STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION

JOHN ELIAS BALDACCI
GOVERNOR

DAVID P. LITTELL
COMMISSIONER

May 23, 2006

Mr. Daniel Mallett
Environmental Engineer
Madison Paper Industries
P.O. Box 129
Madison, ME. 04950-0129

RE: Maine Pollutant Discharge Elimination System (MEPDES) Permit #ME0002534
Maine Waste Discharge License (WDL) Application #W002006-5N-G-R
Final Permit

Dear Mr. Mallett:

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

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

If you have any questions regarding this 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: Denise Behr, DEP/CMRO
Sandy Lao, USEPA

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

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

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312 CANCO ROAD
PORTLAND, MAINE 04103
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STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION
STATE HOUSE STATION 17 AUGUSTA, MAINE 04333

DEPARTMENT ORDER

IN THE MATTER OF

MADISON PAPER INDUSTRIES	)	MAINE POLLUTANT DISCHARGE
MADISON, SOMERSET COUNTY, MAINE	)	ELIMINATION SYSTEM PERMIT
NON-PROCESS WASTE WATERS	)	AND
ME0002534	)	WASTE DISCHARGE LICENSE
W002006-5N-G-R **APPROVAL**	)	**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 MADISON PAPER INDUSTRIES (MPI hereinafter) with its supportive data, agency review comments, and other related materials on file and FINDS THE FOLLOWING FACTS:

APPLICATION SUMMARY

MPI has submitted a timely and complete application to the Department to renew combination Maine Pollutant Discharge Elimination System (MEPDES) permit #ME0002534/Maine Waste Discharge License (WDL) W002006-5N-F-R (permit hereinafter), that was issued by the Department on June 27, 2001 and is due to expire on June 27, 2006. The 6/27/01 permit authorized MPI to discharge up to 10.8 MGD of non-process wastewater from its groundwood pulp and paper mill complex in Madison to the Kennebec River, Class B. Non-process wastewater from the mill consists of filter backwash from a water treatment system, compressor cooling water, vacuum seal water, non-contact cooling water and floor drain water. All process wastewater and sanitary wastes from the mill are conveyed to and treated by the Anson-Madison Sanitary District wastewater treatment facility.

PERMIT SUMMARY

MPI has not requested any changes to permit limitations established in the previous permitting action. The Department has determined that the effluent limitations and monitoring requirements from the previous permitting action remain representative of operations at the mill. Therefore, all limitations in the previous permitting action are being carried forward in this permitting action.

CONCLUSIONS

BASED on the findings in the attached Fact Sheet dated April 10, 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 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 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 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 the opportunity for public participation, that this action is necessary to achieve important economic or social benefits to the State.

4. The discharges will be subject to effluent limitations that require application of best practicable treatment.

ACTION

THEREFORE, the Department APPROVES the above noted application of MADISON PAPER INDUSTRIES to discharge non-process wastewater consisting of filter backwash from a water treatment system, compressor cooling water, vacuum seal water, non-contact cooling water, floor drain water and other miscellaneous process waste waters to the Kennebec River, Class B, SUBJECT TO THE ATTACHED CONDITIONS, and all applicable standards and regulations:

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 24TH DAY OF May 2006.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: _____ for
DAVID P. LITTELL, Commissioner

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of Receipt of Initial Application: February 23, 2006.

Date of Application Acceptance: February 24, 2006.

FILED
MAY 25 2006
BOARD OF ENVIRONMENTAL PROT.
STATE OF MAINE

Date filed with Board of Environmental Protection _____

This order prepared by GREGG WOOD, Bureau of Land & Water Quality

W20065NG 5/22/06

SPECIAL CONDITIONS
A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

The permittee is authorized to discharge non-process waste waters from the following outfall locations to the Kennebec River, Class B. Such discharges shall be limited and monitored by the permittee as specified below:

June 1 – September 30

Effluent Parameter	Discharge Limits as specified		Monitoring Requirements	
	Weekly Average As specified	Daily Maximum As specified	Measurement Frequency	Sample Type
Instream Temperature (Σ of all Outfalls)—See Special Condition C	ΔT 0.27° F (1, 2) *[15]*	ΔT 0.27° F (1, 3) *[15]*	1/Day *[01/01]*	Calculate *[CA]*
Outfall #001 Sandfilter Backwash				
Flow *[74076]*	---	1.5 MGD *[03]*	1/Week *[01/07]*	Calculate *[CA]*
Total Suspended Solids *[00530]*	30 mg/L(4) *[19]*	60 mg/L *[19]*	1/Week *[01/07]*	Grab *[GR]*
Settleable Solids *[00545]*	---	Report ml/L *[19]*	1/Week *[01/07]*	Grab *[GR]*
Total Residual Chlorine *[50060]*	---	1.0 mg/L *[19]*	1/Week *[01/07]*	Grab *[GR]*
Outfall #003 Vacuum Seal Water				
Flow *[74076]*	---	2.0 MGD *[03]*	1/Week(5) *[01/07]*	Calculate *[CA]*
Temperature *[00011]*	---	120°F *[15]*	1/Week(5) *[01/07]*	Grab *[GR]*
Total Suspended Solids*[00530]*	---	10 mg/L *[19]*	1/Month *[01/30]*	Grab *[GR]*
Outfall #004 Cooling Water PM#3				
Flow *[74076]*	---	1.8 MGD *[03]*	1/Week(5) *[01/07]*	Calculate *[CA]*
Temperature *[00011]*	---	120°F *[15]*	1/Week(5) *[01/07]*	Grab *[GR]*
Total Suspended Solids*[00530]*	---	10 mg/L *[19]*	1/Month *[01/30]*	Grab *[GR]*
Oil & Grease *[00552]*	---	15 mg/L *[19]*	1/Month *[01/30]*	Grab *[GR]*
Outfall #005 Non-Contact Cooling				
Flow *[74076]*	---	5.0 MGD *[03]*	1/Day(5) *[01/01]*	Calculate *[CA]*
Temperature *[00011]*	---	140°F *[15]*	1/Day(5) *[01/01]*	Grab *[GR]*
Total Residual Chlorine *[50060]*	---	1.0 mg/L *[19]*	1/Week *[01/07]*	Grab *[GR]*
Outfall #013 Filter Backwash				
Flow *[74076]*	---	0.5 MGD *[03]*	1/Month *[01/30]*	Calculate *[CA]*
Total Suspended Solids*[00530]*	30 mg/L(4) *[19]*	60 mg/L *[19]*	1/Month *[01/30]*	Grab *[GR]*
Settleable Solids *[00545]*	---	Report ml/L *[19]*	1/Month *[01/30]*	Grab *[GR]*
Total Residual Chlorine *[50060]*	---	1.0 mg/L *[19]*	1/Week *[01/07]*	Grab *[GR]*
For each Outfall at any Time				
pH *[00400]*		6.0 – 9.0 S.U.*[12]*	1/Month(6) *[01/30]*	Grab *[GR]*

The italicized numeric values in brackets in the table above and the table that follows are not limitations but are coding numbers used by Department personnel to code the Discharge Monitoring Reports (DMR's) you will be receiving.

SPECIAL CONDITIONS

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

October 1 – May 31

Effluent Parameter	Discharge Limits as specified		Monitoring Requirements	
	Weekly Average As specified	Daily Maximum As specified	Measurement Frequency	Sample Type
Outfall #001 Sandfilter Backwash				
Flow *[74076]*	---	1.5 MGD *[03]*	1/Week *[01/07]*	Calculate *[CA]*
Total Suspended Solids *[00530]*	30 mg/L(4) *[19]*	60 mg/L *[19]*	1/Week *[01/07]*	Grab *[GR]*
Settleable Solids *[00545]*	---	Report ml/L *[19]*	1/Week *[01/07]*	Grab *[GR]*
Total Residual Chlorine *[50060]*	---	1.0 mg/L *[19]*	1/Week *[01/07]*	Grab *[GR]*
Outfall #003 Vacuum Seal Water				
Flow *[74076]*	---	2.0 MGD *[03]*	1/Month*[01/30]*	Calculate *[CA]*
Temperature *[00011]*	---	120°F *[15]*	1/Month *[01/30]*	Grab *[GR]*
Total Suspended Solids*[00530]*	---	10 mg/L *[19]*	1/Month *[01/30]*	Grab *[GR]*
Outfall #004 Cooling Water PM#3				
Flow *[74076]*	---	1.8 MGD *[03]*	1/Month *[01/30]*	Calculate *[CA]*
Temperature *[00011]*	---	120°F *[15]*	1/Month *[01/30]*	Grab *[GR]*
Total Suspended Solids*[00530]*	---	10 mg/L *[19]*	1/Month *[01/30]*	Grab *[GR]*
Oil & Grease *[00552]*	---	15 mg/L *[19]*	1/Month *[01/30]*	Grab *[GR]*
Outfall #005 Non-Contact Cooling				
Flow *[74076]*	---	5.0 MGD *[03]*	1/Month*[01/30]*	Calculate *[CA]*
Temperature *[00011]*	---	140°F *[15]*	1/Month *[01/30]*	Grab *[GR]*
Total Residual Chlorine *[50060]*	---	1.0 mg/L *[19]*	1/Week *[01/07]*	Grab *[GR]*
Outfall #013 Filter Backwash				
Flow *[74076]*	---	0.5 MGD *[03]*	1/Month *[01/30]*	Calculate *[CA]*
Total Suspended Solids*[00530]*	30 mg/L(4) *[19]*	60 mg/L *[19]*	1/Month *[01/30]*	Grab *[GR]*
Settleable Solids *[00545]*	---	Report ml/L *[19]*	1/Month *[01/30]*	Grab *[GR]*
Total Residual Chlorine *[50060]*	---	1.0 mg/L *[19]*	1/Week *[01/07]*	Grab *[GR]*
For each Outfall at any Time				
pH *[00400]*		6.0 – 9.0 S.U.*[12]*	1/Month(6) *[01/30]*	Grab *[GR]*

SPECIAL CONDITIONS:

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

Footnotes:

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. Effective between June 1 and September 30 of each year.

2. Weekly rolling average limitation when the receiving water temperature is $\geq$66°F and <73°F.

3. Daily limitation when the receiving water temperature is $\geq$73°F.

4. A monthly average limitation.

5. The weekly measurement taken between June 1st and September 30th of each year will be considered representative of the daily temperatures for the purpose of calculating the daily maximum and weekly rolling average predicted river temperature increases (PRTI) as required in Special Condition C of this permit.

6. A grab sample shall be collected and analyzed 1/Month from each outfall.

B. NARRATIVE EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

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 water.

2. The effluent shall not contain materials in concentrations or combinations which are hazardous or toxic to aquatic, estuarine, or marine life, or which would impair the usages designated by the classification of the receiving water.

3. The discharge shall not cause visible discoloration or turbidity in the receiving water that would impair the usages designated by the classification of the receiving water.

4. Notwithstanding specific conditions of this permit the effluent shall 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.

SPECIAL CONDITIONS

C. THERMAL DISCHARGE LIMITATIONS

Between June 1 and September 30 of each year, the permittee shall calculate the daily Predicted River Temperature Increase (PRTI) from the combined thermal discharge from outfalls 003, 004, and 005 as follows:

$$\sum \text{Discharge PRTI} = \frac{Qe_{003}(Te_{003} - Tr) + Qe_{004}(Te_{004} - Tr) + Qe_{005}(Te_{005} - Tr)}{Qr}$$

Where:
PRTI = Predicted River Temperature Increase
Qe = Effluent flow (like units as Qe)
Qr = River flow (obtained from the Anson Hydro Project)
Te = Effluent temperature in °F (each outfall), and
Tr = Upstream River Water Temperature in °F (obtain from the Anson Hydro Project)

The permittee shall report the appropriate ΔT in °F (highest weekly rolling average or daily maximum depending on the receiving water temperature) on the monthly DMR. As an attachment to the DMR, the permittee shall submit daily recorded Qe, Qr, Te, Tr, and the daily calculated PRTI.

D. NOTIFICATION REQUIREMENT

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

1. Any substantial change in the volume or character of pollutants being discharged.

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

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

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

E. UNAUTHORIZED DISCHARGES

The permittee is authorized to discharge in accordance with the terms and conditions of this permit and only from outfalls specified in this permit. Discharges of waste water 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.

SPECIAL CONDITIONS

F. MONITORING AND REPORTING

Monitoring results shall be summarized and reported on separate Discharge Monitoring Report Forms provided by the Department at a frequency of 1/Month and **postmarked on or before the thirteenth (13th) day of the month or hand-delivered to a Department 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 Discharge Monitoring Report and all other reports required herein shall be submitted to the Department assigned compliance inspector (unless otherwise specified) to the following address:

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

G. REOPENING OF PERMIT FOR MODIFICATIONS

Upon evaluation of test results required by the Special Conditions of this permit, new site specific information or any other test results or information gathered during the term of this permit, the Department may, at anytime and with notice to the permittee, modify this permit to: (1) include effluent limits necessary to control specific pollutants or whole effluent toxicity where there is a reasonable potential that the effluent may cause water quality criteria to be exceeded: (2) require additional monitoring if results on file are inconclusive; or (3) change monitoring requirements or limitations based on new information.

H. 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.

MAINE POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT
AND
MAINE WASTE DISCHARGE LICENSE

FACT SHEET

Date: **April 10, 2006**

PERMIT NUMBER: **ME0002534**
WASTE DISCHARGE LICENSE: **W002006-5N-G-R**

NAME AND ADDRESS OF APPLICANT:

MADISON PAPER INDUSTRIES
P.O. Box 129
Madison, Maine 04950

COUNTY: **SOMERSET**

NAME AND ADDRESS WHERE DISCHARGE(S) OCCUR(S):

MADISON PAPER INDUSTRIES
2 Main Street
Madison, Maine 04950

RECEIVING WATER/CLASSIFICATION: **Kennebec River/Class B**

COGNIZANT OFFICIAL AND TELEPHONE NUMBER: **Mr. Daniel Mallett**
Environmental Engineer
(207) 696-3307
Email: dan.mallett@myllykoski.com

1. APPLICATION SUMMARY

a. Application – MPI has submitted a timely and complete application to the Department to renew combination Maine Pollutant Discharge Elimination System (MEPDES) permit #ME0002534/Maine Waste Discharge License (WDL) W002006-5N-F-R (permit hereinafter), that was issued by the Department on June 27, 2001 and is due to expire on June 27, 2006. The 6/27/01 permit authorized MPI to discharge up to 10.8 MGD of non-process wastewater from its groundwood pulp and paper mill complex in Madison to the Kennebec River, Class B. Non-process wastewater from the mill consists of filter backwash from a water treatment system, compressor cooling water, vacuum seal water and non-contact cooling water, floor drain water. All process wastewater and sanitary wastes from the mill are conveyed to and treated by the Anson-Madison Sanitary District wastewater treatment facility. See Attachment A of this Fact Sheet for a location map of the mill and outfall locations.

1. APPLICATION SUMMARY (cont'd)

b. Source Description – Madison Paper Industries of Madison, Maine manufactures pressurized 360 tons per day pressurized groundwood pulp and 750 tons per day supercalendered paper. The groundwood mill utilizes 6 grinder to manufacture the pulp, while all paper production is accomplished on one paper machine, PM3. Paper production results from the blending of the inhouse groundwood pulp, purchased ECF kraft pulp and Precipitated Calcium Carbonate (PCC). The PCC is manufactured by Specialty Minerals Inc, which leases a plot of land on MPI property so that it may manufacture the PCC utilizing carbon dioxide from the power boiler flue gas. MPI employs 250 people onsite for the manufacture of its product. Finished product is shipped by rail or truck to the designated printing facilities

MPI is currently permitted to discharge up to 10.8 MGD of non-process wastewater that consists of filter backwash from a water treatment system, compressor cooling waters, vacuum seal waters, non-contact cooling waters, floor drain waters and seepage from water wheel pits. Sodium hypochlorite is used to control biological growth in certain cooling systems. All process wastewater and sanitary waste waters generated at the MPI mill are conveyed to the Anson-Madison Sanitary District's waste water treatment facility. The discharge of secondary treated waste waters from the Anson-Madison Sanitary District's facility is permitted under a separate MEPDES (#ME0101389) last issued by the Department on June 27, 2001. See Attachment B of this Fact Sheet for a water use schematic of the mill.

c. Waste Water Treatment: The waste water sources described above do not receive any formal treatment (other than process disinfection) prior to discharge to the Kennebec River as the only pollutant of concern is thermal emissions. Outfalls #001 and #004 are 18 inch diameter iron pipes with discharge points 3 feet above the low water level of the river. Outfall #003 is a 30 inch square concrete box culvert with a discharge point 2 feet above the low water level of the river. Outfall #005 is a 9 inch diameter outfall pipe and Outfall #013 is a 6 inch diameter pipe that discharge directly to the tailrace flowage at MPI's adjacent hydroelectric generating facility.

2. PERMIT SUMMARY

a. Terms and conditions - MPI has not requested any changes to the permit limitations established in the previous permitting action. The Department has determined that the effluent limitations and monitoring requirements from the previous permitting action remain representative of operations at the mill. Therefore, all other limitations in the previous permitting action are being carried forward in this permitting action.

2. PERMIT SUMMARY (cont'd)

b. History: The most recent relevant regulatory actions include:

March 23, 1993 – The U.S. Environmental Protection Agency (EPA) issued National Pollutant Discharge Elimination System (NPDES) permit #ME0002534 to MPI for a five-year term.

April 23, 1993 – The Department issued WDL #W002006-57-B-R to MPI for a five-year term authorizing the discharge of up to 9.9 MGD of non-process wastewater. Non-process wastewater generated included filter backwash from a water treatment system; compressor cooling waters, vacuum seal waters, non-contact cooling waters, floor drain waters and seepage from water wheel pits.

January 10, 1996 – The Department issued WDL #W002006-57-C-R to MPI for a five-year term. The WDL authorized the discharge of up to 16.4 MGD of non-process wastewater associated with expansion plans at the mill including the construction of a new paper machine that would double production output at the facility. It is noted this expansion never came to fruition.

February 23, 1996 – The EPA issued a permit modification of NPDES permit #ME0002534 which imposed the same limitations established in WDL #W002006-57-C-R.

March 3, 1999 – The Department issued WDL modification #W002006-5N-D-M that modified the flow limitation for Outfall #005 from 3.0 to 5.0 MGD.

July 24, 2000 – The Department issued a modification (#W002006-5N-E-M) to the 1/10/96 WDL that incorporated a daily maximum concentration limitation of 1.0 mg/L for total residual chlorine with a testing frequency of 1/Week for Outfall #005. The modification was based on MPI's disinfection of process make-up water at the Pressurized Groundwood mill using sodium hypochlorite.

January 12, 2001 – Maine received authorization from the EPA to administer the NPDES permit program. From this date forward, the permitting program has been referred to the MEPDES permit program.

June 27, 2001 – The Department issued combination MEPDES permit #ME0002534/WDL W00002006-5NF-R for a five-year term.

February 23, 2006 – MPI submitted a timely and complete application to the Department to renew the MDPDES permit/WDL for the discharges from the pulp and paper mill complex.

3. 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.

4. WATER QUALITY STANDARDS

Maine law, 38 M.R.S.A. Section 467 (4)(A)(9) states that the Kennebec River at the point of discharge is a Class B waterway. Maine law, 38 MRSA, Section 465 (3) contains the classification standards for Class B waters.

5. WATER QUALITY CONDITIONS

A document entitled, 2004 Integrated Water Quality Monitoring and Assessment Report prepared by the Department pursuant to Section 305(b) of the Federal Water Pollution Control lists a 22.8 mile Class B segment of the Kennebec River main stem from the confluence with Carrabassett River to the Fairfiel-Skowhegan boundary [Assessment Unit (HUC) #ME0103000306, segment ID #338R] in a table entitled *Category 4-B-1: Rivers and Streams Impaired By Pollutants*, *Pollution Control Requirements Reasonably Expected to Result in Attainment*. The report indicates impairment is the designated use of fishing (consumption) due to the presence of dioxin in fish tissue. The "*Pollution Control Requirements Reasonably Expected to Result in Attainment,* refers to the conversion to elemental chlorine free (ECF) bleaching technology in the mid-1990's at integrated kraft pulp and paper mills. MPI is and always has been a ground wood pulp technology facility.

In addition, the 2004 Report lists all freshwaters in Maine as "*Category 5-C: Waters Impaired by Atmospheric Deposition.*" Impairment in this context refers to the designated use of recreational fishing due to elevated levels of mercury in some fish caused by atmospheric deposition. As a result, the State has established a fish consumption advisory for all freshwaters in Maine.

The Department has no information that indicates MPI is discharging dioxin (or dioxin like compounds) or mercury that cause or contribute to the impairments cited above.

6. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

a. **Outfall #001** – Sandfilter backwash waters

1. Flow – The previous permitting action established a daily maximum flow limitation of 1.5 MGD that was based on the permittee's estimate of a flow that was representative of the discharge for this waste stream. The limitation is being carried forward in this permitting action. A review of the DMR data for the period January 2003 through December 2005 indicates the flow has ranged from 0.3 MGD to 0.9 MGD with an arithmetic mean of 0.8 MGD.

2. Total Suspended Solids (TSS) – The previous permitting action established monthly average and daily maximum concentration limitations of 30 mg/L and 60 mg/L based on a Department best professional judgment (BPJ) of best practicable treatment (BPT). These limits are consistent with the TSS limitations for discharges of back wash waters from public drinking water supply treatment facilities permitted by the Department. The limitations are being carried forward in this permitting action.

   A review of the DMR data for the period January 2003 through December 2005 indicates the monthly average TSS concentration has ranged from 0 mg/L to 100 mg/L with an arithmetic mean of 7 mg/L. As for the daily maximum, the concentration of TSS discharged has ranged from 0 mg/L to 340 mg/l with an arithmetic mean of 20 mg/L.

3. Settleable solids (SS) – The previous permitting action established a reporting requirement for the daily maximum concentration of SS discharged that is being carried forward in this permitting action. A review of the DMR data for the period January 2003 through December 2005 indicates the daily maximum SS concentration has been reported as 0.0 ml/L foe every month in said period with the exception of a result of 1.5 ml/L reported in April of 2004.

4. Total residual chlorine – The previous permitting action establish a daily maximum limit of 1.0 mg/L based on a BPJ determination of BPT. These limits are consistent with the TSS limitations for discharges of back wash waters from public drinking water supply treatment facilities permitted by the Department. The limitations are being carried forward in this permitting action.

   A review of the DMR data for the period January 2003 through December 2005 indicates the daily maximum TRC concentration has ranged from 0.1 mg/L to 1.3 mg/L with an arithmetic mean of 0.66 mg/L.

6. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

b. **Outfall #003** – Vacuum Seal waters

1. Flow – The previous permitting action established a daily maximum flow limitation of 2.0 MGD that was based on the permittee's estimate of a flow that was representative of the discharge for this waste stream. The limitation is being carried forward in this permitting action. A review of the DMR data for the period January 2003 through December 2005 indicates the flow has ranged from 0.6 MGD to 1.9 MGD with an arithmetic mean of 1.4 MGD.

2. Temperature - The previous permitting action established a daily maximum temperature limitation of 120°F that was based on the permittee's estimate of a temperature that was representative of the discharge for this waste stream. The limitation is being carried forward in this permitting action. A review of the DMR data for the period January 2003 through December 2005 indicates the summer months (June – September) daily maximum temperatures have ranged from 97°F to 112°F with an arithmetic mean of 104 °F. For the non-summer months (October– May) the daily maximum temperatures have ranged from 59°F to 98°F with an arithmetic mean of 80°F. The annual mean temperature for said period was 88°F.

3. Total Suspended Solids (TSS) – The previous permitting action established a daily maximum concentration limitation of 10 mg/L based on the permittee's estimate of TSS levels that were representative of the discharge for this waste stream. The limitation is being carried forward in this permitting action. A review of the DMR data for the period January 2003 through December 2005 indicates the daily maximum TSS concentration has ranged from 0.0 mg/L to 6 mg/L with an arithmetic mean of 0.6 mg/L.

c. **Outfall #004** Cooling Water Paper Machine #3

1. Flow – The previous permitting action established a daily maximum flow limitation of 1.8 MGD that was based on the permittee's estimate of a flow that was representative of the discharge for this waste stream. The limitation is being carried forward in this permitting action. A review of the DMR data for the period January 2003 through December 2005 indicates the flow has ranged from 0.3 MGD to 1.0 MGD with an arithmetic mean of 0.65 MGD.

2. Temperature - The previous permitting action established a daily maximum temperature limitation of 120°F that was based on the permittee's estimate of a temperature that was representative of the discharge for this waste stream. The limitation is being carried forward in this permitting action. A review of the DMR data for the period January 2003 through December 2005 indicates the summer months (June – September) daily maximum temperatures have ranged from 89°F to 101°F with an arithmetic mean of 96°F. For the non-summer months

6. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

(October– May) the daily maximum temperatures have ranged from 63°F to 84°F with an arithmetic mean of 73°F. The annual mean temperature for said period was 81°F.

3. Total Suspended Solids (TSS) – The previous permitting action established a daily maximum concentration limitation of 10 mg/L based on the permittee's estimate of TSS levels that were representative of the discharge for this waste stream. The limitation is being carried forward in this permitting action. A review of the DMR data for the period January 2003 through December 2005 indicates the daily maximum TSS concentration has ranged from 0 mg/L to 2 mg/L with an arithmetic mean of <1 mg/L.

4. Oil & grease – The previous permitting action established a daily maximum concentration limit of 15 mg/L based on a Department BPT for any discharge that has a reasonable potential to discharge oil & grease. The limitation is being carried forward in this permitting action. A review of the DMR data for the period January 2003 through December 2005 indicates the daily maximum oil & grease concentration has ranged from <1.0 mg/L to 6.0 mg/L with an arithmetic mean of 1.3 mg/L.

d. **Outfall #005** – Non-contact cooling waters

1. Flow – The previous permitting action established a daily maximum flow limitation of 5.0 MGD that was based on the permittee's estimate of a flow that was representative of the discharge for this waste stream. The limitation is being carried forward in this permitting action. A review of the DMR data for the period January 2003 through December 2005 indicates the flow has ranged from 0.6 MGD to 4.3 MGD with an arithmetic mean of 2.1 MGD.

2. Temperature - The previous permitting action established a daily maximum temperature limitation of 140°F that was based on the permittee's estimate of a temperature that was representative of the discharge for this waste stream. The limitation is being carried forward in this permitting action. A review of the DMR data for the period January 2003 through December 2005 indicates the summer months (June – September) daily maximum temperatures have ranged from 127°F to 151°F with an arithmetic mean of 138°F. For the non-summer months (October– May) the daily maximum temperatures have ranged from 48°F to 140°F with an arithmetic mean of 73°F. The annual mean temperature for said period was 99°F.

6. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

3. Total residual chlorine (TRC) – The previous permitting action establish a daily maximum limit of 1.0 mg/L based on a BPJ determination of BPT. The limitation is being carried forward in this permitting action.

   A review of the DMR data for the period January 2003 through December 2005 indicates the daily maximum TRC concentration has ranged from 0.1 mg/L to 0.3 mg/L with an arithmetic mean of 0.12 mg/L.

e. **Outfall #013** – Filter backwash waters

1. Flow – The previous permitting action established a daily maximum flow limitation of 0.5 MGD that was based on the permittee's estimate of a flow that was representative of the discharge for this waste stream. The limitation is being carried forward in this permitting action. A review of the DMR data for the period January 2003 through December 2005 indicates the flow has ranged from 0.002 MGD to 0.4 MGD with an arithmetic mean of 0.14 MGD.

2. Total Suspended Solids (TSS) – The previous permitting action established monthly average and daily maximum concentration limitations of 30 mg/L and 60 mg/L based on a Department best professional judgment (BPJ) of best practicable treatment (BPT). These limits are consistent with the TSS limitations for discharges of back wash waters from public drinking water supply treatment facilities permitted by the Department. The limitations are being carried forward in this permitting action.

   A review of the DMR data for the period January 2003 through December 2005 indicates the monthly average TSS concentration has ranged from 0 mg/L to 40 mg/L with an arithmetic mean of 3 mg/L. As for the daily maximum, the concentration of TSS discharged has ranged from 0 mg/L to 80 mg/l with an arithmetic mean of 4 mg/L.

3. Settleable solids (SS) – The previous permitting action established a reporting requirement for the daily maximum concentration of SS discharged that is being carried forward in this permitting action. A review of the DMR data for the period January 2003 through December 2005 indicates the daily maximum SS concentration has been reported as 0.0 ml/L every month in said period.

4. Total residual chlorine – The previous permitting action establish a daily maximum limit of 1.0 mg/L based on a BPJ determination of BPT. These limits are consistent with the TSS limitations for discharges of back wash waters from public drinking water supply treatment facilities permitted by the Department. The limitations are being carried forward in this permitting action. A review of the DMR data for the period January 2003 through December 2005 indicates the daily maximum TRC concentration has ranged from 0.0 mg/L to 0.4 mg/L with an arithmetic mean of 0.11 mg/L.

6. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

g. All outfalls

1. pH – The previous permitting action establish a pH range limitation of 6.0 – 9.0 standard units based on a Department BPJ of BPT. Though the discharge from the MPI facility is not subject to limitations in the National Effluent Guidelines (NEGs) found in federal regulations because all process waste waters are conveyed to the Anson-Madison municipal waste water treatment facility, this range limit is consistent with the NEGs for non-process waste waters and cooling waters.

   A review of the DMR data for the period January 2003 through December 2005 indicates the permittee has been in compliance with the pH range limitation 100% of the time for all outfalls.

h. In-stream temperature ($\sum$ of all outfalls)

The previous permitting action established a weekly average and daily maximum receiving water temperature increase (ΔT) of 0.27° F based on the permittee's estimate of a temperature increase that was representative of the collective impact of the discharges on the receiving waters.

Department Rule Chapter 582, *Regulations Relating To Temperature*, limits thermal discharges to an in-stream temperature increase (ΔT) of 0.5° F above that temperature that would naturally occur outside a mixing zone established by the Board when the weekly average temperature of the receiving water is greater than or equal to 66° F or when the daily maximum temperature is greater than or equal to 73° F. The temperature thresholds are based on EPA water quality criterion for the protection of brook trout and Atlantic salmon (both species indigenous to the Kennebec River). The weekly average temperature of 66° F was derived to protect for normal growth of the brook trout and the daily maximum threshold temperature of 73° F protects for the survival of juveniles and adult Atlantic salmon during the summer months. As a point of clarification, the Department interprets the term "weekly average temperature" to mean a seven (7) day rolling average. To promote consistency, the Department also interprets the ΔT of 0.5° F as a weekly rolling average criterion when the receiving water temperature is $\geq$66° F and <73° F. When the receiving water temperature is $\geq$73° F compliance with the ΔT of 0.5° F is evaluated on a daily basis.

6. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

h. In-stream temperature ($\sum$ of all outfalls)

The Department has performed calculations to evaluate the theoretical thermal impact of the discharge on the receiving waters based on the permitted flows and temperature for the largest outfalls and critical receiving water flows and temperatures of as follows.

Outfall #003 = 2.0 MGD, 120°F:

Thermal load in BTU's/day = (2.0 MGD)(8.34)(120°F - 66°F) = 9.01×10^8 BTU/day

Outfall #004 = 1.8 MGD, 100°F.

Thermal load in BTU's/day = (1.8 MGD)(8.34)(100°F - 66°F) = 5.10×10^8 BTU/day

Outfall #005 = 5.0 MGD, 140°F.

Thermal load in BTU's/day = (5.0 MGD)(8.34)(140°F - 66°F) = 30.8×10^8 BTU/day

44.9×10^8 BTU/day

With a 7Q10 receiving water flow of 2,287 cfs or 1,478 MGD, it would take a thermal discharge load of 61.6×10^8 BTUs/day BTUs/day to change the receiving water by a ΔT of 0.5° F based on the following calculation:

$$(1{,}478 \text{ MGD})(8.34)(0.5°\text{F}) = 61.6 \times 10^8 \text{ BTUs/day}$$

Therefore, at permitted daily maximum flows and temperatures the maximum temperature increase in the Kennebec River, after complete mixing with the receiving water is 0.36°F, which is less than the 0.5 ΔT°F regulatory maximum change pursuant to Department rule Chapter 582. The calculation is as follows:

$$\frac{0.5°\text{F}}{61.6 \times 10^8 \text{ BTU/day}} = \frac{X°\text{F}}{44.9 \times 10^8 \text{ BTU/day}}$$

$$X°\text{F} = \frac{(0.5°\text{F})(44.9 \times 10^8 \text{ BTU/day})}{61.6 \times 10^8 \text{ BTU/day}}$$

$$X = 0.36°\text{F}$$

6. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

h. In-stream temperature ($\sum$ of all outfalls)

Review of the DMR data for the summer period June – September from calendar year 2001 – 2005 indicates the weekly average ΔT has ranged from 0.03°F to 0.17°F with an arithmetic mean of 0.09°F. As for the daily maximum, the ΔT has ranged from 0.07°F to 0.26°F with an arithmetic mean of 0.15°F. Therefore, this permitting action is carrying forward the weekly average and daily maximum in-stream temperature increase limits of 0.27°F as they are more stringent than the assimilative capacity of the receiving waters and give the facility flexibility in managing their discharges.

Pursuant to Special Condition C, *Thermal Discharge Limitations*, of this permit, as an attachment to the monthly DMRs for the months on June – September of each year, the permittee shall submit the daily recorded Qe, Qr, Te, Tr and the daily calculated thermal load expressed in BTUs/day and the daily calculated predicted river temperature increase (PRTI).

7. DISCHARGE IMPACT ON RECEIVING WATER QUALITY

The Department has determined that the existing water uses will be maintained and protected and the discharge will not cause or contribute to the failure of the waterbody to meet standards for Class B classification.

8. PUBLIC COMMENTS

Public notice of this application was made in the Central Maine Morning Sentinel newspaper on or about January 12, 2006. 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.

9. DEPARTMENT CONTACTS

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

Gregg Wood
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) 287-3901
E-mail: gregg.wood@maine.gov

10. RESPONSE TO COMMENTS

During the period of April 10, 2006 through the date of permit issuance, the Department solicited comments on the proposed draft Maine Pollutant Discharge Elimination System Permit Modification to be issued to the Madison Paper facility in Madison, Maine. The Department did not receive any comments from any party that resulted in significant revisions to the terms and conditions of the permit. Therefore, no response to comments has been prepared.

ATTACHMENT A

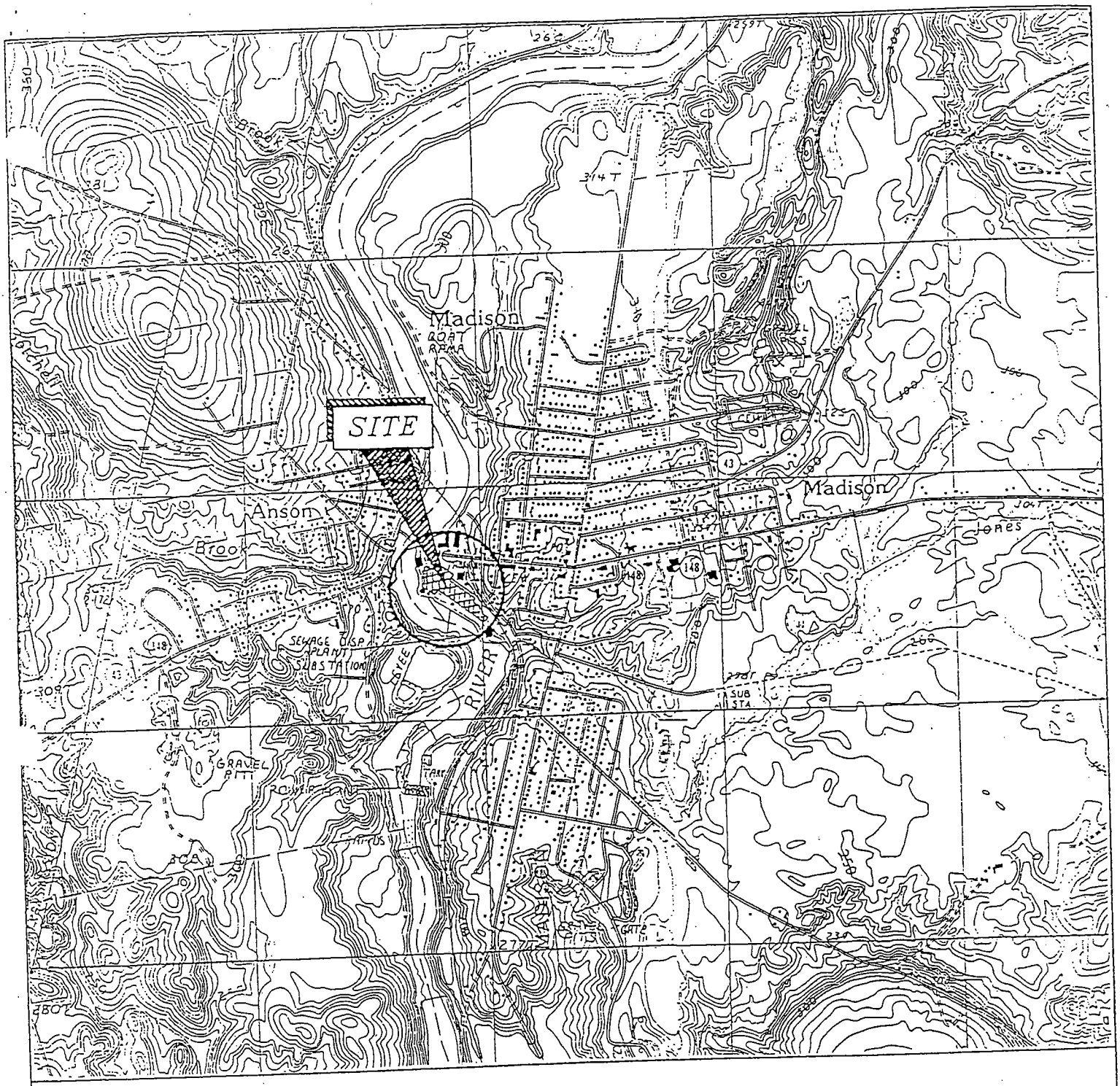

FIGURE IIA

SCALE
1:24000

TRUE

SOURCE:
U.S.G.S. 7.5 MINUTE QUADRANGLE OF
MADISON EAST & MADISON WEST

MADISON PAPER INDUSTRIES MADISON, MAINE			
SITE LOCATION MAP			
ACHERON ENGINEERING SERVICES Engineering, Environmental & Geologic Consultants Newport, Maine • Winthrop, Maine			
JOB NO:	34410	DWG NO:	A-1335
SCALE:	AS SHOWN	DATE:	11/7/95

FILE: A-1335

Madison Paper & Anson-Madison Sanitary District Waste Water Treatment Facility & Vicinity