use
  – Potable applications
  – Landscape irrigation
  – Equipment washing
  – Outdoor fountains and ponds
• Benefits
  – Conserve water
  – Prepare for droughts
  – Improve plant health
  – Reduce stormwater runoff
• System types:
  – Simple, gravity-fed rainbarrel
  – Large-scale, pressurized systems
Rainwater Regulations

- TCEQ Regulations (TAC Chapter 290, Subchapter D and TAC Chapter 210, Subchapter F)
  - Potable use allowed
  - Must have appropriate backflow protections on place
  - Public water back-up supply may only be connected to the storage tank and not to the public water system

- City of Austin Regulations (2015 UPC Chapter 16, Appendix K & City Code §25-12-153)
  - Potable use allowed
  - Treatment required when used indoors
  - Backflow protection required for most pressurized systems and systems with indoor uses
What is Graywater?

- Untreated wastewater from bathtubs, showers, lavatories and laundry

Benefits:
- Potential savings of 40-90 gpd
- Sustainable onsite water reuse
- Reduces pressure on wastewater infrastructure
- Reliable source for irrigation during drought
System types

- Laundry to Landscape
- Branched drain
- Gravity fed
- Pressurized
- Subsurface, Subsoil and Mulch Basin
Graywater Regulations

• TCEQ Regulations (TAC Chapter 210, Subchapter F)
  – Connected to public wastewater system
  – Approval not required for domestic use under 400 gal/day
    • Originates from a private residence
    • Diversion to wastewater system
    • Tanks labeled, access restricted, pest habitat eliminated, cleanable
    • Does not create a nuisance or damage water quality

• City of Austin Regulations (2015 UPC Chapter 15 & City Code §25-12-153)
  – Level, sturdy, durable tank
  – Connections to drain or sewer
  – Non-potable labeling & coloring
  – Subsurface, subsoil and mulch basin irrigation
  – Backflow protection required for pressurized systems
A/C Condensate

• High quality water (condensate) collected from Air Conditioner “coils”.

• Reliable yields in warmer weather

• Mandatory condensate reuse for systems 200 tons or greater in MF and ICI sectors

• Condensate currently used:
  – LCRA Red Bud Center
  – Austin City Hall
A/C Condensate Regulations

- **TCEQ Regulations (TAC Chapter 210, Subchapter E)**
  - Level I Authorization allowed for uses satisfying three requirements with no state approval
  - Water must come from approved list of sources (condensate included in list)
  - Condensate must be used in an approved fashion including but not limited to:
    - Irrigation
    - Fire protection
    - Dust suppression
    - Cooling tower makeup (Water Quality testing required)

- **City of Austin Regulations (2015 UMC 310.10, 2015 UPC Chapter 15 & City Code §25-12-153)**
  - Treatment required when used inside structure
  - Approved uses include:
    - Water closets/Urinals
    - Trap primers
    - Irrigation industrial processes
    - Water features
    - Cooling tower makeup
### SF Residential Allowed Usages and Treatment Requirements

<table>
<thead>
<tr>
<th></th>
<th>RAINWATER</th>
<th>GRAYWATER*</th>
<th>STORMWATER</th>
<th>CONDENSATE</th>
<th>OTHER NON-SEWAGE ORIGINATED WATER</th>
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<tbody>
<tr>
<td>Below Grade Irrigation/Outdoor</td>
<td>Filtration</td>
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<td>Filtration</td>
</tr>
<tr>
<td>Above Grade Irrigation/Outdoor</td>
<td>Filtration</td>
<td>Not allowed</td>
<td>Treatment &amp; Disinfection</td>
<td>Treatment &amp; Disinfection</td>
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</tr>
<tr>
<td>Toilet/Urinal Flushing/Clothes Washing</td>
<td>Treatment &amp; Disinfection</td>
<td>Not allowed</td>
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*Graywater is not allowed to be used for irrigation in the Edwards Aquifer Recharge Zone or in any other geologically sensitive area.
# MF and ICI Allowed Usages and Treatment Requirements

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<td>Above Grade Irrigation/Outdoor</td>
<td>Filtration</td>
<td>Not Allowed for Multi-Family</td>
<td>Treatment &amp; Disinfection for Commercial</td>
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<td>Toilet/Urinal Flushing, Clothes Washing &amp; Trap Primers</td>
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<tr>
<td>Process Water &amp; Cooling Tower Makeup Water</td>
<td>Treatment when combined with Graywater</td>
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Permit requirements

• All on-site water reuse systems require an installation permit with the following exceptions:
  – Gravity type exterior non-potable rainwater systems of any size
  – Non-potable rainwater or condensate water systems that use a pump, but are 500 gallons or less

• Homestead permit available for Laundry to Landscape Graywater Systems

• New Auxiliary Water Permit sub-work type available
## Permit Process

<table>
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<tr>
<th>Step</th>
<th>Description</th>
</tr>
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<tbody>
<tr>
<td><strong>1. Preliminary Review</strong></td>
<td>Contact the Austin Water Conservation Division for a complimentary preliminary review of your on-site reuse system permit application. This step is optional but highly recommended to ensure the permitting process goes smoothly, and to ensure you are made aware of any qualifying incentives for on-site reuse systems provided by the utility.</td>
</tr>
<tr>
<td><strong>2. Submit Applications</strong></td>
<td>Submit a Development Services Department application for a plumbing permit and an Austin Water application for auxiliary water registration to the City’s One Stop Shop.</td>
</tr>
<tr>
<td><strong>3. Obtain Approval</strong></td>
<td>When your system design is approved, you will be issued a permit to construct the on-site water reuse system.</td>
</tr>
<tr>
<td><strong>4. Construct the System</strong></td>
<td>A system must pass all Development Services Department Inspections. If your system requires a backflow prevention assembly, this will have to be tested and approved by a third party prior to your final construction inspection.</td>
</tr>
<tr>
<td><strong>5. Operate and Maintain System</strong></td>
<td>After you pass the final Development Services Department inspection, you are approved to use your system to save water. No operating permit will be issued, but you are responsible for maintaining your system and conducting annual cross connection testing if your system requires a backflow prevention assembly.</td>
</tr>
<tr>
<td><strong>6. Rebate Disbursement</strong></td>
<td>If you have applied for an Austin Water incentive, there will be an additional post-installation inspection prior to the disbursement of your rebate.</td>
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</tbody>
</table>
Professional Design

• All on-site water reuse systems for one- and two-family dwellings must be designed by a person registered or licensed to perform plumbing design work (either a Master Plumber or a Professional Engineer) with the following exceptions:
  – An exterior rainwater or condensate system for irrigating landscaping of a single family dwelling
  – An exterior rainwater or condensate system for irrigating landscaping other than that of a single family dwelling where the system's maximum storage capacity is 500 gallons
  – A gravity gray water system having a maximum discharge capacity of 250 gallons per day (gal/d)
  – A Laundry to Landscape graywater system
  – A stormwater or other non-sewage originated water system having a maximum discharge capacity of 250 gal/d and that includes treatment and disinfection
# Backflow Protection

<table>
<thead>
<tr>
<th>List of Auxiliary Water Sources and Uses&lt;sup&gt;(1)&lt;/sup&gt;</th>
<th>Backflow Protection Required At Potable Water Connection</th>
<th>Backflow Protection Required at Point of Interconnection with Potable Water</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>Domestic Water Meter&lt;sup&gt;(2)&lt;/sup&gt;</td>
<td>Irrigation Water Meter&lt;sup&gt;(2)&lt;/sup&gt;</td>
</tr>
<tr>
<td>Lake/River Water</td>
<td>RP</td>
<td>RP</td>
</tr>
<tr>
<td>Well Water</td>
<td>RP</td>
<td>RP</td>
</tr>
<tr>
<td>Condensate water</td>
<td>Gravity -</td>
<td>DC&lt;sup&gt;(5)&lt;/sup&gt;</td>
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<td></td>
<td>Pumped RP</td>
<td>RP</td>
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<td>Rainwater</td>
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<tr>
<td>Reclaimed Water&lt;sup&gt;(6)&lt;/sup&gt;</td>
<td>RP</td>
<td>RP</td>
</tr>
<tr>
<td>Other Water Supply&lt;sup&gt;(7)&lt;/sup&gt;</td>
<td>RP</td>
<td>RP</td>
</tr>
</tbody>
</table>

- Backflow protection not required for rainwater and condensate systems 500 gallons or less
City of Austin Incentives

- **Rainwater Harvesting**
  - $0.50 per gallon for non-pressurized systems and $1.00 per gallon for pressurized systems
  - Up to $5000 per site (lifetime limit) or half the cost of the system

- **WaterWise Rainscapes**
  - $30 per 100 sq. ft. converted up to $500 per property (lifetime limit)

- **Bucks for Business**
  - $0.50 for every 1,000 gallons saved over the ten-year lifetime of the rebated equipment or 50% of the cost, whichever is less, up to $100,000
Auxiliary Water Looking Forward

- Water Forward Task Force
- CodeNext Green Infrastructure
- Austin specific guidance under development
- US Water Alliance One Water Collaboration
- National Blue Ribbon Commission to Accelerate the Adoption of On-Site Systems
Questions?
Robert Stefani
Environmental Program Coordinator
(512) 974-9302
Robert.Stefani@austintexas.gov