



STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION



JANET T. MILLS
GOVERNOR

MELANIE LOYZIM
COMMISSIONER

March 8, 2021

Mr. Steven Gray
Gray's Homestead
21 Homestead Road
Southport, ME 04576
sgray.homestead@gmail.com

*Sent via electronic mail
Delivery confirmation requested*

RE: *Maine Pollutant Discharge Elimination System (MEPDES) Permit #ME0037176
Maine Waste Discharge License (WDL) Application #W008061-5C-D-R
Proposed Draft MEPDES Permit Renewal*

Dear Mr. Gray,

Attached is a **proposed draft** MEPDES permit and Maine WDL which the Department proposes to issue for your facility as a final document after opportunity for your review and comment. By transmittal of this letter, you are provided with an opportunity to comment on the proposed draft permit and its special and standard conditions. If it contains errors or does not accurately reflect present or proposed conditions, please respond to this Department so that changes can be considered.

By copy of this letter, the Department is requesting comments on the proposed draft license from various state and federal agencies and from any other parties who have notified the Department of their interest in this matter.

The comment period begins on March 8, 2021 and ends on Thursday, April 8, 2021. All comments on the proposed draft permit must be received in the Department of Environmental Protection office on or before the close of business Thursday, April 8, 2021. Failure to submit comments in a timely fashion will result in the proposed draft/license document being issued as drafted.

AUGUSTA
17 STATE HOUSE STATION
AUGUSTA, MAINE 04333-0017
(207) 287-7688 FAX: (207) 287-7826

BANGOR
106 HOGAN ROAD, SUITE 6
BANGOR, MAINE 04401
(207) 941-4570 FAX: (207) 941-4584

PORTLAND
312 CANCO ROAD
PORTLAND, MAINE 04103
(207) 822-6300 FAX: (207) 822-6303

PRESQUE ISLE
1235 CENTRAL DRIVE, SKYWAY PARK
PRESQUE ISLE, MAINE 04769
(207) 764-0477 FAX: (207) 760-3143

Steven Gray
March 8, 2021
Page 2 of 2

Comments in writing should be submitted to my attention at the following address:

Maine Department of Environmental Protection
Bureau of Water Quality
Division of Water Quality Management
17 State House Station
Augusta, ME 04333-0017
Aaron.A.Dumont@maine.gov

If you have any questions regarding the matter, please feel free to contact me.

Sincerely,



Aaron Dumont
Division of Water Quality Management
Bureau of Water Quality
Aaron.A.Dumont@maine.gov
ph: 207-287-1939

Enc.

cc:

Bill Johnson, MEDEP
Pamela Parker, DEP
Lori Mitchell, DEP
Alex Rosenberg, USEPA
Ellen Weitzler, USEPA
Marelyn Vega, USEPA
Richard Carvalho, USEPA
Nathan Chien, USEPA



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

DEPARTMENT ORDER

IN THE MATTER OF

STEPHEN E. GRAY LODGES & INDUSTRIES, INC. SOUTHPORT, LINCOLN COUNTY, MAINE OVERBOARD DISCHARGE ME0037176 W008061-5C-D-R) MAINE POLLUTANT DISCHARGE) ELIMINATION SYSTEM PERMIT)) AND) WASTE DISCHARGE LICENSE) RENEWAL
APPROVAL	

In compliance with the provisions of the *Federal Water Pollution Control Act*, Title 33 U.S.C. § 1251, *Conditions of licenses*, 38 M.R.S. § 414-A, and applicable regulations, the Department of Environmental Protection (Department) has considered the application of STEPHEN E. GRAY LODGES & INDUSTRIES, INC. (permittee), with its supportive data, agency review comments, and other related materials on file and FINDS THE FOLLOWING FACTS:

APPLICATION SUMMARY

On March 23, 2020, the Department accepted as complete for processing an application from the permittee for the renewal of combination Maine Pollutant Discharge Elimination System (MEPDES) permit ME0037176/Maine Waste Discharge License (WDL) W008061-5C-C-R (permit) which was issued by the Department on May 20, 2015, for a five-year term. The permit issued on 5/20/2015, authorized the year-round daily maximum discharge of 4,050 gallons per day (gpd) of secondary treated wastewater from Stephen E. Gray Lodges & Industries, Inc. to Boothbay Harbor, Class SB water, in Southport, Maine.

PERMIT SUMMARY

Terms and conditions: This permitting action is carrying forward all the terms and conditions of the previous permit except that it is;

1. Modifying the discharge monitoring season May 1st – October 15th to be more closely in line with other Overboard Discharge Permits. It is noted that the permittee requested and denoted and operational season of May 1st – October 15th. The previous permit had a discharge season of May 1st – September 30th;
2. Establishing a seasonal monitoring requirement for Enterococci bacteria from May 1st – October 15st that coincides with the start of the operation season on May 15th, 2022. As well as establishing monthly average and daily maximum limits of 8 CFU/100 mL and 54 CFU/100 mL; and

PERMIT SUMMARY (cont'd)

3. Amending Fecal coliform limits from a monthly average of 15 CFU/100 mL and a daily maximum of 50 CFU/100 mL to 14 colonies/100 mL and 31 colonies/100 mL, for fecal coliform bacteria in order to be consistent with the National Shellfish Sanitation Program.
4. Corrects a technical error made in the previous permit and reestablishes the 4,050 gallon per day maximum limitation on flow.

CONCLUSIONS

BASED on the findings in the attached **Fact Sheet** dated March 8, 2021, and subject to the Conditions listed below, 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 national 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) and 414-A(1-B).

CONCLUSIONS (cont'd)

5. The overboard discharge system was in continuing existence for the 12 months preceding June 1, 1987.
6. The Department finds that there are no technologically proven alternative methods of wastewater disposal consistent with the plumbing code adopted by the Department of Health and Human Services pursuant to Title 22, section 42 that will not result in an overboard discharge.
7. A publicly owned sewer line is not located on or abutting land owned or controlled by the permittee or is not available for the permittee's use.
8. The discharge is located within the boundaries of a sanitary district or sewer district however connection to the existing infrastructure is not practicable.

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ACTION

THEREFORE, the Department APPROVES the application of STEPHEN E. GRAY LODGES & INDUSTRIES, INC. to discharge a daily maximum 4,050 gpd of secondary treated sanitary wastewater (Outfall #001A) from the STEPHEN E. GRAY LODGES & INDUSTRIES, INC. to the Atlantic Ocean, Class SB, in Southport, Maine, SUBJECT TO ALL APPLICABLE STANDARDS AND REGULATIONS AND THE FOLLOWING CONDITIONS:

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 becomes effective upon the date of signature below and expires at midnight five (5) years after that date. If a renewal application is timely submitted and accepted as complete for processing prior to the expiration of this permit, the terms and conditions of this permit and all subsequent 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 ___ DAY OF _____ 2021.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: _____
for MELANIE LOYZIM, Commissioner

Date of initial receipt of application March 23, 2020

Date of application acceptance March 30, 2020

FILED
MAR 30, 2020
State of Maine
Board of Environmental Protection

Date filed with Board of Environmental Protection _____

This Order prepared by Aaron Dumont, Bureau of Water Quality

SPECIAL CONDITIONS

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

- The permittee is authorized to discharge secondary treated sanitary wastewater from **Outfall #001A** to Atlantic Ocean, Class SB. Such discharges are limited and must be monitored by the permittee as specified below⁽¹⁾:

Discharge Monitoring Reports (DMRs) are limited to May 1st – October 15th of each year.

Effluent Characteristic	Discharge Limitations						Minimum Monitoring Requirements	
	Monthly Average	Weekly Average	Daily Maximum	Monthly Average	Weekly Average	Daily Maximum	Measurement Frequency	Sample Type
Flow [50050]	---	---	4,050 gpd [07]	---	---	---	1/Month [01/30]	Measure [MS]
BOD₅ [00310]	1.0 lbs/day [26]	1.5 lbs/day [26]	1.7 lbs/day [26]	30 mg/L [19]	45 mg/L [19]	50 mg/L [19]	1/Month [01/30]	Grab [GR]
BOD₅ Percent Removal⁽²⁾ [81010]	---	---	---	85% [23]	---	---	1/Month [01/30]	Calculate [CA]
TSS [00530]	1.0 lbs/day [26]	1.5 lbs/day [26]	1.7 lbs/day [26]	30 mg/L [19]	45 mg/L [19]	50 mg/L [19]	1/Month [01/30]	Grab [GR]
TSS Percent Removal⁽²⁾ [81011]	---	---	---	85% [23]	---	---	1/Month [01/30]	Calculate [CA]
Settleable Solids [00545]	---	---	---	---	---	0.3 ml/L [25]	1/Month [01/30]	Grab [GR]
Fecal Coliform Bacteria⁽³⁾ [31616] (May 1 – October 15)	---	---	---	14/100 ml ⁽⁴⁾ [13]	---	31/100 ml [13]	1/Month [01/30]	Grab [GR]
Enterococci Bacteria⁽⁴⁾ (Seasonally May1 st -October 15 th Beginning 2022) [61211]	---	---	---	8/100 ml [13]	---	54/100 ml [13]	1/Month [1/30]	Grab [GR]
Total Residual Chlorine⁽⁵⁾ [50060]	---	---	---	---	---	0.85 mg/L [19]	1/Month [01/30]	Grab [GR]
pH [00400]	---	---	---	---	---	6.0 – 9.0 SU [12]	1/Month [01/30]	Grab [GR]

The italicized numeric values bracketed in the table and in subsequent text are code numbers that Department personnel utilize to code the monthly Discharge Monitoring Reports.

Footnotes: See Page 6 of this permit for applicable footnotes.

SPECIAL CONDITIONS (cont'd)

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

Footnotes

1. **Sampling** – All effluent monitoring must be conducted at a location following the last treatment unit in the treatment process as to be representative of end-of-pipe effluent characteristics. 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 wastewater testing. Samples that are sent to another POTW licensed pursuant to *Waste discharge licenses*, 38 M.R.S. § 413 or laboratory facilities that analyze compliance samples in-house are subject to the provisions and restrictions of *Maine Comprehensive and Limited Environmental Laboratory Certification Rules*, 10-144 CMR 263 (last amended December 19, 2018). 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, the results of this monitoring must be included in the calculation and reporting of the data submitted in the Discharge Monitoring Report.
2. **Percent Removal** – The permittee must maintain a minimum of 85 percent removal of both BOD₅ and TSS for all flows receiving secondary treatment. The percent removal must be calculated based on influent and effluent concentration values. The permittee's wastewater treatment system does not contain an influent sampling location that is representative of raw wastewater conditions. Therefore, this permitting action authorizes the permittee to assume an influent BOD₅ and TSS concentration value of 286 mg/L for purposes of calculating the monthly percent removal value. See page 6 of the Fact Sheet for a basis statement.
3. **Fecal coliform Reporting** – The monthly fecal coliform average limitation is a **geometric mean** and results must be calculated and reported as such. Fecal coliform bacteria limits and monitoring requirements are in effect between April 1st–October 31st. The operational season for the permitted is from May 1st – October 15st of each year, and therefore is only required to sample for Fecal coliform during the operational season. The Department reserves the right to require year-round disinfection to protect the health, safety, and welfare of the public.
4. **Enterococcus Bacteria Reporting** – Enterococcus bacteria limits are a **geometric mean** and monitoring requirement are seasonal running from April 15th – October 31st. The operational season for the permitted is from May 1st – October 15st of each year, and therefore is only required to sample for **Enterococcus Bacteria** during the operational season. These monitoring and reporting requirement must commence on April 15th, 2022.

SPECIAL CONDITIONS (cont'd)

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

Footnotes

5. **Total residual chlorine (TRC)** – Limitations and monitoring requirements are applicable whenever elemental chlorine or chlorine-based compounds are being used to disinfect the discharge. The permittee must utilize approved test methods that are capable of bracketing the TRC limitation in this permit.

B. ANNUAL DISCHARGE FEES

Pursuant to *Annual waste discharge license fees*, 38 M.R.S. § 353(B), the permittee is required to pay an applicable annual fee for discharges authorized by this permit. Failure to pay an annual fee within 30 days of the billing date of a permit is grounds for accruing interest charges, penalties or revocation of the permit.

C. 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 permittee must not discharge effluent that causes visible discoloration or turbidity in the receiving waters that causes those waters to be unsuitable for the designated uses and characteristics ascribed to their class.
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.

D. TREATMENT PLANT OPERATOR

The person that has direct responsibility for the operation of the treatment facility must be operated by a person holding a minimum of a **Maine Grade II** certificate (or higher) or must be a Maine Registered Professional Engineer pursuant to *Sewage Treatment Operators*, 32 M.R.S. §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.

SPECIAL CONDITIONS (cont'd)

E. 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 March 30, 2020; 2) the terms and conditions of this permit; and 3) only from Outfall #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.

F. NOTIFICATION REQUIREMENT

In accordance with Standard Condition D, the permittee must notify the Department of the following.

1. Any substantial change or proposed change in the volume or character of pollutants being introduced into the wastewater collection and treatment system by a source introducing pollutants into the system at the time of permit issuance.
2. For the purposes of this section, notice regarding substantial change must include information on:
 - (a) the quality and quantity of wastewater introduced to the wastewater collection and treatment system; and
 - (b) any anticipated impact caused by the change in the quantity or quality of the wastewater to be discharged from the treatment system.

G. SITE EVALUATION FOR TRANSFER OF OWNERSHIP

The owners of the overboard discharges subject to this permit are required to install a technologically proven alternative and properly abandon the overboard discharges when any of the following actions are initiated.

1. **Transfer of Ownership of Property or Significant Action** – Prior to transfer of ownership of property containing an overboard discharge (*i.e.*, change in the legal entity that owns a property, facility or structure that is the subject of a permit), the parties to the transfer must determine the feasibility of technologically proven alternatives¹ to the overboard discharge. Prior to completing a significant action (*i.e.*, single construction project performed on a primary residence with an overboard discharge when the total material and labor cost of the construction project exceeds \$50,000), the owner must determine the feasibility of technologically proven alternatives to the overboard discharge.

SPECIAL CONDITIONS (cont'd)

H. OPERATION & MAINTENANCE (O&M) PLAN

- a) If an alternative to the overboard discharge is available, the alternative system must be installed within 180 days of property transfer or significant action, unless otherwise provided by *Waste discharge licenses*, 38 M.R.S. § 413(3-A)(B)(3).
- b) If an alternative to the overboard discharge is not available, the new owner must, no later than two weeks after any transfer of ownership, submit an application to the Department for transfer of this permit.

¹Feasibility of technologically proven alternatives are based on determinations by a licensed site evaluator's application of plumbing standards adopted by the Department of Health and Human Services pursuant to Title 22, section 42.

The permittee must have a current written comprehensive Operation & Maintenance (O&M) Plan. 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.

I. SEPTIC TANKS

1. Septic tanks and other treatment tanks must be regularly inspected (at least once per calendar year) and maintained to ensure that they are providing best practicable treatment. The permittee must maintain logs of inspections/maintenance that records the date, notes on observations, repairs conducted etc. The logs must be maintained on site and made available to Department personnel upon request.
2. Tank contents must be removed whenever the sludge and scum occupy one-third of the tank's liquid capacity or whenever levels approach maximum design capacity. Following pumping, the tanks must be checked for damage at key joints and the inlet and outlet baffles and repaired promptly if damaged. The permittee must keep a pumping log including the date of pumping, quantity of material removed, name and number of licensed contractors, and pumping frequency.

SPECIAL CONDITIONS (cont'd)

J. MONITORING AND REPORTING

Monitoring results obtained during the previous month must be summarized for each month and reported on separate Discharge Monitoring Report (DMR) forms provided by the Department and **postmarked on or before the thirteenth (13th) day of the month or hand-delivered to the Department's Regional Office such that the DMRs are received by the Department on or before the fifteenth (15th) day of the month** following the completed reporting period. A signed copy of the DMR and all other reports required herein must be submitted to the Department assigned inspector (unless otherwise specified by the Department) at the following address:

Overboard Discharge Compliance Inspector
Department of Environmental Protection
Bureau of Water Quality
Division of Water Quality Management
17 State House Station
Augusta, Maine 04333-0017

Alternatively, if submitting an electronic DMR (eDMR), the completed eDMR must be electronically submitted to the Department by a facility authorized DMR Signatory not later than close of business on the 15th day of the month following the completed reporting period. Hardcopy documentation submitted in support of the eDMR must be postmarked on or before the thirteenth (13th) day of the month or hand-delivered to the Department's Regional Office such that it is received by the Department on or before the fifteenth (15th) day of the month following the completed reporting period. Electronic documentation in support of the eDMR must be submitted not later than close of business on the 15th day of the month following the completed reporting period.

K. REOPENING OF PERMIT FOR MODIFICATIONS

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 effluent or ambient water quality monitoring if results on file are inconclusive; or (3) change monitoring requirements or limitations based on new information.

SPECIAL CONDITIONS (cont'd)

L. SEVERABILITY

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

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

FACT SHEET

Date: **March 8, 2021**

MEPDES PERMIT: **ME0037176**
WASTE DISCHARGE LICENSE: **W008061-5C-D-R**

NAME AND ADDRESS OF APPLICANT:

**STEPHEN E. GRAY LODGES & INDUSTRIES, INC.
21 HOMESTEAD ROAD
SOUTHPORT, ME 04576**

COUNTY: **LINCOLN COUNTY**

NAME AND ADDRESS WHERE DISCHARGE OCCURS:

**STEPHEN E. GRAY LODGES & INDUSTRIES, INC.
21 HOMESTEAD ROAD
SOUTHPORT, MAINE, 04576**

RECEIVING WATER / CLASSIFICATION: **BOOTHBAY HARBOR/CLASS SB**

COGNIZANT OFFICIAL AND TELEPHONE NUMBER: **Stephen Gray**
(207)-633-4612
sgray@homestead@gmail.com

1. APPLICATION SUMMARY

- a. Application: On March 23, 2020, the Department accepted as complete for processing an application from the permittee for the renewal of combination Maine Pollutant Discharge Elimination System (MEPDES) permit ME0037176/Maine Waste Discharge License (WDL) W008061-5C-C-R (permit) which was issued by the Department on May 20, 2015, for a five-year term. The permit issued on 5/20/2015, authorized the year-round average monthly discharge of 4,050 gallons per day (gpd) of secondary treated wastewater from Stephen E. Gray Lodges & Industries, Inc. to Boothbay Harbor, Class SB water, in Southport, Maine.

2. PERMIT SUMMARY

- a. Terms and conditions: This permitting action is carrying forward all the terms and conditions of the previous permit except that it is;
 1. Modifying the discharge monitoring season May 1st – October 15th to be more closely in line with other Overboard Discharge Permits. It is noted that the permittee requested and denoted and operational season of May 1st – October 15th. The previous permit had a discharge season of May 1st – September 30th;
 2. Establishing a seasonal monitoring requirement for Enterococci bacteria from April 15th – October 31st starting on April 15th, 2022. As well as establishing monthly average and daily maximum limits of 8 CFU/100 mL and 54 CFU/100 mL; and
 3. Amending Fecal coliform limits from a monthly average of 15 CFU/100 mL and a daily maximum of 50 CFU/100 mL to 14 colonies/100 mL and 31 colonies/100 mL, for fecal coliform bacteria in order to be consistent with the National Shellfish Sanitation Program.
 4. Corrects a technical error made in the previous permit and reestablishes the 4,050 gallon per day maximum limitation on flow.
- b. Source description: The source of treated wastewater is a three-bedroom house, 7 apartment units, cottages and a seasonal campground located in Southport, Maine. See **Attachment A** of this Fact Sheet for a location map.
- c. Wastewater treatment: The wastewater generated by the facility described above receives primary treatment via septic tanks. A secondary level of treatment via a Walden mechanical treatment system and effluent disinfection with sodium hypochlorite. The treated and seasonally disinfected wastewater is discharged to the Atlantic Ocean at Boothbay Harbor via a 2-inch diameter outfall pipe that has approximately 1 foot of water over the crown of the pipe at mean low water.
- d. Replacement options: Pursuant to 38 M.R.S. § 414-A(1-B), the Department will find that the discharge from an OBD meets the requirements of best practicable treatment for purposes of licensing when it finds that there are no technologically proven alternative methods of wastewater disposal consistent with the plumbing code adopted by the Department of Health and Human Services pursuant to Title 22, section 42 that will not result in an overboard discharge. The Department's finding must be based on documentation from a licensed site evaluator (LSE) having experience in designing replacement systems for overboard discharges and provided by the overboard discharge owner.

2. PERMIT SUMMARY (cont'd)

It is noted that in 2009 a site evaluation performed by an LSE that determined there were no technologically feasible replacement options for the existing system, preliminary plans were developed for a large single leach field to service the facility. However, due to substantial cost associated with the technologically proven alternative methods of wastewater disposal, the Department concludes that installation of the system is not practicable at this time.

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 the 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 Department rule *Surface Water Toxics Control Program*, 06-096 CMR 530 (effective March 21, 2012), require the regulation of toxic substances not to exceed levels set forth in *Surface Water Quality Criteria for Toxic Pollutants*, 06-096 CMR 584 (effective 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

Classification 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, which includes Southport at the point of discharge, as Class SB waters. *Standards for classification of estuarine and marine waters*, 38 M.R.S. § 465(B)(2) establishes classification standards for Class SB waters as follows:

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* lists Southwestern Southport Island (Southport) and Boothbay as:

The Maine Department of Marine Resources (MEDMR) closes shellfish harvesting areas if there are known sources of discharges with unacceptable bacteria levels (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 and current shoreline surveys. In addition, the MEDMR prohibits shellfish harvesting in the immediate vicinity of all wastewater treatment outfall pipes as a precautionary measure in the event of a failure in the treatment plant's disinfection system.

Thus, shellfish harvesting area #22 is closed to the harvesting of shellfish due the location of Gray's Homestead outfall. The shellfish closure area can be found at <http://www.maine.gov/dmr/shellfish-sanitation-management/closures/pollution.html>

5. RECEIVING WATER QUALITY CONDITIONS (cont'd)

Category 5-B-1(a): *Estuarine and Marine Waters Impaired for Bacteria Only-TMDL Required.*

Category 5-D: *Estuarine and Marine Waters Impaired by Legacy Pollutants.* All estuarine and marine waters capable of supporting American lobster are listed in Category 5-D, partially supporting fishing ("shellfish" consumption) due to elevated levels of PCBs and other persistent, bioaccumulating substances in lobster tomalley.

The Department has no information that the discharge from the permittee, as conditioned, causes or contributes to non-attainment of applicable Class SB water quality standards.

6. EFFLUENT LIMITATIONS & MONITORING REQUIREMENTS

- a. Best Practicable Treatment (BPT): The Department will find that the discharge meets the requirements of best practicable treatment pursuant to 38 M.R.S. § 414-A(1-B) for purposes of licensing when it finds that there are no technologically proven alternative methods of wastewater disposal consistent with the plumbing code adopted by the Department of Health and Human Services pursuant to Title 22, section 42 that will not result in an overboard discharge. Pursuant to *Overboard Discharges: Licensing and Abandonment*, 06-096 CMR 596(9), *Criteria and Standards for Waste Discharge Licenses* 06-096 CMR 524(2) (effective January 12, 2001) and 06-096 CMR 525(3)(III), BPT for overboard discharges is secondary treatment. The secondary treatment regulation establishes technology-based effluent limitations for BOD₅, TSS, and pH which are discussed in more detail in the individual parameter sections below.
- b. Flow: The previous permitting action established, a monthly average discharge flow limitation of 4,050 gallons per day (GPD). This was done in error as the previous permit should have carried forward a discharge flow limitation of a daily maximum flow of 4,050 gpd, which is based on the design of the treatment facility, and a daily maximum discharge flow monitoring and reporting requirement.
- c. Dilution Factors: 06-096 CMR 530(4)(A)(2)(a) states that, "*For discharges to the ocean, dilution must be calculated as near-field or initial dilution, or that dilution available as the effluent plume rises from the point of discharge to its trapping level, at mean low water level and slack tide for the acute exposure analysis, and at mean tide for the chronic exposure analysis using appropriate models determined by the Department such as MERGE, CORMIX or another predictive model.*" Based on the configuration of the proposed Outfall #001A and a monthly average discharge flow design criterion of 4,050 GPD, the Department has made a best professional judgment that dilution factors are as follows:

Acute = 65:1

Chronic = 195:1

Harmonic mean¹ = 585:1

¹The harmonic mean dilution factor is approximated by multiplying the chronic dilution factor by three (3). This multiplying factor is based on guidelines for estimation of human health dilution presented in the U.S. EPA publication, "*Technical Support Document for Water Quality-Based Toxics Control*" (Office of Water; EPA/505/2-90-

6. EFFLUENT LIMITATIONS & MONITORING REQUIREMENTS (cont'd)

- d. **Biochemical Oxygen Demand (BOD₅) and Total Suspended Solids (TSS):** The previous permitting action established, and this permitting action is carrying forward, monthly average and weekly average technology-based effluent limits (TBELs) of 30 mg/L and 45 mg/L, respectively, for BOD₅ and TSS pursuant to the secondary treatment regulation at 40 CFR 133.102 and 06-096 CMR 525(3)(III). The previous permit also established daily maximum TBELs of 50 mg/L for both BOD₅ and TSS based on a Department best professional judgment of best practicable treatment for secondary treated wastewater. Monthly average, weekly average and daily maximum TBELs of 1.0 lbs./day, 1.5 lbs./day, and 1.7 lbs./day, respectively, established in the previous permitting action for BOD₅ and TSS were based on the monthly average flow design criterion of 4,050 GPD (same as 0.003 million gallons per day, MGD) and the applicable concentration limits.

The mass-based limits were calculated as follows:

Monthly Average Mass Limit: $(30 \text{ mg/L})(8.34 \text{ lbs./gallon})(0.004050 \text{ MGD}) = 1.0 \text{ lbs./day}$

Weekly Average Mass Limit: $(45 \text{ mg/L})(8.34 \text{ lbs./day})(0.004050 \text{ MGD}) = 1.5 \text{ lbs./day}$

Daily Maximum Mass Limit: $(50 \text{ mg/L})(8.34 \text{ lbs./day})(0.004050 \text{ MGD}) = 1.7 \text{ lbs./day}$

A summary of BOD₅ and TSS data as reported on the DMRs submitted to the Department for the period of May 2015 – April 2020 is as follows:

BOD₅ Mass (DMRs = 20)

Value	Limit (lbs./day)	Range (lbs./day)	Mean (lbs./day)
Monthly Average	1.0	0.00 – 0.30	0.08
Weekly Average	1.5	0.00 – 0.58	0.15
Daily Maximum	1.7	0.01 – 0.58	0.15

BOD₅ concentration (DMRs = 20)

Value	Limit (mg/L)	Range (mg/L)	Mean (mg/L)
Monthly Average	30	2.0 – 32.0	9.04
Weekly Average	45	2.0 – 32.0	9.04
Daily Maximum	50	2.0 – 32.0	9.04

001, page 88), and represents an estimation of harmonic mean flow on which human health dilutions are based in a riverine 7Q10 flow situation.

6. EFFLUENT LIMITATIONS & MONITORING REQUIREMENTS (cont'd)

TSS Mass (DMRs = 20)

Value	Limit (lbs./day)	Range (lbs./day)	Mean (lbs./day)
Monthly Average	1.0	0.05 – 0.86	0.24
Weekly Average	1.5	0.06 – 1.65	0.38
Daily Maximum	1.7	0.06 – 1.65	0.37

TSS concentration (DMRs = 20)

Value	Limit (mg/L)	Range (mg/L)	Mean (mg/L)
Monthly Average	30	6.0 – 92.0	23.71
Weekly Average	45	6.0 – 92.0	24.46
Daily Maximum	50	6.0 – 92.0	24.45

This permitting action carries forward the minimum monitoring frequency requirement of 1/Month for BOD₅ and TSS. For the monitoring and reporting period of May 2015 – April 2020 it is noted that there was one excursion for the monthly average concentration of 30 mg/L. For the previously mentioned reporting period there were 12 excursions for TSS with respect to Monthly Average Mass, Monthly, Weekly, and Daily TSS concentration limitations.

This permitting action carries forward the requirement for a minimum of 85% removal of BOD₅ and TSS pursuant to 06-096 CMR 525(3)(III)(a)(3) and (b)(3). Along with previously established minimum monitoring frequency and reporting requirements of once per month for percent removal for BOD and TSS. The permittee’s wastewater treatment system does not contain an influent sampling location that is representative of raw wastewater conditions. According to the USEPA’s *Onsite Wastewater Treatment Systems Manual*, dated February 2002, table 3-7 entitled “Constituent Mass Loadings and Concentrations in Typical Residential Wastewater” high end range of values, influent values for BOD₅ and TSS may be assumed to be 286 mg/L and 300 mg/L, respectively. Therefore, this permitting action authorizes the permittee to assume an influent BOD₅ and TSS concentration value of 286 mg/L for purposes of calculating the monthly percent removal value.

- e. Settleable Solids: For the monitoring and reporting period of May 2015 – April 2020 it is noted that there is no excursion from the daily max reporting limit of 0.3 mg/L.

The previous permitting action established, and this permitting action is carrying forward, a technology-based daily maximum concentration limit of 0.3 ml/L for settleable solids, which is considered a best practicable treatment limitation (BPT) for secondary treated wastewater.

In consideration of the compliance history with settleable solids, this permitting action is carrying forward the minimum monitoring frequency requirement of once per month for settleable solids intended to be established in the previous permitting action.

6. EFFLUENT LIMITATIONS & MONITORING REQUIREMENTS (cont'd)

- f. Fecal Coliform Bacteria: The previous permitting action established a seasonal (May 15 and September 30) monthly average and daily maximum concentration limits of 15 colonies/100 ml and 50 colonies/100 ml, respectively, for fecal coliform bacteria, which are consistent with the National Shellfish Sanitation Program. Bacteria limits are seasonal and apply between of each year.

This permitting action is establishing a seasonal monthly average and daily maximum concentration limits of 14 colonies/100 ml and 31 colonies/100 ml, respectively, for fecal coliform bacteria, which are consistent with the National Shellfish Sanitation Program. Bacteria limits are seasonal and apply year-round.

A summary of effluent fecal coliform bacteria data as reported on the DMRs for the period May 2015 – April 2020 (applicable months only) follows:

A summary of BOD₅ and TSS data as reported on the DMRs submitted to the Department for the period of May 2015 – April 2020 is as follows:

Fecal coliform bacteria (DMR = 20)

Value	Limit (col/100 mL)	Range (col/100 mL)	Mean (col/100 mL)
Monthly Average	15	0.0 – 2,400	133
Daily Maximum	50	0.0 – 2,400	133

During this time period, the permittee reported a total of 4 excursions from the numeric bacteria limits.

- g. Total Residual Chlorine (TRC): The previous permitting action established a daily maximum water quality-based concentration limit of 0.85 mg/L for TRC with 1/Month monitoring requirement. Limitations on TRC are specified to ensure that ambient water quality standards are maintained at all times of the year and that BPT technology is being applied to the discharge. Department permitting actions impose the more stringent of either a water quality-based or BPT-based limit. With dilution factors as determined in Section 6(c) of this Fact Sheet, end-of-pipe (EOP) water quality-based concentration thresholds for TRC may be calculated as follows:

Acute (A) Criterion	Chronic (C) Criterion	A & C Dilution Factors	Calculated	
			Acute Limit	Chronic Limit
0.013 mg/L	0.0075 mg/L	65:1(A) 195:1(C)	0.85 mg/L	1.5 mg/L

The water quality-based acute threshold of 0.85 mg/L is more stringent than the daily maximum BPT limitation of 1.0 mg/L and is therefore being carried forward in this permitting action. The Department is identifying that dechlorination may be required to comply with this water quality-based threshold.

6. EFFLUENT LIMITATIONS & MONITORING REQUIREMENTS (cont'd)

A summary of the effluent TRC data as reported on the DMRs submitted to the Department for the period of May 2015 – April 2020 is as follows;

Total residual chlorine (DMRs = 19)

Value	Limit (mg/L)	Range (mg/L)	Mean (mg/L)
Daily Maximum	0.85	0.10 – 0.71	0.26

- h. **pH:** The permitting action is carrying forward, a technology-based pH limit of 6.0 – 9.0 standard units (SU), which is based on 06-096 CMR 525(3)(III). For the monitoring period of the period of May 2015 – April 2020 there were no excursions from the technology-based pH limit of 6.0 – 9.0 standard units (SU).

The previous permitting action did not requirement submittal of pH monitoring results. Pursuant to 06-096 CMR 523(5)(i)(2), this permitting action is requiring the permittee to report pH monitoring results and is establishing a minimum monitoring frequency requirement of once per month based on best professional judgment.

- i. **Whole Effluent Toxicity (WET), Priority Pollutant, and Analytical Chemistry Testing:** 38 M.R.S. § 414-A and 38 M.R.S. § 420 prohibit the discharge of effluents containing substances in amounts that would cause the surface waters of the State to contain toxic substances above levels set forth in Federal Water Quality Criteria as established by the USEPA. 06-096 CMR 530 sets forth effluent monitoring requirements and procedures to establish safe levels for the discharge of toxic pollutants such that existing and designated uses of surface waters are maintained and protected, and narrative and numeric water quality criteria are met. 06-096 CMR 584 sets forth ambient water quality criteria (AWQC) for toxic pollutants and procedures necessary to control levels of toxic pollutants in surface waters.

06-096 CMR 530(2)(A) specifies the dischargers subject to the rule as, “...all licensed dischargers of industrial process wastewater or domestic wastes discharging to surface waters of the State must meet the testing requirements of this section. Dischargers of other types of wastewater are subject to this subsection when and if the Department determines that toxicity of effluents may have reasonable potential to cause or contribute to exceedances of narrative or numerical water quality criteria.”

06-096 CMR 530(2)(A) further specifies the criteria for the exemption of certain discharges from toxics testing as follows:

- (1) *Discharges from individual discharge points licensed to discharge less than 50,000 gallons per day of solely domestic wastewater and with a chronic dilution factor of at least 50 to 1, provided no holding tank wastes containing chemicals are accepted by the facility;*

6. EFFLUENT LIMITATIONS & MONITORING REQUIREMENTS (cont'd)

- (2) *Discharges from residential overboard discharge systems; or*
- (3) *Discharges from combined sewer overflow discharge points, provided the owner of the sewerage system is conducting or participating in a discharge abatement program.*

The permittee's facility is exempt from the 06-096 CMR 530 requirements as the characteristics of the wastewater are considered to be similar to that of a residential overboard discharge. Additionally, the permit authorizes a discharge of less than 50,000 gpd of solely domestic wastewater and the chronic dilution factor is greater than 50:1. However, should there be a substantial change in the characteristics of the discharge in the future; the Department may reopen this permit pursuant to Special Condition K, *Reopening of Permit for Modifications*, to incorporate the applicable whole effluent toxicity (WET), priority pollutant or analytical testing requirements cited above.

- j. 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 dissolved oxygen (DO) and marine life support. To date, the permittee has not conducted total nitrogen testing on its discharge. As of March 2020, the Department has 186 total nitrogen effluent values with an arithmetic mean of 19.9 mg/L collected from various municipally-owned treatment works that discharge to marine waters of the State. None of the facilities whose effluent data were used are specifically designed to remove total nitrogen. For the MEPDES permitting program, the Department considers 19.9 mg/L to be representative of total nitrogen discharge levels for all facilities providing secondary treatment that discharge to marine waters in the absence of facility specific data, and therefore 19.9 mg/L is being used as the total nitrogen discharge concentration from the Gray Lodges & Industries, Inc. 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.

6. EFFLUENT LIMITATIONS & MONITORING REQUIREMENTS (cont'd)

Two known surveys have been completed along the Southport shoreline that specifically documented presence/absence of eelgrass. The 1994 and 2005 surveys were conducted by the ME Department of Marine Resources, and mapped an approximately 0.04 ha eelgrass bed of moderate cover just less than a half kilometer from the outfall in 2005. Other than this small bed, larger eelgrass areas were mapped at the head of Pig Cove and to the east around Squirrel Island, the closest of which is approximately 1 km from the outfall location. Given the historic mapped presence of eelgrass in proximity to the outfall, the use of 0.32 mg/L as a total nitrogen threshold value for protection of eelgrass is appropriate for this receiving water.

With the exception of ammonia, nitrogen is not acutely toxic; thus, the Department is considering a far-field dilution to be more appropriate when evaluating impacts of total nitrogen to the marine environment. The permittee's facility has a chronic near field dilution factor of 195:1. In marine waters, far field dilutions are significantly higher than the respective near-field dilution factor. Due to the small magnitude of this discharge in relation to the receiving water, the Department is using a conservatively estimating a near field dilution multiplier of ten, which yields a far field dilution factor of 2,000:1. Based on this analysis, the increase in the ambient total nitrogen due to the permittee's effluent discharge is as follows:

Estimated total nitrogen concentration in effluent = 19.9 mg/L

Chronic, far field dilution factor: 2,000:1

In-stream concentration after far field dilution: $(19.9 \text{ mg/L})/2,000 = 0.021 \text{ mg/L}$

The Department and external partners have been collecting ambient total nitrogen data along Maine's coast. No total nitrogen data are known to exist along the eastern shoreline of Southport Island, and few data points are available for similar exposed embayments where only minor discharges are licensed, and upland land use and seasonal tourism are minimal. For the 2015 permit revision, the Department assessed total nitrogen data from July and August of 2009 and 2010 in the Midcoast and Downeast regions of the exposed Maine coast as proxy for the Southport area. For this 2021 permit revision, a subset of these sites sampled during 2009 and 2010 were again sampled in 2015. With the inclusion of six new data points, the calculated mean +/- standard deviation background surface water total nitrogen concentration of $0.22 \pm 0.04 \text{ mg/L}$ (n=16) used for the 2015 revision remains unchanged and will be carried forward in the current permit revision.

With the calculated ambient value for this receiving water, the estimated increase in ambient total nitrogen after reasonable opportunity for mixing in the far-field is $0.22 \text{ mg/L} + 0.021 \text{ mg/L} = 0.24 \text{ mg/L}$. The in-stream concentration value of 0.24 mg/L is less than the Department and USEPA's total nitrogen threshold of 0.32 mg/L for the protection of aquatic life using eelgrass as an indicator.

6. EFFLUENT LIMITATIONS & MONITORING REQUIREMENTS (cont'd)

Using the reasonable potential calculations above and in the absence of any information that the receiving water is not attaining standards, the Department is making a best professional judgment determination that the discharge of total nitrogen from the Gray Lodges & Industries, Inc. facility does not exhibit a reasonable potential to exceed applicable water quality standards for Class SB waters. This permitting action is not establishing any discharge limitations or monitoring requirements for total nitrogen.

7. DISCHARGE IMPACT ON RECEIVING WATER QUALITY

As permitted, the Department has determined the existing water uses will be maintained and protected, and that the discharge as permitted will not cause or contribute to the failure of the water body to meet standards for Class SB waters.

8. PUBLIC COMMENTS

Public notice of this application was made in the *Boothbay Register* newspaper on or about March 24, 2020. 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*, CMR 522 (effective January 12, 2001).

9. DEPARTMENT CONTACTS

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

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10. RESPONSE TO COMMENTS

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ATTACHMENT A

