STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION

JOHN ELIAS BALDACCI
GOVERNOR

DAVID P. LITTELL
COMMISSIONER

December 26, 2006

Mr. Thomas Connolly
Town of Yarmouth
200 Main Street
Yarmouth, Maine 04096

RE: Maine Pollutant Discharge Elimination System (MEPDES) Permit #ME0102377
Maine Waste Discharge License (WDL) Application #W002234-5L-D-R
Final MEPDES Permit/WDL

Dear Mr. Connolly:

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

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

If you have any questions regarding the matter, please feel free to call me at 287-7659.

Sincerely,

Bill Hinkel
Division of Water Quality Management
Bureau of Land and Water Quality

Enc.

cc: Matt Hight, DEP
Lori Mitchell, DEP
Sandy Lao, USEPA
File #2234

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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	)	ELIMINATION SYSTEM PERMIT
PUBLICLY OWNED TREATMENT WORKS	)	AND
#ME0102377	)	WASTE DISCHARGE LICENSE
#W002234-5L-D-R **APPROVAL**	)	**RENEWAL**

Pursuant to the provisions of the Federal Water Pollution Control Act, Title 33 USC, §1251, *et seq.*, and Maine law, 38 M.R.S.A., §414-A *et seq.*, and applicable regulations, the Maine Department of Environmental Protection (Department) has considered the application of TOWN OF YARMOUTH (TOWN), with its supportive data, agency review comments, and other related materials on file and FINDS THE FOLLOWING FACTS:

APPLICATION SUMMARY

The Town has applied to the Department for a renewal of Waste Discharge License (WDL) #W002234-5L-C-R / Maine Pollutant Discharge Elimination System (MEPDES) Permit #ME0102377, which was issued on June 27, 2001, and expired on June 27, 2006. The 6/27/01 MEPDES permit authorized the monthly average discharge of up to 0.012 million gallons per day (MGD) of secondary treated sanitary wastewater from a publicly owned treatment works (POTW) (Seameadows Wastewater Treatment Facility) to the Casco Bay, Class SB, in Yarmouth, Maine.

PERMIT SUMMARY

This permitting action is similar to the 6/27/01 permitting action in that it is:

1. Carrying forward the daily maximum discharge flow reporting requirement;

2. Carrying forward the monthly average, weekly average and daily maximum technology-based concentration and mass limitations for biochemical oxygen demand (BOD_5) and total suspended solids (TSS);

3. Carrying forward the daily maximum technology-based concentration limitation of 0.3 ml/L for settleable solids;

4. Carrying forward the year-round monthly average and daily maximum concentration limits for fecal coliform bacteria;

5. Carrying forward the pH range limit of 6.0 to 9.0 standard units (SU); and

6. Carrying forward the minimum monitoring frequency requirements for all monitored parameters, except fecal coliform bacteria.

This permitting action is different from the 6/27/01 permitting action in that it is:

1. Revising the monthly average discharge flow limit from 0.012 MGD to 0.028 MGD;

2. Establishing a technology-based 30-day minimum percent removal rate of 85% for BOD_5 and TSS;

3. Revising the water quality-based monthly average and daily maximum concentration limits by establishing new monthly average and daily maximum technology-based limits of 0.1 mg/L and 0.3 mg/L, respectively, for total residual chlorine (TRC); and

4. Revising the minimum monitoring frequency requirement for fecal coliform bacteria to once per month.

CONCLUSIONS

BASED on the findings in the attached Fact Sheet dated December 19, 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. §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 water 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 as defined in Maine law, 38 M.R.S.A., §414-A(1)(D).

ACTION

THEREFORE, the Department APPROVES the above noted application of the TOWN OF YARMOUTH to discharge a monthly average flow of up to 0.028 million gallons per day of secondary treated sanitary waste waters from the Seameadows Wastewater Treatment Facility to the Casco Bay, Class SB, in Yarmouth, Maine, 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, copy attached.

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

3. The expiration date of this permit is five (5) years from the date of signature below.

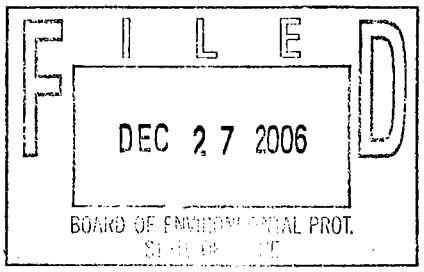
DONE AND DATED AT AUGUSTA, MAINE, THIS 22nd DAY OF December, 2006.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: _____
DAVID P. LITTELL, Commissioner

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: July 3, 2006
Date of application acceptance: July 6, 2006



Date filed with Board of Environmental Protection: _____.

This Order prepared by William F. Hinkel, BUREAU OF LAND & WATER QUALITY
#ME0102377 / #W002234-5L-D-R December 19, 2006

SPECIAL CONDITIONS

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. The permittee is authorized to discharge **secondary treated municipal (sanitary and commercial) waste waters from Outfall #001A** to the Casco Bay at Yarmouth. Such discharges shall be limited and monitored by the permittee as specified below[1]:

	Monthly Average as specified	Weekly Average as specified	Daily Maximum as specified	Monthly Average as specified	Weekly Average as specified	Daily Maximum as specified	Measurement Frequency as specified	Sample Type as specified
Flow *[50050]*	0.028 MGD *[03]*	---	Report MGD *[03]*	---	---	---	Continuous *[99/99]*	Recorder *[RC]*
BOD_5 *[00310]*	3.0 lbs./day *[26]*	4.5 lbs./day *[26]*	5.0 lbs./day *[26]*	30 mg/L *[19]*	45 mg/L *[19]*	50 mg/L *[19]*	1/Month *[01/30]*	24-Hour Composite *[24]*
BOD_5 Percent Removal[2] *[81010]*	---	---	---	85% *[23]*	---	---	1/Month *[01/30]*	Calculate *[CA]*
TSS *[00530]*	3.0 lbs./day *[26]*	4.5 lbs./day *[26]*	5.0 lbs./day *[26]*	30 mg/L *[19]*	45 mg/L *[19]*	50 mg/L *[19]*	1/Month *[01/30]*	24-Hour Composite *[24]*
TSS Percent Removal[2] *[81011]*	---	---	---	85% *[23]*	---	---	1/Month *[01/30]*	Calculate *[CA]*
Settleable Solids *[00545]*	---	---	---	---	---	0.3 ml/L *[25]*	1/Week *[01/07]*	Grab *[GR]*
Fecal Coliform Bacteria *[31633]*	---	---	---	15/100 ml[3] *[13]*	---	50/100 ml *[13]*	1/Month *[01/30]*	Grab *[GR]*
Total Residual Chlorine *[50060]*	---	---	---	0.1 mg/L *[19]*	---	0.3 mg/L *[19]*	1/Week *[01/07]*	Grab *[GR]*
pH *[00400]*	---	---	---	---	---	6.0 – 9.0 SU *[12]*	1/Week *[01/07]*	Grab *[GR]*

The italicized numeric values bracketed in the table and in subsequent text are code numbers that Department personnel utilize to code the monthly Discharge Monitoring Reports.

FOOTNOTES: **See Page 6 of this permit for applicable footnotes.**

SPECIAL CONDITIONS

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

FOOTNOTES:

1. **Sampling** – Sampling and analysis must be conducted in accordance with; a) methods approved by 40 Code of Federal Regulations (CFR) Part 136, b) alternative methods approved by the Department in accordance with the procedures in 40 CFR Part 136, or c) as otherwise specified by the Department. Samples that are sent out for analysis shall be analyzed by a laboratory certified by the State of Maine's Department of Human Services.

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

2. **BOD_5 and TSS Percent Removal** – For secondary treated waste waters, the facility shall maintain a minimum of 85 percent removal of both BOD_5 and TSS. The percent removal shall be based on a monthly average calculation using influent and effluent concentrations. 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.

   Alternatively, the permittee may calculate percent removal based on assumed BOD_5 and TSS influent values of 300 mg/L and actual effluent concentration values.

3. **Bacteria Reporting** – The monthly average fecal coliform bacteria limitation is a geometric mean limitation and sample results shall be reported as such.

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 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.

C. DISINFECTION

If chlorination is used as the 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 imposed total residual chlorine (TRC) limit cannot be achieved 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 provide a TRC concentration that will effectively reduce fecal coliform bacteria levels to or below those specified in Special Condition A, *Effluent Limitation and Monitoring Requirements,* above.

D. TREATMENT PLANT OPERATOR

The treatment facility must be operated by a person holding a minimum of a **Grade I** certificate (or Registered Maine Professional Engineer) pursuant to Title 32 M.R.S.A. §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. AUTHORIZED DISCHARGES

The permittee is authorized to discharge only in accordance with the terms and conditions of this permit and only from Outfall #001A. Discharges of wastewater from any other point source are not authorized under this permit, and shall be reported in accordance with Standard Condition B(5), *Bypasses*, of this permit.

F. 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

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 the Department's 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 Department assigned inspector (unless otherwise specified by the Department) at 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 REQUIREMENTS

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 to the system at the time of permit issuance.

3. For the purposes of this section, adequate notice 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 of the change in the quantity or quality of the waste water to be discharged from the treatment system.

SPECIAL CONDITIONS

I. OPERATIONS AND 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 (excepting the current yet to be completed substantial upgrade), the permittee shall submit the updated O&M Plan to their Department inspector for review and comment.

J. WET WEATHER MANAGEMENT PLAN

The treatment facility staff shall maintain a 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. A specific objective of the plan shall be to maximize the volume of wastewater receiving secondary treatment under all operating conditions. The revised 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.

Once the Wet Weather Management Plan has been approved, the permittee shall review their plan at least annually and record any necessary changes to keep the plan up to date. The Department may require review and update of the plan as it is determined to be necessary.

SPECIAL CONDITIONS

K. REOPENING OF PERMIT FOR MODIFICATION

Upon evaluation of the tests results in the 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 monitoring if results on file are inconclusive; or (3) change monitoring requirements or limitations based on new information.

L. SEVERABILITY

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

MAINE POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT
MAINE WASTE DISCHARGE LICENSE

FACT SHEET

DATE: **DECEMBER 19, 2006**

PERMIT NUMBER: **#ME0102377**
WASTE DISCHARGE LICENSE: **#W002234-5L-D-R**

NAME AND ADDRESS OF APPLICANT:

TOWN OF YARMOUTH
200 MAIN STREET
YARMOUTH, MAINE 04096

COUNTY: **CUMBERLAND**

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

SEAMEADOWS WASTEWATER TREATMENT FACILITY
94 EBEN HILL ROAD
YARMOUTH, MAINE 04096

RECEIVING WATER/CLASSIFICATION: **CASCO BAY/CLASS SB**

COGNIZANT OFFICIAL AND TELEPHONE NUMBER: **MR. THOMAS CONNOLLY**
(207) 846-2415

1. APPLICATION SUMMARY

Application: The Town of Yarmouth (Town) has applied to the Department of Environmental Protection (Department) for a renewal of Waste Discharge License (WDL) #W002234-5L-C-R / Maine Pollutant Discharge Elimination System (MEPDES) Permit #ME0102377, which was issued on June 27, 2001, and expired on June 27, 2006. The 6/27/01 MEPDES permit authorized the monthly average discharge of up to 0.012 million gallons per day (MGD) of secondary treated sanitary wastewater from a publicly owned treatment works (POTW) (Seameadows Wastewater Treatment Facility) to the Casco Bay, Class SB, in Yarmouth, Maine.

2. PERMIT SUMMARY

a. Terms and Conditions: **This permitting action is similar to the 6/27/01 permitting action in that it is:**

1. Carrying forward the daily maximum discharge flow reporting requirement;

2. Carrying forward the monthly average, weekly average and daily maximum technology-based concentration and mass limitations for biochemical oxygen demand (BOD_5) and total suspended solids (TSS);

3. Carrying forward the daily maximum technology-based concentration limitation of 0.3 ml/L for settleable solids;

4. Carrying forward the year-round monthly average and daily maximum concentration limits for fecal coliform bacteria;

5. Carrying forward the pH range limit of 6.0 to 9.0 standard units (SU); and

6. Carrying forward the minimum monitoring frequency requirements for all monitored parameters, except fecal coliform bacteria.

This permitting action is different from the 6/27/01 permitting action in that it is:

1. Revising the monthly average discharge flow limit from 0.012 MGD to 0.028 MGD;

2. Establishing a technology-based 30-day minimum percent removal rate of 85% for BOD_5 and TSS;

3. Revising the water quality-based monthly average and daily maximum concentration limits by establishing new monthly average and daily maximum technology-based limits of 0.1 mg/L and 0.3 mg/L, respectively, for total residual chlorine (TRC); and

4. Revising the minimum monitoring frequency requirement for fecal coliform bacteria to once per month.

b. History: This section provides a summary of significant licensing/permitting actions and milestones that have been completed for the Town's Sea Meadows Wastewater Treatment Facility.

April 12, 1996 – The USEPA issued a letter to then facility owner, John G. Gibson, notifying that his reapplication for a National Pollutant Discharge Elimination System (NPDES) permit was accepted as complete. The USEPA has not issued a NPDES permit for this facility.

2. PERMIT SUMMARY (cont'd)

May 23, 2000 – Pursuant to Maine law, 38 M.R.S.A. §420 and §413 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 thereby administratively modifying WDL #W002234-58-B-R by establishing interim monthly average and daily maximum effluent concentration limits of 8.1 parts per trillion (ppt) and 12.2 ppt, respectively, and a minimum monitoring frequency requirement of two (2) tests per year for mercury. It is noted the limitations have not been incorporated into Special Condition A, *Effluent Limitations And Monitoring Requirements*, of this permit as limitations and monitoring frequencies are regulated separately through Maine law, 38 M.R.S.A. §413 and Department rule Chapter 519. However, the interim limitations remain in effect and enforceable and any modifications to the limits and or monitoring requirements will be formalized outside of this permitting document.

January 12, 2001 – The Department received authorization from the U.S. Environmental Protection Agency (USEPA) to administer the National Pollutant Discharge Elimination System (NPDES) permit program in Maine, excluding areas of special interest to Maine Indian Tribes. From this point forward, the program has been referred to as the Maine Pollutant Discharge Elimination System (MEPDES) program, and MEPDES permit #ME0102377 has been utilized for this facility.

June 27, 2001 – The Department issued WDL #W002234-5L-C-R / MEPDES permit #ME0102377 to the Town for a five year term. The 6/27/01 permit superseded WDL #W002234-58-B-R issued on February 28, 1997, and WDL #W002234-41-A-R issued on September 4, 1986, and WDL #W2234 (earliest Order on file with the Department).

July 3, 2006 – The Town submitted a timely and complete General Application to the Department for renewal of the 6/27/01 MEPDES permit. The application was accepted for processing on July 6, 2006 and was assigned WDL #W002234-5L-D-R / MEPDES #ME0102377.

c. Source Description: The Town of Yarmouth Seameadows Wastewater Treatment Facility receives residential sanitary waste waters from a 40-lot subdivision located on the east side of Cousins Island. A map created by the Department showing the location of the treatment facility and receiving water is included as Fact Sheet Attachment A. Based on information contained in the 6/3/06, the facility currently services 35 residential dwells on the island with a potential of a maximum of five additional dwellings during the term of this permit. The previous MEPDES permit stated that there is one small "grinder" pump station (McAvoy pump station) on the collection system, which serves approximately six houses. Gravity flow lines service the rest of the system. There are no significant industrial or commercial users and no combined sewer overflow (CSO) points associated with the collection and treatment systems. The Town has neither applied for nor is authorized to receive or introduce into the treatment process septage wastes.

2. PERMIT SUMMARY (cont'd)

d. Wastewater Treatment: The Town provides a secondary level of wastewater treatment at the Seameadows Wastewater Treatment Facility via a 14,400-square foot sand filter. The facility provides primary wastewater treatment (*i.e.* settling) via a 10,000-gallon septic tank up-gradient of the sand filter. Treated effluent from the sand filter is chlorinated for disinfection for compliance with the year-round fecal coliform bacteria limits and is conveyed for discharge to Casco Bay at Yarmouth, a Class SB water. The permittee reported in its 6/3/06 application that the outfall structure described in the previous permit, a 27-foot long, 1¼-inch polyethylene pipe, is being upgraded to a 4-inch diameter pipe extending out an additional 70 feet beyond the old pipe terminus. Effluent is discharged for up to 2 hours on the outgoing high tide each day. Based on review of the outfall extension plans, the Department's Division of Environmental Assessment has determined that this outfall structure provides improved mixing of the effluent with the receiving waters and improved dilution. See Section 6.b of this fact sheet for applicable dilution calculations.

3. CONDITIONS OF PERMIT

Maine law, 38 M.R.S.A. §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., §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 states, in part, "All estuarine and marine waters lying within the boundaries of the State and which are not otherwise classified are Class SB waters." Casco Bay at the point of discharge is not otherwise classified and is there fore a Class SB water. Maine law, 38 M.R.S.A., Section 465-B 2. describes the standards for Class SB waters. It is noted that the previous permitting action erroneously cited Maine law, 38 M.R.S.A Section *469* (2) as the applicable river segment (emphasis added).

5. RECEIVING WATER QUALITY CONDITIONS

The State of Maine 2004 Integrated Water Quality Monitoring and Assessment Report, prepared pursuant to Sections 303(d) and 305(b) of the Federal Water Pollution Control Act, lists the marine waters at Cousins and Little john Islands, Yarmouth (Waterbody #802-3) as, *"Category 2: Estuarine and Marine Attaining Some Designated Uses – Insufficient Information for Other Uses."* The Report lists incomplete Maine Department of Marine Resources (DMR) sanitary surveys, overboard discharges, discharges from boats, and septic system problems as potential sources of pollution requiring collection of additional information.

The Maine Department of Marine Resources assesses information on shellfish growing areas to ensure that shellfish harvested are safe for consumption. The DMR has authority to close shellfish harvesting areas wherever there is a pollution source, a potential pollution threat, or poor water quality. The DMR traditionally closes shellfish harvesting areas if there are known sources of discharges with unacceptable bacteria levels (instream thresholds established in the National Shellfish Sanitation Program) or maintains shellfish harvesting closure areas due to lack of updated information regarding ambient water quality conditions. In addition, the DMR prohibits shellfish harvesting in the immediate vicinity of all wastewater treatment outfall pipes as a precautionary measure in the event of a failure in the treatment plant's disinfection system. Thus, shellfish harvesting area #16-C is closed to the harvesting of shellfish due to insufficient or limited ambient water quality data to determine that the area meets the standards in the National Shellfish Sanitation Program. The shellfish closure area is identified on the map included as Fact Sheet Attachment A. The Department is making the determination that compliance with the fecal coliform bacteria and other secondary wastewater treatment limits established in this permitting action ensure that the discharge of secondary treated wastewater from the Town's Seameadows Wastewater Treatment Facility will not cause or contribute to the failure of the receiving waters to meet the standards of its designated classification.

6. EFFLUENT LIMITATIONS & MONITORING REQUIREMENTS

a. Flow: The previous permitting action established a monthly average discharge flow limitation of 0.012 MGD based on the monthly average dry weather design capacity of the facility, and a daily maximum discharge flow reporting requirement to assist in compliance evaluations. The Department received comments on the proposed draft permit issued on November 3, 2006 from the Town's consulting engineer firm, Wright-Pierce, dated December 1, 2006. Herein, Wright-Pierce states,

> *"In reviewing operational data fro the facility since 2001, the facility has performed exceptionally well with average BOD_5 and TSS values in the effluent of approximately 5 mg/L and average fecal coliform less than 3 colonies per 100 ml. The maximum daily flow from the last several years was 44,000 gpd and occurred in April of 2005, That day coincided with a pre-established schedule for compliance sampling. This the facility reported the following effluent quality data on that specific day:*

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

- *BOD_5 = 3 mg/L*
- *TSS = 4 mg/L*
- *Average Fecals = 1.41 colonies/100 ml (average for month)*
- *Daily Max fecals = 4 colonies/100 ml*

Using the proposed permit parameter of 85% removal and an assumed influent concentration of 300 mg/L the facility would have accomplished a BOD_5 and TSS removal efficiency of 99.0% and 98.7%, respectively.

...The facility has clearly demonstrated the ability to handle high flows without any degradation to effluent water quality. The facility has consistently and reliably treated influent flows to the highest standards. Sand filter systems can handle peak rates of 2-5 gpd/square foot of bed surface. Water quality can be jeopardized as rates are pushed to the upper limits. However with 14,400 square feet of bed and a maximum rate of 44,000 gpd, the system has handled an application rate of approximately 3 gpd/square foot without consequence.

Based upon the above facts of the operation of the facility we are requesting an increase to the average daily flow limit of the system to 28,000 gpd.

...While we ask for this increase in flow only, mass limitations for BOD_5, TSS and effluent dilution should be based on the average daily dry weather design of the facility of 12,000 gpd as currently stipulated.

Based on this information, this permitting action is revising the monthly average discharge flow limitation to 0.028 MGD. For purposes of calculating mass limits, this permitting action utilizes the design criterion of 0.012 MGD.

In the proposed draft permit issued on November 3, 2006, this sub-section stated, "A review of the monthly average flow data as reported on the Discharge Monitoring Reports submitted to the Department for the period June 2003 – June 2006 indicates the monthly average flow has ranged from 0.008 MGD to 0.065 MGD with an arithmetic mean of 0.021 MGD (n=36)." In Wright-Pierce's comments of December 1, 2006, they note that "In the above referenced data set, the actual sdata submitted indicates the monthly average ranges from *0.006 MGD to 0.028 MGD*. In our review of the submitted State 49 forms we discovered a few data entry errors which we have brought to the Town's attention. The Town has since informed [the Department's assigned compliance inspector] of these discrepancies and sought correction."

It is noted that the Town requested in its 6/3/06 application that the monthly average flow limit be eliminated while work continues on eliminating sources of inflow and infiltration (I/I) into the collection system.

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

b. Dilution Factors: Dilution factors associated with the monthly average discharge flow limit of 0.028 MGD from the facility were derived in accordance with Department rule, 06-096 CMR Chapter 530(4)(A)(2)(a), *Surface Water Toxics Control Program,* and were calculated as follows:

Acute = 87:1 Chronic = 198:1 Harmonic Mean[1] = 594:1

c. Biochemical Oxygen Demand (BOD_5) and Total Suspended Solids (TSS): The previous permitting action established, and this permitting action is carrying forward, technology-based monthly and weekly average BOD_5 and TSS concentration limits of 30 mg/L and 45 mg/L, respectively, based on secondary treatment requirements of Department rule, 06-096 CMR, Chapter 525(3)(III). The previous permitting action established, and this permitting action is carrying forward, technology-based daily maximum BOD_5 and TSS concentration limits of 50 mg/L based on a Department best professional judgment (BPJ) of best practicable treatment (BPT).

The BOD_5 data as reported on the Discharge Monitoring Reports submitted to the Department for the period June 2003 – June 2006 indicates the monthly average and daily maximum effluent BOD_5 concentration has ranged from 0.15 mg/L to 9 mg/L with an arithmetic mean of 4.1 mg/L (n=37). Monitoring is required once per month, thus the daily maximum and monthly average values for BOD_5 and TSS on record are equivalent.

The TSS data as reported on the Discharge Monitoring Reports submitted to the Department for the period June 2003 – June 2006 indicates the monthly average and daily maximum effluent TSS concentration has ranged from 0.1 mg/L to 7 mg/L with an arithmetic mean of 3.2 mg/L (n=36).

Department rule 06-096 CMR Chapter 523(6)(f) states that all pollutants limited in permits shall have limitations, standards or prohibitions expressed in terms of mass. The previous permitting action established, and this permitting action is carrying forward, monthly average, weekly average, and daily maximum mass limits based on calculations using the average design flow for the facility of 0.012 MGD and the appropriate concentration limits as follows:

Monthly Average Mass Limit: (30 mg/L)(8.34 lbs./gallon)(0.012 MGD) = 3.0 lbs./day
Weekly Average Mass Limit: (45 mg/L)(8.34 lbs./day)(0.012 MGD) = 4.5 lbs./day
Daily Maximum Mass Limit: (50 mg/L)(8.34 lbs./day)(0.012 MGD) = 5.0 lbs./day

[1] The harmonic mean dilution factor is 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 U.S. EPA 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.

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

The BOD_5 data as reported on the Discharge Monitoring Reports submitted to the Department for the period June 2003 – June 2006 indicates the monthly average and daily maximum effluent BOD_5 mass has ranged from 0.13 lbs./day to 3 lbs./day with an arithmetic mean of 0.53 lbs./day (n=39).

The TSS data as reported on the Discharge Monitoring Reports submitted to the Department for the period June 2003 – June 2006 indicates the monthly average and daily maximum effluent TSS mass has ranged from 0.1 lbs./day to 2 lbs./day with an arithmetic mean of 0.42 lbs./day (n=36).

This permitting action is establishing a new requirement for a minimum of 85% removal of BOD_5 and TSS as required by Chapter 525(3)(III)(a)(3) and (b)(3) of the Department's rules. This permitting action is allowing a provision to calculate the percent removal value based on an assumed influent value in consideration that the Seameadows Wastewater Treatment Facility does not contain a representative influent sampling location. According to the USEPA's *Onsite Wastewater Treatment Systems Manual*, dated February 2002, table 3-7 entitled "Constituent Mass Loadings and Concentrations in Typical Residential Wastewater" high end range of values, influent values for BOD_5 and TSS may be assumed to be 300 mg/L. Therefore, this permitting action authorizes the Town to assume an influent BOD_5 and TSS concentration value of 300 mg/L for purposes of calculating the monthly percent removal value until such time that the infrastructure is modified or replaced such that collection of a representative raw influent sample is practical. See Special Condition A Footnote #2 of this permit.

The previous permitting action established, and this permitting action is carrying forward, a minimum monitoring frequency requirement of once per month for BOD_5 and TSS based on a review of effluent data as summarized above and Department best professional judgment.

d. Settleable Solids: The previous permitting action established, and this permitting action is carrying forward, a technology-based daily maximum concentration limit of 0.3 ml/L for settleable solids, which is considered a best practicable treatment limitation (BPT) for secondary treated wastewater, and a minimum monitoring frequency requirement of once per week for settleable solids based on a review of effluent data as summarized below and Department best professional judgment.

A review of the daily maximum settleable solids data as reported on the Discharge Monitoring Reports submitted to the Department for the period June 2003 – June 2006 indicates the daily maximum settleable solids concentration discharge has been <0.1 ml/L 100% of the time during said reporting period (n=36).

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

e. Fecal Coliform Bacteria: The previous licensing action established year-round monthly average and daily maximum concentration limits of 15 colonies/100 ml (geometric mean) and 50 colonies/100 ml (instantaneous level), respectively, for fecal coliform bacteria consistent with the National Shellfish Sanitation Program, and to protect the health, safety and welfare of the public. This permitting action is carrying forward both concentration limits on a year-round basis consistent with the National Shellfish Sanitation Program, and is revising the minimum monitoring frequency requirement from once per week to once per month for fecal coliform bacteria based on a review of effluent data as summarized below and Department best professional judgment.

A review of the monthly average and daily maximum data as reported on the Discharge Monitoring Reports submitted to the Department for the period June 2003 – June 2006 indicates the monthly (geometric mean) fecal coliform bacteria discharged has ranged from 1.10 colonies/100 ml to 6.73 colonies/100 ml with an arithmetic mean of 2.62 colonies/100 ml (n=37). The maximum fecal coliform bacteria discharged has ranged from 2 colonies/100 ml to 12 colonies/100 ml with an arithmetic mean of 6 colonies/100 ml (n=36). It is noted that the Department omitted the daily maximum value of >50 colonies/100ml in the above statistics as this value is not considered representative of the discharge based on a review of the record.

f. Total Residual Chlorine: The previous permitting action established monthly average and daily maximum water quality-based concentration limits of 0.0075 mg/L and 0.013 mg/L, respectively, for TRC, which were based on acute and chronic dilution factors of 1:1. The outfall pipe has been upgraded and provides improved dilution factors, which are being used below.

Limitations on TRC are specified to ensure that ambient water quality standards are maintained and that BPT technology is being applied to the discharge. Department licensing/permitting actions impose the more stringent of either a water quality-based or BPT based limit. End-of-pipe acute and chronic water quality based concentration thresholds may be calculated as follows:

			Calculated	
Acute (A) Criterion	Chronic (C) Criterion	A & C Dilution Factors	Acute Threshold	Chronic Threshold
0.0075 mg/L	0.013 mg/L	87:1 (A) 198:1 (C)	0.7 mg/L	2.6 mg/L

The Department has established a daily maximum BPT limitation of 1.0 mg/L for facilities that disinfect their effluent with elemental chlorine or chlorine-based compounds. For facilities that need to dechlorinate the discharge in order to meet water quality based thresholds, the Department has established daily maximum and monthly average BPT limits of 0.3 mg/L and 0.1 mg/L, respectively. The Town dechlorinates the effluent prior to discharge in order to consistently achieve compliance with the water quality-based thresholds. The technology-based acute and chronic thresholds of 0.3 mg/L and 0.1 mg/L, respectively, are more stringent than the respective acute and chronic water quality-based threshold above and are therefore being established in this permitting action. This permitting action is carrying forward the

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

minimum monitoring frequency requirement of once per week for TRC based on a review of effluent data as summarized below and Department best professional judgment.

A review of the daily maximum data as reported on the Discharge Monitoring Reports submitted to the Department for the period June 2003 – June 2006 indicates the average and maximum TRC discharged has been below the Department minimum reporting level (RL) of 0.05 mg/L 100% of the time during said reporting period (n=36).

g. pH: The previous permitting action established, and this permitting action is carrying forward, a technology-based pH limit of 6.0 – 9.0 standard units, which is based on Department rule, 06-096 CMR Chapter 525(3)(III), and a minimum monitoring frequency of once per week, which is based on a review of effluent data as summarized below and Department best professional judgment. The DMR data indicate the facility has been in compliance with the pH range limitation 100% of the time during the period of June 2003 – June 2006 (n=37).

h. Whole Effluent Toxicity (WET), Priority Pollutant, and Analytical Chemistry Testing: Maine law, 38 M.R.S.A., §414-A and §420, prohibit the discharge of effluents containing substances in amounts that would cause the surface waters of the State to contain toxic substances above levels set forth in Federal Water Quality Criteria as established by the USEPA. Department rule, 06-096 CMR Chapter 530, *Surface Water Toxics Control Program* sets forth effluent monitoring requirements and procedures to establish safe levels for the discharge of toxic pollutants such that existing and designated uses of surface waters are maintained and protected and narrative and numeric water quality criteria are met. Department rule 06-096 CMR Chapter 584, Surface *Water Quality Criteria for Toxic Pollutants*, sets forth ambient water quality criteria (AWQC) for toxic pollutants and procedures necessary to control levels of toxic pollutants in surface waters.

The previous permitting action did not establish toxics testing requirements based on a determination that the facility qualified for exemption from testing pursuant to the toxics rule in effect at that time, 06-096 CMR Chapter 530.5.

On October 9, 2005, a new Department rule, Chapter 530, became effective and replaced the previous toxics rule, Chapter 530.5. Department rule Chapter 530 Section 2.A. specifies dischargers subject to the requirements of this rule are as follows, "[a]ll licensed dischargers of industrial process wastewater or domestic wastes discharging to surface waters of the State...." Department rule Chapter 530 Section 2.A. states, "[d]ischarges from individual discharge points licensed to discharge less than 50,000 gallons per day of solely domestic wastewater and with a chronic dilution factor of at least 50 to 1, provided no holding tank wastes containing chemicals are accepted by the facility" "are exempt from testing requirements of this rule unless the Department determines that there is a need for testing based on the nature, location or circumstances of an individual discharge." The facility is permitted to discharge less than 50,000 gpd, has a chronic dilution factor of 198:1 and does not receive holding tank wastes. Therefore, the Department is making a best professional judgment that the facility qualifies for an exemption from Chapter 530 testing

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

requirements at this time. This determination is based primarily on the revised chronic dilution factor associated with the new outfall structure.

7. DISCHARGE IMPACT ON RECEIVING WATER QUALITY

As permitted, the Department has determined the existing water uses will be maintained and protected and the discharge will not cause or contribute to the failure of the water body to meet standards for Class SB classification.

8. PUBLIC COMMENTS

Public notice of this application was made in the *Falmouth Forecaster* newspaper on or about June 29, 2006 and in the *Shopping Notes* newspaper on or about June 27, 2006 . The Department receives public comments on an application until the date a 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, 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 sent to:

William F. Hinkel
Division of Water Quality Management
Bureau of Land & Water Quality
Department of Environmental Protection
17 State House Station
Augusta, Maine 04333-0017 Telephone: (207) 287-7659 Fax: (207) 287-3435
e-mail: bill.hinkel@maine.gov

10. RESPONSE TO COMMENTS

During the period of November 3, 2006 through December 4, 2006, the Department solicited comments on the proposed draft Maine Pollutant Discharge Elimination System Permit to be issued to Town of Yarmouth for the proposed discharge from the Seameadows Wastewater Treatment Facility. The Department received one significant comment on the proposed draft permit from the permittee's consulting engineer, Wright-Pierce, in a letter dated December 1, 2006, which has been summarized and responded to below.

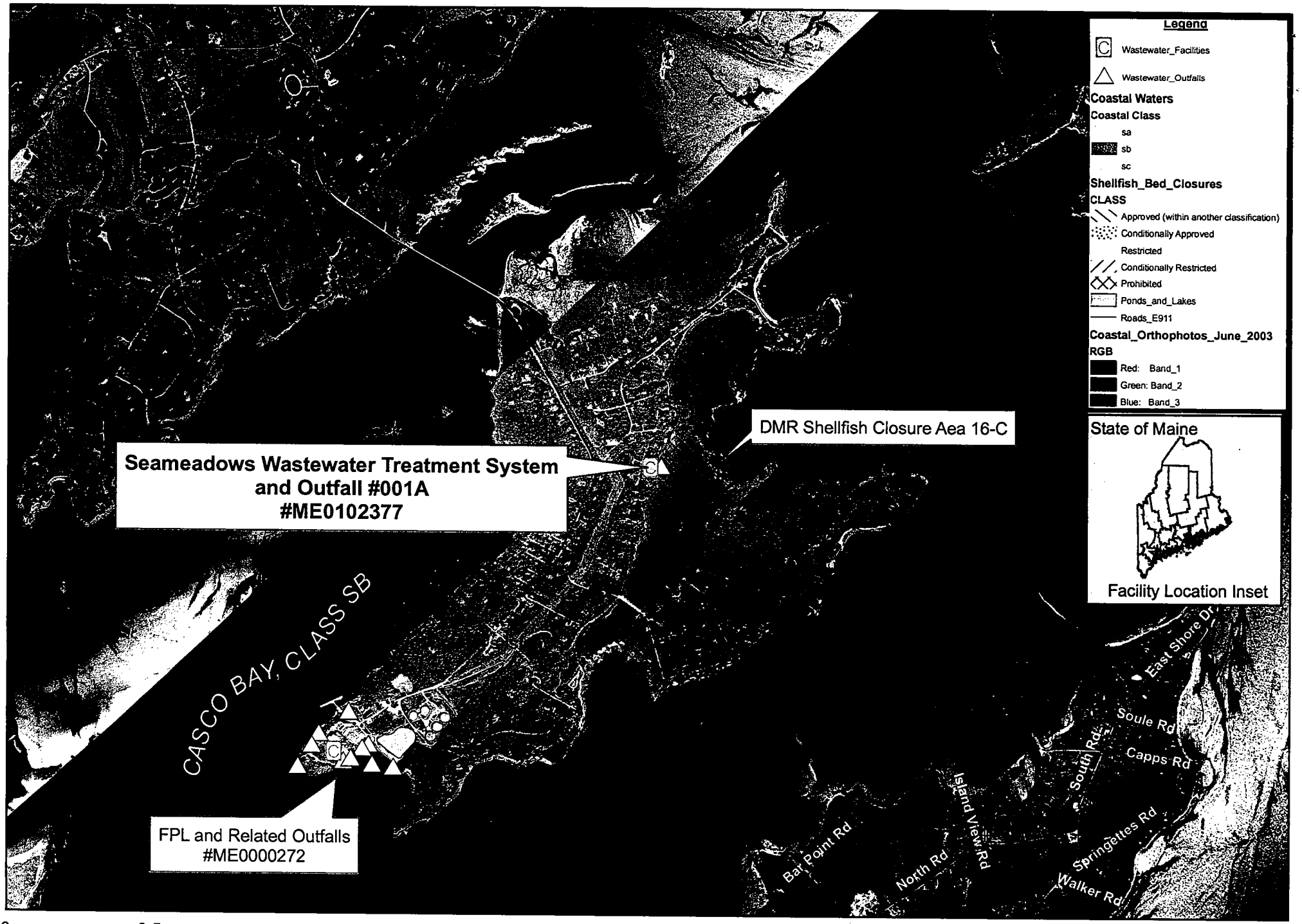
Comment #1: Wright-Pierce stated,

> *"In reviewing operational data fro the facility since 2001, the facility has performed exceptionally well with average BOD_5 and TSS values in the effluent of approximately 5 mg/L and average fecal coliform less than 3 colonies per 100 ml. The maximum daily flow from the last several years was 44,000 gpd and occurred in April of 2005, That day coincided with a pre-established schedule for compliance sampling. This the facility reported the following effluent quality data on that specific day:*
>
> - *BOD_5 = 3 mg/L*
> - *TSS = 4 mg/L*
> - *Average Fecals = 1.41 colonies/100 ml (average for month)*
> - *Daily Max fecals = 4 colonies/100 ml*
>
> *Using the proposed permit parameter of 85% removal and an assumed influent concentration of 300 mg/L the facility would have accomplished a BOD_5 and TSS removal efficiency of 99.0% and 98.7%, respectively.*
>
> *...The facility has clearly demonstrated the ability to handle high flows without any degradation to effluent water quality. The facility has consistently and reliably treated influent flows to the highest standards. Sand filter systems can handle peak rates of 2-5 gpd/square foot of bed surface. Water quality can be jeopardized as rates are pushed to the upper limits. However with 14,400 square feet of bed and a maximum rate of 44,000 gpd, the system has handled an application rate of approximately 3 gpd/square foot without consequence.*
>
> *Based upon the above facts of the operation of the facility we are requesting an increase to the average daily flow limit of the system to 28,000 gpd.*
>
> *...While we ask for this increase in flow only, mass limitations for BOD_5, TSS and effluent dilution should be based on the average daily dry weather design of the facility of 12,000 gpd as currently stipulated.*

10. RESPONSE TO COMMENTS (cont'd)

Response #1: The Department concurs with Wright-Pierce and the Town that the treatment system can be operated a higher hydraulic loading rate than the average design of 0.012 MGD with jeopardizing effluent water quality. The Department has revised Special Condition A of the draft permit to increase the monthly average discharge flow limitation from 0.012 MGD to 0.028 MGD based on an evaluation of treatment system performance and best professional judgment. The Department did not revise mass limitations for BOD_5 or TSS based on the increased flow limit. Mass limits are based on the average dry weather design capacity for the facility of 0.012 MGD. The Department did, however, revise the applicable dilution factors associated with the discharge at the permitted rate of 0.028 MGD. See Section 6b. of this fact sheet for the revised values. Based on these revised dilution factors, the Department has re-evaluated the discharge for purposes of the toxics rule (Chapter 530) to determine whether or not the Department's proposed draft permit conclusion that the facility qualified for an exemption from testing requirements remains a valid conclusion. The Department has determined that the revised dilution factors associated with the discharge do not result in changes in the original conclusion that the facility does, in fact, qualify for an exemption from toxics testing. See Section 6h of this fact sheet for discussion.

ATTACHMENT A



Yarmouth Seameadows WWTF at Cousin's Island, Maine

Map created by Maine DEP
November 3, 2006