



THE COMMONWEALTH OF MASSACHUSETTS  
WATER RESOURCES COMMISSION

**Water Conservation Questionnaire for Public Water Suppliers**

Effective date: July 13, 2000

Revised: March 12, 2008

This questionnaire is based on the *Water Conservation Standards* for the Commonwealth of Massachusetts, which were approved by the Water Resources Commission (July 2006, or latest version; see Reference No. 10). The water conservation standards outline key components of a successful water conservation and demand management program, and are intended to assist communities and public water suppliers in protecting and maintaining their water supplies. Each section of this form corresponds to one of the standards, and begins with a statement of the standard, followed by a series of questions. As part of the water needs forecasting and Water Management Act permitting processes, technical staff in the Office of Water Resources (Department of Conservation and Recreation) and the Department of Environmental Protection will review this questionnaire to assess success in meeting the Water Conservation Standards and opportunities for improving water system efficiencies.

**Who should complete this questionnaire?**

- Public Water Suppliers applying for a Water Management Act permit, permit amendment or permit transfer from the Department of Environmental Protection
- Permittees undergoing a five-year review of their existing Water Management Act permit by the Department of Environmental Protection
- Public Water Suppliers requesting new or updated water needs forecasts from the Department of Conservation and Recreation, Office of Water Resources<sup>1</sup>
- Entities applying for Interbasin Transfer Approval with the Massachusetts Water Resources Commission
- Water suppliers interested in planning for demand management
- Water suppliers planning a new water source

**When completing this form please note:**

- See list of references at the end of this document.
- For specific information and background on the water conservation standards, see the latest version at [http://www.mass.gov/envir/mwrc/pdf/Conservation\\_Standards.pdf](http://www.mass.gov/envir/mwrc/pdf/Conservation_Standards.pdf) (Reference No. 10).
- If necessary, expand responses beyond the space provided and/or reference or attach appropriate plans or responses.
- Projects requiring an Interbasin Transfer (IBT) approval are subject to specific water conservation performance standards that must be met prior to approval. IBT performance standards are available at <http://www.mass.gov/dcr/waterSupply/intbasin/download.htm> (Reference No. 13).

**Questions? Contact:**

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<sup>1</sup> See *Policy for Developing Water Needs Forecasts for Public Water Suppliers and Communities and Methodology for Implementation*, December 13, 2007, at [http://www.mass.gov/envir/mwrc/pdf/121307\\_waterneedsforcast.pdf](http://www.mass.gov/envir/mwrc/pdf/121307_waterneedsforcast.pdf)



## WATER CONSERVATION QUESTIONNAIRE

### GENERAL INFORMATION ON THE PUBLIC WATER SUPPLY SYSTEM

Water Supplier: Town of Ashland PWS ID#: 3014000

Street Address: 20 Ponderosa Rd

City/Town: Ashland Zip Code: 01721

Contact Person: David Manugian Title: Department of Public works, Director

Tel.: 508-532-7941 E-mail: dmanugian@ashlandmass.com

1. Total volume of DEP Water Management-authorized water withdrawals (mgd):

(a) Registered volume: 1.23 mgd

(b) Permitted volume during each 5-year permit period:

Volume 0.11 mgd From: 1993 To: 1996

Volume 0.19 mgd From: 1996 To: 2001

Volume 0.45+0.5(Hopkinton Withdrawal) mgd From: 2001 To: 2006

Volume 0.45+0.5(Hopkinton Withdrawal) mgd From: 2006 To: 2011

Total authorized withdrawal volume (a + b) for the current year: 2.13

Permit expiration date (if applicable): 08-31-2011-Extended to 08-31-2015

2. If not registered or permitted, state total volume of water withdrawals (mgd) from the most recent Annual Statistical Report: \_\_\_\_\_

3. Is your Residential Gallons per Capita Day below 65?

Yes  No

RGPCD reported on the most recent ASR (date: 2014) is 55 gallons per capita day.

4. Is your Unaccounted-for-Water below 10%?

Yes  No

UAW reported on the most recent ASR (date: 2014) is 16.3 %.

5. Please attach a map of the municipalities served by your water supply system and outline the area served by your system.



*Note: Citations and links can be found in the list of references at the end of this document.*

**STANDARD 1.0: COMPREHENSIVE PLANNING**

**Develop a written drought management plan** that follows American Water Works Association drought management planning guidance (AWWA 2002 or latest version; Reference No. 2). Develop strategies appropriate to the system to reduce daily and seasonal peak demands and develop contingency plans to ameliorate the impacts of drought, seasonal shortages, and other non-emergency water supply shortfalls

**Develop emergency management plans.**

**Develop a written water conservation program to comply with the Water Conservation Standards** (July 2006 or latest version, Reference No. 10) and, where possible, with the recommendations outlined in that document, in the operation and management of the water supply. MassDEP Water Management permit conservation requirements are based on the state Water Conservation Standards.

**Make the above documents readily available to personnel from all municipal departments** to facilitate compliance and, if necessary, enforcement.

1. Do you have a Drought Management Plan that follows AWWA planning guidance (Reference No. 2)?

Yes  No

*If Yes*, provide a copy of the cover, table of contents, and date of the plan: \_\_\_\_\_

*If No*, do you have a schedule and timetable for developing a Drought Management Plan? \_\_\_\_\_

2. Do you have an Emergency Management Plan describing procedures for handling water emergencies?

Yes  No

*If Yes*, provide a copy of the cover, table of contents, and date of the plan: See EmergencyManagementPlanTOC.pdf

*If No*, do you have a schedule and timetable for developing an Emergency Management Plan? \_\_\_\_\_

3. Do the plans include written procedures outlining which users will be cut back, what emergency measures will be implemented which trigger points require action, and how much will be cut back in the event of a water emergency or drought?

Yes  No

*If yes*, please attach a summary or copy of the written procedures: Copy of the section of Emergency Response Plan - Core Elements, Decision Process and ERP Activation is attached. See 'ERP-Procedures.pdf'

4. Do you have a written Conservation Program that meets the conditions of your Water Management Act permit (where applicable) or Massachusetts Water Conservation Standards (July 2006 or latest version, Reference No. 10)?

Yes  No

What is the approximate cost per year of your conservation efforts, including personnel costs: \$220,000

What is the funding source(s) for these efforts? Water Enterprise

*If No*, do you have a schedule and timetable for developing a written Conservation Program? \_\_\_\_\_





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If No, when was the last time you performed system-wide leak detection? \_\_\_\_\_

How often is a 100% leak detection survey of the distribution system completed? Annually

3. Estimate how much is spent on leak detection and repairs annually or per survey: \$90,000

Yes     No    Do you include leak detection/repair as an expense of the water system?

Yes     No    Do you have funds set aside for regular maintenance?

Yes     No    Do you have funds set aside for emergency repairs?

**STANDARD 3.0: METERING**

**Ensure 100% metering of all water uses**, including water use at all municipal facilities (schools, school athletic fields, etc.). Properly size the service lines and meters for all water distribution system users to meet AWWA performance standards (Reference No. 5).

**Increase billing frequency.** For domestic accounts, bill customers on actual, not estimated, meter readings. If billing frequency is less than quarterly (i.e. annual or biannual) move to quarterly billing as soon as possible.

**Implement a water meter repair/replacement policy and program.** Replace meters by size and time based on AWWA standards and guidelines (Reference Nos. 1 and 5) available on the MassDEP website (Reference No. 8 or latest version). Establish an annual budget line item for the calibration, replacement, and repair of all sources of supply and distribution network water metering systems.

**Seal all water account metering systems** against tampering and periodically inspect to ensure water works system integrity.

**Calibrate** any meter used to record quantity, according to its type and specification.

**Properly size** water service lines and meters to handle required water volumes and ensure a high level of metering accuracy.

Water Suppliers: Establish the necessary regulations and controls to **ensure that owners of large meters (1.5 inches or greater) calibrate the meters annually** and provide the results as part of an annual reporting requirement.

1. Is your system 100% metered?

Yes     No

If No, what is not metered? \_\_\_\_\_

What steps are you taking to complete metering of your system? \_\_\_\_\_

2. Do you use an automatic or radio-read meter reading system?

Yes     No

If No, do you plan to install one?

Yes     No    When? We have a portion of our meters that are non-radio-read meters, plans to replace all old meters are in place for the beginning of 2017.    Projected cost? 1,000,000



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3. Are all public-sector facilities billed for their water use?

Yes     No

4. Are any accounts not billed?

Yes     No

*If Yes, what types of accounts are not billed? Water, Sewer and Irrigation for the Northeastern Campus, because they have allowed for the Sewer Enzyme treatment for our system to be pumped from their site. Water in the treatment plant office is not billed.*

5. Do you bill based on actual meter readings, not estimated use?

Yes     No

*If No, what steps are you taking to bill based on actual meter readings? Only 1.04% of bills are Estimated billing, we have sent letters and notifications to property owners and advised them to replace old meters that can save billing costs.*

6. Do you bill residential customers at least quarterly?

Yes     No

7. How often do you bill large users (1.5-inch meter or larger)?

Annually     Biannually  
 Quarterly     Monthly     Other \_\_\_\_\_

8. Do the bills compare current use with use during the previous period?

Yes     No

9. Do the bills compare current use with use during the same period last year?

Yes     No

10. Is the volume of water used stated in gallons on the bill?

Yes     No

11. Do you have a meter repair/replacement program that services meters based on the AWWA standards (Reference Nos. 1 and 5)?

Yes     No

12. Is your meter repair/replacement program funded through an annual budget appropriation?

Yes     No

*If Yes, what is your annual budget for meter calibration, replacement, and repair?*

\$120,000

Provide program details or attach policy/program or other supporting documentation: \_\_\_\_\_

*If No, what steps are you taking to improve and fund your meter repair/replacement program? \_\_\_\_\_*

13. Do you have the necessary regulations and controls to ensure that owners of large meters (1.5 inches or greater) calibrate the meters annually and provide the results as part of an annual reporting requirement.

Yes     No



14. How often do you calibrate your master meters (annually recommended)? Annually

**STANDARD 4.0: PRICING**

**Use Full-Cost Pricing.** Establish a water pricing structure that includes the full cost of operating, maintaining, and protecting the water supply system. Full-cost pricing factors all costs, including operations, maintenance, capital, and indirect costs (such as environmental impacts and watershed protection) into prices. Perform a rate evaluation every three to five years to adjust costs as needed.

**Prohibit decreasing block rates.** Decreasing block rates, which charge lower prices as water use increases during the billing period, are not allowed by M.G.L. Chapter 40, Section 39L.

1. Are water supply system operations fully funded by water supply system revenues?

Yes     No

2. Is this an Enterprise Account?

Yes     No

3. When was your most recent rate evaluation? February 2015

4. Which of the following items are covered by the price of water charged to customers?

- |   |  |
|---|--|
| a. <input type="checkbox"/> Watershed purchase/protection                             | l. <input checked="" type="checkbox"/> Emergency repairs                                   |
| b. <input type="checkbox"/> Well site purchase/protection                             | m. <input type="checkbox"/> Capital depreciation account                                   |
| c. <input type="checkbox"/> Aquifer land acquisition                                  | n. <input type="checkbox"/> Capital replacement/depreciation fund                          |
| d. <input checked="" type="checkbox"/> Distribution system operation                  | o. <input checked="" type="checkbox"/> Debt service  |
| e. <input checked="" type="checkbox"/> Leak detection                                 | p. <input checked="" type="checkbox"/> Staff training/professional development             |
| f. <input checked="" type="checkbox"/> Pumping  | q. <input checked="" type="checkbox"/> Staff benefits package                              |
| g. <input checked="" type="checkbox"/> Maintenance                                    | r. <input checked="" type="checkbox"/> Hiring of staff                                     |
| h. <input checked="" type="checkbox"/> Treatment and associated treatment plant costs | s. <input checked="" type="checkbox"/> Purchase/installation of water conservation devices |
| i. <input checked="" type="checkbox"/> Leak repairs                                   | t. <input checked="" type="checkbox"/> Water conservation program, including staff         |
| j. <input checked="" type="checkbox"/> Meter repair and replacement                   | u. <input checked="" type="checkbox"/> All aspects of the education program                |
| k. <input checked="" type="checkbox"/> Electricity/fuel                               | v. <input type="checkbox"/> All of the above   |

5. Please check the type of rate structure(s) your system uses:

- Increasing block rate                       Flat rate  
 Seasonal rate                                       (Other rate (please explain) \_\_\_\_\_)

Describe or attach a copy of your current pricing levels(s) for water and sewer:

<u>WATER</u>		<u>SEWER</u>	
Amount per	Volume	Amount per	Volume
\$16.00	Base Fee	\$16.00	Base Fee
\$2.96	From 1 to 999 Cubic Feet	\$11.29	From 1 to 999 Cubic Feet
\$3.38	From 1000 to 3000 CF	\$12.25	From 1000 to 3000 CF



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\$5.01	From 3001 to 5000 CF	\$13.63	From 3001 to 5000 CF
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Decreasing block rate

Decreasing block rates are prohibited by law. What steps are you taking to revise your rate structure?

\_\_\_\_\_

\_\_\_\_\_

6. Is your rate structure regularly evaluated?

Yes     No

How often? Annually

When was your rate structure last changed? February 2015

\_\_\_\_\_

7. Was your rate structure developed to promote water conservation and/or control demand (that is, do you charge more for water when demand is higher – for example, in the summer)?

Yes     No

If Yes, describe its effectiveness \_\_\_\_\_

\_\_\_\_\_

8. Do any of your customers have a second meter for outdoor water use?

Yes     No

If Yes, do you have a different rate structure for these meters?

Yes     No

If Yes, describe this rate structure The Base fee for Irrigation meter is 16.00, in addition the water rate for every 100 cubic feet is \$5.45. It's a flat rate structure, such that the irrigation meter billing is based on usage.

\_\_\_\_\_

(Note: rate structures that encourage reduction of nonessential outdoor water use are preferable. See *Water Conservation Standards* (Reference No. 10, Sec. 4.0) Pricing Recommendations.)

**STANDARD 5.0: RESIDENTIAL WATER USE**

**Install Water-Efficient Plumbing Fixtures.** Meet the standards set forth in the Federal Energy Policy Act, 1992 (Reference No. 12 or most recent version) and the latest version of the Massachusetts Plumbing Code (Reference No. 15). Provide and/or promote toilet leak detection kits or services, and educational literature about installation of water-saving devices and water conservation savings (in gallons and dollars) in retrofit programs.

**Use Residential Water Efficiently.** Meet or demonstrate steady progress toward meeting residential water use of 65 gallons per capita per day (gpcd), including both indoor and outdoor use, as soon as practicable.

**Implement a comprehensive residential water conservation program** that seeks to reduce residential water use by implementing some or all of the applicable recommendations listed in Sections 5.0 and 9.0 of the *Water Conservation Standards* (Reference No. 10).

1. Do you provide educational literature about installation of water-saving devices and water conservation savings (in gallons and dollars)?

Yes     No

2. Do you provide retrofit or rebate services to your customers?





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Yes     No

What does your program include?

- Toilet retrofit     Toilet replacement rebates     Faucet aerators retrofit     Low-flow showerheads
- Clothes Washer rebates     Dishwasher rebates     Other Senior citizen discounts

*If Yes*, describe your program for assisting residential customers in converting to more efficient plumbing fixtures: Annually Ashland hosts "Earth day" when we have MWRA set up a stall and our Water foreman is on site providing residents with pamphlets on water conservation. They also provide free faucet aerators and Low-flow shower heads to encourage water conservation.

*If No*, and your system's residential water use exceeds 65 gpcd, describe any plans for implementation of such a residential retrofit or rebate program. (See Ref. No. 10, Sections 5.0 and 9.0.) The plan should include dates for implementation and the expected cost per year of the program: Does not exceed 65 gpcd.

**STANDARD 6.0: PUBLIC SECTOR WATER USE**

**For all** municipal and state buildings:

- Conduct indoor and outdoor audits and account for full use of water, based on full metering of public buildings, parks, irrigated playing fields, and other facilities.
- Analyze existing water-use data to spot trends, patterns, and unexplained increases that could indicate leaks or inefficient use of water.
- Identify measures where the greatest efficiencies and potential savings can be realized.
- In addition to complying with the plumbing code (Reference No. 15), build new public buildings with equipment that reduces water use. Water-saving devices and measures should be well identified to users of public buildings and facilities.
- Focus on replacing/retrofitting water-consuming equipment in buildings (e.g., bathrooms, boilers, chillers).
- Practice efficient lawn and landscape water-use techniques and meet the standards described in Section 9.0 of the *Water Conservation Standards* (Reference No. 10).

**Meter or estimate use of water from fire hydrants for pipe flushing, construction, and other uses not related to fire fighting.**

**Strictly apply plumbing codes and incorporate other conservation measures in new and renovated buildings.**

1. Does your water supply system provide assistance to your public-sector users in conducting water-use audits?

Yes     No

*If Yes*, describe how you provide assistance: All public facilities in the Town of Ashland, have installed low-flow plumbing fixtures and attached is the letter from our facilities manager showing the number of units. See attached "Public Bldg\_LowFlowFixtures.pdf"

2. Have water-saving devices been installed in all public buildings?

Yes     No



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If No, describe in detail a plan and schedule for installing such devices including the dates proposed for each facility. Attach additional sheets if necessary.

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3. Do you meter water from hydrants used by contractors for pipe flushing and/or construction?

Yes     No

Do you bill for hydrant use?

Yes     No

4. Do you inspect, or coordinate with your municipality's building inspector, to ensure the plumbing codes are strictly applied in new and renovated buildings?

Yes     No

**STANDARD 7.0: INDUSTRIAL, COMMERCIAL AND INSTITUTIONAL (ICI) WATER USE**

**Carry out a water audit** to determine the location and amount of water used for heating, cooling, processing, sanitary use, and outdoor use. Use the findings from the audit as the basis for actions to conserve water.<sup>2</sup>

Significant users (i.e., those using greater than 50,000 gpd) **install separate meters for process water** so that water can be accounted for and appreciated as a raw material in production, and for sanitary use.

**Develop and implement a water-savings strategy**, addressing, among other items, demand management, leak detection and repair, a program of preventive maintenance, and a program of employee education.

In new and renovated buildings, **comply with plumbing codes, use the best available technologies for water conservation, and reuse treated wastewater** within the facility to the extent possible.

Practice good lawn and landscape water-use techniques and meet the standards described in Section 9.0 of the *Water Conservation Standards* (Reference No. 10).

1. Does your water supply system assist ICI users in complying with the standards (above) of Section 7.0, Industrial, Commercial, and Institutional (ICI) water use?

Yes     No

If Yes, describe how you provide assistance Leak detection and repair.

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If No, what steps are you taking to provide assistance in the future? \_\_\_\_\_

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<sup>2</sup> See Appendix H of the *Water Conservation Standards* (Reference No. 10) for sample ICI water audit.



**STANDARD 8.0: AGRICULTURAL WATER USE**

**As part of the management of an agricultural operation, adopt a water conservation approach through which water is used in a planned and efficient manner with appropriate amounts and frequency to meet needs without excessive water loss.**

1. Does your water supply system provide water to significant agricultural users?

- Yes     No

If Yes, do you have a program to assist agricultural users in conserving water? \_\_\_\_\_

**STANDARD 9.0: LAWN AND LANDSCAPE**

**Minimize watering of lawns or landscapes**, especially in water-short communities and where the water source is in a stressed basin or sub-basin.

**Develop and implement seasonal demand management plans** as part of the drought management plan. These plans must identify water supply and environmental indicators (such as streamflow triggers) to serve as water-use restriction triggers and outline a set of increasingly stringent and effective water-use restrictions that are designed to protect public health and the environment.

**Adopt and implement (as appropriate) a water-use-restriction bylaw, ordinance or regulation**, which applies to both municipal and private wells.<sup>3</sup>

**Fully enforce water-use restrictions.** Empower authorities to issue warnings to first-time offenders and citations to repeat offenders

1. Do you assist those responsible for maintenance of municipal parks and athletic fields to minimize water use?

- Yes     No

If Yes, provide details. The water use for the maintenance of Municipal parks and fields also follows the conservation guidelines set by the town by-law.

2. Do you have a written Seasonal Demand Management Plan?

- Yes     No

If Yes, when was the plan approved? Town by-law - 2001- Amended August 2015

Please provide either a copy of the plan, or a copy of the cover, table of contents and date of the plan. See attached - TownofAshland Waterby-law.pdf and By-law Addendum.pdf

3. Does the municipality served by your water system have a water-use-restriction bylaw, ordinance, or regulation?

- Yes     No

If Yes, when was the bylaw, ordinance, or regulation adopted? 2001

When was the bylaw, ordinance, or regulation last implemented? From: Aug 2015 To: \_\_\_\_\_

4. Please check type of restrictions:

- ban on all non-essential outdoor water use  
 hand-held hose only

<sup>3</sup> See Appendix B of the *Water Conservation Standards* (Reference No. 10) for model water use restriction bylaws.



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- one day per week only
- two days per week only
- odd/even day watering only
- restricted hours (provide details): \_\_\_\_\_
- other (provide details): \_\_\_\_\_

5. Are your water-use restrictions triggered by:

- the calendar (e.g., May 1 – September 30 each year)
- Streamflow measured at a stream gage
- Drought Advisory declared by the Massachusetts Drought Task Force
- other (provide details): Reservoir Levels - Stage 1 is below 295.85, Stage 2 is below 295.35

6. Do you fully enforce water use restrictions?

- Yes      No

7. Do you have a bylaw or ordinance that restricts installation or operation of automatic sprinkler systems (for example, requiring a controller that prevents system operation during rainfall)?

- Yes      No

*If Yes, describe restriction* We will require residents to use rainfall sensors to restrict the sprinkler use starting July 2016, but currently we implement town wide restrictions based on the reservoir levels and/ or summer dates in the year. Chapter 270 Section 5: For year round water use: Automatic Sprinkler Use: the use of automatic sprinklers shall be limited to one weekend day (Saturdays or Sundays) as outlined in the permanent outdoor water use restrictions. For Stage 1 and Stage 2 restrictions: Automatic Sprinkler Use: The use of automatic sprinkler systems is prohibited.

8. Do you have a bylaw or ordinance regulating the use of private wells for outdoor water use, particularly for landscape irrigation?

- Yes      No

9. Do you have a conservation outreach program for private well owners?

- Yes      No

**STANDARD 10.0: PUBLIC EDUCATION AND OUTREACH**

**Develop and implement an education plan**, which includes most, if not all, items listed in the *Water Conservation Standards*, page 29 (Reference no. 10).

Provide education and outreach to self-supplied water users (e.g., home or businesses on their own private wells) on their responsibility to conserve water.

1. Do you have a public education plan?

- Yes      No

*If Yes, check which items are included in your outreach program.*

- Targeted outreach to the largest water users
- Bill stuffers. How often mailed? \_\_\_\_\_.

Does your program include:

- Information enabling customers to calculate their water use and compare it to the standard of 65 gpcd
- Usage history
- Free water audits



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- Rebates on water-efficient plumbing fixtures and appliances
- Information on water-wise landscaping, gardening, efficient irrigation, and lawn care practices
- Targeted outreach to industrial, commercial, and institutional users
- Water conservation curriculum for schools
- Water conservation workshops for the general public
- Special events, such as Conservation Fairs, contests, and recognition programs
- Speakers for community organizations
- Water conservation information center
- Public service announcements or announcements in other media
- Multilingual materials
- Education and outreach to self-supplied users (i.e., home or businesses on their own private wells)

What public outreach and education efforts have you found most effective and why? In 2014, when Stage 1 restrictions were in place, we had some violations and ticketing for violators. We held meetings with residents to identify issues with water restrictions. We now have more channels and methods to advertise in the town about different Water Stage Restrictions and hope that there will be fewer violations.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

If No, what steps are you taking to develop a public education program? \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Certification:**

I certify, under penalty of law, that the responses provided and all attachments were prepared under my supervision, in accordance with a system designed to ensure that qualified personnel properly gathered and evaluated the information submitted. The information submitted is, to the best of my knowledge and belief, true, accurate, and complete.

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

Title: \_\_\_\_\_



## REFERENCES

1. American Water Works Association. AWWA Standards. Available through AWWA web site: [www.awwa.org](http://www.awwa.org)
2. American Water Works Association. 2002. Drought Management Handbook. Denver, Colorado.
3. American Water Works Association. 1999. Water Audits and Leak Detection, 2nd ed. (AWWA Manual M36). Denver, Colorado.
4. American Water Works Association. 2006. Water Conservation Programs – A Planning Manual (AWWA Manual M52). Denver, Colorado.
5. American Water Works Association. 1999. Water Meters – Selection, Installation, Testing, and Maintenance, 4<sup>th</sup> ed. (AWWA Manual M6). Denver, Colorado.
6. Department of Environmental Protection (MassDEP). Feb. 1997. Declaration of State of Water Supply Emergency. Policy No. 87-05. Available at <http://www.mass.gov/dep/water/laws/8705.pdf>
7. Department of Environmental Protection (MassDEP). 2001. Guidelines and Policies for Public Water Systems. See chapter 11 for guidelines on leak detection and unaccounted-for water. Available at <http://www.mass.gov/dep/water/laws/policies.htm#dwguid>.
8. Department of Environmental Protection (MassDEP). Dec. 1988. Policy on Metering Requirements for Water Management Act Registrants and Permit Applicants. Policy No. 88-25. Available at <http://www.mass.gov/dep/water/laws/policies.htm#dwpol>
9. Department of Environmental Protection (MassDEP). 2005 (or latest version). Water Audit Guidance Document and Worksheets. Available at <http://www.mass.gov/dep/water/approvals/wmgforms.htm#audit>
10. Executive Office of Environmental Affairs and Water Resources Commission. July 2006. Water Conservation Standards. Available at [http://www.mass.gov/envir/mwrc/pdf/Conservation\\_Standards.pdf](http://www.mass.gov/envir/mwrc/pdf/Conservation_Standards.pdf)
11. Massachusetts, Commonwealth of. Code of Massachusetts Regulations. Available at <http://www.lawlib.state.ma.us/cmr.html>
12. U.S. Code. Energy Policy Act of 1992. See guidelines on water efficiency requirements at [http://www1.eere.energy.gov/femp/water/water\\_fedrequire.html](http://www1.eere.energy.gov/femp/water/water_fedrequire.html)
13. Water Resources Commission. Sept. 2001. Interbasin Transfer Act, Performance Standards Guidance. Available at <http://www.mass.gov/dcr/waterSupply/intbasin/download.htm>
14. Water Resources Commission. Dec. 2001. Stressed Basins in Massachusetts. Available at [http://www.mass.gov/envir/mwrc/pdf/massachusetts\\_stressed\\_basins.pdf](http://www.mass.gov/envir/mwrc/pdf/massachusetts_stressed_basins.pdf).
15. 248 CMR 10.00. Uniform State Plumbing Code. Available at <http://www.lawlib.state.ma.us/cmr.html>
16. 360 CMR 12.00. Leak Detection Regulations. See Section 12.09, Leak Repairs.

Note: References from The American Water Works Association can be ordered through the AWWA web site: <http://www.awwa.org/index.cfm>.