Commonwealth of Massachusetts
Executive Office of Energy & Environmental Affairs

Department of Environmental Protection

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

Charles D. Baker
Governor

Karyn E. Polito
Lieutenant Governor

Kathleen A. Theoharides
Secretary

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Commissioner

DRAFT

January 22, 2021

Mr. Wayne Parks
West Bridgewater Water Department
29 Cyr Street
West Bridgewater, MA 02379

RE: Town of West Bridgewater
PWS Number: 4322000
WMA Permit 9P-4-25-322.01
Action: Draft Renewed Permit

Dear Mr. Parks:

Please find the attached documents:

- DRAFT Findings of Fact in Support of the Renewed Permit #9P-4-25-322.01; and
- DRAFT Water Management Act Permit #9P-4-25-322.01 (Taunton River Basin) for the Town of West Bridgewater.

Consistent with 310 CMR 36.27 (6)-(8) of the revised Water Management Act Regulations promulgated on November 7, 2014, the Department will now publish notice in the Environmental Monitor that a DRAFT Permit is available for review and comment for 30 days following the January 22, 2021 publication in the Environmental Monitor. Notice of the public comment period will also be sent to all registrants, permittees and those having non-consumptive use statements within the Taunton River Basin. The Department expects to issue the final permit within 30 days of the close of the public comment period.

The signature on this cover letter indicates formal issuance of the attached document. If you have any questions regarding this information, please contact Duane LeVangie at (617) 292-5706 or via e-mail at duane.levangie@mass.gov.

This information is available in alternate format. Contact Michelle Waters-Ekanem, Director of Diversity/Civil Rights at 617-292-5751.
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Very truly yours,

Duane LeVangie
Water Management Program Chief
Bureau of Water Resources

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Ecc: Jen Pederson, MWWA
Kate Bentsen, DFW
Julia Blatt and Sarah Bower, Massachusetts Rivers Alliance
Jim McLaughlin, MassDEP-SERO
Patti Kellogg, MassDEP-SERO
Sara Cohen, DCR
Taunton River Watershed Alliance

Massachusetts Department of Environmental Protection
One Winter Street, Boston MA 02108 • Phone: 617-292-5751
Communication For Non-English -Speaking Parties - 310 CMR 1.03(5)(a)

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

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4(b) 中国（简体中文）(Chinese (Simplified):
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5 Ayisyen (franse kreyòl) (Haitian) (French Creole):
Dokiman sa-a se yon bagay enpòtan epi yo ta dwe tradui imedyatman. Si ou bezwen dokiman sa a tradui, tanpri kontakte Divèsite Direktè MassDEP a nan nimewo telefòn ki nan lis pi ba a.

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

7 ប្រទេសកម្ពុជា (Kmer (Cambodian):
ឯកសារនេះគឺមានសារៈសំខាន់និងគួរត្រូវបានបកប្រែភ្លាម។ ប្រសិនបើអ្នកត្រូវបានបកប្រែឯកសារនេះសូមទំនាក់ទំនងឆ្នោតជានាយក MassDEP នៅលេខទូរស័ព្ទដែលបានរាយខាងក្រោម។

8 Kriolu Kabuverdianu (Cape Verdean):
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هذه الوثيقة الهامة وينبغي أن تترجم على الفور. اذا كنت بحاجة الى هذه الوثيقة المترجمة، يرجى الاتصال مدير التنوع في PMassDEعلى أرقام الهواتف المدرجة أدناه.

11 한국어 (Korean):
이 문서는 중요하고 즉시 번역해야합니다. 당신이 번역이 문서가 필요하면 아래의 전화 번호로 MassDEP 의 다양성 감독에 문의하시기 바랍니다.

12 հայերեն (Armenian):
Այս փաստաթուղթը շատ կարեւոր է եւ պետք է թարգմանել անմիջապես. Եթե Ձեզ անհրաժեշտ է այս փաստաթուղթը թարգմանվել դիմել MassDEP բազմազանությունը տնօրեն է հեռախոսահամարների թվարկված են ստորեւ.

13 فارسی (Farsi (Persian):
این سند مهم است و باید فورا ترجمه شده است.
اگر شما نیاز به این سند ترجمه شده، لطفا با ما تماس تنوع مدیر PMassDE در شماره تلفن های ذکر شده در زیر.

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

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

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19 हिन्दी (Hindi):
यह दस्तावेज महत्वपूर्ण है और तुरंत अनुवाद किया जाना चाहिए. आप अनुवाद इस दस्तावेज़ की जरूरत है, नीचे सूचीबद्ध फोन नंबरों पर MassDEP की विविधता निदेशक से संपर्क करें.

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Findings of Fact in Support of
DRAFT Water Management Permit # 9P-4-25-322.01
Town of West Bridgewater

The Department of Environmental Protection (the Department or MassDEP) makes the following Findings of Fact in support of the attached Draft Water Management Act (WMA) Permit #9P-4-25-322.01and includes herewith its reasons for issuing the Draft Permit and for conditions of approval imposed, as required by M.G.L. c. 21G, § 11. The issuance of this draft permit is in response to a WMA permit renewal application by the Town of West Bridgewater (the Town or West Bridgewater).

The Department adopted revised Water Management Regulations at 310 CMR 36.00 on November 7, 2014, (described in greater detail below). Since that time, the Department has been working closely with each Water Management Act permittee to fully consider all aspects of their individual situations and ensure thoughtful and implementable permits.

<u>The Town of West Bridgewater Withdrawal Summary</u>

On May 31,1991, the Department issued West Bridgewater its first WMA permit, #9P-4-25-322.01. The original permit authorized the Town to withdraw an annual average daily volume as follows: 6/1/1991 to 2/28/1995 0.15 million gallons per day (MGD); 3/1/1995 to 2/28/2000, 0.19 MGD; 3/1/ 2000 to 2/28/2005, 0.50 MGD; and 3/1/2005 to 2/28/2010 0.80 MGD. This permitted volume was in addition to the 0.73 MGD that the Town was authorized to withdraw by its WMA registration #4-25-322.01. The Town's total authorized average daily withdrawal volume from the Taunton River Basin was 1.53 MGD.

On November 6, 2008, the Department modified the Town's WMA Permit. The 2008 WMA Permit maintained the withdrawal volumes authorized in the original 1991 WMA Permit. In the Findings of Fact accompanying the 2008 Modified WMA Permit, the Department noted that the authorized volume was based on a water needs forecast by the Department of Conservation and Recreation Office of Water Resources (DCR formally the Department of Environmental Management (DEM). The Department also noted that West Bridgewater's water use was substantially below the projected volumes (0.65 MGD in 2006 and 0.77 MGD in 2007). The

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Department stated that West Bridgewater's actual use would be reviewed, when the new permit is renewed, and demand projections are issued.[1]

The Permit Extensions

The original permit issued in 1991 had an expiration date of February 28, 2010. In 2009, the Department issued West Bridgewater an interim permit which extended the expiration date until February 28, 2011. In 2010, the interim permit was extended for two years to February 28, 2013, by Section 173 of Chapter 240 of the Acts of 2010, the Permit Extension Act. In 2012, the Permit Extension Act was amended by chapter 238 of the Acts of 2012, and the permit was extended an additional two years to February 28, 2015. Pursuant to M.G.L. c. 30A, Section 13, and 310 CMR 26.18(7), the permit continued in force until the date the Department issues this permit. The expiration date for all permits going forward in the Taunton River Basin will be February 28, 2030, 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.

[1] In 2009, DCR issued a new WNF. That forecast projected that the Town's demand for water in 2030 assuming that West Bridgewater meets the Performance Standard for Unaccounted for Water (UAW) and Residential Gallons Per Capita Day (RGPCD) would be 0.87 MGD with a 5% buffer. The 2009 WNF is substantially less than the earlier projections. See Special Condition 1 section of these Findings of Fact.

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

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

- Safe yield determinations for the major river basins based on a new methodology developed through SWMI (see the Safe Yield in the Taunton 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 Department of Conservation and Recreation, Office of Water Resources (DCR), using a methodology reviewed and approved by the Massachusetts WRC;
- Water supply protection measures for public water supplies including Zone II delineations for groundwater sources and wellhead and surface water protection measures as required by Massachusetts Drinking Water Regulations (310 CMR 22.00);
- Water conservation 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 Taunton River Basin

This permit is being issued under the safe yield methodology adopted by the Department on November 7, 2014 and described in the regulations at 310 CMR 36.13. As of the date of issuance of this permit, the Safe Yield calculation for the Taunton River Basin is 134.42 million gallons per day (MGD), and total registered and permitted withdrawals are 93.86 MGD. The renewed permit will not increase the volume of withdrawals from the Taunton River Basin and thus will not cause an exceedance of the Basin's safe yield.

Findings of Fact for Permit Conditions in West Bridgewater'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 DRAFT 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, specifies the authorized annual average withdrawal volume for each period during the life of this permit.

The Department bases public water supply permits on the DCR Water Needs Forecast (WNF). In an October 27, 2009 letter, DCR provided a final WNF for West Bridgewater. The WNF was for West Bridgewater's total raw water withdrawal and was prepared based on two separate assumptions, the first being that West Bridgewater meets the performance standards of 65 Residential Gallons per Capita Day (RGPCD) and 10% Unaccounted-for Water (UAW), and the second assumes that West Bridgewater's RGPCD and UAW continue based on the trends of RGPCD and UAW at the time that DCR prepared the WNF. DCR's 2009 WNF for West Bridgewater is set forth in Table 1 below.

Table 1: West Bridgewater's System-Wide WNF of Annual Average Daily Withdrawal Rates (MGD)

Permit Period	WNF assuming RGPCD 65/UAW 10%	WNF assuming current trend RGPCD/UAW
2020-2025	0.81	0.79
2026-2030	0.83	0.80
2030 + 5% Buffer	0.83+0.04=0.87	0.80+0.04=0.84

It is the Department's policy to issue permits that result in a total authorized volume that does not exceed the DCR WNF volumes based on the assumption that the public water supplier (PWS) is in compliance with the RGPCD and UAW performance standards. The total authorized volume of 0.87 MGD set forth in Special Condition 1 is consistent with the 65/10 DCR WNF. [2]

Table 2: West Bridgewater's 2015-2019 Actual Water Withdrawals

Year	2015	2016	2017	2018	2019
Average Actual Withdrawals (MGD)	0.72	0.74	0.69	1.03	0.63

As shown in Table 2, the total authorized volume set forth in Special Condition 1 of this Draft Permit. 0.87 MGD is substantially more than the Town's recent actual annual average daily withdrawal volumes for every year from 2015 thru 2019, with the exception of 2018.[3]

[2] Since 2010, West Bridgewater has purchased a small volume of water from the Town of Easton. The highest purchase occurred in 2018, when West Bridgewater purchased a total of 1,260, 915 gallons or an annual average daily volume of 3,450 gallons per day. This small volume is not sufficient to have a material effect on the DCR WNF presented in Table 1 or the history of West Bridgewater's recent water use presented in Table 2.

[3] West Bridgewater's water use in 2018 is an anomaly. From 2009, to 2017, West Bridgewater did not withdraw more than an annual average daily volume of 0.74 MGD. The abnormally high water withdrawal volume in 2018 was the result of a major leak that began in January 23, 2018 and was not discovered and repaired until January 18, 2019. The 2018 leak was caused by damage to a gate valve on a private sprinkler service that occurred during the Town's road

Special Condition 2, Maximum Daily Withdrawals from Groundwater Withdrawal Points, reflects the Department approved Zone II maximum daily pumping rate for West Bridgewater`s permitted sources based on a prolonged pumping test. Withdrawals in excess of the maximum daily rate require the prior approval of the Department.

Special Condition 3, Zone II Delineations, West Bridgewater`s permitted sources have approved Zone II delineations. No further Zone II work is required as a condition of this permit.

Special Condition 4, Wellhead Protection, requirements have been met and are up to date as of the issuance of this permit. No further wellhead protection work is required as a condition of this permit.

Special Condition 5, Performance Standard for Residential Gallons Per Capita Day (RGPCD) Water Use, for all public water suppliers (PWSs) is 65. As shown in Table 3, West Bridgewater has met this Performance Standard for the years 2014 thru 2019.

Table 3: Residential Gallons Per Capita Day Water Use

Year	2019	2018	2017	2016	2015	2014
RGPCD	48	54	62	68	54	54

Special Condition 6, Performance Standard for Unaccounted for Water (UAW), for all PWSs is 10%. West Bridgewater is required to meet 10% or less UAW for two of the three most recent years throughout the permit period. West Bridgewater has met this Performance Standard for the years 2014 thru 2017.

Table 4: Unaccounted for Water

Year	2019	2018	2017	2016	2015	2014
UAW	14%	45.6%[4]	9.6%	0.3	9.6%	7.5%

Special Condition 7, Seasonal Limits on Nonessential Outdoor Water Use, reflects the restrictions on nonessential outdoor water use from May 1st through September 30th. The options outlined in Special Condition 7 are based on whether reported RGPCD for the previous year was in compliance with the RGPCD Performance Standard (see Special Condition 5, Performance Standard for RGPCD). In addition, outdoor water use by suppliers, like West Bridgewater, with

resurfacing and paving activities. West Bridgewater has informed MassDEP that the Town's Department of Public Works has committed to taking action to prevent similar damage to gate boxes during future road resurfacing or construction projects. In light of this commitment and the Town's withdrawal history, West Bridgewater has indicated that it can accept a total authorized volume of 0.87 MGD.

[4] See footnote 3.

wells in August net groundwater depleted subbasins[5] is limited to one or two days per week to minimize withdrawals from groundwater depleted subbasins.

Each year, West Bridgewater may choose one of two options for implementing nonessential outdoor watering restrictions.

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

If West Bridgewater selects the streamflow trigger approach, it has been assigned USGS stream gage 01108000 Taunton River near Bridgewater, MA. The May-June streamflow trigger is 265 cubic feet per second (cfs), and the July-September streamflow trigger is 119 cfs. Should the reliability of flow measurement at the Taunton River gage be so impaired as to question its accuracy, West Bridgewater may request that the Department review and approve the transfer to another gage that will trigger restrictions. The Department 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 West Bridgewater is 47 cfs.

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

Special Condition 8, 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 8 requires West Bridgewater to come into compliance with these standards. In particular, Special Condition 8 requires West Bridgewater to

[5] 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%. All of West Bridgewater's groundwater sources are located in subbasins with an August NGD greater than 25%.

conduct a full leak detection survey every three years and whenever UAW increases by 5% or more and to repair all leaks expeditiously in accordance with a schedule that reflects the Town's priorities.

Special Condition 9, Minimization of Groundwater Withdrawal Impacts in Stressed Subbasins, requires suppliers with permitted groundwater sources in subbasins with a net groundwater depletion of 25% or more during August to minimize their withdrawal impacts on those subbasins to the greatest extent feasible, through optimization of groundwater source use, surface water releases to improve streamflows, outdoor water use restrictions and water conservation programs that go beyond the standard Water Management Act permit requirements.

Based on Department records and information submitted by West Bridgewater, the Department finds that minimization requirements will be met as follows:

- All of West Bridgewater's sources are in subbasins with an August NGD greater than 25%. There are therefore no opportunities to optimize groundwater withdrawals to a less impacted subbasin.
- West Bridgewater has no surface water supplies and, therefore, cannot make releases to improve streamflow.
- The limits on nonessential outdoor water use set forth in Special Condition 7 are restrictions developed to minimize withdrawals in August net groundwater depleted subbasins.
- West Bridgewater outlined conservation measures that go beyond the standard Water Management Act permit requirements. The implementation of those measures is required in **Special Condition 9**.

Special Condition 10, Mitigation
The Water Management Act Regulations revised and promulgated in November 2014 also require WMA permits to require mitigation if the total authorized withdrawal volume exceeds the permittee's baseline withdrawal volume. The Water Management Act Regulations define baseline withdrawal as the volume of water withdrawn during calendar year 2005 plus 5%, or the average annual volume withdrawn from 2003 thru 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.

Under this definition, West Bridgewater's baseline withdrawal volume is its registered volume, 0.73 MGD. Special Condition 1 provides that West Bridgewater's total authorized withdrawal volume is 0.87 MGD, 0.14 MGD above the baseline volume.

A wastewater adjustment is applied to the volume required to be mitigated for systems where the water withdrawn is returned to the ground as wastewater within the same major basin as the withdrawal. Because wastewater in West Bridgewater is handled by septic systems or permitted

groundwater discharges, 85% of the water withdrawn is assumed to be returned to the basin. As a result, West Bridgewater is required to prepare a plan to mitigate15% of the authorized volume above baseline (0.14 MGD) or 21,000 gallons per day (0.021 MGD). West Bridgewater must implement that plan before withdrawing more than its baseline volume of 0.73 MGD.

West Bridgewater may fulfill the mitigation plan requirement by developing a plan to implement direct and/or indirect mitigation activities. Direct mitigation activities can be volumetrically quantified and compared to the permittee's mitigation volume, whereas indirect mitigation activities will improve streamflow or fluvial habitat but cannot be volumetrically quantified. Pursuant to 310 CMR 26.22(6), permittees shall first evaluate direct mitigation activities which include infiltration and inflow removal from sewer systems, surface water releases or stormwater recharge.

West Bridgewater submitted the required mitigation plan but did not identify any direct mitigation options. The Town was unable to identify any inflow and infiltration removal or surface water releases since it does not have a sewer system or control any surface water impoundments. Similarly, the Town did not identify any existing eligible stormwater infiltration projects. Instead, West Bridgewater relied entirely on indirect mitigation in their plan.

MassDEP assigns mitigation credits for eligible indirect mitigation activities. Each mitigation credit may be used to mitigate 10,000 gallons per day. To satisfy its requirement to mitigate 21,000 gallons per day solely through indirect mitigation, West Bridgewater is required to propose indirect mitigation activities that are eligible for a least three mitigation credits. West Bridgewater purchased the following non-water supply conservation land: Assessors Map/Lot Numbers 066/001, 059/013, 059/014. Parcel 066/001 totals 2.32 acres, parcel 059/013 totals 5.39 acres, and parcel 059/014 totals 11.24 acres, for a land protection total of 18.94 acres. Priority conservation land may be eligible for 0.2 credits for each acre acquired and protected. All three parcels are entirely located within priority conservation land, as mapped using MassGIS and shown in Appendix C. Priority Conservation Lands eligible for credit are:

- Core Habitat and Critical Natural Landscapes as mapped by the Natural Heritage and Endangered Species Program (NHESP)/The Nature Conservancy (TNC) as part of BioMap2;
- Vernal pools and abutting land;
- NHESP priority habitats of rare and endangered species;
- Land in Areas of Critical Environmental Concern (ACECs);
- Aquatic buffers including buffer zones of Coldwater Fishery Resources (CFRs) and Outstanding Resource Waters (ORWs).

All three parcels are considered Core Habitat and are entirely located in the Hockomock Swamp ACECs. By application of MassDEP's credit system, this is equal to a total of 3.79 mitigation credits, which satisfies the mitigation requirement of 0.021 MGD. Please see Appendix C for more details.

Special Condition 11, Reporting Requirements, ensures that the information necessary to evaluate compliance with the conditions included herein is accurately reported.

COLDWATER FISHERY RESOURCES

The Water Management Regulations revised and promulgated in November 2014 require WMA permits to address protection of Coldwater Fishery Resources (CFR), Coldwater Fish Resource protection is not a condition of the Draft WMA Permit because West Bridgewater's groundwater withdrawals do not impact any waters that the Massachusetts Division of Fisheries and Wildlife has identified as supporting coldwater fish at this time.

Commonwealth of Massachusetts
Executive Office of Energy & Environmental Affairs

Department of Environmental Protection
One Winter Street Boston, MA 02108 • 617-292-5500

Charles D. Baker
Governor

Karyn E. Polito
Lieutenant Governor

Kathleen A. Theoharides
Secretary

Martin Suuberg
Commissioner

DRAFT WATER WITHDRAWAL PERMIT
#9P4-25-322-01
West Bridgewater Water Department

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-4-25-322.01 **RIVER BASIN:** Taunton River

PERMITTEE: Town of West Bridgewater

EFFECTIVE DATE: XXXXX, 2021

EXPIRATION DATE: February 28, 2030

NUMBER OF WITHDRAWAL POINTS:
Groundwater: 5
Surface Water: 0

USE: Public Water Supply

DAYS OF OPERATION: 365

Table 1: WITHDRAWAL POINT IDENTIFICATION

Source Name	PWS Source Code ID
Station One Cyr Street Well #1 and Cyr Street Well #2	4322000-01G
Station Two Norman Ave Well #2	4322000-02G
Station Three Manley Street Well #3a and Manley Street Well # 3b	4322000-06G 4322000-07G
Station Four Cyr Street Well #4 and Cyr Street Well #5	4083000-05G

This information is available in alternate format. Contact Michelle Waters-Ekanem, Director of Diversity/Civil Rights at 617-292-5751.
TTY# MassRelay Service 1-800-439-2370
MassDEP Website: www.mass.gov/dep

Printed on Recycled Paper

SPECIAL CONDITIONS

1. Maximum Authorized Annual Average Withdrawal Volume

This permit authorizes the Town of West Bridgewater (the Town or West Bridgewater) to withdraw water from the Taunton River Basin at the rate described below (Table 2). The volume reflected by this rate is in addition to the 0.73 million gallons per day (MGD) previously authorized to West Bridgewater under Water Management Act (WMA) Registration #4-25-322.01 for withdrawal from the Taunton River Basin. The permitted volume is expressed both as an annual average daily withdrawal rate, MGD, and as a total annual withdrawal volume, million gallons per year (MGY), for each permit period over the term of this permit.

The Department of Environmental Protection (MassDEP) bases these withdrawal volumes on the raw water withdrawn from the authorized withdrawal points and will use the raw water amount to assess compliance with the registered and permitted withdrawal volumes. West Bridgewater's baseline withdrawal for the purpose of triggering the Special Condition "Water Withdrawals that Exceed Baseline Withdrawal Volumes" is 0.73 MGD.

Table 2: Maximum Authorized Withdrawal Volumes

Permit Periods	Total Raw Water Withdrawal Volumes			
	Permit		Permit + Registration	
	Daily Average (MGD)	Total Annual (MGY)	Daily Average (MGD)	Total Annual (MGY)
XXX/2021 to 02/28/2025	0.08	29.20	0.08+0.73=0.81	295.65
03/01/2025 to 02/28/2030	0.11 (0.14*)	40.15 (51.10*)	0.11+0.73=0.84 (0.14+0.73 =0.87*)	306.60 (317.55*)

* With specific advance written approval from MassDEP, West Bridgewater is authorized to increase the maximum authorized annual withdrawal volume to 0.87 MGD prior to March 1, 2025 provided that West Bridgewater is meeting the following Special Permit Conditions:

- Residential Gallons per Capita Day,
- Unaccounted-for water or all UAW functional equivalence requirements,
- Seasonal Limits on Nonessential Outdoor Water Use, and
- Water Conservation Requirements.

2. Maximum Authorized Daily Withdrawals from Groundwater 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). The authorized maximum daily volume is the approved rate of each source. In no event shall the combined withdrawals from the individual withdrawal points exceed the withdrawal volumes authorized above in Special Condition 1.

Table 3: Maximum Daily Withdrawal Volumes

Source Name	PWS Source Code ID	Maximum Daily Rate (MGD)
Station One Cyr Street Well #1a and Cyr Street Well # 1b	4322000-01G 4322000-08G	1.01 (combined)
Station Two Norman Ave Well #2	4322000-02G	0.72
Station Three Manley Street Well #3a and Manley Street Well # 3b	4322000-06G 4322000-07G	0.72 (combined)
Station Four Cyr Street Well #4 and Cyr Street Well #5	432200-05G	0.72 (combined)

3. **Zone II Delineation**
   MassDEP records show that West Bridgewater has approved Zone II delineations for all of its groundwater sources. Therefore, no further Zone II delineation work is required.

4. **Wellhead Protection**
   MassDEP records show that West Bridgewater has implemented municipal controls that comply with the Wellhead Protection Regulations, 310 CMR 22.21(2) for all its sources. Therefore, no further wellhead protection work is required.

5. **Performance Standard for Residential Gallons Per Capita Day Water Use**
   The Town of West Bridgewater`s Performance Standard for residential gallons per capita day (RGPCD) is 65 gallons or less. If, at any time, West Bridgewater does not meet the RGPCD Performance Standard, it shall comply with the functional equivalence requirements set forth in Appendix A.

6. **Performance Standard for Unaccounted for Water**
   The Town of West Bridgewater`s Performance Standard for Unaccounted for Water (UAW) is 10% or less of overall water withdrawal for two of the most recent three years throughout the permit period. If, at any time, West Bridgewater does not meet the UAW Performance Standard, it shall comply with the functional equivalence requirements set forth in Appendix B.

   Nothing in the permit shall prevent a permittee who meets the 10% performance standard from developing and implementing a water loss control program following the *AWWA M36 Water Audits and Loss Control Programs.* Permittees implementing a water loss control program based on AWWA M36 annual water audits and guidance shall continue to report UAW annually as required in the Annual Statistical Report for public water suppliers.

7. **Seasonal Limits on Nonessential Outdoor Water Use**
   West Bridgewater shall limit nonessential outdoor water use through mandatory restrictions from May 1st through September 30th as outlined in (Table 4).

Table 4: Seasonal Limits on Nonessential Outdoor Water Use

Restrictions if West Bridgewater has met the 65 RGPCD Standard for the preceding year RGPCD ≤ 65 as reported in the ASR and accepted by MassDEP	
Calendar Triggered Restrictions	Nonessential outdoor water use is restricted to: 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 when USGS stream gage 01108000 – Taunton River, near Bridgewater, MA falls below 7-day the low-flow statistic **47 cfs** for three (3) consecutive days. Once streamflow triggered restrictions are implemented, they shall remain in place until streamflow at the gage meets or exceeds **47** cfs for seven (7) consecutive days.
Streamflow Triggered Restrictions	Nonessential outdoor water use is restricted to: a) **two (2) days per week** before 9 am and after 5 pm when USGS stream gage 01108000 – Taunton River near Bridgewater, MA falls below: • May 1 – June 30: **265 cfs** for three (3) consecutive days • July 1 – September 30: **119 cfs** for three (3) consecutive day**s** b) **one (1) day per week** before 9 am and after 5 pm when USGS stream gage 01108000 – Taunton River near Bridgewater, MA falls below the 7-day low-flow statistic **47 cfs** for three (3) consecutive days. Once implemented, the restrictions shall remain in place until streamflow at the gage meets or exceeds the trigger streamflow for seven (7) consecutive days.
Restrictions if West Bridgewater has not met the 65 RGPCD standard for the preceding year RGPCD > 65 as reported in the ASR and accepted by MassDEP	
Calendar Triggered Restrictions	Nonessential outdoor water use is restricted to **one (1) day per week** before 9 am and 5 pm.
Streamflow Triggered Restrictions	Nonessential outdoor water use is restricted to **one (1) day per week** before 9 am and after 5 pm when USGS stream gage 01108000 – Taunton River near Bridgewater, MA falls below: • May 1 – June 30: **265 cfs** for three (3) consecutive days • July 1 – September 30: **119 cfs** for three (3) consecutive day**s** Once implemented, the restrictions shall remain in place until streamflow at the gage meets or exceeds the trigger streamflow for seven (7) consecutive days.

Table 5: Instructions for Accessing Streamflow Website Information
If West Bridgewater chooses Streamflow Triggered Restrictions, West Bridgewater shall be responsible for tracking streamflows and drought advisories 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. The mean daily flow is not calculated until after midnight each day when the USGS computes the hourly data into a mean daily streamflow. As a result, permittees must use the mean daily streamflow from the preceding day when tracking streamflows.

Mean daily streamflow gage readings are available at the USGS NWIS Web Interface at http://waterdata.usgs.gov/ma/nwis/current/?type=flow. • Scroll down to 01108000 – Taunton River near Bridgewater, MA. • Click on the gage number. • Scroll down to "Provisional Date Subject to Revision – Available data for this site" and click on the drop-down menu. • Click on "Time-series: Daily data" and hit GO. • Scroll down to the "Available Parameters" box. Within the box, be sure "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.
West Bridgewater shall document compliance with the Seasonal Nonessential Outdoor Water Use Restrictions annually in its Annual Statistical Report (ASR) and indicate whether it anticipates implementing calendar triggered restrictions or streamflow triggered restrictions during the next year.

Restricted Nonessential Outdoor Water Uses

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

- irrigation of lawns via sprinklers or automatic irrigation systems;
- filling swimming pools;
- washing of vehicles, except in a commercial car wash or as necessary for operator safety; and
- washing of exterior building surfaces, parking lots, driveways or sidewalks, except as necessary to apply surface treatments such as paint, preservatives, pavement or cement.

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

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

Water uses NOT subject to mandatory restrictions are those required:

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

Public Notice of Seasonal Nonessential Outdoor Water Use Restrictions

West Bridgewater 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.

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

8. Water Conservation Requirements

At a minimum, West Bridgewater shall come into compliance with the Water Conservation Standards as set forth in Table 6. Compliance with the Water Conservation Standards shall be reported to MassDEP upon request, unless otherwise noted.

Table 6: Minimum Water Conservation Requirements
System Water Audits and Leak Detection
1. Conduct a water audit on an annual basis
2. Conduct a full leak detection survey every three years.
3. Conduct a leak detection survey 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 5%) 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.
4. Conduct field surveys for leaks and repair programs in accordance with the AWWA Manual 36.
5. West Bridgewater shall have repair reports available for inspection by MassDEP. West Bridgewater shall establish a schedule for repairing leaks that is at least as stringent as the following: • Leaks of 3 gallons per minute or more shall be repaired within 3 months of detection. • Leaks of less than 3 gallons per minute at hydrants and appurtenances shall be repaired as soon as possible. • Leaks of less than 3 gallons per minute shall be repaired in a timely manner, but in no event more than 6 months from detection, except that leaks in freeway, arterial or collector roadways shall be repaired when other roadwork is being performed on the roadway. Leaks shall be repaired in accordance with West Bridgewater's priority schedule including leaks up to the property line, curb stop or service meter, as applicable. West Bridgewater shall have water use regulations in place that require property owners to expeditiously repair leaks on their property.
Metering
1. Calibrate all source and finished water meters at least annually and report date of calibration on the ASR.
2. West Bridgewater reports its system is 100% metered.
3. West Bridgewater shall continue its policy of billing all customers at least quarterly.
Pricing

1. West Bridgewater shall maintain a water pricing structure that includes the full cost of operating the water supply system. Full cost pricing factors all costs - operations, maintenance, capital, and indirect costs (environmental impacts, watershed protection) - into prices.
2. West Bridgewater reports that its rate structure does not include a decreasing a decreasing block rates and shall continue to implement a rate structure that does not include decreasing block rates.
Residential and Public Sector Conservation
1. West Bridgewater shall continue to meet the standards set forth in the Federal Energy Policy Act, 1992 and the Massachusetts Plumbing Code.
2. West Bridgewater shall continue to meter and bill water used by contractors using fire hydrants for pipe flushing and construction and shall continue to do so.
3. West Bridgewater shall ensure that water conserving fixtures are incorporated into existing municipal buildings as they are renovated and into the design of all new municipal capital projects. West Bridgewater shall also ensure that water conserving 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. West Bridgewater shall ensure water conservation practices are included in all development proposals, particularly low flow devices and water-wise landscaping practices.
Public Education and Outreach
1. West Bridgewater shall continue to implement a water conservation education and outreach program designed to educate the Town`s water customers on ways to conserve water. Without limitation, the program 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.

9. Minimization of Groundwater Withdrawal Impacts in Groundwater Depleted Subbasins

West Bridgewater shall minimize the impacts of its groundwater withdrawals from groundwater depleted basins as follows:

- Continue to read and bill all water users at least quarterly;
- Continue to evaluate the rate structure annually;
- Continue to issue bills that include a comparison of current use with use during the previous period and with the same period in the previous year; and
- Continue to implement an automatic remote meter reading system.

Compliance with the above minimization measures shall be reported to MassDEP upon request.

10. Mitigation

West Bridgewater is required to mitigate 21,000 gallons per day for its permitted withdrawals over the baseline volume of 0.73 MGD. To meet this requirement through indirect mitigation activities, West Bridgewater purchased the following non-water supply conservation land: Assessors Map/Lot Numbers 066/001, 059/013, 059/014. Please see Table 7 below for details on land purchases. Parcel 066/001 totals 2.32 acres, parcel 059/013 totals 5.39 acres, and parcel 059/014 totals 11.24 acres, for a land purchase total of 18.94 acres. Priority conservation land may be eligible for 0.2 credits for each acre acquired or protected. All three parcels are entirely located within priority conservation (Hockomock Swamp), as shown in Appendix C. By application of MassDEP's credit system, this equal to a total of 3.79 mitigation credits. Which satisfies the mitigation requirement of 0.021 MGD. Please see Appendix C for conservation land certification forms and map.

Table 7: West Bridgewater Indirect Mitigation Credits

Parcel Acres	Owner	Assessors Map/Lot Numbers	Date Purchased	Date of Conservation Restriction	Conservation Restriction	Deed Book/Page Number	Conservation Restriction Deed Book/Page Number	Priority Conservation Area (acres)
2.32	West Bridgewater	066/001	8/4/2016	8/4/2019	In Perpetuity	47457/88	47457/88	2.32
5.39	West Bridgewater	059/013	8/4/2016	8/4/2016	In Perpetuity	47457/88	47457/88	5.39
11.24	West Bridgewater	059/014	8/4/2016	8/4/2016	In Perpetuity	47457/88	47457/88	11.24
							Total Acres	**18.95**
							Total Credits	**3.79**

11. Reporting Requirements

West Bridgewater 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

This permit is a decision of MassDEP. Any person aggrieved by this decision may request an adjudicatory hearing. Any such request must be made in writing, by certified mail and received by MassDEP within twenty-one (21) days of the date of receipt of this permit.

No request for an appeal of this permit shall be validly filed unless a copy of the request is sent by certified mail, or delivered by hand to the local water resources management official in the community in which the withdrawal point is located; and for any person appealing this decision, who is not the applicant, unless such person notifies the permit applicant of the appeal in writing by certified mail or by hand within five (5) days of mailing the appeal to MassDEP.

CONTENTS OF HEARING REQUEST

310 CMR 1.01(6)(b) requires the request to include a clear and concise statement of the facts which are the grounds for the request and the relief sought. In addition, the request must include a statement of the reasons why the decision of MassDEP is not consistent with applicable rules and regulations, and for any person appealing this decision who is not the applicant, a clear and concise statement of how that person is aggrieved by the issuance of his permit.

FILING FEE AND ADDRESS

The hearing request, together with a valid check, payable to the Commonwealth of Massachusetts in the amount of $100 must be mailed to:

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

The request shall be dismissed if the filing fee is not paid, unless the appellant is exempt or granted a waiver as described below.

EXEMPTIONS

The filing fee is not required if the appellant is a 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.

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

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

1. A description of the actions taken during the prior calendar year to meet the performance standard;
2. An analysis of the cause of the failure to meet the performance standard;
3. A description of the actions that will be taken to meet the performance standard which must include, at a minimum, at least one of the following:
    a) a program that provides water saving devices such as faucet aerators and low flow shower heads at cost;
    b) a program that provides rebates or other incentives for the purchase of low water use appliances (washing machines, dishwashers, and toilets), or
    c) the adoption and enforcement of an ordinance, by-law or regulation to require the installation of moisture sensors or similar climate related control technology on all automatic irrigation systems;

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

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

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

If a RGPCD plan is required, the permittee must:

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

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

MassDEP will consider public water supply 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.

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, the permittee shall 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. The Permittee shall submit the component analysis and water loss control program with a proposed implementation schedule to the Department.
3. Continued implementation will be a condition of the permit in place of meeting the 10% UAW performance standard.
4. 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 DEP, 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: Permittees who do not have MassDEP approved Water Loss Control Programs in place by 6th calendar year after 2019 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. Suppliers will be able to present:

- Reasons why specific measures are not cost effective because the cost would exceed the costs of alternative methods of achieving the appropriate standard;
- 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 UAW Functional Equivalence Plan; and
- When applicable, an analysis demonstrating that implementation of specific measures will cause or exacerbate significant economic hardship.

Appendix C – Land Certification and Map

Applicant Certification for Land Protected for Mitigation Credit

I hereby certify that:

1. I have compiled, evaluated and/or established all pertinent documents, instruments, records and information necessary to provide this certification, including the documents listed as attachments to this certification;
2. I have consulted with legal, technical and other qualified professionals, as necessary for me to make this certification;
3. the following is true with respect to each of the parcels of water supply protection land or portions thereof for which mitigation credit is requested:
    a. the land is under the control of the Board of Water Commissioners and will remain so until the MassDEP WMA Permit expiration date listed at the end of this form; and
    b. all land acquisitions for which 0.2 credits/acre are sought have received MassDEP approval pursuant to M.G.L. c. 40 §§ 38 and 39B, as indicated on the MassDEP BRP WS 26 decision letter attached to this form.
4. the following is true with respect to each of the parcels of conservation land or portions thereof for which mitigation credit is requested:
    a. the entire portion of land for which mitigation credit is requested is subject to a conservation restriction or easement, or it is held by the local Conservation Commission;
    b. the conservation restriction, conservation easement, or Conservation Commission control took effect on or after January 1, 2005, and will remain in effect until the MassDEP WMA Permit expiration date listed at the end of this form;
    c. the conservation restriction, conservation easement, or Conservation Commission control is recorded in the Registry of Deeds of the appropriate county or filed with the appropriate Registration District of the Land Court;
    d. at a minimum, the conservation restriction, conservation easement, or Conservation Commission prohibits the following uses and activities except for the rights reserved by the grantor:
        i. industrial, commercial or residential use;
        ii. recreational activities that materially alter the landscape or potentially degrade water quality (e.g., playing fields, golf courses, swimming pools, play structures, downhill ski areas);
        iii. motorized vehicles of any kind;
        iv. disposal or discharge of hazardous materials or wastes;
        v. storage of hazardous materials;
        vi. storage or use of fertilizers, herbicides or pesticides; and
        vii. installation or construction of structures and impervious surfaces.
    e. the conservation restriction, conservation easement, or Conservation Commission control includes a reservation of rights by the grantor notwithstanding the prohibited activities and uses for no more than the following:
        i. passive recreation such as walking, hiking, and cross-country skiing;
        ii. maintenance mowing;
        iii. selective cutting or pruning of trees, brush and other vegetation to prevent, control or remove hazards, disease, insect damage, fire damage, storm damage or invasive species;
        iv. maintenance and repair of existing structures identified in the restriction or easement (e.g., fences, stone walls); and
        v. installation of paths for passive recreational use.

f. for land not owned by the permit applicant, the owner of the land has agreed to its use for mitigation credit for the MassDEP WMA Permit listed at the end of this form; and
g. there are no encumbrances on the property that supersede the conservation restriction, conservation easement, or Conservation Commission control.

5. I shall maintain a copy of all records, regardless of form (e.g., both printed and electronic) upon which I rely in making this certification until a final decision on this application has been issued by the Department and, if this application is approved, will do so thereafter in accordance with the permit conditions. Such records shall include without limitation all documents described in paragraph 1, above, and any supporting documents provided to me by, or relied upon by, such qualified professionals as I may consult in certifying as to the information set forth in paragraph 2, above;
6. I attest under the pains and penalties of perjury that the information contained in this certification and its attachments is, to the best of my knowledge and belief, true, accurate and complete. I am authorized to make this attestation on behalf of the permit applicant. I am aware that there are significant penalties for submitting false, inaccurate or incomplete information, including, but not limited to, the possibility or fine and imprisonment for knowing violations; and
7. I am aware that submitting a false and misleading certification could lead to modification, suspension or revocation of any permit granted pursuant to this certification, as set forth in 310 CMR 36.29 and 36.43.

Attachments:

A. A table containing the following information for each parcel of land subject to this certification: area of protected land in acres, name of owner(s), municipal assessor's map and lot numbers, date of land purchase, effective date and term of conservation restriction/easement, book and page numbers of deed, book and page numbers of conservation restriction/easement, area of water supply protected land in acres (only applicable for water supply protection land), and area of Priority Conservation Land[6] in acres.
B. A copy of the MassDEP BRP WS 26 decision letter referred to in paragraph 3 above (only applicable for water supply protection land).
C. A colored map(s) at an appropriate scale that depicts each parcel of land subject to this certification and any Priority Conservation Land[1] for which 0.2 credits per acre is sought.
D. If any parcel of land subject to this certification is not owned by the permit applicant, a Land Owner Agreement to Use of Land as Mitigation for Withdrawals in Accordance with a MassDEP Water Management Permit.

[6] Priority Conservation Lands, as defined in the WMA Permit Guidance Document, include NHESP-designated lands (namely BioMap2 Core Habitats and Critical Natural Landscapes, Certified Vernal Pools and abutting land, and Priority Habitats of Rare and Endangered Species), Areas of Critical Environmental Concern, aquatic buffers including buffer zones of DFW Coldwater Fishery Resources (CFRs), and Outstanding Resource Waters (ORWs).

Water Management Act Permit Guidance: Indirect Mitigation
Land Protection

Signature of Applicant: _____ Date: 3/4/2020

Printed Name of Applicant: Wayne Parks

MassDEP WMA Permit #9P-4-25-322.01

MassDEP WMA Permit Expiration Date: January 9,2015

Land Owner Agreement to Use of Land as Mitigation for Withdrawals in Accordance with a MassDEP Water Management Act (WMA) Permit

I, Town of West Bridgewater, of 65 North main Street, West Bridgewater, MA 02379, hereby certify that:

1. I am the owner of a parcel of land located at 0 South Elm Street, in the Town of West Bridgewater, consisting of approximately 2.32 acres of land identified on a deed recorded with the Plymouth County Registry of Deeds in book 47457, page 88.
2. Said parcel of land is subject to Deed, signed on August 4, 2016, by and between the Philip H. Anderson of West Bridgewater, MA, Harold H. Anderson of North Grafton, MA, and Lisa A. Anderson f/k/a Lisa A. Hollaway, and the Town of West Bridgewater, and recorded with the Plymouth County Registry of Deeds in book 47457, page 88.
3. The parcel information in the following table is complete and accurate:

A	Size (acres)	2.32
B	Location	0 South Elm Street
C	Assessors Map and Lot number	066/001
D	Owner(s)	Town of West Bridgewater
E	Other parties contributing to purchase of land	Philp H. Anderson, Harold H. Anderson, and Lisa A. Anderson f/k/a Lisa A. Hollaway
F	Date of purchase	August 4, 2016
G	Cost of purchase	$1
H	Period of conservation restriction	In Perpetuity
I	Outstanding lien or mortgage holders	N/A

I hereby agree:

1. To the use of said parcel as mitigation for withdrawals made by West Bridgewater Water Department in accordance with MassDEP WMA Permit 9P-4-25-322.01, issued pursuant to M.G.L. c. 21G and 310 CMR 36.00.
2. That in the event of any use of or activity on the property in violation of the terms of the Deed, I will notify the Massachusetts Department of Environmental Protection and West Bridgewater Water Department in writing within 10 business days.

Signature of owner: [signature] Date: 3/18/2020

Printed name of owner: TIMOTHY J HAY, CHAIRMAN, CONSERVATION COMISSION
ELDON F. MOREIRA, CHAIRMAN, BOARD OF SELECTMEN

Land Owner Agreement to Use of Land as Mitigation for Withdrawals in Accordance with a MassDEP Water Management Act (WMA) Permit

I, Town of West Bridgewater, of 65 North main Street, West Bridgewater, MA 02379, hereby certify that:

1. I am the owner of a parcel of land located at 0 South Elm Street, in the Town of West Bridgewater, consisting of approximately 11.24 acres of land identified on a deed recorded with the Plymouth County Registry of Deeds in book 47457, page 88.
2. Said parcel of land is subject to Deed, signed on August 4, 2016, by and between the Philip H. Anderson of West Bridgewater, MA, Harold H. Anderson of North Grafton, MA, and Lisa A. Anderson f/k/a Lisa A. Hollaway, and the Town of West Bridgewater, and recorded with the Plymouth County Registry of Deeds in book 47457, page 88.
3. The parcel information in the following table is complete and accurate:

A	Size (acres)	11.24
B	Location	0 South Elm Street
C	Assessors Map and Lot number	059/014
D	Owner(s)	Town of West Bridgewater
E	Other parties contributing to purchase of land	Philp H. Anderson, Harold H. Anderson, and Lisa A. Anderson f/k/a Lisa A. Hollaway
F	Date of purchase	August 4, 2016
G	Cost of purchase	$1
H	Period of conservation restriction	In Perpetuity
I	Outstanding lien or mortgage holders	N/A

I hereby agree:

1. To the use of said parcel as mitigation for withdrawals made by West Bridgewater Water Department in accordance with MassDEP WMA Permit 9P-4-25-322.01, issued pursuant to M.G.L. c. 21G and 310 CMR 36.00.
2. That in the event of any use of or activity on the property in violation of the terms of the Deed, I will notify the Massachusetts Department of Environmental Protection and West Bridgewater Water Department in writing within 10 business days.

Signature of owner: Eldon F. Moreira Date: 3/18/2020

Printed name of owner: TIMOTHY J. HAY, CHAIRMAN, CONSERVATION COMISSION
ELDON F. MOREIRA, CHAIRMAN, BOARD OF SELECTMEN

Land Owner Agreement to Use of Land as Mitigation for Withdrawals in Accordance with a MassDEP Water Management Act (WMA) Permit

I, Town of West Bridgewater, of 65 North main Street, West Bridgewater, MA 02379, hereby certify that:

1. I am the owner of a parcel of land located at 0 South Elm Street, in the Town of West Bridgewater, consisting of approximately 5.39 acres of land identified on a deed recorded with the Plymouth County Registry of Deeds in book 47457, page 88.
2. Said parcel of land is subject to Deed, signed on August 4, 2016, by and between the Philip H. Anderson of West Bridgewater, MA, Harold H. Anderson of North Grafton, MA, and Lisa A. Anderson f/k/a Lisa A. Hollaway, and the Town of West Bridgewater, and recorded with the Plymouth County Registry of Deeds in book 47457, page 88.
3. The parcel information in the following table is complete and accurate:

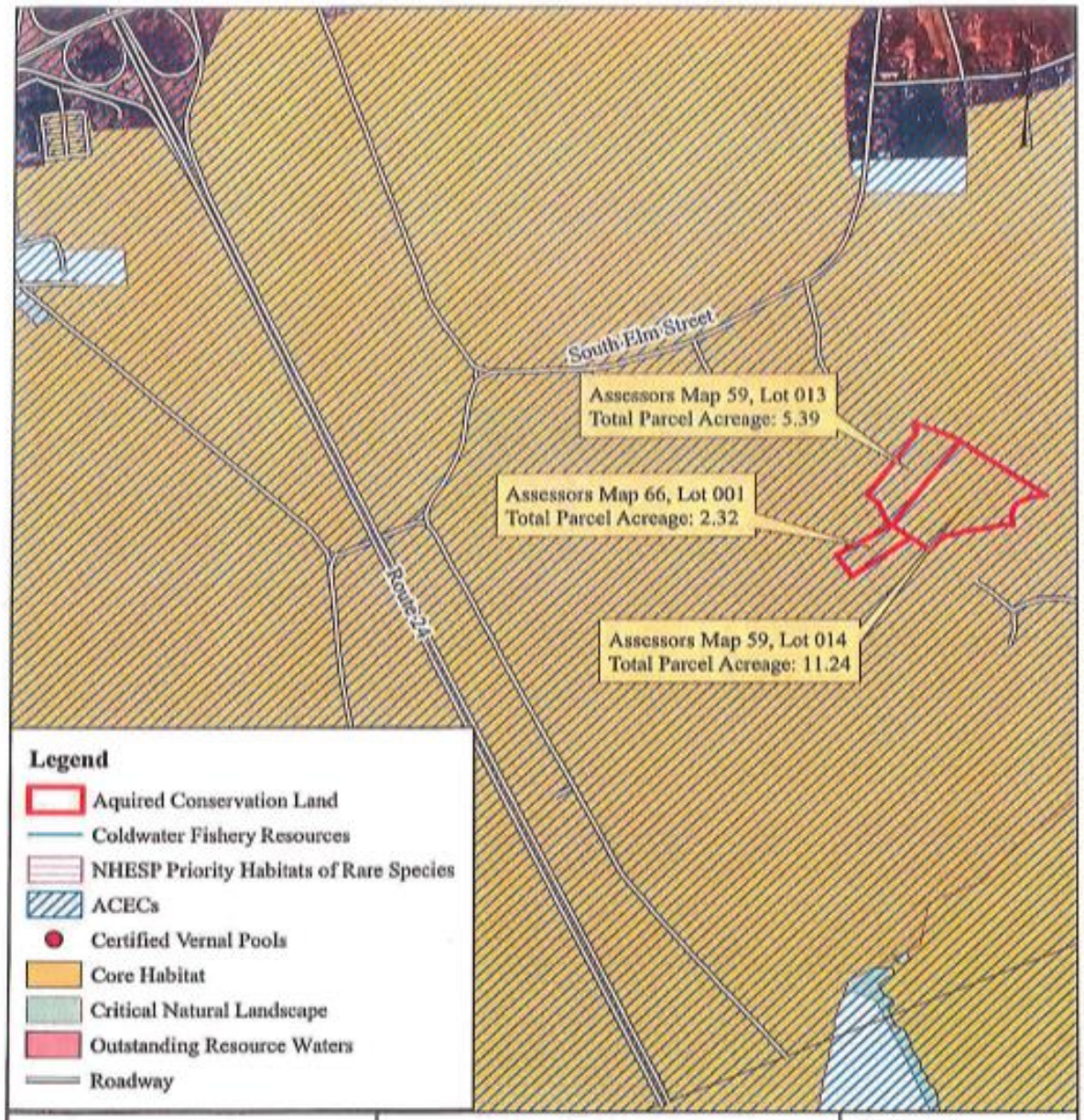
A	Size (acres)	5.39
B	Location	0 South Elm Street
C	Assessors Map and Lot number	059/013
D	Owner(s)	Town of West Bridgewater
E	Other parties contributing to purchase of land	Philp H. Anderson, Harold H. Anderson, and Lisa A. Anderson f/k/a Lisa A. Hollaway
F	Date of purchase	August 4, 2016
G	Cost of purchase	$1
H	Period of conservation restriction	In Perpetuity
I	Outstanding lien or mortgage holders	N/A

I hereby agree:

1. To the use of said parcel as mitigation for withdrawals made by West Bridgewater Water Department in accordance with MassDEP WMA Permit 9P-4-25-322.01, issued pursuant to M.G.L. c. 21G and 310 CMR 36.00.
2. That in the event of any use of or activity on the property in violation of the terms of the Deed, I will notify the Massachusetts Department of Environmental Protection and West Bridgewater Water Department in writing within 10 business days.

Signature of owner: Eldon F. Moreira Date: 3/18/2020

Printed name of owner: TIMOTHY J HAY, CHAIRMAN, CONSERVATION COMMISSION
EIDON F. MOREIRA CHAIRMAN, BOARD OF SELECTMEN



TATA & HOWARD

Date: January 2020 Scale: 1:1,000

Protected Land
Mitigation Plan

West Bridgewater Water Department
West Bridgewater, Massachusetts

Figure No.

1