STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION

JOHN ELIAS BALDACCI
GOVERNOR

DAVID P. LITTELL
COMMISSIONER

December 20, 2006

Mr. Thomas Connelly
Superintendent, Yarmouth WPCF
P.O. Box 907
Yarmouth, Maine 04096

RE: Maine Waste Discharge License (WDL) Application #W002644-5L-F-M
Maine Pollutant Discharge Elimination System (MEPDES) Permit #ME0100765
Final Permit

Dear Mr. Connelly:

Enclosed please find a copy of your **final** MEPDES permit/WDL **renewal** which was approved by the Department of Environmental Protection. You must follow the conditions in the permit/license 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 287-7693.

Sincerely,

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

Enc.
cc: Matthew Hight, DEP/SMRO
Sandy Lao, USEPA

AUGUSTA
17 STATE HOUSE STATION
AUGUSTA, MAINE 04333-0017
(207) 287-7688 FAX: (207) 287-7826
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312 CANCO ROAD
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STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION
STATE HOUSE STATION 17 AUGUSTA, MAINE 04333

DEPARTMENT ORDER

IN THE MATTER OF

TOWN OF YARMOUTH		)	MAINE POLLUTANT DISCHARGE
YARMOUTH, CUMBERLAND COUNTY, ME.		)	ELIMINATION SYSTEM PERMIT
PUBLICLY OWNED TREATMENT WORKS		)	AND
ME0100765		)	WASTE DISCHARGE LICENSE
W002644-5L-F-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 all applicable regulations, the Department of Environmental Protection (Department hereinafter) has considered the application of the TOWN OF YARMOUTH (Town hereinafter), with its supportive data, agency review comments, and other related materials on file and FINDS THE FOLLOWING FACTS:

APPLICATION SUMMARY

The Town of Yarmouth has filed an application with the Department for a renewal of combination Maine Pollutant Discharge Elimination System (MEPDERS) permit #ME0100765 and Waste Discharge License #W002644-5L-E-R (permit hereinafter) that was issued by the Department on December 22, 2003 and is due to expire on December 22, 2008. The permit authorized the discharge of up to a monthly average flow of 1.31 MGD of secondary treated waste waters to the Royal River estuary, Class SB, in Yarmouth, Maine.

PERMIT SUMMARY

This permitting action is carrying forward all the terms and conditions of the 12/22/03 permit with the following exceptions:

1. Establishing new acute, chronic and harmonic mean dilution factors based on a relocation of the outfall and the installation of a diffuser on the end of the outfall pipe.

2. Establishing new technology based monthly average and daily maximum concentration limit for total residual chlorine. These limits replace the former water quality daily maximum limitation for TRC.

3. Eliminating the daily maximum water quality based mass and concentration limitations for copper, cyanide and silver based on an updated statistical evaluation of the most recent 60-months of chemical specific data on file at the Department.

4. Eliminating the water quality based whole effluent toxicity (WET) limitations for the mysid shrimp, inland silverside and sea urchin based on an updated statistical evaluation of the most recent 60 months of WET data on file at the Department.

5. Incorporating the terms and conditions of the Department's revised rule Chapter 530, *Surface Water Toxics Control Program.*

PERMIT SUMMARY (cont'd)

6. Eliminating the requirement to continue to conduct work on a toxicity reduction evaluation (TRE) for copper.

7. Reducing the monitoring frequency for settleable solids from 1/Day to 5/Week based on the compliance history.

CONCLUSIONS

BASED on the findings in the attached Fact Sheet dated November 21, 2006 (revised on December 15, 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 the standards of classification;

   (d) Where the actual quality of any classified receiving water body exceeds the minimum standards of the next highest classification, that higher water quality will be maintained and protected; and

   (e) Where a discharge will result in lowering the existing quality of any water body, the Department has made the finding, following opportunity for public participation, that this action is necessary to achieve important economic or social benefits to the State.

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

ACTION

THEREFORE, the Department APPROVES the above noted application of the TOWN OF YARMOUTH to discharge up to a monthly average flow of 1.31 MGD of secondary treated waste waters to the Royal River estuary, Class SB, in Yarmouth, Maine. The waste waters discharged from the facility will be SUBJECT TO THE ATTACHED CONDITIONS, and all applicable standards and regulations including:

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

2. The attached Special Conditions, including 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 19TH DAY OF December, 2006.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: _____
DAVID P. LITTELL, Commissioner

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application November 16, 2006.

Date of application acceptance November 20, 2006.

Date filed with Board of Environmental Protection

FILED
DEC 22 2006
BOARD OF ENVIRONMENTAL PROT.
STATE OF MAINE

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

W26445LF 12/18/06

SPECIAL CONDITIONS

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. The permittee is authorized to discharge secondary treated sanitary waste waters from **OUTFALL #001** to the Royal River estuary. Such discharges shall be limited and monitored by the permittee as specified below:

Effluent Characteristic	Discharge Limitations			Monitoring Requirements				
	Monthly Average	Weekly Average	Daily Maximum	Monthly Average	Weekly Average	Daily Maximum	Measurement Frequency	Sample Type
Flow *[50050]*	1.31 MGD *[03]*	---	Report MGD *[03]*	---	---	---	Continuous *[99/99]*	Recorder *[RC]*
Biochemical Oxygen Demand (BOD) *[00310]*	210 #/day *[26]*	315 #/day *[26]*	350 #/day *[26]*	30 mg/L *[19]*	45 mg/L *[19]*	50 mg/L *[19]*	2/Week *[02/07]*	Composite *[24]*
BOD % Removal(1) *[81010]*	---	---	---	≥85%	---	---	1/Month *[01/30]*	Calculate *[CA]*
Total Suspended Solids (TSS) *[00530]*	210 #/day *[26]*	315 #/day *[26]*	350 #/day *[26]*	30 mg/L *[19]*	45 mg/L *[19]*	50 mg/L *[19]*	2/Week *[02/07]*	Composite *[24]*
TSS % Removal(1) *[81011]*	---	---	---	≥85%	---	---	1/Month *[01/30]*	Calculate *[CA]*
Settleable Solids *[00545]*	---	---	---	---	---	0.3 ml/L *[25]*	5/Week *[05/07]*	Grab *[GR]*
Fecal Coliform Bacteria(2) *[31616]*	---	---	---	15/100 ml(3) *[13]*	---	50/100 ml *[13]*	2/Week *[02/07]*	Grab *[GR]*
Total Residual Chlorine(4) *[50060]*	---	---	---	0.1 mg/L *[19]*	---	0.3 mg/L *[19]*	1/Day *[01/01]*	Grab *[GR]*
pH *[00400]*	---	---	---	---	---	6.0 – 9.0 SU *[12]*	1/Day *[01/01]*	Grab *[GR]*

SPECIAL CONDITIONS

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

SCREENING LEVEL TESTING – Beginning twelve months prior to permit expiration and lasting through permit expiration and every five years thereafter.

Effluent Characteristic	Discharge Limitations				Minimum Monitoring Requirements	
	Monthly Average	Daily Maximum	Monthly Average	Daily Maximum	Measurement Frequency	Sample Type
Whole Effluent Toxicity[5]						
Acute – NOEL *Mysidopsis bahia* [TDM3E] *(Mysid Shrimp)*	---	---	---	Report % [23]	1/Year [01/YR]	Composite [24]
Chronic – NOEL *Arbacia punctulata* [TBH3A] *(Sea urchin)*	---	---	---	Report % [23]	1/Year [01/YR]	Composite [24]
Analytical chemistry[6,7] [51168]	---	---	---	Report ug/L [28]	1/Quarter [01/90]	Composite/Grab [24]
Priority Pollutant[7] [50008]	---	---	---	Report ug/L [28]	1/Year [01/YR]	Composite/Grab [24]

SPECIAL CONDITIONS

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

Footnotes:

Sampling – Composite and grab sampling of the treatment plant effluent for compliance with this permit shall be conducted at the end of the chlorine contact chamber and dechlorination on a year-round basis. Any change in sampling location must be 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 Human Services.

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. See Attachment A of this permit for a list of the Department's most current RLs. 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. **Percent Removal** - The treatment facility shall maintain a minimum of 85 percent removal of both total suspended solids and biochemical oxygen demand for all flows receiving secondary treatment. The percent removal shall be calculated based on influent and effluent concentration values. The percent removal shall be waived when the monthly average influent concentration is less than 200 mg/L. For instances when this occurs, the facility shall report "NODI-9" on the monthly Discharge Monitoring Report.

2. **Fecal coliform bacteria** - Limits apply on a year-round basis.

3. **Fecal coliform bacteria** - This is a geometric mean limitation and results shall be reported as such.

4. **Total Residual Chlorine (TRC)** - Shall be tested using Amperometric Titration or the DPD Spectrophotometric Method. The EPA approved methods are found in Standard Methods for the Examination of Water and WasteWater, (Most current edition), Method 4500-CL-E and Method 4500-CL-G or U.S.E.P.A. Manual of Methods of Analysis of Water and Wastes.

SPECIAL CONDITIONS

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

Footnotes:

5. **Whole effluent toxicity (WET) testing** - Definitive WET testing is a multi-concentration testing event (a minimum of five dilutions bracketing the critical acute and chronic dilution of 5.0 % and 0.93 % respectively), which provides a point estimate of toxicity in terms of No Observed Effect Level, commonly referred to as NOEL or NOEC. A-NOEL is defined as the acute no observed effect level with survival as the end point. C-NOEL is defined as the chronic no observed effect level with survival, reproduction and growth as the end points.

   Screening level testing - Beginning 12 months prior to permit expiration and lasting through permit expiration and every five years thereafter, the permittee shall conduct screening level WET testing at a minimum frequency of once per year (1/Year). Acute tests shall be conducted on the mysid shrimp (*Mysidopsis bahia*) and chronic tests shall be conducted on the sea urchin (*Arbacia punctulata*). It is noted pursuant to Department rule Chapter 530, Surface Water Toxics Control Program, surveillance level WET testing is being waived for the first four years of the term of the permit.

   The permittee is also required to analyze the effluent for the parameters specified in the analytical chemistry on the form in Attachment B of this permit each time a WET test is performed. WET test results must be submitted to the Department not later than the next Discharge Monitoring Report (DMR) required by the permit, provided, however, that the permittee may review the toxicity reports for up to 10 business days of their availability before submitting them. The permittee shall evaluate test results being submitted and identify to the Department possible exceedences of the critical acute and chronic water quality thresholds of 5.0% and 0.93%, respectively.

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

   a. Short Term Methods for Estimating the Chronic Toxicity of Effluent and Receiving Water to Marine and Estuarine Organisms, Fifth Edition, October 2002, EPA-821-R-02-014.

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

SPECIAL CONDITIONS

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

Footnotes:

6. **Analytical chemistry** – Refers to a suite of chemical tests that include ammonia nitrogen (as N), total aluminum, total arsenic, total cadmium, total chromium, total copper, total cyanide, total lead, total nickel, total silver, total zinc and total residual chlorine.

   Screening level testing - Beginning 12 months prior to permit expiration and lasting through permit expiration and every five years thereafter, the permittee shall conduct screening level analytical chemistry testing at a minimum frequency of once per calendar quarter (1/Quarter). It is noted Chapter 530 does not require routine surveillance level priority pollutant testing in the first four years of the term of this permit.

7. **Priority pollutant testing** – Priority pollutants are those parameters listed by Department rule, Chapter 525, Section 4(IV).

   Screening level testing - Beginning 12 months prior to permit expiration and lasting through permit expiration and every five years thereafter, the permittee shall conduct screening level priority pollutant testing at a minimum frequency of once per year (1/Year). It is noted Chapter 530 does not require routine surveillance level priority pollutant testing in the first four years of the term of this permit.

   Priority pollutant and analytical chemistry test results must be submitted to the Department not later than the next Discharge Monitoring Report (DMR) required by the permit, provided, however, that the permittee may review the test results for up to 10 business days of their availability before submitting them to the Department The permittee shall evaluate test results being submitted and identify to the Department, possible exceedences of the acute, chronic or human health AWQC as established in Chapter 584. For the purposes of DMR reporting, enter a "1" for yes, testing done this monitoring period or "NODI-9" monitoring not required this period.

   All mercury sampling required by this permit or required to determine compliance with interim limitations established pursuant to Department rule Chapter 519, shall be conducted in accordance with EPA's "clean sampling techniques" found in EPA Method 1669, Sampling Ambient Water For Trace Metals At EPA Water Quality Criteria Levels. All mercury analysis shall be conducted in accordance with EPA Method 1631, Determination of Mercury in Water by Oxidation, Purge and Trap, and Cold Vapor Fluorescence Spectrometry.

SPECIAL CONDITIONS

B. NARRATIVE EFFLUENT LIMITATIONS

1. The effluent shall not contain a visible oil sheen, foam or floating solids at any time which would impair the usages designated by the classification of the receiving waters.

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

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

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

C. DISINFECTION

If chlorination is used as a means of disinfection, an approved chlorine contact tank providing the proper detention time consistent with good engineering practice must be utilized, followed by a dechlorination system if the Total Residual Chlorine (TRC) cannot be met by dissipation in the detention tank. The total residual chlorine in the effluent shall at no time cause any demonstrable harm to aquatic life in the receiving waters. The dose of chlorine applied shall be sufficient to leave a TRC concentration that will effectively reduce bacteria to levels below those specified in Special Condition A, *"Effluent Limitations and Monitoring Requirements"*, above.

D. TREATMENT PLANT OPERATOR

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

E. LIMITATIONS FOR INDUSTRIAL USERS

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

SPECIAL CONDITIONS

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. 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.

G. MONITORING AND REPORTING

Monitoring results obtained during the previous month shall be summarized for each month and reported on separate Discharge Monitoring Report (DMR) forms provided by the Department and **postmarked on or before the thirteenth (13th) day of the month or hand-delivered to a Department Regional Office such that the DMR's are received by the Department on or before the fifteenth (15th) day of the month** following the completed reporting period. A signed copy of the DMR and all other reports required herein shall be submitted to the following address:

Department of Environmental Protection
Southern Maine Regional Office
Bureau of Land and Water Quality
Division of Water Quality Management
312 Canco Road
Portland, Maine 04103

H. NOTIFICATION REQUIREMENT

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

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

2. Any substantial change in the volume or character of pollutants being introduced into the waste water collection and treatment system 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 waste water introduced to the waste water collection and treatment system; and

   (b) any anticipated impact caused by the change in the quantity or quality of the waste water to be discharged from the treatment system.

SPECIAL CONDITIONS

I. DISPOSAL OF SEPTAGE WASTE IN WASTE WATER TREATMENT FACILITY

During the effective period of this permit, the permittee is authorized to receive up to and introduce into the waste water treatment facility or solids handling system up to **6,000 gallons per day** of septage subject to the following terms and conditions:

1. 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.

2. 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.

3. 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 waste water treatment influent and test results.

4. 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.

5. 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.

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

7. 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 Septage to Waste Water Treatment Facilities.*

SPECIAL CONDITIONS

J. WET WEATHER FLOW MANAGEMENT PLAN

The treatment facility staff shall have a current written Wet Weather Management Plan to direct the staff on how to operate the facility effectively during periods of high flow. The Department acknowledges that the existing collection system may deliver flows in excess of the monthly average design capacity of the treatment plant during periods of high infiltration and rainfall.

The plan shall include operating procedures for a range of intensities, address solids handling procedures (including septic waste and other high strength wastes if applicable) and provide written operating and maintenance procedures during the events. The permittee shall review their plan annually and record any necessary changes to keep the plan up to date.

K. OPERATION & MAINTENANCE (O&M) PLAN

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

By December 31 of each year, or within 90 days of any process changes or minor equipment upgrades, the permittee shall evaluate and modify the O&M Plan including site plan(s) and schematic(s) for the waste water treatment facility to ensure that it is up-to-date. The O&M Plan shall be kept on-site at all times and made available to Department and EPA personnel upon request.

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

L. PUMP STATION EMERGENCY BYPASSES

Discharges from emergency bypass structures in pump stations is not authorized by this permit. The permittee shall maintain an electronic system to record frequency, duration and estimation of flow discharged.

Outfall Number	Outfall Location	Receiving Water and Class
002	Harbor Pump Station	Royal River, SB

Discharges from pump stations shall be reported in accordance with Standard Condition B(5) (Bypass) of this permit.

SPECIAL CONDITIONS

M. CHAPTER 530(2)(D)(4) CERTIFICATION

On or before December 31 of each year (beginning December 31, 2007) ***[PCS code 95799]*** the permittee is required to file a statement with the Department describing the following.

1. Changes in the number or types of non-domestic wastes contributed directly or indirectly to the wastewater treatment works that may increase the toxicity of the discharge;

2. Changes in the operation of the treatment works that may increase the toxicity of the discharge; and

3. Changes in industrial manufacturing processes contributing wastewater to the treatment works that may increase the toxicity of the discharge.

Further, the Department may require that annual WET, analytical chemistry and or priority pollutant testing be re-instituted if it determines that there have been changes in the character of the discharge or if annual certifications described above are not submitted.

N. REOPENING OF PERMIT FOR MODIFICATIONS

Upon evaluation of the tests results or monitoring requirements specified in Special Conditions of this permitting action, new site specific information, or any other pertinent test results or information obtained 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 effluent and or ambient water quality monitoring if results on file are inconclusive; or (3) change monitoring requirements or limitations based on new information.

O. SEVERABILITY

In the event that any provision, or part thereof, of this permit is declared to be unlawful by a reviewing court, the remainder of the permit shall remain in full force and effect, and shall be construed and enforced in all aspects as if such unlawful provision, or part thereof, had been omitted, unless otherwise ordered by the court.

ATTACHMENT A

Maine Department of Environmental Protection
WET and Chemical Specific Data Report Form

This form is for reporting laboratory data and facility information. Official compliance reviews will be done by DEP.

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

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

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

Date Sample Collected _____ Date Sample Analyzed _____

Laboratory Address _____ Telephone _____

Lab Contact _____ Lab ID # _____

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

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

Maine Department of Environmental Protection
WET and Chemical Specific Data Report Form
This form is for reporting laboratory data and facility information. Official compliance reviews will be done by DEP.

	PRIORITY POLLUTANTS [4]		Effluent Limits					Reporting Limit Check	Possible Exceedence [7]		
		Reporting Limit	Acute[6]	Chronic[6]	Health[6]				Acute	Chronic	Health
M	ANTIMONY	5									
M	BERYLLIUM	2									
M	MERCURY[4]	0.2									
M	SELENIUM	5									
M	THALLIUM	4									
A	2,4,6-TRICHLOROPHENOL	3									
A	2,4-DICHLOROPHENOL	5									
A	2,4-DIMETHYLPHENOL	5									
A	2,4-DINITROPHENOL	45									
A	2-CHLOROPHENOL	5									
A	2-NITROPHENOL	5									
A	4,6 DINITRO-O-CRESOL (2-Methyl-4,6-dinitrophenol)	25									
A	4-NITROPHENOL	20									
A	P-CHLORO-M-CRESOL (3-methyl-4-chlorophenol)+B80	5									
A	PENTACHLOROPHENOL	20									
A	PHENOL	5									
BN	1,2,4-TRICHLOROBENZENE	5									
BN	1,2-(O)DICHLOROBENZENE	5									
BN	1,2-DIPHENYLHYDRAZINE	10									
BN	1,3-(M)DICHLOROBENZENE	5									
BN	1,4-(P)DICHLOROBENZENE	5									
BN	2,4-DINITROTOLUENE	6									
BN	2,6-DINITROTOLUENE	5									
BN	2-CHLORONAPHTHALENE	5									
BN	3,3'-DICHLOROBENZIDINE	16.5									
BN	3,4-BENZO(B)FLUORANTHENE	5									
BN	4-BROMOPHENYLPHENYL ETHER	2									
BN	4-CHLOROPHENYL PHENYL ETHER	5									
BN	ACENAPHTHENE	5									
BN	ACENAPHTHYLENE	5									
BN	ANTHRACENE	5									
BN	BENZIDINE	45									
BN	BENZO(A)ANTHRACENE	8									
BN	BENZO(A)PYRENE	3									
BN	BENZO(G,H,I)PERYLENE	5									
BN	BENZO(K)FLUORANTHENE	3									
BN	BIS(2-CHLOROETHOXY)METHANE	5									
BN	BIS(2-CHLOROETHYL)ETHER	6									
BN	BIS(2-CHLOROISOPROPYL)ETHER	6									
BN	BIS(2-ETHYLHEXYL)PHTHALATE	3									
BN	BUTYLBENZYL PHTHALATE	5									
BN	CHRYSENE	3									
BN	DI-N-BUTYL PHTHALATE	5									
BN	DI-N-OCTYL PHTHALATE	5									
BN	DIBENZO(A,H)ANTHRACENE	5									
BN	DIETHYL PHTHALATE	5									
BN	DIMETHYL PHTHALATE	5									

Maine Department of Environmental Protection
WET and Chemical Specific Data Report Form
This form is for reporting laboratory data and facility information. Official compliance reviews will be done by DEP.

BN	FLUORANTHENE	5									
BN	FLUORENE	5									
BN	HEXACHLOROBENZENE	2									
BN	HEXACHLOROBUTADIENE	1									
BN	HEXACHLOROCYCLOPENTADIENE	10									
BN	HEXACHLOROETHANE	2									
BN	INDENO(1,2,3-CD)PYRENE	5									
BN	ISOPHORONE	5									
BN	N-NITROSODI-N-PROPYLAMINE	10									
BN	N-NITROSODIMETHYLAMINE	1									
BN	N-NITROSODIPHENYLAMINE	5									
BN	NAPHTHALENE	5									
BN	NITROBENZENE	5									
BN	PHENANTHRENE	5									
BN	PYRENE	5									
P	4,4'-DDD	0.05									
P	4,4'-DDE	0.05									
P	4,4'-DDT	0.05									
P	A-BHC	0.2									
P	A-ENDOSULFAN	0.05									
P	ALDRIN	0.15									
P	B-BHC	0.05									
P	B-ENDOSULFAN	0.05									
P	CHLORDANE	0.1									
P	D-BHC	0.05									
P	DIELDRIN	0.05									
P	ENDOSULFAN SULFATE	0.1									
P	ENDRIN	0.05									
P	ENDRIN ALDEHYDE	0.05									
P	G-BHC	0.15									
P	HEPTACHLOR	0.15									
P	HEPTACHLOR EPOXIDE	0.1									
P	PCB-1016	0.3									
P	PCB-1221	0.3									
P	PCB-1232	0.3									
P	PCB-1242	0.3									
P	PCB-1248	0.3									
P	PCB-1254	0.3									
P	PCB-1260	0.2									
P	TOXAPHENE	1									
V	1,1,1-TRICHLOROETHANE	5									
V	1,1,2,2-TETRACHLOROETHANE	7									
V	1,1,2-TRICHLOROETHANE	5									
V	1,1-DICHLOROETHANE	5									
V	1,1-DICHLOROETHYLENE (1,1-dichloroethene)	3									
V	1,2-DICHLOROETHANE	3									
V	1,2-DICHLOROPROPANE	6									
V	1,2-TRANS-DICHLOROETHYLENE (1,2-trans-dichloroethene)	5									
V	1,3-DICHLOROPROPYLENE (1,3-dichloropropene)	5									
V	2-CHLOROETHYLVINYL ETHER	20									

Maine Department of Environmental Protection
WET and Chemical Specific Data Report Form
This form is for reporting laboratory data and facility information. Official compliance reviews will be done by DEP.

V	ACROLEIN	NA										
V	ACRYLONITRILE	NA										
V	BENZENE	5										
V	BROMOFORM	5										
V	CARBON TETRACHLORIDE	5										
V	CHLOROBENZENE	6										
V	CHLORODIBROMOMETHANE	3										
V	CHLOROETHANE	5										
V	CHLOROFORM	5										
V	DICHLOROBROMOMETHANE	3										
V	ETHYLBENZENE	10										
V	METHYL BROMIDE (Bromomethane)	5										
V	METHYL CHLORIDE (Chloromethane)	5										
V	METHYLENE CHLORIDE	5										
V	TETRACHLOROETHYLENE (Perchloroethylene or Tetrachloroethene)	5										
V	TOLUENE	5										
V	TRICHLOROETHYLENE (Trichloroethene)	3										
V	VINYL CHLORIDE	5										

Notes:

(1) Flow average for day pertains to WET/PP composite sample day.

(2) Flow average for month is for month in which WET/PP sample was taken.

(3) Analytical chemistry parameters must be done as part of the WET test chemistry.

(4) Priority Pollutants should be reported in micrograms per liter (ug/L).

(5) Mercury is often reported in nanograms per liter (ng/L) by the contract laboratory, so be sure to convert to micrograms per liter on this spreadsheet.

(6) Effluent Limits are calculated based on dilution factor, background allocation (10%) and water quality reserves (15% - to allow for new or changed discharges or non-point sources).

(7) Possible Exceedence determinations are done for a single sample only on a mass basis using the actual pounds discharged. This analysis does not consider watershed wide allocations for fresh water discharges.

ATTACHMENT B

MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION
WHOLE EFFLUENT TOXICITY REPORT
MARINE WATERS

Facility Name _____ MEPDES Permit # _____

Facility Representative _____ Signature _____

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

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

Chlorinated? _____ Dechlorinated? _____

Results % effluent

	mysid shrimp	sea urchin
A-NOEL		
C-NOEL		

Effluent Limitations

A-NOEL	
C-NOEL	

Data summary

	mysid shrimp	sea urchin
	% survival	% fertilized
QC standard	>90	>80
lab control		
receiving water control		
conc. 1 (%)		
conc. 2 (%)		
conc. 3 (%)		
conc. 4 (%)		
conc. 5 (%)		
conc. 6 (%)		
stat test used		

place * next to values statistically different from controls

Salinity Adjustment

brine	
sea salt	
other	

Reference toxicant mysid shrimp sea urchin

	A-NOEL	C-NOEL
toxicant / date		
limits (mg/L)		
results (mg/L)		

Comments _____

Laboratory conducting test

Company Name _____ Company Rep. Name (Printed) _____

Mailing Address _____ Company Rep. Signature _____

City, State, ZIP _____ Company Telephone # _____

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

MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION
WET AND ANALYTICAL CHEMISTRY RESULTS
MARINE WATERS

Facility Name _____ MEPDES Permit # _____

Facility Representative _____ Signature _____

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

Date Collected _____ mm/dd/yy

Date Analyzed _____ mm/dd/yy

Lab ID No. _____

Actual Daily Discharge Flow _____ MGD

Monthly Average Discharge Flow _____ MGD

	Analyte	Report Units	Receiving Water Results	Effluent Results	Reporting Level	Method#
Analytes Required for Analytical Chemistry	Ammonia nitrogen	µg/L	*		µg/L	
	Total aluminum	µg/L	*		µg/L	
	Total arsenic	µg/L	*		µg/L	
	Total cadmium	µg/L	*		µg/L	
	Total chromium	µg/L	*		µg/L	
	Total copper	µg/L	*		µg/L	
	Total cyanide	µg/L	*		µg/L	
	Total lead	µg/L	*		µg/L	
	Total nickel	µg/L	*		µg/L	
	Total silver	µg/L	*		µg/L	
	Total zinc	µg/L	*		µg/L	
	Total residual chlorine **	mg/L			mg/L	
Additional Analytes Required For WET Chemistry	Total organic carbon	mg/L			mg/L	
	Total solids	mg/L			mg/L	
	Total suspended solids	mg/L			mg/L	
	Salinity	ppt			ppt	
	pH **	S.U.	*		S.U.	

* The receiving water chemistry tests are optional. However, samples of the receiving water should be preserved and saved for the duration of the WET test. In the event of questions about the receiving water's possible effect on the WET results, chemistry tests should then be conducted.

** WET laboratories may conduct these tests on composite samples as part of their procedures.

Comments _____

Laboratory conducting test

Company Name _____ Company Rep. Name (Printed) _____

Mailing Address _____ Company Rep. Signature _____

City, State, ZIP _____ Company Telephone # _____

MAINE POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT

AND

MAINE WASTE DISCHARGE LICENSE

FACT SHEET

Date: **November 21, 2006**
Revised: **December 15, 2006**

PERMIT NUMBER: **ME0100765**
LICENSE NUMBER: **W002644-5L-F-R**

NAME AND ADDRESS OF APPLICANT:

Town of Yarmouth
P.O. Box 907, 82 Princes Point Road
Yarmouth, Maine 04096

COUNTY: **Cumberland**

NAME AND ADDRESS WHERE DISCHARGE OCCURS:

82 Princes Point Road
Yarmouth, Maine

RECEIVING WATER AND CLASSIFICATION: **Royal River Estuary, Class SB**

COGNIZANT OFFICIAL AND TELEPHONE NUMBER: **Mr. Thomas Connelly**
Superintendent
(207) 846-2415

1. APPLICATION SUMMARY

a. Application: The Town of Yarmouth (Town hereinafter) has filed an application with the Department to renew combination Maine Pollutant Discharge Elimination System (MEPDERS) permit #ME0100765 and Waste Discharge License #W002644-5L-E-R (permit hereinafter) that issued by the Department on December 22, 2003 and is due to expire on December 22, 2008. The permit authorized the discharge of up to a monthly average flow of 1.31 MGD of secondary treated waste waters to the Royal River estuary, Class SB, in Yarmouth, Maine. See Attachment A of this Fact Sheet for a location map.

2. PERMIT SUMMARY

a. Summary of Terms and Conditions: This permitting action is carrying forward all the terms and conditions of the 12/22/03 permit with the following exceptions:

1. Establishing new acute, chronic and harmonic mean dilution calculations.

2. Establishing a new technology based daily maximum concentration limit for total residual chlorine. This limit replaces the former water quality daily maximum limitation for TRC.

3. Eliminating the daily maximum water quality based mass and concentration limitations for copper, cyanide and silver based on an updated statistical evaluation of the most recent 60-months of chemical specific data on file at the Department.

4. Eliminating the water quality based whole effluent toxicity (WET) limitations for the mysid shrimp, inland silverside and sea urchin based on an updated statistical evaluation of the most recent 60 months of WET data on file at the Department.

5. Incorporating the terms and conditions of the Department's revised rule Chapter 530, *Surface Water Toxics Control Program.*

6. Eliminating the requirement to continue to conduct work on a toxicity reduction evaluation (TRE) for copper.

7. Reducing the monitoring frequency for settleable solids from 1/Day to 5/Week based on the compliance history.

b. History: The most current and relevant regulatory actions include the following:

June 9, 1989 – The EPA issued NPDES permit #ME0100765 for a five-year term.

November 18, 1992 – The Department issued WDL #W002644-46-B-R for a five-year term.

November 1993 – The Town submitted an application to the EPA to renew NPDES permit #ME0100765 that was due to expire on June 9, 1994. The application was deemed by the EPA to be complete for processing. The application was never acted on by the EPA due to ambient water quality issues.

June 9, 1999 – The Department issued WDL #W002644-5L-C-R for a three-year term.

August 1, 2000 – The Department established interim average and maximum technology based concentration limits of 10.1 parts per trillion (ppt) and 15.1 ppt for mercury.

2. PERMIT SUMMARY (cont'd)

July 1, 2001 – The Town submitted a timely application to the Department to renew the WDL for the discharge from the waste water treatment facility.

December 22, 2003 – The Department issued combination MEPDES #ME0100765/WDL #W002644-5L-E-R for a five-year term.

April 10, 2006 – The Department modified the 12/23/03 MEPDES permit by establishing whole effluent toxicity (WET), priority pollutant and analytical chemistry testing in accordance with a new Department rule, Chapter 530, *Surface Water Toxics Control Program*, promulgated on October 12, 2005.

November 16, 2006 – The Town submitted an application to modify the 12/22/03 MEPDES permit/WDL. The Town is requesting the Department re-evaluate the terms and conditions of the permit based on increased dilution factors as a result of a outfall relocation project scheduled to start on or about December 1, 2006 with a completion date of on or about March 17, 2007. See Section 10, *Response to Comments* of this Fact Sheet.

c. Source Description: The waste water treatment facility receives sanitary waste waters from a population of approximately 6,000 residential and commercial users within the Town of Yarmouth. The collection system is a separated system approximately 40 miles in length with 30 pump stations. The Harbor pump station was upgraded in 1999 as the facility had adequate pump capacity to physically pump all flows it received but the force main from the pump station to the treatment plant was undersized, limiting the pump station. The upgrade of the pump station included the installation of second force main which has been successful in eliminating overflow discharges from the pump station for five years running. Six (6) of the pump stations have on-site back-up power and 24 of the pump stations are served with back-up power via portable generators and a tanker truck. There are no significant industrial sources contributing waste waters to the treatment facility.

d. Waste Water Treatment – The collection system conveys all waste water to two main pump station; the Princes Point pump station and the Harbor pump station via a combination of gravity and pressure sewer lines. From the two main pump stations the waste waters are pumped to the headworks of the waste water treatment facility. At the Harbor pump station, grit is removed from the waste water in an aerated grit chamber before it is pumped to treatment plant headworks where it passes through a climber screen. Waste water is treated in an oxidation ditch with a capacity of 500,000 gallons and two secondary clarifiers, each measuring 50 feet in diameter. The waste water is then disinfected on a year-round basis using sodium hypochlorite in three chlorine contact tanks and dechlorinated using sodium bisulfite. The treated effluent was once conveyed to the Royal River through a pipe measuring 16 inches in diameter and 300 feet long without a diffuser. The pipe was submerged at high tide, but at low tide, effluent

2. PERMIT SUMMARY (cont'd)

traversed the exposed portion of mudflat before entering the main channel of the Royal River estuary. The new outfall pipe measures 20 inches in diameter and the end of the pipe is fitted with a multi-port diffuser (seven ports each measuring 6 inches in diameter spaced at 10 feet on-center). The new outfall pipe extends out in the deepest portion of the navigational channel. See Attachment B of this permit for a schematic of the treatment plant processes and location of the new outfall pipe location. The following off-line equipment is located at the treatment plant: two oxidation ditches and a clarifier measuring 30 feet in diameter, all of which can be activated for treatment or high flow storage if needed. The sludge handling equipment at the plant includes a aerobic digester with a capacity of 200,000 gallons, two belt filter presses (a one meter and a two meter), and a composting facility.

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. RECEIVING WATER QUALITY STANDARDS:

Maine law, 38 M.R.S.A., §469(1) classifies the Royal River at the point of discharge as a Class SB waterway. Maine law, 38 M.R.S.A., §465-B(2) contains the classification standards for Class SB waterways.

5. RECEIVING WATER QUALITY CONDITIONS:

Table Category 3 entitled, *Estuarine and Marine Water With Insufficient Data or Information to Determine Attainment*, in a document entitled, State of Maine Department of Environmental Protection, 2004 Integrated Water Quality Monitoring and Assessment Report, published by the Department lists the Royal River, Cousins River, Cousins Island and Littlejohn Island in the Yarmouth/Freeport area (DMR area #14) Class SB, with insufficient data to determine attainment. Attainment in this context is in regard to the designated use of harvesting of shellfish. Currently, DMR shellfish harvesting Area #14 A(2) is closed to the harvesting of shellfish due to insufficient (limited) ambient water quality data to meet the standards in the National Shellfish Sanitation Program. See Attachment C of this Fact Sheet. Therefore, area #14 remains closed. Compliance with the year-round fecal

5. RECEIVING WATER QUALITY CONDITIONS (cont'd)

coliform bacteria limits in this permitting action ensures that the Yarmouth waste water treatment facility will not cause or contribute to the shellfish harvesting closure.

The Department conducted a qualitative marine survey on June 21, 1996 and again on July 8, 1996 to determine if the discharge was causing or contributing an impairment of the habitat in the vicinity of the pipe. The Department prepared a memorandum with the following text:

> *"The Yarmouth facility discharges to a sandy flat with a short channel (<30 m at low tide) leading to the Royal River (Class SB). When we arrived for the survey, the tide was coming in and was just covering the outfall pipe so we could not make direct observations in the channel. During the survey, sand shrimp and mysid shrimp were found immediately in front of the discharge. Nereis virens and gammarid amphipods were abundant in close proximity (1m) to the outfall. The presence of these sensitive species in waters directly adjacent to the discharge indicates there are no detrimental effects on the biological community (Class SB standard). Location of the outfall should not be changed, and might actually present a navigational hazard if extended."*

The 6/9/99 licensing action included the following text: *"The Department has conducted a Waste Load Allocation study which indicates that the Royal River estuary does not attain the standards for dissolved oxygen (DO) for its assigned classification. The study indicates that this is due primarily to sediment oxygen demand (SOD). Due to this failure to meet the standard for DO, no increase in mass loading can be permitted. The term of this license has been limited to three years to evaluate the effect of a dredging operation conducted in the fall of 1997 on ambient DO concentrations in the river."*

"The [average daily] water quality model indicated non-attainment of dissolved oxygen standards for all discharge scenarios including the no discharge condition. The majority of the impact on dissolved oxygen (approximately 60%) is due to sediment oxygen demand. The Yarmouth discharge accounts for 9.6% of the impact at license limits and 3.8% of the impact at performance loading." It is noted these percentages equate to a concentration level that may not be measurable with today's instrumentation.

"This statement indicates that elimination of BOD from this plant would make little difference in DO levels when compared to the SOD impact."

The Department has updated its water quality evaluation of the Royal River and remains uncertain as to whether the discharge from the Yarmouth waste water treatment facility is contributing at a measurable level to the failure of the receiving water to meet the classification standard for DO. The Department also acknowledges that eliminating the discharge will not result in the receiving water meeting the applicable DO standard.

5. RECEIVING WATER QUALITY CONDITIONS (cont'd)

It is noted a number of estuaries along the coast of southern Maine naturally do not meet the DO standards of their classification. It has been suggested the DO standards are overly stringent. As a result, the Department convened a stakeholder group that evaluated the DO standards for marine waters in Maine in calendar year 2005. The Department anticipated a revision to the DO standard but was unsuccessful as the Legislature rejected the revision(s). As a result, the table entitled *Category 5-A: Estuarine and Marine Waters Impaired By Pollutants Other Than those Listed in 5-B Through 5-D (TMDL Required),* in the aforementioned water quality assessment report indicates a TMDL for the Royal River is required in the future. No date has been established for the TMDL.

All estuarine and marine waters in Maine are listed in a table entitled, *Category 4-B-3: Estuarine and Marine Waters Impaired by Atmospheric Deposition of Mercury.* Text in this category states that all waters in the category are partially supporting fishing (fish and shellfish consumption) due to elevated levels of mercury, PCBs and dioxin in tissues of some fish and lobster tomally. The Department is not aware of any information that the Yarmouth waste water treatment facility is discharging PCBs or dioxin that may be causing or contributing to the partial non-attainment. As for mercury, the Town is currently in compliance with their interim average and maximum interim limits of 10.1 ng/L and 15.1 ng/L respectively, for mercury.

6. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

a. Flow: The previous permitting action established a monthly average flow limitation of 1.31 MGD that is being carried forward in this permitting action as it remains representative of the monthly average design capacity of the facility. A review of the DMR data for the period January 2004 through September 2006 indicates the monthly average flow has ranged from 0.614 MGD to 1.42 MGD with an arithmetic mean of 0.88 MGD. For the daily maximum, a review of the DMR data for said period indicates the daily maximum flow has ranged from 0.721 MGD to 3.413 MGD with an arithmetic mean of 1.58 MGD.

b. Dilution Factors - Department Regulation Chapter 530, *Surface Water Toxics Control Program*, §4(A)(2)(b) states "*For discharges to estuaries, dilution must be calculated using a method such as MERGE, CORMIX or another predictive model determined by the Department to be appropriate for the site conditions.*"

The previous permitting action established the dilution factors listed below. It is noted the acute and chronic dilution factors were based on the results of a dye study of the Royal River conducted by the EPA in 1989. A dye study conducted during the summer of 2002 by the Maine Department of Marine Resources (DMR) and federal Food and Drug Administration (FDA) using the permittee's effluent in the Royal River indicated similar results to the EPA study.

Acute = 3.0:1 Chronic = 8.0:1 Harmonic mean [1] = 24:1

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

Footnote:

(1) The harmonic mean dilution factor was approximated by multiplying the chronic dilution factor by three (3). This multiplying factor is based on guidelines for estimation of human health dilution presented in the USEPA publication *"Technical Support Document for Water Quality-based Toxics Control"* (Office of Water; EPA/505/2-90-001, page 88), and represents an estimation of harmonic mean flow on which human health dilutions are based in a riverine 7Q10 flow situation.

It is noted the permittee has collected additional instream data to verify/confirm Department modeling input values and data on the physical configuration/characteristics of the river channel in an effort to re-evaluate the design of the outfall structure to improve the mixing characteristics and the dilution factors associated with the discharge. The permittee has submitted plans to the Department for the relocation of the outfall to maximize available dilution. Based on the location (middle of the navigational channel) and configuration of the new outfall pipe (20 inches in diameter) and a diffuser (seven ports measuring 6 inches in diameter spaced at 10 feet on-center) the Department, through modeling consistent with Chapter 530, has determined the dilution factors are as follows:

Acute = 20.0:1 Chronic = 107:1 Harmonic mean [(1)] = 321:1

Footnote:

(1) As with the previous permitting action, the harmonic mean dilution factor is approximated by multiplying the chronic dilution factor by three (3). This methodology is consistent with Department rule Chapter 530, §4(A)(2)(c). This multiplying factor is based on guidelines for estimation of human health dilution presented in the USEPA publication *"Technical Support Document for Water Quality-based Toxics Control"* (Office of Water; EPA/505/2-90-001, page 88), and represents an estimation of harmonic mean flow on which human health dilutions are based in a riverine 7Q10 flow situation.

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

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

As for mass limitations, the previous licensing action established monthly average, weekly average and daily maximum mass limitations that are being carried forward in this permitting action and are based on a monthly average flow of 0.84 MGD due to depressed ambient dissolved oxygen levels in the Royal River estuary. The figure of 0.84 MGD was the facility's monthly average design capacity and WDL flow limitation prior to the 1992 plant upgrade. The mass limits were derived as follows:

Monthly average: (0.84 MGD)(8.34)(30 mg/L) = 210 lbs/day
Weekly average: (0.84 MGD)(8.34)(45 mg/L) = 315 lbs/day
Daily Maximum: (0.84 MGD)(8.34)(50 mg/L) = 350 lbs/day

A review of the DMR data for the period January 2004 – September 2006 indicates the monthly average BOD has ranged from 15 mg/L to 96 mg/L with an arithmetic mean of 35 mg/L. As for TSS, the DMR data for said period indicates the monthly average TSS has ranged from 18 mg/L to 164 mg/L with an arithmetic mean of 42 mg/L.

This permitting action carries forward the requirement of 85% removal for BOD and TSS pursuant to Department rule Chapter 525(3)(III)(a&b)(3). A review of the DMR data for the period January 2004 – September 2006 indicates the percent removal has average approximately 98% for both parameters.

Monitoring frequencies for BOD and TSS of 2/week established in the previous permitting action are being carried forward in this permitting action and are based on Department policy for facilities with a monthly average flow greater than 1.0 MGD but less than 5.0 MGD.

d. Settleable Solids (SS) – The previous permitting action established a daily maximum concentration limit of 0.3 ml/L for SS that is being carried forward in this permitting action and is considered a Department best professional judgment of BPT for secondary treated waste waters. A review of the DMR data for the period January 2004 – September 2006 indicates the daily maximum SS has been reported as <0.1 ml/L every month for said period. As a result of the consistency of these test results, the Department is making a best professional judgment that a reduction in the monitoring frequency from 1/Day to 5/Week is sufficient to determine on-going compliance with the discharge limits established in this permitting action and that BPT is being maintained.

e. Fecal coliform bacteria – The previous permitting action established a seasonal monthly average and daily maximum limits of 15 colonies/100 ml and 50 colonies/100 ml respectively, that are consistent with the National Shellfish Sanitation Program. The limits are being carried forward in this permitting action. The limits are in effect in on a year-round basis to protect shellfish harvesting areas in the estuary.

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

A review of the monthly DMR data for the period January 2004 to December 2006 indicates the monthly average (geometric mean) bacteria levels have ranged from 1.0 colony/100 ml to 1.6 colonies/100 ml with an arithmetic mean of 1.1 colonies/100 ml. As for the daily maximum, the DMR data indicates the bacteria levels range from 1 colony/100 ml to 9 colonies/100 ml with an arithmetic mean of 2 colonies/100 mL. The DMR data indicates the permittee has been in compliance with both limits 100% of the time.

f. Total Residual Chlorine: Limits on total residual chlorine are specified to ensure attainment of the in-stream water quality criteria for chlorine and that BPT technology is utilized to abate the discharge of chlorine. Permits issued by this Department impose the more stringent of the calculated water quality based or BPT based limits. The previous permitting action established a daily maximum water quality based limitation of 0.039 mg/L. End-of-pipe water quality based thresholds for TRC were calculated as follows:

Acute (A) Criterion	Chronic (C) Criterion	A & C Dil. Factors	Calculated Acute Limit	Chronic Limit
0.013 mg/L	0.0075 mg/L	3.0:1, 8.0:1	0.039 mg/L	0.06 mg/L

Example calculation: Acute (0.013 mg/L)(3.0) = 0.039 mg/L

The Department has established a daily maximum best practicable treatment (BPT) limitation of 1.0 mg/L for facilities that disinfect their effluent with elemental chlorine or chlorine based compounds unless the calculated acute water quality based threshold is lower than 1.0 mg/L. For facilities that need to de-chlorinate the discharge to meet water quality based thresholds, the Department has established daily maximum and monthly average best practicable treatment limits of 0.3 mg/L and 0.1 mg/L respectively. In the case of the Yarmouth, the acute water quality based threshold calculated at 0.039 mg/L was lower than the BPT limit of 0.3 mg/L, thus the water quality based limit of 0.039 mg/L was established.

A review of the DMR data for the period January 2004 – September 2006 indicates the daily maximum TRC has been reported as <0.05 mg/L for all but three months in said period. Two of three results were reported above 0.05 mg/L, a 0.58 mg/L in April of 2004 and a 1.46 mg/L in October of 2005.

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

With the new dilution factors associated with a relocated outfall, end-of-pipe water quality based thresholds for TRC can be calculated as follows:

Acute (A) Criterion	Chronic (C) Criterion	A & C Dil. Factors	Calculated Acute Limit	Chronic Limit
0.013 mg/L	0.0075 mg/L	20:1, 107:1	0.26 mg/L	0.80 mg/L

Example calculation: Acute (0.013 mg/L)(20) = 0.26 mg/L

To comply with the water quality thresholds calculated above, the Town will need to de-chlorinate the discharge. The Department has established daily maximum and monthly average best practicable treatment limits (BPT) of 0.3 mg/L and 0.1 mg/L for facilities that de-chlorinate their discharge. Being that both of these respective technology based limits are more stringent than the water quality based thresholds calculated above, this permitting action is establishing the daily maximum and monthly average technology based limits of 0.3 mg/L and 0.1 mg/L respectively. The monitoring frequency of 1/Day is also being carried forward in this permitting action based on a Department policy for facilities with a monthly average flow greater than 1.0 MGD but less 5.0 MGD.

g. pH – The previous permitting action established a pH range limit of 6.0 –9.0 standard units pursuant to Department rule found at Chapter 525(3)(III)(c). The limits are considered BPT and are being carried forward in this permitting action. The DMR data for the period January 2004 – September 2006 indicates 100% compliance with the limitation range.

h. Mercury: Pursuant to Maine law, 38 M.R.S.A. §420 and Department rule, 06-096 CMR Chapter 519, *Interim Effluent Limitations and Controls for the Discharge of Mercury*, the Department issued a *Notice of Interim Limits for the Discharge of Mercury* to the permittee on May 23, 2000, thereby administratively modifying the WDL in effect at the time by establishing interim monthly average and daily maximum effluent concentration limits of 10.1 parts per trillion (ppt) and 15.1 ppt, respectively, and a minimum monitoring frequency requirement of four tests per year for mercury. The interim mercury limits were scheduled to expire on October 1, 2001. However, effective June 15, 2001, the Maine Legislature enacted Maine law, 38 M.R.S.A. §413, sub-§11 specifying that interim mercury limits and monitoring requirements remain in effect. It is noted that the mercury effluent limitations have not been incorporated into Special Condition A, *Effluent Limitations And Monitoring Requirements*, of this permit as the limits and monitoring frequencies are regulated separately through Maine law, 38 M.R.S.A. §413 and Department rule Chapter 519. The interim mercury limits remain in effect and enforceable and modifications to the limits and/or monitoring frequencies will be formalized outside of this permitting document pursuant to Maine law, 38 M.R.S.A. §413 and Department rule Chapter 519.

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

A review of the mercury results on file at the Department for the period March 2001 – March 2006 indicates the results have ranged from 1.6 ppt to 26.0 ppt with a cumulative average of 6.3 ppt.

i. Whole Effluent Toxicity (WET) and Chemical Specific Testing – The previous permitting action established numeric daily maximum water quality based mass and concentration limitations for copper, cyanide and silver and numeric acute no observed effect level (A-NOEL) water quality based limitations for the mysid shrimp and inland silverside and numeric chronic no observed effect level (C-NOEL) water quality based limits for the inland silverside and the sea urchin. See the Fact Sheet of the 12/22/03 permitting action for the justification and derivation of said limits.

Subsequent to the 12/22/03 permitting action, the Department has promulgated new rules, 06-096 CMR Chapter 530, *Surface Water Toxics Control Program,* requiring 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*. On April 10, 2006, the Department modified the 12/22/03 permit by establishing 1/Quarter monitoring requirements for ammonia, copper, silver and zinc, a 2/Year monitoring requirement for the sea urchin, a 1/Year monitoring requirement for the mysid shrimp and a 1/year monitoring requirement for analytical chemistry (parameters specified in the Chapter 530 rule). The monitoring requirements were established based on a statistical evaluation of the most recent 60 months on WET and chemical specific test results on file with the Department, the criteria established in Chapters 530 and 584 and the dilution factors established in the previous permitting action. (acute 3:1, chronic 8.0:1, harmonic mean 24:1).

The new dilution factors associated with the relocation of the outfall pipe have a direct affect on the outcome of statistical evaluation utilized to determine if a discharge exceeds or has a reasonable potential to exceed critical water quality based thresholds and or ambient water quality criteria (AWQC). Therefore, this permitting action is conducting another statistical evaluation of the most recent 60 months of WET and chemical specific test results on file at the Department utilizing the new dilution factors.

WET, priority pollutant and analytical chemistry testing, as required by Chapter 530, is included in this permit in order to fully characterize the effluent. This permit also provides for reconsideration of effluent limits and monitoring schedules after evaluation of toxicity testing results. The monitoring schedule includes consideration of results currently on file, the nature of the wastewater, existing treatment and receiving water characteristics.

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

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

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

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

Department rule Chapter 530 (2)(D) specifies the criteria to be used in determining the minimum monitoring frequency requirements for WET, priority pollutant and analytical chemistry testing. Based on the Chapter 530 criteria, the permittee's facility falls into the Level III frequency category as the facility has a chronic dilution factor ≥100:1 but <500:1. Chapter 530(2)(D)(1) specifies that default surveillance and screening level testing requirements are as follows:

Screening level testing

Level	WET Testing	Priority pollutant testing	Analytical chemistry
III	1 per year	1 per year	4 per year

Surveillance level testing

Level	WET Testing	Priority pollutant testing	Analytical chemistry
III	1 per year	. None required	1 per year

A review of the data on file with the Department for the Town indicates that to date, they have fulfilled the WET and chemical-specific testing requirements to date. See Attachment D of this Fact Sheet for a summary of the WET test results and Attachment E of this Fact Sheet for a summary of the chemical-specific test dates.

6. EFFLUENT LIMITATIONS & MONITORING REQUIREMENTS (cont'd)

WET test evaluation

Chapter 530 §(3)(E) states "*For effluent monitoring data and the variability of the pollutant in the effluent, the Department shall apply the statistical approach in Section 3.3.2 and Table 3-2 of USEPA's "Technical Support Document for Water Quality-Based Toxics Control" (USEPA Publication 505/2-90-001, March, 1991, EPA, Office of Water, Washington, D.C.) to data to determine whether water-quality based effluent limits must be included in a waste discharge license. Where it is determined through this approach that a discharge contains pollutants or WET at levels that have a reasonable potential to cause or contribute to an exceedence of water quality criteria, appropriate water quality-based limits must be established in any licensing action.*"

On November 20, 2006, the Department conducted a statistical evaluation on the most recent 60 months of WET test results on file with the Department in accordance with the statistical approach cited above. The statistical evaluation indicates the discharge from the permittee's waste water treatment facility does not exceed or have a reasonable potential to exceed the critical acute (5%) or chronic (0.9%) water quality thresholds for any of the WET species tested to date. Therefore, no numeric limitations for any WET species tested to date are being established in this permitting action. It is noted, the critical water quality thresholds expressed in percent (%) were derived as the mathematical inverse of the applicable dilution factors.

As for testing frequencies Chapter 530(2)(D)(3)(b) states in part that for Level III facilities "... *may be waived from conducting surveillance testing for individual WET species or chemicals provided that testing in the preceding 60 months does not indicate any reasonable potential for exceedence as calculated pursuant to section 3(E)*". Based on the results of the 11/20/06 statistical evaluation, the permittee qualifies for the testing waiver. Therefore, this permit action establishes a screening level WET testing requirements as follows:

Beginning 12 months prior to permit expiration and every five years thereafter

Level	WET Testing
III	1 per year

It is noted, the permittee is proposing to also conduct a screening level of testing in calendar year 2008. See Section 10, *Response To Comments*, of this Fact Sheet.

6. EFFLUENT LIMITATIONS & MONITORING REQUIREMENTS (cont'd)

Chapter 530 (2)(D) states:

(4) All dischargers having waived or reduced testing must file statements with the Department on or before December 31 of each year describing the following.

(a) Changes in the number or types of non-domestic wastes contributed directly or indirectly to the wastewater treatment works that may increase the toxicity of the discharge;

(b) Changes in the operation of the treatment works that may increase the toxicity of the discharge; and

(c) Changes in industrial manufacturing processes contributing wastewater to the treatment works that may increase the toxicity of the discharge.

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

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

Chemical specific testing evaluation

Chapter 530 §3 states, "*In determining if effluent limits are required, the Department shall consider all information on file and effluent testing conducted during the preceding 60 months. However, testing done in the performance of a Toxicity Reduction Evaluation (TRE) approved by the Department may be excluded from such evaluations.*"

Chapter 530 §4(C), states "*The background concentration of specific chemicals must be included in all calculations using the following procedures. The Department may publish and periodically update a list of default background concentrations for specific pollutants on a regional, watershed or statewide basis. In doing so, the Department shall use data collected from reference sites that are measured at points not significantly affected by point and non-point discharges and best calculated to accurately represent ambient water quality conditions." The Department shall use the same general methods as those in section 4(D) to determine background concentrations. For pollutants not listed by the Department, an assumed concentration of 10% of the applicable water quality criteria must be used in calculations.* The Department has no information on the background levels of metals in the water column of the Royal River. Therefore, a default background concentration of 10% of the applicable water quality criteria is being used in the calculations of this permitting action.

6. EFFLUENT LIMITATIONS & MONITORING REQUIREMENTS (cont'd)

Chapter 530 4(E), states "*In allocating assimilative capacity for toxic pollutants, the Department shall hold a portion of the total capacity in an unallocated reserve to allow for new or changed discharges and non-point source contributions. The unallocated reserve must be reviewed and restored as necessary at intervals of not more than five years. The water quality reserve must be not less than 15% of the total assimilative quantity*". Therefore, the Department is reserving 15% of the applicable water quality criteria in the calculations of this permitting action.

Chapter 530 §(3)(E) states "*... that a discharge contains pollutants or WET at levels that have a reasonable potential to cause or contribute to an exceedence of water quality criteria, appropriate water quality-based limits must be established in any licensing action.*

As with WET test results, on November 20, 2006, the Department conducted a statistical evaluation on the most recent 60 months of chemical specific test results on file with the Department in accordance with the statistical approach outlined in Chapter 530. The statistical evaluation indicates there are no parameters that exceed or have a reasonable potential to exceed the acute, chronic or human health AWQC.

As for testing frequencies, Chapter 530(2)(D)(3)(b) states in part that for Level III facilities "*... may be waived from conducting surveillance testing for individual WET species or chemicals provided that testing in the preceding 60 months does not indicate any reasonable potential for exceedence as calculated pursuant to section 3(E)*". Based on the results of the 11/20/06 statistical evaluation, the permittee qualifies for the testing waiver. Therefore, this permit action establishes a screening level analytical chemistry and priority pollutant testing requirements as follows:

> Beginning 12 months prior permit expiration and lasting through permit expiration and every five years thereafter

Level	Priority pollutant testing	Analytical chemistry
III	1 per year	4 per year

It is noted, the permittee is proposing to also conduct a screening level of testing in calendar year 2008. See Section 10, *Response To Comments,* of this Fact Sheet.

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

7. DISCHARGE IMPACT ON RECEIVING WATER QUALITY

As permitted, the Department has made a determination based on a best professional judgment 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 SB classification.

8. PUBLIC COMMENTS

Public notice of this application was made in the Falmouth Forcaster newspaper on or about November 16, 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

10. RESPONSE TO COMMENTS

During the period November 21, 2006 through the date of permit issuance, the Department solicited comments from the permittee, state and federal agencies and other interested parties on the draft permit for the discharge from the Town of Yarmouth's waste water treatment facility. The Department received written comments from the permittee in a letter dated December 18, 2006, and the responses to those comments are as follows:

Comment #1 – The Town has reconsidered it's request to modify the permit and has requested the Department renew the permit for a five-year term. It is noted the Town's other small waste water treatment facility often referred to as the Sea Meadows plant is scheduled to be renewed for a five-year term by the Department prior to December 31, 2006. By renewing the permit for the main waste water treatment plant now rather modifying it now and then renewing it in December of 2008, the Town can consolidate the preparation of applications and satisfy public notice requirements for both of the Town's waste water treatment facilities at the same time. This will save the Town time and money and make the permitting process more efficient.

10. RESPONSE TO COMMENTS

The Town has volunteered to conduct a screening level of whole effluent toxicity (WET), priority pollutant and analytical chemistry testing in 12-month period prior to the expiration date of the previous permitting action (December 2007 – December 2008) and the 12-month period prior to the expiration date of this permit (December 2010 –December 2011) if renewed for a 5-year term. The previous permit was to expire on December 22, 2008. Therefore, the Town is proposing to conduct a screening level of WET (1/Year), priority pollutant (1/Year) and analytical chemistry (1/Quarter) testing during calendar year 2008. The Town's proposed testing schedule is consistent with the screening level testing requirements of the Department's Chapter 530 rule, Surface Water Toxics Control Program, promulgated on October 12, 2005. More specifically, Section 2(D)(1) states in part *"Screening tests must be performed during the 12 months preceding the expiration of a discharger's license, but at least once every five years, unless otherwise directed by the Department in order to accommodate license renewal schedules."*

Response #1 – The Department does not object to the permit being renewed for a 5-year term being that the Town is proposing to conduct the WET testing requirements in accordance with the Department's Chapter 530 rule. Therefore, by this permitting action, the Department is modifying and renewing the previous MEPDES permit/WDL for a five-year term.

ATTACHMENT A


043-029
043-001
040-053
040-040
040-001
040-050
035-003
035-009
035-002
035-004
043-021
039-051
039-059
009-001-00B
043-027
039-014
009-001-00A
039-009
OUTFALL
023-021
023-014
002-033
002-034-00G
002-043
002-052
002-051
001-001-00B
001-005
002-063
058-034
058-022
001-001-00C
002-055
058-021
001-001-00D
002-059
058-020

ATTACHMENT B

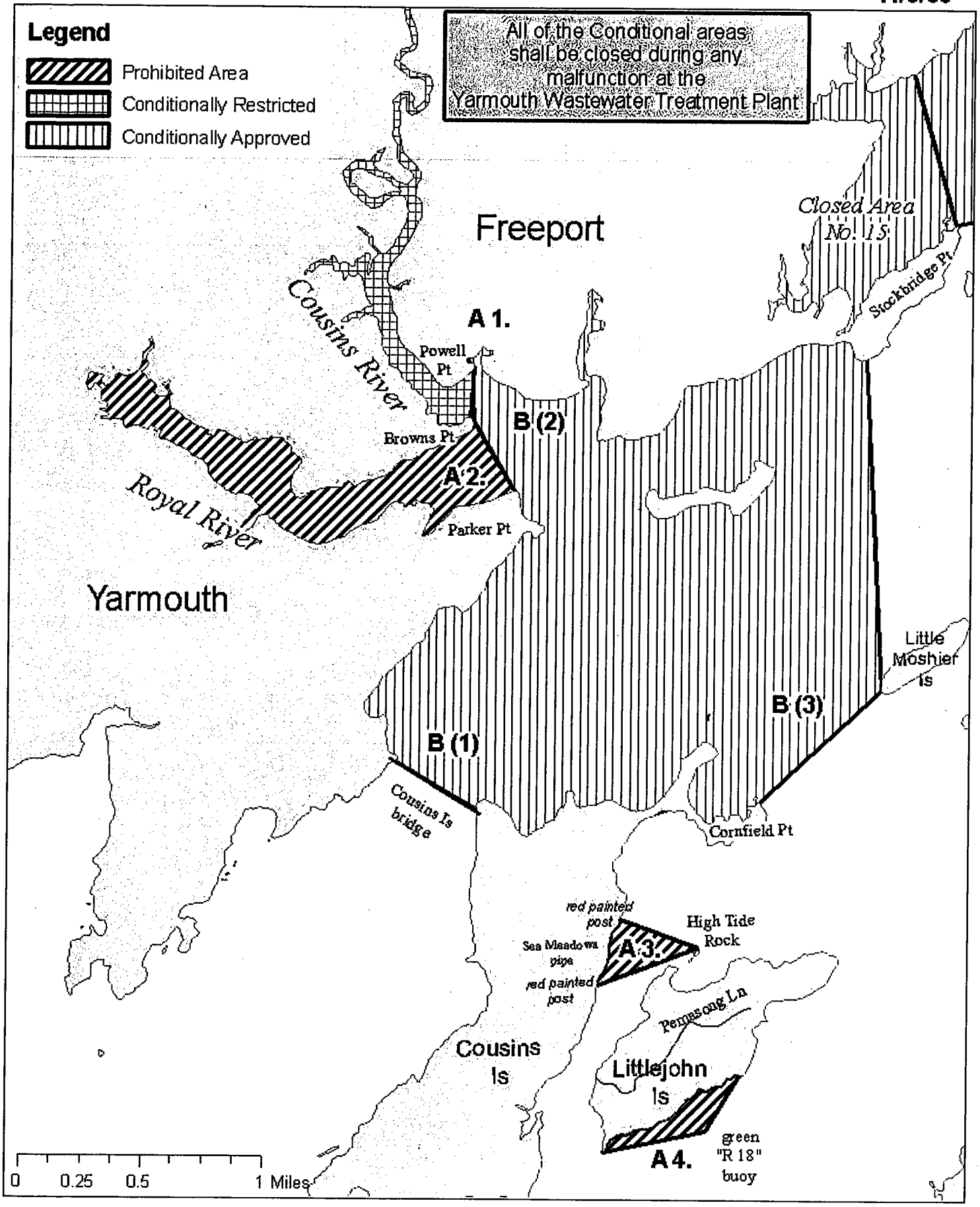
ATTACHMENT C

Maine Department of Marine Resources

Pollution Closed Area No. 14

Royal River, Cousins River, Cousins Is, Litteljohn Is (Yarmouth and Freeport)

11/6/06



ATTACHMENT D

Species	Test	Test Result %	Sample Date	
MYSID SHRIMP	LC50	>100	07/08/2001	
SEA URCHIN	C_NOEL	100	07/08/2001	
SILVER SIDE	A_NOEL	100	07/08/2001	
SILVER SIDE	C_NOEL	100	07/08/2001	
SILVER SIDE	LC50	>100	07/08/2001	
MYSID SHRIMP	A_NOEL	70.4	10/21/2001	
MYSID SHRIMP	LC50	>100	10/21/2001	
SEA URCHIN	C_NOEL	6.25	10/21/2001	
SILVER SIDE	A_NOEL	100	10/21/2001	
SILVER SIDE	C_NOEL	100	10/21/2001	
SILVER SIDE	LC50	>100	10/21/2001	BEGIN 60-MONTH
MYSID SHRIMP	A_NOEL	72.0	01/27/2002	EVALUATION PERIOD
MYSID SHRIMP	LC50	>100	01/27/2002	
SEA URCHIN	C_NOEL	100	01/27/2002	
SILVER SIDE	A_NOEL	100	01/27/2002	
SILVER SIDE	C_NOEL	100	01/27/2002	
SILVER SIDE	LC50	>100	01/27/2002	
MYSID SHRIMP	A_NOEL	100	04/21/2002	
MYSID SHRIMP	LC50	>100	04/21/2002	
SEA URCHIN	C_NOEL	100	04/21/2002	
SILVER SIDE	A_NOEL	100	04/21/2002	
SILVER SIDE	C_NOEL	100	04/21/2002	
SILVER SIDE	LC50	>100	04/21/2002	
MYSID SHRIMP	A_NOEL	100	07/14/2002	
MYSID SHRIMP	LC50	>100	07/14/2002	
SEA URCHIN	C_NOEL	100	07/14/2002	
SILVER SIDE	A_NOEL	100	07/14/2002	
SILVER SIDE	C_NOEL	100	07/14/2002	
SILVER SIDE	LC50	>100	07/14/2002	
MYSID SHRIMP	A_NOEL	100	10/06/2002	
MYSID SHRIMP	LC50	>100	10/06/2002	
SEA URCHIN	C_NOEL	100	10/06/2002	
SILVER SIDE	A_NOEL	100	10/06/2002	
SILVER SIDE	C_NOEL	100	10/06/2002	
SILVER SIDE	LC50	>100	10/06/2002	
MYSID SHRIMP	A_NOEL	100	04/06/2003	
MYSID SHRIMP	LC50	>100	04/06/2003	
SEA URCHIN	C_NOEL	100	04/06/2003	
SILVER SIDE	A_NOEL	100	04/06/2003	
SILVER SIDE	C_NOEL	100	04/06/2003	
SILVER SIDE	LC50	>100	04/06/2003	
SEA URCHIN	C_NOEL	100	07/06/2003	

Species	Test	Test Result %	Sample Date
SILVER SIDE	A_NOEL	100	07/06/2003
SILVER SIDE	C_NOEL	100	07/06/2003
SILVER SIDE	LC50	>100	07/06/2003
MYSID SHRIMP	A_NOEL	100	09/21/2003
MYSID SHRIMP	LC50	>100	09/21/2003
MYSID SHRIMP	A_NOEL	100	10/26/2003
MYSID SHRIMP	LC50	>100	10/26/2003
SEA URCHIN	C_NOEL	100	10/26/2003
SILVER SIDE	A_NOEL	60	10/26/2003
SILVER SIDE	C_NOEL	50	10/26/2003
SILVER SIDE	LC50	>100	10/26/2003
MYSID SHRIMP	A_NOEL	100	02/01/2004
MYSID SHRIMP	LC50	>100	02/01/2004
SEA URCHIN	C_NOEL	100	02/01/2004
SILVER SIDE	A_NOEL	100	02/01/2004
SILVER SIDE	C_NOEL	100	02/01/2004
SILVER SIDE	LC50	>100	02/01/2004
MYSID SHRIMP	A_NOEL	100	04/17/2005
MYSID SHRIMP	LC50	>100	04/17/2005
SEA URCHIN	C_NOEL	100	04/17/2005
SILVER SIDE	A_NOEL	100	04/17/2005
SILVER SIDE	C_NOEL	100	04/17/2005
SILVER SIDE	LC50	>100	04/17/2005
SEA URCHIN	C_NOEL	100	03/13/2006

ATTACHMENT E

Sample Date: 02/26/2001
Plant flows provided

)tal Tests:	123
.ssing Compounds:	1
:sts With High DL:	0

mon.(MGD)= 0.477
day(MGD)= 0.528

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

Sample Date: 04/21/2002
Plant flows provided

tal Tests:	131
ssing Compounds:	1
sts With High DL:	0

mon.(MGD)= 0.886
day(MGD)= 0.805

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

Sample Date: 01/05/2003
Plant flows not provided

tal Tests:	123
ssing Compounds:	1
sts With High DL:	0

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

Sample Date: 07/06/2003
Plant flows not provided

tal Tests:	20
sts With High DL:	0

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

Sample Date: 02/01/2004
Plant flows provided

:al Tests:	131
:ssing Compounds:	1
:ts With High DL:	0

mon.(MGD)= 0.614
day(MGD)= 0.627

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

Sample Date: 04/17/2005
Plant flows provided

Total Tests:	134
Missing Compounds:	1
Tests With High DL:	0

mon.(MGD)= 1.421
day(MGD)= 0.784

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