



Commonwealth of Massachusetts
Executive Office of Energy & Environmental Affairs

Department of Environmental Protection

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

Maura T. Healey
Governor

Kimberly Driscoll
Lieutenant Governor

Rebecca L. Tepper
Secretary

Bonnie Heiple
Commissioner

June 20, 2023

Mr. Dudley Darling
Juniper Hill Golf Course Inc.
202 Brigham Street
Northborough, MA 01532

RE: Juniper Hill Golf Course, Inc.– Concord
River Basin
Program: Water Management Act
Action: FINAL Renewed Water
Management Act Permit
#9P-2-14-215.01

Dear Mr. Darling:

Please find attached the following:

- FINAL Water Management Act Permit **#9P-2-14-215.01** for the Juniper Hill Golf Course Inc. in Northborough, Massachusetts
- Findings of Fact in Support of the FINAL Water Management Act Permit Decision,

The signature on this cover letter indicates formal issuance of the attached document. If you have any questions and would like to meet to discuss the permit, please contact me at duane.levangie@mass.gov or Madelyn Morris at madelyn.morris@mass.gov.

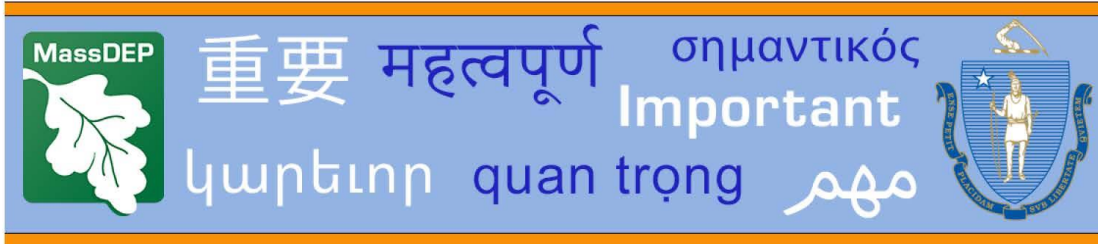
Sincerely,

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

Enclosures

Ecc: Julie Blatt and Sarah Bower, MassRiver Alliance
Alison Field-Juma, OARS: For the Assabet, Sudbury and Concord Rivers

<https://massgov.sharepoint.com/:f:/r/sites/DEP-BWR/DWPArchive/CRO/Northborough-JuniperHill-9P21421501-6-20-2023>



Communication for Non-English-Speaking Parties

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 number listed below.

Español Spanish

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

Português Portuguese

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

繁體中文 Chinese Traditional

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

简体中文 Chinese Simplified

本文件非常重要，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與 MassDEP 的多元化主任聯繫。

Ayisyen Kreyòl Haitian Creole

Dokiman sa-a se yon bagay enpòtan epi yo ta dwe tradwi l imedyatman. Si ou bezwen dokiman 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

ឯកសារនេះគឺសំខាន់ហើយត្រូវបានបកប្រែភ្លាមៗ។ ប្រសិនបើអ្នកត្រូវការឲ្យគេបកប្រែឯកសារនេះ សូមទាក់ទងមកនាយកផ្នែកពិពិធកម្មរបស់ MassDEP តាមលេខទូរស័ព្ទខាងក្រោម។

Kriolu Kabuverdianu Cape Verdean

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

Contact Melixza Esenyie at 617-626-1282

Massachusetts Department of Environmental Protection
100 Cambridge Street, Boston MA 02114

TTY# MassRelay Service 1-800-439-2370 • <https://www.mass.gov/environmental-justice>
(Version revised 7.22.2022) 310 CMR 1.03(5)(a)

Русский Russian

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

العربية Arabic

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

한국어 Korean

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

հայերէն Armenian

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

فارسی Farsi Persian

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

Français French

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

Deutsch German

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

Ελληνική Greek

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

Italiano Italian

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

Język Polski Polish

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

हिन्दी Hindi

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

Contact Melixza Esenyie at 617-626-1282

Massachusetts Department of Environmental Protection

100 Cambridge Street, Boston MA 02114

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

(Version revised 7.22.2022) 310 CMR 1.03(5)(a)



Department of Environmental Protection

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

Maura T. Healey
Governor

Kimberly Driscoll
Lieutenant Governor

Rebecca L. Tepper
Secretary

Bonnie Heiple
Commissioner

FINAL Finding of Fact in Support of Water Management Permit # 9P-2-14-215.01 Juniper Hill Golf Course Inc.

The Department of Environmental Protection (the Department or MassDEP) makes the following Findings of Fact in support of the attached FINAL Water Management Permit #9P-2-14-215.01 and includes herewith its reasons for issuing the FINAL Permit and for conditions of approval imposed, as required by M.G.L. c. 21G, § 11. The issuance of this permit is in response to a water withdrawal permit renewal application by the Juniper Hill Golf Course Inc., (Juniper Hill) for the purpose of golf course irrigation.

Juniper Hill operates two 18-hole public golf courses, the Riverside Course and the Lakeside Course, in Northborough, Massachusetts. Juniper Hill irrigates these courses with water it withdraws directly from the Assabet River in the Concord River Basin under Water Management Act Permit #9P-2-14-215.01, issued on July 28, 1992 and modified on March 29, 2002 and July 31, 2009. The Water Management Act Permit authorized Juniper Hill to withdraw from two individual withdrawal points an average daily withdrawal of 0.15 million gallons per day (MGD) over 184 days from May through October as specified in MEPA ENF Certificate #8825.

The original expiration date for Concord River basin permits was August 31, 2011. In 2010, this date was extended for two years, to August 31, 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 Concord River Basin permits were extended an additional two years to August 31, 2015.

On August 31, 2015, Juniper Hill applied to renew its existing Water Management Act Permit. In that application, Juniper Hill requested that the Department issue a renewed Water Management Act Permit that would allow it to withdraw the same volume as its existing Water Management Act Permit. On December 26, 2019, the Department issued an Order to Complete (OTC) to Juniper Hill seeking additional information. On July 10, 2021, Juniper Hill responded to the OTC and submitted a 2020 Water Conservation Plan and a Seasonal Demand Management Plan.

Pursuant to M.G.L. c. 30A, § 13, and 310 CMR 36.18(7), Juniper Hill's existing Water Management Act Permit remains in full force and effect until MassDEP issues a final decision

This information is available in alternate format. Call Melixza Esenyie at 617-626-1282 or 1-866-539-7622

MassDEP Website: www.mass.gov/dep

This information is available in alternate format. Call Melixza Esenyie at 617-626-1282 or 1-866-539-7622

MassDEP Website: www.mass.gov/dep

Printed on Recycled Paper

on the 2015 permit renewal permit application. The expiration date for all WMA permits going forward in the Concord River Basin will be December 6, 2032 in order to restore the staggered permitting schedule set forth in the Water Management Regulations.

Water Management Regulation Revisions

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

On November 7, 2014, the Department adopted revised Water Management Regulations at 310 CMR 36.00 that incorporate elements of the SWMI framework and the Water Conservation Standards adopted by the 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 Concord River Basin section of this document). For more information on the Safe Yield methodology, go to the November 28, 2012 SWMI Framework Summary and Appendices;
- Water conservation and performance standards reviewed and approved by the WRC in July 2018; and
- Environmental protections developed through SWMI, including without limitation;
 - protection for coldwater fish resources;
 - minimization of withdrawal impacts in areas stressed by groundwater use;
 - mitigation of the impacts of increasing withdrawals.

Safe Yield in the Concord 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 for the Concord River Basin is 87.5 million gallons per day (MGD), and total registered and permitted withdrawals are 35.25 MGD. The maximum withdrawals that will be authorized in this permit, and all other permits currently under review by the Department within the Concord River Basin, will be within the safe yield and may be further conditioned as outlined in the regulations. No increase in the annual authorized withdrawal volume is provided under this permit and, therefore, this permit has no impact on Safe Yield.

Finding of Fact for Special Permit Conditions

The following Findings of Fact for the special conditions included in the permit generally describe the rationale and background for each special condition in the FINAL 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 Average Withdrawal Special Condition 1 authorizes Juniper Hill to withdraw an average of 0.15 million gallons per day (MGD) over 184 days from May through October.¹ Special Condition 1 maintains the same withdrawal limit set forth in the Water Management Act Permit issued in 1992 and modified in 2002 and 2009 and specified in MEPA ENF Certificate # 8825. Juniper Hill did not request an increase in its authorized volume in its 2015 application to renew its Water Management Act Permit. Since at least 2016, Juniper Hill has not exceeded its total authorized volume during the 184-day period from May through October.²

Special Condition 2, Maximum Authorized Daily Withdrawal Rate The Modified WMA Permit authorizes Juniper Hill to withdraw water from two withdrawal points labeled as Point A and Point B. In the 2015 renewal application, Juniper Hill states that it has discontinued use of Point A. As a result, the Renewed Water Management Permit lists Point B as the only withdrawal point and specifies a maximum withdrawal rate for that point.

Special Condition 3, Water Conservation Requirements The Water Conservation Requirements set forth in Special Condition 3 of the Renewed WMA Permit include the conservation measures set forth in the 2020 Water Conservation Plan and the Best Management Practices that Juniper Hill stated in the Seasonal Demand Management Plan were being implemented.

Special Condition 4, Seasonal Demand Management Plan Consistent with sound water management practices, Special Condition 4 requires Juniper Hill to implement a drought triggered Seasonal Demand Management Plan (SDMP). At a minimum, the SDMP requires Juniper Hill to restrict nonessential outdoor water use between May 1st and September 30th when the Drought Task Force declares a drought Level 1 (Mild Drought), Level 2 (Significant Drought), Level 3 (Critical Drought), and Level 4 (Emergency Drought) for the region (Central Region) in which the golf courses are located.

Special Condition 4 also requires implementation of the SDMP when streamflow falls below a designated trigger measured at an assigned web based, real-time USGS stream gage from May 1st through September 30th. At a minimum, the SDMP shall be implemented when the streamflow falls below the trigger for three consecutive days. The streamflow triggered response actions shall be consistent with the drought-triggered response actions at the Mild Drought Level. Once implemented, the restrictions shall remain in place until streamflow at the assigned USGS local stream gage meets or exceeds the streamflow trigger for seven consecutive days. The low flow statistic being applied, referred to as the “7- day low- flow statistic” is the median value of the annual 7 -day low flow for the period of record for the assigned gage. The 7- day

¹ MassDEP calculates this average daily withdrawal volume by dividing the actual total volume withdrawn from May through October by 184.

² Juniper Hill includes in its annual reports the volume it withdraws in April and November. Juniper Hill should continue this practice in the future.

low flow statistic is expected to respond more quickly to low flow conditions than the State's Drought Level Declarations.

Juniper Hill has been assigned USGS Stream Gage #01097000 on the Assabet River at Maynard, MA. The 7-day low flow statistic for the Assabet River Gage at Maynard is 18 cubic feet per second (cfs). Should the reliability of flow measurements at the Assabet River Gage at Maynard be so impaired as to question its accuracy, Juniper Hill may request, subject to MassDEP's review and approval, to use another gage to trigger restrictions. MassDEP reserves the right to require use of a different gage.

Juniper Hill shall be responsible for tracking the Massachusetts Drought Management Task Force drought declarations and for recording when drought triggered restrictions are implemented. Juniper Hill shall also be responsible for tracking streamflow and recording when streamflow triggered restrictions are implemented. See the SDMP in Table 4 and the attached USGS Water Alerts instructions for tracking information (Appendix A).

The SDMP is intended to address the necessary minimum of acceptable demand management required as dry conditions begin to impact the environment from May through September. Of particular importance in the SDMP and in evaluating the effect on golf course irrigation is the recognition of nonessential outdoor water uses. MassDEP considers the irrigation of greens and tees as essential uses, but fairways and roughs less so.

Section C of the SDMP provides three options for water use reduction. Two options for water use reduction are in table format, with the third option being an open-ended alternative approach.

The Acres Tables require the identification of the number of acres irrigated for tees and greens, fairways, roughs, landscaping and ornamentals along with the percent reduction per unit area with worsening drought. The Times Table requires the identification of reduction in the length of time of each irrigation cycle. Juniper Hill has chosen the Times Table option set forth in the SDMP. Special Condition 4 requires implementation of the reductions called for in the Times Table submitted as part of Juniper Hill's SDMP. Like all golf courses, Juniper Hill is required to notify MassDEP when the SDMP or other required restrictions are implemented. Copies of the notification form can be found at <https://www.mass.gov/info-details/outdoor-water-use-restrictions-for-cities-towns-and-golf-courses>.

Special Condition 5, Mitigation of Impacts for Withdrawals that Exceed Baseline.

Permittees requesting an increase above their baseline withdrawal rate must undertake mitigation activities commensurate with the impact of their increased withdrawals.³ Special Condition 5 sets out the required mitigation.

³ The Water Management Regulations 310 CMR 36.14(1)(b), establishes a groundwater withdrawal category (GWC) based on the ratio of 2000 to 2004 groundwater withdrawal volume to the unimpacted median monthly flow for August and represents conditions during the late summer bioperiod (July thru September). The Water Management Regulations, 310 CMR 36.14(1)(a), also establish a biological category (BC) for each subbasin based on the simulated 2000 to 2004 existing condition of aquatic habitat using fluvial fish community characteristics as the surrogate indicator variable

For purposes of mitigation, renewed permits are classified in one of three categories: Tier 1 (no increase above baseline; no mitigation required), Tier 2 (increase above baseline but no change in GWC or BC of a subbasin;

Baseline withdrawal is 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.

Juniper Hill's baseline is 0.10 MGD which is the 2005 withdrawal volume plus 5%. Special Condition 1 of the Renewed WMA Permit gives Juniper Hill a total authorized volume of 0.15 MGD. Special Condition 5 therefore requires Juniper Hill to prepare a Mitigation Plan for 0.05 MGD (50,000 gallons per day).

Mitigation activities that have occurred since January 1, 2005 may be credited. Additional mitigation activities may be phased in over the life of the permit provided that any volumes withdrawn over baseline are mitigated prior to when those increases occur. MassDEP may make reasonable allowances during the first five years of the permit, for permittees whose withdrawals are already above baseline at the time the permit is issued.

In accordance with the Water Management Regulations, 310 CMR 36.22(6)(a), **direct mitigation options** must be evaluated before indirect mitigation activities. Direct mitigation activities include surface water releases, sewer system inflow/infiltration (I/I) improvement, stormwater recharge, and the retirement of existing allocation volumes. Juniper Hill currently recharges stormwater from its parking lots into the nearby groundwater. This drainage system improvement was completed prior to 2005 and is not eligible for mitigation credit. Juniper Hill has no other feasible options for direct mitigation.

Indirect Mitigation: If direct mitigation volumes are less than the amount to be mitigated (the volume above baseline after adjustment for groundwater returns), then indirect mitigation activities will be evaluated to make up the difference. The table below lists programs, projects or by-laws that will result in streamflow or habitat improvements.

Existing golf courses in need of additional water over baseline, such as Juniper Hill, may mitigate their additional withdrawals through participation in the Audubon Cooperative Sanctuary Program (ACSP) commensurate with the credit needed to mitigate their increased withdrawals over baseline. Juniper Hill has agreed to participate in the ACSP.

mitigation of increase over baseline required) or Tier 3 (increase above baseline causes a subbasin's GWC or BC category to change, therefore additional indirect mitigation may be required above that of Tier 2, and a demonstration that there is no alternative source that is less environmentally harmful will be required). Juniper Hill's renewal application meets the Tier 2 classification for applicants because the requested volume is greater than the baseline volume and it being a surface water withdrawal it cannot change a GWC or BC Category.

Credit available: A participating golf course can receive between three and nine indirect mitigation credits for partial certification. A golf course that receives full ACSP Certification will receive a maximum of twelve indirect mitigation credits.

Credit review criteria: The ACSP assists a golf course in developing a plan for certification for six key environmental components: Environmental Planning, Wildlife and Habitat Management, Chemical Use Reduction and Safety, Water Conservation, Water Quality Management; and Outreach and Education.

A participating golf course must receive recognition in Environmental Planning and Water Conservation as a prerequisite for indirect mitigation credit. A golf course may then choose among Wildlife and Habitat Management, Chemical Use Reduction and Safety, or Water Quality Management, worth three credits each, for a maximum of nine credits. A golf course that receives full certification in all six components, including Outreach and Education, will receive twelve credits.

Criteria for Existing Courses in Need of Additional Water over Baseline	Credits
Certification in components of the Audubon Cooperative Sanctuary Program (ACSP) for up to a maximum of 12 credits	
<ul style="list-style-type: none">Environmental PlanningWater Conservation	Prerequisite for credit
Plus certification in at least two of the following three components for up to a maximum of 9 credits	
<ul style="list-style-type: none">Wildlife and Habitat Management	3 credits
<ul style="list-style-type: none">Chemical Use Reduction and Safety	3 credits
<ul style="list-style-type: none">Water Quality Management	3 credits
Full ACSP Certification in Environmental Planning, Water Conservation, Wildlife and Habitat Management, Chemical Use Reduction and Safety, Water Quality Management and Outreach and Education.	12 credits

Minimization of Groundwater Withdrawal Impacts in Stressed Basins Minimization of Impacts of groundwater withdrawal from stressed basin was incorporated into the Water Management Regulations in November 2014. Permittees with permitted groundwater sources in subbasins with a net ground water depletion (NGD⁴) of 25% or more during August to minimize their withdrawal impacts on those subbasins to the greatest extent feasible through an extension of water conservation and demand management that go beyond standard WMA permit requirements. Since Juniper Hill does not have any groundwater sources, the Renewed WMA Permit does not require minimization.

Coldwater Fish Resources Protection Coldwater Fish Resource Protection was also incorporated into the Water Management Regulations in November 2014. Coldwater Fish

⁴ The Water Management Regulations, 310 CMR 36.03, define August net groundwater depletion to mean the unimpeded median flow for August minus 2000-2004 groundwater withdrawals plus 2000-2004 groundwater returns described by U.S. Geological Survey in *Indicators of Streamflow Alteration, Habitat Fragmentation, Impervious Cover and Water Quality for Massachusetts Stream Basins*.

Resource Protection is not a condition of the Renewed WMA Permit because Juniper Hill's withdrawal point does not impact any waters that the MA Division of Fisheries and Wildlife has identified as supporting coldwater fish at this time.



Department of Environmental Protection

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

Maura T. Healey
Governor

Kimberly Driscoll
Lieutenant Governor

Rebecca L. Tepper
Secretary

Bonnie Heiple
Commissioner

WATER WITHDRAWAL PERMIT MGL c 21G

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

PERMIT NUMBER: 9P-2-14-215.01

RIVER BASIN: Concord

PERMITTEE: Juniper Hill Golf Course Inc.
205 Brigham Street
Northborough, MA 01532

EFFECTIVE DATE: June 20, 2023

PERMIT EXPIRATION DATE: December 6, 2032

NUMBER OF WITHDRAWAL POINTS: 1

Surface Water: 1

USE: Golf Course Irrigation

DAYS OF OPERATION: 184 (May to October)

WITHDRAWAL POINT IDENTIFICATION:

Table 1: Withdrawal Point Identification

<i>Source Name</i>	Latitude	Longitude
Point B (Assabet River)	42°18'26.13"	71° 37' 41.27"

SPECIAL CONDITIONS

1. **Maximum Authorized Annual Average Withdrawal Rate**

This permit authorizes Juniper Hill Golf Course Inc. (Juniper Hill) to withdraw water from the Concord River Basin at the rate described in Table 2. The permitted rate is expressed both as an annual average daily withdrawal rate (million gallons per day or MGD), and as a total annual withdrawal rate (million gallons per year or MGY). The Department of Environmental Protection (MassDEP or the Department) bases the withdrawal rate on the raw water withdrawn from the authorized withdrawal point and will use the raw water rate to assess compliance with the permitted withdrawal rate.

Table 2: Maximum Authorized Withdrawal Rate

Period	Daily Average (MGD)	Total Annual (MGY)
6/20/2023-12/6/2027	0.15	27.00
12/7/2027-12/6/2032	0.15	27.00

2. **Maximum Daily Withdrawal Rate from Withdrawal Point**

Withdrawal from the following source is not to exceed the approved maximum daily rate listed in Table 3 without advance approval from the Department.

Table 3: Maximum Daily Withdrawal Rate from Withdrawal Point

Source Name	Maximum Daily Rate (MGD)
Point B (Assabet River)	0.15

3. **Water Conservation Requirements**

The Water Conservation Practices Utilized at Juniper Hill submitted as part of its renewal application have been combined with the Best Management Practices that Juniper Hill indicated as being implemented (according to the Order to Complete (OTC) responses and the Seasonal Demand Management Plan) are included in this Special Condition. This combination constitutes the water conservation requirements of the Renewed WMA Permit as outlined in Table 4.

Table 4: Water Conservation Requirements

Metering 100% of water use and calibrating source manually
Implementation of an irrigation system inspection and maintenance program that includes leak detection and repair and sprinkler head maintenance and replacement
Irrigation in the early morning and evening when evaporation is the lowest
Improving irrigation through proper nozzle sizing
Use of a computerized irrigation system that includes remote radio controls
Use of environmentally safe wetting agents to improve infiltration and reduce evapotranspiration
Use of low water use turf where applicable
Raising turf height during dry and drought conditions
Regular aeration of soil to increase percolation of water into the soil
Reduction of irrigation in secondary rough areas
Use of mulch in planting beds to improve water holding capacity
Use of low water use landscaping or native drought tolerant plants around buildings, parking areas or other appropriate areas
Employee training in water conservation
Installation of low-pressure alarms on water pumps and variable frequency drives

4. Seasonal Demand Management Plan

Juniper Hill shall limit nonessential outdoor water use through mandatory restrictions from May 1st through September 30th as outlined in the Seasonal Demand Management Plan (SDMP). At a minimum, restrictions shall commence when a Drought Level 1 (Mild Drought) or higher is declared, or when streamflow falls below the trigger for three consecutive days. Once implemented, the restrictions shall remain in place until the Drought Level returns to Normal or streamflow at the assigned USGS local stream gage meets or exceeds the trigger streamflow for seven consecutive days. The low-flow statistic being applied is referred to as the 7-day low-flow statistic.

Juniper Hill has been assigned stream gage #01097000 on the Assabet River at Maynard, MA. The 7-day low flow at this site is 18 cubic feet per second (cfs). Should the reliability of the flow measurement on the Assabet River at Maynard gage be so impaired as to question its accuracy, the Permittee may request subject to MassDEP's review and approval transfer to another gage to trigger restrictions. MassDEP reserves the right to require use of a different gage as a trigger.

Juniper Hill selected a time-reduction approach, which requires that Juniper Hill reduce the time it spends irrigating both golf courses. See Table 5 below.

Juniper Hill shall be responsible for tracking the Massachusetts Drought Management Task Force drought declarations and recording when drought-triggered restrictions are implemented.

Juniper Hill shall also be responsible for tracking streamflow and recording when streamflow-triggered restrictions are implement. See Appendix A for tracking information.

Table 5: Juniper Hill Time Reduction in its SDMP; Irrigating for Shorter Durations as Drought Severity Increases Reduced Minutes in Irrigation Cycles

Massachusetts Drought Levels	Irrigated Tees & Greens		Irrigated Fairways		Irrigated Roughs		Irrigated Landscape & Ornamentals	
	Percent	Time (min.)	Percent	Time (min.)	Percent	Time (min.)	Percent	Time (min.)
Normal	Full cycle	20	Full cycle	20	Full cycle	20	100%	0
Mild Drought or WMA Permit Trigger is reached	Full cycle	20	80%*	16	50%*	10	0%***	0
Significant Drought	Full cycle	20	60%*	12	0%	0		0
Critical Drought	Full cycle	20	40%*	8	0%	0		0
Emergency	TBD**	TBD**	0%	0	0%	0	0%	0

*Irrigation shall not occur between the hours of 9 am and 5pm except that hand watering of hot spots may occur at any time.

**TBD: Mitigation Actions to be determined by Governor's Proclamation

*** Courses whose core business includes a special event venue may continue to irrigate gardens, flowers, and ornamental plants by means of hand-held hose or drip irrigation during a Mild, Significant, or Critical Drought.

Golf permittees shall notify MassDEP within 14 days of the effective date for triggering and implementing their SDMP. Notification is required for the initial implementation only each year. Copies of the notification forms for golf courses can be found at <https://www.mass.gov/info-details/outdoor-water-use-restrictions-for-cities-towns-and-golf-courses>.

5. Mitigation Plan

Juniper Hill's authorized withdrawal volume 0.15 MGD exceeds its baseline volume 0.10 MGD. To mitigate this volume Juniper Hill shall obtain recognition in at least four components of the Audubon Cooperative Sanctuary Program (ACSP). The components shall include Environmental Planning, Water Conservation and two of the following: Wildlife and Habitat Management, Chemical Use Reduction and Safety or Water Quality Management.

Juniper Hill shall obtain the ACSP recognitions within three years of the effective date of this permit. Once the ACSP recognitions are obtained, Juniper Hill shall renew the recognitions every three years through the life of the Renewed WMA Permit. Juniper Hill shall submit proof

of its recognition in the four ACSP components within three years of permit issuance and the recognitions every three years thereafter.

GENERAL PERMIT CONDITIONS (applicable to all permittees)

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

1. **Duty to Comply** The permittee shall comply at all times with the terms and conditions of this permit, the Act and all applicable State and Federal statutes and regulations.
2. **Operation and Maintenance** The permittee shall at all times properly operate and maintain all facilities and equipment installed or used to withdraw water so as not to impair the purposes and interests of the Act.
3. **Entry and Inspections** The permittee or the permittee's agent shall allow personnel or authorized agents or employees of the Department to enter and examine any property for the purpose of determining compliance with this permit, the Act or the regulations published pursuant thereto, upon presentation of proper identification and an oral statement of purpose.
4. **Water Emergency** Withdrawal volumes authorized by this permit are subject to restriction in any water emergency declared by the Department pursuant to MGL c 21G ss 15-17, MGL c 150 ss 111, or any other enabling authority.
5. **Transfer of Permits** This permit shall not be transferred in whole or in part unless and until the Department approves such transfer in writing, pursuant to a transfer application on forms provided by the Department requesting such approval and received by the Department at least thirty (30) days before the effective date of the proposed transfer. No transfer application shall be deemed filed unless it is accompanied by the applicable transfer fee established by 310 CMR 36.37.
6. **Duty to Report** The permittee shall complete and submit annually, on a form provided by the Department, all of the information required by said form including, without limitation, a certified statement of the withdrawal. Such report shall be received by the Department by the date specified on the form each year. Such report shall be received by the Department by the date specified on the form each year. Such report must be submitted as specified in the report form.
7. **Duty to Maintain Records** The permittee shall maintain withdrawal records and other information in sufficient detail to demonstrate compliance with this permit.
8. **Metering** If the withdrawal point included within the permit is not yet metered, it shall be metered within one year of the date of issuance of the permit. Meters shall be maintained and replaced as necessary to ensure the accuracy of the withdrawal records.

APPEALS

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

Appendix A

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 quarter-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 01097000 – Assabet River at Maynard, MA.
- Click on the gage number.
- Under “ASSABET RIVER AT MAYNARD, MA” click “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 “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 in the table to the 7-day low flow trigger for water-use reductions (**18 cfs**).

Drought information is available at the Massachusetts Department of Conservation and Recreation (DCR) Drought Status Website at <https://www.mass.gov/guides/drought-management-in-massachusetts#-current-status->

- The color coded map displays the seven drought regions in Massachusetts. Restrictions are implemented when a Drought Level 1, 2, 3 or 4 is announced in your region through the DCR website.