AUTHORIZATION TO DISCHARGE UNDER CLEAN WATER ACT NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provisions of the Federal Clean Water Act, as amended, (33 U.S.C. § 1251 et seq.; the "CWA")

Penobscot Nation– ME010311

is authorized to discharge from a facility located at

Penobscot Nation Pollution Control Facility, Old Town, Maine

to the receiving water named

Penobscot River, Maine

in accordance with effluent limitations, monitoring requirements and other conditions set forth herein. This permit shall become effective on date of signature by the EPA representative designated by the Regional Administrator indicated below:

This permit and the authorization to discharge shall expire at midnight, five (5) years from the effective date.

This permit supersedes the NPDES permit issued on **November 21, 1985**. This permit consists of the National Pollutant Discharge Elimination System Permit and Fact Sheet and the attached Special Conditions, including any effluent limitations and monitoring requirements.

Signed this 26 day of January, 2006

Linda M. Murphy

Linda M. Murphy, Director
Office of Ecosystems Protection
Environmental Protection Agency
Boston, Massachusetts

IN THE MATTER OF

PENOBSCOT NATION PENOBSCOT NATION POLLUTION CONTROL FACILITY	NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT
INDIAN ISLAND, MAINE) PUBLICLY OWNED TREATMENT WORKS –) ME010311)	
APPROVAL)	**RENEWAL**

Pursuant to the provisions of the Federal Water Pollution Control Act, Title 33 USC, Section 1251, et seq. and applicable regulations, the U.S Environmental Protection Agency has considered the application of the **Penobscot Nation** with its supportive data, agency review comments, and other related materials on file and FINDS THE FOLLOWING FACTS:

APPLICATION SUMMARY

The applicant has applied for the renewal of NPDES permit No. ME0101311, dated July 27, 1990. The previous permit approved the discharge of 0.07 million gallons per day (MGD) of secondary treated municipal waste water from the older publicly owned treatment works The Penobscot Nation Pollution Control Facility to the Penobscot River, **Class B**, in Indian Island, Maine. In 2004 the Penobscot Nation Pollution Control Facility underwent a system process upgrade Indian Island installed a system upgrade to increase from to 0.1 million MGD.

PERMIT SUMMARY

By this permit renewal, the effluent limitations and monitoring requirements for flow, biochemical oxygen demand (BOD) removal and total suspended solids (TSS) removal, settleable solids, e.coli coliform and total residual chlorine are being changed to reflect the new wastewater treatment facility's design flow of 0.10 MGD subject to secondary wastewater treatment regulations. A monitoring requirement for total phosphorous and orthophosphate has been added as a seasonal requirement.

SPECIAL CONDITIONS

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

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

Effluent Characteristic	**Discharge Limitations**						**Monitoring Requirement**
	Monthly Average	Daily Maximum	Monthly Average	Weekly Average	Daily Maximum	Measurement Frequency	Sample Type
	(Quantity or as specified)		(Concentration or as specified)				
Flow	0.10 MGD	Report	---		---	Continuous	Recorder
BOD in Effluent	17.5 # / day [1]	26 #/day	30, mg/L	45, mg/L	50, mg/L	2/Month	Composite
BOD % Removal		---	85 % [1]		---	---	---
TSS in Effluent	17.5 # / day [1]	26 #/day	30, mg/L	45, mg/L	50, mg/L	2/Month	Composite
TSS % Removal		---	85 % [1]		---	---	---
Settleable Solids	---	---	---		0.3 (ml/L)	1/Day	Grab
Total Phosphorous [2]	---	---	---	---	Monitor Only	1/Week	Grab
Orthophosphate [2]	---	---	---	---	Monitor Only	1/Week	Grab
Escherichia Coli Bacteria	---	---	64/100 ml [2]	---	427/100ml [2]	2/Month	Grab
Total Residual Chlorine [2, 3]	---	---	---		1.0 mg/L [2]	1/Day	Grab
pH (Std. Units)	The pH shall not be less than 6.0 or greater than 8.5 at any time.					1/Day	Grab

The italicized numeric values bracketed in the table above and table that follows are code numbers used by EPA to code the monthly Discharge Monitoring Reports (DMR's). Notes: the symbol "#" means pounds.

SPECIAL CONDITIONS

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

FOOTNOTES

1. The permittee shall achieve at least 85% removal for BOD and TSS. 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, c) the most current federally approved edition of Standard Methods for the Examination of Water and Waste Water. The permittee is required to analyze both the influent and effluent for BOD and TSS and report percent removal rates for concentration on the monthly Discharge Monitoring Reports (DMR).

2. **E. Coliform bacteria, total residual chlorine, total phosphorous, orthophosphate and monitoring requirements are effective between May 1 and October 31 each year.** Bacteria and chlorine residual samples are collected from the oxidation ditch (after chlorination) prior to discharge to the Penobscot River. Limitations for e. coliform bacteria are based on the state classification of receiving water applicable to the adjacent receiving water, the Penobscot River, a Class B receiving water. (64/100 ml-monthly average and 427/100 – daily maximum). For bacteria, the average shall be the geometric mean.

3. Total Residual Chlorine shall be tested using Amperometric Titration or the DPD Spectrophotometric Method. The EPA approved methods are found in the Standard Methods for the Examination of Water and Waste Water.

B. NARRATIVE EFFLUENT LIMITATIONS

1. The effluent shall not contain a visible oil sheen, foam or floating solids at any time.

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

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

4. Notwithstanding specific conditions of this permit the effluent must not lower the quality of any classified body of water below such classification, or lower the existing quality of any body of water if the existing quality is higher than the classification.

5. The discharge shall not cause a violation of state water quality standards (Maine Law, 38 M.R.S.A. 467(15)(1)(4) which classifies the Penobscot River as a class B waterway in the proximity of the discharge.

B. DISINFECTION

The Indian Island Facility uses sodium hypochlorite as a means for disinfection and the chlorine contact tank allows a minimum of approximately fifteen minutes of detention time before discharging into the Penobscot River.

The total residual chlorine in the effluent shall at no time cause any demonstrable harm to aquatic life in the receiving waters. The final effluent concentration of total residual chlorine, prior to dechlorination if present, must at all times be maintained at a concentration greater than test method detection limits in order to provide effective reduction of bacteria to levels below those specified in Special Condition A, "Effluent Limitations and Monitoring Requirements," (64 colonies per 100 ml, monthly average) (427 colonies per 100 ml, daily maximum) above.

D. MONITORING AND REPORTING

Monitoring results obtained during the previous month shall be summarized for each month and reported on separate Discharge Monitoring Report Forms (DMR's) provided by the EPA and **postmarked no later than the fifteenth (15th) day of the month following the completed reporting period.** A signed copy of the DMR's and all other reports required herein shall be submitted to EPA at the following address:

Diane Boisclair
U.S. Environmental Protection Agency -Water Technical Unit (SEW)
P.O. Box 8127
Boston, Massachusetts 02114

E. NOTIFICATION REQUIREMENT

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

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

2. Any substantial change in the volume or character of pollutants being introduced into the wastewater collection and treatment system.

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

   a The quality or quantity of wastewater introduced to the wastewater collection and treatment system; and

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

E. LIMITATIONS FOR INDUSTRIAL USERS

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

F. UNAUTHORIZED DISCHARGES

The permittee is authorized to discharge only in accordance with the terms and conditions of this permit and only from Outfall 001. According to EPA records, the collection system does not contain any combined sewer overflows.

G. RE-OPENER CLAUSE

Upon evaluation of test results required by the Special Conditions of this permitting action, additional site specific information or any other pertinent information or test result obtained during the term of this permit, the EPA may, at anytime, and with notice to the permittee, to propose modification of 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 the monitoring requirements and/or limitations based on new information.

H. EMERGENCY ACTION-POWER FAILURE

Pursuant to Standard Condition E(1)(a) of this Permit, **within thirty days after the effective date of this permit**, the permittee shall notify the EPA of facilities and plans to be used in the event the primary source of power to its wastewater pumping and treatment facilities fails. The permittee shall either maintain an alternative power source sufficient to operate the wastewater pumping and treatment facilities or halt, reduce, or otherwise control production and or all discharges upon reduction or loss of power to the wastewater pumping or treatment facilities.

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT

FACT SHEET

Prepared by the U.S. Environmental Protection Agency – New England Office

January 5, 2006

NPDES PERMIT NUMBER: **ME0101311**

NAME AND ADDRESS OF APPLICANT: **Penobscot Indian Nation**

NAME AND ADDRESS WHERE DISCHARGE OCCURS:

Penobscot Indian Nation – Indian Island Wastewater Treatment Plant
6 River Rd
Old Town, Maine 04468

RECEIVING WATER: **Penobscot River**

CLASSIFICATION: **Class B**

COGNIZANT OFFICIAL AND TELEPHONE NUMBER:
Ralph Nicola (207) 817-7385

1. APPLICATION SUMMARY

a. Application: The applicant applied for renewal of its Clean Water Act permit on May 8, 1990. The application reflects the discharge of 0.10 MGD of secondary treated municipal wastewater from the Penobscot Indian Nation's publicly owned treatment works facility to the Penobscot River, Class B, in Indian Island.

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

November 21, 1985 - The U.S. Environmental Protection Agency (EPA) reissued NPDES permit No.ME0101311 authorizing 0.07 MGD of treated municipal wastewater discharge from its wastewater treatment facility to the Penobscot River.

1990 –Maine DEP upgraded section of Penobscot River to Class B (previously classified as Class C)

May 8, 1990 - The U.S. Environmental Protection Agency (EPA) received a complete application from the Penobscot Indian Nation.

March 30, 2000– The Maine Department of Environmental Protection (DEP) issued Waste Discharge License WDL #W002672-59-B-R authorizing 0.07 MGD (based on a monthly average) of treated municipal wastewater discharge from its wastewater treatment facility to the Penobscot River.

October 31, 2003 – EPA approved Maine to implement the Clean Water Act (CWA) National Pollutant Discharge Elimination System (NPDES) permit program in the territories of two Maine Indian tribes, the Penobscot Indian Nation and Passamaquoddy Tribe. However, EPA did not authorize the state to regulate two tribally owned and operated sewage treatment facilities: the Penobscot Indian Nations' Water Pollution Control Facility on Indian Island and the Passamaquoddy Tribe's Pleasant Point Facility.

The Penobscot Nation Pollution Control Facility underwent a system process upgrade Indian Island installed a system upgrade to increase from to 0.1 million MGD. Installation included (2) aerobic sludge digester/storage tanks, two (2) circular secondary clarifiers and a one miter filter press for sludge.

b. Source Description: Sanitary waste waters received at the treatment facility are generated by residential and commercial entities in the Penobscot Indian Nation at Indian Island. The facility does not receive any flow from any industrial facilities

c. Permit: There are no combined sewer overflows on this system. The facility receives only sanitary wastewater flows from residential users.

d. Waste Water Treatment: The Penobscot Indian Nation's wastewater treatment facility provides a secondary level of treatment for up to a 0.01 mgd via a sewage grinder, two (2) 20 foot circular clarifiers, (2) aerobic sludge digester/storage tanks and a chlorine contact tank. After treatment effluent is discharged to a segment of the Penobscot River between the upstream confluence of the Stillwater River and the Milford Dam. Refer to Attachment I for map of discharge location. Outfall consists of a 10 inch diameter HDPE pipe.

Sludge drying is accomplished by using a one (1) meter filter press for sludge Approximately 30-40 lbs of sludge is removed during summer months (June- August). Sludge is conditioned by flash mixing with a polymer prior to processing. The sludge is then transported to and disposed of at the City of Old Town's Compost Facility.

2. RECEIVING WATER QUALITY CONDITIONS

The Penobscot River is classified as a class B waterway in the proximity of the discharge. Refer to state water quality standards (Maine Law, 38 M.R.S.A. 467(15)(1)(4)). Class B waters require that a minimum dissolved oxygen level of 7 ppm and 75% of saturation be maintained at all times. A Penobscot River Modeling Report (April 2003) recommended that all municipal wastewater discharges should be capped at current phosphorus input levels based upon actual flow and phosphorus as measured in the 1997 and 2001 surveys.

This study of the Penobscot River from Millinocket to Bucksport (103 miles) began in the summer of 1997 involving the DEP and a number of stakeholders such as the Penobscot Nation, Great Northern Paper, International Paper, USEPA, and the Lincoln Sanitary District. A second round of monitoring was conducted in the summer of 2001. The study concluded:

"Additional phosphorus reductions from mill discharges would be necessary without regulating municipal discharges. A 0.5 ppm Total Phosphorous (TP) level may be achievable at each paper mill by undertaking process controls, i.e. optimizing phosphorus addition, and levels lower than 0.5 ppm could require large capital investments." Refer to Penobscot River Modeling Report DEPLW-0582, March 2003, Page 49.

Non-attainment of class B dissolved oxygen criteria was observed at one location in 1997, but at ten of fourteen (10/14) locations sampled in 2001. Chlorophyll a results exceeded the algae bloom threshold (8 ug/l) at only one location in 1997 but five of the fourteen locations sampled in 2001. For detailed descriptions of the data, one should consult the Penobscot River Data Report (MDEP, April 1998 and May 2002).

3. EFFLUENT LIMITATIONS & MONITORING REQUIREMENTS

Limitations in the federal NPDES permit were issued based the secondary treatment requirements for municipal wastewater treatment facilities as required by the Clean Water Act.

Limits for pH are consistent with Maine Water Quality Standards for the adjacent receiving waters. (Class B)

Limits on e. coli bacteria are consistent with Maine Water Quality Standards for the adjacent receiving waters (Class B) and requires application of the best practicable treatment technology.

Limits on total residual chlorine are specified to ensure that the best practicable treatment technology is utilized to abate the discharge of chlorine and that the in-stream water quality criteria for levels of chlorine is attained. The BPT standard of 1.0 mg/l is the appropriate limitation of total residual chlorine, since the calculated acute water quality based limit is higher (127.6 mg/L) than the best practicable treatment limit of 1.0 mg/l.

This level of chlorine with an acute dilution factor of 6,718:1 in the receiving water meets the upstream chlorine criterion of 0.013 mg/L. Water quality based thresholds for total residual chlorine (TRC) were calculated as follows:

Calculated Acute (A) Criterion	Dilution Factors (A)	Acute Limit
19 ug/l (0.019 mg/l)	6,718:1 (Acute)	127.6 mg/L

The monitoring requirement for total phosphorous is included based on the non-attainment of the river segment for dissolved oxygen. Refer to page 9 of Fact Sheet – 2. Receiving Water Quality Conditions.

4. ENDANGERED SPECIES ACT ASSESSMENT

Purpose: Section 7(a)(2) of the Endangered Species Act (ESA) requires federal agencies to ensure, in consultation with the Services, that actions an agency authorizes, funds or carries out are not likely to jeopardize the continued existence of federally listed endangered and threatened species, or result in the destruction or adverse modification of listed species' designated critical habitat. EPA believes that Section 7(a)(2) of the Endangered Species Act applies when EPA carries out actions approving State or Tribal water quality standards and NPDES permitting programs under the CWA.

4. ENDANGERED SPECIES ACT ASSESSMENT (Continued)

ESA Designations – Atlantic Salmon:
On November 17, 2000, the U.S. Fish and Wildlife Service and the National Marine Fisheries Service listed wild Atlantic salmon *(Salmo salar)* in eight Maine rivers as endangered. Those eight rivers are the Dennys, East Machias, Machias, Pleasant, Narraguagus, Ducktrap, and Sheepscot Rivers and Cove Brook. Renewal of the Penobscot Nations' Water Pollution Control Facility permit would allow the continuation of the discharge of secondary treated wastewaters to the main stem portions of the Penobscot River. The nearest of the eight rivers with Atlantic Salmon habitat is Coves Brook, located approximately 30 miles downstream of the discharge.

Cove Brook salmon utilize the Penobscot River when emigrating from Cove Brook in the spring as smolts. Atlantic salmon smolts are particularly susceptible to stress induced mortality during this transition to the marine environment. Historically, salmon smolts begin moving out of the lower Penobscot tributaries in mid-April through June. Adults returning to Cove Brook to spawn also utilize the Penobscot River to return to Cove Brook. Returning adult salmon can enter freshwater from May through early November.

Due to the low flow volume of the discharge (0.10 million gallons per day) and because the wastewaters are not known to contain pollutants at concentrations which could be toxic to aquatic life, and because the discharge is not released directly to a Maine DPS Atlantic Salmon River, EPA believes renewing the NPDES permit for the discharge of treated domestic waste water will not significantly affect the habitat or endanger DPS Atlantic salmon in Maine.

ESA Designations – Shortnose Sturgeon
On June 30, 1978, a Federally endangered shortnose sturgeon (*Acipenser brevirostrum*) was captured in the Penobscot River estuary during a Maine Department of Marine Resources sampling program (Squiers and Smith 1979). This capture indicates that a contemporary shortnose sturgeon population exists in the Penobscot River, as this capture occurred within the generation time of the species. While subsequent surveys have not resulted in the capture of additional shortnose sturgeon, the habitat in the Penobscot River is consistent with the preferred habitat of shortnose sturgeon. As such, any NPDES permits issued in this river must ensure the adequate protection of this species. Due to the presence of shortnose sturgeon in the Penobscot River, in 1993, a biological assessment was prepared in regard to the renewal of NPDES permits for five wastewater dischargers to the Penobscot River.

Due to the low flow volume of the discharge (0.10 million gallons per day) and because the wastewaters are not known to contain pollutants at concentrations which could be toxic to aquatic life, EPA believes renewing the NPDES permit for the discharge of treated domestic waste water will not significantly affect the habitat or endanger shortnose sturgeon (*Acipenser brevirostrum*) in the Penobscot River.

Waste Water Treatment: (See 1.d above)

Dilution of Effluent
A dilution factor estimate of 6,718:1 (acute) and 28,895:1 (chronic) was noted in the NPDES application.

Receiving Water
The secondary treated wastewaters are discharged to the Penobscot River - Maine Class B upstream of the Veazie Dam and downstream of the confluence of the Stillwater River.

Limits of Draft Permit

Average Monthly Flow	0.07 mgd
Average Monthly BOD	17.5 lbs/day
Average BOD % Removal	85%
Average Monthly TSS	17.5 lbs/day
Average TSS % Removal	85%
Average E. Coli Bacteria	64/100 ml
Maximum E. Coli. Bacteria	427/100 ml
Maximum Total Residual Chlorine	1.0 mg/l
pH Range	6.0 to 8.5 Standard Units
Total Phosphorous	Monitor Only

Other Limits Based on Potential to Exceed Water Quality Criteria - None

5. EFH (ESSENTIAL FISH HABITAT) ASSESSMENT

Under the 1996 Amendments (PL 104-267) to the Magnuson-Stevens Fishery Conservation and Management Act (16 U.S.C. § 1801 et seq. (1998)), EPA is required to consult with the National Marine Fisheries Services (NMFS) if EPA's action or proposed actions that it funds, permits, or undertakes, "may adversely impact any essential fish habitat." 16 U.S.C. § 1855(b). The Amendments broadly define "essential fish habitat" as: "waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity. 16 U.S.C. § 1802 (10). Adversely impact means any impact which reduces the quality and/or quantity of EFH. 50 C.F.R. § 600.910 (a). Adverse effects may include direct (e.g., contamination or physical disruption), indirect (e.g., loss of prey, reduction in species' fecundity), site-specific or habitat-wide impacts, including individual, cumulative, or synergistic consequences of actions.

Essential fish habitat is only designated for species for which federal fisheries management plans exist. 16 U.S.C. § 1855(b) (1) (A). EFH designations for New England were approved by the U.S. Department of Commerce on March 3, 1999.

National Marine Fisheries Service designation of Essential Fish Habitat for the 10 minute square that includes the Penobscot discharge

Due to the low volume of the discharge and the lack of toxic potential of wastewater discharged, EPA believes that renewal of the Penobscot Indian Nation – Indian Island permit is unlikely to adversely impact the above-designated Essential Fish Habitat. EPA has, therefore, not requested an EFH consultation with the National Marine Fisheries Service in regard to the renewal of this permit.

6. DISCHARGE IMPACT ON RECEIVING WATER QUALITY

As permitted, the EPA 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 B classification.

- Discuss any recent plant improvements to improve water quality impacts
- Discuss WQ assessment results

7. PUBLIC COMMENTS:

Public notice of this application will be made in the Old Town (Times) newspaper on or about **July 29, 2005**. The EPA receives public comments on applications until the date final agency action is taken on the application. Those persons receiving copies of draft permits shall have at least 30 days in which to submit comments on the draft or to request a public hearing.

8. COMMENT PERIOD AND PROCEDURES FOR FINAL DECISIONS

The following comments were received regarding the draft permit:

Comment #1 (August 12, 2005 Letter from National Marine Fisheries Service)
The draft needs to address concerns about the Endangered Species Act assessment (ESA) which recognizes a downstream tributary to the Penobscot River, Cove Brook, as the nearest river containing listed Atlantic salmon.

Response
The draft permit for the Penobscot Nation Wastewater Treatment Facility (ME0101311) has been revised to reflect that the receiving water for the discharge is habitat for both Atlantic salmon and shortnose sturgeon.

Comment #2 (From Jeff Murphy, National Marine Fisheries Service- Orono, ME Office)
The permit should address whether the permit will have any effects the discharge has on non-attainment of Dissolved Oxygen (DO) in the Penobscot River.

Response:
The draft permit was revised to include monitoring conditions

[Similarly, the permit contains a the same discharge limitations for BOD and TSS from the previous permit]

EPA has also made the determination that the issuance of the proposed permit is not likely to adversely affect listed Atlantic salmon or shortnose sturgeon.

9. CONTACTS:

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

Ted Lavery
EPA New England – Mailcode-CDW
One Congress Street Suite 1100
Boston, MA 02114
Phone: 617/918-1683
Email : Lavery.Ted@epa.gov

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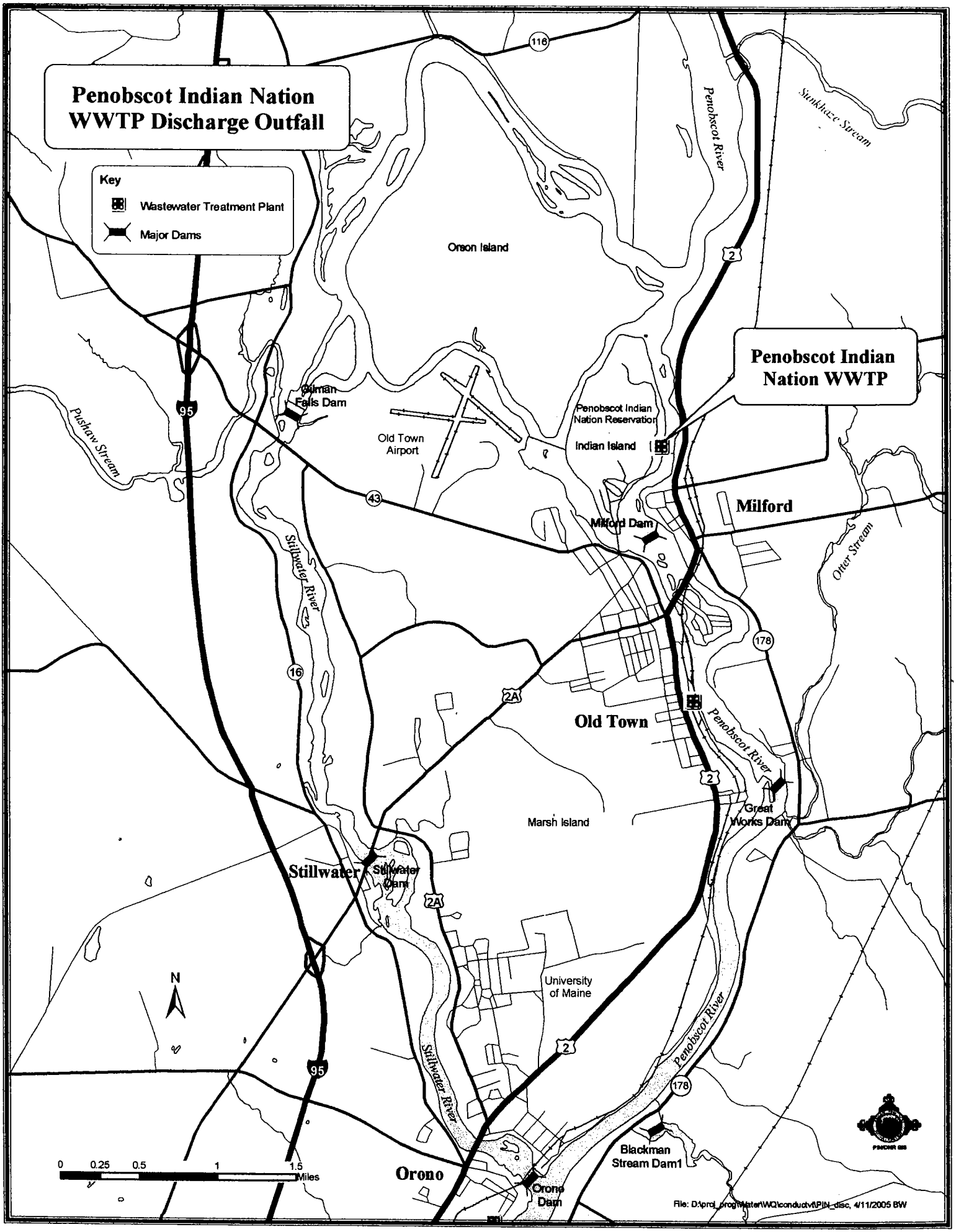
Penobscot Indian Nation
WWTP Discharge Outfall
Key
Wastewater Treatment Plant
Major Dams
Penobscot Indian Nation WWTP
Penobscot River
Sunkhaze Stream
Orson Island
Penobscot Indian Nation Reservation
Indian Island
Old Town Airport
Gilman Falls Dam
Pushaw Stream
Stillwater River
Milford
Milford Dam
Otter Stream
Old Town
Marsh Island
Great Works Dam
Stillwater
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