Taunton

COMMONWEALTH OF MASSACHUSETTS
EXECUTIVE OFFICE OF ENERGY & ENVIRONMENTAL AFFAIRS
DEPARTMENT OF ENVIRONMENTAL PROTECTION
SOUTHEAST REGIONAL OFFICE
20 RIVERSIDE DRIVE, LAKEVILLE, MA 02347 508-946-2700

DEVAL L. PATRICK
Governor

TIMOTHY P. MURRAY
Lieutenant Governor

IAN A. BOWLES
Secretary

LAURIE BURT
Commissioner

September 23, 2008

Board of Selectmen
Town of Foxborough
40 South Street
Foxborough, Massachusetts 02035

RE: FOXBOROUGH – BRP/WMA
PWS ID#4099000
WMA Permit #9P425099.01
Permit Modification

Dear Sirs,

Please find attached the following:

- Findings of Fact in Support of Modified Permit #9P425099.01, and
- Modified WMA Permit #9P425099.01 for the Town of Foxborough.

The signature on this cover letter indicates formal issuance of the attached document.

If you have any questions regarding this information, please contact Leslie O'Shea at (508) 946-2837 or leslie.o'shea@state.ma.us.

Very Truly Yours,

Richard J. Rondeau, Chief
Drinking Water Program
Bureau of Resource Protection

Y:\DWP Archive\SERO\Foxborough – WMA – Final Permit Modification 9P425099.01-2008-09-23

ecc: Duane LeVangie, DEP
TRWA
MWWA

cc: Leo Potter, Foxborough Water Dept.

This information is available in alternate format. Call Donald M. Gomes, ADA Coordinator at 617-556-1057. TDD# 866-539-7622 or 617-574-6868.

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Communication for Non-English Speaking Parties (310 CMR 1.03(5)(a))

English

This document is important and should be translated immediately.

Spanish

Este documento es importante y se debe traducir inmediatamente.

Portuguese

Este original é importante e deve ser traduzido imediatamente.

Italian

Questo documento è importante e dovrebbe essere tradotto immediatamente.

Greek

Αυτό το έγγραφο είναι σημαντικό και πρέπει να μεταφραστεί αμέσως.

French

Ce document est important et devrait être traduit immédiatement.

Chinese (traditional)

這 個 文件 重要 和 應該 立刻 被翻譯 。
这个文件重要 和应该立刻被翻译。

Findings of Fact in Support of Permit Modification
Water Management Permit # 9P425099.01

The Department of Environmental Protection (the Department) hereby modifies Water Management Act (WMA) Permit #9P425099.01 issued to the Town of Foxborough (Foxborough or the Town) for water withdrawals from the Taunton River Basin. This modification is made in accordance with the Water Management Act, M.G.L. c.21G.

The Department completed the 5-Year review of Foxborough's permits in the Neponset (Boston Harbor), Taunton and Ten Mile Basins. This compliance review was conducted to insure that the conditions of each permit, as well as the goals of the Water Management Act (WMA) program, are being met. The Department of Environmental Protection has been given the authority to modify permits at any time when it determines that such action is necessary for the promotion of the purposes of the Act, 310 CMR 36.29(2).

The attached modified permit supersedes WMA Permit #9P425099.01 issued to Foxborough on June 1, 1991 for withdrawals from the Taunton River Basin.

FINDINGS OF FACT

As required by M.G.L. Ch. 21G, §11 and 310 CMR 36.00, the Department makes the following Findings of Fact in support of Foxborough's permit modification, and includes herewith its reasons for modifying the permit and for imposing the modified permit conditions.

The Water Management Act requires the Department to issue permits that balance a variety of factors including:

- Reasonable protection of existing water uses, land values, investments and enterprises;
- Reasonable conservation consistent with efficient water use;
- Reasonable protection of public drinking water supplies, water quality, wastewater treatment capacity, waste assimilation capacity, groundwater recharge areas, navigation, hydropower resources, water-based recreation, wetland habitat, fish and wildlife, agriculture, flood plains; and
- Reasonable economic development and job creation.

To achieve the balance of competing water uses mandated by the Act, the Department has adopted the *Water Management Policy For Permit and Permit Amendment Applications and 5-Year Reviews, Effective Date: April 2, 2004* (the Policy) and the *Guidance Document for Water Management Act Permitting Policy, Effective Date: January 17, 2006* (Guidance), which can be found at:

http://www.mass.gov/dep/water/laws/wmafinpo.doc

The Policy and Guidance identify the Performance Standards to be applied to new Water Management permits, and existing permits at the time they are modified or amended.

In applying the Performance Standards the Department relies upon the determinations of relative stress established in the Massachusetts Water Resources Commission (WRC) report, *Stressed Basins in Massachusetts* (approved December 13, 2001).

Foxborough has sources in the Ten Mile River Basin, which is an unassessed basin. Foxborough also has wells located in subwatersheds of the Taunton River Basin which are designated as high stress and medium stress subwatersheds. In addition, Foxborough has sources located in the portion Neponset River Basin which is designated as medium stress. The Department has determined public water suppliers permitted to withdraw water from multiple basins with different stress designation shall adhere to the Performance Standards of the higher assessed basin. As a result, the Town of Foxborough is required to abide by the Performance Standards for a high stress basin.

The stressed basins map can be reviewed at:

http://www.mass.gov/dep/water/resources/stresmap.htm

The Performance Standards for high stress basins are:

1. Residential gallons per capita day water use (RGPCD) of 65 gallons or less;
2. Unaccounted-for water (UAW) of 10% or less;
3. Limits on Nonessential Outdoor Water Use implemented through either a calendar trigger or a streamflow trigger; and
4. Offset feasibility studies for withdrawals that exceed a system-wide Baseline* withdrawal volume. (*Baseline is the volume withdrawn in compliance with the Act during 2005
5. , the average volume withdrawn in compliance with the Act from 2003 through 2005, or the total of the registered volumes, whichever is greater.)

The Performance Standards of 65 gallons per day (gpd) or less for residential per capita water use and 10% or less for unaccounted for water are taken from the WRC's performance standards for effective water conservation for public water suppliers. The Department believes these standards are reasonable based on studies and data developed throughout the country, the 1996 AWWA Leak Detection and Water Accountability Committee report on water accountability (AWWA Journal; July 1996; pp. 108-111), and the fact that the average values in 2007 for Massachusetts were 67 RGPCD, and 14.2% UAW. Further, the Department believes that through effective water conservation and implementation of the WMA permit conditions, permittees may be able to reduce RGPCD below 65 gpd and UAW below 10%.

The Guidance provides implementation and enforcement guidelines, including:

- timelines for compliance with the Performance Standards;
- procedures and requirements for permittees who fail to comply with the Performance Standards within those timelines;
- enforcement margins and enforcement forbearance for permittees in high and medium stress basins.

See Section II, paragraph 3 and Section III, paragraph 3 of the Guidance for more information on enforcement margins and forbearance.

Foxborough's WMA permits have been modified to reflect the standards of the policy. Foxborough's Ten Mile River Basin permit has also been modified to incorporate the requirements of the WRC's Interbasin Transfer Act Decision for the proposed Witch Pond Wells.

The following table summarizes Foxborough's WMA authorizations:

Summary of the Town of Foxborough's WMA Authorizations		
Basin	**WMA Authorization**	**Volume Authorized**
Neponset River (Boston Harbor)	WMA Registration #419099.01	0.64 MGD (233.60 MGY)
	WMA Permit #9P419099.01	0.73 MGD (266.45 MGY) 3/1/2005 to 2/28/2010
Total Neponset River		1.37 MGD (500.05 MGY)
Taunton River	WMA Registration #425099.01	1.60 MGD (584.00 MGY)
	WMA Permit #9P425099.01	0.22 MGD (80.30 MGY) 3/1/2005 to 2/28/2010
Total Taunton River		1.82 MGD (664.30 MGY)
Ten Mile River	WMA Permit #9P24275099.01	0 MGD (0 MGY)* 12/1/2006 to 11/30/2011
Total WMA Authorized Volume		3.19 MGD (1164.35 MGY)

*In 1993 when Foxborough was issued a WMA permit for its proposed Ten Mile sources, no additional volume was allocated in the Ten Mile permit because the combined 3.19 MGD previously allocated by the Taunton River Basin and the Neponset River Basin registrations and permits was sufficient to meet the projected system-wide demands during the permit period. This modified permit has been conditioned to allow Foxborough flexibility in managing its sources system-wide, and to clarify what may be withdrawn from all of Foxborough's sources. Foxborough's cumulative annual average daily withdrawal may not exceed 3.19 MGD from all three basins. Foxborough's annual average daily withdrawal volumes may not exceed the following from each basin: 0.96 MGD from the Ten Mile sources, 1.37 MGD from the Neponset sources and 1.82 MGD from the Taunton sources.

A draft of the permit was circulated for public comment from August 14, 2008 through September 12, 2008; no comments were received.

Findings of Fact for Specific Permit Conditions

Special Condition 1, Authorized Withdrawal Volumes: Foxborough may withdraw an annual average daily volume of 1.82 MGD from its Taunton Basin sources, provided withdrawals from the Ten Mile and Neponset Basin sources are adjusted so as not to exceed an annual average of 3.19 MGD from all three basins combined. Foxborough's system-wide average daily withdrawal volume was 1.82 MGD in 2007.

Please note, Foxborough's system-wide authorized volume of 3.19 MDG will be reviewed when the Neponset and Taunton River Basin permits expire on February 28, 2010. The 3.19 MGD volume may be revised based on the new water needs forecast prepared by the Department of Conservation and Recreation (DCR) for the Town of Foxborough.

Special Condition 2, Maximum Authorized Daily Withdrawal Rates: reflects the approved Zone II rate for each permitted well in the Basin. Withdrawals in excess of these maximum daily rates require approval from the Department.

Special Condition 3, Zone of Contribution Delineations: notes the Department's approval of Foxborough's Zone II delineations; no additional delineations are required as a condition of this permit.

Special Condition 4, Wellhead Protection: notes the approval of Foxborough's wellhead protection program; no additional wellhead protection work is required as a condition of this permit.

Special Condition 5, Performance Standard for Residential Gallons Per Capita Day Water Use: as noted above, Foxborough's standard for RGPCD is 65 gpd or less. Foxborough's 2007 RGPCD was 75 gpd. This condition requires Foxborough to meet the Performance Standard of 65 RGPCD by the end of 2010.

Special Condition 6, Performance Standard for Unaccounted for Water: as noted above, Foxborough's standard for UAW is 10% or less. Foxborough's UAW for 2007 was 12 %. This condition requires Foxborough to meet the Performance Standard of 10% UAW by the end of 2010.

Special Condition 7, Limits on Nonessential Outdoor Water Use: defines the limits on nonessential outside water use from May through September. All permittees must limit nonessential outside water use whenever the Massachusetts Drought Management Task Force declares a drought Advisory or higher.

Permittees shall also choose either calendar-triggered outdoor water restrictions between May 1st and September 30th, or streamflow-triggered water restrictions that must be enforced whenever gaged mean daily streamflow falls below 0.50 cubic feet per second per square mile for three (3) or more days. The extent to which Foxborough must restrict nonessential outdoor water use will be determined in part by their RGPCD for the prior calendar year. Permittees may also choose to implement limits on nonessential outdoor water use that are stricter than those required by the permit.

Foxborough does have a bylaw regulating outdoor water use and has instituted outdoor water use restrictions in past years.

Special Condition 8, Baseline Withdrawal Volume: Foxborough's baseline volume is 2.24 MGD which is equal to Foxborough's WMA system-wide registered withdrawal volume. This condition outlines the requirements to develop and implement a plan to offset the impacts of additional withdrawals should Foxborough exceed the baseline volume.

Special Condition 9, Water Conservation Requirements: incorporates the Water Conservation Standards for the Commonwealth of Massachusetts approved by the WRC in July 2006.

Special Condition 10, Requirement to Report Raw and Finished Water Volumes: ensures that the information necessary to evaluate compliance with the permit conditions is accurately reported.

Special Condition 11, General Permit Conditions: outlines the general conditions applicable to all WMA Permittees.

Appendix A – Residential Gallons Per Capita Day: Outlines actions to be taken if the Performance Standard for Residential Per Capita Water Use is not met.

Appendix B – Unaccounted for Water: Outlines actions to be taken if the Performance Standard for Unaccounted-for Water is not met.

Appendix C – Limits on Nonessential Outdoor Water Use: Provides information regarding implementation of the limits on nonessential outdoor water use.

The Department's Findings of Fact and summary of permit Conditions are not intended to, and should not be construed as, modifying any of the permit conditions. In the event of any conflict or ambiguity between the Findings of Fact and the permit, the permit language shall control.

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WATER WITHDRAWAL PERMIT
MGL c 21G

This permit is approved pursuant to the Massachusetts Water Management Act (WMA) for the sole purpose of authorizing the withdrawal of a volume of water as stated below and subject to the following special and general conditions. This permit conveys no right in or to any property beyond the right to withdraw the volume of water for which it is issued.

PERMIT NUMBER: 9P425099.01 **RIVER BASIN:** Taunton

FOXBOROUGH: Town of Foxborough
40 South Street
Foxborough, Massachusetts 02035

EFFECTIVE DATE: June 1, 1991

MODIFICATION DATE: September 23, 2008

EXPIRATION DATE: February 28, 2010

TYPE AND NUMBER OF WITHDRAWAL POINTS: Groundwater: 8 Surface Water: 0

USE: Public Water Supply **DAYS OF OPERATION:** 365

AUTHORIZED WITHDRAWAL POINTs:

Table 1: Withdrawal Point Identification

Source	Source Code
Station 2, Foxborough	
Well 4	4099000-04G
Well 5	4099000-05G
Well 6	4099000-06G
Station 3, Foxborough	
Well 7	4099000-07G
Well 8	4099000-08G
Well 9	4099000-09G
Station 3A, Foxborough	4099000-10G
Station 4, Foxborough	4099000-12G

This information is available in alternate format. Call Donald M. Gomes, ADA Coordinator at 617-556-1057. TDD# 866-539-7622 or 617-574-6868.

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SPECIAL CONDITIONS – PERMIT #9P425099.01

1. Authorized Annual Average Withdrawal Volume from the Taunton River Basin

This permit authorizes the Town of Foxborough (Foxborough) to withdraw water from the Taunton River Basin at the rate described in Table 2 below. The permitted volume is expressed both as an average daily withdrawal rate (million gallons per day or MGD), and as a total annual withdrawal volume (million gallons per year or MGY) for each five-year period of the permit term.

The Department of Environmental Protection (Department) will use the raw water withdrawal volume from all authorized withdrawal points to assess compliance with the registered and permitted withdrawal volumes.

Table 2: Authorized Withdrawal Volumes – Taunton River Basin					
5-Year Periods		Total Raw Water Withdrawal Volumes			
		Permit		Permit + Registration	
		Daily Average (MGD)	Total Annual (MGY)	Daily Average (MGD)	Total Annual (MGY)
Period One Years 1-5	6/1/1991 to 2/28/1995	0.00	0.00	1.60	584.00
Period Two Years 6-10	3/1/1995 to 2/28/2000	0.00	0.00	1.60	584.00
Period Three Years 11-15	3/1/2000 to 2/29/2005	0.00	0.00	1.60	584.00
Period Four Years 16-20	3/1/2005 to 2/28/2010	0.22	80.30	1.82	664.30

The combined system-wide withdrawals from the Neponset, Taunton and Ten Mile Basins shall not exceed an annual average daily volume of 3.19 MGD.

2. Maximum Daily Withdrawal Rates from the Authorized Taunton River Basin Withdrawal Points

Withdrawals from Foxborough's permitted Taunton River Basin sources are not to exceed the approved maximum daily rate listed in Table 3 below without advance approval from the Department.

Table 3: Maximum Daily Withdrawal Volume	
Source	**Maximum Daily Rate**
Station 2 Well 4 – 4099000-04G Well 5 – 4099000-05G Well 6 – 4099000-06G	 0.576 MGD (400 gpm) 0.576 MGD (400 gpm) 0.576 MGD (400 gpm)
Table 3: Maximum Daily Withdrawal Volume	
Station 3 Well 7 – 4099000-07G Well 8 - 4099000-08G Well 9 – 4099000-09G	 0.360 MGD (250 gpm) 0.216 MGD (150 gpm) 0.576 MGD (400 gpm)
Station 3A – 4099000-10G	0.720 MGD (500 gpm)
Station 4 – 4099000-12G	0.468 MGD (325 gpm)

3. Zone II Delineation

Department records show that all of Foxborough's sources, both registered and permitted, have approved Zone II delineations, therefore, no further Zone II work is required.

4. Wellhead Protection

Department records indicate that all of Foxborough's sources, both registered and permitted, meet the requirements of 310 CMR 22.21(2), therefore, no further wellhead protection work is required.

5. Performance Standard for Residential Gallons Per Capita Day Water Use

Foxborough's performance standard for residential gallons per capita day (RGPCD) is 65 gallons or less. Foxborough shall be in compliance with the RGPCD performance standard by December 31, 2010, and each year thereafter.

Foxborough's RGPCD shall be reported in its Annual Statistical Report (ASR), along with the calculation used to derive the RGPCD, the source of the data used to establish the service population and the year in which this data was developed.

Appendix A provides the additional requirements if the Performance Standard for RGPCD is not met by the compliance deadline, and in any year thereafter.

6. Performance Standard for Unaccounted for Water

Foxborough's Performance Standard for Unaccounted for Water (UAW) is 10% or less of overall water withdrawal. Foxborough shall be in compliance with the UAW performance standard by December 31, 2010, and each year thereafter.

Foxborough's UAW shall be reported in its Annual Statistical Report (ASR), along with the calculation used to derive the UAW.

Appendix B provides the additional requirements if the Performance Standard for UAW is not met by the compliance deadline, and in any year thereafter.

7. Limits on Nonessential Outdoor Water Use

Foxborough shall limit nonessential outdoor water use, as defined in Appendix C of this permit, during the summer months as outlined below.

Foxborough shall implement and enforce the required restrictions starting no later than May 1, 2009, and shall document its compliance with the limits on nonessential outdoor water use annually in its ASR for 2009, and each year thereafter.

Foxborough shall be able to document the legal ability to implement and enforce mandatory water use restrictions.

Nothing in this permit shall prevent Foxborough from implementing water use restrictions stricter than those set forth in this permit condition.

Table 5A: Limits on Nonessential Outdoor Water Use When RGPCD is 65 or Below (based on the previous year's RGPCD as reported on the ASR and accepted by the Department)	
Action Trigger	**Required Water Use Restrictions**
Drought Advisory or higher declared by the Massachusetts Drought Management Task Force. See: http://www.mass.gov/dcr/waterSupply/rainfall/drought.htm	• No nonessential outdoor water use between 9 a.m. and 5 p.m. • Restrictions must be implemented and remain in place until drought level is returned to "Normal".
In addition, when RGPCD is below 65 for the previous year, Foxborough must choose one of the following options:	
Option 1 – Streamflow Trigger • At a minimum, implement restrictions whenever stream flow falls below a mean daily streamflow of 0.50 cubic feet per second per square mile (cfsm) for **three (3)** consecutive days between May 1st and September 30th. • Stream flow shall be measured at the USGS Stream Gage 01109000 – Wading River Near Norton, MA, in the Taunton River Basin. At Gage 01109000, 0.50 cfsm is equal to 21.65 cubic feet per second (cfs). • Readings for Gage 01109000 can be accessed at: http://waterdata.usgs.gov/ma/nwis/uv/?site_no=01109000&PARAmeter_cd=00065,00060	• No nonessential outdoor water use between 9 a.m. and 5 p.m. • Once implemented, the restrictions shall remain in place until streamflow at Gage 01109000 meets or exceeds 0.50 cfsm (21.65 cfs) for **seven (7)** consecutive days. • See Appendix C for more detailed instructions on accessing mean daily streamflows.
Option 2 – Calendar Trigger • For ease of implementation, communities with RGPCD below 65 may choose to implement calendar based restrictions that, at a minimum, will be in place during times of low streamflow, e.g., water restrictions in place from May 1 through September 30.	• No nonessential outdoor water use between 9 a.m. and 5 p.m.

Table 5B: on Limits Nonessential Outdoor Water Use When RGPCD is Above 65 (based on the previous year's RGPCD as reported on the ASR and accepted by the Department)	
Action Trigger	**Required Water Use Restrictions**
Drought Advisory or higher declared by the Massachusetts Drought Management Task Force. See: http://www.mass.gov/dcr/waterSupply/rainfall/drought.htm	• No nonessential outdoor water use. • Restrictions must be implemented and remain in place until drought level is returned to "Normal".
In addition, when RGPCD is above 65 for the previous year, Foxborough must choose one of the following options:	
Option 1 – Streamflow Trigger • At a minimum, implement restrictions whenever stream flow falls below a mean daily streamflow of 0.50 cubic feet per second per square mile (cfsm) for **three (3)** consecutive days between May 1st and September 30th. • Stream flow shall be measured at the USGS Stream Gage 01109000 – Wading River Near Norton, MA, in the Taunton River Basin. At Gage 01109000, 0.50 cfsm is equal to 21.65 cubic feet per second (cfs). • Readings for Gage 01109000 can be accessed at: http://waterdata.usgs.gov/ma/nwis/uv/?site_no=01109000&PARAmeter_cd=00065,00060	• No nonessential oudoor water use • Once implemented, the restrictions shall remain in place until streamflow at Gage 01109000 meets or exceeds 0.50 cfsm (21.65 cfs) for **seven (7)** consecutive days. • See Appendix C for more detailed instructions on accessing mean daily streamflows.
Option 2 – Calendar Trigger May 1 through September 30	• Nonessential outdoor water use allowed **one day per week** before 9 a.m. and after 5 p.m.

Option 1: Calendar Trigger

If Foxborough chooses Option 1, then Foxborough shall notify its customers each year by April 15th of the restrictions and the consequences for failing to adhere to the restrictions. Notice must include:

- The need to limit water use, especially nonessential outdoor water use, to protect streamflow for aquatic life and to ensure a sustainable drinking water supply;
- Ways individual homeowners can limit water use, especially nonessential outdoor water use;
- A detailed description of the restrictions and penalties for violating the restrictions.

Notice that restrictions have been put in place shall be filed each year with the Department within 14 days of the restriction's effective date. Filing shall be in writing on the Water Use Restrictions Form at:

http://www.mass.gov/dep/water/approvals/wmgforms.htm#conserve

Option 2: Stream Flow Trigger

If Foxborough chooses Option 2, when streamflow falls below 0.50 cfsm (21.65 cfs) at Gage 01109000 for three (3) consecutive days, Foxborough shall notify its customers as soon as possible, and in any event no more than three days after implementation, of the restrictions and the consequences for failing to adhere to the restrictions. Notice must include:

- The streamflow value triggering the required notification;
- The need to limit water use, especially nonessential outdoor water use, to protect streamflow for aquatic life and to ensure a sustainable drinking water supply;
- Ways individual homeowners can limit water use, especially nonessential outdoor water use;
- A detailed description of the restrictions and penalties for violating the restrictions.

Notice that restrictions have been put in place shall be filed with the Department within 14 days of the restriction's effective date. Filing shall be in writing on the Water Use Restrictions Form at:

http://www.mass.gov/dep/water/approvals/wmgforms.htm#conserve

Notice to customers and the Department need not be provided if Foxborough has already implemented water use restrictions that conform to the applicable restrictions and those restrictions are still in force.

Should the reliability of flow measurement at Gage 01109000 be so impaired as to question its accuracy, Foxborough may request the Department's review and approval for the trigger mechanism to be transferred to another gage. The Department reserves the right to require use of a different gage.

8. Water Withdrawals that Exceed Baseline Withdrawal Volumes

Foxborough's system-wide baseline withdrawal volume (Baseline) is 2.24 MGD.

Foxborough shall perform an Offset Feasibility Study the first time its system-wide water withdrawals during a calendar year exceed its Baseline, beginning with calendar year 2010.

If Foxborough is required to perform an Offset Feasibility Study (Study), Foxborough shall:

- Within 60 days of the filing of an ASR indicating that a Study is required, submit a Study Scope of Work to the Department for approval;
- Within 6 months of the Department's approval of the Study Scope of Work, submit the completed Study to the Department for approval;
- The Department's approval of the Study Scope of Work and the completed Study will be presumed if the Department does not issue a written approval or denial of such submission within 60 days of the date submitted to the Department for approval.

If Foxborough files a subsequent ASR indicating that withdrawals for a calendar year again have exceeded its Baseline, then Foxborough shall:

- Implement the results of the Study;
- Document such implementation annually at the time it files its ASR; and
- Continue to implement the results of the Study as long as withdrawals exceed Baseline.

9. Water Conservation Requirements

At a minimum, Foxborough shall implement the following conservation measures forthwith and shall be in compliance with these measures on or before the end date of this permit, February 28, 2010, or as identified in Table 6. The Department recognizes that Foxborough is currently implementing a number of these requirements. Compliance with the water conservation requirements shall be reported to the Department upon request, unless otherwise noted below.

Table 6: Minimum Water Conservation Requirements

System Audits and Leak Detection

1. At a minimum, Foxborough shall conduct leak detection of the entire system every three years.

2. Foxborough shall conduct leak detection of the entire distribution system within one year whenever the percentage of UAW increases by 5% or more (for example an increase from 3% to 8%) over the percentage reported on the ASR for the prior calendar year.

   Within 60 days of completing the leak detection survey, Foxborough shall submit to the Department a report detailing the survey, any leaks uncovered as a result of the survey or otherwise, dates of repair and the estimated water savings as a result of the repairs.

3. Foxborough shall conduct field surveys for leaks and repair programs in accordance with the AWWA Manual 36.

4. Foxborough shall have repair reports available for inspection by the Department. Foxborough shall establish a schedule for repairing leaks that is at least as stringent as the following:

   - Leaks of 15 gallons per minute or more shall be repaired as soon as possible, but no later than one (1) month after detection of the leak.
   - Leaks of less than 15 gallons per minute, but greater than 5 gallons per minute, shall be repaired as soon as possible, but no later than two (2) months after detection.
   - Leaks of 5 gallons per minute or less shall be repaired as soon as possible, but no later than six (6) months after detection, except that hydrants leaks of one (1) gallon or less per minute shall be repaired as soon as possible.
   - Leaks shall be repaired in accordance with Foxborough's priority schedule including leaks up to the property line, curb stop or service meter, as applicable.
   - Foxborough shall have water use regulations in place that require property owners to expeditiously repair leaks on their property.

   The following exceptions are considered:

   - Repair of leaks detected during winter months can be delayed until weather conditions become favorable for conducting repairs
   - Leaks in freeway, arterial or collector roadways may be delayed until other roadwork is being performed on the roadway.
   - MassHighway or local regulations may restrict the timing of tearing up pavement on roads to repair leaks.

   Reference: MWRA Regulations 360 CMR 12.09.

Table 6: Minimum Water Conservation Requirements
5. Foxborough shall conduct a water audit of the Town's water system every seven years. The water audit shall follow the general guidelines in the Department's *Water Audit Leak Detection Project Guidance Manual* (July 1, 2005), or updates thereof, except that the Town should not postpone undertaking the leak detection work until the conclusion of the water audit. The first water audit report shall contain the results of the program to reduce water use by the ten (10) largest customers (see requirements below regarding Industrial, Commercial and Institutional Water Conservation). Forms for the water audit can be found at: http://www.mass.gov/dep/water/approvals/guidance.doc
Metering
1. Foxborough shall calibrate all source and finished water meters at least annually and report date of calibration on the ASR.
2. Foxborough reports its system is 100% metered. By November 30, 2011, all water distribution system users shall have properly sized meters that meet AWWA calibration and accuracy performance standards. AWWA References: AWWA Manual M6 – Water Meters (or as amended). AWWA Manual M22 – Sizing Water Service Lines and Meters.
3. Foxborough shall have an ongoing program to inspect individual service meters to ensure that all service meters accurately measure the volume of water used by your customers. The metering program shall include regular meter maintenance, including testing, calibration, repair, replacement and checks for tampering to identify and correct illegal connections. The plan shall continue to include placement of sufficient funds in Foxborough's annual water budget to calibrate, repair, or replace meters as necessary.
Industrial, Commercial and Institutional Water Conservation
1. Foxborough shall review the use records for its industrial, commercial and institutional water users and develop an inventory of the largest water users. Foxborough shall develop and implement an outreach program designed to inform and (where appropriate) work with its largest industrial, commercial and institutional water users on ways to reduce their water use by the permit end date of November 30, 2011. Such outreach plans can include, but are not limited to: information on water audits, meter sizing, water reuse, low-flow plumbing fixtures, mandatory outdoor water use restrictions, suggestions for contacting trade associations for process specific information on water use reductions, and information on contacting the Executive Office of Environmental Affairs Office of Technical Assistance for Toxics Use Reduction (OTA). OTA offers a range of assistance and information to help facilities improve water use efficiency and reduce wastewater discharge. OTA can be contacted at (617) 626-1060 or at www.mass.gov/envir/ota.
2. Upon request by the Department, Foxborough shall report on industrial, commercial and institutional water conservation including the results of its review of water use records for industrial, commercial and institutional water users, the inventory of the largest water users, copies of any outreach materials distributed to industrial, commercial and institutional water users, and to the extent practical, a summary of water use reductions or savings that have resulted. Upon receipt of this report, the Department will take whatever action it deems appropriate to promote the interests of the Water Management Act, including without limitation requiring Foxborough to take additional actions to reduce industrial, commercial and institutional water use.

Table 6: Minimum Water Conservation Requirements
Lawn and Landscape
1. Foxborough shall continue to implement and enforce its water use ordinance as necessary. In accordance with 310 CMR 22.15(8)(a), Foxborough shall notify the Department in writing within 14 business days of implementing mandatory water use restrictions.
Pricing
1. Foxborough shall maintain a water pricing structure that includes the full cost of operating the water supply system and shall evaluate rates at a minimum every three to five years and adjust costs as needed. Full cost pricing factors all costs - operations, maintenance, capital, and indirect costs (environmental impacts, watershed protection) - into prices.
2. Foxborough shall not use 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.
Public Education and Outreach
1. By May 1, 2009, Foxborough shall develop and implement a Water Conservation Education Plan designed to educate the Town's water customers on ways to conserve water. Without limitation, Foxborough's plan may include the following actions: • Include in bill stuffers and/or bills, a work sheet to enable customers to track water use and conservation efforts and estimate the dollar savings; • Public space advertising/media stories on successes (and failures); • Conservation information centers perhaps run jointly with electric or gas company; • Speakers for community organizations; • Public service announcements; radio/T.V./audio-visual presentations; • Joint advertising with hardware stores to promote conservation devices; • Use of civic and professional organization resources; • Special events such as Conservation Fairs; • Develop materials that are targeted to schools with media that appeals to children, including materials on water resource projects and field trips; and • Provide multilingual materials as needed.
Residential and Public Sector Conservation
1. Foxborough shall meet the standards set forth in the Federal Energy Policy Act, 1992 and the Massachusetts Plumbing Code.
2. Foxborough shall meter or estimate water used by contractors using fire hydrants for pipe flushing and construction.
3. Foxborough has reported that all municipally owned public buildings have been retrofitted with water saving devices (faucet aerators, low flow shower heads and low flow toilets). Foxborough shall continue to ensure that water savings devices are installed in all municipal buildings.

10. Reporting Requirements

Foxborough shall report annually on its ASR the raw water volumes and finished water volumes for the entire water system and the raw water volumes for individual water withdrawal points.

11. General Permit Conditions (applicable to all Permittees)

No withdrawal in excess of 100,000 gallons per day over the registered volume (if any) shall be made following the expiration of this permit, unless before that date the Department has received a renewal permit application pursuant to 310 CMR 36.00.

1. **Duty to Comply** The permittee shall comply at all times with the terms and conditions of this permit, the Act and all applicable State and Federal statutes and regulations.

2. **Operation and Maintenance** The permittee shall at all times properly operate and maintain all facilities and equipment installed or used to withdraw up to the authorized volume so as not to impair the purposes and interests of the Act.

3. **Entry and Inspections** The permittee or the permittee's agent shall allow personnel or authorized agents or employees of the Department to enter and examine any property for the purpose of determining compliance with this permit, the Act or the regulations published pursuant thereto, upon presentation of proper identification and an oral statement of purpose.

4. **Water Emergency** Withdrawal volumes authorized by this permit are subject to restriction in any water emergency declared by the Department pursuant to MGL c 21G ss 15-17, MGL c 150 ss 111, or any other enabling authority.

5. **Transfer of Permits** This permit shall not be transferred in whole or in part unless and until the Department approves such transfer in writing, pursuant to a transfer application on forms provided by the Department requesting such approval and received by the Department at least thirty (30) days before the effective date of the proposed transfer. No transfer application shall be deemed filed unless it is accompanied by the applicable transfer fee established by 310 CMR 36.37.

6. **Duty to Report** The permittee shall submit annually, on a form provided by the Department, a certified statement of the withdrawal. Such report is to be received by the Department by the date specified by the Department. Such report must be mailed or hand delivered to the address specified on the report form.

7. **Duty to Maintain Records** The permittee shall be responsible for maintaining withdrawal records as specified by this permit.

8. **Metering** Withdrawal points shall be metered. Meters shall be calibrated annually. Meter shall be maintained and replaced as necessary to ensure the accuracy of the withdrawal records.

APPEAL RIGHTS AND TIME LIMITS

This permit is a decision of the Department. Any person aggrieved by this decision may request an adjudicatory hearing. Any such request must be made in writing, by certified mail and received by the Department within twenty-one (21) days of the date of receipt of this permit.

No request for an appeal of this permit shall be validly filed unless a copy of the request is sent by certified mail, or delivered by hand to the local water resources management official in the community in which the withdrawal point is located; and for any person appealing this decision, who is not the applicant, unless such person notifies the permit applicant of the appeal in writing by certified mail or by hand within five (5) days of mailing the appeal to the Department.

CONTENTS OF HEARING REQUEST

310 CMR 1.01(6)(b) requires the request to include a clear and concise statement of the facts which are the grounds for the request and the relief sought. In addition, the request must include a statement of the reasons why the decision of the Department is not consistent with applicable rules and regulations, and for any person appealing this decision who is not the applicant, a clear and concise statement of how that person is aggrieved by the issuance of his permit.

FILING FEE AND ADDRESS

The hearing request, together with a valid check, payable to the Commonwealth of Massachusetts in the amount of $100 must be mailed to:

Commonwealth of Massachusetts
Department of Environmental Protection
P.O. Box 4062
Boston, Ma. 02211

The request shall be dismissed if the filing fee is not paid, unless the appellant is exempt or granted a waiver as described below.

EXEMPTIONS

The filing fee is not required if the appellant is a municipality (or municipal agency), county, district of the Commonwealth of Massachusetts, or a municipal housing authority.

WAIVER

The Department may waive the adjudicatory hearing filing fee for any person who demonstrates to the satisfaction of the Department that the fee will create an undue financial hardship. A person seeking a waiver must file, together with the hearing request, an affidavit setting forth the facts which support the claim of undue hardship.

Appendix A – Residential Gallons Per Capita Day

I. RGPCD Compliance Plan Requirement

If Foxborough fails to document compliance with the RGPCD performance standard in its 2010 ASR, or in any year's ASR thereafter, then Foxborough must file with that ASR a Residential Gallons Per Capita Day Compliance Plan (RGPCD Plan) which shall:

1. meet the requirement set forth below in Section II;
2. include measures to be implemented to meet the performance standard, and
3. include the schedule for implementing such measures.

The filing of a RGPCD plan shall not constitute a return to compliance, nor shall it affect the Department's authority to take action in response to Foxborough's failure to meet the performance standard.

If a RGPCD plan is required, Foxborough must:

1. submit information and supporting documentation sufficient to demonstrate compliance with its RGPCD plan annually at the time it files its ASR, and
2. continue to implement the RGPCD plan until it complies with the performance standard and such compliance is documented in Foxborough's ASR for the calendar year in which the standard is met.

II. Contents of a Residential Gallons Per Capita Day Compliance Plan

At a minimum, all RGPCD compliance plans must include a detailed:

1. description of the actions taken during the prior calendar year to meet the performance standard;
2. analysis of the cause of the failure to meet the performance standard;
3. description and schedule of the actions that will be taken to meet the performance standard, and
4. analysis of how the actions described in c. will address the specific circumstances that resulted in the failure to meet the performance standard.

RGPCD plans may be amended to revise the actions that will be taken to meet the performance standard. Amended RGPCD plans must include the information set forth in paragraph above.

At a minimum, all RGPCD plans for failure to meet the RGPCD performance standard must include implementation of at least one of the following residential conservation programs:

1. a program that provides water saving devices such as faucet aerators and low flow shower heads at cost;
2. a program that provides rebates or other incentives for the purchase of low water use appliances (washing machines, dishwashers, and toilets), or
3. the adoption and enforcement of an ordinance, bylaw or regulation to require the installation of moisture sensors or similar climate related control technology on all automatic irrigation systems.

If Foxborough is already implementing one or more of these programs, it must include in its RGPCD plan the continued implementation of such program(s), as well as implementation of at least one additional program. All programs must include a public information component designed to inform customers of the program and to encourage participation in the program.

Without limitation, RGPCD plans for failure to meet the RGPCD performance standard may include the following actions in addition to those outlined in the paragraph above:

1. the use of an increasing block water rate or a seasonal water rate structure as a tool to encourage water conservation;
2. a program that provides rebates or other incentives for the installation of moisture sensors or similar climate related control technology on automatic irrigation systems;
3. the adoption and enforcement of an ordinance, bylaw or regulation to require that all new construction include water saving devices and low water use appliances;
4. the adoption and enforcement of an ordinance, bylaw or regulation to require that all new construction minimize lawn area and/or irrigated lawn area, maximize the use of drought resistant landscaping, and maximize the use of top soil with a high water retention rate;
5. the implementation of a program to encourage the use of cisterns or rain barrels for outside watering, and
6. the implementation of monthly or quarterly billing.

Appendix B – Unaccounted for Water

Unaccounted-for Water (UAW) is defined as the residual resulting from the total amount of water supplied to a distribution system as measured by master meters, minus the sum of all amounts of water measured by consumption meters in the distribution systems, and minus confidently estimated and documented amounts used for certain necessary purposes.

Examples of UAW include, but are not limited to: leakage, meter inaccuracies (unless they fall under the category of adjustment per results of source meter calibration described in the ASR), errors in estimation of stopped meters, unauthorized hydrant openings, illegal connections, data processing errors, and undocumented fire fighting uses.

Examples of uses that can be confidently estimated and documented in writing include storage tank overflow and drainage; water main flushing and flow testing; fire fighting; bleeding or blow-offs; sewer and stormwater system flushing; and cleaning and street cleaning. Generally, leakage is considered to be UAW, however, individual water main breaks can be discounted on a case-by-case basis. Any adjustment in the calculation of UAW made as a result of confidently estimated uses shall be documented as required in the ASR.

I. UAW Compliance Plan Requirement

If Foxborough fails to document compliance with the UAW performance standard in its 2010 ASR, or in any year's ASR thereafter, then Foxborough must file with that ASR a UAW Compliance Plan (UAW Plan) which shall:

1. meet the requirements set forth below in Section II;
2. include measures to be implemented to meet the performance standard, and
3. include the schedule for implementing such measures.

The filing of a UAW plan shall not constitute a return to compliance, nor shall if affect the Department's authority to take action in response to Foxborough's failure to meet the performance standard.

If a UAW plan is required, Foxborough must:

1. submit information and supporting documentation sufficient to demonstrate compliance with its UAW plan annually at the time it files its ASR, and
2. continue to implement the UAW plan until it complies with the performance standard and such compliance is documented in Foxborough's ASR for the calendar year in which the standard is met.

II. Contents of an UAW Compliance Plan

Foxborough has the choice to file a UAW plan with measures tailored to the specific needs of its water supply system (Individualized UAW plan) or a UAW plan that includes Best Management Practices (BMP UAW plan).

At a minimum, all UAW plans must include a detailed:

1. description of the actions taken during the prior calendar year to meet the applicable performance standard;
2. analysis of the cause of the failure to meet the performance standard;
3. description and schedule of the actions that will be taken to meet the performance standard, and
4. analysis of how the actions described in c. will address the specific circumstances that resulted in the failure to meet the performance standard.

UAW plans may be amended to revise the actions that will be taken to meet the performance standard. Amended UAW plans must include the information set forth in the paragraph above.

Individualized UAW Compliance Plan
Without limitation, individualized UAW compliance plans for failure to meet the UAW performance standard may include any of the actions set forth in the BMP UAW compliance plan below.

BMP UAW Compliance Plan
At a minimum, all BMP UAW plans for failure to meet the UAW performance standard must include all of the following actions:

1. within one year of filing the UAW plan, complete a water audit and leak detection survey of the entire system and submit completed audit and survey to the Department;
2. within one year of completing the audit and leak detection survey, conduct sufficient repairs to reduce by 75% (by water volume) all leaks detected in the survey; and within one year of completing such repairs, conduct additional repairs of leaks detected in the survey as may be necessary to reduce Foxborough's UAW to 10% or less;
3. implementation of a program that ensures the inspection and evaluation of all water meters and, as appropriate, the repair, replacement and calibration of water meters in accordance with the following schedule:

   Large Meters (2" or greater) - within one year of filing the BMP UAW plan
   Medium Meters (1" or greater and less than 2") - within two years of filing the BMP UAW plan
   Small Meters (less than 1") - – within three years of filing the BMP UAW Plan;
4. implementation of monthly or quarterly billing within three years of filing the BMP UAW Plan, and
5. within one year of filing the UAW Plan, implementation of a water pricing structure that achieves sufficient revenues to pay the full cost of operating the system including, without limitation, the costs of repairs under paragraph a., the costs of meter repairs, replacements and calibrations under paragraph b., the costs of employees and equipment, and ongoing maintenance and capital costs.

Appendix C – Limits on Nonessential Outdoor Water Use

I. Nonessential Outdoor Water Use

Nonessential outdoor water use includes uses that are not required:

1. for health or safety reasons;
2. by regulation;
3. for the production of food and fiber;
4. for the maintenance of livestock, or
5. to meet the core functions of a business (for example, irrigation by golf courses as necessary to maintain tees, greens, and limited fairway watering, or irrigation by plant nurseries as necessary to maintain stock).

Examples of **nonessential** outdoor water uses include:

1. irrigation of lawns via sprinklers or automatic irrigation systems;
2. washing of vehicles other than by means of a commercial car wash, except as necessary for operator safety, and
3. washing of exterior building surfaces, parking lots, driveways or sidewalks, except as necessary to apply paint, preservatives, stucco, pavement or cement.

Examples of **acceptable** outdoor water uses before 9 a.m. and after 5 p.m. include:

1. irrigation to establish a new lawn during the months of May and September;
2. irrigation of public parks and recreational fields, and
3. irrigation of lawns, gardens, flowers, and ornamental plants via hand held hoses only.

II. Accessing Mean Daily Streamflows for Gage 01109000 Via the USGS Website

The USGS Steamflow website default shows Massachusetts streamflows in real time, i.e., the most recent periodic, usually quarterly hourly, reading made at each USGS stream gage. This real-time data can vary widely over the course of a day and is not used to trigger the Limits on Nonessential Outdoor Water Use.

To trigger the limits nonessential outdoor water use, the Department relies on the mean daily streamflows. The mean daily cannot be calculated until after midnight each day when USGS computes the hourly data into a mean daily streamflow.

Go to:

http://waterdata.usgs.gov/ma/nwis/uv/?site_no=01109000&PARAmeter_cd=00065,00060

for daily mean streamflow data at Gage 01109000. If you need assistance navigating the USGS web site to find the mean daily streamflow, contact Tom Lamonte, Water Management Program staff hydrologist, at (617) 292-5532, or Leslie O'Shea at (508) 946-2837.

The USGS web site for gage in Massachusetts can be accessed at:

http://waterdata.usgs.gov/ma/nwis/current/?type=flow.