



Commonwealth of Massachusetts
Executive Office of Energy & Environmental Affairs

Department of Environmental Protection

100 Cambridge Street 9th Floor Boston, MA 02114 • 617-292-5500

Maura T. Healey
Governor

Kimberly Driscoll
Lieutenant Governor

Rebecca L. Tepper
Secretary

Bonnie Heiple
Commissioner

Michael Guzinski
Town Administrator
Town of Millis
900 Main Street
Millis MA

RE: December 8, 2023

Millis- BWR\WMA
WMA Permit #: 9P4-2-20-187.03
Program: Water Management Act
Action: Permit Modification

Dear Mr. Guzinski:

Please find attached the following:

- Findings of Fact in Support of the Water Management Act Permit Decision; and,
- Water Management Act Permit #**9P4-2-20-187.03** for the Town of Millis.in Norfolk County, Massachusetts.

The signature on this cover letter indicates formal issuance of the attached documents.
If you have any questions, please contact me Madelyn Morris at madelyn.morris@mass.gov or
Duane LeVangie at duane.levangie@mass.gov.

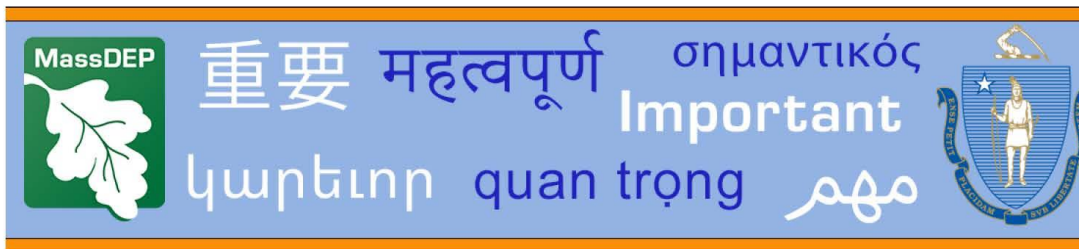
Sincerely,

Duane LeVangie, Chief
Water Management Act Program
Bureau of Water Resources

Enclosures

Ecc: James McKay, Director, Millis Department of Public Works
Julia Blatt and Sarah Bower, MassRiver Alliance
Zeus Smith, Charles River Watershed Association
Jennifer Pederson, Massachusetts Water Works Association

<https://massgov.sharepoint.com/:f/r/sites/DEP-BWR/DWPArchive/CRO/Millis-2187000-Permit> Review-
9P422018703-12-08-2023



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 Environmental Justice at the telephone number listed below.

Español Spanish

Este documento es importante y debe ser traducido inmediatamente. Si necesita traducir este documento, póngase en contacto con el Director de Justicia Ambiental de MassDEP (MassDEP's Director of Environmental Justice) en el número de teléfono que figura más abajo.

Português Portuguese

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繁體中文 Chinese Traditional

本文檔很重要，需要即刻進行翻譯。
如需對本文檔進行翻譯，請透過如下列示電話號碼與 MassDEP 的環境司法總監聯絡。

简体中文 Chinese Simplified

这份文件非常重要，需要立即翻译。
如果您需要翻译这份文件，请通过下方电话与 MassDEP 环境司法主任联系。

Ayisyen Kreyòl Haitian Creole

Dokiman sa a enpòtan epi yo ta dwe tradui l imedyatman. Si w bezwen tradui dokiman sa a, tanpri kontakte Direktè. Jistis Anviwònmanal MassDEP a nan nimewo telefòn ki endike anba a.

Việt Vietnamese

Tài liệu này và quan trọng và phải được dịch ngay. Nếu quý vị cần bản dịch của tài liệu này, vui lòng liên hệ với Giám Đốc Phòng Công Lý Môi Trường của MassDEP theo số điện thoại được liệt kê bên dưới.

ប្រទេសកម្ពុជា Khmer/Cambodian

ឯកសារនេះមានសារៈសំខាន់
ហើយកម្មវិធីត្រូវបានបកប្រែភ្លាមៗ។
ប្រសិនបើអ្នកត្រូវការអោយឯកសារនេះបកប្រែ
សូមទាក់ទងនាយកដ្ឋានយុត្តិធម៌បរិស្ថានរបស់
MassDEPតាមរយៈលេខទូរស័ព្ទដែលបានរាយនាមខាងក្រោម។

Kriolu Kabuverdianu Cape Verdean

Es dokumentu sta important i tenki ser tradusidu imediatamenti. Se nho ta presisa ke es dokumentu sta tradisidu, por favor kontata O Diretor di Justisia di Environman di DEP ku es numero di telefoni menxionadu di baixo.

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 8.2.2023) 310 CMR 1.03(5)(a)

Русский Russian

Это чрезвычайно важный документ, и он должен быть немедленно переведен. Если вам нужен перевод этого документа, обратитесь к директору Департамента экологического правосудия MassDEP (MassDEP's Director of Environmental Justice) по телефону, указанному ниже.

العربية Arabic

هذه الوثيقة مهمة وتجب ترجمتها على الفور.

إذا كنت بحاجة إلى ترجمة هذه الوثيقة، فيرجى الاتصال بمدير العدالة البيئية في MassDEP على رقم الهاتف المذكور أدناه.

한국어 Korean

이 문서는 중대하므로 즉시 번역되어야 합니다. 본 문서 번역이 필요하신 경우, 매사추세츠 환경보호부의 "환경정의" 담당자 분께 문의하십시오. 전화번호는 아래와 같습니다.

հայերէն Armenian

Այս փաստաթուղթը կարևոր է, և պետք է անհապաղ թարգմանել այն: Եթե Ձեզ անհրաժեշտ է թարգմանել այս փաստաթուղթը, դիմեք Մասաչուսեթսի շրջակա միջավայրի պահպանության նախարարության (MassDEP) Բնապահպանական հարցերով արդարադատության ղեկավարին (Director of Environmental Justice)՝ ստորև նշված հեռախոսահամարով

فارسی Farsi Persian

این نوشتار بسیار مهمی است و باید فوراً ترجمه شود. اگر نیاز به ترجمه این نوشتار دارید لطفاً با مدیر عدالت محیط زیستی MassDEP در شماره تلفن ذکر شده زیر تماس بگیرید.

Français French

Ce document est important et doit être traduit immédiatement. Si vous avez besoin d'une traduction de ce document, veuillez contacter le directeur de la justice environnementale du MassDEP au numéro de téléphone indiqué ci-dessous.

Deutsch German

Dieses Dokument ist wichtig und muss sofort übersetzt werden. Wenn Sie eine Übersetzung dieses Dokuments benötigen, wenden Sie sich bitte an MassDEP's Director of Environmental Justice (Direktor für Umweltgerechtigkeit in Massachusetts) unter der unten angegebenen Telefonnummer.

Ελληνική Greek

Το έγγραφο αυτό είναι πολύ σημαντικό και πρέπει να μεταφραστεί αμέσως. Αν χρειάζεστε μετάφραση του εγγράφου αυτού, παρακαλώ επικοινωνήστε με τον Διευθυντή του Τμήματος Περιβαλλοντικής Δικαιοσύνης της Μασαχουσέτης στον αριθμό τηλεφώνου που αναγράφεται παρακάτω

Italiano Italian

Questo documento è importante e deve essere tradotto immediatamente. Se hai bisogno di tradurre questo documento, contatta il Direttore della Giustizia Ambientale di MassDEP al numero di telefono sotto indicato.

Język Polski Polish

Ten dokument jest ważny i powinien zostać niezwłocznie przetłumaczony. Jeśli potrzebne jest tłumaczenie tego dokumentu, należy skontaktować się z dyrektorem ds. sprawiedliwości środowiskowej MassDEP pod numerem telefonu podanym poniżej.

हिन्दी Hindi

यह दस्तावेज महत्वपूर्ण है और इसका अनुवाद तुरंत किया जाना चाहिए। यदि आपको इस दस्तावेज का अनुवाद कराने की जरूरत है, तो कृपया नीचे दिए गए टेलीफोन नंबर पर MassDEP के पर्यावरणीय न्याय निदेशक से संपर्क करें।

Contact Deneen Simpson 857-406-0738

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Finding of Fact in Support of Water Management Permit # 9P4-2-20-187.03 TOWN OF MILLIS

The Department of Environmental Protection (the Department or MassDEP) has completed its compliance review of the 2010 Water Management Act Permit (the 2010 WMA Permit) issued to the Town of Millis (the Town or Millis). The Department hereby proposes to issue the Modified Water Management Permit #9P4-2-20-187.03 (the “Modified Permit”) in accordance with the Water Management Act (M.G.L. c. 21G) and the regulations promulgated thereunder at 310 CMR 36.00. The Modified WMA Permit supersedes the 2010 WMA Permit. The Department makes the following Findings of Fact in support of the attached Modified Permit and includes herewith its reasons for issuing the Modified Permit and for conditions of approval imposed, as required by M.G.L. c. 21G, § 11, and 310 CMR 36.00. The Modified Permit is being issued since such action is necessary for the promotion of the purposes of M.G.L. c. 21G. The Department may amend, suspend, or terminate the Modified Permit, after notice and hearing, in accordance with the provisions of 310 CMR 36.29(1).

Millis’s Water Withdrawal History

Millis is registered for an annual average daily withdrawal volume of 0.63 million gallons per day (MGD) from Wells # 1, 2, 3 and 4 in the Charles River Basin. On November 30, 1989, MassDEP issued a Water Management Act Permit (the 1989 WMA Permit) to Millis authorizing the Town to withdraw up to an annual average withdrawal volume of 0.19 MGD from these sources in addition to its registered volume. The 1989 WMA Permit contained streamflow restrictions on the permitted withdrawals. On December 24, 1990, the Department issued a modified Permit (the 1990 Modified WMA Permit) eliminating those streamflow restrictions in response to the amended WMA Regulations that took effect on December 7, 1990. On August 31, 1999, the Department issued a new WMA Permit (the 1999 WMA Permit) that: superseded the 1990 Modified WMA Permit, authorized the Town to use two additional groundwater sources, Wells # 5 and #6, and increased the Town’s permitted withdrawals in the Charles River Basin by up to an annual average daily withdrawal volume of 0.36 MGD, for a total allocation of 0.99 MGD. The 1999 WMA Permit had streamflow limitations on the use of Wells #5 and #6.

The 1999 WMA Permit was renewed, and a new WMA Permit was issued in 2010 (the 2010 WMA Permit). The 2010 WMA Permit had an expiration date of February 28, 2029. On September 6, 2022, MassDEP issued Millis an Order to Complete (the OTC) outlining the

specific information the Department needed to review the Town's compliance with the 2010 WMA Permit. On February 24, 2023, Millis responded to the OTC.

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, the Department 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, the Department 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 Charles River Basin section of this document). 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 Department of Conservation and Recreation, Office of Water Resources (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 and performance standards reviewed and approved by the WRC in July 2018 ([Details on the 2018 Massachusetts Water Conservation Standards | Mass.gov](#)); 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;
 - 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 Charles River Basin

This Modified 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. As of the date of issuance of this permit, the safe yield for the Charles River Basin is 65.2 million gallons per day (MGD), and total registered and permitted withdrawals are 44.12 MGD. The maximum withdrawals that will be authorized in this permit, and all other permits currently under review by the Department within the Charles River Basin, will be within the safe yield and may be further conditioned as outlined in the regulations.

Findings of Fact for Permit Conditions in Millis's Modified Water Management Act Permit

The following Findings of Fact for the special conditions included in the permit generally describe the rationale and background for each special condition in the 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 Condition 1, Maximum Authorized Annual Average Withdrawal Volumes.

The 2010 WMA Permit provided that from March 1, 2014 through February 28, 2029, Millis is authorized to withdraw from its permitted groundwater sources in the Charles River Basin an annual average daily volume of up to 0.36 MGD. This permitted volume was in addition to the 0.63 MGD that the Town is authorized to withdraw from its registered sources, Wells # 1, 2, 3,

and 4. Thus, the 2010 WMA Permit gave Millis a total authorized annual average daily volume of up to 0.99 MGD.

As shown in Table 1, Millis has withdrawn from its Charles River Basin sources an annual average daily volume substantially less than its maximum total authorized annual average daily volume.

Table 1: Annual Average Daily Withdrawal Volumes (AADW)

Year	AADW (MGD)
2022	0.61
2021	0.64
2020	0.64
2019	0.57
2018	0.62
2017	0.65

The Water Management Regulations revised and promulgated in November 2014 require WMA permits to address mitigation of withdrawals above the baseline volumes. 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:

1. baseline cannot be less than a permittee's registered volume;
2. baseline cannot be greater than the permittee's authorized volume for 2005; and
3. 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.

Millis's baseline annual average daily withdrawal volume is its 2005 withdrawal volume plus a buffer of 5% or 0.84 MGD. Permittees whose authorized volumes are above baseline must prepare a mitigation plan.

As shown in Table 1 above, Millis's annual average daily withdrawal volume in recent years has been substantially below its baseline volume. Moreover, the Department of Conservation and Recreation (DCR) has not issued a Water Needs Forecast (WNF) for Millis. In these circumstances, MassDEP has determined that it would be appropriate to issue a Modified Permit that limits the Town's total authorized annual average daily withdrawal volume to its baseline volume of 0.84 MGD, unless and until DCR issues a final WNF.

This total authorized volume includes a permitted volume of 0.21 MGD in addition to the registered volume of 0.63 MGD. The 0.21 MGD permitted limit on the Town's withdrawals in

the Charles River Basin that is set forth in Special Condition 1 of the Modified Permit is an interim allocation. As an interim allocation, this 0.21 MGD limit will remain in effect unless and until DCR issues a new WNF. Special Condition 1 of the Modified Permit requires the Town to obtain a WNF from DCR within four years of the date of permit issuance. Special Condition 1 also provides that if, after DCR issues a WNF, the Town seeks to increase its total authorized volume to an amount that is consistent with that forecast and that does not exceed the total volume authorized by Millis's 2010 WMA Permit and registration: 0.99 MGD, Millis may apply for a WMA Permit Amendment authorizing such an increase provided that: the Town is in compliance with the provisions of the Modified Permit pertaining to residential gallons per calendar day (RGPCD), Unaccounted for Water (UAW), Water Conservation, and Seasonal Restrictions on Nonessential Outdoor Water Use and prepares a plan to mitigate the impact of the Town's total authorized withdrawal volume in excess of its baseline volume of 0.84 MGD.. Special Condition 1 further requires Millis to implement the mitigation plan before it withdraws more than its baseline volume of 0.84 MGD.

The Modified Permit containing this Interim allocation will remain in effect until June 5, 2034, unless MassDEP issues a permit amendment before that date. The 2010 WMA Permit had an expiration date of February 28, 2029. The 2010 WMA Permit was extended for two 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 2010 WMA Permit was again extended an additional two years to February 28, 2033. That date was further extended by 462 days due to COVID-19 Order No. 42, "Order Resuming State Permitting Deadlines and Continuing to Extend the Validity of Certain State Permits," issued on July 2, 2020. In accordance with 310 CMR 36.17(1), the expiration date for all permits going forward in the Charles River Basin including the Modified Permit is June 5, 2034.

Special Condition 2, Maximum Authorized Daily Withdrawal Volumes from Each Withdrawal Point.

Special Condition 2 of the Modified Permit reflects the MassDEP-approved Zone II maximum daily pumping rate for each of Millis's permitted wells based on prolonged pumping tests. Withdrawals in excess of these maximum daily rates require approval from the Department. In recent years, Millis has not exceeded the maximum authorized withdrawal volume for any of its permitted sources.

Special Condition 3, Groundwater Supply Protection.

Special Condition 3 of the 2010 WMA Permit required Millis to exercise best efforts to encourage Medfield, Norfolk, and Sherborn to adopt land use controls to protect the portion of the Zone IIs of its wells that extends into those communities. Although the Town has complied with this requirement, MassDEP records indicates that Sherborn has not yet adopted such land use controls. Special Condition 3 of the Modified Permit requires Millis to continue to exercise best efforts to encourage Sherborn to adopt land use controls to protect the portion of the Zone IIs of its wells that extend into Sherborn.

Special Condition 4, StreamFlow Restrictions.

Special Condition 4 of the 2010 WMA Permit required Millis to cease use of Wells #5 and #6 when streamflow in the Charles River falls to 0.21 cubic feet per second per square mile (13.80 cubic feet per second) at the United States Geological Survey (USGS) gage located on the Charles River in Medway (#01103280). Special Condition 4 of the 2010 WMA Permit contains an exception for periods when Millis is selling water to Franklin and both Franklin and Millis have imposed the required seasonal restrictions on nonessential outdoor water use. Although Millis has not sold water to Franklin in recent years, the Town has indicated that it may do so in the future because of efforts to remedy PFAS contamination. In light of this possibility, Special Condition 4 of the Modified Permit maintains the streamflow restriction as set forth in the 2010 WMA Permit.

Special Condition 5, Performance Standard for Residential Gallons Per Capita Day Water Use (RGPCD).

Special Condition 5 of the 2010 WMA Permit required Millis to meet the performance standard of 65 residential gallons per capita day (RGPCD). Millis has been in compliance with this performance standard. Special Condition 5 of the Modified Permit maintains this performance standard.

Special Condition 6, Performance Standard for Unaccounted for Water (UAW).

Special Condition 6 of the 2010 WMA Permit required Millis to meet the 10% performance standard for UAW. The 2010 WMA Permit required Millis to submit a compliance plan for any year it does not meet the 10% UAW performance standard. Millis met the 10% UAW performance standard in 2020 and 2021. In 2022, Millis exceeded the 10% UAW performance standard. In its Annual Statistical Report (ASR) for 2022, Millis reported that its UAW was 11.7%. Millis stated that in early 2023, it had discovered a major leak along Middlesex Street and that steps were being taken to address this leak.

Special Condition 6 of the Modified Permit requires Millis to meet the 10% performance standard for UAW two out of every three years. Special Condition 6 of the Modified Permit provides that if Millis fails to meet this requirement, the Town shall meet the Functional Equivalence requirements based on the AWWA/IWA Water Audits and Loss Control Programs, Manual of Water Supply Practices as outlined in Appendix B.

Special Condition 7, Seasonal Limits on Nonessential Outdoor Water Use.

Special Condition 7 of the 2010 WMA Permit required Millis to impose seasonal limits on nonessential outdoor water use. The Modified Permit updates that special condition. The limitations on seasonal nonessential outdoor water in Special Condition 7 of the Modified Permit are based on:

- The August net groundwater depletion (NGD)¹ where the permittee's groundwater sources are located;
- The permittee's compliance with the RGPCD performance standard during the preceding year;
- The permittee's choice to implement restrictions either continuously throughout the irrigation season, or only when streamflow falls below trigger levels at an assigned USGS local stream gage; and
- The Modified Permit will replace the drought triggered restriction with a 7-day Low Flow value that limits non-essential water use to only one day per week when triggered.

Each year, Millis may choose one of two options for implementing nonessential outdoor watering 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 streamflow triggers are based on flow levels that are protective of habitat for fish spawning during the spring and for fish rearing and growth during the summer.

If Millis selects the streamflow approach, it has been assigned the USGS local stream gage of #01103280-Charles River at Medway, MA. The local gage streamflow triggers at this site are 59 cubic feet per second (cfs) for May and June and 20 cfs for July, August, and September. Should the reliability of flow measures at the Charles River gage be so impaired as to question its accuracy, Millis may request, subject to MassDEP's review and approval, to transfer to another gage to 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

¹ The Water Management Regulations, 310 CMR 36.03, define August net groundwater depletion 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*.

Calendar and Streamflow Triggered restrictions in order to provide additional protection to streamflows when flows are very low. The 7-day low-flow trigger is based on the median value of the annual 7-day low flows for the period of record. The 7-day low-flow trigger for the Charles River at Medway, MA gage is 8.1 cfs.

Millis may choose to implement limits on nonessential outdoor water use that are stricter than those required by the Modified Permit. This permit condition does not confer enforcement authority on the permittee.

Special Condition 8, Requirement to Report Raw and Finished Water Volumes.

Special Condition 8 of the Modified Permit ensures that the information necessary to evaluate compliance with the conditions included in the Modified Permit is accurately reported.

Special Condition 9, General Water Conservation Requirements.

Special Condition 9 of the Modified Permit incorporates the Water Conservation Standards for the Commonwealth of Massachusetts reviewed and approved by the Water Resources Commission (WRC) in July 2018. ([Details on the 2018 Massachusetts Water Conservation Standards | Mass.gov](#)).

Special Condition 10, Minimization.

Water Management Act Permittees with groundwater sources in subbasins having a net groundwater depletion (August NGD) of 25% or greater are required to develop a plan to minimize the impact of their withdrawals. Millis's Charles River basin groundwater sources are located in Subbasin 21123, a subbasin with an August NGD of 29.5% and Subbasin 21133, a subbasin with an August NGD of 46.12%. Millis has developed a minimization plan that calls for the Town to:

- a. increase use of Wells #1 and #2, the two wells located in Subbasin 21123, the subbasin with the lower August NGD after the Town has completed the installation of PFAS treatment in 2023, and
- b. implement additional conservation measures that go beyond the standard conservation measures.

Coldwater Fishery Resource (CFR) Protection.

Water Management Act Permittees with withdrawals that may impact the streamflow of a CFR (identified on subbasin maps) are required to evaluate methods for reducing impacts on CFRs through feasible optimization. Millis's sources are not in subbasins with CFRs identified at this time, therefore the Modified Permit does not include this requirement.

Mitigation.

Water Management Act Permittees whose total authorized volume exceeds their baseline volume are required to develop and implement a plan to mitigate the impact of their withdrawals above the baseline volume. Special Condition 1 of the Modified Permit limits the Town's total authorized volume to its baseline volume of 0.84 MGD. Thus, the Modified Permit does not

require the Town to prepare a mitigation plan at this time. If Millis files a permit amendment application seeking to increase its total authorized volume as provided in Special Condition 1, the Town will be required to submit a mitigation plan along with its permit amendment application and to implement the mitigation plan as approved by MassDEP prior to withdrawing more than its baseline volume of 0.84 MGD.

Response to Comments

MassDEP received comments from the Charles River Watershed Association (CRWA) and the Massachusetts Rivers Alliance (MassRivers). These comments commend MassDEP for issuing a Modified Permit that reduces the Town's total authorized volume from 0.99 MGD to 0.84 MGD, the baseline volume.

Despite the reduction, the comments request that MassDEP further reduce the total authorized volume to a volume that is below the Town's current baseline of 0.84 MGD. The comments request that MassDEP recalculate the Town's baseline. To support these requests, the comments note that the Town's current baseline is substantially above Millis's recent water use. The comments also point out that the Town's sources are located in two August net groundwater depleted subbasins (21123 and 21133) that have been determined to be Biological Category (BC) 5s, and Groundwater Withdrawal Category (GWC) 4 (21123) and GWC 5 (21133).

MassDEP cannot grant the request set forth in the comments to reduce the Town's total authorized volume to a value below the current baseline of 0.84 MGD and to recalculate the baseline volume. This comment addresses concerns with the WMA regulations developed in 2014 and requests modification to the permit that is not aligned with the current Water Management Program regulations (310 CMR 36.00). Comments pertaining to the implementation of policies developed as part of the Sustainable Water Management Initiative (SWMI) are not within the scope of individual Water Management permits. The Department continues to work with all constituents to review programmatic requirements in forums outside of the development of individual permits.

Moreover, the Modified Permit sets forth requirements that address the impact of the Town's withdrawals on the two groundwater depleted subbasins noted in the comments. To address this impact, the Modified Permit requires the Town to increase the use of Wells #1 and 2, after Millis has completed the installation of PFAS treatment for these wells in 2023 and implement a list of conservation measures that go beyond the standard measures. See Section 10 of the Modified Permit. MassDEP has also revised the Modified Permit to make it clearer that mitigation must be completed before the Town withdraws more than its baseline volume of 0.84 MGD. See Section 1 of the Modified Permit.

The comments also applaud MassDEP for maintaining the streamflow limits on the use of Wells #5 and 6. The comments request that MassDEP delete the exception for periods when Millis is

selling water to Franklin. The comments further request that if the exception is not deleted, MassDEP should add more stringent streamflow limits on the use of Wells #5 and 6.

MassDEP has determined that it is not appropriate to delete the exception. The comments acknowledge that there is value to Millis having the ability to assist Franklin through the sale of water at this time when many communities including Franklin may have to take sources off-line to address PFAS contamination. In addition, MassDEP can see no significant environmental benefit from deleting the exception. In the event that Franklin needs a supplemental water source, there appears to be no additional harm caused by Franklin shifting its withdrawals from its own sources that are located in small upstream subbasins to Millis's sources which are downstream along the mainstem of the Charles River.

MassDEP has also found that it is not appropriate to change the streamflow limits for Wells #5 and 6. The Town made the investment in these wells based on knowledge of these limits. The Town might not have decided to construct these wells if it knew it would face more stringent constraints on their use.

The comments also raise some minor issues with the Special Condition 7 of the Modified Permit relating to seasonal restrictions on nonessential outdoor water use. The comments noted that this condition contained an error in the identification of the gage. That error was corrected. The comments also noted that Special Condition 7 omitted references to the Drought Management Task Force.

As stated in the description of Special Condition 7 set forth in the Finding of Facts, the restrictions on seasonal restrictions on nonessential outdoor water use have been updated. As part of this update, the drought triggered restriction set forth in the 2010 WMA Permit were replaced with a 7-day Low Flow value that triggers restrictions on non-essential water use. Millis 2023 registration does require Millis to implement drought triggered restrictions. Where a community is subject to a requirement to implement restrictions in both its permit and registration, the restriction requirements set forth in the Water Management Act Permit control.

Special Condition 7 expressly provides that nothing in this Modified Permit shall prevent Millis from implementing water use restriction that are more stringent than those set forth in this permit. Millis may choose to implement limits on nonessential outdoor water use that are stricter than those required by Special Condition 7. In addition to the streamflow and calendar triggered restrictions set forth in Special Condition 7, Millis is free to implement additional restrictions based on drought declarations.



Department of Environmental Protection

100 Cambridge Street 9th Floor Boston, MA 02114 • 617-292-5500

Maura T. Healey
Governor

Kimberly Driscoll
Lieutenant Governor

Rebecca L. Tepper
Secretary

Bonnie Heiple
Commissioner

WATER WITHDRAWAL PERMIT MGL c 21G

This 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 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: 9P4-2-20-187.03

RIVER BASIN: Charles

PERMITTEE: Town of Millis
900 Main Street
Millis MA 02054

EFFECTIVE DATE: December 8, 2023

PERMIT EXPIRATION DATE: June 5, 2034

NUMBER OF WITHDRAWAL POINTS:

Groundwater: 6

USE: Public Water Supply

DAYS OF OPERATION: 365

LOCATIONS

Table 1: Withdrawal Point Identification

Source Name	PWS Source ID Code	Source Name	PWS Source ID Code
Well #1	2187000-01G	Well #4	2187000-04G
Well #2	2187000-02G	Well #5	2187000-05G
Well #3	2187000-03G	Well #6	2187000-06G

SPECIAL PERMIT CONDITIONS

1. Maximum Authorized Annual Average Withdrawal Volume

This permit authorizes the Town of Millis to withdraw water from the Charles River Basin at the rate described below in Table 2. The Department of Environmental Protection (MassDEP) bases the withdrawal volumes set forth in Table 2 on the raw water withdrawn from the authorized withdrawal points and will use the raw water amount to assess compliance with the registered and permitted withdrawal volumes.

The permitted volume is in addition to the 0.63 million gallons per day (229.95 million gallons per year) previously authorized to Millis under Water Management Act Registration 2-20-187.02 for withdrawal from the Charles River Basin. The permitted volume is an interim allocation expressed both as an annual average daily withdrawal rate (million gallons per day or MGD), and as a total annual withdrawal volume (million gallons per year or MGY) for each permit period until a water needs forecast (WNF) is completed for Millis by the Department of Conservation and Recreation (DCR).

Table 2: Maximum Authorized Annual Withdrawal Volumes

Permit Periods	Total Raw Water Withdrawal Volumes			
	Permit*		Permit *+ Registration	
	Daily Average (MGD)	Total Annual (MGY)	Daily Average (MGD)	Total Annual (MGY)
12/08/2023 to 6/6/2029	0.21	76.65	0.84	306.60
6/6/2029 to 6/6/2034	0.21	76.65	0.84	306.60

*** Permitted volume may be increased to 0.36 MGD for a total authorized volume of 0.99 MGD with a permit amendment as outlined below.**

Within four (4) years of the date of issuance of this Permit, Millis must submit documentation to DCR in accordance with the Policy for Developing WNFs for Public Water Suppliers and Communities and Methodology for Implementation, effective December 13, 2007, revised March 9, 2017. This documentation must address those issues identified by DCR which resulted in Millis receiving an interim allocation.

If after DCR issues a WNF, the Town seeks to increase its total authorized volume to an amount that is consistent with that forecast and that does not exceed the total volume authorized by Millis's 2010 WMA Permit and registration: 0.99 MGD, Millis may apply for a WMA Permit Amendment authorizing such an increase provided that:

- a. The Town is in compliance with the provisions of this Modified Permit pertaining to residential gallons per calendar day (RGPCD), Unaccounted for Water (UAW), Water Conservation, and Seasonal Restrictions on Nonessential Outdoor Water Use;
- b. The Town submits with its permit amendment application a plan to mitigate the volume requested in excess of its baseline volume;
- c. MassDEP issues a permit amendment in response to the Town's application; and
- d. The Town in accordance with the amended permit, implements the mitigation plan as approved by MassDEP prior to withdrawing more than its baseline volume of 0.84 MGD.

2. Maximum Authorized Daily Withdrawals from Each Withdrawal Point

Withdrawals from individual withdrawal points are not to exceed the approved maximum daily volumes listed below in Table 3 without specific advance written approval from MassDEP. The authorized maximum daily volume is the approved rate of each source. In no event shall the combined withdrawals from the individual withdrawal points exceed the withdrawal volumes authorized above in Special Condition 1.

Table 3: Maximum Authorized Daily Withdrawal Volumes

Source Name	PWS Source ID Code	Maximum Daily Rate (MGD)
Well #1	2187000-01G	0.72
Well #2	2187000-02G	0.50
Well #3	2187000-03G	0.75
Well #4	2187000-04G	0.86
Well #5	2187000-05G	1.50
Well #6	2187000-06G	

3. Groundwater Supply Protection

The Town shall continue to exercise best efforts to encourage the Town of Sherborn to enact groundwater supply protection measures in accordance with 310 CMR 22.21(e) to protect the portion of the Zone II of its groundwater sources that extends into Sherborn.

4. Streamflow Restrictions

The Town of Millis must cease the use and operation of the Paine Property Wells (Well #5 and Well #6) when streamflow in the Charles River falls to 0.21 cubic feet per second per square mile (13.80 cubic feet per second) at the United States Geological Survey Gage located on the Charles River in Medway (#01103280), except when selling water to the Town of Franklin. Millis may continue to operate the source below this minimum streamflow threshold provided that prior to the sale of water to the Town of Franklin, or to any other municipality or water

district located in the Charles River Basin upstream from Millis, that the receiving supplier and the Town of Millis have implemented mandatory restrictions on nonessential outdoor water use in accordance with the Special Condition in this Modified Permit pertaining to Seasonal Limits on Nonessential Outdoor Water Use.

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

The Town's performance standard for residential gallons per capita day (RGPCD) is 65 gallons. The Town is required to report its RGPCD water use annually in its Annual Statistical Report (ASR) and document compliance with this performance standard in its ASR. The Town shall report its ASR and the calculations to derive that figure as part of its ASR including without limitation the source of the data used to establish the service population and the year in which the data was developed. See Appendix A for additional information on the requirements if the performance standard for RGPCD is not met.

6. Performance Standard for Unaccounted for Water

The Town's Performance Standard for Unaccounted for Water (UAW) is 10% or less of overall water withdrawal for two of the most recent three years throughout the permit period. If the Town does not meet this standard, it shall be in compliance with the Functional Equivalence Requirements based on the AWWA IWA Water Audits and Loss Control Programs, Manual of Water Supply Practices as outlined in Appendix B.

The Town is required to report its UAW in its ASR so as to document compliance with this performance standard. The Town's ASR shall include the calculation to derive that figure including without limitation the source of data used, the methodology for calculating UAW and any assumptions used in making the calculation.

Nothing in this Modified Permit shall prevent a Permittee who meets the 10% performance standard from developing and implementing a water loss control program following the AWWA M36 Water Audit and Loss Control Programs. Permittees implementing a water loss control program based on AWWA M36 annual water audits and guidance shall continue to report UAW annually as required in the ASRs for public water suppliers.

7. Seasonal Limits on Nonessential Outdoor Water Use

The Town shall limit nonessential outdoor water use through mandatory restrictions from May 1st through September 30th as outlined in Table 4 below. The Town shall be responsible for tracking steamflow gages and drought advisories and recording and reporting when restrictions are implemented, if triggered restrictions are implemented. The Town shall also document compliance with the seasonal limits on nonessential outdoor water use annually in its ASR and indicate whether it anticipates implementing calendar triggered restrictions or USGS monitoring well 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 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, before 9 am and after 5 pm, 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;
- 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 limited fairway watering, or irrigation by plant nurseries as necessary to maintain stock).

Public Notice of Seasonal Nonessential Outdoor Water Use Restrictions

The Town shall notify its customers of the restrictions, including a detailed description of the restrictions and penalties for violating the restrictions. Notice that restrictions have been put in place shall be filed each year with the Department within 14 days of the restriction's effective date. Filing shall be in writing on the form "Notification of Water Use Restrictions" available on MassDEP website.

TABLE 4: Restrictions for Permittees meeting the 65 RGPCD Standard for the preceding year RGPCD \leq 65 as reported in the ASR and accepted by MassDEP
<u>Calendar triggered restrictions</u> May 1 through September 30 Nonessential outdoor water use is restricted to: <ul style="list-style-type: none">a) two (2) days per week before 9 am and after 5 pm; andb) one (1) day per week before 9 am and after 5 pm when USGS stream gage #01103280-Charles River at Medway, MA. falls below the 7-day low-flow statistic 30 cfs for three (3) consecutive days. Once streamflow triggered restrictions are implemented, they shall remain in place until streamflow at the gage meets or exceeds 30 cfs for seven (7) consecutive days.
<u>Streamflow triggered restrictions</u> Nonessential outdoor water use is restricted to: <ul style="list-style-type: none">a) two (2) days per week before 9 am and after 5 pm when USGS stream gage, MA falls below:<ul style="list-style-type: none">• May 1 – June 30: 170 cfs for three (3) consecutive days• July 1 – September 30: 62 cfs for three (3) consecutive daysb) one (1) day per week before 9 am and after 5 pm when USGS stream gage #01103280-Charles River at Medway, MA. 01103280 –falls below the 7-day low-flow statistic 30 cfs for three (3) consecutive days. Once implemented, the restrictions shall remain in place until streamflow at the gage meets or exceeds the trigger streamflow for seven (7) consecutive days.
Restrictions for Permittees NOT meeting the 65 RGPCD standard for the preceding year RGPCD $>$ 65 as reported in the ASR and accepted by MassDEP
<u>Calendar triggered restrictions</u> May 1 through September 30 Nonessential outdoor water use is restricted to one (1) day per week before 9 am and after 5 pm.
<u>Streamflow triggered restrictions</u> Nonessential outdoor water use is restricted to one (1) day per week before 9 am and after 5 pm when USGS stream gage #01103280-Charles River at Medway, MA. falls below: <ul style="list-style-type: none">• May 1 – June 30: 170 cfs for three (3) consecutive days• July 1 – September 30: 62 cfs for three (3) consecutive days Once implemented, the restrictions shall remain in place until streamflow at the gage meets or exceeds the trigger streamflow for seven (7) consecutive days.

Instructions for Accessing Streamflow Information
If Millis chooses Streamflow Triggered Restrictions, Millis shall be responsible for tracking streamflows and recording and reporting to MassDEP when restrictions are implemented
Streamflow Information is available at the USGS National Water Information (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 proceeding day when tracking streamflows.

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

- Scroll down to #01103280 Charles River at Medway, MA.
- Click on the gage number.
- Scroll down to “Provisional Data 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.

Millis 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 calendar year.

Millis may also opt to implement restrictions based on a MassDEP-approved drought management plan that includes environmental considerations.

Nothing in this Modified Permit shall prevent Millis from implementing water use restriction that are more stringent than those set forth in this permit.

The Town shall update its Water Restriction By-law to include the restrictions on seasonal outdoor water use required by Special Condition 7 and to align the by-law with the Model By-law and submit a copy of that By-law to MassDEP as soon as possible and no later than May 1, 2024. Beginning May 1, 2024, or the date that the Town updates its Water Restriction By-law to include the restriction required by Special Condition 7, whichever first occurs, the Town shall commence implementation of the seasonal restrictions on outdoor water use required by Special Condition 7.

8. Requirement to Report Raw and Finished Water Volumes

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

9. Water Conservation Requirements

At a minimum, the Town shall implement the following conservation measures in Table 5. Compliance with the water conservation requirements shall be reported to the Department upon request, unless otherwise noted below.

Table 5: Minimum Water Conservation Requirements
Leak Detection
1. At a minimum, conduct a full leak detection survey every three years.
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 <u>AWWA Manual 36</u> .
4. The Town shall have repair reports available for inspection by the Department. The Town shall establish a schedule for repairing leaks that is at least as stringent as the following: <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. Leaks shall be repaired in accordance with Millis's priority schedule including leaks up to the property line, curb stop or service meter, as applicable. The Town shall have water use regulations in place that require property owners to expeditiously repair leaks on their property.
Metering
1. Calibrate all source and finished water meters at least annually and report date of calibration on the ASR.

Table 5: Minimum Water Conservation Requirements
2. The Town reports its system is 91.7% metered. The Town shall become 100% metered within 18 months of the effective date of this Modified Permit. 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 <u>AWWA Manual M6 – Water Meters</u> .
3. The Town shall have an ongoing program to inspect individual service meters to ensure that all service meters accurately measure the volume of water used by its 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 annual budget to calibrate, repair, or replace meters as necessary.
Pricing
1. The Town shall maintain a water pricing structure that includes the full cost of operating the water supply system. The Town shall evaluate rates at a minimum every three to five years and adjust costs as needed. Full cost pricing factors all costs - operations, maintenance, capital, and indirect costs (environmental impacts, watershed protection) - into prices.
2. The Town shall not use decreasing block rates. Decreasing block rates which charge lower prices as water use increases during the billing period, are not allowed by M.G.L. Chapter 40 Section 39L.
Residential and Public Sector Conservation
1. The Town shall meet the standards set forth in the Federal Energy Policy Act, 1992 and the Massachusetts Plumbing Code.
2. Meter or estimate water used by contractors using fire hydrants for pipe flushing and construction.
3. The Town Water District shall ensure water conserving fixtures and landscaping practices are incorporated into the design of new municipal capital projects.
Industrial and Commercial Water Conservation
The Town shall ensure water conservation practices are considered in all development proposals, particularly low flow devices and water-wise landscaping practice
Public Education and Outreach
1. The Town shall implement water conservation and education efforts designed to educate the Town's water customers on ways to conserve water. Without limitation, Millis's 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;

Table 5: Minimum Water Conservation Requirements

<ul style="list-style-type: none">○ 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. Upon request of the Department, the Town of Millis shall report on its public education and outreach effort, including a summary of activities developed for specific target audiences, any events or activities sponsored to promote water conservation and copies of written materials.

10. Minimization

The permittee shall minimize the impact of its withdrawals on groundwater depleted subbasins:

- By increasing the use of Wells #1 and 2, after the Town has completed the installation of PFAS treatment for these wells in 2023;
- By continuing to implement and improve the following conservation measures that go beyond the standard measures. These measures include the following:
 - The Town's remote automated meter reading system;
 - Use of weather-based controls on municipal irrigation systems;
 - Annual water audits;
 - Quarterly billing that includes data comparing the prior quarters water use, beginning January 1, 2024, add information about water use in the same quarter of the prior year and;
 - Continue to provide information to high water users on their water use from May 1 to September 30, of each year, beginning May 1, 2024, add information comparing their water use with the water use of the most efficient customers.
- By May 1, 2024, incorporate into the Town's Water Restriction by-law some of the following provisions to encourage proper installation and efficient operation of automatic sprinkler systems:
 - Requirement to register automatic irrigation systems;
 - Requirements to minimize high-water use landscaping;
 - Restrictions on land clearing and lawn size;
 - Requirement to provide 6 inches of topsoil to retain moisture; and
 - Prohibition of topsoil stripping.

- By May 1, 2024, adopt some of the following additional water conservation measures that go beyond the standard measures and notifying MassDEP of their adoption:
 - A rebate program for residential customers for high efficiency Water-Sense labeled products and Energy Star clothes washers;
 - Incentives for those seeking municipal approvals to install high efficiency Water-Sense labeled products and Energy Star clothes washers in new construction and renovations;
 - Incentives for high efficiency irrigation systems;
 - Incentives to infiltrate rainwater;
 - Infiltration of rainwater on municipal properties;
 - Seasonal rate structure that provides higher rates for the period between May 1 and September 30 of each year;
 - Monthly mailings from May 1 to September 30 of each year targeting highest water users comparing their water use with more efficient customers; and
 - Extension of seasonal restrictions on non-essential outdoor water use to users of private wells.

GENERAL PERMIT CONDITIONS (applicable to all permittees)

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

1. **Duty to Comply** The permittee shall comply at all times with the terms and conditions of this permit, the Act and all applicable State and Federal statutes and regulations.
2. **Operation and Maintenance** The permittee shall at all times properly operate and maintain all facilities and equipment installed or used to withdraw water so as not to impair the purposes and interests of the Act.
3. **Entry and Inspections** The permittee or the permittee's agent shall allow personnel or authorized agents or employees of 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 111 ss 160, or any other enabling authority.
5. **Transfer of Permits** This permit shall not be transferred in whole or in part unless and until the Department approves such transfer in writing, pursuant to a transfer application on forms

provided by the Department requesting such approval and received by the Department at least thirty (30) days before the effective date of the proposed transfer. No transfer application shall be deemed filed unless it is accompanied by the applicable transfer fee established by 310 CMR 36.37.

6. **Duty to Report** The permittee shall complete and submit annually, on a form provided by the Department, all of the information required by said form including, without limitation, a certified statement of the withdrawal. Such report shall be received by the Department by the date specified on the form each year. Such report must be submitted as specified in the report form.
7. **Duty to Maintain Records** The permittee shall maintain withdrawal records and other information in sufficient detail to demonstrate compliance with this permit.
8. **Metering** If the withdrawal point included within the permit is not yet metered, it shall be metered within one year of the date of issuance of the permit. Meters shall be maintained and replaced as necessary to ensure the accuracy of the withdrawal records.

APPEAL RIGHTS AND TIME LIMITS

Any person aggrieved by this decision may request an adjudicatory hearing by timely filing a Notice of Claim for an Adjudicatory Appeal ("Notice of Claim") in accordance with 310 CMR 36.37 and 310 CMR 1.00 within twenty-one (21) days of 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, a copy of the adjudicatory hearing fee transmittal form, and a copy of the check or money evidencing payment of the adjudicatory hearing fee 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 permit 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.

The Notice of Claim and supporting documentation must be sent to:

MassDEP Office of Appeals and Dispute Resolution
Case Administrator
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 the MassDEP 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. The filing fee is not required if the appellant is a city, town (or municipal agency), county, district of the Commonwealth of Massachusetts, or a municipal housing authority. The Department may waive the adjudicatory filing fee for a person who shows that paying the fee will create an undue financial hardship. A person seeking a waiver must file, along with the hearing request, an affidavit setting forth the facts believed to support the claim of undue financial hardship.



Duane LeVangie, Chief
Water Management Act Program
Bureau of Water Resources

12/8/2023

Date

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

MassDEP will consider public water supply 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 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.