STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION

JOHN ELIAS BALDACCI
GOVERNOR

DAVID P. LITTELL
COMMISSIONER

Mr. John Cronin
Town of Canton Pollution Abatement Facility
P.O Box 669
Canton, ME. 04221

February 23, 2006

RE: Maine Pollutant Discharge Elimination System (MEPDES) Permit #ME0102067
Maine Waste Discharge License (WDL) Application #W006445-5L-G-M
**Final Permit/License**

Dear John:

Enclosed please find a copy of your **final** MEPDES permit and Maine WDL **modification/renewal** 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.*"

We would like to make you aware of the fact that your monthly Discharge Monitoring Reports (DMR) may not reflect the revisions in this permitting action for several months. However, you are required to report applicable test results for parameters required by this permitting action that do not appear on the DMR. Please see the attached April 2003 O&M Newsletter article regarding this matter.

If you have any questions regarding the matter, please feel free to call me at 287-7693.

Sincerely,

Gregg Wood
Division of Water Quality Management
Bureau of Land and Water Quality

Enc.
cc: Beth DeHaas, DEP/CMRO
~~Roger Janson~~, USEPA
Sandy Lao

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# DMR Lag

**(reprinted from April 2003 O&M Newsletter)**

When the Department renews discharge permits, the parameter limits may change or parameters may be added or deleted. In some cases, it is merely the replacement of the federally issued NPDES permit with a state-issued MEPDES permit that results in different limits. When the new permit is finalized, a copy of the permit is passed to our data entry staff for coding into EPA's Permits Compliance System (PCS) database. PCS was developed in the 1970's and is not user-friendly. Entering or changing parameters can take weeks or even months. This can create a lag between the time your new permit becomes effective and the new permit limits appearing on your DMRs. If you are faced with this, it can create three different situations that have to be dealt with in different ways.

1. If the parameter was included on previous DMRs, but only the limit was changed, there will be a space for the data. Please go ahead and enter it. When the changes are made to PCS, the program will have the data and compare it to the new limit.

2. When a parameter is eliminated from monitoring in your new permit, but there is a delay in changing the DMR, you will have a space on the DMR that needs to be filled. For a parameter that has been eliminated, please enter the space on the DMR for that parameter only with "NODI-9" (No Discharge Indicator Code #9). This code means monitoring is conditional or not required this monitoring period.

3. When your new permit includes parameters for which monitoring was not previously required, and coding has not caught up on the DMRs, there will not be any space on the DMR identified for those parameters. In that case, please fill out an extra sheet of paper with the facility name and permit number, along with all of the information normally required for each parameter (parameter code, data, frequency of analysis, sample type, and number of exceedances). Each data point should be identified as monthly average, weekly average, daily max, etc. and the units of measurement such as mg/L or lb/day. Staple the extra sheet to the DMR so that the extra data stays with the DMR form. Our data entry staff cannot enter the data for the new parameters until the PCS coding catches up. When the PCS coding does catch up, our data entry staff will have the data right at hand to do the entry without having to take the extra time to seek it from your inspector or from you.

   EPA is planning significant improvements for the PCS system that will be implemented in the next few years. These improvements should allow us to issue modified permits and DMRs concurrently. Until then we appreciate your assistance and patience in this effort.

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

DEPARTMENT ORDER

**IN THE MATTER OF**

| | | |
|---|---|---|
| TOWN OF CANTON | ) | MAINE POLLUTANT DISCHARGE |
| POLLUTION ABATEMENT FACILITY | ) | ELIMINATION SYSTEM PERMIT |
| CANTON, OXFORD COUNTY, MAINE | ) | AND |
| ME0102067 | ) | WASTE DISCHARGE LICENSE |
| W006445-5L-G-M **APPROVAL** | ) | **MODIFICATION & RENEWAL** |

Pursuant to the provisions of the Federal Water Pollution Control Act, Title 33 USC, Section 1251, et. seq. and Maine Law 38 M.R.S.A., Section 414-A et seq., and applicable regulations, the Department of Environmental Protection (Department hereinafter) has considered the application of the TOWN OF CANTON (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 modification and renewal of combination Maine Pollutant Discharge Elimination System (MEPDES) permit #ME0102067/ Maine Waste Discharge License (WDL)#W006445-5L-F-R, (permit hereinafter) which was issued on July 7, 2003 and is due to expire on July 7, 2008. The MEPDES permit/WDL approved the discharge of up to a monthly average flow of 0.25 million gallons per day (MGD) of secondary treated waste water from a publicly owned treatment works (POTW) facility to Whitney Brook, Class B, in Canton, Maine.

## MODIFICATIONS REQUESTED

The permittee has requested the Department establish a sliding scale for effluent flow ranging from 0.0 MGD to 0.621 MGD and corresponding mass limitations for biochemical oxygen demand ($BOD_5$) and total suspended solids (TSS) in the permit while maintaining a minimum dilution factor of 53:1 at all times. It is noted the critical dilution factor of 53:1 was developed by the Department's Bureau of Land & Water Quality's Division of Water Quality Assessment in the early 1990's and is considered the critical threshold to maintain Class B dissolved oxygen standards at effluent discharge flows, low flow receiving water conditions and elevated receiving water temperatures.

**PERMIT SUMMARY (cont'd)**

This permitting action is granting the permittee's request by establishing a sliding scale but discharge flows will be limited to a range from 0.124 MGD up to a maximum of 0.621 MGD and establishing corresponding monthly average, weekly average and daily maximum mass limitations for $BOD_5$ and TSS based on the sliding scale for flow and best practicable treatment (BPT) concentration limits of 30 mg/L, 45 mg/L and 50 mg/L respectively, provided a dilution factor of 53:1 is maintained at all times. The permittee is prohibited from discharging when the flow in Whitney Brook is less than or equal to ($\leq$) 10 cfs.

**CONCLUSIONS**

BASED on the findings in the attached Fact Sheet dated February 23, 2006, and subject to the Conditions listed below, the Department makes the following CONCLUSIONS:

1. The discharge, either by itself or in combination with other discharges, will not lower the quality of any classified body of water below such classification.

2. The discharge, either by itself or in combination with other discharges, will not lower the quality of any unclassified body of water below the classification which the Department expects to adopt in accordance with state law.

3. The provisions of the State's antidegradation policy, 38 MRSA Section 464(4)(F), will be met, in that:

   (a) Existing in-stream water uses and the level of water quality necessary to protect and maintain those existing uses will be maintained and protected;

   (b) Where high quality waters of the State constitute an outstanding national resource, that water quality will be maintained and protected;

   (c) 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 Department APPROVES the above noted application of the TOWN OF CANTON, to discharge up to a daily maximum of 0.621 MGD of secondary treated municipal waste waters to Whitney Brook, Class B, SUBJECT TO THE ATTACHED CONDITIONS, and all applicable standards and regulations including:

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

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

3. This permit expires five (5) years from the date of signature below.

DONE AND DATED AT AUGUSTA, MAINE, THIS 22nd DAY OF February 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 June 10, 2005.

Date of application acceptance June 10, 2005.

FILED
FEB 24 2006
BOARD OF ENVIRONMENTAL PROT.
STATE OF MAINE

Date filed with Board of Environmental Protection _____

This Order prepared by GREGG WOOD, BUREAU OF LAND AND WATER QUALITY

W64455LG 2/23/06

## SPECIAL CONDITIONS

### A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS - Outfall #001

1. During the period beginning effective date and lasting through permit expiration, the permittee is authorized to discharge secondary treated municipal waste waters from Outfall #001 to Whitney Brook. Such discharges shall be limited and monitored by the permittee as specified below.

| Effluent Characteristic | Discharge Limitations | | | | | | Minimum Monitoring Requirements | |
|---|---|---|---|---|---|---|---|---|
| | Monthly Average | Weekly Average | Daily Maximum | Monthly Average | Weekly Average | Daily Maximum | Measurement Frequency | Sample Type |
| Stream Flow *[00061]* | --- | --- | --- | --- | --- | Report(1)cfs *[08]* | 1/Discharge Day *[01/DD]* | Measure *[MS]* |
| Flow *[50050]* | --- | --- | 0.621 MGD(2) *[03]* | --- | --- | --- | Continuous *[99/99]* | Recorder *[RC]* |
| Dilution Factor *[80093]* | --- | --- | Ratio(3) *[1U]* | --- | --- | --- | 1/Discharge Day *[01/DD]* | Calculate *[CA]* |
| Biochemical Oxygen Demand *[00310]* | 155 #/day(4) *[26]* | 233 #/day(4) *[26]* | 259 #/day(4) *[26]* | 30 mg/L *[19]* | 45 mg/L *[19]* | 50 mg/L *[19]* | 1/Week *[01/07]* | 24 Hour Composite *[24]* |
| BOD % Removal(5) *[81010]* | --- | --- | --- | --- | --- | 85% *[23]* | 1/Month *[01/01]* | Calculate *[CA]* |
| Total Suspended Solids *[00530]* | 155 #/day(4) *[26]* | 233 #/day(4) *[26]* | 259 #/day(4) *[26]* | 30 mg/L *[19]* | 45 mg/L *[19]* | 50 mg/L *[19]* | 1/Week *[01/07]* | 24 Hour Composite *[24]* |
| TSS % Removal(5) *[81011]* | --- | --- | --- | --- | --- | 85% *[23]* | 1/Month *[01/01]* | Calculate *[CA]* |
| Settleable Solids *[00545]* | --- | --- | --- | --- | --- | 0.3 ml/L *[25]* | 3/Week *[03/07]* | Grab *[GR]* |
| *E. Coli* Bacteria *[31633]* *(May 15 – September 30)* (6) | --- | --- | --- | 64/100 ml(7) *[13]* | --- | 427/100 ml *[13]* | 1/Week *[01/07]* | Grab *[GR]* |
| pH (Std. Unit) *[00400]* | --- | --- | --- | --- | --- | 6.0 – 9.0 SU *[12]* | 1/Day *[01/01]* | Grab *[GR]* |

## SPECIAL CONDITIONS

### A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS – OUTFALL #001A (cont'd)

***SURVEILLANCE LEVEL - Beginning upon issuance of this permit and lasting through twelve months prior to permit expiration.***

| Effluent Characteristic | Discharge Limitations | | | | Minimum Monitoring Requirements | |
|---|---|---|---|---|---|---|
| | Monthly Average | Daily Maximum | Monthly Average | Daily Maximum | Measurement Frequency | Sample Type |
| Whole Effluent Toxicity(8) | | | | | | |
| Acute – NOEL | | | | | | |
| *Ceriodaphnia dubia* [TDA3B] *(Water flea)* | --- | --- | --- | Report % [23] | 1/2Years [01/2Y] | Composite [24] |
| Chronic – NOEL | --- | --- | --- | Report % [23] | 1/2 Years [01/2Y] | Composite [24] |
| *Salvelinus fontinalis* [TDA6F] *(Brook trout)* | | | | | | |
| Analytical chemistry (9) [51118] | --- | --- | --- | Report ug/L [28] | 1/2 Years [01/2Y] | Composite/Grab [24] |

***SCREENING LEVEL - Beginning twelve months prior to permit expiration and lasting through permit expiration.***

| Effluent Characteristic | Discharge Limitations | | | | Minimum Monitoring Requirements | |
|---|---|---|---|---|---|---|
| | Monthly Average | Daily Maximum | Monthly Average | Daily Maximum | Measurement Frequency | *Sample Type* |
| Whole Effluent Toxicity(8) | | | | | | |
| Acute – NOEL | | | | | | |
| *Ceriodaphnia dubia* [TDA3B] *(Water flea)* | --- | --- | --- | Report % [23] | 1/Year[01/YR] | Composite [24] |
| Chronic – NOEL | | | | | | |
| *Salvelinus fontinalis* [TDA6F] *(Brook trout)* | --- | --- | --- | Report % [23] | 1/Year [01/YR] | Composite [24] |
| Analytical chemistry (9) [51118] | --- | --- | --- | Report ug/L [28] | 1/Year [01/90] | Composite/Grab [24] |
| Priority Pollutant (10) [50008] | --- | --- | --- | Report ug/L [28] | 1/Year [01/YR] | Composite/Grab [24] |

## SPECIAL CONDITIONS

### A. LIMITATIONS AND MONITORING REQUIREMENTS

2. During the period beginning the effective date of the permit and lasting through the permit expiration date, the **Ground Water Monitoring Wells MW-1 and MW-2** shall be limited and monitored as specified below.

**MW-1 – Northeast of Lagoon #1**

**MW-2 – Southeast of Holding Pond #2**

| | **Daily Maximum** as specified | **Measurement Frequency** as specified | **Sample Type** as specified |
|---|---|---|---|
| Depth to Water Level Below Landsurface *[72019]* | Report (feet) (11) *[27]* | 1/Year(12) *[01/YR]* | Measure *[MS]* |
| Nitrate-Nitrogen *[00620]* | 10 mg/L *[19]* | 1/Year(12) *[01/YR]* | Grab *[GR]* |
| Chloride (Total) *[00940]* | Report (mg/L) *[19]* | 1/Year(12) *[01/YR]* | Grab *[GR]* |
| Specific Conductance *[00095]* | Report (umhos/cm) *[11]* | 1/Year(12) *[01/YR]* | Grab *[GR]* |
| Temperature (°F) *[00011]* | Report (°F) *[15]* | 1/Year(12) *[01/YR]* | Grab *[GR]* |
| pH (Standard Units) *[00400]* | Report (S.U.) *[12]* | 1/Year(12) *[01/YR]* | Grab *[GR]* |
| Total Suspended Solids *[00530]* | Report (mg/L) *[19]* | 1/Year(12) *[01/YR]* | Grab *[GR]* |

## SPECIAL CONDITIONS

### A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS – Outfall #001 (cont'd)

Footnotes:

Effluent receiving secondary treatment (Outfall #001) shall be sampled for all parameters specified in Special Condition A of this permitting action from the *"Effluent Monitoring Manhole"* as depicted on a drawing entitled, Treatment Site: Stabilization Ponds Process Piping, by Woodard & Curran Inc., dated August 1983. Any change in sampling location must be reviewed and approved by the Department in writing.

**Sampling** –Sampling and analysis must be conducted in accordance with; a) methods approved by 40 Code of Federal Regulations (CFR) Part 136, b) alternative methods approved by the Department in accordance with the procedures in 40 CFR Part 136, or c) as otherwise specified by the Department. Samples that are sent out for analysis shall be analyzed by a laboratory certified by the State of Maine's Department of Human Services.

(1) **Stream flow** - The stream flow shall be measured daily, when discharging, at the flow measuring station located at the bridge just upstream of Outfall 001.

(2) **Discharge flow** - When discharging, Canton shall maintain a minimum dilution ratio of receiving water to plant flow of 53:1 at all times. **The permittee is prohibited from discharging when the flow in Whitney Brook is less than or equal to (≤) 10 cfs.**

(3) **Dilution factor** – The dilution factor for each discharge shall be calculated in accordance with the following formula;

$$\frac{\text{Plant flow (MGD)} + \text{Receiving water flow (MGD)}}{\text{Plant flow (MGD)}}$$

(4) **$BOD_5$ and TSS** – Both flow and mass based limitations for $BOD_5$ and TSS are based on a sliding scale in Table A (Attachment A) of this permit and are dependent on flows measured in Whitney Brook . The values in the table on page 4 of this permit are the maximum discharge limitations based on a flow of greater than or equal to 50 cfs.

(5) **Percent removal** – For secondary treated waste waters, the facility shall maintain a minimum of 85 percent removal of both $BOD_5$ and TSS. Compliance with the limitation is based on a twelve-month rolling average. Calendar monthly average percent removal values shall be calculated based on influent and effluent concentrations. The percent removal is not applicable when the monthly average influent concentration is less than 200 mg/L and shall not be included in the rolling average calculations. The permittee is not required to calculate percent removal rates until an influent sampling point is constructed that does not constitute a confined entry space.

## SPECIAL CONDITIONS

### A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS – Outfall #001 (cont'd)

Footnotes:

(6) ***E. coli* bacteria** - *E. coli* bacteria limits are seasonal and apply between May 15th and September 30th of each year. The Department reserves the right to require disinfection to protect the health, safety and welfare of the public. In the event disinfection is required, and elemental chlorine or chlorine based compounds are used for disinfection, the Department will reopen this permit pursuant to Special Condition M, *Reopening of Permit For Modification*, establish applicable limits and monitoring requirements for total residual chlorine (TRC).

(7) ***E. coli* bacteria** - This limit is a geometric mean value and shall be calculated and reported as such.

(8) **Whole effluent toxicity (WET) testing** - Definitive WET testing is a multi-concentration testing event (a minimum of five dilutions bracketing the acute and chronic critical thresholds of 1.9%), 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.

**Beginning upon issuance of the permit and lasting through twelve (12) months prior to permit expiration and every five years thereafter,** the permittee shall conduct surveillance level WET testing at a minimum frequency of once every other year (1/2 Years). Testing shall be conducted in a different calendar quarter for each testing event. Acute tests shall be conducted on the water flea (*Ceriodaphnia dubia*) and chronic tests shall be conducted on the brook trout (*Salvelinus fontinalis*).

**Beginning twelve (12) months prior to the expiration date of the permit**, the permittee shall initiate screening level WET testing at a frequency of once per year (1/Year). Screening level WET tests shall be conducted using the water flea (*Ceriodaphnia dubia*) and the brook trout (*Salvelinus fontinalis*). The permittee is also required to analyze the effluent for the parameters specified in the analytical chemistry on the form in Attachment B of this permit each time a WET test is performed. 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 threshold of 1.9%.

## SPECIAL CONDITIONS

### A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS – Outfall #001 (cont'd)

Footnotes:

Toxicity tests must be conducted by an experienced laboratory approved by the Department. The laboratory must follow procedures as described in the following U.S.E.P.A. methods manuals.

a. Short Term Methods for Estimating the Chronic Toxicity of Effluent and Receiving Water to Freshwater Organisms, Fourth Edition, October 2002, EPA-821-R-02-013.

b. Methods for Measuring the Acute Toxicity of Effluent and Receiving Waters to Freshwater and Marine Organisms, Fifth Edition, October 2002, EPA-821-R-02-012.

**The permittee is also required to analyze the effluent for the parameters specified in the analytical chemistry on the form in Attachment B of this permit each time a WET test is performed.**

9. **Analytical chemistry** – Refers to a suite of chemical tests that include ammonia nitrogen (as N), total aluminum, total arsenic, total cadmium, total chromium, total copper, total cyanide, total lead, total nickel, total silver, total zinc and total residual chlorine. **Beginning upon issuance of the permit and lasting through permit expiration**, the permittee shall conduct surveillance level analytical chemistry testing at a minimum frequency of once every other year (1/2 Years).

   **Beginning 12 months prior to permit expiration and lasting through permit expiration and every five years thereafter**, the permittee shall conduct screening level analytical chemistry testing at a minimum frequency of once per year (1/Year). There shall be at least 45 days between sampling events. Analytical chemistry testing shall be conducted using methods that permit detection of a pollutant at existing levels in the effluent or that achieve minimum reporting levels of detection as specified by the Department. See Attachment B of this permit for a list of the Department's reporting limits.

   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 AWQC as established in Department rule 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.

## SPECIAL CONDITIONS

### A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS – Outfall #001 (cont'd)

Footnotes:

10. **Priority pollutant testing** – Priority pollutants are those parameters listed by Department rule, Chapter 525, Section 4(IV). **Beginning 12 months prior to permit expiration and lasting through permit expiration and every five years thereafter**, the permittee shall conduct screening level priority pollutant testing at a minimum frequency of once per year (1/Year).

    Priority pollutant testing shall be conducted on samples collected at the same time as those collected for whole effluent toxicity tests, when applicable. Priority pollutant testing shall be conducted using methods that permit detection of a pollutant at existing levels in the effluent or that achieve minimum reporting levels of detection as specified by the Department. See Attachment B of this permit for a list of the Department reporting limits.

    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 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.

    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.

(11) **Depth To Water Level Below Surface** – Shall be measured to the nearest 1/10$^{th}$ of a foot.

(12) **Ground Water Monitoring – Sampling shall be conducted in the month of May of each year.** Consistent trends upwards or sudden spikes from previous levels shall be reported immediately to the Department, and may necessitate the need for additional ground water testing requirements.

## SPECIAL CONDITIONS

### B. NARRATIVE EFFLUENT LIMITATIONS

1. The effluent shall not contain a visible oil sheen, foam or floating solids at any time 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"* section of this permit. If chlorination is used as the means of disinfection, an approved chlorine detention must be utilized. The total residual chlorine in the effluent shall at no time cause any demonstrable harm to aquatic 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 below those specified in Special Condition A, of this permit.

### D. STREAM FLOW MONITORING

When discharging, the stream flow shall be monitored daily by measuring the height of the water in Whitney Brook at the established flow measuring station (mobile staff gauge) located at the bridge just upstream of Outfall 001.

### E. TREATMENT PLANT OPERATOR

The waste water treatment facility must be operated under the direction of a person holding a minimum of a **Grade II** certificate [or Maine Professional Engineer (PE) Registration] pursuant to Title 32 M.R.S.A., Section 4171 et seq. All proposed contracts for facility operation by any person must be approved by the Department before the permittee may engage the services of the contract operator.

## SPECIAL CONDITIONS

### F. 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 a Department 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's compliance inspector (unless otherwise specified) at the following addresses:

Maine Department of Environmental Protection
Central Maine Regional Office
Bureau of Land & Water Quality
Division of Water Quality Management
State House Station #17
Augusta, ME. 04333

### G. NOTIFICATION REQUIREMENT

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.

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.

### H. LIMITATIONS FOR INDUSTRIAL USERS

Pollutants introduced into the waste water collection and treatment system by a non-domestic source (user) shall not pass through or interfere with the operation of the treatment system.

## SPECIAL CONDITIONS

### I. UNAUTHORIZED DISCHARGES

The permittee is authorized to discharge only in accordance with the terms and conditions of this permit and only from Outfall 001. Discharges of wastewater from any other point source are not authorized under this permit, but shall be reported in accordance with Standard Condition B(5) (Bypass) of this permit.

### 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 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. WET WEATHER FLOW MANAGEMENT PLAN

The treatment facility staff shall develop and 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.

**On or before June 1, 2006,** *[PCS Code 06799]* the permittee shall submit to the Department for review and approval, a new or revised Wet Weather Management Plan that conforms to Department guidelines for such plans*]*. The revised 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.

Once the Wet Weather Management Plan has been approved, the permittee shall **review their plan annually** and record any necessary changes to keep the plan up to date.

## SPECIAL CONDITIONS

### L. OPERATION & MAINTENANCE (O&M) PLAN

**On or before June 1, 2006,** ***[PCS Code 09699]*** the permittee shall submit to the Department 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, transport 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 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 USEPA 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 inspector for review and comment.

### M. REOPENING OF PERMIT FOR MODIFICATIONS

The Department may reopen the permit to impose new or revised effluent limitations as appropriate to regulate the discharge of toxic substances in order to achieve the required in-stream water quality standards. Upon evaluation of effluent monitoring data, whole effluent toxicity and/or priority pollutant test results, and adoption of new or revised water quality standards, the Department may, at anytime and with notice to the permittee, modify this permit to: (1) maintain effluent limitations 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) protect human health (3) require additional limitations or monitoring requirements if results on file are inconclusive; or (4) modify or remove monitoring requirements based on new information.

### N. 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 aspects as if such unlawful provision, or part thereof, had been omitted, unless otherwise ordered by the court.

# ATTACHMENT A

# TABLE A

## TOWN OF CANTON WASTEWATER TREATMENT FACILITY

### Effluent Flow and Corresponding Discharge Limitations

| Whitney Brook Gauge Height | Brook Flow (cfs) | Brook Flow (mgd) | Corresponding Discharge Rate Required to Maintain 53:1 Dilution Ratio (mgd) | Corresponding Total Daily Flow (gpm) | TSS/BOD Limits (mg/l) | | | TSS/BOD Limits (#/day) | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | monthly avg | weekly avg | daily max | monthly avg | weekly avg | daily max |
| 2.3 | 50 | 32.3 | 0.621 | 431.5 | 30 | 45 | 50 | 155 | 233 | 259 |
| 2.27 | 48 | 31.0 | 0.597 | 414.3 | 30 | 45 | 50 | 149 | 224 | 249 |
| 2.22 | 46 | 29.7 | 0.572 | 397.0 | 30 | 45 | 50 | 143 | 215 | 238 |
| 2.2 | 44 | 28.4 | 0.547 | 379.8 | 30 | 45 | 50 | 137 | 205 | 228 |
| 2.15 | 42 | 27.1 | 0.522 | 362.5 | 30 | 45 | 50 | 131 | 196 | 218 |
| 2.1 | 40 | 25.9 | 0.497 | 345.2 | 30 | 45 | 50 | 124 | 187 | 207 |
| 2.07 | 38 | 24.6 | 0.472 | 328.0 | 30 | 45 | 50 | 118 | 177 | 197 |
| 2.02 | 36 | 23.3 | 0.447 | 310.7 | 30 | 45 | 50 | 112 | 168 | 187 |
| 1.98 | 34 | 22.0 | 0.423 | 293.4 | 30 | 45 | 50 | 106 | 159 | 176 |
| 1.92 | 32 | 20.7 | 0.398 | 276.2 | 30 | 45 | 50 | 100 | 149 | 166 |
| 1.88 | 30 | 19.4 | 0.373 | 258.9 | 30 | 45 | 50 | 93 | 140 | 155 |
| 1.82 | 28 | 18.1 | 0.348 | 241.7 | 30 | 45 | 50 | 87 | 131 | 145 |
| 1.78 | 26 | 16.8 | 0.323 | 224.3 | 30 | 45 | 50 | 81 | 121 | 135 |
| 1.72 | 24 | 15.5 | 0.298 | 206.9 | 30 | 45 | 50 | 75 | 112 | 124 |
| 1.65 | 22 | 14.2 | 0.273 | 189.6 | 30 | 45 | 50 | 68 | 103 | 114 |
| 1.6 | 20 | 12.9 | 0.249 | 172.9 | 30 | 45 | 50 | 63 | 93 | 104 |
| 1.55 | 18 | 11.6 | 0.224 | 155.6 | 30 | 45 | 50 | 55 | 84 | 93 |
| 1.45 | 16 | 10.3 | 0.199 | 138.2 | 30 | 45 | 50 | 48 | 75 | 83 |
| 1.4 | 14 | 9.0 | 0.174 | 121.0 | 30 | 45 | 50 | 43 | 65 | 73 |
| 1.3 | 12 | 7.7 | 0.149 | 104.0 | 30 | 45 | 50 | 36 | 56 | 62 |

# ATTACHMENT B

# MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION
# WHOLE EFFLUENT TOXICITY REPORT
# FRESH WATERS

Facility Name _____ MEPDES Permit # _____

Facility Representative _____ Signature _____

**By signing this form, I attest that to the best of my knowledge that the information provided is true, accurate, and complete.**

Facility Telephone # _____ Date Collected _____ mm/dd/yy Date Tested _____ mm/dd/yy

Chlorinated? _____ Dechlorinated? _____

**Results** % effluent

| | water flea | trout |
|---|---|---|
| A-NOEL | | |
| C-NOEL | | |

Effluent Limitations

| | |
|---|---|
| A-NOEL | |
| C-NOEL | |

**Data summary**

| | water flea | | | trout | | |
|---|---|---|---|---|---|---|
| | % survival | | no. young | % survival | | final weight (mg) |
| QC standard | A>90 | C>80 | >15/female | A>90 | C>80 | > 2% increase |
| lab control | | | | | | |
| receiving water control | | | | | | |
| conc. 1 ( %) | | | | | | |
| conc. 2 ( %) | | | | | | |
| conc. 3 ( %) | | | | | | |
| conc. 4 ( %) | | | | | | |
| conc. 5 ( %) | | | | | | |
| conc. 6 ( %) | | | | | | |
| stat test used | | | | | | |

place * next to values statistically different from controls for trout show final wt and % incr for both controls

Reference toxicant

| | water flea | | trout | |
|---|---|---|---|---|
| | A-NOEL | C-NOEL | A-NOEL | C-NOEL |
| toxicant / date | | | | |
| limits (mg/L) | | | | |
| results (mg/L) | | | | |

Comments _____

**Laboratory conducting test**

Company Name _____ Company Rep. Name (Printed) _____

Mailing Address _____ Company Rep. Signature _____

City, State, ZIP _____ Company Telephone # _____

**Report WET chemistry on DEP Form "WET and Analytical Chemistry Results - Fresh Waters, December 2005."**

# MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION
# WET AND ANALYTICAL CHEMISTRY RESULTS
# FRESH WATERS

Facility Name _____ MEPDES Permit # _____

Facility Representative _____ Signature _____

**By signing this form, I attest that to the best of my knowledge that the information provided is true, accurate and complete.**

Date Collected _____ mm/dd/yy Date Analyzed _____ mm/dd/yy

Lab ID No. _____ Actual Daily Flow _____ MGD Actual Monthly AverageFlow _____ MGD

| | Analyte | Report Units | Receiving Water Results | Effluent Results | Reporting Level | Method |
|---|---|---|---|---|---|---|
| Analytes Required for Analytical Chemistry | Ammonia nitrogen | µg/L | * | | µg/L | |
| | Total aluminum | µg/L | * | | µg/L | |
| | Total arsenic | µg/L | * | | µg/L | |
| | Total cadmium | µg/L | * | | µg/L | |
| | Total chromium | µg/L | * | | µg/L | |
| | Total copper | µg/L | * | | µg/L | |
| | Total cyanide | µg/L | * | | µg/L | |
| | Total lead | µg/L | * | | µg/L | |
| | Total nickel | µg/L | * | | µg/L | |
| | Total silver | µg/L | * | | µg/L | |
| | Total zinc | µg/L | * | | µg/L | |
| | Total hardness | mg/L | * | | mg/L | |
| | Total residual chlorine ** | mg/L | | | mg/L | |
| Additional Analytes Required For WET Chemistry | Alkalinity | mg/L | * | | mg/L | |
| | Total magnesium | mg/L | * | | mg/L | |
| | Total Calcium | mg/L | * | | mg/L | |
| | Total organic carbon | mg/L | * | | mg/L | |
| | Total solids | mg/L | | | mg/L | |
| | Total suspended solids | mg/L | | | mg/L | |
| | Specific conductivity | µmhos | | | µmhos | |
| | pH ** | S.U. | * | | S.U. | |

* Except for Total Suspended Solids, Total Solids and Conductivity, the receiving water chemistry tests are optional. However, samples of the receiving water should be preserved and saved for the duration of the WET test. In the event of questions about the receiving water's possible effect on the WET results, chemistry tests should then be conducted.
** WET laboratories may conduct these tests on composite samples as part of their procedures.

Comments _____

**Laboratory conducting test**

Company Name _____ Company Rep. Name (Printed) _____

Mailing Address _____ Company Rep. Signature _____

City, State, ZIP _____ Company Telephone # _____

# 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.**

**Facility Name** _____ **MEPDES #** _____ **Pipe #** _____ Facility Representative Signature _____
To the best of my knowledge this information is true, accurate and complete.

**Licensed Flow (MGD)**
**Acute dilution factor**
**Chronic dilution factor**
**Human health dilution factor**
**Criteria type: M(arine) or F(resh)**

**Flow for Day (MGD)[1]** **Flow Avg. for Month (MGD)[2]**

**Date Sample Collected** Date Sample Analyzed

Laboratory _____ Telephone _____
Address _____
Lab Contact _____ Lab ID # _____

ERROR WARNING ! Essential facility information is missing. Please check required entries in bold above.

| | | | | | | Receiving Water or Ambient | **Effluent Concentration** (ug/L or as noted) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | **WHOLE EFFLUENT TOXICITY** | | | | | | | | | | |
| | | | Effluent Limits, % | | | | WET Result, % Do not enter % sign | Reporting Limit Check | **Possible Exceedence [7]** | | |
| | | | Acute | Chronic | | | | | Acute | Chronic | |
| | Trout - Acute | | | | | | | | | | |
| | Trout - Chronic | | | | | | | | | | |
| | Water Flea - Acute | | | | | | | | | | |
| | Water Flea - Chronic | | | | | | | | | | |
| | **WET CHEMISTRY** | | | | | | | | | | |
| | pH (S.U.) | | | | | | | | | | |
| | Specific Conductance (umhos) | | | | | | | | | | |
| | Total Organic Carbon (mg/L) | | | | | | | | | | |
| | Total Solids (mg/L) | | | | | | | | | | |
| | Total Suspended Solids (mg/L) | | | | | | | | | | |
| | Alkalinity (mg/L) | | | | | | | | | | |
| | Total Hardness (mg/L) | | | | | | | | | | |
| | Total Magnesium (mg/L) | | | | | | | | | | |
| | Total Calcium (mg/L) | | | | | | | | | | |
| | **ANALYTICAL CHEMISTRY [3]** | | | | | | | | | | |
| | | | Effluent Limits, ug/L | | | | | Reporting Limit Check | **Possible Exceedence [7]** | | |
| | | Reporting Limit | Acute[6] | Chronic[6] | Health[6] | | | | Acute | Chronic | Health |
| | TOTAL RESIDUAL CHLORINE (mg/L) | 0.05 | | | | | | | | | |
| | AMMONIA | NA | | | | | | | | | |
| M | ALUMINUM | NA | | | | | | | | | |
| M | ARSENIC | 5 | | | | | | | | | |
| M | CADMIUM | 1 | | | | | | | | | |
| M | CHROMIUM | 10 | | | | | | | | | |
| M | COPPER | 3 | | | | | | | | | |
| M | CYANIDE | 5 | | | | | | | | | |
| M | LEAD | 3 | | | | | | | | | |
| M | NICKEL | 5 | | | | | | | | | |
| M | SILVER | 1 | | | | | | | | | |
| M | ZINC | 5 | | | | | | | | | |

**Maine Department of Environmental Protection**
**WET and Chemical Specific Data Report Form**
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| | PRIORITY POLLUTANTS [4] | | Effluent Limits | | | | | | Possible Exceedence [7] | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Reporting Limit | Acute[6] | Chronic[6] | Health[6] | | | Reporting Limit Check | 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**
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| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| BN | FLUORANTHENE | 5 | | | | | | | | | |
| BN | FLUORENE | 5 | | | | | | | | | |
| BN | HEXACHLOROBENZENE | 2 | | | | | | | | | |
| BN | HEXACHLOROBUTADIENE | 1 | | | | | | | | | |
| BN | HEXACHLOROCYCLOPENTADIENE | 10 | | | | | | | | | |
| BN | HEXACHLOROETHANE | 2 | | | | | | | | | |
| BN | INDENO(1,2,3-CD)PYRENE | 5 | | | | | | | | | |
| BN | ISOPHORONE | 5 | | | | | | | | | |
| BN | N-NITROSODI-N-PROPYLAMINE | 10 | | | | | | | | | |
| BN | N-NITROSODIMETHYLAMINE | 1 | | | | | | | | | |
| BN | N-NITROSODIPHENYLAMINE | 5 | | | | | | | | | |
| BN | NAPHTHALENE | 5 | | | | | | | | | |
| BN | NITROBENZENE | 5 | | | | | | | | | |
| BN | PHENANTHRENE | 5 | | | | | | | | | |
| BN | PYRENE | 5 | | | | | | | | | |
| P | 4,4'-DDD | 0.05 | | | | | | | | | |
| P | 4,4'-DDE | 0.05 | | | | | | | | | |
| P | 4,4'-DDT | 0.05 | | | | | | | | | |
| P | A-BHC | 0.2 | | | | | | | | | |
| P | A-ENDOSULFAN | 0.05 | | | | | | | | | |
| P | ALDRIN | 0.15 | | | | | | | | | |
| P | B-BHC | 0.05 | | | | | | | | | |
| P | B-ENDOSULFAN | 0.05 | | | | | | | | | |
| P | CHLORDANE | 0.1 | | | | | | | | | |
| P | D-BHC | 0.05 | | | | | | | | | |
| P | DIELDRIN | 0.05 | | | | | | | | | |
| P | ENDOSULFAN SULFATE | 0.1 | | | | | | | | | |
| P | ENDRIN | 0.05 | | | | | | | | | |
| P | ENDRIN ALDEHYDE | 0.05 | | | | | | | | | |
| P | G-BHC | 0.15 | | | | | | | | | |
| P | HEPTACHLOR | 0.15 | | | | | | | | | |
| P | HEPTACHLOR EPOXIDE | 0.1 | | | | | | | | | |
| P | PCB-1016 | 0.3 | | | | | | | | | |
| P | PCB-1221 | 0.3 | | | | | | | | | |
| P | PCB-1232 | 0.3 | | | | | | | | | |
| P | PCB-1242 | 0.3 | | | | | | | | | |
| P | PCB-1248 | 0.3 | | | | | | | | | |
| P | PCB-1254 | 0.3 | | | | | | | | | |
| P | PCB-1260 | 0.2 | | | | | | | | | |
| P | TOXAPHENE | 1 | | | | | | | | | |
| V | 1,1,1-TRICHLOROETHANE | 5 | | | | | | | | | |
| V | 1,1,2,2-TETRACHLOROETHANE | 7 | | | | | | | | | |
| V | 1,1,2-TRICHLOROETHANE | 5 | | | | | | | | | |
| V | 1,1-DICHLOROETHANE | 5 | | | | | | | | | |
| V | 1,1-DICHLOROETHYLENE (1,1-dichloroethene) | 3 | | | | | | | | | |
| V | 1,2-DICHLOROETHANE | 3 | | | | | | | | | |
| V | 1,2-DICHLOROPROPANE | 6 | | | | | | | | | |
| V | 1,2-TRANS-DICHLOROETHYLENE (1,2-trans-dichloroethene) | 5 | | | | | | | | | |
| V | 1,3-DICHLOROPROPYLENE (1,3-dichloropropene) | 5 | | | | | | | | | |
| V | 2-CHLOROETHYLVINYL ETHER | 20 | | | | | | | | | |

**Maine Department of Environmental Protection**
**WET and Chemical Specific Data Report Form**
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| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 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.

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

**FACT SHEET**

Date: **February 23, 2006**

PERMIT NUMBER: **ME0102067**
LICENSE NUMBER: **W006445-5L-G-M**

NAME AND ADDRESS OF APPLICANT:

**TOWN OF CANTON**
**Pollution Abatement Facility**
**P. O. Box 606**
**Canton, Maine 04221**

COUNTY: **Oxford County**

NAME AND ADDRESS WHERE DISCHARGE OCCURS:

**Town of Canton**
**Primrose Lane**
**Canton, Maine 04221**

RECEIVING WATER/CLASSIFICATION: **Whitney Brook/Class B**

COGNIZANT OFFICIAL AND TELEPHONE NUMBER: **Mr. John Cronin, Operator**
**(207) 597-2920**

## 1. APPLICATION SUMMARY

The applicant has applied for modification and renewal of combination Maine Pollutant Discharge Elimination System (MEPDES) permit #ME0102067/ Maine Waste Discharge License (WDL)#W006445-5L-F-R, which was issued on July 7, 2003 and is due to expire on July 7, 2008. The MEPDES permit/WDL approved the discharge of up to a monthly average flow of 0.25 million gallons per day (MGD) of waste water from a publicly owned treatment works (POTW) facility to Whitney Brook, Class B, in Canton, Maine.

## 2. MODIFICATIONS REQUESTED

The permittee has requested the Department establish a sliding scale for flow ranging from 0.124 MGD up to 0.621 MGD and corresponding mass limitations for biochemical oxygen demand (BOD5) and total suspended solids (TSS) in the permit while maintaining a minimum dilution factor of 53:1 at all times. It is noted the critical dilution factor of 53:1 was developed by the Department's Bureau of Land & Water Quality's Division of Water Quality Assessment in the early 1990's and is considered the critical threshold to maintain Class B dissolved oxygen standards at full permitted discharge flows and low flow receiving water conditions and elevated receiving water temperatures.

The permittee has indicated authorizing the facility to increase the discharge flow would provide the following benefits:

a) Decreased costs: Greater discharge rates would shorten the duration of discharges and require less labor by the Facility employees. In addition, a reduction in costs by the contract laboratory that completes the TSS, BOD and *E-coli* bacteria tests will also be achieved.

b) Allow more flexibility in lagoon level management: At the current monthly average flow of 250,000 gallons per day, lengthy discharges are required to see even minor changes in the lagoon levels. Increasing the flow limitation would allow more immediate reductions in the lagoon levels while ensuring compliance with effluent limitations in the most expeditious manner possible.

c) Minimize impacts on Whitney Brook: The facility currently discharges 15 – 40 discharges per year at various times of the year. Allowing a greater discharge would ensure that discharges of clean wastewater can be completed in the most timely manner possible. Periods of high brook flows are also the time periods when the dilution ratio will most often times be much greater than the minimum 53:1.

## 3. PERMIT SUMMARY

a. Permittee's modification request - This permitting action is granting the permittee's request to establish a sliding scale for flow but limiting the range from 0.124 MGD up to a maximum of 0.621 MGD and establishing corresponding monthly average, weekly average and daily maximum mass limitations for BOD and TSS based on the sliding scale for flow and best practicable treatment (BPT) concentration limits of 30 mg/L, 45 mg/L and 50 mg/L respectively. It is noted, the permittee is prohibited from discharging when the flow in Whitney Brook is less than or equal to ($\leq$) 10 cfs. This is an arbitrary cut-off level established by the Department to protect Whitney Brook during extremely low flow conditions.

**3. PERMIT SUMMARY (cont'd)**

b. History: The most current permitting/licensing actions include the following:

*April 12, 1991* - The Department issued Waste Discharge License #W006445-59-C-R for a five-year term.

*September 19, 1994* - The U.S Environmental Protection Agency (EPA) issued NPDES permit #ME0102067 for a five-year term.

*June 29, 1998* - The Department issued Waste Discharge License #W006445-5L-D-R for a five-year term.

*January 12, 2001* - The Department received authorization from EPA to administer the NPDES program in Maine. From that point forward, the program has been referred to as the Maine Pollutant Discharge Elimination System (MEPDES) Program and MEPDES permit number ME0102067 was established as the primary reference number for the facility.

*July 17, 2001* – The Department issued combination MEPDES permit #ME0102067/WDL #W006445-5L-E-M modification with an expiration date of June 29, 2003.

*July 7, 2003* – The Department issued MEPDES permit #ME0102067/WDL #W006445-5L-F-R for a five-year term.

*June 10, 2005* – The permittee submitted an application to the Department to modify the MEPDES permit/WDL issued by the Department on 7/7/03.

c. Source Description: Waste waters collected and treated at the waste water treatment facility are generated by residential and commercial users within the Town of Canton. The sanitary collection system is approximately 10,000 feet in length with two pump stations and no combined sewer overflows (CSO's). The main pump stations that conveys all the sanitary waste water collected up to the treatment facility has on-site back-up power while the smaller pump station is served by a portable generator for back-up power needs. Canton and waste water treatment facility is not authorized to accept septage.

d. Waste Water Treatment: The Town of Canton's wastewater treatment system is a 0.06 MGD facultative lagoon system. Treatment of the wastewater is the result of microorganisms in the water consuming the waste. The system consists of four treatment ponds; one primary, one secondary and two holding ponds. See Attachment A of this Fact

**3. PERMIT SUMMARY (cont'd)**

Sheet. The first two ponds are run in series with the final two being used as holding ponds. The surface area for the ponds is as follows:

- primary pond: 1.55 acres
- secondary pond: 2.17 acres
- each of the two holding ponds: 1.47 acres

The treated wastewater is stored in the holding ponds until discharge, approximately 5 times per year. Because of the long retention time of the ponds, the *E. coli* bacteria die off will be great enough so that the limits can be met without disinfection. The treatment plant was originally designed and constructed to remove a minimum of 85% of the total suspended solids (TSS) and biochemical oxygen demand (BOD).

*Primary Pond:*
All of the wastewater from the Town of Canton is pumped to pond #1, the primary pond, causing this pond to have the highest BOD and TSS concentrations. The major portion of treatment that will take place in this pond is the settling of solids, or the removal of TSS. Because of the high BOD concentrations in this step of the process, the demand for oxygen is high. This demand will deplete the oxygen concentration in the water making the lower layers anaerobic (without oxygen). Oxygen is present at the top layer of the pond because of re-aeration at the air-water interface and photosynthetic activity of the algae. This layer of aerobic water will provide a buffer from the anaerobic zone and controls odor problems from the ponds. Sludge settling at the bottom is reduced through anaerobic digestion by bacteria present due to the lack of oxygen.

*Secondary Pond:*
The water flowing from the primary pond to the secondary pond has lower concentrations of BOD and TSS because of primary treatment. There will be greater oxygen content in this stream however as a result of:

- Less demand for oxygen from the incoming primary treated water.
- Re-Aeration at the air-water interface.
- Greater light penetration through the water column, therefore more photosynthetic activity of algae taking place.

The secondary pond is where most of the BOD reduction takes place. An equilibrium is set up between the oxygen demanding bacteria and algae. The bacteria use oxygen and the BOD in the watewater to produce carbon dioxide, ammonia and phosphates. The algae need these by products for food and in return, produce oxygen. As the algae and bacteria die, they settle to the bottom of the pond along with any solids which did not settle out in the primary pond. This bottom benthic layer of the pond, where the sludge accumulates, is anaerobic. Like the primary pond, sludge settling at the bottom is reduced through anaerobic digestion.

## 3. PERMIT SUMMARY (cont'd)

*Holding Ponds:*
The holding ponds are designed to hold the treated wastewater until discharge. Some settling also takes place in these ponds, further reducing the BOD and TSS concentrations. Discharges typically take place 3 – 6 times per year and last approximately 25 days.

## 4. CONDITIONS OF PERMITS

Maine law, 38 M.R.S.A. Section 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., 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.

## 5. RECEIVING WATER QUALITY STANDARDS

Maine law, 38 M.R.S.A., §467(1)(A)(2) states that Whitney Brook is a Class B waterway. Maine law 38 M.R.S.A., §465(4) contains the standards for Class B waters.

## 6. RECEIVING WATER QUALITY CONDITIONS

A document entitled, State of Maine, Department of Environmental Protection, 2004 Integrated Water Quality Monitoring and Assessment Report indicates that Whitney Brook is not meeting the standards of its Class B classification in that a 2.0 mile segment is not meeting Class B aquatic life standards based on macro-invertebrate sampling last conducted by the Department in 1998. The 2.0-mile segment of the brook has been placed in a section entitled, *Category 5-A: Rivers And Streams Impaired By Pollutants Other Than Those Listed in 5-B through 5-D, (TMDL Required)* of the 2004 report. It is noted the Department's 1998 macro-invertebrate sampling station is located 40 meters below the Route #140 bridge which is upstream of the discharge from the Canton waste water treatment facility. The report does not cite the discharge from the Canton waste water treatment facility as causing or contributing to the non-attainment. The permittee's application indicates that discharges occur 3-6 times per year, typically for 25 days per discharge event. Discharges to Whitney Brook during the June – September timeframe are infrequent and have only been in response to heavy rainfall events and/or unplanned repairs or maintenance. Therefore, discharges to the receiving water during low flow conditions when the receiving water is at the greatest risk of adverse impacts from the discharge are virtually non-existent. The report states the likely

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

cause of the non-attainment is non-point source (NPS) runoff in the watershed and that a TMDL is scheduled for completion in calendar year 2012.

If however, during future water quality assessments and modeling for the purposes of completing a TMDL for Whitney Brook the Department determines that at full permitted discharge limits, the Town of Canton's discharge is causing or contributing to the non-attainment, this permit will be re-opened per Special Condition L, *Reopening of Permit For Modifications*, to impose more stringent limitations to meet water quality standards.

## 7. EFFLUENT LIMITATIONS & MONITORING REQUIREMENTS

a. Flow: The previous permitting established a monthly average flow limitation of 0.25 MGD. The permittee has requested the Department considering authorizing the facility to discharge on a sliding scale ranging from 0.124 MGD to 0.621 MGD as a daily maximum while maintaining a dilution factor of greater than or equal to 53:1. See Section 2 (a-c) of this Fact Sheet for an explanation of the permittee's request to be regulated via a sliding scale. The dilution factor of 53:1 was established by the Department more than 15 years earlier and is the threshold dilution in Whitney Brook whereby Class B dissolved oxygen standards will be maintained. The permittee has chosen 0.621 MGD as the top end of the scale given constraint's in obtaining accurate flow measurements in Whitney Brook above 50 cfs. Given the control the permittee has on the timing, duration and conditions under which to discharge as the result of a "hold and release" treatment system, the Department is granting the permittee's request by establishing a daily maximum flow limit of 0.621 MGD provided there is sufficient flow in Whitney Brook to maintain a dilution factor of 53:1. The permittee will be limit to a daily maximum flow based on the flow in Whitney Brook on any given day in accordance with the schedule in Table A of this permit. It is noted Special Condition D, *Stream Flow Monitoring,* of this permit requires the permittee to measure flow in Whitney Brook on a daily basis when discharging. The permittee is prohibited from discharging when the flow in Whitney Brook is less than or equal to ($\leq$) 10 cfs. This is an arbitrary cut-off level established by the Department to protect Whitney Brook during extremely low flow conditions.

b. Dilution Factors - The Department establishes applicable dilution factors for the discharge in accordance with freshwater protocols established in Department Rule Chapter 530, *Surface Water Toxics Control Program*, October 2005. A critical low flow value of 20 cfs for Whitney Brook was established by the Department more than 15 years earlier. It is noted a private party owns and operates the dam at the outlet of Canton Lake which controls the flow rate in Whitney Brook. The flow rate of 20 cfs is a target rate only. There is no requirement on the dam owner to pass a specified minimum flow.

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

With a target low flow value of 20 cfs, and a requirement to maintain an acute and chronic dilution factor of 53:1, the permittee would be limited to a flow of 0.25 MGD based on the following calculation:

$$\frac{(20\text{ cfs})(0.6464)}{(53)} = 0.25\text{ MGD}$$

The harmonic mean dilution factor is approximated by multiplying the chronic dilution factor by three (3). This multiplying factor is based on guidelines for estimation of human health dilution presented in the USEPA publication Technical Support Document for Water Quality-Based Toxics Control (Office of Water; EPA/505/2-90-001, page 88), and represents an estimation of harmonic mean flow. Therefore, the harmonic dilution factor associated with the discharge from the Canton facility may be calculated to be 159:1.

In summary, the dilution factors are as follows:

Acute⇒ 53:1
Chronic⇒ 53:1
Harmonic Mean⇒ 159:1

This permitting action is establishing limitations based a sliding scale pursuant to Attachment A of the permit. The foundation for the sliding scale is to maintain acute and chronic dilution factors of 53:1 under all discharge flow regimes based on the flow in Whitney Brook. Therefore, daily maximum discharge flows in this permitting action are based on said conditions.

c. Biochemical Oxygen Demand (BOD5) & Total Suspended Solids (TSS): - The previous permitting established monthly and weekly average BOD5 and TSS best practicable treatment (BPT) concentration limits of 30 mg/L and 45 mg/L respectively, that were based on secondary treatment requirements of the Clean Water Act of 1977 §301(b)(1)(B) as defined in 40 CFR 133.102 and Department rule Chapter 525(3)(III). The maximum daily BOD5 and TSS concentration limits of 50 mg/L were based on a Department best professional judgment of BPT. All three concentration limits are being carried forward in this permitting action.

As for mass limitations, the previous permitting action established monthly average and weekly average limitations based on a monthly average limit of 0.25 MGD. The limitations were calculated as follows:

Monthly average: (0.25 MGD)(8.34)(30 mg/L) = 63 lbs/day
Weekly average: (0.25 MGD)(8.34)(45 mg/L) = 94 lbs/day
Daily maximum: (0.25 MGD)(8.34)(50 mg/L) = 104 lbs/day

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

Due to an increase in the flow limit from 0.25 MGD (formerly a monthly average limit) to 0.621 MGD as a daily maximum, this permitting action is established corresponding mass limitations for BOD and TSS as follows:

Monthly average: (0.621 MGD)(8.34)(30 mg/L) = 155 lbs/day
Weekly average: (0.621 MGD)(8.34)(45 mg/L) = 233 lbs/day
Daily maximum: (0.621 MGD)(8.34)(50 mg/L) = 259 lbs/day

The mass limits calculated above are based on a discharge flow of 0.621 MGD from the waste water treatment facility and Whitney Brook flowing greater than or equal to 50 cfs resulting in a dilution factor of 53:1. For flows less than 50 cfs, the permittee is required to reduce flow from the waste water treatment facility and reduce mass loadings of BOD and TSS proportionally as specified in Attachment A of this permitting action. See Section 8, *Antidegradation,* of this Fact Sheet for the discussion on the impact (or lack thereof) of the additional mass loadings of BOD and TSS loadings to Whitney Brook.

This permitting action carries forward the requirement of 85% removal for BOD5 and TSS pursuant to Department rule Chapter 525(3)(III)(a&b)(3). Compliance with the percent removal rate will be based on a twelve-month rolling average. The permittee is not required to demonstrate compliance with the percent removal requirements at this time. The *Response To Comments* section of the 7/17/01 permitting action contained the following text:

*Comment: The Town of Canton objected to the imposition of an 85% removal requirement for BOD and TSS and listed several reasons for their object including:*

1. *There exists no safe or representative location for collecting influent samples.*

2. *Data from 1992 indicated that influent BOD and TSS values were considerably below the plant's design criteria.*

3. *The Department has the discretion to eliminate or modify the 85% removal requirement pursuant to Department Rule Chapter 525, Subsection IV(c) as the facility is a waste stabilization pond.*

4. *The USEPA waived the percent removal requirement in the previous National Pollutant Discharge Elimination System (NPDES) permitting action citing the fact that the collection system is a combined system and the fact that the lagoons provided for a long detention time.*

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

*Response: The Department has taken the position that the 85% removal requirement applies to all municipal waste water treatment facilities that provide a secondary level of treatment unless it is fundamentally different from the factors considered in development of the secondary treatment standards. The lagoon system for the Town of Canton is not fundamentally different. However, being that there is no safe (confined space) or representative location for collecting influent samples at the plant, the Department is establishing the percent removal requirement in this permitting action but is not requiring the facility to demonstrate compliance with the requirement at this time. Should future modifications at the treatment facility result in a safe and representative sampling location for influent sampling, this permit will be re-opened per Special Condition J to incorporate a 1/Month frequency for calculating the percent removal rates for BOD and TSS.*

d. *E. coli* bacteria – The previous licensing action established seasonal (May 15th – September 30th) monthly average and daily maximum limits of 64 colonies/100 ml and 427 colonies/100 ml, respectively, that are being carried forward in this permitting action. The limits are based on the State of Maine Water Classification Program as established in Maine law, 38 M.R.S.A, §465(3). The facility has been able to comply with the monthly average and daily maximum water quality based limitations for bacteria without the use of a disinfectant. This is common for lagoon systems with long detention times.

   It is noted Maine law, 38 M.R.S.A, §465(3) was amended in calendar year 2005 by establishing an instantaneous level of 236 per 100 milliliters. However, the USEPA must approve all changes in water quality standards. As of the date of this permitting action, the USEPA has done so. Therefore, this permitting action is carrying for daily maximum limit of 427 colonies/100 ml from the previous permitting action.

e. Total Residual Chlorine (TRC) – The previous permitting action established monthly average and daily maximum technology based (BPT) limitations of 0.1 mg/L and 0.3 mg/L respectively, for TRC. It is noted the permittee has historically been able to meet the bacteria limits established in this and previous permitting action without disinfecting the effluent prior to discharge. In the event disinfection is necessary, it is likely elemental chlorine or chlorine based compounds will be utilized. Limits on TRC are specified to ensure that ambient water quality standards are maintained and that BPT technology is being applied to the discharge. Permitting actions by the Department

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

impose the more stringent of water quality or technology based limits. End-of-pipe water quality based concentration thresholds may be calculated as follows:

| Parameter | Acute Criteria | Chronic Criteria | Acute Dilution | Chronic Dilution | Acute Limit | Chronic Limit |
|---|---|---|---|---|---|---|
| Chlorine | 19 ug/L | 11 ug/L | 53:1 | 53:1 | 1.0 mg/L | 0.58 mg/L |

Example calculation: Acute – 0.019 mg/L (53) = 1.0 mg/L

To meet the water quality based thresholds calculated in this section, the permittee must dechlorinate the effluent prior to discharge. The Department has established monthly average and daily maximum BPT limitations of 0.1 mg/L and 0.3 mg/L respectively, for facilities that need to dechlorinate their effluent. If calculated water quality based limits are lower than 0.3 mg/L and or 0.1 mg/L, then the more stringent water quality based limits are applicable. In the case of Canton, the calculated acute (daily maximum) water quality based limit is higher than the BPT limit of 0.3 mg/L, thus the daily maximum BPT limitation of 0.3 mg/L is imposed. As for monthly average, the calculated chronic water quality based limit is higher than the BPT of 0.1 mg/L thus the BPT limit of 0.1 mg/L is imposed. These limits are applicable for all discharge regimes as the acute and chronic dilution factor of 53:1 is maintained at all times.

f. pH Range- The previous permitting actionestablished a pH range limit of 6.0 –9.0 standard units pursuant to Department rule, Chapter 525(3)(III)(c). The limits are considered BPT and are being carried forward in this permitting action.

g. Whole Effluent Toxicity (WET) and Chemical Specific Testing Maine Law, 38 M.R.S.A., Sections 414-A and 420, prohibits the discharge of effluents containing substances in amounts that would cause the surface waters of the State to contain toxic substances above levels set forth in Federal Water Quality Criteria as established by the USEPA. Department Rules, 06-096 CMR Chapter 530, *Surface Water Toxics Control Program*, and Chapter 584, *Surface Water Quality Criteria for Toxic Pollutants* set forth ambient water quality criteria (AWQC) for toxic pollutants and procedures necessary to control levels of toxic pollutants in surface waters.

WET, priority pollutant and analytical chemistry testing, as required by Chapter 530, is included in this permit in order to fully characterize the effluent. This permit also 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

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

WET monitoring is required to assess and protect against impacts upon water quality and designated uses caused by the aggregate effect of the discharge on specific aquatic organisms. Acute and chronic WET tests are performed on invertebrate and vertebrate species. Priority pollutant and analytical chemistry testing is required to assess the levels of individual toxic pollutants in the discharge, comparing each pollutant to acute, chronic, and human health ambient water quality criteria (AWQC) as established in Chapter 584.

Chapter 530 establishes four categories of testing requirements based predominately on the chronic dilution factor. The categories are as follows:

1) Level I – chronic dilution factor of <20:1.
2) Level II – chronic dilution factor of ≥20:1 but <100:1.
3) Level III – chronic dilution factor ≥100:1 but <500:1 or >500:1 and Q ≥1.0 MGD
4) Level IV – chronic dilution >500:1 and Q ≤1.0 MGD

Department rule Chapter 530 (1)(D) specifies the criteria to be used in determining the minimum monitoring frequency requirements for WET, priority pollutant and analytical chemistry testing. Based on the Chapter 530 criteria, the Canton facility falls into the Level II frequency category as the facility has a chronic dilution factor ≥20:1 but <100:1. Chapter 530(2)(D)(1) specifies that surveillance and screening level testing requirements are as follows:

Screening level testing

| Level | WET Testing | Priority pollutant testing | Analytical chemistry |
|---|---|---|---|
| II | 2 per year | 1 per year | 4 per year |

Surveillance level testing

| Level | WET Testing | Priority pollutant testing | Analytical chemistry |
|---|---|---|---|
| II | 1 per year | None required | 2 per year |

Chapter 530 (2)(D)(3(a) states "*The Department may reduce testing requirements for dischargers that discharge less than 12 months per year in proportion to the actual number of months discharged, but to not less than one test per year where testing would otherwise be required. The Department may adjust test schedules to provide the most representative sampling program.*"

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

Department rule Chapter 530 (2)(C) states:

*(2) Freshwater WET organisms. Test species for discharges to freshwater are the water flea, Ceriodaphnia dubia and the brook trout, Salvelinus fontinalis or other salmonid fish species approved by the Department, or other organisms specified by the Department. All WET testing must be reported as a No Observed Effect Level for both acute and chronic levels for each species.*

*(3) "Priority pollutant" testing refers to analysis for levels of priority pollutants listed in Chapter 525, section (4)(VI) in a licensed discharge.*

*(4) "Analytical chemistry" refers to a suite of chemical tests for ammonia nitrogen, total aluminum, total cadmium, total chromium, total copper, total hardness (fresh water only), total lead, total nickel, total silver, total zinc, total arsenic, total cyanide and total residual chlorine.*

A review of the permittee's data on file with the Department indicates that to date, it have fulfilled the WET and chemical-specific testing requirements of the former Chapter 530.5. See Attachment B of this Fact Sheet for a summary of the WET test results and Attachment C of this Fact Sheet for a summary of the chemical-specific test dates.

Pursuant to Chapter 530 §3, on November 21, 2005, the Department conducted a statistical evaluation on the most recent 60 months of the aforementioned WET and chemical-specific tests results in accordance with the statistical approach outlined in the Section 3.3.2 and Table 3-2 of USEPA's "Technical Support Document for Water Quality-Based Toxics Control" (USEPA Publication 505/2-90-001, March, 1991, EPA, Office of Water, Washington, D.C.). The statistical evaluation indicates the discharge from the permittee's waste water treatment facility does not exceed or have a reasonable potential to exceed the critical acute and chronic water quality thresholds of 1.9% for any of the WET species tested to date. As for chemical specific, the 11/21/05 statistical evaluation indicates the discharge does not exceed or have a reasonable potential to exceed any acute, chronic or human health AWQC for any of the chemicals tested to date. Therefore, no numeric limitations for any WET species or chemicals tested to date are being established in this permitting action.

Chapter 530 (2)(D)(3)(c) states "*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 as calculated pursuant to section 3(E).*" It is noted Discharges typically take place 3 – 6 times per year and lasts for approximately 25 days. Therefore, surveillance level WET

**7. EFFLUENT LIMITATIONS & MONITORING REQUIREMENTS (cont'd)**

testing and analytical chemistry is being established at 1/Year every other year. It is noted Chapter 530(2)(D)(1) does not require priority pollutant testing during the surveillance level testing years. As with surveillance level testing, Chapter 530(2)(D)(3)(a) authorizes the Department to reduce screening level testing in proportion to the actual number of months discharged, but to not less than one test per year. Therefore, this permit is establishing screening level WET testing, priority pollutant testing and analytical chemistry at 1/Year in the 12 month period prior to permit expiration.

Chapter 530 (2)(D) states:

*(4)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.*

Special Condition J, *Chapter 530 (2)(D)(4),* of this permitting action requires the permittee to file an annual certification with the Department.

It is noted that if future WET or chemical testing indicates the discharge exceeds critical water quality thresholds or AWQC, this permit will be reopened pursuant to Special Condition M, *Reopening of Permit For Modification*, of this permit to establish applicable limitations and monitoring requirements.

h. Ground Water Monitoring – This permitting action is carrying forward the requirement for the monitoring of two existing monitoring wells (MW-1 and MW-2 see Attachment D of this Fact Sheet for approximate locations) at a frequency of 1/Year and is being used as a leak detection system for the lagoon system. The parameters selected for monitoring are as follows:

*Nitrate-nitrogen* - Nitrogen compounds are by-products of the biological breakdown of ammonia and are inherent in domestic like sanitary wastewater. Because nitrate-nitrogen is weakly absorbed by soil, it functions as a reliable indicator of contamination from waste-disposal sites. Elevated levels of nitrate-nitrogen in the drinking water supply are of human health concern. The limit of 10 mg/L is a National Primary Drinking Water standard.

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

*Specific Conductance, Temperature and PH* are considered to be "field" parameters meaning that they are measured directly in the field via instrumentation and does not require laboratory analysis. These parameters are considered as surveillance level monitoring parameters and are used as an early-warning indicators of potential groundwater contamination.

*Chlorides* - Is another early-warning indicator of potential groundwater contamination by wastewater. The National Secondary Drinking Water standard is 250 mg/L.

*Total Suspended Solids (TSS)* - TSS in the groundwater yields an indication of the integrity of the monitoring wells.

## 8. ANTIDEGREDATION/DISCHARGE IMPACT ON RECEIVING WATER QUALITY

The provisions of the State's antidegradation policy found at Maine law, 38 MRSA Section 464(4)(F), will be met with in increase in the mass loadings of BOD and TSS as the assimilative capacity of the receiving water remains the same as the previous licensing action due to the sliding scale limiting the discharge to the same dilution factor, 53:1 . The Department has made the determination that existing in-stream water uses and the level of water quality necessary to protect and maintain those existing uses will be maintained and protected. In addition, the Department has made a determination that as permitted, the discharge will not cause of contribute to the failure of the water body to meet the standards of Class B classification and the discharge will be subject to effluent limitations that require application of best practicable treatment.

As permitted, the Department has made the determination that the discharge from the Canton facility will not cause or contribute to the failure of the receiving water to meet the standards of its assigned classification and the existing and designated uses will be maintained and protected.

## 9. PUBLIC COMMENTS

Public notice of this application was made in the Sun Journal newspaper on or about June 2, 2005. The Department receives public comments on an application until the date a final agency action is taken on that 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

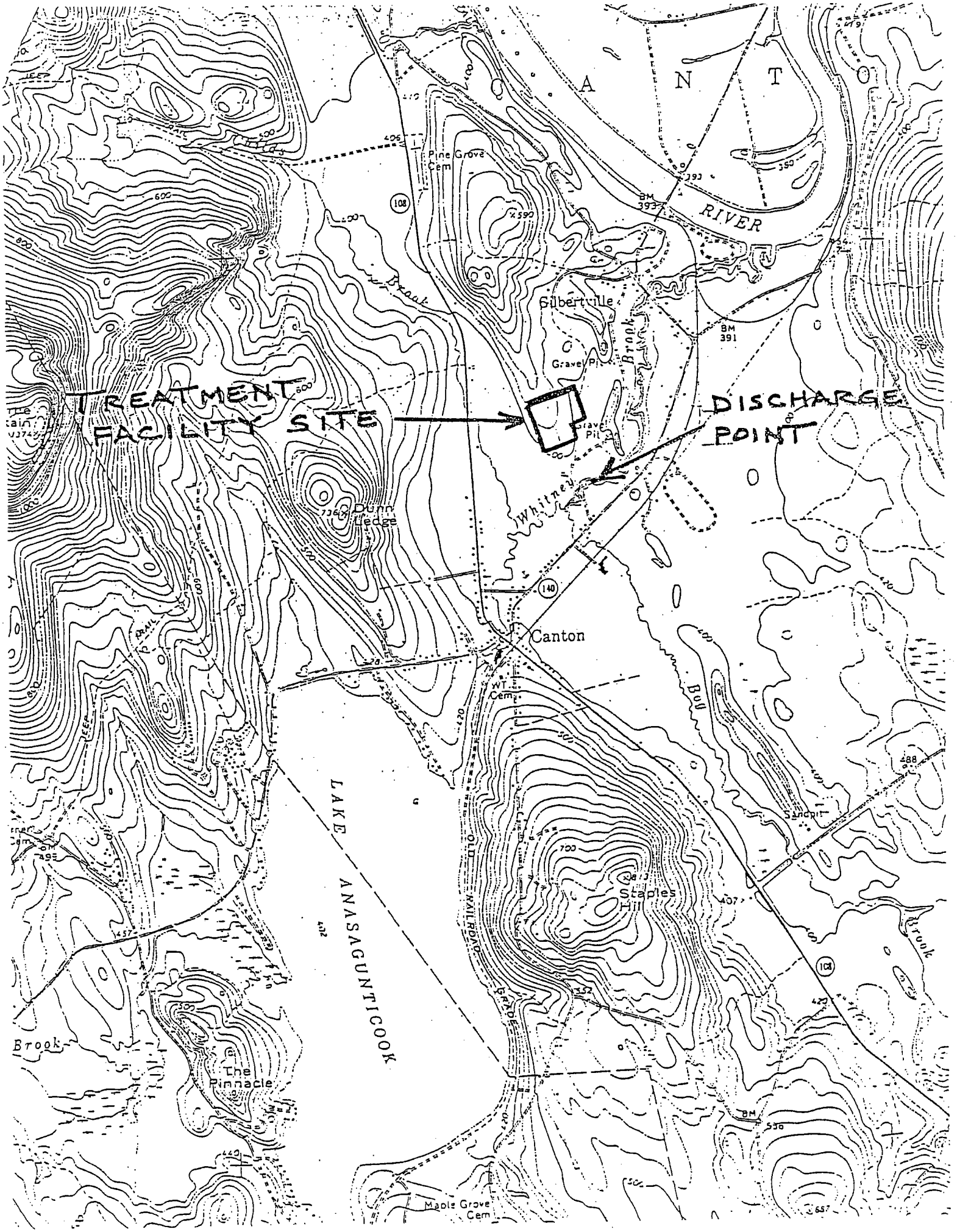
Additional information concerning this permitting action may be obtained from and written comments should be sent to:

Gregg Wood
Division of Water Resource Regulation
Bureau of Land and Water Quality
Department of Environmental Protection
17 State House Station
Augusta, Maine 04333-0017 Telephone: (207) 287-7685
e-mail: gregg.wood@maine.gov

## 11. RESPONSE TO COMMENT

During the period of January 20, 2006, through the issuance date of the permit/license, the Department solicited comments on the proposed draft permit/license to be issued for the discharge(s) from the Canton waste water treatment facility. The Department did not receive comments from the permittee, state or federal agencies or interested parties that resulted in any substantive change(s) in the terms and conditions of the permit. Therefore, the Department has not prepared a Response to Comments.

# ATTACHMENT A


TREATMENT FACILITY SITE
DISCHARGE POINT
C A N T O
RIVER
Pine Grove Cem
Gilbertville
Gravel Pit
Brook
Whitney
Dunn Ledge
Canton
WT Cem
Bell
Sandpit
LAKE ANASAGUNTICOOK
OLD RAILROAD GRADE
Staples Hill
The Pinnacle
Maple Grove Cem
BM 393
BM 391
BM 530
108
140

# ATTACHMENT B

| Species | Test | Test Result % | Sample Date |
|---|---|---|---|
| TROUT | LC50 | >100 | 08/18/1991 |
| WATER FLEA | LC50 | >100 | 08/18/1991 |
| TROUT | LC50 | >100 | 06/02/1992 |
| WATER FLEA | LC50 | >100 | 06/02/1992 |
| FATHEAD | A_NOEL | 100 | 11/07/1993 |
| FATHEAD | C_NOEL | 100 | 11/07/1993 |
| FATHEAD | LC50 | >100 | 11/07/1993 |
| WATER FLEA | A_NOEL | 100 | 11/07/1993 |
| WATER FLEA | C_NOEL | 10 | 11/07/1993 |
| WATER FLEA | LC50 | >100 | 11/07/1993 |
| FATHEAD | A_NOEL | 100 | 11/07/1994 |
| FATHEAD | C_NOEL | 100 | 11/07/1994 |
| FATHEAD | LC50 | >100 | 11/07/1994 |
| WATER FLEA | A_NOEL | 100 | 11/07/1994 |
| WATER FLEA | C_NOEL | 100 | 11/07/1994 |
| WATER FLEA | LC50 | >100 | 11/07/1994 |
| TROUT | A_NOEL | 100 | 05/23/1995 |
| TROUT | C_NOEL | 100 | 05/23/1995 |
| TROUT | LC50 | >100 | 05/23/1995 |
| WATER FLEA | A_NOEL | 100 | 05/23/1995 |
| WATER FLEA | C_NOEL | 100 | 05/23/1995 |
| WATER FLEA | LC50 | >100 | 05/23/1995 |
| FATHEAD | A_NOEL | 100 | 11/01/1995 |
| FATHEAD | C_NOEL | 100 | 11/01/1995 |
| FATHEAD | LC50 | >100 | 11/01/1995 |
| WATER FLEA | A_NOEL | 100 | 11/01/1995 |
| WATER FLEA | C_NOEL | 100 | 11/01/1995 |
| WATER FLEA | LC50 | >100 | 11/01/1995 |
| FATHEAD | A_NOEL | 100 | 10/08/1996 |
| FATHEAD | C_NOEL | 100 | 10/08/1996 |
| FATHEAD | LC50 | >100 | 10/08/1996 |
| WATER FLEA | A_NOEL | 100 | 10/08/1996 |
| WATER FLEA | C_NOEL | 100 | 10/08/1996 |
| WATER FLEA | LC50 | >100 | 10/08/1996 |
| FATHEAD | A_NOEL | 100 | 03/01/1998 |
| FATHEAD | LC50 | >100 | 03/01/1998 |
| WATER FLEA | A_NOEL | 100 | 03/01/1998 |
| WATER FLEA | C_NOEL | 100 | 03/01/1998 |
| WATER FLEA | LC50 | >100 | 03/01/1998 |
| FATHEAD | A_NOEL | 100 | 03/03/1999 |
| FATHEAD | LC50 | >100 | 03/03/1999 |

| Species | Test | Test Result % | Sample Date |
|---|---|---|---|
| WATER FLEA | A_NOEL | 100 | 03/03/1999 |
| WATER FLEA | LC50 | >100 | 03/03/1999 |
| FATHEAD | A_NOEL | 100 | 11/05/2002 |
| FATHEAD | C_NOEL | 100 | 11/05/2002 |
| WATER FLEA | A_NOEL | 100 | 11/05/2002 |
| WATER FLEA | C_NOEL | 100 | 11/05/2002 |
| TROUT | A_NOEL | 100 | 05/21/2003 |
| TROUT | C_NOEL | 100 | 05/21/2003 |
| WATER FLEA | A_NOEL | 100 | 05/21/2003 |
| WATER FLEA | C_NOEL | 50 | 05/21/2003 |

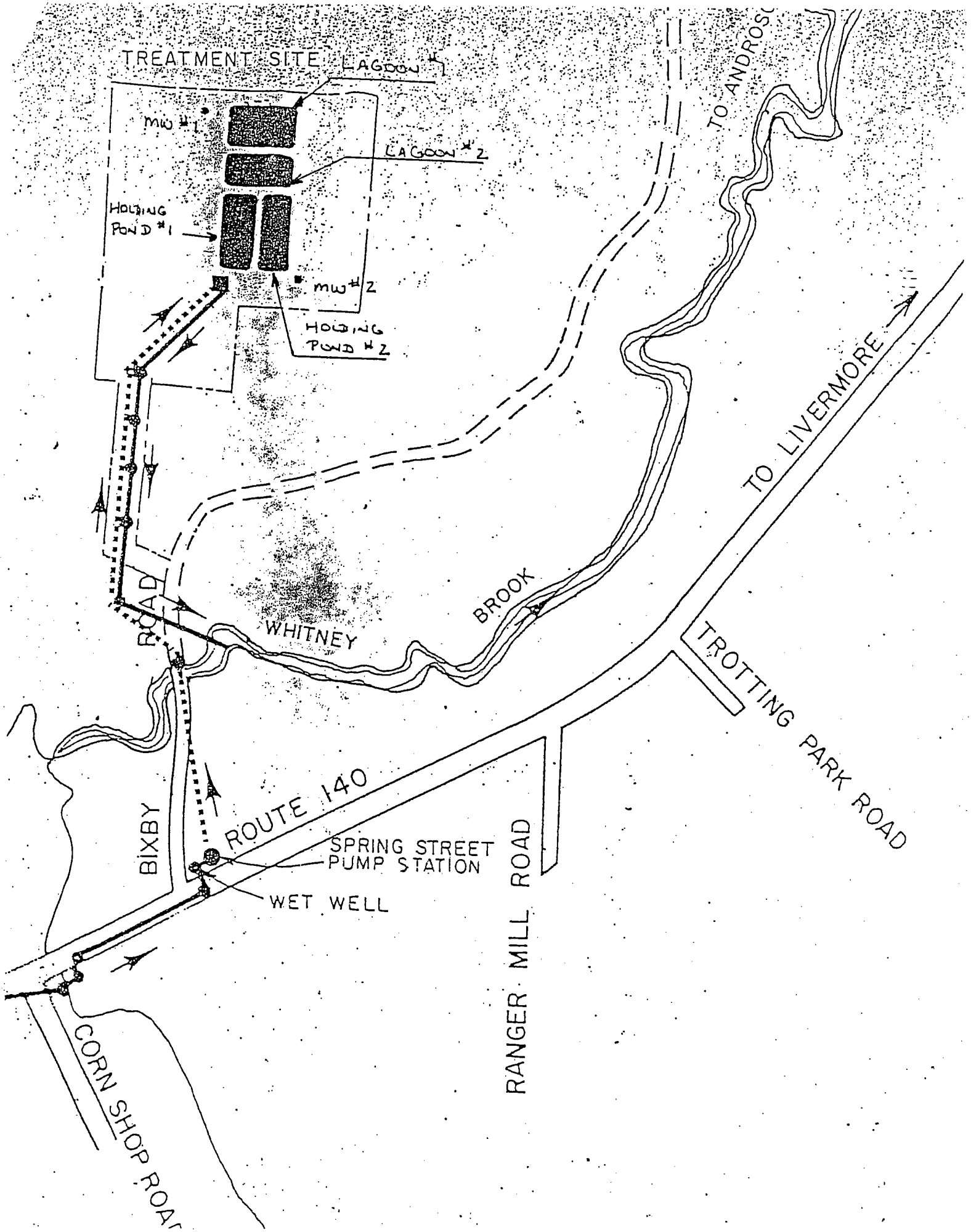
# ATTACHMENT C

**Sample Date:** 05/21/2003
Plant flows not provided

| | |
|---|---|
| Total Tests: | 124 |
| Missing Compounds: | 0 |
| Tests With High DL: | 0 |

| | | |
|---|---|---|
| M = 0 | V = 0 | A = 0 |
| BN = 0 | P = 0 | other = 0 |

# ATTACHMENT D


TREATMENT SITE
LAGOON #1
MW #1
LAGOON #2
HOLDING POND #1
MW #2
HOLDING POND #2
TO ANDROS
TO LIVERMORE
BROOK
WHITNEY
ROAD
TROTTING PARK ROAD
ROUTE 140
BIXBY
SPRING STREET PUMP STATION
WET WELL
RANGER MILL ROAD
CORN SHOP ROAD

# ATTACHMENT E