

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

Matthew A. Beaton  
Secretary

Martin Suuberg  
Commissioner

March 14, 2019

Daniel Mahoney, Superintendent  
Sandwich Water District  
72 Tupper Road  
Sandwich, MA 02563

RE: Sandwich Water District  
PWS ID#: 4261000  
Water Management Permit 9P-4-22-261.01  
Action: WMA Draft Withdrawal Permit

Dear Mr. Mahoney:

Please find attached the following:

- Findings of Fact in Support of the Final Permit Decision, and
- Water Management Act Permit #9P-4-22-261.01 for the Sandwich Water District, Sandwich, Massachusetts.

If you have any questions regarding the draft permit, please contact Beth McCann (617) 292-5901.

Very truly yours,

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

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Ecc: Patti Kellogg, MassDEP SERO

Michele Drury, DCR OWR

Michelle Craddock, DFW

Tom Cambereri, Cape Cod Commission: [tcambereri@capecodcommission.org](mailto:tcambereri@capecodcommission.org)

Jen Pederson, MWMA: [jpедerson@masswaterworks.org](mailto:jpедerson@masswaterworks.org)

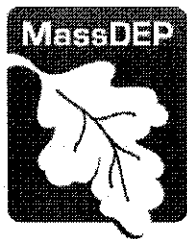
**Communication For Non-English Speaking Parties - 310 CMR 1.03(5)(a)**

Contact Michelle Waters-Ekanem, Diversity Director/Civil Rights: 617-292-5751

TTY# MassRelay Service 1-800-439-2370.

<http://www.mass.gov/eea/agencies/massdep/service/justice/> (Version 3.30.15)

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## **Findings of Fact in Support of Final Permit Decision Sandwich Water District Water Management Permit #9P-4-22-261.01**

The Department of Environmental Protection (the Department) makes the following Findings of Fact in support of the attached Water Management Permit #9P-4-22-261.01, and includes herewith its reasons for issuing the Permit and for conditions of approval imposed, as required by M.G.L. c. 21G, § 11. The issuance of this permit is in response to a water withdrawal permit renewal application submitted on August 30, 2010, by the Sandwich Water District (Sandwich), and a permit amendment application submitted on September 6, 2018, to add Sandwich's newly developed Well #12 which is anticipated to begin operation in January 2020.

**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 (WMA) permittee to fully consider all aspects of their individual situations and ensure thoughtful and implementable permits.**

### **Sandwich Water District's Water Withdrawal History**

**Registered Sources:** Sandwich has registered withdrawals of 0.77 MGD from four sources, Wells 2, 3, 4 and 5 (4261000-02G through 05G), through the Water Management Act program.

**Original Permit, January 31, 1992:** Sandwich's original permit authorized an additional withdrawal of up to 1.34 MGD through 2010 from Wells 6, 7 and 8 (4261000-06G through 08G), for a total withdrawal of 2.11 mgd including the registration.

**Amended Permit, February 22, 1993:** Well #9 and a requirement to monitor drawdown impacts at the Discovery Hill cranberry bog reservoir (Boiling Springs Pond) were added to the permit.

**Amended Permit, April 11, 1996:** The amended permit authorized an increase in permitted withdrawals for up to 1.87 MGD through 2010, and a total withdrawal of 2.64 mgd including the registration. Well #10 and a requirement to conduct pond stage monitoring at Spectacle Pond were also added to the permit. The requirement to monitor drawdown impacts at Boiling Springs Pond was left in place because Well #9 had come on-line less than one year earlier (July 1995) and a full year of monitoring of the drawdown impacts was not yet available.

**Amended Permit, May 30, 1997:** Well #11 was added to the permit. In response to Sandwich's increased withdrawals from wells in the vicinity of Spectacle, Triangle, Lawrence and Hog ponds (coastal plain ponds with globally unique ecological communities), expanded pond and aquifer level monitoring requirements for Spectacle and Triangle Ponds were included in the permit. The requirement to monitor drawdown impacts at Boiling Springs Pond also remained in the permit.

Amended Permit, September 5, 2000: Registered Wells #2 through #5 were added to the permit. All pond and aquifer monitoring requirements were removed from the permit because, based upon the review of data provided in the permit amendment application, the Department concurred that pumping did not appear to be having an adverse impact on pond elevations. It was MassDEP's understanding that the Sandwich Water District would continue to monitor pond elevations in the area on a voluntary basis.

Modified Permit, July 24, 2007: Sandwich's agreement to purchase water from the Upper Cape Cod Regional Water Supply Cooperative (UCRWSC) was added to the permit. The agreement to purchase water from the UCRWSC, which withdraws water under WMA Permit #9P2-4-22-261.03 from three wells developed on the Massachusetts Military Reservation, was not intended to increase overall water use in the area but instead was based upon the projected need of the neighboring water systems (Bourne, Falmouth, Mashpee and Sandwich), to supplement existing sources, provide redundancy to existing source capacity potentially impacted by contamination emanating from the Massachusetts Military Reservation, and to replace the capacity of proposed sources already lost to contamination.

Sandwich's July 24, 2007, modified permit included a condition limiting overall water use, whether withdrawn from Sandwich's registered and permitted sources or purchased from the UCRWSC, to the maximum authorized withdrawal volume in Special Condition 1 of the permit. Those authorized volumes were based on water needs forecasts for the Sandwich developed by the Department of Conservation and Recreation (DCR) and approved by the Massachusetts Water Resources Commission. This renewed permit continues that permit condition.

#### **The Permit Extensions**

WMA permits issued during the first 20-year permitting cycle for the Cape Cod Basin expired on November 30, 2010. All permittees seeking to renew their Water Management permit were required to file a renewal application on or before August 31, 2010. Sandwich filed a timely renewal application and received a one-year Interim Permit, to November 30, 2011, to continue operations while the permit renewal review was ongoing. The Department published notice of the permit renewal application in the Environmental Monitor on September 22, 2010.

Subsequently, the expiration dates for all Water Management permits were extended for four years by Chapter 240 of the Acts of 2010 as amended by Chapter 238 of the Acts of 2012, collectively known as the Permit Extension Act. In addition, in a letter of September 25, 2015, the Department informed Sandwich that the Department would need additional time before making a determination on the application in order to ensure that all permit renewal applicants in the Cape Cod Basin fully understood the new Water Management Regulations (discussed below), and to give proper consideration to all permit renewal applications within the basin. Pursuant to M.G.L. c. 30A, § 13, and 310 CMR 36.18(7), Sandwich's permit continues in force and effect until the Department issues a final decision on the permit renewal application.

The expiration date for all permits going forward in the Cape Cod Basin will be November 30, 2030, in order to restore the staggered permitting schedule set forth in the regulations.

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

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

- Impact of the withdrawal on other water sources;
- Water available within the safe yield of the water source;
- Reasonable protection of existing water uses, land values, investments and enterprises;
- Proposed use of the water and other existing or projected uses of water from the water source;

- Municipal and Massachusetts Water Resources Commission (WRC) water resource management plans;
- Reasonable conservation consistent with efficient water use;
- Reasonable protection of public drinking water supplies, water quality, wastewater treatment capacity, waste assimilation capacity, groundwater recharge areas, navigation, hydropower resources, water-based recreation, wetland habitat, fish and wildlife, agriculture, flood plains; and
- Reasonable economic development and job creation.

### **Water Management Regulation Revisions**

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

On November 7, 2014, 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. For water sources where an estimate of natural annualized streamflow is not applicable because the water source is groundwater-driven, the Safe Yield is determined through estimates of groundwater recharge during drought conditions. For more information on the Safe Yield methodology, go to the November 28, 2012 SWMI Framework Summary and Appendices ;
- Water needs forecasts for public water suppliers developed by the Department of Conservation and Recreation, Office of Water Resources (DCR), using a methodology reviewed and approved by the Massachusetts WRC;
- Water supply protection measures for public water supplies including Zone II delineations for groundwater sources, and wellhead and surface water protection measures as required by Massachusetts Drinking Water Regulations (310 CMR 22.00);
- Water conservation and performance standards reviewed and approved by the WRC in July 2006 and revised in June 2012 (<http://www.mass.gov/eea/docs/eea/wrc/water-conservation-standards-rev-june-2012.pdf>) , including for Cape Cod;
  - performance standard of 10% or less unaccounted-for-water;
  - seasonal limits on nonessential outdoor water use;
  - a water conservation program that includes leak detection and repair, full metering of the system and proper maintenance of the meters, periodic review of pricing, and education and outreach to residents and industrial and commercial water users; and
- Environmental protections developed through SWMI, including;
  - protection for coldwater fish resources;
  - mitigation of the impacts of increasing withdrawals.

### **Safe Yield in the Cape Cod 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 Cape Cod Basin is 266.0 million gallons per day (MGD), and total registered and permitted withdrawals are 51.07 MGD. The maximum withdrawals that will be authorized in this permit, and all other permits currently

under review by the Department within the Cape Cod Basin, will be within the safe yield and may be further conditioned as outlined in the regulations.

**Findings of Fact for Permit Conditions in Sandwich's Water Management Act Permit**

The following Findings of Fact for the special conditions included in the permit generally describe the rationale and background for each special condition in the permit. This summary of permit special conditions is not intended to, and should not be construed as, modifying any of the permit special conditions. In the event of any ambiguity between this summary and the actual permit conditions, the permit language shall control.

**Special Condition 1, Maximum Authorized Annual Average Withdrawal Volume** reflects the total authorized (registered plus permitted) annual average withdrawal volume based on the water needs forecast prepared by the Department of Conservation and Recreation (letter of September 10, 2010), as modified by the Water Resources Commission's March 9, 2017, decision that *"for communities with significant seasonal populations (Cape Cod and Islands), a 10% buffer may be added to the projected average day demand for the final five-year period of the water needs forecast"*.

The modified projections for Sandwich forecast a 2030 demand of 2.11 MGD with an additional 10% buffer of 0.21 MGD for a total of 2.32 MGD.

Sandwich's Water Needs Forecasts (MGD)	
Permit Period	DCR Water Needs Forecast
2015-2020	1.96
2020-2025	2.04
2025-2030	2.11 + 10% buffer of 0.21 = 2.32

MassDEP recognizes that future growth in water demand may not occur precisely as forecast. Therefore, this permit authorizes withdrawals of up to the maximum authorized withdrawal at any time during the life of the permit provided that Sandwich is meeting all other permit conditions. Specifically, Sandwich may increase annual average daily withdrawals to 2.32 MGD prior to 2026 if Sandwich is meeting:

- Unaccounted-for-water (UAW) of 10%, or all UAW functional equivalence requirements;
- Seasonal limits on nonessential outdoor water use; and
- Water conservation requirements;

as included in this permit.

**Special Condition 2, Maximum Authorized Daily Withdrawals from Groundwater Withdrawal Points**, reflects the MassDEP-approved Zone II maximum daily pumping rate, expressed in million gallons per day, for each of Sandwich's permitted wells based on prolonged pumping tests. Withdrawals in excess of these maximum daily rates require prior approval from the Department.

**Special Condition 3, Zone II Delineations**, requires DEP-approved Zone II delineations for all permitted PWS groundwater sources. Sandwich has approved Zone II delineations for all permitted wells and no further delineations are required as a condition of this permit.

**Special Condition 4, Wellhead Protection**, requires PWS permittees to implement appropriate wellhead protection zoning and non-zoning controls in accordance with Wellhead Protection Regulations at 310 CMR 22.21(2). Sandwich has adopted land use controls and water supply protection measures meeting the requirements of the Wellhead Protection Regulations at 310 CMR 22.21(2) for all eleven wells included in this permit and no further wellhead protection is required as a condition of this permit.

Former **Special Condition 5, Performance Standard for Residential Gallons Per Capita Day Water Use (RGPCD)**, is removed from all renewed permits in the Cape Cod Basin. In areas that experience significant seasonal fluctuations in population, as is the case in Cape Cod communities, calculation of an accurate RGPCD is difficult and has not been standardized to date. Therefore, at this time, MassDEP does not require that permittees on Cape Cod meet a specific RGPCD performance standard. The omission of a numerical standard from Sandwich's permit does not imply that water conservation is not important for resource protection, and Sandwich should still take every opportunity to encourage water conservation, especially during the high use summer season.

**Special Condition 5, Performance Standard for Unaccounted for Water** (formerly Special Condition 6), has changed from 15% UAW required annually in Sandwich's expiring permit (July 24, 2007). The UAW required for all PWS permittees is now 10% for 2 out of every 3 years. MassDEP has found that most PWS's year-to-year reported UAW varies by several percentage points. MassDEP's review of UAW values reported over the last ten years has shown that a rolling three-year review is a better indicator of a PWS's long-term compliance with the standard, and assessing compliance based on a three-year review avoids most instances of a PWS falling out of compliance because of an anomalous year.

Permittees that cannot comply within the timeframe in the permit must meet Functional Equivalence requirements based on the AWWA/IWA Water Audits and Loss Control Programs, Manual of Water Supply Practices M36, as outlined in Attachment A.

Sandwich's UAW for the most recent three years has been:

Sandwich's Unaccounted-for-water		
2017	2016	2015
9%	8%	8%

**Special Condition 6, Water Conservation Requirements** (formerly Special Condition 7), incorporates the Water Conservation Standards for the Commonwealth of Massachusetts adopted by the MA Water Resources Commission in July 2018 (<https://www.mass.gov/files/documents/2018/09/11/ma-water-conservation-standards-2018.pdf>).

Per Sandwich's letter of February 15, 2010, MassDEP understands that Sandwich is 100% metered and customers are billed biannually. At the issuance of this permit, approximately 62% of all meters have been replaced by radio read meters with a memory capacity of 90 days recording usage in hourly increments. Sandwich currently appropriates \$125,000 annually for the replacement of about 600 meters and estimates the remaining non-radio read meters will be replaced within 5 years. At that time, Sandwich plans to make the transition to quarterly billing which will match the memory capacity of the new meters.

**Special Condition 7, Seasonal Limits on Nonessential Outdoor Water Use**, requires Sandwich to implement nonessential outdoor water use restrictions from May 1<sup>st</sup> through September 30<sup>th</sup> when:

- groundwater levels fall to the monthly 25<sup>th</sup> percentile for 60 consecutive days at the assigned groundwater monitoring well; and
- a Drought Advisory, or greater, is declared for the Cape Cod Region by the Massachusetts Drought Management Task Force.

Nothing in this permit prevents Sandwich from implementing additional water use restrictions. MassDEP encourages all PWS's to adopt the Massachusetts Drought Management Task Force's recommendations during times of a declared drought (below). The current drought status across Massachusetts can be found at <https://www.mass.gov/service-details/current-drought-status>. The map is updated monthly during a declared drought.

Massachusetts Drought Management Task Force Recommendations	
<b>At Drought Warning:</b>	
<ul style="list-style-type: none"> <li>Outdoor water use should be eliminated.</li> </ul>	
<b>At Drought Watch:</b>	
<ul style="list-style-type: none"> <li>Outdoor water use should be limited to "handheld watering" with a hose or a watering can after 5pm or before 9am (to avoid evaporative losses); and</li> <li>Filling swimming pools, washing cars and washing buildings should be prohibited.</li> </ul>	
<b>At Drought Advisory:</b>	
<ul style="list-style-type: none"> <li>Outdoor watering with irrigation systems and sprinklers should be limited to no more than one day per week; and</li> <li>Watering with a handheld hose should be limited to after 5pm or before 9 am (to avoid evaporative losses).</li> </ul>	

**Special Condition 8, Mitigation of Impacts for Withdrawals that Exceed Baseline Withdrawals**, requires mitigation where feasible, for withdrawals over a baseline volume. Baseline withdrawal means the volume of water withdrawn during calendar year 2005 plus 5%, or the average annual volume withdrawn from 2003 through 2005 plus 5%, whichever is greater provided that:

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

**Baseline Withdrawal and Mitigation Calculation:** Sandwich's baseline is 2.06 MGD, based on withdrawals made in 2005 plus 5%. Sandwich's water withdrawals in recent years have been below the 2.06 MGD baseline.

Sandwich's Annual Average Withdrawals		
2017	2016	2015
1.63 MGD	1.95 MGD	1.83 MGD

Water needs forecasts prepared by the Department of Conservation and Recreation (DCR) do not project Sandwich's water needs rising above 2.06 MGD until after 2025 (see Special Condition 1). No mitigation is required until Sandwich's total water use from its own registered and permitted sources and from purchase of water from the Upper Cape Regional Water Supply Cooperative (UCRWSC) reach 2.06 MGD. Mitigation measures must be in place prior to Sandwich making withdrawals from its own sources and purchases from UCRWSC to supply total water use of more than the 2.06 MGD baseline.

The mitigation volume calculation below assumes that Sandwich's future withdrawals will be discharged to on-site septic systems at the same rate (100%) as current water withdrawals. A "wastewater adjustment" is calculated for water withdrawn that is returned to the ground as wastewater within the same major basin. MassDEP will assume that 85% of water delivered to customers with septic will be returned to the ground within the same major basin as the withdrawal, thus reducing the amount of mitigation needed. After calculating the adjustment for authorized withdrawals over baseline that will be returned to groundwater through septic system discharge (Step 2 below), Sandwich's total mitigation requirement will be up to 40,000 gallons per day (Step 3 below).

Sandwich's Wastewater Adjustment Calculation for Mitigation	
<b>1. Permitted amount above Baseline = 0.26 MGD</b>	
<ul style="list-style-type: none"> <li>Permitted amount above Baseline: <math>2.32 - 2.06 = 0.26</math> MGD</li> </ul>	



**2. Adjustment for Wastewater Discharge to Local Groundwater = 0.22 MGD**

- 100% of increased withdrawals are delivered to areas with on-site septic systems:  
 $0.26 \text{ MGD} \times 1.0 (100\%) = 0.26 \text{ MGD}$
- 85% of water delivered to areas with on-site septic systems returns to groundwater:  
 $0.26 \text{ MGD} \times 0.85 (85\%) = 0.22 \text{ MGD}$

**3. Amount to be Mitigated after Adjustment for Wastewater Discharge to Local Groundwater = 0.04 MGD**

- Permitted amount above baseline (0.26 MGD) – adjustment for wastewater discharge to local groundwater (0.22 MGD) = 0.04 MGD or 40,000 gallons per day

Direct Mitigation: Sandwich has completed stormwater remediation projects totaling 3.56 acres, providing 6,276 GPD in direct mitigation. Sandwich also has plans to complete stormwater remediation projects totaling 10.06 acres which will provide up to 17,984 GPD in direct mitigation. A summary of these stormwater remediation projects is included in Special Condition 8 of this permit, and the Stormwater BMP Direct Mitigation Calculator and the Applicant Certification for Stormwater BMP Direct Mitigation Credit are attached to this permit as Appendix B.

Indirect Mitigation: After subtracting the direct mitigation credit for stormwater remediation projects that have already been completed, Sandwich needs up to 33,724 gpd in indirect mitigation credit if water use rises above Sandwich's baseline of 2.06 mgd.

Sandwich has acquired, and MassDEP has approved, 59.42 acres of land within the Zone II in accordance with M.G.L Chapter 40, Section 41. These acquisitions were included in Sandwich's July 18, 2018, submittal to MassDEP for indirect mitigation credit.  $59.42 \text{ acres} \times 0.2 \text{ credits per acre} = 11.88 \text{ credits}$ . However, because indirect mitigation credit for property acquired for source water protection is capped at 10 credits, Sandwich will receive 10 indirect mitigation credits, equal to 100,000 gpd. A summary of the properties acquired for water supply protection is included in Special Condition 8 of this permit, and the Applicant Certification for Land Protection for Mitigation Credit and MassDEP approval letter for each acquisition are attached to this permit as Appendix C.

Sandwich's Mitigation Credit			
			Total Required
Mitigation required for withdrawals over 2.06 mgd baseline up to 2.32 mgd			Up to 40,000 gpd
	Credit available at permit issuance	Potential credit available upon completion of future projects	Total Available
Direct Mitigation Credit - Stormwater Remediation Projects	6,276 gpd	17,984 gpd	24,260 gpd
Indirect Mitigation Credit – Land Acquisition for Water Supply Protection per <u>M.G.L Chapter 40, Section 41</u>	10 credits = 100,000 gpd		100,000 gpd

Other Potential Mitigation Activities: Sandwich's submittal of July 18, 2018, included additional activities that could be eligible for indirect mitigation credit. MassDEP will retain Sandwich's indirect mitigation proposal for further review should Sandwich choose to apply for additional withdrawal volumes and need additional mitigation credit in the future.

**Special Condition 9, Requirement to Report Raw and Finished Water Volumes**, ensures that the information necessary to evaluate compliance with the conditions included herein is accurately reported.

**Minimization of Groundwater Withdrawal Impacts** in subbasins <sup>1</sup> having August net groundwater depletion of 25% or greater was incorporated into the Water Management Regulations in November 2014. Minimization is not required because there are no delineated subbasins in coastal areas, including Cape Cod, and therefore no delineation of net groundwater depletion.

**Coldwater Fish Resource Protection** was incorporated into the Water Management Regulations in November 2014. Coldwater Fish Resource Protection is not a condition of this permit because Sandwich's withdrawals do not impact any waters that the MA Division of Fisheries and Wildlife has identified as supporting coldwater fish.

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<sup>1</sup> 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).



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

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Secretary

Martin Suuberg  
Commissioner

## **WATER WITHDRAWAL PERMIT** **Sandwich Water District 9P-4-22-261.01**

This renewal of Permit 9P-4-22-261.01 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.

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**PERMIT NUMBER:** 9P-4-22-261.01 **Basin:** Cape Cod

**PERMITTEE:** Sandwich Water District  
72 Tupper Road  
Sandwich, MA 02563

**EFFECTIVE DATE:** March 14, 2019

**EXPIRATION DATE:** November 30, 2030

**NUMBER OF WITHDRAWAL POINTS:** Groundwater: 11 Surface Water: 0

**USE:** Public Water Supply

**DAYS OF OPERATION:** 365

**AUTHORIZED WITHDRAWAL POINTS:**

Table 1: Authorized Withdrawal Points		
Source Name	PWS Source ID	Location
Well #2	4261000-02G	Pump House Road – Rt. 6A
Well #3	4261000-03G	Pump House Road – Rt. 6A
Well #4	4261000-04G	Pinkham Road
Well #5	4261000-05G	Robinwood Circle
Well #6	4261000-06G	Pinkham Road
Well #7	4261000-07G	Old Country Road
Well #8	4261000-08G	Farmersville Road
Well #9	4261000-09G	South of Rt 6A
Well #10	4261000-10G	Off Pinkham Road
Well #11	4261000-11G	Farmersville Road
Well #12	4261000-12G	Pinkham Road

## **SPECIAL CONDITIONS**

### **1. Maximum Authorized Annual Average Withdrawal Volume**

This permit authorizes the Sandwich Water District (Sandwich) to withdraw water from the Cape Cod Basin at the rate described in Table 2 below. The permitted withdrawal rate is in addition to the 0.77 MGD previously authorized for Sandwich in WMA Registration #422261.01. The permitted volume is expressed both as an average daily withdrawal rate (million gallons per day or MGD), and as a total annual withdrawal volume (million gallons per year or MGY) for each five-year period of the permit term.

Sandwich's overall water use, including withdrawals from its own registered and permitted sources and from purchase of water from the Upper Cape Regional Water Supply Cooperative, is limited to the volumes authorized in Special Condition #1. Water purchased from the UCRWSC shall be reported separately when filing the annual water supply statistical report.

The Department of Environmental Protection (MassDEP) will use the raw water withdrawal volume from all authorized withdrawal points to assess compliance with the registered and permitted withdrawal volumes.

<b>Table 2: Authorized Withdrawals</b>				
<b>Permit Periods</b>	<b>Total Raw Water Withdrawal Volumes</b>			
	<b>Permit</b>		<b>Registration + Permit</b>	
	<b>Daily Average (MGD)</b>	<b>Total Annual (MGY)</b>	<b>Daily Average (MGD)</b>	<b>Total Annual (MGY)</b>
3/14/2019 to 11/30/2020	1.19	434.35	$0.77 + 1.19 = 1.96$	715.4
12/1/2020 to 11/30/2025	1.27	463.55	$0.77 + 1.27 = 2.04$	744.6
12/1/2025 to 11/30/2030	$1.34 + 0.21 \text{ buffer} = 1.55$	565.75	$0.77 + 1.55 = 2.32$	846.80

Sandwich may be authorized to increase annual average daily withdrawals to the maximum authorized (2.32 MGD) prior to 2025 if Sandwich is meeting:

- Unaccounted-for-water (UAW) of 10% or less, or all UAW functional equivalence requirements in Special Condition 5;
- Water conservation requirements in Special Condition 6; and
- Seasonal limits on nonessential outdoor water use in Special Condition 7.

### **2. Maximum Authorized Daily Withdrawals from Groundwater Withdrawal Points**

Withdrawals from individual withdrawal points are not to exceed the approved maximum daily volumes listed in Table 3 without specific advance written approval from the Department. 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.

<b>Table 3: Maximum Daily Withdrawal Rates</b>		
<b>Well Name</b>	<b>PWS Source ID Code</b>	<b>Maximum Daily Rate (MGD)</b>
Well #2	4261000-02G	0.65
Well #3	4261000-03G	0.65
Well #4	4261000-04G	1.00
Well #5	4261000-05G	1.00
Well #6	4261000-06G	1.00
Well #7	4261000-07G	1.00
Well #8	4261000-08G	1.00
Well #9	4261000-09G	1.00
Well #10	4261000-10G	1.01
Well #11	4261000-11G	1.00
Well #12	4261000-12G	1.00

### 3. Zone II Delineations

Department records show that Wells #2 through #12 have DEP-approved Zone II delineations. Therefore, no further Zone II work is required as a condition of this permit.

### 4. Wellhead Protection

Department records show that Sandwich has adopted land use controls and water supply protection measures meeting the requirements of the Wellhead Protection Regulations at 310 CMR 22.21(2) for all ten wells included in this permit. No further wellhead protection work is required as a condition of this permit.

### 5. Performance Standard for Unaccounted-for-Water (UAW)

Sandwich's Performance Standard for Unaccounted for Water (UAW) is 10% or less of overall water withdrawal for 2 of the most recent years 3 throughout the permit period. Sandwich shall be in compliance with this performance standard by December 31, 2020 or, if Sandwich does not meet the standard, shall be in compliance with the functional equivalence requirements (Appendix A).

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

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

### 6. Water Conservation Requirements

At a minimum, Sandwich shall implement the following conservation measures forthwith and shall be in compliance with these measures on or before December 31, 2019. Compliance with the water conservation requirements shall be reported to the Department upon request or at the time of permit renewal unless otherwise noted below.

**Table 4: Minimum Water Conservation Requirements**

<b>Leak Detection</b>
1. At a minimum, conduct a full leak detection survey every three years. The first full leak detection survey shall be completed no later than 3 years from the date of the last documented leak detection survey.
2. Conduct leak detection of the entire distribution system within one year whenever the percentage of UAW increases by 5% or more (for example an increase from 3% to 8%) over the percentage reported on the ASR for the prior calendar year. Within 60 days of completing the leak detection survey, submit to the Department a report detailing the leak detection survey, any leaks uncovered as a result of the survey or otherwise, dates of repair and the estimated water savings as a result of the repairs.
3. Conduct field surveys for leaks and repair programs in accordance with the <i>AWWA Manual 36</i> .
4. Repair reports shall be kept available for inspection by the Department. The permittee shall establish a schedule for repairing leaks that is at least as stringent as the following: <ul style="list-style-type: none"><li>o Leaks of 3 gallons per minute or more shall be repaired within 3 months of detection.</li><li>o Leaks of less than 3 gallons per minute at hydrants and appurtenances shall be repaired as soon as possible.</li><li>o 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.</li><li>o Leaks shall be repaired in accordance with the permittee's priority schedule including leaks up to the</li></ul>

**Table 4: Minimum Water Conservation Requirements**

property line, curb stop or service meter, as applicable.

- Permittee shall have water use regulations in place that require property owners to expeditiously repair leaks on their property.

The following exceptions may be considered:

- Repair of leakage detected during winter months can be delayed until weather conditions become favorable for conducting repairs;\* and
- Leaks in freeway, arterial or collector roadways may be coordinated with other scheduled projects being performed on the roadway\*\*.

\*Reference: MWRA regulations 360 CMR 12.09

\*\*Mass Highway or local regulations may regulate the timing of tearing up pavement to repair leaks.

**Metering**

1. Calibrate all source, treatment and finished water meters at least annually and report date of calibration on the ASR.
2. One hundred percent (100%) metering of the system is required. All water distribution system users shall have properly sized service lines and meters that meet AWWA calibration and accuracy performance standards as set forth in AWWA Manual M6 – Water Meters.
3. The permittee shall have an ongoing program to inspect individual service meters to ensure that all service meters accurately measure the volume of water used by its customers. The metering program shall include regular meter maintenance, including testing, calibration, repair, replacement and checks for tampering to identify and correct illegal connections. The plan shall continue to include placement of sufficient funds in the annual budget to calibrate, repair, or replace meters as necessary.

**Pricing**

1. Establish a water pricing structure that includes the full cost of operating the water supply system. Full cost pricing recovers all costs as applicable, including:
  - pumping and distribution equipment cost, repair and maintenance;
  - water treatment;
  - electricity;
  - capital investment, including planning, design and construction;
  - land purchase and protection;
  - debt service;
  - administrative costs including systems management, billing, accounting, customer service, service studies, rate analyses and long-range planning;
  - conservation program including audits, leak detection equipment, service and repair, meter replacement program, automated meter reading installation and maintenance, conservation devices, rebate program, public education program;
  - regulatory compliance; and
  - staff salaries, benefits training and professional development.
2. Evaluate rates at a minimum every three to five years and adjust costs as needed.
3. Permittee shall not use decreasing block rates. Decreasing block rates which charge lower prices as water use increases during the billing period, are prohibited by M.G.L. Chapter 40 Section 39L.
4. If billing frequency is less than quarterly (i.e. annual or biannual), implement quarterly or more frequent meter reading and billing as soon as practicable.

**Residential and Public Sector Conservation**

1. Meet all standards set forth in the Federal Energy Policy Act, 1992, and the Massachusetts Plumbing Code.
2. Meter or estimate water used by contractors using fire hydrants for pipe flushing and construction.
3. Sandwich shall continue to ensure that water savings devices are installed in all municipal buildings as they are renovated, and shall ensure water conserving fixtures and landscaping practices are incorporating into the design of new municipal capital projects.

<b>Table 4: Minimum Water Conservation Requirements</b>	
<b>Industrial and Commercial Water Conservation</b>	
1.	<p>Sandwich reports that 85% of all water distributed is for residential use, 13% of all water distributed is for commercial use, and Sandwich has no industrial water users.</p> <p>The Town shall ensure water conservation practices, including the installation of WaterSense compliant low flow plumbing fixtures where applicable, and low water use landscaping in all development proposals.</p>
<b>Lawn and Landscape</b>	
1.	<p>Develop and adopt or update as necessary, a water use restriction bylaw, ordinance or regulation that authorizes enforcement of the seasonal limits on nonessential outdoor water use required by this permit by May 1, 2019.</p> <p>MassDEP has developed the "DEP Model Outdoor Water Use Bylaw/Ordinance" to help municipalities and water districts implement seasonal water conservation requirements. The Model Bylaw also includes options for regulating private wells and in-ground irrigation systems. See <a href="http://www.mass.gov/eea/agencies/massdep/water/regulations/model-water-use-restriction-bylaw-ordinance.html">http://www.mass.gov/eea/agencies/massdep/water/regulations/model-water-use-restriction-bylaw-ordinance.html</a></p>
<b>Public Education and Outreach</b>	
1.	<p>Develop and implement a water conservation and education plan designed to educate water customers on ways to conserve water. Without limitation, the plan may include the following actions:</p> <ul style="list-style-type: none"><li>○ 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;</li><li>○ Public space advertising/media stories on successes (and failures);</li><li>○ Conservation information centers perhaps run jointly with electric or gas company;</li><li>○ Speakers for community organizations;</li><li>○ Public service announcements; radio/T.V./audio-visual presentations;</li><li>○ Joint advertising with hardware stores to promote conservation devices;</li><li>○ Use of civic and professional organization resources;</li><li>○ Special events such as Conservation Fairs;</li><li>○ Develop materials that are targeted to schools with media that appeals to children, including materials on water resource projects and field trips; and</li><li>○ Provide multilingual materials as needed.</li></ul>
2.	<p>Upon request of MassDEP, permittee shall report on its public education and outreach efforts, including a summary of activities developed for specific target audiences, any events or activities sponsored to promote water conservation and copies of written materials.</p>

#### **7. Seasonal Limits on Nonessential Outdoor Water Use**

Sandwich shall limit nonessential outdoor water use through mandatory restrictions from May 1<sup>st</sup> through September 30<sup>th</sup> as outlined in Table 5 below. To the extent feasible, all summer outdoor water use should take place before 9 a.m. and after 5 p.m. when evaporation and evapotranspiration rates are lower.

Sandwich shall be responsible for tracking groundwater levels and drought advisories and recording and reporting when restrictions are implemented if groundwater level triggered restrictions are implemented. See Table 5 for *Instructions for Accessing U.S. Geologic Survey Groundwater Level and Massachusetts Drought Advisory Website Information*. Sandwich shall also document compliance with the summer limits on nonessential outdoor water use annually in its Annual Statistical Report (ASR).

**Table 5: Seasonal Limits on Nonessential Outdoor Water Use**

Groundwater Level Triggered Restrictions from May 1<sup>st</sup> through September 30<sup>th</sup>

**Nonessential outdoor water use is restricted to two (2) days per week before 9 a.m. and after 5 p.m. whenever:**

- a) Groundwater levels at USGS Monitoring Well 414124070265901 MA-SCW 253, Sandwich, MA, decline to or below the groundwater trigger for 60 consecutive days. The monthly trigger levels are listed below and are the period of record monthly 25<sup>th</sup> percentile depth to water level values, as determined and published by the USGS. Restrictions could start on May 1, so monitoring of WNW 17 begins on March 1 of each year.

Trigger Values for Outdoor Water Use Restrictions (feet below land surface)

March	April	May	June	July	Aug	Sept
50.97	50.86	50.40	50.53	50.74	50.86	51.09

and;

- b) A Drought Advisory or higher is declared by the Massachusetts Drought Management Task Force for Cape Cod.

Once implemented, the restrictions shall remain in place until the daily value of the groundwater levels at the assigned USGS monitoring well have recovered to less than the trigger for 30 consecutive days (when the water table elevation has risen above the trigger level).

**Instructions for Accessing U.S. Geologic Survey Groundwater Level and Massachusetts Drought Advisory Website Information**

**Groundwater level information** is available at the USGS National Water Information System (NWIS): Web Interface. The USGS NWIS default shows Massachusetts groundwater levels in real time, i.e., the most recent, usually hourly, water level measured and recorded at each USGS monitoring well.

Seasonal Limits on Nonessential Outdoor Water Use are implemented when the daily mean depth to water level exceeds the designated trigger for 60 consecutive days (i.e., when the depth to water becomes larger than the trigger value as the water table elevation declines). The daily water level is compared to the trigger for that month. To determine if restrictions must be implemented on May 1 it is necessary to monitor the daily water level in March and April.

**Mean daily groundwater level** readings are available at the USGS NWIS Web Interface at:

[http://waterdata.usgs.gov/ma/nwis/current/?type=gw&group\\_key=county\\_cd](http://waterdata.usgs.gov/ma/nwis/current/?type=gw&group_key=county_cd)

- Scroll down to 414124070265901 MA-SCW 253, Sandwich, MA
- Click on the station number.
- On the pull-down menu "Available data for this site" choose "Daily data".
- Under "Available Parameters" click on "WaterLevel, BelowLSD (Mean)".
- Under "Output Format" click on "Table" and enter the number of days of records (the default is 7 days; entering 60 will give you 60 days of data) and hit "GO".
- The table provides the "Daily Mean Depth to water level, feet below land surface" for the most recent number of days chosen.

Compare each day's value to its month's trigger value (25<sup>th</sup> percentile) in your permit. Outdoor water use restrictions must be implemented when the daily depth to water level is at or below the trigger for 60 consecutive days.

**Drought Advisory** information is available at the Massachusetts Department of Conservation and Recreation (DCR) Drought Status Website at:

<http://www.mass.gov/eea/agencies/dcr/water-res-protection/water-data-tracking/drought-status.html>



Under "Drought Status Reports", click on "drought map" on the right-hand side of the page. The color coded map displays the six drought regions in Massachusetts. Restrictions are implemented when a Drought Advisory, Watch, Warning or Emergency is announced through the DCR website.

### **Restricted Nonessential Outdoor Water Uses**

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

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

**The following uses may be allowed** 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 a.m. and after 5 p.m.;
- irrigation of gardens, flowers and ornamental plants by means of a hand-held hose or drip irrigation system; 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 Water Use Restrictions**

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

- For groundwater level-triggered restrictions, when the daily depth to water level at the assigned USGS monitoring well declines to or below the trigger for 60 consecutive days, customers shall be notified as soon as possible, but within three days of implementing the restrictions.

Notice to customers shall include the following:

- A detailed description of the restrictions and penalties for violating the restrictions;
- The need to limit water use, especially nonessential outdoor water use, to ensure a sustainable drinking water supply and to protect natural resources; and
- Ways individual homeowners can limit water use, especially nonessential outdoor water use.

Notice that restrictions have been put in place shall be filed each year with MassDEP within 14 days of the restriction's effective date by completing and submitting to MassDEP the **Notification of Water Use Restrictions** form, which can be found at

<http://www.mass.gov/eea/agencies/massdep/water/watersheds/municipal-water-use-restrictions.html>

Notice to customers and MassDEP need not be provided if Sandwich has already implemented water use restrictions that conform to the applicable restrictions and those restrictions are still in force.

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

## 8. Mitigation of Impacts for Withdrawals that Exceed Baseline Withdrawals

Sandwich is required to mitigate up to 0.040 MGD (40,000 gpd) for its permitted withdrawals over its 2.06 MGD baseline withdrawal rate in the Cape Cod Basin. The mitigation requirement of 0.040 MGD is met through the following direct and indirect mitigation activities.

**Table 6: Sandwich's Direct Mitigation Credit for Stormwater Remediation**

<b>Completed Projects</b> Mill Creek #4 - 0.96 acres Mill Creek #6 - 0.92 acres Mill Creek #7 - 0.96 acres Library Parking Lot - 0.73 acres	<b>Total credit awarded as of the issuance date of this permit = 0.006276 mgd or 6,276 gpd</b>
<b>Proposed Projects</b> Snake Pond BMPs 1-3, - 1.46 acres Peter's Pond BMPs 4-9 - 1.37 acres Pimlico Pond BMP 10 - 0.38 acres Upper Shawme Pond BMPs 12-16 - 1.71 acres Lower Shawme Pond BMPs 17-22 - 1.56 acres Mill Creek #1 and #3 - 3.58 acres	<b>Total credit to be awarded upon MassDEP review and approval of proposed projects = up to 0.017984 mgd or 17,984 gpd</b>
See Appendix B for Stormwater BMP Direct Mitigation Calculator and Applicant Certification for Stormwater BMP Direct Mitigation Credit for these projects	

**Table 7: Sandwich's Indirect Mitigation Credit for Land Purchased for Water Supply Protection**

Parcel Name and Source Water Protection acreage	Owner	Municipal Assessor's Map & Lot Numbers	Barnstable Co. Registry of Deeds Plan Book and Page	Purchase/Restriction Date	Term of Conservation Restriction/Easement	Barnstable Co. Registry of Deeds Title Book and Page
Winslow Property on Thicket Run Road 5.5 acres	Sandwich Water District	Map 33, Parcel 70	Book 370, Page 70	7/17/09	water supply protection pursuant to MGL c. 40 ss 41	Book 3676, Page 77/79
Ahonen Property at MidCape Highway 2.56 acres		Map 33, Parcel 1	Book 637, Page 58	11/17/10		Book 488, Page 95
Susi Property off Farmersville Rd 45.4 acres		Map 18, Parcel 92	Book 655, Page 24	11/3/14		Book 26557, Page 196
Maguire Property at Gully Lane 5.96 acres		Map 32, Parcel 12	Book 672, Page 76	10/23/17		Book 12644, Page 252
Hettiger Property at MidCape Highway 21.29 acres			Book 677, Page 41	10/24/18		Book 7877, Page 131 Book 10735 Pgs 78, 83, 84
Pine Hill Rd Property at Pine Hill Road 7.31 acres			Book 677, Page 41	10/24/18		Book 9945 Pg 168
<b>Total Acres: 88.02</b>						
<b>Total Credit: 88.02 acres x 0.2 = 17.60 Credits</b>						
<b>Credit for Source Water Protection is capped at 10 credits for 100,000 gpd indirect mitigation credit</b>						

See Appendix C for the Applicant Certification for Land Protected for Mitigation Credit, and the letters from MassDEP SERO approving the acquisition of each parcel

Sandwich shall notify MassDEP should there be changes to the status of the mitigation projects.

**9. Requirement to Report Raw and Finished Water Volumes**

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

**GENERAL 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 the Department at reasonable times to enter and examine any property or inspect and copy any records for the purpose of determining compliance with this permit, the Act or the regulations published pursuant thereto, upon presentation of proper identification and an oral statement of purpose.
4. **Water Emergency** Withdrawal volumes authorized by this permit are subject to restriction in any water emergency declared by the Department pursuant to M.G.L. c. 21G, s. 15-17, M.G.L. c. 111, s. 160, or any other enabling authority.
5. **Transfer of Permits** This permit shall not be transferred in whole or in part unless and until the Department approves such transfer in writing, pursuant to a transfer application on forms provided by the Department requesting such approval and received by the Department at least thirty (30) days before the effective date of the proposed transfer. No transfer application shall be deemed filed unless it is accompanied by the applicable transfer fee established by 310 CMR 36.33.
6. **Duty to Report** The permittee shall submit annually, on the electronic Annual Statistical Report (eASR) accessed through the Department's eDEP website, a statement of the withdrawal. Such report must be submitted annually by the date identified on eDEP each year, unless the permittee has explicit permission from the MassDEP Drinking Water program for an extension of time.
7. **Duty to Maintain Records** The permittee shall be responsible for maintaining withdrawal records in sufficient detail to assess compliance with the conditions of this permit.
8. **Metering** All withdrawal points included within the permit shall be metered. Meters are to be calibrated annually.
9. **Amendment, Suspension or Termination** The Department may amend, suspend or terminate the permit in accordance with M.G.L. c. 21G and 310 CMR 36.29.

### APPEAL RIGHTS AND TIME LIMITS

This permit is a decision of the Department. Any person aggrieved by this decision and any person who has been allowed pursuant to 310 CMR 1.01(7) to intervene in the adjudicatory proceeding that resulted in this decision may request an adjudicatory hearing. Any such request must be made in writing, by certified mail or hand delivered, and received by the Department 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 city or town 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 the Department.

### CONTENTS OF HEARING REQUEST

The request for a hearing shall state specifically, clearly and concisely the facts which are the grounds for the appeal, the relief sought, and any additional information required by 310 CMR 1.01(6)(b) or other applicable law or regulation. For any person appealing this decision who is not the applicant, the request must include sufficient written facts to demonstrate status as a person aggrieved and documentation to demonstrate previous participation where required.

### 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

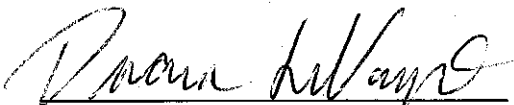
The request shall be dismissed if the filing fee is not paid, unless the appellant is exempt or granted a waiver as described below.

### EXEMPTIONS

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

### WAIVER

The Department may waive the adjudicatory hearing filing fee for any person who demonstrates to the satisfaction of the Department 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, Program Chief  
Water Management Act Program  
Bureau of Water Resources

3/14/2019  
Date

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

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

If, as of December 31, 2020, Sandwich 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 Sandwich shall develop and implement a water loss control program following the *AWWA M36 Water Audits and Loss Control Programs* within 5 full calendar years (by December 31, 2025) as follows:

1. Conduct an annual “top down” water audit, calculate the data validity level/score using AWWA Water Loss Control Committee’s Free Water Audit Software, and submit the AWWA WLCC Free Water Audit Software: Reporting Worksheet and data validity score annually with its Annual Statistical Report (ASR).
  - If a PWS’s data validity level/score is less than Level III (51-70), steps recommended through the audit(s) shall be taken to improve the reliability of the data prior to developing a long-term program to reduce real and apparent water losses.
  - Data with a validity score of 50 or less are considered too weak to be used to develop a component analysis or for infrastructure planning and maintenance.
  - Developing data with an acceptably strong validity score can be a multi-year process.
2. When the data validity score meets the Level III (51-70) requirement, conduct a component analysis to identify causes of real and apparent water loss and develop a program to control losses based on the results of the component analysis.
3. Within 5 full calendar years (by December 31, 2025), submit the component analysis and water loss control program with a proposed implementation schedule to the Department.
4. Continued implementation will be a condition of the permit in place of meeting the 10% UAW performance standard.
5. Upon request of the Department, the permittee shall report on its implementation of the water loss control program.

A PWS permittee may choose to discontinue the water loss program implementation if UAW, as reported on the ASR and approved by 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:** If Sandwich is required to develop a Functional Equivalence Plan for the 10% Unaccounted for Water Performance Standard, and Sandwich does not have a MassDEP-approved Water Loss Control Program in place by December 31, 2025, Sandwich will be required to implement the MassDEP UAW Water Loss Control Measures outlined below:

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

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

A permittee's hardship analysis shall:

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

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

**Applicant Certification for  
Stormwater BMP Direct 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 without limitation, the **Stormwater BMP Direct Mitigation Calculator** Excel workbook provided by MassDEP to calculate the volumetric mitigation credit for each stormwater infiltration Best Management Practice (BMP) for which credit is sought, using the following data:

Provided by applicant:

- a) Area of existing directly connected impervious surface<sup>1</sup> re-directed to the BMP;
- b) Infiltration BMP's design infiltration depth (maximum inches of runoff per 24-hour storm infiltrated in 72 hours)

Provided by DEP in Stormwater BMP Direct Mitigation Credit Calculator Excel form:

- c) Percent of annual precipitation infiltrated, based on the BMP design infiltration depth;
  - d) Annual average precipitation for the town or city where the project is located.
2. I have consulted with legal, technical and other qualified professionals, as necessary for me to make this certification.
  3. The following is true:
    - a. All stormwater infiltration BMPs for which mitigation credit is sought were built on or after January 1, 2005 and receive runoff from directly connected impervious surface<sup>1</sup> constructed prior to 2005. All stormwater BMPs for which mitigation credit is sought have been designed and built in accordance with the Massachusetts Stormwater Handbook, whether inside or outside of a wetlands resource area;
    - b. All stormwater for which volumetric credit is claimed is recharged to groundwater;
    - c. The entire stormwater system for projects that include BMPs for which direct mitigation credit is sought conforms to the Massachusetts Stormwater Handbook, including an operation and maintenance plan.
    - d. For stormwater projects located in wetlands or within MS4 jurisdictional areas that include BMPs for which credit is sought, the appropriate municipal authority has reviewed and approved the stormwater plans and specifications, including operation and maintenance plans.
  4. 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

---

<sup>1</sup> Directly connected impervious surfaces are those whose runoff discharges to a surface water body.

qualified professionals as I may consult in certifying as to the information set forth in paragraph 2, above.

5. 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 of fine and imprisonment for knowing violations.
6. 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. Stormwater BMP Direct Mitigation Credit Calculator Excel spreadsheet

Signature of Applicant: 

Date: 7-17-2010

Printed Name of Applicant: Samuel Jensen



Only green cells can be edited. Gray cells are automatically populated or calculated.

**populated or calculated.**

[illegible]



Only green cells can be edited. Gray cells are automatically populated or calculated.

**populated or calculated.**

ENTER the name of the WMA permit holder:		Sandwich Water District - 9P-4-22-261.01 Appendix B - proposed projects - sheet 1				
STEP 1: ENTER Recharging BMP Name or Other Identifier	SANDWICH	STEP 3: ENTER the design infiltration depth (inches of runoff per 24-hour storm) the BMP infiltrates in 72 hours.	STEP 4: ENTER the acres of pre-2005 directly connected impervious surface connected to an infiltration BMP since January 1, 2005.	Percent of Annual Precipitation Infiltrated	Infiltration Credit (cubic feet/year)	Infiltration Credit (million gallons per day)
Snake Pond #1 - 0.75 acres	48.73	0.5	0.8	0.485	64,338	0.001318
Snake Pond #2 - 0.2 acres	48.73	0.5	0.2	0.485	17,157	0.000352
Snake Pond #3 - 0.51 acres	48.73	0.5	0.5	0.485	43,750	0.000897
Peters Pond #4 - 0.08 acres	48.73	0.5	0.1	0.485	6,863	0.000141
Peters Pond #5 - 0.31 acres	48.73	0.5	0.3	0.485	26,593	0.000545
Peters Pond #6 - 0.38 acres	48.73	0.5	0.4	0.485	32,598	0.000668
Peters Pond #7 - 0.3 acres	48.73	0.5	0.3	0.485	25,735	0.000527
Peters Pond #8 - 0.22 acres	48.73	0.5	0.2	0.485	18,873	0.000387
Peters Pond #9 - 0.08 acres	48.73	0.5	0.1	0.485	6,863	0.000141
Jimlico Pond - 0.38 acres	48.73	0.5	0.4	0.485	32,598	0.000668
Toxle Pond #11 - 0.2 acres	48.73	0.5	0.2	0.485	17,157	0.000352
Jpper Shawme #12 - 0.36 acres	48.73	0.5	0.4	0.485	30,882	0.000633
Jpeet Shawme #13 - 0.3 acres	48.73	0.5	0.3	0.485	25,735	0.000527
Jpper Shawme #14 - 0.44 acres	48.73	0.5	0.4	0.485	37,745	0.000774
Jpper Shawme #15 - 0.33 acres	48.73	0.5	0.3	0.485	28,309	0.000580
Jpper Shawme #16 - 0.28 acres	48.73	0.5	0.3	0.485	24,020	0.000492
						0.009001



Only green cells can be edited. Gray cells are automatically populated or calculated.

**ENTER** the name of the WMA permit holder:

## Appendix B - proposed projects - sheet 2

[illegible]



**MassDEP Water Management Program (M.G.L. c. 21G)**  
**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 both MassDEP has approved the release of the land pursuant to MGL c. 40 7-15B and the 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;
  - b. the conservation restriction or easement 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 or easement 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 or easement prohibits the following uses and activities:
    - 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 or easement 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 or easement.
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 MassDEP 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 of 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, source(s) of funding for land purchase, date of land purchase, outstanding lien or mortgage holders, effective date of conservation restriction/easement, term of



conservation restriction or easement, cost of land purchase or restriction/easement, area of water supply protected land in acres, and area of Priority Conservation Land<sup>1</sup> in acres.

- b. A copy of the MassDEP BRP WS 26 decision letter referred to in paragraph 3 above.
- c. A copy of the deed to each parcel of land referred to in paragraph 3 or 4 above.
- d. A copy of each conservation restriction or easement referred to in paragraph 4.a. above.
- e. A colored map(s) at an appropriate scale that depicts each parcel of land subject to this certification and any Priority Conservation Land<sup>1</sup> for which 0.2 credits per acre is sought.
- f. 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.

Signature of Applicant:  Date: February 14, 2019

Printed Name of Applicant: Daniel Mahoney, Superintendent, Sandwich Water District

MassDEP WMA Permit # 9P2-4-22-261.01

MassDEP WMA Permit Expiration Date: November 30, <sup>2030</sup>~~2010~~

<sup>1</sup> 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).





COMMONWEALTH OF MASSACHUSETTS  
EXECUTIVE OFFICE OF ENERGY & ENVIRONMENTAL AFFAIRS  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
SOUTHEAST REGIONAL OFFICE  
20 RIVERSIDE DRIVE, LAKEVILLE, MA 02347 508-946-2700

DEVAL L. PATRICK  
Governor

TIMOTHY P. MURRAY  
Lieutenant Governor

IAN A. BOWLES  
Secretary

LAURIE BURT  
Commissioner

June 2, 2009

Daniel Mahoney, Superintendent  
Sandwich Water District  
72 Tupper Road  
Sandwich, MA 02563

RE: SANDWICH  
Sandwich Water District  
PWS ID# 4261000  
Approval of Land Acquisition  
Transmittal #X225008

Dear Mr. Mahoney:

On Thursday, May 21, 2009, at 3:00 p.m., the Massachusetts Department of Environmental Protection (the "Department") held a hearing at the Southeast Region Cape Cod Office, 973 Iyannough Road, Hyannis, MA 02601, on the sale of a certain parcel of land in Sandwich. The land in question was delineated on plans entered into the hearing as Exhibit #1. Please find attached an Approval of Land Acquisition.

Please note that the signature on this cover letter indicates formal issuance of the attached document. If you have any questions regarding this letter, please contact Allison Rescigno at 508-946-2763 or via e-mail at [Allison.Rescigno@state.ma.us](mailto:Allison.Rescigno@state.ma.us).

Very truly yours,

Richard J. Rondeau, Chief  
Drinking Water Program  
Bureau of Resource Protection

R/AR/  
Attachment

Cc: Sandwich Conservation Commission  
16 Jan Sebastian Way  
Sandwich, MA 02563

John & Ellen Condon  
30 Thicket Run Road  
Sandwich, MA 02563

John & Rebecca Perry  
29 Thicket Run Road  
Sandwich, MA 02563

Christopher & Caitlin Wilcox  
25 Thicket Run Road  
Sandwich, MA 02563

ARescigno\Land Aquisition\Sandwich Approval Ltr-2009-6  
DWP Archives\SERO\Sandwich-4261000-Land Acquisition-2009-6-2

This information is available in alternate format. Call Donald M. Gomes, ADA Coordinator at 617-556-1057. TDD# 866-539-7622 or 617-574-6868.

DEP on the World Wide Web: <http://www.mass.gov/dep>

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## APPROVAL OF LAND ACQUISITION

Transmittal #X225008

On Thursday, May 21, 2009, at 3:00 p.m., the Department of Environmental Protection held a hearing in its Southeast Region Cape Cod Office at 973 Iyannough Road, Hyannis, MA 02601 on the proposed acquisition [through deed] of a certain parcel of land in Sandwich. The land to be acquired has a total area of 5.31+/- acres. The proposed use of the land is for the sanitary protection of Sandwich Water District's drinking water wells GP2, GP3, and GP9, designed to serve the Town of Sandwich. The land in question was delineated on a plan entered into the hearing as Exhibit #1 and identified by the following title:

**"Sketch Plan - Winslow/Crowell Property,  
Thicket Run Road, Sandwich, Massachusetts,  
Prepared by: David C. Thulin PE, PLS Rev. 3/26/09"**

A plan depicting the Zone II for this water supply source was also entered into the hearing.

Testimony at the hearing illustrated the need for the acquisition of land for water supply protection purposes. No one spoke in opposition of the land sale.

After reviewing the hydrogeological data available, this Department is of the opinion that acquisition of the land in question by Sandwich Water district will serve to protect the public water supply at the subject location.

The Department hereby approves the acquisition of the above-mentioned land with the following provisions:

1. The original of the plan entered into the hearing as Exhibit #1 and the deed transferring title to the Board of Water Commissioners will be recorded at the Registry of Deeds.
2. The plan must include notation that the Department has approved the acquisition for water supply protection in a communication specifying the date June 2, 2009.
3. A copy of the recorded plan and deed must be furnished to the Department.
4. Department approval of this acquisition is effective for a period of 3 years from the date of this approval letter. The acquisition must be completed by June 1, 2012.

No Environmental Notification Form is required to be submitted for this project since it is categorically exempt under the Environmental Protection Regulations of the Executive Office of Energy & Environmental Affairs and the acquisition of the lands, as proposed, has therefore been determined to cause no significant damage to the environment.



COMMONWEALTH OF MASSACHUSETTS  
EXECUTIVE OFFICE OF ENERGY & ENVIRONMENTAL AFFAIRS  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
SOUTHEAST REGIONAL OFFICE  
20 RIVERSIDE DRIVE, LAKEVILLE, MA 02347 508-946-2700

DEVAL L. PATRICK  
Governor

TIMOTHY P. MURRAY  
Lieutenant Governor

IAN A. BOWLES  
Secretary

LAURIE BURT  
Commissioner

November 4, 2010

Daniel Mahoney, Superintendent  
Sandwich Water District  
72 Tupper Road  
Sandwich, MA 02563

RE: SANDWICH  
Sandwich Water District  
PWS ID# 4261000  
Approval of Land Acquisition  
Transmittal #X234976

Dear Mr. Mahoney:

On Tuesday, October 26, 2010, at 10:00 a.m., the Massachusetts Department of Environmental Protection (the "Department") held a hearing at its Southeast Regional Office, 20 Riverside Drive, Lakeville, MA 02347, on the sale of a certain parcel of land in Sandwich. The land in question was delineated on plans entered into the hearing as Exhibit #1. Please find attached an Approval of Land Acquisition.

Please note that the signature on this cover letter indicates formal issuance of the attached document. If you have any questions regarding this letter, please contact Allison Rescigno at 508-946-2763 or via e-mail at [Allison.Rescigno@state.ma.us](mailto:Allison.Rescigno@state.ma.us).

Sincerely,

Richard J. Rondeau, Chief  
Drinking Water Program  
Bureau of Resource Protection

R/AR/  
Attachment  
ARescigno\My Documents\Land Aquisition\Sandwich Approval Ltr-11-2010  
DWP Archives\SERO\Sandwich-4261000-Land Acquisition-2010-11-4

This information is available in alternate format. Call Donald M. Gomes, ADA Coordinator at 617-556-1057. TDD# 866-539-7622 or 617-574-6868.

DEP on the World Wide Web: <http://www.mass.gov/dep>



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## **APPROVAL OF LAND ACQUISITION**

Transmittal #X234976

On Tuesday, October 26, 2010, at 10:00 a.m., the Department of Environmental Protection held a hearing in its Southeast Regional Office, 20 Riverside Drive, Lakeville, MA 02347, on the proposed acquisition [through deed] of a certain parcel of land in Sandwich. The land to be acquired has a total area of 2.56+/- acres. The proposed use of the land is for the sanitary protection of Sandwich Water District's drinking water wells GP2, GP3, and GP9, designed to serve the Town of Sandwich. The land in question was delineated on a plan entered into the hearing as Exhibit #1 and identified by the following title:

**"Plan of Land in Sandwich, Massachusetts,  
Discovery Hill Road, September 16, 2010  
Prepared by: David C. Thulin PE, PLS"**

Testimony at the hearing illustrated the need for the acquisition of land for water supply protection purposes. No one spoke in opposition of the land sale.

After reviewing the hydrogeological data available, this Department is of the opinion that acquisition of the land in question by Sandwich Water district will serve to protect the public water supply at the subject location.

The Department hereby approves the acquisition of the above-mentioned land with the following provisions:

1. The original of the plan entered into the hearing as Exhibit #1 and the deed transferring title to the Board of Water Commissioners will be recorded at the Registry of Deeds.
2. The plan must include notation that the Department has approved the acquisition for water supply protection in a communication specifying the date November 4, 2010.
3. A copy of the recorded plan and deed must be furnished to the Department.
4. Department approval of this acquisition is effective for a period of 3 years from the date of this approval letter. The acquisition must be completed by November 3, 2013.

No Environmental Notification Form is required to be submitted for this project since it is categorically exempt under the Environmental Protection Regulations of the Executive Office of Energy & Environmental Affairs and the acquisition of the lands, as proposed, has therefore been determined to cause no significant damage to the environment.



Commonwealth of Massachusetts  
Executive Office of Energy & Environmental Affairs

## Department of Environmental Protection

Southeast Regional Office • 20 Riverside Drive, Lakeville MA 02347 • 508-946-2700

DEVAL L. PATRICK  
Governor

TIMOTHY P. MURRAY  
Lieutenant Governor

RICHARD K. SULLIVAN JR.  
Secretary

KENNETH L. KIMMELL  
Commissioner

July 27, 2012

Mr. Daniel Mahoney, Superintendent  
Sandwich Water District  
72 Tupper Road  
Sandwich, MA 02563

RE: SANDWICH  
Sandwich Water District  
PWS ID #4261000  
Approval of Land Acquisition  
Transmittal # X251771

Dear Mr. Mahoney:

On Wednesday, July 18, 2012, the Massachusetts Department of Environmental Protection (the "Department") held a hearing at the Southeast Regional Office, 20 Riverside Drive in Lakeville, on the sale of certain parcels of land or rights in land in Sandwich, MA. The land in question was delineated on plans entered into the hearing as Exhibit #1. Please find attached an Approval of Land Acquisition.

**Please note that the signature on this cover letter indicates formal issuance of the attached document. If you have any questions regarding this letter, please contact Allison Rescigno at 508-946-2763 or via e-mail at [Allison.Rescigno@state.ma.us](mailto:Allison.Rescigno@state.ma.us).**

Sincerely,

Richard J. Rondeau, Chief  
Drinking Water Program  
Bureau of Resource Protection

R/AR

Attachments

Cc: Board of Water Commissioners  
Town of Sandwich  
130 Main Street  
Sandwich, MA 02563

Arescigno/My Documents/Land Acquisitions/Sandwich-4261000-Approval Ltr-7-2012  
DWP Archives/SERO/Sandwich-4261000-Land Acquisition-2012-7-27

## **APPROVAL OF LAND ACQUISITION**

Transmittal #X251771

On Wednesday, July 18, 2012, the Department of Environmental Protection held a hearing in its Southeast Regional Offices at 20 Riverside Drive, Lakeville, MA 02347 on the proposed acquisition through deed, of a certain parcel of land in Sandwich, MA. The land to be acquired has a total area of 45.40 acres. The proposed use of the land is for the sanitary protection of Sandwich Water District's Pinkham Wellfield. The land in question was delineated on a plan entered into the hearing as Exhibit #1 and identified by the following title:

**"Plan of Land in Sandwich, Massachusetts  
Farmersville Road, April 20, 2012  
By David C. Thuun, PE, PLS"**

Testimony at the hearing illustrated the need for the acquisition of land for water supply protection purposes. No one spoke in opposition of the land sale.

After reviewing the hydrogeological data available, this Department is of the opinion that acquisition of the land in question by the Sandwich Water District will serve to protect the public water supply at the subject location.

The Department hereby approves the acquisition of the above-mentioned land with the following provisions:

1. The original of the plan entered into the hearing as Exhibit #1 and the deed transferring title to the Board of Water Commissioners will be recorded at the Registry of Deeds.
2. The plan must include notation that the Department has approved the acquisition for water supply protection in a communication specifying the date of this approval, July 27, 2012.
3. A copy of the recorded plan and deed must be furnished to the Department.
4. Department approval of this acquisition is effective for a period of 3 years from the date of this approval letter. The acquisition must be completed by July 26, 2015.

No Environmental Notification Form is required to be submitted for this project since it is categorically exempt under the Environmental Protection Regulations of the Executive Office of Energy & Environmental Affairs and the acquisition of the lands, as proposed, has therefore been determined to cause no significant damage to the environment.





Commonwealth of Massachusetts  
Executive Office of Energy & Environmental Affairs

## Department of Environmental Protection

Southeast Regional Office • 20 Riverside Drive, Lakeville MA 02347 • 508-946-2700

Charles D. Baker  
Governor

Karyn E. Polito  
Lieutenant Governor

Matthew A. Beaton  
Secretary

Martin Suuberg  
Commissioner

December 14, 2016

Mr. Daniel Mahoney, Superintendent  
Sandwich Water District  
72 Tupper Road  
Sandwich, MA 02563

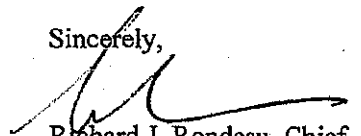
RE: SANDWICH – Public Water Supply  
Sandwich Water District  
PWS ID #4261000  
Approval of Land Acquisition

Dear Mr. Mahoney:

On December 7, 2016, the Massachusetts Department of Environmental Protection (the "Department") held a hearing at the Southeast Regional Office, 20 Riverside Drive in Lakeville, on the sale of certain parcels of land in the Town of Sandwich, Massachusetts. The land in question was delineated on plans entered into the hearing as Exhibits #1. Please find attached an Approval of Land Acquisition.

Please note that the signature on this cover letter indicates formal issuance of the attached document. If you have any questions regarding this letter, please contact Allison Rescigno at 508-946-2763 or via e-mail at [Allison.Rescigno@state.ma.us](mailto:Allison.Rescigno@state.ma.us).

Sincerely,



Richard J. Rondeau, Chief  
Drinking Water Program  
Bureau of Water Resources

R/AR  
Attachment

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CC: Homestead Realty Trust, E.R. Losordo, Trustee  
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Peter & Catherine Cannone  
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Sandwich Land Trust, D.V. Peterson, Trustee  
15 Fowlers Lane  
Falmouth, MA 02540

Town of Sandwich Conservation  
16 Jan Sebastian Drive  
Sandwich, MA 02563

Town of Sandwich  
130 Main Street  
Sandwich, MA 02563

My Documents/Land Acquisitions/Sandwich-4261000-Approval Ltr-12-2016  
DWP Archives/SERO/Sandwich-4261000-Land Acquisition-2016-12-14

## **APPROVAL OF LAND ACQUISITION**

On December 7, 2016, the Massachusetts Department of Environmental Protection ("the Department") held a public hearing in its Southeast Regional Offices at 20 Riverside Drive, Lakeville, MA 02347 on the proposed acquisition, through deed, of certain parcels of land in the Town of Sandwich, Massachusetts. The land to be acquired has a total area of 34.56 acres. The proposed use of the land is for the sanitary protection of the Town of Sandwich Water District's Boiling Springs Wellfield. The land in question was delineated on two plans entered into the hearing as Exhibits #1 and identified by the following titles:

**"Draft Plan of Land in Sandwich Massachusetts, 0 Mid-Cape Highway, prepared for Sandwich Water District Pegasus Realty Trust Parcel Survey July 14, 2016, David C. Thulin, PE, PLS."**

**"Draft Plan of Land in Sandwich, Massachusetts, 0 Gully Land to be purchased for water supply and water supply protection by Sandwich Water District, Prepared for Sandwich Water District, 72 Tupper Road, Sandwich Ma 02563, September 8, 2016, David C. Thulin, PE, PLS."**

Testimony at the hearing illustrated the need for the acquisition of land for water supply protection purposes. No one spoke in opposition of the land sale.

After reviewing the hydrogeological data available, this Department is of the opinion that acquisition of the land in question by Sandwich Water District will serve to protect the public water supply at the subject location.

The Department hereby approves the acquisition of the above-mentioned land with the following provisions:

1. The original of the plans entered into the hearing as Exhibits #1 and the deed transferring title to the Board of Water Commissioners will be recorded at the Registry of Deeds.
2. The plan must include notation that the Department has approved the acquisition for water supply protection in a communication specifying the date of this approval letter.
3. A copy of the recorded plans and deeds must be furnished to the Department.
4. Department approval of this acquisition is effective for a period of three [3] years from the date of this approval letter. The acquisition must be completed by December 14, 2019.

No Environmental Notification Form is required to be submitted for this project since it is categorically exempt under the Environmental Protection Regulations of the Executive Office of Energy & Environmental Affairs and the acquisition of the lands, as proposed, has therefore been determined to cause no significant damage to the environment.

