



MINISTRY OF WATER, LAND
AND AIR PROTECTION

Vancouver Island Region
Pollution Prevention
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PERMIT
PE-00266

Under the Provisions of the Waste Management Act

**Norske Skog Canada Limited and
Norske Skog Canada Pulp Operations Limited**
doing business as NorskeCanada, general partnership
16th Floor, 250 Howe Street
Vancouver, British Columbia
V6C 3R8

is authorized to discharge effluent to the water from a pulp and paper mill (which may include wood-dryer kiln condensate from Weyerhaeuser Alberni Pacific Division) located in Port Alberni, British Columbia, subject to the conditions listed below. Contravention of any of these conditions is a violation of the *Waste Management Act* and may result in prosecution.

This permit supersedes and amends all previous versions of Permit PE-00266, issued under Part 2 Section 10 of the *Waste Management Act*.

The location of the facilities from which the discharge originates is Parcel Y (D.D. 20 147-N), District Lot No. 1, Alberni Land District, title No. 20 147-N.

1. AUTHORIZED DISCHARGES

1.1 The combined effluent from the **ACTIVATED SLUDGE TREATMENT (AST) SYSTEM**, originating as general mill wastewater and from the **AERATED STABILIZATION BASIN (ASB)**, originating as other mill wastewater as specified in Subsection 1.1.3 is authorized for discharge to Alberni Inlet through an outfall identified as 01 approximately located as shown on attached Site Plan A. The site reference number for this discharge is E100006.

1.1.1 The maximum authorized rate of discharge is 180 000 m³/d. The authorized discharge period is 24hours per day, 7days per week.

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Assistant Regional Waste Manager

1.1.2 The characteristics of the discharge shall not exceed:

pH range: 6.0 – 8.0

96h LC50 Toxicity: at 100% concentration

	Daily Maximum	Monthly Average
Total Suspended Solids (TSS)	$\frac{10\ 154 \times 1000}{\text{EFF}}$ mg/L	$\frac{6\ 092 \times 1000}{\text{EFF}}$ mg/L
	10 154 kg/d	6 092 kg/d
5-Day Biochemical Oxygen Demand (BOD₅)	$\frac{5\ 641 \times 1000}{\text{EFF}}$ mg/L	$\frac{3\ 385 \times 1000}{\text{EFF}}$ mg/L
	5 641 Kg/d	3 385 Kg/d

- "Monthly average" is the arithmetic average of the test values collected during the calendar month.
- "EFF" means the 90th percentile of the rate of effluent discharged, expressed as m³/d, determined by the use of statistical methods, and using a period of time approved by the Regional Waste Manager for determination of the 90th percentile of the rate of discharge of effluent.
- The individual limits for TSS and BOD₅ shall not be exceeded.

1.1.3 Prior to the discharge of effluent, the authorized works and related appurtenances approximately located as shown on attached site plan A and Site Plan B, applicable to the wastewater streams listed below, must be complete and operational as follows:

AUTHORIZED WORKS	WASTEWATER STREAM
ACTIVATED SLUDGE TREATMENT (AST) SYSTEM: <ul style="list-style-type: none"> primary clarifier biological reactor (bioreactor) secondary clarifier or 2 clarifiers in parallel pH adjustment, effluent cooling, nutrient addition and sludge dewatering systems* outfall and surface diffuser** 	general mill wastewater: <ul style="list-style-type: none"> pulp mill (groundwood and chemi-thermo mechanical process) and paper mill wastewater wood-dryer kiln condensate from Weyerhaeuser Alberni Pacific Division storm water runoff


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AUTHORIZED WORKS	WASTEWATER STREAM
<p>AERATED STABILIZATION BASIN (ASB) with:</p> <ul style="list-style-type: none"> • surface aerators • outfall and surface diffuser* 	<p>other mill wastewater including but not limited to:</p> <ul style="list-style-type: none"> • paper mill vacuum pump seal water • boiler feed water demineralizer backwash • boiler blowdown wastewater • miscellaneous non-contact cooling waters from the boiler house • a portion of the overflow from the secondary clarifiers** • storm water runoff

*for the combined discharge of effluent from the ASB and the AST.

**at flow rates necessary for wastewater treatment.

1.1.4 During mill startups/shutdowns, the untreated general mill wastewater streams may be diverted for treatment to the ASB.

1.2 Effluent originating as **BLOCK FLUME OVERFLOW** is authorized for intermittent discharge to the Somass River through an outfall identified as 03 approximately located as shown on attached Site Plan A. The site reference number for this discharge is E218644.

1.2.1 The maximum authorized rate of discharge is 33 000 m³/d. The authorized discharge period is indeterminate.

1.2.2 The characteristics of the discharge shall not exceed a 96h LC10 toxicity value of 100%.

1.2.3 Prior to the discharge of effluent, the authorized works including a block flume effluent conveyance system, overflow structure, outfall and related appurtenances, approximately located as shown on the attached Site Plan A, must be complete and operational.

2. GENERAL REQUIREMENTS

2.1 Spill Reporting

All spills to the environment (as defined in the Spill Reporting Regulation) shall be reported immediately in accordance with the Spill Reporting Regulation. Notification shall be via the Provincial Emergency Program at 1-800-663-3456.

2.2 Bypasses

The permittee shall ensure that no waste is discharged without being processed through the authorized works unless approval is received from the Regional Waste Manager.

2.3 Maintenance of Works and Emergency Procedures

The permittee shall inspect the authorized works regularly and maintain them in good working order. In the event of an emergency or condition beyond the control of the permittee which prevents continuing operation of the authorized works, the permittee shall take appropriate remedial action and immediately notify the Regional Waste Manager.

To protect the environment, the permittee may required to reduce production or suspend the operation while the situation is being corrected.

2.4 Foam

Should objectionable amounts of foam, attributable to the effluent, occur on the receiving waters, measures shall be taken to either eliminate the cause of the foam or to eliminate the foam by additional treatment.

2.5 Colour

Should colour, attributable to the effluent, become an objectionable feature in the receiving waters, then additional treatment shall be provided to remove colour forming constituents from the effluent prior to discharge.

2.6 Nutrients

Should nutrients be added to increase the efficiency of any biological treatment system, the quantity of nutrient shall be so controlled such that excess nutrients are not discharged to the receiving waters. The ratio of BOD₅:N:P shall be recorded and data kept available for inspection.



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3. MONITORING AND REPORTING REQUIREMENTS

3.1 Effluent

The permittee shall maintain suitable sampling facilities and obtain samples and analyses of effluents authorized for discharge as specified in Subsections 1.1 and 1.2 as follows:

Parameter	Subsection 1.1 Sampling site 01 Combined Effluent ACTIVATED SLUDGE TREATMENT (AST) SYSTEM & AERATED STABILIZATION BASIN (ASB) – to Alberni Inlet E100006	Subsection 1.2 Sampling site 03 BLOCK FLUME OVERFLOW – to the Somass River E218644
pH	CONT*	
Specific Conductance	CONT*	
Temperature	CONT*	
Toxicity 96h LC50 (Rainbow Trout)	G/M**	
Toxicity 48h LC50 (Daphnia Magna)	G/W	
Toxicity 96h LC10 (Rainbow Trout)		G/M***
TSS	DC/D	G/M***
BOD ₅	DC/2D	G/M***

CONT = Continuous Monitoring 2D = Every Second Day M = Monthly
 G = Grab Sample D = Daily
 DC = Daily Composite Sample W = Weekly

- a. "96h LC50 toxicity" means the calculated concentration of effluent that is lethal to 50% of the test fish (rainbow trout (*Oncorhynchus mykiss*)) during a 96 hour exposure.

- b. A 96h LC10 toxicity value of 100% means that, in a static bioassay on the test fish (rainbow trout (*Oncorhynchus mykiss*)), there shall be no greater than 10% mortality after 96 hours exposure in effluent concentration of 100%.
- c. For 96h LC50 and 96h LC10 toxicity tests, the percent of fish survival after 96 hours in the undiluted sample shall be recorded.
- d. Rainbow trout toxicity testing shall be increased to once per week if a sample fails to meet the characteristics specified above in a. or b. Samples of authorized discharge shall continue to be collected as flows allow and tested once per week until three consecutive tests pass, at which time testing may revert to the frequencies as specified in the table, Subsection 3.1.
- e. Effluent (at 100 percent concentration) fails the *Daphnia magna* test when mortality of the *Daphnia magna* exceeds 50 percent during a 48-hour period.
- f. If a sample of effluent fails the *Daphnia magna* toxicity test, a sample of effluent shall be collected without delay and tested for 96h LC50 toxicity using rainbow trout in accordance with accepted procedures.

* At the site identified as 01, the average daily values and average calendar monthly values for pH temperature and specific conductance (conductivity) of combined AST & ASB effluent shall be recorded and made available for inspection by the Regional Waste Manager for a minimum period of three years.

**At the site identified as 01, where a sample of combined AST & ASB effluent is to be collected and tested once per month, the sampling date shall be selected by the permittee at least 30 days in advance of sample collection and a period of at least 21 days shall separate any two sample collections.

***At the site identified as 03, a minimum of one sample and additional samples of block flume overflow at frequencies as specified in the table above shall be taken during each discharge event.

3.2 Monitoring the Receiving Environment

Based on the federal environmental effects monitoring data or other information, further receiving environment monitoring requirements or additional measures for the protection of the environment may be specified by the Regional Waste Manager.



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3.3 Flow Measurement

- 3.3.1 Provide and maintain a suitable flow measuring device and record once per day the effluent volume discharged over a 24-hour period for the discharge(s) authorized in Subsection 1.1.
- 3.3.2 Once per year, determine the 90th percentile of the volume of effluent discharged over a 24-hour period for the discharge(s) authorized in Subsection 1.1 for the previous calendar year of mill production.
- 3.3.3 Record the dates, durations and rates of discharge for block flume overflows to the Somass River authorized in Subsection 1.2.

3.4 Production

Record the total mill production (ADt/d) once per day.

3.5 Sampling for Compliance Determination

The compliance sampling method used to provide samples of effluent authorized in Subsection 1.1 for the determinations of BOD₅ and TSS, shall consist of collecting an effluent sample during a period of 24 hours by taking a composite sample at the outlet from the combined effluent of the secondary clarifier(s) and the aeration lagoon identified as 01 as shown on the attached Site Plan A at least every 15 minutes. The Regional Waste Manager may specify an alternate sampling method for compliance determination.

3.6 Monitoring Procedures

3.6.1 Sampling Location and Techniques

All sampling locations require the consent of the Regional Waste Manager prior to use. Sampling and monitoring data shall be accompanied by rate of discharge measurements and process data relevant to the operation of the source of the discharge(s) and the performance of the pollution abatement equipment involved in the testing.

3.6.2 Sampling and Analytical Procedures

Sampling shall be carried out in accordance with the procedures described in the "British Columbia Field Sampling Manual for Continuous Monitoring and the Collection of Air, Air-Emission, Water, Wastewater, Soil, Sediment, and Biological Samples 2003 Edition (Permittee)", or by suitable alternative procedures as authorized by the Regional Waste Manager.

Analyses are to be carried out in accordance with procedures described in the "British Columbia Environmental Laboratory Manual for the Analysis of Water, Wastewater, Sediment and Biological Materials (March 1994 Permittee Edition)", or by suitable alternative procedures as authorised by the Regional Waste Manager.

Copies of the above manuals may be purchased from the Queen's Printer Publications Centre, P. O. Box 9452, Stn. Prov. Gov't. Victoria, British Columbia, V8W 9V7 (1-800-663-6105 or (250) 387-6409), and are also available for inspection at all Environmental Protection offices.

3.7 Reporting Schedule

Maintain effluent discharge monitoring results, flow measurements and production figures for inspection and submit the data once each month within 30 days following the month in which the monitoring was undertaken. The monitoring results shall be submitted in a hard copy or electronic format as specified by the Regional Waste Manager.

The Regional Waste Manager may request that data be submitted in a format suitable for entry into the Ministry of Water, Land and Air Protection computer data base.

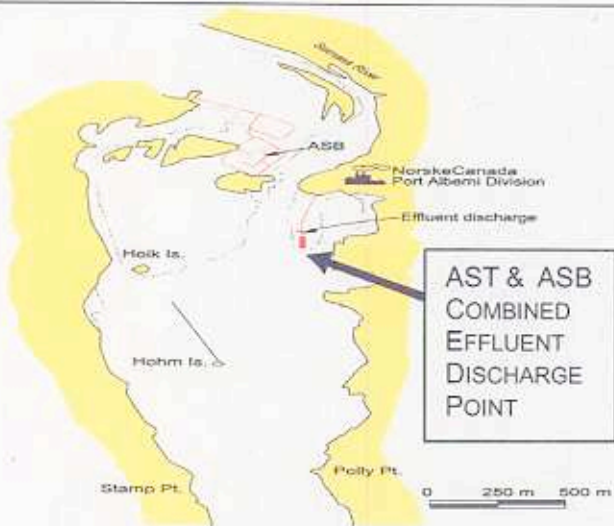
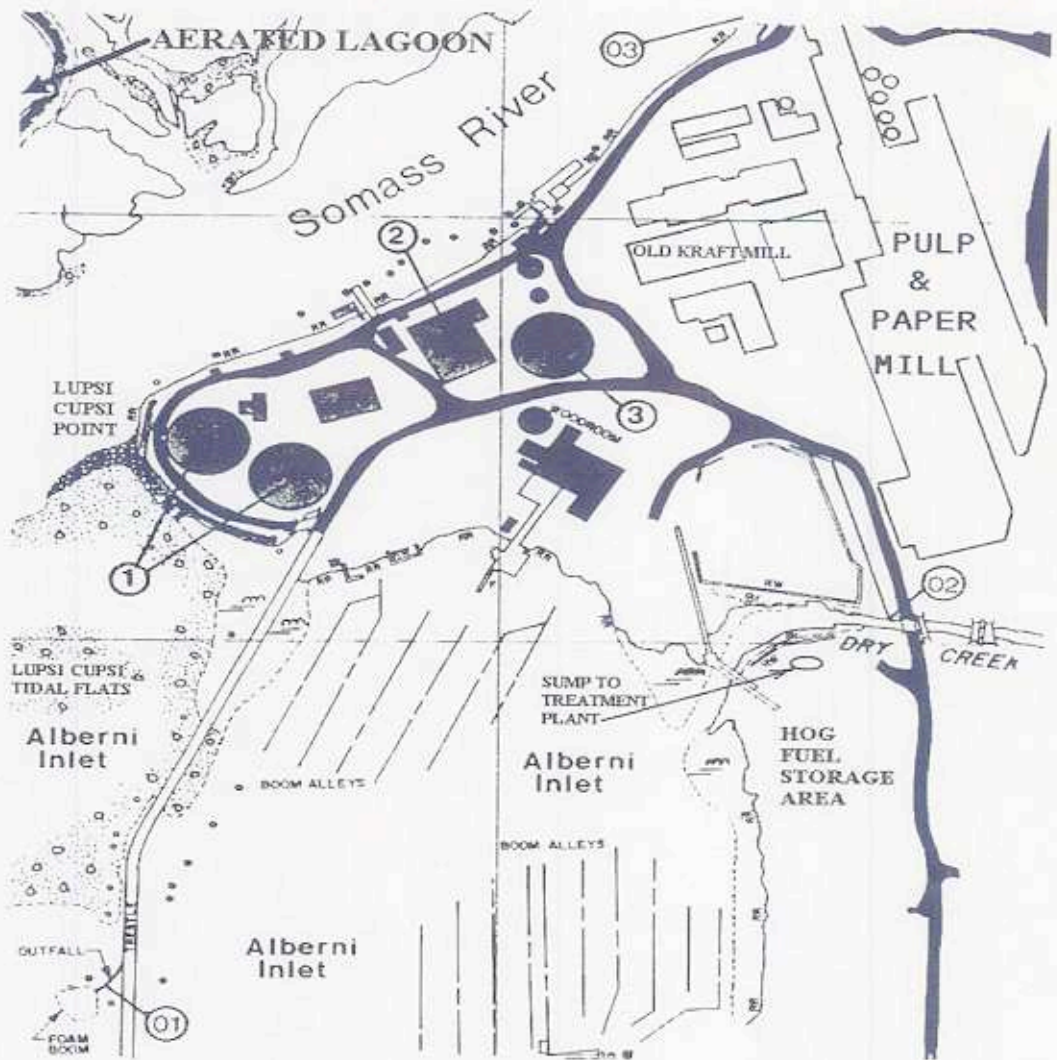
An environmental impact assessment report, which includes the results of the interpretive report for federal Environmental Effects Monitoring (EEM), results of a receiving environment monitoring program, effluent monitoring data and any other information which may aid the interpretation of the effects on the receiving environment (such as river flow rate, meteorological information) shall be submitted within 30 days of the issuance of each required interpretive report for the EEM.

Site Plan A



ACTIVATED SLUDGE TREATMENT SYSTEM (AST)

01	AST & ASB COMBINED EFFLUENT DISCHARGE POINT
03	BLOCK FLUME EFFLUENT OVERFLOW DISCHARGE POINT
1	SECONDARY CLARIFIERS
2	BIOLOGICAL REACTOR
3	PRIMARY CLARIFIER



Location Map

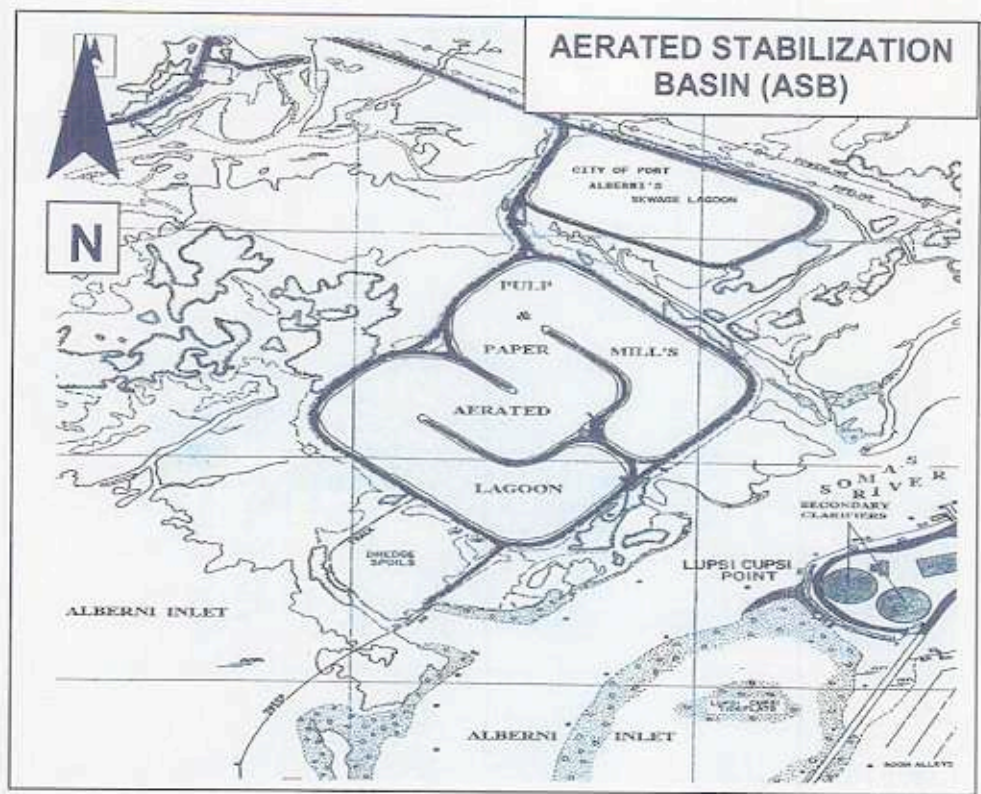
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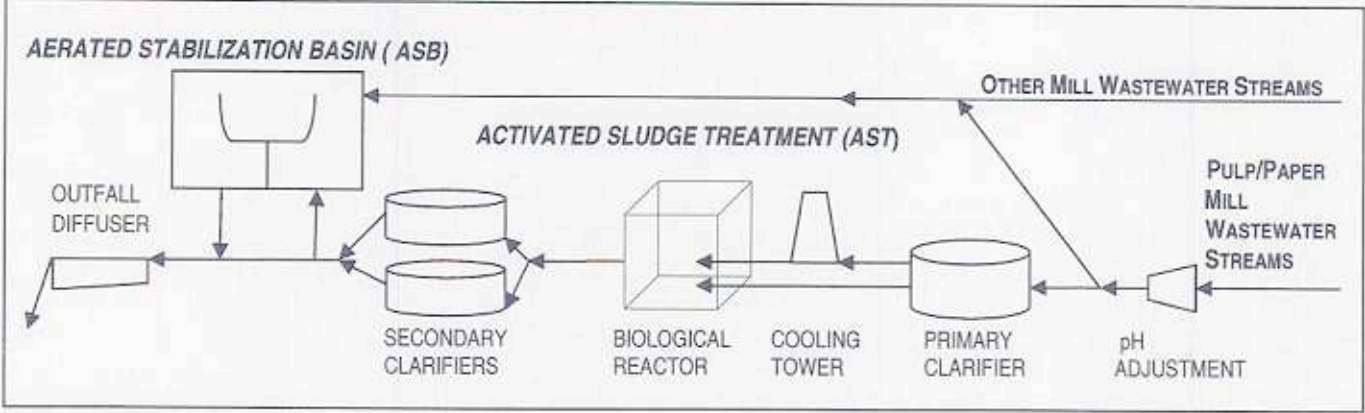
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Site Plan B



WASTEWATER TREATMENT SYSTEM



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