Commonwealth of Massachusetts
Executive Office of Energy and Environmental Affairs
Department of Environmental Protection
Address: 100 Cambridge Street, Suite 900, Boston MA 02114 | **Phone**: 617-292-5500

Maura T. Healey Governor | **Kim Driscoll** Lieutenant Governor | **Rebecca Tepper** Secretary | **Bonnie Heiple** Commissioner

September 16, 2026

Mr. Kevin Williams
Superintendent
Belchertown Water District
206 Jabish Street
P.O. Box 801
Belchertown, MA 01073

Re: Permittee: Belchertown Water District
Public Water Supply (PWS) ID: 1024000
Program: Water Management Act (WMA)
WMA Permit # 9P-1-06-024.01
Action: Renewed Permit

Dear Mr. Williams:

Please find the attached:

- Findings of Fact in support of the renewal of the WMA Permit; and,
- Renewed WMA Permit #9P-1-06-024.01 for withdrawals by the Belchertown Water District in the Connecticut River Basin.

Notice of the Draft Renewal Permit and its accessibility for review was posted in the Public Notice section of the July 22, 2026 edition of the Massachusetts Environmental Policy Act (MEPA) Environmental Monitor. Notice of the Draft Renewal Permit was also sent to all WMA Registrants and Permittees in the Connecticut River Basin and to other interested parties offering a 30-day comment period.

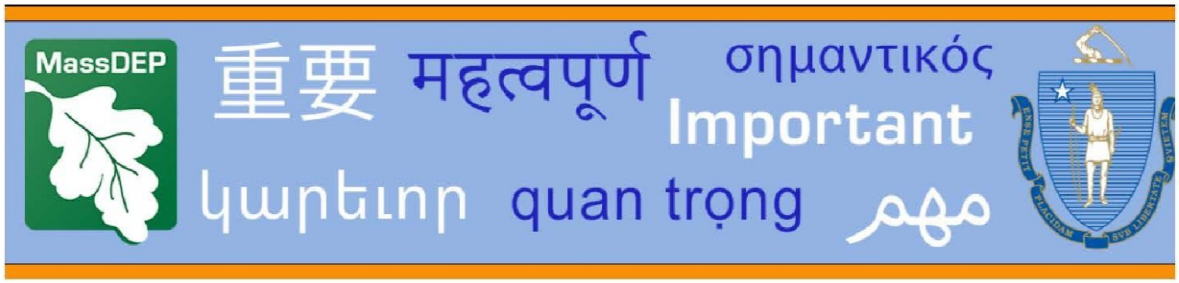
If you have any questions regarding the permit, please contact Andrew Brolowski at andrew.brolowski@mass.gov or 857-278-5634.

Sincerely,

Duane LeVangie
Water Management Program Chief
Bureau of Water Resources

ecc: Andrew Kelly, Drinking Water Program Chief, MassDEP Springfield
Lydia Olson and Melissa Shapiro, Mass Rivers Alliance
Jennifer Pederson, MA Water Works Association
Duane LeVangie, Water Management Program Chief

mass.gov.sharepoint.com/W:\DWPWMA\Permits Renewals\Connecticut\Belchertown-Belchertown Water District\Belchertown-1024000-WMA Renewed Permit-9P-1-06-024.01-2026-09-16-a11y



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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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。

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Dokiman sa a enpòtan epi yo ta dwe tradui l imedyatman. Si w bezwen tradui dokiman sa a, tanpri kontakte Direktè. Jistis Anviwònmantal 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
ហើយគប្បីត្រូវត្រូវបានបកប្រែភ្លាមៗ.
ប្រសិនបើអ្នកត្រូវការអោយឯកសារនេះបកប្រែ
សូមទាក់ទងនាយកផ្នែកយុត្តិធម៌បរិស្ថានរបស់
MassDEPតាមរយៈលេខទូរស័ព្ទដែលបានរាយដូចខាងក្រោម។

Kriolu Kabuverdianu Cape Verdean

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العربية Arabic

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

한국어 Korean

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본 문서 번역이 필요하신 경우, 매사추세츠 환경보호부의 "환경정의" 담당자 분께 문의하십시오. 전화번호는 아래와 같습니다.

հայերեն 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

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اگر نیاز به ترجمه این نوشتار دارید لطفاً با مدیر عدالت محیط زیستی MassDEP در شماره تلفن ذکر شده زیر تماس بگیرید.

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Italiano Italian

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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।

Commonwealth of Massachusetts
Executive Office of Energy and Environmental Affairs
Department of Environmental Protection
Address: 100 Cambridge Street, Suite 900, Boston MA 02114 | **Phone**: 617-292-5500

Maura T. Healey Governor | **Kim Driscoll** Lieutenant Governor | **Rebecca Tepper** Secretary | **Bonnie Heiple** Commissioner

Findings of Fact in Support of Permit Decision
Belchertown Water District Water Management Act Permit #9P-1-06-024.01

The Massachusetts Department of Environmental Protection ("MassDEP" or "the Department") makes the following *Findings of Fact* in support of the attached renewed Water Management Act (WMA) Permit #9P-1-06-024.01and herewith includes reasons for issuing the permit and for conditions of approval imposed, as required by M.G.L. c. 21G, § 11. The issuance of this permit is in response to the timely filing of a water withdrawal permit renewal application by Belchertown Water District ("Belchertown" or the "applicant").

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

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

- impact of the withdrawal on other sources of water,
- water availability within the *Safe Yield* of the 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, floodplains, and,
- reasonable economic development and job creation.

Water Management Regulation Revisions

In 2010 the Executive Office of Energy and Environmental Affairs (EEA) created 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 *MA Sustainable Water Management Initiative Framework Summary* was released.

On March 17, 2023, the Department adopted revised Water Management Regulations at 310 CMR 36.00 that incorporate elements of the SWMI framework and Water Conservation Standards adopted by the Massachusetts Water Resource Commission (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 Connecticut River Basin section of this document). For more information on the Safe Yield methodology, refer to the *November 2012 SWMI Framework Appendices*,
- 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 *Massachusetts Water Conservation Standards* and, including without limitation:
  1. performance standard of 65 residential gallons per capita day (RGPCD) or less,
  2. performance standard of 10% or less unaccounted-for-water (UAW),
  3. seasonal limits on nonessential outdoor water use, and,
  4. 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:
  1. protection for Coldwater fish resources,
  2. minimization of withdrawal impacts in areas stressed by groundwater use, and,
  3. mitigation of the impacts of increasing withdrawals.

Safe Yield in the Connecticut River Basin

This permit has been issued in accordance with Safe Yield methodology adopted by 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 for the Connecticut River Basin water source is 1,866.5 million gallons per day (MGD), with total allocated withdrawals of 148.70 MGD. The maximum withdrawals that will be authorized by this permit, and all other permits currently under review by the Department within the Connecticut River Basin, will be within the remaining safe yield and may be further conditioned as outlined in the regulations.

Belchertown's Water Withdrawal History

Belchertown holds a registration (1-08-024.02) for 0.19 MGD in the Chicopee River Basin for four (4) registered wells: Well #1 (01G), Well #2 (02G), Well #3 (03G) and Well #4 (04G). Belchertown also maintains the Jabish Brook Wellfield (06G) in the Chicopee basin as an emergency water source. The Wellfield is neither registered nor permitted with the Water Management Program.

MassDEP issued Belchertown's original WMA permit in the Connecticut River Basin on August 25, 1994. The permit provided for increased average annual daily withdrawals of up to 0.21 MGD from the Daigle Well (1024000-05G) and set the maximum daily withdrawal rate of 1.30 MGD. A permit modification issued on July 18, 2007, kept authorized average daily withdrawals the same.

Belchertown's 0.21 MGD of permitted withdrawals in the Connecticut River Basin and 0.19 MGD of registered withdrawals in the Chicopee River Basin make up their total authorized withdrawal volume of 0.40 MGD.

Refer to **Tables 1 and 2** for summaries of Belchertown's authorized volumes and withdrawal point information.

TABLE 1: BELCHERTOWN'S WATER MANAGEMENT ACT AUTHORIZED VOLUMES (MGD)

CONNECTICUT RIVER BASIN PERMITTED VOLUME	CHICOPEE RIVER BASIN REGISTERED VOLUME	TOTAL AUTHORIZED VOLUME
0.21	0.19	0.40

TABLE 2: PERMITTED AND REGISTERED WITHDRAWAL POINTS

SOURCE ID:	SOURCE NAME	RIVER BASIN	PERMITTED	REGISTERED
1024000-01G	WELL #1	CHICOPEE	NO	YES
1024000-02G	WELL #2	CHICOPEE	NO	YES
1024000-03G	WELL #3	CHICOPEE	NO	YES
1024000-04G	WELL #4	CHICOPEE	NO	YES
1024000-05G	DAIGLE WELL	CONNECTICUT	YES	NO

G= Groundwater source

The Permit Extensions

Under the Permit Extension Act, the WMA Permit has an expiration date of November 30, 2017. In November 2016, Belchertown filed a permit renewal application. Pursuant to M.G.L. c. 30A, section 13, and 310 CMR 36.18(7), your current withdrawal permit will continue in force and effect until the Department issues a decision on your permit renewal application. Consistent with 310 CMR 36.17(1), the expiration date for withdrawal permits going forward in the Connecticut River Basin will be November 30, 2033.

Findings of Fact for Permit Conditions in Belchertown'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 Condition 1, Maximum Authorized Annual Average Withdrawal Volume recognizes 0.19 MGD of authorized volume from the Chicopee River Basin pursuant to Registration #1-06-008.02 and authorizes a permitted volume of 0.21 MGD from the Connecticut River Basin, thereby allocating the same total authorized withdrawal volume of 0.40 MGD as in the final period of the previous permit. **Table 3** reflects the Department of Conservation and Recreation's Water Needs Forecasts (DCR WNF) prepared for Belchertown on October 7, 2025. DCR prepared two WNFs, one based on Belchertown meeting the Performance Standards of 65 Residential Gallons Per Capita Day (RGPCD) and 10% Unaccounted-for Water (UAW) (65/10), and the other based on their Current Trend for those values when preparing the WNF (See Table 3). Belchertown's total authorized volume of 0.40 MGD is based on their existing allocation volume of 0.40 MGD and the 65/10 WNF. While DCR's 65/10 WNF identified a value of up to 0.41 MGD with the 5% buffer, allocating beyond their existing authorized volume would require Belchertown to file and obtain an entirely new permit. Therefore, this permit authorizes withdrawals of up to 0.21 MGD in Connecticut River Basin and up to 0.40 MGD System-wide.

TABLE 3: SUMMARY OF BELCHERTOWN'S DCR WNF

PERMIT PERIOD	DCR WATER NEED FORECAST (MGD)	
	CURRENT TREND	65/10
2026-2028	0.32	0.39
2028-2033	0.32	0.39
5% BUFFER	+ 0.02	+ 0.02

Belchertown's actual recent withdrawals as shown in Table 4 have been substantially less than its total authorized withdrawal volume.

TABLE 4: BELCHERTOWN'S RECENT WITHDRAWAL VOLUMES (MGD)

YEAR	ACTUAL TOTAL ANNUAL WITHDRAWAL VOLUME
2021	0.24
2022	0.25
2023	0.24
2024	0.24
2025	0.25

Special Condition 2, Maximum Authorized Daily Withdrawal from each Withdrawal Point sets the daily maximum groundwater withdrawal rate of the Daigle Well (05G), based on its approved pump test and Zone II delineation. This rate has not changed from the prior permit. The maximum daily withdrawal rate from Daigle Well was 0.29 MGD in 2025.

Special Condition 3, Zone of Contribution Delineation recognizes that Belchertown's permitted groundwater source, Daigle Well, has an approved Zone II as required. No further Zone II delineation work is required as a condition of this permit.

Special Condition 4, Water Supply Source Protection requires Public Water Systems (PWSs) to implement land use controls protective of its water supply in accordance with 310 CMR 22.21(2). MassDEP records indicate Belchertown's permitted groundwater source meets Massachusetts drinking water regulation for wellhead protection, therefore, no further work is required as a condition of this permit.

Special Condition 5, Performance Standard for Residential Gallons Per Capita Day Water Use establishes the benchmark for PWSs for residential water use per individual. This condition updates Belchertown's previous WMA permit Performance Standard of 80 RGPCD to 65 RGPCD or less. MassDEP has conducted detailed reviews of performance standards presented in annual statistical reports (ASRs) for computational errors, consistency with the methodology and guidance provided to public water systems, agreement with published census data, and documentation and validity of confidently estimated municipal use (CEMU) water volumes. When necessary, MassDEP makes calculation corrections.

Belchertown has not exceeded the revised 65 RGPCD performance standards for at least the past 5 years (**Table 5**).

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

TABLE 5: BELCHERTOWN'S 2020 - 2024 RGPCD and UAW

YEAR	RGPCD (GALS)	UAW (%)
2020	53	1
2021	53	5
2022	55	7
2023	59	4
2024	59	6

Special Condition 6, Performance Standard for Unaccounted for Water (UAW) establishes the benchmark for measuring PWS water use efficiency. This condition updates Belchertown's previous WMA permit Performance Standard from 15% to 10% UAW and requires Belchertown meet the 10% or less UAW Performance Standard for two out of every three years. MassDEP has reviewed performance standards presented in 2020 through 2024 ASRs and made calculation adjustments when necessary. Belchertown's UAW values ranged from 1% to 7% between 2020 - 2024 (**Table 5**).

The renewed permit requires that if Belchertown fails to meet the 10% UAW performance standard, Belchertown will have to meet Functional Equivalence requirements based on the AWWA/IWA Water Audits and Loss Control Programs, Manual of Water Supply Practices, included in **Appendix B**.

Special Condition 7, **Water Conservation Requirements** incorporates water conservation standards for the Commonwealth of Massachusetts which are reviewed and approved by the Water Resources Commission. The Department acknowledges Belchertown's reported completion of the installation of water-savings devices in all public buildings in 2011 as a best-effort condition of the previous permit. The renewed permit requires a status update report of water-savings devices in public buildings since 2011 and revises water conservation requirements to reflect the updated standards outlined in the July 2018 version of the *Massachusetts Water Conservation Standards*.

Special Condition 8, Seasonal Limits on Nonessential Outdoor Water Use sets Belchertown's Nonessential Outdoor Water Use Restrictions ("Restrictions") based on whether the permittee's reported RGPCD for the previous year was in compliance with the RGPCD Performance Standard (see Special Condition 5).

In addition, outdoor water use restrictions for permittees with wells in subbasins[1] that are 25% or more August net groundwater depleted (Aug NGD[2]) are set to minimize withdrawals from depleted subbasins. Belchertown's Daigle Well (05G), is in a subbasin (14061) with an Aug NGD of 96.1%, therefore, nonessential outdoor water use is limited to 1 or 2 days per week.

Each year, Belchertown shall choose one of two options for implementing nonessential outdoor water use restrictions:

- **Calendar triggered restrictions** are in place from May 1 through September 30. 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 1 through September 30. 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 Belchertown selects the streamflow trigger approach, it has been assigned **USGS stream gage 01176000** located on the Quaboag River at West Brimfield, MA. The May-June streamflow trigger is **130** cubic feet per second (cfs), and the July-September streamflow trigger is **67** cfs. Should the reliability of flow measurement at this gage be so impaired as to question its accuracy, the applicant 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 to provide additional protection 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 **USGS stream gage 01176000** is **30** cfs.

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

To the extent feasible all summer outdoor water use should take place before 9 a.m. and after 5 p.m. when evaporation and evapotranspiration rates are lower.

Guidance for Permittees Concerning Enforcement Authority
This permit condition does not confer enforcement authority to the permittee. For permittees that do not have the necessary local enforcement authority, MassDEP has developed a Model Outdoor Water Use Bylaw/Ordinance to help municipalities implement nonessential water use restrictions. The Model Bylaw also includes options for regulating private wells and in-ground irrigation systems. See Model Water Use Restriction Bylaw/Ordinance Update | Mass.gov. DEP strongly advises permittees to consult with Town or City Counsel to ensure adoption of an appropriate, enforceable and legally valid bylaw that will meet municipal/district needs.

Note that if the permittee also holds a Water Management Act registration, **the nonessential outdoor water use restrictions in the permit shall be controlling.**

Special Condition 9, Minimization addresses additional demand management measures required when groundwater sources are in subbasins having an August NGD of 25% or more. Belchertown's Connecticut River Basin source, Daigle Well (05G), is in a subbasin (#14061) with a 96.1% August NGD and therefore submitted a Minimization Plan to offset withdrawal impacts.

MassDEP reviewed Belchertown's Minimization Plan and included applicable measures and timelines as required in Special Condition 9.

Special Condition 10, Mitigation. The WMA regulations require WMA permits to address mitigation of withdrawals above the baseline volumes. WMA permittees whose total authorized volume exceeds their baseline volume are required to implement mitigation measures to offset impact of their withdrawals above the baseline.

WMA regulations, 310 CMR 36.03, define baseline as 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.

For permittees with withdrawals in more than one basin, the Department calculates a separate baseline for withdrawals from each basin, and a system-wide baseline based on the volume of water withdrawn from all basins, using the methodology outlined above. Based on the revised regulations and the two river basins from which Belchertown's authorized withdrawals are made, three (3) baseline values were calculated and are listed below in **Table 6**.

TABLE 6: BELCHERTOWN'S BASELINE VALUES

RIVER BASIN	REGISTERED OR PERMITTED	BASELINE METHOD	BASELINE (MGD)
CHICOPEE	REGISTERED	REGISTERED VOLUME	0.19
CONNECTICUT	PERMITTED	2005 AUTHORIZED WITHDRAWAL	0.19
SYSTEM-WIDE (CONNECTICUT + CHICOPEE)	BOTH	2005 WITHDRAWAL +5%	0.30

Controlling Baseline Volume: Belchertown's system-wide baseline is the 2003–2005 average annual withdrawal volumes from both river basins plus 5%, 0.30 MGD. The system-wide baseline of 0.30 MGD sets the threshold for which mitigation will be calculated. Belchertown's total authorized volume of 0.40 MGD exceeds their system-wide baseline volume of 0.30 MGD by an amount of 0.10 MGD.

Wastewater Adjustment: Belchertown's renewed permit maintains the total authorized withdrawal volume at 0.40 MGD (See Special Condition #1). Since this value is 0.10 MGD above its system-wide baseline, Belchertown's potential mitigation amount is 0.10 MGD. A wastewater adjustment can be applied against the volume to be mitigated for systems returning wastewater to the ground within the same major basin as the withdrawal, and, to a lesser extent to subbasins outside the major basin. Belchertown reported on its permit renewal application that 25% of the wastewater is discharged through on-site disposal systems in both river basins. MassDEP assumes that 85% of new wastewater generated by the additional withdrawal over baseline will be returned to the ground within the same major basin as the withdrawal due to 15% lost through consumption. These conditions can be represented by the following equation: **% of mitigation amount for each river basin x % of wastewater discharged to each major basin x 0.85 (85%).** Therefore, Belchertown's total wastewater adjustment amounts to the sum of each basin's wastewater adjustment contribution, as follows: 1) Connecticut River Basin; 0.05 MGD x 0.25 x 0.85 + 2) Chicopee River Basin; 0.05 MGD x 0.25 x 0.85, as depicted below in **Table 7**.

TABLE 7: BELCHERTOWN'S SYSTEM-WIDE MITIGATION CALCULATION

Ask over Baseline = Total Authorized volume – System-wide baseline volume = **0.10 MGD** • 0.40 MGD – 0.30 MGD = 0.10 MGD
Connecticut River Basin:
Adjustment for Wastewater Discharge to ground = **0.01063 MGD** · 25% of water withdrawn is delivered to private septic systems: (50% of Total Mitigation volume) 0.05 MGD x 0.25 (25%) = 0.0125 MGD · 85% of water delivered to septic systems is returned to ground: 0.0125 MGD x 0.85 (85%) = 0.01063 MGD
Chicopee River Basin:
Adjustment for Wastewater Discharge to ground = **0.01063 MGD** · 25% of water withdrawn is delivered to private septic systems: (50% of Total Mitigation volume) 0.05 MGD x 0.25 (25%) = 0.0125 MGD · 85% of water delivered to septic systems is returned to ground: 0.0125 MGD x 0.85 (85%) = 0.01063 MGD
Remaining Mitigation Amount = 0.0787 MGD or 78,700 Gallons / Day (GPD)
• Total Adjustment for Wastewater Discharge = 0.01063 + 0.01063 (MGD) = **0.0213 MGD**
• Ask over Baseline – 0.0213 MGD = Remaining Mitigation Amount (MGD) = **0.0787 MGD**

Belchertown's mitigation amount after accounting for wastewater return adjustments in the Connecticut and Chicopee River basins is 78,700 GPD. Mitigation is achieved by implementation of activities which offset impact to streamflow and aquatic habitat. A Mitigation Plan is required to evaluate permittee's proposed mitigation activities.

Mitigation Plan: WMA permits can include both direct and indirect mitigation activities to compensate for withdrawals over baseline. **Direct mitigation** must be considered first in mitigation planning and is quantifiable on a gallon per gallon basis. It includes activities which improve streamflow as a result of increased groundwater recharge, decreased stormwater runoff to streams, or surface water releases. If the required mitigation amount cannot be achieved by direct mitigation, then **indirect mitigation** must be evaluated. Indirect mitigation activities improve fluvial habitat but cannot be volumetrically quantified. Each indirect credit is initially equal to a mitigation amount of 10,000 GPD.

Belchertown's mitigation plan included Direct and Indirect Mitigation activities associated with components of an Infiltration and Inflow (I/I) Program for municipal sewer systems. Goals of I/I include reducing extraneous groundwater and stormwater from entering the sewer system by implementing studies, design plans and subsequent sewer rehabilitation measures.

I/I mitigation credit eligibility requires compliance with 314 CMR 12.04 (2), Operation, Maintenance and Pretreatment Standards for Wastewater Treatment Works and follows MassDEP's Guidelines for Performing Infiltration/Inflow Analyses (I/I Analyses) and Sewer System Evaluation Surveys (SSESs) (revised May 2017). As well, I/I activities must have occurred since 2005 and within the past 10 years of the SSES, followed specific methodologies for estimating and measuring I/I and, had adequate long-term sewer system operation and maintenance put in place after the completion of a construction project.

Belchertown's Mitigation Plan presented reports and information which satisfies some of WMAs I/I Removal Program credit criteria. Belchertown qualified for 2.5 Indirect Mitigation credits based on the completion of an I/I Analysis plan and I/I Analysis report (1.0 credit), SSES plan and study, with report (1.0 credit) and, development of a Sewer System rehabilitation plan (0.5 credits). Additionally, Belchertown demonstrated eligibility for Direct Mitigation credits for completion of sewer system rehabilitation work in accordance with relevant MassDEP guidance and procedures for 31,040 GPD of estimated removable Inflow, 50% of the Infiltration amount of 52,571 GPD for estimated Annual Flow, or 26,286 GPD, and 25% of the Infiltration amount of 2,900 GPD of estimated Peak Flow, or 725 GPD.

In sum, Belchertown's 2.5 Indirect Mitigation credits, valued each at 10,000 GPD per credit, added to Direct Mitigation credit from sewer system rehabilitation work allocates a total of **58,051** GPD of Direct Mitigation credits + **25,000** GPD (2.5 x 10,000 GPD/credit) from Indirect Mitigation credits, or a total of **83,051** GPD; a mitigation amount which exceeds Belchertown's mitigation requirement of **78,700** GPD.

Special Condition 11, Requirement to Report Raw and Finished Water Volumes. This condition ensures the information necessary to evaluate compliance with the conditions included herein as accurately reported. Belchertown ASRs have reported both raw and finished withdrawal volumes.

Other WMA Considerations

Coldwater Fisheries Resource (CFR) Protection

Permittees with withdrawals point(s) in a subbasin with a CFR must evaluate options for shifting withdrawals to other withdrawal points and/or utilizing potentially alternative withdrawal sources to minimize impacts to the CFR(s) through feasible optimization. Belchertown has four (4) withdrawal points (01G, 02G, 03G and 04G) in subbasin 17060 and one (1) withdrawal point (05G) in subbasin 14061, with both subbasins having CFRs. Therefore, options for shifting pumping between subbasins was evaluated.

MassDEP's consultation with the Division of Fisheries and Wildlife concluded that shifting Belchertown's withdrawal volumes between the two subbasins and two major river basins would provide little benefit to minimizing impacts between the CFRs in each river basin. Belchertown's use and allocated volumes in each basin are similar, essentially sharing the impact of their demands. Therefore, CFR optimization is not required as a condition of this permit.

Commonwealth of Massachusetts
Executive Office of Energy and Environmental Affairs
Department of Environmental Protection
Address: 100 Cambridge Street, Suite 900, Boston MA 02114 | **Phone**: 617-292-5500

Maura T. Healey Governor | **Kim Driscoll** Lieutenant Governor | **Rebecca Tepper** Secretary | **Bonnie Heiple** Commissioner

WATER WITHDRAWAL PERMIT
M.G.L. c. 21G

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: 9P-1-06-024.01 **RIVER BASIN:** CONNECTICUT

PERMITTEE: Belchertown Water District
206 Jabish Street
Belchertown, MA 01073

EFFECTIVE DATE: September 16, 2026

EXPIRATION DATE: November 30, 2033

NUMBER OF WITHDRAWAL POINTS: 1

Groundwater: 1 Surface Water: 0

USE: Public Water Supply (PWS)

DAYS OF OPERATION: 365

LOCATIONS:

TABLE 1: WITHDRAWAL POINT IDENTIFICATION

SOURCE NAME	PWS SOURCE ID
DAIGLE WELL	1024000-05G

SPECIAL CONDITIONS

1. Maximum Authorized Annual Average Withdrawal Volume

This permit authorizes the Belchertown Water District (Belchertown) to withdraw water from the Connecticut River Basin at the rates described below in **Table 2**. The permitted volume is in addition to the 0.19 million gallons per day (MGD) previously authorized to Belchertown under WMA registration #1-08-024.01 in the Chicopee River Basin. The permitted volume is expressed as both an annual average daily withdrawal rate (in MGD), and as a total annual withdrawal volume (in million gallons per year, or MGY) for the permit period. The Department of Environmental Protection (MassDEP or "the Department") will use the raw water withdrawal volume from all authorized withdrawal points to assess compliance with the registered and permitted withdrawal volumes.

TABLE 2: MAXIMUM AUTHORIZED ANNUAL AVERAGE WITHDRAWAL VOLUME FROM THE CONNECTICUT RIVER BASIN

Permit Period	Daily Average (MGD)	Total Annual (MGY)
9/16/2026 to 11/30/2033	0.21	76.65

In addition to the limitations outlined in **Table 2** for the Connecticut River Basin, MassDEP also set limits for system-wide withdrawals from all of Belchertown sources to the volumes set forth in **Table 3**.

TABLE 3: MAXIMUM AUTHORIZED ANNUAL AVERAGE SYSTEM-WIDE WITHDRAWAL VOLUME

Permit Period	Daily Average (MGD)	Total Annual (MGY)
9/16/2026 to 11/30/2033	0.40	146.00

2. Maximum Authorized Daily Withdrawals from each Withdrawal Point

Withdrawals from individual withdrawal points are not to exceed the approved maximum daily withdrawal rate listed in **Table 4** without specific advance written approval from MassDEP. The authorized maximum daily withdrawal rate listed is the approved rate of the source based on the MassDEP-approved Zone II delineation.

TABLE 4: MAXIMUM AUTHORIZED DAILY WITHDRAWAL

Source Name	PWS Source ID	Maximum Daily Rate (MGD)
DAIGLE WELL	1024000-05G	1.3

3. Zone of Contribution Delineations

MassDEP records indicate Belchertown has an approved Zone II for its groundwater source. No further Zone II work is required as a condition of this permit.

4. Water Supply Source Protection

Department records dated October 8, 2004 indicate that wellhead protection requirements are in place for the Daigle Well (05G) which meet 310 CMR 22.21(2). No further wellhead protection work is required as a condition of this permit.

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

Belchertown is required to meet the 65 RGPCD or less performance standard. Belchertown shall report its RGPCD water use annually in its Annual Statistical Report (ASR), and document compliance with this performance standard in its ASR for 2027 and each year thereafter. As part of its ASR submittals, Belchertown shall report its RGPCD and the method of calculation used to derive it including, without limitation, the source of the data used to establish the service population and the year in which this data was developed. See **Appendix A** for additional information on the requirements if the performance standard for RGPCD is not met.

6. Performance Standard for Unaccounted for Water (UAW)

Belchertown is required to meet the performance standard of 10% or less for Unaccounted-for Water (UAW) of its total finished water. Belchertown shall report its UAW annually in its ASR and document compliance with this performance standard in its ASR for 2027 and each year thereafter. As part of its ASR submittals, Belchertown shall report the calculation used to derive its UAW. See **Appendix B** for additional information on requirements if the performance standard for UAW is not met.

7. Water Conservation Requirements

At a minimum, Belchertown shall implement conservation measures listed below in **Table 5**. Compliance with the water conservation requirements shall be reported to MassDEP upon request, unless otherwise noted in **Table 5**.

TABLE 5: MINIMUM WATER CONSERVATION REQUIREMENTS

System Water Audits and Leak Detection

1. At a minimum, conduct a full leak detection survey every three years. 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. Belchertown shall have repair reports available for inspection by MassDEP. Belchertown shall establish a schedule for repairing leaks that is at least as stringent as the following:

- Leaks of 3 gallons per minute or more shall be repaired within 3 months of detection.
- Leaks of less than 3 gallons per minute at hydrants and appurtenances shall be repaired as soon as possible.
- Leaks of less than 3 gallons per minute shall be repaired in a timely manner, but in no event more than 6 months from detection, except 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 Belchertown's priority schedule including leaks up to the property line, curb stop or service meter, as applicable. Belchertown shall have water use regulations in place that require property owners to expeditiously repair leaks on their property.

Metering

1. Belchertown shall continue to calibrate all source and finished water meters at least annually and report date of calibration on the ASR.

2. Belchertown shall maintain its 100% metered system.

3. Belchertown shall continue their meter replacement program that is based on AWWA standards.

Pricing

1. Belchertown 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, Belchertown 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. Belchertown will continue to implement an increasing block rate structure.

4. Belchertown shall continue to bill at least quarterly.

TABLE 5 (continued): MINIMUM WATER CONSERVATION REQUIREMENTS

Residential and Public Sector Conservation

1. Belchertown 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. Belchertown reports metering water used by contractors using fire hydrants for pipe flushing and construction and shall continue to do so.

3. Municipal buildings:

- By six months following the permit issuance date, Belchertown shall submit to MassDEP a status report detailing which municipally owned public buildings in the Permittee's service area have been retrofitted with water saving devices (faucet aerators, low-flow shower heads and low-flow toilets) and which of those buildings have yet to be retrofitted, along with a cost estimates and reasonably phased work schedules to complete the remaining retrofits.

Note: Municipally owned buildings scheduled for rehabilitation or demolition may with MassDEP's approval, be exempted from this condition based on the schedule of work. Status report required above shall identify those buildings and schedule for repairs/demolition.

4. Belchertown shall ensure that water-conservation landscaping practices are incorporated into the design, construction, management, and operation of public parks, playing fields and other facilities.

Industrial and Commercial Water Conservation

1. Belchertown shall continue to inspect industrial facilities and recommend the use of separate meters for process water where appropriate.

Public Education and Outreach

1. Within six months of the effective date of this permit, Belchertown 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:

- 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, Belchertown shall develop and implement the water conservation education and outreach plan and schedule as approved by MassDEP. Upon request of MassDEP, Belchertown shall report on its public education and outreach efforts.

8. Seasonal Limits on Nonessential Outdoor Water Use

Belchertown shall limit nonessential outdoor water use through mandatory restrictions from May 1 through September 30, as outlined in **Table 6** below. Belchertown shall be responsible for tracking streamflow gages and recording and reporting when restrictions are implemented (see **Table 7**). The permittee shall document compliance with the limits on nonessential outdoor water use annually in its ASR.

When the RGPCD for the previous year was 65 or below, Belchertown shall choose either Calendar Triggered Restrictions or Streamflow Triggered Restrictions

TABLE 6: LIMITS ON NONESSENTIAL OUTDOOR WATER USE

For Permittees Meeting the 65 RGPCD Standard for the Preceding Year When RGPCD was 65 or below as reported in the ASR and accepted by MassDEP, choose either Calendar Triggered Restrictions or Streamflow Triggered Restrictions from this section of the Table
CALENDAR Triggered Restrictions:
Nonessential outdoor water use is allowed before 9 a.m. and after 5 p.m.: a) **Two (2) days per week,** unless, b) **USGS Gage 01176000** – Quaboag River at W. Brimfield, MA falls below **30 cfs** for three (3) consecutive days, then **one (1) day per week** is allowed. Once streamflow triggered restrictions are implemented, they shall remain in place until streamflow at gage meets or exceeds **30 cfs** for seven (7) consecutive days.
STREAMFLOW Triggered Restrictions:
Nonessential outdoor water use is allowed before 9 a.m. and after 5 p.m.: **a) Two (2) days per week** when **USGS Gage 01176000** – Quaboag River at W. Brimfield, MA falls below: ➢ **130 cfs** for three (3) consecutive days from **May 1 – June 30**, and ➢ **67 cfs** for three (3) consecutive days from **July 1 – September 30**, unless, b) **USGS Gage 01171500** falls below **30 cfs** for three (3) consecutive days at any time from **May 1 – September 30**, then **one (1) day per week** is allowed**.** Once implemented, restrictions shall remain in place until streamflow at the gage meets or exceeds the trigger streamflow for seven (7) consecutive days.
For Permittees NOT Meeting the 65 RGPCD Standard for the Preceding Year When RGPCD was above 65 as reported in the ASR and accepted by MassDEP, choose either Calendar Triggered Restrictions or Streamflow Triggered Restrictions from this section of the Table
CALENDAR Triggered Restrictions:
Nonessential outdoor water use is allowed before 9 a.m. and after 5 p.m. **one (1) day per week.**
STREAMFLOW Triggered Restrictions:
Nonessential outdoor water use is allowed before 9 a.m. and after 5 p.m. **one (1) day per week** when **USGS Gage 01176000** – Quaboag River at W. Brimfield, MA falls below: ➢ **130 cfs** for three (3) consecutive days from **May 1 – June 30**, and, ➢ **67 cfs** for three (3) consecutive days from **July 1 – September 30.** Once implemented, restrictions shall remain in place until streamflow at the gage meets or exceeds the trigger streamflow for seven (7) consecutive days.

TABLE 7: TRACKING STREAMFLOWS THROUGH THE USGS WEBSITE

Instructions for Accessing Streamflow Website Information If the Permittee chooses Streamflow Triggered Restrictions, the Permittee 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 System (NWIS): Web Interface. The USGS NWIS default shows Massachusetts streamflows in real time, i.e., the most recent, usually quarterly hourly reading made at each USGS stream gage. Seasonal Limits on Nonessential Outdoor Water Use are implemented when the mean daily streamflow falls below the designated trigger for 3 consecutive days. 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, the Permittee must use the mean daily streamflow from the preceding day when tracking streamflows. **Mean daily streamflow gage** readings are also available by following the instructions on MassDEP's USGS Stream Gage and Well-Monitoring Data webpage. For additional questions or for additional support, contact the MassDEP Water Management Program at DEP.WMA@mass.gov (preferred), or the WMA Program contact identified in this permit.

Should the reliability of flow measurement at the **USGS Gage 01176000** – Quaboag River at W. Brimfield, MA be so impaired as to question its accuracy, Belchertown may request MassDEP's review and approval to transfer to another gage to trigger restrictions.

MassDEP reserves the right to require the use of a different gage.

Nonessential Outdoor Water Use means a use that is not required:

(a) for health or safety reasons, including public facilities used for cooling such as splash pads and swimming pools, and for washing of boats, engines, or marine equipment to prevent negative saltwater impacts or the transfer of invasive aquatic species;
(b) by permit, license, statute or regulation;
(c) for the production of food, including vegetable gardens, and fiber;
(d) for the maintenance of livestock;
(e) to meet the core functions (those functions essential to the commercial operations) of a business, including but not limited to:

1. plant nurseries as necessary to maintain stock;
2. golf courses as necessary to maintain greens and tees, and limited fairway watering per 310 CMR 36.07(2)(c)2.a. through c.;
3. venues used for weddings or similar special events that limit watering to hand-held hose or drip irrigation as necessary to maintain gardens, flowers and ornamental plants;
4. professional washing of exterior building surfaces, parking lots, driveways and/or sidewalks as necessary to apply surface treatments such as paint, preservatives, stucco, pavement, or cement in the course of construction, reconstruction or renovation work;

(f) for irrigation of public parks before 9:00 a.m. and after 5:00 p.m.,
(g) for irrigation of public and private recreation fields, including those operated by schools, colleges, universities and athletic associations, before 9:00 a.m. and after 5:00 p.m.,
(h) for irrigation of publicly funded shade trees and trees in the public right-of-way; or
(i) to establish a new lawn as necessary to stabilize soil in response to new construction or following the repair or replacement of a Title 5 system.

Public Notice of Seasonal Nonessential Outdoor Water Use Restrictions

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

- **For calendar-triggered restrictions**, customers shall be notified by April 15 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 link Outdoor Water Use Restrictions for Cities, Towns, and Golf Courses | Mass.gov.

Enforcement Authority

This permit condition does not confer enforcement authority to the permittee. If Belchertown does not have appropriate enforcement authority, then beginning as soon as possible, but no later than 24 months after issuance of the permit, the permittee shall establish enforceable restrictions limiting nonessential outdoor water use.

9. Minimization

Belchertown shall work with the Town of Belchertown to minimize impacts of withdrawals from the Daigle Well (05G) in subbasin #14061 as follows:

1. Continue adopting stormwater practices of applying Low Impact Development (LID) practices along with enforcing inspection and maintenance requirements.
2. Continue implementation practices at municipal sites that promote stormwater recharge through rain gardens and pervious pavements.
3. Continue adopting the stringent application of Belchertown's Water Use Restriction Bylaw enforcement by using fines to incentivize compliance.

Upon request, Belchertown shall document best effort compliance with the special condition during the permit period.

10. Mitigation

Belchertown is required to mitigate 0.0787 MGD for its permitted withdrawals over baseline. This mitigation amount has been met and exceeded based on Belchertown completing direct and indirect mitigation activities associated with their Inflow and Infiltration (I/I) Program.

MassDEP approves 2.5 Indirect Mitigation credits based on the acceptance of I/I Program criteria for the development and completion of I/I Analysis and Sewer System Evaluation Survey studies and reports and a Sewer System rehabilitation plan. With 1.0 Indirect Mitigation Credit valued at 10,000 gallons per day (GPD), Belchertown received **25,000 GPD** in mitigation earned.

MassDEP also identified **58,051 GPD in** Direct Mitigation volume based on the acceptance of I/I Program criteria for completion of sewer system rehabilitation work which yielded 31,040 GPD of estimated removable Inflow, 50% of the Infiltration amount of 52,571 GPD for estimated Annual flow and, 25% of the Infiltration amount of 2,900 GPD of estimated Peak flow. Therefore, Belchertown's total rehabilitation work yielded a total of 31,040 GPD from Inflow and 26,286 GPD (50% of 52,571 GPD) plus 725 GPD (25% of 2,900 GPD) from Infiltration, or 58,051 GPD.

Belchertown's mitigation requirement of 0.0787 MGD (78,700 GPD) was met through the 25,000 GPD achieved via Indirect Mitigation and the 58,051 GPD in Direct Mitigation for a total mitigation amount of **83,051 GPD**.

Belchertown shall notify MassDEP should there be any changes to the status of their mitigation measures. No further mitigation work is required at this time as a condition of the permit.

11. Requirement to Report Raw and Finished Water Volumes

Belchertown shall report the raw and finished water volumes for the entire water system and the raw water volumes for each individual withdrawal point on the Annual Statistical report.

GENERAL PERMIT CONDITIONS (applicable to all permittees except Cranberry permits)
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 the Department has received a timely permit renewal 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, the Water Management Act regulations at 310 CMR 36.00, and all other 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 at reasonable times any property, facility, operation, equipment or activity involving the withdrawal of water, and to 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 the Department 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 the Department approves such transfer in writing, pursuant to the submittal of a transfer application in accordance with 310 CMR 36.33 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 as set forth in 310 CMR 4.00.
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. For public water supplier permittees, the report form is the MassDEP Drinking Water Program Public Water Supply Annual Statistical Report.
7. **Annual Compliance Fee:** The permittee shall submit any applicable annual compliance fee as established in 310 CMR 4.00.
8. **Duty to Maintain Records:** The permittee shall maintain withdrawal records and other information in sufficient detail to demonstrate compliance with this permit.
9. **Metering:** All withdrawal points included within the permit shall be metered. Meters are to be calibrated annually. Meters shall be maintained and replaced as necessary to ensure the accuracy of the withdrawal records.
10. **Amendment, Suspension or Termination:** The Department may amend, suspend or terminate the permit in accordance with M.G.L. c. 21G and 310 CMR 36.29.

NOTICE OF APPEAL RIGHTS

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 1.01 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 shall be included with the 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, including a copy of the fee transmittal form and a copy of the check, 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 or money order 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. 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

September 16, 2026

Duane LeVangie
Water Management Program Chief
Bureau of Water Resources

Date

Endnotes
Appendix A: Functional Equivalence with the RGPCD Performance Standard
Appendix B: Functional Equivalence with the 10% UAW Performance Standard

Endnotes

[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) at USGS Publication | sir20095272. 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%.

[2] 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.

[3] The Water Management Regulations 310 CMR 36.14(1)(b), establishes a groundwater withdrawal category (GWC) based on the ratio of 2000 to 2004 groundwater withdrawal volume to the unimpacted median monthly flow for August and represents conditions during the late summer bioperiod (July thru September). Each GWC represents the range of this ratio that would result in the BC of the same number under conditions of low (15%) impervious cover. The GWC for each withdrawal ratio for the late summer bioperiod is as follows: GWC 1, 0% to 3%; GWC 2, >3% to 10%; GWC 3, >10% to 25%; GWC 4, >25% to 55%; and GWC 5, >55%.

[4] The Water Management Regulations, 310 CMR 36.14(1)(a), establish a biological category (BC) for each subbasin based on the simulated 2000 to 2004 existing condition of aquatic habitat using fluvial fish community characteristics as the surrogate indicator variable. Each biological category represents the percent alteration within the range of these fluvial fish community characteristics as a function of the following subbasin parameters: 1. Impervious cover; 2. Cumulative groundwater withdrawal as a portion of the unimpacted August median flow; 3. Stream channel slope; and 4. Percent wetland within the stream buffer area. The percentage alteration for each BC is as follows: BC 1, 0% to5%.; BC 2, > 5% to 15%; BC3 >15% to 35%; BC 4, > 35% to 65%; BC 5, >65%.

APPENDIX A: Functional Equivalence with the Residential Gallons Per Capita Day (RGPCD) Performance Standard

I. Compliance Plan Requirement

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

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

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

If an RGPCD Plan is required, the permittee must:

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

II. Contents of an RGPCD Plan

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

A permittee that has been unable to meet the 65 RGPCD performance standard within 5 years must implement the MassDEP RGPCD Functional Equivalence Plan to be considered functionally equivalent with the performance standard.

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

a. description of the actions taken during the prior calendar year to meet the performance standard,
b. analysis of the cause of the failure to meet the performance standard,
c. description and schedule of the actions that will be taken to meet the performance standard, and
d. analysis of how the actions described in c. will address the specific circumstances that resulted in the failure to meet the performance standard.

RGPCD Plans may be amended to revise the actions that will be taken to meet the performance standard.

Individual RGPCD Plan

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

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

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

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

Without limitation, the Individual RGPCD Plan for failure to meet the RGPCD performance standard may include any of the actions set forth in the MassDEP RGPCD Functional Equivalence Plan below.

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

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

Hardship

A permittee may present an analysis of the cost effectiveness of implementing certain conservation measures included in the MassDEP RGPCD Functional Equivalence Plan and offer alternative measures. Any analysis must explicitly consider environmental impacts and must produce equal or greater environmental benefits. Suppliers will be able to present:
a. Reasons why specific measures are not cost effective because the cost would exceed the costs of alternative methods of achieving the appropriate standard,
b. Alternative specific conservation measures that would result in equal or greater system-wide water savings or equal or greater environmental benefits than the conservation measures included in the MassDEP RGPCD Functional Equivalence Plan, and
c. When applicable, an analysis demonstrating that implementation of specific measures will cause or exacerbate significant economic hardship.

APPENDIX B

Functional Equivalence with the 10% Unaccounted for Water (UAW) Performance Standard

Water Loss Control Program: 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 ongoing Water Loss Control Program in place that ensures best practices for controlling water loss.

Developing a Municipal Water Loss Control Program: A permittee who fails to document compliance with the 10% UAW performance standard for 2 out of the 3 years during the permit period, shall develop a Municipal Water Loss Control Program in accordance with the *AWWA M36 Water Audits and Loss Control Program*. Within 5 full calendar years of failing to meet the standard, the permittee shall:

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 as an attachment to the 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 component analysis and long-term program to reduce real and apparent water losses.
    i. 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.
    ii. 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. Submit the Municipal Water Loss Control Program that includes an M36 component analysis and implementation schedule and identifies implementation funding to the Department.
4. Upon request of the Department, the permittee shall report on its implementation of the water loss control program.
5. Continued implementation of the Program will be required for the permittee to be considered functionally equivalent with the 10% UAW performance standard and in compliance with their permit.

A PWS permittee may choose to discontinue the Municipal Water Loss Control 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 Water Loss Control Program: If the permittee is required to develop a Water Loss Control Program in order to be to functionally equivalent with the 10% Unaccounted for Water Performance Standard, and the permittee has not developed a Municipal Water Loss Control Program that includes a component analysis and identifies implementation funding after 5 full calendar years of failing to meet the standard, the permittee will be required to implement the MassDEP UAW Water Loss Control Program measures outlined below:

- Complete an annual water audit and leak detection survey, as described in the AWWA M36 Manual, for 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.
- Review the permittee's water pricing structure and ensure revenues are 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 Water Loss Control Program 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 Program.

MassDEP will review a permittee's detailed, written analysis to determine whether unique circumstances make specific water loss control measures less cost-effective than alternatives, or infeasible for the permittee.