



STATE OF MAINE
DEPARTMENT OF
ENVIRONMENTAL PROTECTION



JANET L. MILLS
GOVERNOR

MELANIE LOYZIM
COMMISSIONER

June 25, 2024

RE: Maine Pollutant Discharge Elimination System (MEPDES) Permit MER041000
Maine Waste Discharge License (WDL) W009170-5Y-G-M
Municipal Separate Storm Sewer System – General Permit
Final Modification

Dear MS4 Permit Holders:

Enclosed please find a copy of your **final** MEPDES permit and Maine WDL **modification** which was approved by the Department of Environmental Protection. Please read this permit/license modification and its attached conditions carefully. Compliance with this permit/license will protect water quality.

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

If you have any questions regarding the matter, please feel free to call me at 287-7693. Your Department compliance inspector copied below is also a resource that can assist you with compliance. Please do not hesitate to contact them with any questions.

Thank you for your efforts to protect and improve the waters of the great state of Maine!

Sincerely,

Gregg Wood
Division of Water Quality Management
Bureau of Water Quality

Enc.

cc: Lori Mitchell, DEP/CMRO Kristie Rabaska, Integrated Environmental Engineering, Inc.
Jack Dafoe, AAG Damien Houlihan, USEPA Richard Carvalho, USEPA
Sandy Mojica, USEPA Ivy Frignoca, Casco Bay Keeper
Board of Environmental Protection

AUGUSTA
17 STATE HOUSE STATION
AUGUSTA, MAINE 04333-0017
(207) 287-7688 FAX: (207) 287-7826

BANGOR
106 HOGAN ROAD, SUITE 6
BANGOR, MAINE 04401
(207) 941-4570 FAX: (207) 941-4584

PORTLAND
312 CANCO ROAD
PORTLAND, MAINE 04103
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PRESQUE ISLE
1235 CENTRAL DRIVE, SKYWAY PARK
PRESQUE ISLE, MAINE 04769
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DEP INFORMATION SHEET

Appealing a Department Licensing Decision

Dated: November 2018

Contact: (207) 287-2452

SUMMARY

There are two methods available to an aggrieved person seeking to appeal a licensing decision made by the Department of Environmental Protection's (DEP) Commissioner: (1) an administrative process before the Board of Environmental Protection (Board); or (2) a judicial process before Maine's Superior Court. An aggrieved person seeking review of a licensing decision over which the Board had original jurisdiction may seek judicial review in Maine's Superior Court.

A judicial appeal of final action by the Commissioner or the Board regarding an application for an expedited wind energy development (35-A M.R.S. § 3451(4)) or a general permit for an offshore wind energy demonstration project (38 M.R.S. § 480-HH(1)) or a general permit for a tidal energy demonstration project (38 M.R.S. § 636-A) must be taken to the Supreme Judicial Court sitting as the Law Court.

This information sheet, in conjunction with a review of the statutory and regulatory provisions referred to herein, can help a person to understand his or her rights and obligations in filing an administrative or judicial appeal.

I. ADMINISTRATIVE APPEALS TO THE BOARD

LEGAL REFERENCES

The laws concerning the DEP's *Organization and Powers*, 38 M.R.S. §§ 341-D(4) & 346; the *Maine Administrative Procedure Act*, 5 M.R.S. § 11001; and the DEP's *Rules Concerning the Processing of Applications and Other Administrative Matters* ("Chapter 2"), 06-096 C.M.R. ch. 2.

DEADLINE TO SUBMIT AN APPEAL TO THE BOARD

The Board must receive a written appeal within 30 days of the date on which the Commissioner's decision was filed with the Board. Appeals filed more than 30 calendar days after the date on which the Commissioner's decision was filed with the Board will be dismissed unless notice of the Commissioner's license decision was required to be given to the person filing an appeal (appellant) and the notice was not given as required.

HOW TO SUBMIT AN APPEAL TO THE BOARD

Signed original appeal documents must be sent to: Chair, Board of Environmental Protection, 17 State House Station, Augusta, ME 04333-0017. An appeal may be submitted by fax or e-mail if it contains a scanned original signature. It is recommended that a faxed or e-mailed appeal be followed by the submittal of mailed original paper documents. The complete appeal, including any attachments, must be received at DEP's offices in Augusta on or before 5:00 PM on the due date; materials received after 5:00 pm are not considered received until the following day. The risk of material not being received in a timely manner is on the sender, regardless of the method used. The appellant must also send a copy of the appeal documents to the Commissioner of the DEP; the applicant (if the appellant is not the applicant in the license proceeding at issue); and if a hearing was held on the application, any intervenor in that hearing process. All of the information listed in the next section of this information sheet must be submitted at the time the appeal is filed.

INFORMATION APPEAL PAPERWORK MUST CONTAIN

Appeal materials must contain the following information at the time the appeal is submitted:

1. *Aggrieved Status.* The appeal must explain how the appellant has standing to maintain an appeal. This requires an explanation of how the appellant may suffer a particularized injury as a result of the Commissioner's decision.
2. *The findings, conclusions, or conditions objected to or believed to be in error.* The appeal must identify the specific findings of fact, conclusions regarding compliance with the law, license conditions, or other aspects of the written license decision or of the license review process that the appellant objects to or believes to be in error.
3. *The basis of the objections or challenge.* For the objections identified in Item #2, the appeal must state why the appellant believes that the license decision is incorrect and should be modified or reversed. If possible, the appeal should cite specific evidence in the record or specific licensing requirements that the appellant believes were not properly considered or fully addressed.
4. *The remedy sought.* This can range from reversal of the Commissioner's decision on the license or permit to changes in specific permit conditions.
5. *All the matters to be contested.* The Board will limit its consideration to those matters specifically raised in the written notice of appeal.
6. *Request for hearing.* If the appellant wishes the Board to hold a public hearing on the appeal, a request for public hearing must be filed as part of the notice of appeal, and must include an offer of proof in accordance with Chapter 2. The Board will hear the arguments in favor of and in opposition to a hearing on the appeal and the presentations on the merits of an appeal at a regularly scheduled meeting. If the Board decides to hold a public hearing on an appeal, that hearing will then be scheduled for a later date.
7. *New or additional evidence to be offered.* If an appellant wants to provide evidence not previously provided to DEP staff during the DEP's review of the application, the request and the proposed evidence must be submitted with the appeal. The Board may allow new or additional evidence, referred to as supplemental evidence, to be considered in an appeal only under very limited circumstances. The proposed evidence must be relevant and material, and (a) the person seeking to add information to the record must show due diligence in bringing the evidence to the DEP's attention at the earliest possible time in the licensing process; or (b) the evidence itself must be newly discovered and therefore unable to have been presented earlier in the process. Specific requirements for supplemental evidence are found in Chapter 2 § 24.

OTHER CONSIDERATIONS IN APPEALING A DECISION TO THE BOARD

1. *Be familiar with all relevant material in the DEP record.* A license application file is public information, subject to any applicable statutory exceptions, and is made easily accessible by the DEP. Upon request, the DEP will make application materials available during normal working hours, provide space to review the file, and provide an opportunity for photocopying materials. There is a charge for copies or copying services.
2. *Be familiar with the regulations and laws under which the application was processed, and the procedural rules governing your appeal.* DEP staff will provide this information on request and answer general questions regarding the appeal process.
3. *The filing of an appeal does not operate as a stay to any decision.* If a license has been granted and it has been appealed, the license normally remains in effect pending the processing of the appeal. Unless a stay of the decision is requested and granted, a license holder may proceed with a project pending the outcome of an appeal, but the license holder runs the risk of the decision being reversed or modified as a result of the appeal.

WHAT TO EXPECT ONCE YOU FILE A TIMELY APPEAL WITH THE BOARD

The Board will formally acknowledge receipt of an appeal, and will provide the name of the DEP project manager assigned to the specific appeal. The notice of appeal, any materials accepted by the Board Chair as supplementary evidence, any materials submitted in response to the appeal, and relevant excerpts from the DEP's application review file will be sent to Board members with a recommended decision from DEP staff. The appellant, the license holder if different from the appellant, and any interested persons are notified in advance of the date set for Board consideration of an appeal or request for public hearing. The appellant and the license holder will have an opportunity to address the Board at the Board meeting. With or without holding a public hearing, the Board may affirm, amend, or reverse a Commissioner decision or remand the matter to the Commissioner for further proceedings. The Board will notify the appellant, the license holder, and interested persons of its decision.

II. JUDICIAL APPEALS

Maine law generally allows aggrieved persons to appeal final Commissioner or Board licensing decisions to Maine's Superior Court (see 38 M.R.S. § 346(1); 06-096 C.M.R. ch. 2; 5 M.R.S. § 11001; and M.R. Civ. P. 80C). A party's appeal must be filed with the Superior Court within 30 days of receipt of notice of the Board's or the Commissioner's decision. For any other person, an appeal must be filed within 40 days of the date the decision was rendered. An appeal to court of a license decision regarding an expedited wind energy development, a general permit for an offshore wind energy demonstration project, or a general permit for a tidal energy demonstration project may only be taken directly to the Maine Supreme Judicial Court. See 38 M.R.S. § 346(4).

Maine's Administrative Procedure Act, DEP statutes governing a particular matter, and the Maine Rules of Civil Procedure must be consulted for the substantive and procedural details applicable to judicial appeals.

ADDITIONAL INFORMATION

If you have questions or need additional information on the appeal process, for administrative appeals contact the Board's Executive Analyst at (207) 287-2452, or for judicial appeals contact the court clerk's office in which your appeal will be filed.

Note: The DEP provides this INFORMATION SHEET for general guidance only; it is not intended for use as a legal reference. Maine law governs an appellant's rights.

General Permit for the Discharge of Stormwater from Small Municipal Separate Storm Sewer



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

DEPARTMENT ORDER

IN THE MATTER OF

MUNICIPAL SEPARATE STORM SEWER SYSTEM)	MAINE POLLUTANT DISCHARGE
GENERAL PERMIT)	ELIMINATION SYSTEM PERMIT
STATE OF MAINE)	
MER041000)	MAINE WASTE DISCHARGE LICENSE
W009170-5Y-G-M)	MODIFICATION
		APPROVAL

Pursuant to the provisions of Federal law, 33 USC, §1251, Maine Law 38 M.R.S., 414-A *et seq.*, and applicable regulations, the Maine Department of Environmental Protection (Department/DEP) is initiating a modification to Maine Pollutant Discharge Elimination System (MEPDES) General Permit (GP) #MER041000/Maine Waste Discharge License W009170-5Y-C-R. The GP was issued on October 15, 2020, for a five-year term with an effective date of July 1, 2022. With its supportive data, agency review comments and other related materials on file, the Department FINDS THE FOLLOWING FACTS:

1. PROCEDURAL HISTORY

On January 17, 2023, the Friends of Casco Bay (FOCB) filed a timely appeal with the Maine Board of Environmental Protection (BEP) pertaining to the Department’s December 14, 2022, approvals of Low Impact Development (LID) ordinances submitted by the City of Biddeford, Town of Cape Elizabeth, Town of Cumberland, Town of Falmouth, Town of Freeport, Town of Gorham, City of Portland, City of Saco, Town of Scarborough, City of South Portland, City of Westbrook, Town of Windham, and Town of Yarmouth.

On November 2, 2023, the BEP took up the appeal by the FOCB at its meeting and issued a Board Order on the appeal on the same date. See Attachment A of this permit modification for a copy of the Board Order Findings of Fact and Order on Appeal for an in-depth discussion of the appeal and the BEP's decision. The Board Order concluded and ordered as follows:

The Board therefore concludes that the Department’s approvals of the Licensees model LID ordinances must be vacated and remanded for the Department to set clear, specific, and measurable standards for the municipal LID ordinances consistent with the MS4 GP, as modified by the Permit Modification, including Appendix F. The Board recognizes that the Permit Modification’s July 1, 2024, deadline for final adoption of model LID ordinances is fast approaching. The Board does not have authority to modify that deadline pursuant to this appeal because the Permit Modification itself is not before us. On remand, however, the Department certainly may consider whether the July 1, 2024, deadline should be modified for the Licensees and pursue any appropriate mechanism for doing so.

General Permit for the Discharge of Stormwater from Small Municipal Separate Storm Sewer

Therefore, the Board VACATES and REMANDS to the Commissioner the Department's December 14, 2022 approvals of the model LID ordinances submitted by the City of Biddeford, Town of Cape Elizabeth, Town of Cumberland, Town of Falmouth, Town of Freeport, Town of Gorham, City of Portland, City of Saco, Town of Scarborough, City of South Portland, City of Westbrook, Town of Windham, and Town of Yarmouth for the Department to expeditiously set clear, specific, and measurable standards for the municipal LID ordinances consistent with Section 2(A)(5)(a) of the Permit Modification, including Appendix F, in accordance with this Order.

2. MODIFICATIONS

At the November 2, 2023, BEP meeting, legal counsel representing the 13 municipalities commented that the July 1, 2024, deadline established in the November 23, 2021, permit modification (MER041000/W009170-5Y-E-M) to adopt the LID Ordinances would be impossible to comply with because most permittees would need anywhere from 15 to 18 months for LID ordinances to make their way through the local processes for adoption. The Department concludes that the July 1, 2024, deadline would be impossible for the permittees to comply with at this point considering the time necessary to adopt the ordinances at the local level.

On January 12, 2023, EPA submitted a letter to the Department stating that “the approved ordinances do not meet the regulatory requirements found at 40 CFR 122.34, or the terms of the MS4 General Permit . . . requiring each MCM condition to contain clear, specific, and measurable terms.” EPA further objected to the Department's December 14, 2022, approvals in that the approval letters “provide vague direction” regarding the incorporation of LID measures and “indicat[e] the communities have an option to include clear, specific and measurable LID measures” at a future time. Concluding that “immediate action is needed” to address the inadequate ordinances, EPA proposed that the Department:

[1] [R]evoke approval of the model LID ordinances submitted by those permit holders that did not contain clear, specific and measurable terms for each LID measure found in Table 1 of Appendix F of the MS4 General Permit and issue new approval letters that contain performance standards for each LID measure found in Table 1 of Appendix F of the MS4 General Permit that those permit holders must adopt in their LID ordinance as required by the MS4 General Permit.

General Permit for the Discharge of Stormwater from Small Municipal Separate Storm Sewer

[or]

[2] Modify the MS4 General Permit to contain performance standards for each LID measure found in Table 1 of Appendix F of the MS4 General Permit that all permit holders must adopt in their LID ordinance.

Regardless of which remedy in the January 12, 2023, EPA letter is implemented, the same time constraints for the ordinances or other regulatory mechanisms to make their way through the local processes for adoption are applicable to the additional 17 municipalities that are subject to the MS4 permit. The 17 municipalities are the City of Auburn, City of Bangor, Town of Berwick, City of Brewer, Town of Eliot, Town of Hampden, Town of Kittery, City of Lewiston, Town of Lisbon, Town of Milford, Town of Old Orchard Beach, City of Old Town, Town of Orono, Town of Sabattus, Town of South Berwick, Town of Veazie and Town of York.

Therefore, the date by which all 30 municipalities subject to the MS4 permit must adopt a LID ordinance or regulatory mechanism for stormwater management on new and redevelopment sites is being revised by this permit modification from July 1, 2024, to November 5, 2025. The permit modification is as follows:

A. Low Impact Development

5. MCM5 - Post-Construction Stormwater Management in New Development and Redevelopment.

Each permittee must implement and enforce a program to address post construction stormwater runoff to the maximum extent practicable from new development and redevelopment projects that disturb greater than or equal to one acre, including projects less than one acre that are part of a larger common plan of development that discharge into the MS4.

- a. The permittee must implement strategies which include a combination of structural and/or non-structural BMPs appropriate to prevent or minimize water quality impacts as follows:

On or before November 5, 2025, each permittee must adopt a LID Ordinance or other regulatory mechanism for stormwater management on new and redevelopment sites which establishes clear, specific and measurable standards for each of the LID measures contained in Table 1 of Appendix F to the maximum extent practicable. The LID ordinance or other regulatory mechanism should, at a minimum, refer to Appendix F for guidance. See Attachment B of this permit modification for a copy of Table 1 of Appendix F.

CONCLUSIONS

Based on the findings in this modification, the Department makes the following CONCLUSIONS:

1. The discharge(s) covered under this GP, 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(s) covered under this GP, 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, Maine law, 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 natural resource, that water quality will be maintained and protected/
 - (c) Where the standards of classification of the receiving water body are not met, the discharge will not cause or contribute to the failure of the water body to meet the standards of classification,
 - (d) Where the actual quality of any classified receiving water body exceeds the minimum standards of the next highest classification that higher water quality will be maintained and protected; and
 - (e) Where a discharge will result in lowering the existing water quality of any water body, the Department has made the finding, following opportunity for public participation, that this action is necessary to achieve important economic or social benefits to the State.
4. The discharge(s) covered under this GP will be subject to effluent limitations that require application of best practicable treatment as defined in 38 M.R.S. § 414-A(1)(D).

General Permit for the Discharge of Stormwater from Small Municipal Separate Storm Sewer

ACTION

Based on the findings and conclusions as stated above, the Department APPROVES the revision to permit modification #MER041000/W009170-5Y-E-M, *General Permit for the Discharge of Stormwater from Small Municipal Separate Storm Sewer Systems*, issued by the Department on November 23, 2021, SUBJECT TO THE ATTACHED CONDITIONS, including:

1. The terms and conditions included in Part I-IV of #MER041000/W009170-5Y-C-R, *General Permit for the Discharge of Stormwater from Small Municipal Separate Storm Sewer Systems*, issued by the Department on October 15, 2020, and any other subsequent modifications not modified by this permit modification remain in effect and enforceable.
2. *Maine Pollutant Discharge Elimination System Permit Standard Conditions Applicable To All Permits*, revised July 1, 2002, attached to #MER041000/W009170-5Y-C-R, *General Permit for the Discharge of Stormwater from Small Municipal Separate Storm Sewer Systems*, issued by the Department on October 15, 2020.
3. This permit modification becomes effective upon signature and expires on July 1, 2027, concurrent with #MER041000/W009170-5Y-C-R, *General Permit for the Discharge of Stormwater from Small Municipal Separate Storm Sewer Systems*, issued by the Department on October 15, 2020. If the GP is to be renewed, it will remain in force until the Department takes final action on the renewal.

DONE AND DATED AT AUGUSTA, MAINE, THIS 26 DAY OF June 2024.

COMMISSIONER OF ENVIRONMENTAL PROTECTION

BY: Brian Kavanah
Melanie Loyzim, Commissioner

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of Public Notice January 3, 2024.

FILED
JUNE 26, 2024
State of Maine Board of Environmental Protection

Date filed with Board of Environmental Protection _____

This Order prepared by GREGG WOOD, BUREAU OF WATER QUALITY

MER041000 Final Modification 6/25/2024

RESPONSE TO COMMENTS

During the period March 18, 2024, through issuance of this permit modification, the Department solicited comments from the permittees, state and federal agencies and interested parties on the proposed draft permit modification. The Department received written comments on March 27, 2024, from Kristie Rabasca of Integrated Environmental Engineering, Inc. representing the Towns of Eliot, Berwick, York, South Berwick and Kittery, written comments dated April 18, 2024, from the U.S. Environmental Protection Agency (EPA) and written comments dated April 8, 2024, from Friends of Casco Bay (FOCB). Responses to substantive comments are as follows:

Comment #1 (Kristie Rabasca) – “While the October 1, 2025, deadline may be achievable for some communities, the Towns of Eliot, York, and Berwick are requesting that the timeline be extended to November 5, 2025 (one day after the November 4, 2025, general election) to accommodate their Town process to allow residents to vote on any proposed ordinance. If the October 1, 2025, deadline stands, these towns would need to complete their ordinance approval processes in time for the May 2025 General Election, or would need to hold a special election, which is time consuming and costly. It is not likely they will be able to complete their public notice processes for Planning Board review and approval and then Selectboard review and approval by May 2025.”

Response #1: The Department has no objection to extending the date from October 1, 2025, to November 5, 2025. The final permit modification has been revised accordingly.

Comment #2 (USEPA) – “EPA understands that this draft modification represents the first step of a two-step plan to address the flaws in the proposed LID ordinances and/or the performance standards in the MS4 General Permit. To this end, the Department has communicated to EPA that it plans to propose a modification to Appendix F of the MS4 General Permit for public comment by Summer 2024. EPA further understands and supports the Departments plan to engage with EPA staff in the near future (tentatively scheduled for end of May 2024) to develop clear, specific and measurable techniques to be considered in addressing the nine LID measures in Table 1 of Appendix F of the permit. Following EPA/ Department agreement on the terms and conditions of the second modification, the Department plans to initiate a 20-day interested parties comment period after which the Department will respond to all substantive comments. The Departments plans to release a draft permit modification for a formal 30-day comment period in the late July/August timeframe. EPA anticipates that the draft permit modification released for the formal 30-day comment period will fully address the concerns EPA raised in our January 12, 2023, letter.

EPA supports the Department’s plan to modify the General Permit and is prepared to assist the Department in developing clear, specific, and measurable performance standards for each LID measure found in Table 1 of Appendix F of the MS4 General Permit.”

RESPONSE TO COMMENTS (cont'd)

Response #2: The Department has adhered to the process and timeframe cited by EPA given that on Friday, June 21, 2024, the Department issued a preliminary draft modification of Appendix F for an informal 30-day comment period. Comments are due on the preliminary draft modification by the close of business on Monday, July 22, 2024. The revisions to Appendix F contain clear, specific and measurable LID measures to address EPA's letter of January 12, 2023, and the Board of Environmental Protection Order dated November 2, 2023, settling an appeal by the Friends of Casco Bay. Once comments are received on the preliminary draft permit modification, suggested revisions may or may not be incorporated into the permit modification and the Department will prepare proposed draft permit modification that will be made available for a formal 30-day public comment period. The Department will respond to any substantive comments received during the formal 30-day comment period and finalize the permit modification with or without revisions. The final permit modification will be subject to a 30-day appeal period.

Comment #3 (FOCB) – “Thank you for the opportunity to comment on the proposed modification. Friends of Casco Bay has serious concerns about the modification as written and offers these comments to constructively suggest revisions to bring the permit modification into compliance with the law. Our concerns are:

- The proposed modification must be revised to comply with the BEP's November 1, 2023 order which required **“the Department to expeditiously set clear, specific, and measurable standards for the municipal LID ordinances consistent with the MS4 GP, as modified by the Permit Modification, including Appendix F.”** *11012023 BEP Order at 8.* As written, the proposed modification contains no standards.
- The language in the proposed modification weakens the requirements of the existing permit modification which required MS4 communities to adopt ordinances with performance standards for 10 LID elements and for DEP to review and ensure those specifications were met. The proposed modification appears to leave it to municipalities to set their own terms with no oversight from DEP, which violates the Remand Rule and weakens the permit.
- The proposed modification further weakens the permit modification by requiring the ordinances to include clear, specific and measurable standards for each of the LID measures contained in Table 1 of Appendix F **to the maximum extent practicable (MEP)**. The existing permit modification does not set an MEP limitation. It requires *each permittee [to] develop a Model LID Ordinance for stormwater management on new and redevelopment sites which establishes performance standards for each of the LID Measures contained in Table 1 of Appendix F.*
- Finally, nothing in the permit modification sets a basis to justify extending the date for municipalities to adopt ordinances from July 2024 to October 2025. Although some extension of time is warranted, any extension of time should be logically tied to actions that justify extending the deadline.

RESPONSE TO COMMENTS (cont'd)

The proposed modification does not meet the requirements of the BEP order or the EPA PQR letter. A verbal indication that a second modification will follow does not cure these defects and is not legally enforceable. The additional steps should be in the permit modification and explained in the Fact Sheet.”

Response #3- See comment #2 and response #2 of this document. The USEPA is in agreement that a two-part modification of the General Permit is acceptable. Modification Part I is to extend the deadline out past July 1, 2024, given it will take some municipalities 15 – 18 months to go through ordinance adoption process through their governing bodies and Modification Part 2 is to revise Appendix F of the permit to establish clear, specific and measurable LIDs measures. The Department has formally begun the Part 2 modification process by revising Appendix F to establish clear, specific and measurable measures via preliminary draft permit modification dated June 22, 2024.

ATTACHMENT A



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

BOARD ORDER

IN THE MATTER OF

MUNICIPAL SEPARATE STORM)	BOARD ORDER
SEWER SYSTEM GENERAL PERMIT)	
APPROVAL OF DRAFT LOW IMPACT)	
DEVELOPMENT ORDINANCES)	
STATE OF MAINE)	FINDINGS OF FACT AND
MER041000)	ORDER ON APPEAL
W009170-5Y-F-Z)	

Pursuant to 38 M.R.S. § 341-D(4) and 06-096 C.M.R., ch. 2, *Rule Concerning the Processing of Applications and Other Administrative Matters* (Chapter 2), the Board of Environmental Protection (Board) has considered Friends of Casco Bay’s (FOCB) appeal of the Department of Environmental Protection’s (Department) December 14, 2022 approvals of Low Impact Development (LID) model ordinances submitted by the City of Biddeford, Town of Cape Elizabeth, Town of Cumberland, Town of Falmouth, Town of Freeport, Town of Gorham, City of Portland, City of Saco, Town of Scarborough, City of South Portland, City of Westbrook, Town of Windham, and Town of Yarmouth pursuant to the Municipal Separate Storm Sewer System (MS4) General Permit. Based on the materials filed in support of the appeal, responses to the appeal, and other related materials in the Department’s file, the Board FINDS THE FOLLOWING FACTS:

1. BACKGROUND AND PROCEDURAL HISTORY

A. MS4 General Permit

Municipal stormwater discharges are subject to regulation pursuant to section 402(p) of the Clean Water Act. 33 U.S.C. § 1342(p). In 1999, the U.S. Environmental Protection Agency (EPA) promulgated a rule requiring National Pollutant Discharge Elimination System (NPDES) permits for discharges from small MS4s (the Phase II Rule).¹ 64 Fed. Reg. 68722 (Dec. 8, 1999). The Phase II Rule requires small MS4s to reduce pollutants discharged from the MS4 “to the maximum extent practicable . . . to protect water quality, and to satisfy the appropriate water quality requirements of the Clean Water Act.” 40 C.F.R. § 122.34(a). The Phase II Rule requires that

¹ An MS4 is defined as a conveyance or system of conveyances designed or used for collecting or conveying stormwater (other than a publicly owned treatment works as defined at 40 C.F.R. § 122.2, or a combined sewer), including, but not limited to, roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, human-made channels or storm drains owned or operated by any municipality, sewer or sewage district, the Maine Department of Transportation, the Maine Turnpike Authority, State agency or Federal agency or other public entity that discharges to waters of the State other than groundwater. Generally, the definition of “small MS4” includes (1) those MS4s that serve less than 100,000 persons and are located within the urbanized area boundary as determined by the latest U.S. Census and (2) construction sites that disturb one to five acres. *See* 64 Fed. Reg. 68722 (Dec. 8, 1999); 40 C.F.R. § 122.26(b)(16).

**Municipal Separate Storm Sewer
System General Permit – LID
Approvals
State of Maine
MER041000
W009170-5Y-F-Z**

**FINDINGS OF FACT
AND
ORDER ON APPEAL**

small MS4s implement stormwater management plans (SWMPs) that include six “minimum control measures” (MCMs). *Id.* § 122.34(b). Small MS4s may seek coverage under an applicable general permit or may apply for an individual NPDES permit.

In 2001, the Department received authorization from EPA to administer the NPDES permit program for most of the State of Maine through what is commonly referred to as the Maine Pollutant Discharge Elimination System (MEPDES) permitting program. The Department is authorized by rule to issue general permits for certain wastewater discharges, including discharges from MS4s. 06-096 C.M.R., ch. 529, *General Permits for Certain Wastewater Discharges*. The Department issued the first MS4 General Permit for the State of Maine on July 1, 2013.

In 2016, following a court challenge to the Phase II Rule, EPA promulgated an amended rule, *National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System General Permit Remand Rule*, 81 Fed. Reg. 89320 (Dec. 9, 2016) (the Remand Rule). The Remand Rule requires state permitting authorities to issue to small MS4s either a “Comprehensive General Permit” or a “Two-Step General Permit.” *See* 40 C.F.R. § 122.28(d). The Remand Rule also clarifies that the conditions of a general permit “must be expressed in terms that are ‘clear, specific, and measurable’” and that “the permit requirements must be enforceable, and must provide a set of performance expectations and schedules that are readily understood by the permittee, the public, and the [state] permitting authority alike.” 81 Fed. Reg. at 89326.

On December 6, 2019, the Department initiated the formal process to renew the MS4 General Permit (GP), last issued by the Department on July 1, 2013, for a five-year term. On October 15, 2020, the Department issued a combined Waste Discharge License (WDL), W009170-5Y-C-R, and MEPDES GP, MER041000, thereby renewing the MS4 GP for a period of five years. The MS4 GP regulates the discharge of stormwater from thirty small municipal MS4s across the State. In accordance with the Remand Rule, the MS4 GP requires regulated entities to implement and enforce a program, under MCM 5, to address post-construction stormwater runoff from new development and redevelopment projects that disturb greater than or equal to one acre, including projects less than one acre that are part of a larger common plan of development or sale.

B. 2020 Appeal

On November 13, 2020, FOCB filed a timely appeal of the MS4 GP with the Board. Relevant to the present appeal, FOCB argued that the Permit had to require that the municipal post-construction ordinance or other regulatory mechanism under MCM 5 mandate the use of LID site-planning and design strategies to the maximum extent practicable.²

² As defined in the MS4 GP, LID “means an approach to land development or redevelopment that provides water quality treatment of stormwater as close to its source as possible.”

On June 17, 2021, the Board remanded the MS4 GP to the Commissioner for the incorporation of “clear, specific, and measurable LID BMPs [best management practices] into the permit.” Board Order, Exhibit (Ex.) 7, at 6-7.³

On November 23, 2021, the Department issued a Permit Modification (MEPDES MER041000/WDL W009170-5Y-E-M), which included relevant language as follows:

5. MCM5 - Post-Construction Stormwater Management in New Development and Redevelopment.

Each permittee must implement and enforce a program to address post construction stormwater runoff to the maximum extent practicable from new development and redevelopment projects that disturb greater than or equal to one acre, including projects less than one acre that are part of a larger common plan of development that discharge into the MS4.

- a. The permittee must implement strategies which include a combination of structural and/or non-structural BMPs appropriate to prevent or minimize water quality impacts as follows:

On or before September 1, 2022, each permittee must develop a Model LID Ordinance for stormwater management on new and redevelopment sites which establishes performance standards for each of the LID Measures contained in Table 1 of Appendix F. The Model LID ordinance should, at a minimum, refer to Appendix F for guidance.

The Model LID Ordinance shall be submitted to the [Department] for review by September 1, 2022. [The Department] will post the model ordinance for public comments and approve it, with or without modifications, on or before November 1, 2022.

On or before July 1, 2024, each permittee shall adopt an ordinance or regulatory mechanism that is at least as stringent as the required elements of the Model LID Ordinance or incorporate all of its required elements into the permittee’s code of ordinances or other enforceable regulatory mechanism.

Permit Modification, Ex. 8, at 7-8.

³ Citations to “Exhibits” refer to the exhibits submitted by FOCB with its appeal. Page numbers refer to the exhibit page numbers, not the individual page numbers within the exhibit document.

C. 2022 Ordinance Approvals and Present Appeal

On or before September 1, 2022, all thirty entities covered by the MS4 GP submitted draft model LID ordinances to the Department, which were posted for a 30-day public comment period on the Department’s website.

On September 29, 2022, FOCB commented on the draft model LID ordinances submitted by the City of Biddeford, Town of Cape Elizabeth, Town of Cumberland, Town of Falmouth, Town of Freeport, Town of Gorham, City of Portland, City of Saco, Town of Scarborough, City of South Portland, City of Westbrook, Town of Windham, and Town of Yarmouth (collectively, the Licensees). FOCB contended that the ordinances did not comply with the Permit Modification and the Remand Rule because they did not include measurable performance standards for the nine LID elements described in Appendix F to the Permit Modification. Table 1 of Appendix F to the Permit Modification delineates nine “LID measures” and corresponding techniques: Minimize site clearing; Protect natural drainage system; Minimize the decrease in time of concentration; Minimize impervious area or the effect of impervious area; Minimize soil compaction; Minimize lawns and maximize landscaping that encourages runoff retention; Provide vegetated open-channel conveyance systems; Rainwater is stored for later reuse for the building or landscape; and Stormwater Quality Treatment and Retention Requirements (e.g., buffers, pervious pavement).

On December 14, 2022, the Department issued letters to all thirty entities covered by the MS4 GP approving the draft LID model ordinances as submitted. The Department noted that it did not have any “objection to the proposal as written.” The Department went on to state:

However, the Department would like the [Licensee] to be aware that the Department is in the process of commencing rulemaking to revise 06-096 Chapter 500, *Stormwater Management*.⁴ . . . The final rule is likely to contain clear, specific and measurable LID measures and techniques that the [Licensee] may want to incorporate into the final LID Ordinance to clarify expectations and the enforceability of the ordinance.

Department Letter, Ex. 5.

On December 16, 2022, the Department responded to FOCB’s comments on the model ordinances. The Department explained its position as follows:

A number of [the MS4] communities did not establish clear, specific and measurable performance standards in their [model ordinances] knowing that the Department is preparing to begin the stakeholder process to make revisions to

⁴ The Chapter 500 stormwater rules mainly govern projects requiring a stormwater permit pursuant to the Stormwater Management Law, 38 M.R.S. § 420-D, and projects requiring a permit pursuant to the Site Location of Development Law, 38 M.R.S. §§ 481-490.

Department rule Chapter 500, *Stormwater Management*. Establishing clear, specific and measurable LID measures and techniques will likely be established in the revised [Chapter 500] rule. . . . The Department has no objection to the proposed ordinances as written to date but has advised the MS4 communities to participate in the Chapter 500 rulemaking and incorporate clear, specific and measurable techniques that are established in the final rule into their final LID Ordinances.

Department Response, Ex. 3.

On January 12, 2023, EPA submitted a letter to the Department stating that “the approved ordinances do not meet the regulatory requirements found at 40 CFR 122.34, or the terms of the MS4 General Permit . . . requiring each MCM condition to contain clear, specific, and measurable terms.” EPA further objected to the Department’s December 14, 2022 approvals in that the approval letters “provide vague direction” regarding the incorporation of LID measures and “indicat[e] the communities have an option to include clear, specific and measurable LID measures” at a future time. Concluding that “immediate action is needed” to address the inadequate ordinances, EPA proposed that the Department:

[1] [R]evoke approval of the model LID ordinances submitted by those permit holders that did not contain clear, specific and measurable terms for each LID measure found in Table 1 of Appendix F of the MS4 General Permit and issue new approval letters that contain performance standards for each LID measure found in Table 1 of Appendix F of the MS4 General Permit that those permit holders must adopt in their LID ordinance as required by the MS4 General Permit.

[or]

[2] Modify the MS4 General Permit to contain performance standards for each LID measure found in Table 1 of Appendix F of the MS4 General Permit that all permit holders must adopt in their LID ordinance.

Letter from Lynne Jennings, Chief, Water Permits Branch, EPA, to Gregg Wood, MS4 Program Manager, Maine Department of Environmental Protection (Jan. 12, 2023), at 3.

On January 17, 2023, FOCB filed with the Board an appeal of the Department’s approval of the model ordinances submitted by the Licensees.

On March 3, 2023, the Cumberland County Soil & Water Conservation District (CCSWCD), which represents the Licensees,⁵ requested that the Board dismiss FOCB’s appeal as untimely and because the Department’s LID ordinance approvals did not constitute final agency action. On April 4, 2023, the Board Presiding Officer denied CCSWCD’s Motion to Dismiss.

On May 8, 2023, CCSWCD submitted a letter to the Board as a Response to FOCB’s appeal. In that letter, CCSWCD suggested leaving the existing, approved model ordinances in effect with an understanding that the Licensees would “commit to incorporating the Chapter 500 LID provisions that we expect the Department will adopt, where applicable to their individual circumstances, into their ordinances.”

2. STANDING

FOCB states that it is a nonprofit organization with more than 3,000 members that works to improve and protect the environmental health of Casco Bay and its watershed. FOCB states that its members depend on clean and healthy water in the Bay and that it has identified stormwater pollution as one of the most serious threats to the Bay. FOCB further states that it will be negatively affected if stormwater pollution is not adequately controlled. FOCB participated in the MS4 permitting process before the Department by filing comments and attending stakeholder meetings.

The Board finds that FOCB may suffer particularized injury as a result of the Department’s MS4 permitting decision and that FOCB therefore is an aggrieved person and has standing to bring this appeal pursuant to Chapter 2, §§ 1(B) and 24.

3. REMEDY REQUESTED

FOCB requests that the Board vacate and remand the Department’s approvals of the draft municipal LID ordinances to the Department “for a comprehensive review of the municipal model LID ordinances and to require the development of a uniform model baseline that establishes the minimum elements and performance standards to be included in municipal LID ordinances.”⁶

⁵ CCSWCD states, and FOCB does not contest, that it convenes the Interlocal Stormwater Working Group, which is comprised of the Licensees and a few additional entities. As explained in the Board’s April 4, 2023 Order, the Board considers CCSWCD to be representing the Licensees in this appeal proceeding.

⁶ FOCB also requests that the Board remand the November 23, 2021 Permit Modification. However, the appeal period for the Permit Modification passed long before FOCB filed the present appeal. FOCB also does not challenge the Permit Modification itself, but instead takes issue with the Department’s subsequent approvals of the model ordinances. Therefore, the Board does not have jurisdiction to remand or otherwise affect the Permit Modification pursuant to this appeal.

4. RESPONSE TO REQUEST FOR A PUBLIC HEARING

FOCB requests that the Board hold a public hearing on this appeal. Pursuant to 38 M.R.S. § 341-D(4) and Chapter 2, § 24(A), holding a public hearing is discretionary. The Board concludes that a public hearing is not warranted because FOCB had the opportunity to submit evidence and comment to the Department during the public comment period and did avail itself of the opportunity. Further, the record is sufficiently developed to allow the Board to decide the appeal based on that record, FOCB’s arguments, and CCSWCD’s response.

5. DISCUSSION AND FINDINGS OF FACT

The applicable statutes and regulations require that small MS4s reduce stormwater pollution to the maximum extent practicable using minimum control measures that are “clear, specific, and measurable.” 40 C.F.R. § 122.34; 81 Fed. Reg. at 89326. The Board’s Order in the 2020 Appeal specifically noted that “although LID [BMPs] are not specifically required by the Remand Rule or Department regulations . . . incorporating clear, specific, and measurable LID BMPs into the permit would satisfy the Remand Rule and is also reasonable and appropriate.” Ex. 7, at 6. Further, the Permit Modification specifically provides that the municipalities “must implement strategies which include a combination of structural and/or non-structural [LID] BMPs” by submitting to the Department, and eventually adopting, an ordinance or other regulatory mechanism that “establishes performance standards for each of the LID Measures contained in Table 1 of Appendix F.” Ex. 8, at 8.

FOCB, CCSWCD, and EPA all appear to agree that the model ordinances submitted by the Licensees and approved by the Department do not include “clear, specific, and measurable” performance standards. Even in approving the model ordinances, the Department acknowledged that the submitted ordinances do not include “clear, specific and measurable LID measures” and suggested that the municipalities “may want to incorporate [such measures] into the final LID Ordinance” based on the results of the pending Chapter 500 rulemaking process. *See, e.g.*, Ex 5, at 1. The Board therefore concludes that the Department erred by approving model LID ordinances that do not contain “clear, specific, and measurable” performance standards.

CCSWCD suggests that the most efficient way to resolve this appeal would be to direct the Department to require that the Licensees adopt ordinances incorporating any LID provisions that are eventually developed through the Chapter 500 rulemaking process. We understand the pragmatic reasons for looking to the ongoing Chapter 500 rulemaking process as an efficient way of establishing uniform LID standards. However, whereas EPA demonstrates a need for “immediate action” to address the deficient model ordinances, the Chapter 500 rulemaking process has an indefinite end date and an undetermined substantive outcome. The Board is charged with the responsibility to decide appeals “as expeditiously as possible” (Ch. 2 § 24(G)) and lacks authority to expressly delay resolution of this appeal and make such resolution contingent on a future outcome in a distinct proceeding.

**Municipal Separate Storm Sewer
System General Permit – LID
Approvals
State of Maine
MER041000
W009170-5Y-F-Z**

**FINDINGS OF FACT
AND
ORDER ON APPEAL**

The Board therefore concludes that the Department’s approvals of the Licensees’⁷ model LID ordinances must be vacated and remanded for the Department to set clear, specific, and measurable standards for the municipal LID ordinances consistent with the MS4 GP, as modified by the Permit Modification, including Appendix F. The Board recognizes that the Permit Modification’s July 1, 2024 deadline for final adoption of model LID ordinances is fast approaching. The Board does not have authority to modify that deadline pursuant to this appeal because the Permit Modification itself is not before us. On remand, however, the Department certainly may consider whether the July 1, 2024 deadline should be modified for the Licensees and pursue any appropriate mechanism for doing so.

ORDER ON APPEAL

Therefore, the Board VACATES and REMANDS to the Commissioner the Department’s December 14, 2022 approvals of the model LID ordinances submitted by the City of Biddeford, Town of Cape Elizabeth, Town of Cumberland, Town of Falmouth, Town of Freeport, Town of Gorham, City of Portland, City of Saco, Town of Scarborough, City of South Portland, City of Westbrook, Town of Windham, and Town of Yarmouth for the Department to expeditiously set clear, specific, and measurable standards for the municipal LID ordinances consistent with Section 2(A)(5)(a) of the Permit Modification, including Appendix F, in accordance with this Order.

DONE AND DATED IN AUGUSTA, MAINE THIS 1st DAY OF NOVEMBER, 2023.

BOARD OF ENVIRONMENTAL PROTECTION

BY: 

ROBERT S. DUCHESNE, PRESIDING OFFICER

⁷ Although FOCB mentions the other municipalities in their appeal, the Board considers FOCB to have only appealed the Department’s approvals for the Licensees -- the thirteen municipalities represented by CCSWCD. It is unclear whether FOCB, an organization focused on the environment of Casco Bay, would have aggrieved status as to municipalities in other watersheds. While a uniform approach to the model ordinances for all thirty municipalities covered by the MS4 GP may be advisable, the Board does not have the authority at this time to order relief as to the municipalities that are not part of this appeal.

ATTACHMENT B

Guidance

Low Impact Development (LID)

LID is a process of developing land that mimics the natural hydrologic regime. LID begins at the design phase of a new development or redevelopment, incorporating planning techniques that minimize site clearing and impervious surfaces to reduce impact and stormwater runoff generated from the site. By reducing the volume of water leaving a site, the pollutant loading is also reduced. Other techniques that will reduce the volume and peak flow rates of runoff from the development are then incorporated throughout the site. LID is an effective tool that reduces pollutant loading, thermal impacts, stream flows, and minimizes stream channel erosion.

LID is not a rigid set of standards, or a one size fits all approach and has many benefits:

- ✓ **Benefits to the Developer:** The owner and developer will see reduced costs for land clearing and grading, infrastructure, and stormwater management while seeing an increased aesthetic value in the development.
- ✓ **Benefits to the Municipality:** The local government and community will benefit from reduced infrastructure maintenance costs and reductions in property damage from flooding, while having more green space, protected natural resources, and increased water quality.
- ✓ **Benefits to the Environment:** The hydrologic cycle is preserved; streams are less prone to erosion, and stream flows are maintained which benefits fish and wildlife.

LID goals and objectives shall be incorporated into the site planning process as early as possible. The following steps serve as a guideline to use in the planning stage:

- ✓ Identify and preserve areas that will affect the hydrology of the site. Features that should be protected are sensitive areas and natural resources including down gradient waterways.
- ✓ Minimize site disturbance and impervious areas with an alternative layout for the development within the constraints of local development criteria.
- ✓ Minimize the impervious surfaces directly connected to drainage conveyance systems to reduce the time of concentration.
- ✓ Break the site into smaller drainage areas that can be handled using basic LID techniques.

PLANNING FOR LID

Minimize Site Clearing: Development typically involves new impervious surfaces such as roads and buildings, and landscaped areas for lawns. Avoid developing soils with high permeability where possible. Protect areas that are sensitive to disturbance and that will sustain groundwater recharge and reduce runoff. For example, developing a vegetated, tight clay soil area will have less impact on stormwater runoff than developing a forested area on sandy soils. Once the sensitive areas have been identified, the layout of the development should be aligned with the conservation of these areas.

Minimize Impervious Areas: The traffic distribution network (roadways, sidewalks, driveways, and parking areas) is generally the greatest source of site imperviousness and should be the focus for reducing impervious area. The following techniques may be considered, where appropriate and permitted by local land use codes and/or ordinances:

Alternative Roadway Layout: Alternative roadway layouts can be used to reduce total pavement, while allowing for the same amount of development. Cluster development, in accordance with and as allowed by local ordinances can decrease imperviousness.

- ✓ *Narrow Road Sections:* The width of pavement can be reduced by including the primary driving surface, a pervious base for the shoulders, and ditch drainage swale in place of curb and gutter, as deemed appropriate. Use of this technique should be evaluated in accordance with site-specific conditions.
- ✓ *Sidewalks:* Sidewalks can be reduced to one side of the road or eliminated. The use of pervious materials can reduce runoff.
- ✓ *On-Street Parking:* Reduction to one side or elimination of on-street parking has significant potential to reduce overall site imperviousness. On-street parking may be a desirable practice in highly urbanized areas to reduce on-site disturbance.
- ✓ *Rooftops:* The number and size of buildings dictates the impervious area associated with rooftops. Vertical construction and/or the use of green roofs can minimize imperviousness.
- ✓ *Driveways:* Minimizing paved or impervious driveway area can be accomplished through the design of narrower driveways or by reducing the length of driveways. Shared driveways can also reduce imperviousness, where appropriate. In addition, the use of pervious materials can minimize runoff.

Minimize Connected Impervious Areas: The impacts from impervious surfaces can be minimized by disconnecting these areas from piped drainage networks and by managing runoff at the source.

- ✓ Paved driveways and roads can be directed to stabilized, vegetated areas.
- ✓ Flows from large, paved surfaces can be broken up to facilitate on-site management of smaller flows. Breaking flows up allows the flows to be directed to vegetation as sheet flow.
- ✓ LID techniques can be dispersed throughout the development, such as at individual houselots to obtain the most benefit. They can be incorporated into the landscaping of the property to provide a natural treatment system.

Maintain Time of Concentration: When development occurs, the time of concentration (T_c) is often shortened due to the impervious area, causing greater flows over a shorter period of time. LID practices can maintain the pre-development T_c by:

- ✓ Minimizing land disturbance,
- ✓ Detaining flows on site,
- ✓ Increasing the flow length,
- ✓ Increasing the surface roughness of the flow path,
- ✓ Creating flatter slopes, and/or
- ✓ Disconnecting impervious areas, which will decrease their travel rates.

Manage Stormwater at the Source: The impact from a development can be mitigated at the source by reestablishing a more natural hydrologic cycle that sustains a clean stream base flow. Typically, the most economical and simplistic stormwater management strategy is achieved by controlling runoff at the source with a variety of small treatment structures that will result in the reduction of stormwater discharge and more flexibility in the site design.

Soil Considerations:

Minimize Compaction: Compaction reduces the natural infiltrating ability of soils; thus, avoiding disturbance by heavy equipment can benefit infiltration. Designing development to situate impervious surfaces and development disturbances on the more impermeable soils of a site can leave more pervious soils to continue infiltrating runoff.

Increase Organic Content of Soils: When constructing many of the LID vegetated techniques, such as filtration Best Management Practices (BMP), a quality topsoil can optimize pollutant removal. In this case, the soil bed should consist of organic content as described in the relevant filtration BMP. This highly organic layer traps contaminants, absorbs more runoff and provides a medium for biological activity that helps break down pollutants. Planting soil provides a healthy growing medium for vegetation by encouraging strong root growth. In addition, microbes found in healthy soils transform nutrients for plant growth. Compost or other organic amendments can be added at the site preparation level, typically by the truckload. It is also available for little or no cost from many community leaf compost programs. For rain gardens and bioretention areas, organic content can also be valuable in absorbing and retaining moisture for plant life, filtering pollutants, and providing an active layer for microorganisms to reside and reproduce. A healthy microorganism population is key to the decomposition of many pollutants, whether in the home rain garden or in a parking lot.

- Avoid Pesticides/Herbicides: Healthy soil is alive with microorganisms that decompose and inactivate pollutants, but these may be killed by excessive chemicals. Although the soil microorganisms are not typically the target of these chemicals, many of them may fall victim to the use of pesticides. Additionally, insect species that prey on pests are also killed by pesticides. Since the predatory species tend to have slower reproduction than the pest species, a natural defense against insect pests may be lost.

LID TECHNIQUES

Many LID techniques rely on infiltration, retention, and evapotranspiration of stormwater to reduce runoff. When infiltration is not a possibility, the initial planning techniques described above should be the primary focus, followed by the use of small disconnected underdrained systems that rely on soil and vegetation to retain runoff. Examples of LID measures and techniques are shown on Table 1.

- Filters (Bioretention Cells and Rain gardens): Bioretention areas or rain gardens are built with a specific soil filter media (containing organic material and planted with vegetation that can handle wet and dry conditions) that will reduce the volume of runoff through absorption and evapotranspiration. A slight depression allows the ponding of stormwater as it filtrates through the soil media and into the groundwater or to an underdrain for surface discharge.
- Infiltration: Infiltration reduces runoff and mimics the natural hydrologic cycle by redirecting water into the ground rather than to a piped system. Runoff can be reduced by using smaller infiltration basins that fit into the natural landscape.
- Buffers: Vegetated buffers use soils and vegetation to remove pollutants from stormwater. Buffers can be used as a stormwater BMP for small developments by minimizing the amount of runoff generated through infiltration and evapotranspiration. Filter strips are typically used as pretreatment devices for bioretention cells and other infiltration practices.
- Collection Cisterns: In a commercial setting, the collection of rain runoff can be put to use in the building to off-set the cost of water supply. Cisterns can be located either above or below ground, and in out-of-the-way places that can easily be incorporated into a site design. Commercially available systems are typically constructed of high-density plastics and can include pumps and filtration devices. Rain barrels are inexpensive, effective, and easily maintainable when used in residential applications to capture roof runoff for later watering of lawns and gardens.
- Vegetated Rooftops: Vegetated rooftops provide three primary benefits: attenuation of stormwater runoff and peak flows, reductions of the heat island effects with an increase in building insulation, and a longer life expectancy for the base roof material. The stormwater benefit is that the smaller more common storm events are absorbed, which minimizes peak runoff and the net volume of runoff typically produced by roofs.

- ✓ Porous Pavement: Porous pavement is a permeable surface (pervious asphalt, concrete or pavers), a granular base, and subbase materials which allow the penetration of runoff into the underlying soils. The efficiency of pavement alternative systems depends on whether the pavement is designed to store and infiltrate most runoff, or only limited volumes of runoff (e.g., "first-flush") with the remainder discharged to a storm drainage system or overland flow. Maintenance is essential for long-term use and effectiveness. Pavement alternatives vary in load bearing capacities but generally can be designed for low traffic areas such as sidewalks, parking lots, overflow parking and residential roads. It is important to choose a material appropriate for the desired use (light, moderate or heavy use).
- ✓ Other Techniques: LID is about creativity. Multiple practices can be implemented and adapted into various sites and situations. However, they are mostly dependent upon the layout of the development and the disconnection of its individual elements.

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Table 1 – LID Measures and Techniques*

LID Measure	Example Technique	Design
Minimize site clearing	<ul style="list-style-type: none"> • Promote compact development on the site • Place parking underneath or inside structures • Avoid developing in areas with high-permeable soils to retain natural infiltration • Align development layout with conservation of sensitive areas 	
Protect natural drainage system	<ul style="list-style-type: none"> ✓ Maintain a minimum 25 foot buffer on all natural water resources including intermittent channels ✓ Do not divert stormwater from its natural sub-watershed 	
Minimize the decrease in time of concentration	<ul style="list-style-type: none"> ✓ Break up or disconnect the flow of runoff over impervious surfaces ✓ Sheet flow over pavement that is less than 100 feet 	
Minimize impervious area or the effect of impervious area	<ul style="list-style-type: none"> ✓ Build vertically with multi story buildings and parking garages ✓ More than 25% of pavement area (overflow) in pervious pavement. All pedestrian walkways are pavers or pervious pavement. Runoff from paved surfaces should be directed to stabilized, vegetated areas ✓ Disperse LID techniques throughout development and incorporate into the landscaping ✓ Infiltrate as much roof runoff as standards allow <p>Minimize the use of paved areas (sidewalks, driveways and streets)</p> <p>Minimize the use of hardscaped areas.</p>	<p>Design practices developed at the planning phase that will help mitigate environmental impacts. Ideally, these are cost-effective and environmentally friendly.</p>

Table 1 – LID Measures and Techniques*		
LID Measure	Example Technique	Design
Minimize soil compaction	<ul style="list-style-type: none"> · Minimize the construction window and target the development area · Rototilling all areas to be revegetated 	<p>Design practices developed at the planning phase that will help mitigate environmental impacts. Ideally, these are cost-effective and environmentally friendly.</p>
Minimize lawns and maximize landscaping that encourages runoff retention	<ul style="list-style-type: none"> · Low maintenance Maine native plants · No invasive plants · Limit the use of pesticides and biocides · Fertilizer application only during initial planting and repair of damaged areas. 	
Provide vegetated open-channel conveyance systems	<ul style="list-style-type: none"> · Evaluate road gutters and roof gutters to determine effective means to direct runoff to treatment BMPs · Level spreaders to buffers where possible · Underdrained swales 	
Rainwater is stored for later reuse for the building or landscape	Rain Collection Cisterns	
Stormwater Quality Treatment and Retention Requirements	Buffers	
	Infiltration (basins, trenches, dry wells, etc.)	
	Underdrained grass filters	
	Underdrained filter bioretention	
	Roofline filtration	
	Roof Greening	
	Pervious Pavement	

*LID measures, example techniques and design practices in this table are intended to be illustrative and shall be taken into consideration where applicable, practicable and allowable pursuant to applicable land use planning and development requirements.