



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 Resources¹
- 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 (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:

Anne Carroll, Acting Director
Office of Water Resources
Department of Conservation and Recreation
251 Causeway Street, Suite 600
Boston, MA 02114
Anne.Carroll@state.ma.us
(617) 626-1395

Duane LeVangie, Director
Water Management Program
Department of Environmental Protection
1 Winter Street
Boston MA 02108
Duane.Levangie@state.ma.us
(617) 292-5706

¹ 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_waterneedsforecast.pdf



THE COMMONWEALTH OF MASSACHUSETTS
WATER RESOURCES COMMISSION

WATER CONSERVATION QUESTIONNAIRE

GENERAL INFORMATION ON THE PUBLIC WATER SUPPLY SYSTEM

Water Supplier: _____ PWS ID#: _____
Street Address: _____
City/Town: _____ Zip Code: _____
Contact Person: _____ Title: _____
Tel.: _____ E-mail: _____

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

(a) Registered volume: _____ mgd

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

Volume _____ mgd From: _____ To: _____

Volume _____ mgd From: _____ To: _____

Volume _____ mgd From: _____ To: _____

Volume _____ mgd From: _____ To: _____

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

Permit expiration date (if applicable): _____

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: 20____) is _____ gallons per capita day.

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

☐ Yes ☐ No

UAW reported on the most recent ASR (date: 20____) is _____ %.

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



THE COMMONWEALTH OF MASSACHUSETTS
WATER RESOURCES COMMISSION

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: _____

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: _____

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: \$ _____

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

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



THE COMMONWEALTH OF MASSACHUSETTS
WATER RESOURCES COMMISSION

5. Are the above documents readily available to facilitate compliance and, if necessary, enforcement of restrictions in your plans?

☐ Yes ☐ No

STANDARD 2.0: SYSTEM WATER AUDITS AND LEAK DETECTION

Conduct a water audit on an annual basis using the MassDEP Water Audit Guidance Document (<http://www.mass.gov/dep/water/approvals/wmgforms.htm#audit> or latest version, Reference No. 9).

Conduct complete system-wide leak detection every two years (unless leakage constitutes a small portion of the system's unaccounted-for water; or the most current leak detection survey (conducted within the previous two years) indicates insignificant leakage (see Reference No. 3 for guidance).

Meet or demonstrate steady progress towards meeting 10% unaccounted-for water (UAW) as soon as practicable.

Conduct field surveys for leaks and repair programs in accordance with the AWWA Manual 36 (Reference No. 3 or latest version) and any MassDEP guidance documents (Reference No. 7 and other guidance documents available on DEP's web site, <http://www.mass.gov/dep/water/laws/policies.htm#dwguid>).

Repair all leaks found as expeditiously as possible. Establish a priority system to implement leak repairs. See specific guidance on timelines for repairing leaks in:

- MassDEP guidance (<http://www.mass.gov/dep/water/approvals/wmgforms.htm#audit>) (Reference Nos. 7 and 9)
- MWRA regulations, 360 CMR 12.09: Leak Repairs (Reference No. 16)
- MassDEP Water Management permits.

1. Do you conduct an annual water audit of your system?

☐ Yes. ☐ No

Water audit last performed by _____

Begin date: _____ End date: _____

Describe the tasks and results of your most recent audit (attach additional information if necessary):

2. Do you conduct a full leak detection program for your distribution system every two years?

☐ Yes. ☐ No

If Yes, leak detection last performed by _____ on _____

Please attach Table G3 from your 2007 ASR OR list summary results of that survey which includes: miles of main surveyed, # of leaks found, estimated water loss for each leak, date the leak was (or is scheduled to be) repaired. Attach additional information as necessary.

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? _____



THE COMMONWEALTH OF MASSACHUSETTS
WATER RESOURCES COMMISSION

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

- ☐ 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? _____ Projected cost? _____

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? _____



THE COMMONWEALTH OF MASSACHUSETTS
WATER RESOURCES COMMISSION

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? _____

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?

\$ _____

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)? _____



THE COMMONWEALTH OF MASSACHUSETTS
WATER RESOURCES COMMISSION

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? _____
4. Which of the following items are covered by the price of water charged to customers?
 - a. ☐ Watershed purchase/protection
 - b. ☐ Well site purchase/protection
 - c. ☐ Aquifer land acquisition
 - d. ☐ Distribution system operation
 - e. ☐ Leak detection
 - f. ☐ Pumping
 - g. ☐ Maintenance
 - h. ☐ Treatment and associated treatment plant costs
 - i. ☐ Leak repairs
 - j. ☐ Meter repair and replacement
 - k. ☐ Electricity/fuel
 - l. ☐ Emergency repairs
 - m. ☐ Capital depreciation account
 - n. ☐ Capital replacement/depreciation fund
 - o. ☐ Debt service
 - p. ☐ Staff training/professional development
 - q. ☐ Staff benefits package
 - r. ☐ Hiring of staff
 - s. ☐ Purchase/installation of water conservation devices
 - t. ☐ Water conservation program, including staff
 - u. ☐ All aspects of the education program
 - v. ☐ 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
\$		\$	
\$		\$	
\$		\$	
\$		\$	



THE COMMONWEALTH OF MASSACHUSETTS
WATER RESOURCES COMMISSION

☐ 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? _____

When was your rate structure last changed? _____

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 _____

(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?

☐ Yes ☐ No

What does your program include?

☐ Toilet retrofit ☐ Toilet replacement rebates ☐ Faucet aerators retrofit ☐ Low-flow showerheads

☐ Clothes Washer rebates ☐ Dishwasher rebates ☐ Other _____



THE COMMONWEALTH OF MASSACHUSETTS
WATER RESOURCES COMMISSION

If Yes, describe your program for assisting residential customers in converting to more efficient plumbing fixtures: _____

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: _____

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: _____

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

☐ Yes ☐ No

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.

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



THE COMMONWEALTH OF MASSACHUSETTS
WATER RESOURCES COMMISSION

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.²

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 _____

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

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? _____

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



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.³

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. _____

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

☐ Yes ☐ No

If Yes, when was the plan approved? _____

Please provide either a copy of the plan, or a copy of the cover, table of contents and date of the plan.

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? _____

When was the bylaw, ordinance, or regulation last implemented? From: _____ To: _____

4. Please check type of restrictions:

- ☐ ban on all non-essential outdoor water use
☐ hand-held hose only
☐ 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): _____

6. Do you fully enforce water use restrictions?

☐ Yes ☐ No

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



THE COMMONWEALTH OF MASSACHUSETTS
WATER RESOURCES COMMISSION

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 _____

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
☐ 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? _____



THE COMMONWEALTH OF MASSACHUSETTS
WATER RESOURCES COMMISSION

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
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, 4th 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
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
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.
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>.