

Chapter 300. Buildings

Article 3. Water Efficiency Code Requirements
~~Flow Rate Restrictions on Plumbing Fixtures~~

Sec. 303-1. Purpose

It is the purpose of this article to:

- A. Codify the adoption of a local amendment to the Georgia State Minimum Standard Plumbing Code (2018 International Plumbing Code with Georgia State Amendments) by adopting the Metro Water District-Water Efficiency Code Requirements per Action Item: Water Supply Water Conservation-8 (page 5-55) of the Water Resources Management Plan (Dec 2022) for the Metropolitan North Georgia Water Planning District for buildings in the City of Snellville, Georgia; Require the use of ultra low-flow plumbing fixtures in all new construction or when replacing plumbing fixtures during renovation or remodeling of existing buildings;
- B. Ensure the long-term availability, reliability, and resiliency of water supplies for the City of Snellville;
- ~~B.C.~~ Require the certification of plumbing fixtures regarding flow rates and serviceability standards;
- ~~C.D.~~ Promote compliance with State laws for the purpose of conserving water;
- ~~D.E.~~ Maintain the integrity of drinking water supplies; and
- ~~E.F.~~ Reduce wastewater flows.

Sec. 303-2. Amended Chapters and Sections of the Georgia State Minimum Standard Plumbing Code
Definitions

The following chapters and sections of the 2018 International Plumbing Code are included in the local amendment:

- 1. Chapter 2 Definitions, Section 202 General Definitions
- 2. Chapter 6 Water Supply and Distribution, Section 604.4 Maximum Flow and Water Conservation
 - a. 604.4.1 Clothes Washers
 - b. 604.4.3 Cooling Tower Water Efficiency
 - i. 604.4.2.2.1 Once-Through Colling
 - ii. 604.4.2.2 Cooling Towers and Evaporative Coolers
 - iii. 604.4.2.3 Cooling Tower Makeup Water
 - c. 604.4.3 Landscape Irrigation System Efficiency Requirements
 - i. 604.4.3.1 Avoiding Water Waste Through Design
 - ii. 604.4.3.2 Landscape Irrigation System Required Components

~~3. Chapter 13, Nonpotable Water Systems, Section 1304 Reclaimed Water Systems, Section 1304.3.2 Connections to Water Supply~~

~~4. Appendix E Sizing of Water Piping Systems, Section E101.1.2 Scope~~
~~The following words, terms and phrases, when used in this article, will have the following meanings, except where the context clearly indicates a different meaning:~~

~~**Commercial building.** Any type of building other than residential.~~

~~**Construction.** The erection of a new building or the alteration of an existing building in connection with its repair or renovation, or in connection with making an addition to an existing building and includes the replacement of a malfunctioning, unserviceable or obsolete faucet, showerhead, toilet or urinal in an existing building.~~

~~**Plumbing fixtures.** Any toilet, urinal, showerhead, bathroom, lavatory and kitchen faucet and replacement aerators.~~

~~**Residential building.** Any building or unit of a building intended for occupancy as a dwelling, but not including a hotel or motel.~~

~~**Toilet.** Any fixture consisting of a water flushed bowl with a seat, used for the disposal of human waste.~~

~~**Urinal.** Any fixture consisting of a water flushed bowl used for the disposal of human waste.~~

Sec. 303-3. Definitions Standards for Fixtures

Chapter 2, Section 202 General Definitions of the 2018 International Plumbing Code is amended by adding in alphabetical order and revising, as applicable, the following definitions. The following words, terms and phrases, when used in this article, shall have the meanings ascribed to them in this section, except where the context clearly indicates a different meaning:

Commercial building. Any type of building other than residential.

Kitchen Faucet or Kitchen Faucet Replacement Aerator. Allows a flow of no more than 1.8 gallons of water per minute at a pressure of 60 pounds per square inch and conforms to the applicable requirements in ASME A112.18.1/CSA B125.1.

Landscape Irrigation.

Flow sensor. An inline device in a landscape irrigation system that produces a repeatable signal proportional to flow rate.

Lawn or Landscape Irrigation system. An assembly of component parts that is permanently installed for the controlled distribution of water to irrigate landscapes such as ground cover, trees, shrubs, and other plants. Lawn and Landscape Irrigation System refer to the same system.

Master shut-off valve. An automatic valve such as a gate valve, ball valve, or butterfly valve) installed as part of the landscape irrigation system capable of being automatically closed by the WaterSense controller. When this valve is closed water will not be supplied to the landscape irrigation system.

Pressure regulating device. A device designed to maintain pressure within the landscape irrigation system at the manufacturer’s recommended operating pressure and that protects against sudden spikes or drops from the water source.

Rain sensor shut-off. An electric device that detects and measures rainfall amounts and overrides the cycle of a landscape irrigation system so as to turn off such system when a predetermined amount of rain has fallen.

WaterSense irrigation controller. Is a weather-based or soil moisture-based irrigation controllers labeled under the U.S. Environmental Protection Agency’s WaterSense program, which includes standalone controllers, add-on devices, and plug-in devices that use current weather data as a basis for scheduling irrigation.

WaterSense spray sprinkler bodies. A sprinkler body with integral pressure regulation, generating optimal water spray and coverage labeled under the U.S. Environmental Protection Agency’s WaterSense program.

Lavatory Faucet or Lavatory Faucet Replacement Aerator. Allows a flow of no more than 1.2 gallons of water per minute at a pressure of 60 pounds per square inch and is listed to the WaterSense High Efficiency Lavatory Faucet Specification.

Residential building. Any building or unit of a building intended for occupancy as a dwelling but shall not include a hotel or motel.

Shower head. A shower head that allows a flow of no more than the average of 2.0 gallons of water per minute at 80 pounds per square inch of pressure, is listed in the WaterSense Specification for Showerheads, and meets the US Department of Energy definition of showerhead. No plumbing fixture may be installed which does not meet with the standards listed in this section or the State plumbing code, whichever is stricter. This includes all plumbing fixtures installed in newly constructed buildings or when replacing plumbing fixtures during remodeling or renovation of existing buildings, except as noted in Sec. 303-5 (Exceptions).

All plumbing fixtures installed in accordance this article may not exceed the following water use rates:

Toilets: 1.6 gallons per flush

Urinals: 1.0 gallon per flush

Showerheads: 2.5 gallons per minute, at 60 psi gauge pressure

Kitchen faucets: 2.5 gallons per minute

Bathroom and lavatory faucets: 2.0 per minute

The flow restriction device in a showerhead must be a permanent and integral part of the showerhead and must not be removable to allow flow rates in excess of that identified in A above.

Lavatory faucets located in restrooms intended for use by the general public must be of the metering or self-closing type, in addition to the flow requirement of A above.

~~The flow rates for all showerheads, kitchen, bathroom and lavatory faucets must be determined in accordance with ANSI/ASME A112.18.1M-1989 Plumbing Fixture Fittings, as amended, except that maximum flow rates may not exceed those identified in A above.~~

~~All toilets and urinals must be certified to meet the hydraulic performance standards for low consumption water closets specified in ANSI/ASME A112.19.2-1990 Vitreous China Plumbing Fixtures, as amended, and ANSI/ASME A112.19.6-1990 Hydraulic Requirements for Water Closets and Urinals, as amended.~~

~~Product Certification~~

~~The manufacturer must certify compliance with the standards listed in Sec. 303-3 (Standards for Fixtures) by labeling the fixture and packaging as set forth in this section and providing, upon request, appropriate certification by an independent national testing organization acceptable to the chief Building Official. Effective April 1, 1992, all toilets, urinals, showerheads or faucets must be clearly labeled to indicate the maximum flow rate of water usage of the fixture at the specified test pressure. Toilets and urinals must also be labeled ASME A112.19.2M, as prescribed in section 8 of such standard. The label must be affixed to the fixture and remain there until the proper building and/or plumbing inspections have been conducted. The packaging must be clearly marked to identify water use rates when offered for retail.~~

~~Exceptions~~

~~Permission for the exceptions listed in this article must be obtained from the Building Official. New construction and the repair or renovation of an existing building may be exempt from the standards set forth in Sec. 303-3 for the following:~~

~~Showers and faucets installed for safety purposes, such as emergency eye wash stations, etc.~~

~~Plumbing fixtures specifically designed for the physically handicapped.~~

~~Fixtures specifically designed to withstand unusual abuse or for installation in a correctional institution which may require more water for proper operation.~~

~~Building renovation where significant plumbing modifications would be required to accommodate the lower flows or for specialized purposes which cannot be accommodated by existing technology.~~

Sec. 303-4. Maximum Flow and Water Consumption

Chapter 6, Section 604.4 Maximum Flow and Water Consumption of the 2018 International Plumbing Code revised to read as follows:

Consistent with the general approach taken in Georgia, these Maximum Flow and Water Consumption requirements and related definitions in Section 604.4 of the plumbing code shall apply to all plumbing systems, including those in one- and two-family dwellings. The maximum water consumption flow rates and quantities for all plumbing fixtures and fixture fittings shall be in accordance with Table 604.4.

Exceptions:

1. Blowout design water closets having a water consumption not greater than 3-1/2 gallons (13 L) per flushing cycle.
2. Vegetable sprays.

3. Clinical sinks having a water consumption not greater than 4-1/2 gallons (17 L) per flushing cycle.
4. Laundry tray sinks and service sinks.
5. Emergency showers and eye wash stations.

TABLE 604-4
MAXIMUM FLOW RATES AND CONSUMPTION FOR
 PLUMBING FIXTURES AND FIXTURE FITTINGS

<u>PLUMBING FIXTURE OR FIXTURE FITTING</u>	<u>MAXIMUM FLOW RATE OR QUANTITY^b</u>
<u>Lavatory faucet and replacement aerators, private</u>	<u>WaterSense Labeled & 1.2 gpm at 60 psi^f</u>
<u>Lavatory faucet, public (metering)</u>	<u>0.25 gallon per metering cycle</u>
<u>Lavatory, public (other than metering)</u>	<u>0.5 gpm at 60 psi</u>
<u>Showerhead^a</u>	<u>WaterSense Labeled & 2.0 gpm at 80 psi^f</u>
<u>Kitchen faucet and replacement aerators</u>	<u>1.8 gpm at 60 psi^{f, g}</u>
<u>Urinal</u>	<u>0.5 gallon per flushing cycle^f</u>
<u>Water closet</u>	<u>1.28 gallons per flushing cycle^{c, d,} e, f</u>

Table footnotes:

For SI: 1 gallon = 3.785 L, 1 gallon per minute = 3.785 L/m,

1 pound per square inch = 6.895 kPa.

- a. A hand-held shower spray is a shower head. As point of clarification, multiple shower heads may be installed in a single shower enclosure so long as each shower head individually meets the maximum flow rate, the WaterSense requirements, and the US Department of Energy definition of showerhead. However, multiple shower heads are not recommended for water efficiency purposes.
- b. Consumption tolerances shall be determined from referenced standards.
- c. For flushometer valves and flushometer tanks, the average flush volume shall not exceed 1.28 gallons.

- d. For single flush water closets, including gravity, pressure assisted and electro-hydraulic tank types, the average flush volume shall not exceed 1.28 gallons.
- e. For dual flush water closets, the average flush volume of two reduced flushes and one full flush shall not exceed 1.28 gallons.
- f. See 2014 GA Amendment to Section 301.1.2 'Waiver from requirements of high efficiency plumbing fixtures'.
- g. Kitchen faucets are permitted to temporarily increase the flow above the maximum rate, but not to exceed 2.2 gpm (8.3 L/m) at 60 psi (414 kPa) and must revert to a maximum flow rate of 1.8 gpm (6.8 L/m) at 60 psi (414 kPa) upon valve closure.

604.4.1 Clothes Washers. Residential clothes washers shall be in accordance with the Energy Star program requirements.

604.4.2 Cooling Tower Water Efficiency.

604.4.2.1 Once-Through Cooling. Once-through cooling using potable water is prohibited.

604.4.2.2 Cooling Towers and Evaporative Coolers. Cooling towers and evaporative coolers shall be equipped with makeup water and blow down meters, conductivity controllers and overflow alarms. Cooling towers shall be equipped with efficiency drift eliminators that achieve drift reduction to 0.002 percent of the circulated water volume for counterflow towers and 0.005 percent for crossflow towers.

604.4.2.3 Cooling Tower Makeup Water. Water used for air conditioning, cooling towers shall not be discharged where the hardness of the basin water is less than 1500 mg/L. **Exception:** Where any of the following conditions of the basin water are present: total suspended solids exceed 25 ppm, CaCO₃ exceeds 600 ppm, chlorides exceed 250 ppm, sulfates exceed 250 ppm, or silica exceeds 150 ppm.

604.4.3 Landscape Irrigation System Efficiency Requirements. The requirements in Section 604.4.3 apply to all new landscape irrigation systems connected to the public water system except those (a) used for agricultural operations as defined in the Official Code of Georgia Section 1-3-3, (b) used for golf courses, and (c) dependent upon a nonpublic water source. Nothing in this Code or this Section 604.4.3 is intended to require that landscape irrigation systems must be installed at all premises. The landscape irrigation efficiency requirements in this Section 604.4.3 apply only when someone voluntarily chooses, or is otherwise required by some requirement beyond this Code, to install a landscape irrigation system on premises.

604.4.3.1 Avoiding Water Waste Through Design. All new landscape irrigation systems shall adhere to the following design standards:

1. Pop-up type sprinkler heads shall pop-up to a height above vegetation level of not less than four (4) inches above the soil level when emitting water.
2. Pop-up spray heads or rotary sprinkler heads must direct flow away from any adjacent surfaces and must not be installed closer than four inches from impervious surfaces.

3. Areas less than ten (10) feet in width in any direction shall be irrigated with subsurface irrigation or by other means that produces no overspray or runoff.
4. Narrow or irregular shaped landscaped areas, less than four (4) feet in any direction across opposing boundaries shall not be irrigated by any irrigation emission device except sub-surface or low flow emitters with flow rates not to exceed 6.3 gallons per hour.

604.4.3.2 Landscape Irrigation System Required Components. All new landscape irrigation systems shall include the following components:

1. A rain sensor shut-off installed in an area that is unobstructed by trees, roof over hangs, or anything else that might block rain from triggering the rain sensor shutdown.
2. A master shut-off valve for each controller installed as close as possible to the point of connection of the water but downstream of the backflow prevention assembly.
3. Pressure-regulating devices such as valve pressure regulators, sprinkler head pressure regulators, inline pressure regulators, WaterSense spray sprinkler bodies, or other devices shall be installed as needed to achieve the manufacturer’s recommended pressure range at the emission devices for optimal performance.
4. Except for landscape irrigation systems serving a single-family home, all other systems must also include:
 - (a) a WaterSense irrigation controller; and
 - (b) at least one flow sensor, which must be installed at or near the supply point of the landscape irrigation system and shall interface with the control system, that when connected to the WaterSense controller will detect and report high flow conditions to such controller and automatically shut master valves. The flow sensor serves to aid in detecting leaks or abnormal flow conditions by suspending irrigation. High flow conditions should be consistent with manufacturers’ recommendations and specifications.

Sec. 303-5. Nonpotable Water Systems

Chapter 13 Nonpotable Water Systems, Section 1304 Reclaimed Water Systems of the 2018 International Plumbing Code is revised to read as follows:

1304.3.2 Connections to water supply. Reclaimed water provided from a reclaimed wastewater treatment system permitted by the Environmental Protection Division may be used to supply water closets, urinals, trap primers for floor drains and floor sinks, water features and other uses approved by the Authority Having Jurisdiction, in motels, hotels, apartment and condominium buildings, and commercial, industrial, and institutional buildings, where the individual guest or occupant does not have access to plumbing. Also, other systems that may use a lesser quality of water than potable water such as water chillers, carwashes or an industrial process may be supplied with reclaimed water provided from a reclaimed wastewater treatment facility permitted by the Environmental Protection Division.

The use of reclaimed water sourced from any new private reclaimed wastewater treatment system for outdoor irrigation shall be limited to golf courses and agriculture operations as defined in the Official Code of Georgia Section 1-3-3, and such reclaimed water shall not be approved for use for irrigating any other

outdoor landscape such as ground cover, tree, shrubs, or other plants. These limitations do not apply to reclaimed water sourced from existing private reclaimed water systems or from existing or new, governmentally-owned reclaimed wastewater treatment systems.

Appendix E, Section E101.1.2. Because of the variable conditions encountered in hydraulic design, it is impractical to specify definite and detailed rules for sizing of the water piping system. Accordingly, other sizing or design methods conforming to good engineering practice standards are acceptable alternatives to those presented herein.

Without limiting the foregoing, such acceptable design methods may include for multi-family buildings the Peak Water Demand Calculator from the IAPMO/ANSI 2020 Water Efficiency and Sanitation Standard for the Built Environment, which accounts for the demands of water-conserving plumbing fixtures, fixture fittings, and appliances. If future versions of the Peak Water Demand Calculator including other building types, such as commercial, such updated version shall be an acceptable design method.

~~Sec. 303-4.~~ Sec. 303-6. Violation; Citation, Penalty

A citation for a violation of this article may be issued by the Building Official or their authorized representative. Any person violating this article will be tried before the municipal court. Upon conviction, such person found guilty of a violation of this article will be punished as provided in Sec. 1-11 of the Snellville Code of Ordinances.

~~Sec. 303-5.~~ Sec. 303-7. Compliance and Enforcement

- A. In addition to the penalty provided in Sec. 303-6 above, the City may take the following actions to compel compliance with this article and may maintain an action or proceeding in any court of competent jurisdiction to compel compliance with or restrain any violation of this article:
 1. Compliance with the requirements for installation and labeling at the time of installation in Sec. 303-3 will be determined by the chief Building Official or their agent in cases of new or replacement plumbing fixture installations, and compliance will be a condition for receipt of any occupancy permit.
 2. The appropriate water authority or water service agency may deny any service connection to an establishment which does not comply with the standards set forth in Sec. 303-3.
- B. Compliance with the requirements in Sec. 303-4 ~~Sec. 303-4~~ regarding the labeling of plumbing fixtures offered for retail sale will be determined by the chief Building Official or their agent. The agency will have access to all establishments which offer for sale or sell such plumbing fixtures for purposes of determining compliance with Sec. 303-4. ~~Sec. 303-4~~.