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

RECEIVED
TOWN OF ORLEANS
AUG - 6 2018
SELECTMEN
TOWN ADMINISTRATOR'S OFFICE

August 3, 2018

Select Board
2198 Main Street
Brewster, Massachusetts 02631

Board of Selectmen
732 Main Street
Harwich, Massachusetts 02645

RE: PLEASANT BAY –
Watershed Permit 001-0

Board of Selectmen
549 Main Street
Chatham, Massachusetts 02633

Board of Selectmen
19 School Road
Orleans, Massachusetts 02653

Dear Board Members:

In response to your application for a Watershed Permit for the Pleasant Bay Watershed, I hereby attach the final permit, including the Targeted Watershed Management Plan (TWMP) and Inter-Municipal Agreement (IMA) referenced therein.

Please note that this is the first permit of its kind issued in the Commonwealth, and MassDEP appreciates the effort the Towns contributed in bringing it to fruition.

If you have any questions or require further information, please do not hesitate to contact me at (508)946-2814 or brian.dudley@mass.gov.

Very truly yours,

Brian A. Dudley, Section Chief
Wastewater Management – Cape and Islands

BAD/

Enclosures (Permit, TWMP, IMA)

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

cc: Ms. Carole Ridley
Pleasant Bay Alliance
PO Box 1584
Harwich, MA 02645
Enclosure (Permit)

Mr. Michael Giggey
Wright-Pierce
11 Bowdoin Mill Island
Suite 140
Topsham, ME 04086
Enclosure (Permit)

ecc: Town Administrator, Town of Brewster
Mr. Chris Miller, Town of Brewster
Ms. Jill Goldsmith, Town of Chatham
Mr. Robert Duncanson, Town of Chatham
Mr. Christopher Clark, Town of Harwich
Mr. Heinz Proft, Town of Harwich
Mr. John Kelly, Town of Orleans
Mr. George Meservey, Town of Orleans

DEP/Boston
Attn: Mr. Gary Moran
Mr. Douglas Fine
Mr. Robert Brown
Mr. Lealdon Langley
Ms. Marybeth Chubb

DEP/SERO
Attn: Ms. Millie Garcia-Serrano
Mr. David Johnston

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

PLEASANT BAY WATERSHED PERMIT

Name and Address of Permittees:

(1) Town of Brewster, 2198 Main Street, Brewster, Massachusetts 02631
(2) Town of Chatham, 549 Main Street, Chatham, Massachusetts 02633
(3) Town of Harwich, 732 Main Street, Harwich Center, Massachusetts 02645
(4) Town of Orleans, 19 School Road, Orleans, Massachusetts 02653

Permit No.: 001-0

Date of Issuance: August 3, 2018
Date of Expiration: August 31, 2038

I. AUTHORITY FOR ISSUANCE

Pursuant to authority granted by M.G.L. c. 21, § 27(6) and Section 2A of Chapter 259 of the Acts of 2014, the Massachusetts Department of Environmental Protection ("the Department" or "MassDEP") hereby issues the following Permit to the Towns of Brewster, Chatham, Harwich and Orleans (collectively, "the Permittees"), subject to the terms and conditions set forth below.

Brian A. Dudley
Bureau of Water Resources

August 3, 2018
Date

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

Printed on Recycled Paper

II. PURPOSE

The waters of Pleasant Bay are impaired by excessive input of Nitrogen from the Pleasant Bay watershed, as demonstrated in the Massachusetts Estuaries Project report titled, *Linked Watershed-Embayment Model to Determine Critical Nitrogen Loading Thresholds for the Pleasant Bay System, Orleans, Chatham, Brewster and Harwich, Massachusetts,* dated May 2006 ("MEP Report"), and the associated total maximum daily load (TMDL) report titled, *Final Pleasant Bay System Total Maximum Loads For Total Nitrogen (Report # 96-TMDL-12,Control #244.0),* dated May 2007 ("TMDL Report"). The purpose of this Permit is to authorize work needed to implement the Permittees' mitigation strategy for Pleasant Bay, as set forth in the Permittees' plan titled, *Pleasant Bay Targeted Watershed Management Plan,* dated May 2018 ("the TWMP"), as such plan may be amended from time-to-time as provided for herein. This Permit establishes performance standards, authorizes certain activities, and establishes timeframes under an adaptive management framework for achieving the water quality and habitat quality restoration goals required to achieve the designated uses established by the Department for Pleasant Bay under the Massachusetts Water Quality Standards, 314 CMR 4.00.

III. REGULATED AREA

The Permittees have voluntarily agreed to work together collaboratively in accordance with the terms of an Inter Municipal Agreement, effective May 21, 2018 ("the IMA"), and this Permit, to implement the TWMP to achieve the water quality and habitat quality restoration goals established by the TMDL Report for Pleasant Bay. The area regulated under this Permit is the Pleasant Bay watershed, as shown in Figure 1, which is attached hereto ("the Regulated Area"). The MEP Report and its accompanying data disk lists all parcels of land included in the Pleasant Bay watershed.

Figure 1: Pleasant Bay Watershed Regulated Area

Figure credits: USGS, SMAST, and Cape Cod Commission

IV. SPECIAL CONDITIONS

A. TWMP Implementation Schedule

1. The Permittees shall take the following actions in accordance with the following schedule:

			Brewster		Chatham		Harwich		Orleans		Total
Phase	Years		Activity	kgN/yr	Activity	kgN/yr	Activity	kgN/yr	Activity	kgN/yr	
	Up to 2018		Capt. Golf Course fertigation	230	Muddy Creek inlet restoration		Muddy Creek inlet restoration				
			Capt. Golf Course fertilizer reduction	930							1,769
			Enact fertilizer reduction by-law	121	Enact fertilizer reduction by-law	247			Enact fertilizer reduction by-law	241	
			All towns: develop TWMP, execute IMA, obtain watershed Permit								
1	1 to 5	2019 to 2023	Develop onsite denitrification plan		Complete Harwich sewer connection		Install Phase 2 sewers	2,672	Amend CWMP		
			Finalize contingency plan				Enact fertilizer reduction by-law	200	Lonnies Pond aquaculture	273	3,145
			All towns; update monitoring data; remodel Pleasant Bay; evaluate nitrogen trading; prepare plan for next 5 years								
2	6 to 10	2024 to 2028	Install onsite denitrification	118			Install Phase 3 sewers	1,565	Install Meetinghouse Pond sewers	2,014	
Subject to adaptive management									Other aquaculture	1,516	
									Install onsite denitrification	674	5,887
3	11 to 15	2029 to 2033	Install onsite denitrification	118	Install Frost Fish Creek Sewers	803			Install onsite denitrification	675	
Subject to adaptive management					Install Ryders Cove sewers	2,605			Other Aquaculture	906	5,107
4	16 to 20	2034 to 2039	Install onsite denitrification	118	Install Muddy Creek sewers	1,597			Install onsite denitrification	675	2,390
Subject to adaptive management											

2. The activities set forth in Section IV.A.1. above are considered enforceable requirements under the Permit, unless and until action is taken to modify the TWMP or the approved Implementation Schedule, revoke the Permit or withdraw from the Permit in accordance with the terms and conditions of the Permit. Any prospective changes to the TWMP or the approved implementation schedule shall be identified in the Annual Reports required by Section VI.J. of this Permit. Any such proposed changes are subject to the Department's review and approval.

3. Section IV. A. 1., above, summarizes the Phase 1 (Years 1 to 5) activities the Permittees are required to perform in order to secure enforcement forebearance as provided under Section V of this Permit. Section IV.A.1. also summarizes the Phases 2 through 4 (Years 6 to 20) enforceable activities until such time as they are revised and MassDEP approved through adaptive management and submittal on an Annual Report in conformance with Section VI.J., a TWMP update or Watershed Permit modification.

B. Monitoring and Reporting

1. Sentinel Sampling Stations

The Permittees shall monitor water quality at the sentinel sampling stations shown on the plan titled, *Water Quality Sample Stations Chatham, MA*, prepared by the Chatham Community Development Department, dated December 15, 2009, and as shown and referenced in the MEP Report, and record the results, in accordance with the following:

Frequency	Watershed/Stations	Parameters	Sample Type
Twice during July, twice during August, and once during September	Little Pleasant Bay (PBA-12), Bassing Harbor (PBA-3 and CM-13), Muddy Creek (PBA-05), Meetinghouse Pond - Outer (WMO-10), Lonnies Pond (PBA-15), Namequoit Rive - Upper (WMO-6), Pochet- Upper (WMO-05), Pah Wah Pond (PBA-11), Little Quanset Pond (WMO-12), and Round Cove (PBA-09)	Particulate Organic Nitrogen (PON), Dissolved Organic Nitrogen (DON), Dissolved Inorganic Nitrogen (DIN), Dissolved Oxygen (DO), Chlorophyll a, Secchi Depth, salinity, Total Suspended Solids (TSS)	Grab/Observation

2. Aquaculture

The applicable Permittee(s) shall monitor the aquaculture project in Lonnies (Kescayo Ganset) Pond according to the following schedule as referenced in " Technical Report DRAFT FINAL Lonnies Pond Shellfish Demonstration Project Year 1 Monitoring Summer/Fall 2016 Oyster Deployment" dated January 2017

Frequency	Stations	Parameters	Sample Type
Bi-weekly from late June to mid-October on the mid-ebb tide	LP-1, LP-2, LP-3, LP-4 (PBA-15), LP-5 (M5), LP-6 (M6), LP-7 (M7), LP-8 (M8)	Temperature, salinity, total nitrogen (nitrate + nitrite, ammonia, dissolved organic nitrogen (DON), particulate organic nitrogen (PON)), chlorophyll-a (Chl-a), pheophytin-a, orthophosphate, dissolved oxygen (DO), transparency (secchi depth), and alkalinity	Grab/Observation

3. Fertigation

The applicable Permittee(s) shall sample and monitor the fertigation well IW-6D in accordance with the following schedule.

Parameter	Minimum Sampling Frequency
Flow	Daily, when operational
pH	Monthly (during April through November)[1]
Total Nitrogen (Total Kjeldahl Nitrogen + Nitrate Nitrogen + Nitrate Nitrogen)	Monthly (during April through November)
Ammonia Nitrogen	Monthly (during April through November)[1]
Nitrate Nitrogen	Monthly (during April through November)[1]
Total Mass Load of Total Nitrogen Pumped	Annually

[1] After one full year of monitoring the Total Nitrogen, Ammonia Nitrogen and Nitrate Nitrogen, the Department may determine, upon the request of the applicable Permittee(s), that the frequency of monitoring may be reduced.

4. Fertilizer Reduction

The applicable Permittee(s) shall report annually the amount of fertilizer applied to the Captains Golf Course, 1000 Freemans Way, Brewster, Massachusetts and any other facilities for which a fertilizer reduction credit may be applied.

C. Adaptive Management Framework

1. This Permit establishes an adaptive management framework in which future decisions will be made as part of an ongoing science-based process and the needs of the Permittees. The Permittees shall implement this framework, as set forth in the TWMP, to evaluate the

results of their water quality management program and adjust and modify their strategies and practices, as needed, and in accordance with this Permit, to address conditions that are causing water quality impairments due to excessive Nitrogen in Pleasant Bay.

2. Subject to MassDEP approval, the Permittees may assume Nitrogen reduction credit for non-traditional approaches and/or non-traditional technologies only if the Permittees implement and maintain such approaches and/or technologies in accordance with the terms and conditions of this Permit. If this Permit is revoked or terminated, MassDEP reserves the right, to the extent of its statutory and regulatory authority, to require the Permittees, individually or collectively, to implement proven technologies to achieve the water quality and habitat quality restoration goals established by the TMDL Report for Pleasant Bay.

3. Nitrogen reduction credits for non-traditional approaches shall be approved by the Department if the data generated from the monitoring of such approaches, as reported in the Annual Reports required under Section VI.J. of this Permit , demonstrates their effectiveness to the Department's satisfaction. Validated data from demonstration projects other than those covered under this permit may, at the discretion of the Department , also be considered in determining nitrogen reduction credits.

4. The Permittees shall continuously provide a contingency plan in the TWMP that relies on proven technologies to achieve the target Nitrogen threshold concentrations at the sentinel sampling stations identified in the MEP Report and the TMDL Report for the Pleasant Bay watershed.

D. Groundwater Discharge Permits

The Department has issued Groundwater Discharge Permit #44-1 to the Town of Chatham, which is incorporated herein by reference, and which is one component of the implementation activities described in the TWMP. Any groundwater discharge permits issued by the Department in the future to the Permittees, either collectively or individually, pursuant to 314 CMR 5.00, applicable to the Regulated Area, and consistent with the TWMP, shall also be deemed incorporated by reference herein.

V. COMPLIANCE AND ENFORCEMENT

A. **Establishment of Conditions and Limitations**. This Permit requires the Permittees to implement cost-effective controls and reasonable best management practices for nonpoint sources, and to provide the level of treatment established by other discharge permits issued by the Department to the Permittees, individually or collectively, and it specifies an implementation schedule for achieving the water quality and habitat quality restoration goals established by the TMDL Report for Pleasant Bay. The implementation schedule established by this Permit affords the Permittee(s) adequate time to meet the minimum water quality criteria for Nitrogen by utilizing an adaptive management framework to control such sources, as provided by the TWMP.

B. **Enforcement**. While this Permit is in effect, the Department agrees to exercise enforcement discretion by forbearing from initiating unilateral enforcement action against the Permittees related to water quality impairment in Pleasant Bay from excess Nitrogen. This enforcement forbearance applies solely to the Nitrogen contribution from all nonpoint sources and any otherwise unregulated sources that are subject to the TWMP, as the TWMP may be amended from time-to-time in accordance with this Permit. This paragraph does not relieve the Permittees, individually or collectively, from any obligation to comply with the terms and conditions of any other permit, approval or order issued by the Department, including, without limitation, any other permit, approval or order referenced in or incorporated in this Permit, any failure to obtain any other permit or approval otherwise required by the Department, or any failure to comply with the terms and conditions established by this Permit. For purposes of this paragraph, unilateral enforcement action includes not only the issuance of any unilateral administrative order and notice of intent to assess a civil administrative penalty, but also any other action taken by the Department unilaterally to mandate an alternative Nitrogen mitigation strategy, such as establishing a local water pollution abatement district pursuant to M.G.L. c. 21, § 28, and designating one or more locations within the Pleasant Bay watershed as Nitrogen Sensitive Areas under 310 CMR 15.215.

C. **Treatment of co-permittees**. Each co-permittee is severally liable for those activities they agree to carry out under the IMA. Each co-permittee is not liable for violations related to those activities for which their co-permittees are solely responsible under the IMA, provided they do not own or operate the treatment system or control technique or are otherwise contractually responsible for the activity that resulted in the violation. Furthermore, each co-permittee who has coverage under another permit or approval issued by the Department which is incorporated herein by reference shall not be deemed in violation of that other permit or approval for the sole reason that one or more of the other co-permittees is in violation of this Permit.

VI. GENERAL CONDITIONS

A. Incorporation of TWMP and IMA by reference. The TWMP and IMA, and any subsequent amendments thereto, are incorporated into this Permit by reference.

B. General Duty. The Permittees shall comply with all terms and conditions of this Permit. Noncompliance with this Permit is grounds for enforcement action, permit termination, permit revocation, permit modification, or denial of a permit renewal application.

C. Notification of Delays. The Permittees shall promptly notify the Department, in writing, upon learning of any delay in compliance with the implementation schedule established by this Permit. Such notice shall state the anticipated length and cause of the delay, the measure or measures to be taken to minimize the delay, and a timetable for implementing those measures. The Permittees shall take appropriate measures to avoid or minimize any such delay.

D. Proper Operation and Maintenance. The Permittees, at all times, shall properly operate and maintain all facilities and systems of treatment and control and related appurtenances which are installed or used by the Permittees to achieve compliance with the terms and conditions of this Permit.

E. Duty to Mitigate. The Permittees shall take all reasonable steps to minimize or prevent any significant adverse impact on human health or the environment that may result from carrying out activities authorized by this Permit.

F. Relationship to Other Permits. This Permit shall not be construed to relieve the Permittees, individually or collectively, of the obligation to comply with the terms and conditions of any other permit order or approval, including any § 401 water quality certificate, issued by the Department.

G. Duty to Monitor. The Permittees shall carry out the approved monitoring activities established by this Permit in Section IV. B. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. Monitoring information required by this Permit shall be retained for the life of the permit, or as otherwise approved by the Department. Records of monitoring information include: (1) the date, exact place, and time of sampling or measurements; (2) the individual(s) who performed the sampling or measurements; (3) the date(s) analyses were performed; (4) the individual(s) who performed the analyses; (5) the analytical techniques or methods used; and (6) the results of such analyses. Monitoring results must be conducted according to test procedures approved by the Department or the United States Environmental Protection Agency for such purposes, unless other test procedures are specified in this Permit.

H. Duty to Report Monitoring Results. The Permittees shall report to the Department the results of monitoring performed for purposes of this Permit in the Annual Reports pursuant to Section VI. J.

I. Toxics Control. In conducting activities under this Permit, the Permittees shall not discharge any pollutant or combination of pollutants in toxic amounts. Any toxic components of such activities shall not result in any demonstrable harm to aquatic life or violate any state or federal water quality standard.

J. Annual Reporting. The Permittees shall submit Annual Reports to the Department for review and approval, at which time the Department will determine if modifications to the TWMP or Permit are necessary. The initial report is due one (1) year from the effective date of this Permit and annually thereafter. The reports should contain information regarding activities of the previous calendar year. The following information shall be contained in each annual report:

(a) a description, including dates, of the installation of any treatment and control systems and facilities, or approaches taken, during the reporting period;
(b) a summary of results of any monitoring information that has been collected and analyzed during the reporting period;
(c) a performance evaluation of the treatment and control systems and facilities, and approaches taken, during the reporting period, including identification of any performance shortcomings or challenges along with recommended corrective actions and optimization activities, as necessary;
(d) a discussion of the activities planned, and the associated critical path, for the next annual reporting cycle, consistent with the implementation schedule;
(e) a self-assessment review of compliance with the terms and conditions of this Permit during the reporting period, and
(f) every fifth annual report shall include a progress report which describes the progress made in achieving the water quality and habitat quality restoration goals required to achieve the designated uses for Pleasant Bay, including an evaluation of the results of the Permittees' water quality management program to date, any proposed adjustments and modifications to the strategies and practices under the TWMP, pertinent sampling and monitoring results, as well as other data pertinent to the technologies installed and approaches taken under the TWMP as of the date of the report, any proposed nitrogen reduction credits for non-traditional approaches requested in accordance with Section IV.C.3. of this Permit, any changes requested to the approved Implementation Schedule, and any other information requested by the Department.

K. Modification of the TWMP or Implementation Schedule. The Permittees shall request, in writing, prior Department approval for modifications to the TWMP and/or the Implementation Schedule established by this Permit in Section IV. A. Such modifications shall become effective and enforceable requirements under this Permit upon approval.

L. Notification of Changes under the IMA. In the event the Permittees agree to amend the IMA, or one or more of the Permittees unilaterally rescinds, terminates or otherwise withdraws from the IMA, then the Permittees shall promptly notify the Department in writing of such action.

M. Duty to Provide Information. The Permittees shall furnish to any authorized representative of the Department any information which is requested to determine compliance with this Permit.

The Permittees shall also furnish any authorized representative of the Department, upon request, copies of records required to be kept by this Permit.

N. Termination of Permit Coverage. Any one or more of the Permittees may terminate coverage under this Permit by providing written notice to the Department at least thirty (30) days in advance of the date such termination is to take effect. Such notice will not be construed to relieve any of the Permittees, individually or collectively, of their obligations to comply with the terms and conditions of this Permit while such coverage was in effect.

O. Facility Closure Requirements. The Permittees shall notify the Department in writing at least thirty (30) days prior to the closure of any treatment or control system or facility covered by this Permit. The Department may require specific measures during deactivation of such systems to prevent any significant adverse environmental impacts.

P. Planned Changes. The Permittees shall notify the Department in writing as soon as possible of any planned alterations or additions to any treatment or control system covered by this Permit, provided that such alterations or conditions are not subject to any other permit, or any § 401 water quality certificate, issued by the Department under the Surface Water Discharge Permitting Program or Groundwater Discharge Permitting Program. The Department may require specific measures to prevent any significant adverse environmental impacts that may result from such changes.

Q. Submittals. All reports and notices required by this Permit shall be submitted either electronically to brian.dudley@mass.gov or by hand-delivery or mailed to the following address:

Brian A. Dudley
Massachusetts Department of Environmental Protection
20 Riverside Drive
Lakeville, Massachusetts 02347

R. Permit Actions. This Permit may be modified, revoked and reissued, or terminated by the Department for cause, including any noncompliance with the terms and conditions of this Permit, or if necessary to effectuate compliance with any law or regulation enacted or promulgated after the effective date of this Permit, or to otherwise effectuate the purposes of the Massachusetts Clean Waters Act.

S. Inspection and Entry. The Permittees shall allow the Department and its authorized representatives to enter upon the Permittees' premises where a regulated facility or activity is located or conducted, or where records required by this Permit are kept, access and copy, at reasonable times, any records that must be kept under the conditions of the permit, inspect at reasonable times any facilities, equipment, practices, or operations regulated or required under this Permit, and sample or monitor at reasonable times for the purpose of determining compliance with the terms and conditions of this Permit. In addition, the Permittees shall take reasonable efforts upon request of the Department to secure from the owners and operators of premises owned or operated by third parties access at all reasonable times to conduct such activities.

T. Property Rights. The issuance of this Permit does not convey any property rights of any sort, or any exclusive privileges, or authorize any injury to private property, or any invasion of personal rights.

U. Compliance with Laws. The issuance of this Permit does not relieve the Permittees, individually or collectively, of their obligations to comply with applicable federal, state, and local laws, regulations, ordinances and bylaws.

V. Severability. The provisions of this Permit are severable, and if any provision of this permit, or the application of any provision of this Permit to any circumstance, is held invalid, the application of such provision to the circumstances, and the remainder of this Permit shall not be affected thereby.