

AWWA Best Practices  
Various Municipalities  
2009 (DRAFT)

AWWA Best Practices	Charlottesville, VA	ACSA	James City County, VA	Loudoun County, VA
<b>Regional integration of water supply and conservation planning</b>	Work with RWSA and ACSA on Drought Plan, Drought Notification Plan, Water Conservation Plan, 50 Year Water Supply Plan, System Modeling	Work with RWSA and City on Drought Plan, Drought Notification Plan, Water Conservation Plan, 50 Year Water Supply Plan and continued development of Comprehensive Water System Modeling	Partners with other cities and counties with Hampton Roads Sanitation District	Regional drought response plan
<b>Accurately Monitor consumption and bill metered usage in timely manner</b>	Monthly billing	Monthly billing	Meter replacement program; regular water audits on system	
<b>Adopt full cost pricing and conservation rate structures</b>	Seasonal flat rate	Inclining block rate	Inclining block rate	Peak use rates
<b>Encourage conversion from existing high use fixtures</b>	Toilet rebate; free indoor conservation kits	Toilet rebate with program for multifamily housing; free indoor conservation kits	Toilet rebate; washing machine rebate; hot water recirculator rebate; dishwasher rebate	
<b>Provide water audits and technical assistance to high use residential, commercial institutional and industrial users</b>	Share information and resources with UVA; researching use of online water calculator for customers; meter readers and utility billing notify residents of unusually high usage	Researching use of online water calculator for customers; residences notified of unusually high usage; work with developers to properly size meters for efficiency; conservation program with multi-family residences; educate customers in leak detection		Online usage calculator
<b>Develop and use educational materials on local water resource issues</b>	Presentation on water conservation for homes and businesses developed and scheduled for forums in 2008 - 09. Activity books available for children and school groups	Middle school education program in City and County planned for 2009	"Let's be Water Smart" educational program; partner in "Water Use It Wisely" campaign	Partner in "Water Use It Wisely" campaign
<b>Develop and use public information for all types of customers promoting conservation</b>	Planned informational signs in Parks and Rec xeriscaped plots; City bus ads; run radio ads during peak usage months	AWWA's "Tap Water Delivers" campaign; "Water, Use It Wisely" campaign; conservation literature to new customers; joint radio and print ads with City; expand conservation program webpage		
<b>Engaging in continued research and dissemination of efficient practices</b>	Website updated regularly; plan to initiate Block Leader program (Cary, NC)	Updating website with interactive conservation software		
<b>Investigate and implement appropriate water reuse, including rainwater harvesting</b>	Rainwater Harvesting system under construction for City warehouse; rain barrel workshops held for citizens; rainbarrel making instructions available online and handouts	Partner with TJSWCD in the provision of, and education in use of, rain barrels to harvest roof run-off. Program will include either cash rebate or provision of barrel at reduced cost. To implement by Spring 2009		
<b>Demonstrate leadership by mandating conservation in all public facilities</b>	All new buildings planned with water efficiency; most City buildings retrofit with conserving fixtures	Works closely with County government to stay abreast of conservation programs		
<b>Participate in development of new efficiency standards in fixtures, appliances and equipment</b>	Became WaterSense Partner in 2008	Applied to WaterSense Partner Program in 2008	WaterSense Partner	WaterSense Partner
<b>Adopt policy and procedures to reduce water waste of all kinds</b>	Regular Leak Detection Surveys; utility billing notifies residents if usage pattern indicates leak; renewal of services with new water mains; plan carwash certification program with ACSA	On-going leak detection program; adopted carwash certification program with City (1st in the State of Virginia); researching water-efficient pool filter mandate; billing rebate for timely leak repair	All outdoor water use must use bucket or hose with shut-off valve; hoses cannot be left unattended; outdoor water use scheduled days only; require water conservation proffers for development requiring new zoning or permits; water recycling required in carwashes	
<b>Encourage Water-Wise landscaping</b>	Distribute Water-Wise literature to area nurseries and have copies online; part of radio campaign in 2008	Irrigation rain sensors required; on-site Xeriscape Garden; work with area nurseries and landscapers; provide Water-Wise literature to all new customers	Water Smart landscape rebate; rain sensor rebate; rain barrel and cistern rebate; irrigation day schedule; demonstration landscapes on county properties	Irrigation day schedule
Statement of policy reaffirmed January 2002			<a href="http://www.bewatersmart.org/">http://www.bewatersmart.org/</a>	<a href="http://www.loudounwater.org/">http://www.loudounwater.org/</a> <a href="http://loudoun.vhost.vipnet.org/government/codes.htm">http://loudoun.vhost.vipnet.org/government/codes.htm</a>

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AWWA Best Practices	Cary, NC	Athens, GA	Boston, MA	Austin, Texas
Regional integration of water supply and conservation planning				
Accurately Monitor consumption and bill metered usage in timely manner				
Adopt full cost pricing and conservation rate structures	Inclining block rate	Inclining block rate	Inclining block rate	Inclining block rate; seasonal for non single family residences
Encourage conversion from existing high use fixtures	Toilet rebate; toilet flapper rebate		Free indoor conservation kits	Toilet rebate; washer rebate; toilet replacement; pressure reducing valve rebate; commercial process improvement rebates up to \$100,000; Commercial rebates; low flow fixtures required in commercial and multi-family residences; flush tank saver and flush valve water saver required in all toilets; maximum flow rate on faucets and showerheads
Provide water audits and technical assistance to high use residential, commercial institutional and industrial users	Free residential water audits			Irrigation evaluations
Develop and use educational materials on local water resource issues	Public Education "Beat the Peak"	Short video series		Live action musical on cd for children's education
Develop and use public information for all types of customers promoting conservation				Hybrid car giveaway for conservation
Engaging in continued research and dissemination of efficient practices	Public Education "Block Leader"; AWWA and EPA recognized leader in public education efforts; created a water resources management plan			Electronic Water-Wise Newsletter emailed to 9,200+ customers; attend water efficiency conferences; periodic conservation seminars for public
Investigate and implement appropriate water reuse, including rainwater harvesting	Reclaimed water for irrigation and cooling; rain barrel sales throughout year	Rainbarrel making instructions online		Banned restrictions on rainwater harvesting (statewide); rainbarrel sales and rebates; rainwater harvesting rebate; reclaimed water project in planning phase
Demonstrate leadership by mandating conservation in all public facilities				
Participate in development of new efficiency standards in fixtures, appliances and equipment	WaterSense Partner	WaterSense Partner		WaterSense Partner
Adopt policy and procedures to reduce water waste of all kinds	Water Waste Ordinance	All outdoor water use must use bucket or hose with shut-off valve; all leaks must be repaired; washing of outdoor hardscapes prohibited		Utilities report water loss every 5 years (statewide); ordinance prohibits unrepaired leaks; stage 1 drought restrictions automatically in effect May - September
Encourage Water-Wise landscaping	Alternate Day watering ordinance; Rain Sensor Ordinance; Landscape budgets provided; permit required for automatic irrigation system; drought tolerant plants required in commercial landscapes (land development ordinance); separate irrigation meters required; turf buyback up to \$500; reduction in irrigation fees for use of warm season grasses	Designated watering days; use of broken irrigation system prohibited; irrigation run-off prohibited		HOA mandated landscaping and irrigation standards; Evapotranspiration Landscape Audit and Water Budget; ordinance prohibits irrigation run-off; ordinance prohibits damaged irrigation system operation; designated watering days; designated time of day to water
Statement of policy reaffirmed January 2002	<a href="http://www.townofcary.org/depts/pwdept/water/waterconservation/overview.htm">http://www.townofcary.org/depts/pwdept/water/waterconservation/overview.htm</a>	<a href="http://www.athensclarkecounty.com/publicutilities/">http://www.athensclarkecounty.com/publicutilities/</a>	<a href="http://www.bwsc.org">http://www.bwsc.org</a>	Tony Gregg Powerpoint on H drive; <a href="http://www.ci.austin.tx.us/water/">http://www.ci.austin.tx.us/water/</a> ; city code chapter 6-4

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APPENDIX C AWWA Best Practices	San Antonio, TX	Denver, Colorado	Santa Fe, New Mexico	San Diego, CA
Regional integration of water supply and conservation planning				Regional water control board
Accurately Monitor consumption and bill metered usage in timely manner				Bi-monthly billing
Adopt full cost pricing and conservation rate structures	Inclining block rate	Inclining block rate	Seasonal with increase of 350% after 7,000 gallons	Inclining block rate
Encourage conversion from existing high use fixtures	Free water efficient toilet; hot water on demand system rebate; washing machine rebate; large scale commercial rebate; commercial toilet retrofit; restaurant retrofits; specifications on restaurant fixtures; water cooled vacuum systems prohibited	Toilet rebate; washer rebate; ET controller rebate; urinal rebate; restaurant toilet rebate; water-cooled equipment replacement rebate; certified car wash equipment rebate; coin-op laundry equipment rebate; boiler-less steamers rebate; commercial toilet rebate: all new construction must meet conservation requirements	Washer rebate; air-cooled ice machine rebate; hot water recirculation system rebate; commercial dishwasher rebate; free pre-rinse spray nozzles for restaurants; free low-flow toilets; commercial and multi-family units must retrofit fixtures by 2007; all new construction and remodeling must meet city code conservation restrictions	Washer rebate; toilet rebate; Rebates for residential developers; water conserving upgrades for business and industry rebates; ordinance for conserving fixtures in new construction; ordinance mandating conserving fixture retrofit in all building sales
Provide water audits and technical assistance to high use residential, commercial institutional and industrial users	Free home water audit; commercial cooling tower audit		Residential surveys, leak investigation and landscape audits	Residential landscape survey; large landscape audits; irrigation system evaluation for agriculture
Develop and use educational materials on local water resource issues		Television and billboard campaign		
Develop and use public information for all types of customers promoting conservation	Non-profits raise money by getting residents to install the free toilets ; public xeriscape demonstration garden			Residents can pledge to reduce use by 20 gallons per day
Engaging in continued research and dissemination of efficient practices			Hotels, motels, and other lodging facilities shall provide a water conservation informational card or brochure in a visible location in each guest room	
Investigate and implement appropriate water reuse, including rainwater harvesting	New buildings shall have wastewater collection line to gather condensate for future utilization	Use of treated effluent in irrigation and industry	Use of treated effluent; proposed changes to development code: encourage use of gray water for irrigation and toilets; encourage use of rainwater harvesting for irrigation, require subdivisions to enable maximum stormwater use; rainbarrel rebate; water waste ordinance	Two reclamation plants for water reuse - capacity for 45 mgd; regional desalination plant under construction
Demonstrate leadership by mandating conservation in all public facilities			Public, semi-public, and governmental entities are required to post city approved water conservation signage in restroom and shower facilities	
Participate in development of new efficiency standards in fixtures, appliances and equipment	WaterSense Partner	WaterSense Partner	WaterSense Partner	WaterSense Partner
Adopt policy and procedures to reduce water waste of all kinds	Restaurant certification process; golf course certification; car wash certification; ordinance to register all power washers; cooling tower operation ordinance; new ice machines shall not be single pass water cooled; restaurants serve water only upon request; ordinance that charity car washes must be held at permanent carwash facilities	Sub-meter rebate; cooling tower controls rebate; water waste ordinance; prohibit washing of exterior hardscapes; limitations on vehicle washing; leaks must be repaired in timely manner; fountains must be recirculating; limit water cooled a/c or refrigeration;	Limitations on residential, commercial and governmental vehicle washing; outdoor swimming pools must be covered when not in use.; using water to clean hard surfaces with a hose or power washer is prohibited; minor water system leaks shall be repaired within 15 days, severe leaks shall be repaired immediately.; restaurants provide water only on request; lodging facilities shall not change the sheets and towels more than once every 4 days for guests staying more than one night; conservation info provided at all home sale closings, to new water service customers and building permit applicants	
Encourage Water-Wise landscaping	Water saver landscape rebate; Seasonal Irrigation Information Program (instruction and public notification of when to water your yard type); ordinance for installing drought tolerant grass species; ordinance requiring rain sensors on irrigation systems; large turf area annual irrigation check ordinance; no water waste in irrigation ordinance; all homebuilders / developers must offer xeriscape as a landscaping option; new in-ground irrigation systems shall be zonal; new turf grass will have a minimum soil amount underneath; new turf grass must have summer dormancy capability; irrigating only between prescribed hours	Rain sensor rebate; commercial ET controller rebate; commercial rain sensor rebate; commercial irrigation efficiency rebate program; HOA's cannot require turf; no water waste in irrigation ordinance; rain sensors required; required soil depth under turf	Outdoor irrigation prohibited 10am - 6pm; A permit is required for all new irrigation systems; irrigation run-off prohibited.; mandated turf grass mix; overhead spray irrigation is prohibited for watering trees and shrubs; shut-off nozzles are required on hoses; landscapers and nurseries must post info on Water-Wise landscaping and irrigation ordinances	Synthetic turf rebate; weather-based irrigation controller rebate; performance program: \$195/acre ft water saved; synthetic turf rebate; smart landscape grants; smart controller vouchers; rotating nozzle rebate
Statement of policy reaffirmed January 2002	<a href="http://www.saws.org/conservation/">http://www.saws.org/conservation/</a>	<a href="http://www.denverwater.org/">http://www.denverwater.org/</a>	<a href="http://www.santafenm.gov/index.asp?NID=1295">http://www.santafenm.gov/index.asp?NID=1295</a>	<a href="http://www.sandiego.gov/water/conservation/">http://www.sandiego.gov/water/conservation/</a>

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APPENDIX C

AWWA Best Practices	Santa Clara, CA	Seattle, WA	Portland, OR
<b>Regional integration of water supply and conservation planning</b>	Water recycling plant jointly owned with City of San Jose; part of Santa Clara Valley Water District with multiple other cities	Collaborates with 17 other utilities in the Saving Water Partnership	Coordinates with USDA Forest Service on watershed protection
<b>Accurately Monitor consumption and bill metered usage in timely manner</b>			
<b>Adopt full cost pricing and conservation rate structures</b>	Flat rate	Seasonal, inclining block rates	Flat rate
<b>Encourage conversion from existing high use fixtures</b>	Dishwasher rebate; indoor conservation kits; washer rebate; install free restaurant pre rinse sprayer valves; installation of low flow toilets	Free toilets to low income homes; washer rebate; urinal rebate; free indoor fixtures or rebate; commercial food steamer rebate; 50% commercial cooling and refrigeration system rebate; 50% medical equipment rebate; 50% industrial water cooling improvement rebate; commercial time of use meter rebate; broad rebate program for any commercial water saving upgrades	Free indoor conservation kits
<b>Provide water audits and technical assistance to high use residential, commercial institutional and industrial users</b>	Provides audits to top 20% of residential users	cash incentive for replacing water wasting technologies; technical assistance offered to commercial customers	Free facility surveys, phone consultations, leak detection assistance for businesses
<b>Develop and use educational materials on local water resource issues</b>	Educational coordinator for school program		Free conservation workshops for businesses; in-school program
<b>Develop and use public information for all types of customers promoting conservation</b>			
<b>Engaging in continued research and dissemination of efficient practices</b>	Water-Wise workshops each spring	The "Great Flush-Off" of 2008 for educating public on benefits of low flow toilets	
<b>Investigate and implement appropriate water reuse, including rainwater harvesting</b>	Uses recycled water for large scale irrigation, industry and new developments	Sells rain barrels	
<b>Demonstrate leadership by mandating conservation in all public facilities</b>			
<b>Participate in development of new efficiency standards in fixtures, appliances and equipment</b>		WaterSense Partner of the year 2008	City policy statement supporting continued efficiency standards nationally and statewide; WaterSense Partner
<b>Adopt policy and procedures to reduce water waste of all kinds</b>	Free leak checks for all residents; utility billing notifies residents if usage pattern indicates leak; leak detection survey; usage surveys to commercial and industrial users; efficiency rebate of up to \$50.00 for commercial and industrial customers; using water to clean hard surfaces with a hose or power washer is prohibited; restaurants provide water only on request; installation of single pass cooling system prohibited; installation of non-recirculating fountain prohibited; construction of non-recirculating conveyer carwash prohibited; Water-Wise house calls for residents		
<b>Encourage Water-Wise landscaping</b>	Educational materials in local nurseries; annual workshops for irrigation professionals; Water-Wise gardening CD-rom available ; free large landscape audits; runoff prohibited; use of broken or leaking irrigation system prohibited	Irrigation improvement rebate; plant guide and advice hotline; low water use in new landscape plans	
<i>Statement of policy reaffirmed January 2002</i>	<a href="http://santaclaraca.gov/pub_utility/ws_dept.html">http://santaclaraca.gov/pub_utility/ws_dept.html</a>	<a href="http://www.ci.seattle.wa.us/Util/Services/Water/index.asp">http://www.ci.seattle.wa.us/Util/Services/Water/index.asp</a>	<a href="http://www.portlandonline.com/water/">http://www.portlandonline.com/water/</a>