



JANET T. MILLS
GOVERNOR

STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION

October 21, 2026



MELANIE LOYZIM
COMMISSIONER

Mr. David Leonard
City of Brewer Water Pollution Control Facility
Brewer, ME 04412

***Sent via electronic mail
Delivery confirmation requested***

**RE: *Maine Pollutant Discharge Elimination System (MEPDES) Permit # ME0100072
Maine Waste Discharge License (WDL) Application #W 002679-5M-L-M
Preliminary Draft MEPDES Permit Modification***

Dear Mr. Leonard,

Enclosed is a **proposed draft** MEPDES permit and Maine WDL which the Department proposes to issue as a final document after opportunity for your review and comment. By transmittal of this letter, you are provided with an opportunity to comment on the proposed draft modification and its special and standard conditions. If it contains errors or does not accurately reflect present or proposed conditions, please respond to this Department so that changes can be considered.

By copy of this letter, the Department is requesting comments on the proposed permit modification from various state and federal agencies and from any other parties who have notified the Department of their interest in this matter.

The comment period begins today, Wednesday, October 21, 2026, and ends on Friday, November 20, 2026. All comments on the proposed permit modification must be received in the Department of Environmental Protection office on or before the close of business **Friday, November 20, 2026**. Failure to submit comments in a timely fashion may result in the proposed permit modification document being issued as drafted.

Physical written comments should be submitted to the attention of Laura Crossley at the following address:

Maine Department of Environmental Protection
Bureau of Water Quality
Division of Water Quality Management
17 State House Station
Augusta, ME 04333-0017

If you have any questions regarding the matter, please feel free to call me at 207-458-8706 or email me at Bekah.Farmer@Maine.gov

Sincerely,

Bekah Farmer
Division of Water Quality Management
Bureau of Water Quality

Enclosure

cc: Laura Crossley, DEP
David Bowie, DEP
Wendy Garland, DEP
Gregg Wood, DEP

Letter to David Leonard, City of Brewer
October 21, 2026
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Lori Mitchell, DEP
Danielle Gaito, USEPA
Richard Carvalho, USEPA
Kathryn Rosenberg, USEPA
Sean Mahoney, Conservation Law Foundation



STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION
17 STATE HOUSE STATION | AUGUSTA, MAINE 04333-0017
DEPARTMENT ORDER

IN THE MATTER OF

CITY OF BREWER	)	MAINE POLLUTANT DISCHARGE
PUBLICLY OWNED TREATMENT WORKS	)	ELIMINATION SYSTEM PERMIT
BREWER, PENOBSCOT COUNTY, MAINE	)	AND
ME0100072	)	WASTE DISCHARGE LICENSE
W002679-5M-L-M	)	MODIFICATION
APPROVAL		

In compliance with the applicable provisions of *Pollution Control*, 38 M.R.S. §§ 411 – 424-C, *Water Classification Program*, 38 M.R.S. §§ 464 – 470 and *Federal Water Pollution Control Act*, Title 33 U.S.C. § 1251 *et seq*, and applicable rules of the Department of Environmental Protection (Department), the Department has considered the application of the City of Brewer (Brewer, permittee), with its supportive data, agency review comments, and other related materials on file and FINDS THE FOLLOWING FACTS:

MODIFICATION REQUESTED

On October 7, 2026, the Department accepted as complete for processing an application from the City of Brewer for a modification of combination Waste Discharge License (WDL) W002679-5M-K-R / Maine Pollutant Discharge Elimination System (MEPDES) permit ME0100072, which was issued by the Department on December 2, 2024, for a five-year term. The 12/2/24 permit authorized the monthly average discharge of 5.19 million gallons per day (MGD) of secondary-treated wastewater to the Penobscot River, Class B, in Brewer, Maine.

The permittee requested a modification in transported waste from 138,000 gallons per day (gpd) with 60,000 gpd reserved for landfill leachate to 156,000 with 78,000 gpd reserved for landfill leachate.

MODIFICATION GRANTED

The Department grants the permittee's request to modify the December 2, 2024, permit with an increase in authorized transported waste from 138,000 gallons per day (gpd) with 60,000 gpd reserved for landfill leachate to 156,000 with 78,000 gpd reserved for landfill leachate.

CONCLUSIONS

BASED on the findings on page 1 of this Modification, 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, *Classification of Maine waters*, 38 M.R.S. § 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) Where the standards of classification of the receiving waterbody are not met, the discharge will not cause or contribute to the failure of the waterbody to meet the standards of classification;
 - (d) Where the actual quality of any classified receiving waterbody 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 waterbody, 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 discharges will be subject to effluent limitations that require application of best practicable treatment as defined in *Conditions of licenses*, 38 M.R.S. § 414-A(1)(D).

ACTION

THEREFORE, the Department APPROVES the above noted application of the CITY OF BREWER to increase the transported waste from 138,000 gallons per day (gpd) with 60,000 gpd reserved for landfill leachate to 156,000 with 78,000 gpd reserved for landfill leachate, SUBJECT TO ALL APPLICABLE STANDARDS AND REGULATIONS AND THE FOLLOWING CONDITIONS:

1. "*Maine Pollutant Discharge Elimination System Permit Standard Conditions Applicable to All Permits*," revised July 1, 2002, copy attached to MEPDES permit ME0100072 / WDL W002679-5M-K-R last issued by the Department on December 2, 2024, for a five-year term.
2. The attached Special Conditions, including any effluent limitations and monitoring requirements.
3. All terms and conditions of MEPDES permit ME0100072 / WDL W002679-5M-K-R, issued by the Department on December 2, 2024, for a five-year term, not modified by this action remain in effect and enforceable.
4. This modification and the authorization to discharge becomes effective upon the date of signature below and expires at midnight on December 2, 2029. If a renewal application is timely submitted and accepted as complete for processing prior to the expiration of this modification, the terms and conditions of this permit and all subsequent modifications and minor revisions thereto remain in effect until a final Department decision on the renewal application becomes effective. *Maine Administrative Procedure Act*, 5 M.R.S. § 10002 and Department Rule *Concerning the Processing of Applications and Other Administrative Matters*, 06-096 C.M.R. ch. 2 § (20)(A) (effective September 15, 2024).

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

DONE AND DATED AT AUGUSTA, MAINE, THIS _____ DAY OF _____, 2026.
DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: _____
For Melanie Loyzim, Commissioner

Date of initial receipt of application: October 7, 2026

Date of application acceptance: October 7, 2026

This Order prepared by Bekah Farmer, Bureau of Water Quality



STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION
17 STATE HOUSE STATION AUGUSTA, MAINE 04333-0017

DEPARTMENT ORDER

IN THE MATTER OF

CITY OF BREWER	)	MAINE POLLUTANT DISCHARGE
PUBLICLY OWNED TREATMENT WORKS	)	ELIMINATION SYSTEM PERMIT
BREWER, PENOBSCOT COUNTY, MAINE	)	AND
ME0100072	)	WASTE DISCHARGE LICENSE
W002679-5M-K-R	)	RENEWAL
APPROVAL		

In compliance with the applicable provisions of *Pollution Control*, 38 M.R.S. §§ 411 – 424-C, *Water Classification Program*, 38 M.R.S. §§ 464 – 470 and *Federal Water Pollution Control Act*, Title 33 U.S.C. § 1251 *et seq*, and applicable rules of the Department of Environmental Protection (Department), the Department has considered the application of the City of Brewer (Brewer, permittee), with its supportive data, agency review comments, and other related materials on file and FINDS THE FOLLOWING FACTS:

APPLICATION SUMMARY

On March 11, 2021, the Department accepted as complete for processing an application from Brewer for renewal of combination Waste Discharge License (WDL) # W002679-5M-I-R / Maine Pollutant Discharge Elimination System (MEPDES) permit # ME0100072, which was issued by the Department on May 10, 2016, for a five-year term. The May 2016 permit authorized the monthly average discharge of 5.19 million gallons per day (MGD) of secondary treated sanitary wastewater from a publicly owned treatment works (POTW) to the Penobscot River, Class B, in Brewer, Maine.

The May 2016 MEPDES permit also authorized the permittee to discharge an unspecified quantity of primary treated municipal wastewater from the POTW when the influent to the wastewater treatment facility exceeded a sustained daily flow rate of 3,604 gallons per minute (5.19 MGD) or a peak hourly flow rate of 6,438 gallons per minute (9.27 MGD) and authorized the discharge of an unspecified quantity of untreated combined sanitary and storm water from four (4) combined sewer overflow (CSO) outfalls to the Penobscot River, Class B in Brewer, Maine.

On November 1, 2017, the Department issued a permit modification for an extension of the Category I project's (North/South/East/West Roads and Church Street) completion date to December 1, 2018. The extension was requested due to unforeseen delays in securing easements from property owners and their mortgage companies along the project area.

PERMIT SUMMARY

This permitting action is carrying forward all the terms and conditions of the previous permit except that this permitting action is:

1. Increasing the *Escherichia coli* bacteria (*E. coli*) monitoring season from May 15th – September 30th to April 15th –October 31st pursuant to 38 M.R.S § 465(3)(B) and amending the daily maximum standard from 427 col/100 mL to 236 CFU or MPN/100 mL.
2. Eliminating the provision that allows the percent removal for Biological Oxygen Demand (BOD₅) and Total Suspended Solids (TSS) to be waived when the monthly average influent concentration is less than 200 mg/L.
3. Establishing ambient and effluent monitoring for total Phosphorus in order to determine if the permittee's effluent exceeds or has the reasonable potential to exceed the ambient water quality criteria for total phosphorus.
4. Updating Special Condition A, Effluent Limitations and Monitoring Requirements, footnote 1, Sampling to include the use of sufficiently sensitive methods.
5. Updating Special Condition A, Effluent Limitations and Monitoring Requirements, footnotes 7, 8, 9,10 and 11 to the Department's most current language.
6. Establishing Special Condition A, Effluent Limitations and Monitoring Requirements, footnote 17 to clarify the how to calculate *E. coli* concentrations in blended effluent.
7. Amending Special Condition J, *Disposal of Transported Wastes in Wastewater Treatment Facility*, to allow the facility to receive a daily maximum of 138,000 gallons per day of transported waste, 60,000 gallons per day of which is reserved for landfill leachate, and 78,000 gallons per day for all other transported wastes.
8. Establishing Special Condition L, *Emergency Overflows* due to the presence of three previously unlisted emergency overflows entering the system.
9. Revising the TSS daily maximum mass limitation from 5,606 lbs./day to 5,330 lbs./day for administrative Outfall #001C, based on the results of facility testing.
10. Eliminating the former Special Condition N, *Ambient Water Quality Monitoring* and Special Condition O, *Repair and Replacement Reserve Account*.

CONCLUSIONS

BASED on the findings in the attached and incorporated Fact Sheet dated November 26, 2024, 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, *Classification of Maine waters*, 38 M.R.S. § 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) Where the standards of classification of the receiving waterbody are not met, the discharge will not cause or contribute to the failure of the waterbody to meet the standards of classification;
 - (d) Where the actual quality of any classified receiving waterbody 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 waterbody, 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 discharges (including the four CSOs and the CSO related bypasses of secondary treatment) will be subject to effluent limitations that require application of best practicable treatment as defined in *Conditions of licenses*, 38 M.R.S. § 414-A(1)(D).

ACTION

THEREFORE, the Department APPROVES the application of the CITY of BREWER to discharge up to a monthly average flow of 5.19 MGD of secondary treated sanitary wastewater and allows the discharge of an unspecified quantity of excess combined sanitary and storm water receiving primary treatment only from the municipal wastewater treatment facility and untreated combined sanitary and storm water from four (4) CSO outfalls to the Penobscot River, Class B, in Brewer, Maine, SUBJECT TO ALL APPLICABLE STANDARDS AND REGULATIONS AND THE FOLLOWING CONDITIONS:

1. “*Maine Pollutant Discharge Elimination System Permit Standard Conditions Applicable to All Permits*,” revised July 1, 2002, copy attached.
2. The attached Special Conditions, including any effluent limitations and monitoring requirements.
3. This permit becomes effective upon the date of signature below and expires at midnight five (5) years from the effective date. If a renewal application is timely submitted and accepted as complete for processing prior to the expiration of this permit, the terms and conditions of this permit and all subsequent modifications and minor revisions thereto remain in effect until a final Department decision on the renewal application becomes effective. *Maine Administrative Procedure Act*, 5 M.R.S. § 10002 and *Rules Concerning the Processing of Applications and Other Administrative Matters*, 06-096 C.M.R. ch. 2 § (21)(A) (effective September 15, 2024).

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES DONE

AND DATED AT AUGUSTA, MAINE, THIS 2 DAY OF December 2024.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: Brian Kavanah

For Melanie Loyzim, Commissioner

Date of initial receipt of application: March 9, 2021

Date of application acceptance: March 11, 2021

This Order prepared by Benjamin Pendleton, Bureau of Water Quality

SPECIAL CONDITIONS

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

- The permittee is authorized to discharge secondary treated sanitary wastewater from **Outfall #001A** to the Penobscot River in Brewer. These limitations and monitoring requirements apply to all flows conveyed through the secondary treatment system at all times except as otherwise noted in the associated footnotes ⁽¹⁾.

Effluent Characteristic	Discharge Limitations						Minimum Monitoring Requirements	
	Monthly Average	Weekly Average	Daily Maximum	Monthly Average	Weekly Average	Daily Maximum	Measurement Frequency	Sample Type
Flow [50050]	5.19 MGD [03]	---	Report MGD [03]	---	---	---	Continuous [99/99]	Recorder [RC]
BOD ₅ [00310]	1,298 lbs./day [26]	1,947 lbs./day [26]	Report lbs./day [26]	30 mg/L ⁽²⁾ [19]	45 mg/L ⁽²⁾ [19]	50 mg/L ⁽²⁾ [19]	3/Week [03/07]	Composite [24]
BOD ₅ (When bypass is active) [00310]	1,298 lbs./day [26]	1,947 lbs./day [26]	Report lbs./day [26]	30 mg/L ⁽²⁾ [19]	45 mg/L ⁽²⁾ [19]	Report mg/L ⁽²⁾ [19]	3/Week [03/07]	Composite [24]
BOD ₅ Percent Removal ⁽³⁾ [81010]	---	---	---	85% [23]	---	---	1/Month [01/30]	Calculate [CA]
TSS [00530]	1,298 lbs./day [26]	1,947 lbs./day [26]	Report lbs./day [26]	30 mg/L ⁽²⁾ [19]	45 mg/L ⁽²⁾ [19]	50 mg/L ⁽²⁾ [19]	3/Week [03/07]	Composite [24]
TSS (When bypass is active) [00530]	1,298 lbs./day [26]	1,947 lbs./day [26]	Report lbs./day [26]	30 mg/L ⁽²⁾ [19]	45 mg/L ⁽²⁾ [19]	Report mg/L ⁽²⁾ [19]	3/Week [03/07]	Composite [24]
TSS Percent Removal ⁽³⁾ [81011]	---	---	---	85% [23]	---	---	1/Month [01/30]	Calculate [CA]

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 (DMRs). **Footnotes:** See Pages 11-16 of this permit for applicable footnotes.

SPECIAL CONDITIONS

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS-OUTFALL #001A (cont'd)

Effluent Characteristic	Discharge Limitations						Minimum Monitoring Requirements	
	Monthly Average	Weekly Average	Daily Maximum	Monthly Average	Weekly Average	Daily Maximum	Measurement Frequency	Sample Type
Settleable Solids [00545]	---	---	---	---	---	0.3 mL/L [25]	4/Week [04/07]	Grab [GR]
<i>Escherichia coli</i> (<i>E. coli</i>) Bacteria ^(4,5) (April 15 th – October 31 st) [31633]	---	---	---	64/100 mL ⁽⁵⁾ [13]	---	236/100 mL [13]	3/Week [03/07]	Grab [GR]
Total Residual Chlorine ⁽⁶⁾ (TRC) [50060]	---	---	---	---	---	1.0 mg/L [19]	1/Day [01/01]	Grab [GR]
pH [00400]	---	---	---	---	---	6.0 – 9.0 SU [12]	1/Day [01/01]	Grab [GR]
Total Phosphorus ⁽⁷⁾ [00665] (June 1 – September 30th)	---	---	Report mg/L [19]	Report mg/L [19]	---	---	2/Month ⁽⁸⁾ [01/30]	Composite [CP]
Mercury (Total) ⁽⁹⁾ [71900]	---	---	---	4.5 ng/L [3M]	---	6.8 ng/L [3M]	1/Year [01/YR]	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 (DMRs). **Footnotes:** See Pages 11-16 of this permit for applicable footnotes.

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS-OUTFALL #001A (cont'd)

The permittee must, seasonally (June 1st – September 30th), conduct Ambient Receiving Water monitoring of the Penobscot River the “Eddington Eddy” (44.824402, -68.694753) on the first week of each month. See **Attachment B** of this permit for a map depicting the sampling location. Such sampling must be conducted by the permittee as specified below⁽¹⁾.

Ambient Receiving Water Characteristic	Ambient Reporting	Monitoring Requirements	
	Monthly Average	Measuring Frequency	Sample Type
Up-Stream: Total Phosphorus ⁽⁷⁾ (June 1 st – September 30 th) [00665]	Report mg/L [19]	1/Month [01/30]	Grab ⁽¹⁰⁾ [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 (DMRs). **Footnotes:** See Pages 11-16 of this permit for applicable footnotes.

SPECIAL CONDITIONS

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS- OUTFALL #001A (cont'd)

SCREENING LEVEL - Beginning in the calendar year 2024, and every five years thereafter if a timely request for renewal has been made and the permit continues in force or is replaced by a permit renewal containing this requirement.

Effluent Characteristic	Discharge Limitations		Minimum Monitoring Requirements	
	Monthly Average	Daily Maximum	Measurement Frequency	Sample Type
<u>WET Acute No Observed Effect Limit (NOEL)</u> ⁽¹¹⁾ <i>Ceriodaphnia dubia</i> (Water flea) [TDA3B]	---	Report % [23]	1/Year [01/YR]	Composite [24]
<i>Salvelinus fontinalis</i> (Brook trout) [TDA6F]	---	Report % [23]	1/Year [01/YR]	Composite [24]
<u>WET Chronic NOEL</u> <i>Ceriodaphnia dubia</i> (Water flea) [TBP3B]	---	Report % [23]	1/Year [01/YR]	Composite [24]
<i>Salvelinus fontinalis</i> (Brook trout) [TBQ6F]	---	Report % [23]	1/Year [01/YR]	Composite [24]
Analytical chemistry ^(12,14) [51477]	---	Report µg/L [28]	1/Quarter [01/90]	Composite/Grab [24]
Priority Pollutant ^(13,14) [50008]	---	Report µg/L [28]	1/Year [01/YR]	Composite/Grab [24]

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 (DMRs). **Footnotes:** See Pages 11-16 of this permit for applicable footnotes.

SPECIAL CONDITIONS

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

2. PRIMARY TREATED WASTEWATER (Administrative OUTFALL #001B – Primary Treatment Only)

Consistent with CSO bypass regulations, the permittee is allowed to bypass secondary treatment and provide primary treatment only prior to combining with secondary treated wastewater. Bypassing secondary treatment is allowed when the influent to the wastewater treatment facility exceeds a sustained daily flow rate of 3,604 gallons per minute (5.19 MGD) or a peak hourly flow rate of 6,438 gallons per minute (9.27 MGD). Allowance to bypass secondary treatment will be reviewed and may be modified or terminated pursuant to Special Condition O, *Reopening of Permit for Modification*, if there is substantial change in the volume or character of pollutants in the collection/treatment system. Also see supplemental report form, *DEP-49-CSO Form For Use With Dedicated CSO Primary Clarifier*. This form can be found at: <https://www.maine.gov/dep/water/cso/index.html#form> . Outfall 001B must be monitored as follows ⁽¹⁾:

Effluent Characteristic	Discharge Limitations				Monitoring Requirements	
	Monthly Average	Daily Maximum	Monthly Average	Daily Maximum	Measurement Frequency	Sample Type
Influent Flow Rate Minimum [00058]	---	Report (gpm) ⁽¹⁵⁾ [78]	---	---	Instantaneous [01/99]	Recorder [RC]
Flow [50050]	Report (Total MGD) [03]	Report (MGD) [03]	---	---	Continuous [99/99]	Recorder [RC]
BOD ₅ [00310]	---	Report lbs./day [26]	---	Report mg/L [19]	1/Discharge Day ^(16,19) [01/DD]	Composite [24]
TSS [00530]	---	Report lbs./day [26]	---	Report mg/L [19]	1/Discharge Day ^(16,19) [01/DD]	Composite [24]
Overflow Occurrence ⁽¹⁷⁾ [74062]	---	---	Report (# of days) [93]	---	1/Discharge Day ^(16,19) [01/DD]	Record Total [RT]
<i>E. coli</i> Bacteria ⁽⁴⁾ (April 15 th – October 31 st) [31633]	---	---	---	Report /100 mL ⁽⁵⁾ [13]	1/Discharge Day ^(16,19) [01/DD]	Grab [GR]
Total Residual Chlorine [50060]	---	---	--	Report mg/L [19]	1/Discharge Day ^(16,19) [01/DD]	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 (DMRs). **Footnotes:** See Pages 11-16 of this permit for applicable footnotes.

SPECIAL CONDITIONS

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

3. BLENDED EFFLUENT (Administrative OUTFALL #001C)

Consistent with CSO bypass regulations, the permittee is allowed to discharge primary and secondary treated wastewater (blended effluent - Outfall #001C (administrative outfall)) to the Penobscot River. Bypassing secondary treatment is allowed when the influent to the wastewater treatment facility exceeds a sustained daily flow rate of 3,604 gallons per minute (5.19 MGD) or a peak hourly flow rate of 6,438 gallons per minute (9.27 MGD). Allowance to bypass secondary treatment will be reviewed and may be modified or terminated pursuant to Special Condition O, *Reopening of Permit for Modification*, if there is substantial change in the volume or character of pollutants in the collection/treatment system. Also see supplemental report form, *DEP-49-CSO Form For Use With Dedicated CSO Primary Clarifier*. This form can be found at: <https://www.maine.gov/dep/water/cso/index.html#form>. Outfall 001C must be monitored as follows ⁽¹⁾:

Effluent Characteristic	Discharge Limitations				Monitoring Requirements	
	Monthly Average	Daily Maximum	Monthly Average	Daily Maximum	Measurement Frequency	Sample Type
Flow [50050]	Report (Total MGD) [03]	Report (MGD) [03]	---	---	1/Discharge Day ⁽¹⁶⁾ [01/DD]	Calculate [CA]
BOD ₅ ⁽¹⁸⁾ [00310]	---	3,845 lbs./day [26]	---	Report mg/L [19]	1/Discharge Day ^(16,19) [01/DD]	Calculate [CA]
TSS ⁽¹⁵⁾ [00530]	---	5,330 lbs./day [26]	---	Report mg/L [19]	1/Discharge Day ^(16,19) [01/DD]	Calculate [CA]
<i>E. coli</i> Bacteria ^(4,20) (April 15 th – October 31 st) [31633]	---	---	---	236 /100 mL ⁽⁵⁾ [13]	1/Discharge Day ^(16,19) [01/DD]	Calculate [CA]
Total Residual Chlorine ⁽⁶⁾ [50060]	---	---	---	1.0 mg/L [19]	1/Discharge Day ^(16,19) [01/DD]	Calculate [CA]

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 (DMRs). **Footnotes:** See Pages 11-16 of this permit for applicable footnotes.

SPECIAL CONDITIONS

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

Footnotes:

1. **Sampling** – The permittee must conduct all effluent sampling and analysis in accordance with; a) methods approved by 40 Code of Federal Regulations (C.F.R.) Part 136, b) alternative methods approved by the Department in accordance with the procedures in 40 C.F.R. Part 136, or c) as otherwise specified by the Department. Samples that are sent out for analysis must be analyzed by a laboratory certified by the State of Maine's Department of Health and Human Services. Samples that are sent to another POTW licensed pursuant to *Waste discharge licenses*, 38 M.R.S. § 413 are subject to the provisions and restrictions of *Maine Comprehensive and Limited Environmental Laboratory Certification Rules*, 10-144 C.M.R. ch. 263 (amended March 15, 2023). If the permittee monitors any pollutant more frequently than required by the permit using test procedures approved under 40 C.F.R. Part 136 or as specified in this permit, the results of this monitoring must be included in the calculation and reporting of the data submitted in the DMR.

In accordance with 40 C.F.R. § 122.44(i)(1)(iv), the permittee must monitor according to sufficiently sensitive test procedures (i.e., methods) approved under 40 C.F.R. Part 136 or required under 40 C.F.R. chapter I, subchapter N or O, for the analysis of pollutants or pollutant parameters (except WET). A method is "sufficiently sensitive" when: 1) The method minimum level (ML) is at or below the level of the effluent limitation established in the permit for the measured pollutant or pollutant parameter; or 2) The method has the lowest ML of the analytical methods approved under 40 C.F.R. Part 136 or required under 40 C.F.R. chapter I, subchapter N or O for the measured pollutant or pollutant parameter. The term "minimum level" refers either to the sample concentration equivalent to the lowest calibration point in a method or a multiple of the method detection limit (MDL), whichever is higher. Minimum levels may be obtained in the following ways: they may be published in a method; they may be based on the lowest acceptable calibration point used by a laboratory; or they may be calculated by multiplying the MDL in a method, or the MDL determined by a laboratory, by a factor.

Sampling Locations – Any change in sampling location(s) other than those specified below must be reviewed and approved by the Department in writing.

Influent

Flow, BOD₅ and TSS must be sampled after the aerated grit chamber but before the Parshall flumes measuring flow into the treatment plant.

Effluent Receiving Secondary Treatment (Outfall #001A)

- a. During normal operations when all flows conveyed to the treatment facility are receiving secondary treatment, samples for all parameters must be collected after the chlorine contact chamber.

SPECIAL CONDITIONS

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

Footnotes:

- b. During times of secondary bypass events (when Outfall #001B is active) wastewater receiving secondary treatment must be sampled for all parameters (with the exception of total residual chlorine (TRC) and *E. coli* bacteria) after the secondary clarifiers but before the Parshall flume (dedicated to the secondary treated waste stream) and chlorine contact chamber. TRC and *E. coli* bacteria must be sampled after the chlorine contact chamber.

Effluent Receiving Primary Treatment (Internal Waste Stream - Outfall #001B)
BOD₅ and TSS must be sampled after the primary settling units but before the Parshall flume (dedicated to the primary treated waste stream) and prior to combining with the secondary treated effluent in the chlorine contact chamber.

2. **BOD₅ & TSS** – When the bypass of secondary treatment is active, sample results obtained for these parameters are not to be included in calculations to determine compliance with monthly or weekly average limitations. Also, when the bypass of secondary treatment is active, the daily maximum concentration limit of 50 mg/L for BOD₅ and TSS at Outfall #001A is not in effect.
3. **Percent Removal** – The permittee must achieve a minimum of 85 percent removal of both TSS and BOD₅ for all flows receiving secondary treatment. The percent removal is calculated based on influent and effluent concentration values.
4. ***E. coli* Bacteria** – *E. coli* bacteria limits and monitoring requirements are seasonal and apply between April 15th and October 31st of each year. In accordance with 38 M.R.S. § 414-A(5), the Department may, at any time and with notice to the permittee, modify this permit to establish bacteria limitations on a year-round basis to protect the health and welfare of the public.
5. **Bacteria Reporting** – The monthly average *E. coli* bacteria limitation is a geometric mean limitation and sample results must be reported as such. Results must be expressed in CFU/100mL or MPN/100 mL.
6. **TRC** – Limitations and monitoring requirements are applicable whenever elemental chlorine or chlorine-based compounds are being used to disinfect the discharge. The permittee must utilize approved test methods that are capable of bracketing the limitations in this permit.
7. **Total Phosphorus** – Total phosphorus monitoring must be performed in accordance with **Attachment A** of this permit entitled, *Protocol for Total P Sample Collection and Analysis for Wastewater – May 2014*, unless otherwise specified by the Department. Phosphorus mass and concentration monitoring requirements and limits are seasonal and in effect from June 1 through September 30 of each year.

SPECIAL CONDITIONS

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

Footnotes:

8. **Twice per Month Monitoring:** Monitoring required at a minimum frequency of 2/month must be collected no less than 14 days between sampling events, unless specifically authorized by the Department's compliance inspector.
9. **Mercury** – The permittee must conduct all mercury monitoring required by this permit or required to determine compliance with interim limitations established pursuant to 06-096 C.M.R. ch. 519 in accordance with the USEPA's "clean sampling techniques" found in USEPA Method 1669, *Sampling Ambient Water For Trace Metals At EPA Water Quality Criteria Levels*. All mercury analysis must be conducted in accordance with USEPA Method 1631, *Determination of Mercury in Water by Oxidation, Purge and Trap, and Cold Vapor Fluorescence Spectrometry*. For a mercury test results reporting form, select "Whole effluent Toxicity, Chemistry and Mercury Reporting forms" at https://www.maine.gov/dep/water/wd/municipal_industrial/index.html. Compliance with the monthly average limitation established in Special Condition A of this permit will be based on the cumulative arithmetic mean of all mercury tests results that were conducted utilizing sampling Methods 1669 and analysis Method 1631E on file with the Department for this facility.
10. **Grab Samples** – Upstream water samples shall be taken concurrently with effluent samples (i.e., the receiving water grab samples shall be taken during the 24-hour composite period for the effluent).
11. **WET Testing** – Definitive WET testing is a multi-concentration testing event (a minimum of five dilutions set at levels to bracket the modified acute and chronic critical water quality thresholds of 1.1% and 0.2%, 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. The critical acute and chronic thresholds were derived as the mathematical inverse of the applicable acute and chronic dilution factors of 85:1 and 370:1, respectively, for Outfall #001A.
 - a. Surveillance level testing – Waived pursuant to Department rule, 06-096 ch. 530 § 2(D)(3).
 - b. **Screening level testing** – Beginning in calendar year 2024 and every five years thereafter if a timely request for renewal has been made and the permit continues in force or is replaced by a permit renewal containing this requirement, the permittee must conduct screening level WET testing at a minimum frequency of once per year (1/Year) on the water flea and brook trout.

SPECIAL CONDITIONS

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

Footnotes:

Test results must be submitted to the Department no later than the next 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 must evaluate test results being submitted and identify to the Department possible exceedances of the critical acute and chronic water quality thresholds of 1.2% and 0.3%, respectively.

Toxicity tests must be conducted by an experienced laboratory approved by the Department. The laboratory must follow procedures as described in the following USEPA methods manuals as modified by Department protocol for salmonids.

- a. U.S. Environmental Protection Agency. 2002. *Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms*, 5th ed. USEPA 821-R-02-012. U.S. Environmental Protection Agency, Office of Water, Washington, D.C., October 2002 (the acute method manual).
- b. U.S. Environmental Protection Agency. 2002. *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms*, 4th ed. USEPA 821-R-02-013. U.S. Environmental Protection Agency, Office of Water, Washington, D.C., October 2002 (the freshwater chronic method manual).

Results of WET tests must be reported on the “Whole Effluent Toxicity Report Fresh Waters” form each time a WET test is performed. The form can be found at:

https://www.maine.gov/dep/water/wd/municipal_industrial/index.html

The permittee must analyze the effluent for the analytical chemistry and priority pollutant parameters specified on the “WET and Chemical Specific Data Report Form” form each time a WET test is performed. The form can be found at:

https://www.maine.gov/dep/water/wd/municipal_industrial/index.html

12. Analytical Chemistry – Refers to those pollutants listed in their respective categories on the “WET and Chemical Specific Data Report Form” found at:

https://www.maine.gov/dep/water/wd/municipal_industrial/index.html

- a. Surveillance level testing – Waived pursuant to Department rule, 06-096 ch. 530 § 2(D)(3).
- b. **Screening level testing** – Beginning in the calendar year 2024 and every five years thereafter, the permittee must conduct screening level analytical chemistry testing at a minimum frequency of four times per year (4/Year) in successive calendar quarters.

13. Priority Pollutant Testing – Refers to those pollutants listed in their respective categories on the “WET and Chemical Specific Data Report Form” found at:

https://www.maine.gov/dep/water/wd/municipal_industrial/index.html

SPECIAL CONDITIONS

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

Footnotes:

- a. **Surveillance level testing** - Priority pollutant testing is not required for this facility pursuant to 06-096 Ch. 530 § 2(D)(1).
- b. **Screening level testing** – Beginning in the calendar year 2024 and every five years thereafter, the permittee must conduct screening level priority pollutant testing at a minimum frequency of once per year (1/Year) in any calendar quarter provided the sample is representative of the discharge and any seasonal or other variations in effluent quality.

- 14. Analytical chemistry and priority pollutant tests** - Testing must be conducted on samples collected at the same time as those collected for whole effluent toxicity tests, when applicable, and must be conducted using methods that permit detection of a pollutant at existing levels in the effluent.

Analytical chemistry and priority pollutant 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 laboratory reports for up to 10 business days after receiving the test results from the laboratory conducting the testing before submitting them. The permittee must evaluate test results being submitted and identify to the Department, possible exceedances of the acute, chronic, or human health AWQC as established in 06-096 C.M.R. ch. 584. For the purposes of DMR reporting, enter a “1” for yes, testing done this monitoring period or “N-9” monitoring not required this period.

- 15. Influent Flow Rate Minimum** – The permittee must report the minimum instantaneous influent flow rate entering the headworks of the plant at the time each bypass of secondary treatment is activated.

- 16. Discharge Day** – A discharge day is defined as a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling.

- 17. Overflow Occurrence** – An overflow occurrence is defined as the period of time between initiation and cessation of flow from the storm flow chlorine contact tank. Overflow occurrences are reported in discharge days. Multiple intermittent overflow occurrences in one discharge day are reported as one overflow occurrence and are sampled according to the measurement frequency specified.

- 18. BOD₅ & TSS** – As stated in Footnote #19, sampling of the bypass waste stream (blended primary plus secondary) is only required when it coincides with the scheduled sampling event for the secondary.

SPECIAL CONDITIONS

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

Footnotes:

When quantifying the blended effluent, the permittee has the option to calculate the discharge characteristics of the final effluent discharged to the receiving water. To do this, the permittee must mathematically add the monthly average mass of BOD₅ and TSS of the secondary treated wastewater (Outfall #001A) to each of the daily BOD₅ and TSS mass values of the primary treated wastewater when the bypass is active and report the highest combined mass of BOD₅ and TSS values for each month. An example calculation is as follows:

$$\begin{aligned} &\text{BOD}_5 \text{ mass (monthly average for secondary)} + \text{BOD}_5 \text{ mass (highest for bypass)} \\ &= \text{BOD}_5 \text{ mass (blended effluent)} \end{aligned}$$

All calculations and data utilized must be submitted to the Department with the applicable monthly DMR.

19. BOD₅, TSS, *E. coli* Bacteria, TRC – Sampling to comply with the 1/Discharge Day monitoring requirement is only required if it coincides with the 3/Week monitoring requirement on the secondary treated effluent waste stream.

20. *E. coli* bacteria concentration blended effluent- The weighted *E. coli* bacteria concentration for blended effluent must be calculated as follows:

$$\frac{(\text{Daily Max } E. coli \text{ Outfall 001A})(\text{Daily Flow Outfall 001A}) + (\text{Daily Max } E. coli \text{ Outfall 002A})(\text{Daily Flow 002A})}{(\text{Flow outfall 001A}) + (\text{Flow Outfall 002A})}$$

If sampling is conducted outside of permit requirements on days that do not coincide with the regular *E. coli* monitoring for outfall 001A, the monthly average concentration may be substituted for the daily maximum.

B. NARRATIVE EFFLUENT LIMITATIONS

1. The permittee must not discharge effluent that contains a visible oil sheen, foam or floating solids at any time which would impair the uses designated by the classification of the receiving waters.
2. The permittee must not discharge effluent that contains materials in concentrations or combinations which are hazardous or toxic to aquatic life, or which would impair the uses designated by the classification of the receiving waters.
3. The permittee must not discharge effluent that imparts color, taste, turbidity, toxicity, radioactivity, or other properties which cause those waters to be unsafe for the designated uses and characteristics ascribed to their classification.

SPECIAL CONDITIONS

B. NARRATIVE EFFLUENT LIMITATIONS (cont'd)

4. The permittee must not discharge effluent that lowers 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. TREATMENT PLANT OPERATOR

The person who has management responsibility over the treatment facility must hold a Maine **Grade V**, Biological Treatment certificate (or higher) or must be a Maine Registered Professional Engineer pursuant to *Sewage Treatment Operators*, 32 M.R.S. § 4171-4182 and *Regulations for Wastewater Operator Certification*, 06-096 C.M.R. ch. 531 (effective July 24, 2023). 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.

D. NOTIFICATION REQUIREMENT

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

1. Any introduction of pollutants into the wastewater collection and treatment system from an indirect discharger in a primary industrial category discharging process wastewater; and;
2. Any substantial change (increase or decrease) in the volume or character of pollutants being introduced into the wastewater collection and treatment system by a source introducing pollutants into the system at the time of permit issuance.
3. For the purposes of this section, adequate notice must include information on:
 - (a) The quality and quantity of wastewater introduced to the wastewater collection and treatment system; and
 - (b) Any anticipated impact of the change in the quantity or quality of the wastewater to be discharged from the treatment system.

E. MONITORING AND REPORTING

Electronic Reporting

NPDES Electronic Reporting, 40 C.F.R. part 127, requires MEPDES permit holders to submit monitoring results obtained during the previous month on an electronic discharge monitoring report to the regulatory agency utilizing the USEPA electronic system.

Electronic Discharge Monitoring Reports (DMRs) submitted using the USEPA NetDMR system, must be:

1. Submitted by a facility authorized signatory; and

SPECIAL CONDITIONS

E. MONITORING AND REPORTING (cont'd)

2. Submitted no later than **midnight on the 15th day of the month** following the completed reporting period.

Documentation submitted in support of the electronic DMR may be attached to the electronic DMR. Toxics reporting must be done using the DEP Toxsheet reporting form. An electronic copy of the Toxsheet reporting document must be submitted to your Department compliance inspector as an attachment to an email.

Documentation submitted electronically to the Department in support of the electronic DMR must be submitted no later than midnight on the 15th day of the month following the completed reporting period.

F. LIMITATIONS FOR INDUSTRIAL USERS

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

The permittee must conduct an Industrial Waste Survey (IWS) any time a new industrial user proposes to discharge within its jurisdiction; an existing user proposes to make a significant change in its discharge; or at an alternative minimum, once every permit cycle, and submit the results to the Department. The IWS must identify, in terms of character and volume of pollutants, any Significant Industrial Users discharging into the POTW subject to Pretreatment Standards under section 307(b) of the federal Clean Water Act, 40 C.F.R. Part 403 (general pretreatment regulations) or *Pretreatment Program*, 06-096 C.M.R. ch. 528 (last amended March 17, 2008).

G. AUTHORIZED DISCHARGES

The permittee is authorized to discharge only in accordance with: 1) the permittee's General Application for Waste Discharge Permit, accepted for processing on March 11, 2021; 2) the terms and conditions of this permit; and 3) only from Outfall #001A, #001B, #001C and four (4) combined sewer overflow outfalls listed in Special Condition K, *Combined Sewer Overflows*, of this permit. Discharges of wastewater from any other point source are not authorized under this permit and must be reported in accordance with Standard Condition D(1)(f), *Twenty-four-hour reporting*, of this permit.

H. WET WEATHER FLOW MANAGEMENT PLAN

The treatment facility staff must have a current written Wet Weather Flow 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.

SPECIAL CONDITIONS

H. WET WEATHER FLOW MANAGEMENT PLAN (cont'd)

The plan must conform to Department guidelines for such plans and must 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 must 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.

I. OPERATION & MAINTENANCE (O&M) PLAN

The permittee must maintain a current written comprehensive Operation & Maintenance (O&M) Plan for the facility. The plan must provide a systematic approach by which the permittee must 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 must evaluate and modify the O&M Plan including site plan(s) and schematic(s) for the wastewater treatment facility to ensure that it is up to date. The O&M Plan must be kept on-site at all times and made available to Department and USEPA personnel upon request.

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

J. DISPOSAL OF TRANSPORTED WASTES IN WASTEWATER TREATMENT FACILITY

During the effective period of this permit, the permittee is authorized to receive and introduce into the treatment process or solids handling stream **a daily maximum of 138,000 gallons per day** of transported waste, **60,000 gallons per day of which is reserved for landfill leachate, and 78,000 gallons per day for all other transported wastes,** subject to the following terms and conditions.

1. "Transported wastes" means any liquid non-hazardous waste delivered to a wastewater treatment facility by a truck or other similar conveyance that has different chemical constituents or a greater strength than the influent described on the facility's application for a waste discharge license. Such wastes may include, but are not limited to septage, industrial wastes or other wastes to which chemicals in quantities potentially harmful to the treatment facility or receiving water have been added.

SPECIAL CONDITIONS

J. DISPOSAL OF TRANSPORTED WASTES IN WASTEWATER TREATMENT FACILITY (cont'd)

2. The character and handling of all transported wastes received must be consistent with the information and management plans provided in application materials submitted to the Department.
3. At no time may the addition of transported wastes cause or contribute to effluent quality violations. Transported wastes may not cause an upset of or pass through the treatment process or have any adverse impact on the sludge disposal practices of the wastewater treatment facility.

Wastes that contain heavy metals, toxic chemicals, extreme pH, flammable or corrosive materials in concentrations harmful to the treatment operation must be refused. Odors and traffic from the handling of transported wastes may not result in adverse impacts to the surrounding community. If any adverse effects exist, the receipt or introduction of transported wastes into the treatment process or solids handling stream must be suspended until there is no further risk of adverse effects.

4. The permittee must maintain records for each load of transported wastes in a daily log which must include at a minimum the following.
 - (a) The date;
 - (b) The volume of transported wastes received;
 - (c) The source of the transported wastes;
 - (d) The person transporting the transported wastes;
 - (e) The results of inspections or testing conducted;
 - (f) The volumes of transported wastes added to each treatment stream; and
 - (g) The information in (a) through (d) for any transported wastes refused for acceptance.

These records must be maintained at the treatment facility for a minimum of five years.

5. The addition of transported wastes into the treatment process or solids handling stream must not cause the treatment facility's design capacity to be exceeded. If, for any reason, the treatment process or solids handling facilities become overloaded, introduction of transported wastes into the treatment process or solids handling stream must be reduced or terminated in order to eliminate the overload condition.
6. Holding tank wastewater from domestic sources to which no chemicals in quantities potentially harmful to the treatment process have been added must not be recorded as transported wastes but should be reported in the treatment facility's influent flow.
7. During wet weather events, transported wastes may be added to the treatment process or solids handling facilities only in accordance with a current Wet Weather Flow Management Plan approved by the Department that provides for full treatment of transported wastes without adverse impacts.

SPECIAL CONDITIONS

J. DISPOSAL OF TRANSPORTED WASTES IN WASTEWATER TREATMENT FACILITY (cont'd)

8. In consultation with the Department, chemical analysis is required prior to receiving transported wastes from new sources that are not of the same nature as wastes previously received. The analysis must be specific to the type of source and designed to identify concentrations of pollutants that may pass through, upset, or otherwise interfere with the facility's operation.
9. Access to transported waste receiving facilities may be permitted only during the times specified in the application materials and under the control and supervision of the person responsible for the wastewater treatment facility or his/her designated representative.
10. The authorization is subject to annual review and, with notice to the permittee and other interested parties of record, may be suspended or reduced by the Department as necessary to ensure full compliance with 06-096 C.M.R. Ch. 555 of the Department's rules and the terms and conditions of this permit.

K. COMBINED SEWER OVERFLOWS (CSO's)

Pursuant to *Combined Sewer Overflow Abatement*, 06-096 C.M.R. ch. 570 (last amended February 5, 2000), the permittee is authorized to discharge from the following locations of CSO's (stormwater and sanitary wastewater) subject to the conditions and requirements herein.

1. Definitions

For the purposes of this permitting action, the following terms are defined as follows:

- a. Combined Sewer Overflow - a discharge of excess wastewater from a municipal or quasi-municipal sewerage system that conveys both sanitary wastes and storm water in a single pipe system and that is in direct response to a storm event or snowmelt.
 - b. Dry Weather Flows - flow in a sewerage system that occurs as a result of non-storm events or are caused solely by ground water infiltration.
 - c. Wet Weather Flows - flow in a sewerage system that occurs as a direct result of a storm event, or snowmelt in combination with dry weather flows.
- #### **2. CSO locations**

<u>Outfall Number</u>	<u>Outfall Location</u>	<u>Receiving Water and Class</u>
002	Oak Grove	Penobscot River, Class B
003	James Street	Penobscot River, Class B
008	South Main Street	Penobscot River, Class B
010	Brewer Cove	Penobscot River, Class B

SPECIAL CONDITIONS

K. COMBINED SEWER OVERFLOWS (CSO's) (cont'd)

3. Prohibited Discharges

- a) The discharge of dry weather flows is prohibited. All such discharges must be reported to the Department in accordance with Standard Condition D (1) of this permit.
- b) No discharge may occur as a result of mechanical failure, improper design or inadequate operation or maintenance.
- c) No discharges may occur at flow rates below the maximum design capacities of the wastewater treatment facility, pumping stations or sewerage system.

4. Narrative Effluent Limitations

- a) The effluent must not contain a visible oil sheen, settled substances, foam, or floating solids at any time that impair the characteristics and designated uses ascribed to the classification of the receiving waters.
- b) The effluent must not contain materials in concentrations or combinations that are hazardous or toxic to aquatic life; or which would impair the usage designated by the classification of the receiving waters.
- c) The discharge must not impart color, turbidity, toxicity, radioactivity or other properties that cause the receiving waters to be unsuitable for the designated uses and other characteristics ascribed to their class.
- d) The effluent by itself or in combination with other discharges must not lower the quality of any classified body of water below such classification or lower the existing quality of any body of water if the existing quality is higher than the classification.

5. CSO Master Plan [see 06-096 C.M.R. ch. 570 § 3 and 06-096 C.M.R. ch. 570 § 4]

The permittee must implement CSO control projects in accordance with an approved CSO Master Plan and abatement schedule. The CSO Master Plan entitled *Sewer System Master Plan For CSO Abatement*, dated June 1993 was approved on April 12, 1995. The most current CSO Master Plan, was submitted on January 4, 2022, and approved on April 4, 2022.

On or before December 31, 2026, (ICIS Code 81699) the permittee must submit to the Department for review and approval an updated CSO Long Term Control Plan, a.k.a. Master Plan that analyzes the effectiveness of the abatement projects to date and if necessary, includes an implementation schedule for additional abatement projects. To modify the dates and or projects specified in Special Condition A(3) of this permit (but not dates in the Master Plan), the permittee must file an application with the Department to formally modify this permit. The work items identified in the abatement schedule may be amended from time to time based upon approval by the Department.

SPECIAL CONDITIONS

K. COMBINED SEWER OVERFLOWS (CSO's) (cont'd)

The permittee must notify the Department in writing prior to any proposed changes to the implementation schedule.

6. Nine Minimum Controls (NMC) [see 06-096 C.M.R. ch. 570 § 5]

The permittee must implement and follow the Nine Minimum Controls documentation as approved by USEPA on May 29, 1997. Work performed on the Nine Minimum Controls during the year must be included in the annual CSO Progress Report (see below).

7. CSO Compliance Monitoring Program [see 06-096 C.M.R. ch. 570 § 6]

The permittee must conduct block testing or flow monitoring according to an approved *Compliance Monitoring Program* on all CSO points, as part of the CSO Master Plan. Annual flow volumes for all CSO locations must be determined by actual flow monitoring, or by estimation using a model such as USEPA's Storm Water Management Model (SWMM).

Results must be submitted annually as part of the annual *CSO Progress Report* (see below), and must include annual precipitation, CSO volumes (actual or estimated) and any block test data required. Any abnormalities during CSO monitoring must also be reported. The results must be reported on the Department form "*CSO Activity and Volumes*" (**Attachment C** of this permit) or similar format and submitted to the Department in electronic format.

CSO control projects that have been completed must be monitored for volume and frequency of overflow to determine the effectiveness of the project toward CSO abatement. This requirement does not apply to those areas where complete separation has been completed and CSO outfalls have been eliminated.

8. Additions of New Wastewater [see 06-096 C.M.R. ch. 570 § 8]

Chapter 570 Section 8 lists requirements relating to any proposed addition of wastewater to the combined sewer system. Documentation of the new wastewater additions to the system and associated mitigating measures must be included in the annual *CSO Progress Report* (see below). Reports must contain the volumes and characteristics of the wastewater added or authorized for addition and descriptions of the sewer system improvements and estimated effectiveness.

9. Annual CSO Progress Reports [see 06-096 C.M.R. ch. 570 § 7]

By March 1 of each year, the permittee must submit *CSO Progress Reports* covering the previous calendar year (January 1 to December 31). The CSO Progress Report must include, but is not necessarily limited to, the following topics:

SPECIAL CONDITIONS

K. COMBINED SEWER OVERFLOWS (CSO's) (cont'd)

A. CSO abatement projects. CSO abatement projects including milestone dates such as design start and completion and construction start and completion.

B. Schedule comparison. A comparison of the existing schedule with the Department-approved implementation schedule. If the existing schedule is behind the approved schedule, list the reasons why, and how the licensee proposes to catch up in order to comply with the approved schedule.

C. Progress on inflow sources. Progress made on locating and removing private inflow sources, such as roof leaders and basement sump pumps.

D. Costs. Total cost and local share of CSO abatement projects to date, plus an anticipated budget for projects in the next year.

E. Flow monitoring results. Results of any specific flow monitoring to determine effectiveness of previous CSO abatement projects. Compare actual CSO abatement with projections made during the CSO Master Plan.

F. CSO activity and volumes. Yearly precipitation, CSO volumes (actual or estimated), and any block test data (see Section 6) submitted on department form titled "CSO Activity and Volumes". The form must be in electronic form, if possible, to allow easy data entry. Report any abnormalities during CSO monitoring.

G. Nine minimum controls update. Work done on the Nine Minimum Controls during the year including, but not limited to the following.

(1) Results of operation and maintenance programs for the sewer system and combined sewer overflows during the year, such as, frequency of regulator inspections, number of catch basins cleaned, and feet of sewer cleaned or repaired, with estimates of material removed, if possible.

(2) Low-cost projects to maximize use of the collection system for storage or to maximize flow to the POTW for treatment.

(3) Modifications to the pretreatment program to assure the CSO impacts are minimized.

(4) Low-cost projects that maximize flow to the POTW for treatment.

(5) Documentation that no CSO discharges occurred during dry weather.

(6) Projects to control solid and floatable materials in CSO discharges.

(7) Pollution prevention programs that focus on contaminant reduction activities.

SPECIAL CONDITIONS

K. COMBINED SEWER OVERFLOWS (CSO's) (cont'd)

(8) Public notification to ensure that the public receives adequate notification of CSO occurrences and CSO impacts.

(9) Any monitoring and sampling results to effectively characterize CSO impacts and the effectiveness of CSO controls.

H. Sewer extensions and new commercial or industrial flows. List the sewer extensions and new commercial or industrial flows added during the year, along with what mitigating measures were accomplished to prevent these flows from contributing to CSOs (see Section 8).

The CSO Progress Reports must be completed on a standard form entitled "*Annual CSO Progress Report*", furnished by the Department, and submitted in electronic form, if possible, to the following address:

CSO Coordinator
Department of Environmental Protection
Bureau of Water Quality
Division of Water Quality Management
17 State House Station
Augusta, Maine 04333
e-mail: CSOCoordinator@maine.gov

10. Signs

If not already installed, the permittee must install and maintain an identification sign at each CSO location as notification to the public that intermittent discharges of untreated sanitary wastewater occur. The sign must be located at or near the outfall and be easily readable by the public. The sign must be a minimum of 12" x 18" in size with white lettering against a green background and must contain the following information:

**CITY OF BREWER
WET WEATHER
SEWAGE DISCHARGE
CSO # AND NAME**

L. EMERGENCY OVERFLOWS

Discharges from emergency overflows located within the sewer collection system are not authorized by this permit. The permittee must make provisions to monitor the emergency overflows listed below, in accordance with a monitoring plan reviewed by the Department, to determine the frequency and quantity (via measurement or estimation) of wastewater discharged from the emergency overflow structures. Discharges from the

SPECIAL CONDITIONS

L. EMERGENCY OVERFLOWS (cont'd)

following emergency overflows must be reported in accordance with Standard Condition B(5), *Bypasses*, and Special Condition G, *Authorized Discharges*, of this permit.

<u>Emergency Overflow #</u>	<u>Location</u>	<u>Receiving Water & Classification</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Relief Point Elevation (ft AMSL)</u>
EO # 1	MH at Intersection of Jefferson Street and Silk Street	Penobscot River (Class B) via Hardy Street Storm Drain	44.795218 degrees	68.754366 degrees	65.82
EO # 2	MH on Cross Country Sewer at Harlow Street	Penobscot River (Class B) via Hardy Street Storm Drain	44.794608 degrees	68.755038 degrees	63.46
EO # 3	MH on Cross Country Sewer Between State Street and Center Street	Penobscot River (Class B) via Hardy Street Storm Drain	44.791771 degrees	68.758376 degrees	57.00

M. PUMP STATION EMERGENCY BYPASSES

Discharges from emergency bypass structures in pump stations are not authorized by this permit. The permittee must monitor the overflow points identified below to record frequency, duration and estimation of flow discharged, as long as the Emergency By-pass requires manual opening of the by-pass valve. The permittee must report any discharges from the pump station(s) in accordance with Standard Condition D (1)(f), *Twenty-four-hour reporting*, and Special Conditions G, *Authorized Discharges*, of this permit.

<u>Outfall Number</u>	<u>Outfall Location</u>	<u>Receiving Water and Class</u>
006	Hardy Street P.S.	Penobscot River, Class B

N. STATEMENT FOR REDUCED/WAIVED TOXICS TESTING

In accordance with 06-096 C.M.R. ch. 530 § 2(D)(4), and by **December 31** of each calendar year, the permittee must provide the Department with a certification describing any of the following that have occurred since the effective date of this permit [ICIS Code 75305]. See **Attachment C** of the Fact Sheet for an acceptable certification form to satisfy this Special Condition.

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

In addition, in the comments section of the certification form, the permittee must provide the Department with statements describing.

SPECIAL CONDITIONS

N. STATEMENT FOR REDUCED/WAIVED TOXICS TESTING

- (a) Changes in stormwater collection or inflow/infiltration affecting the facility that may increase the toxicity of the discharge; and
- (b) Increases in the type or volume of transported (hailed) wastes accepted by the facility.

The Department may require that routine screening or surveillance level testing be re-instated if it determines that there have been changes in the character of the discharge or if annual certifications described above are not submitted.

O. REOPENING OF PERMIT FOR MODIFICATIONS

In accordance with 38 M.R.S. § 414-A(5) and upon evaluation of the test 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 any time and with notice to the permittee, modify this permit to: (1) include effluent limitations 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.

P. 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 must remain in full force and effect and must 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

Protocol for Total Phosphorus Sample Collection and Analysis for Waste Water and Receiving Water Monitoring Required by Permits

Approved Analytical Methods: EPA 200.7 (Rev. 44), 365.1 (Rev. 2.0), (Lachat), 365.3, 365.4; SM 3120 B, 4500-P B.5, 4500-P E, 4500-P F, 4500-P G, 4500-P H; ASTM D515-88(A), D515-88(B); USGS I-4471-97, I-4600-85, I-4610-91; OMAAOAC 973.55, 973.56

Sample Collection: The Maine DEP is requesting that total phosphorus analysis be conducted on composite effluent samples, unless a facility's Permit specifically designates grab sampling for this parameter. Facilities can use individual collection bottles or a single jug made out of glass or polyethylene. Bottles and/or jugs should be cleaned prior to each use with dilute HCL. This cleaning should be followed by several rinses with distilled water. Commercially purchased, pre-cleaned sample containers are an acceptable alternative. The sampler hoses should be cleaned, as needed.

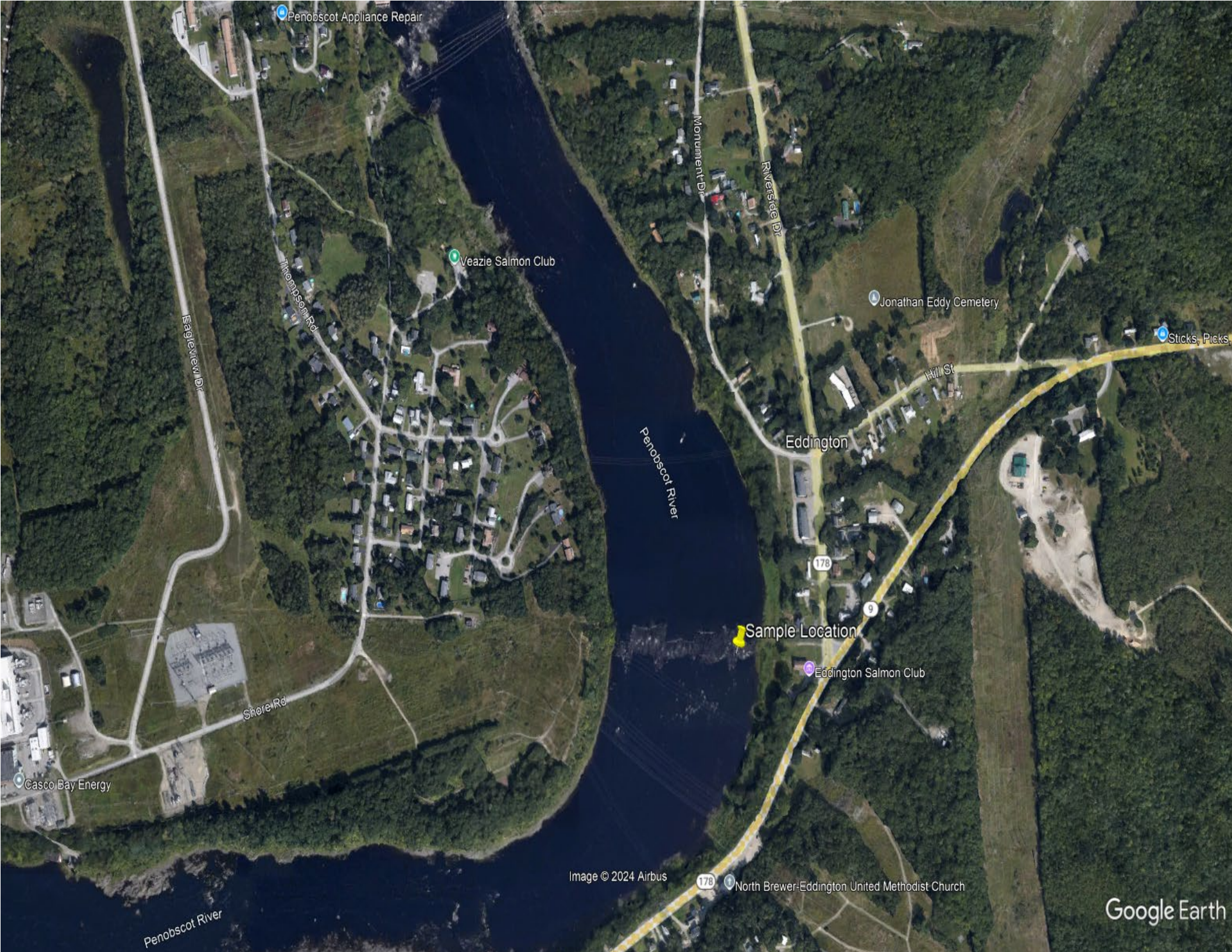
Sample Preservation: During compositing the sample must be at 0-6 degrees C (without freezing). If the sample is being sent to a commercial laboratory or analysis cannot be performed the day of collection then the sample must be preserved using H₂SO₄ to obtain a sample pH of <2 su and refrigerated at 0-6 degrees C (without freezing). The holding time for a preserved sample is 28 days.

Note: Ideally, Total P samples are preserved as described above. However, if a facility is using a commercial laboratory then that laboratory may choose to add acid to the sample once it arrives at the laboratory. The Maine DEP will accept results that use either of these preservation methods.

Laboratory QA/QC: Laboratories must follow the appropriate QA/QC procedures that are described in each of the approved methods.

Sampling QA/QC: If a composite sample is being collected using an automated sampler, then once per month run a blank on the composite sampler. Automatically, draw distilled water into the sample jug using the sample collection line. Let this water set in the jug for 24 hours and then analyze for total phosphorus. Preserve this sample as described above.

ATTACHMENT B



Penobscot Appliance Repair

Veazie Salmon Club

Jonathan Eddy Cemetery

Sticks, Picks,

Eddington

Sample Location

Eddington Salmon Club

North Brewer-Eddington United Methodist Church

Image © 2024 Airbus

Google Earth

ATTACHMENT C

MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION
CSO ACTIVITY AND VOLUMES

MUNICIPALITY OR DISTRICT												MEPDES / NPDES PERMIT NO.					
REPORTING YEAR						SIGNED BY:										DATE:	
YEARLY TOTAL PRECIPITATION		INCHES															
CSO EVENT NO.	START DATE OF STORM	PRECIP. DATA		FLOW DATA (GALLONS PER DAY) OR BLOCK ACTIVITY("1")												EVENT OVERFLOW GALLONS	EVENT DURATION HRS
		TOTAL INCHES	MAX. HR INCHES	LOCATION: NUMBER:	LOCATION: NUMBER:	LOCATION: NUMBER:	LOCATION: NUMBER:	LOCATION: NUMBER:	LOCATION: NUMBER:	LOCATION: NUMBER:	LOCATION: NUMBER:	LOCATION: NUMBER:	LOCATION: NUMBER:	LOCATION: NUMBER:			
1																	
2																	
3																	
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20																	
21																	
22																	
23																	
24																	
25																	
	TOTALS																

Note 1: Flow data should be listed as gallons per day. Storms lasting more than one day should show total flow for each day.
Note 2: Block activity should be shown as a "1" if the block floated away.

Doc Num: DEPLW0462 Csoflows.xls (rev. 12/12/01)

**MAINE POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT
AND
WASTE DISCHARGE LICENSE**

FACT SHEET

DATE: **November 26, 2024**

MEPDES PERMIT: **ME0100072**
WASTE DISCHARGE LICENSE: **W002679-5M-K-R**

NAME AND ADDRESS OF APPLICANT:

**CITY OF BREWER
80 NORTH MAIN STREET
BREWER, ME 04412**

COUNTY: **PENOBSCOT**

NAME AND ADDRESS WHERE DISCHARGE OCCURS:

**BREWER WATER POLLUTION
CONTROL FACILITY
37 OAK STREET
BREWER, MAINE 04412**

RECEIVING WATER / CLASSIFICATION:
PENOBSCOT RIVER/CLASS B

COGNIZANT OFFICIAL CONTACT INFORMATION:
MR. DAVID LEONARD
(207) 989-5417
dleonard@brewermaine.gov

1. APPLICATION SUMMARY

- a. Application: On March 11, 2021, the Department of Environmental Protection (Department) accepted as complete for processing an application from the City of Brewer (Brewer, permittee) for renewal of combination Waste Discharge License (WDL) # W007462-5M-I-R / Maine Pollutant Discharge Elimination System (MEPDES) permit # ME0100072, which was issued by the Department on May 10, 2016, for a five-year term. The May 2016 permit authorized the monthly average discharge of 5.19 million gallons per day (MGD) of secondary treated sanitary wastewater from the publicly owned treatment works (POTW) to the Penobscot River, Class B, in Brewer, Maine.

The May 2016 MEPDES permit also authorized the permittee to discharge an unspecified quantity of primary treated municipal wastewater from the POTW when the influent to the wastewater treatment facility exceeded a sustained daily flow rate of 3,604 gallons per minute (5.19 MGD) or a peak hourly flow rate of 6,438 gallons per minute (9.27 MGD) and authorized the discharge of an unspecified quantity of untreated combined sanitary and storm water from five (5) combined sewer overflow (CSO) outfalls to the Penobscot River, Class B in Brewer, Maine.

On November 1, 2017, the Department issued a permit modification for an extension of the Category I projects (North/South/East/West Roads and Church Street) completion date to December 1, 2018. The extension was requested due to unforeseen delays in securing easements from property owners and their mortgage companies along the project area.

- b. Source Description: The wastewater treatment facility receives sanitary wastewater flows from approximately 10,000 residential, commercial and industrial users in the City of Brewer. Brewer's sewer collection system is approximately 53 miles in length and is approximately 95% separated. The collection system has a total of 14 pump stations. Nine (9) of the pump stations have on-site generators for back-up power while the remaining pump stations have electrical receptacles whereby back-up power is provided by a portable generator. There are four remaining permitted CSOs associated with the collection system

and are listed in Special Condition K, *Combined Sewer Overflows (CSO)*, of this permitting action. A map showing the location of the facility, and the receiving water is included as Fact Sheet **Attachment A**.

The Department previously authorized the permittee to accept up to 3,000,000 gallons per year of landfill leachate from and receive and treat up to a daily maximum of 52,000 gallons per day of septage from local septage haulers. However, in the 2011 renewal all transported waste was incorporated into a single limit of 52,000 gallons per day. Other permitted contributors to Brewer's facility include GAC, Soil Prep, Juniper Ridge Landfill, HO Bouchard and Mountain View Correctional.

- c. Wastewater Treatment: The wastewater treatment facility is designed to provide a secondary level of treatment for a sustained flow of 5.19 MGD. Secondary treatment for the sanitary portion of wastewaters received at the facility is provided by two aerated grit chambers, three bar racks, two primary clarifiers, selector basins, an activated sludge

1. APPLICATION SUMMARY (cont'd)

system with two aeration basins, four secondary clarifiers (one of which is currently offline, and one is being used to receive transported waste from GAC Chemical, and landfill leachate) and disinfection by way of a chlorine contact chamber. Effluent is measured by a Parshall flume prior to being discharged to the Penobscot River via a ductile iron pipe measuring thirty (30) inches in diameter and is considered a bank outfall by the Department.

A 1998 upgrade of the treatment facility increased the preliminary, primary, and disinfection systems at the plant to receive up to a daily maximum flow of 13.0 MGD and a peak hourly flow of 14.5 MGD (12.0 MGD from the municipal collection system plus 2.5 MGD from the industrial stream). The upgrade included the addition of a primary clarifier which allowed one primary clarifier to be dedicated to the industrial waste stream, installation of a selector basin to control low F:M filaments and improve nutrient removal, installation of a grit chamber and grinders on the sanitary waste stream, reconfiguration of the primary distribution box and aeration distribution box, and the addition, expansion and reconfiguration of the chlorine contact chamber.

As part of its combined sewer overflow abatement program, the 1998 upgrade of the facility enables the permittee to treat a portion of the excess combined sewer flows at the wastewater treatment facility. To the extent possible, combined sewer flows receive secondary treatment along with normal dry weather flows. However, in order to prevent damage to the treatment system and/or upsetting the secondary biological process, the volume of water receiving secondary treatment is limited. The force main from the three main pump stations (Hardy St., South Main St., and Brewer Cove) to the treatment plant is capable of delivering 12 MGD to the treatment plant. The maximum combined sewer flow receiving secondary treatment is a peak hourly rate of 9.27 MGD. However, due to seasonal variations and the need to maintain stable treatment for dry weather flows, the amount of combined sewer flow receiving secondary treatment may vary at any given time. Flows received at the treatment facility exceeding a sustained flow rate of 3,604 gallons per minute (5.19 MGD) or peak hourly flow rate of 6,438 gallons per minute (9.27 MGD) receive primary treatment via grit removal, grinding, measurement and primary clarification. The primary treated portion of the total flow is then combined with secondary treated wastewater and the combined waste stream is disinfected prior to discharge to the Penobscot River. A process flow schematic for the facility is included as Fact Sheet **Attachment B**.

A septage receiving station was installed in 2012 at the Brewer Water Pollution Control Facility. Brewer included the following description with their 2016 renewal application:

“In 2012 the City installed a septage receiving station at the Water Pollution Control Facility. The septage receiving station includes a 24' X 26' wood framed building with two rooms, an equipment room and an electrical control room. In the equipment room there is a septage acceptance plant (Raptor), a manual cleaning bypass bar rack, a monorail system, electric heater and a HVAC system. In the control room there is a main distribution panel, power panel, Raptor control panel, pump control panel, electrical heater and HVAC. The Raptor is capable to treating 700 gpm of septage wastewater. Under the building there

1. APPLICATION SUMMARY (cont'd)

is a 8,000 gallon storage tank where the septage is stored until it gets pumped to the gravity thickener.”

In 2020, the permittee began several facility upgrades. The following description was included in the permittee’s 2021 renewal application:

“Work under this project [aeration basin and building improvement project] included replacing 4 mechanical aerators with three Roots Easy Air X2 Factory Blower Package Systems, and Sanitaire fine bubble aeration equipment. The building improvements included miscellaneous building modifications (replacing window walls with stick-built walls) and a significant amount of concrete repair which included removing the concrete plant entrance and replacing it with an aluminum stair system.”

“Work under this project [wastewater process pumps replacement project] included removing 5 RAS pumps, 3 WAS pumps, 1 scum pump and 3 facility station pumps and replacing them with 3 RAS pumps, 2 WAS pumps, 2 scum pumps and 2 facility pump station pumps. The company that provided the PACO pumps that were removed went out of business and we couldn’t get parts so we replaced them with Gorman Rupp pumps.”

2. PERMIT SUMMARY

- a. Terms and conditions: This permitting action is carrying forward all the terms and conditions of the previous permit except that this permitting action is:
 1. Increasing the *Escherichia coli* bacteria (*E. coli*) monitoring season from May 15th – September 30th to April 15th –October 31st pursuant to 38 M.R.S § 465(3)(B) and amending the daily maximum standard from 427 col/100 mL to 236 CFU or MPN/100 mL.
 2. Eliminating the provision that allows the percent removal for Biological Oxygen Demand (BOD₅) and Total Suspended Solids (TSS) to be waived when the monthly average influent concentration is less than 200 mg/L.
 3. Updating Special Condition A, Effluent Limitations and Monitoring Requirements, footnote 1, Sampling to include the use of sufficiently sensitive methods.
 4. Updating Special Condition A, Effluent Limitations and Monitoring Requirements, footnotes 7, 8, 9,10 and 11 to the Department’s most current language.
 5. Establishing Special Condition A, Effluent Limitations and Monitoring Requirements, footnote 17 to clarify the how to calculate *E. coli* concentrations in blended effluent.

2. PERMIT SUMMARY (cont'd)

6. Amending Special Condition J, *Disposal of Transported Wastes in Wastewater Treatment Facility*, to allow the facility to receive a daily maximum of 138,000 gallons per day of transported waste, 60,000 gallons per day of which is reserved for landfill leachate, and 78,000 gallons per day for all other transported wastes.
 7. Establishing Special Condition L, *Emergency Overflows* due to the presence of three previously unlisted emergency overflows entering the system.
 8. Revising the TSS daily maximum mass limitation from 5,606 lbs./day to 5,330 lbs./day for administrative Outfall #001C, based on the results of facility testing.
 9. Eliminating the former Special Condition N, *Ambient Water Quality Monitoring* and Special Condition O, *Repair and Replacement Reserve Account*.
- b. History: This section provides a summary of significant licensing/permitting actions and milestones that have been completed for the City of Brewer POTW.

February 28, 1989 - The Department issued WDL #W002679-46-A-R for a five-year term.

February 1992 - The City of Brewer and the Department entered into an Administrative Consent Agreement and Enforcement Order for violations of parameters in the February 28, 1989, WDL. In addition, the Consent Agreement ordered the permittee to continue to develop and implement a prioritized, long-term program for evaluation and abatement of CSO's resulting in the submission of a Master Plan to the Department.

June 1993 - The permittee submitted a CSO Master Plan entitled "Sewer System Master Plan for CSO Abatement" to the Department as required in the February 1992 Consent Agreement. The plan was subsequently approved by the Department on April 12, 1995.

March 28, 1994 - The permittee submitted a document entitled, "City of Brewer Waste Water Treatment Facility Septage Management Plan" to the Department and was subsequently approved by the Department.

February 21, 1997 - The permittee submitted the High Flow Management Plan for the wastewater treatment facility that was subsequently approved by the Department.

April 17, 1998 - The Department issued WDL #W002679-46-B-R for a five-year term.

September 30, 1998 - The USEPA issued a renewal of National Pollutant Discharge Elimination System (NPDES) #ME0100072 for a four- and one-half-year term.

May 23, 2000 - Pursuant to *Certain deposits and discharges prohibited*, 38 M.R.S. § 420, *Waste discharge licenses* § 413 and, Department rule, 06-096 C.M.R. ch. 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 #W002679-46-B-R by establishing interim monthly average and daily maximum effluent

2. PERMIT SUMMARY (cont'd)

concentration limits of 4.5 parts per trillion (ppt) and 6.8 ppt, respectively, and a minimum monitoring frequency requirement of 4 tests per year for mercury.

January 12, 2001 – The Department received authorization from the USEPA to administer the NPDES permit program in Maine. From that date forward, the permit program has been referred to as the MEPDES permit program and ME0100072 (same as the NPDES permit) will be the primary reference number for the facility.

April 25, 2003 – The Department issued combination MEPDES permit #ME0100072/WDL W002679-5M-C-R for a five-year term.

September 10, 2004 – The Department issued an administrative modification to reduce the monitoring frequency for BOD₅ and TSS from 1/Day to 5/Week as a result of the permanent shutdown of the Eastern Fine Paper mill, the largest industrial contributor of wastewater to Brewer's wastewater treatment facility.

April 10, 2006 – The Department issued a modification to incorporate WET and chemical specific testing requirements pursuant to *Surface Water Toxics Control Program* 06-096 C.M.R., ch. 530 (effective date March 21, 2012).

June 23, 2008 – The Department issued a minor revision to increase the quantity of septage received at the facility from 25,000 gallons per day (GPD) to 52,000 GPD.

May 19, 2011 – The Department issued MEPDES permit #ME0100072 / WDL #W002679-5M-D-R for a five-year term.

January 8, 2013 – The Department initiated a modification of the May 19, 2011 permit to reduce the monitoring frequency for mercury to once per year.

January 15, 2014 – The Department issued a permit modification to extend the due date for the updated CSO Master Plan from December 30, 2013, to December 31, 2014.

December 31, 2014 – The Department received the City of Brewer's Updated Sewer System Master Plan for CSO Abatement dated December 2014, review comments were provided on June 29, 2015 and the Master Plan with abatement schedule was approved on November 2, 2015.

February 5, 2016 – The permittee submitted a timely and complete General Application to the Department for renewal of the May 19, 2011 permit (including subsequent minor permit revisions and permit modifications). The application was accepted for processing on February 8, 2016 and was assigned WDL #W002679-5M-I-R / MEPDES #ME0100072.

May 10, 2016 – The Department issued MEPDES permit #ME0100072 / WDL #W002679-5M-K-R for a five-year term.

2. PERMIT SUMMARY (cont'd)

November 1, 2017 – The Department issued a permit modification to extend the completion date of the sewer separation projects, referred to as Category I projects-North/South/East/West Roads and Church Street in the Master Plan, from December 31, 2016 to December 1, 2018.

March 9, 2021 – The permittee submitted a timely and complete General Application to the Department for renewal of the May 10, 2016 permit (including permit modifications). The application was accepted for processing on March 11, 2021 and was assigned WDL #W002679-5M-K-R / MEPDES #ME0100072.

3. CONDITIONS OF PERMIT

Conditions of licenses, 38 M.R.S. § 414-A, requires that the effluent limitations prescribed for discharges, including, but not limited to, effluent toxicity, require the 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, *Certain deposits and discharges prohibited*, 38 M.R.S. § 420 and Department rule *Surface Water Toxics Control Program*, 06-096 C.M.R. ch. 530 (effective March 21, 2012), require the regulation of toxic substances not to exceed levels set forth in *Surface Water Quality Criteria for Toxic Pollutants*, 06-096 C.M.R. ch. 584 (amended February 16, 2020), 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

Classification of major river basins, 38 M.R.S. § 467(7)(A)(7) classifies the Penobscot River at the point of discharge (from the Maine Central Railroad bridge in Bangor to a line extended in an east-west direction from a point 1.25 miles upstream of the confluence of Reeds Brook in Hampden) as Class B water. Furthermore, the statute states "...the Legislature finds that the free-flowing habitat of this river segment provides irreplaceable social and economic benefits and that this use must be maintained." *Standards for classification of fresh surface waters*, 38 M.R.S. § 465(3) describes the standards for Class B waters as follows:

- A. *Class B waters must be of such quality that they are suitable for the designated uses of drinking water supply after treatment; fishing; agriculture; recreation in and on the water; industrial process and cooling water supply; hydroelectric power generation, except as prohibited under Title 12, section 403; navigation; and as habitat for fish and other aquatic life. The habitat must be characterized as unimpaired.*
- B. *Class B waters must be of sufficient quality to support all aquatic species indigenous to those waters without detrimental changes in the resident biological community. The dissolved oxygen content of Class B waters may not be less than 7 parts per million or 75% of saturation, whichever is higher, except that for the period from October 1st to May 14th, in order to ensure spawning and egg incubation of indigenous fish species, the 7-day mean dissolved oxygen concentration may not be less than 9.5 parts per million and the one-day*

4. RECEIVING WATER QUALITY STANDARDS (cont'd)

minimum dissolved oxygen concentration may not be less than 8.0 parts per million in identified fish spawning areas. Between April 15th and October 31st, the number of Escherichia coli bacteria in these waters may not exceed a geometric mean of 64 CFU per 100 milliliters over a 90-day interval or 236 CFU per 100 milliliters in more than 10% of the samples in any 90-day interval.

C. Discharges to Class B waters may not cause adverse impact to aquatic life in that the receiving waters must be of sufficient quality to support all aquatic species indigenous to the receiving water without detrimental changes in the resident biological community.

(1-A) For the purpose of allowing the discharge of aquatic pesticides or chemicals approved by the department and conducted by the department, the Department of Inland Fisheries and Wildlife or an agent of either agency to restore resident biological communities affected by an invasive species, the department may find that the discharged effluent will not cause adverse impact to aquatic life as long as the materials and methods used do not cause a significant loss of any nontarget species and allow restoration of nontarget species. The department may find that an unavoidable, temporary loss of nontarget species does not constitute a significant loss of nontarget species.

(2) For the purpose of allowing the discharge of aquatic pesticides approved by the department for the control of mosquito-borne diseases in the interest of public health and safety, the department may find that the discharged effluent will not cause adverse impact to aquatic life as long as the materials and methods used provide protection for nontarget species. When the department issues a license for the discharge of aquatic pesticides authorized under this subparagraph, the department shall notify the municipality in which the application is licensed to occur and post the notice on the department's publicly accessible website.

5. REASONABLE POTENTIAL

Pursuant to 33 U.S.C. § 1311(b)(1)(C) and 40 C.F.R. § 122.44(d)(1), NPDES permits must contain any requirements in addition to technology based effluent limitations (TBELs) that are necessary to achieve water quality standards established under 33 U.S.C. § 1311(b)(1)(C). In addition, limitations “must control any pollutant or pollutant parameter (conventional, non-conventional, or toxic) which the permitting authority determines are or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any water quality standard (WQS), including State narrative criteria for water quality.” 40 C.F.R. § 122.44(d)(1)(i). To determine if the discharge causes, or has the reasonable potential to cause, or contribute to an excursion above any WQS, EPA considers: 1) existing controls on point and non-point sources of pollution; 2) the variability of the pollutant or pollutant parameter in the effluent; 3) the sensitivity of the species to toxicity testing (when evaluating whole effluent toxicity); and 4) where appropriate, the dilution of the effluent by the receiving water. See 40 C.F.R. § 122.44(d)(1)(ii).

5. REASONABLE POTENTIAL (cont'd)

If the permitting authority determines that the discharge of a pollutant will cause, has the reasonable potential to cause, or contribute to an excursion above WQSs, the permit must contain water quality-based effluent limitations (WQBELs) for that pollutant. *See* 40 C.F.R. § 122.44(d)(1)(i).

6. RECEIVING WATER QUALITY CONDITIONS

The *State of Maine Department of Environmental Protection 2018/2020/2022 Integrated Water Quality Monitoring and Assessment Report*, prepared by the Department pursuant to Sections 303(d) and 305(b) of the Federal Water Pollution Control Act, lists a 10.1-mile segment of the main stem of the Penobscot River from the Veazie Dam to Reeds Brook as Integrated Assessment Unit ID #ME0102000513_234R02. This assessment unit is listed in the following categories of the 305(b) report:

“Category 4-B: Rivers and Streams Impaired by Pollutants – Pollution Control Requirements Reasonably Expected to Result in Attainment” for dissolved oxygen and nutrient/eutrophication biological indicators. The instantaneous data collected during 2013 – 2019 indicates attainment of DO criteria. Continuous data is still needed to confirm attainment. The 2011 WDL/MEPDES Permits (Millinocket to Veazie) providing nutrient limits were expected to correct aquatic life use impairments.

Category 4-B for Dioxin (including 2,3,7,8-TCDD). The report states “Fish tissue levels of dioxin measured in 2013 were slightly reduced from previous measures in 2002, and below the Maine Center for Disease Control and Prevention’s (MECDC) Fish Tissue Action Level (FTAL). This segment is expected to attain standards for Dioxin (including 2,3,7,8-TCDD) in 2030.

“Category 5-D: Rivers and Streams Impaired by Legacy Pollutants” for polychlorinated biphenyls (PCBs). The report notes that “this legacy pollutant cannot be addressed with a TMDL or permit. Pollutant effects will continue to diminish naturally over time.”

The Report lists all of Maine’s fresh waters as, “Category 4-A: Waters Impaired by Atmospheric Deposition of Mercury.” Impairment in this context refers to a statewide fish consumption advisory due to elevated levels of mercury in some fish tissues. The Report states, “All freshwaters are listed in Category 4-A (Total Maximum Daily Load (TMDL) Completed) due to USEPA approval of a Regional Mercury TMDL.” Maine has a fish consumption advisory for fish taken from all freshwaters due to mercury. Many fish from any given waters do not exceed the action level for mercury. However, because it is impossible for someone consuming a fish to know whether the mercury level exceeds the action level, the Maine Department of Human Services decided to establish a statewide advisory for all freshwater fish that recommends limits on consumption. Maine has already instituted statewide programs for removal and reduction of mercury sources.”

Pursuant to 38 M.R.S. § 420(1-B)(B), “a facility is not in violation of the ambient criteria for mercury if the facility is in compliance with an interim discharge limit established by the Department pursuant to section 413 subsection 11.” The Department has established interim

6. RECEIVING WATER QUALITY CONDITIONS (cont'd)

monthly average and daily maximum mercury concentration limits and reporting requirements for this facility pursuant to 06-096 C.M.R. ch. 519.

Brewer has developed and implemented a CSO Master Plan for the elimination of all CSO points associated with the Brewer POTW. The Department acknowledges that elimination of all CSO points is a costly and long-term project. As Brewer's treatment plant and sewer collection system are upgraded and maintained in accordance to the CSO Master Plan and Nine Minimum Controls, there should be reductions in the frequency and volume of CSO and primary treatment activities and, over time, improvement in the quality of the wastewater discharged to the receiving waters. Compliance with the limitations established in the permit ensure that the discharge of treated wastewater will not cause or contribute to exceedance of water quality standards.

The Department has no information that the discharge from the permittee, as conditioned, causes or contributes to non-attainment of applicable Class B water quality standards.

7. EFFLUENT LIMITATIONS & MONITORING REQUIREMENTS

OUTFALL #001A – SECONDARY TREATED EFFLUENT

- a. Flow: The previously established monthly average discharge flow limitation of 5.19 MGD, which is based on the dry weather design criterion for the facility, is being carried forward in this permitting action.

The Department reviewed discharge monitoring reports (DMRs) that were submitted for the period of April 2019 through April 2024. A review of data indicates the following:

Flow (DMRs = 58)

Value	Limit (MGD)	Range (MGD)	Mean (MGD)
Monthly Average	5.19	1.17 – 3.23	2.1
Daily Maximum	Report	1.2 – 8.7	4.7

- b. Dilution Factors: The Department established applicable dilution factors for the discharge in accordance with freshwater protocols established in *Surface Water Toxics Control Program*, 06-096 C.M.R. ch. 530 (last amended March 21, 2012). This permitting action is updating the dilution calculations using the Department's Division of Environmental Assessment's most recent data. With a monthly average flow limit of 5.19 MGD, dilution factors for the facility are as follows:

Conversion Factor: 1 cfs = 0.6464 MGD

Modified Acute: $= 671 \text{ cfs} = \frac{(671 \text{ cfs})(0.6464) + (5.19 \text{ MGD})}{(5.19 \text{ MGD})} = 85:1$

Acute: 1Q10 $= 2,682 \text{ cfs} = \frac{(2,682 \text{ cfs})(0.6464) + (5.19 \text{ MGD})}{(5.19 \text{ MGD})} = 335:1$

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

$$\text{Chronic: } 7Q_{10} = 2,966 \text{ cfs} = \frac{(2,966 \text{ cfs})(0.6464) + (5.19 \text{ MGD})}{(5.19 \text{ MGD})} = 370:1$$

$$\text{Harmonic Mean: } = 8,098 \text{ cfs} = \frac{(8,098 \text{ cfs})(0.6464) + (5.19 \text{ MGD})}{(5.19 \text{ MGD})} = 1,010:1$$

06-096 C.M.R. ch. 530 § 4(B)(1) states that analyses using numeric acute criteria for aquatic life must be based on $\frac{1}{4}$ of the 1Q10 stream design flow to prevent substantial acute toxicity within any mixing zone. The regulation goes on to say that where it can be demonstrated that a discharge achieves rapid and complete mixing with the receiving water by way of an efficient diffuser or other effective method, analyses may use a greater proportion of the stream design, up to including all of it.

The Department has made the determination the discharge does not receive rapid and complete mixing with the receiving water, therefore the default stream flow of $\frac{1}{4}$ of the 1Q10 is applicable in acute statistical evaluations.

- c. BOD₅ and TSS: Previous permitting action established, and this permitting action is carrying forward, monthly average and weekly average BOD₅ and TSS *concentration limits* of 30 mg/L and 45 mg/L, respectively, which were based on secondary treatment requirements pursuant to 40 C.F.R. 133.102 and 06-096 C.M.R. ch. 525 § 3(III). Previous permitting action also established, and this permitting action is carrying forward, daily maximum BOD₅ and TSS *concentration limits* of 50 mg/L based on a Department best professional judgement (BPJ) of BPT for secondary treated wastewater. All three *concentration limitations* are being carried forward in this permitting action.

Previous permitting action established monthly average and weekly average *mass limits* based on a monthly average limit of 5.19 MGD, which are being carried forward in this permitting action. No daily maximum *mass limitations* (report only) for BOD₅ or TSS were established in previous permitting action as doing so may discourage Brewer from treating as much wastewater as possible through the secondary treatment system during wet weather events.

Mass limitations were derived as follows:

$$\begin{aligned}\text{Monthly Average} &= (30 \text{ mg/L})(8.34 \text{ lbs./gallon})(5.19 \text{ MGD}) = 1,298 \text{ lbs./day} \\ \text{Weekly Average} &= (45 \text{ mg/L})(8.34 \text{ lbs./gallon})(5.19 \text{ MGD}) = 1,947 \text{ lbs./day}\end{aligned}$$

The Department reviewed data from DMRs that were submitted for the period of April 2019 through April 2024. A review of data indicates the following:

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

BOD₅ Mass (DMRs = 58)

Value	Limit (lbs./day)	Range (lbs./day)	Average (lbs./day)
Monthly Average	1,298	22 - 328	101
Weekly Average	1,947	47 - 126	66
Daily Maximum	Report	48 - 766	235

BOD₅ Concentration (DMRs = 58)

Value	Limit (mg/L)	Range (mg/L)	Average (mg/L)
Monthly Average	30	2 - 14	5.5
Weekly Average	45	2.5 - 14	6.1
Daily Maximum	50	3.6 - 23	9

The Department reviewed data from DMRs that were submitted for the period of April 2019 through April 2024. A review of data indicates the following:

TSS Mass (DMR = 58)

Value	Limit (lbs./day)	Range (lbs./day)	Average (lbs./day)
Monthly Average	1,298	0 - 287	65
Weekly Average	1,947	11 - 96	47
Daily Maximum	Report	0 - 641	172

TSS Concentration (DMR = 58)

Value	Limit (mg/L)	Range (mg/L)	Average (mg/L)
Monthly Average	30	0 - 11	3.7
Weekly Average	45	1.6 - 4.4	2.6
Daily Maximum	50	2.5 - 16.8	6.5

In consideration of *Interim Guidance for Performance Based Reductions of NPDES Permit Monitoring Frequencies* (USEPA Guidance April 1996) and, *Performance Based Reduction of Monitoring Frequencies - Modification of EPA Guidance Released April 1996* (Maine DEP May 22, 2014), the May 2016 permitting action established a reduced monitoring frequency for BOD₅ and TSS of three times per week (3/Week). This permit is carrying that action forward.

The previous permit established, and this permitting action is carrying forward the requirement for a minimum of 85% removal of BOD₅ & TSS pursuant to 06-096 C.M.R. ch. 525 § 3(III)(a)(3) and (b)(3).

The Department reviewed data from DMRs that were submitted for the period of April 2019 through April 2024. A review of data indicates the following:

BOD % Removal (DMRs = 58)

Value	Limit (%)	Range (%)	Average (%)
Monthly Average	85	88 - 99	96.98

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

TSS % Removal (DMRs = 58)

Value	Limit (%)	Range (%)	Average (%)
Monthly Average	85	95 – 100	98.25

- d. **Settleable Solids:** Previous permitting action established a daily maximum concentration limit of 0.3 milliliters per liter (mL/L) for settleable solids and is considered by the Department as a best professional judgement of BPT for secondary treated wastewater.

The Department reviewed data from DMRs that were submitted for the period of April 2019 through April 2024. A review of data indicates the following:

Settleable Solids concentration (DMRs = 58)

Value	Limit (mL/L)	Range (mL/L)	Average (mL/L)
Daily Maximum	0.3	<0.10 – 15	0.36

It is noted that the daily maximum was exceeded in September 2021.

The previous permit reduced the monitoring frequency for settleable solids from 1/Day to 4/Week. This permit is carrying that action forward.

- e. **Escherichia coli bacteria (*E. coli*):** Previous permitting action established seasonal monthly average and daily maximum concentration limits for *E. coli* of 64 colonies/100 mL (geometric mean) and 427 colonies/100 mL (instantaneous level), respectively, based on the State of Maine Water Classification Program criteria for Class B waters found at 38 M.R.S. §465(3)(B), during the time of permitting.

In calendar year 2005, Maine's Legislature approved a daily maximum water quality standard of 236 colonies/100 mL for water bodies designated as Class B and Class C. The Department determined that end-of-pipe limitations for the daily maximum (instantaneous) standard of 236 colonies/100 mL would be achieved through available dilution of the effluent with the receiving waters and current daily maximum limitations, 427 colonies/100 mL, need not be revised in MEPDES permits for facilities with adequate dilution (at least 1.1:1 for facilities in Class B waters). This permit is removing the exception for dilution and establishing a daily maximum standard of 236 CFU or MPN/100 mL based on guidance found in section 6 of the USEPA's NPDES Permit Writers' Manual.

For blended effluent (Administrative Outfall #001C), the May 2016 permitting action established a daily maximum *E. coli* limit of 427 colonies/100 mL (instantaneous), effective between May 15th and September 30th. This permitting action amends the daily maximum *E. coli* limit to 236 CFU or MPN/100 mL (instantaneous), effective between April 15th and October 31st to comply with USEPA's CSO Control Policy and Clean Water Act section 402(q)(1).

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

Current EPA guidance recommends that Maine extends the monitoring season within which bacteria criteria apply to reflect a longer time-period for potential human recreational contact. Pursuant to 38 M.R.S. § 465(3)(B), this permitting action is expanding the *E. coli* monitoring season from May 15th – September 30th to April 15th – October 31st for all of the facilities outfalls, Outfall #001A, Outfall #001B and Outfall #001C. The Department reserves the right to impose year-round bacteria limits, if necessary, to protect the health, safety and welfare of the public.

The Department reviewed data from DMRs that were submitted for the period of April 2019 through April 2024. A review of data indicates the following:

E. coli Bacteria (DMRs=24)

Value	Limit (col/100 mL)	Range (col/100 mL)	Mean (col/100 mL)
Monthly Average	64	1.8 - 23.7	7.3
Daily Maximum	427	4.0 - 368	76.5

- f. **Total Residual Chlorine (TRC):** Previous permitting action established, and this permitting action is carrying forward a daily maximum BPT-based concentration limit of 1.0 mg/L. The Department specifies TRC limitations in order to ensure that ambient water quality standards are maintained and that BPT technology is being applied to the discharge. The Department imposes the more stringent of either water quality-based or BPT-based limits.
1. *Water Quality-Based Limit:* With dilution factors as determined above, end-of-pipe (EOP) water quality-based concentration thresholds must be calculated as follows:

Acute Threshold = Acute Criterion x Acute Dilution Factor

Acute Threshold = 0.019 mg/L x 85 = 1.6 mg/L

Chronic Threshold = Chronic Criterion x Chronic Dilution Factor

Chronic Threshold = 0.011 mg/L x 370 = 4.07 mg/L

Criterion	Dilution Factors	Calculated Threshold
Mod. Acute 0.019 mg/L	85:1	1.6 mg/L
Chronic 0.011 mg/L	370:1	4.07 mg/L

2. *BPT-Based Limit*

- a. 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.

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

- b. For facilities that must 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.

This permitting action is carrying forward the daily maximum BPT-based concentration limit of 1.0 mg/L as it is more stringent than the water quality-based threshold of 1.6 mg/L (modified acute) as calculated above.

This permitting action is also carrying forward the minimum monitoring frequency requirement of once per day (1/Day), year-round. Although bacteria limitations are seasonal and apply between April 15th and October 31st of each year, the facility must monitor and report TRC during any period that chlorine-based compounds are in use at the facility because chlorine compounds are toxic at all times of the year.

For blended effluent (Administrative Outfall #001C), the May 2016 permitting action established a TRC daily maximum limit of 1.0 mg/L to comply with USEPA's CSO Control Policy and Clean Water Act section 402(q)(1). This permit is carrying that action forward.

The Department reviewed data from DMRs that were submitted for the period of April 2019 through April 2024. A review of data indicates the following:

Total Residual Chlorine (DMRs = 29)

Value	Limit (mg/L)	Range (mg/L)	Mean (mg/L)
Daily Maximum	1.0	0.41 – 0.96	0.6

- g. pH: Previous permitting action established a technology-based pH range limitation of 6.0 – 9.0 standard units pursuant to 06-096 C.M.R. ch. 525 § 3(III)(c) along with a monitoring frequency of 1/Day, both of which are being carried forward in this permitting action.

The Department reviewed data from DMRs that were submitted for the period of April 2019 through April 2024. A review of data indicates the following:

pH (DMRs = 58)

Value	Limit (SU)	Minimum (SU)	Maximum (SU)
Range	6.0 – 9.0	6.83	8.00

Whole Effluent Toxicity, Priority Pollutant, and Analytical Chemistry Testing

38 M.R.S. § 414-A and 38 M.R.S. § 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. 06-096 C.M.R. ch. 530 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

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

are met. 06-096 C.M.R. ch. 584 sets forth ambient water quality criteria (AWQC) for toxic pollutants and procedures necessary to control levels of toxic pollutants in surface waters.

WET, priority pollutant and analytical chemistry testing, as required by 06-096 C.M.R. ch. 530, is included in this permit in order to characterize the effluent. 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 the water flea (*Ceriodaphnia dubia*) and the brook trout (*Salvelinus fontinalis*). Chemical-specific monitoring is required to assess the levels of individual toxic pollutants in the discharge, comparing each pollutant to acute, chronic, and human health water quality criteria. Analytical Chemistry and Priority Pollutant refers to those pollutants listed in their respective categories on the “WET and Chemical Specific Data Report Form” found at: https://www.maine.gov/dep/water/wd/municipal_industrial/index.html

06-096 C.M.R. ch. 530 § 2(A) specifies the dischargers subject to the rule as:

All licensed dischargers of industrial process wastewater or domestic wastes discharging to surface waters of the State must meet the testing requirements of this section. Dischargers of other types of wastewater are subject to this subsection when and if the Department determines that toxicity of effluents may have reasonable potential to cause or contribute to exceedences of narrative or numerical water quality criteria.

Brewer discharges domestic (sanitary) and industrial process wastewater to surface waters and is therefore subject to the testing requirements of the toxics rule. 06-096 C.M.R. ch. 530 § 2(B) categorizes dischargers subject to the toxics rule into one of four levels (Levels I through IV).

The four categories for dischargers are as follows:

Level I	Chronic dilution factor of <20:1
Level II	Chronic dilution factor of $\geq 20:1$ but <100:1.
Level III	Chronic dilution factor $\geq 100:1$ but <500:1 or >500:1 and $Q \geq 1.0$ MGD
Level IV	Chronic dilution factor >500:1 and $Q \leq 1.0$ MGD

Based on the criteria, the permittee’s facility is considered a Level III discharger as the chronic dilution of the receiving water is 370:1 and the permitted flow is greater than or equal to 1.0 MGD. 06-096 C.M.R. ch. 530 § 2(D) specifies default WET, priority pollutant, and analytical chemistry test schedules for Level III dischargers as follows.

7. EFFLUENT LIMITATIONS & MONITORING REQUIREMENTS (cont'd)**Surveillance Level Testing**

Level	WET Testing	Priority Pollutant Testing	Analytical Chemistry
III	1 per year	None required	1 per year

Screening Level Testing

Level	WET Testing	Priority Pollutant Testing	Analytical Chemistry
III	1 per year	1 per year	4 per year

This permit 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.

- h. Whole Effluent Toxicity: 06-096 C.M.R. ch. 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 exceedance of water quality criteria, appropriate water quality-based limits must be established in any licensing action.

On November 17, 2023, the Department conducted a statistical evaluation on the most recent 60 months of WET test results on file with the Department for the permittee in accordance with the statistical approach outlined above. The November 17, 2023, statistical evaluation indicates the discharge from Brewer has not exceeded or demonstrated a reasonable potential to exceed the critical acute or chronic ambient water quality thresholds for the water flea (*Ceriodaphnia dubia*) or brook trout (*Salvelinus fontinalis*). See Fact Sheet **Attachment D** for WET results.

06-096 C.M.R. ch. 530 § 2(D)(3)(b) states:

"Dischargers in Levels III and IV 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 exceedances...." Based on the provisions of 06-096 C.M.R. ch. 530 and Department best professional judgment, this permitting action is waiving surveillance level WET testing requirements for this facility. Special Condition M. 06-096 C.M.R. ch. 530 § 2(D)(4) Statement For Reduced/Waived Toxics Testing of this Permit explains the statement required by the discharger to waive WET testing.

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

- i. Analytical Chemistry & Priority Pollutant Testing Evaluation: On November 17, 2023, the Department conducted a statistical evaluation, Report 1369, of the most recent 60 months of chemical-specific test results on file with the Department. The evaluation indicates the discharge did not exceed or have the reasonable potential to exceed any of the acute or chronic ambient water quality criteria. Therefore, no further limits for analytical chemistry and priority pollutants will be established by this permit. See Fact Sheet **Attachment E** for chemical specific test results. The reports used to evaluate the permittee's reasonable potential to exceed the water quality criteria are maintained by the Department in the applicable permit file.

This permitting action maintains the previously established reduced surveillance level analytical chemistry testing. The established screening level analytical chemistry testing at a frequency of four times per year (4/Screening Year) and screening level testing for priority pollutants of once per screening year (1/Screening Year) is also being carried forward.

- j. Mercury: On May 23, 2000, pursuant to 38 M.R.S. § 420, 38 M.R.S. § 413 and 06-096 C.M.R. ch. 519, the Department issued a *Notice of Interim Limits for the Discharge of Mercury* to the permittee thereby administratively modifying WDL # W007462-5L-B-R by establishing interim monthly average and daily maximum effluent concentration limits of 4.5 ppt and 6.8 ppt, respectively, and a minimum monitoring frequency requirement of 4 tests per year for mercury.

38 M.R.S. § 420(1-B)(B)(1) provides that a facility is not in violation of the AWQC for mercury if the facility is in compliance with an interim discharge limit established by the Department. On February 6, 2012, the Department issued a minor revision to the April 25, 2011 permit thereby revising the minimum monitoring frequency requirement from four times per year to once per year (1/year) pursuant to 38 M.R.S. § 420(1-B)(F). This minimum monitoring frequency is being carried forward in this permitting action.

The Department reviewed data from DMRs that were submitted for the period of April 2019 through April 2024. A review of data indicates the following:

Mercury

Value	Limit (ng/L)	Range (ng/L)	Mean (ng/L)
Monthly Average	4.5	0 – 1.44	0.73
Daily Maximum	6.8		
Cumulative Arithmetic Mean of all* Mercury Test Results on File			1.52

*Includes all mercury test results utilizing sampling Method 1669 and analysis Method 1631E

- k. Total Phosphorus: The May 10, 2016, permit contained a reasonable potential analysis using data collected between June 2011 and September 2015. A statistical analysis of the data showed that the permittee's discharge did not have a reasonable potential to exceed the EPA's Gold Book water quality criteria for total phosphorus. No end of pipe limitations monitoring requirements were established in the May 10, 2016, permit.

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

Maine has developed a proposed freshwater nutrient criteria of 0.030 mg/L of total phosphorus for Class B waters. The reasonable potential conducted in the 2016 permit did show that the combined discharge between Brewer and Bangor would have a reasonable potential to exceed the proposed criteria. This permit is establishing seasonal (June 1st – September 30th) effluent and ambient monitoring requirements. Effluent and ambient data collected by the permittee as well as the City of Bangor will allow the Department to assess the combined discharge's reasonable potential to exceed the ambient water quality criteria for phosphorus. This permit is establishing upstream ambient monitoring to be conducted seasonally (June 1st – September 30th) on the first week of each month at the "Eddington Eddie" (44.824402, -68.694753), and effluent monitoring to be conducted seasonally (June 1st – September 30th).

1. Transported Wastes: The previous permitting action authorized the permittee to receive and introduce up to 52,000 gpd of transported wastes into the wastewater treatment process or solids handling stream. *Standards For The Addition of Transported Wastes to Wastewater Treatment Facilities*, C.M.R. ch. 555 (last amended March 9, 2009), limits the quantity of transported wastes received at a facility to 1% of the design capacity of the treatment facility if the facility utilizes a side stream or storage method of introduction into the influent flow, or 0.5% of the design capacity of the facility if the facility does not utilize the side stream or storage method of introduction into the influent flow. In their application for permit renewal, Brewer requested the Department amend the daily quantity of transported waste that it is authorized to receive and treat to a total of 138,000 gallons per day. Of that, 60,000 gallons per day is reserved for landfill leachate and the remaining 78,000 gallons per day for all other transported wastes. With a design capacity of 5.19 MGD, 138,000 gpd represents 2.7% of said capacity. If the requested volume of transported wastes exceeds 1% of the plants design capacity 06-096 C.M.R. Ch. 555 § 7(B)(3) requires the permittee to demonstrate their capability to accept the increased volume through the application process.

The permittee has demonstrated that they have ample side stream storage for the increased volume of landfill leachate in the form of an unused secondary clarifier with the capacity of 213,716 gals. The Department has determined that under normal operating conditions, the receipt and treatment of 138,000 gpd of transported wastes to the facility will not cause or contribute to upset conditions of the treatment process.

OUTFALL #001B – PRIMARY TREATED EFFLUENT

1. CSO-Related Bypass of Secondary Treatment: For those flows received at the treatment facility which are greater than that which can be treated to a secondary level of treatment, the Department has made a BPJ that primary treatment and disinfection constitutes appropriate BPT.

The reporting requirements for the parameters in Special Condition A(2) of this permit (Flow, Overflow Occurrences, *E. coli*, TRC), are being carried forward in this permitting action. These are parameters the Department has deemed necessary to evaluate the performance of the primary treatment process. The May 2016 permitting action eliminated the numeric limitations for *E.coli* and TRC based on the Department's revised judgement on

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

regulating internal waste streams. Surface Loading Rate, BOD₅ and TSS percent removal were eliminated by the May 2016 permitting action based on best professional judgment that these technology-based metrics have not been particularly useful in assessing primary treatment system performance and are not necessary to ensure water quality standards are met.

A review of the DMR data for the period April 2019 – April 2024 indicates there were no overflow occurrences for Outfall #001B.

Overflow Occurrences

Year	Limit (# of days)	Total (# of days)
2019	Report	0
2020	Report	0
2021	Report	0
2022	Report	0
2023	Report	0
2024	Report	2

Flow - Total Gallons/Month

Year	Limit (MGD)	Range (MGD)	Total (MGD)
2019	Report	0	0
2020	Report	0	0
2021	Report	0	0
2022	Report	0	0
2023	Report	0	0
2024	Report	0-8.9	8.9

Flow – Daily Maximum Gallons

Year	Limit (MGD)	Range (MGD)	Total (MGD)
2019	Report	0	0
2020	Report	0	0
2021	Report	0	0
2022	Report	0	0
2023	Report	0	0
2024	Report	2.4-6.5	8.9

The permittee maintains a combined sewer system from which wet weather overflows occur. Section 402(q)(1) of the Clean Water Act requires that “each permit, order or decree issued pursuant to this chapter after December 21, 2000 for a discharge from a municipal combined storm and sanitary sewer must conform to the Combined Sewer Overflow Control Policy signed by the Administrator on April 11, 1994” 33 U.S.C. § 1342(q)(1). The Combined Sewer Overflow Control Policy (CSO Policy, 59 Fed. Reg. 18688-98), states that under USEPA’s regulations the intentional diversion of waste streams from any portion of a treatment facility, including secondary treatment, is a bypass and that 40 C.F.R. 122.41(m), allows for a facility to bypass some or all the flow from its treatment process under specified limited circumstances. Under the regulation, the permittee must show that the bypass was

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

unavoidable to prevent loss of life, personal injury or severe property damage, that there was no feasible alternative to the bypass and that the permittee submitted the required notices.

The CSO Policy also provides that, for some CSO-related permits, the study of feasible alternatives in the control plan may provide sufficient support for the permit record and for approval of a CSO-related bypass to be included in an NPDES permit.¹ Such approvals will be re-evaluated upon the reissuance of the permit, or when new information becomes available that would represent cause for modifying the permit.

The CSO Policy indicates that the feasible alternative threshold may be met if, among other things, "... the record shows the secondary treatment system is properly operated and maintained, that the system has been designed to meet secondary limits for flows greater than peak dry weather flow, plus an appropriate quantity of wet weather flow, and that it is either technically or financially infeasible to provide secondary treatment at the existing facilities for greater amounts of wet weather flow."²

USEPA's CSO Control Policy and CWA section 402(q)(1) provide that the CSO-related bypass provision in the permit should make it clear that all wet weather flows passing through the headworks of the POTW will receive at least primary clarification and solids and floatables removal and disposal, and disinfection, where necessary, and any other treatment that can reasonably be provided.³ Under section 402(q)(1) of the CWA and as stated in the CSO Policy, in any case, the discharge must not violate applicable water quality standards.⁴ The Department will evaluate and establish on a case-by-case basis effluent limitations for discharges that receive only a primary level of clarification prior to discharge and those bypasses that are blended with secondary treated effluent prior to discharge to ensure applicable water quality standards will be met.

This permitting action allows a CSO-related bypass of secondary treatment at the Brewer facility based on an evaluation of feasible alternatives, which indicates it is technically and financially infeasible at this time to provide secondary treatment at the existing facilities as summarized in the original CSO Master Plan.

During wet weather events when flows to the treatment facility have exceeded a sustained daily flow rate of 3,604 gallons per minute (5.19 MGD) or a peak hourly flow rate of 6,438 gallons per minute (9.27 MGD), secondary treatment of all wet weather flows is not practicable. Therefore, a portion of the primary effluent can be bypassed around the aeration basins and secondary clarifiers. The bypassed flow is recombined with the secondary clarifier effluent prior to chlorination and de-chlorination and then discharged to the river via Outfall #001C (administrative outfall). This permitting action is establishing end-of-pipe limitations to comply with USEPA's CSO Control Policy and Clean Water Act section 402(q)(1).

¹ 59 Fed. Reg. 18,688, at 18,693 and 40 CFR Part 122.41(m)(4) (April 19, 1994).

² 59 Fed. Reg. at 18,694.

³ 59 Fed. Reg. at 18,693.

⁴ 59 Fed. Reg. at 18694, col 1 (April 19, 1994).

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

The CSO Control Policy does not define specific design criteria or performance criteria for primary clarification. The Department and USEPA agree that existing primary treatment infrastructure was constructed to provide primary clarification, and that for facilities that blend primary and secondary effluent prior to discharge, such as the permittee's facility, compliance must be evaluated at the point of discharge, unless impractical or infeasible.⁵ Monitoring to assess compliance with limits based on secondary treatment and other applicable limits is to be conducted following recombination of flows at the point of discharge or, where not feasible, by mathematically combining analytical results for the two waste streams. Where a CSO-related bypass is directly discharged after primary settling and chlorination, monitoring will be at end of pipe if possible.

Due to the variability of CSO-related bypass treatment systems and wet weather-related influent quality and quantity, a single technology-based standard cannot be developed for all of Maine's CSO-related bypass facilities.⁶ To standardize how the Department will regulate these facilities to ensure compliance with the CSO Control Policy and CWA⁷, the Department has determined that limitations for blended effluent (the discharge of CSO-related bypass effluent combined with effluent from the secondary treatment system) should be based on the more stringent of either the past demonstrated performance of the properly operated and maintained treatment system(s), site-specific water quality-based limits derived from calculations, or best professional judgment of Department water quality engineers of assimilative capacity of the receiving water.

The federal secondary treatment regulation does not contain daily maximum effluent limitations for BOD₅ and TSS. The Department established a daily maximum concentration limit of 50 mg/L for secondary treated wastewater as BPJ of BPT prior to NPDES delegation and promulgation of secondary treatment regulations into State rule that are consistent with the Clean Water Act. Following consultation with USEPA, the Department has chosen to waive the requirement to comply with numeric daily maximum concentration limitations for BOD₅ and TSS for days with CSO-related bypass events.

During CSO-related bypasses, secondary treated wastewater is combined with wastewater from the primary treatment system, which is designed to provide primary clarification and solids and floatables removal and disposal, and disinfection. The permittee is not able to consistently achieve compliance with technology based effluent limits (TBELs) derived from the secondary treatment regulation during CSO-related bypasses. As part of its consideration of possible adverse effects resulting from the bypass, the Department must ensure that the bypass will not cause exceedance of water quality standards. CSO Control Policy at 59 Fed. Reg. 18694.

OUTFALL #001C – BLENDED EFFLUENT DISCHARGED TO PENOBSCOT RIVER

Analysis of Water Quality Impacts During Discharge of Blended Effluent

⁵ 40 CFR 122.45(h).

⁶ Maine currently has 16 permitted facilities with a CSO-related bypass.

⁷ In other words, that any other treatment that can reasonably be provided is, in fact, provided.

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

Due to the close proximity of the City of Bangor POTW discharge to the Brewer discharge, and in consideration of the fact that the City of Bangor has a licensed flow rate that is three times that of Brewer's, the Department chose to evaluate water quality impacts based on the simultaneous influence of both discharges to the Penobscot River.

However, since the dischargers did not have comparatively elevated results on the same days, the Department identified the highest mass loading for both BOD and TSS for Bangor and Brewer, individually, and then combined those results in the following calculations. In this way, we can evaluate the "worst case" for each discharger for both BOD and TSS in the last ten years and calculate a simulated combined discharge to assess the water quality impact in the Penobscot River. This is different from the previous permit in that the data set has been extended to ten years. This allows for additional weather events to be taken into consideration.

In previous MEPDES permits, to calculate the change in water quality conditions due to a blended effluent addition, the lowest flow in the receiving waterbody that was recorded by the nearest USGS gauge for that month was applied. However, due to federal sequestration cuts, the USGS gauge in the vicinity of the Bangor/Brewer area is no longer monitoring flow rates. The closest gauge on the mainstem Penobscot with flow data is West Enfield, more than 30 miles north of the discharges. Therefore, the Department used data from the West Enfield gauge in the following calculations. The calculations for BOD and TSS are as follows:

BOD

Bangor

Highest Daily Maximum BOD₅ Mass Loading = 8,760 lbs./day, collected January 25, 2017

Parameters for January 25, 2017, are as follows:

Daily Maximum Concentration for Outfall 001A (Secondary)	= 49 mg/L
Daily Maximum Concentration for Outfall 001B (Primary)	= 37 mg/L
Daily Maximum Flow for Outfall 001A (Secondary)	= 20.05 MGD
Daily Maximum Flow for Outfall 001B (Primary)	= 1.834 MGD
Facility Flow (Blended)	= 21.88 MGD

Weighted Average Concentration of Primary and Secondary (Blended) = 48 mg/L

Brewer-Administrative Outfall 001C (Blended Effluent) was established by the 2016 permitting action. One overflow occurrence occurred between June 2016 – April 2024.

Highest Daily Maximum BOD₅ Mass Loading = 3,845 lbs./day, collected March 30, 2024

Parameters for March 30, 2024, are as follows:

Daily Maximum Concentration for Outfall 001A (Secondary)	= 6.77 mg/L
Daily Maximum Concentration for Outfall 001B (Primary)	= 70 mg/L
Daily Maximum Flow for Outfall 001A (Secondary)	= 6.055 MGD
Daily Maximum Flow for Outfall 001B (Primary)	= 6.5 MGD
Daily Maximum Facility Flow (Blended)	= 12.555 MGD

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

Weighted Average Concentration of Primary and Secondary (Blended) = 39.5 mg/L

Combined BOD (Bangor and Brewer)

Weighted Average BOD Concentration of the Combined Discharges = **44.9 mg/L**

During the months of January 2017 and March 2024, the lowest river flow was 6,720 cfs on January 3, 2017.

Dilution based on 6,720 cfs (or 4,344 MGD) to be applied to the discharge is:

$$\frac{4,344 \text{ MGD} + 34.43 \text{ MGD}}{34.43 \text{ MGD}} = 127:1$$

Therefore, the increase of instream BOD concentration given these conditions is:

$$\frac{44.9}{127} = \mathbf{0.35 \text{ mg/L}} \text{ (< 2 mg/L is not measurable)}$$

TSS

Bangor

Highest Daily Maximum TSS Mass Loading = 17,989.7 lbs./day, collected January 31, 2024

Parameters for January 31, 2024 are as follows:

Daily Maximum Concentration for Outfall 001A (Secondary)	= 38.4 mg/L
Daily Maximum Concentration for Outfall 001B (Primary)	= 100.8 mg/L
Daily Maximum Flow for Outfall 001A (Secondary)	= 28.07 MGD
Daily Maximum Flow for Outfall 001B (Primary)	= 5.136 MGD
Facility Flow (Blended)	= 33.21 MGD

Weighted Average Concentration of Primary and Secondary (Blended) = 64.96 mg/L

Brewer

Highest Daily Maximum TSS Mass Loading = 9,912.8 lbs./day, collected March 30, 2024

The parameters for March 30, 2024, are as follows:

Daily Maximum Concentration for Outfall 001A (Secondary)	= 12.3 mg/L
Daily Maximum Concentration for Outfall 001B (Primary)	= 184 mg/L
Daily Maximum Flow for Outfall 001A (Secondary)	= 6.055 MGD
Daily Maximum Flow for Outfall 001B (Primary)	= 6.5 MGD
Daily Maximum Facility Flow (Blended)	= 12.555 MGD

Weighted Average Concentration of Primary and Secondary (Blended) = 95.1 mg/L

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

Combined TSS (Bangor & Brewer)

Weighted Average TSS Concentration of the Combined Discharges = **43.23 mg/L**

From the months of January 2024 and March 2024, the lowest river flow was 9,970 cfs on January 6, 2024.

Dilution based on 9,970 cfs (or 6,445 MGD) to be applied to the discharge is:

$$\frac{6,445 \text{ MGD} + 45.77 \text{ MGD}}{45.7 \text{ MGD}} = 142:1$$

Therefore, the increase of instream TSS concentration given these conditions is:

$$\frac{43.23}{142} = \mathbf{0.3 \text{ mg/L}} \text{ (< 2 mg/L is not measurable)}$$

Based on the previous calculations and information from both dischargers, there was no measurable impact in the receiving water due to the addition of increased levels of BOD and TSS from blended effluent during a wet weather event in the previous ten years.

Establishing Blended Effluent Limits for Brewer

BOD

Assuming that during a wet weather event, that the facility is discharging secondary-treated water at full permitted flow (5.19 MGD), and in compliance with the daily maximum TBEL-derived discharge limit (50 mg/L), then the maximum effluent value is:

$$5.19 \text{ MGD} \times 50 \text{ mg/L} \times 8.34 \text{ (conversion factor)} = 2,164 \text{ lbs./day}$$

Using the primary-treated water BOD concentration from the highest BOD mass loading event in the previous ten years, and the flow from that event/day, the primary effluent mass loading is:

$$6.5 \text{ MGD} \times 70 \text{ mg/L} \times 8.34 = 3,795 \text{ lbs./day}$$

The combined mass from the secondary and primary is **5,955 lbs./day**. The combined flow for primary and secondary was 11.69 MGD.

The weighted average concentration of primary effluent at its highest values (in ten years) and secondary effluent at full permitted flow = **61 mg/L**

In the absence of a practical and reasonable standard, the Department chose to evaluate the Brewer discharge at its proposed limits under chronic river flow conditions. Although a discharge of blended effluent during 7Q10 conditions is not likely to occur, using these extremely conservative conditions demonstrates compliance, and provides assurance that the

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

discharge of blended effluent at proposed limits will not cause or contribute to a violation of water quality standards. The chronic dilution factor for the Penobscot River at Brewer is 2,966 cfs or 1,917 MGD. Therefore, the dilution to be applied to the discharges is:

$$\frac{1,917 \text{ MGD} + 11.69 \text{ MGD}}{11.69 \text{ MGD}} = 164:1$$

Therefore, the increase of instream BOD concentration given this condition is:

$$\frac{61}{164} = 0.37 \text{ mg/L } (< 2 \text{ mg/L is not measurable})$$

TSS

Following the same methodology for TSS as BOD, the following maximum effluent values apply:

$$5.19 \text{ MGD} \times 50 \text{ mg/L} \times 8.34 \text{ (conversion factor)} = 2,164 \text{ lbs./day (secondary treatment)}$$

Using the primary-treated water TSS concentration from the highest TSS mass loading event in the previous ten years, and the flow from that event/day, the primary effluent mass loading is:

$$6.055 \text{ MGD} \times 184 \text{ mg/L} \times 8.34 = 9,292 \text{ lbs./day}$$

The combined mass from the secondary and primary was **11,465 lbs./day**. The combined flow for primary and secondary was 11.25 MGD.

The weighted average concentration of Primary effluent at its highest values (in ten years) and Secondary effluent at full permitted flow = **122 mg/L**

The chronic dilution factor for the Penobscot River at Brewer is 2,966 cfs or 1,917 MGD. Therefore, the dilution to be applied to the discharges is:

$$\frac{1,917 \text{ MGD} + 11.25 \text{ MGD}}{11.25 \text{ MGD}} = 171:1$$

Therefore, the increase of instream TSS concentration given this condition is:

$$\frac{122}{171} = 0.71 \text{ mg/L } (< 2 \text{ mg/L is not measurable})$$

Simulated Discharge of Blended Effluent from Bangor and Brewer at Calculated Limits

The combined discharge of blended effluent from Bangor and Brewer at permitted limits is calculated as such:

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

BOD

Bangor BOD limit = 48 mg/L @ 21.839 MGD

Brewer BOD limit = 61 mg/L @ 11.69 MGD

The weighted average of the combined effluents = 52 mg/L @ 33.53 MGD

The chronic dilution factor for the Penobscot River at Brewer is 2,966 cfs or 1,917 MGD (furthest downstream). Therefore, the dilution to be applied to the discharges is:

$$\frac{1,917 \text{ MGD} + 33.53 \text{ MGD}}{33.53 \text{ MGD}} = 58:1$$

Therefore, the increase of instream BOD concentration given this condition is:

$$\frac{52}{58} = \mathbf{0.9 \text{ mg/L}} (< 2 \text{ mg/L is not measurable})$$

TSS

Bangor TSS limit = 95 mg/L @ 33.206 MGD

Brewer TSS limit = 122 mg/L @ 6.055 MGD

The weighted average of the combined effluents = 99 mg/L @ 39.26 MGD

The chronic dilution factor for the Penobscot River at Brewer is 2,966 cfs or 1,917 MGD. Therefore, the dilution to be applied to the discharges is:

$$\frac{1,917 \text{ MGD} + 39.26 \text{ MGD}}{39.26 \text{ MGD}} = 50:1$$

Therefore, the increase of instream TSS concentration given this condition is:

$$\frac{99}{50} = \mathbf{1.98 \text{ mg/L}} (< 2 \text{ mg/L is not measurable})$$

The limitations calculated above are less stringent than the previously permitted limitations for Outfall #001C. In order to prevent backsliding the previously established mass limitations for both BOD₅ and TSS for Outfall #001C are being carried forward in this permit.

8. COMBINED SEWER OVERFLOWS

This permit contains effluent limitations and monitoring requirements for the following combined sewer overflow point source discharges.

<u>Outfall Number</u>	<u>Outfall Location</u>	<u>Receiving Water and Class</u>
002	Oak Grove	Penobscot River, Class B
003	James Street	Penobscot River, Class B
008	South Main Street	Penobscot River, Class B
010	Brewer Cove	Penobscot River, Class B

Combined Sewer Overflow Abatement 06-096 C.M.R. ch. 570 (last amended February 5, 2000) states that for discharges from overflows from combined municipal storm and sanitary sewer systems, the requirement of “best practicable treatment” specified in 38 M.R.S. § 414-A(1)(D) may be met by agreement with the discharger, as a condition of its permit, through development of a plan within a time period specified by the Department. The CSO Master Plan entitled Sewer System Master Plan For CSO Abatement, dated June 1993 was approved on April 12, 1995. The most current CSO Master Plan, was submitted on January 4, 2022, and approved on April 4, 2022. The permittee has been actively implementing the recommendations of the Master Plan and to date has significantly reduced the volume of untreated combined sewer overflows to the receiving waters. Special Condition K, *Combined Sewer Overflows*, of this permit contains a schedule of compliance for items in the most current up-to-date abatement plan which must be completed.

In reviewing the 2022 CSO Master Plan, the Department noted the existence of several previously unlisted emergency overflows. On May 9, 2022, the Department sent a letter to the permittee requesting additional information on these particular emergency overflows. In a response, dated May 25, 2022, three emergency overflows were identified in the separated wastewater collection system. The emergency overflows had been installed in 2006, after consultation with DEP, as temporary measures to prevent basement flooding during high intensity storms beyond a 25-year storm. They have been designated EO1, EO2, and EO3 and are now listed in Special Condition L, *Emergency Overflows*.

The Department acknowledges that the elimination of the remaining CSOs in the collection system and the CSO-related bypass of secondary treatment is a costly, long-term project. As the Brewer treatment facility and the sewer collection system is upgraded and maintained in according to the CSO Master Plan and Nine Minimum Controls, there should be reductions in the frequency and volume of CSO activities and in the wastewater receiving primary treatment only at the treatment plant, and, over time, improvement in the quality of the wastewater discharged to the receiving waters.

9. ANTI-BACKSLIDING

Federal regulation 40 C.F.R., §122.44(l) contains the criteria for what is often referred to as the anti-backsliding provisions of the Federal Water Pollution Control Act (Clean Water Act). In general, the regulation states that, effluent limitations, standards, or conditions must be at least as stringent as the final effluent limitations, standards, or conditions in the previous permit, except for provisions specified in the regulation. Applicable exceptions include (1) material and substantial alterations or additions to the permitted facility occurred after permit issuance which justify the application of a less stringent effluent limitation and (2) information is available which was not available at the time of the permit issuance (other than revised regulations, guidance, or test methods) and which would justify the application of less stringent effluent limitations at the time of permit issuance. All limitations in this permit are equally or more stringent than the previous permit.

10. ANTI-DEGRADATION

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 waterbody to meet standards for Class B classification.

11. PUBLIC COMMENTS

Public notice of this application was made in the *Bangor Daily News* newspaper on or about February 20, 2021. 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 must have at least 30 days in which to submit comments on the draft or to request a public hearing, pursuant to *Application Processing Procedures for Waste Discharge Licenses*, 06-096 C.M.R. ch. 522 (effective January 12, 2001).

12. DEPARTMENT CONTACTS

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

Benjamin Pendleton
Bureau of Water Quality
Department of Environmental Protection
17 State House Station
Augusta, Maine 04333-0017 Telephone: (207) 592-6871
e-mail: Benjamin.S.Pendleton@maine.gov

13. RESPONSE TO COMMENTS

During the period of November 25, 2024, through the issuance date of the final permit, the Department solicited comments on the Proposed draft MEPDES permit to be issued to the City of Brewer for the proposed discharge. The Department did not receive comments that resulted in any substantive change(s) in the terms and conditions of the permit. Therefore, the Department has not prepared a Response to Comments.

FACT SHEET ATTACHMENT A



Brewer Waste Water Treatment Plant and Vicinity

Brewer WWTP
Outfall 001

Brewer WWTP
ME0100072
WDL#2679

East
Hampden

South
Brewer

Brewer
Airport

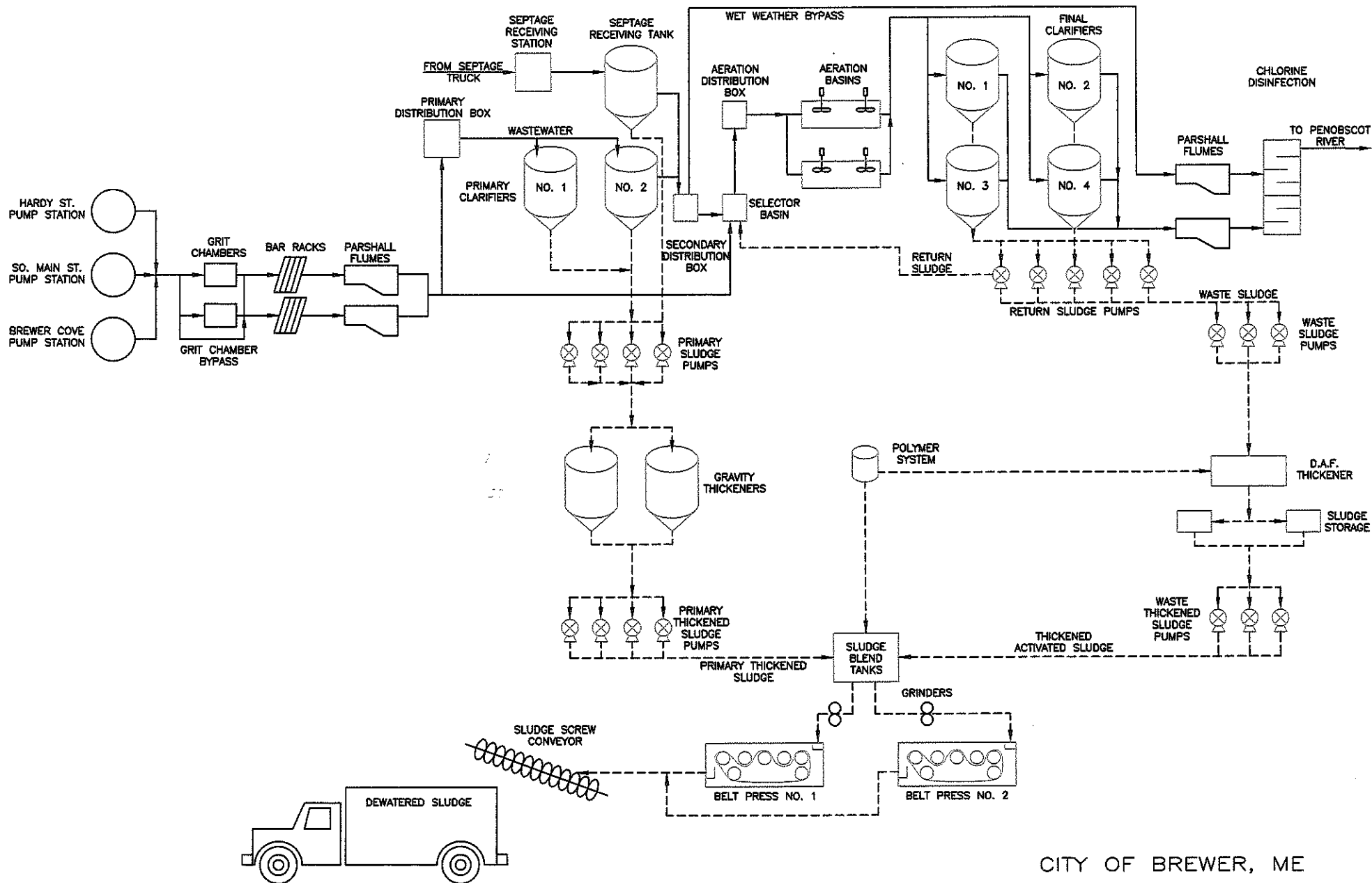


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1-inch equals 325.849001 feet

Plan prepared by B. Silver 16Dec02

FACT SHEET ATTACHMENT B



CITY OF BREWER, ME
WASTEWATER TREATMENT
PROCESS SCHEMATIC

* THE THIRD UNUSED PRIMARY CLARIFIER IS NOT SHOWN FOR CLARITY.

FACT SHEET ATTACHMENT C

STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION

CHAPTER 530.2(D)(4) CERTIFICATION

MEPDES# _____ Facility Name _____

Since the effective date of your permit, have there been;		NO	YES Describe in comments section
1	Increases in the number, types, and flows of industrial, commercial, or domestic discharges to the facility that in the judgment of the Department may cause the receiving water to become toxic?	☐	☐
2	Changes in the condition or operations of the facility that may increase the toxicity of the discharge?	☐	☐
3	Changes in storm water collection or inflow/infiltration affecting the facility that may increase the toxicity of the discharge?	☐	☐
4	Increases in the type or volume of hauled wastes accepted by the facility?	☐	☐

COMMENTS:

Name (printed): _____

Signature: _____ Date: _____

This document must be signed by the permittee or their legal representative.

This form may be used to meet the requirements of Chapter 530.2(D)(4). This Chapter requires all dischargers having waived or reduced toxic testing to file a statement with the Department describing changes to the waste being contributed to their system as outlined above. As an alternative, the discharger may submit a signed letter containing the same information.

Scheduled Toxicity Testing for the next calendar year

Test Conducted	1 st Quarter	2 nd Quarter	3 rd Quarter	4 th Quarter
WET Testing	☐	☐	☐	☐
Priority Pollutant Testing	☐	☐	☐	☐
Analytical Chemistry	☐	☐	☐	☐
Other toxic parameters ¹	☐	☐	☐	☐

Please place an "X" in each of the boxes that apply to when you will be conducting any one of the three test types during the next calendar year.

¹ This only applies to parameters where testing is required at a rate less frequently than quarterly.

FACT SHEET ATTACHMENT D

8/14/2024

WET TEST REPORT

Data for tests conducted for the period

17/NOV/2018 - 17/NOV/2023



BREWER WPCF

NPDES= ME0100072

Effluent Limit: Acute (%) = 0.274

Chronic (%) = 0.247

Species	Test	Percent	Sample date	Critical %	Exception	RP
TROUT	A_NOEL	>100	08/04/2019	0.274		
TROUT	C_NOEL	100	08/04/2019	0.247		
WATER FLEA	A_NOEL	>100	08/04/2019	0.274		
WATER FLEA	C_NOEL	100	08/04/2019	0.247		

FACT SHEET ATTACHMENT E

CHEMICAL TEST REPORT

Data entered into Toxscan for the period

17/NOV/2018 - 17/Nov/2023

Facility Name: **BREWER WPCF**Permit Number: **ME0100072****ALKALINITY**

Test Date	Result (ug/l)	Lsthan	Status
08/05/2019	89000.000	N	
11/05/2019	110000.000	N	
06/10/2020	80000.000	N	

ALUMINUM

Test Date	Result (ug/l)	Lsthan	Status
08/05/2019	29.000	N	
11/05/2019	39.000	N	
01/22/2020	27.000	N	
06/10/2020	31.000	N	

ARSENIC

Test Date	Result (ug/l)	Lsthan	Status
01/22/2020	8.000	N	

CADMIUM

Test Date	Result (ug/l)	Lsthan	Status
08/05/2019	0.600	N	
11/05/2019	0.600	N	
06/10/2020	1.000	N	

CHLOROFORM

Test Date	Result (ug/l)	Lsthan	Status
08/05/2019	20.000	N	

COPPER

Test Date	Result (ug/l)	Lsthan	Status
08/05/2019	14.000	N	
11/05/2019	5.000	N	
01/22/2020	10.000	N	
06/10/2020	6.000	N	

DICHLOROBROMOMETHANE

Test Date	Result (ug/l)	Lsthan	Status
08/05/2019	3.600	N	

LEAD

Test Date	Result (ug/l)	Lsthan	Status
08/05/2019	3.000	N	
01/22/2020	6.000	N	
06/10/2020	4.000	N	

MERCURY

Test Date	Result (ng/l)	Lsthan	Status
03/20/2019	1.440	N	
09/29/2020	0.750	N	
10/20/2021	1.080	N	
02/02/2022	0.773	N	

PH

Test Date	Result (ug/l)	Lsthan	Status
08/05/2019	7.580	N	
11/05/2019	7.610	N	

	06/10/2020	7.620	N	
SELENIUM				
	Test Date	Result (ug/l)	Lsthan	Status
	08/05/2019	5.000	N	
SOLIDS				
	Test Date	Result (ug/l)	Lsthan	Status
	08/05/2019	390000.000	N	
	11/05/2019	390000.000	N	
	06/10/2020	480000.000	N	
SPECIFIC CONDUCTANCE (UMHOS)				
	Test Date	Result (ug/l)	Lsthan	Status
	08/05/2019	660.000	N	
	11/05/2019	660.000	N	
	06/10/2020	750.000	N	
TOTAL CALCIUM				
	Test Date	Result (ug/l)	Lsthan	Status
	08/05/2019	29000.000	N	
	11/05/2019	36000.000	N	
	06/10/2020	40000.000	N	
TOTAL HARDNESS				
	Test Date	Result (ug/l)	Lsthan	Status
	08/05/2019	95000.000	N	
	11/05/2019	120000.000	N	
	06/10/2020	130000.000	N	
TOTAL MAGNESIUM				
	Test Date	Result (ug/l)	Lsthan	Status
	08/05/2019	5400.000	N	
	11/05/2019	6500.000	N	
	06/10/2020	6800.000	N	
TOTAL ORGANIC CARBON				
	Test Date	Result (ug/l)	Lsthan	Status
	11/05/2019	8200.000	N	
	06/10/2020	11000.000	N	
TOTAL SUSPENDED SOLIDS				
	Test Date	Result (ug/l)	Lsthan	Status
	06/10/2020	2500.000	N	
ZINC				
	Test Date	Result (ug/l)	Lsthan	Status
	08/05/2019	48.000	N	
	11/05/2019	30.000	N	
	01/22/2020	45.000	N	
	06/10/2020	46.000	N	