

Spotsylvania County Water Conservation Policy

Background:

As Spotsylvania's population grows and water demands increase, it is becoming increasingly important to manage not only the water supply and treatment, but also the demand on an ongoing basis. The Board of Supervisors authorized the Director of Utilities/Public Works to establish a comprehensive Green Initiative and Water Conservation Program under Chapter 22 Section 22- 140 of the Spotsylvania County Code as a proactive approach to demand management. The ultimate goal of water conservation is not to prevent water use, but to maximize efficiency and the benefit from each gallon used. Thus, efficient water use is often considered the minimum amount of water that is technically and economically feasible to achieve an intended function.

The benefits of a successful water conservation program will:

- Mitigate short-term supply deficiencies and not only assist with protecting water supply during drought, but over time help eliminate future need for water use restrictions during periods of peak demand.
- Reduce the capital investment required to balance supply and demand by allowing smaller expansions and to be constructed later in time;
- Ease the County's need for additional short-term and long-term storage capacity by reducing high peak demands. The County conducted a study to determine appropriate conservation programs based on the County's demand projections and customer characteristics. The following sections describe the programs identified by the study that will result in decreased peak demands and more efficient water use in the County.

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Definitions:

The following words, terms, phrases, and abbreviations, when used in this document, shall have the meanings ascribed to them in this section, except where the context clearly indicates a different meaning:

Auxiliary Meter - meter designated for irrigation use only and supplying water solely to an automated irrigation system.

Availability Fee - those water or sewer service initiation fees that are collected primarily to recover or accumulate the capital investment costs of the county's existing and future waterworks or sewerage works facilities.

Backflow Prevention Device ("device") - any county approved device intended to prevent backflow into a waterworks.

Connection Fee - the component of the service initiation fee that is intended to recover the costs of installation of the facilities required to extend service from an adjoining water or sewer main to the user's property. For water service, such facilities include but are not limited to the

Spotsylvania County Water Conservation Policy

water service tap to the public main, water service line, and the meter setting for water service. For sewer service, such facilities include, but are not limited to, the sewer service tap to the sewer main, and the sewer lateral and property line cleanout.

Director - Director of Utilities/Public Works or his/her designee

Meter Fee - the component of the service initiation fee that is intended to recover the costs of supplying and installing the water meter including radio-reading and touch-reading equipment in the meter setting.

Monthly Baseline Winter Quarter Use - the average monthly water use as determined by the total use for the months of December January, February divided by three (3).

Primary Meter – meter supplying all non-irrigation water needs

Residential Dwellings - buildings or facilities intended for non-transient use as complete independent living facilities which include permanent provisions for living, cooking, eating, sleeping, and sanitation. Residential dwellings shall include but not necessarily be limited to single-family detached dwellings, single-family attached dwellings, mobile homes, apartments, and townhouses.

Water conservation - the beneficial reduction in water use, waste, and loss.

Water loss - water that does not make it to the point of intended use.

Water waste - water that meets an intended use, but may not be considered efficient.

Abbreviations:

AA - Annual Average

ADF - Average Daily Flow (same as Annual Average flow)

BMP Policy - program, practice, rule, regulation or ordinance or the use of devices which results in more efficient use or the conservation of water

CWS - Community Water System

gpd - Gallons per Day

gpcd - Gallons per Capita per Day

gpf – Gallons per Flush

gpm - Gallons per Minute

MG - Million Gallons

mgd - Million Gallons per Day

PWSID - Public Water System Identification

VDEQ - Virginia Department of Environmental Quality

VDH - Virginia Department of Health

VWP - Virginia Water Protection (Permit)

WTP - Water Treatment Plant

Spotsylvania County Water Conservation Policy

Voluntary Residential Irrigation Program

General:

Spotsylvania County recognizes that the installation of a well-designed and maintained underground irrigation system can minimize the quantity of water applied to landscapes by delivering water to exactly where it is needed at a time when water is least likely to be lost to evaporation and during non-peak usage hours. The Voluntary Irrigation Certification Program (ICP) is adopted as a part of the Green Initiative and Water Conservation Program for residences and located in Spotsylvania County. The intent of the program is to establish general operating standards for irrigation systems installed at residential dwellings which will encourage water conservation and the responsible use of water.

Application:

Residential customers in Spotsylvania County may apply to participate in the voluntary certification program. The ICP shall be administered by the Spotsylvania County Department of Utilities/Public Works. The Application Form shall be completed and submitted to the Spotsylvania County Department of Utilities/Public Works.

Residential water audit:

An applicant applying to participate in the ICP is subject to an irrigation system water audit by the department, or its representative, to determine that the residence meets all appropriate criteria and operating standards. Audits shall be conducted at reasonable times and will be coordinated with the homeowner.

Fees and Charges:

There are no application fees or annual renewal fees. The homeowner will be charged the cost of a replacement meter if a device or pump is installed on the irrigation line that causes damage to the County-owned meter that services the irrigation system.

Irrigation Meters:

All irrigation systems participating in the ICP shall be served by a dedicated service connection and meter known as an "auxiliary meter". Spotsylvania County will make all connections to its water mains and will specify the location, kind, and quality of all materials entering into the service connection. All of the property's non-irrigation water needs must be served by a "primary meter." Dedicated irrigation meters will be deemed "auxiliary meters." To qualify for the ICP the property must have a "primary meter" that serves non-irrigation water needs. An "auxiliary meter" will be installed by Spotsylvania County for a one-time connection fee. The auxiliary meter is exempt from any other availability, meter, and connection fees as set forth in Chapter 22 provided that a primary meter serves non-irrigation water to the property. The fee for both new meter installation and retrofit applications is the meter fee plus an additional \$200.00.

Spotsylvania County Water Conservation Policy

Operating Standards:

To ensure the safety and efficiency of all irrigation systems participating in the ICP, the system shall have an operational backflow device, rain sensor, and smart irrigation (ET) controller.

Willful Waste of Water

Water shall be used only for beneficial purposes and shall not be wasted. Spotsylvania County reserves the right to discontinue water service to any customer after five days notice upon the willful or wasteful use of water. Willful and wasteful use of water includes, but is not limited to the following:

- 1) Applying more water than is reasonably necessary to establish and maintain a healthy landscape. Routine watering of turf shall be limited to three days per week, except for watering for up to 21 days to establish new turf from sod or seed.
- 2) Watering with spray irrigation between the hours of 9:00 a.m. and 7:00 p.m. during the period from May 1 to October 1, except for the following uses:
 - a) Watering for up to 21 days to establish turf from seed or sod.
 - b) Watering new plant material such as flowers, trees, and shrubs on the day of planting.
 - c) Watering deemed essential to preserve turf subject to heavy public use.
- 3) Watering landscaped areas during rain or high wind.
- 4) Applying water intended for irrigation to an impervious surface, such as a street, parking lot, alley, sidewalk, or driveway.
- 5) Allowing water to pool or flow across the ground or into any drainage way, such as gutters, streets, alleys or storm drains.
- 6) Failing to repair, for a period of more than ten business days after notice, leaking or damaged irrigation components, service lines, or other plumbing fixtures.

Rain Sensors

- 1) Required installation: Rain sensors shall be installed on all participating irrigation systems that will receive water from Spotsylvania County.
- 2) Required maintenance: All rain sensors shall be adjusted and set so that they automatically shut-off the irrigation system in response to one-fourth (1/4) inch of rainfall. All rain sensors shall be installed according to the manufacturer's instructions in a location that will provide full exposure to rainfall such that accuracy of operation is assured and shall be maintained in good working condition. No person shall with the intent of circumventing the purpose of this section, adjust either the rain sensor or irrigation system so that the rain sensor is not able to override and turn-off the irrigation system in response to one-fourth (1/4) inch of rainfall.
- 3) Responsibility of owner for inspection: The Director of Utilities/Public Works or his designee shall require the owner, or designee, of any premises where rain sensors are installed to inspect these devices to ensure that they are installed and maintained to turn-off the irrigation system in response to one-fourth (1/4) inch of rainfall. Results of such

Spotsylvania County Water Conservation Policy

tests shall be sent to the office of the Director of Utilities/Public Works. The devices shall be inspected and repaired, overhauled, or replaced as required at the expense of the water user. An inspection report with these results shall be submitted to the Director or his designee at the same time the backflow inspection report is submitted for an irrigation system as required by Sec. 22-187 of the County Code.

Smart Irrigation (ET) Controllers

- 1) Required installation: Smart Irrigation (ET) Controllers shall be installed on all participating irrigation systems that will receive water from Spotsylvania County.
- 2) Required maintenance: When installed and programmed properly, smart irrigation controllers utilize local site conditions such as soil moisture, evaporation, plant transpiration, sunlight, temperature, and humidity to calculate the amount of water that should be applied to the landscape. All smart controllers must have gone through the Irrigation Associations Smart Water Application Technology (SWAT) testing protocol and obtained a mean average for 6 test zones of 100% in Irrigation Adequacy and a mean average for 6 test zones of 0% in Irrigation Excess. All smart controllers must be installed and programmed according to the manufacturer's specifications.
- 3) Responsibility of owner for inspection: The Director or his designee shall require the owner, or designee, of any premises where Smart Irrigation (ET) Controllers are installed to inspect these devices to ensure that they are installed, maintained, and programmed according to the manufacturer's specifications. Results of such tests shall be sent to the Director. The devices shall be inspected and repaired, overhauled, or replaced as required at the expense of the water user. An inspection report with these results shall be submitted to the Director or his designee at the same time the backflow inspection report is submitted for an irrigation system as required by Sec. 22-187 of the County Code.

Water Emergencies

Auxiliary meters serving irrigation systems are subject to discontinuance of service during a water emergency declared by Spotsylvania County.

Fee exemptions for Auxiliary Meters:

All irrigation systems that meet the operating standards of the Voluntary Irrigation Certification Program will be subject to the Non-Residential Irrigation Meter Service Rate as set forth in Chapter 22 of the Spotsylvania County Code and not the Residential Meter Service Rate. Participating systems will not be subject to sewage fees. Participating systems will be subject to the rates in Sec. 22-205 during a Water Conservation Emergency. All systems that fail to meet the operating standards of the Voluntary Irrigation Program will be subject to Residential Meter Service Rates as well as applicable sewerage fees.

Connections to Irrigation Systems:

Spotsylvania County will make all connections to its water mains and will install the County-owned meter setting and meter. It will be the responsibility of the owner to connect the

Spotsylvania County Water Conservation Policy

irrigation system to the meter. The owner, or their authorized agent/contractor, shall not install any devices or pumps on the irrigation line. If such activity takes place that causes damage to the County-owned meter that services the irrigation system, the homeowner will be charged for the cost of a replacement meter and the Irrigation Certification may be revoked.

Violations:

The Director, or his designated agent, shall notify the owner, or an authorized agent of the owner, of any premises on which there is found a violation of these rules and regulations, of such violation. Such notice shall be in writing and shall set a reasonable time for the owner to have the violation corrected. The irrigation system shall not be operated until such time as the violation is corrected. The Director may terminate or deny water service to any premises where the irrigation system continues to be operated without the correction of noted defects.

Future Requirements:

As technology changes for irrigation systems, so will Irrigation Certification Program operating standards. All systems participating in the Voluntary ICP will be subject to changes in the operating standards.

Spotsylvania County Water Conservation Policy

Voluntary Car Wash Certification Program

General:

The Carwash Certification Program (CCP) is adopted as a part of the Green Initiative and Water Conservation Program for the carwash facilities located in Spotsylvania County. The intent of the CCP is to establish general operating standards for the various kinds of carwashes; which will encourage water conservation and the efficient and responsible use of water in all aspects of the industry.

Application:

Carwash facilities in Spotsylvania County may apply to participate in the certification program. The CCP shall be administered by the Spotsylvania County Department of Utilities/Public Works (Department). The Application Form shall identify each Carwash facility seeking designation, shall state its average daily water usage, the type of water reclaim equipment in use, and how the reclaimed water is used in the wash process. The applicant shall certify compliance with the criteria applicable to the particular type of carwash operation.

Inspection:

An applicant applying to participate in the CCP is subject to inspection by the department, or its representative, to determine that the facility meets all appropriate criteria. Inspections shall be conducted at reasonable times and may be conducted without notice. Inspections shall be conducted annually at a minimum. If during an inspection, it is discovered that a participant's carwash is not in compliance with the applicable criteria, the department shall:

- 1) Issue a notice to the owner of the facility specifying the criteria not in compliance and providing 14 days for the facility to repair the deficiencies, or additional time that may be appropriate under the circumstances.
- 2) If the reported deficiencies are not repaired in the appropriate time period, the department shall revoke the certificate of participation of the Carwash and shall require removal of signage advertising participation in the CCP. The carwash facility will not be eligible for any conservation rate reductions or rebates.

Fees and Charges:

An applicant to the CCP shall pay to the department:

- 1) An application fee of \$100;
- 2) An annual renewal fee of \$100.

Monthly Water User Rate Reduction Charges for Conservation:

Car washes in good standing that meet the criteria of the carwash certification program will be entitled to exemptions from tier 4 level water rates as currently stated in chapter 22

Spotsylvania County Water Conservation Policy

section 22-128 of the Spotsylvania County Code provided that the monthly use does not exceed the established monthly baseline winter quarter use by more than 15% as defined in the Conservation Program and Policy.

Operating Standards:

General Standards

- All carwashes, self-serve, in-bay automatic, and conveyor shall meet the following criteria:
- All water-using devices must be maintained to original or improved specifications for the conservation of water.
- All spray nozzles must be replaced annually with stainless steel or hard ceramic nozzles to ensure maximum efficiency.
- All water leaks must be repaired as they occur.
- All toilets utilized at the facility must use no more than 1.6 gallons per flush.
- All hoses or faucets that are in use must be attended or shut off.
- All driveways or impervious surfaces should be cleaned by sweeping for purposes other than health and safety.
- Driveways may be washed with high pressure, low volume systems for health and safety purposes only.
- All spot-free reverse osmosis concentrate (if such system is in place) must be reused in the wash water holding tank.
- Oil-water separators must be in proper working order.
- Remain in good standing with County Wastewater Compliance.
- Submit yearly pumping receipts showing quarterly manifest of sump serviced by the licensed waste hauler.
- Each employee shall be given written and oral information and training when hired to ensure a better understanding of sound water conservation practices as it relates to applicable employment responsibilities.

Additional Self-Service Carwash Criteria

- All chamois wringer sinks must have positive shut-off valves.
- All high-pressure wash nozzles and pump systems shall be calibrated to flows no greater than 3 gallons per minute. This may be achieved by replacing existing nozzles with a reduced size nozzle and adjusting the pressure generated by the pumps as needed.
- To alleviate misunderstandings for waste disposal, mandatory signs prohibiting the dumping of vehicle/household fluids must be posted in an effort to lessen these types of practices.
- All wash wands must incorporate nozzle protectors at all times.

Additional In-Bay Automatic Carwash Criteria

- A chamois wringer sink shall be equipped with positive shut-off valves;

Spotsylvania County Water Conservation Policy

- Where feasible, a 5 second dwell time shall be created before the customer's vehicle exits the bay to enable water to run off the vehicle into the bay collection pit;
- Reclaim Water Requirement: a minimum of 20% of the water used in the wash process shall be reclaimed water.
- Direction of spray and timing shall be properly set and shut off when no longer in contact with a vehicle.
- Basic wash package shall use no more than 40 gallons.
- Premium wash package shall use no more than 75 gallons

Additional Conveyor Carwash Criteria

- Automatic high-level shut-off valves shall be installed in all towel and chamois washing machines;
- Reclaim Water Requirement: a minimum of 50% of the water used in the wash process shall be reclaimed water.

Signage and Advertising:

- 1) A certified carwash may display signage, approved by the Department, advertising that the Carwash is certified as participating in the CCP.
- 2) A certified carwash may be identified on a list published by the Department advertising that the carwash is certified in the CCP.
- 3) A certified carwash may use a logo or phrase, approved by the Department, in advertising, mailings, and other promotional material indicating that the carwash is certified as participating in the CCP.
- 4) The Department will work with the CCP certified carwash to develop promotional programs such as a carwash coupon incentive program, charity car wash events, and other promotional programs to promote the use of the facility.

Emergency Water Conservation Measures Condition 1:

During a Water Emergency declared by the County Administrator in accordance with Sec.22-205 of the County Code, the certified carwash will: 1. Use only reclaimed water to irrigate landscaping;2. Clean all driveways and impervious areas by sweeping instead of washing;3. Adjust each high-pressure pump to a maximum of 1,000 psi.

Emergency Water Conservation Measures Condition 2:

During a Water Emergency declared by the County Administrator in accordance with Sec.22-205 of the County Code, all certified licensed carwash facilities, except self-service carwashes, shall use a minimum of 40% reclaimed water in the wash process.

Emergency Water Conservation Measures Condition 3:

During a Water Emergency declared by the County Administrator in accordance with

Spotsylvania County Water Conservation Policy

Sec.22-205 of the County Code, all certified licensed carwashes shall reduce water consumption by the percentage required of other commercial water users.

Spotsylvania County Water Conservation Policy

Voluntary Restaurant Certification Program

General:

The Restaurant Certification Program is adopted as a part of the Green Initiative and Water Conservation Program for restaurants located in Spotsylvania County.

Application:

Restaurants in Spotsylvania County may apply to participate in the certification program. The Restaurant Certification Program shall be administered by the Spotsylvania County Department of Utilities/Public Works. The Application Form shall be completed and submitted to the Spotsylvania County Department of Utilities/Public Works. The make and model of the following equipment must be included in the application: Pre-rinse spray valves, toilets, and ice machines.

Inspection:

An applicant applying to participate in the Certification Program is subject to inspection by the department, or its representative, to determine that the facility meets all appropriate criteria. Inspections shall be conducted at reasonable times and may be conducted without notice. Inspections shall be conducted annually at a minimum. If during an inspection, it is discovered that the participating restaurant is not in compliance with the applicable criteria, the department shall:

- 1) Issue a notice to the owner of the facility specifying the criteria not in d providing 14 days for the facility to repair the deficiencies, or additional time that may be appropriate under the circumstances.
- 2) If the reported deficiencies are not repaired in the appropriate time period, the department shall revoke the certificate of participation.

Fees and Charges:

An applicant to the Certification Program shall pay to the department:

- 1) An application fee of \$100; and;
- 2) An annual renewal fee of \$100.

Monthly Water User Rate Reduction Charges for Conservation:

Restaurants in good standing that meet the criteria of the restaurant certification program will be entitled to exemption from tier 4 level water rates as currently stated in chapter 22 section 22-128 of the Spotsylvania County Code provided that the monthly use does not exceed the established monthly baseline winter quarter use by more than 10% as defined in the Conservation Program and Policy.

Spotsylvania County Water Conservation Policy

Operating Standards:

- 1) Participating Restaurants must utilize the following equipment:
 - a) All pre-rinse spray valves must be less than 1.6 gallons per minute.
 - b) All toilets must be 1.6 gallons per flush or less.
 - c) All ice machines must be air-cooled.
- 2) Restaurants with lawn irrigation systems must participate in the irrigation system certification program and the irrigation system must be in good standing under the irrigation program.

Signage and Advertising:

- 1) A certified restaurant may display signage, approved by the Department, advertising that the restaurant is certified as participating in the Certification Program.
- 2) A certified restaurant may be identified on a list published by the Department advertising that the restaurant is certified.
- 3) A certified restaurant may use a logo or phrase, approved by the Department, in advertising, mailings, and other promotional material indicating that the restaurant is participating in the Certification Program.

Spotsylvania County Water Conservation Policy

Voluntary Hotel & Hospitality Certification Program

General:

The Voluntary Hotel and Hospitality Conservation Certification Program (HHCCP) is adopted as a part of the Green Initiative and Water Conservation Program for Hotels and hospitality service providers located in Spotsylvania County. The intent of the program is to establish general operating standards for the various kinds of hotels and hospitality centers; which will encourage water conservation and the responsible use of water.

Application:

Hotels, motels, and other hospitality centers in Spotsylvania County may apply to participate in the certification program. The HHCCP shall be administered by the Spotsylvania County Department of Utilities/Public Works. The Application Form shall be completed and submitted to the Spotsylvania County Department of Utilities/Public Works. The make and model of the following equipment must be included in the application: Toilets, ice machines, showerheads, and faucets. In addition, a verification letter stating that the hotel participated in a linen re-use program is required.

Inspection:

An applicant applying to participate in the HHCCP is subject to inspection by the department, or its representative, to determine that the facility meets all appropriate criteria. Inspections shall be conducted at reasonable times, and may be conducted without notice. Inspections shall be conducted annually at a minimum. If during an inspection, it is discovered that the participating Hotel is not in compliance with the applicable criteria, the department shall:

- 1) Issue a notice to the owner of the facility specifying the criteria not in compliance and providing 14 days for the facility to repair the deficiencies or additional time that may be appropriate under the circumstances.
- 2) If the reported deficiencies are not repaired in the appropriate time period, the department shall revoke the certificate of participation.

Fees and Charges:

An applicant to the Certification Program shall pay to the department:

- 1) An application fee of \$100; and;
- 2) An annual renewal fee of \$100.

Spotsylvania County Water Conservation Policy

Monthly Water User Rate Reduction Charges for Conservation:

Establishments in good standing that meet the criteria of the HHCCP will be entitled to exemption from tier 4 level water rates as currently stated in chapter 22 section 22-128 of the Spotsylvania County Code provided that the monthly use does not exceed the established monthly baseline winter quarter use by more than 10% as defined in the Conservation Program and Policy.

Operating Standards:

- 1) Participating establishments must utilize the following equipment:
 - a) Low-volume toilets use 1.6 gallons per flush (gpf) or less;
 - b) Dual flush toilets 1.0 gpf or less;
 - c) Low-volume showerheads (maximum of 2.5 gallons per minute (gpm) (@80 psi);
 - d) Low-volume bath faucets (maximum of 2.5 gpm (@80 psi).
 - e) All ice machines must be air-cooled.
- 2) The establishment must offer linen reuse to all customers. Re-use cards must be posted in all rooms to participate in the HHCCP.
- 3) Establishments with lawn irrigation systems must participate in the irrigation system certification program and the irrigation system must be in good standing under the irrigation program.

Signage and Advertising:

- 1) A certified Hotel may display signage, approved by the Department, advertising that the Hotel is certified as participating in the Certification Program.
- 2) A certified Hotel may be identified on a list published by the Department advertising that the Hotel is certified.
- 3) A certified Hotel may use a logo or phrase, approved by the Department, in advertising, mailings, and other promotional material indicating that the Hotel is participating in the Certification Program.

Spotsylvania County Water Conservation Policy

Residential Dwelling Certification Program

General:

The Voluntary Residential and Multi-Family Dwelling Conservation Certification Program (RMCCP) is adopted as a part of the Green Initiative and Water Conservation Program for residences and multi-family dwellings located in Spotsylvania County. The intent of the program is to establish general operating standards for the various kinds of residential units, which will encourage water conservation and the responsible use of water.

Application:

Residential customers and owners of multi-family dwellings in Spotsylvania County may apply to participate in the voluntary certification program. The RMCCP shall be administered by the Spotsylvania County Department of Utilities/Public Works at their sole discretion. The Application Form shall be completed and submitted to the Spotsylvania County Department of Utilities/Public Works.

Residential Water Audit:

An applicant applying to participate in the RMCCP is subject to a residential water audit by the department, or its representative, to determine that the residence meets all appropriate criteria and operating standards. Audits shall be conducted at reasonable times and will be coordinated with the homeowner.

Fees and Charges:

There are no application fees or annual renewal fees.

Monthly Water User Rate Reduction Charges:

Residences in good standing that meet the criteria and operating standards of the certification program will be entitled to exemption from tier 4 level water rates as currently stated in chapter 22 section 22-128 of the Spotsylvania County code for those months in which the billing cycle usage does not exceed the established baseline billing usage by more than 15%.

Operating Standards:

- 1) Participating residences must utilize the following equipment in all bathrooms:
 - a) Low-volume toilets that use 1.6 gallons per flush (gpf) or less;
 - b) Low-volume showerheads (maximum of 2.5 gallons per minute (gpm) (@80 psi);
 - c) Low-volume bath faucets (maximum of 2.5 gpm (@80 psi).

Spotsylvania County Water Conservation Policy

- 2) Residences with lawn irrigation systems must participate in the Irrigation System Certification Program and the irrigation system must be in good standing under the irrigation program.

Rebate for Toilet Upgrades:

Residences with older toilets, using more than 3.0 gallons of water per flush could be eligible for a credit on their water bill up to \$100 per toilet. To be eligible the residence must complete an application for the RMCCP and meet the criteria set forth in the operating standards at the time of the residential water audit.