STATE OF MAINE

Department of Environmental Protection

JOHN ELIAS BALDACCI
GOVERNOR

David P. Littell
COMMISSIONER

June 5, 2009

Mr. Dan Daigle
Moosehead Sanitary District
P.O. Box 1141
Greenville, Maine 04441

RE: Permit Compliance System #MEU502119
Maine Waste Discharge License (WDL) Application # W-002119-6C-C-R
Final License

Dear Mr. Daigle:

Enclosed please find a copy of your **final** Maine WDL which was approved by the Department of Environmental Protection. Please read the 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 (207) 287-6114 or contact me via email at Robert.D.Stratton@maine.gov.

Sincerely,

Bob Stratton DEP

Robert D. Stratton
Division of Water Quality Management
Bureau of Land and Water Quality

Enc./cc: Jim Sohns, Lori Mitchell (MEDEP); Sandy Lao (USEPA)

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

DEPARTMENT ORDER

IN THE MATTER OF

MOOSEHEAD SANITARY DISTRICT	)	PROTECTION AND IMPROVEMENT
GREENVILLE, PISCATAQUIS COUNTY, ME	)	OF WATERS
PUBLICLY OWNED TREATMENT WORKS	)	
SURFACE WASTEWATER DISPOSAL SYSTEM	)	
#MEU502119	)	WASTE DISCHARGE LICENSE
#W-002119-6C-C-R **APPROVAL**	)	**RENEWAL**

Pursuant to the provisions of 38 M.R.S.A., Section 414-A et seq., and applicable regulations, the Department of Environmental Protection (Department) has considered the application of the MOOSEHEAD SANITARY DISTRICT (MSD) with its supportive data, agency review comments, and other related materials on file and FINDS THE FOLLOWING FACTS:

APPLICATION SUMMARY

The applicant has applied to the Department for renewal of Maine Waste Discharge License (WDL) #W-002119-5L-B-R, which was issued on January 29, 2003 for a five-year term, and subsequently modified by the Department on July 6, 2004. The WDL authorized the operation of a surface wastewater disposal (spray-irrigation and effluent snow-making) system for the treatment and disposal of treated sanitary wastewater onto land in Greenville, Maine. The treatment system has a design capacity of 0.17 million gallons per day (MGD). The license renewal application has been assigned WDL number W-002119-6C-C-R and Permit Compliance System (PCS) tracking number MEU502119 to facilitate compliance tracking and record keeping.

LICENSE SUMMARY

This licensing action is similar to the January 29, 2003 WDL and subsequent Administrative Modification in that it is carrying forward all previous terms and conditions with a few exceptions. This licensing action is different in that it is:

1. establishing a daily minimum limit for storage lagoon freeboard;
2. revising the timing of required testing for certain metals in storage lagoon effluent and groundwater monitoring wells;
3. revising the authorized seasonal spray irrigation and effluent snow making periods;
4. establishing reporting requirements for total monthly flow through spray irrigation and effluent snowmaking and running annual flow through effluent snowmaking;
5. revising groundwater monitoring well outfall designations;
6. specifying conditions for additional testing of specific conductance in groundwater;
7. eliminating total chloride monitoring requirements in groundwater;
8. updating facility General Operational Constraints for spray irrigation and effluent snowmaking;
9. updating Spray Irrigation and Snowmaking Operational Constraints, Logs, and Reports requirements;
10. updating spray irrigation and snowmaking field vegetation management requirements;
11. updating Lagoon Maintenance requirements;
12. updating Groundwater Monitoring Wells and Water Quality Monitoring Plan Details;
13. establishing a schedule for repair or replacement of Monitoring Well #MW8;
14. authorizing acceptance of septage into the wastewater treatment facility with specified conditions and requirements and following Department approval of an updated Septage Management Plan;
15. updating Monitoring and Reporting procedures;
16. generally establishing limitations, monitoring, and operational requirements for the storage lagoons, spray-irrigation and snowmaking fields, groundwater monitoring wells, and lagoon underdrains to provide consistency across similar facilities licensed by the Department; and
17. updating required reporting forms included as license attachments.

CONCLUSIONS

BASED on the findings in the attached Fact Sheet dated April 30, 2009, 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 M.R.S.A., 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.

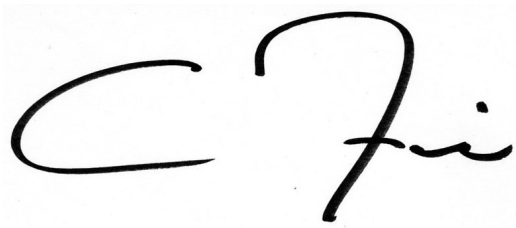
ACTION

THEREFORE, the Department APPROVES the above noted application of the MOOSEHEAD SANITARY DISTRICT, to operate a surface wastewater disposal system, with a design capacity of 0.17 MGD, for the treatment and seasonal disposal of treated sanitary wastewater via spray irrigation of up to 33,938 gallons per acre per week for the Spray Field (Outfall #008A) (April 1 – November 30), as well as spray irrigation of up to 116,745 gallons per acre per week (Outfall #009A) (April 1 – October 31) and effluent snow making of up to 61 million gallons per year (Outfall #SM1A) (November 1 – March 31) for the Spray Irrigation / Snowmaking Field, onto land in Greenville, Maine, SUBJECT TO THE FOLLOWING CONDITIONS, and all applicable standards and regulations including:

1. Standard Conditions of Approval for POTW Waste Discharge Licenses dated July 16, 1996, copy attached.

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

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



This permit has been digitally signed by Andrew C. Fisk on behalf of Commissioner David P. Littell. It is digitally signed pursuant to authority under 10 M. R.S.A. § 9418. It has been filed with the Board of Environmental Protection as of the signature date 2009.06.03 13:40:34 -04'00'

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: January 13, 2009

Date of application acceptance: January 27, 2009

This Order prepared by Robert D. Stratton, BUREAU OF LAND & WATER QUALITY

SPECIAL CONDITIONS
A. LIMITATIONS AND MONITORING REQUIREMENTS

1. The licensee is authorized to operate a surface wastewater treatment and disposal system. The **STORAGE LAGOON EFFLUENT** (**OUTFALL #001A)** shall be limited and monitored as specified below[(1)].

EFFLUENT CHARACTERISTIC	DISCHARGE LIMITATIONS		MINIMUM MONITORING REQUIREMENTS	
	Daily Minimum as specified	Daily Maximum as specified	Measurement Frequency as specified	Sample Type as specified
Biochemical Oxygen Demand *[00310]*		100 mg/L *[19]*	1/Month[(2)] *[01/30]*	Grab *[GR]*
Total Suspended Solids *[00530]*		100 mg/L *[19]*	1/Month[(2)] *[01/30]*	Grab *[GR]*
Nitrate-Nitrogen *[00620]*		Report mg/L *[19]*	1/Month[(2)] *[01/30]*	Grab *[GR]*
pH (Standard Units) *[00400}*		Report S.U. *[12]*	1/Month[(2)] *[01/30]*	Grab *[GR]*
Lagoon Freeboard[(3)] *[82564}*	3 feet *[27]*	---	1/Week[(2)] *[01/07]*	Measure *[MS]*
Metals (Total): Arsenic, Cadmium, Chromium, Copper, Lead, Mercury, Nickel and Zinc *[01002, 01027, 01034, 01042, 01051, 71900, 01067, 01092]*		Report ug/L *[28]*	1/5 Years[(4)] *[01/5Y]*	Grab *[GR]*

The italicized numeric values bracketed in the table above and on the following pages are code numbers that Department personnel utilize to code the monthly Discharge Monitoring Reports (DMRs). Footnotes are included on Pages 10-11.

SPECIAL CONDITIONS
A. LIMITATIONS AND MONITORING REQUIREMENTS (cont'd)

2. The application of wastewater to the land via a spray irrigation system shall be limited to the time period **April 1 to November 30 of each calendar year**. The **SPRAY IRRIGATION FIELD (OUTFALL #008A, 71-acres)** shall be limited and monitored as specified below.

EFFLUENT CHARACTERISTIC	DISCHARGE LIMITATIONS			MINIMUM MONITORING REQUIREMENTS	
	Monthly Total as specified	Weekly Maximum as specified	Daily Maximum As specified	Measurement Frequency as specified	Sample Type as specified
Application Rate – Spray **April 1 – November 30** Outfall #008A *[51125]*	---	33,938 gal/acre(5) (1.25 inches/acre) *[8B]*	---	1/Week *[01/07]*	Calculate *[CA]*
Flow - Total Gallons *[51500}*	Report (Gallons) *[80]*	---	---	1/Month *[01/30]*	Calculate *[CA]*

The italicized numeric values bracketed in the table above and on the following pages are code numbers that Department personnel utilize to code the monthly DMRs. Footnotes are included on Pages 10-11.

SPECIAL CONDITIONS
A. LIMITATIONS AND MONITORING REQUIREMENTS (cont'd)

3. The application of wastewater to the land via a **spray irrigation** system **(OUTFALL #009A)** shall be limited to the time period **April 1 to October 31** and the application of wastewater via a **snowmaking** system **(OUTFALL #SM1A)** shall be limited to the time period **November 1 to March 31 of each calendar year**. The **ENHANCED SPRAY IRRIGATION / SNOWMAKING FIELD (OUTFALLS #009A / #SM1A, 26 acres)** shall be limited and monitored as specified below.

EFFLUENT CHARACTERISTIC	DISCHARGE LIMITATIONS				MINIMUM MONITORING REQUIREMENTS	
	Annual Total as specified	Monthly Total as specified	Weekly Maximum as specified	Daily Maximum As specified	Measurement Frequency as specified	Sample Type as specified
Application Rate – Spray **April 1 - October 31** Outfall #009A *[51125]*	---	---	116,745 gal / acre(5,6) (4.3 inches/acre) *[8B]*	---	1/Week *[01/07]*	Calculate *[CA]*
Flow - Total Gallons Spray *[51500}*	---	Report (Gallons) *[80]*	---		1/Month *[01/30]*	Calculate *[CA]*
Seasonal Limit Effluent Snow Making **November 1 – March 31** Outfall #SM1A *[51500}*	61 Million Gallons(6) *[57]*	Report (Million Gallons) *[57]*	---		1/Month *[01/30]*	Calculate *[CA]*
Flow - Total Gallons Snow *[51500}*	Report (Million Gallons) *[57]*	---	---		1/Month *[01/30]*	Calculate *[CA]*

The italicized numeric values bracketed in the table above and on the following pages are code numbers that Department personnel utilize to code the monthly DMRs. Footnotes are included on Pages 10-11.

SPECIAL CONDITIONS
A. LIMITATIONS AND MONITORING REQUIREMENTS (cont'd)

4. **GROUNDWATER MONITORING WELLS MW-1, MW-2, MW-3, MW-5, MW-6, MW-8, MW-10, MW-11, and MW-12** (Outfalls of same designations) shall be limited and monitored as specified below.

MONITORING CHARACTERISTIC	LIMITATIONS	MINIMUM MONITORING REQUIREMENTS	
	Daily Maximum as specified	**Measurement Frequency** as specified	**Sample Type** as specified
Depth to Water Level Below Land Surface *[72019]*	Report (feet)(7) *[27]*	2/Year(8) *[02/YR]*	Measure *[MS]*
Nitrate-Nitrogen *[00620]*	10 mg/L *[19]*	2/Year(8) *[02/YR]*	Grab *[GR]*
Specific Conductance(9,10) *[00095}*	Report (umhos/cm) *[11]*	2/Year(8) *[02/YR]*	Grab *[GR]*
Temperature (9) *[00011}*	Report (°C) *[04]*	2/Year(8) *[02/YR]*	Grab *[GR]*
pH (Standard Units) (9) *[00400}*	Report (S.U.) *[12]*	2/Year(8) *[02/YR]*	Grab *[GR]*
Total Suspended Solids *[00530}*	Report (mg/L) *[19]*	2/Year(8) *[02/YR]*	Grab *[GR]*
Metals (Total): Arsenic, Cadmium, Chromium, Copper, Lead, Mercury, Nickel and Zinc *[01002, 01027, 01034, 01042, 01051, 71900, 01067, 01092]*	Report ug/L *[28]*	1/5 Years(4) *[01/5Y]*	Grab *[GR]*

The italicized numeric values bracketed in the table above and on the following pages are code numbers that Department personnel utilize to code the monthly DMRs. Footnotes are included on Pages 10-11.

SPECIAL CONDITIONS
A. LIMITATIONS AND MONITORING REQUIREMENTS (cont'd)

5. Sampling of the **LAGOON UNDERDRAIN SYSTEM (OUTFALL #UD1A)** shall be conducted as specified below.

MONITORING CHARACTERISTIC	LIMITATIONS		MINIMUM MONITORING REQUIREMENTS	
	Weekly Average as specified	Daily Maximum as specified	Measurement Frequency as specified	Sample Type as specified
Flow Rate *[00058]*	---	Report GPM *[78]*	3/Year(11) *[03/YR]*	Estimate *[ES]*
Specific Conductance *[00095]*	---	Report (umhos/cm) *[11]*	3/Year(11) *[03/YR]*	Grab *[GR]*
Temperature *[00011]*	---	Report (°C) *[04]*	3/Year(11) *[03/YR]*	Grab *[GR]*

The italicized numeric values bracketed in the table above and on the following pages are code numbers that Department personnel utilize to code the monthly DMRs. Footnotes are included on Pages 10-11.

SPECIAL CONDITIONS

A. LIMITATIONS AND MONITORING REQUIREMENTS (cont'd)

Footnotes

Sampling –Any change in sampling location(s) must be reviewed and approved by the Department in writing. 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 Health and Human Services. Samples that are sent to a POTW licensed pursuant to *Waste discharge licenses*, 38 M.R.S.A. § 413 are subject to the provisions and restrictions of *Maine Comprehensive and Limited Environmental Laboratory Certification Rules,* 10-144 CMR 263 (last amended February 13, 2000).

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

1. **Storage Lagoon Effluent Sampling Location -** Storage lagoon effluent sampling shall be conducted at the pump station prior to the spray field(s) or snowmaking field and shall be representative of what is actually being applied to the fields.

2. **Storage Lagoon Effluent Sampling Frequency -** Storage lagoon effluent sampling shall be conducted at a minimum frequency of once per month during the months of **April, May, August, and October** of each year, unless otherwise specified by the Department**.** The District is not required to test for the monthly parameters during a month in which no wastewater was disposed of via the disposal system.

3. **Lagoon Freeboard -** Storage lagoon freeboard shall be reported as the mathematical difference between the water level in the lagoon and the lowest elevation point in the lagoon berm. It shall be measured weekly to the nearest one tenth ($1/10^{th}$) of a foot, with the minimum monthly value reported on the DMR. If site conditions prevent safe or accurate measurements, the licensee shall estimate this value and indicate this to the Department.

4. **Screening Level Metals Testing –** The licensee shall conduct one round of testing for the specified metals **during the fourth calendar quarter of the fourth year of the license**, unless otherwise specified by the Department.

SPECIAL CONDITIONS
A. LIMITATIONS AND MONITORING REQUIREMENTS Footnotes (cont'd)

5. **Weekly Maximum for Spray Irrigation -** "Weekly" is defined as Sunday through Saturday. A field's weekly application rate is the total gallons sprayed over the applicable period of time divided by the size of the area of the field(s) utilized. Note: 27,152 gallons is equivalent to 1 acre-inch. The licensee shall measure the flow of wastewater to the irrigation area by the use of a flow measuring device that is checked for calibration at least once per calendar year. For Discharge Monitoring Report (DMR) reporting purposes, the licensee shall report the highest weekly application rate for the month in the applicable box on the form. Compliance with weekly reporting requirements must be reported for the month in which the calendar week ends**. Specified rates are based on acreage utilized and applications must vary accordingly.** See footnote 6 for conditions specific to spray irrigation on the snowmaking field.

6. **Annual Limit** – The enhanced snowmaking field (#SM1A) is subject to an annual snowmaking application limit of 61 million gallons of wastewater between November 1 and March 31 each year. Field #SM1A is also subject to spray irrigation application rates as Outfall #009A between April 1 and October 31 each year as noted in Special Condition A.3 (table) and footnote 5 above and other applicable conditions contained in this license. In addition to the amount of wastewater applied per month via spray irrigation and snowmaking respectively, the licensee shall report the season cumulative amount of effluent snowmaking applied to date.

7. **Depth to Water Level -** Depth to water level shall be measured to the nearest one-tenth ($1/10^{th}$) of a foot as referenced from the surface of the ground at the base of the monitoring well.

8. **Groundwater Monitoring Period -** Groundwater monitoring wells shall be sampled during the months of **May and October** of each year, unless otherwise specified by the Department.

9. **Field Measurements -** Specific conductance (calibrated to 25.0° C), temperature, and pH are considered to be "field" parameters, and are to be measured in the field via instrumentation. The licensee is required to test for these parameters whether wastewater was disposed of via the spray-irrigation system or not.

10. **Specific Conductance -** Temperature must be calibrated to 25.0°C. Specific Conductance values indicating a statistically significant trend upwards or sudden spikes from previous levels may necessitate the need for additional groundwater testing requirements to determine causes and effects as related to spray irrigation activities.

11. **Lagoon Underdrain Monitoring -** Lagoon underdrain sampling shall be conducted in the months of **July, August, and September** of each year, unless otherwise specified by the Department.

SPECIAL CONDITIONS

B. NARRATIVE EFFLUENT LIMITATIONS

1. The effluent shall not contain materials in concentrations or combinations which would impair the uses designated by the classification of the groundwater.

2. The effluent must not lower the quality of any classified body of water (groundwater is a classified body of water under Title 38, Section 465-C) below such classification, or lower the existing quality of any body of water if the existing quality is higher than the classification.

C. TREATMENT PLANT OPERATOR

The person who has the management responsibility over the wastewater treatment facility must hold a **Grade II** Spray Irrigation Treatment System (SITS) certificate, or equivalent as required pursuant to *Sewerage Treatment Operators*, Title 32 M.R.S.A., Sections 4171-4182 and *Regulations for Wastewater Operator Certification*, 06-096 CMR 531 (effective May 8, 2006). All proposed contracts for facility operation by any person must be approved by the Department within two weeks of the contractor being retained by the licensee.

D. AUTHORIZED DISCHARGES

The licensee is authorized to discharge only in accordance with 1) the licensee's General Application for Waste Discharge Permit, accepted for processing on January 27, 2009; 2) the terms and conditions of this license; and 3) to the spray irrigation disposal fields identified in the Waste Discharge License application. Discharges of wastewater from any other point source are not authorized under this license, and shall be reported in accordance with Standard Condition #4 of this license.

E. NOTIFICATION REQUIREMENT

In accordance with Standard Condition #6, *Change of Discharge,* the licensee shall notify the Department of:

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

SPECIAL CONDITIONS
F. GENERAL OPERATIONAL CONSTRAINTS

1. All wastewaters shall receive biological treatment through a properly designed, operated and maintained lagoon system prior to disposal via spray irrigation or snowmaking.

2. The spray irrigation and snowmaking facilities shall be effectively maintained and operated at all times so that there is no discharge to surface waters, nor any contamination of groundwater which will render it unsatisfactory for usage as a public drinking water supply.

3. The surface wastewater disposal system shall not cause the lowering of the quality of the groundwater, as measured in the groundwater monitoring wells specified by this license, below the State Primary and Secondary Drinking Water Standards specified in the Maine State Drinking Water Regulations pursuant to Maine Law 22 M.R.S.A. § 2601.

   In the event the groundwater monitoring results indicate adverse effects, the licensee may be required to take immediate remedial action(s), which may include but not be limited to, adjustment of the irrigation schedule or application rates, a reduction of the pollutant loading, or ceasing operation of the system until the groundwater attains applicable standards.

4. The Department shall be notified as soon as the licensee becomes aware of any threat to public health, unlicensed discharge of wastewater, sanitary system overflows (SSO's) or any malfunction that threatens the proper operation of the system. Notification shall be made in accordance with the attached Standard Condition #4 of this license.
   A *sanitary sewer overflow* (SSO) is the release of raw sewage from a sanitary collection system prior to reaching the treatment plant or facility. Spills out of manholes, into basements, onto municipal or private property, etc, and into the waters of the State are all considered to be SSO's.

5. The licensee shall maintain a file on the location of all system components and relevant features. Each component shall be mapped and field located sufficiently to allow adequate inspections and monitoring by both the licensee and the Department.

6. System components including collection pipes, tanks, manholes, pumps, pumping stations, spray / snow disposal fields, and monitoring wells shall be identified and referenced by a unique system identifier in all logs and reports.

7. The licensee shall at all times maintain in good working order and operate at maximum efficiency all wastewater collection, treatment and/or control facilities. **Within one hour after start-up of the spray-irrigation and snowmaking systems**, the licensee shall inspect the spray-irrigation and snowmaking site ***or*** have other means to check the system for leakage in the piping system and determine if individual sprayheads and pump(s) are functioning as designed, and verify that application rates are appropriate for the existing

SPECIAL CONDITIONS
F. GENERAL OPERATIONAL CONSTRAINTS (cont'd)

site conditions. The procedures used to determine the system is functioning as designed shall be described in the facility's O&M manual. Should significant malfunctions or leaks be detected, the licensee must shut down the malfunctioning/leaking sections of the spray and snowmaking system and make necessary repairs before resuming operation. The licensee shall cease irrigation if runoff is observed outside the designated boundaries of the spray and snowmaking field(s). The licensee shall field calibrate equipment to ensure proper and uniform spray applications when operating. Calibration involves collecting and measuring application rate at different locations within the application area. A description of the calibration procedures and a log sheet that have been used for recording calibration results shall be included as part of the Operations & Maintenance manual.

8. **The licensee shall maintain a daily log** of all spray irrigation and snowmaking operations which records the date, weather, rainfall, areas irrigated, volume sprayed (gallons), application rates (daily and weekly), and other relevant observations/comments from daily inspections. The log shall be in accordance with the general format of the *"Monthly Operations Log"* form provided as Attachment A of this license, or other format approved by the Department. Weekly application rates shall be reported in accordance with the general format of the *"Spray Application Report by Week"* form provided as Attachment B of this license or other format as approved by the Department. Specified rates are based on acreage utilized and applications must vary accordingly. The *Monthly Operations Log and Spray Application Report by Week* for each month shall be submitted to the Department as an attachment to the monthly Discharge Monitoring Reports (DMRs) in a format approved by the Department. Copies will also be maintained on site for Department review and for license operation maintenance purposes.

G. SPRAY IRRIGATION AND SNOWMAKING OPERATIONAL CONSTRAINTS, LOGS, AND REPORTS

1. Suitable vegetative cover shall be maintained. Wastewater (as liquid spray irrigation) shall not be applied to areas without sufficient vegetation or ground cover as to prevent erosion or surface water runoff outside the designated boundaries of the spray fields. The licensee shall have an updated facilities management plan that includes provisions for maintaining the spray irrigation and snowmaking areas in optimum condition for the uptake of nutrients and moisture holding capacity.

2. At least 10 inches of separation from the ground surface to the ground water table shall be present prior to spray irrigating.

SPECIAL CONDITIONS

G. SPRAY IRRIGATION AND SNOWMAKING OPERATIONAL CONSTRAINTS, LOGS, AND REPORTS (cont'd)

3. No wastewater shall be spray irrigated as liquid following a rainfall accumulation exceeding 1.0 inches within the previous 24-hour period. A rain gauge shall be located on site to monitor daily precipitation. The licensee shall also manage application rates by taking into consideration the forecast for rain events in the 48-hour period in the future.

4. No wastewater shall be spray irrigated as liquid where there is snow present on the surface of the ground or there is any evidence of frost or frozen ground within the upper 10 inches of the soil profile.

5. No traffic or equipment shall be allowed in the spray-irrigation and snowmaking field(s) except where installation occurs or where normal operations and maintenance are performed (this shall include forest management operations).

6. Prior to the commencement of spray irrigation for the season, the licensee shall notify the Department's compliance inspector in writing that they have verified that soil conditions are appropriate (absence of frozen ground, soil conditions, moisture, etc.) for spray irrigation.

7. The licensee shall maintain the equivalent of a minimum of one ground water level inspection well per spray field to verify that 10 inches of separation from the ground surface to the observed ground water level is present prior to spraying. Depth to ground water shall be reported in accordance with the general format of *"Depth to Groundwater"* report form provided as Attachment C of this license or other format as approved by the Department.

8. Snow from effluent shall only be made when conditions are conducive to snowmaking or ice making as is detailed in the *Ratnik O&M Manual*. When conditions are such that the effluent from the snow guns results in a liquid being sprayed on the site, the operator will cease snowmaking operations until proper conditions exist. Snowmaking will be interrupted to prevent runoff occurring off the site.

H. VEGETATION MANAGEMENT

1. The licensee shall remove / trim grasses and other vegetation such as shrubs and trees if necessary so as not to impair the operation of the spray-irrigation or snowmaking systems, ensure uniform distribution of wastewater over the desired application area and to optimize nutrient uptake and removal.

2. The vegetative buffer zones along the perimeter of the site shall be maintained to maximize vegetation and forest canopy density in order to minimize off-site drift of spray or snow.

SPECIAL CONDITIONS

I. LAGOON MAINTENANCE

1. The banks of the lagoon shall be inspected periodically during the operating season (at least two times per year) and properly maintained at all times. There shall be no overflow through or over the banks. Any signs of leaks, destructive animal activity or soil erosion of the banks shall be repaired immediately.

2. The banks of the lagoon shall be maintained to keep them free of woody vegetation and other vegetation that may be detrimental to the integrity of the bank and/or lagoon liner. The waters within the lagoon shall be kept free of all vegetation (i.e. grasses, reeds, cattails, etc) that hinders the operation of the lagoon.

3. The licensee shall maintain the lagoon freeboard at a level no higher than design levels.

4. The treatment and storage lagoons shall be dredged as necessary to maintain the proper operating depths in both lagoons that will provide best practicable treatment of the wastewater. All material removed from the lagoon(s) shall be properly disposed of in accordance with all applicable State and Federal rules and regulations.

J. INSPECTIONS AND MAINTENANCE

The licensee shall periodically inspect all system components to ensure the facility is being operated and maintained in accordance with the design of the system. Maintenance logs shall be maintained for each major system component including pumps, pump stations, septic tanks, lagoons, spray apparatus, and pipes. At a minimum, the logs shall include the unique identifier [see Special Condition F(6)], the date of maintenance performed, name(s) of person(s) performing the maintenance, and other relevant system observations.

K. GROUNDWATER MONITORING WELLS AND WATER QUALITY MONITORING PLAN DETAILS

1. The licensee shall maintain an approved groundwater quality monitoring plan prepared by a professional qualified in water chemistry. Annual reports shall be prepared by the licensee and shall include historical and current (most recent) monitoring data for each monitoring point, represented in tabular and graphical form.

2. All monitoring wells shall be equipped with a cap and lock to limit access and shall be maintained in a secured state at all times. The integrity of the monitoring wells shall also be verified annually in order to ensure representative samples of groundwater quality.

3. The Department reserves the right to require increasing the depth and or relocating any of the groundwater monitoring wells if the well is perennially dry or is determined not to be representative of groundwater conditions.

SPECIAL CONDITIONS
L. SCHEDULE OF COMPLIANCE

The Department is establishing a schedule of compliance for the repair or replacement of groundwater monitoring well #MW8 based on a long-term trend of monitoring data viewed as not representative of groundwater conditions and pursuant to Permit Special Condition K.3. The Department views this well as important in monitoring groundwater conditions at the Moosehead SD site, as it is the only monitoring well located within the spray/snow making field.

On or before September 1, 2009, the licensee shall investigate and report to the Department on measures necessary to repair monitoring well #MW8, such as regrouting the well; assessing the integrity of the protective stick-up casing and repairing it as necessary, and/or other measures so that #MW8 provides accurate groundwater data. By this date, if the licensee determines that repair of #MW8 is infeasible, Moosehead SD shall provide a scope of work for replacement of #MW8, complete with a recommended location with its soil, geologic, and groundwater conditions, for Department review. ***[53999]***

On or before November 1, 2009, the licensee shall ensure the functionality of #MW8 or have installed and made operational a replacement monitoring well for #MW8 that assesses groundwater conditions within the spray/snow making field. ***[24599]***

M. OPERATIONS AND MAINTENANCE (O & M) PLAN AND SITE PLAN(S)

This facility shall have a current written comprehensive Operation & Maintenance (O & M) Plan. The plan shall provide a systematic approach by which the licensee shall at all times, properly operate and maintain all facilities and the systems of treatment and control (and related appurtenances) which are installed or used by the licensee to achieve compliance with the conditions of this license.

By December 31 of each year, or within 90 days of any process changes or minor equipment upgrades, the licensee 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 the Department personnel upon request.

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

SPECIAL CONDITIONS

N. PUBLIC ACCESS TO LAND APPLICATION SITES AND SIGNAGE

Access to the land application sites shall be limited during the season of active site use. The licensee shall install signs measuring at least 8 ½" x 11", in areas of concern around the perimeter of the lagoon and spray irrigation and snowmaking sites that inform the general public that the area is being used to dispose of sanitary wastewaters. The signs must be constructed of materials that are weather resistant. The licensee must annually inspect and make any necessary repairs to the signage to comply with this condition.

O. DISPOSAL OF SEPTAGE WASTE IN WASTEWATER TREATMENT FACILITY

During the effective period of this permit, the permittee is authorized to receive and introduce into the treatment process or solids handling stream up to **a maximum of 1,700 gallons per day** of septage, subject to the following terms and conditions.

1. **This authorization is only effective upon submission and written Department approval of an updated Septage Management Plan** that fulfills the criteria as outlined in Department rule, Chapter 555, *Standards for the Addition of Transported Wastes to Wastewater Treatment Facilities*.

2. Septage, for the purposes of this permit, shall mean any waste, refuse, effluent, sludge or other material removed from a septic tank, cesspool, vault privy or similar source which concentrates wastes or to which chemicals have been added. Acceptance of any other wastes must be evaluated by the Department.

3. This approval is limited to methods and plans described in the application and supporting documents. Any variations are subject to review and approval prior to implementation.

4. At no time shall the addition of septage cause or contribute to effluent quality violations. If such conditions do exist, the introduction of septage into the treatment process or solids handling stream shall be suspended until effluent quality can be maintained.

5. The permittee shall maintain records which shall include, as a minimum, the following by date: volume of septage received, source of the septage (name of municipality), the hauler transporting the septage, the dates and volume of septage added to the wastewater treatment influent and test results.

6. The addition of septage into the treatment process or solids handling stream shall not cause the treatment facilities design capacity to be exceeded. If, for any reason, the treatment process or solids handling facilities become overloaded, introduction of septage into the treatment process or solids handling stream shall be reduced or terminated in order to eliminate the overload condition.

SPECIAL CONDITIONS

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

7. 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.

8. Holding tank wastewater shall not be recorded as septage but should be reported in the treatment facility's influent flow.

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

10. 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 Transported Wastes to Wastewater Treatment Facilities*

P. 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. If you are receiving hard-copy DMR forms by mail, the completed, returned forms must be **postmarked on or before the thirteenth (13th) day of the month or hand-delivered to the Department's Regional Office such that the DMRs are received by the Department on or before the fifteenth (15th) day of the month** following the completed reporting period. A signed copy of the DMR and all other reports required herein shall be submitted to the Department assigned inspector (unless otherwise specified by the Department) at the following address:

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

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

SPECIAL CONDITIONS

Q. REOPENING OF LICENSE FOR MODIFICATIONS

Upon evaluation of any required test results, results of inspections and/or reporting required by the Special Conditions of this licensing action, additional site specific or any other pertinent information or test results obtained during the term of this license, the Department may, at anytime and with notice to the licensee, modify this license to require additional monitoring, inspections and/or reporting based on the new information, or change operational requirements or limitations including, but not limited to, those related to spray irrigation and effluent snowmaking application rates.

R. SEVERABILITY

In the event that any provision, or part thereof, of this license is declared to be unlawful by a reviewing court, the remainder of the license 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

(Monthly Operations Log)

MOOSEHEAD SANITARY DISTRICT **Monthly Operations Log** **(Month/Year) (_____/_____)**

#W002119-6C-C-R / #MEU502119; Fields #_____ Weekly Application Rate: _____ gallons/acre (_____ inches)

	A	B	C	D	E	F	G	H	I	J	K
Day	Date	Precip Inches	Temp	Weather	Wind-Dir/Speed	Soil Moisture	Quantity -Total Gal Pumped	Name of Field(s) Used	Acres Sprayed	Gallons/Acre (Col G / I)	Total Inches Sprayed
	1										
	2										
	3										
	4										
	5										
	6										
	7										
	8										
	9										
	10										
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	25										
	26										
	27										
	28										
	29										
	30										
	31										
Monthly Total =											

ATTACHMENT B

(Spray Application Report by Week Form)

MOOSHEAD SANITARY DISTRICT **Spray Application Report by Week** **(Month/Year) (_____/_____)**

#W002119-6C-C-R / #MEU502119; Weekly Application Rate _____ gallons/acre; _____ inches

Field Name/#	Effective Spray Area (Acres, when all used)	Weekly Limit (Gallons/acre)	Actual Spray Application Rates (Gallons per acre)					Number of Exceptions to Weekly Limit	Monthly Average
			Week 1	Week 2	Week 3	Week 4	Week 5		
Spray Field #008A	71	33,938							
Spray / Snow Field #009A	26	116,745							

Note: 1 acre-inch is equivalent to 27,150 gallons of liquid
27,150 gallons per acre is equivalent to 1.0 inch

Total Number of Exceptions

A spray-field's weekly application rate is the total gallons sprayed (Sunday through Saturday) divided by the size of the spray-field in acres or the size in acres of that portion of the spray field utilized.

Signature of Responsible Official: _____, Date _____

ATTACHMENT C

(Depth to Groundwater Report Form)

MOOSEHEAD SANITARY DISTRICT **Depth to Groundwater (Tenths of Feet)(Month/Year) (_____/_____)**

#W002119-6C-C-R / #MEU502119

Field Name/#	Monitoring Location	Depth to Groundwater (Measured From Ground Surface in Tenths of Feet)					Number of Exceptions	Monthly Average Depth
		Week 1	Week 2	Week 3	Week 4	Week 5		
Spray Field #008A								
Spray / Snow Field #009A								
				Total Number of Exceptions				

Note: Special Condition G of the License requires that a depth of 10 inches from the ground surface to the groundwater table must be present prior to spraying.

Signature of Responsible Official: _____, Date _____

MAINE WASTE DISCHARGE LICENSE

FACT SHEET

Date: **April 30, 2009**

PCS TRACKING NUMBER: **#MEU502119**
MAINE WDL NUMBER: **#W-002119-6C-C-R**

NAME AND ADDRESS OF APPLICANT:

MOOSEHEAD SANITARY DISTRICT
P. O. Box 1141
Greenville, Maine 04441

COUNTY: **Piscataquis County**

NAME AND ADDRESS WHERE DISCHARGE OCCURS:

Moosehead Sanitary District
101 Spruce Street
Greenville, Maine 04441
(N-45˚ 27’ 10”; W-69˚ 36’ 18”)

RECEIVING WATER/CLASSIFICATION: **Ground Water/Class GW-A**

COGNIZANT OFFICIAL AND TELEPHONE NUMBER:

Mr. Danny Daigle; (207) 695-3849; moosandis@yahoo.com

1. APPLICATION SUMMARY

Application: The applicant has applied to the Department for renewal of Maine Waste Discharge License (WDL) #W-002119-5L-B-R, which was issued on January 29, 2003 for a five-year term, and subsequently modified by the Department on July 6, 2004. The WDL authorized the operation of a surface wastewater disposal (spray-irrigation and effluent snow-making) system for the treatment and disposal of treated sanitary wastewater onto land in Greenville, Maine. The treatment system has a design capacity of 0.17 million gallons per day (MGD). The license renewal application has been assigned WDL number W-002119-6C-C-R and Permit Compliance System (PCS) tracking number MEU502119 to facilitate compliance tracking and record keeping.

2. LICENSE SUMMARY

a. Conditions: This licensing action is similar to the January 29, 2003 WDL and subsequent Administrative Modification in that it is carrying forward all previous terms and conditions with a few exceptions. This licensing action is different in that it is:

1. establishing a daily minimum limit for storage lagoon freeboard;
2. revising the timing of required testing for certain metals in storage lagoon effluent and groundwater monitoring wells;
3. revising the authorized seasonal spray irrigation and effluent snow making periods;
4. establishing reporting requirements for total monthly flow through spray irrigation and effluent snowmaking and running annual flow through effluent snowmaking;
5. revising groundwater monitoring well outfall designations;
6. specifying conditions for additional testing of specific conductance in groundwater;
7. eliminating total chloride monitoring requirements in groundwater;
8. updating facility General Operational Constraints for spray irrigation and effluent snowmaking;
9. updating Spray Irrigation and Snowmaking Operational Constraints, Logs, and Reports requirements;
10. updating spray irrigation and snowmaking field vegetation management requirements;
11. updating Lagoon Maintenance requirements;
12. updating Groundwater Monitoring Wells and Water Quality Monitoring Plan Details;
13. establishing a schedule for repair or replacement of Monitoring Well #MW8;
14. authorizing acceptance of septage into the wastewater treatment facility with specified conditions and requirements and following Department approval of an updated Septage Management Plan;
15. updating Monitoring and Reporting procedures;
16. generally establishing limitations, monitoring, and operational requirements for the storage lagoons, spray-irrigation and snowmaking fields, groundwater monitoring wells, and lagoon underdrains to provide consistency across similar facilities licensed by the Department; and
17. updating required reporting forms included as license attachments.

2. LICENSE SUMMARY (cont'd)

b. History: The most recent relevant regulatory actions and or significant events include the following:

January 29, 2003 – The Department issued WDL #W-002119-5L-B-R to the MSD for renewal of its WDL to operate a surface wastewater disposal system for the treatment and disposal of sanitary wastewater through spray irrigation and effluent snowmaking in Greenville, Maine. The WDL was issued for a five-year period. This action superseded WDL #W-002119-59-A-R issued on
July 27, 1988 and all prior Department actions beginning with WDL #2119 issued on April 26, 1978.

July 6, 2004 - The Department administratively modified WDL #W-002119-5L-B-R to eliminate requirements for a soils monitoring program for the MSD spray irrigation and snowmaking sites.

January 13, 2009 – The MSD submitted a timely application for renewal of its surface wastewater disposal system WDL. The application was assigned WDL #W-002119-6C-C-R / PCS Tracking #MEU502119.

c. Source Description: The Moosehead Sanitary District receives sanitary wastewater from residential and commercial customers within the Town of Greenville as well as smaller volumes of cooling water from Greenville Steam, floordrain holding tank wastewater from the town garage, and drinking water filter backwash from Aqua Maine. The MSD wastewater collection system and treatment facility became operational in 1979. The facility was designed based on a population of 1,500 users with an average daily flow capacity of 0.17 MGD. The MSD collection system consists of 14-miles of sanitary sewers and storm sewers and seven pump stations, but contains no Combine Sewer Overflows (CSOs). The MSD has requested the authority to receive septage waste into its treatment facility. Wastewater treatment and disposal is provided as described below.

d. Wastewater Treatment: The MSD wastewater treatment and disposal system consists of three aerated facultative biological treatment lagoons, two treated effluent storage lagoons, and a combined summer/winter land application system for the disposal of treated effluent. See Attachment A of this Fact Sheet for a location map.

Wastewater generated in the Town of Greenville is conveyed to the MSD facility through the wastewater collection system described above. The MSD has six pump stations located throughout town that route wastewater to the main pump station, which in turn routes wastewater to the facility headworks, then to the

2. LICENSE SUMMARY (cont'd)

MSD lagoon treatment system. The MSD lagoon treatment system consists of three earthen lagoons with synthetic liners. The aerated lagoons have volumes of 3.1 million gallons (MG), 1.5 MG, and 1.5 MG, and are each designed for 10-feet of liquid depth and 3-feet of freeboard. After the treatment lagoon system, treated wastewater is routed to a 33.2 MG (4.44 million cubic foot) storage lagoon with two compartments. At the design flow of 0.17 MGD, wastewater remains in the treatment lagoon system for 27 to 36 days depending on whether the second and third lagoons are operated in parallel or series, then can be stored in the storage lagoon system for up to 180 days. When appropriate conditions exist, MSD disposes of the treated wastewater via land application as described below. Sludge is removed from the lagoon system as necessary and applied to an onsite disposal area licensed pursuant to a separate Department action.

1. Spray Irrigation - Between April 1st and November 30th and between April 1st and October 31st of each year, wastewater from the storage lagoon is conveyed to MSD's spray irrigation field (Outfall #008A, 71-acres) and enhanced spray irrigation / snow making field (Outfall #009A, 26-acres) respectively for spray irrigation. The enhanced spray irrigation / snow making field is designated as Outfall #009A for its spray irrigation activities and #SM1A for its snowmaking activities. The spray irrigation field (Outfall #008A) is authorized to receive a weekly maximum of 33,938-gallons/acre (1.25-inches/acre) of treated wastewater for disposal, whereas the enhanced spray irrigation / snow making field (Outfall #009A) is authorized to receive a weekly maximum of 116,745-gallons / acre (4.3-inches/acre) of wastewater. The spray irrigation activities must be conducted pursuant to Permit Special Conditions F, *General Operational Constraints,* Special Condition G, *Spray Irrigation and Snowmaking Operational Constraints, Logs, and Reports,* and other related requirements contained herein. The enhanced spray irrigation / snow making field (#009A/#SM1A) is subject to additional requirements related to effluent snowmaking, as described below. The Moosehead SD utilizes 10 spray irrigation nozzles and moves them about the spray fields as conditions necessitate. Each spray head distributes water in a circular pattern measuring 224 feet in diameter.

2. Snowmaking: Between November 1st and March 31st of each year, wastewater from the storage lagoon is converted to snow via compressed air and stored in piles on the enhanced spray irrigation / snowmaking field (#SM-1, 26-acres). Two fixed snow towers are used to distribute the snow over the parcel. The snow storage area has been designed to accept up to a maximum of 61 million gallons per snowmaking season (November – March). Water from the snow piles is slowly released to the environment via evaporation (assume 15%) during the snowmaking process, sublimation (assume 20%) of the snow piles over time, and infiltration into the ground as the snow piles melt in the spring

2. LICENSE SUMMARY (cont'd)

and early summer. Other similar sites licensed by the Department have been modeled assuming melting would occur during the months of March (5%), April (15%), May (30%), June (40%) and July (10%). On average, the application rate of 61 million gallons of snow melting water over a period of 22 weeks on 26 acres is 3.9 inches/week or 107,000 gallons per week.

The Greenville site is in an area of hilly topography which slopes downward to the northwest of the site. The overall slope is 3-15% percent. The site was formerly used as woodland and agricultural fields, and the overstory canopy is of a mixture of hardwood and softwood.

e. Groundwater Monitoring Wells. The MSD monitors the following groundwater monitoring wells for compliance with this WDL.

Monitoring Wells	Location
MW-1	Upgradient background well, east of the spray field and northeast of the spray/snow field.
MW-2	Downgradient well, west of the treatment lagoons and north of the spray field.
MW-3	Downgradient well, on the western edge of the spray field and northwest of the spray/snow field.
MW-5	Downgradient well, on the northwestern edge of the spray field and west of the spray/snow field.
MW-6	Downgradient well, west of the spray field and property boundary.
MW-8	Downgradient overburden well, within the eastern portion of the spray/snow field, southwest of the site "duck pond".
MW-10	Upgradient background well, south of the storage lagoons and southeast of the spray field and spray/snow field.
MW-11	Downgradient well, within the southwestern portion of the spray field and southwest of the spray/snow field.
MW-12	Downgradient well, within the northerly portion of the spray field and southwest of the treatment lagoons.

3. CONDITIONS OF THE LICENSE

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 and Groundwater Classification Systems.

4. RECEIVING WATER QUALITY STANDARDS

Maine law, 38 M.R.S.A. § 470 states, *"All ground water* (including that at the point of discharge) *shall be classified as not less than Class GW-A, except as otherwise provided in this section."* Maine law, 38 M.R.S.A. § 465-C(1) states, *"Class GW-A … shall be of such quality that it can be used for public drinking water supplies. These waters shall be free of radioactive matter or any matter that imparts color, turbidity, taste or odor which would impair usages of these waters, other than that occurring from natural phenomena."*

5. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

a. Explanation of Monitoring Parameters: The following parameters are required to be monitored and/or limited in this licensing action. A summary of monitoring data for each parameter for the MSD for spray seasons 2003 through 2008 is included on subsequent pages.

1. Biochemical Oxygen Demand (BOD_5) - BOD_5 monitoring is required in the storage lagoon effluent (limit established), carried forward from the previous licensing action. Monitoring for BOD_5 yields an indication of the condition of the wastewater being applied from the lagoon, of the degree of loading of organic material, and the effectiveness of the spray-irrigation treatment process. The limit of 100 mg/L established in the previous license as a best practicable treatment (BPT) standard is being carried forward in this licensing action.

2. Total Suspended Solids (TSS) – TSS monitoring is required in the storage lagoon effluent (limit established) and in the monitoring wells (monitoring only), carried forward from the previous licensing action. TSS in the groundwater yields an indication of the integrity of the monitoring wells. The limit of 100 mg/L established in the previous license as a BPT standard is being carried forward in this licensing action.

3. Nitrate-nitrogen – Nitrate-nitrogen monitoring is required in the storage lagoon effluent (monitoring only), in the monitoring wells (limit established), and in the lagoon underdrain system (monitoring only), carried forward from the previous licensing action. Nitrate-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 established in the previous license is a National Primary Drinking Water standard and is being carried forward in this licensing action.

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

4. Specific Conductance, Temperature and pH - Specific conductance, temperature and pH monitoring are required in the monitoring wells; specific conductance and temperature monitoring are required in the underdrain; and pH monitoring is required in the storage lagoon effluent, carried forward from the previous licensing action. These parameters are considered to be "field" parameters meaning that they are measured directly in the field via instrumentation and do not require laboratory analysis. These parameters are considered as surveillance level monitoring parameters and are used as early-warning indicators of potential groundwater contamination when there exists a statistically significant trend upwards in the data or sudden spikes from previous levels. Temperature data is important in calibrating the conductance measurements.

5. Metals (arsenic, cadmium, chromium, copper, lead, mercury, nickel, and zinc): Metals monitoring is required in the storage lagoon effluent and in the monitoring wells, carried forward from the previous licensing action. The previous licensing action established metals monitoring and reporting requirements at a screening level frequency (one round of testing during the 12-month period prior to license expiration) in both the storage lagoon effluent and in the monitoring wells. This licensing action is revising the metals testing requirements to the fourth calendar quarter of the fourth year of the license to provide for earlier availability of data. The Department reserves the right to reopen this license in accordance with Special Condition Q based on new information provided by the licensee.

6. Chlorides – Chloride monitoring was required in the monitoring wells in the previous licensing action, but is not being carried forward in this licensing action. Chlorides were previously considered as another early warning indicator of potential groundwater contamination by wastewater, however the Department no longer considers it a necessary parameter to monitor for this type of facility.

Additional operation related parameters for the spray irrigation fields snowmaking field, groundwater monitoring wells, and lagoon under-drains are addressed within the text and tables below.

b. Storage Lagoon Effluent Monitoring Requirements: As described above, the previous licensing action established storage lagoon effluent (Outfall #001) monitoring requirements for: 1) biochemical oxygen demand (BOD_5); 2) total suspended solids (TSS); 3) nitrate-nitrogen, 4) pH; and 5) certain metals (arsenic, cadmium, chromium, copper, lead, mercury, nickel, and zinc), which are being carried forward in this licensing action based on Department Best Professional Judgement (BPJ). In this licensing action, lagoon effluent monitoring requirements are being carried forward for all parameters except the metals. Lagoon effluent monitoring for the specified metals is being revised such that it is

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

only required to be performed during the fourth calendar quarter of the fourth year of the license. This licensing action establishes a daily minimum storage lagoon freeboard limit of 3-feet based on facility design and as a demonstration of best management practices.

A review of the Discharge Monitoring Report (DMR) data for the Moosehead Sanitary District for the period of February 2003 through December 2008 indicates the following storage lagoon effluent (Outfall #001A) information.

STORAGE LAGOON EFFLUENT (OUTFALL #001A) (2003 – 2008)

Parameter	Limit	Minimum	Maximum	Average	# Values
BOD_5	100 mg/L	27 mg/L	220 mg/L	73 mg/L	16
TSS	100 mg/L	13 mg/L	78 mg/L	39 mg/L	16
Nitrate N	Report mg/L	<0.5 mg/L	3 mg/L	<0.83 mg/L	16
pH	Report s.u.	6.3 s.u.	7.6 s.u.	---	16

c. Spray Irrigation/Snowmaking Application Rates – The previous licensing action established maximum wastewater application rates for the 71-acre spray irrigation field (Outfall #008) of 33,938 gallons per acre per week (1.25 inches per acre) and for the 26-acre enhanced spray irrigation field (Outfall #009) of 116,745 gal/acre/ week (4.3 in/acre) and 67,875 gal/acre/day (2.5 in/acre). The previous licensing action also established an effluent snowmaking limit for the same 26-acre field (#SM1) of 61 million gallons per season. These spray irrigation and snowmaking application rates were based on the soil types, geology, and treatment capabilities of the sites. This licensing action carries forward the weekly spray irrigation application rates for both spray fields and the annual snowmaking application limit for field #SM1. In this licensing action, spray irrigation and effluent snow making application periods are being revised based on Department BPJ, consistent with other similar licensed facilities. Spray irrigation is authorized for the 71-acre spray irrigation field (Outfall #008A) from April 1 through November 30 and for the 26-acre enhanced spray/snowmaking field (Outfall #009A) from April 1 through October 31 of each year. Snow making is authorized for the 26-acre enhanced spray/snowmaking field (#SM1) from November 1 through March 31 of each year. As previously noted, the enhanced spray irrigation / snow making field is designated as Outfall #009A for its spray irrigation activities and #SM1A for its snowmaking activities. Spray irrigation and snowmaking wastewater applications are authorized pursuant to the conditions and requirements established in this licensing action.

The weekly limits are established as a margin of safety against hydraulically overloading a spray field and are based on the treatment capabilities of the in-situ soils. Regardless of the calculated rate, the system operator shall monitor each waste application to verify adequate infiltration of the waste into the soil and a spray irrigation or snowmaking cycle must be stopped if runoff outside of the

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

designated sprayfield(s) or snowmaking site is observed. In addition to the amount of wastewater applied per month via spray irrigation and snowmaking respectively, the licensee shall report the season cumulative amount of effluent snowmaking applied to date. This licensing action eliminates the daily spray irrigation application rate for the spray/snow making field based on Department BPJ and consistent with other facility licenses.

The licensee shall field-calibrate their equipment on a regular basis to ensure proper application and uniformity, and when operating conditions are changed from the assumed design. Calibration involves collecting and measuring flow at several locations in the application area (typically a grid pattern of containers with uniform diameters).

A review of the DMR data for the Moosehead Sanitary District for the period of February 2003 through December 2008 indicates the following Spray Irrigation Field (Outfall #008A), Enhanced Spray Irrigation Field (Outfall #009A), and Snowmaking Field (Outfall #SM1) information.

SPRAY IRRIGATION AND SNOW MAKING WASTEWATER APPLICATION RATES

SPRAY IRRIGATION FIELD (OUTFALL #008A) (2003 – 2008)
(SPRAY IRRIGATION)

Parameter	Limit	Minimum	Maximum	Average	# Values
Weekly Max. Rate	33,938 gal / acre	7,645 gal / acre	29,725 gal / acre	23,042gal / acre	11

ENHANCED SPRAY IRRIGATION / SNOW MAKING FIELD (OUTFALL #009A)
(2003 – 2008) (SPRAY IRRIGATION)

Parameter	Limit	Minimum	Maximum	Average	# Values
Weekly Max. Rate	116,745 gal / acre	27,399 gal / acre	116,680 gal / acre	91,134 gal / acre	34
Daily Max. Rate	67,875 gal / acre	55.9 gal / acre	67,820 gal / acre	51,982 gal / acre	35

ENHANCED SPRAY IRRIGATION / SNOW MAKING FIELD (OUTFALL #SM1)
(2003 – 2008) (SNOWMAKING)

Parameter	Limit	Minimum	Maximum	Average	# Values
Total Rate	61 million gal / season	7.33 mil.gal. / season	25.55 mil.gal. / season	15.74 mil.gal. / season	4

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

d. Groundwater Monitoring Wells - As indicated above, the previous licensing action established Ground Water Monitoring Well monitoring requirements for #MW1 (Outfall #002), #MW2 (Outfall #003), #MW3 (Outfall #004), #MW5 (Outfall #006), #MW6 (Outfall #007), #MW8 (Outfall #005), #MW10 (Outfall #010), #MW11 (Outfall #011), and #MW12 (Outfall #012) of: 1) depth to water level below surface; 2) nitrate-nitrogen (daily maximum concentration limit of 10 mg/L based on the National Primary Drinking Water standard); 3) specific conductance; 4) temperature (˚F); 5) pH; 6) total suspended solids (TSS); and 7) certain metals (arsenic, cadmium, chromium, copper, lead, mercury, nickel, and zinc) , which are being carried forward in this licensing action based on Department BPJ. As noted above, this licensing action is eliminating monitoring well monitoring requirements for chloride, established in the previous licensing action, as the Department no longer considers it a necessary parameter to monitor for this type of facility. Groundwater well monitoring for all parameters except the metals shall be conducted during the months of May and October of each year. Groundwater well monitoring for the specified metals is only required to be performed during the fourth calendar quarter of the fourth year of the license. In this licensing action, the Outfall designations for monitoring wells are being replaced with designations of "MW" accompanied by the individual monitoring well number in the Department's permit compliance system to facilitate communication and site monitoring efforts.

A review of the DMR data for the Moosehead Sanitary District for the period of February 2003 through December 2008 indicates the following Monitoring Well information. Though eliminated from this point forward, the previously assigned outfall numbers for each monitoring well are included in parentheses in the tables below (OF).

MONITORING WELL SAMPLE DATA (2003 – 2008)

Depth to groundwater	Minimum	Maximum	Average	# Values
MW#1 (OF02)	7 feet	11 feet	8.5 feet	10
MW#2 (OF03)	1 feet	6 feet	2.2 feet	9
MW#3 (OF04)	6 feet	13 feet	9.1 feet	9
MW#5 (OF06)	2 feet	9 feet	4.8 feet	11
MW#6 (OF07)	0.5 feet	5 feet	2.8 feet	10
MW#8 (OF05)	3 feet	10 feet	5.6 feet	10
MW#10(OF10)	6 feet	18 feet	12.6 feet	9
MW#11(OF11)	0 feet	10 feet	3.2 feet	10
MW#12(OF12)	4 feet	9 feet	6.2 feet	9

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

MONITORING WELL SAMPLE DATA (2003 – 2008)

Nitrate N	Minimum	Maximum	Average	# Values
MW#1 (OF02)	1.4 mg/L	9.4 mg/L	4.1 mg/L	10
MW#2 (OF03)	<0.5 mg/L	2.1 mg/L	<1.5 mg/L	10
MW#3 (OF04)	<0.5 mg/L	5.8 mg/L	<1.9 mg/L	11
MW#5 (OF06)	<0.2 mg/L	4.3 mg/L	1.5 mg/L	12
MW#6 (OF07)	<0.5 mg/L	2 mg/L	<1.4 mg/L	11
MW#8 (OF05)	2 mg/L	19 mg/L	8.5 mg/L	11
MW#10(OF10)	<0.5 mg/L	2 mg/L	<1.6 mg/L	9
MW#11(OF11)	0.6 mg/L	4.8 mg/L	<1.9 mg/L	11
MW#12(OF12)	0.4 mg/L	2 mg/L	<1.3 mg/L	10

Chloride	Minimum	Maximum	Average	# Values
MW#1 (OF02)	8 mg/L	63 mg/L	26.9 mg/L	10
MW#2 (OF03)	<1 mg/L	13 mg/L	<5.0 mg/L	10
MW#3 (OF04)	<1 mg/L	21 mg/L	<6.5 mg/L	11
MW#5 (OF06)	<1 mg/L	4 mg/L	6.3 mg/L	12
MW#6 (OF07)	<1 mg/L	14 mg/L	6.1 mg/L	9
MW#8 (OF05)	11 mg/L	74 mg/L	36.7 mg/L	11
MW#10(OF10)	<2 mg/L	20 mg/L	<5.0 mg/L	9
MW#11(OF11)	3 mg/L	25 mg/L	11.4 mg/L	11
MW#12(OF12)	<1 mg/L	15 mg/L	<3.6 mg/L	10

Specific Conductance	Minimum	Maximum	Average	# Values
MW#1 (OF02)	65 umhos/cm	355 umhos/cm	147.4 umhos/cm	11
MW#2 (OF03)	18 umhos/cm	71 umhos/cm	35.4 umhos/cm	10
MW#3 (OF04)	10 umhos/cm	66 umhos/cm	32.4 umhos/cm	11
MW#5 (OF06)	2 umhos/cm	52 umhos/cm	28.1 umhos/cm	12
MW#6 (OF07)	15 umhos/cm	54 umhos/cm	36.7 umhos/cm	11
MW#8 (OF05)	83 umhos/cm	347 umhos/cm	157.5 umhos/cm	11
MW#10(OF10)	35 umhos/cm	175 umhos/cm	69.3 umhos/cm	9
MW#11(OF11)	6 umhos/cm	148 umhos/cm	62.8 umhos/cm	11
MW#12(OF12)	10 umhos/cm	59 umhos/cm	24.2 umhos/cm	10

Temperature	Minimum	Maximum	Average	# Values
MW#1 (OF02)	10.5 ºC	15.4 ºC	13.5 ºC	10
MW#2 (OF03)	9.6 ºC	17.7 ºC	13.4 ºC	9
MW#3 (OF04)	9.8 ºC	15.6 ºC	13.3 ºC	9
MW#5 (OF06)	9.4 ºC	15.8 ºC	13.2 ºC	11
MW#6 (OF07)	10.6 ºC	15.7 ºC	13.3 ºC	10
MW#8 (OF05)	9.2 ºC	15.9 ºC	13.2 ºC	10
MW#10(OF10)	10 ºC	16.5 ºC	13.4 ºC	8
MW#11(OF11)	10.6 ºC	16.4 ºC	13.0 ºC	10
MW#12(OF12)	9.7 ºC	15.8 ºC	13.2 ºC	9

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

MONITORING WELL SAMPLE DATA (2003 – 2008)

pH	Minimum	Maximum	Average	# Values
MW#1 (OF02)	4.00 s.u.	6.07 s.u.	---	11
MW#2 (OF03)	4.62 s.u.	6.19 s.u.	---	10
MW#3 (OF04)	5.04 s.u.	6.34 s.u.	---	11
MW#5 (OF06)	5.04 s.u.	6.49 s.u.	---	12
MW#6 (OF07)	5.25 s.u.	6.29 s.u.	---	11
MW#8 (OF05)	5.16 s.u.	5.81 s.u.	---	11
MW#10(OF10)	6.03 s.u.	6.75 s.u.	---	9
MW#11(OF11)	5.31 s.u.	6.45 s.u.	---	11
MW#12(OF12)	5.26 s.u.	6.41 s.u.	---	2

Total Suspended Solids	Minimum	Maximum	Average	# Values
MW#1 (OF02)	1 mg/L	1,100 mg/L	153.9 mg/L	11
MW#2 (OF03)	9 mg/L	210 mg/L	93.6 mg/L	10
MW#3 (OF04)	6 mg/L	490 mg/L	121.5 mg/L	11
MW#5 (OF06)	44 mg/L	450 mg/L	125.8 mg/L	12
MW#6 (OF07)	<1 mg/L	680 mg/L	130.9 mg/L	11
MW#8 (OF05)	5 mg/L	110 mg/L	44.9 mg/L	11
MW#10(OF10)	16 mg/L	3,200 mg/L	413.1 mg/L	9
MW#11(OF11)	1 mg/L	77 mg/L	28.1 mg/L	11
MW#12(OF12)	7 mg/L	65 mg/L	35.0 mg/L	10

The monitoring data presented above and results from additional testing raise concerns with the integrity of #MW8 and its ability to provide data representative of groundwater conditions. The Department views this well as important in monitoring groundwater conditions at the WUD site, as it is the only monitoring well located within the spray/snow making field. Therefore, this licensing action establishes a schedule of compliance (Permit Special Condition L) that requires the Moosehead SD to investigate what is needed to repair or replace monitoring well #MW8 by September 1, 2009 and to ensure the functionality of #MW8 or its replacement by November 1, 2009.

e. Lagoon Underdrain Monitoring Requirements – The previous licensing action established lagoon under-drain monitoring requirements for: 1) flow rate; 2) specific conductance; and 3) temperature, with monitoring requirements of three times per year in July, August, and September. These requirements are being carried forward in this licensing action based on Department BPJ of appropriate underdrain monitoring requirements.

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

A review of the DMR data for the Moosehead Sanitary District for the period of February 2003 through December 2008 indicates the following Storage Lagoon Underdrain System information.

STORAGE LAGOON UNDERDRAIN SYSTEM (Outfall #UD1) (2003 – 2007)

Parameter	Minimum	Maximum	Average	# Values
Flow Rate	1.27 gal/minute	19.7 gal/minute	7.4 gal/minute	16
Specific Conductance	55 umhos/cm	281 umhos/cm	150.5 umhos/cm	16
Temp. ºC	12.6 ºF	25.1 ºF	15.7 ºF	14

6. SEPTAGE

This licensing action authorizes the Moosehead SD to receive and introduce into the treatment process or solids handling stream up to a maximum of 1,700 gallons per day of septage, subject to the terms and conditions outlined in Permit Special Condition O. As stated in Permit Special Condition O, this authorization is only effective upon submission and written Department approval of an updated Septage Management Plan that fulfills the criteria as outlined in Department rule,
Chapter 555, *Standards for the Addition of Transported Wastes to Wastewater Treatment Facilities*. Septage, for the purposes of this license, shall mean any waste, refuse, effluent, sludge or other material removed from a septic tank, cesspool, vault privy or similar source which concentrates wastes or to which chemicals have been added. Acceptance of any other wastes must be evaluated by the Department. Additional requirements are contained in Permit Special Condition O, Disposal of Septage Waste in Wastewater Treatment Facility.

7. DISCHARGE IMPACT ON RECEIVING WATER QUALITY

As licensed, 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 GW-A classification.

8. PUBLIC COMMENTS

Public notice of this application was made in the Moosehead Messenger newspaper on or about January 14, 2009. 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 licenses shall have at least 30 days in which to submit comments on the draft or to request a public hearing, pursuant to *Application Processing Procedures for Waste Discharge Licenses*, 06-096 CMR 522 (effective January 12, 2001).

9. DEPARTMENT CONTACTS:

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

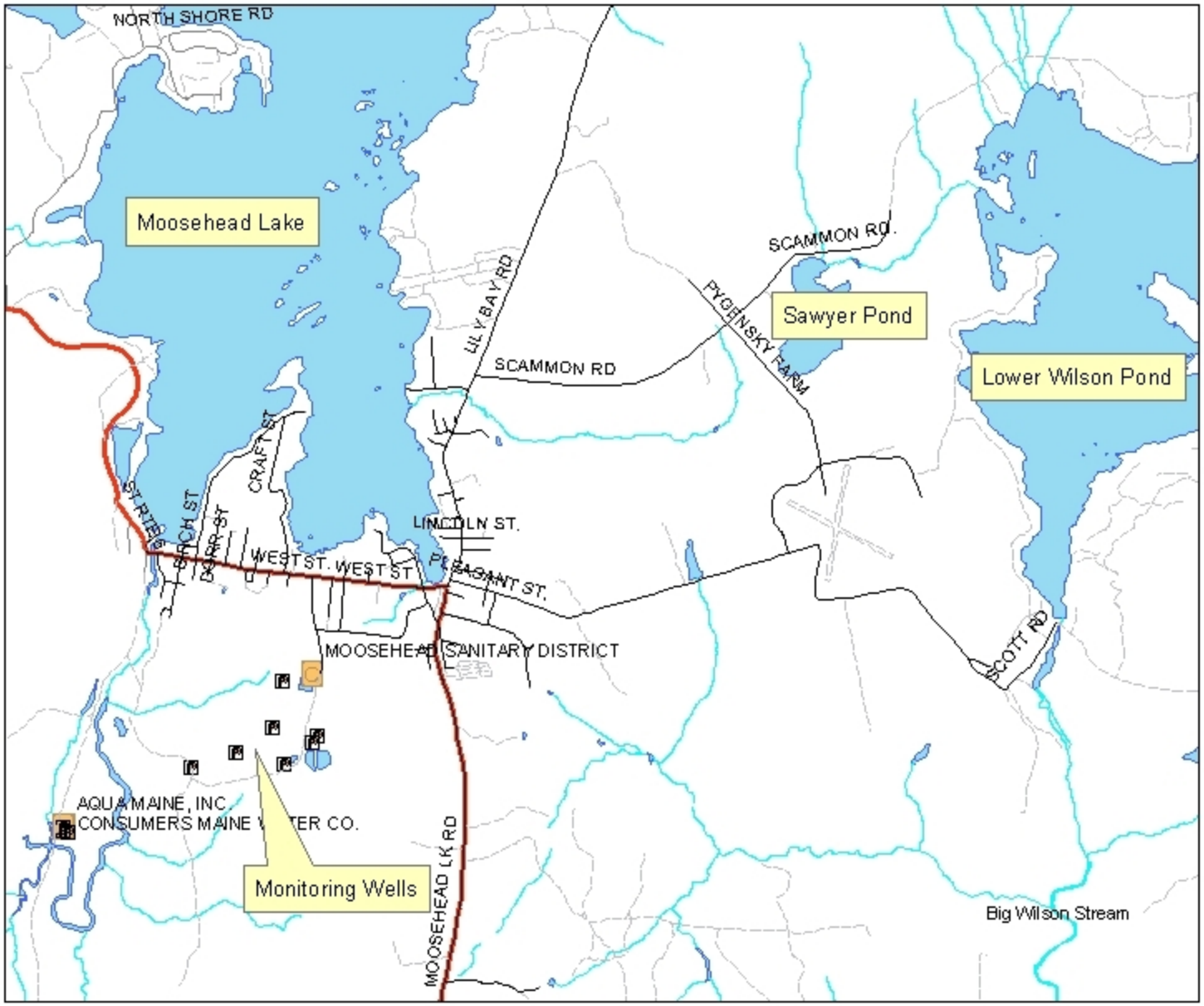
Robert D. Stratton
Division of Water Quality Management
Bureau of Land and Water Quality
Department of Environmental Protection
17 State House Station
Augusta, Maine 04333-0017

Telephone (207) 287-6114
Fax (207) 287-3435
email: Robert.D.Stratton@maine.gov

10. RESPONSE TO COMMENTS:

During the period of April 30, 2009 through June 1, 2009, the Department solicited comments on the proposed draft Maine Waste Discharge License to be issued to the Moosehead Sanitary District for the proposed discharge. The Department did not receive any comments that resulted in significant revisions to the permit, but made some minor internal revisions. Therefore, no response to comments has been prepared.

ATTACHMENT A



Legend

Rivers
- AA
- A
- B
- C

Streams
- AA
- A
- B
- C

- Ponds and Lakes
- Wastewater_Facilities
- Wastewater_Outfalls

Roads

JURISDICTION
- Town Road
- Town Road - Summer
- Town Road - Winter
- State-aided Highway
- State Highway
- Toll Highway
- Private Road
- Reservation Road
- Seasonal Parkway

N

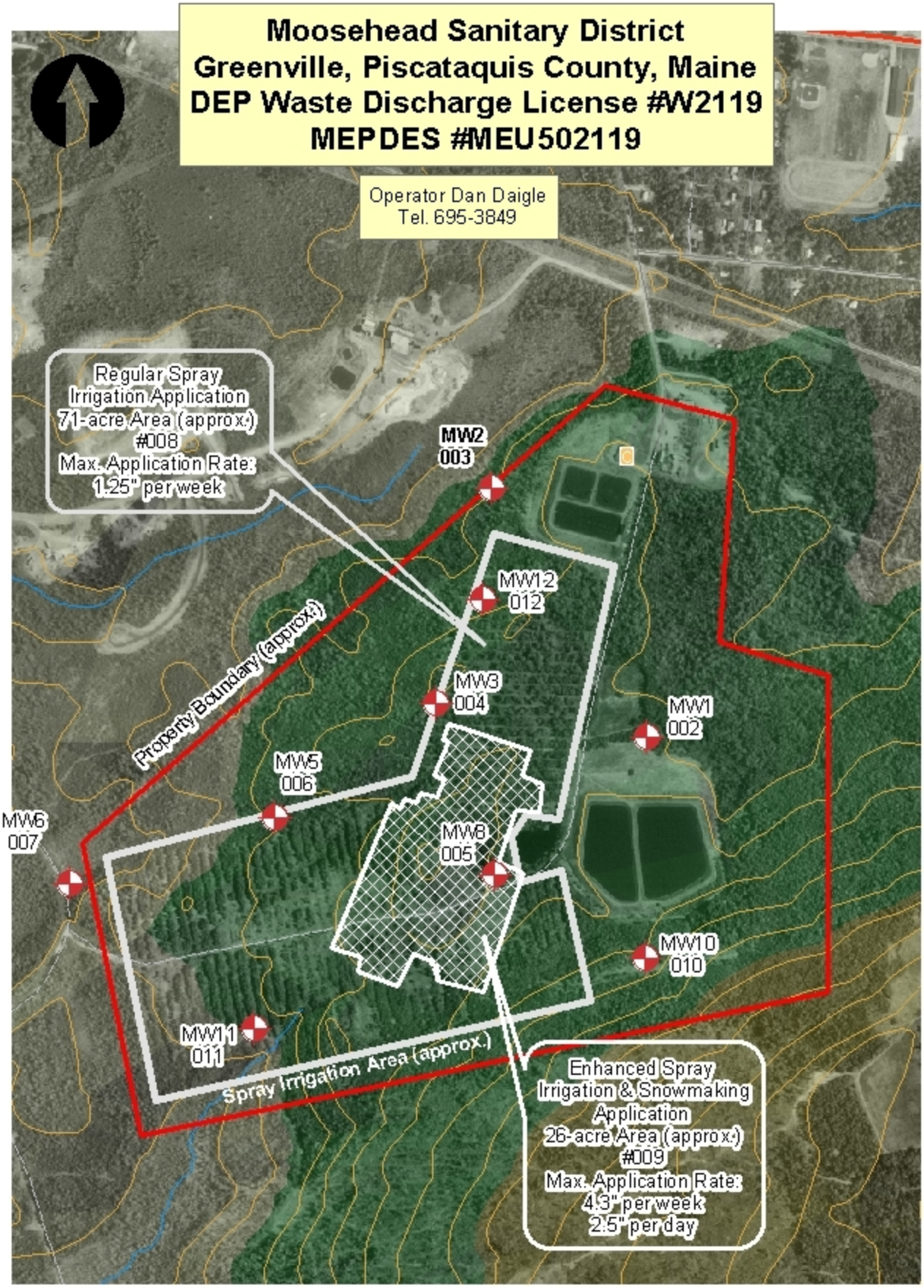
0 0.2 0.4 0.8 1.2 1.6 Miles

Moosehead Sanitary District
Greeneville, Maine

Map created by:
Bob Stratton
Division of Water Quality Management
Maine Department of Environmental Protection

DEPARTMENT OF ENVIRONMENTAL PROTECTION
STATE OF MAINE

ATTACHMENT B



Plan Prepared by Maine DEP
David Silver, Div. Water Quality Management 2006
Amended 2009