



Commonwealth of Massachusetts
Executive Office of Energy & Environmental Affairs

Department of Environmental Protection

100 Cambridge Street Suite 900 Boston, MA 02114 • 617-292-5500

Maura T. Healey
Governor

Kimberley Driscoll
Lieutenant Governor

Rebecca L. Tepper
Secretary

Bonnie Heiple
Commissioner

July 18, 2024

Roger Bush, Jr., Chief Operator
Russell Water Department
200 Main Street
Russell, MA 01071

RE: Russell-BWR\WMA
PWS Number: 1256000
WMA Permit #9P2-1-04-256.02
Action: Permit Renewal

Dear Mr. Bush:

Please find the attached documents:

- Findings of Fact in Support of the Modified Permit #9P2-1-04-256.02; and
- Water Management Act Permit #9P2-1-04-256.02 (Westfield River Basin) for the Town of Russell.

The signature on this cover letter indicates formal issuance of the attached document. If you have any questions regarding this information, please contact Jennifer D'Urso at jen.durso@mass.gov or me at (617) 780-1962 or via e-mail at duane.levangie@mass.gov.

Very truly yours,

Duane LeVangie, Chief
Water Management Program
Bureau of Water Resources

Ecc: Jen Pederson, MWWA

Julia Blatt, Massachusetts Rivers Alliance

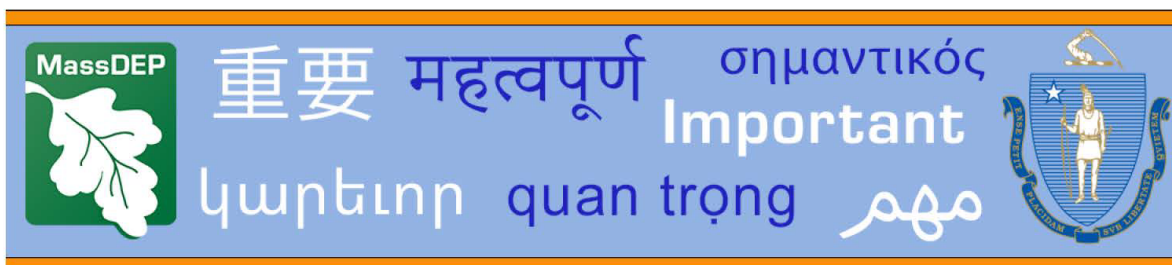
Anne Carroll, Department of Conservation and Recreation-Office of Water Resources

Andrew Kelly, MassDEP WERO

Misty-Anne Marold, FWE

Sharepoint:\DWPWMA\Permit Renewals\Westfield\Russell-1256000-Final WMA Permit #9P2-1-04-256.02 7-18-2024

Sharepoint:\DWPArchive\WERO\Russell-1256000- Final WMA Permit #9P2-1-04-256.02 7-18-2024



Communication for Non-English-Speaking Parties

This document is important and should be translated immediately.

If you need this document translated, please contact MassDEP's Director of EJ at the telephone number listed below.

Español Spanish

Este documento es importante y debe ser traducido de inmediato. Si necesita este documento traducido, comuníquese con la Directora de Diversidad de MassDEP al número de teléfono que aparece más abajo.

Português Portuguese

Este é um documento importante e deve ser traduzido imediatamente. Se precisar de uma tradução deste documento, entre em contato com o Diretor de Diversidade da MassDEP nos números de telefone listados abaixo.

繁體中文 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聯絡 MassDEP 多元化負責人。

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 的多元化主任联系。

Ayisyen Kreyòl Haitian Creole

Dokiman sa-a se yon bagay enpòtan epi yo ta dwe tradwi l imedyatman. Si ou bezwen dokimar sa a tradwi, tanpri kontakte Direktè Divèsite MassDEP la nan nimewo telefòn endike anba.

Việt Vietnamese

Tài liệu này rất quan trọng và cần được dịch ngay lập tức. Nếu quý vị cần dịch tài liệu này, xin liên lạc với Giám đốc Đa dạng của MassDEP theo các số điện thoại ghi dưới đây.

ប្រទេសកម្ពុជា Khmer/Cambodian

ឯកសារនេះគឺសំខាន់ហើយគួរត្រូវបានបកប្រែភ្លាមៗ។ ប្រសិនបើអ្នកត្រូវការឱ្យគេបកប្រែឯកសារនេះ សូមទាក់ទងមកនាយកផ្នែកពិធីកម្មរបស់ MassDEP តាមលេខទូរស័ព្ទខាងក្រោម។

Kriolu Kabuverdianu Cape Verdean

Kel dokumentu li é inportáti y debe ser traduzidu imidiatamenti. Se bu meste di kel dokumentu traduzidu, pur favor kontakta Diretor di Diversidádi di MassDEP na numeru abaxu indikadu.



Contact Deneen Simpson 857-406-0738

**Massachusetts Department of Environmental Protection
100 Cambridge Street 9th Floor Boston, MA 02114**

TTY# MassRelay Service 1-800-439-2370 • <https://www.mass.gov/environmental-justice>
(Version revised 4.21.2023) 310 CMR 1.03(5)(a)

Русский Russian

Это важный документ, и он должен быть безотлагательно переведен. Если вам нужен перевод данного документа, пожалуйста, свяжитесь с директором по вопросам многообразия (Diversity Director) компании MassDEP по указанному ниже телефону.

العربية Arabic

هذه الوثيقة مهمة ويجب ترجمتها على الفور. إذا كنت بحاجة إلى هذه الوثيقة مترجمة، يرجى الاتصال بمدير التنوع PMassDE على أرقام الهواتف المدرجة أدناه.

한국어 Korean

이 문서는 중요하고 즉시 번역해야 합니다. 이 문서의 번역이 필요하시다면, 아래의 전화 번호로 MassDEP의 다양성 담당 이사에 문의하시기 바랍니다.

հայերեն Armenian

Այս փաստաթուղթը կարևոր է և պետք է անմիջապես թարգմանվի:
Եթե Ձեզ անհրաժեշտ է այս փաստաթուղթը թարգմանել, դիմեք MassDEP-ի բազմազանության տնօրենին ստորև նշված հեռախոսահամարով:

فارسی Farsi Persian

این سند مهم است و باید فوراً ترجمه شود.
اگر به ترجمه این سند نیاز دارید، لطفاً با مدیر بخش تنوع نژادی MassDEP به شماره تلفن ذکر شده در زیر تماس بگیرید.

Français French

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

Deutsch German

Dieses Dokument ist wichtig und sollte sofort übersetzt werden. Sofern Sie eine Übersetzung dieses Dokuments benötigen, wenden Sie sich bitte an den Diversity Director MassDEP unter der unten aufgeführten Telefonnummer.

Ελληνική Greek

Το παρόν έγγραφο είναι σημαντικό και θα πρέπει να μεταφραστεί αμέσως. Αν χρειάζεστε μετάφραση του παρόντος εγγράφου, παρακαλούμε επικοινωνήστε με τον Διευθυντή Διαφορετικότητας του MassDEP στους αριθμούς τηλεφώνων που αναγράφονται παρακάτω.

Italiano Italian

Comunicazione per parti che non parlano inglese. Questo documento è importante e dovrebbe essere tradotto immediatamente. Se avete bisogno di questo documento tradotto, potete contattare il Direttore di Diversità di MassDEP al numero di telefono elencato di seguito.

Język Polski Polish

Dokument ten jest ważny i powinien zostać natychmiast przetłumaczony. Jeśli potrzebujesz przetłumaczonej wersji dokumentu, prosimy o kontakt z dyrektorem ds. różnorodności MassDEP pod jednym z numerów telefonu wymienionych poniżej.

हिन्दी Hindi

यह दस्तावेज़ महत्वपूर्ण है और इसका तुरंत अनुवाद किया जाना चाहिए. यदि आपको इस दस्तावेज़ का अनुवाद करने की आवश्यकता है, तो कृपया नीचे सूचीबद्ध टेलीफोन नंबरों पर मासडेपस डाइवर्सिटी के निदेशक से संपर्क करें.

Contact Deneen Simpson 857-406-0738

Massachusetts Department of Environmental Protection
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Findings of Fact in Support of Permit Issuance Water Management Permit #9P2-1-04-256.02 Town of Russell

The Department of Environmental Protection (the Department or MassDEP) makes the following Findings of Fact in support of the Town of Russell's (Russell or Russell's) attached Water Management Act (WMA) Permit #9P2-1-04-256.02, and includes herewith its reasons for issuing the Permit and for conditions of approval imposed, as required by M.G.L. c. 21G, § 11.

The Town of Russell Withdrawal Summary

Russell is registered for an average annual daily withdrawal volume of 0.29 million gallons per day (MGD) from Well #1 (01G) and Black Brook Reservoir (01S). A Water Management Act Permit was issued in July 2007 to add the Strathmore Well #2 (02G) to the system. This permit did not add any additional withdrawal volume. The Strathmore Well was developed in 2002, but in 2012 it was reclassified as an Inactive source due to elevated levels of iron and manganese which require treatment. Russell is currently in the process of taking the steps necessary to maintain the Inactive status of the Strathmore Well, in the hopes of providing treatment and returning it to active status in the future. Russell continues to be authorized through their Permit and Registration to withdraw 0.29 MGD through November 30, 2016. Russell filed a timely renewal application for their Water Management permit in November of 2015.

The Permit Extensions

Russell's most recent permit was issued on July 16, 2007 and was expected to expire on November 30, 2012. That permit was then extended for 2 years 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 the permit was extended an additional 2 years. Prior to the November 2016 expiration date, Russell filed to renew its permit in November 2015. Pursuant to M.G.L. c. 30A, § 13, and 310 CMR 36.18(7), the Russell Water Department's existing permit continues in force and effect until the Department issues a final decision on the permit renewal application. The expiration date for all permits going forward in the Westfield River Basin will be November 30, 2032, in accordance with the staggered permitting schedule set forth in the regulations.

The Water Management Act (M.G.L. c. 21G)

The Water Management Act (Act) requires the Department to issue permits that balance a variety of factors including without limitation:

- Impact of the withdrawal on other water sources;
- Water available within the safe yield of the water source;
- Reasonable protection of existing water uses, land values, investments and enterprises;
- Proposed use of the water and other existing or projected uses of water from the water source;
- Municipal and Massachusetts Water Resources Commission (WRC) water resource management plans;
- 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.

Water Management Regulation Revisions

In 2010, the Executive Office of Energy and Environmental Affairs (EEA) convened the Sustainable Water Management Initiative (SWMI) for the purpose of incorporating the best available science into the management of the Commonwealth's water resources. SWMI was a multi-year process that included a wide range of stakeholders and support from the Departments of Environmental Protection, Fish and Game, and Conservation and Recreation. In November 2012 the *Massachusetts Sustainable Water Management Initiative Framework Summary* (<http://www.mass.gov/eea/docs/eea/water/swmi-framework-nov-2012.pdf>) was released.

On November 7, 2014, MassDEP adopted revised Water Management Regulations at 310 CMR 36.00 that incorporate elements of the SWMI framework and the Water Conservation Standards adopted by the Massachusetts WRC. The regulations reflect a carefully developed balance to protect the health of Massachusetts' water bodies while meeting the needs of businesses and communities for water.

Without limitation, MassDEP has incorporated the following into Water Management permitting:

- Safe yield determinations for the major river basins based on a new methodology developed through SWMI (see the Safe Yield in the Westfield River Basin section of this document or for more information on the Safe Yield methodology, go to the November 28, 2012 SWMI Framework Summary and Appendices);
- Water needs forecasts for public water suppliers developed by the DCR, using a methodology reviewed and approved by the Massachusetts WRC;
- Water supply protection measures for public water supplies including Zone II delineations for groundwater sources and wellhead and surface water protection measures as required by Massachusetts Drinking Water Regulations (310 CMR 22.00);
- Water conservation standards reviewed and approved by the WRC in July 2018 (<https://www.mass.gov/doc/massachusetts-water-conservation-standards-2/>) including without limitation;
 - performance standard of 65 residential gallons per capita day or less;
 - performance standard of 10% or less unaccounted-for-water;

- seasonal limits on nonessential outdoor water use; and
- a water conservation program that includes leak detection and repair, full metering of the system and proper maintenance of the meters, periodic review of pricing, and education and outreach to residents and industrial and commercial water users; and
- Environmental protections developed through SWMI, including without limitation;
 - protection for coldwater fish resources;
 - minimization of withdrawal impacts in areas stressed by groundwater use; and
 - mitigation of the impacts of increasing withdrawals.

Safe Yield in the Westfield River Basin

This permit is being issued under the safe yield methodology adopted by the MassDEP on November 7, 2014 and described in the regulations at 310 CMR 36.13. As of the date of issuance of this permit, the Safe Yield calculation for the Westfield River Basin is 98.8 MGD, and total registered and permitted withdrawals are 54.49 MGD. Russell's WMA Permit does not increase the previously allocated volume in the Westfield River Basin and will not cause an exceedance of the Basin's safe yield.

Findings of Fact for Special Permit Conditions in the Town of Russell's Water Management Act Permit

The Findings of Fact for the special conditions included in the permit generally describe the rationale and background for each special condition in the WMA Permit. This summary of permit special conditions is not intended to, and should not be construed as, modifying any of the permit special conditions. In the event of any ambiguity between this summary and the actual permit conditions, the permit language shall control.

SPECIAL CONDITIONS

Special Condition 1, Authorized Annual Average Withdrawal Volume, recognizes the 0.29 MGD Russell is authorized to withdraw from its ground and surface water source in the Westfield River Basin by its WMA Registration #10425601, and the 0.0 MGD authorized by its WMA Permit ##9P2-1-04-256.02. In an August 31, 2015 letter to the town, the Department of Conservation and Recreation's Office of Water Resources (DCR) stated that it could not provide a final Water Needs Forecasts (WNF) for Russell, due to high unaccounted for water (UAW) volumes. A temporary allocation was recommended to be developed in conjunction with MassDEP. Since the permit currently includes no increase in allocation above their registered volume and any increase would require the filing of an entirely new permit application, this renewed permit merely maintains the total allocation at the registered rate of 0.29 MGD. Please see Table 1 below for Russell's historic system-wide withdrawals. As shown in Table 1, Russell's annual average daily volume in recent years has been substantially below 0.29 MGD.

Table 1: Russell System-Wide Water Withdrawals 2017-2022

Withdrawal Basin	Actual Withdrawals (MGD)						Registered Volume (MGD)	Permitted Volume (MGD)	Total Allocation (MGD)
	2017	2018	2019	2020	2021	2022			
Westfield	0.09	0.09	0.09	0.11	0.09	0.10	0.29	0.0	0.29

Special Condition 2, Maximum Daily Withdrawals from Withdrawal Points. This condition reflects the approved groundwater withdrawal rate for the Strathmore Park Well of 0.27 MGD. The maximum daily withdrawal rate is equal to the rate approved by the Department for Zone II delineation in correspondence dated April 9, 2003 and supported by the results of a 48-hour pumping test on the production well. The Strathmore Well is currently listed as an Inactive source by the Drinking Water Program and is not in use.

Special Condition 3, Zone II Delineations. Russell's permitted groundwater source has an approved Zone II. No further Zone II work is required as a condition of Russell's WMA Permit.

Special Condition 4, Wellhead Protection. Department records indicate that the protections in place for the Strathmore Park Well meet the requirements of 310 CMR 22.21(2), therefore, no further wellhead protection work is required. A letter from MassDEP dated October 8, 2004 confirmed compliance with the wellhead protection regulations.

Former Special Condition 5- Wetlands and Vernal Pool Monitoring- This condition has been removed, based on the fact that the Strathmore Well will require treatment to be listed as an Active drinking water source. The well is located along the Westfield River which is mapped as both Priority and Estimated Habitat for state-listed species pursuant to the MA Endangered Species Act and rare wetland wildlife habitat provisions of the MA Wetlands Protection Act. The first tributaries to the Westfield River located upstream (Bradley Brook) and downstream of the well (Potash Brook) are mapped as Coldwater Fisheries Resources. Russell is strongly advised to consult with the MA Division of Fisheries and Wildlife about these matters before plans to construct a treatment plant are developed.

Special Condition 5, Performance Standard for Residential Gallons Per Capita Day (RGPCD) Water Use. Russell was required to meet an annual RGPCD of 80 by December 31, 2009. For all public water suppliers (PWSs), the performance standard for RGPCD has been revised to 65. As shown in Table 2, Russell is meeting this new Performance Standard. Permittees that cannot comply with the RGPCD Performance Standard are required to develop and implement a functional equivalence program as set forth in Appendix A: Functional Equivalence with the RGPCD Performance Standard.

Table 2: Residential Gallons Per Capita Day Water Use

Year	2017	2018	2019	2020	2021	2022
RGPCD	39	41	50	52	45	43

Special Condition 6, Performance Standard for Unaccounted for Water (UAW). Russell was required to meet 15% or less UAW by December 31, 2009. See Table 3. For all PWSs, the performance standard for UAW was revised to 10% two out of every three years on a rolling review. Russell is not in

compliance with either standard. Permittees that cannot comply with the 10% UAW Performance Standard within two full calendar years of receiving this condition will be required to develop and implement a water loss control program as set forth in Appendix B Functional Equivalence with the 10% UAW Performance Standard. In an effort to obtain a Water Needs Forecast sooner, Russell has already initiated Step One of a UAW Functional Equivalence Plan, and will have an American Water Works Association M36 Audit completed by April 2024. Russell has also committed to performing leak detection work several times a year and initiated a meter replacement program in 2021, which will be completed by May 30, 2026.

Table 3: Unaccounted for Water

Year	2017	2018	2019	2020	2021	2022
UAW	44%	45%	30%	29%	40%	52%

Special Condition 7, Water Conservation Requirements. This Special Condition incorporates the Water Conservation Standards for the Commonwealth of Massachusetts reviewed and approved by the Water Resources Commission in July 2018 (<https://www.mass.gov/doc/massachusetts-water-conservation-standards-2/>).

Special Condition 8, Seasonal Limits on Nonessential Outdoor Water Use. This Special Condition reflects the restrictions on nonessential outdoor water use from May through September. The options outlined in this Special Condition are based on whether reported RGPCD for the previous year was in compliance with the RGPCD Performance Standard (see Special Condition 6, Performance Standard for RGPCD). In addition, outdoor water use by suppliers with wells in August net groundwater depleted subbasins¹ is limited to 1 or 2 days per week to minimize withdrawals from depleted subbasins.

Each year Russell may choose one of two options for implementing nonessential outdoor watering restrictions.

- **Calendar triggered restrictions** are in place from May 1st through September 30th. Many public water suppliers find this option easier to implement and enforce than the streamflow triggered approach
- **Streamflow triggered restrictions** are 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 commence when streamflow falls below the trigger for three consecutive days. Once implemented, the restrictions remain in place until streamflow at the assigned USGS local stream gage meets or exceeds the trigger streamflow for seven consecutive days.

If Russell selects the streamflow trigger approach, it has been assigned USGS stream gage 01183500, Westfield River near Westfield, MA. The May-June streamflow trigger is 502 cubic feet per second

¹ Subbasins used for WMA permitting are the 1,395 subbasins delineated by the U.S. Geological Survey in *Indicators of Streamflow Alteration, Habitat Fragmentation, Impervious Cover, and Water Quality for Massachusetts Stream Basins* (Weiskel et al., 2010, USGS SIR 2009-5272). The Water Management Regulations, 310 CMR 36.03, define August net groundwater depletion (NGD) to mean the unimpeded median flow for August minus 2000-2004 groundwater withdrawals plus 2000-2004 groundwater returns described by U.S. Geological Survey in *Indicators of Streamflow Alteration, Habitat Fragmentation, Impervious Cover and Water Quality for Massachusetts Stream Basins*. A subbasin is groundwater, depleted if it has an August NGD of greater than 25%.

(cfs), and the July-September streamflow trigger is 174 cfs. Should the reliability of flow measurement at this be so impaired as to question its accuracy, Russell may request that MassDEP review and approve the transfer to another gage that will trigger restrictions. MassDEP reserves the right to require use of a different gage.

- **The 7-Day Low Flow Trigger**, at which restrictions increase, is incorporated into both Calendar and Streamflow Triggered restrictions in order to provide additional protection to streamflows when flows are very low. The 7-day low flow trigger for Russell is 117 cfs.

Russell may choose to implement limits on nonessential outdoor water use that are stricter than those required by the permit.

Special Condition 9, Reporting Requirements, ensures that the information necessary to evaluate compliance with the conditions included herein is accurately reported.

Cold Water Fish Resources. Permittees with withdrawals that impact streamflow at a CFR (identified on basin maps²) must evaluate reducing impacts to CFRs through feasible optimization. Russell's source does not impact an area identified as a Coldwater Fishery Resource at this time. Therefore, this permit does not include conditions to address CFR impacts at this time.

Minimization. Permittees with groundwater sources in subbasins having August net groundwater depletion (August NGD) of 25% or greater are required to develop a plan to minimize the impacts of their withdrawals. Russell's permitted source in the Westfield River basin is in subbasin 19060 which is not identified as being August NGD; therefore Russell is not required to develop a minimization plan.

Mitigation

The Water Management Regulations, 310 CMR 36.03, define baseline to mean the volume of water withdrawn during calendar year 2005 plus 5%, or the average annual volume withdrawn from 2003 through 2005 plus 5%, whichever is greater provided that:

- (a) baseline cannot be less than a permittee's registered volume;
- (b) baseline cannot be greater than the permittee's authorized volume for 2005; and
- (c) if during the period from 2003 to 2005, the permittee's withdrawals from the water source were interrupted due to contamination of the source or construction of a treatment plant, the Department will use best available data to establish a baseline volume from the water source.

Russell's baseline is 0.29 MGD, their registered volume. The Water Management Regulations, 310 CMR 36.22(6) and (7), provide that permittees that seek to withdraw more than their baseline prepare and implement a mitigation plan. MassDEP is not permitting an authorized withdrawal volume to Russell that exceeds its baseline. Therefore, no mitigation plan is required at this time.

² Subbasins used for WMA permitting are the 1,395 subbasins delineated by the U.S. Geological Survey in *Indicators of Streamflow Alteration, Habitat Fragmentation, Impervious Cover, and Water Quality for Massachusetts Stream Basins* (Weiskel et al., 2010, USGS SIR 2009-5272).

Response To Comments

Russell's draft WMA permit was posted in the Massachusetts Environmental Monitor for public comment from June 7, 2024 to July 7, 2024. No comments were received.



Department of Environmental Protection

100 Cambridge Street Suite 900 Boston, MA 02114 • 617-292-5500

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Rebecca L. Tepper
Secretary

Bonnie Heiple
Commissioner

WATER WITHDRAWAL PERMIT

##9P2-1-04-256.02

Town of Russell

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

PERMIT NUMBER: 9P2-1-04-256.02 **RIVER BASIN:** Westfield River

PERMITTEE: Town of Russell

EFFECTIVE DATE: July 18, 2024

EXPIRATION DATE: November 30, 2032

NUMBER OF WITHDRAWAL POINTS: 1

Groundwater: 1

Surface Water: 0

USE: Public Water Supply

DAYS OF OPERATION: 365

**Table 1: Withdrawal Point
Identification**

Source Name	Source Code
Well #2 (Strathmore)	1256000-02G

SPECIAL CONDITIONS

1. Maximum Authorized Annual Average Withdrawal Volume

This permit authorizes the Russell Water Department (Russell or the Town) to withdraw water from the Westfield River Basin at the rate described below in Table 2. No additional withdrawal volume is authorized by this permit above the 0.29 million gallons per day authorized to Russell under Water

Management Act Registration #10425601. The authorized withdrawal volume is 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) for each permit period of the permit term. The Department of Environmental Protection (MassDEP) will use the raw water withdrawal volume from all authorized withdrawal points to assess compliance with the registered and permitted withdrawal volumes.

Table 2: Authorized Withdrawals				
Permit Periods	Raw Water Withdrawal Volumes			
	Permit		Registration + Permit	
	Daily Average (MGD)	Total Annual (MGY)	Daily Average (MGD)	Total Annual (MGY)
7/18/2024 to 11/29/2027	0.0	0.0	0.29	105.85
11/30/2027 to 11/30/2032	0.0	0.0	0.29	105.85

2. Maximum Authorized Daily Withdrawals from Withdrawal Points

Withdrawals from permitted withdrawal points are not to exceed the approved maximum daily volumes listed below without specific advance written approval from MassDEP (Table 3).

Table 3: Maximum Authorized Daily Withdrawal Rates		
Source Name	Source Code	MGD
Strathmore Pond Well	1256000-02G	0.271

3. Zone II Delineation

MassDEP records show that Russell has approved Zone II delineations for its groundwater sources. Therefore, no further Zone II delineation work is required.

4. Wellhead Protection

MassDEP records show that Russell has successfully adopted local zoning and non-zoning controls that prohibit all uses and activities cited in the MA Wellhead Protection Regulations. Therefore, no further wellhead protection work is required.

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

Russell was required to meet an annual RGPCD of 80 by December 31, 2009. For all public water suppliers (PWSs), the performance standard for RGPCD has been revised to 65. Russell has until December 31, 2026 to meet this performance standard. Permittees that cannot comply with the RGPCD Performance Standard are required to develop and implement a functional equivalence program as set forth in Appendix A: Functional Equivalence with the RGPCD Performance Standard. Russell shall report its RGPCD annually in its Annual Statistical Report (ASR).

6. Performance Standard for Unaccounted for Water

Russell was required to meet an annual Unaccounted for Water (UAW) of 15% or less by December 31, 2011. Statewide the Performance Standard has now changed to a UAW of 10% or less of overall water withdrawal for 2 of the most recent years 3 throughout the permit period. Russell has until

December 31, 2026 to meet this performance standard. Permittees that cannot comply with the UAW Performance Standard are required to develop and implement the functional equivalence requirements based on the *AWWA/IWA Water Audits and Loss Control Programs, Manual of Water Supply Practices M36*, as outlined in Appendix B. Russell is implementing Step One of a Municipal Water Loss Control Program (a M36 Audit) and shall submit a final report to MassDEP by April 30, 2024. Russell shall report its UAW annually in its Annual Statistical Report (ASR).

Nothing in the permit shall prevent a permittee who meets the 10% performance standard from demonstrating compliance with the UAW performance standard by developing and implementing a water loss control program following the *AWWA M36 Water Audits and Loss Control Programs*.

Permittees meeting the Performance Standard for Unaccounted for Water through implementation of a water loss control program based on AWWA M36 annual water audits and guidance shall continue to report UAW annually as required in the Annual Statistical Report for public water suppliers.

7. Water Conservation Requirements

At a minimum, Russell shall implement the following conservation measures forthwith. Compliance with the water conservation requirements shall be reported to MassDEP upon request, unless otherwise noted in Table 4.

Table 4: Minimum Water Conservation Requirements	
System Water Audits and Leak Detection	
1.	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 years from the date of the last documented leak detection survey.
2.	Conduct leak detection of the entire distribution system within one year whenever the percentage of UAW increases by 5% or more (for example an increase from 3% to 8%) over the percentage reported on the ASR for the prior calendar year. Within 60 days of completing the leak detection survey, submit to the Department a report detailing the survey, any leaks uncovered as a result of the survey or otherwise, dates of repair and the estimated water savings as a result of the repairs.
3.	Conduct field surveys for leaks and repair programs in accordance with the AWWA Manual 36.
4.	<p>Russell shall have repair reports available for inspection by MassDEP. Russell shall establish a schedule for repairing leaks that is at least as stringent as the following:</p> <ul style="list-style-type: none"> • 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. <p>Leaks shall be repaired in accordance with Russell's priority schedule including leaks up to the property line, curb stop or service meter, as applicable. Russell shall have water use regulations in place that require property owners to expeditiously repair leaks on their property.</p>

Metering
1. Russell shall continue to calibrate all source and finished water meters at least annually and report date of calibration on the ASR.
2. Russell shall maintain its system as 100% metered.
3. Russell shall continue the meter replacement program that began in 2021 until all residential, industrial, and commercial, meters have been replaced, with a completion date no later than May 30, 2026.
Pricing
1. Russell shall have a plan and schedule for establishing and maintaining a water pricing structure that includes the full cost of operating the water supply system. Thereafter, Russell shall implement the plan and schedule as approved by MassDEP. Full cost pricing factors all costs - operations, maintenance, capital, and indirect costs (environmental impacts, watershed protection) - into prices.
2. Evaluate rates at a minimum every three to five years and adjust costs as needed.
3. Russell will continue to implement an increasing block rate structure.
4. Russell shall continue to bill at least quarterly.
Residential and Public Sector Conservation
1. Russell shall ensure that the standards set forth in the Federal Energy Policy Act, 1992 and the Massachusetts Plumbing Code are met when buildings are constructed or renovated.
2. Russell reports metering water used by contractors using fire hydrants for pipe flushing and construction and shall continue to do so.
Industrial and Commercial Water Conservation
1. Russell shall continue to inspect industrial facilities and recommend the use of separate meters for process water where appropriate.
Public Education and Outreach
1. Within thirty days of the effective date of this permit, Russell shall submit to MassDEP a plan and schedule for the development and implementation of a water conservation education and outreach plan designed to educate customers on ways to conserve water. Without limitation, the plan may include the following actions: <ul style="list-style-type: none"> • Include in bill stuffers and/or bills, a work sheet to enable customers to track water use and conservation efforts and estimate the dollar savings; • Public space advertising/media stories on successes (and failures); • Conservation information centers perhaps run jointly with electric or gas company; • Speakers for community organizations; • Public service announcements; radio/T.V./audio-visual presentations; • Joint advertising with hardware stores to promote conservation devices; • Use of civic and professional organization resources; • Special events such as Conservation Fairs; • Develop materials that are targeted to schools with media that appeals to children, including materials on water resource projects and field trips; and • Provide multilingual materials as needed.
2. Thereafter, Russell shall develop and implement the water conservation education and outreach plan and schedule as approved by MassDEP. Upon request of MassDEP, Russell shall report on its public education and outreach efforts.

8. Seasonal Limits on Nonessential Outdoor Water Use

Russell shall limit nonessential outdoor water use through mandatory restrictions from May 1st through September 30th as outlined in Table 5. To the extent feasible all summer outdoor water use should take place before 9 am and after 5 pm when evaporation and evapotranspiration rates are lower.

**TABLE 5: Russell Seasonal Limits on Nonessential Outdoor Water Use
May 1 to September 30**

For Permittees meeting the 65 RGPCD Standard for the preceding year RGPCD \leq 65 as reported in the ASR and accepted by MassDEP	
Calendar Triggered Restrictions	<p>Nonessential outdoor water use is allowed:</p> <ul style="list-style-type: none"> a) Seven (7) days per week before 9 am and after 5 pm; and b) One (1) day per week before 9 am and after 5 pm <p>when USGS stream gage 01183500, Westfield River near Westfield, MA falls below 117 cfs for three (3) consecutive days.</p> <p>Once streamflow triggered restrictions are implemented, they shall remain in place until streamflow at the gage meets or exceeds 117 cfs for seven (7) consecutive days.</p>
Streamflow Triggered Restrictions	<p>Nonessential outdoor water use is allowed seven (7) day per week before 9 am and after 5 pm when USGS stream gage 01183500, Westfield River near Westfield, MA falls below:</p> <ul style="list-style-type: none"> a) May 1 – June 30: 502 cfs for three (3) consecutive days b) July 1 – September 30: 174 cfs for three (3) consecutive days <p>a) one (1) day per week before 9 am and after 5 pm</p> <p>when USGS stream gage 01183500, Westfield River near Westfield, MA falls below 117 cfs for three (3) consecutive days.</p> <p>Once implemented, the restrictions shall remain in place until streamflow at the gage meets or exceeds the trigger streamflow for seven (7) consecutive days.</p>
For Permittees NOT meeting the 65 RGPCD standard for the preceding year RGPCD > 65 as reported in the ASR and accepted by MassDEP	
Calendar Triggered Restrictions	<p>Nonessential outdoor water use is allowed:</p> <ul style="list-style-type: none"> b) Two (2) days per week before 9 am and after 5 pm; and c) One (1) day per week before 9 am and after 5 pm <p>when USGS stream gage 01183500, Westfield River near Westfield, MA falls below 116 cfs for three (3) consecutive days.</p> <p>Once streamflow triggered restrictions are implemented, they shall remain in place until streamflow at the gage meets or exceeds 117 cfs for seven (7) consecutive days</p>
Streamflow Triggered Restrictions	<p>Nonessential outdoor water use is allowed two (2) day per week before 9 am and after 5 pm when USGS stream gage 01183500, Westfield River near Westfield, MA falls below:</p> <ul style="list-style-type: none"> c) May 1 – June 30: 502 cfs for three (3) consecutive days d) July 1 – September 30: 174 cfs for three (3) consecutive days <p>d) one (1) day per week before 9 am and after 5 pm</p> <p>when USGS stream gage 01183500, Westfield River near Westfield, MA falls below 117 cfs for three (3) consecutive days.</p> <p>Once implemented, the restrictions shall remain in place until streamflow at the gage meets or exceeds the trigger streamflow for seven (7) consecutive days.</p>

Instructions for Accessing Streamflow Website Information
If Russell chooses Streamflow Triggered Restrictions, Russell shall be responsible for tracking streamflows and recording and reporting to MassDEP when restrictions are implemented.
<p>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.</p> <p>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.</p> <p>Mean daily streamflow gage readings are available at the USGS NWIS Web Interface at http://waterdata.usgs.gov/ma/nwis/current/?type=flow.</p> <ul style="list-style-type: none"> • Scroll down to 01183500, Westfield River near Westfield, MA. • Click on the gage number. • Click on Legacy real-time page. • 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 “00060 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.
Russell shall document compliance with the Seasonal Nonessential Outdoor Water Use Restrictions annually in its Annual Statistical Report (ASR) and indicate whether it anticipates implementing calendar triggered restrictions or streamflow triggered restrictions during the next year.

Restricted Nonessential Outdoor Water Uses

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

- irrigation of lawns via sprinklers or automatic irrigation systems;
- filling swimming pools;
- 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, 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 before 9 am and after 5 pm;
- irrigation of gardens, flowers and ornamental plants by means of a hand-held hose or drip irrigation systems; and

- irrigation of lawns 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 minimal fairway watering, or irrigation by plant nurseries as necessary to maintain stock).

Public Notice of Seasonal Nonessential Outdoor Water Use Restrictions

Russell 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 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 form "Notification of Water Use Restrictions" available on MassDEP's website. Should the reliability of flow measurement at the Westfield River gage be so impaired as to question its accuracy, Russell may request MassDEP's review and approval to transfer to another gage to trigger restrictions. MassDEP reserves the right to require use of a different gage.

Nothing in the permit shall prevent Russell from implementing water use restrictions that are more stringent than those set forth in this permit.

9. Reporting Requirements

Russell shall report annually as required by completing the electronic Annual Statistical Report (eASR) for public water suppliers and shall provide other reporting as specified in the Special Conditions above.

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 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 MassDEP to enter and examine any property, inspect and monitor the withdrawal, and inspect and copy any relevant records, 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 M.G.L. c. 21G, §§ 15-17, M.G.L. c. 111, § 160, 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 submit annually, on a form provided by MassDEP, a certified statement of the withdrawal. Such report is to be received by MassDEP by the date specified by MassDEP. Such report must be mailed or hand delivered to the address specified on the report form.
7. **Duty to Maintain Records** The Permittee shall be responsible for maintaining withdrawal records as specified by this permit.
8. **Metering** Withdrawal points shall be metered. Meters shall be calibrated annually. Meter shall be maintained and replaced as necessary to ensure the accuracy of the withdrawal records.
9. **Amendment, Suspension or Termination** The Department may amend, suspend or terminate this permit in accordance with M.G.L. c. 21G or 310 CMR 36.29

APPEAL RIGHTS AND TIME LIMITS

Any person aggrieved by this decision may request an adjudicatory hearing on this Permit by timely filing a Notice of Claim for an Adjudicatory Appeal (“Notice of Claim”) in accordance with 310 CMR 36.37 and 310 CMR 1.01 within twenty-one (21) days of its receipt of this Permit. The Notice of Claim shall state specifically, clearly and concisely the facts that are grounds for the appeal, the relief sought, and any additional information required by applicable law or regulation. A copy of this Permit shall be included with a Notice of Claim. No request for an appeal of this Permit shall be validly filed unless a copy of the request is sent at the same time by certified mail, or delivered by hand, to the local water resources management official in the community in which the withdrawal point is located; and for any person appealing this decision, who is not the Permittee, unless such person notifies the Permittee of the appeal in writing by certified mail or by hand within five (5) days of mailing the appeal to the Department.

The Notice of Claim and supporting documentation must be sent by certified mail or hand delivered to:

Case Administrator
Office of Appeals and Dispute Resolution
Department of Environmental Protection
100 Cambridge Street, Suite 900
Boston, MA 02114

In addition, the Department’s fee transmittal form, together with a valid check made payable to the Commonwealth of Massachusetts in the amount of \$100 for the appeal filing fee, if required, must be mailed to:

Commonwealth of Massachusetts Lock Box
Department of Environmental Protection
P.O. Box 4062

Boston, MA 02211

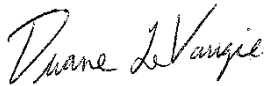
The Notice of Claim may be dismissed if the filing fee is not paid, unless the appellant is exempt or granted a waiver.

EXEMPTIONS

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

WAIVER

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.



July 18, 2024

Duane LeVangie
Water Management Program Chief
Bureau of Water Resources

Date

**Appendix A – Functional Equivalence with the 65 Residential Gallons Per Capita
Day Performance Standard**

MassDEP will consider PWS permittees who cannot meet the 65 RGPCD performance standard to be functionally equivalent, and in compliance with their permit, if they have an on-going program in place that ensures “best practices” for controlling residential water use as described below.

If the permittee fails to document compliance with the RGPCD performance standard by December 31, 2023, in its Annual Statistical Report (ASR), or in any ASR thereafter, then the permittee must file with that ASR a Residential Gallons Per Capita Day Compliance Plan (RGPCD Plan) which shall include, at a minimum:

1. A description of the actions taken during the prior calendar year to meet the performance standard;
2. An analysis of the cause of the failure to meet the performance standard;
3. A description of the actions that will be taken to meet the performance standard which must include, at a minimum, at least one of the following:
 - 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, by-law or regulation to require the installation of moisture sensors or similar climate related control technology on all automatic irrigation systems;and may include, without limitation, the following:
 - d) the use of an increasing block water rate or a seasonal water rate structure as a tool to encourage water conservation;
 - e) a program that provides rebates or other incentives for the installation of moisture sensors or similar climate related control technology on automatic irrigation systems;
 - f) the adoption and enforcement of an ordinance, by-law or regulation to require that all new construction include water saving devices and low water use appliances;
 - g) the adoption and enforcement of an ordinance, by-law or regulation to require that all new construction minimize lawn area and/or irrigated lawn area, maximize the use of drought resistant landscaping, and maximize the use of topsoil with a high water- retention rate;
 - h) the implementation of a program to encourage the use of cisterns or rain barrels for outside watering;
 - i) the implementation of monthly or quarterly billing.
4. A schedule for implementation; and
5. An analysis of how the planned actions will address the specific circumstances that resulted in the failure to meet the performance standard.

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

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

If a RGPCD plan is required, the permittee must:

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

Appendix B – Functional Equivalence: 10% Unaccounted for Water Performance Standard

MassDEP will consider PWS permittees who cannot meet the 10% UAW performance standard to be functionally equivalent, and in compliance with their permit, if they have an on-going program in place that ensures “best practices” for controlling water loss. The water loss control program will be based on annual water audits and guidance as described in the *AWWA/IWA Manual of Water Supply Practices – M36, Water Audits and Loss Control Programs* (AWWA M36).

If the permittee fails to document compliance with the Unaccounted for Water performance standard (UAW of 10% or less for 2 of the 3 most recent years throughout the permit period), then the permittee shall develop and implement a water loss control program following the *AWWA M36 Water Audits and Loss Control Programs* within 5 full calendar years of failing to meet the standard as follows:

1. Conduct an annual “top down” water audit, calculate the data validity level/score using AWWA Water Loss Control Committee’s Free Water Audit Software, and submit the AWWA WLCC Free Water Audit Software: Reporting Worksheet and data validity score annually with its Annual Statistical Report (ASR).
 - If a PWS’s data validity level/score is less than Level III (51-70), steps recommended through the audit(s) shall be taken to improve the reliability of the data prior to developing a long-term program to reduce real and apparent water losses.
 - Data with a validity score of 50 or less are considered too weak to be used to develop a component analysis or for infrastructure planning and maintenance.
 - Developing data with an acceptably strong validity score can be a multi-year process.
2. When the data validity score meets the Level III (51-70) requirement, conduct a component analysis to identify causes of real and apparent water loss and develop a program to control losses based on the results of the component analysis.
3. Within 5 full calendar years of failing to meet the standard, submit the component analysis and water loss control program with a proposed implementation schedule to the Department.
4. Continued implementation will be a condition of the permit in place of meeting the 10% UAW performance standard.
5. Upon request of the Department, the permittee shall report on its implementation of the water loss control program.

A PWS permittee may choose to discontinue the water loss program implementation if UAW, as reported on the ASR and approved by the Department, is below 10% for four consecutive years, and the water audit data validity scores are at least Level III (51-70) for the same four years.

NOTE FOR SMALL SYSTEMS: For small systems with less than 3,000 service connections or a service connection density of less than 16 connections per mile of pipeline, the Unavoidable Annual Real Loss (UARL) calculation and the Infrastructure Leak Index (ILI) developed as the final steps of the top down water audit may not result in valid performance indicators, and may not be comparable to the UARL and ILI calculations for larger systems.

However, these small systems can benefit from developing reliable data and conducting an annual top down water audit. Small systems can rely on the real losses (gallons per mile of main per day) performance indicator developed in the water audit as a measure of real water loss when developing a water loss control program. The M36 Manual discusses the audit process for small systems, and includes a chapter to guide small systems in understanding the results of their audits and in developing

a water loss control program (*Manual of Water Supply Practices – M36, Fourth Edition, Chapter 9: Considerations for Small Systems*, pp. 293-305).

MassDEP UAW Water Loss Control Measures: If the permittee is required to develop a Functional Equivalence Plan for the 10% Unaccounted for Water Performance Standard, and the permittee does not have a MassDEP-approved Water Loss Control Program in place within 5 full calendar years of failing to meet the standard, the permittee will be required to implement the MassDEP UAW Water Loss Control Measures outlined below:

- An annual water audit and leak detection survey, as described in the AWWA M36 Manual, of the entire system.
 - Within one year, repair 75% (by water volume) of all leaks detected in the survey that are under the control of the public water system;
 - Thereafter, repair leaks as necessary to reduce permittee's UAW to 10% or the minimum level possible.
- Meter inspection and, as appropriate, repair, replace and calibrate water meters:
 - Large Meters (2" or greater) – within one year
 - Medium Meters (1" or greater and less than 2") – within 2 years
 - Small Meters (less than 1") - within three years
 - Thereafter, calibrate and or replace all meters according to type and specification.
- Bill at least quarterly within three years.
- Water pricing structure sufficient to pay the full cost of operating the system.

Hardship - A permittee may present an analysis of the cost-effectiveness of implementing certain conservation measures included in the MassDEP UAW Water Loss Control Measures and offer alternative measures. Any analysis must explicitly consider environmental impacts and must produce equal or greater environmental benefits.

A permittee's hardship analysis shall:

- Document economic hardship and present an analysis demonstrating that implementation of specific measures will cause or exacerbate significant economic hardship;
- Present reasons why specific measures are not cost-effective because the cost would exceed the costs of alternative methods of achieving the appropriate standard; and
- Propose 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 Water Loss Control Measures.

MassDEP will review a permittee's detailed, written analysis to determine whether unique circumstances make specific Best Management Practices (BMPs) less cost-effective than alternatives, or infeasible for the permittee.