Local Technical Amendment  
County of Broward


Sub Code:  Residential

Chapter & Topic:  Chapter 29 – Water Supply and Distribution

Section:  Section P2903 Water-Supply System

Short Description:  Modifications to Maximum Flow and Water Consumption

Effective Date:  6/01/2012

Number of paragraphs with changes:  1

Reviewed and Legally Adopted: 3/15/2012
introduced into the system, the potable water connection shall be protected by an air gap or a reduced pressure principle backflow preventer complying with ASSE 1013, CSA B64.4 or AWWA C511.

P2902.5.2 Heat exchangers. Heat exchangers using an essentially toxic transfer fluid shall be separated from the potable water by double-wall construction. An air gap open to the atmosphere shall be provided between the two walls. Heat exchangers utilizing an essentially nontoxic transfer fluid shall be permitted to be of single-wall construction.

P2902.5.3 Lawn irrigation systems. The potable water supply to lawn irrigation systems shall be protected against backflow by an atmospheric-type vacuum breaker, a pressure-type vacuum breaker or a reduced pressure principle backflow preventer. A valve shall not be installed downstream from an atmospheric vacuum breaker. Where chemicals are introduced into the system, the potable water supply shall be protected against backflow by a reduced pressure principle backflow preventer.

P2902.5.4 Connections to automatic fire sprinkler systems. The potable water supply to automatic fire sprinkler systems shall be protected against backflow by a double check-valve assembly or a reduced pressure principle backflow preventer.

Exception: Where systems are installed as a portion of the water distribution system in accordance with the requirements of this code and are not provided with a fire department connection, isolation of the water supply system shall not be required.

P2902.5.4.1 Additives or nonpotable source. Where systems contain chemical additives or antifreeze, or where systems are connected to a nonpotable secondary water supply, the potable water supply shall be protected against backflow by a reduced pressure principle backflow preventer. Where chemical additives or antifreeze is added to only a portion of an automatic fire sprinkler or standpipe system, the reduced pressure principle backflow preventer shall be permitted to be located so as to isolate that portion of the system.

P2902.5.5 Solar systems. The potable water supply to a solar system shall be equipped with a backflow preventer with intermediate atmospheric vent complying with ASSE 1012 or a reduced pressure principle backflow preventer complying with ASSE 1013. Where chemicals are used, the potable water supply shall be protected by a reduced pressure principle backflow preventer.

Exception: Where all solar system piping is a part of the potable water distribution system, in accordance with the requirements of the Florida Building Code, Plumbing, and all components of the piping system are listed for potable water use, cross-connection protection measures shall not be required.

P2902.6 Location of backflow preventers. Access shall be provided to backflow preventers as specified by the manufacturer’s installation instructions.

P2902.6.1 Outdoor enclosures for backflow prevention devices. Outdoor enclosures for backflow prevention devices shall comply with ASSE 1060.

P2902.6.2 Protection of backflow preventers. Backflow preventers shall not be located in areas subject to freezing except where they can be removed by means of unions, or are protected by heat, insulation or both.

P2902.6.3 Relief port piping. The termination of the piping from the relief port or air gap fitting of the backflow preventer shall discharge to an approved indirect waste receptor or to the outdoors where it will not cause damage or create a nuisance.
SECTION P2903
WATER-SUPPLY SYSTEM

P2903.1 Water supply system design criteria. The water service and water distribution systems shall be designed and pipe sizes shall be selected such that under conditions of peak demand, the capacities at the point of outlet discharge shall not be less than shown in Table P2903.1. Table P2903.2b shall be permitted to be used to size the water service or water distribution system.

<table>
<thead>
<tr>
<th>FIXTURE AT POINT OF OUTLET</th>
<th>FLOW RATE (gpm)</th>
<th>FLOW PRESSURE (psi)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bathtub, pressure-balanced or thermostatic mixing valve</td>
<td>4</td>
<td>20</td>
</tr>
<tr>
<td>Bidet, thermostatic mixing</td>
<td>2</td>
<td>20</td>
</tr>
<tr>
<td>Dishwasher</td>
<td>2.75</td>
<td>8</td>
</tr>
<tr>
<td>Laundry tub</td>
<td>4</td>
<td>8</td>
</tr>
<tr>
<td>Lavatory</td>
<td>2</td>
<td>8</td>
</tr>
<tr>
<td>Shower, pressure-balancing or thermostatic mixing valve</td>
<td>3</td>
<td>20</td>
</tr>
<tr>
<td>Silcock, hose bibb</td>
<td>5</td>
<td>8</td>
</tr>
<tr>
<td>Sink</td>
<td>2.5</td>
<td>8</td>
</tr>
<tr>
<td>Water closet, flushometer tank</td>
<td>1.6</td>
<td>20</td>
</tr>
<tr>
<td>Water closet, tank, close coupled</td>
<td>3</td>
<td>20</td>
</tr>
<tr>
<td>Water closet, tank, one-piece</td>
<td>6</td>
<td>20</td>
</tr>
</tbody>
</table>

For SI: 1 gallon per minute = 3.785 L/min,
1 pound per square inch = 6.895 kPa.

P2903.2 Maximum flow and water consumption. The maximum water consumption flow rates and quantities for all plumbing fixtures and fixture fittings shall be in accordance with Table P2903.2.

<table>
<thead>
<tr>
<th>PLUMBING FIXTURES AND FIXTURE FITTINGS</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Lavatory faucet</td>
<td>2.2-1.5 gpm at 60psi</td>
</tr>
<tr>
<td>Shower head</td>
<td>2.2-1.5 gpm at 80psi</td>
</tr>
<tr>
<td>Sink faucet</td>
<td>2.2-1.5 gpm at 80psi</td>
</tr>
<tr>
<td>Water Closet</td>
<td>1.28 gallons per flushing cycle</td>
</tr>
<tr>
<td>Dishwasher (Residential)</td>
<td>6.5 gallons per cycle or less (Energy Star/Water Sense Certified)</td>
</tr>
<tr>
<td>Washing Machine</td>
<td>Water factor of 8 or lower (Energy Star/Water Sense Certified)</td>
</tr>
</tbody>
</table>

For SI: 1 gallon per minute = 3.785 L/min,
1 pound per square inch = 6.895 kPa.

a. A handheld shower spray is also a shower head.
b. Consumption tolerances shall be determined from referenced standards.
c. Water factor in gallons per cycle per cubic foot.
Proposed Modification to the Florida Building Code

Per Section 553.73. Fla Stat

Text of Modification (additions underlined; deletion stricken):
Please see attachment.

Respond to the following questions:

1. How is the local amendment more stringent than the minimum standards described in the FBC?

   This Amendment exceeds minimum standards by reducing plumbing fixture water flow rates currently required by the Florida Building Code “Plumbing” thereby increasing water conservation standards.

2. Demonstrate or provide evidence or data that the geographical jurisdiction governed by the local governing body exhibits a local need to strengthen the FBC beyond the needs or regional variation addressed by the FBC.

   Water conservation is an essential part of the Broward water supply plan and implementation of high efficiency plumbing requirements is supported by the Broward County Board of County Commissioners, the Broward League of Cities and the Broward Water Resources Task Force. The Biscayne Aquifer is the primary source of drinking water for all of Broward County and offers the lowest cost water supply for the region. However, concerns about future water availability resulted in the permanent restrictions on withdrawals from this Aquifer while saltwater intrusion limits withdrawals from two coastal well fields and threatens several others. Efforts to conserve water are essential to preserving the capacity of existing water sources while reducing the need to develop alternative water supplies which will impose a substantial cost to rate payers.
3. Explain how the local need is addressed by the proposed local amendment.

   This modification will help reduce the water demands on our Biscayne Aquifer while not creating a health or inconvenience problem for the residents of this area.

4. Explain how the local amendment is no more stringent than necessary to address the local need.

   The local need of water conservation is very serious as mandated by the Broward Commission. The establishment of this amendment is only one of the means to help prevent a water shortage situation.

5. Are the additional requirements discriminatory against materials, products, or construction techniques of demonstrated capabilities?

   Due to the advancement in technology by all Plumbing Fixture manufacturers and the need for additional water conservation, this amendment would have little to no recognizable impact on materials, products or construction developments.

6. Indicate whether or not additional requirements introduce a new subject not already addressed in the FBC.

   This amendment is modifying existing verbiage of the Florida Building Code “Plumbing”, therefore it does not address a new subject.

7. Include a fiscal impact statement which documents the costs and benefits of the proposed amendment. Criteria for the fiscal impact statement shall include a, b, and c:
   a) Impact to local government, relative to enforcement.
   b) Impact to property and building owners relative to cost of compliance.
   c) Impact to industry relative to the cost of compliance

   a) No impact.
   b) This modification will reduce impact fees charged by Broward County.
   c) No impact.

Broward BORA Public hearing and Vote 3/15/2012

Amendment Effective date: 6/1/2012