



STATE OF MAINE  
DEPARTMENT OF ENVIRONMENTAL PROTECTION



JANET T. MILLS  
GOVERNOR

GERALD D. REID  
COMMISSIONER

April 17, 2019

Ms. Sarah Rademaker  
American Unagi, LLC  
P.O Box 81  
Thomaston, ME. 04861

RE: Maine Pollutant Discharge Elimination System (MEPDES) Permit #ME0002780  
Maine Waste Discharge License (WDL) #W009202-6E-A-N  
**Final Permit - New**

Dear Ms. Rademaker:

Enclosed please find a copy of your **final** MEPDES permit and Maine WDL which was approved by the Department of Environmental Protection. Please read this permit/license renewal and its attached conditions carefully. Compliance with this permit/license will protect water quality.

Any interested person aggrieved by a Department determination made pursuant to applicable regulations, may appeal the decision following the procedures described in the attached DEP FACT SHEET entitled "*Appealing a Commissioner's Licensing Decision.*"

If you have any questions regarding the matter, please feel free to call me at 287-7693. Your Department compliance inspector copied below is also a resource that can assist you with compliance. Please do not hesitate to contact them with any questions.

Thank you for your efforts to protect and improve the waters of the great state of Maine!

Sincerely,

Gregg Wood  
Division of Water Quality Management  
Bureau of Water Quality

Enc.

cc: James Crowley, MDEP/CMRO  
Sandy Mojica, USEPA

Lori Mitchell, MDEP/CMRO  
Shelley Puleo, USEPA

Marelyn Vega, USEPA

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STATE OF MAINE  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
17 STATE HOUSE STATION AUGUSTA, MAINE 04333-0017

DEPARTMENT ORDER

IN THE MATTER OF

AMERICAN UNAGI, LLC	)	MAINE POLLUTANT DISCHARGE
WALDOBORO, LINCOLN COUNTY, MAINE	)	ELIMINATION SYSTEM PERMIT
FISH REARING FACILITY	)	AND
ME0002780	)	WASTE DISCHARGE LICENSE
W009202-6E-A-N	)	<b>NEW</b>
<b>APPROVAL</b>	)	

In compliance with the applicable provisions of *Pollution Control*, 38 M.R.S. §§ 411 – 424-B, *Water Classification Program*, 38 M.R.S. §§ 464 – 470 and *Federal Water Pollution Control Act*, Title 33 U.S.C. § 1251, and applicable rules of the Department of Environmental Protection (Department hereinafter), has considered the application of AMERICAN UNAGI, LLC (permittee hereinafter), with its supportive data, agency review comments, and other related materials on file and FINDS THE FOLLOWING FACTS:

**APPLICATION SUMMARY**

On December 17, 2018, the permittee submitted an application to the Department for a new Maine Pollutant Discharge Elimination System (MEPDES) Permit/Maine Waste Discharge License (WDL) for a daily maximum discharge of 96,480 gallons per day (gpd) of treated waste water associated with a fish rearing (American unagi) facility to the Medomak River Class B, in Waldoboro, Maine.

**PERMIT SUMMARY**

This permitting action establishes, but is not limited to:

1. A daily maximum discharge flow limitation of 96,480 gallons per day (gpd).
2. Monthly average and daily maximum technology based concentration and mass limitations for biochemical oxygen demand and total suspended solids (TSS).
3. A technology-based pH range limitation.
4. A monthly average water quality based mass limit for total phosphorus.
5. A total nitrogen, total kjeldahl nitrogen (TKN) and nitrate + nitrite nitrogen reporting requirement.

## CONCLUSIONS

Based on the findings summarized in the attached Fact Sheet dated March 1, 2019, and subject to the special and standard conditions that follow, the Department makes the following CONCLUSIONS:

1. The discharge, either by itself or in combination with other discharges, will not lower the quality of any classified body of water below such classification.
2. The discharge, either by itself or in combination with other discharges, will not lower the quality of any unclassified body of water below the classification which the Department expects to adopt in accordance with state law.
3. The provisions of the State's antidegradation policy, *Classification of Maine waters*, 38 M.R.S. § 464(4)(F), will be met, in that:
  - (a) Existing in-stream water uses and the level of water quality necessary to protect and maintain those existing uses will be maintained and protected;
  - (b) Where high quality waters of the State constitute an outstanding natural resource, that water quality will be maintained and protected;
  - (c) Where the standards of classification of the receiving water body are not met, the discharge will not cause or contribute to the failure of the water body to meet the standards of classification;
  - (d) Where the actual quality of any classified receiving water body exceeds the minimum standards of the next highest classification that higher water quality will be maintained and protected; and
  - (e) Where a discharge will result in lowering the existing water quality of any water body, the Department has made the finding, following opportunity for public participation, that this action is necessary to achieve important economic or social benefits to the State.
4. The discharges will be subject to effluent limitations that require application of best practicable treatment as defined in *Conditions of Licenses*, 38 M.R.S. § 414-A(1)(D).

**ACTION**

Based on the findings and conclusions as stated above, the Department APPROVES the above noted application of AMERICAN UNAGI LLC to discharge a daily maximum of 96,480 gpd of treated waste water from a fish rearing facility via Outfall #001A to the Medomak River, Class B, in Waldoboro, Maine, SUBJECT TO THE ATTACHED CONDITIONS, and all applicable standards and regulations including:

1. *Maine Pollutant Discharge Elimination System Permit Standard Conditions Applicable To All Permits*, revised July 1, 2002, copy attached.
2. The attached Special Conditions, including any effluent limitations and monitoring requirements.
3. This permit and the authorization to discharge become effective upon the date of signature below and expire at midnight five (5) years from the effective date. If a renewal application is timely submitted and accepted as complete for processing prior to the expiration of this permit, the authorization to discharge and the terms and conditions of this permit and all modifications and minor revisions thereto remain in effect until a final Department decision on the renewal application becomes effective. [*Maine Administrative Procedure Act*, 5 M.R.S. § 10002 and *Rules Concerning the Processing of Applications and Other Administrative Matters*, 06-096 CMR 2(21)(A) (amended June 9, 2018)].

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

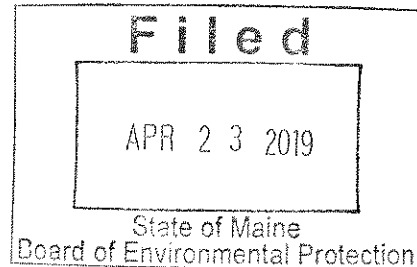
DONE AND DATED AT AUGUSTA, MAINE, THIS 22 DAY OF April 2019.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY:   
*for* Gerald D. Reid, Commissioner

Date of initial receipt of application: December 17, 2018

Date of application acceptance: December 17, 2018



Date filed with Board of Environmental Protection \_\_\_\_\_

This Order prepared by Gregg Wood, BUREAU OF WATER QUALITY

**SPECIAL CONDITIONS**

**A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS**

1. The permittee is authorized to discharge treated process waste water to the Medomak River via **Outfall #001A**. Such discharges are limited and must be monitored by the permittee as specified below:

Effluent Characteristic	Discharge Limitations			Minimum Monitoring Requirements		
	Monthly Average	Daily Maximum	Monthly Average	Daily Maximum	Measurement Frequency	Sample Type
<b>Flow</b> <i>[50050]</i>		96,480 gpd <i>[07]</i>		---	Continuous <i>[99/99]</i>	Meter <i>[MT]</i>
<b>Biochemical Oxygen Demand</b> <sup>(1)</sup> <i>[00310]</i>	24 lbs./day <i>[26]</i>	40 lbs./day <i>[26]</i>	30 mg/L <i>[19]</i>	50 mg/L <i>[19]</i>	2/Month <i>[02/30]</i>	Composite <i>[24]</i>
<b>Total Suspended Solids (TSS)</b> <i>[00530]</i>	24 lbs./day <i>[26]</i>	40 lbs./day <i>[26]</i>	30 mg/L <i>[19]</i>	50 mg/L <i>[19]</i>	2/Month <i>[02/30]</i>	Composite <i>[24]</i>
<b>pH</b> <i>[00400]</i>	---	---	---	6.0 – 9.0 SU <i>[12]</i>	2/Month <i>[02/30]</i>	Grab <i>[GR]</i>
<b>Total Residual Chlorine</b> <sup>(1)</sup> <i>[50060]</i>	---	---	0.38 mg/L <i>[19]</i>	0.56 mg/L <i>[19]</i>	1/Week <i>[01/07]</i>	Grab <i>[GR]</i>
<b>Total Phosphorus</b> <sup>(2)</sup> <i>[00665]</i> <b>(May – Oct)</b> <b>Beginning calendar year 2020</b>	0.43 lbs/day <i>[26]</i>	Report lbs/day <i>[26]</i>	Report mg/L <i>[19]</i>	Report mg/L <i>[19]</i>	2/Month <i>[02/30]</i>	Composite <i>[24]</i>
Total Kjeldahl Nitrogen (as N) <i>[00625]</i> <b>(May – Oct)</b> <b>Beginning calendar year 2020</b>	Report lbs/day <i>[26]</i>	Report lbs/day <i>[26]</i>	Report mg/L <i>[19]</i>	Report mg/L <i>[19]</i>	2/Month <i>[02/30]</i>	Composite <i>[24]</i>
Nitrate + Nitrite Nitrogen (as N) <i>[00630]</i> <b>(May – Oct)</b> <b>Beginning calendar year 2020</b>	Report lbs/day <i>[26]</i>	Report lbs/day <i>[26]</i>	Report mg/L <i>[19]</i>	Report mg/L <i>[19]</i>	2/Month <i>[02/30]</i>	Composite <i>[24]</i>
Total Nitrogen (as N) <sup>(3)</sup> <i>[00600]</i> <b>(May – Oct)</b> <b>Beginning calendar year 2020</b>	Report lbs/day <i>[26]</i>	Report lbs/day <i>[26]</i>	Report mg/L <i>[19]</i>	Report mg/L <i>[19]</i>	1/Month <i>[01/30]</i>	Calculate <i>[CA]</i>
Total Nitrogen (as N) <sup>(4)</sup> <i>[00600]</i> <b>DMR for the month of October</b>	Report lbs/day <i>[26]</i>	---	---	---	1/Season <i>[01/SN]</i>	Calculate <i>[CA]</i>

Footnotes: See Page 5 of this permit for applicable footnotes.

## SPECIAL CONDITIONS

### A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (cont'd)

#### Footnotes:

**Sampling** – Sampling and analysis must be conducted in accordance with; a) methods approved by 40 Code of Federal Regulations (CFR) Part 136, b) alternative methods approved by the Department in accordance with the procedures in 40 CFR Part 136, or c) as otherwise specified by the Department. Samples that are sent out for analysis must be analyzed by a laboratory certified by the State of Maine’s Department of Health and Human Services for waste water. Samples that are analyzed by laboratories operated by waste discharge facilities licensed pursuant to *Waste discharge licenses*, 38 M.R.S. § 413 are subject to the provisions and restrictions of *Maine Comprehensive and Limited Environmental Laboratory Certification Rules*, 10-144 CMR 263 (last amended April 1, 2010). If the permittee monitors any pollutant more frequently than required by the permit using test procedures approved under 40 CFR part 136 or as specified in this permit, all results of this monitoring must be included in the calculation and reporting of the data submitted in the Discharge Monitoring Report (DMR).

1. **Total residual chlorine (TRC)** – TRC limitations are applicable any time of year in which elemental chlorine or chlorine based compounds are utilized as disinfectants. If no chlorine based compounds are utilized during a month’s reporting period, the permittee shall enter the code “N-9” in the applicable space on the corresponding month’s DMR. The permittee must utilize approved test methods that are capable of bracketing the limitations in this permit.
2. **Total phosphorus Effluent** – Seasonal monitoring requirement (May 1 – October 31). See **Attachment A** of this permit for the protocol associated with sampling and analyzing total phosphorus.
3. **Total nitrogen (as N) – Monthly** – The permittee is required to report the monthly average and daily maximum mass and concentrations for each month (May – October) by adding the total kjeldahl nitrogen values to the nitrate + nitrite nitrogen values. See **Attachment B** of this permit for the Department’s protocol entitled, *Protocol For Nitrogen Sample Collection and Analysis For Waste Water Effluent*.
4. **Total Nitrogen (as N) – Seasonal daily average** - The permittee is required to report the seasonal daily average mass of total nitrogen discharged from the facility on the October DMR for each year. The seasonal daily average mass must be calculated by summing the mass results for each sampling event and dividing by the total number of samples.

## **SPECIAL CONDITIONS**

### **B. NARRATIVE EFFLUENT LIMITATIONS**

1. The permittee must not discharge effluent that contains a visible oil sheen, foam or floating solids at any time which would impair the uses designated for the classification of the receiving waters.
2. The permittee must not discharge effluent that contains materials in concentrations or combinations which are hazardous or toxic to aquatic life, or which would impair the uses designated for the classification of the receiving waters.
3. The discharge must not impart visible discoloration, taste, turbidity, toxicity, radioactivity or other properties in the receiving waters which would impair the usages designated for the classification of the receiving waters.
4. The permittee must not discharge effluent that lowers the quality of any classified body of water below such classification, or lowers the existing quality of any body of water if the existing quality is higher than the classification.

### **C. AUTHORIZED DISCHARGES**

The permittee is authorized to discharge only in accordance with: 1) the permittee's General Application for Waste Discharge Permit, accepted for processing on December 17, 2018; 2) the terms and conditions of this permit; and 3) only from Outfalls #001A. Discharges of wastewater from any other point source(s) are not authorized under this permit, and must be reported in accordance with Standard Condition D(1)(f), *Twenty-four hour reporting*, of this permit.

### **D. NOTIFICATION REQUIREMENT**

In accordance with Standard Condition 6, the permittee must notify the Department of the following:

1. Any substantial change in the volume or character of pollutants being introduced into the wastewater collection and treatment system.
2. For the purposes of this section, adequate notice must include information on:
  - a. The quality or quantity of wastewater introduced to the wastewater collection and treatment system; and
  - b. Any anticipated impact of the change in the quantity or quality of the wastewater to be discharged from the treatment system.

## SPECIAL CONDITIONS

### E. OPERATIONS AND MAINTENANCE (O&M) PLAN

**On or before June 1, 2019**, the permittee must submit to the Department, for review and comment, a written comprehensive Operation & Maintenance (O&M) Plan [*ICIS Code 09699*]. The plan must provide a systematic approach by which the permittee must at all times, properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit.

**By December 31 of each year, or within 90 days of any process changes or minor equipment upgrades**, the permittee must evaluate and modify the O&M Plan including site plan(s) and schematic(s) for the wastewater treatment facility to ensure that it is up-to-date. The O&M Plan must be kept on-site at all times and made available to Department and USEPA personnel upon request.

**Within 90 days of completion of new and or substantial upgrades of the wastewater treatment facility**, the permittee must submit the updated O&M Plan to their Department inspector for review and comment.

### F. DISEASE CONTROL

The permittee must comply with Maine Department of Inland Fisheries and Wildlife (MDIFW) (freshwater facilities) and Maine Department of Marine Resources (MEDMR) (salmon & marine facilities) fish health laws (12 MRS, §6071; 12 MRS, §100051, 10105, 12507 and 12509, or revised laws). The cited laws include requirements for notification to the appropriate agency within 24-hours of pathogen detection. In addition to the requirements of the MDIFW and MEDMR rules, **the permittee must notify the Department in writing within 24 hours following pathogen detection**, with information on the disease/pathogen, necessary control measures, and the veterinarian involved.

1. **General requirements.** All chemicals used at the facility must be applied in compliance with federal labeling restrictions and in compliance with applicable statute, Board of Pesticides Control rules and best management practices (BMPs). In accordance with Special Condition D of this permit, the permittee must notify the Department of any substantial change in the volume or character of pollutants being introduced into the wastewater collection and treatment system.
2. **FDA-approved drugs.** All drugs used for disease prevention or control must be approved or authorized by the U.S. Food and Drug Administration (FDA), and all applications must comply with applicable FDA requirements and shall only be administered in accordance with label instructions.
  - a. Drugs identified in the permittee's application: A list of drugs, chemicals and other compounds proposed for use at the permittee's facility during the term of the permit, were provided by the permittee in its December 17, 2018, General Application for Waste Discharge Permit.



## SPECIAL CONDITIONS

### F. DISEASE CONTROL (cont'd)

- b. Preventative treatments: The discharge of any approved drug administered as a preventative measure is not authorized by this permit, unless the following conditions are met: the drug must be approved by FDA, and the treatment and route of administration must be consistent with the drug's intended use. FDA approved drugs in the permittee's December 17, 2018 application are:

#### Drugs and Therapeutants

1. Formalin (Parasite-S)
2. Terramycine® 200 (oxytetracycline dehydrate)
3. Florfenicol
4. Oxytetracycline hydrochloride
5. Chloramine-T
6. Sodium Chloride
7. Potassium permanganate

Effluent monitoring – The permittee must monitor the final effluent at a frequency of 1/Day anytime one or more of the following compounds are utilized in the facility.

1. Formalin (Parasite-S)
2. Terramycine® 200 (oxytetracycline dehydrate)
3. Florfenicol
4. Oxytetracycline hydrochloride
5. Chloramine-T

Monitoring must commence the day of use of a compound(s) and continue until at least three days after the compound(s) is no longer being administered.

**On or before six months following the effective date of this permit [ICIS code 53799]** the permittee must submit a list of approved test methods for the compounds listed in this section. The individual tests results for each must be submitted as an attachment to monthly Discharge Monitoring Reports.

- c. Drugs not identified in the permittee's application: When the need to treat or control diseases requires the use of a FDA-approved drug not identified in the application, the permittee must notify the Department orally or by electronic mail prior to initial use of the drug.
1. The notification must include a description of the drug, its intended purpose, the method of application, the amount, the concentration, the duration of the use, and information on aquatic toxicity.
  2. **Within seven (7) days of** the initial notification the permittee must submit a written report that includes all of the information outlined in Section F.2(c)(1) above.

## SPECIAL CONDITIONS

### F. DISEASE CONTROL (cont'd)

3. The Department may require submission of an application for permit modification, including public notice requirements, if the drug is to be used for more than a 30-consecutive day period.
  4. If, upon review of information regarding the use of a drug pursuant to this section, the Department determines that significant adverse effects are likely to occur, it may restrict or limit use of the drug.
3. **Extralabel drug use.** Extralabel drug use is not authorized by this permit, unless in accordance with a specific prescription written for that use by a licensed veterinarian.
- a. Notification. The permittee must notify the Department orally or by e-mail prior to initial extralabel use of a drug.
    1. The notification must include a description of the drug, its intended purpose, the method of application, the amount, concentration, and duration of the use, information on aquatic toxicity, and a description of how and why the use qualifies as an extralabel drug use under FDA requirements.
    2. **Within seven (7) days of the initial notification** the permittee must submit a written report that includes all of the information outlined in Section F.3(a)(1) above. Notice must include documentation that a veterinarian has prescribed the drug for the proposed use. A copy of the veterinarian's prescription must be maintained on-site during treatment for Department review.
    3. If, upon review of information regarding the extralabel use of a drug pursuant to this section, the Department determines that significant adverse effects are likely to occur, it may deny, restrict or limit use of the drug.
4. **Investigational New Animal Drug (INAD).** The discharge of drugs authorized by the FDA for use during studies conducted under the INAD program is not authorized by this permit, unless in accordance with specific prior consent given in writing by the Department.
- a. Initial report. The permittee must provide a written report to the Department for the proposed use of an INAD *within seven (7) days* of agreeing or signing up to participate in an INAD study. The written report must identify the INAD to be used, method of use, dosage, and disease or condition the INAD is intended to treat.

## SPECIAL CONDITIONS

### F. DISEASE CONTROL (cont'd)

- b. Evaluation and monitoring. *At least ninety (90) days prior to initial use* of an INAD at a facility, the permittee must submit for Department review and approval a study plan for the use of the drug that:
1. Indicates the date the facility agreed or signed up to participate in the INAD study.
  2. Demonstrates that the minimum amount of drug necessary to evaluate its safety, efficacy, and possible environmental impacts will be used.
  3. Includes an environmental monitoring and evaluation program that at a minimum describes sampling strategies, analytical procedures, evaluation techniques and a timetable for completion of the program. Currently available data or literature that adequately characterizes the environmental fate of the INAD and its metabolite(s) may be proposed for consideration in determinations of environmental monitoring and evaluation programs required by the Department pursuant to this section.
- c. Notification. The permittee must notify the Department orally or by electronic mail *no more than forty-eight (48) hours after* beginning the first use of the INAD under the approved plan.

### G. SPILLS

In the event of a spill of drugs, chemicals, feed, petroleum and/or hazardous waste products that results in a discharge to waters of the State, the permittee must provide an oral report of the spill to the Department within 24 hours of its occurrence and a written report on a form provided by the Department, within five (5) days to the Department. The report must include the identity and quantity of the material spilled.

### H. MONITORING AND REPORTING

#### Electronic Reporting

*NPDES Electronic Reporting*, 40 C.F.R. 127, requires MEPDES permit holders to submit monitoring results obtained during the previous month on an electronic discharge monitoring report to the regulatory agency utilizing the USEPA electronic system.

Electronic Discharge Monitoring Reports (DMRs) submitted using the USEPA NetDMR system, must be:

1. Submitted by a facility authorized signatory; and
2. Submitted no later than **midnight on the 15<sup>th</sup> day of the month** following the completed reporting period.

Documentation submitted in support of the electronic DMR may be attached to the electronic DMR. Documentation submitted electronically to the Department in support of the electronic DMR must be submitted no later than midnight on the 15<sup>th</sup> day of the month following the completed reporting period.

## **SPECIAL CONDITIONS**

### **I. TREATMENT PLANT OPERATOR**

The person who has the management responsibility over the treatment facility must hold a **Maine Grade III** certificate (or higher) or must be a Maine Registered Professional Engineer pursuant to *Sewerage Treatment Operators*, Title 32 M.R.S., Sections 4171-4182 and *Regulations for Wastewater Operator Certification*, 06-096 CMR 531 (effective May 8, 2006). All proposed contracts for facility operation by any person must be approved by the Department before the permittee may engage the services of the contract operator.

### **J. COMMENCEMENT OF OPERATIONS**

**At a minimum of sixty (60) days prior to commencing production/operations**, the permittee must meet with the Department's compliance inspection staff to review applicability of the permit limitations, monitoring requirements and reporting requirements. Should the Department determine the proposed production/operations are significantly different than what has been presented in the December 17, 2018, the Department may require the permittee to submit a revised application to the Department.

### **K. REOPENING OF PERMIT FOR MODIFICATION**

In accordance with 38 M.R.S. § 414-A(5) and upon evaluation of the tests results or monitoring requirements specified in Special Conditions of this permitting action, new site specific information, or any other pertinent test results or information obtained during the term of this permit, the Department may, at any time and with notice to the permittee, modify this permit to: 1) include effluent limits necessary to control specific pollutants or whole effluent toxicity where there is a reasonable potential that the effluent may cause water quality criteria to be exceeded, (2) require additional monitoring if results on file are inconclusive; or (3) change monitoring requirements or limitations based on new information.

### **L. SEVERABILITY**

In the event that any provision(s), or part thereof, of this permit is declared to be unlawful by a reviewing court, the remainder of the permit must remain in full force and effect, and must be construed and enforced in all aspects as if such unlawful provision, or part thereof, had been omitted, unless otherwise ordered by the court.

# **ATTACHMENT A**

## **Protocol for Total Phosphorus Sample Collection and Analysis for Waste Water and Receiving Water Monitoring Required by Permits**

Approved Analytical Methods: EPA 200.7 (Rev. 44), 365.1 (Rev. 2.0), (Lachat), 365.3, 365.4; SM 3120 B, 4500-P B.5, 4500-P E, 4500-P F, 4500-P G, 4500-P H; ASTM D515-88(A), D515-88(B); USGS I-4471-97, I-4600-85, I-4610-91; OMAAOAC 973.55, 973.56

**Sample Collection:** The Maine DEP is requesting that total phosphorus analysis be conducted on composite effluent samples, unless a facility's Permit specifically designates grab sampling for this parameter. Facilities can use individual collection bottles or a single jug made out of glass or polyethylene. Bottles and/or jugs should be cleaned prior to each use with dilute HCL. This cleaning should be followed by several rinses with distilled water. Commercially purchased, pre-cleaned sample containers are an acceptable alternative. The sampler hoses should be cleaned, as needed.

**Sample Preservation:** During compositing the sample must be at 0-6 degrees C (without freezing). If the sample is being sent to a commercial laboratory or analysis cannot be performed the day of collection then the sample must be preserved using H<sub>2</sub>SO<sub>4</sub> to obtain a sample pH of <2 su and refrigerated at 0-6 degrees C (without freezing). The holding time for a preserved sample is 28 days.

**Note:** Ideally, Total P samples are preserved as described above. However, if a facility is using a commercial laboratory then that laboratory may choose to add acid to the sample once it arrives at the laboratory. The Maine DEP will accept results that use either of these preservation methods.

**Laboratory QA/QC:** Laboratories must follow the appropriate QA/QC procedures that are described in each of the approved methods.

**Sampling QA/QC:** If a composite sample is being collected using an automated sampler, then once per month run a blank on the composite sampler. Automatically, draw distilled water into the sample jug using the sample collection line. Let this water set in the jug for 24 hours and then analyze for total phosphorus. Preserve this sample as described above.

# **ATTACHMENT B**

## Protocol for Nitrogen Sample Collection and Analysis for Waste Water Effluent

Approved Analytical Methods (from Table 1 B of Part 136 per the 2012 Method Update Rule): (laboratory must be certified for any method performed)

### Total Kjeldahl Nitrogen (TKN):

Manual digestion and distillation or gas diffusion followed by any of the following	SM4500-Norg B-97 or C-97 and SM4500-NH3 B-97.	ASTM D3590-02 (06) (A)	I-4515-9145
Titration	SM4500-NH3 C-97	ASTM D3590-89, 02 (A)	973.48.3
Nesslerization		ASTM D1426-08 (A)	
Electrode	SM4500-NH3 D-97 or E-97	ASTM D1426-08 (B)	
Semi-automated phenate	EPA 350.1 Rev. 2.0 (1993)	SM4500-NH3 G-97 or H-97	
Manual phenate, salicylate, or other substituted phenols in Berthelot reaction based methods	SM4500-NH3 F-1997		
<b><i>Automated methods for TKN that do not require manual digestion</i></b>			
Automated phenate, salicylate, or other substituted phenols in Berthelot reaction based methods colorimetric (auto digestion and distillation)	EPA 351.1 (1978)		I-4551-788
Semi-automated block digester colorimetric (distillation not required)	EPA 351.2, Rev. 2.0 (1993)	SM4500-Norg D-97	ASTM D3590-02 (06) (B) I-4515-9145



**Nitrate + Nitrite (NO<sub>3</sub> + NO<sub>2</sub>):**

Cadmium reduction, Manual		SM4500-NO3 E-00	ASTM D3867-04 (B)	
Cadmium reduction, Automated, or	EPA 353.2, Rev. 2.0 (1993)	SM4500-NO3 F- 00	ASTM D3867- 04(A)	I-4545-852
Automated hydrazine		SM4500-NO3 H-00		
Ion chromatography	EPA 300.0, Rev. 2.1 (1993) and EPA 300.1, rev. 1.0 (1997)	SM4110 B-00 or C-00	ASTM D4327-03	993.303
CIE/UV		SM4140 B-97	ASTM D6508-00 (05)	ASTM D6508, Rev. 2

**Sample Collection:** The Maine DEP is requesting that nitrogen analysis be conducted on composite effluent samples, unless a facility's Permit specifically designates grab sampling for this parameter. Facilities can use individual collection bottles or a single jug made out of glass or polyethylene. Bottles and/or jugs should be cleaned prior to each use with dilute H<sub>2</sub>SO<sub>4</sub>. This cleaning should be followed by several rinses with distilled water. Commercially purchased, pre-cleaned sample containers are an acceptable alternative. The sampler hoses should be cleaned; as needed.

**Sample Preservation:** During compositing the sample must be at 0-6 degrees C (without freezing). If the sample is being sent to a commercial laboratory or analysis cannot be performed the day of collection then the sample must be preserved using H<sub>2</sub>SO<sub>4</sub> to obtain a sample pH of <2 su and refrigerated at 0-6 degrees C (without freezing). The holding time for a preserved sample is 28 days.

**Laboratory QA/QC:** Laboratories must follow the appropriate QA/QC procedures that are described in each of the approved methods.

**Sampling QA/QC:** If a composite sample is being collected using an automated sampler, then once per month run a blank on the composite sampler. Automatically, draw distilled water into the sample jug using the sample collection line. Let this water set in the jug for 24 hours and then analyze for total nitrogen. Preserve this sample as described above.

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**A. GENERAL PROVISIONS**

**1. General compliance.** All discharges shall be consistent with the terms and conditions of this permit; any changes in production capacity or process modifications which result in changes in the quantity or the characteristics of the discharge must be authorized by an additional license or by modifications of this permit; it shall be a violation of the terms and conditions of this permit to discharge any pollutant not identified and authorized herein or to discharge in excess of the rates or quantities authorized herein or to violate any other conditions of this permit.

**2. Other materials.** Other materials ordinarily produced or used in the operation of this facility, which have been specifically identified in the application, may be discharged at the maximum frequency and maximum level identified in the application, provided:

(a) They are not

- (i) Designated as toxic or hazardous under the provisions of Sections 307 and 311, respectively, of the Federal Water Pollution Control Act; Title 38, Section 420, Maine Revised Statutes; or other applicable State Law; or
- (ii) Known to be hazardous or toxic by the licensee.

(b) The discharge of such materials will not violate applicable water quality standards.

**3. Duty to comply.** The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of State law and the Clean Water Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application.

- (a) The permittee shall comply with effluent standards or prohibitions established under section 307(a) of the Clean Water Act, and 38 MRSA, §420 or Chapter 530.5 for toxic pollutants within the time provided in the regulations that establish these standards or prohibitions, even if the permit has not yet been modified to incorporate the requirement.
- (b) Any person who violates any provision of the laws administered by the Department, including without limitation, a violation of the terms of any order, rule license, permit, approval or decision of the Board or Commissioner is subject to the penalties set forth in 38 MRSA, §349.

**4. Duty to provide information.** The permittee shall furnish to the Department, within a reasonable time, any information which the Department may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit or to determine compliance with this permit. The permittee shall also furnish to the Department upon request, copies of records required to be kept by this permit.

**5. Permit actions.** This permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition.

**6. Reopener clause.** The Department reserves the right to make appropriate revisions to this permit in order to establish any appropriate effluent limitations, schedule of compliance or other provisions which may be authorized under 38 MRSA, §414-A(5).

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**7. Oil and hazardous substances.** Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities or penalties to which the permittee is or may be subject under section 311 of the Federal Clean Water Act; section 106 of the Federal Comprehensive Environmental Response, Compensation and Liability Act of 1980; or 38 MRSA §§ 1301, et. seq.

**8. Property rights.** This permit does not convey any property rights of any sort, or any exclusive privilege.

**9. Confidentiality of records.** 38 MRSA §414(6) reads as follows. "Any records, reports or information obtained under this subchapter is available to the public, except that upon a showing satisfactory to the department by any person that any records, reports or information, or particular part or any record, report or information, other than the names and addresses of applicants, license applications, licenses, and effluent data, to which the department has access under this subchapter would, if made public, divulge methods or processes that are entitled to protection as trade secrets, these records, reports or information must be confidential and not available for public inspection or examination. Any records, reports or information may be disclosed to employees or authorized representatives of the State or the United States concerned with carrying out this subchapter or any applicable federal law, and to any party to a hearing held under this section on terms the commissioner may prescribe in order to protect these confidential records, reports and information, as long as this disclosure is material and relevant to any issue under consideration by the department."

**10. Duty to reapply.** If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for and obtain a new permit.

**11. Other laws.** The issuance of this permit does not authorize any injury to persons or property or invasion of other property rights, nor does it relieve the permittee of its obligation to comply with other applicable Federal, State or local laws and regulations.

**12. Inspection and entry.** The permittee shall allow the Department, or an authorized representative (including an authorized contractor acting as a representative of the EPA Administrator), upon presentation of credentials and other documents as may be required by law, to:

- (a) Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;
- (b) Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
- (c) Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and
- (d) Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the Clean Water Act, any substances or parameters at any location.

**B. OPERATION AND MAINTENANCE OF FACILITIES**

**1. General facility requirements.**

- (a) The permittee shall collect all waste flows designated by the Department as requiring treatment and discharge them into an approved waste treatment facility in such a manner as to

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maximize removal of pollutants unless authorization to the contrary is obtained from the Department.

- (b) The permittee shall at all times maintain in good working order and operate at maximum efficiency all waste water collection, treatment and/or control facilities.
- (c) All necessary waste treatment facilities will be installed and operational prior to the discharge of any wastewaters.
- (d) Final plans and specifications must be submitted to the Department for review prior to the construction or modification of any treatment facilities.
- (e) The permittee shall install flow measuring facilities of a design approved by the Department.
- (f) The permittee must provide an outfall of a design approved by the Department which is placed in the receiving waters in such a manner that the maximum mixing and dispersion of the wastewaters will be achieved as rapidly as possible.

**2. Proper operation and maintenance.** The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems which are installed by a permittee only when the operation is necessary to achieve compliance with the conditions of the permit.

**3. Need to halt or reduce activity not a defense.** It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

**4. Duty to mitigate.** The permittee shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.

**5. Bypasses.**

(a) Definitions.

- (i) Bypass means the intentional diversion of waste streams from any portion of a treatment facility.
- (ii) Severe property damage means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

(b) Bypass not exceeding limitations. The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of paragraphs (c) and (d) of this section.

(c) Notice.

- (i) Anticipated bypass. If the permittee knows in advance of the need for a bypass, it shall submit prior notice, if possible at least ten days before the date of the bypass.

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- (ii) Unanticipated bypass. The permittee shall submit notice of an unanticipated bypass as required in paragraph D(1)(f), below. (24-hour notice).
- (d) Prohibition of bypass.
  - (i) Bypass is prohibited, and the Department may take enforcement action against a permittee for bypass, unless:
    - (A) Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;
    - (B) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and
    - (C) The permittee submitted notices as required under paragraph (c) of this section.
  - (ii) The Department may approve an anticipated bypass, after considering its adverse effects, if the Department determines that it will meet the three conditions listed above in paragraph (d)(i) of this section.

**6. Upsets.**

- (a) Definition. Upset means an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.
- (b) Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitations if the requirements of paragraph (c) of this section are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.
- (c) Conditions necessary for a demonstration of upset. A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:
  - (i) An upset occurred and that the permittee can identify the cause(s) of the upset;
  - (ii) The permitted facility was at the time being properly operated; and
  - (iii) The permittee submitted notice of the upset as required in paragraph D(1)(f) , below. (24 hour notice).
  - (iv) The permittee complied with any remedial measures required under paragraph B(4).
- (d) Burden of proof. In any enforcement proceeding the permittee seeking to establish the occurrence of an upset has the burden of proof.

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**C. MONITORING AND RECORDS**

**1. General Requirements.** This permit shall be subject to such monitoring requirements as may be reasonably required by the Department including the installation, use and maintenance of monitoring equipment or methods (including, where appropriate, biological monitoring methods). The permittee shall provide the Department with periodic reports on the proper Department reporting form of monitoring results obtained pursuant to the monitoring requirements contained herein.

**2. Representative sampling.** Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge. If effluent limitations are based wholly or partially on quantities of a product processed, the permittee shall ensure samples are representative of times when production is taking place. Where discharge monitoring is required when production is less than 50%, the resulting data shall be reported as a daily measurement but not included in computation of averages, unless specifically authorized by the Department.

**3. Monitoring and records.**

- (a) Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.
- (b) Except for records of monitoring information required by this permit related to the permittee's sewage sludge use and disposal activities, which shall be retained for a period of at least five years, the permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least 3 years from the date of the sample, measurement, report or application. This period may be extended by request of the Department at any time.
- (c) Records of monitoring information shall include:
  - (i) The date, exact place, and time of sampling or measurements;
  - (ii) The individual(s) who performed the sampling or measurements;
  - (iii) The date(s) analyses were performed;
  - (iv) The individual(s) who performed the analyses;
  - (v) The analytical techniques or methods used; and
  - (vi) The results of such analyses.
- (d) Monitoring results must be conducted according to test procedures approved under 40 CFR part 136, unless other test procedures have been specified in the permit.
- (e) State law provides that any person who tampers with or renders inaccurate any monitoring devices or method required by any provision of law, or any order, rule license, permit approval or decision is subject to the penalties set forth in 38 MRSA, §349.

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**D. REPORTING REQUIREMENTS**

**1. Reporting requirements.**

- (a) Planned changes. The permittee shall give notice to the Department as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required only when:
  - (i) The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in 40 CFR 122.29(b); or
  - (ii) The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are subject neither to effluent limitations in the permit, nor to notification requirements under Section D(4).
  - (iii) The alteration or addition results in a significant change in the permittee's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan;
- (b) Anticipated noncompliance. The permittee shall give advance notice to the Department of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.
- (c) Transfers. This permit is not transferable to any person except upon application to and approval of the Department pursuant to 38 MRSA, § 344 and Chapters 2 and 522.
- (d) Monitoring reports. Monitoring results shall be reported at the intervals specified elsewhere in this permit.
  - (i) Monitoring results must be reported on a Discharge Monitoring Report (DMR) or forms provided or specified by the Department for reporting results of monitoring of sludge use or disposal practices.
  - (ii) If the permittee monitors any pollutant more frequently than required by the permit using test procedures approved under 40 CFR part 136 or as specified in the permit, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR or sludge reporting form specified by the Department.
  - (iii) Calculations for all limitations which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified by the Department in the permit.
- (e) Compliance schedules. Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than 14 days following each schedule date.
- (f) Twenty-four hour reporting.
  - (i) The permittee shall report any noncompliance which may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the permittee becomes aware of the circumstances. A written submission shall also be provided within 5 days of the time the permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance



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has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

(ii) The following shall be included as information which must be reported within 24 hours under this paragraph.

(A) Any unanticipated bypass which exceeds any effluent limitation in the permit.

(B) Any upset which exceeds any effluent limitation in the permit.

(C) Violation of a maximum daily discharge limitation for any of the pollutants listed by the Department in the permit to be reported within 24 hours.

(iii) The Department may waive the written report on a case-by-case basis for reports under paragraph (f)(ii) of this section if the oral report has been received within 24 hours.

(g) Other noncompliance. The permittee shall report all instances of noncompliance not reported under paragraphs (d), (e), and (f) of this section, at the time monitoring reports are submitted. The reports shall contain the information listed in paragraph (f) of this section.

(h) Other information. Where the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Department, it shall promptly submit such facts or information.

**2. Signatory requirement.** All applications, reports, or information submitted to the Department shall be signed and certified as required by Chapter 521, Section 5 of the Department's rules. State law provides that any person who knowingly makes any false statement, representation or certification in any application, record, report, plan or other document filed or required to be maintained by any order, rule, permit, approval or decision of the Board or Commissioner is subject to the penalties set forth in 38 MRSA, §349.

**3. Availability of reports.** Except for data determined to be confidential under A(9), above, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the Department. As required by State law, effluent data shall not be considered confidential. Knowingly making any false statement on any such report may result in the imposition of criminal sanctions as provided by law.

**4. Existing manufacturing, commercial, mining, and silvicultural dischargers.** In addition to the reporting requirements under this Section, all existing manufacturing, commercial, mining, and silvicultural dischargers must notify the Department as soon as they know or have reason to believe:

(a) That any activity has occurred or will occur which would result in the discharge, on a routine or frequent basis, of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":

(i) One hundred micrograms per liter (100 ug/l);

(ii) Two hundred micrograms per liter (200 ug/l) for acrolein and acrylonitrile; five hundred micrograms per liter (500 ug/l) for 2,4-dinitrophenol and for 2-methyl-4,6-dinitrophenol; and one milligram per liter (1 mg/l) for antimony;

(iii) Five (5) times the maximum concentration value reported for that pollutant in the permit application in accordance with Chapter 521 Section 4(g)(7); or

(iv) The level established by the Department in accordance with Chapter 523 Section 5(f).

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- (b) That any activity has occurred or will occur which would result in any discharge, on a non-routine or infrequent basis, of a toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":
  - (i) Five hundred micrograms per liter (500 ug/l);
  - (ii) One milligram per liter (1 mg/l) for antimony;
  - (iii) Ten (10) times the maximum concentration value reported for that pollutant in the permit application in accordance with Chapter 521 Section 4(g)(7); or
  - (iv) The level established by the Department in accordance with Chapter 523 Section 5(f).

**5. Publicly owned treatment works.**

- (a) All POTWs must provide adequate notice to the Department of the following:
  - (i) Any new introduction of pollutants into the POTW from an indirect discharger which would be subject to section 301 or 306 of CWA or Chapter 528 if it were directly discharging those pollutants.
  - (ii) Any substantial change in the volume or character of pollutants being introduced into that POTW by a source introducing pollutants into the POTW at the time of issuance of the permit.
  - (iii) For purposes of this paragraph, adequate notice shall include information on (A) the quality and quantity of effluent introduced into the POTW, and (B) any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW.
- (b) When the effluent discharged by a POTW for a period of three consecutive months exceeds 80 percent of the permitted flow, the permittee shall submit to the Department a projection of loadings up to the time when the design capacity of the treatment facility will be reached, and a program for maintaining satisfactory treatment levels consistent with approved water quality management plans.

**E. OTHER REQUIREMENTS**

**1. Emergency action - power failure.** Within thirty days after the effective date of this permit, the permittee shall notify the Department of facilities and plans to be used in the event the primary source of power to its wastewater pumping and treatment facilities fails as follows.

- (a) For municipal sources. During power failure, all wastewaters which are normally treated shall receive a minimum of primary treatment and disinfection. Unless otherwise approved, alternate power supplies shall be provided for pumping stations and treatment facilities. Alternate power supplies shall be on-site generating units or an outside power source which is separate and independent from sources used for normal operation of the wastewater facilities.
- (b) For industrial and commercial sources. The permittee shall either maintain an alternative power source sufficient to operate the wastewater pumping and treatment facilities or halt, reduce or otherwise control production and or all discharges upon reduction or loss of power to the wastewater pumping or treatment facilities.

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**2. Spill prevention.** (applicable only to industrial sources) Within six months of the effective date of this permit, the permittee shall submit to the Department for review and approval, with or without conditions, a spill prevention plan. The plan shall delineate methods and measures to be taken to prevent and or contain any spills of pulp, chemicals, oils or other contaminants and shall specify means of disposal and or treatment to be used.

**3. Removed substances.** Solids, sludges trash rack cleanings, filter backwash, or other pollutants removed from or resulting from the treatment or control of waste waters shall be disposed of in a manner approved by the Department.

**4. Connection to municipal sewer.** (applicable only to industrial and commercial sources) All wastewaters designated by the Department as treatable in a municipal treatment system will be cosigned to that system when it is available. This permit will expire 90 days after the municipal treatment facility becomes available, unless this time is extended by the Department in writing.

**F. DEFINITIONS.** For the purposes of this permit, the following definitions shall apply. Other definitions applicable to this permit may be found in Chapters 520 through 529 of the Department's rules

**Average** means the arithmetic mean of values taken at the frequency required for each parameter over the specified period. For bacteria, the average shall be the geometric mean.

**Average monthly discharge limitation** means the highest allowable average of daily discharges over a calendar month, calculated as the sum of all daily discharges measured during a calendar month divided by the number of daily discharges measured during that month. Except, however, bacteriological tests may be calculated as a geometric mean.

**Average weekly discharge limitation** means the highest allowable average of daily discharges over a calendar week, calculated as the sum of all daily discharges measured during a calendar week divided by the number of daily discharges measured during that week.

**Best management practices ("BMPs")** means schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the State. BMPs also include treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

**Composite sample** means a sample consisting of a minimum of eight grab samples collected at equal intervals during a 24 hour period (or a lesser period as specified in the section on monitoring and reporting) and combined proportional to the flow over that same time period.

**Continuous discharge** means a discharge which occurs without interruption throughout the operating hours of the facility, except for infrequent shutdowns for maintenance, process changes, or other similar activities.

**Daily discharge** means the discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. For pollutants with limitations expressed in units of mass, the daily discharge is calculated as the total mass of the pollutant discharged over the day. For pollutants with limitations expressed in other units of measurement, the daily discharge is calculated as the average measurement of the pollutant over the day.

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**Discharge Monitoring Report ("DMR")** means the EPA uniform national form, including any subsequent additions, revisions, or modifications for the reporting of self-monitoring results by permittees. DMRs must be used by approved States as well as by EPA. EPA will supply DMRs to any approved State upon request. The EPA national forms may be modified to substitute the State Agency name, address, logo, and other similar information, as appropriate, in place of EPA's.

**Flow weighted composite sample** means a composite sample consisting of a mixture of aliquots collected at a constant time interval, where the volume of each aliquot is proportional to the flow rate of the discharge.

**Grab sample** means an individual sample collected in a period of less than 15 minutes.

**Interference** means a Discharge which, alone or in conjunction with a discharge or discharges from other sources, both:

- (1) Inhibits or disrupts the POTW, its treatment processes or operations, or its sludge processes, use or disposal; and
- (2) Therefore is a cause of a violation of any requirement of the POTW's NPDES permit (including an increase in the magnitude or duration of a violation) or of the prevention of sewage sludge use or disposal in compliance with the following statutory provisions and regulations or permits issued thereunder (or more stringent State or local regulations): Section 405 of the Clean Water Act, the Solid Waste Disposal Act (SWDA) (including title II, more commonly referred to as the Resource Conservation and Recovery Act (RCRA), and including State regulations contained in any State sludge management plan prepared pursuant to subtitle D of the SWDA), the Clean Air Act, the Toxic Substances Control Act, and the Marine Protection, Research and Sanctuaries Act.

**Maximum daily discharge limitation** means the highest allowable daily discharge.

**New source** means any building, structure, facility, or installation from which there is or may be a discharge of pollutants, the construction of which commenced:

- (a) After promulgation of standards of performance under section 306 of CWA which are applicable to such source, or
- (b) After proposal of standards of performance in accordance with section 306 of CWA which are applicable to such source, but only if the standards are promulgated in accordance with section 306 within 120 days of their proposal.

**Pass through** means a discharge which exits the POTW into waters of the State in quantities or concentrations which, alone or in conjunction with a discharge or discharges from other sources, is a cause of a violation of any requirement of the POTW's NPDES permit (including an increase in the magnitude or duration of a violation).

**Permit** means an authorization, license, or equivalent control document issued by EPA or an approved State to implement the requirements of 40 CFR parts 122, 123 and 124. Permit includes an NPDES general permit (Chapter 529). Permit does not include any permit which has not yet been the subject of final agency action, such as a draft permit or a proposed permit.

**Person** means an individual, firm, corporation, municipality, quasi-municipal corporation, state agency, federal agency or other legal entity.

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**Point source** means any discernible, confined and discrete conveyance, including, but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation or vessel or other floating craft, from which pollutants are or may be discharged.

**Pollutant** means dredged spoil, solid waste, junk, incinerator residue, sewage, refuse, effluent, garbage, sewage sludge, munitions, chemicals, biological or radiological materials, oil, petroleum products or byproducts, heat, wrecked or discarded equipment, rock, sand, dirt and industrial, municipal, domestic, commercial or agricultural wastes of any kind.

**Process wastewater** means any water which, during manufacturing or processing, comes into direct contact with or results from the production or use of any raw material, intermediate product, finished product, byproduct, or waste product.

**Publicly owned treatment works ("POTW")** means any facility for the treatment of pollutants owned by the State or any political subdivision thereof, any municipality, district, quasi-municipal corporation or other public entity.

**Septage** means, for the purposes of this permit, any waste, refuse, effluent sludge or other material removed from a septic tank, cesspool, vault privy or similar source which concentrates wastes or to which chemicals have been added. Septage does not include wastes from a holding tank.

**Time weighted composite** means a composite sample consisting of a mixture of equal volume aliquots collected over a constant time interval.

**Toxic pollutant** includes any pollutant listed as toxic under section 307(a)(1) or, in the case of sludge use or disposal practices, any pollutant identified in regulations implementing section 405(d) of the CWA. Toxic pollutant also includes those substances or combination of substances, including disease causing agents, which after discharge or upon exposure, ingestion, inhalation or assimilation into any organism, including humans either directly through the environment or indirectly through ingestion through food chains, will, on the basis of information available to the board either alone or in combination with other substances already in the receiving waters or the discharge, cause death, disease, abnormalities, cancer, genetic mutations, physiological malfunctions, including malfunctions in reproduction, or physical deformations in such organism or their offspring.

**Wetlands** means those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.

**Whole effluent toxicity** means the aggregate toxic effect of an effluent measured directly by a toxicity test.

**MAINE POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT  
MAINE WASTE DISCHARGE LICENSE**

**FACT SHEET**

DATE: **March 1, 2019**  
PERMIT NUMBER: **ME0002780**  
WASTE DISCHARGE LICENSE: **W009202-6E-A-N**

NAME AND ADDRESS OF APPLICANT:

**AMERICAN UNAGI, LLC.  
P.O Box 81  
Waldoboro, Maine 04861**

COUNTY: **Lincoln**

NAME AND ADDRESS WHERE DISCHARGE(S) OCCUR(S):

**Waldoboro Environmental Park Inc.  
One Pie Lane  
Waldoboro, Maine 04861**

RECEIVING WATER CLASSIFICATION: **Medomak River/Class B**

COGNIZANT OFFICIAL CONTACT INFORMATION:

**Ms. Sarah Rademaker, Founder & President  
(260) 417-2883  
e-mail: [info@americanunagi.com](mailto:info@americanunagi.com)**

**1. APPLICATION SUMMARY**

- a. Application - On December 17, 2018, American Unagi LLC (permittee) submitted an application to the Department for a new Maine Pollutant Discharge Elimination System (MEPDES) Permit/Maine Waste Discharge License (WDL) for a daily maximum discharge of 96,480 gallons per day (gpd) of treated waste water associated with the fish rearing (American unagi) facility to the Medomak River Class B, in Waldoboro, Maine. See **Attachment A** of this Fact Sheet for a location map.

## 1. APPLICATION SUMMARY

- b. Source Description: The permittee is proposing to construct a new recirculating aquaculture system (RAS) for the rearing and processing of America eels (*Anguilla rostrate*) on a 6.0-acre leased parcel of land owned by Waldoboro Environmental Park, LLC on One Pie Road in the Town of Waldoboro. The permittee proposes to purchase juvenile glass eels (elvers) from local fish harvesters then grow the eels to market size and process the eels for shipping. The permittee proposes to utilize a RAS in which 95% of water is reused, significantly reducing the discharge flow. The fresh water used in the RAS facility will be extracted from drilled well located on the parcel. Sanitary waste water generated at the facility is disposed of in an on-site waste water disposal system. Construction is anticipated to commence in the spring of 2019 and will be completed in the fall of 2019.
- c. Wastewater Treatment: Waste water treatment consists of phosphorus and solids removal (93% and 95% respectively) via drum filters, biochemical oxygen demand (93.5%) and total nitrogen removal (75%) via nitrification and denitrification through a series of membrane bed biological reactors (MBBR) and final polishing via fixed bed upflow reactors. The final effluent is disinfected via ultraviolet light and discharged to the Medomak River via 6-inch diameter outfall pipe located approximately three feet below the mean low water mark. See **Attachment B** of this Fact Sheet for a schematic of the waste water treatment system. Sanitary waste water generated at the facility is disposed of in an onsite subsurface waste water disposal system

## 2. PERMIT SUMMARY

- a. Terms and Conditions: This permitting action establishes, but is not limited to:
1. A daily maximum discharge flow limitation of 96,480 gallons per day (gpd).
  2. Monthly average and daily maximum technology based concentration and mass limitations for biochemical oxygen demand and total suspended solids (TSS).
  3. A technology-based pH range limitation.
  4. A monthly average water quality based mass limit for total phosphorus.
  5. A total nitrogen, total kjeldahl nitrogen (TKN) and nitrate + nitrate nitrogen reporting requirement.

## 3. CONDITIONS OF PERMIT

*Conditions of licenses*, 38 M.R.S. § 414-A, requires that the effluent limitations prescribed for discharges, including, but not limited to, effluent toxicity, require application of best practicable treatment (BPT), be consistent with the U.S. Clean Water Act, and ensure that the receiving waters attain the State water quality standards as described in Maine's Surface Water Classification System. In addition, *Certain deposits and discharges prohibited*, 38 M.R.S. § 420 and *Surface Water Toxics Control Program* 06-096 CMR 530 require the regulation of toxic substances not to exceed levels set forth in *Surface Water Quality Criteria for Toxic Pollutants*, 06-096 CMR 584 (last amended July 29, 2012), and that ensure safe levels for the discharge of toxic pollutants such that existing and designated uses of surface waters are maintained and protected.

#### 4. RECEIVING WATER QUALITY STANDARDS

*Classifications of freshwaters*, 38 M.R.S. § 467(5-A)(A)(2) classifies the Medomak River from the Wagner Bridge Road in the Town of Waldoboro to tidewater, as Class B waters. *Standards for classification of fresh waters*, 38 M.R.S. § 465(3) describes the classification standards for Class B waters in part as follows:

*Class B shall be the 3rd highest classification.*

- A. Class B waters must be of such quality that they are suitable for the designated uses of drinking water supply after treatment; fishing; agriculture; recreation in and on the water; industrial process and cooling water supply; hydroelectric power generation, except as prohibited under Title 12, section 403; navigation; and as habitat for fish and other aquatic life. The habitat must be characterized as unimpaired.*
- B. The dissolved oxygen content of Class B waters may not be less than 7 parts per million or 75% of saturation, whichever is higher, except that for the period from October 1st to May 4th, in order to ensure spawning and egg incubation of indigenous fish species, the 7-day mean dissolved oxygen concentration may not be less than 9.5 parts per million and the one-day minimum dissolved oxygen concentration may not be less than 8.0 parts per million in identified fish spawning areas. Between April 15th and October 31st, the number of Escherichia coli bacteria in these waters may not exceed a geometric mean of 64 CFU per 100 milliliters over a 90-day interval or 236 CFU per 100 milliliters in more than 10% of the samples in any 90-day interval.*
- C. Discharges to Class B waters may not cause adverse impact to aquatic life in that the receiving waters must be of sufficient quality to support all aquatic species indigenous to the receiving water without detrimental changes in the resident biological community.*

*Classifications of estuarine and marine waters*, 38 M.R.S. § 469(3)(A) classifies all estuarine and marine waters lying within the boundaries of Lincoln County and that are not otherwise classified, as Class SB waters. *Standards for classification of estuarine and marine waters*, 38 M.R.S. § 465-B(2) describes the classification standards for Class SB waters as follows:

*Class SB waters must be of such quality that they are suitable for the designated uses of recreation in and on the water, fishing, aquaculture, propagation and harvesting of shellfish, industrial process and cooling water supply, hydroelectric power generation, navigation and as habitat for fish and other estuarine and marine life. The habitat must be characterized as unimpaired.*

*The dissolved oxygen content of Class SB waters must be not less than 85% of saturation. Between May 15th and September 30th, the numbers of enterococcus bacteria of human and domestic animal origin in these waters may not exceed a geometric mean of 8 per 100 milliliters or an instantaneous level of 54 per 100 milliliters. In determining human and domestic animal origin, the department shall assess licensed and unlicensed sources using available diagnostic procedures. The numbers of total coliform bacteria or other specified indicator organisms in samples representative of the waters in shellfish harvesting areas may not exceed the criteria recommended under the National Shellfish Sanitation Program, United States Food and Drug Administration.*



#### 4. RECEIVING WATER QUALITY STANDARDS

*Discharges to Class SB waters may not cause adverse impact to estuarine and marine life in that the receiving waters must be of sufficient quality to support all estuarine and marine species indigenous to the receiving water without detrimental changes in the resident biological community. There may be no new discharge to Class SB waters that would cause closure of open shellfish areas by the Department of Marine Resources. For the purpose of allowing the discharge of aquatic pesticides approved by the department for the control of mosquito-borne diseases in the interest of public health and safety, the department may find that the discharged effluent will not cause adverse impact to estuarine and marine life as long as the materials and methods used provide protection for nontarget species. When the department issues a license for the discharge of aquatic pesticides authorized under this paragraph, the department shall notify the municipality in which the application is licensed to occur and post the notice on the department's publicly accessible website.*

#### 5. RECEIVING WATER QUALITY CONDITIONS

*The State of Maine 2016 Integrated Water Quality Monitoring and Assessment Report*, prepared by the Department pursuant to Sections 303(d) and 305(b) of the Federal Water Pollution Control Act, (referred to as the “305b Report”), indicates the freshwater segment of the Medomak River (AUD ID ME0105000302\_525R) is attaining the standards of its assigned classification.

The 305b report lists the Medomak River in *Category 4-A: Rivers and Streams With Impaired Use TMDL Required, Waters Impaired by Atmospheric Deposition of Mercury*. This applies to all freshwaters in Maine. Impairment in this context refers to the designated use of recreational fishing due to elevated levels of mercury in some fish caused by atmospheric deposition. As a result, the State has established a fish consumption advisory for all freshwaters in Maine. Many waters, and many fish from any given year, do not exceed the action level for mercury. However, because it is impossible for someone consuming fish to know whether the mercury level exceed the action level, the Maine Department of Health and Human Services decided to establish a statewide advisory recommending limits on consumption for all freshwater fish. Maine has instituted statewide programs for removal and reduction of mercury sources.

The 305b Report lists the Medomak River Estuary (Waterbody ID 726-11) in, “*Category 4-B-1: Estuarine and Marine Waters Impaired by Pollutants – Pollution Control Requirements Reasonably Expected to Result in Attainment.*” Impairment in this context refers to the designated use of habitat for fish and other estuarine and marine life. The 305b Report states that the impairment is caused by point source discharge, but further states that the municipal point source was eliminated. Data are not available as of the date of this permitting action to determine if elimination of the municipal point source has resulted in attainment of the receiving water.

The 305(b) Report lists DEP waterbody ID 726/DMR Area #26, Medomak River (Waldoboro, Bremen and Friendship) in *Category 5-B-1(a) Estuarine and Marine Waters Impaired for Bacteria Only – TMDL Required*. See **Attachment C** of this Fact Sheet for a map of DMR Area #26.

## 5. RECEIVING WATER QUALITY CONDITIONS (cont'd)

The 305b Report lists all estuarine and marine waters as, “*Category 5-D: Estuarine and Marine Waters Impaired by Legacy Pollutants.*” Impairment in this context refers to these waters partially supporting the designated use of fishing (fish and shellfish consumption) due to elevated levels of PCBs in tissues of some fish as well as other persistent bioaccumulating substances in lobster tomalley. Based on the nature of the discharge, the Department has made a best professional judgement the discharge will not cause or contribute to this impairment.

The Maine Department of Marine Resources (DMR) assesses information on shellfish growing areas to ensure that shellfish harvested are safe for consumption. The DMR has authority to close shellfish harvesting areas wherever there is a pollution source, a potential pollution threat, or poor water quality. The DMR traditionally closes shellfish harvesting areas if there are known sources of discharges with unacceptable bacteria levels (in-stream thresholds established in the National Shellfish Sanitation Program) or maintains shellfish harvesting closure areas due to lack of updated information regarding ambient water quality conditions. In addition, the DMR prohibits shellfish harvesting in the immediate vicinity of most wastewater treatment outfall pipes as a precautionary measure due to bacteria, viruses and other deleterious substances associated with wastewater treatment plant effluents. Area #26 is classified as prohibited. However, DMR does not anticipate the proposed outfall from the permittee’s facility will cause or contribute to the prohibited classification as all sanitary waste water generated at the facility is conveyed to the Town of Waldoboro’s waste water treatment facility. The Town’s waste water treatment facility disposes of treated sanitary waste water via a large spray irrigation facility. Area #26 is closed to the harvesting of shellfish due to water quality not meeting the standards of the National Shellfish Sanitation Program unrelated to the presence of the proposed outfall. The Department is making the determination that the proposed discharge from the permittee’s facility will not cause or contribute to the closure of the shellfish harvesting area.

## 6. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

- a. Flow: This permitting action establishes a daily maximum discharge flow limit of 96,480 gpd for Outfalls #001A based on information provided by the permittee.
- b. Dilution Factors: Dilution factors associated with the permitted discharge flow of 0.096480 MGD from the facility to the fresh water segment of the Medomak River were derived in accordance with 06-096 CMR 530(4)(A) and were calculated as follows:

$$\text{Acute: } 1Q10^{(1)} = 4.25 \text{ cfs} \quad \Rightarrow \frac{(4.25 \text{ cfs})(0.6464) + 0.09480 \text{ MGD}}{0.096480 \text{ MGD}} = 29.5:1$$

$$\text{Chronic: } 7Q10^{(2)} = 5.0 \text{ cfs} \quad \Rightarrow \frac{(5.0 \text{ cfs})(0.6464) + 0.096480 \text{ MGD}}{0.096480 \text{ MGD}} = 34.5:1$$

$$\text{Harmonic Mean}^{(3)} = 15 \text{ cfs} \quad \Rightarrow \frac{(15 \text{ cfs})(0.6464) + 0.096480 \text{ MGD}}{0.096480 \text{ MGD}} = 101:1$$

**6. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (cont'd)**

- (1) Estimated by the Department as 0.85(7Q10). The Department's Division of Environmental Assessment (DEA) has determined that mixing of the effluent with the receiving water is rapid and complete and recommends that acute evaluations be based on the full 1Q10 value rather than the default stream design flow of ¼ of the 1Q10 in accordance with 06-096 CMR 530(4)(B)(1).
  - (2) Estimated by the Department using the regression equation in USGS's Streamstats application.
  - (3) The harmonic mean dilution factor is approximated by multiplying the 7Q10 flow value by three (3). This multiplying factor is based on guidelines for estimation of human health dilution presented in the USEPA publication, *Technical Support Document for Water Quality-Based Toxics Control* (Office of Water; EPA/505/2-90-001, page 88), and represents an estimation of harmonic mean flow.
- c. Biochemical Oxygen Demand (BOD<sub>5</sub>) and Total Suspended Solids (TSS): This permitting action is establishing monthly average and daily maximum concentration limits of 30 mg/L and 50 mg/L respectively for BOD<sub>5</sub> and TSS based on Department best professional judgment (BPJ) of best practicable treatment (BPT) for re-circulating facilities. These limits were based on recommendations included in USEPA's 2002 proposed draft National Effluent Guidelines for TSS from re-circulated fish hatchery wastewater receiving a secondary level of treatment and the Department's long-standing view of the relationship with and significance of BOD<sub>5</sub>, as well as consideration of effluent quality from facilities utilizing the Department's BPJ of minimum treatment technology. Mass limits were calculated based on the monthly average flow limits of 0.096480, the applicable concentration limits, and a conversion factor of 8.34 lbs/gal for water. The limits were calculated as follows:

$$\text{Monthly average: } (0.096480 \text{ MGD})(30 \text{ mg/L})(8.34 \text{ lbs/gal}) = 24 \text{ lbs/day}$$

$$\text{Daily maximum: } (0.096480 \text{ MGD})(50 \text{ mg/L})(8.34 \text{ lbs/gal}) = 40 \text{ lbs/day}$$

The permittee has provided the Department with an expected effluent BOD concentration of 25 mg/L which the Department evaluated as to its impact on ambient dissolved oxygen (DO) levels in the Medomak River. With a concentration of 25 mg/L, the river at 7Q10 low flow conditions and an ambient receiving water temperature of 25°C, depression of the DO due to BOD is estimated to be no more than 0.12 mg/L at any point above the head of tide.

When issuing permits for new or increased discharges, the State's antidegradation policy requires the Department to make case by case specific findings and determinations with respect to whether the discharge will result in a significant lowering of existing water quality and whether the lowering of water quality is necessary to achieve important economic or social benefit to the State. The policy states that where a new or increased discharge consumes 20% or more of the remaining assimilative capacity for dissolved oxygen or other water quality parameter, the resulting lower of water quality will be determined to be significant.

**6. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS**

With the DO saturation of 8.25 mg/L for the river at 25°C, the discharge will consume only 10% of the remaining assimilative capacity of the receiving water. The calculation is as follows:

$$8.25 \text{ mg/L} - 7.0 \text{ mg/L} = 1.25 \text{ mg/L}$$

$$\frac{0.12 \text{ mg/L}}{1.25 \text{ mg/L}} (100) = 10\%$$

Therefore, the discharge will not result in a significant lowering of existing water quality.

- d. pH: This permitting action is establishing a pH range limitation of 6.0 – 9.0 SU which is consistent with the range considered by the Department to be BPT for like discharges in Maine.
- e. Total Residual Chlorine: Limits on total residual chlorine (TRC) are specified to ensure that ambient water quality standards are maintained and that BPT is being applied to the discharge. Permits issued by this Department impose the more stringent of the calculated water quality based or BPT based limits.

With acute and chronic dilution factors of 29.5 and 34.5 respectively, water quality based thresholds for TRC may be calculated as follows:

Parameter	Acute Criteria	Chronic Criteria	Acute Dilution	Chronic Dilution	Acute Limit	Chronic Limit
Chlorine	0.019 mg/L	0.011 mg/L	29.5	34.5:1	0.56 mg/L	0.38 mg/L

The Department has established a daily maximum BPT limitation of 1.0 mg/L for facilities that utilize elemental chlorine or chlorine based compounds unless the calculated acute water quality based threshold is lower than 1.0 mg/L. Given the acute and chronic water quality based limits calculated above are lower than the BPT threshold of 1.0 mg/L, the water quality based limits are established as follows:

Monthly average = 0.38 mg/L

Daily maximum = 0.56 mg/L

- f. Total phosphorus - *Waste Discharge License Conditions*, 06-096 CMR 523 specifies that water quality based limits are necessary when it has been determined that a discharge has a reasonable potential to cause or contribute to an excursion above any State water quality standard including State narrative criteria. In addition, 06-096 CMR 523 specifies that water quality based limits may be based upon criterion derived from a proposed State criterion, or an explicit State policy or regulation interpreting its narrative water quality criterion, supplemented with other relevant information which may include: EPA's Water Quality Standards Handbook, October 1983, risk assessment data, exposure data, information about the pollutant from the Food and Drug Administration, and current EPA criteria documents.

## 6. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (cont'd)

USEPA's Quality Criteria for Water 1986 (Gold Book) puts forth an in-stream phosphorus concentration goal of less than 0.100 mg/L in streams or other flowing waters not discharging directly to lakes or impoundments, to prevent nuisance algal growth. The use of the 0.100 mg/L Gold Book goal is consistent with the requirements of 06-096 CMR 523 noted above for use in a reasonable potential (RP) calculation.

Based on the above rationale, the Department has chosen to utilize the Gold Book goal of 0.100 mg/L. It is the Department's intent to continue to make determinations of actual attainment or impairment based upon environmental response indicators from specific water bodies. The use of the Gold Book goal of 0.100 mg/L for use in the RP calculation will enable the Department to establish water quality based limits in a manner that is reasonable and that appropriately establishes the potential for impairment, while providing an opportunity to acquire environmental response indicator data, numeric nutrient indicator data, and facility data as needed to refine the establishment of site-specific water quality-based limits for phosphorus.

For the background concentration in the Medomak River, the Department utilized a background concentration of 0.021 mg/L. This value was determined to be representative of background conditions in Medomak Pond which is the source of the Medomak River. For effluent concentration, the Department utilized a value of 3 mg/L based on information from the permittee's application.

Using the following calculation, the permittee's facility does exceed and has a reasonable potential to exceed the EPA's Gold Book value of 0.100 mg/L and the Department's 06-096 CMR Chapter 583 draft criteria of 0.030 mg/L for Class B waters (classification before transition to Class SB). The calculations are as follows:

$$Cr = \frac{QeCe + QsCs}{Qr}$$

Qe = effluent flow i.e. facility design flow	=	0.096480 MGD
Ce = effluent pollutant concentration	=	3.0 mg/L
Qs = 7Q10 flow of receiving water	=	3.23 MGD (5.0 cfs)
Cs = upstream concentration	=	0.021 mg/L
Qr = receiving water flow	=	3.3265 MGD
Cr = receiving water concentration	=	?

$$Cr = \frac{(0.096480 \text{ MGD} \times 3.0 \text{ mg/L}) + (3.23 \text{ MGD} \times 0.021 \text{ mg/L})}{3.3265 \text{ MGD}} = 0.1074 \text{ mg/L}$$

Cr = 0.107 mg/L > 0.100 mg/L ⇒ **Yes, reasonable potential**  
Cr = 0.107 mg/L > 0.030 mg/L ⇒ **Yes, reasonable potential**

## 6. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (cont'd)

Consistent with Department Guidance dated August 15, 2016, and the State's antidegradation policy, the Department is establishing a monthly average water quality based mass limit for total phosphorus based on EPA's value of 0.100 mg/L taking into consideration as follows;

Remaining assimilative capacity:  $0.100 \text{ mg/L} - 0.021 \text{ mg/L} = 0.079 \text{ mg/L}$

EOP concentration:  $0.079 \text{ mg/L} (34.5)(0.2) = 0.54 \text{ mg/l}$

Mass =  $(0.54 \text{ mg/L})(8.34 \text{ lbs/gal})(0.096480 \text{ MGD}) = 0.43 \text{ lbs/day}$

- g. Nitrogen: The USEPA requested the Department evaluate the reasonable potential for the discharge of total nitrogen to cause or contribute to non-attainment of applicable water quality standards in marine waters, namely DO and marine life support. The permittee anticipates a total effluent nitrogen concentration of 57+ mg/L. For this reasonable potential assessment and until the permittee collects effluent data during facility operation, the Department considers 57 mg/L to be representative of total nitrogen discharge levels from the American Unagi facility.

As of the date of this permitting action, the State of Maine has not promulgated numeric ambient water quality criteria for total nitrogen. According to several studies in USEPA's Region 1, numeric total nitrogen criteria have been established for relatively few estuaries, but the criteria that have been set typically fall between 0.35 mg/L and 0.50 mg/L to protect marine life using dissolved oxygen as the indicator. While the thresholds are site-specific, nitrogen thresholds set for the protection of eelgrass habitat range from 0.30 mg/L to 0.39 mg/L.

Based on studies in USEPA's Region 1 and the Department's best professional judgment of thresholds that are protective of Maine water quality standards, the Department is utilizing a threshold of 0.45 mg/L for the protection of aquatic life in marine waters using dissolved oxygen as the indicator, and 0.32 mg/L for the protection of aquatic life using eelgrass as the indicator. Two known surveys have been completed within the Medomak River estuary to document presence/absence of eelgrass. The surveys were completed in 1995 and 2004 by the Maine Department of Marine Resources (DMR), and showed eelgrass in similar locations in both years in the upper estuary, with the closest beds to the discharge at approximately 3.75 miles below Head of Tide. Since the proposed discharge would be located approximately 2.4 miles upstream of Head of Tide, the cumulative distance from the discharge point to previously mapped eelgrass is >6 miles. Given this large distance and anticipated immeasurable impact of the effluent on eelgrass, the use of 0.45 mg/L as a threshold value for dissolved oxygen as the indicator is appropriate for this estuary.

The Department and external partners have been collecting ambient total nitrogen data along Maine's coast. For the lower, non-tidal portion of the Medomak River as well as the upper Medomak River estuary, total nitrogen data of known quality are not available, and therefore the Department does not believe that a defensible reasonable potential analysis is possible at this time. Although not collected under a Department-approved Quality Assurance Project Plan, data collected by a citizen science organization, the Medomak Valley Land Trust/Maine Coastal Observing Alliance, provide an indication of late summer ambient nitrogen concentrations just

## 6. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (cont'd)

above Head of Tide as well as downstream through Hollis Point in Waldoboro. Total nitrogen values generated from a site approximately 0.1 mile upstream of Head of Tide in August and September 2018 demonstrate an average total nitrogen concentration of 0.34 mg/L (n=4). High tide samples collected from the water's surface at sites located 0.8, 1.3, and 2.2 miles below Head of Tide during 2014-2018, show total nitrogen concentrations of 0.43 mg/L (n=1), 0.35 mg/L (n=20), and 0.30 mg/L (n=1), respectively. These total nitrogen values are informative in nature, and are not atypical of other Mid-coast riverine systems.

The Department similarly has access to very limited, citizen scientist-collected water quality data from the water's surface during high tide at the same estuarine sites. The data suggest a rather productive upper estuary based on somewhat regular afternoon supersaturated dissolved oxygen values and associated, elevated pH. Secchi disk transparencies from the site 1.3 miles below Head of Tide show penetration to an average depth of 0.9 m (n=20), and indicate possible moderate levels of turbidity not unanticipated for a shallow, upper estuarine system. Low tide aerial photography reflects that the upper Medomak River estuary exhibits only a very narrow channel and extensive tidal mudflats, flanked in the constricted portion of the upper estuary by tidal marshes.

Except for ammonia, nitrogen is not acutely toxic; thus, the department is considering a far-field dilution to be more appropriate when evaluating impacts of nitrogen to the marine environment. The permittee's facility has a chronic nearfield dilution of 35:1, based on a steady-state mixing of the facility's effluent with the river's 7Q10 to the head of tide. This freshwater dilution will be supplemented by the action and exchange of tidal waters in the narrow and shallow upper estuary. To analyze the tidal flow's effect on dilutions, the department's Division of Environmental Assessment developed a 4-segment, advective-mixing model of the upper Medomak River estuary using the Water Quality Analysis Simulation Program (WASP) and the preliminary estimates of the effluent's nitrogen constituents. The model estimates a far-field dilution of between 660:1 and 6,300:1, the lowest dilutions occurring near the head of tide and the highest dilutions occurring where the narrow upper estuary empties into the wider bay just above Meeting House Cove ( $\approx$ 2.0 miles below head of tide).

Based on this dilution range, the increases in the ambient total nitrogen due to the permittee's effluent discharge are estimated to fall within the following range:

Total nitrogen concentration in effluent = 57 mg/l

Chronic, far-field dilution factor range = 660:1 to 6,300:1

TN concentration increase after dilution =  $\frac{57 \text{ mg/l}}{6300}$  to  $\frac{57 \text{ mg/l}}{660} = 0.01 \text{ mg/l to } 0.09 \text{ mg/l}$

The TN concentration increase will be highest near the head of tide and lowest where the narrow upper estuary empties into the wider bay just above Meeting House Cove. Quality background nitrogen data, operational effluent characterization, and determination of the upper estuary's mixing dynamics would be necessary to refine the dilution estimates and determine the resulting TN concentrations in the estuary.

## 6. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (cont'd)

Based on the need for additional information regarding the receiving waterbody as well as the effluent, the Department has established a seasonal effluent monitoring requirement for total nitrogen (TKN and  $\text{NO}_3+\text{NO}_2$ ) so that it may accurately characterize American Unagi's contribution to the receiving water. The Department will work with partnering organizations as possible to ensure collection of ambient data of known quality prior to the subsequent permit revision. The Department will review the results from these monitoring regimes and re-assess the overall condition of the lower, non-tidal portion of the Medomak River and the upper Medomak River estuary. The Department reserves the right to reopen the permit to establish necessary limits as stated in permit Special Condition K *Reopening of Permit for Modifications*, "the Department may, at any time and with notice to the permittee, modify this permit to include effluent limitations necessary to control specific pollutants...".

## 7. ANTI-DEGRADATION - IMPACT ON RECEIVING WATER QUALITY

Maine's anti-degradation policy is included in 38 M.R.S., Section 464(4)(F) and addressed in the *Conclusions* section of this permit. Pursuant to the policy, where a new or increased discharge is proposed, the Department shall determine whether the discharge will result in a significant lowering of existing water quality. Increased discharge means a discharge that would add one or more new pollutants to an existing effluent, increase existing levels of pollutants in an effluent, or cause an effluent to exceed one or more of its current licensed discharge flow or effluent limits, after the application of applicable best practicable treatment technology.

Based on the information provided in the permittee's application and the calculations in Section 6 of this Fact Sheet, the Department has made the determination that the discharge approved by this permit will not result in a significant lowering of water quality. As permitted, the Department has determined the existing and designated water uses will be maintained and protected and the discharge will not cause or contribute to the failure of the Medomak River main stem to meet standards for Class B or the Medomak River estuary to meet standards for Class SB.

## 8. PUBLIC COMMENTS

Public notice of this application was made in the Lincoln County News newspaper on or about November 29, 2018. The Department receives public comments on an application until the date a final agency action is taken on the application. Those persons receiving copies of draft permits must have at least 30 days in which to submit comments on the draft or to request a public hearing, pursuant to *Application Processing Procedures for Waste Discharge Licenses*, 06-096 CMR 522 (effective January 12, 2001).



## 9. DEPARTMENT CONTACTS

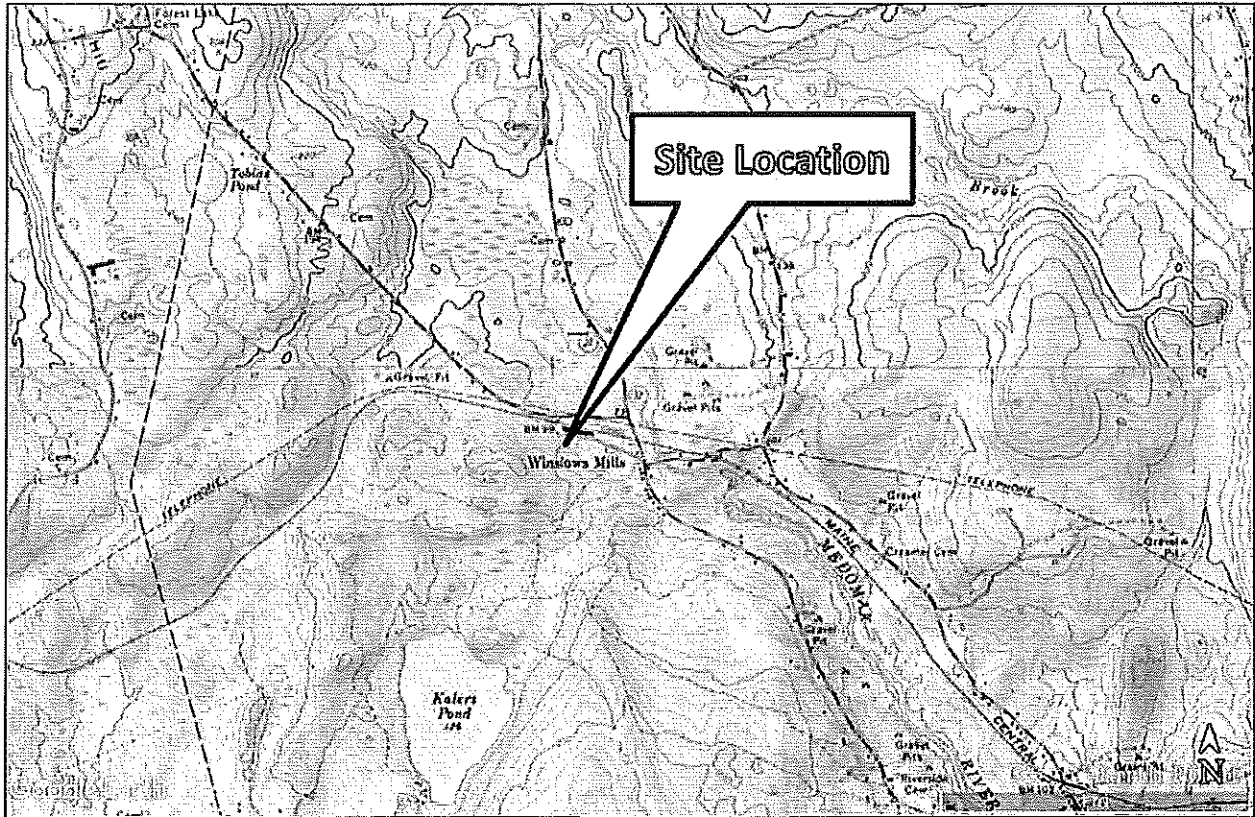
Additional information concerning this permitting action may be obtained from, and written comments sent to:

Gregg Wood  
Division of Water Quality Management  
Bureau of Water Quality  
Department of Environmental Protection  
17 State House Station  
Augusta, Maine 04333-0017  
Telephone: (207) 287-7693  
e-mail: [gregg.wood@maine.gov](mailto:gregg.wood@maine.gov)

## 10. RESPONSE TO COMMENTS

During the period of March 1, 2019, through the effective date of this final agency action, the Department solicited comments on the draft MEPDES permit. The Department did not receive any comments on the draft permit. Therefore, no responses were prepared.

# **ATTACHMENT A**



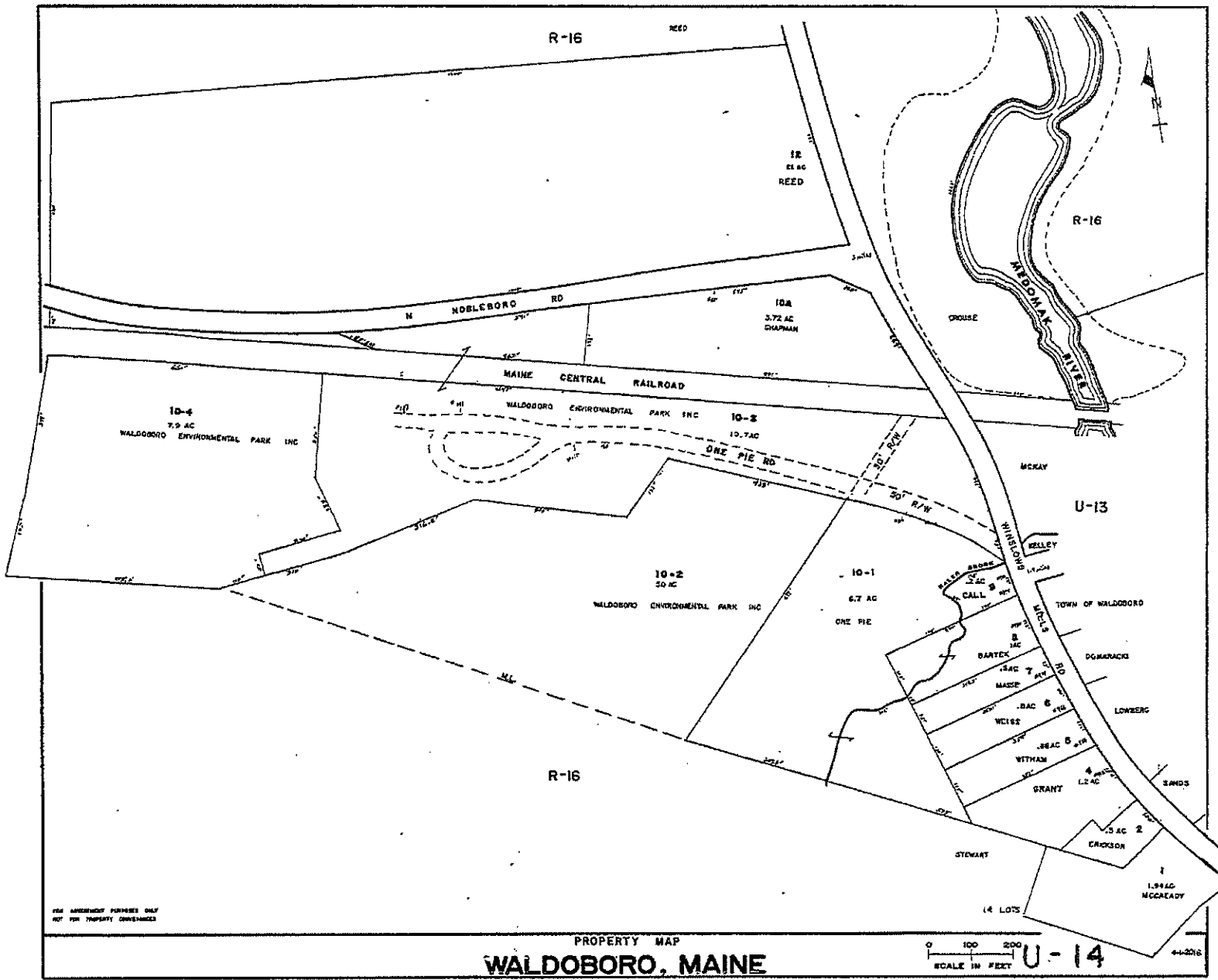
**Gartley & Dorsky**  
 ENGINEERING SURVEYING  
 CAMDEN, MAINE (207) 236-4365  
 WWW.GARTLEYDORSKY.COM

**SITE LOCATION MAP**  
**AMERICAN UNAGI, LLC**  
 WALDOBORO, MAINE

DECEMBER 2018

PROJ. NO 2017-339

MEPDES APPLICATION



FOR AGREEMENT PURPOSES ONLY  
NOT FOR PROPERTY DIMENSIONS

PROPERTY MAP  
**WALDOBORO, MAINE**

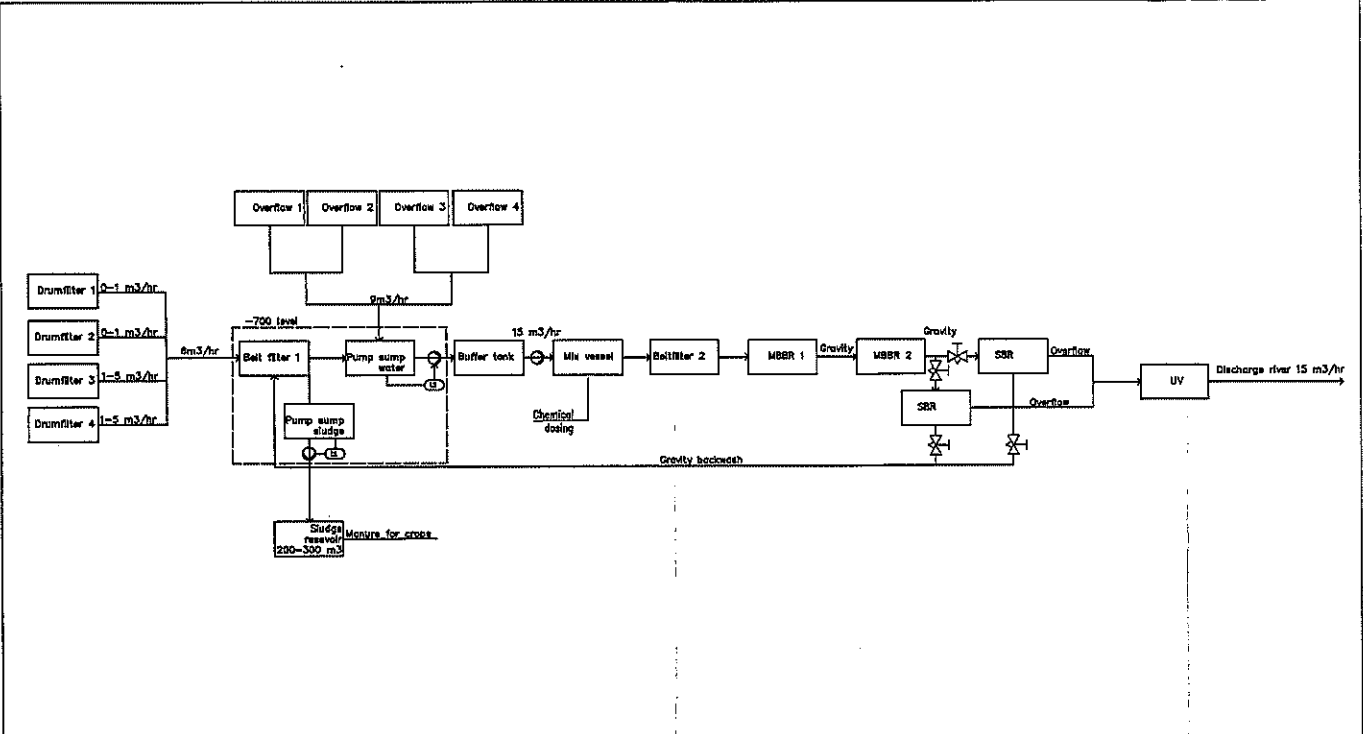
0 100 200  
SCALE IN FEET

U-14

4-2016

# **ATTACHMENT B**





Sludge  
reservoir  
200-300 m³  
Measure for crops

UNLESS OTHERWISE SPECIFIED		TITLE	
STANDARD 10			
TOLERANCE: PER-ISO 2718			
FORM & DIMENSIONS: PER-ISO 3103		PROJECT: American Uniq' waste water submersible 20-11-2018	ISSUE NO: A1
MATERIALS: SEE BILL OF MATERIALS		DESCRIPTION:	SCALE: N/A
MATERIALS: SEE BILL OF MATERIALS		REV: IN: DED: APPD: DATE: DOCUMENT Type: Schematic	DATE: N/A
MATERIALS: SEE BILL OF MATERIALS		REVISIONS:	VELOC: N/A
MATERIALS: SEE BILL OF MATERIALS			PAGE: 1
MATERIALS: SEE BILL OF MATERIALS			TOTAL: 1
MATERIALS: SEE BILL OF MATERIALS		This drawing is and all rights the property of Associate Consultant Engineers (ACE) and shall not be copied or shown to any other company or person not related with our sales organization unless by special written consent of ACE.	

# ATTACHMENT C

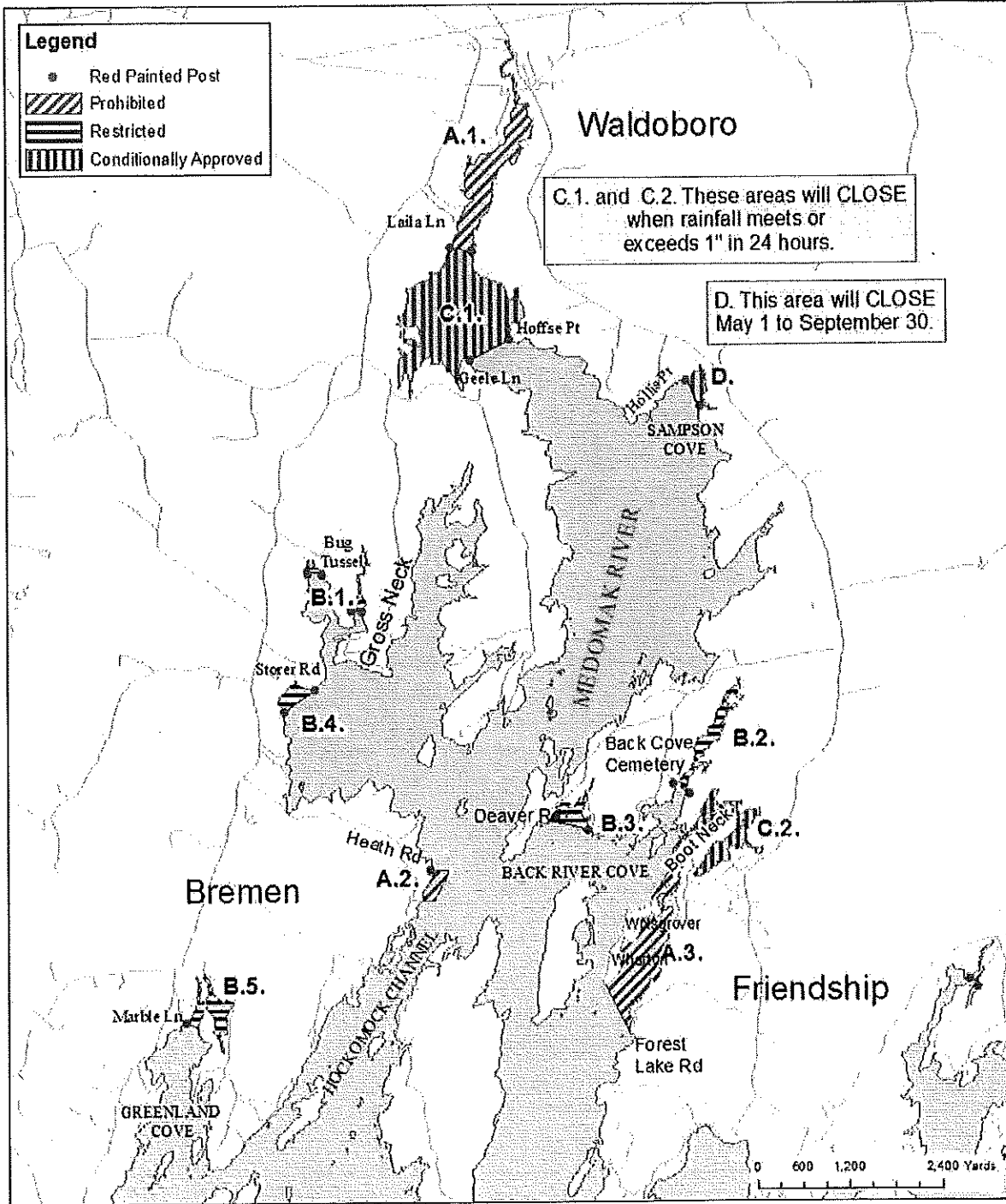




# Maine Department of Marine Resources

## Pollution Area No. 26

### Medomak River (Waldoboro, Bremen, and Friendship)





# DEP INFORMATION SHEET

## Appealing a Department Licensing Decision

Dated: November 2018

Contact: (207) 287-2452

### SUMMARY

There are two methods available to an aggrieved person seeking to appeal a licensing decision made by the Department of Environmental Protection's (DEP) Commissioner: (1) an administrative process before the Board of Environmental Protection (Board); or (2) a judicial process before Maine's Superior Court. An aggrieved person seeking review of a licensing decision over which the Board had original jurisdiction may seek judicial review in Maine's Superior Court.

A judicial appeal of final action by the Commissioner or the Board regarding an application for an expedited wind energy development (35-A M.R.S. § 3451(4)) or a general permit for an offshore wind energy demonstration project (38 M.R.S. § 480-HH(1)) or a general permit for a tidal energy demonstration project (38 M.R.S. § 636-A) must be taken to the Supreme Judicial Court sitting as the Law Court.

This information sheet, in conjunction with a review of the statutory and regulatory provisions referred to herein, can help a person to understand his or her rights and obligations in filing an administrative or judicial appeal.

### I. ADMINISTRATIVE APPEALS TO THE BOARD

#### **LEGAL REFERENCES**

The laws concerning the DEP's *Organization and Powers*, 38 M.R.S. §§ 341-D(4) & 346; the *Maine Administrative Procedure Act*, 5 M.R.S. § 11001; and the DEP's *Rules Concerning the Processing of Applications and Other Administrative Matters* ("Chapter 2"), 06-096 C.M.R. ch. 2.

#### **DEADLINE TO SUBMIT AN APPEAL TO THE BOARD**

The Board must receive a written appeal within 30 days of the date on which the Commissioner's decision was filed with the Board. Appeals filed more than 30 calendar days after the date on which the Commissioner's decision was filed with the Board will be dismissed unless notice of the Commissioner's license decision was required to be given to the person filing an appeal (appellant) and the notice was not given as required.

#### **HOW TO SUBMIT AN APPEAL TO THE BOARD**

Signed original appeal documents must be sent to: Chair, Board of Environmental Protection, 17 State House Station, Augusta, ME 04333-0017. An appeal may be submitted by fax or e-mail if it contains a scanned original signature. It is recommended that a faxed or e-mailed appeal be followed by the submittal of mailed original paper documents. The complete appeal, including any attachments, must be received at DEP's offices in Augusta on or before 5:00 PM on the due date; materials received after 5:00 pm are not considered received until the following day. The risk of material not being received in a timely manner is on the sender, regardless of the method used. The appellant must also send a copy of the appeal documents to the Commissioner of the DEP; the applicant (if the appellant is not the applicant in the license proceeding at issue); and if a hearing was held on the application, any intervenor in that hearing process. All of the information listed in the next section of this information sheet must be submitted at the time the appeal is filed.

### INFORMATION APPEAL PAPERWORK MUST CONTAIN

Appeal materials must contain the following information at the time the appeal is submitted:

1. *Aggrieved Status.* The appeal must explain how the appellant has standing to maintain an appeal. This requires an explanation of how the appellant may suffer a particularized injury as a result of the Commissioner's decision.
2. *The findings, conclusions, or conditions objected to or believed to be in error.* The appeal must identify the specific findings of fact, conclusions regarding compliance with the law, license conditions, or other aspects of the written license decision or of the license review process that the appellant objects to or believes to be in error.
3. *The basis of the objections or challenge.* For the objections identified in Item #2, the appeal must state why the appellant believes that the license decision is incorrect and should be modified or reversed. If possible, the appeal should cite specific evidence in the record or specific licensing requirements that the appellant believes were not properly considered or fully addressed.
4. *The remedy sought.* This can range from reversal of the Commissioner's decision on the license or permit to changes in specific permit conditions.
5. *All the matters to be contested.* The Board will limit its consideration to those matters specifically raised in the written notice of appeal.
6. *Request for hearing.* If the appellant wishes the Board to hold a public hearing on the appeal, a request for public hearing must be filed as part of the notice of appeal, and must include an offer of proof in accordance with Chapter 2. The Board will hear the arguments in favor of and in opposition to a hearing on the appeal and the presentations on the merits of an appeal at a regularly scheduled meeting. If the Board decides to hold a public hearing on an appeal, that hearing will then be scheduled for a later date.
7. *New or additional evidence to be offered.* If an appellant wants to provide evidence not previously provided to DEP staff during the DEP's review of the application, the request and the proposed evidence must be submitted with the appeal. The Board may allow new or additional evidence, referred to as supplemental evidence, to be considered in an appeal only under very limited circumstances. The proposed evidence must be relevant and material, and (a) the person seeking to add information to the record must show due diligence in bringing the evidence to the DEP's attention at the earliest possible time in the licensing process; or (b) the evidence itself must be newly discovered and therefore unable to have been presented earlier in the process. Specific requirements for supplemental evidence are found in Chapter 2 § 24.

### OTHER CONSIDERATIONS IN APPEALING A DECISION TO THE BOARD

1. *Be familiar with all relevant material in the DEP record.* A license application file is public information, subject to any applicable statutory exceptions, and is made easily accessible by the DEP. Upon request, the DEP will make application materials available during normal working hours, provide space to review the file, and provide an opportunity for photocopying materials. There is a charge for copies or copying services.
2. *Be familiar with the regulations and laws under which the application was processed, and the procedural rules governing your appeal.* DEP staff will provide this information on request and answer general questions regarding the appeal process.
3. *The filing of an appeal does not operate as a stay to any decision.* If a license has been granted and it has been appealed, the license normally remains in effect pending the processing of the appeal. Unless a stay of the decision is requested and granted, a license holder may proceed with a project pending the outcome of an appeal, but the license holder runs the risk of the decision being reversed or modified as a result of the appeal.

### **WHAT TO EXPECT ONCE YOU FILE A TIMELY APPEAL WITH THE BOARD**

The Board will formally acknowledge receipt of an appeal, and will provide the name of the DEP project manager assigned to the specific appeal. The notice of appeal, any materials accepted by the Board Chair as supplementary evidence, any materials submitted in response to the appeal, and relevant excerpts from the DEP's application review file will be sent to Board members with a recommended decision from DEP staff. The appellant, the license holder if different from the appellant, and any interested persons are notified in advance of the date set for Board consideration of an appeal or request for public hearing. The appellant and the license holder will have an opportunity to address the Board at the Board meeting. With or without holding a public hearing, the Board may affirm, amend, or reverse a Commissioner decision or remand the matter to the Commissioner for further proceedings. The Board will notify the appellant, the license holder, and interested persons of its decision.

### **II. JUDICIAL APPEALS**

Maine law generally allows aggrieved persons to appeal final Commissioner or Board licensing decisions to Maine's Superior Court (see 38 M.R.S. § 346(1); 06-096 C.M.R. ch. 2; 5 M.R.S. § 11001; and M.R. Civ. P. 80C). A party's appeal must be filed with the Superior Court within 30 days of receipt of notice of the Board's or the Commissioner's decision. For any other person, an appeal must be filed within 40 days of the date the decision was rendered. An appeal to court of a license decision regarding an expedited wind energy development, a general permit for an offshore wind energy demonstration project, or a general permit for a tidal energy demonstration project may only be taken directly to the Maine Supreme Judicial Court. See 38 M.R.S. § 346(4).

Maine's Administrative Procedure Act, DEP statutes governing a particular matter, and the Maine Rules of Civil Procedure must be consulted for the substantive and procedural details applicable to judicial appeals.

### **ADDITIONAL INFORMATION**

If you have questions or need additional information on the appeal process, for administrative appeals contact the Board's Executive Analyst at (207) 287-2452, or for judicial appeals contact the court clerk's office in which your appeal will be filed.

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**Note: The DEP provides this INFORMATION SHEET for general guidance only; it is not intended for use as a legal reference. Maine law governs an appellant's rights.**

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