



Commonwealth of Massachusetts
Executive Office of Energy & Environmental Affairs

Department of Environmental Protection

One Winter Street Boston, MA 02108 • 617-292-5500

Charles D. Baker
Governor

Karyn E. Polito
Lieutenant Governor

Matthew A. Beaton
Secretary

Martin Suuberg
Commissioner

May 23, 2016

William T. Friel, Town Administrator
Town of Canton
801 Washington Street
Canton, MA 02021

RE: CANTON – BRP/WMA
PWS ID #4050000
Water Management Act Permit
#9P419050.01
WMA Permit Amendment
Application BRP WM-02
Transmittal #X266924

Dear Mr. Friel:

Please find attached the following documents regarding your Water Management Act Permit:

- A Final Findings of Fact in Support of the Final Permit Amendment, and
- A Final Water Management Act Permit #9P419050.01 for the Town of Canton Massachusetts.

Please note, the signature on this cover letter indicates formal issuance of the attached document. If you have any questions, please contact Jen D'Urso at (617)654-6591 or via e-mail at jen.durso@state.ma.us.

Sincerely,

Rebecca Weidman, Director
Division of Watershed Management

Attachments: Final Findings of Fact in Support of Permit Amendment
Final Water Management Act Permit #9P419050.01

Y:\DWP Archive\SERO\Canton-PWSID 4050000- Final WMA Permit Amendment 9P41905001-2016-05-23

ecc: Duane LeVangie, The Department, Boston
Michele Drury, DCR
Dennis Morton, Canton Water Department
MWWA

Michael Trotta, Canton Department of Public Works
Robert Murphy, Canton Conservation Commission
Neponset River Watershed Association
Peter Newton, Bristol Engineering



Massachusetts Department of Environmental Protection
One Winter Street, Boston MA 02108 • Phone: 617-292-5751

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



1 English:

This document is important and should be translated immediately. If you need this document translated, please contact MassDEP's Diversity Director at the telephone numbers listed below.



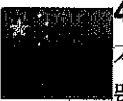
2 Español (Spanish):

Este documento es importante y debe ser traducido inmediatamente. Si necesita este documento traducido, por favor póngase en contacto con el Director de Diversidad MassDEP a los números de teléfono que aparecen más abajo.



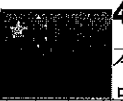
3 Português (Portuguese):

Este documento é importante e deve ser traduzida imediatamente. Se você precisa deste documento traduzido, por favor, entre em contato com Diretor de Diversidade da MassDEP para os números de telefone listados abaixo.



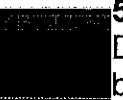
4(a) 中國（傳統）(Chinese (Traditional)):

本文件非常重要，應立即翻譯。如果您需要翻譯這份文件，請用下面列出的電話號碼與MassDEP的多樣性總監聯繫。



4(b) 中国（简体中文）(Chinese (Simplified)):

本文件非常重要，应立即翻译。如果您需要翻译这份文件，请用下面列出的电话号码与MassDEP的多样性总监联系。



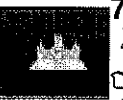
5 Ayisyen (franse kreyòl) (Haitian) (French Creole):

Dokiman sa-a se yon bagay enpòtan epi yo ta dwe tradui imedyatman. Si ou bezwen dokiman sa a tradui, tanpri kontakte Divèsite Direktè MassDEP a nan nimewo telefòn ki nan lis pi ba a.



6 Việt (Vietnamese):

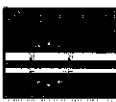
Tài liệu này là rất quan trọng và cần được dịch ngay lập tức. Nếu bạn cần dịch tài liệu này, xin vui lòng liên hệ với Giám đốc MassDEP đa dạng tại các số điện thoại được liệt kê dưới đây.



7 ប្រទេសកម្ពុជា (Kmer (Cambodian)):

ឯកសារនេះគឺមានសារៈសំខាន់និងគួរត្រូវបានបកប្រែភ្លាមៗ ប្រសិនបើអ្នកត្រូវបានបកប្រែឯកសារនេះសូមទំនាក់ទំនងមេត្តាជាមួយក្រុមការងារ MassDEP នៅលេខទូរស័ព្ទដែលបានរាយនាមក្រោម។

Contact Michelle Waters-Ekanem, Diversity Director/Civil Rights: 617-292-5751 TTY# MassRelay
 Service1-800-439-2370 <http://www.mass.gov/eea/agencies/massdep/service/justice/>



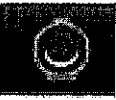
8 Kriolu Kabuverdianu (Cape Verdean):

Es documento é importante e deve ser traduzido imidiatamente. Se bo precisa des documento traduzido, por favor contacta Director de Diversidade na MassDEP's pa es numero indicode li d'boche.



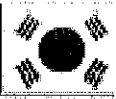
9 Русский язык (Russian):

Этот документ является важным и должно быть переведено сразу. Если вам нужен этот документ переведенный, пожалуйста, свяжитесь с директором разнообразия MassDEP по адресу телефонных номеров, указанных ниже.



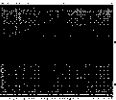
10 العربية (Arabic):

هذه الوثيقة الهامة وينبغي أن تترجم على الفور. اذا كنت بحاجة الى هذه الوثيقة المترجمة، يرجى الاتصال مدير التنوع في MassDEP على أرقام الهواتف المدرجة أدناه.



11 한국어 (Korean):

이 문서는 중요하고 즉시 번역해야 합니다. 당신이 번역이 문서가 필요하다면 아래의 전화 번호로 MassDEP의 다양성 감독에 문의하시기 바랍니다.



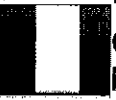
12 հայերեն (Armenian):

Այս փաստաթուղթը շատ կարևոր է եւ պետք է թարգմանել անմիջապես. Եթե Ձեզ անհրաժեշտ է այս փաստաթուղթը թարգմանվել դիմել MassDEP բազմազանությունը տնօրեն է հեռախոսահամարների թվարկված են ստորել.



13 فارسی (Farsi (Persian):

این سند مهم است و باید فوراً ترجمه شده است. اگر شما نیاز به این سند ترجمه شده، لطفاً با ما تماس تنوع مدیر MassDEP در شماره تلفن های ذکر شده در زیر.



14 Français (French):

Ce document est important et devrait être traduit immédiatement. Si vous avez besoin de ce document traduit, s'il vous plaît communiquer avec le directeur de la diversité MassDEP aux numéros de téléphone indiqués ci-dessous.



15 Deutsch (German):

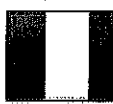
Dieses Dokument ist wichtig und sollte sofort übersetzt werden. Wenn Sie dieses Dokument übersetzt benötigen, wenden Sie sich bitte Diversity Director MassDEP die in den unten aufgeführten Telefonnummern.



16 Ελληνική (Greek):

Το έγγραφο αυτό είναι σημαντικό και θα πρέπει να μεταφραστούν αμέσως. Αν χρειάζεστε αυτό το έγγραφο μεταφράζεται, παρακαλούμε επικοινωνήστε Diversity Director MassDEP κατά τους αριθμούς τηλεφώνου που αναγράφεται πιο κάτω.

Contact Michelle Waters-Ekanem, Diversity Director/Civil Rights: 617-292-5751 TTY# MassRelay Service1-800-439-2370 <http://www.mass.gov/eea/agencies/massdep/service/justice/>



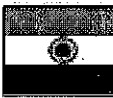
17 Italiano (Italian):

Questo documento è importante e dovrebbe essere tradotto immediatamente. Se avete bisogno di questo documento tradotto, si prega di contattare la diversità Direttore di MassDEP ai numeri di telefono elencati di seguito.



18 Język Polski (Polish):

Dokument ten jest ważny i powinien być natychmiast przetłumaczony. Jeśli potrzebujesz tego dokumentu tłumaczonego, prosimy o kontakt z Dyrektorem MassDEP w różnorodności na numery telefonów wymienionych poniżej.



19 हिन्दी (Hindi):

यह दस्तावेज महत्वपूर्ण है और तुरंत अनुवाद किया जाना चाहिए. आप अनुवाद इस दस्तावेज की जरूरत है, नीचे सूचीबद्ध फोन नंबरों पर MassDEP की विविधता निदेशक से संपर्क करें.

Contact Michelle Waters-Ekanem, Diversity Director/Civil Rights: 617-292-5751 TTY# MassRelay Service1-800-439-2370 <http://www.mass.gov/eea/agencies/massdep/service/justice/>



Commonwealth of Massachusetts
Executive Office of Energy & Environmental Affairs

Department of Environmental Protection

One Winter Street Boston, MA 02108 • 617-292-5500

Charles D. Baker
Governor

Karyn E. Polito
Lieutenant Governor

Matthew A. Beaton
Secretary

Martin Suuberg
Commissioner

Findings of Fact in Support of Final Permit Amendment Decision Town of Canton Water Management Permit #9P419050.01

The Massachusetts Department of Environmental Protection (the Department) has completed its review of the Town of Canton's (Canton or Town) Water Management Act (WMA) permit amendment application (Transmittal #X266924) to modify the pumping capacity of two withdrawal sources in the Neponset River Basin (Boston Harbor) (increasing one by 0.2 million gallons per day (MGD) and reducing one by 0.2 MGD).

Based on the information provided through the application process, the Department hereby approves the amendment application in accordance with the Water Management Act, MGL c 21G (the Act). The Department makes the following Findings of Fact in support of the attached Final permit, and includes herewith its reasons for approving the permit amendment and for the conditions of approval imposed, as required by the Act and the Massachusetts Water Resources Management Program, 310 CMR 36.00 (the Regulations). The Department may modify, suspend or terminate the permit, after notice and hearing, for violations of its conditions, of M.G.L. c. 21G, or of regulations adopted or orders issued by the department, and when deemed necessary for the promotion of the purposes of the Act.

Town of Canton Withdrawal Summary

The Town of Canton was issued its initial WMA Permit on June 1, 1991, for three groundwater sources, Well #4, Well #5, and Well #6. Since that time, Canton has replaced Well #4 with Well #11 (Source Code # 4050000-11G), Well #12 (Source Code # 4050000-12G), and Well #14 (4050000-14G); Well #5 with Well #13 (4050000-13G); and Well #6 with Well #16 (4050000-16G). In 2000, after receiving Inter-Basin Transfer Act (ITA) approval, the Town's permit was amended to add a new source, Well #9 (4050000-15G). Canton's WMA Permit was further modified on January 2, 2008 as a result of a 5-Year compliance review.

In 2013, Canton applied for the permits necessary to reactivate Well #7 (Source Code # 4050000-09G), which had been off line since 1979 due to trichloroethylene (TCE) contamination. The BRP WS19 application for Pumping Test Approval under the New Source Approval Process for Well #7 was approved on February 19, 2013. Based on the prolonged pumping test for the well, the approved pumping rate was determined to be 317 gallons per

minute (GPM) or 0.456 MGD. No TCE was detected in Well #7 during the prolonged pumping test. The Zone II for Well #7 lies within the previously approved Zone II for Canton's existing wells. The Zone II for these wells lies within Canton's Water Resource District, which is in compliance with the Wellhead Protection Standards at 310 CMR 22.21(2).

As a result of the review of the permit amendment application, Well #7 was added to Canton's permit as an authorized source on June 7, 2013.

Canton is permitted to withdraw from its existing sources and purchase from Massachusetts Water Resources Authority (MWRA) an average annual daily volume of 2.67 MGD which equals 974.55 million gallons per year (MGY). Previously, Canton was restricted to withdrawing 2.43 MGD from its own sources based on the approved pumping rates for the permitted wells. With the addition of Well #7 in 2013, Canton's maximum day pumping rate from their authorized sources is 2.886 MGD. Therefore, Canton potentially has the ability to meet the average daily permitted rate of 2.67 MGD by withdrawing from its own sources. Canton has the ability to purchase water from MWRA, provided the annual average daily volume from both the Town of Canton sources and purchases from MWRA does not exceed an average daily volume of 2.67 MGD.

This Final permit amendment does not authorize an increase in water withdrawal volume. Canton's authorized withdrawal volume under its WMA Permit will continue to be an annual average daily volume of 2.67 MGD previously permitted in the Boston Harbor Basin. This Final permit was prepared by the Department in response to a permit amendment application submitted by the Canton Water Department to modify the pumping capacity of two withdrawal sources in the Neponset River Basin (Boston Harbor) (increasing Well #16 (PWS ID 4050000-16G) by 0.2 MGD and reducing Well #13 (PWS ID 4050000-13G) by 0.2 MGD). Under the Act, permittees must obtain a permit amendment when changing the authorized withdrawal rate for an individual withdrawal point. Canton's application was considered complete on January 13, 2016 based on the following information:

- A permit amendment application was received on July 27, 2015;
- The pumping test report associated with X266924 underwent a Administrative Completeness Review and a Technical Review; the report was deemed complete by The Department on October 13, 2015;
- Canton complied with the public notice requirements outlined in 310 CMR 36.23;
- The Department conducted its own public comment period in compliance with 310 CMR 36.23 and did not receive any comments on the applicant's permit amendment application; and
- The application is not subject to MEPA review.

The Town of Canton does not hold a WMA Registration for historic withdrawals.

The Permit Extension Act

In November 2009, Canton submitted a 20-year permit renewal application. Following submittal of the renewal application, Canton and other permittees in the Boston Harbor River Basin were issued interim permits which extended the term of the existing permits from February 28, 2010 to February 28, 2011. Subsequently, the Permit Extension Act (PEA), Section 173 of Chapter 240 of the Acts of 2010, as amended by Sections 74 and 75 of Chapter 238 of the Acts of 2012, extended all existing WMA permits by four years. Therefore, WMA permits for withdrawals in the Boston Harbor River Basin were extended to February 28, 2015. Pursuant to M.G.L. c. 30A, § 13, and 310 CMR 36.18(7), Canton's current permit will continue in force and effect until the Department issues a decision on its renewal application. The Department has retained Canton's renewal application on file and will deem it resubmitted prior to an Order to Complete being issued by the Department. Note that, in issuing this Final Permit, the Department is not acting on Canton's renewal application.

The Water Management Act

Section 7 of the WMA requires that the Department 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.

Safe Yield Factor

Among the minimum permit factors Section 7 requires is a determination by the Department that permitted water withdrawals are within the safe yield of the water source from which they are made. Section 2 of the Act defines "safe yield" as: "the maximum dependable withdrawal that can be made continuously from a water source including ground or surface water during a period of years in which the probable driest period or period of greatest water deficiency is likely to occur: provided, however, that such dependability is relative and is a function of storage and drought probability."

For the purposes of the Water Management Program, the Department considers water sources to be the river basins delineated by the MA Water Resources Commission at 313 CMR 4.03. A map of the major river basins has been developed by the Department of Conservation and Recreation and can be viewed in their guidance document "A Guide to the Interbasin Transfer Act and Regulations" or at <http://www.mass.gov/eea/images/dcr/watersupply/intbasin-ipswichriver/basin.jpg>.

This permit is being issued under the Safe Yield methodology adopted by the Department on November 7, 2014, and described in the Regulations at 310 CMR 36.13. The Department has

used the methodology described in the Regulations to calculate the safe yield for each river basin.

Under Section 11 of the Act, the Department cannot issue permits when the combined registered and permitted allocated withdrawal volumes exceed the safe yield of the water source. This Final Permit amendment will not alter the volume of withdrawals from the Boston Harbor River Basin and will not cause an exceedance of the Basin's safe yield.

Findings of Fact for Performance Standards

The Department has determined that there is documented evidence that water withdrawals and an increase in development and impervious area, combined with the out-of-basin export of wastewater, substantially contribute to low flow in the Commonwealth. These low flows impact the ability of rivers and tributaries to adequately serve all of the competing uses described in the Act. To better achieve the balance of competing water uses mandated by the Act, the Department refers to the Water Conservation Standards adopted by the Water Resources Commission. These standards can be found at <http://www.mass.gov/eea/docs/eea/wrc/water-conservation-standards-rev-june-2012.pdf>

Specific performance standards are applied to new WMA permits and to existing permits at the time they are amended, during 5-year permit review, or permit renewal. Consistent with Section 3 of the Act, the performance standards of: 65 Residential Gallons Per Capita Day (RGPCD) or less and 10% or less of unaccounted for water (UAW), summer limits on withdrawals, and efforts to offset the impacts of increasing withdrawal volumes based on the Massachusetts Water Conservation Standards approved by the Water Resources Commission are applied to all permits.

Findings of Fact for Specific Permit Conditions

Special Condition 1, Maximum Authorized Annual Average Withdrawal Volume - as noted above, Canton is permitted to withdraw and/or purchase from MWRA an average annual daily volume of 2.67 MGD which equals 974.55 MGY. No increase in permitted volume is authorized by this Final Permit amendment.

Special Condition 2, Maximum Authorized Daily Withdrawals from Each Withdrawal Point - specifies the maximum daily volume expressed in millions of gallons per 24-hour day that may be withdrawn from each of Canton's permitted sources. As noted above this Final permit amendment increases the maximum daily rate for Well #16 (16G) by 0.20 MGD, while decreasing Well #13 (13G) by the same rate (0.20 MGD). The maximum authorized daily withdrawal for any of Canton's sources is equal to the approved Zone II rate for that source.

Special Condition 3, Zone II Delineations - acknowledges approved Zone II delineations for Canton's sources.

Special Condition 4, Wellhead Protection - acknowledges Canton's compliance with the Wellhead Protection Standards at 310 CMR 22.21(2).

Special Condition 5, Wetlands Monitoring - outlines wetlands monitoring requirements for Wells #9, #13 and #16.

Special Condition 6, Neponset River Stream Flow Thresholds and Monitoring - discusses Canton's requirement to monitor stream flow levels at the Greenlodge Gage and Milton Lower Mills Gage. Canton must report the gage levels and Well #9 withdrawal volumes along with any response actions taken to the Department and Water Resources Commission.

Special Condition 7, Offsets - outlines Canton's requirement under the ITA approval to offset total withdrawals from Well #9 that are discharged out of basin by a 2:1 ratio. That is, for every gallon of water that is withdrawn from Well #9, and is discharged out of the Neponset River Sub-Basin of the Boston Harbor Basin, Canton shall implement measures to offset this volume by two gallons.

Special Condition 8, Performance Standard for Residential Gallons Per Capita Day Water Use (RGPCD) -

Canton's existing Permit requires compliance with the RGPCD standard of 65 by December 31, 2015. For 2014 Canton has a DEP-approved RGPCD of 67.

Special Condition 9, Performance Standard for Unaccounted for Water - Canton's existing Permit requires compliance with the 10% performance standard by December 31, 2015. For 2014, Canton has a DEP-approved UAW of 8%.

Special Condition 10, Seasonal Limits on Nonessential Outdoor Water Use - is based upon the permittee's RGPCD for the preceding year, and will be implemented according to either: 1) calendar triggered restrictions; or 2) streamflow triggered restrictions.

1. Calendar triggered restrictions: Restrictions shall be implemented from May 1st through September 30th. Many public water suppliers will find this option easier to implement and enforce than the streamflow triggered approach.

2. Streamflow triggered restrictions: Restrictions shall be implemented at those times when streamflow falls below designated flow triggers measured at an assigned, web-based, real-time U.S. Geologic Survey (USGS) stream gage from May 1st through September 30th. At a minimum, restrictions shall commence when streamflow falls below the trigger for three consecutive days. 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 consecutive days.

The basis for streamflow triggers is derived from Aquatic Base Flow (ABF) values calculated by the Sustainable Yield Estimator (SYE)¹ for simulated natural flow applied to

¹ Archfield, S.A., Vogel, R.M., Steeves, P.A., Brandt, S.L., Weiskel, P.K., and Garabedian, S.P., 2010, The Massachusetts Sustainable-Yield Estimator: A decision-support tool to assess water availability at ungaged stream locations in Massachusetts: U.S. Geological Survey Scientific Investigations Report 2009-5227, 41 p. plus CD-ROM. See <http://pubs.usgs.gov/sir/2009/5227/>

the assigned local USGS stream gage. The two-tiered trigger values are based on flow levels that are protective of aquatic habitat for fish spawning during the spring bioperiod, designated with the June ABF; and protective flows for fish rearing and growth during the summer bioperiod, designated with the August ABF trigger. Protective flow levels are derived from index gage flow data which represent the least altered stream flows in Massachusetts, and are further described in the Department of Conservation and Recreation (DCR)² and USGS Index Reports³.

If Canton selects the streamflow approach, it has been assigned the USGS stream gage 01105554- Neponset River at Greenlodge near Canton. The June ABF estimated using SYE is 0.89 cubic feet per second per square mile (cfsm) and the August ABF value is 0.53 cfsm. These cfsm units translate to your local gage streamflow triggers as 75 cubic feet per second (cfs) for May and June, and 45 cfs for July, August and September.

Should the reliability of flow measurement at the Neponset River at Greenlodge gage be so impaired as to question its accuracy, Canton may request the Department's review and approval to transfer to another gage to trigger restrictions. The Department reserves the right to require use of a different gage.

Drought triggered restrictions are incorporated into the seasonal limits on outdoor water use as outlined in this Special Condition. Times of low streamflow and drought do not always coincide, but both low streamflow and drought conditions can have adverse effects on water supplies, natural resources and aquatic life. Please note that many communities impose drought-based outdoor water use restrictions before the Massachusetts Drought Management Task Force declares a Drought Advisory because drought conditions can begin to impact local water supplies before a regional advisory is declared.

Special Condition 11, Water Conservation Requirements - incorporates the Water Conservation Standards for the Commonwealth of Massachusetts adopted by the MA Water Resources Commission in July 2006, and revised in July 2012.

Special Condition 12, Requirement to Report Raw and Finished Water Volumes - to assure that the information necessary to evaluate compliance with other permit conditions is accurately reported.

General Permit Conditions – contains general requirements applicable to all WMA permittees. In the event of any conflict or ambiguity between the preceding Findings and the permit, the permit language shall control.

² Massachusetts Department of Conservation and Recreation (DCR), 2008 Index Streamflows for Massachusetts, May 2008, Prepared by Office of Water Resources for the Massachusetts Water Resources Commission, 45 p., plus CD-ROM.

³ Armstrong, D.S., Parker, G.W., and Richards, T.A., 2008, Characteristics and classification of least altered streamflows in Massachusetts: U.S. Geological Survey Scientific Investigations Report 2007-5291, 113 p., plus CD-ROM.



Commonwealth of Massachusetts
Executive Office of Energy & Environmental Affairs

Department of Environmental Protection

One Winter Street Boston, MA 02108 • 617-292-5500

Charles D. Baker
Governor

Karyn E. Polito
Lieutenant Governor

Matthew A. Beaton
Secretary

Martin Suuberg
Commissioner

FINAL WATER WITHDRAWAL PERMIT MGL c 21G

This Final Permit is issued 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 Final 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: 9P419050.01 **BASIN:** Boston Harbor Basin
(Neponset)

PERMITTEE: Town of Canton
801 Washington Street
Canton, MA 02021

EFFECTIVE DATE: June 1, 1991

AMENDMENT DATE: May 23, 2016

EXPIRATION DATE: February 28, 2015⁴

NUMBER OF WITHDRAWAL POINTS: Groundwater: 7 Surface Water: 0

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

SOURCES:

Table 1: Withdrawal Point Identification	
Well Name	PWS Source ID Code
Well #7	4050000-09G
Well #9	4050000-15G
Well #11	4050000-11G
Well #12	4050000-12G
Well #13	4050000-13G
Well #14	4050000-14G

⁴ Canton's most recent 20-year permit expired on February 28, 2010. In 2009, Canton was issued an interim permit, extending the terms of the 20-year permit, with an expiration date of February 28, 2011. In 2010, the interim permit was extended for 2 years, to February 28, 2013, by Section 173 of Chapter 240 of the Acts of 2010, (Permit Extension Act). In 2012, the Permit Extension Act was amended by Chapter 238 of the Acts of 2012 and this permit was extended an additional 2 years to February 28, 2015. Pursuant to M.G.L. c. 30A, § 13, and 310 CMR 36.18(7), the interim permit will continue in force and effect until the Department issues a decision on Canton's renewal application.

Table 1: Withdrawal Point Identification

Well #16	4050000-16G
----------	-------------

SPECIAL CONDITIONS

1. Maximum Authorized Annual Average Withdrawal Volume

This Final permit authorizes the Town of Canton (Canton) to withdraw water from the Neponset River Basin (Boston Harbor) at the rate described in Table 2.

The permitted volume is expressed in millions of gallons, both as an average daily withdrawal rate per year (MGD) and as a total annual withdrawal volume for each year (MGY) of the period of the permit term. The Department of Environmental Protection (the 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: Maximum Authorized Withdrawal Volumes		
Permit Periods	Daily Average (MGD)	Total Annual (MGY)
6/1/1991 to 2/28/1995	1.22	445.30
3/1/1995 to 2/29/2000	1.26	459.90
3/1/2000 to 2/28/2005	2.43	887.00
3/1/2005 to 6/26/2013	2.43	887.00
6/27/2013 to 2/28/2015*	2.67	974.55

* The original expiration date for this permit was February 28, 2010. In 2009 Canton was issued an interim permit which extended the expiration date until February 28, 2011. In 2010 the interim permit was extended for 2 years, to February 28, 2013, by Section 173 of Chapter 240 of the Acts of 2010, the Permit Extension Act. In 2012 the Permit Extension Act was amended by Chapter 238 of the Acts of 2012 and this permit was extended an additional 2 years to February 28, 2015. Pursuant to M.G.L. c. 30A Section 13, and 310 CMR 36.18(7), your current permit will continue in force and effect until the Department issues a decision on your renewal application.

Canton is permitted to withdraw and/or purchase from the Massachusetts Water Resources Authority (MWRA) an average annual daily volume of 2.67 MGD (974.55 MGY). Canton has the ability to purchase water from the MWRA, provided the annual average daily volume from both the Town of Canton sources and purchases from MWRA does not exceed an average daily volume of 2.67 MGD.

This Final permit is being issued under the Safe Yield methodology adopted by the Department in November, 2014. Under G.L.c.21G, s.11 the Department cannot issue permits when the combined existing, permitted and proposed withdrawal volumes exceed the safe yield of the water source.

2. Maximum Authorized Daily Withdrawals Permitted Withdrawal Points

Withdrawals from individual withdrawal points are not to exceed the approved maximum daily volumes listed in Table 3 without specific advance written approval from the Department.

Table 3: Maximum Daily Withdrawal Volumes		
Well Name	PWS Source ID Code	Maximum Daily Rate (MGD)
Well #7	4050000-09G	0.456
Well #9	4050000-15G	1.02
Well #11	4050000-11G	Combined Max Day Rate for Well #11, Well #12 & Well #14 is 0.81
Well #12	4050000-12G	Combined Max Day Rate for Well #11, Well #12 & Well #14 is 0.81
Well #13	4050000-13G	0.20
Well #14	4050000-14G	Combined Max Day Rate for Well #11, Well #12 & Well #14 is 0.81
Well #16	4050000-16G	0.40

3. Zone II Delineations

Canton's permitted wells have approved Zone II delineations. No further Zone II work is required as a condition of this Final Permit.

4. Wellhead Protection

The Department records indicate that Canton has met the Wellhead Protection requirements of 310 CMR 22.21(2).

5. Wetlands Monitoring

Monitoring of wetlands adjacent to Well #9, Well #13 (replacement well for Well #5) and Well #16 (replacement well for Well #10) shall be monitored annually as required by the Canton Conservation Commission. Monitoring should include physical inspection of the wetland(s) by a trained and qualified professional. Reports detailing the results of the annual inspection, including a listing of wetland plant species distribution and relative abundance, must be maintained and submitted to the Department upon request during any future review of this Final Permit.

6. Neponset River Stream Flow Thresholds and Monitoring

The Town of Canton shall cease withdrawals from Well #9 when any of the following stream flow thresholds, as measured at the Greenlodge gage, are reached:

Table 4: Stream Flow Thresholds		
Period	(cfsm)	(cfs)
March 15 – June 15	0.81 or less	71.60 or less
June 16 – September 14	0.28 or less	24.75 or less
September 15 – November 15	0.45 or less	39.78 or less
November 16 – March 14	0.28 or less	24.75 or less

Additionally, from March 15 through June 15, the Town of Canton shall cease withdrawals from Well #9 when stream flow at the Milton Lower Mills Dam reaches 100 cfs, or less, or one foot of water, whichever is greater, during low tide periods.

Canton shall implement the response actions detailed in Section 5 of the *Final Water Management Plan for Operation of Well No. 9* (SEA, 1999).

Following activation of Well #9, annual reports of Canton's actions to meet the requirements of this condition shall be submitted with the Town's electronic Annual Statistical Report (eASR). At a minimum, this report shall include:

- Gage readings from both Greenlodge Gage and Milton Lower Mills Gage;
- Volumes pumped from Well #9, and;
- Response actions implemented (e.g., pumping of Well #9 is reduced or shut off) and the dates implemented.

A copy of this report shall also be provided to the Water Resources Commission (WRC) at: Water Resources Commission, c/o Michele Drury, DCR Office of Water Resources, 251 Causeway Street, Boston, MA 02114.

7. Offsets

Canton shall offset total withdrawals from Well #9 that are discharged out of basin by 2:1. That is, for every gallon of water withdrawn from Well #9, and discharged out of the Neponset River Basin, Canton shall implement measures to offset this volume by two gallons.

Following activation of Well #9, annual reports of Canton's actions to meet the requirements of this condition shall be submitted with the Town's eASR. A copy of this report shall also be provided to the WRC. At a minimum, this report shall include:

- Infiltration/Inflow (I/I) Survey Reports, as outlined in its I/I Reduction Plan, along with corresponding MWRA data;
- All new sewer connections installed during the year;
- Progress towards meeting the 2:1 mitigation goal; and
- Cost-savings realized from use of Well #9.

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

Canton's Performance Standard for Residential Gallons Per Capita Day (RGPCD) is 65 gallons. Canton was required to be in compliance with the Performance Standard by December 31, 2015. Canton shall report its RGPCD water use annually in its eASR.

Canton shall report its RGPCD and the calculation used to derive that figure as part of its eASR 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 additional information on the requirements if the Performance Standard for RGPCD is not met.

9. Performance Standard for Unaccounted for Water

Canton's Performance Standard for Unaccounted for Water (UAW) is 10% of overall water withdrawal. Canton was required to be in compliance with the Performance Standard by December 31, 2015. Town of Canton shall report its UAW annually in its eASR.

Canton shall report its UAW and the calculation used to derive that figure as part of its eASR. UAW is defined as the difference between water pumped or purchased and water that is metered or confidently estimated. UAW shall include, without limitation, water that cannot be accounted for due to meter problems, unauthorized hydrant openings, unavoidable leakage, recoverable leakage, illegal connections, stand pipe overflows, and fire protection where it cannot be confidently estimated. 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 Town of Canton's eASR. See Appendix B for additional information on requirements if the Performance Standard for UAW is not met.

10. Seasonal Limits on Nonessential Outdoor Water Use

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

Permittee 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.

Permittee shall document compliance with the summer limits on nonessential outdoor water use annually in its eASR, and indicate whether it anticipates implementing calendar triggered restrictions or streamflow triggered restrictions during the next year.

Nothing in this Final Permit shall prevent permittee 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 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
- irrigation of gardens, flowers and ornamental plants by means of a hand-held hose or a drip irrigation system; and
- irrigation of lawns by a hand held hose only.

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 5: 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 the Department) 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 01105554- Neponset River at Greenlodge near Canton falls below the following designated flow triggers for **three (3)** consecutive days:
- May 1st through June 30th: **79 cfs** (based on minimum flows that are protective of habitat for fish spawning during the spring bioperiod), and
 - July 1st through September 30th: **45 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 the Department) 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 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 01105554- Neponset River at Greenlodge near Canton falls below the following designated flow triggers for **three (3)** consecutive days:
- May 1st through June 30th: **79 cfs** (based on minimum flows that are protective of habitat for fish spawning during the spring bioperiod), and
 - July 1st through September 30th: **45 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 # 01105554- Neponset River at Greenlodge near Canton , MA.
- 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

Permittee 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 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 permittee has already implemented water use restrictions that conform to the applicable restrictions and those restrictions are still in force.

11. Water Conservation Requirements

At a minimum, Canton shall implement conservation measures listed in Table 6.

The Department recognizes that Canton is currently implementing a number of these requirements. Compliance with the water conservation requirements shall be reported to the Department upon request or at the time of Permit renewal unless otherwise noted below.

Table 6: Minimum Water Conservation Requirements

System Water Audits and Leak Detection

- At a minimum, conduct a full leak detection survey every three years. The first full leak detection survey shall be completed no later than 3 yrs from the date of last documented leak detection survey.
- Perform a leak detection survey on those sections of the distribution system that have not been surveyed within the last year whenever the percentage of system-wide unaccounted for water increases by 5% or more (for example an increase from 3% to 8%) over the percentage reported on the eASR for the prior calendar year. Within 60 days of completing the leak detection survey, the Town shall submit to the Department 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.

- Conduct field surveys for leaks and repair programs in accordance with AWWA Manual 36.

- Repair reports shall be kept available for inspection by the Department. The permit holder shall establish a schedule for repairing leaks that is at least as stringent as the following:

- Leaks of 3 gallons per minute or more shall be repaired within 3 months of detection.
- Leaks of less than 3 gallons per minute at hydrants and appurtenances shall be repaired as soon as possible.
- Leaks of less than 3 gallons per minute shall be repaired in a timely manner, but in no event more than 6 months from detection, except that leaks in freeway, arterial or collector roadways shall be repaired when other roadwork is being performed on the roadway.

Leaks shall be repaired in accordance with the permit holder's priority schedule including leaks up to the property line, curb stop or service meter, as applicable. The District shall have water use regulations in place that require property owners to expeditiously repair leaks on their property.

Metering

- Calibrate all source and finished water meters at least annually and report date of calibration on the ASR.

- 100% metering of the system is required. All water distribution system users shall have properly sized service lines and meters that meet AWWA calibration and accuracy performance standards as set forth in AWWA Manual M6 – Water Meters, by the permit renewal date.

- An ongoing program to inspect individual service meters shall be maintained to ensure that all service meters accurately measure the volume of water used by 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 the system's annual water budget to calibrate, repair, or replace meters as necessary.

Pricing

- Establish a water pricing structure that includes the full cost of operating the water supply system by the next permit renewal date. Evaluate rates 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.

Table 6: Minimum Water Conservation Requirements
<ul style="list-style-type: none"> 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.
<p>Residential and Public Sector Conservation</p> <ul style="list-style-type: none"> All standards set forth in the Federal Energy Policy Act, 1992 and the Massachusetts Plumbing Code shall be met. Meter or estimate water used by contractors using fire hydrants for pipe flushing and construction. Canton has reported that all municipally owned public buildings within service area have been retrofitted with water saving devices.
<p>Industrial and Commercial Water Conservation</p> <ul style="list-style-type: none"> Review the use records for industrial, commercial and institutional water users, develop an inventory of the largest water users and 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 next permit review or renewal date. 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 Upon request by the Department, the permit holder 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 requiring additional actions of the permit holder to reduce industrial, commercial and institutional water use.
<p>Public Education and Outreach</p> <ul style="list-style-type: none"> Continue to implement a Water Conservation Education Plan designed to educate water customers of ways to conserve water. The plan may include the following actions: <ul style="list-style-type: none"> Inclusion of a work sheet in bill stuffers and/or bills designed 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 targeted to school children, including materials on water resource projects and field trips and make multilingual materials available as needed. Upon request of the Department, report on 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.

9. Requirement to Report Raw and Finished Water Volumes

Canton shall report annually on its eASR the raw water volumes and finished water volumes for the entire water system. Raw water volumes for individual water withdrawal points shall be reported in the ASR.

GENERAL 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 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 4.00.
6. **Duty to Report** The permittee shall complete and electronically submit annually, via eDEP available through the Department's website, all of the information required by the electronic eASR including, without limitation, a certified statement of withdrawal. Such report shall be received each year by the Department, by the date specified on the eASR.
7. **Duty to Maintain Records** The permittee shall be responsible for maintaining withdrawal records in sufficient detail to assess compliance with the conditions of this Permit.
8. **Metering** All withdrawal points included within the Permit shall be metered. Meters are to be calibrated annually.

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 city or town 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 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

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 (RGPCD)

I. . Compliance Plan Requirement

If Town of Canton fails to document compliance with the RGPCD Performance Standard in its 2015 eASR, or in any eASR thereafter, then Town of Canton must file with that eASR a Residential Gallons Per Capita Day Compliance Plan (RGPCD Plan) which shall:

- a. meet the requirement 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 an RGPCD Plan shall not constitute a return to compliance, nor shall it affect the Department's authority to take action in response to the permittee's failure to meet the performance standard.

If an 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 an RGPCD Plan

A permittee that does not meet the 65 RGPCD performance standard within 2 years, has the choice to file an 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 Department 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 must implement the Department RGPCD Functional Equivalence Plan to be considered functionally equivalent with the performance standard.

At a minimum, all RGPCD Compliance 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 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 Department RGPCD Functional Equivalence Plan below.

The Department's RGPCD Functional Equivalence Plan

In order to be considered functionally equivalent with the RGPCD performance standard, the permittee must adopt and implement the Department 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 Department 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 Department 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 (UAW)

I. Compliance Plan Requirement

If Town of Canton fails to document compliance with the UAW Performance Standard in its 2015 eASR, or in any eASR thereafter, then Town of Canton 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 it affect the Department'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 eASR; and
- b. continue to implement the UAW Plan until it complies with the performance standard and such compliance is documented in the permittee's eASR for the calendar year in which the standard is met.

II. Contents of a UAW Compliance Plan

A permittee that does not meet the 10% UAW performance standard within 2 years, 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 Department 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 must implement the Department 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 Department UAW Functional Equivalence Plan compliance plan below.

The Department's UAW Functional Equivalence Plan

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

- a. within one year of filing the Department UAW Functional Equivalence Plan, complete a water audit and leak detection survey of the entire system and submit completed audit and survey to the Department;
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 Department UAW Functional Equivalence Plan
 - Medium Meters (1" or greater and less than 2") - within two years of filing the Department UAW Functional Equivalence Plan
 - Small Meters (less than 1") - within three years of filing the Department UAW Functional Equivalence Plan;
- d. implementation of monthly or quarterly billing within three years of filing the Department UAW Functional Equivalence Plan; and
- e. within one year of filing the Department 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 Department 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 Department UAW Functional Equivalence Plan; and
- c. When applicable, an analysis demonstrating that implementation of specific measures will cause or exacerbate significant economic hardship

MassDEP Drinking Water Program Staff Training Day – Thursday, May 19, 2016

Attendees: All Drinking Water Program Staff

Location: U.S. Fish & Wildlife Assabet River National Wildlife Refuge, 680 Hudson Road, Sudbury, MA 01776; 978-562-3527; www.fws.gov/refuge/assabet_river

AGENDA

- 7:30 Morning refreshments are delivered by Nexdine (Mike Adams cell 508-309-0433)
- 8:00-9:00 Coffee/Juice/Muffins & Sign In (sign in sheet, name tags, door prize tickets, show last year's video, show compliments slides)
- 9:00-9:10 Welcome – Yvette DePeiza, Drinking Water Program, Program Director
Becky Weidman, Director, Division of Watershed Management
- 9:10-9:30 Commissioner Marty Suuberg
- 9:30-10:00 Introduction of all staff (by Region: name, program work on)
- 10:00-11:00 Revised Total Coliform Rule - Kelly Momberger and Kristin Divris
- 11:00-11:20 U-Mass Small Systems Center - Patrick Wittbold
- 11:20-11:45 Updates by Technical Assistance Staff – Bob Hoyt, Christine Millhouse, Barry Woods
- 11:30 Lunch is delivered by Nexdine
- 11:45-12:00 Updates on the Lead & Copper Rule and Unregulated Contaminant Monitoring Rule 3 – Yvette DePeiza/Damon Guterman
- 12:00-1:00 Catered lunch provided/guided walk on sanctuary
- 1:00-2:00 Regional issues and priorities – 15 minutes each
- 2:00 Wrap up – Yvette DePeiza

Notes:

- 1) There will be a laptop, projector, screen and microphone set up for our use.
- 2) This is a carry-in, carry out facility. All trash must be removed by meeting participants.

