STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION

JOHN ELIAS BALDACCI
GOVERNOR

December 19, 2006

DAVID P. LITTELL
COMMISSIONER

Mr. Alan Hitchcock, P.E.
Caribou Utilities District
176 Limestone Street
P.O. Box 879
Caribou, Maine 04736

***RE: Maine Pollutant Discharge Elimination System (MEPDES) Permit #ME0100145***
***Maine Waste Discharge License (WDL) Application #W001001-5L-F-R***
***Final MEPDES Permit/WDL***

Dear Mr. Hitchcock:

Enclosed, please find a copy of your **final** MEPDES permit and Maine WDL, which was approved by the Department of Environmental Protection. Please read the permit/license and its attached conditions carefully. You must follow the conditions in the order to satisfy the requirements of law. Any discharge not receiving adequate treatment is in violation of State law and is subject to enforcement action.

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

If you have any questions regarding the matter, please feel free to call me at 287-7659.

Sincerely,

Bill Hinkel
Division of Water Quality Management
Bureau of Land and Water Quality

Enc.

cc: Bill Sheehan, DEP
Sandy Lao, USEPA
File #1001

AUGUSTA
17 STATE HOUSE STATION
AUGUSTA, MAINE 04333-0017
(207) 287-7688 FAX: (207) 287-7826
RAY BLDG., HOSPITAL ST.

BANGOR
106 HOGAN ROAD
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 04769-2094
(207) 764-0477 FAX: (207) 760-3143

web site: www.maine.gov/dep

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

DEPARTMENT ORDER

**IN THE MATTER OF**

| | | |
|---|---|---|
| CARIBOU UTILITIES DISTRICT | ) | MAINE POLLUTANT DISCHARGE |
| CARIBOU, AROOSTOOK COUNTY | ) | ELIMINATION SYSTEM PERMIT |
| PUBLICLY OWNED TREATMENT WORKS | ) | AND |
| #ME0100145 | ) | WASTE DISCHARGE LICENSE |
| #W001001-5L-F-R **APPROVAL** | ) | **RENEWAL** |

Pursuant to the provisions of the Federal Water Pollution Control Act, Title 33 USC, §1251, *et seq.*, and Maine law, 38 M.R.S.A., §414-A *et seq.*, and applicable regulations, the Maine Department of Environmental Protection (Department) has considered the application of CARIBOU UTILITIES DISTRICT (CUD), with its supportive data, agency review comments, and other related materials on file and FINDS THE FOLLOWING FACTS:

## APPLICATION SUMMARY

The CUD has applied to the Department for a renewal of Waste Discharge License (WDL) #W001001-5L-D-R / Maine Pollutant Discharge Elimination System (MEPDES) Permit #ME0100145, which was issued on August 14, 2001, and WDL/MEPDES permit Modification #W001001-5L-E-M issued on June 23, 2003. The 8/14/01 MEPDES permit and 6/23/03 permit modification expired on August 14, 2006. The 8/14/01 MEPDES permit and 6/23/03 permit modification authorized the monthly average discharge of up to 1.41 million gallons per day (MGD) of secondary treated municipal wastewater (sanitary, industrial and commercial wastes) from a publicly owned treatment works (POTW) to the Aroostook River, Class C, in Caribou, Maine.

**PERMIT SUMMARY (cont'd)**

8. Establishing a requirement for a minimum of 85% removal of $BOD_5$ and TSS;

9. Revising the monthly average water quality-based concentration limit of 0.88 mg/L to 0.73 mg/L for TRC;

10. Eliminating the weekly average concentration and mass reporting requirements, establishing seasonal (June 1 – September 30) monthly average and daily maximum concentration and mass reporting requirements, and revising the minimum monitoring frequency requirement from three times per week to twice per month for total phosphorus;

11. Establishing seasonal (June 1 – September 30) monthly average and daily maximum concentration and mass reporting requirements and establishing a minimum monitoring frequency requirement of twice per month for orthophosphate;

12. Eliminating the monthly average and daily maximum water quality-based concentration and mass limitations for total copper based on the results of facility testing;

13. Eliminating the monthly average water quality-based concentration and mass limitations for 4,4, DDT based on the results of facility testing;

14. Revising whole effluent toxicity (WET), analytical chemistry, and priority pollutant testing pursuant to Department rule Chapter 530;

15. Establishing a chronic water quality-based daily maximum limitation of 1.5% for the water flea based on the results of facility testing;

16. Establishing Special Condition I, *Chapter 530(2)(D)(4) Statement for Reduced Toxics Testing* for reduced WET and analytical chemistry testing; and

17. Revising the minimum monitoring frequency requirements for $BOD_5$, TSS, settleable solids, *E. coli* bacteria, TRC and pH.

**ACTION**

THEREFORE, the Department APPROVES the above noted application of the CARIBOU UTILITIES DISTRICT to discharge secondary treated municipal wastewater to the Aroostook River, Class C, in Caribou, Maine, SUBJECT TO THE ATTACHED CONDITIONS, and all applicable standards and regulations including:

1. *"Maine Pollutant Discharge Elimination System Permit Standard Conditions Applicable To All Permits"* revised July 1, 2002, copy attached.

2. The attached Special Conditions, including any effluent limitations and monitoring requirements.

3. The expiration date of this permit is five (5) years from the date of signature below.

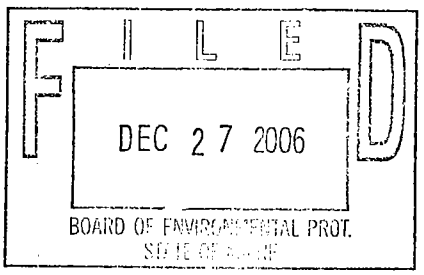
DONE AND DATED AT AUGUSTA, MAINE, THIS 22ND DAY OF December, 2006.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: _____
DAVID P. LITTELL, Commissioner

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: March 10, 2006
Date of application acceptance: March 10, 2006




Date filed with Board of Environmental Protection: _____.

This Order prepared by William F. Hinkel, BUREAU OF LAND & WATER QUALITY
#ME0100145 / #W001001-5L-F-R December 11, 2006

## SPECIAL CONDITIONS

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

2. The permittee is authorized to discharge **secondary treated municipal wastewater via Outfall #001A** to the Aroostook River at Caribou. Such discharges shall be limited and monitored by the permittee as specified below (cont'd) [1]:

| | Monthly Average<br>as specified | Weekly Average<br>as specified | Daily Maximum<br>as specified | Monthly Average<br>as specified | Weekly Average<br>as specified | Daily Maximum<br>as specified | Measurement Frequency<br>as specified | Sample Type<br>as specified |
|---|---|---|---|---|---|---|---|---|
| **otal Phosphorus**[6]<br>**une 1 – Sept. 30)**<br>*)0665]* | Report lbs./day<br>*[26]* | --- | Report lbs./day<br>*[26]* | Report mg/L<br>*[19]* | --- | Report mg/L<br>*[19]* | 2/Month [8]<br>*[02/30]* | 24-Hour Composite *[24]* |
| **rthophosphate**[7]<br>**une 1 – Sept. 30)**<br>*)4175]* | Report lbs./day<br>*[26]* | --- | Report lbs./day<br>*[26]* | Report mg/L<br>*[19]* | --- | Report mg/L<br>*[19]* | 2/Month [8]<br>*[02/30]* | 24-Hour Composite *[24]* |

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

**)OTNOTES: See Pages 10 through 14 of this permit for applicable footnotes.**

## SPECIAL CONDITIONS

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

4. **SCREENING LEVEL TESTING.** During the period **beginning 12 months prior to permit expiration and lasting through permit expiration and every five years thereafter for Outfall #001A**, the permittee shall perform WHOLE EFFLUENT TOXICITY (WET), PRIORITY POLLUTANT, AND ANALYTICAL CHEMISTRY TESTING as follows:

| WHOLE EFFLUENT TOXICITY (WET) [9] | Daily Maximum | Minimum Frequency | Sample Type |
|---|---|---|---|
| **Acute No Observed Effect Level (A-NOEL)** | | | |
| **Water Flea** (*Ceriodaphnia dubia*) *[TDA3B]* | Report % *[23]* | 2/Year *[02/YR]* | 24-Hour Composite *[24]* |
| **Brook Trout** (*Salvelinus fontinalis*) *[TDA6F]* | Report % *[23]* | 2/Year *[02/YR]* | 24-Hour Composite *[24]* |
| **Chronic No Observed Effect Level (C-NOEL)** | | | |
| **Water Flea** (*Ceriodaphnia dubia*) *[TBP3B]* | 1.5 % *[23]* | 2/Year *[02/YR]* | 24-Hour Composite *[24]* |
| **Brook Trout** (*Salvelinus fontinalis*) *[TBQ6F]* | Report % *[23]* | 2/Year *[02/YR]* | 24-Hour Composite *[24]* |
| **ANALYTICAL CHEMISTRY**[10] *[51168]* | Report µg/L *[28]* | 1/Quarter *[01/90]* | 24-Hour Composite/Grab *[24/GR]* |
| **PRIORITY POLLUTANT** [11] *[50008]* | Report µg/L *[28]* | 1/Year *[01/YR]* | 24-Hour Composite/Grab *[24/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 Pages 10 through 14 of this permit for applicable footnotes.**

## SPECIAL CONDITIONS

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

6. **Total Phosphorus** – Total phosphorus monitoring shall be performed in accordance with Attachment A of this permit, *Protocol For Total P Sample Collection and Analysis for Waste Water and Receiving Water Monitoring Required by Permits, Finalized May 2006*, unless otherwise specified by the Department.

7. **Orthophosphate** – Orthophosphate monitoring shall be performed in accordance with Attachment B of this permit, *Protocol For Orthophosphate Sample Collection and Analysis for Waste Water and Receiving Water Monitoring Required by Permits, Finalized May 2006*, unless otherwise specified by the Department.

8. **Orthophosphate and Total Phosphorous Monitoring** – Sampling for orthophosphate and total phosphorous shall be conducted with at least 14 days separating sampling events.

9. **Whole effluent toxicity (WET) testing** – Definitive WET testing is a multi-concentration testing event (a minimum of five dilutions bracketing the critical acute and chronic thresholds of 1.7% and 1.5% respectively), which provides a point estimate of toxicity in terms of No Observed Effect Level, commonly referred to as NOEL or NOEC. A-NOEL is defined as the acute no observed effect level with survival as the end point. C-NOEL is defined as the chronic no observed effect level with survival, reproduction and growth as the end points. The critical acute and chronic thresholds were derived as the mathematical inverse of the applicable acute and chronic dilution factors of 56.8:1 and 66.6:1, respectively.

   **Beginning upon issuance of this permit and lasting through twelve months prior to permit expiration,** the permittee shall initiate surveillance level WET testing at a minimum frequency of once per year for the chronic water flea (*Ceriodaphnia dubia*) and once every two years for the acute water flea and the brook trout (*Salvelinus fontinalis*) in a different calendar quarter for each event such that results are available for all four calendar quarters.

   **Beginning twelve months prior to the expiration date of the permit and every five years thereafter,** the permittee shall initiate screening level WET testing at a minimum frequency of twice per year. Acute and chronic testing shall be conducted on the water flea and the brook trout. One test shall be conducted during the period of January – June and the other test shall be conducted 6 months later.

   WET test results must be submitted to the Department not later than the next Discharge Monitoring Report (DMR) required by the permit, provided, however, that the permittee may review the toxicity reports for up to 10 business days of their availability before submitting them. The permittee shall evaluate test results being submitted and identify to the Department possible exceedences of the critical acute and chronic water quality thresholds of 1.7% and 1.5%, respectively.

## SPECIAL CONDITIONS

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

### FOOTNOTES:

Analytical chemistry and priority pollutant test results must be submitted to the Department not later than the next Discharge Monitoring Report (DMR) required by the permit, provided, however, that the permittee may review the toxicity reports for up to 10 business days of their availability before submitting them. The permittee shall evaluate test results being submitted and identify to the Department, possible exceedences of the acute, chronic or human health ambient water quality criteria (AWQC) as established in Department rule 06-096 CMR Chapter 584.

For the purposes of DMR reporting, enter a "1" for yes, testing done this monitoring period or "NODI-9" monitoring not required this period.

11. **Priority Pollutant Testing** – Priority pollutant testing refers to analysis for levels of priority pollutants listed in Department rule 06-096 CMR Chapter 525 Section 4.VI.

    Surveillance level priority pollutant testing is not required pursuant to Department rule 06-096 CMR Chapter 530 Section 2.D.

    **Beginning twelve months prior to the expiration date of this permit and every five years thereafter**, the permittee shall conduct screening level priority pollutant testing at a minimum frequency of once per year (1/Year).

    All mercury sampling required by this permit or required to determine compliance with interim limitations established pursuant to Department rule Chapter 519, shall be conducted in accordance with EPA's "clean sampling techniques" found in EPA Method 1669, Sampling Ambient Water For Trace Metals At EPA Water Quality Criteria Levels. All mercury analysis shall be conducted in accordance with EPA Method 1631, Determination of Mercury in Water by Oxidation, Purge and Trap, and Cold Vapor Fluorescence Spectrometry.

## SPECIAL CONDITIONS

## G. MONITORING AND REPORTING

Monitoring results obtained during the previous month shall 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 DMR's 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 shall be submitted to the Department assigned inspector (unless otherwise specified by the Department) at the following address:

Department of Environmental Protection
Northern Maine Regional Office
Bureau of Land and Water Quality
Division of Water Quality Management
1235 Central Park Drive
Skyway Park
Presque Isle, Maine 04769

## H. NOTIFICATION REQUIREMENTS

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

1. Any introduction of pollutants into the waste water collection and treatment system from an indirect discharger in a primary industrial category discharging process waste water; and

2. Any substantial change in the volume or character of pollutants being introduced into the waste water collection and treatment system by a source introducing pollutants to the system at the time of permit issuance.

3. For the purposes of this section, adequate notice shall include information on:

   a. The quality and quantity of waste water introduced to the waste water collection and treatment system; and

   b. Any anticipated impact of the change in the quantity or quality of the waste water to be discharged from the treatment system.

## SPECIAL CONDITIONS

### J. DISPOSAL OF SEPTAGE WASTE IN WASTEWATER TREATMENT FACILITY (cont'd)

5. Septage known to be harmful to the treatment processes shall not be accepted. Wastes which contain heavy metals, toxic chemicals, extreme pH, flammable or corrosive materials in concentrations harmful to the treatment operation shall be refused.

6. During wet weather events, septage may be received into the septage holding facilities but shall not be added to the treatment process or solids handling facilities.

7. Except as noted in item #8 below, holding tank waste water shall not be recorded as septage and should be reported in the treatment facility's influent flow.

8. Any trucked-in waste that has the characteristics of septage, specifically with regard to biochemical oxygen demand (5,000 mg/L or greater) and total suspended solids (10,000 mg/L or greater) shall be considered as septage and is subject to the above mentioned 30,000-gallon per day and 14,000-gallon per day limits.

9. If conditions change within the permittee's septage management program, the permittee shall provide the Department with an updated septage management plan that reflects such changes, pursuant to Department rule, Chapter 555, *Standards for the Addition of Septage to Waste Water Treatment Facilities.*

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

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, or 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 waste water 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 waste water treatment facility**, the permittee shall submit the updated O&M Plan to their Department inspector for review and comment.

# ATTACHMENT A

# ATTACHMENT B

# ATTACHMENT C

# ATTACHMENT D

# ATTACHMENT E

**Maine Department of Environmental Protection**
**WET and Chemical Specific Data Report Form**
**This form is for reporting laboratory data and facility information. Official compliance reviews will be done by DEP.**

| | PRIORITY POLLUTANTS [4] | | Effluent Limits | | | | | Reporting Limit Check | Possible Exceedence [7] | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Reporting Limit | Acute[6] | Chronic[6] | Health[6] | | | | Acute | Chronic | Health |
| M | ANTIMONY | 5 | | | | | | | | | |
| M | BERYLLIUM | 2 | | | | | | | | | |
| M | MERCURY[4] | 0.2 | | | | | | | | | |
| M | SELENIUM | 5 | | | | | | | | | |
| M | THALLIUM | 4 | | | | | | | | | |
| A | 2,4,6-TRICHLOROPHENOL | 3 | | | | | | | | | |
| A | 2,4-DICHLOROPHENOL | 5 | | | | | | | | | |
| A | 2,4-DIMETHYLPHENOL | 5 | | | | | | | | | |
| A | 2,4-DINITROPHENOL | 45 | | | | | | | | | |
| A | 2-CHLOROPHENOL | 5 | | | | | | | | | |
| A | 2-NITROPHENOL | 5 | | | | | | | | | |
| A | 4,6 DINITRO-O-CRESOL (2-Methyl-4,6-dinitrophenol) | 25 | | | | | | | | | |
| A | 4-NITROPHENOL | 20 | | | | | | | | | |
| A | P-CHLORO-M-CRESOL (3-methyl-4-chlorophenol)+B80 | 5 | | | | | | | | | |
| A | PENTACHLOROPHENOL | 20 | | | | | | | | | |
| A | PHENOL | 5 | | | | | | | | | |
| BN | 1,2,4-TRICHLOROBENZENE | 5 | | | | | | | | | |
| BN | 1,2-(O)DICHLOROBENZENE | 5 | | | | | | | | | |
| BN | 1,2-DIPHENYLHYDRAZINE | 10 | | | | | | | | | |
| BN | 1,3-(M)DICHLOROBENZENE | 5 | | | | | | | | | |
| BN | 1,4-(P)DICHLOROBENZENE | 5 | | | | | | | | | |
| BN | 2,4-DINITROTOLUENE | 6 | | | | | | | | | |
| BN | 2,6-DINITROTOLUENE | 5 | | | | | | | | | |
| BN | 2-CHLORONAPHTHALENE | 5 | | | | | | | | | |
| BN | 3,3'-DICHLOROBENZIDINE | 16.5 | | | | | | | | | |
| BN | 3,4-BENZO(B)FLUORANTHENE | 5 | | | | | | | | | |
| BN | 4-BROMOPHENYLPHENYL ETHER | 2 | | | | | | | | | |
| BN | 4-CHLOROPHENYL PHENYL ETHER | 5 | | | | | | | | | |
| BN | ACENAPHTHENE | 5 | | | | | | | | | |
| BN | ACENAPHTHYLENE | 5 | | | | | | | | | |
| BN | ANTHRACENE | 5 | | | | | | | | | |
| BN | BENZIDINE | 45 | | | | | | | | | |
| BN | BENZO(A)ANTHRACENE | 8 | | | | | | | | | |
| BN | BENZO(A)PYRENE | 3 | | | | | | | | | |
| BN | BENZO(G,H,I)PERYLENE | 5 | | | | | | | | | |
| BN | BENZO(K)FLUORANTHENE | 3 | | | | | | | | | |
| BN | BIS(2-CHLOROETHOXY)METHANE | 5 | | | | | | | | | |
| BN | BIS(2-CHLOROETHYL)ETHER | 6 | | | | | | | | | |
| BN | BIS(2-CHLOROISOPROPYL)ETHER | 6 | | | | | | | | | |
| BN | BIS(2-ETHYLHEXYL)PHTHALATE | 3 | | | | | | | | | |
| BN | BUTYLBENZYL PHTHALATE | 5 | | | | | | | | | |
| BN | CHRYSENE | 3 | | | | | | | | | |
| BN | DI-N-BUTYL PHTHALATE | 5 | | | | | | | | | |
| BN | DI-N-OCTYL PHTHALATE | 5 | | | | | | | | | |
| BN | DIBENZO(A,H)ANTHRACENE | 5 | | | | | | | | | |
| BN | DIETHYL PHTHALATE | 5 | | | | | | | | | |
| BN | DIMETHYL PHTHALATE | 5 | | | | | | | | | |

**Maine Department of Environmental Protection**
**WET and Chemical Specific Data Report Form**
**This form is for reporting laboratory data and facility information. Official compliance reviews will be done by DEP.**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| V | ACROLEIN | NA | | | | | | | | | |
| V | ACRYLONITRILE | NA | | | | | | | | | |
| V | BENZENE | 5 | | | | | | | | | |
| V | BROMOFORM | 5 | | | | | | | | | |
| V | CARBON TETRACHLORIDE | 5 | | | | | | | | | |
| V | CHLOROBENZENE | 6 | | | | | | | | | |
| V | CHLORODIBROMOMETHANE | 3 | | | | | | | | | |
| V | CHLOROETHANE | 5 | | | | | | | | | |
| V | CHLOROFORM | 5 | | | | | | | | | |
| V | DICHLOROBROMOMETHANE | 3 | | | | | | | | | |
| V | ETHYLBENZENE | 10 | | | | | | | | | |
| V | METHYL BROMIDE (Bromomethane) | 5 | | | | | | | | | |
| V | METHYL CHLORIDE (Chloromethane) | 5 | | | | | | | | | |
| V | METHYLENE CHLORIDE | 5 | | | | | | | | | |
| V | TETRACHLOROETHYLENE (Perchloroethylene or Tetrachloroethene) | 5 | | | | | | | | | |
| V | TOLUENE | 5 | | | | | | | | | |
| V | TRICHLOROETHYLENE (Trichloroethene) | 3 | | | | | | | | | |
| V | VINYL CHLORIDE | 5 | | | | | | | | | |

**Notes:**

(1) Flow average for day pertains to WET/PP composite sample day.

(2) Flow average for month is for month in which WET/PP sample was taken.

(3) Analytical chemistry parameters must be done as part of the WET test chemistry.

(4) Priority Pollutants should be reported in micrograms per liter (ug/L).

(5) Mercury is often reported in nanograms per liter (ng/L) by the contract laboratory, so be sure to convert to micrograms per liter on this spreadsheet.

(6) Effluent Limits are calculated based on dilution factor, background allocation (10%) and water quality reserves (15% - to allow for new or changed discharges or non-point sources).

(7) Possible Exceedence determinations are done for a single sample only on a mass basis using the actual pounds discharged. This analysis does not consider watershed wide allocations for fresh water discharges.

## 2. PERMIT SUMMARY

a. Terms and Conditions: **This permitting action is similar to the 8/14/01 and 6/23/03 permitting actions in that it is:**

1. Carrying forward the daily maximum discharge flow reporting requirement;

2. Carrying forward the daily maximum technology-based concentration limitation for settleable solids;

3. Carrying forward the seasonal monthly average and daily maximum concentration limitations for *Escherichia coli* bacteria;

4. Carrying forward the technology-based daily maximum concentration limitation of 1.0 mg/L for total residual chlorine (TRC);

5. Carrying forward the pH range limitation of 6.0 to 9.0 standard units (SU);

6. Carrying forward authorization to receive up to a maximum of 30,000 gallons per day (GPD) and introduce a maximum of up to 14,000 GPD of septage wastes into the wastewater treatment facility, and authorization to receive and introduce into the treatment system a daily maximum of up to 100,000 GPD of landfill leachate; and

7. Carrying forward the minimum monitoring frequency requirements for discharge flow.

**This permitting action is different from the 8/14/01 and 6/23/03 permitting actions in that it is:**

1. Revising the monthly average discharge flow limitation from 1.41 MGD to 1.71 MGD based on the dry weather design flow for the facility;

2. Establishing monthly average, weekly average and daily maximum technology-based concentration limitations for biochemical oxygen demand ($BOD_5$);

3. Establishing monthly average, weekly average, and daily maximum technology-based concentration limitations for total suspended solids (TSS);

4. Revising the monthly average and daily maximum mass limitations for $BOD_5$ based on the new, technology-based concentration limitations;

5. Establishing a weekly average mass limitation for $BOD_5$ based on the new, technology-based concentration limitation;

6. Revising the monthly average and daily maximum mass limitations for TSS based on the new, technology-based concentration limitations;

## 2. PERMIT SUMMARY (cont'd)

b. History: This section provides a summary of significant licensing/permitting actions and milestones that have been completed for the CUD.

May 23, 2000 – Pursuant to Maine law, 38 M.R.S.A. §420 and §413 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 #W001001-47-B-R by establishing interim monthly average and daily maximum effluent concentration limits of 18.3 parts per trillion (ppt) and 27.5 ppt, respectively, and a minimum monitoring frequency requirement of 4 tests per year for mercury. It is noted the limitations have not been incorporated into Special Condition A, *Effluent Limitations And Monitoring Requirements*, of this permit as limitations and monitoring frequencies are regulated separately through Maine law, 38 M.R.S.A. §413 and Department rule Chapter 519. However, the interim limitations remain in effect and enforceable and any modifications to the limits and or monitoring requirements will be formalized outside of this permitting document.

June 16, 2000 – The USEPA issued a renewal of National Pollutant Discharge Elimination System (NPDES) permit #ME0100145 to the CUD. The 6/16/00 permit superseded the NPDES permits issued to the CUD by the USEPA on June 2, 1994, and June 30, 1988 (earliest NPDES permit on file with the Department).

January 12, 2001 – The Department received authorization from the U.S. Environmental Protection Agency (USEPA) to administer the National Pollutant Discharge Elimination System (NPDES) permit program in Maine, excluding areas of special interest to Maine Indian Tribes. From that point forward, the program has been referred to as the Maine Pollutant Discharge Elimination System (MEPDES) program.

August 14, 2001 – The Department issued WDL #W001001-5L-D-R / MEPDES permit #ME0100145 to the CUD for a five-year term. The 8/14/01 permit superseded WDL #W001001-47-B-R issued on July 25, 1996, and WDL #W001001-47-A-R issued on December 18, 1984 (earliest Order on file with the Department).

June 23, 2003 – The Department issued MEPDES permit modification #W001001-5L-E-M to the CUD thereby modifying the 8/14/01 MEPDES permit to authorize the CUD to receive up to 30,000 gallons per day (GPD) of septage and to introduce up to 14,000 GPD of septage into its treatment process.

March 25, 2004 – The Department provided written authorization for the CUD to receive and treat up to 100,000 GPD of landfill leachate from the Tri-Community Landfill.

March 10, 2006 – The CUD submitted a timely and complete General Application to the Department for renewal of the 8/14/01 MEPDES permit and 6/23/03 MEPDES permit modification. The application was accepted for processing on April 10, 2006 and was assigned WDL # W001001-5L-F-R / MEPDES #ME0100145.

## 2. PERMIT SUMMARY (cont'd)

During the summer months the CUD pumps sludge from the lagoons to two reed beds, which each measure 40 feet wide by 200 feet long.

Final effluent is conveyed for discharge to the Aroostook River via an 24-inch diameter, reinforced concrete, gravity flow outfall pipe designated as Outfall #001A. The end of the outfall pipe is fitted with a concrete box structure designed to enhance mixing of the treatment plant discharge with the receiving waters.

## 3. CONDITIONS OF PERMIT

Maine law, 38 M.R.S.A. §414-A, requires that the effluent limitations prescribed for discharges, including, but not limited to, effluent toxicity, require application of best practicable treatment (BPT), be consistent with the U.S. Clean Water Act, and ensure that the receiving waters attain the State water quality standards as described in Maine's Surface Water Classification System. In addition, 38 M.R.S.A., §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.

## 4. RECEIVING WATER QUALITY STANDARDS

Maine law, 38 M.R.S.A., Section 467(C)(1)(f) classifies the Aroostook River at the point of discharge as Class C waters. Maine law, 38 M.R.S.A., Section 465(4) describes the standards for Class C waters.

## 5. RECEIVING WATER QUALITY CONDITIONS

*The State of Maine 2004 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 a 17.6-mile reach of the Aroostook River above the Canadian border (Hydrologic Unit Code #ME0101000413 / Waterbody ID #148R) as, *"Category 2: Rivers and Streams Attaining Some Designated Uses – Insufficient Information for Other Uses."* The Report lists all of Maine's fresh waters as, *"Category 4-B-3: Waters Impaired by Atmospheric Deposition of Mercury. Regional or National TMDL may be Required."* Impairment in this context refers to a statewide fish consumption advisory due to elevated levels of mercury in some fish tissues. The Report states, *"the impairment is presumed to be from atmospheric contamination and deposition. The advisory is based on probability data that a stream, river, or lake may contain some fish that exceed the advisory action level. Any freshwater may contain both contaminated and uncontaminated fish depending on size, age and species occurrence in that water."*

The Department has no information at this time that the discharge from the CUD will cause or contribute to the failure of the receiving water to meet the designated uses of its assigned classification.

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

The previous permitting action established monthly average and daily maximum mass limits of 1,098 pounds per day and 1,850 pounds per day, respectively, for TSS. The previous permit specified that the limits were based on the sum of allowable loadings for the sanitary flow of 1.41 MGD and the production-based, Best Available Technology Economically Achievable (BAT) loading limits for the influent from MFF. MFF no longer provides wastewater flows to the CUD and there are no other significant industrial users connected to the CUD collection or treatment systems.

The monthly average and daily maximum secondary treatment requirements for $BOD_5$ and TSS of 30 mg/L and 45 mg/L, respectively, are specified at Department rule, 06-096 CMR Chapter 525(3)(III). The Department has established a daily maximum $BOD_5$ and TSS concentration limit of 50 mg/L based on best professional judgment (BPJ) of best practicable treatment (BPT). The CUD provided the Department with results of effluent $BOD_5$ and TSS data analyses for the period of January 2003 through August 2006 which indicates that the facility cannot consistently achieve compliance with the secondary treatment standards for TSS 95% of the time. The CUD reported that during said period, the facility would have been in compliance with the monthly average limit of 30 mg/L 86% of the time and with the weekly average limit of 45 mg/L 89% of the time. As a result, the CUD has requested that the monthly average, weekly average and daily maximum TSS concentration limits be set at 45 mg/L, 60 mg/L and 65 mg/L, respectively, based on recommendations provided in Design, Operation and Regulation of Aerated Facultative Lagoon s in Maine, prepared by the Maine Lagoon Task Force and as provided for under treatment equivalent to secondary treatment pursuant to Department rule Chapter 525 Section 3 sub-section VI (b). The rule states that facilities "shall be eligible for consideration for effluent limitations described for treatment equivalent to secondary treatment (subsection VI), if:

(1) The BOD-5 and SS effluent concentrations consistently achievable through proper operation and maintenance (paragraph (f)) of the treatment works exceed the minimum level of the effluent quality set forth in Subsections III(a) and (b),
(2) A trickling filter or waste stabilization pond is used as the principal process, and
(3) The treatment works provide significant biological treatment of municipal wastewater."

Based on best professional judgment and demonstration by the CUD, the Department concludes that the CUD qualifies for treatment equivalent to secondary pursuant to Chapter 525 of the Department's rules as the facility cannot consistently achieve compliance with the secondary treatment requirements through proper operation and maintenance of the treatment works, utilizes a waste stabilization pond as the principal treatment process, and will provide significant biological treatment of municipal waste waters. For facilities that quality for treatment equivalent to secondary, Chapter 525 Section 3 sub-section VI (b) provides that the 30-day average shall not exceed 45 mg/L and the 7-day average shall not exceed 65 mg/L. Therefore, this permitting action is granting the CUD's request to establish monthly average and weekly average TSS

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

For TSS, a review of the monthly average and daily maximum effluent mass data as reported on the Discharge Monitoring Reports submitted to the Department for the period June 2003 – May 2005 indicates the monthly average TSS mass discharged has ranged from 43 lbs./day to 439 lbs./day with an arithmetic mean of 187 lbs./day (n=36). The daily maximum TSS mass discharged has ranged from 65 lbs./day to 1,024 lbs./day with an arithmetic mean of 369 lbs./day (n=36). A review of the monthly average and daily maximum concentration data as reported on the Discharge Monitoring Reports submitted to the Department for the period June 2003 – September 2006 indicates the monthly average TSS concentration discharged has ranged from 9 mg/L to 55 mg/L with an arithmetic mean of 22.5 mg/L (n=39). The monthly average concentration discharged has exceeded the 30 mg/L standard 20% of the time during said reporting period. The daily maximum TSS concentration discharged has ranged from 12 mg/L to 72 mg/L with an arithmetic mean of 39.5 mg/L (n=39). The daily maximum concentration discharged has exceeded the 50 mg/L standard 18% of the time during said reporting period.

The previous permitting action established a minimum monitoring frequency requirement of three times per week for $BOD_5$ and TSS, which is being revised in this permitting action to twice per week (2/Week) based on Department guidance for POTWs permitted to discharge between 0.5 and 1.5 MGD.

d. Settleable Solids: 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. A review of the daily maximum data as reported on the Discharge Monitoring Reports submitted to the Department for the period June 2003 – May 2006 indicates the daily maximum settleable solids concentration discharge has been 0.01 ml/L or less 100% of the time during said reporting period with no reported exceedances. Therefore, this permitting action is revising the minimum monitoring frequency requirement from once per day to five times per week (5/Week) based on best professional judgment.

e. *Escherichia coli* Bacteria: The pervious permitting action established seasonal (May 15–September 30) monthly average and daily maximum concentration limits for *E. coli* bacteria of 142 colonies/100 ml (geometric mean) and 949 colonies/100 ml (instantaneous level), respectively, which were based on a Department best professional judgment determination for municipal wastewater discharges to Class C waters, and a minimum monitoring frequency requirements of once per week. This permitting action is carrying forward both concentration limitations based on the Water Classification Program criteria and is revising the minimum monitoring frequency requirement to twice per week (2/Week) based on Department best professional judgment. Although *E. coli* bacteria limits are seasonal and apply between May 15 and September 30 of each year, the Department reserves the right to impose year-round bacteria limits if deemed necessary to protect the health, safety and welfare of the public.

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

g. pH: The previous permitting action established, and this permitting action is carrying forward, a technology-based pH limit of 6.0 – 9.0 standard units, which is based on Department rule, 06-096 CMR Chapter 525(3)(III). This permitting action is revising the minimum monitoring frequency to once per day based on best professional judgment.

A review of the daily maximum data as reported on the Discharge Monitoring Reports submitted to the Department for the period June 2003 – May 2006 indicates the facility has been in compliance with the pH range limitation 100% of the time during said reporting period (n=36).

h. Total Phosphorus (total-P) and Orthophosphate (ortho-P): The previous permitting action established seasonal (June 1 – September 30 of each year) weekly average concentration and mass reporting requirements and minimum monitoring frequency requirement of three times per week for total-P. The monitoring requirement was established based on past in-stream sampling results for phosphorus, modeling efforts by the Department for the Aroostook River, and Department experience with dissolved oxygen deficits on other waterbodies in the State associated with the discharge of phosphorus at low dilutions.

A review of the weekly average total-P data as reported on the Discharge Monitoring Reports submitted to the Department for the period June 2003 – September 2005 (months of June through September only) indicates the weekly average total-P concentration discharged has ranged from 1.0 mg/L to 2.78 mg/L with an arithmetic mean of 1.63 mg/L (n=12). The weekly average total-P mass discharged has ranged from 3.55 lbs./day to 20.16 lbs./day with an arithmetic mean of 10.15 lbs./day (n=12).

Given the results of effluent phosphorous monitoring as described above, the Department's Bureau of Land and Water Quality, Division of Environmental Assessment recommends continued phosphorus monitoring for this facility. Therefore, this permitting action is establishing monthly average and daily maximum concentration and mass reporting requirements for total-P, is eliminating the weekly average concentration and mass reporting requirements, and is revising the minimum monitoring frequency requirement from three times per week to twice per month. This permitting action is further establishing monthly average and daily maximum concentration and mass reporting requirements and a minimum monitoring frequency requirement of twice per month for ortho-P consistent with the monitoring requirements established in other MEPDES permits for discharges of municipal wastewater to the Aroostook River. Total-P and ortho-P monitoring requirements are seasonal and apply during the period of June 1 through September 30, inclusive, of each year. Sampling for total-P and ortho-P must be conducted such that there is at least 14 days between sampling events.

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

*quantity."* Therefore, the Department is reserving 15% of applicable water quality criteria used in the calculations of this permitting action.

One complexity of the new Chapter 530 rule found in Section 4(F) is evaluating toxic pollutant impacts on a watershed basis. Section 4(F) states, "*Where there is more than one discharge into the same fresh or estuarine receiving water or watershed, the Department shall consider the cumulative effects of those discharges when determining the need for and establishment of the level of effluent limits. The Department shall calculate the total allowable discharge quantity for specific pollutants, less the water quality reserve and background concentration, necessary to achieve or maintain water quality criteria at all points of discharge, and in the entire watershed.*" The Department is currently working to construct a computer program model to conduct this analysis. Until such time the model is complete and a multi-discharger statistical evaluation can be conducted, the Department is evaluating the impact of the CUD's discharge assuming it is the only discharger to the river. Should the multi-discharger evaluation indicate there are parameters that exceed or have a reasonable potential to exceed applicable AWQC, this permit may be reopened pursuant to Special Condition M, *Reopening of Permit For Modifications*, to incorporate additional limitations and or revise monitoring requirements.

This permit provides for reconsideration of effluent limits and monitoring schedules after evaluation of toxicity testing results. The monitoring schedule includes consideration of results currently on file, the nature of the wastewater, existing treatment, and receiving water characteristics.

Chapter 530 Section 2.B. categorizes dischargers subject to the toxics rule into one of four levels (Levels I through IV). Level II dischargers are those *"having a chronic dilution factor of at least 20 but less than 100 to 1."* The chronic dilution factor associated with the discharge from the CUD is 66.6 to 1; thus, the facility is considered a Level II facility for purposes of toxics testing. Chapter 530 Section 2.D specifies default WET, priority pollutant, and analytical chemistry test schedules for Level II dischargers as follows:

| Level II Dischargers | WET | Priority Pollutant | Analytical |
|---|---|---|---|
| **Surveillance Level (first 4 years)** | 1 per year | None Required | 2 per year |
| **Screening Level (last year)** | 2 per year | 1 per year | 4 per year |

The previous permitting action established surveillance level WET testing at a frequency of once per year on the brook trout and water flea, screening level WET testing at a frequency of twice per year on the water flea and once per year each on the brook trout and fathead minnow based on the provisions of the toxics rule in effect at that time (Chapter 530.5). On April 10, 2006, the Department issued a permit modification for toxics testing requirements to update testing frequencies and test species in response to a new Department rule, Chapter 530 (revised toxics rule). This modification established

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

Department rule Chapter 530(3) states, in part,

> *The Department shall establish appropriate discharge prohibitions, effluent limits and monitoring requirements in waste discharge licenses if a discharge contains pollutants that are or may be discharged at levels that cause, have reasonable potential to cause, or contribute to an ambient excursion in excess of a numeric or narrative water quality criteria or that may impair existing or designated uses. The licensee must also control whole effluent toxicity (WET) when discharges cause, have a reasonable potential to cause, or contribute to an ambient excursion above the narrative water quality criteria.*

Therefore, this permitting action is establishing a chronic limit of 1.24% and carrying forward the minimum surveillance and screening level monitoring frequency requirements of once per year and twice per year, respectively, for the water flea. Department rule Chapter 530 Section 2.D.(3)(c) states, in part, *"dischargers in Level II may reduce surveillance testing to one WET or specific chemical series every other year provided that testing in the preceding 60 months does not indicate any reasonable potential for exceedence."* Therefore, this permitting action is establishing reduced surveillance level acute and chronic brook trout and acute water flea WET testing at a minimum frequency of once every two years. This permitting action is establishing screening level WET testing at a minimum frequency of twice per year for both the water flea and brook trout.

Department rule Chapter 530 Section 2.D.4. states, *"all dischargers having waived or reduced testing must file statements with the Department on or before December 31 of each year describing the following.*

*(a) 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;*

*(b) Changes in the operation of the treatment works that may increase the toxicity of the discharge; and*

*(c) Changes in industrial manufacturing processes contributing wastewater to the treatment works that may increase the toxicity of the discharge."*

This permitting action establishes Special Condition I, *Chapter 530 Certification,* pursuant to Chapter 530 Section 2.D.4. It is noted, however, that if future WET testing indicates the discharge exceeds critical water quality thresholds, this permit will be reopened in accordance with Special Condition M, *Reopening of Permit For Modification,* to establish effluent limitations and monitoring requirements as necessary.

## 7. ANTIDEGRADATION

Maine law, 38 M.R.S.A. §464(4)(F) contains what is referred to as the State's antidegradation policy. The Department has determined that the actions of eliminating the numeric limitations for total copper and 4,4, DDT, and revising the limits for $BOD_5$ and TSS are appropriate and justified at this time and will not cause or contribute to the failure of the receiving waterbody to meet the standards of its assigned water quality classification. Elimination of the copper and 4,4, DDT limits is based on a review of the most recent 60 months of effluent data on file with the Department for this facility, which indicates that the discharge does not exceed or demonstrate a reasonable potential to exceed the ambient water quality thresholds for these parameters. Revising the $BOD_5$ and TSS limits is based on a revising (correcting) monthly average discharge flow limitation from 1.41 MGD to 1.71 MGD as discussed above.

## 8. DISCHARGE IMPACT ON RECEIVING WATER QUALITY

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

## 9. PUBLIC COMMENTS

Public notice of this application was made in the *Aroostook Republican News* newspaper on or about March 8, 2006. 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 shall have at least 30 days in which to submit comments on the draft or to request a public hearing, pursuant to Chapter 522 of the Department's rules.

## 10. DEPARTMENT CONTACTS

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

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Division of Water Quality Management
Bureau of Land & Water Quality
Department of Environmental Protection
17 State House Station
Augusta, Maine 04333-0017 Telephone: (207) 287-7659 Fax: (207) 287-3435
e-mail: bill.hinkel@maine.gov

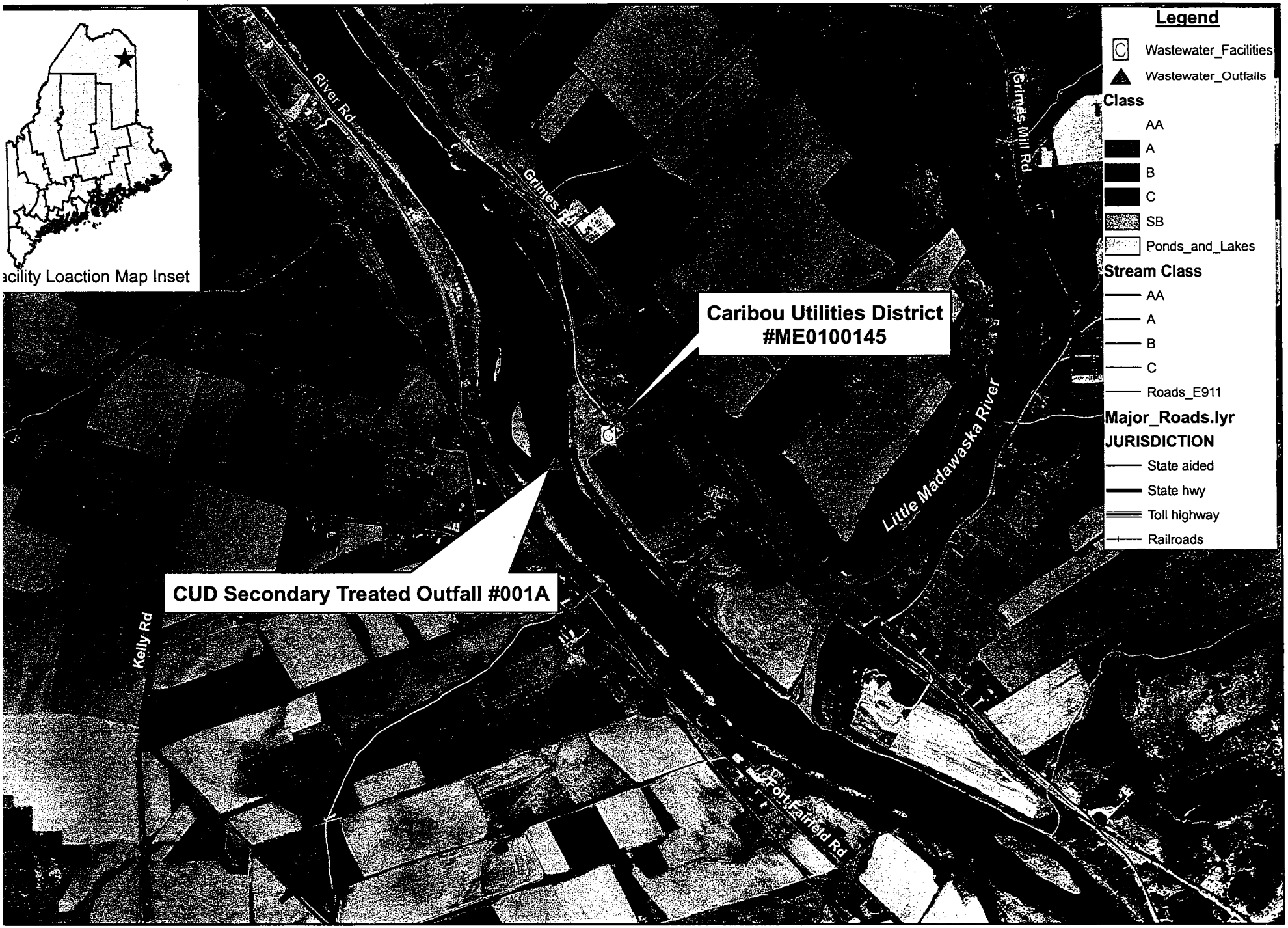
## 11. RESPONSE TO COMMENTS (cont'd)

*Comment #3:* The CUS stated, "Regarding BOD and TSS limits, ... the CUD over the last 36 months has achieved proposed monthly average BOD 97%; maximum daily BOD 94%; average monthly TSS 86%; maximum daily TSS 89%. This information indicates that with best practical treatment the CUD cannot consistently achieve these goals for TSS 95% of the time." The CUD stated that it believes the facility has not been able to consistently achieve 30 day averages for TSS at least 95% of the time, that that facility has operated the lagoon system at optimum levels, that the lagoon system is properly designed for the loads imposed, and that there are no extenuating circumstances. The CUD requested that the TSS limits be revised to 45,60,65 mg/L, which they stated will allow the CUD to achieve compliance at least 95% of the time for TSS.

*Response #3:* The Department concurs that the CUD treatment facility cannot consistently achieve compliance with the secondary treatment standards of 30 mg/L and 45 mg/L for TSS and has satisfactorily demonstrated to the Department that the facility qualifies for less stringent TSS limitations based on the treatment equivalent to secondary provisions of Department rule Chapter 523. See fact sheet Section 6 c. for additional details. Therefore, the draft permit has been revised to establish monthly average, weekly average and daily maximum concentration limits of 45 mg/L, 60 mg/L and 65 mg/L, respectively, for TSS based on the provisions of Department rule Chapter 523. Effluent TSS mass limitations have been revised based on the changes to the applicable concentration limits.

*Comment #4:* The CUD stated that the facility qualified for reduced (one every two years) acute WET testing for the water flea. The draft permit specified that acute water flea testing must be performed at a minimum frequency of once per year.

*Response #4:* The Department concurs that the facility qualifies for reduced surveillance level testing for the acute water flea and has revised the draft permit to correctly specify that testing is required once every two years rather than once per year. See Special Condition A of this permit and fact sheet Section 6 i. for additional information.

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**Caribou Utilities District at Caribou, Maine**

Map created by Maine DEP
November 13, 2006