



Commonwealth of Massachusetts
Executive Office of Energy & Environmental Affairs

Department of Environmental Protection

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

Maura T. Healey
Governor

Kimberley Driscoll
Lieutenant Governor

Rebecca L. Tepper
Secretary

Bonnie Heiple
Commissioner

March 12, 2024

Timothy S. Higgins, Town Administrator
Town Hall
16 Lincoln Road
Lincoln, MA 01773

RE: Lincoln-BWR\WMA
PWS Number: 3157000
WMA Permit #9P4-3-20-157.01
Action: Permit Review Modification

Dear Mr. Higgins:

Please find the attached documents:

- Findings of Fact in Support of the Modified Permit #9P4-3-20-157.01; and
- Water Management Act Permit #9P4-3-20-157.01 (Charles River Basin) for the Town of Lincoln.

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

Very truly yours,

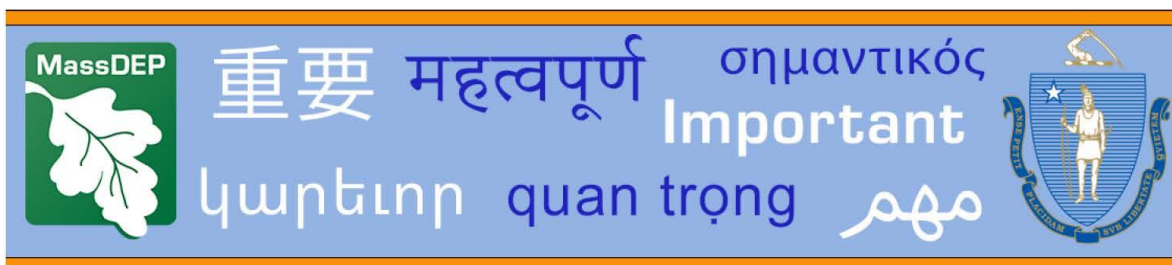
Duane LeVangie, Chief
Water Management Program
Bureau of Water Resources

Sharepoint:\DWPWMA\Permit Compliance Review\Charles\Lincoln-3157000-Permit 9P4-3-20-157.01-3.12.2024

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Ecc: Jen Pederson, MWWA
Julia Blatt, Massachusetts Rivers Alliance

Anne Carroll, Department of Conservation and Recreation-Office of Water Resources
Zeus Smith, Charles River Watershed Association
Darin LaFalam, Lincoln Water Department



Communication for Non-English-Speaking Parties

This document is important and should be translated immediately.

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

Español Spanish

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

Português Portuguese

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繁體中文 Chinese Traditional

本文件非常重要，應立即翻譯。如果您需要翻譯這份文件，請用下面列出的電話號碼聯絡 MassDEP 多元化負責人。

简体中文 Chinese Simplified

本文件非常重要，应立即翻译。如果您需要翻译这份文件，请用下面列出的电话号码与 MassDEP 的多元化主任联系。

Ayisyen Kreyòl Haitian Creole

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

Việt Vietnamese

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

ប្រទេសកម្ពុជា Khmer/Cambodian

ឯកសារនេះគឺសំខាន់ហើយគួរត្រូវបានបកប្រែភ្លាមៗ។ ប្រសិនបើអ្នកត្រូវការឱ្យគេបកប្រែឯកសារនេះ សូមទាក់ទងមកនាយកផ្នែកពិធីកម្មរបស់ MassDEP តាមលេខទូរស័ព្ទខាងក្រោម។

Kriolu Kabuverdianu Cape Verdean

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



Contact Deneen Simpson 857-406-0738

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

TTY# MassRelay Service 1-800-439-2370 • <https://www.mass.gov/environmental-justice>
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Русский Russian

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

العربية Arabic

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

한국어 Korean

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

հայերեն Armenian

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

فارسی Farsi Persian

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

Français French

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Deutsch German

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Ελληνική Greek

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

Italiano Italian

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हिन्दी Hindi

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

Contact Deneen Simpson 857-406-0738

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Findings of Fact in Support of Permit Issuance Water Management Permit # 9P4-3-20-157.01 Town of Lincoln

The Department of Environmental Protection (the Department or MassDEP) makes the following Findings of Fact in support of the attached Water Management Act (WMA) Permit #9P4-3-20-157.01, and includes herewith its reasons for issuing the Permit and for conditions of approval imposed, as required by M.G.L. c. 21G, § 11.

The Town of Lincoln Withdrawal Summary

The Town of Lincoln (“Lincoln” or the “Town”) is registered to withdraw 0.35 Million Gallons per Day (MGD) from its sources in the Charles River Basin. In 2008, Lincoln and the Lincoln Water Commission applied for a Water Management Act Permit to increase its registered withdrawal volume of 0.35 MGD by up to 0.30 MGD from one groundwater well, the Tower Road well, and a surface water reservoir, Flint Pond, each in the Charles River Basin. The increase in withdrawals from the Charles River Basin was proposed to offset Lincoln’s changing the status of their 0.28 million gallon per day (MGD) registered volume in the Concord River Basin to Emergency status. This change was also necessary to satisfy the requirements of a December 2003 Administrative Consent Order (ACO-NE-03-F001) between MassDEP and the Town of Lincoln. MassDEP issued Lincoln a Final permit in the Charles River Basin on February 26, 2010, which included a permitted authorized volume of up to 0.26 MGD in the first 5-Year Period of the permit that was reduced to a permitted withdrawal of up to 0.18 MGD for a total allocation of 0.50 MGD, with a potential total allocation of 0.53 MGD which may include a 5% buffer (see discussion in Special Condition #1 below) if certain conditions are met.

The Permit Extensions

Lincoln’s most recent permit was issued on February 26, 2010. That permit was then extended for 2 years by Section 173 of Chapter 240 of the Acts of 2010, the Permit Extension Act. In 2012, the Permit Extension Act was amended by chapter 238 of the Acts of 2012, and the permit was extended an additional 2 years. The expiration date was further extended by 462 days due to COVID No. 42, “Order Resuming State Permitting Deadlines and Continuing to Extend the Validity of Certain State Permits,” issued on July 2, 2022. The expiration date for all permits going forward in the Charles River Basin will be June 5, 2034, in accordance with the staggered permitting schedule set forth in the regulations.

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

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

- Impact of the withdrawal on other water sources;
- Water available within the safe yield of the water source;
- Reasonable protection of existing water uses, land values, investments and enterprises;
- Proposed use of the water and other existing or projected uses of water from the water source;
- Municipal and Massachusetts Water Resources Commission (WRC) water resource management plans;
- Reasonable conservation consistent with efficient water use;
- Reasonable protection of public drinking water supplies, water quality, wastewater treatment capacity, waste assimilation capacity, groundwater recharge areas, navigation, hydropower resources, water-based recreation, wetland habitat, fish and wildlife, agriculture, flood plains; and
- Reasonable economic development and job creation.

Water Management Regulation Revisions

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

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

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

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

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

Safe Yield in the Charles River Basin

This permit is being issued under the safe yield methodology adopted by the MassDEP on November 7, 2014 and described in the regulations at 310 CMR 36.13. As of the date of issuance of this permit, the Safe Yield calculation for the Charles River Basin is 65.2 million MGD, and total registered and permitted withdrawals are 44.12 MGD. Lincoln's WMA Permit does not increase the previously allocated volume in the Charles River Basin and will not cause an exceedance of the Basin's safe yield.

Findings of Fact for Special Permit Conditions in the Town of Lincoln'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, Authorized Annual Average Withdrawal Volume, recognizes the 0.35 MGD Lincoln is authorized to withdraw from its groundwater sources in the Charles River Basin by its WMA Registration #3-20-157.01, and the 0.18 MGD potentially authorized by its WMA Permit #9P4-3-20-157.01. In a February 4, 2009 letter to the town, the Department of Conservation and Recreation's Office of Water Resources (DCR-OWM) provided their final Water Needs Forecasts (WNF) for Lincoln. MassDEP policy is to allocate annual withdrawal rates based on the 65/10 DCR-OWM WNF. This would provide Lincoln with a system wide allocation of up to 0.53 MGD, with a 5% buffer, thru 2034, provided Lincoln was complying with their permit conditions. Please see Table 1 below for Lincoln's historic system-wide withdrawals.

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

Withdrawal Basin	Actual Withdrawals (MGD)						Allocated Volume* (MGD)	Permitted Volume * (MGD)	Registered Volume (MGD)
	2017	2018	2019	2020	2021	2022			
Charles	0.56	0.50	0.47	0.51	0.56	0.53	0.50	0.15	0.35
Concord	0	0	0	0	0	0	0	0	0
Total	0.56	0.50	0.47	0.51	0.56	0.53	0.50	0.15	0.35

*Allocated withdrawals for Periods Two - Four may be increased by an additional 5% buffer (0.18 MGD permitted for a total of up to 0.53 MGD) to accommodate uncertainty in the growth projections,

and/or to accommodate the water demand of a community that has met the 65 RGPCD and 10% UAW performance standards or has not met the performance standards, but has met the functional equivalence requirements included in this permit. MassDEP will use its permitting discretion to apply the 5% buffer as warranted during a regularly scheduled 5-year review of the permit, or in response to a written request by the permittee.

Lincoln did not comply with its authorized withdrawal volume in the Charles River Basin in 2020, 2021, or 2022. The Department understands that Lincoln's authorized withdrawals have been reduced since their combined registered withdrawals authorized 0.63 MGD (0.35 MGD in the Charles and 0.28 MGD in the Concord Basin). Lincoln was not in compliance with their Residential Gallons per Capita Day (RGPCD) Performance Standard (Please see Special Condition 7) from 2020 – 2022 and was not in compliance with their Unaccounted For Water (UAW) Performance Standard (Please see Special Condition 8) in 2021 or 2022. A RGPCD Compliance Plan was not submitted for the 2020, 2021, or 2022 noncompliance, but an RGPCD Plan was submitted in April of 2023. Please see Special Condition 7 for a list of items Lincoln has committed to in its RGPCD Plan. A UAW Compliance Plan was not submitted in 2021 or 2022, and as of the issuance of this permit, Lincoln will have six months to complete Step One of its UAW Compliance Plan.

Lincoln is not considered Functionally Equivalent with its Performance Standards and is not eligible for the 5% buffer in its WNF. Lincoln is being held to 0.50 MGD authorized volume. The Department is using its enforcement discretion at this time regarding the noncompliance noted in the years 2020-2022 because of Lincoln's reduction in the authorized volume over the permit period. MassDEP will assess Lincoln's compliance further based on 2023 and 2024 actual use.

Special Condition 2, Maximum Daily Withdrawals from Withdrawal Points, Lincoln currently has two permitted sources in the Charles River Basin. Special Condition 2 specifies a maximum approved daily pumping rate for these permitted sources.

Special Condition 3, Firm Yield of Surface Water Supplies. MassDEP accepts the firm yield of 0.59 MGD calculated for Flint's Pond in the USGS study: Refinement and Evaluation of the Massachusetts Firm-Yield Estimator Model Version 2.0, published in October of 2011.

As part of Lincoln's 2010 WMA permit, Lincoln was required to develop a Reservoir Management Plan for the operation and management of Flint's Pond. This Plan was to include, at a minimum, the following components: surface water elevations at which specific conservation measures would be initiated; the establishment of permanent visible markings and or/indicators of reservoir elevations on the intake structure; a management plan detailing the elevations and use of the flash boards located at the Town's outlet at the southern end of the Pond; an algal response plan; and an emergency plan that includes steps to take if either threats or actual contamination occurs. A Draft Plan was submitted on August 30, 2023, and MassDEP has provided Lincoln with comments for revision. Lincoln has six months from issuance of the final permit to submit a Final Plan to the WMA Program for approval.

Special Condition 4, Zone II Delineations, Lincoln's permitted groundwater source has an approved Zone II. No further Zone II work is required as a condition of Lincoln's WMA Permit.

Special Condition 5, Wellhead Protection, Lincoln has successfully adopted local zoning and non-zoning controls that prohibit all uses and activities cited in the MA Wellhead Protection Regulations 310 CMR 22.21(2).

Special Condition 6, Surface Water Protection Requirements, By February 28, 2012, Lincoln was required to (1) meet the requirements of 310 CMR 22.20 C(1)(d)(4) to develop a MassDEP-approved surface water protection plan; (2) implement zoning or non-zoning controls that meet the requirements of 310 CMR 22.20C(2) to protect the portion of Zone A that lies within Lincoln, and (3) demonstrate Best Effort for any portion of the Zone A that is within a neighboring town. Lincoln is in compliance with this Special Condition, and no further information is required.

Special Condition 7, Performance Standard for Residential Gallons Per Capita Day (RGPCD) Water Use, for all public water suppliers (PWSs) is 65. Lincoln was required to meet an annual RGPCD of 65 by December 31, 2011. As shown in Table 2, Lincoln is not currently meeting this Performance Standard. Permittees that cannot comply with the RGPCD Performance Standard are required to develop and implement a functional equivalence program as set forth in Appendix A: Functional Equivalence with the RGPCD Performance Standard. Lincoln submitted an RGPCD Functional Equivalence Plan on April 3, 2023.

Table 2: Residential Gallons Per Capita Day Water Use

Year	2017	2018	2019	2020	2021	2022
RGPCD	63	58	63	77	70	73

In its Functional Equivalence Plan, Lincoln has agreed to the following items, many which began in 2021:

- Installation of meter pits for homes with long service lines at any opportunity.
- A rain barrel rebate program.
- Water Conservation Notification – Drought response
 - Public notified of water conservation levels by signage and Lincoln Talk postings, as well as Water Department Website.
- A complete ban on outdoor watering during drought conservation response.
- Providing faucet aerators and low flow shower heads at cost.
- Conservation rate structure.
- Providing rebates or other incentives for the purchase of low water use appliances.
- Providing incentives for the installation of moisture sensors or similar climate related control technology on automatic irrigation systems.
- Increasing block rates.
- Monthly or quarterly billing.
- Water Conservation education programs, including providing dye tablets to the public.
- New construction plumbing and fixtures required to meet latest state code: 248 CMR 3.00.
- Monitoring of high use customers for conservation opportunities.
- An annual report filed with their Annual Statistical Report documenting all efforts taken by Lincoln to implement and enforce their nonessential Outdoor Water Use Restrictions (See Appendix A). This report shall outline all efforts taken to inform Lincoln's customers of the restrictions, and an assessment of the enforcement of those restrictions

including details on when conditions were triggered and an assessment of the penalties or imposition of fines.

Special Condition 8, Performance Standard for Unaccounted for Water (UAW), for all PWSs is 10%. Lincoln was required to meet 10% or less UAW by December 31, 2011. See Table 3. Permittees that cannot comply with the UAW Performance Standard are required to develop and implement a water loss control program as set forth in Appendix B Functional Equivalence with the 10% UAW Performance Standard. Lincoln has not initiated Step One of a UAW Functional Equivalence Plan and is in noncompliance with this Performance Standard. Lincoln has initiated bi-annual leak detection surveys, and shall complete Step One of Appendix B, the completion of an American Waterworks M36 Water Audit within six months of the issuance of this permit. A compliance report shall be submitted to MassDEP within three months of the issuance of this modified permit.

Table 3: Unaccounted for Water (%)

Year	2017	2018	2019	2020	2021	2022
UAW	25	26	12	8	26	20

Special Condition 9, Water Conservation Requirements, incorporates the Water Conservation Standards for the Commonwealth of Massachusetts reviewed and approved by the Water Resources Commission in July 2018 (<https://www.mass.gov/doc/massachusetts-water-conservation-standards-2/>).

Special Condition 10, Seasonal Limits on Nonessential Outdoor Water Use, reflects the restrictions on nonessential outdoor water use from May through September. The options outlined in Special Condition 10 are based on whether reported RGPCD for the previous year was in compliance with the RGPCD Performance Standard (see Special Condition 6, Performance Standard for RGPCD). In addition, outdoor water use by suppliers with wells in August net groundwater depleted subbasins¹ is limited to 1 or 2 days per week to minimize withdrawals from depleted subbasins.

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

- **Calendar triggered restrictions** are in place from May 1st through September 30th. Many public water suppliers find this option easier to implement and enforce than the streamflow triggered approach
- **Streamflow triggered restrictions** are implemented at those times when streamflow falls below designated flow triggers measured at an assigned, web-based, real-time U.S. Geologic Survey (USGS) stream gage from May 1st through September 30th. At a minimum, restrictions commence when streamflow falls below the trigger for three consecutive days. Once implemented, the restrictions remain in place until streamflow at the assigned USGS local stream gage meets or exceeds the trigger streamflow for seven consecutive days.

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

If Lincoln selects the streamflow trigger approach, it has been assigned USGS stream gage 01104500, Charles River at Waltham, MA. The May-June streamflow trigger is 279 cubic feet per second (cfs), and the July-September streamflow trigger is 98 cfs. Should the reliability of flow measurement at this be so impaired as to question its accuracy, Lincoln may request that MassDEP review and approve the transfer to another gage that will trigger restrictions. MassDEP reserves the right to require use of a different gage.

- **The 7-Day Low Flow Trigger**, at which restrictions increase, is incorporated into both Calendar and Streamflow Triggered restrictions in order to provide additional protection to streamflows when flows are very low. The 7-day low flow trigger for Lincoln is 35 cfs.

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

Special Condition 11, Cold Water Fish Resources

Permittees with withdrawals that impact streamflow at a CFR (identified on basin maps²) must evaluate reducing impacts to CFSs through feasible optimization. Lincoln's subbasin (21090) in the Charles contains a CFR identified by the Department of Fish and Game at this time (Stony Brook). While the opportunity to minimize impacts to the CFR are limited since both of Lincoln's sources are in the same subbasin, Lincoln shall continue to operate in manner consistent with historical withdrawal patterns where between 70% and 80% of annual withdrawals come from Flint's Pond.

Special Condition 12, Reporting Requirements, ensures that the information necessary to evaluate compliance with the conditions included herein is accurately reported.

Special Condition 13, General Permit Conditions (applicable to all Permittees).

Conditions Not Required in This Permit at This Time

Minimization

Permittees with groundwater sources in subbasins having August net groundwater depletion (August NGD) of 25% or greater are required to develop a plan to minimize the impacts of their withdrawals. Both of Lincoln's sources in the Charles River basin are in subbasin 21090 which is not identified as being August NGD; therefore Lincoln is not required to develop a minimization plan.

Mitigation

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

- (a) baseline cannot be less than a permittee's registered volume;
- (b) baseline cannot be greater than the permittee's authorized volume for 2005; and

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

- (c) if during the period from 2003 to 2005, the permittee's withdrawals from the water source were interrupted due to contamination of the source or construction of a treatment plant, the Department will use best available data to establish a baseline volume from the water source.

Lincoln's baseline is 0.61 MGD, which was changed from the 0.63 MGD volume included in its original permit. While the prior volume was based on Lincoln's combined registered volumes in the Charles and Concord River Basins, the 0.61 MGD volume is based on the Period One volume of this permit when originally renewed in 2010, which was the maximum authorized volume in the permit. The Department historically establishes a baseline based on the volume withdrawn in compliance with the Act during calendar year 2005, the average volume withdrawn in compliance with the Act from 2003 to 2005, or the registered volume whichever is highest. Baseline for permittees with water withdrawals in only one river basin are calculated for the withdrawals in that basin. The Water Management Regulations, 310 CMR 36.22(6) and (7), provide that permittees that seek to withdraw more than their baseline prepare and implement a mitigation plan. MassDEP is not permitting an authorized withdrawal volume to Lincoln that exceeds its baseline. Therefore, no mitigation plan is required at this time.

Response to Comments

Comments on the Draft permit were received from the Massachusetts River Alliance and the Charles River Water Association in letters dated December 22, 2023. Below is a summary of those comments, as well as changes to the final permit and of MassDEP's response to those comments.

In addition to permit specific comments the comments received also raised issues associated with the Water Management regulations developed in 2014. Some comments requested modifications to the permit that are not aligned with current Water Management Program regulations (310 CMR 36.00). Comments pertaining to the safe yield methodology used in permitting, data deficiencies, or implementation policies developed as part of the Sustainable Water Management Initiative (SWMI) are not within the scope of individual Water Management permits. MassDEP continues to work with all constituents to review programmatic requirements in forums outside of the development of individual permits. Comments on regulatory and policy issues and comments addressing modifications that are not aligned with current regulations are not included in this Finding of Fact.

Comments on Compliance:

CRWA: MassDEP must take further action to ensure that Lincoln complies with permit conditions. We suggest the addition of the following language to the permit: "MassDEP reserves the right to amend, suspend, terminate, or re-open this permit upon evidence of non-compliance with these permit conditions as authorized by 310 CMR 36.29 & 310 CMR 36.43 ." In particular, CRWA urges MassDEP to consider including additional reporting requirements for UAW through the Permit conditions...A corrective action plan, to be submitted to MassDEP 90 days after the issuance of the Final Permit, may also be appropriate.

MRA: We urge MassDEP to take additional enforcement action to protect water resources in the Charles River Basin. Such action should include but not be limited to issuing an Administrative Consent Order (AOC) with Penalty and Notice of Noncompliance requiring a corrective action plan and annual reporting outlining activities undertaken to reduce withdrawals to comply with the total authorized withdrawal volume and reduce residential use and unaccounted for water. If MassDEP does not issue an AOC, the Final permit must include requirements for the corrective action plan and annual reporting as

described above, and outline the steps MassDEP will take if Lincoln does not meet permit requirements within the first year of the modified permit (i.e., issuance of an AOC and penalties/fines).

Response 1: The requirement that a three-month compliance report be submitted to MassDEP has been added to the Final permit. Moving forward, any year that Lincoln is in non-compliance with its permit, it will be subject to the WMA regulations at 310 CMR 36.00, which gives the program the discretion to enforce against activities that are in noncompliance with the regulations. MassDEP will examine Lincoln's 2023 Annual Statistical Report for compliance.

Comments on Coldwater Fisheries:

CRWA: The Water Management Act regulations require that Coldwater Fish Resources are carefully managed. For future permits, CRWA suggests including the results of these consultations within the Findings of Fact for a given permit. Better still, given the importance of these steps, CRWA suggests that MassDEP includes the evaluation itself or submits the evaluation to the relevant parties.

MRA: We urge Lincoln to consider other opportunities to improve streamflow and habitat conditions in Stony Brook, such as surface water releases from Flint Pond.

Response 2: MassDEP will take CRWA's comment about consultations under advisement for future permits. Since both of Lincoln's sources are located in the same sub-basin, MassDEP was advised by the Department of Fish and Wildlife (FWE) that preserving the coldwater flow from the groundwater source was preferable to a warm water release from Flint's Pond. Lincoln's WMA permit reflects FWE's preference.

Comments on Baseline:

CRWA: The baseline allocation used for Lincoln's permit is improperly calculated due to Lincoln's previous use of sources in the Concord Basin. In this Draft Permit MassDEP continues to use 0.61 MGD. This is apparently "based on the Period One volume of [Lincoln's] permit when originally renewed in 2010, which was the maximum authorized volume in the permit." As we did in 2010, CRWA contends that period of use should not be eligible for the baseline since it was not withdrawn "in compliance with the Water Management Act" as required in the 2007 WMA Guidance.

MRA: Lincoln's baseline volume should be recalculated based on recent use from the Town's two sources in the Charles River Basin. Permitting a baseline volume greater than a permittee's total allocation dismisses any opportunities to improve streamflow through mitigation, especially for a permittee whose withdrawals directly impact a coldwater fisheries resource.

Response 3: When Lincoln's 2010 permit was issued, there was no official definition of baseline in our regulations. The permit application was required as part of a of a December 2003 Administrative Consent Order (ACO-NE-03-F001) between MassDEP and the Town of Lincoln. The permit refers to a baseline of 0.61 MGD, which was based on the first 5-year period in the 2010 permit. Since then, the 2014 and 2023 regulations amendments have included the baseline definition developed during the SWMI process:

Baseline means the volume of water withdrawn during calendar year 2005 plus 5%, or the average annual volume withdrawn from 2003 through 2005 plus 5%, whichever is greater, provided that:

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

For permittees with withdrawals in only one water source, baseline will be calculated for the withdrawals in that water source. For permittees with withdrawals in more than one water source, the Department will calculate a separate baseline for withdrawals from each water source, and a system-wide baseline based on the volume of water withdrawn from all water sources, using the methodology outlined above.

Using this definition for the new permit, Lincoln's baselines would be the 0.28 MGD registered in the Concord, and 0.55 MGD in the Charles (the 0.35 MGD registered volume plus the amount requested in the permit application submitted in 2004 and authorized in the 2010 permit + 5%). Lincoln's system-wide baseline is also 0.55 MGD, the amount they used system-wide in 2005 + 5%. The draft permit has been revised to reflect this baseline volume.

Comments on Gauges/Outdoor Water Use Restrictions:

CRWA: There appear to be typographical errors with the streamflow gages in the Draft Permit.

MRA: Lincoln should update its Functional Equivalence Plan to specify that a complete ban on outdoor watering will be implemented when the Drought Management Task Force declares drought for the region.

Response 4: The gauge number has been corrected. Adding a requirement to a Functional Equivalence Plan that would require a complete ban on outdoor watering when there is a declared drought for the region would be inconsistent with the established practices for a Drought Declaration, where a complete ban is suggested, but not required. MassDEP has declined to require this addition to Lincoln's Functional Equivalence Plan.



Department of Environmental Protection

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

Maura T. Healey
Governor

Kimberley Driscoll
Lieutenant Governor

Rebecca L. Tepper
Secretary

Bonnie Heiple
Commissioner

WATER WITHDRAWAL PERMIT #9P4-3-20-157.01 Town of Lincoln

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: 9P4-3-20-157.01 **RIVER BASIN:** Charles River

PERMITTEE: Town of Lincoln

EFFECTIVE DATE: March 12, 2024

EXPIRATION DATE: June 5, 2034

NUMBER OF WITHDRAWAL POINTS: 2

Groundwater: 1

Surface Water: 1

USE: Public Water Supply

DAYS OF OPERATION: 365

Table 1: Withdrawal Point Identification

Source Name	Source Code	Source Name	Source Code
Tower Road Well	3157000-01G	Flint's Pond	3157000-01S

SPECIAL CONDITIONS

1. Maximum Authorized Annual Average Withdrawal Volume

This permit authorizes the Town of Lincoln (Lincoln) to withdraw water from the Charles River Basin at the rate described in Table 2 below. The permitted withdrawal rate is in addition to the 0.35 million gallons per day (MGD) previously authorized for Lincoln under Water Management Act Registration #3-20-157.01 in the Charles River Basin. The permitted volume is expressed both as an 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. The Department of Environmental Protection (MassDEP) will use the raw water withdrawal volume from all authorized withdrawal points to assess compliance with the registered and permitted withdrawal volumes. A 5% buffer is added to the allocation to account for uncertainty.

Table 2: Authorized Withdrawals				
Permit Periods	Raw Water Withdrawal Volumes			
	Permit		Registration + Permit	
	Daily Average (MGD)	Total Annual (MGY)	Daily Average (MGD)	Total Annual (MGY)
4				
3/12/2024 to 6/5/2029	0.15	54.75	$0.35+0.15=0.50$	182.50
6/6/2029 to 6/5/2034	0.16 (0.18*)	58.40 (65.70*)	$0.35+0.16=0.51$ $(0.35+0.18=0.53*)$	186.15 (193.45*)

*Upon submitting a request and receiving an advanced written approval from MassDEP, Lincoln may be authorized to increase annual average daily withdrawals to the next permit period or the maximum authorized (0.53 MGD) prior to 2026 if Lincoln is meeting:

- Residential Gallons Per Capita Day (RGPCD) of 65 or less, or all RGPCD functional equivalence requirements in Special Condition 7;
- Unaccounted-for-water (UAW) of 10% or less, or all UAW functional equivalence requirements in Special Condition 8;
- Seasonal limits on nonessential outdoor water use in Special Condition 10; and
- Water conservation requirements in Special Condition 9.

2. Maximum Authorized Daily Withdrawals from Withdrawal Points

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

Table 3: Maximum Authorized Daily Withdrawal Rates		
Source Name	Source Code	MGD
Tower Road Well	3157000-01G	0.48
Flint's Pond	3157000-01S	2.0

3. Firm Yield of Surface Water Supplies

MassDEP accepts the firm yield of 0.59 MGD calculated for Flint's Pond in the USGS study: Refinement and Evaluation of the Massachusetts Firm-Yield Estimator Model Version 2.0, published in October of 2011.

Within six months of the issuance of this permit, Lincoln is required to finalize a Reservoir Management Plan for the operation and management of Flint's Pond. This Plan will include, at a

minimum, the following components: surface water elevations at which specific conservation measures would be initiated; the establishment of permanent visible markings and or/indicators of reservoir elevations on the intake structure; a management plan detailing the elevations and use of the flash boards located at the Town's outlet at the southern end of the Pond; an algae response plan; and an emergency plan that includes steps to take if either threats or actual contamination occurs.

4. Zone II Delineation

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

5. Wellhead Protection

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

6. Surface Water Protection

Lincoln was required to (1) meet the requirements of 310 CMR 22.20 C(1)(d)(4) to develop a MassDEP-approved surface water protection plan; (2) implement zoning or non-zoning controls that meet the requirements of 310 CMR 22.20C(2) to protect the portion of Zone A that lies within Lincoln, and (3) demonstrate Best Effort for any portion of the Zone A that is within a neighboring town. Lincoln is in compliance with this Special Condition, and no further information is required.

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

Lincoln was required to meet an annual RGPCD of 65 by December 31, 2011. Lincoln is not currently meeting this Performance Standard. Permittees that cannot comply with the RGPCD Performance Standard are required to develop and implement a functional equivalence program as set forth in Appendix A: Functional Equivalence with the RGPCD Performance Standard. Lincoln submitted an RGPCD Functional Equivalence Plan on April 3, 2023. Lincoln shall report its RGPCD annually in its Annual Statistical Report (ASR).

In its Functional Equivalence Plan, Lincoln has agreed to the following items, many which began in 2021:

- Installation of meter pits for homes with long service lines at any opportunity.
- A rain barrel rebate program.
- Water Conservation Notification – Drought response
 - Public notified of water conservation levels by signage and Lincoln Talk postings, as well as Water Department Website.
- A complete ban on outdoor watering during drought conservation response.
- Providing faucet aerators and low flow shower heads at cost.
- Conservation rate structure.
- Providing rebates or other incentives for the purchase of low water use appliances.
- Providing incentives for the installation of moisture sensors or similar climate related control technology on automatic irrigation systems.
- Increasing block rates.
- Monthly or quarterly billing.
- Water Conservation education programs, including providing dye tablets to the public.
- New construction plumbing and fixtures required to meet latest state code: 248 CMR 3.00.
- Monitoring of high use customers for conservation opportunities.

- An annual report submitted with their Annual Statistical Report documenting all efforts taken by Lincoln to implement and enforce their nonessential Outdoor Water Use Restrictions (See Appendix A). This report shall outline all efforts taken to inform Lincoln's customers of the restrictions, and an assessment of the enforcement of those restrictions including details on when conditions were triggered and an assessment of the penalties or imposition of fines.

8. Performance Standard for Unaccounted for Water

Lincoln was required to meet an annual Unaccounted for Water (UAW) of 10% or less by December 31, 2011. Lincoln's Performance Standard has now changed slightly to a UAW of 10% or less of overall water withdrawal for 2 of the most recent years 3 throughout the permit period. Lincoln is not meeting this Performance Standard. Permittees that cannot comply with the UAW Performance Standard are required to develop and implement the functional equivalence requirements based on the *AWWA/IWA Water Audits and Loss Control Programs, Manual of Water Supply Practices M36*, as outlined in Appendix B. Lincoln shall implement Step One of a Municipal Water Loss Control Program (a M36 Audit) within six months of the issuance of this modified permit. A compliance report shall be submitted to MassDEP within three months of the issuance of this modified permit. Lincoln shall report its UAW annually in its Annual Statistical Report (ASR).

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

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

9. Water Conservation Requirements

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

Table 4: Minimum Water Conservation Requirements	
System Water Audits and Leak Detection	
1.	At a minimum, conduct a full leak detection survey every three years. The first full leak detection survey shall be completed no later than 3 years from the date of the last documented leak detection survey.
2.	Conduct leak detection of the entire distribution system within one year whenever the percentage of UAW increases by 5% or more (for example an increase from 3% to 8%) over the percentage reported on the ASR for the prior calendar year. Within 60 days of completing the leak detection survey, submit to the Department a report detailing the survey, any leaks uncovered as a result of the survey or otherwise, dates of repair and the estimated water savings as a result of the repairs.
3.	Conduct field surveys for leaks and repair programs in accordance with the AWWA Manual 36.
4.	Lincoln shall have repair reports available for inspection by MassDEP. Lincoln 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. <p>Leaks shall be repaired in accordance with Lincoln's priority schedule including leaks up to the property line, curb stop or service meter, as applicable. Lincoln shall have water use regulations in place that require property owners to expeditiously repair leaks on their property.</p>
Metering
1. Lincoln shall continue to calibrate all source and finished water meters at least annually and report date of calibration on the ASR.
2. Lincoln shall maintain its system as 100% metered.
Pricing
1. Within sixty days of the effective date of this permit, Lincoln shall submit to MassDEP for its review and approval a plan and schedule for establishing and maintaining a water pricing structure that includes the full cost of operating the water supply system. Thereafter, Lincoln 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. Lincoln will continue to implement an increasing block rate structure.
4. Lincoln shall continue to bill at least quarterly.
Residential and Public Sector Conservation
1. Lincoln 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. Lincoln reports metering water used by contractors using fire hydrants for pipe flushing and construction and shall continue to do so.
Industrial and Commercial Water Conservation
1. Lincoln shall continue to inspect industrial facilities and recommend the use of separate meters for process water where appropriate.
Public Education and Outreach
<p>1. Within thirty days of the effective date of this permit, Lincoln 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:</p> <ul style="list-style-type: none"> Include in bill stuffers and/or bills, a work sheet to enable customers to track water use and conservation efforts and estimate the dollar savings; Public space advertising/media stories on successes (and failures); Conservation information centers perhaps run jointly with electric or gas company; Speakers for community organizations; Public service announcements; radio/T.V./audio-visual presentations; Joint advertising with hardware stores to promote conservation devices;

<ul style="list-style-type: none"> • 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, Lincoln shall develop and implement the water conservation education and outreach plan and schedule as approved by MassDEP. Upon request of MassDEP, Lincoln shall report on its public education and outreach efforts.

10. Seasonal Limits on Nonessential Outdoor Water Use

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

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

For Permittees meeting the 65 RGPCD Standard for the preceding year RGPCD \leq 65 as reported in the ASR and accepted by MassDEP	
Calendar Triggered Restrictions	<p>Nonessential outdoor water use is allowed:</p> <ul style="list-style-type: none"> a) Two (2) days per week before 9 am and after 5 pm; and b) one (1) day per week before 9 am and after 5 pm <p>when USGS stream gage 01104500, Charles River at Waltham, MA falls below 35 cfs for three (3) consecutive days.</p> <p>Once streamflow triggered restrictions are implemented, they shall remain in place until streamflow at the gage meets or exceeds 35 cfs for seven (7) consecutive days.</p>
Streamflow Triggered Restrictions	<p>Nonessential outdoor water use is allowed:</p> <ul style="list-style-type: none"> a) Two (2) days per week before 9 am and after 5 pm <p>when USGS stream gage 01104500, Charles River at Waltham, MA falls below:</p> <ul style="list-style-type: none"> • May 1 – June 30: 279 cfs for three (3) consecutive days • July 1 – September 30: 98 cfs for three (3) consecutive days <ul style="list-style-type: none"> b) one (1) day per week before 9 am and after 5 pm <p>when USGS stream gage 01104500, Charles River at Waltham, MA falls below 35 cfs for three (3) consecutive days.</p> <p>Once implemented, the restrictions shall remain in place until streamflow at the gage meets or exceeds the trigger streamflow for seven (7) consecutive days.</p>
For Permittees NOT meeting the 65 RGPCD standard for the preceding year RGPCD > 65 as reported in the ASR and accepted by MassDEP	
Calendar Triggered Restrictions	<p>Nonessential outdoor water use is allowed one (1) day per week before 9 am and after 5pm;</p>

Streamflow Triggered Restrictions	<p>Nonessential outdoor water use is allowed one (1) day per week before 9 am and after 5 pm when USGS stream gage 01104500, Charles River at Waltham, MA falls below:</p> <ul style="list-style-type: none"> • May 1 – June 30: 279 cfs for three (3) consecutive days • July 1 – September 30: 98 cfs for three (3) consecutive days <p>Once implemented, the restrictions shall remain in place until streamflow at the gage meets or exceeds the trigger streamflow for seven (7) consecutive days.</p>
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Instructions for Accessing Streamflow Website Information
<p>If Lincoln chooses Streamflow Triggered Restrictions, Lincoln shall be responsible for tracking streamflows and recording and reporting to MassDEP when restrictions are implemented.</p>
<p>Streamflow information is available at the USGS National Water Information System (NWIS): Web Interface. The USGS NWIS default shows Massachusetts streamflows in real time, i.e., the most recent, usually quarterly hourly, reading made at each USGS stream gage.</p>
<p>Seasonal Limits on Nonessential Outdoor Water Use are implemented when the mean daily streamflow falls below the designated trigger. The mean daily flow is not calculated until after midnight each day when the USGS computes the hourly data into a mean daily streamflow. As a result, permittees must use the mean daily streamflow from the preceding day when tracking streamflows.</p>
<p>Mean daily streamflow gage readings are available at the USGS NWIS Web Interface at http://waterdata.usgs.gov/ma/nwis/current/?type=flow.</p> <ul style="list-style-type: none"> • Scroll down to 01104500, Charles River at Waltham, MA. • Click on the gage number. • Click on Legacy real-time page. • Scroll down to “Provisional Date Subject to Revision – Available data for this site” and click on the drop-down menu. • Click on “Time-series: Daily data” and hit GO. • Scroll down to the “Available Parameters” box. Within the box, be sure “00060 Discharge (Mean)” is checked, then, under “Output Format” click “Table” and hit GO. • Scroll down to “Daily Mean Discharge, cubic feet per second” table and find the current date on the table. • Compare the cubic feet per second (cfs) measurement shown on the table to the cfs shown under Streamflow Triggered Restrictions above.
<p>Lincoln shall document compliance with the Seasonal Nonessential Outdoor Water Use Restrictions annually in its Annual Statistical Report (ASR) and indicate whether it anticipates implementing calendar triggered restrictions or streamflow triggered restrictions during the next year.</p>

Restricted Nonessential Outdoor Water Uses

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

- irrigation of lawns via sprinklers or automatic irrigation systems;
- filling swimming pools;
- washing of vehicles, except in a commercial car wash or as necessary for operator safety; and

- washing of exterior building surfaces, parking lots, driveways or sidewalks, except as necessary to apply surface treatments such as paint, preservatives, pavement or cement.

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

- irrigation to establish a new lawn and new plantings during the months of May and September;
- irrigation of public parks and recreational fields before 9 am and after 5 pm;
- irrigation of gardens, flowers and ornamental plants by means of a hand-held hose or drip irrigation systems; and
- irrigation of lawns by means of a hand-held hose.

Water uses NOT subject to mandatory restrictions are those required:

- for health or safety reasons;
- by regulation;
- for the production of food and fiber;
- for the maintenance of livestock; or
- to meet the core functions of a business (for example, irrigation by golf courses as necessary to maintain tees, greens, and minimal fairway watering, or irrigation by plant nurseries as necessary to maintain stock).

Public Notice of Seasonal Nonessential Outdoor Water Use Restrictions

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

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

Notice that restrictions have been put in place shall be filed each year with MassDEP within 14 days of the restriction's effective date. Filing shall be in writing on the form "Notification of Water Use Restrictions" available on MassDEP's website. Should the reliability of flow measurement at the Charles River gage be so impaired as to question its accuracy, Lincoln may request MassDEP's review and approval to transfer to another gage to trigger restrictions. MassDEP reserves the right to require use of a different gage.

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

11. Cold Water Fish Resources

The ability to minimize impacts to the CFR are limited since both of Lincoln's sources are in the same subbasin (21090). To minimize the capture of groundwater in this subbasin Lincoln shall continue to operate in manner consistent with historical withdrawal patterns where between 70% and 80% of annual withdrawals come from Flint's Pond. Should this ratio of use between Lincoln's sources need to change on an annual basis, the Department may require that Lincoln revisit efforts to minimize impacts on the CFR.

12. Reporting Requirements

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

General Permit Conditions (applicable to all Permittees)

1. **Duty to Comply** The Permittee shall comply at all times with the terms and conditions of this permit, the Act and all applicable State and Federal statutes and regulations.
2. **Operation and Maintenance** The Permittee shall at all times properly operate and maintain all facilities and equipment installed or used to withdraw up to the authorized volume so as not to impair the purposes and interests of the Act.
3. **Entry and Inspections** The Permittee or the Permittee's agent shall allow personnel or authorized agents or employees of MassDEP to enter and examine any property, inspect and monitor the withdrawal, and inspect and copy any relevant records, for the purpose of determining compliance with this permit, the Act or the regulations published pursuant thereto, upon presentation of proper identification and an oral statement of purpose.
4. **Water Emergency** Withdrawal volumes authorized by this permit are subject to restriction in any water emergency declared by MassDEP pursuant to M.G.L. c. 21G, §§ 15-17, M.G.L. c. 111, § 160, or any other enabling authority.
5. **Transfer of Permits** This permit shall not be transferred in whole or in part unless and until MassDEP approves such transfer in writing, pursuant to a transfer application on forms provided by MassDEP requesting such approval and received by MassDEP at least thirty (30) days before the effective date of the proposed transfer. No transfer application shall be deemed filed unless it is accompanied by the applicable transfer fee established by 310 CMR 36.37.
6. **Duty to Report** The Permittee shall submit annually, on a form provided by MassDEP, a certified statement of the withdrawal. Such report is to be received by MassDEP by the date specified by MassDEP. Such report must be mailed or hand delivered to the address specified on the report form.
7. **Duty to Maintain Records** The Permittee shall be responsible for maintaining withdrawal records as specified by this permit.
8. **Metering** Withdrawal points shall be metered. Meters shall be calibrated annually. Meter shall be maintained and replaced as necessary to ensure the accuracy of the withdrawal records.
9. **Amendment, Suspension or Termination** The Department may amend, suspend or terminate this permit in accordance with M.G.L. c. 21G or 310 CMR 36.29

APPEAL RIGHTS AND TIME LIMITS

Any person aggrieved by this decision may request an adjudicatory hearing on this Permit by timely filing a Notice of Claim for an Adjudicatory Appeal ("Notice of Claim") in accordance with 310 CMR 36.37 and 310 CMR 1.01 within twenty-one (21) days of its receipt of this Permit. The Notice of Claim shall state specifically, clearly and concisely the facts that are grounds for the appeal, the relief sought, and any additional information required by applicable law or regulation. A copy of this Permit shall be included with a Notice of Claim. No request for an appeal of this Permit shall be validly filed unless a copy of the request is sent at the same time by certified mail, or delivered by hand, to the local water resources management official in the community in which the withdrawal point is located; and for any person appealing this decision, who is

not the Permittee, unless such person notifies the Permittee of the appeal in writing by certified mail or by hand within five (5) days of mailing the appeal to the Department.

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

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

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

Commonwealth of Massachusetts Lock Box
Department of Environmental Protection
P.O. Box 4062
Boston, MA 02211

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

EXEMPTIONS

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

WAIVER

MassDEP may waive the adjudicatory hearing filing fee for any person who demonstrates to the satisfaction of MassDEP that the fee will create an undue financial hardship. A person seeking a waiver must file, together with the hearing request, an affidavit setting forth the facts which support the claim of undue hardship.



3/12/2024

Duane LeVangie
Water Management Program Chief
Bureau of Water Resources

Date

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

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

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

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

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

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

If a RGPCD plan is required, the permittee must:

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

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

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

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

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

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

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

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

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

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

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

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

A permittee's hardship analysis shall:

- Document economic hardship and present an analysis demonstrating that implementation of specific measures will cause or exacerbate significant economic hardship;
- Present reasons why specific measures are not cost-effective because the cost would exceed the costs of alternative methods of achieving the appropriate standard; and
- Propose specific conservation measures that would result in equal or greater system-wide water savings or equal or greater environmental benefits than the conservation measures included in the MassDEP UAW Water Loss Control Measures.

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