EPA WaterSense Program – Sierra Vista

Overview

The EPA WaterSense program, established in 2006, helps people save water by using products with a product label verifying low water-use, certain design criteria and verifying inspections. WaterSense partners with retailers and distributors to bring water efficient appliances to the market. They encourage product innovation and also promote water efficient landscape irrigation practices.

The main goal of the program is to decrease indoor and outdoor nonagricultural water use through more efficient products, equipment, and programs. With its recognizable label, WaterSense helps consumers easily identify water-efficient products in the marketplace while ensuring product performance and encouraging innovation in manufacturing.

Sierra Vista became a WaterSense partner in September of 2011.

Water Savings

WaterSense labeled new homes save about 10,000 gallons of water per year, or enough water to fill a backyard swimming pool. In addition to WaterSense labeled plumbing fixtures, these new homes include ENERGY STAR qualified dishwashers and clothes washers, if those appliances are installed when the home is built.

WaterSense labeled new homes also incorporate a hot water distribution system that decreases the amount of water lost waiting for hot water to reach the faucet or shower, so residents don’t waste time, energy, and thousands of gallons waiting for hot water to reach the tap or tub.

Outdoors, WaterSense labeled homes feature water-efficient landscaping and irrigation systems (if an irrigation system is installed). Builders have the option of developing an outdoor “water budget” and planning the landscaping accordingly, or ensuring any area they landscape uses a variety of water-efficient plantings and features, with less than 40 percent covered by grass.

Comparison

The following tables compare existing City Development Code standards versus WaterSense standards (for New Home Construction).

(Note: Certain WaterSense requirements such as leak-detection are not included.)
(Note: Certain City requirements are already more stringent and are not included.)
### Indoor Items:

<table>
<thead>
<tr>
<th>Item</th>
<th>WaterSense Standard</th>
<th>City Standard</th>
<th>Solution</th>
<th>Cost</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Service Pressure</td>
<td>60 psi</td>
<td>80 psi</td>
<td>Pressure Reducing Valve</td>
<td>$80-$225</td>
<td>Lead-free not required in AZ (is more expensive option)</td>
</tr>
<tr>
<td>Hot-Water Delivery Systems</td>
<td>No more than 0.6 gal. wasted before hot water exits the fixture</td>
<td>Hot Water Recirculation pump w/timer, or On-Demand pump</td>
<td>Set a standard that must be met and that meets or exceeds WS requirements</td>
<td>Equivalent</td>
<td>WS requirement must be achieved; timer/temp systems don't achieve</td>
</tr>
<tr>
<td>Toilet</td>
<td>Max 1.28 gallon WS labeled toilets</td>
<td>1.6 gallon</td>
<td>Mandate 1.28 gallon toilet (must meet MaP rating of 500 or more)</td>
<td>Equivalent</td>
<td>City can consider rebates to encourage replacement in existing homes</td>
</tr>
<tr>
<td>Kitchen Sink Fixture</td>
<td>Max 2.2 gpm</td>
<td>2.5 gpm</td>
<td>Mandate max. 2.2 gpm at 60 psi</td>
<td>Equivalent</td>
<td></td>
</tr>
<tr>
<td>Bath Sink</td>
<td>Max 1.5 gpm</td>
<td>2.0 gpm</td>
<td>Mandate max. 1.5 gpm</td>
<td>Equivalent</td>
<td></td>
</tr>
<tr>
<td>Shower Compartment</td>
<td>Total flow max. 2.5 gpm (all showerheads)</td>
<td>2.5 gpm (each showerhead)</td>
<td>Mandate for combination of all showerheads</td>
<td>Equivalent</td>
<td></td>
</tr>
<tr>
<td>Dishwasher</td>
<td>If installed, must be Energy Star</td>
<td>Energy Star only for Commercial, MFR, Public</td>
<td>Amend Code to require Energy Star</td>
<td>Equivalent</td>
<td>Most appliances currently are Energy Star rated</td>
</tr>
<tr>
<td>Clothes Washer</td>
<td>If installed, must be Energy Star</td>
<td>If installed by homebuilder must be Energy Star</td>
<td>Amend Code to clarify the distinction</td>
<td>Equivalent</td>
<td>Most appliances currently are Energy Star rated</td>
</tr>
<tr>
<td>Evaporative Coolers</td>
<td>3.5 gph per ton-hour of cooling</td>
<td>Do not allow evap coolers alone, need AC</td>
<td>Amend Code to meet the 3.5 gph standard</td>
<td>More expensive due to current City requirement</td>
<td>(City is more stringent)</td>
</tr>
<tr>
<td>Item</td>
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<td>City Standard</td>
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<td>Cost</td>
<td>Comments</td>
</tr>
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<td>-----------------------------</td>
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<td>---------------------------------------------------------------</td>
</tr>
<tr>
<td>Water Softener</td>
<td>Meet NSF/ANSI 44 (including the voluntary efficiency standards in Section 7)</td>
<td>None</td>
<td>Ensure compliance</td>
<td>Equivalent</td>
<td></td>
</tr>
<tr>
<td>Drinking Water Treatment System</td>
<td>If installed, meet NSF/ANSI (Such systems shall yield at least 85 gallons of treated water per 100 gallons processed)</td>
<td>None</td>
<td>Ensure compliance</td>
<td>Equivalent</td>
<td></td>
</tr>
</tbody>
</table>

### Outdoor Items:

<table>
<thead>
<tr>
<th>Item</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Landscape Design</td>
<td>2 Options – Budget Tool or turf shall not exceed 40% of landscape area</td>
<td>No turf in front yard</td>
<td>Verify if that meets 40% criteria or revise Code to meet</td>
<td>Less Expensive than turf installation</td>
<td>EPA may require water budget in near future (City is more stringent)</td>
</tr>
<tr>
<td>Slopes</td>
<td>In excess of 4:1 shall be vegetated</td>
<td>Fills cannot exceed 4:1 Cuts cannot exceed 3:1 May require rip-rap, etc.</td>
<td>EPA will allow hardscape to control erosion (more typically used in SW)</td>
<td>Negligible for installation, but requires ongoing maintenance</td>
<td>Hardscape solution, which meets WS criterion, works better in SW</td>
</tr>
<tr>
<td>Mulching</td>
<td>Soil covered with 2-3 inches of mulch</td>
<td>None</td>
<td>Amend Code</td>
<td>$5 square yard or less</td>
<td></td>
</tr>
<tr>
<td>Irrigation Design and Installation</td>
<td>Must use WaterSense irrigation partner (if available)</td>
<td>None</td>
<td>Amend Code</td>
<td>Equivalent</td>
<td>May require WS Irrigation Partner and certified auditor, which raises cost</td>
</tr>
<tr>
<td>Runoff/Overspray</td>
<td>Not allowed</td>
<td>None</td>
<td>Amend Code</td>
<td>None</td>
<td>May require WS Irrigation Partner and certified auditor, which raises cost</td>
</tr>
</tbody>
</table>
### Issue

The City could promote water awareness and further save water by working with the WaterSense program in the following potential ways:

- **Provide Incentives for Building WaterSense Homes**
  - Rebates
  - Sewer Connection Fee Reduction
  - Elimination of monthly sewer fees until cost is realized
- **Adopt those WaterSense Provisions that are More Stringent than Current City Code Requirements**

The following section considers these options and the possible advantages or disadvantages.

1. **Provide Incentives for Building WaterSense Homes**

   - Promote the WaterSense program through advertising, Water Wise and City publications.
   - Encourage WaterSense certification by the local water companies so they can certify buildings.
   - Inspector Certification of homes costs roughly $250 - $350.
   - Pressure reducing valves (PRV) cost between $80 and $225.
   - Reduction could cover a portion, or all, of the increased cost.

   Incentives could be provided in three manners:

   a. Utilize the City rebate program to offset the cost of WaterSense home certification and pressure reducing valves.

   - Would require shifting some rebate funds away from toilet rebates, or finding another source of funding.

   b. **Provide a Reduction in Sewer Connection Fees for Homes That Are Certified as WaterSense Homes**
• Reduce the sewer connection fee (currently $2400) by an amount sufficient to cover the increased costs of building and certifying a WaterSense home.
• Reduction has the benefit of cost avoidance for the developer/builder (no waiting for a rebate).
• With less water used there is less sewage generated.
• Reduction to builder occurs at building permit issuance, with the WaterSense Certified Home Certificate required for a certificate of occupancy. If certification has not been achieved the sewer fee is then owed.

c. Eliminate the monthly sewer fee until the determined cost has been saved.

• Has the advantage that the savings is realized by the homeowner directly.
• Has the disadvantage that builders may not be as enticed to build to WaterSense standards (although they could recoup the costs).

2. **Adopt the WaterSense Provisions for New Development**

• The City could adopt those particular WaterSense provisions that are more restrictive than current codes into our Development Code for all new development.
• Higher standards include:
  o Maximum 1.28 gallon per flush WaterSense labeled toilet with 500 MaP rating or better
  o 2.2 gallon per minute kitchen sink fixture
  o 1.5 gallon per minute bathroom sink fixture
  o Energy Star mandate for dishwashers and clothes washers
  o 3.5 gph standard for evaporative coolers (if allowed)
  o Stricter standard for shower compartments
  o Stricter standard for hot water recirculation

• Most homebuilders are already using the higher-standard WaterSense fixtures
• Certification would not be required but could still be encouraged

**Conclusion**

The EPA WaterSense program offers a framework for saving water. Consideration should be given to either providing incentives to encourage builders to design to WaterSense standards, or to adopting the standards as Code requirements. Area builders should be encouraged to become WaterSense partners. Local water companies could be encouraged to provide certification inspections. And consideration should be given to working with WaterSense to modify their requirements to more suitably fit our climate and conditions.