COMMONWEALTH OF MASSACHUSETTS
EXECUTIVE OFFICE OF ENERGY & ENVIRONMENTAL AFFAIRS
DEPARTMENT OF ENVIRONMENTAL PROTECTION
ONE WINTER STREET, BOSTON, MA 02108 617-292-5500

DEVAL L. PATRICK
Governor

TIMOTHY P. MURRAY
Lieutenant Governor

IAN A. BOWLES
Secretary

LAURIE BURT
Commissioner

FINAL WATER WITHDRAWAL PERMIT
MGL c 21G

This permit is approved pursuant to the Massachusetts Water Management Act 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: 9P3-3-20-199.02 **RIVER BASIN:** Charles Basin

PERMITTEE: Town of Needham
470 Dedham Avenue
Needham, MA 02192

PERMIT RENEWAL ISSUANCE DATE: March 1, 2010

EXPIRATION DATE: February 28, 2029

NUMBER OF WITHDRAWAL POINTS: 3
Groundwater: 3 Surface water: 0

USE: Public Water Supply

DAYS OF OPERATION: 365

LOCATION:

Table 1: Withdrawal Point Identification

Source Name	PWS Source ID Code
Well #1	3199000-01G
Well #2	3199000-04G
Well #3	3199000-02G

SPECIAL CONDITIONS

1. Maximum Authorized Annual Average Withdrawal Volume

This permit authorizes the Town of Needham (Needham) to withdraw water from the Charles River Basin at the rate described below in Table 2. The volume reflected by this rate is in addition to the 2.63 million gallons per day previously authorized to Needham under Water Management Act Registration #3-20-199.01 for withdrawal from the Charles River Basin. The permitted volume is an interim allocation expressed both as an annual average daily withdrawal rate (million gallons per day or MGD), and as a total annual withdrawal volume (million gallons per year or MGY) until a water needs forecast is completed for Needham by the Department of Conservation and Recreation (DCR). Within four (4) years of the date of issuance of this Permit, Needham must submit documentation sufficient to generate a water needs forecast consistent with DCR Policy for Developing Water Needs Forecasts for Public Water Suppliers and Communities and Methodology for Implementation, effective December 13, 2007.

The Department of Environmental Protection (MassDEP) bases these withdrawal volumes on the raw water volume from the authorized withdrawal points, and will use the raw water amount to assess compliance with the registered and permitted withdrawal volumes. Needham's baseline withdrawal for the purpose of triggering the Special Condition, "Water Withdrawals that Exceed Baseline Withdrawal Volumes" is 2.63 MGD, or 959.95 MGY.

Table 2: Maximum Authorized Annual Withdrawal Volumes

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	3/1/2010 to 2/28/2014	0.31	113.15	2.94	1073.1
Period Two* Years 6-10	3/1/2014 to 2/29/2019	0.31	113.15	2.94	1073.1
Period Three* Years 11-15	3/1/2019 to 2/28/2024	0.31	113.15	2.94	1073.1
Period Four* Years 16-20	3/1/2024 to 2/28/2029	0.61	222.65	3.24	1182.6

* This permit is being issued under the Interim Safe Yield methodology adopted by MassDEP on December 14, 2009. Under G.L.c.21G, s.11 MassDEP cannot issue permits when the combined existing, permitted and proposed withdrawal volumes exceed the safe yield of the water source. If MassDEP determines that the Long-Term Safe Yield is less than the Interim Safe Yield calculated for this basin, the volumes authorized in all Water Management permits in this basin shall be reviewed and the permitted volumes adjusted accordingly. The final Long-Term Safe Yield for the Charles River Basin will be developed by November 3, 2010. Permit review in accordance with the Long-Term Safe Yield shall be no later than the 5-year review in 2014. Access to water volumes authorized beyond Period One (Years 2-5) of this permit is contingent upon all permitted withdrawals in the basin being within the Long-Term Safe Yield, and on MassDEP completing a 5-year review modification or a permit amendment incorporating the Long-Term Safe Yield determination.

2. Maximum Authorized Daily Withdrawals From Each Withdrawal Point

Withdrawals from individual withdrawal points are not to exceed the approved maximum daily volumes listed below without specific advance written approval from MassDEP. The authorized maximum daily volume is the approved rate of each source. In no event shall the combined withdrawals from the individual withdrawal points exceed the withdrawal volumes authorized above in Special Condition 1.

Table 3: Maximum Daily Withdrawal Volumes

Source Name	PWS Source ID Code	Maximum Daily Rate (MGD)
Well #1	3199000-01G	1.87
Well #2	3199000-04G	1.73
Well #3	3199000-02G	1.12

3. Zone of Contribution Delineations

Department records show that Needham's wells all have MassDEP approved Zone II delineations. No further Zone II work is required as a condition of this permit.

4. Water Supply Source Protection

By June 30, 2010, Needham must demonstrate compliance with MassDEP's Best Effort Requirement (310 CMR 22.21(1)), for those portions of Needham's Zone II that extend into the Towns of Natick and Wellesley. At a minimum Needham must provide these communities with a copy of the Wellhead Protection regulations and request they protect those areas of Needham's Zone II in their community. Because the Town of Dover has already protected those portions of Needham's Zone II in their community, no further effort is required with Dover.

By June 30, 2010, the Town of Needham must also adopt a non-zoning floor drain control that meets MassDEP's Wellhead Protection Requirements (310 CMR 22.21(2)(a)(8)).

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

Needham's performance standard for Residential Gallons Per Capita Day (RGPCD) is 65 gallons. Needham shall be in compliance with the performance standard **by December 31, 2011.** Needham RGPCD for 2008 was 67. Needham is required to report its RGPCD water use annually in its Annual Statistical Report (ASR) so as to document compliance with this performance standard. Needham's ASR shall include the calculation used to derive that figure as part of its ASR including, without limitation, the source of the data used to establish the service population and the year in which this data was developed.

See Appendix A for information on the requirements if the performance standard for RGPCD is not met.

6. Performance Standard for Unaccounted for Water

Needham's performance standard for Unaccounted for Water (UAW) is 10% of overall water withdrawal. Needham's UAW for 2008 was 7%. Needham shall be in compliance with the performance standard by December 31, 2011. Needham is required to report its UAW annually in its Annual Statistical Report (ASR) so as to document compliance with this performance standard. Needham's ASR shall include the calculation used to derive that figure as part of its ASR including, without limitation, the source of data used, the methodology for calculating UAW and any assumptions used in making the calculation.

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 system, and minus confidently estimated and documented amounts used for certain necessary purposes.
UAW shall include, without limitation: unavoidable leakage, recoverable leakage, meter inaccuracies (unless they fall under the category of source meter calibration which allows for adjustment per results of source meter calibration); errors in estimation of stopped meters, unauthorized hydrant openings, illegal connections, stand pipe overflows, data processing errors; and undocumented fire fighting uses. The need for water main flushing and the use of water in construction or meter calibration shall be metered or

estimated as appropriate to assist in determining actual demand. Volumes flushed to waste shall be reported on Needham's ASR.

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. Any adjustments made as a result of the properly documented source meter calibration shall be provided as required by the ASR.

Any adjustment in the calculation of UAW made as a result of confidently estimated uses shall be fully documented as required in the ASR.

See Appendix B for information on requirements if the performance standard for UAW is not met.

7. Seasonal Limits on Nonessential Outdoor Water Use

Needham shall limit nonessential outdoor water use through mandatory restrictions from May 1st through September 30th as outlined in Table 4 below.

Needham shall be responsible for tracking streamflows and drought advisories and recording when restrictions are implemented if streamflow triggered restrictions are implemented. See Accessing Streamflow and Drought Advisory Website Information in Table 4 for instructions.

Needham shall document compliance with the seasonal limits on nonessential outdoor water use annually in its Annual Statistical Report (ASR), and indicate whether it anticipates implementing calendar triggered restrictions or streamflow triggered restrictions during the next year.

Nothing in this permit shall prevent Needham from implementing water use restrictions that are more restrictive than those set forth in this permit.

Water Uses Restrictions

Nonessential outdoor water uses that are subject to mandatory restrictions include:

- irrigation of lawns and landscaping via sprinklers or automatic irrigation systems;
- washing of vehicles, except in a commercial car wash or as necessary for operator safety; and
- washing of exterior building surfaces, parking lots, driveways or sidewalks, except as necessary to apply surface treatments such as paint, preservatives, stucco, pavement or cement.

The following uses may be allowed when mandatory restrictions are in place:

- irrigation to establish a new lawn and new plantings during the months of May and September;
- irrigation of public parks and recreational fields by means of automatic sprinklers outside the hours of 9 am to 5 pm; and
- watering lawns, gardens, flowers and ornamental plants by means of a hand-held hose.

Water uses NOT subject to mandatory restrictions are those required:

- for health or safety reasons;
- by regulation;
- for the production of food and fiber;
- for the maintenance of livestock; or
- 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).

Table 4 Seasonal Limits on Nonessential Outdoor Water Use

Permittees meeting the 65 RGPCD standard for the preceding year (as reported in the ASR and accepted by MassDEP) must implement either:

1. **Calendar Triggered Restrictions from May 1st through September 30th**
   No nonessential outdoor water use from 9 am - 5 pm

2. **Streamflow Triggered Restrictions from May 1st through September 30th**
   No nonessential outdoor water use from 9 am - 5 pm whenever:
   a) Streamflow at the assigned USGS local stream gage, 01104500 Charles River at Waltham, falls below the following designated flow triggers for **three (3)** consecutive days:
   - May 1st through June 30th: **279 cfs** (based on minimum flows that are protective of habitat for fish spawning during the spring bioperiod), and
   - July 1st through September 30th: **98 cfs** (based on minimum flows that are protective of habitat for fish rearing and growth during the summer bioperiod).

   Once implemented, the restrictions shall remain in place until streamflow at the assigned USGS local stream gage meets or exceeds the trigger streamflow for **seven (7)** consecutive days; or

   b) A Drought Advisory or higher is declared by the Massachusetts Drought Management Task Force.

Permittees NOT meeting the 65 RGPCD standard for the preceding year (as reported in the ASR and accepted by MassDEP) must implement either:

1. **Calendar Triggered Restrictions from May 1st through September 30th**
   a) **Nonessential outdoor water use is allowed TWO DAYS per week** before 9 am and after 5 pm; and

   b) **Nonessential outdoor water use is allowed ONE DAY per week** before 9 am and after 5 pm; whenever a Drought Advisory or higher is declared by the Massachusetts Drought Management Task Force.

2. **Streamflow Triggered Restrictions from May 1st through September 30th**
   Nonessential outdoor water use is allowed ONE DAY per week before 9 a.m. and after 5 p.m. whenever:
   a) Streamflow at the assigned USGS local stream gage, 011004500 Charles River at Waltham, falls below the following designated flow triggers for **three (3)** consecutive days:
   - May 1st through June 30th: **279 cfs** (based on minimum flows that are protective of habitat for fish spawning during the spring bioperiod), and
   - July 1st through September 30th: **98 cfs** (based on minimum flows that are protective of habitat for fish rearing and growth during the summer bioperiod).

   Once implemented, the restrictions shall remain in place until streamflow at the assigned USGS local stream gage meets or exceeds the trigger streamflow for **seven (7)** consecutive days; or

   b) A Drought Advisory or higher is declared by the Massachusetts Drought Management Task Force.

Instructions for Accessing Streamflow and Drought Advisory Website Information

Streamflow information is available at the USGS National Water Information System (NWIS): Web Interface. The USGS NWIS default shows Massachusetts streamflows in real time, i.e., the most recent, usually quarterly hourly, reading made at each USGS stream gage.

Seasonal Limits on Nonessential Outdoor Water Use are implemented when the mean daily streamflow falls below the designated trigger. The mean daily flow is not calculated until after midnight each day when the USGS computes the hourly data into a mean daily streamflow. As a result, permittees must use the mean daily streamflow from the preceding day when tracking streamflows.

Mean daily streamflow gage readings are available at the USGS NWIS Web Interface at http://waterdata.usgs.gov/ma/nwis/current/?type=flow.

- Scroll down to gage #01104500 Charles River at Waltham.
- Click on the gage number.
- Scroll down to "Provisional Date Subject to Revision – Available data for this site" and click on the drop down menu.
- Click on "Time-series: Daily data" and hit GO.
- Scroll down to the "Available Parameters" box. Within the box, be sure "Discharge (mean)" is checked, then, under "Output Format" click "Table" and hit GO.
- Scroll down to "Daily Mean Discharge, cubic feet per second" table and find the current date on the table.
- Compare the cubic feet per second (cfs) measurement shown on the table to the cfs shown under Streamflow Triggered Restrictions above.

Drought Advisory information is available at the Massachusetts Department of Conservation and Recreation (DCR) Drought Status Website at http://www.mass.gov/dcr/waterSupply/rainfall/drought.htm.

- Under "Drought Status Reports", click on "drought map" on the right-hand side of the page. The color coded map displays the six drought regions in Massachusetts. Restrictions are implemented when a Drought Advisory, Watch, Warning or Emergency is announced through the DCR website.

Public Notice of Water Use Restrictions

Needham shall notify its customers of the restrictions and the consequences of failing to adhere to the restrictions.

- For calendar-triggered restrictions, customers shall be notified by April 15th each year.
- For streamflow-triggered restrictions, when streamflow at the assigned USGS local stream gage falls below a streamflow trigger for three consecutive days, customers shall be notified as soon as possible, but within three days of implementing the restrictions.

Notice to customers shall include the following:

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

Notice that restrictions have been put in place shall be filed each year with MassDEP 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 MassDEP need not be provided if Needham has already implemented water use restrictions that conform to the applicable restrictions and those restrictions are still in force.

8. Water Withdrawals that Exceed Baseline Withdrawal Volumes

Needham's baseline withdrawal volume (Baseline) is 2.63 MGD or 959.95 MGY.

Needham shall perform an Offset Feasibility Study the first time its water withdrawals for a calendar year exceed its Baseline, beginning with Calendar year 2011. Needham shall make a written analysis of the cost effectiveness of each of the following Best Management Practices (BMPs) and any other BMPs selected by Needham to offset withdrawal increases.

BMPs to be evaluated shall include, but are not limited to:
Development Guidelines

- Low Impact Development, Conservation Development and Smart Growth bylaws or regulations in addition to those implemented through the November 2001 Best Development Practices Guidebook
- Land clearing/development bylaws (loam, native vegetation site clearing limitation, lawn size limitations) in addition to those implemented through the November 2001 Best Development Practices Guidebook

Water Bank

- Traditional water and/or sewer bank
- Institute "hook-up" fee for all new development with revenues to be dedicated to water conservation programs such as rebate programs for homeowners (efficient appliances)

Stormwater Management and Recharge

- Stormwater Utility or dedicated stormwater fees used to build and maintain stormwater infiltration facilities
- By-law implementing MA stormwater recharge standards townwide beyond the wetland areas required in the MA Stormwater Policy
- By-law requiring stormwater recharge above the rates required in the MA Stormwater Policy

Infiltration and Inflow

- Enhanced I/I program going forward for the next 5 years

Local Infiltration of Waste Water

If Needham is required to perform a Study, Needham shall:

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

If Needham files a subsequent ASR indicating that withdrawals for a calendar year again have exceeded its Baseline, then Needham 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. Requirement to Report Raw and Finished Water Volumes

Needham 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.

10. Water Conservation Requirements

At a minimum, Needham shall implement the following conservation measures forthwith and shall be in compliance with these measures on or before February 28, 2014, the next 5 Year Review of this permit. MassDEP recognizes that Needham is currently implementing a number of these requirements.

Compliance with the water conservation requirements shall be reported to MassDEP upon request or by February 28, 2014, the date of the next Review of the permit, unless otherwise noted below.

Table 5: Minimum Water Conservation Requirements

System Water Audits and Leak Detection
1. At a minimum, conduct a full leak detection survey every three years unless the results of the water audit indicate that recoverable leakage constitutes a small portion of the system's unaccounted-for water. The first full leak detection survey shall be completed no later than 3 yrs from the date of last documented leak detection survey.
2. Perform a leak detection survey of those sections of the distribution system that have not been surveyed within the last year whenever the percentage of unaccounted for water 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, the Permittee shall submit to MassDEP for its review a report detailing the leak detection 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. Conduct field surveys for leaks and repair programs in accordance with the *AWWA Manual 36*.
4. The Permittee shall have repair reports available for inspection by MassDEP. Establish a priority 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 not later than one month after leak detection.* • Leaks of less than 15 gallons per minute, but greater than 5 gallons per minute, shall be repaired as soon as possible but not later than two months after leak detection.* • Leaks of 5 gallons per minute or less shall be repaired as soon as possible but not later than six months after leak detection, except that hydrant leaks of one gallon or less per minute shall be repaired as soon as possible.* • Leaks shall be repaired in accordance with the priority schedule including leaks up to the property line, curb stop or service meter, as applicable. • Have water use regulations in place that require property owners to expeditiously repair leaks on their property. The following exceptions can be considered: • Repair of leakage detected during winter months can be delayed until weather conditions become favorable for conducting repairs;* and • Leaks in freeway, arterial or collector roadways may be coordinated with other scheduled projects being performed on the roadway.** *Reference: MWRA regulations 360 CMR 12.09 **Mass Highway or local regulations may regulate the timing of tearing up pavement on roads to repair leaks.
5. Ensure placement of sufficient funds in the annual water budget to conduct water audits and leak detection and repair leaks as necessary.
Metering
1. Calibrate all source and finished water meters at least annually and report date of calibration on the ASR.
2. Ensure that the system is 100% metered, including all water use at municipal facilities (schools, school athletic fields, etc.).
3. All water distribution system users shall have properly sized service lines and meters that meet AWWA

Table 5: Minimum Water Conservation Requirements
calibration and accuracy performance standards. AWWA References: AWWA Manual M22 – Sizing Water Service Lines and Meters AWWA Manual M6 – Water Meters, or as amended
4. 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.
5. Ensure placement of sufficient funds in the annual water budget to calibrate, repair, or replace meters as necessary.
Pricing
1. Continue to implement a water revenue structure that includes the full cost of operating the water supply system in compliance with state and federal requirements by the next 5-year review (February 2014). Evaluate revenues every three to five years and adjust rates as needed. Full cost pricing factors all costs - operations, maintenance, capital, and indirect costs (environmental impacts, watershed protection) - into the revenue structure. AWWA References for Additional Information on Pricing: AWWA Manual 1- Principals of Water Rates, Fees and Charges AWWA Manual 29- Fundamentals of Water Utility Financing
2. Permittee reports using an increasing block rate structure and shall continue to do so.
Residential and Public Sector Conservation
1. The Permittee shall meet the standards set forth in the Federal Energy Policy Act, 1992 and the Massachusetts Plumbing Code, as amended.
2. Meter or estimate water used by contractors using fire hydrants for pipe flushing and construction.
3. Municipal buildings • By January 1, 2011, submit to MassDEP a status report detailing which municipally owned public buildings in the Needham's service area have been retrofitted with water saving devices (faucet aerators, low flow shower heads and low flow toilets) and which of those buildings have yet to be retrofitted, along with a schedule to complete the retrofitting by February 28, 2014. • On or before February 28, 2014, Needham shall ensure that all municipally owned public buildings in the service area are retrofitted. Note municipally owned public buildings that may be scheduled for rehab or demolition after the February 28, 2014 deadline for completing the retrofits, may with MassDEP's approval, be exempted from this condition based on the schedule of work. Status report required above should identify those buildings and schedule for repairs/demolition
Industrial and Commercial Water Conservation
1. Needham shall review the use records for its industrial, commercial and institutional water users and develop an inventory of the largest water users. Needham 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 February 28, 2014. 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) which 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 MassDEP, the Permittee 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

Table 5: Minimum Water Conservation Requirements

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, MassDEP will take whatever action it deems appropriate to promote the interests of the Water Management Act, including without limitation requiring the Permittee to take additional actions to reduce industrial, commercial and institutional water use.

Public Education and Outreach

1. Continue to develop and implement a Water Conservation Education Plan. Without limitation, Needham's plan may include the following actions:
   - Annual work sheets, included in water bills or under separate cover, 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;
   - Partner with garden clubs, or other private and non-profit organizations, to promote efficient water use;
   - Provide information on water-wise landscaping, gardening, efficient irrigation and lawn care practice;
   - Public service announcements; radio/T.V./audio-visual presentations;
   - Joint advertising with hardware stores to promote conservation devices;
   - Water conservation workshops for the general public;
   - 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
   - Make multilingual materials available as needed.

   References and additional information available through the USEPA Water Sense Program http://www.epa.gov/watersense

2. Upon request of MassDEP, the permittee shall report on its public education and outreach effort, including a summary of activities developed for specific target audiences, any events or activities sponsored to promote water conservation and copies of written materials.

GENERAL PERMIT CONDITIONS (applicable to all Permittees)

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 water 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 MassDEP 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 MassDEP 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 MassDEP approves such transfer in writing, pursuant to a transfer application on forms provided by MassDEP requesting such approval and received by MassDEP 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 complete and submit annually, on a form provided by MassDEP, all of the information required by said form including, without limitation, a certified statement of the withdrawal. Such report shall be received by MassDEP by the date specified on the form each year. Such report must be mailed or hand delivered to:

   Department of Environmental Protection
   Drinking Water Program
   Water Management Program
   One Winter Street, 5th Floor
   Boston, MA 02108

7. **Duty to Maintain Records** The permittee shall maintain withdrawal records and other information in sufficient detail to demonstrate compliance with this permit.

8. **Metering** All withdrawal points included within the permit shall be metered within one year of the date of issuance of the permit. Meters 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 MassDEP. Any person aggrieved by this decision may request an adjudicatory hearing under the provisions of MGL c 30A. Any such request must be made in writing, by certified mail and received by MassDEP 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 city or town in which the withdrawal point(s) 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 MassDEP.

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 MassDEP 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 this 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 city or town (or municipal agency), county, district of the Commonwealth of Massachusetts, or a municipal housing authority.

WAIVER
MassDEP may waive the adjudicatory hearing filing fee for any person who demonstrates to the satisfaction of MassDEP 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. Compliance Plan Requirement

If the permittee fails to achieve and document compliance with the RGPCD performance standard in its Annual Statistical Report (ASR), then the permittee shall file with that ASR a Residential Gallons Per Capita Day Compliance Plan (RGPCD Plan) which shall:

a. meet the requirements set forth below in Section II;
b. include measures to be implemented to meet the performance standard; and
c. include the schedule for implementing such measures.

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

If a RGPCD Plan is required, the permittee must:

a. submit information and supporting documentation sufficient to demonstrate compliance with its RGPCD Plan annually at the time it files its ASR; and
b. continue to implement the RGPCD Plan until it complies with the performance standard and such compliance is documented in the permittee's ASR for the calendar year in which the standard is met.

II. Contents of a RGPCD Plan

A permittee that does not meet the 65 RGPCD performance standard within 2 years (for Needham, December 31, 2011), has the choice to file a RGPCD Plan containing measures that the permittee believes will be sufficient to bring the system into compliance with the performance standard (Individual RGPCD Plan) or may adopt the MassDEP RGPCD Functional Equivalence Plan that includes mandated Best Management Practices (BMPs).

A permittee that has been unable to meet the 65 RGPCD performance standard within 5 years (for Needham, December 31, 2014) must implement the MassDEP RGPCD Functional Equivalence Plan to be considered functionally equivalent with the performance standard.

At a minimum, all RGPCD Plans must include a detailed:

a. description of the actions taken during the prior calendar year to meet the performance standard;
b. analysis of the cause of the failure to meet the performance standard;
c. description and schedule of the actions that will be taken to meet the performance standard; and
d. 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.

Individual RGPCD Plan

Individual RGPCD Plan will document a plan to adopt and implement measures tailored to the specific needs of the water supply system that the permittee believes will be sufficient to bring the system into compliance with the performance standard within three years.

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

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

If the permittee is already implementing one or more of these programs, it must include in its Individual 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, the Individual RGPCD Plan for failure to meet the RGPCD performance standard may include any of the actions set forth in the MassDEP RGPCD Functional Equivalence Plan below.

MassDEP RGPCD Functional Equivalence Plan

In order to be considered functionally equivalent with the RGPCD performance standard, the permittee must be in compliance with the Special Condition on Seasonal Limits of Nonessential Outdoor Water Use, and must adopt and implement the MassDEP RGPCD Functional Equivalence Plan that requires all the following residential conservation programs:

a. a program that provides water saving devices such as faucet aerators and low flow shower heads at cost;
b. a program that provides rebates or other incentives for the purchase of low water use appliances (washing machines, dishwashers, and toilets);
c. the adoption and enforcement of an ordinance, bylaw or regulation to require the installation of soil moisture sensors or similar climate related control technology on all automatic irrigation systems;
d. the use of an increasing block water rate or a seasonal water rate structure as a tool to encourage water conservation;
e. 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; and
f. the implementation of monthly or quarterly billing.

Hardship

A permittee may present an analysis of the cost effectiveness of implementing certain conservation measures included in the MassDEP RGPCD Functional Equivalence Plan and offer alternative measures. Any analysis must explicitly consider environmental impacts and must produce equal or greater environmental benefits. Suppliers will be able to present:

a. Reasons why specific measures are not cost effective because the cost would exceed the costs of alternative methods of achieving the appropriate standard;
b. Alternative specific conservation measures that would result in equal or greater system-wide water savings or equal or greater environmental benefits than the conservation measures included in the MassDEP RGPCD Functional Equivalence Plan; and
c. When applicable, an analysis demonstrating that implementation of specific measures will cause or exacerbate significant economic hardship.

Appendix B – Unaccounted for Water

I. Compliance Plan Requirement

If the permittee fails to achieve and document compliance with the 10% UAW performance standard in its Annual Statistical Report (ASR), then the permittee must file with that ASR an Unaccounted-for-Water Compliance Plan (UAW plan) which shall:

a. meet the requirements set forth below in Section II;
b. include measures to be implemented to meet the performance standard; and
c. include the schedule for implementing such measures.

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

If a UAW plan is required, the permittee must:

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

II. Contents of an UAW Compliance Plan

A permittee that does not meet the 10% UAW performance standard within 2 years (for Needham, December 31, 2011), has the choice to file a UAW Plan containing measures that the permittee believes will be sufficient to bring the system into compliance with the performance standard (Individual UAW Plan) or may adopt the MassDEP UAW Functional Equivalence Plan that includes mandated Best Management Practices (BMPs).

A permittee that has been unable to meet the 10% UAW performance standard within 5 years (for Needham, December 31, 2014) must implement the MassDEP UAW Functional Equivalence Plan to be considered functionally equivalent with the performance standard.

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

a. description of the actions taken during the prior calendar year to meet the applicable performance standard;
b. analysis of the cause of the failure to meet the performance standard;
c. description and schedule of the actions that will be taken to meet the performance standard; and
d. 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.

Individual UAW Compliance Plan

Individual UAW Plan will document a plan to adopt and implement measures tailored to the specific needs of the water supply system that the permittee believes will be sufficient to bring the system into compliance with the performance standard within three years. Individual UAW compliance plans may include any of the actions set forth in the MassDEP UAW Functional Equivalence Plan compliance plan below.

MassDEP UAW Functional Equivalence Plan

In order to be considered functionally equivalent with the UAW performance standard, the permittee must adopt and implement the MassDEP UAW Functional Equivalence Plan that, at a minimum, requires all the following measures:

a. within one year of filing the MassDEP UAW Functional Equivalence Plan, complete a water audit and leak detection survey of the entire system and submit completed audit and survey to MassDEP; 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;

within one year of completing such repairs, conduct additional repairs of leaks detected in the survey as may be necessary to reduce permittee's UAW to 10% or the minimum level possible;

b. if UAW remains above 10%, repeat the steps outlined in paragraph a.;
c. 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 MassDEP UAW Functional Equivalence Plan

Medium Meters (1" or greater and less than 2") - within two years of filing the MassDEP UAW Functional Equivalence Plan

Small Meters (less than 1") – within three years of filing the MassDEP UAW Functional Equivalence Plan;

d. implementation of monthly or quarterly billing within three years of filing the MassDEP UAW Functional Equivalence Plan; and
e. within one year of filing the MassDEP UAW Functional Equivalence 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 c., the costs of employees and equipment, and ongoing maintenance and capital costs.

Hardship

A permittee may present an analysis of the cost effectiveness of implementing certain conservation measures included in the MassDEP UAW Functional Equivalence Plan and offer alternative measures. Any analysis must explicitly consider environmental impacts and must produce equal or greater environmental benefits. Suppliers will be able to present:

a. Reasons why specific measures are not cost effective because the cost would exceed the costs of alternative methods of achieving the appropriate standard;
b. Alternative specific conservation measures that would result in equal or greater system-wide water savings or equal or greater environmental benefits than the conservation measures included in the MassDEP UAW Functional Equivalence Plan; and
c. When applicable, an analysis demonstrating that implementation of specific measures will cause or exacerbate significant economic hardship