

AUTHORIZATION TO DISCHARGE UNDER CLEAN WATER ACT SECTION 301 (h)
MODIFIED NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

In compliance with the provisions of the Federal Clean Water Act, as amended, (33 U.S.C. §1251 et seq.; the "CWA"), and Title 38 Maine Revised Statutes § 414-A et seq.,

Town of Lubec –ME0102016

is authorized to discharge from a facility located at

**Wastewater Treatment Facility
Pleasant Street
Lubec, Maine 04652**

to receiving water named **Passamaquoddy Bay (Lubec Narrows) - Lubec, Maine
Class SB**

in accordance with effluent limitations, monitoring requirements and other conditions set forth herein.

This NPDES permit shall become Effective on the date of signature if no comments are received during public notice. If comments are received during public notice, this permit will become effective no sooner than 30 days after signature of the Director of the EPA Office of Ecosystem Protection.

This Waste Discharge License (WDL) shall become effective immediately upon signature by the Commissioner of the Maine Department of Environmental Protection.

Both the NPDES permit and WDL and the authorization to discharge to the waters of the United States shall expire concurrently at midnight, five (5) years from the date of signature by the Director of the EPA Office of Ecosystem Protection.

This permit supersedes the NPDES permit/WDL issued on July 7, 2003. This permit consists of the *Maine Pollutant Discharge Elimination System Permit Standard Conditions Applicable To All Permits* (last revised July 1, 2002), *EPA NPDES Part II Standard Conditions (January 2007)* copies attached, and the attached Special Conditions, including effluent limitations and monitoring requirements.

Signed this day of

Signed this day of

Stephen S. Perkins, Director
Office of Ecosystems Protection
Environmental Protection Agency
Boston, Massachusetts

David P. Littell, Commissioner
Maine Department of Environmental
Protection
Augusta, Maine

IN THE MATTER OF

TOWN OF LUBEC)	NATIONAL POLLUTANT DISCHARGE
LUBEC, WASHINGTON COUNTY, MAINE)	ELIMINATION SYSTEM
PUBLICLY OWNED TREATMENT WORKS)	
ME0102016)	WASTE DISCHARGE LICENSE
W006306-5L-D-R	APPROVAL)	RENEWAL

Pursuant to the provisions of the Federal Water Pollution Control Act, Title 33 USC, Section 1251, et seq., and 38 M.R.S.A., Section 414-A et seq., and applicable regulations, the U.S. Environmental Protection Agency (EPA hereinafter) and the Maine Department of Environmental Protection (Department hereinafter) have considered the application of the TOWN OF LUBEC (Town hereinafter), with its supportive data, agency review comments, and other related materials on file and FINDS THE FOLLOWING FACTS:

APPLICATION SUMMARY

The Town has applied for renewal of a combined Section 301(h) Modified National Pollutant Discharge Elimination System (NPDES) permit #ME0102016 and Maine Waste Discharge License (WDL) #W006306-5L-C-R, that was issued on July 7, 2003 and expired on July 7, 2008. The permit/license (permit hereinafter) approved the discharge of up to a monthly average flow of 0.166 million gallons per day (MGD) of primary treated sanitary wastewater to Passamaquoddy Bay (Lubec Narrows), Class SB, in Lube, Maine.

PERMIT SUMMARY

This permitting action is similar to the previous permitting action in that it carries forward;

1. The monthly average flow limitation of 0.166 MGD.
2. The monthly average technology based requirements to achieve a minimum of 30% removal of biochemical oxygen demand (BOD) and a minimum of 50% removal for total suspended solids (TSS).
3. The monthly average technology based mass limitations for BOD and TSS.
4. The daily maximum concentration reporting requirement for settleable solids.
5. The seasonal (May 15 – September 30) monthly average (geometric mean) and daily maximum water quality based concentration limits of 15 colonies/100 ml and 50 colonies/100 ml respectively, for fecal coliform bacteria.
6. The daily maximum technology based concentration limit of 1.0 mg/L for total residual chlorine.
7. The technology based pH range limitation of 6.0 -9.0 standard units but reducing the monitoring frequency from 1/Day to 1/Week.

This permitting action is different than the previous permitting action in that it is;

8. Eliminating the monthly average concentration reporting requirement for settleable solids and reducing the monitoring frequency to 1/Week.
9. Eliminating the requirement to report influent BOD and TSS data on the monthly Discharge Monitoring Report (DMR). Influent values for both parameters shall continue to be reported on the monthly "49-Form" submitted to the Department.
10. Establishing technology based monthly average concentration limits for BOD and TSS.
11. Establishing an annual certification requirement pursuant to a Department rule, 06-096 CMR Chapter 530, *Surface Water Toxics Control Program*, promulgated on October 12, 2005.

CONCLUSIONS

BASED on the findings in the attached **PROPOSED DRAFT** Fact Sheet dated August 19, 2008, and subject to the Conditions listed below, the USEPA and the Department make 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, 38 MRSA Section 464(4)(F), will be met, in that:
 - (a) Existing receiving 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) The standards of classification of the receiving water body are met or, 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 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 discharge will be subject to effluent limitations that require application of best practicable treatment.

ACTION

THEREFORE, the the USEPA and the Department APPROVE the above noted application of the TOWN OF LUBEC, to discharge up to a monthly average of 0.166 MGD of primary treated wastewaters to Passamaquoddy Bay (Lubec Narrows), Class SB, in Lubec, 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, and *EPA NPDES Part III, Standard Conditions*, January 2007) copies attached.
2. The Special Conditions on the following pages.
3. This permit expires five (5) years from the date of signature below.

DONE AND DATED AT AUGUSTA, MAINE, THIS _____ DAY OF _____, 2008.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: _____
David P. Littell, Commissioner

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: July 29, 2008.

Date of application acceptance: July 29, 2008.

Date filed with Maine Board of Environmental Protection _____

This order prepared by GREGG WOOD, Bureau of Land & Water Quality
Lubec 2008 7/31/08

SPECIAL CONDITIONS

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

- The permittee is authorized to discharge treated primary treated sanitary wastewaters from **Outfall 001** to Passamaquoddy Bay and must monitor and limit discharges as follows:

<u>Effluent Characteristic</u>	<u>Discharge Limitations</u>				<u>Monitoring Requirement</u>	
	<u>Monthly Average</u>	<u>Daily Maximum</u>	<u>Monthly Average</u>	<u>Daily Maximum</u>	<u>Measurement Frequency</u>	<u>Sample Type</u>
Flow [50050]	166,000 gpd [07]	---	---	---	Continuous [99/99]	Recorder [RC]
BOD [00310]	281 lbs/day [26]	Report lbs/day [26]	203 mg/L [19]	Report, mg/L [19]	1/Week [01/07]	Composite [24]
BOD % Removal ⁽¹⁾ [50076]	---	---	30 % [23]	---	1/Month [01/30]	Calculate/CA]
TSS [00530]	201 lbs/day [26]	Report lbs/day [26]	145 mg/L [19]	Report, mg/L [19]	1/Week [01/07]	Composite [24]
TSS % Removal ⁽¹⁾ [81011]	---	---	50 % [23]	---	1/Month [01/30]	Calculate/CA]
Settleable Solids [00545]	---	---	---	Report (ml/L) [25]	1/Week [01/07]	Grab [GR]
<u>Fecal Coliform Bacteria</u> (May 15 – September 30) [31615]	---	---	15/100 ml ⁽²⁾ [30]	50/100ml [30]	1/Week [01/07]	Grab [GR]
Total Residual Chlorine [50060] ⁽³⁾	---	---	---	1.0 mg/L [19]	1/Day [01/01]	Grab [GR]
pH (Std. Units) [00400]	The pH shall not be less than 6.0 or greater than 9.0 at any time.				1/Week [01/07]	Grab [GR]

The italicized numeric values bracketed in the table above are code numbers that Department personnel use to code the monthly Discharge Monitoring Reports (DMR's).

SPECIAL CONDITIONS

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

Footnotes

Sampling – Sampling to demonstrate compliance with this permit shall be conducted after the last treatment process and shall be representative of normal operating conditions. All sampling 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, (c) as otherwise specified by the Department. Samples that are sent out for analysis shall be analyzed by a laboratory certified by the State of Maine's Department of Health and Human Services. Samples that are sent to another POTW licensed pursuant to *Waste discharge licenses*, 38 M.R.S.A. § 413 are subject to the provisions and restrictions of *Maine Comprehensive and Limited Environmental Laboratory Certification Rules*, 10-144 CMR 263 (last amended February 13, 2000).

All detectable analytical test results shall be reported to the Department including results which are detected below the respective reporting limits (RLs) specified by the Department or as specified by other approved test methods. If a non-detect analytical test result is below the respective RL, the concentration result shall be reported as <Y where Y is the detection limit achieved by the laboratory for each respective parameter. Reporting a value of <Y that is greater than an established RL is not acceptable and will be rejected by the Department. For mass, if the analytical result is reported as <Y or if a detectable result is less than a RL, report a <X lbs/day, where X is the parameter specific limitation established in the permit.

1. **Percent removal** - The permittee shall achieve at least 30% removal for BOD and 50% removal for TSS. For the purposes of calculating a monthly average percent removal, the permittee shall use the measured influent and effluent concentrations.
2. **Fecal coliform bacteria** – Limitations and monitoring requirements are in effect between May 15 – September 30 of each year. The Department reserves the right to impose year-round disinfection to protect the health, safety and welfare of the public. The monthly average limitation is a geometric mean limitation and results shall be reported as such.
3. **Total residual chlorine (TRC)** – Limitations and monitoring requirements for TRC are in effect whenever elemental chlorine or chlorine based compounds are utilized for disinfection or cleaning.

B. NARRATIVE EFFLUENT LIMITATIONS

1. The effluent shall not contain a visible oil sheen, foam or floating solids at any time or which would impair the usages designated by the classification of the receiving waters.
2. The effluent shall not contain materials in concentrations or combinations which are hazardous or toxic to aquatic life, or which would impair the usages designated by the classification of the receiving waters.
3. The discharge shall not cause visible discoloration or turbidity in the receiving waters which would impair the usages designated by the classification of the receiving waters.
4. Notwithstanding specific conditions of this permit the effluent must not lower the quality of any classified body of water below such classification, or lower the existing quality of any body of water if the existing quality is higher than the classification.

C. DISINFECTION

Disinfection shall be used to reduce the concentration of bacteria to or below the level specified in Special Condition A, *Effluent Limitations and Monitoring Requirements*, of this permit. If chlorination and dechlorination are used as the means of disinfection, an approved chlorine disinfection system must be utilized. The total residual chlorine in the effluent shall at no time cause any demonstrable harm to aquatic or marine life in the receiving waters. The final effluent concentration of total residual chlorine, prior to dechlorination if present, must at all times be maintained at a concentration greater than test method detection limits in order to provide effective reduction of bacteria to levels or below those specified in Special Condition A, *"Effluent Limitation and Monitoring Requirements."*

D. TREATMENT PLANT OPERATOR

The treatment facility must be operated by a person holding a minimum of a **Grade I** certificate or higher (or Registered Maine Professional Engineer) pursuant to *Sewerage Treatment Operators*, Title 32 M.R.S.A., 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.

E. UNAUTHORIZED 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 July 29, 2008.

2) the terms and conditions of this permit; and 3) only from Outfall #001A.

Discharges of wastewater from any other point source are not authorized under this permit, and shall be reported in accordance with Standard Condition B(5), *Bypasses*, of this permit.

F. NOTIFICATION REQUIREMENT

In accordance with Standard Condition D, the permittee shall notify the Department and the EPA of the following:

1. Any substantial change in the volume or character of pollutants being introduced into the wastewater collection and treatment system by a source introducing pollutants to the system at the time of permit issuance.
2. For the purposes of this section, adequate notice shall 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 quality or quantity of the wastewater to be discharged from the treatment system.

G. OPERATIONS AND MAINTENANCE MANUAL

This facility shall have a current written comprehensive Operation & Maintenance (O&M) Plan. The plan shall provide a systematic approach by which 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.

By December 31 of each year and within 90 days of any process changes or minor equipment upgrades, the permittee shall 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 shall be kept on-site at all times and made available to Department and EPA personnel upon request.

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

On or before December 31, 2008, [PCS Code 00701], the permittee shall submit to the Maine Department of Environmental Protection for review and approval, a public education program designed to minimize the entrance of non-industrial toxic pollutants and pesticides into the collection system and wastewater treatment facility.

On or before December 31, 2009, [PCS Code 53399], the permittee shall provide written notice to the Maine Department of Environmental Protection, that the approved public education program has been implemented.

H. WET WEATHER FLOW MANAGEMENT PLAN

The treatment facility staff shall maintain a Wet Weather Management Plan to direct the staff on how to operate the facility effectively during periods of high flow. The Department acknowledges that the existing collection system may deliver flows in excess of the monthly average design capacity of the treatment plant during periods of high infiltration and rainfall.

The plan shall include operating procedures for a range of intensities, address solids handling procedures (including septic waste and other high strength wastes if applicable) and provide written operating and maintenance procedures during the events.

The permittee shall review their plan annually and record necessary changes to keep the plan up to date.

I. SLUDGE MANAGEMENT

The permittee shall comply with all existing federal and state laws and regulations that apply to sewage sludge use and disposal practices and with the CWA Section 405(d) technical standards.

The permittee shall comply with the more stringent of either the state or federal (40 CFR Part 503) requirements.

The requirements and technical standards of 40 CFR Part 503 apply to facilities which perform one or more of the following use or disposal practices.

- a. Land application - the use of sewage sludge to condition or fertilize the soil
- b. Surface disposal - the placement of sewage sludge in a sludge only landfill
- c. Sewage sludge incineration in a sludge only incinerator

The 40 CFR Part 503 conditions do not apply to facilities which place sludge within a municipal solid waste landfill. These conditions also do not apply to facilities which do not dispose of sewage sludge during the life of the permit but rather treat the sludge (e.g., lagoons- reed beds), or are otherwise excluded under 40 CFR 503.6.

The permittee shall use and comply with the attached compliance guidance document to determine appropriate conditions. Appropriate conditions contain the following elements.

- General requirements
- Pollutant limitations
- Operational Standards (pathogen reduction requirements and vector attraction reduction requirements)
- Management practices
- Record keeping
- Monitoring
- Reporting

Depending upon the quality of material produced by a facility, all conditions may not apply to the facility.

The permittee shall monitor the pollutant concentrations, pathogen reduction and vector attraction reduction at the following frequency. This frequency is based upon the volume of sewage sludge generated at the facility in dry metric tons per year:

less than 290	1/ year
290 to less than 1500	1 /quarter
500 to less than 15000	6 /year
15000 +	1 /month

The permittee shall sample the sewage sludge using the procedures detailed in 40 CFR 503.8.

On or before March 1st of each year. [PCS code 95999] the permittee shall submit an annual report containing the information specified in the guidance Reports shall be submitted to the address contained in the reporting section of the permit. Sludge monitoring is not required by the permittee when the permittee is not responsible for the ultimate sludge disposal. The permittee must be assured that any third party contractor is in compliance with appropriate regulatory requirements. In such case, the permittee is required only to submit an annual report by March 1 containing the following information:

- Name and address of contractor responsible for sludge disposal
- Quantity of sludge in dry metric tons removed from the facility by the sludge contractor

J. CHAPTER 530(2)(D)(4) CERTIFICATION

On or before December 31 of each year [PCS code 95799] the permittee is required to file a statement with the Department describing the following.

1. Changes in the number or types of non-domestic wastes contributed directly or indirectly to the wastewater treatment works that may increase the toxicity of the discharge;
2. Changes in the operation of the treatment works that may increase the toxicity of the discharge; and
3. Changes in industrial manufacturing processes contributing wastewater to the treatment works that may increase the toxicity of the discharge.

Further, the Department may require that annual WET or priority pollutant testing be re-instituted if it determines that there have been changes in the character of the discharge or if annual certifications described above are not submitted.

K. MONITORING AND REPORTING

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

Maine Department of Environmental Protection
Eastern Maine Regional Office
Bureau of Land & Water Quality
Division of Water Quality Management
106 Hogan Road
Bangor, Maine 04401

Signed and dated originals of these, and all other reports required herein, shall be submitted to the Director at the following address:

Environmental Protection Agency
Water Technical Unit (SEW)
P.O. Box 8127
Boston, Massachusetts 02114

L. RE-OPENING OF PERMIT FOR MODIFICATIONS

Upon evaluation of test results required by the Special Conditions of this permitting action, additional site specific information or any other pertinent information or test result obtained during the term of this permit, the Department and EPA may, at anytime, 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 the monitoring requirements and/or limitations based on new information.

M. 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 shall remain in full force and effect, and shall be construed and enforced in all respects as if such unlawful provision, or part thereof, had been omitted, unless otherwise ordered by the court.

Legend

Wastewater_Facilities

^ Wastewater_Outfalls

Coastal Waters

Coastal Class

sa

sb

sc

Johnson Bay, Atlantic Ocean, Class SB

Town of Lubec WWTP Outfall

Lubec Narrows

Town of Lubec Wastewater Treatment Plant
NPDES #ME0102016
WDL #6305

Lubec

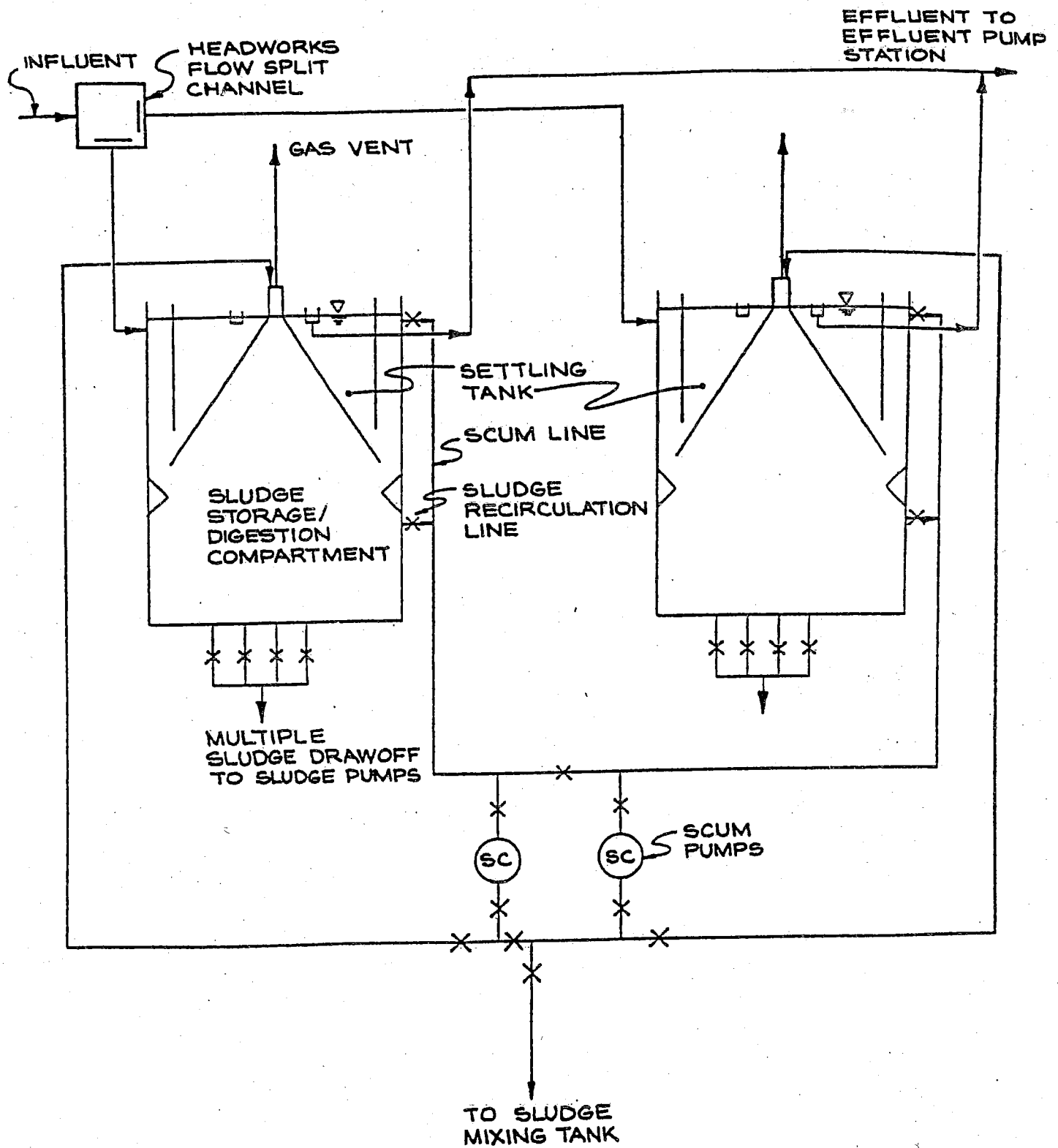
Regional Map
Lubec



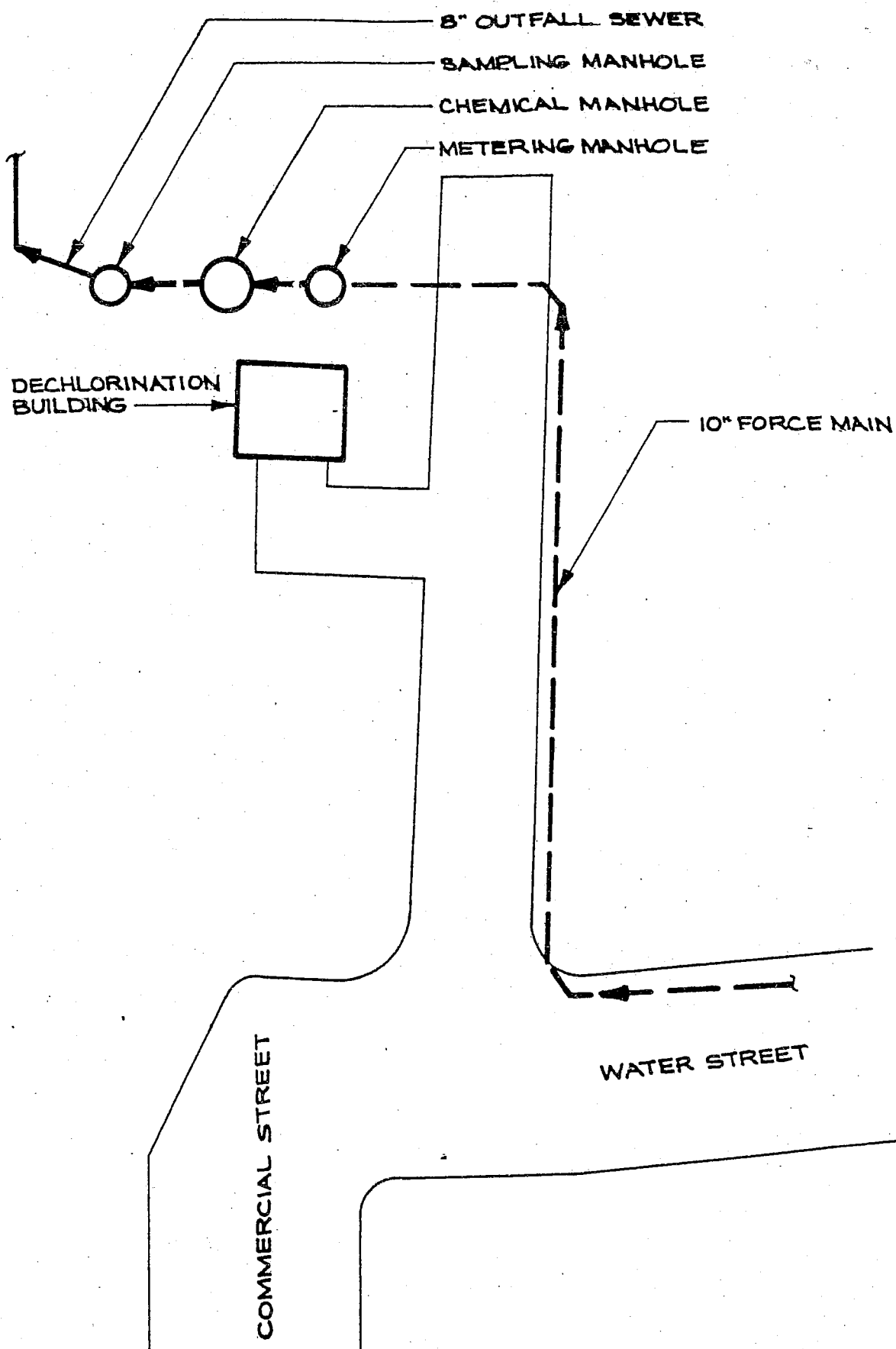
0 0.25 0.5 1 Miles

Lubec Wastewater Treatment Plant at Lubec, Maine

Ma



**FIGURE 4-1
PRIMARY TREATMENT
PROCESS SCHEMATIC**



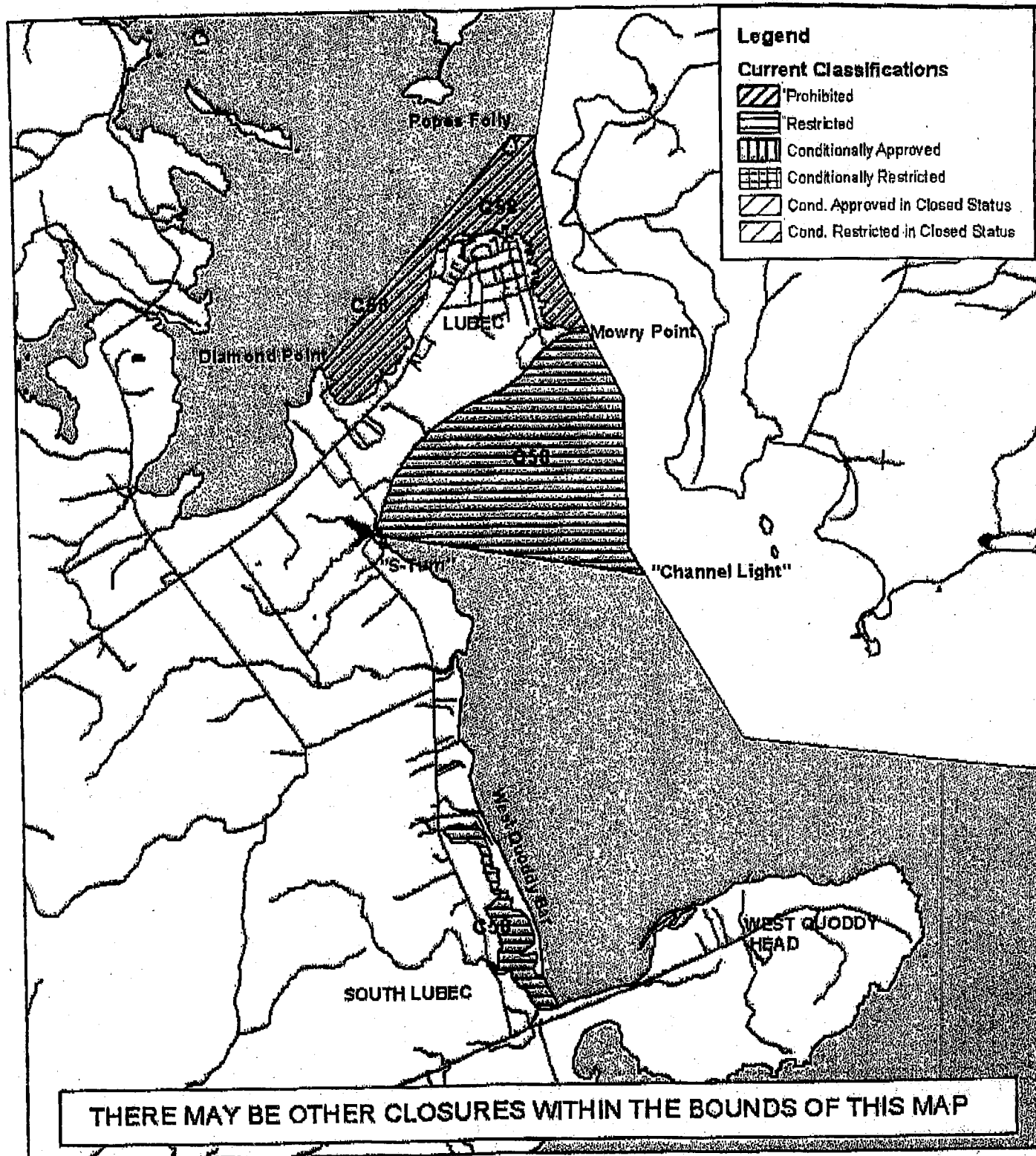
**FIGURE 3-3
DECHLORINATION FACILITY
GENERAL LAYOUT**

Maine Department of Marine Resources

Legal Notice of Shellfish Closure Area

C58 - Lubec and South Lubec

August 4, 2006



TOWN OF LUBEC, MAINE)	TENTATIVE DECISION
PUBLICLY OWNED TREATMENT WORKS,)	OF THE REGIONAL
APPLICATION FOR SECTION 301(h))	ADMINISTRATOR PURSUANT TO
VARIANCE FROM THE SECONDARY)	40 CFR PART 125, SUBPART G
TREATMENT REQUIREMENTS OF THE)	
CLEAN WATER ACT)	
<hr/>		

The Town of Lubec (Lubec hereinafter), owns and operates a publicly owned treatment works located in the Town of Lubec, Maine. Lubec has submitted a waiver application pursuant to Section 301(h) of the Clean Water Act, as amended by the Water Quality Act of 1987 (the Act). The U.S. Environmental Protection Agency (EPA hereinafter) has reviewed the merits of this application for the waiver request. Based on this review, it is my tentative decision that Lubec should receive a 301(h) waiver from secondary treatment standards in accordance with the terms, conditions, and limitations proposed in the modified 301(h) National Pollutant Discharge Elimination System (NPDES) permit.

Lubec's application is seeking approval for the discharge of up to a monthly average of 166,000 gallons per day of primary treated waste water generated by residential homes in the town. Lubec is seeking renewal of its variance from the secondary treatment requirements of the Clean Water Act, as amended by the Act pursuant to Section 301(h) that was originally granted by the EPA on May 9, 1985 and subsequently renewed on July 7, 2003. It is my tentative decision that Lubec be granted a renewal of the variance in accordance with the terms, conditions, and limitations of the attached evaluation. This determination is subject to concurrence by the State of Maine as required by Section 301(h) of the Act. Region I has prepared a draft NPDES permit in accordance with this decision.

Because my decision is based on available evidence specific to this particular discharge, it is not intended to assess the need for secondary treatment by other publicly owned treatment works discharging to the marine environment. This decision and the NPDES permit implementing this decision are subject to revision on the basis of subsequently acquired information relating to the impacts of the less-than-secondary discharge on the marine environment.

Pursuant to the procedures of the NPDES Permit Regulations, 40 CFR Part 124, a public notice will be issued which describes the comment procedures that are available to interested persons in regard to this decision and its accompanying draft NPDES permit.

Date:

Robert W. Varney
Regional Administrator
Environmental Protection Agency
Region I

TENTATIVE DECISION DOCUMENT

ANALYSIS OF THE APPLICATION FOR A SECTION 301(h)

SECONDARY TREATMENT VARIANCE

FOR

THE TOWN OF LUBEC

WASTE WATER TREATMENT PLANT

ENVIRONMENTAL PROTECTION AGENCY
REGION I - NEW ENGLAND

August 2008

Table of Contents

	<u>Page</u>
Summary	
I. Introduction	1
II. Description of Treatment Facility	1
III. Description of Receiving Water	2
IV. Physical Characteristics of the Discharge	2
A. Zone of Initial Dilution (ZID)	2
V. Application of Statutory and Regulatory Criteria	3
A. Primary or equivalent treatment requirements [40 CFR 125.60]	3
B. Existence of and Compliance with Applicable Water Quality Standards	5
(1). Dissolved Oxygen	6
(2). Fecal Coliform Bacteria	7
(3). pH	8
(4). Demonstrate Compliance with Standards	8
C. Attainment or Maintenance of that Water Quality which Assures Protection of Public Water Supplies, a Balanced Indigenous Population of Shellfish, Fish and Wildlife, and Recreational Activities in and on the Water	9
(1). Transport and Dispersion of Diluted Wastewater and Particulates	9
(2). Impact of the Discharge on Public Water Supplies	9
(3). Biological Impact of Discharge	10

(4). Discharge Does Not Contribute to Extreme Adverse Biological Conditions	10
(5). Benthic Population Does Not Differ	10
(6). Impact on Recreational Activities	10
(7). Additional Requirements	10
(8). Stressed Waters	11
D. Establishment of Monitoring Programs	12
(1). Establishment of Monitoring Program	12
(2). Depth of Discharge	12
(3). Biological Monitoring for an Improved Discharge	12
(4). Water Quality Monitoring	13
(5). Effluent Monitoring Program	13
E. Effect of Modified Discharge on Other Point and Nonpoint Sources	13
F. Toxics Control Program	13
(1). Identification of Sources and Industrial Pretreatment	13
(2). Nonindustrial Source Control Program	13
G. Increase in Effluent Volume or Amount of Pollutants Discharged	14
(1). New or Substantially Increased Discharge of Pollutants	14
2. Combined Sewer Overflows	14
H. Special Conditions	14
VI. Compliance With Provisions of Other State, Local or Federal Laws	16

A. State Coastal Zone Management Program	16
B. Endangered or Threatened Species	16
C. Marine Protection, Research and Sanctuaries Act	16
D. Essential Fish Habitat	17
VII. State Concurrence in Variance	17
VIII. Conclusion	17
IX. Tentative Decision	18

SUMMARY

The applicant, the Town of Lubec (Lubec hereinafter) is seeking a variance from secondary treatment requirements for the discharge of up to 166,000 gallon per day (gpd) of waste water treatment plant (monthly average daily design flow). The treatment plant facility is located in the Town of Lubec, Maine and discharges its effluent to Passamaquoddy Bay (Lubec Narrows), a Class SB waterway according to 38 Maine Revised Statutes Annotated (M.R.S.A.) §469. See Attachment A of this document for a location map.

EPA followed the guidance provided in EPA's Amended Section 301(h) Technical Support Document (1994) for evaluating the improved discharge for a small applicant (average dry weather flows below 5.0 MGD). The Region relied on information in a document entitled "301(h) Facilities in Maine, Report of 1995 Monitoring Activities," prepared by the State of Maine's Department of Environmental Protection (MEDEP) and submitted to EPA in July 1996 as well as monthly compliance data generated by Lubec for the period July 2003 through the present as required by the terms and conditions of the most current NPDES permit.

The applicant's receipt of a Section 301(h) variance from secondary treatment is contingent upon the following conditions:

1. The treatment system's ability to maintain an average monthly 30 percent (%) removal rate of five-day biochemical oxygen demanding (BOD₅) material and 50% removal for total suspended solids (TSS) (State of Maine Section 401 Water Quality Certification Condition), and;
2. The discharge's ability to meet all water quality standards at the edge of the zone of initial dilution, and;
3. State Certification under 401 of the Act regarding compliance with State law and State Water Quality Standards, including a basis for the conclusion reached.

I. INTRODUCTION

Lubec has requested a renewal of its five-year variance from the secondary treatment requirements for its publicly owned treatment works (POTW) pursuant to Section 301(h) of the Clean Water Act, as amended by the Water Quality Act of 1987. This tentative decision document summarizes the findings, conclusions and recommendations of the New England Region of the Environmental Protection Agency (EPA) with regard to Lubec's 301(h) waiver request. The conclusions and recommendations in this document are based on the application of the requirements set forth in 40 CFR Part 125, Subpart G (revised on August 9, 1994) to Lubec's discharge.

The applicant's most recent Section 301(h) modified National Pollutant Discharge Elimination System (NPDES) permit expired on July 7, 2008. Lubec submitted an application for a renewal of its Section 301(h) variance on July 29, 2008. The EPA applied the criteria established in 40 CFR Part 125, Subpart G, "Criteria for Modifying the Secondary Treatment Requirements Under Section 301(h) of the Clean Water Act," in acting on this request.

II. DESCRIPTION OF TREATMENT FACILITY

Lubec's treatment facility provides a primary level of treatment and consists of (1) an influent pump station, (2) screening and grit removal, (3) two primary treatment Imhoff tanks (4) prechlorination (if needed), (4) chlorination facility, (5) effluent pump station, (6) sampling of effluent quality, (7) sludge removal, mixing, drying, stabilization, and dumping facilities (8) lime, polymer and potassium permanganate chemical addition facilities, and (9) a Control Building. There is a dechlorination facility at the terminus of the effluent force main approximately 2,600 feet from the main treatment facility. The dechlorination facility consists of effluent flow metering, dechlorination chemical addition facilities, a effluent sampling access manhole, and the dechlorination operations building. Disinfection of the effluent occurs during the summer season (May 15 to September 30).

Waste water enters the influent pump station wet well through a 10-inch diameter gravity sewer. The waste water is pumped by the influent self-priming centrifugal pumps to the headworks channel for screening and grit removal. A weir controlled splitting structure at the end of the headworks channels controls flow to the two (2) Imhoff primary treatment tanks. The sludge and scum are stored in the lower compartments of the tanks for anaerobic digestion and then seasonally disposed of by liquid sludge land application or dewatered in drying beds and either land applied, landfilled or sent to another facility for further treatment and disposal. The waste water flows from the Imhoff tanks to the effluent pump station wet well. Sodium hypochlorite is injected into the force main in a chemical addition manhole to disinfect the waste water. A static mixer is provided in this manhole to thoroughly combine the waste water with the chemical additions. A 10-inch diameter force main between the treatment plant and the dechlorination facility acts to provide the necessary detention time to provide disinfection of the waste water flow.

II. DESCRIPTION OF TREATMENT FACILITY (cont'd)

The 10-inch diameter force main from the effluent pump station at the treatment plant terminates at the dechlorination facility. Effluent flow monitoring and sampling are conducted at the dechlorination facility. The waste water is also dechlorinated with liquid sodium bisulfite which is injected into the force main in another chemical addition manhole. The waste water flows from the dechlorination facility via an 8-inch diameter gravity outfall pipe and is discharged at Lubec Narrows at a depth of 18 feet below mean low tide. See Attachment B of this Fact Sheet for a schematic of the waste water treatment processes.

III. DESCRIPTION OF RECEIVING WATER

Lubec Narrows in Passamaquoddy Bay is a marine water subject to tidal action with a differences in tides (mean high to mean low) of up to 15 feet with very strong currents. Maine law, 38 M.R.S.A., §469 classifies the receiving waters at the point of discharge as Class SB waters. Maine law, 38 M.R.S.A., Section 465-B(2) contains the classification standards for Class SB waters. See Section V(B) of this document for a description of the designated uses as well as numeric and narrative water quality standards for Class SB waters.

III. DESCRIPTION OF RECEIVING WATER (cont'd)

Lubec's waste water treatment facility discharges to a shellfish harvesting area that the Maine Department of Marine Resources (DMR) has designated as shellfish Area #C-58 Lubec and South Lubec. (See Attachment C of this document).

IV. PHYSICAL CHARACTERISTICS OF THE DISCHARGE

A. Dilution Factors

Pursuant to 40 CFR 125.62(a), the outfall and diffuser must be located and designed to provide adequate initial dilution, dispersion, and transport of waste water to meet all applicable water quality standards at and beyond the boundary of the zone of initial dilution (ZID) during periods of maximum stratification and during other periods when more critical situations may exist.

The effluent from the Lubec waste water treatment facility is conveyed to Lubec Narrows via a polyvinylchloride (PVC) outfall pipe measuring eight (8) inches in diameter. The outfall pipe extended out into the receiving water approximately 100 feet with approximately eighteen (18) feet of water over the crown of the pipe at mean low water. MEDEP Rule 06-096 CMR, Chapter 530, Surface Water Toxics Control Program, §4(a)(2) states:

IV. PHYSICAL CHARACTERISTICS OF THE DISCHARGE (cont'd)

- (1) *For estuaries where tidal flow is dominant and marine discharges, dilution factors are calculated as follows. These methods may be supplemented with additional information such as current studies or dye studies.*
 - (a) *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.*
 - (b) *For discharges to estuaries, dilution must be calculated using a method such as MERGE, CORMIX or another predictive model determined by the Department to be appropriate for the site conditions.*
 - (c) *In the case of discharges to estuaries where tidal flow is dominant and marine waters, the human health criteria must be analyzed using a dilution equal to three times the chronic dilution factor.*

With the current outfall location, the Department determined through CORMIX modeling, the dilution factors associated with the facility at the permitted flow of 166,000 gpd were as follows.

Acute = 1,900:1 Chronic = 4,700:1 Harmonic mean = 14,100

Pursuant to Department rule Chapter 530, "Surface Water Toxics Control Program", §4(2)(c), the harmonic mean dilution factor is approximated by multiplying the chronic dilution factor by a factor of three (3).

V. APPLICATION OF STATUTORY AND REGULATORY CRITERIA

A. Primary or equivalent treatment requirements [40 CFR 125.60]

40 CFR 125.60 specifies that the applicant shall demonstrate that its effluent has received at least primary or equivalent treatment. Primary or equivalent treatment is defined as: "treatment by screening, sedimentation, and skimming adequate to remove 30 percent of the biochemical oxygen demanding (BOD) material and 30 percent of the total suspended solids (TSS) in the treatment works influent, and disinfection, where appropriate." (See definition at 40 CFR 125.58(r)). It is noted the MEDEP considers 50% removal of the TSS as best practicable treatment (BPT).

V. APPLICATION OF STATUTORY AND REGULATORY CRITERIA (cont'd)

The previous NPDES permit established monthly average technology based mass limits for BOD and TSS with a monitoring frequency of 1/Week. The limitations were calculated based on an assumed influent concentration of 290 mg/L for each parameter and a 30% removal for BOD and a 50% removal for TSS. This assumed value is based on the EPA Design Manual, Onsite Wastewater Treatment and Disposal Systems, dated October 1980, table 4-3 entitled “Characteristics of Typical Residential Wastewater” high range of values for BOD5 and TSS. Derivation of the limits is as follows:

$$\begin{aligned}\text{BOD: } & 290 \text{ mg/L} - [(290 \text{ mg/L})(0.30)] = 203 \text{ mg/L} \\ & (203 \text{ mg/L})(8.34)(0.166 \text{ MGD}) = 281 \text{ lbs/day}\end{aligned}$$

A review of the DMR data for the period January 2005 – January 2008 inclusively, indicates the following:

BOD Mass

Value	Limit (lbs/day)	Range (lbs/day)	Average (lbs/day)
Monthly Average	281	40 – 122	63

BOD Concentration

Value	Limit (mg/L)	Range (mg/L)	Average (mg/L)
Monthly Average	Report	122 – 436	195

BOD % removal

Value	Limit (%)	Range (%)	Average (%)
Monthly Average	30	11 – 60	35

$$\begin{aligned}\text{TSS: } & 290 \text{ mg/L} - [(290 \text{ mg/L})(0.50)] = 145 \text{ mg/L} \\ & (145 \text{ mg/L})(8.34)(0.166 \text{ MGD}) = 201 \text{ lbs/day}\end{aligned}$$

TSS Mass

Value	Limit (lbs/day)	Range (lbs/day)	Average (lbs/day)
Monthly Average	201	16 - 43	23

TSS Concentration

Value	Limit (mg/L)	Range (mg/L)	Average (mg/L)
Monthly Average	Report	44 - 119	65

TSS % removal

Value	Limit (%)	Range (%)	Average (%)
Monthly Average	50	48 - 94	64

V. APPLICATION OF STATUTORY AND REGULATORY CRITERIA (cont'd)

Since issuance of the previous NPDES permit (July 2003) there has never been an excursion of the technology based mass limitations for BOD & TSS. Therefore, the facility currently meets the requirements of 40 CFR Part 125.60.

B. Existence of and Compliance with Applicable Water Quality Standards [40 CFR 125.61]

40 CFR 125.61(a) specifies that there must be a water quality standard applicable to each pollutant for which a modification is requested. The applicant must: (1) demonstrate that the modified discharge will comply with such water quality standards (40 CFR 125.61(b)(1)), and; (2) provide a determination, signed by the “certifying authority” (i.e., the MEDEP), that the proposed modified discharge will comply with applicable provisions of State law, including water quality standards (40 CFR 125.61(b)(2)).

The State of Maine has adopted water quality standards including water use classifications. Lubec Narrows in Passamaquoddy Bay is classified as Class SB pursuant to Maine law, 38 M.R.S.A., §469. Maine law 39 M.R.S.A §465-B(2) contains the 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.

Discharges to Class SB waters shall not cause adverse impact to estuarine and marine life in that the receiving waters shall 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 shall be no new discharge to Class SB waters which would cause closure of open shellfish areas by the Department of Marine Resources.

V. APPLICATION OF STATUTORY AND REGULATORY CRITERIA (cont'd)

Federal regulation 40 CFR, Part 125, Subpart G, more specifically Part 125.57(a)(2), states that discharge of pollutants in accordance with such modified requirements [301(h)] will not interfere, alone or in combination with pollutants from other sources, with the attainment or maintenance of that water quality which assures protection of public water supplies and protection and propagation of a balanced indigenous population of shellfish, fish, and wildlife, and allows recreational activities in and on the water.

Maine law 38 M.R.S.A., Section 420 and Department rule 06-096 CMR Chapter 530, *Surface Water Toxics Control Program*, require the regulation of toxic substances not to exceed levels set forth in Department rule 06-096 CMR Chapter 584, *Surface Water Quality Criteria for Toxic Pollutants*, and that ensure safe levels for the discharge of toxic pollutants such that existing and designated uses of surface waters are maintained and protected.

The water quality standards applicable to the pollutants for which a 301(h) modified permit is requested are discussed below. Additional relevant water quality standards are discussed in Section V(C) of this document.

(1) Dissolved Oxygen (DO) [40 CFR Section 125.61(a)(1)]

Maine law, 38 MRSA, §465-B(2)(A) species that Class SB waters shall have a dissolved oxygen content of at least 85% of saturation.

There is limited data in the vicinity of the discharge for average daily DO concentrations. EPA believes however, that average daily concentrations would likely be greater than the 85% saturation standard found in Maine law. This belief is based on the fact that in the summer of 1995, the MEDEP and the EPA conducted a portion of the Biological Monitoring requirements (TVS sampling) and Water Quality Monitoring contained in the 1985 State waste discharge license and federal NPDES permit at certain 301(h) facilities. The MEDEP and EPA agreed that the SCUBA inspection was too dangerous as a result of the swift current in the receiving waters. The Department has made the determination that, based on the sampling to date and past effluent monitoring data, the discharge complies with 40 CFR, §125.57(a)(2). According to a document entitled "301(h) Facilities in Maine, Report of 1995 Monitoring Activities," prepared by the Department, dated July 1996 and submitted to EPA, "Water quality, sediment, and photographic information indicates that these [301(h)-type] discharges are not causing any significant impact to the receiving waters". That document concluded that no further ambient monitoring be conducted, and recommended that effluent monitoring be continued. By letter dated February 17, 1995 from

V. APPLICATION OF STATUTORY AND REGULATORY CRITERIA (cont'd)

the EPA Regional Administrator, the EPA found there would be little risk of adverse impacts to the receiving waters from these discharges provided that the permittee perform effluent monitoring as part of the regular permit conditions. The proposed NPDES permitting action associated with this decision requires said effluent monitoring.

(2) Fecal coliform bacteria [40 CFR Section 125.61(a)(3)]

Maine law 38 M.R.S.A. §465-B(2)(C) specifies that 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.

The previous permitting action established monthly average (geometric mean) and daily maximum limits of 15 colonies/100 ml and 50 colonies/100 ml respectively, that are consistent with limitations in the National Shellfish Sanitation Program. The numeric limitations are being carried forward in this permitting action along with a monitoring frequency of 1/Week. To be consistent with other like permits issued by the Department and consistent with Maine law found at 38 M.R.S.A., Section 465-B(2)(B), this permitting action is establishing May 15th – September 30th as the season in which the limitations are in effect.

A review of the DMR data for the period calendar years May 2005 – September 2007 indicates the following:

Fecal coliform bacteria

Value	Limit (col/100 ml)	Range (col/100 ml)	Mean (col/100 ml)
Monthly Average	15	7.5 - 20	7
Daily Maximum	50	<10 - 58	14

Since issuance of the previous NPDES permit (July 2003) there has never been any excursions of the water quality based concentration limitations for fecal coliform bacteria. Therefore, the facility currently meets the requirements of 40 CFR Part 125.60.

V. APPLICATION OF STATUTORY AND REGULATORY CRITERIA (cont'd)

(3) pH [40 CFR Section 125.61(a)(3)]

Maine law 38 M.R.S.A. §464(4)(A)(5) specifies that no discharge shall cause the pH of marine water to fall outside the range of 7.0 – 8.5 standard units. The previous NPDES permit established a BPT pH range limit of 6.0 –9.0 standard units pursuant to Department rule, Chapter 525(3)(III)(c), along with a monitoring frequency of 5/Week. A review of the DMR data for the period April 2005 – March 2007 indicates there has never been any excursions of the pH range limitation. Therefore, the facility currently meets the requirements of 40 CFR Part 125.60.

(4) Toxic pollutants [40 CFR Section 125.61(a)(3)]

Maine law 38 M.R.S.A. § 420 prohibits dischargers from discharging toxic pollutants in toxic amounts. MEDEP rule 06-096 CMR, Chapter 584 establishes numeric ambient water quality criteria for pollutants known to be toxic to aquatic life or harmful to humans. The only pollutant discharged from the Lubec facility that may be discharged in toxic amounts is chlorine as it used as a disinfectant of the final effluent from the facility.

The July 2003 NPDES permit established a technology based daily maximum limitation of 1.0 mg/L. Limits on total residual chlorine are specified to ensure attainment of the in-stream water quality criteria for chlorine and that best practicable treatment (BPT) technology is utilized to abate the discharge of chlorine. Permits issued by the EPA impose the more stringent of the calculated water quality based or BPT based limits. The MEDEP has established a daily maximum BPT limitation of 1.0 mg/L for facilities that disinfect their effluent with elemental chlorine or chlorine based compounds unless the calculated acute water quality based threshold is lower than 1.0 mg/L.

Water quality based thresholds for TRC can be calculated as follows:

Parameter	Acute Criteria	Chronic Criteria	Acute Dilution	Chronic Dilution	Acute Limit	Chronic Limit
Chlorine	0.013 mg/L	0.0075 mg/L	1,900:1	4,700:1	25 mg/L	35 mg/L

Example calculation: Acute – 0.013 mg/L (1,900) = 25 mg/L

Being that the MEDEP's BPT technology based daily maximum limit of 1.0 mg/L is more stringent than the daily end-of-pipe water quality threshold calculated above, the technology based limit of 1.0 mg/L was established in the July 2003 NPDES permit and is being carried forward in this permitting action.

V. APPLICATION OF STATUTORY AND REGULATORY CRITERIA (cont'd)

A review of the seasonal DMR data for the period May 2005 – September 2007 indicates the daily maximum TRC discharged is as follows:

Total residual chlorine

Value	Limit (mg/L)	Range (mg/L)	Mean (mg/L)
Daily Maximum	1.0	0.16 – 0.98	0.63

C. Attainment or maintenance of water quality which assures protection of public water supplies; assures the protection and propagation of a balanced indigenous population (BIP) of shellfish, fish and wildlife; and allows recreational activities [40 CFR 125.62]

- (1) At the time the 301(h) modification becomes effective, the applicant's outfall and diffuser must be located and designed to provide adequate initial dilution, dispersion, and transport of wastewater such that the discharge does not exceed at or beyond the zone of initial dilution all applicable water quality standards [40 CFR 125.62(a)(1)(i)]**

The State of Maine has applicable State water quality standards that directly correspond to the CWA Section 304(a)(1) water quality criterion. With the current configuration of the outfall pipe, modeling performed indicates that it will provide adequate dilution, dispersion, and transport of wastewater such that the discharge will not exceed, at or beyond the zone of initial dilution, any applicable water-quality standards. See Section V(A)(1) of this document for the dilution factors calculated with the outfall.

(2) Impact of the Discharge on Public Water Supplies [40 CFR 125.62(b)]

Lubec's discharge will not have an impact on public drinking water supplies as the facility discharges to a marine environment and the EPA and MEDEP are not aware of any proposals to construct a desalination plant in the vicinity of the Lubec's discharge location.

V. APPLICATION OF STATUTORY AND REGULATORY CRITERIA (cont'd)

- (3) Biological Impact of Discharge. [40 CFR 125.62(c)]. The discharge must allow for the attainment or maintenance of water quality which assures protection and propagation of a balanced indigenous population (BIP) of fish, shellfish, and wildlife (40 CFR 125.62(c)(1)). A BIP must exist immediately beyond the boundary of the zone of initial dilution (ZID) and in all areas beyond the ZID that are actually or potentially affected by the applicant's discharge (40 CFR 125.62(c)(2)).**

See the discussion in Section V(1) of this document.

- (4) Conditions within the zone of initial dilution must not contribute to extreme adverse biological impacts, including, but not limited to, the destruction of distinctive habitats of limited distribution, the presence of a disease epicenter, or the stimulation of phytoplankton blooms which have adverse effects beyond the zone of initial dilution. [40 CFR 125.62(c)(3)]**

See the discussion in Section V(1) of this document.

- (5) For modified discharges into saline estuarine water, the benthic population within the ZID must not differ substantially from the balanced indigenous populations which exist immediately beyond the boundary of the ZID; the discharge must not interfere with estuarine migratory pathways within the ZID; and the discharge must not result in the accumulation of toxic pollutants or pesticides at levels which exert adverse effects on the biota within the ZID. [40 CFR 125.62(c)(4)(i), (ii), and (iii)]**

See the discussion in Section V(1) of this document.

- (6) Impact of Discharge on Recreational Activities. The discharge must allow for the attainment or maintenance of water quality which allows for recreation activities beyond the zone of initial dilution, including, without limitation, swimming, diving, boating, fishing and picnicking, and sports activities along shorelines and beaches. [40 CFR 125.62(d)]**

See the discussion in Section V(1) of this document.

- (7) Additional requirements for applications based on improved or altered discharges [40 CFR 125.62(e)].**

See the discussion in Section V(1) of this document.

V. APPLICATION OF STATUTORY AND REGULATORY CRITERIA (cont'd)

(8) Stressed Waters [40 CFR 125.62(f)]

The State of Maine 2006 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, indicates that the Maine Department of Marine Resources (MEDMR) shellfish Area #C-58, Lubec and South Lubec is closed to the harvesting of shellfish. See Attachment C of this document for the delineation of Area #C-58. The DMR has traditionally closed shellfish harvesting areas in the vicinity of outfall pipes when lack of field data on bacteria counts in the immediate area is insufficient, inconclusive or exceeds standards set in the National Shellfish Sanitation Program of the U.S. Department of Health and Human Services. The MEDMR does not have sufficient field data for Area #C-58 to open it at this time however, compliance with the monthly average and daily maximum limitations for fecal coliform bacteria will ensure the Lubec facility will not cause or contribute to the closure of the shellfish harvesting area.

The 2006 305(b) report also lists all estuarine and marine waters in a category entitled, *Category 5-D: Estuarine and Marine Waters Impaired by Legacy Pollutants*. The waters are listed as partially supporting fishing ("shellfish consumption) due to elevated levels of PCBs and other persistent, bioaccumulating substances in lobster tomally. The Department is not aware of any PCBs or persistent, bioaccumulating substances (other than mercury) being discharged from the Lubec waste water treatment that cause or contribute to the waterbodies impairment. For a discussion on mercury, see section 6(i) of this Fact Sheet.

As for mercury, Department rule Chapter 519, *Interim Effluent Limitations and Controls for the Discharge of Mercury*, establishes controls on the discharge of mercury to the surface waters of the State through interim effluent limits and implementation of pollution prevention plans.

Pursuant to Maine law, 38 M.R.S.A. §420 and Department rule, 06-096 CMR Chapter 519, *Interim Effluent Limitations and Controls for the Discharge of Mercury*, the Department issued a *Notice of Interim Limits for the Discharge of Mercury* to the permittee thereby administratively modifying WDL # W006306-5L-C-R by establishing interim monthly average and daily maximum effluent concentration limits of 79.8 parts per trillion (ppt) and 119.7 ppt, respectively, and a minimum monitoring frequency requirement of two tests per year for mercury. The interim mercury limits were scheduled to expire on October 1, 2001. However, effective June 15, 2001, the Maine Legislature enacted Maine law, 38 M.R.S.A. §413, sub-§11 specifying that interim mercury limits and monitoring requirements remain in effect. It is noted that the mercury effluent limitations

V. APPLICATION OF STATUTORY AND REGULATORY CRITERIA (cont'd)

have not been incorporated into Special Condition A, *Effluent Limitations And Monitoring Requirements*, of this permit as the limits and monitoring frequencies are regulated separately through Maine law, 38 M.R.S.A. §413 and Department rule Chapter 519. The interim mercury limits remain in effect and enforceable.

Maine law 38 M.R.S.A., §420 sub-§(1-B)(B)(1) states that a facility is not in violation of an ambient criteria for mercury if the facility is in compliance with an interim discharge limit established by the Department pursuant to §413, sub-§11. A review of the Department's data base for the period August 2001 – January 2008 indicates mercury test results have ranged from 10 ppt to 110 ppt with an arithmetic mean (n=15) of 27 ppt.

D. Establishment of Monitoring Programs [40 CFR 125.63]

Federal regulation 40 CFR 125.63 requires that the applicant develop a monitoring program designed to evaluate the impact of the modified discharge on the marine biota, demonstrate compliance with applicable water quality standards, and measure toxic substances in the discharge. 40 CFR 125.63(a)(2) allows the Administrator to require revisions to the proposed monitoring program before issuance of a modified permit and during the term of any modified permit.

(1) Establishment of Monitoring Program [40 CFR 125.63(a)(1)]

See the discussion in Section V(1) of this document.

(2) Small applicants are not subject to the requirements of 40 CFR 125.63(b)(1)(ii)-(iv) if they discharge at depths greater than 10 meters and can demonstrate through a suspended solids deposition analysis that there will be negligible seabed accumulation in the vicinity of the modified discharge [40 CFR 125.63(b)(2)]

See the discussion in Section V(1) of this document.

(3) For applicants seeking a section 301(h) modified permit based on an improved or altered discharge involving outfall relocation, the biological monitoring shall include the current discharge site until such discharge ceases (40 CFR 125.63(b)(3)(iii)(A)), and; shall provide baseline data at the relocation site (40 CFR 125.63(b)(3)(iii)(B))

See the discussion in Section V(1) of this document.

V. APPLICATION OF STATUTORY AND REGULATORY CRITERIA (cont'd)

(4) Water Quality Monitoring Program [40 CFR 125.63(c)]

See the discussion in Section V(1) of this document.

(5) Effluent Monitoring Program [40 CFR 125.63(d)]

The NPDES permit contains monitoring conditions which shall provide data on the quality of the effluent including flow, BOD, TSS, settleable solids, total residual chlorine and pH.

E. Effect of Modified Discharge on Other Point and Nonpoint Sources [40 CFR 125.64]

40 CFR 125.64(a) states that no modified discharge may result in any additional pollution control requirements on any other point or nonpoint source.

40 CFR Part 125.64(b) requires that the applicant obtain a determination from the State or interstate agency having authority to establish waste load allocations indicating whether the applicant's discharge will result in any additional treatment pollution control, or other requirement on any other point or nonpoint source. Lubec anticipates receiving said determination from the MEDEP prior to issuance of the final NPDES permit.

F. Toxics Control Program [40 CFR 125.66]

(1) Identification of sources and Industrial Pretreatment Requirements [40 CFR 125.66(a)(1) and (2), 40 CFR 125.66(b), and 40 CFR 125.66(c)]

Given the nature of the source of the discharge (residential entities) Lubec has determined to the best of their knowledge, there are no sources of toxic pollutants being conveyed to the treatment plant. Therefore, 40 CFR 125.66(a) - (c) does not apply.

(2) Nonindustrial Source Control Program [40 CFR 125.66(d)]

Under 40 CFR 125.66(d), the applicant must submit a proposed public education program designed to minimize the entrance of nonindustrial toxic pollutants and pesticides into its POTW. See the discussion in Section V(F)(1) of this document.

V. APPLICATION OF STATUTORY AND REGULATORY CRITERIA (cont'd)

G. Increase in Effluent Volume or Amount of Pollutants Discharged [40 CFR 125.67]

- (1) **40 CFR 125.67(a) states that the applicant's discharge may not result in any new or substantially increased discharges of the pollutant to which the modification applies above the discharge specified in the Section 301(h) modified permit.**

Effluent limits for BOD₅ and TSS are specified within the permit as follows:

<u>Constituent</u>	<u>Monthly Average Limitations</u>
BOD ₅	203 mg/l (281 lbs/day)
TSS	145 mg/l (201 lbs/day)

Lubec's discharge will not result in any new or substantially increased discharge of these pollutants as the proposed limits are equal to the limits in the previous NPDES permitting action.

- (2) **40 CFR 125.67(b) requires that, where pollutants discharges are attributable in part to combined sewer overflows, the applicant minimize existing overflows and prevent increases in the amount of pollutants discharged.**

There are no CSO's associated with Lubec's collection system. Therefore, Lubec is in compliance with 40 CFR 125.67(b).

H. Special conditions for section 301(h) modified permits [40 CFR 125.68]

Each section 301(h) modified permit issued shall contain, in addition to all applicable terms and conditions required by 40 CFR part 122, the following:

- (1) **Effluent limits and mass loadings which will assure compliance with the requirements of this subpart (40 CFR 125.68(a)):**

The NPDES permit contains such effluent limits and mass loadings.

- (2) **A schedule or schedules of compliance for (40 CFR 125.68(b)):**

- a. **40 CFR 125.68(b)(1), Pretreatment program development required by section 125.66(c).**

Lubec is not required to have a pretreatment program. Therefore, the permit does not contain a schedule for one.

V. APPLICATION OF STATUTORY AND REGULATORY CRITERIA (cont'd)

- b. 40 CFR 125.68(b)(2), Nonindustrial toxics control program required by section 125.66(d).**

Given the nature of the source of the discharge (residential entities) Lubec has determined to the best of their knowledge, there are no sources of toxic pollutants being conveyed to the treatment plant. Therefore, 40 CFR 125.66(d) does not apply.

- c. 40 CFR 125.68(b)(3), Control of combined sewer overflows required by section 125.67.**

There are no CSO's associated with Lubec's collection system. Therefore, Lubec is in compliance with 40 CFR 125.67.

3. Monitoring program requirements that include (40 CFR 125.68(c)):

- a. 40 CFR 125.68(c)(1), Biological monitoring requirements of section 125.63(b).**

See the discussion in Section V(1) of this document.

- b. 40 CFR 125.68(c)(2), Water quality requirements of section 125.63(c).**

See the discussion in Section V(1) of this document.

- c. 40 CFR 125.68(c)(3) Effluent monitoring requirements of sections 125.60(b), 125.62(c) and (d), and 125.63(d).**

The NPDES permit contains appropriate effluent monitoring and reporting requirements to satisfy the above regulatory requirements.

4. Reporting requirements that include the results of the monitoring programs required by paragraph (c) of this section at such frequency as prescribed in the approved monitoring program (40 CFR 125.68(d)).

The NPDES permit contains monthly reporting of the results of effluent monitoring requirements specified by the permit.

VI. COMPLIANCE WITH PROVISIONS OF OTHER STATE, LOCAL OR FEDERAL LAWS

Pursuant to 40 CFR 125.59(b)(3), a modified NPDES permit may not be issued unless the proposed discharge complies with applicable provisions of state, local, or other federal laws or Executive Orders, including the Coastal Zone Management Act, 16 U.S.C. 1451 et seq., the Endangered Species Act, 16 U.S.C. 1531 et seq., and the Marine Protection, Research, and Sanctuaries Act 16 U.S.C. 1431 et seq. These requirements are discussed below.

A. State Coastal Zone Management Program

A copy of the draft NPDES permit is being sent to the Maine's State Planning Office for a consistency determination. With the expected Section 401 Water Quality Certification from the MEDEP, the EPA anticipates an affirmative consistency determination prior to issuance of the NPDES permit as a final agency action.

B. Endangered or Threatened Species

The United States Fish and Wildlife Service (USFWS) is responsible for making the determination that the Lubec discharge will not harm endangered or threatened species. The EPA will consult with USFWS on Endangered Species Act (ESA) requirements as the USFWS will be provided with a copy of 30-day formal draft permit.

The National Marine Fisheries Service (NMFS) is charged with implementing the ESA for marine species. EPA will consult with NMFS on ESA requirements at the same time as the Essential Fish Habitat consultation (see below).

VI. COMPLIANCE WITH PROVISIONS OF OTHER STATE, LOCAL OR FEDERAL LAWS

Both aforementioned agencies were provided with an opportunity to comment of the July 2003 NPDES permit. Neither agency object to the terms and conditions of the permit or recommended additional monitoring requirements. Being that discharge levels proposed in this draft permit are equivalent to the July 2003 levels, the EPA does not anticipate any objections to the proposed permitting action.

C. Marine Protection, Research and Sanctuaries Act

The discharge is not located near any marine or estuarine sanctuary designated under Title III of the Marine Protection, Research, and Sanctuaries Act of 1972, as amended, or the Coastal Zone Management Act of 1972, as amended.

VI. COMPLIANCE WITH PROVISIONS OF OTHER STATE, LOCAL OR FEDERAL LAWS

D. Essential Fish Habitat (EFH)

Under the 1996 Amendments (PL 104-297) to the Magnuson-Stevens Fishery Conservation and Management Act (16 U.S.C. § 1801 et seq. (1998)), EPA is required to consult with the National Marine Fisheries Service (NMFS) if EPA's actions, or proposed actions that EPA funds, permits, or undertakes, "may adversely impact any essential fish habitat." 16 U.S.C. § 1855(b). The Amendments broadly define essential fish habitat as, "... those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity." 16 U.S.C. § 1802(10). Adverse effect means any impact which reduces the quality and/or quantity of EFH. 50 C.F.R. § 600.910(a). Adverse effects may include direct (e.g., contamination or physical disruption), indirect (e.g., loss of prey, reduction in species' fecundity), site-specific or habitat-wide impacts, including individual, cumulative, or synergistic consequences of actions. Id.

EFH is only designated for species for which federal Fishery Management Plans exist (16 U.S.C. § 1855(b)(1)(A)). EFH designations were approved for New England by the U.S. Department of Commerce on March 3, 1999.

As the federal agency charged with authorizing the discharge from this facility, EPA is in the process of consulting with the National Marine Fisheries Service (NMFS) under section 305 (b)(2) of the Magnuson-Stevens Act for essential fish habitat (EFH). This consultation will be completed before the permit is finalized.

VII. STATE CONCURRENCE IN VARIANCE

Permittees may not be granted a Section 301(h) variance, as specified under Section 301(h) of the Act and 40 CFR 125.59(i), until the appropriate State certification/concurrence is granted or waived pursuant to 40 CFR 124.54. A Section 301(h) waiver may not be granted if the State denies certification/ concurrence pursuant to 40 CFR 124.54. EPA expects that the State of Maine will make such a determination upon review of the proposed draft permit conditions.

VIII. CONCLUSION

EPA has determined that Lubec's treated effluent will provide enough initial dilution and mixing such that the discharge will comply with all of the requirements of Section 301(h) of the Clean Water Act, as amended by the Water Quality Act of 1987, and 40 CFR Part 125, Subpart G.

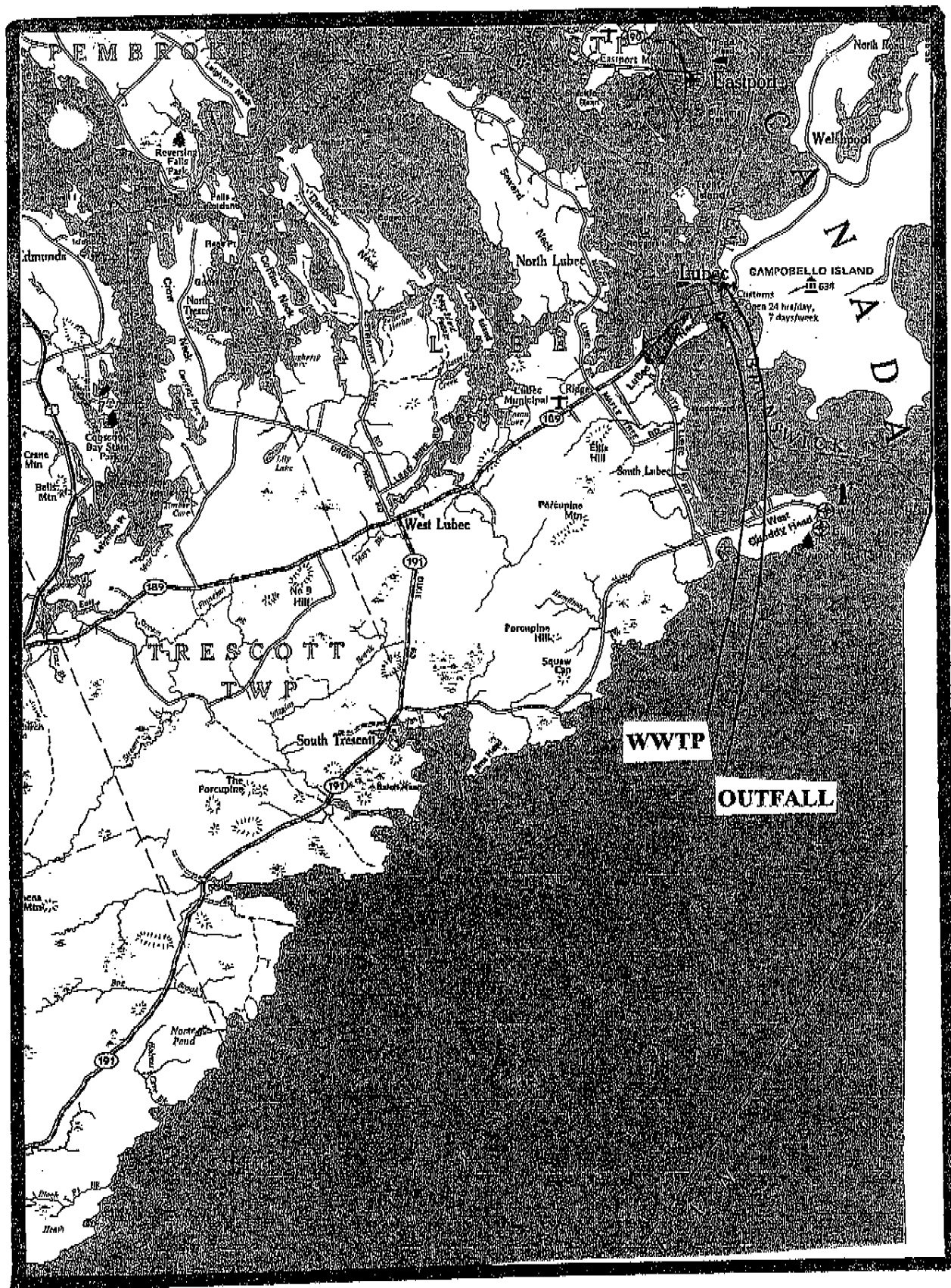
IX. TENTATIVE DECISION

For the reasons discussed in this tentative decision document, EPA is tentatively approving Lubec's request to discharge primary effluent to Lubec Narrows. This tentative decision is contingent upon the following conditions:

1. Lubec's treatment system maintaining 30 % removal of BOD₅ and 50% removal TSS (Maine BPT and Section 401 Water Quality Certification condition) , and;
2. State certification is granted under Section 401 of the Act, and;
3. The discharge will comply with all state water-quality standards.

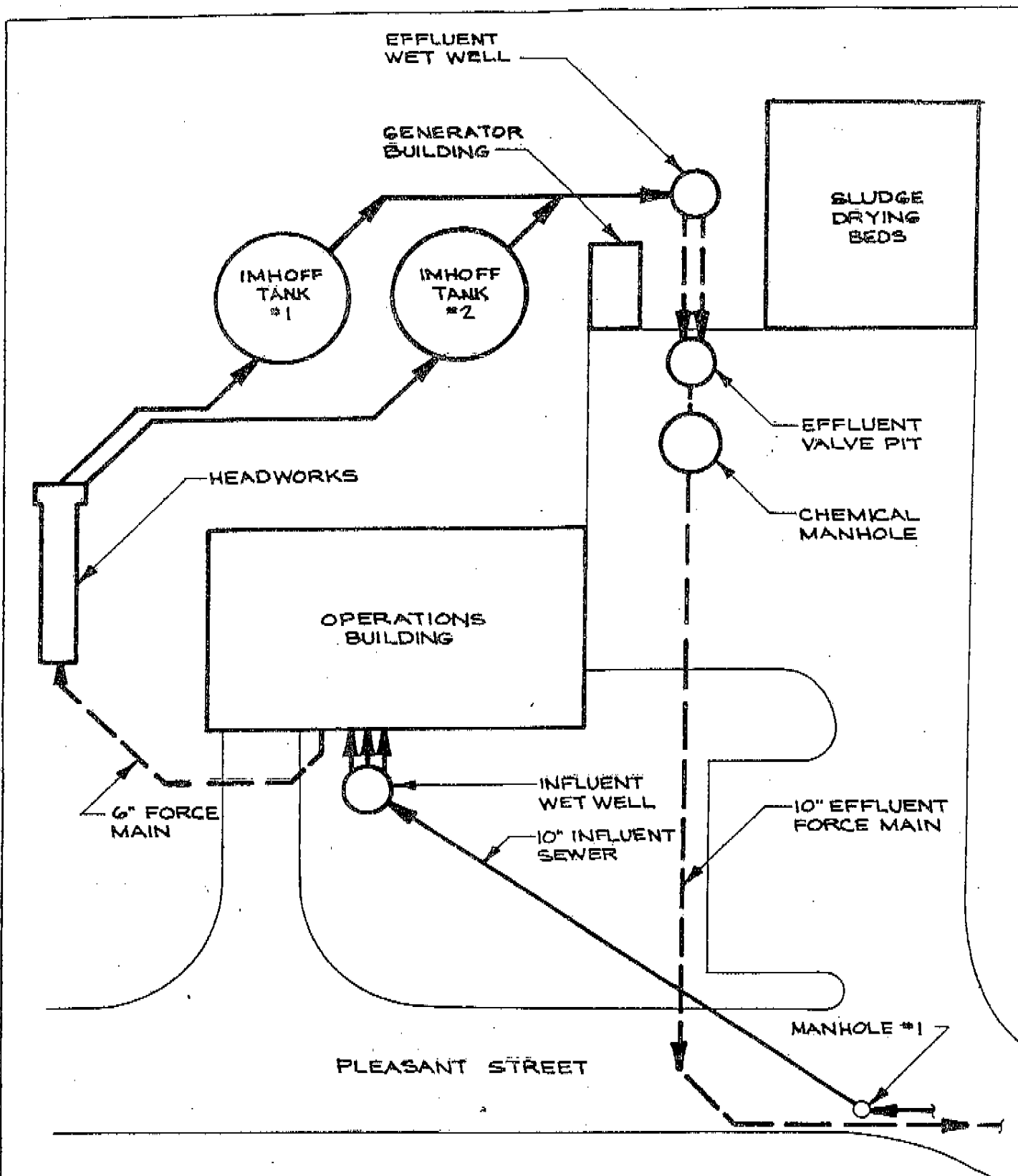
This tentative decision will become final upon issuance of the NPDES permit.

ATTACHMENT A

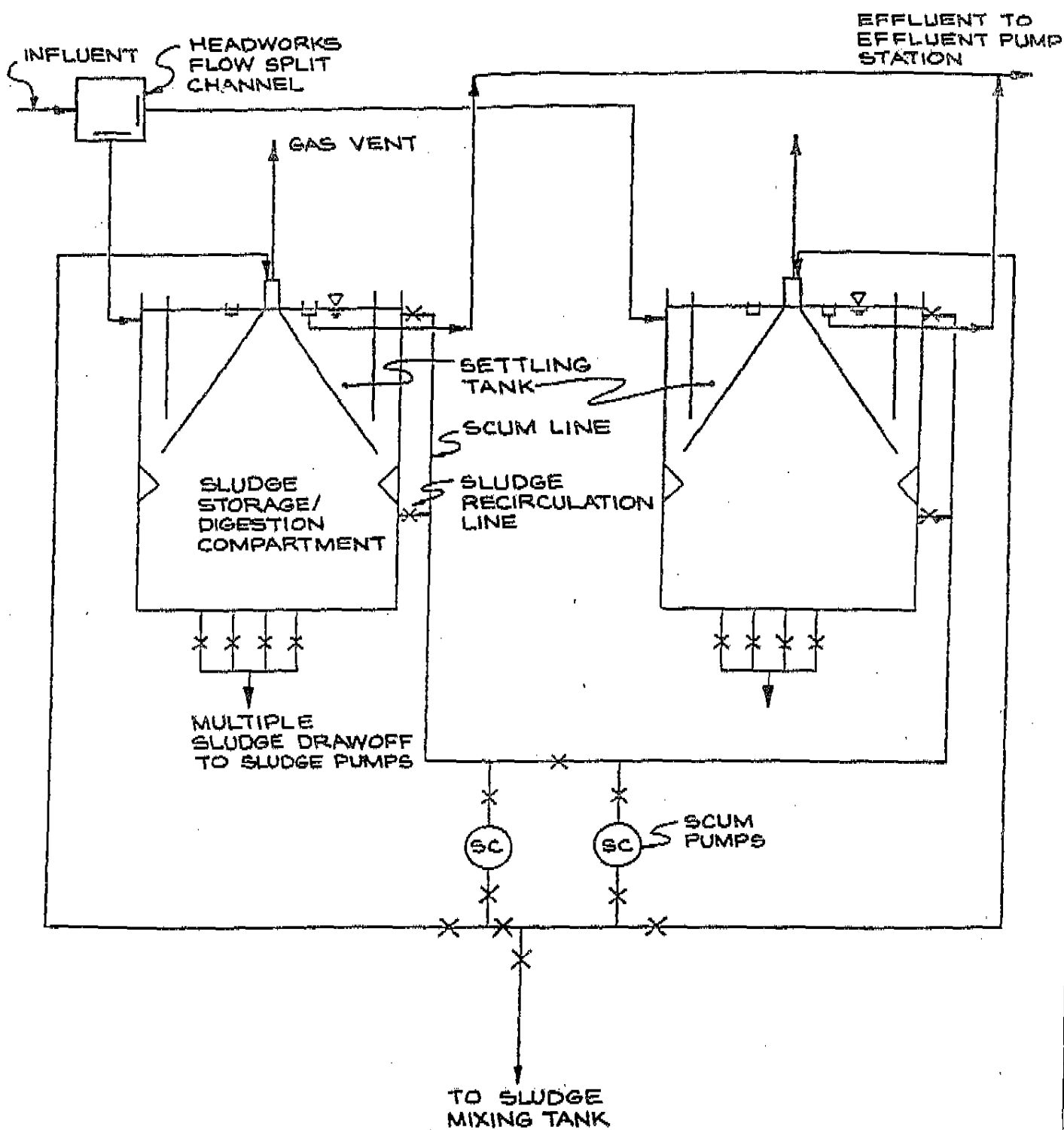


1/2 inch = 1 mile

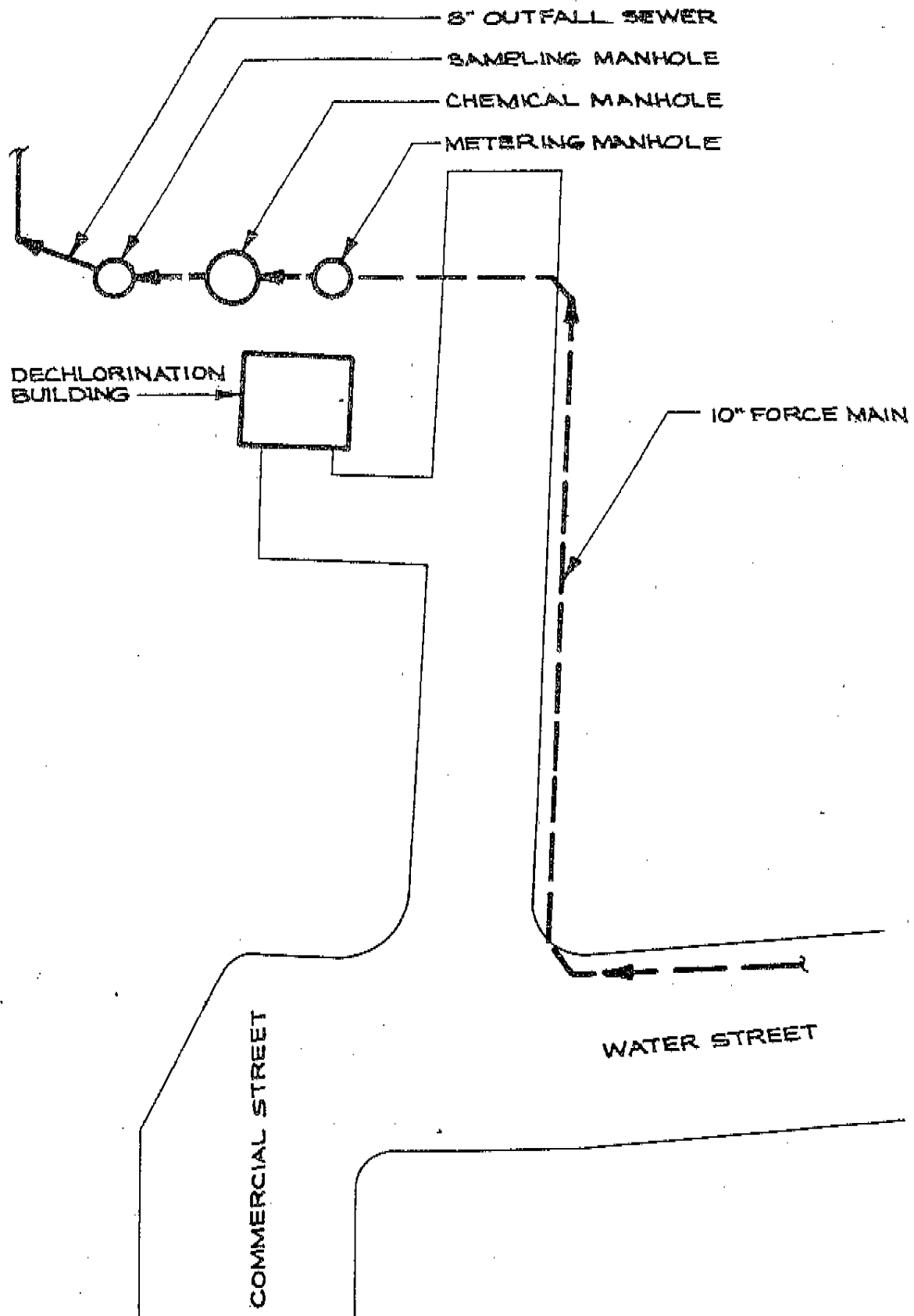
ATTACHMENT B



**FIGURE 3-2
WASTEWATER TREATMENT PLANT
GENERAL LAYOUT**



**FIGURE 4-1
PRIMARY TREATMENT
PROCESS SCHEMATIC**



**FIGURE 3-3
DECHLORINATION FACILITY
GENERAL LAYOUT**

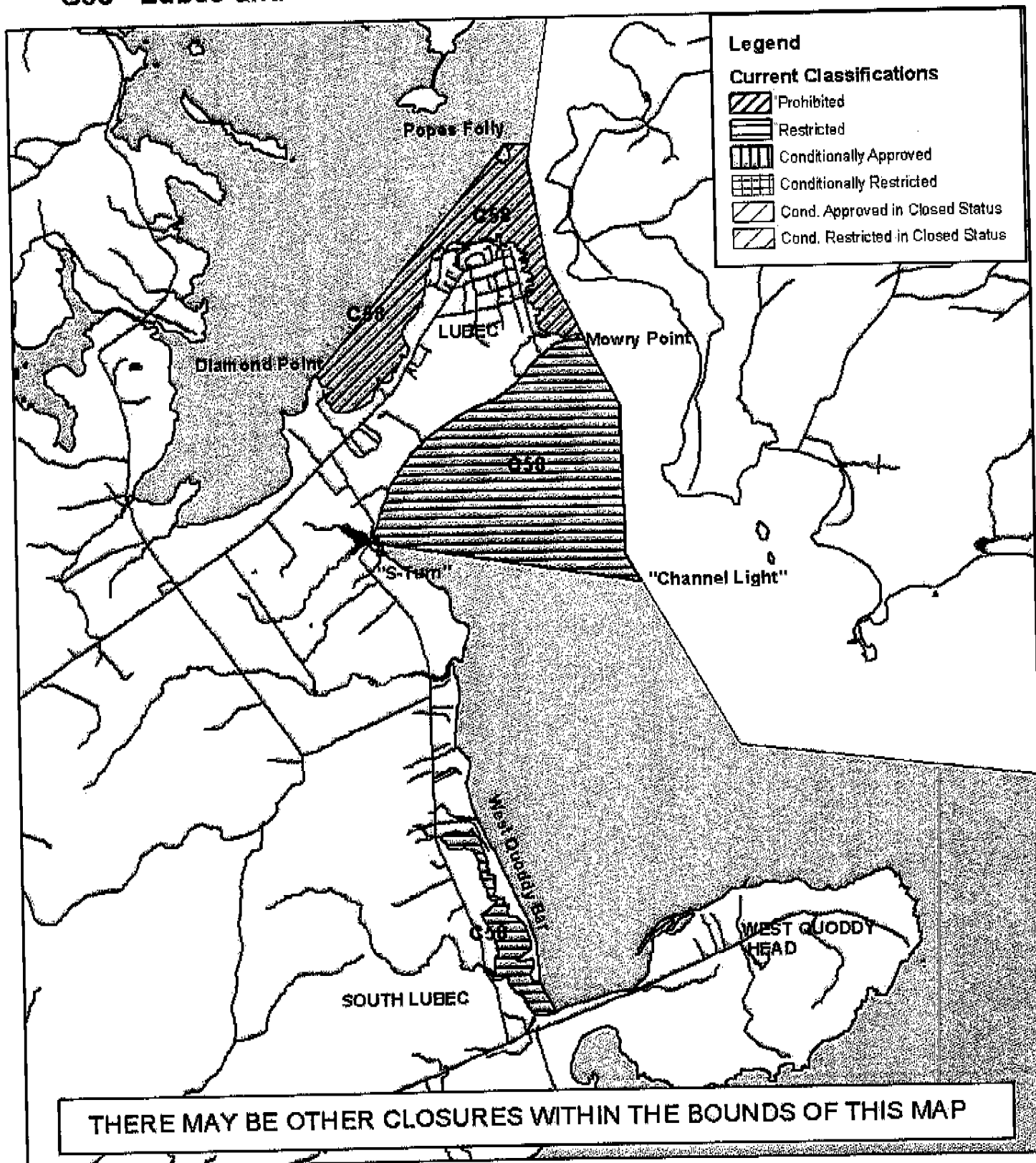
ATTACHMENT C

Maine Department of Marine Resources

Legal Notice of Shellfish Closure Area

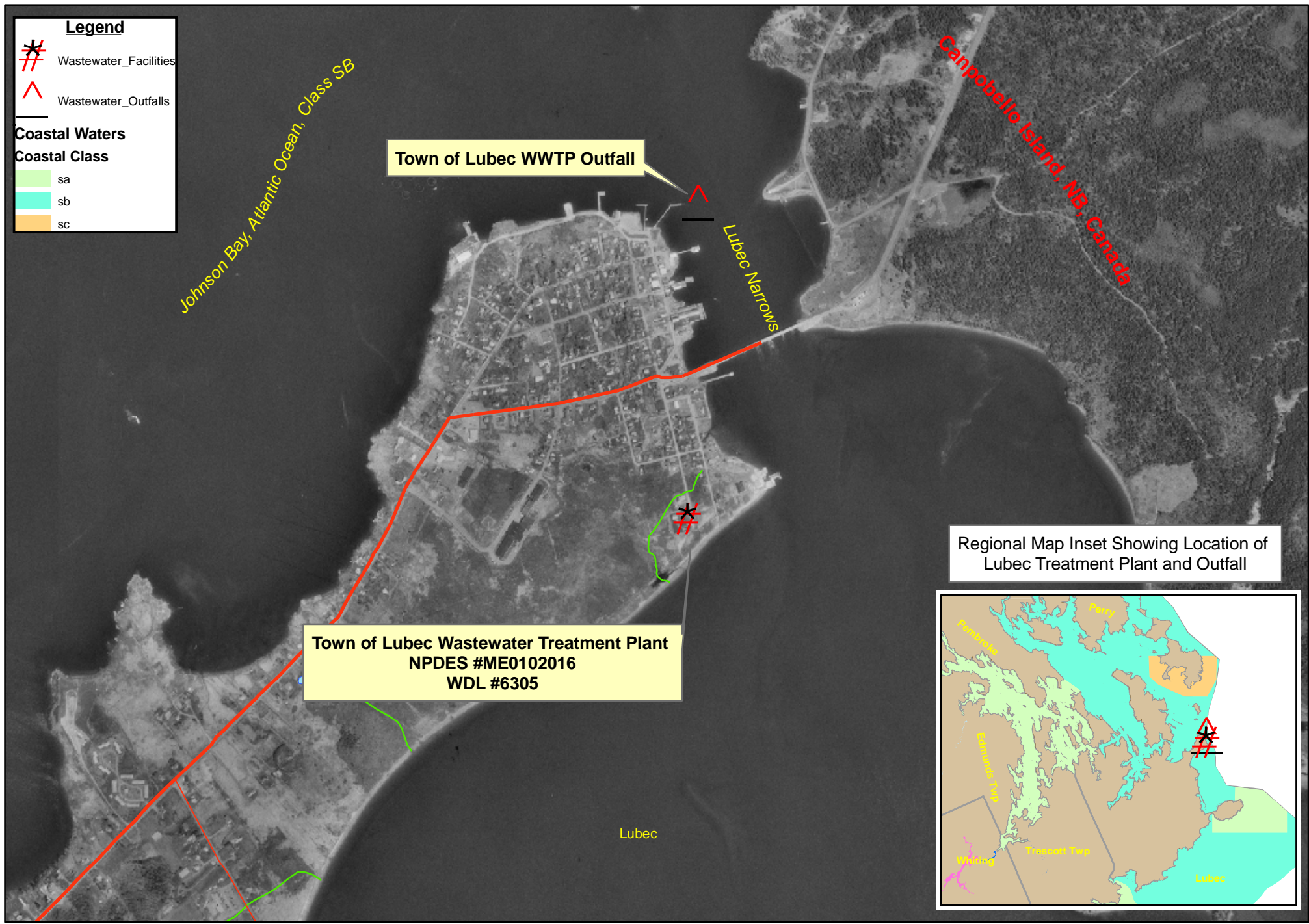
C58 - Lubec and South Lubec

August 4, 2006



0 2,000 4,000 8,000 Feet

MeDMR Public Health Division



0 0.25 0.5 1 Miles

Lubec Wastewater Treatment Plant at Lubec, Maine

Map created by Maine DEP
March 8, 2007

