

Town of Brewster

Stormwater Management Regulations

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Table of Contents

| | |
|---|----|
| Section 1. Purpose | 2 |
| Section 2. Definitions | 2 |
| Section 3. Authority | 2 |
| Section 4. Applicability | 3 |
| Section 5. Administration | 3 |
| Section 6. Performance Standards | 9 |
| Section 7. Construction Inspections | 14 |
| Section 8. Long-Term Operation and Maintenance | 15 |
| Section 9. Surety | 17 |
| Section 10. Severability | 17 |
| Appendix A. Definitions | 18 |
| Appendix B. Stormwater Management Plan Checklists | 22 |
| Appendix C. Fee Schedule | 30 |

Section 1. Purpose

The purpose of these Regulations is to protect, maintain, and enhance public health, safety, environment, and general welfare by establishing minimum requirements and procedures to mitigate the adverse effects of stormwater runoff, decreased groundwater recharge, erosion and sedimentation, and nonpoint source pollution, as more specifically addressed in the Town of Brewster Stormwater Management Bylaw (Chapter 272).

Section 2. Definitions

- 2.1. The definitions contained herein apply to the Brewster Stormwater Management Bylaw and the Regulations adopted thereunder. Terms not defined in this section shall be construed according to their customary and usual meaning unless the context indicates a special or technical meaning.
- 2.2. Definitions are provided in Appendix A of these Regulations.

Section 3. Authority

- 3.1. The regulations contained herein have been adopted by the Stormwater Authority in accordance with § 272-7 of the Stormwater Management Bylaw.
- 3.2. Pursuant to § 272-4 of the Stormwater Management Bylaw, the Brewster Planning Board is the Stormwater Authority. For projects that fall within the jurisdiction of the Brewster Wetlands Protection Bylaw (Chapter 172), the Conservation Commission shall be the authority to implement and enforce this Bylaw. The Stormwater Authority may designate an agent(s) to enforce this Bylaw.
- 3.3. The Stormwater Authority may periodically amend these regulations pursuant to § 272-7 of the Stormwater Management Bylaw.
- 3.4. Nothing in these Regulations is intended to replace or be in derogation of the requirements of any other Brewster bylaw. These Regulations should be considered minimum requirements, and where any provision of these Regulations impose restrictions different from those imposed by any other bylaw, rule or regulation, or other provision of law, whichever provisions are more restrictive or impose higher protective standards for human health or the environment shall be considered to take precedence.

Section 4. Applicability

All activities subject to the Stormwater Management Bylaw (as set forth in § 272-5 of the Stormwater Management Bylaw) shall obtain a Stormwater Permit before commencing construction or land-disturbance activities. Exemptions are established in § 272-6 of the Stormwater Management Bylaw. The following provides further guidance on activities that do not require a Stormwater Permit:

- Paving an existing gravel, crushed shell, or dirt driveway, road, or parking area, provided that the area of land disturbance is less than 10,000 square feet and the expansion of impervious surface area is less than 500 square feet. Gravel, crushed shell, and dirt driveways, roads, and parking areas are defined as impervious surfaces per Appendix A of these Regulations and § 272-2 of the Stormwater Management Bylaw. Therefore, paving of those surfaces does not constitute creation of new impervious surface area;
- Construction or repair of subsurface septic system components; and
- Replacement of an existing roof.

Proposed raised decks are excluded from the calculation of new impervious surface area if:

- The ground area beneath the proposed deck is presently bare ground or landscaped, including lawn, and is proposed to remain pervious,
- There will not be a roof constructed over the proposed deck, and
- The proposed deck will be constructed in such a manner to allow rainfall to pass through to the ground below. An example of this is the typical wooden deck with expansion spaces between the boards that form the deck surface.

The following criteria shall apply for determining eligibility for Minor Stormwater Permit and Major Stormwater Permit categories:

4.1. Minor Stormwater Permit

- A. Any combination or series of construction or land disturbance activities that, over a two-year period, will result in a net increase in impervious area of 500 square feet to 2,500 square feet and/or will result in land disturbances of 10,000 square feet to 20,000 square feet.

4.2. Major Stormwater Permit

- A. Any alteration, disturbance, development, or redevelopment that does not meet the eligibility criteria for Minor Stormwater Permit.

Section 5. Administration

5.1. Stormwater Permit applications shall be administered as follows:

- A. Minor Stormwater Permit applications shall be reviewed and acted upon by the Designated Agent of the Stormwater Authority. The Town Planner, Conservation Administrator, Department of Public Works (DPW) Director, or Building Commissioner shall be the Designated Agent, depending on the other reviews and

approvals to which the project is subject. Review by the Stormwater Authority is not required for Minor Stormwater Permits.

- B. Major Stormwater Permit applications shall be reviewed and acted upon by the Stormwater Authority.

5.2. Application Procedures

- A. The Applicant shall submit to the Stormwater Authority (for a Major Permit) or Designated Agent (for a Minor Permit) a completed application for a Stormwater Permit. The Stormwater Permit Application package shall include:
 - (1) A completed Application Form with original signatures of all property owners;
 - (2) Digital and printed copies of the Stormwater Management Plan, prepared in accordance with the Stormwater Management Plan Checklist in Appendix B of these Regulations; and
 - (3) Payment of the Application Fee in accordance with the Fee Schedule in Appendix C of these Regulations.
- B. The Stormwater Authority (for a Major Permit) or Designated Agent (for a Minor Permit) shall make a determination as to the completeness of the application and adequacy of the materials submitted. No review shall take place until the application is determined complete.

5.3. Fees

- A. Each application shall be accompanied by the appropriate Application Fee, as detailed in Appendix C of these Regulations.
- B. The Stormwater Authority or Designated Agent may, at the Applicant's expense, retain a registered Professional Engineer (PE) or other professional consultant to advise the Stormwater Authority on any or all aspects of the Application.
 - (1) Purpose. As provided by M.G.L. Ch. 44 §53G and the Stormwater Management Bylaw, the Stormwater Authority may impose reasonable fees for the employment of outside consultants, engaged by the Stormwater Authority, for specific expert services to assist the Stormwater Authority in its review of applications for Stormwater Permits and oversight of permit compliance.
 - (2) Consultant Services. Specific consultant services may include, but are not limited to, technical or legal review of the permit application and associated information, on-site monitoring during construction, or other services related to the project deemed necessary by the Stormwater Authority. The consultant shall be chosen by, and report only to, the Stormwater Authority or its staff.
 - (3) Notice. The Stormwater Authority shall give written notice to the Applicant of the selection of an outside consultant. Such notice shall state the identity of the consultant, the amount of the fee to be charged to the applicant, and a request for payment of said fee in its entirety. Such notice shall be deemed to have been given on the date it is mailed or delivered. No such costs or expenses

shall be incurred by the Applicant if the application or request is withdrawn within five (5) business days of the date notice is given.

- (4) **Payment of Fee.** The fee must be received prior to the initiation of consulting services. The Stormwater Authority may request additional consultant fees if the review requires a larger expenditure than originally anticipated or new information requires additional consultant services. Failure by the Applicant to pay the consultant fee specified by the Stormwater Authority within ten (10) business days of the request for payment, or refusal of payment, shall be cause for the Stormwater Authority to deny the application based on lack of sufficient information to evaluate whether the project meets applicable performance standards. An appeal stops the clock on the above deadline; the countdown resumes on the first business day after the appeal is either denied or upheld.
- (5) **Special Account.** Funds received pursuant to these Regulations shall be deposited with the municipal treasurer, who shall establish a special account for this purpose. Expenditures from this special account may be made at the direction of the Stormwater Authority without further appropriation as provided in M.G.L. Ch. 44 §53G. Expenditures from this account shall be made only in connection with a specific project or projects for which a consultant fee has been collected from the applicant. Expenditures of accrued interest may also be made for these purposes.
- (6) **Appeals.** The Applicant may appeal the selection of the outside consultant to the Select Board, who may only disqualify the outside consultant selected on the grounds that the consultant has a conflict of interest or does not possess the minimum required qualifications. The minimum qualifications shall consist of either an educational degree or three or more years of practice in the field at issue or a related field. Such an appeal must be in writing and received by the Select Board and a copy received by the Stormwater Authority, so as to be received within ten (10) business days of the date consultant fees were requested by the Stormwater Authority. The required time limits for action upon the application shall be extended by the duration of the administrative appeal.
- (7) **Return of Unspent Fees.** When the Stormwater Authority's review of a permit application and oversight of the permitted project is complete, any balance in the special account attributable to that project shall be returned within thirty (30) business days. The excess amount, including interest, shall be repaid to the Applicant or the Applicant's successor in interest. For the purpose of these Regulations, any person or entity claiming to be an Applicant's successor in interest shall provide the Stormwater Authority with appropriate documentation. A final report of said account shall be made available to the Applicant or Applicant's successor in interest.

5.4. Right of Entry

Filing an application for a permit grants the Stormwater Authority or its agent permission to enter the property to verify the information in the application and to inspect for

compliance with permit conditions. During the application process, the Stormwater Authority, its employees and agents (including consultants) may conduct site visits of the project site to review information presented in the application.

5.5. Public Meeting

- A. A public meeting is not required for Minor Stormwater Permit applications.
- B. For Major Stormwater Permit applications, the Stormwater Authority shall hold a meeting in accordance with the Massachusetts Open Meeting Law. For projects or activities that require issuance of a Stormwater Permit in addition to other approvals or permits, the Stormwater Authority shall hold a coordinated meeting on all jurisdictional project aspects in accordance with its own regulations and procedures.

5.6. Action by the Stormwater Authority or Designated Agent

A. Minor Stormwater Permit

- (1) The Designated Agent shall act upon a Minor Stormwater Permit Application within thirty (30) business days of the date the Designated Agent determines the application is complete or after receipt of expert review by outside consultants if deemed necessary in accordance with Section 5.3.B.
- (2) The Designated Agent may:
 - a. Approve the Minor Stormwater Permit Application and issue a permit if it finds that the performance standards and requirements set forth herein have been met;
 - b. Approve the Minor Stormwater Permit Application and issue a permit with conditions, modifications, or restrictions that the Designated Agent determines are required to ensure that the performance standards and requirements set forth herein are met;
 - c. Disapprove the Minor Stormwater Permit Application and deny the permit if it finds that the performance standards and requirements set forth herein have not been met; or
 - d. Disapprove the Minor Stormwater Permit Application “without prejudice” where an applicant fails to provide requested additional information or review fees that in the Designated Agent’s opinion are needed to adequately describe or review the proposed project.
- (3) Final approval, if granted, shall be endorsed on the Stormwater Permit by the signature of the Designated Agent.
- (4) Appeal of Disapproved Applications
 - a. The Applicant may appeal a permit denial by the Designated Agent by requesting the Stormwater Authority review the application. Such review shall take place with a public meeting as described in Section 5.5 and shall be subject to any review fees or additional submittal requirements as specified in these Regulations.

B. Major Stormwater Permit

- (1) The Stormwater Authority shall take final action within thirty (30) business days from the public meeting as described in Section 5.5, unless such time is extended by agreement between the Applicant and Stormwater Authority.
- (2) The Water Quality Review Committee will provide comments on Major Stormwater Permit applications for those projects that require a Special Permit under the Water Quality Protection District (Chapter 179, Article XI).
- (3) The Stormwater Authority may:
 - a. Approve the Major Stormwater Permit Application and issue a permit if it finds that the performance standards and requirements set forth herein have been met;
 - b. Approve the Major Stormwater Permit Application and issue a permit with conditions, modifications, or restrictions that the Stormwater Authority determines are required to ensure that the performance standards and requirements set forth herein are met;
 - c. Disapprove the Major Stormwater Permit Application and deny the permit if it finds that the performance standards and requirements set forth herein have not been met; or
 - d. Disapprove the Major Stormwater Permit Application “without prejudice” where an applicant fails to provide requested additional information or review fees that in the Stormwater Authority’s opinion are needed to adequately describe or review the proposed project.
- (4) Final approval, if granted, shall be endorsed on the Stormwater Permit by the signature of the majority of the Stormwater Authority or by the Stormwater Authority chair or other designated Stormwater Authority member, as consistent with the Stormwater Authority (Planning Board or Conservation Commission) standard procedures.

5.7. Project Delay

If the project associated with an approved Stormwater Permit has not been completed within three (3) years of permit issuance, the Permit shall expire. At the request of the Applicant, the Stormwater Authority or Designated Agent may extend the Permit or require the Applicant to apply for a new permit. Any request for extension shall be submitted in writing no later than thirty (30) business days prior to the expiration of the Stormwater Permit. The Stormwater Authority or Designated Agent may require updates to the project to comply with current regulations and standards as a condition of the permit extension.

5.8. Project Changes

The Permittee, or their agent, shall notify the Stormwater Authority or Designated Agent in writing of any change of a land-disturbing activity authorized in a Stormwater Permit before any change occurs. If the Stormwater Authority or Designated Agent determines that the change is significant, based on the performance standards in Section 6 and accepted construction practices, the Stormwater Authority or Designated Agent may

require that an amended Stormwater Permit application be filed and a public meeting held. If any change from the Stormwater Permit occurs during land disturbing activities, the Stormwater Authority or Designated Agent may require the installation of interim erosion and sedimentation control measures before approving the change.

5.9. Stormwater Management Certificate of Compliance (SMCC)

A. No SMCC is required for work approved under a Minor Stormwater Permit.

B. Within two (2) years after completion of construction or land disturbance activities permitted under a Major Stormwater Permit, the Permittee shall submit in writing a request for a SMCC. The Permittee must complete the following actions before the Stormwater Authority will consider the request for SMCC:

- (1) Within six (6) months after completion of construction and land disturbance activities, the Permittee shall submit certified as-built plans from a registered Professional Engineer (PE), surveyor, or Certified Professional in Erosion and Sediment Control (CPESC). The as-built plans must depict all structural and non-structural stormwater management systems, including subsurface components, and impervious and pervious surface areas on site. Any discrepancies from the approved Stormwater Management Plan should be noted in the cover letter.
- (2) The Permittee shall record the approved Operation and Maintenance Plan, including the as-built plans, with the Barnstable County Registry of Deeds.
- (3) The Permittee shall complete and document the first year of stormwater best management practice (BMP) operation and maintenance, in accordance with the approved Operation and Maintenance Plan and Stormwater Permit conditions.

C. Upon written request by the Permittee, the Stormwater Authority shall assess whether the work has been completed in substantial conformance with the approved Stormwater Management Plan and any conditions of the Stormwater Permit. Upon determination that permit conditions have been met, the Stormwater Authority shall issue a SMCC.

D. It is the responsibility of the Permittee to request, in writing, the issuance of a SMCC. A Permittee who fails to request a SMCC within two (2) years after completion of construction and land disturbance activities may be found in noncompliance with the Stormwater Management Bylaw and face applicable enforcement actions.

E. After issuance of the SMCC, the Stormwater Authority may periodically review ongoing compliance with Stormwater Permit conditions, including long-term operation and maintenance. If it finds that permit conditions have not been met, the Stormwater Authority may revoke the SMCC and take action in accordance with § 272-14 of the Stormwater Management Bylaw. For projects that have been issued a Water Quality Certificate under the Water Quality Protection District (Chapter 179, Article XI), the Water Quality Review Committee will conduct a compliance review every three years and will work with the Stormwater Authority to ensure ongoing compliance with Stormwater Permit conditions.

5.10. Waivers

- A. The Stormwater Authority or Designated Agent may waive strict compliance with any requirement of these Regulations, if it finds that:
 - (1) Application of some of the requirements is unnecessary or impracticable because of the size or character of the development activity or because of the natural conditions at the site;
 - (2) The project is consistent with the purposes and intent of the Stormwater Management Bylaw; and
 - (3) The project provides substantially the same level of protection to the public health, safety, environment, and general welfare of the Town as required by the Stormwater Management Bylaw.
- B. Any Applicant seeking a waiver shall submit a written waiver request. Such a request shall be accompanied by an explanation or documentation supporting the waiver request.
- C. Waiver requests for Minor Stormwater Permits may be approved by the Designated Agent rather than by a majority of Stormwater Authority members.
- D. Waiver requests for Major Stormwater Permits shall be discussed and voted on at a public meeting for the project. If, in the opinion of the Stormwater Authority, additional time or information is required for review of a waiver request, the Stormwater Authority may continue a meeting to a date announced at the meeting. In the event the Applicant objects to a continuance or postponement, or fails to provide requested information, the waiver request shall be denied.

Section 6. Performance Standards

6.1. Construction-Site Stormwater Management

- A. Projects eligible for Minor Stormwater Permits shall meet the construction-site stormwater management performance standards detailed in Section 6.1.B to the maximum extent practicable. At a minimum, controls for erosion, sediment, and construction wastes shall be implemented to prevent nuisance conditions, such as sediment or debris washouts onto abutting properties and public rights of way.
- B. For Major Stormwater Permits, projects shall implement practices to control construction-related erosion, sedimentation, and wastes in accordance with the most recent versions of the Massachusetts Stormwater Handbook and the Massachusetts Erosion and Sedimentation Control Guidelines for Urban and Suburban Areas, or more stringent standards as specified in these Regulations. The following performance standards shall be met.
 - (1) Natural Resource Protection: Before commencing land disturbance activities, the limits of permitted disturbance areas shall be marked with high-visibility flagging, fencing, and/or signage. Areas designated for revegetation and/or infiltration-based stormwater practices shall be marked with flagging, fencing, and/or signage to restrict use of heavy vehicles and equipment in these areas to

avoid soil compaction. Tree protection shall be installed around the dripline for all trees to be preserved. Buffers and other restricted areas shall be maintained as required in a wetlands protection authorization from the Brewster Conservation Commission or MassDEP.

- (2) Area of Disturbance: Clearing and grading shall only be performed within areas needed to build the project, including structures, utilities, roads, recreational amenities, post-construction stormwater management facilities, and related infrastructure. Such areas shall be staked to ensure that the work is completed within the appropriate areas. Construction activities shall be phased to minimize the area of disturbed soil at any one time.
- (3) Soil Stabilization: The time that soil is exposed shall be minimized by stabilizing dormant areas as work progresses. Exposed areas shall be vegetated, hydromulched, protected with erosion control blankets, or otherwise stabilized within 14 days after land disturbance activities have permanently ceased or will be temporarily inactive for 14 or more days. Vegetative cover shall be prepared in the fall to ensure that exposed areas have cover before the first freeze.
- (4) Stockpiles: Materials shall not be stored or stockpiled near a storm drain or a wetland resource area. Stockpiled materials that will be unused for 14 or more days shall be covered with roof, tarp, or temporary seeding (of soil stockpiles). Perimeter controls shall be installed around stockpile and staging areas.
- (5) Perimeter Controls: Perimeter sediment controls, such as silt fencing and filter tubes, shall be installed around downgradient boundaries, along all resource areas, and around stockpile and staging areas. Compost socks and straw bale shall be free of invasive species. Perimeter controls shall not be removed until the drainage areas have been permanently stabilized.
- (6) Stabilized Construction Entrance: Track-out controls (e.g., gravel apron) shall be installed at each construction entrance to remove sediment from vehicles and prevent tracking onto public roads. Where sediment has been tracked-out from the site, paved roads, sidewalks, or other paved areas shall be swept or vacuumed at the end of the workday. Sediment shall not be swept, hosed, or otherwise deposited into any stormwater conveyance, storm drain inlet, or waterbody.
- (7) Inlet Protection: Filter bags, filter tubes, or other inlet protection controls shall be installed to prevent sediment from entering downgradient storm drains. Inlet controls shall not be removed until the drainage areas have been permanently stabilized.
- (8) Runoff Diversion: Runoff shall be intercepted and diverted away from disturbed areas with berms, swales, or pipes toward stabilized outlets. Conveyances shall be stabilized with vegetation, erosion control blankets, check dams, or similar practices to slow velocities and prevent erosion.
- (9) Sediment Removal: Sediment traps and basins shall be used to remove suspended solids from runoff before it discharges from the site. Traps and

basins shall be designed to use baffles, multiple cells, and other practices to maximize the flow path and settling time. Sediment controls shall not be removed until the drainage areas have been permanently stabilized.

- (10) Dewatering: Dewatering activities shall use tanks, filter bags, or other practices to remove sediment before discharge. Water shall not be discharged in a manner that causes erosion or flooding of the site or receiving waters.
- (11) Outlet Protection: Pipe outlets shall have stone aprons, level spreaders, or other energy dissipation practices installed to prevent erosion.
- (12) Construction Waste Management: Trash, debris, and sanitary wastes shall be removed from the site on a regular basis. Dumpsters shall be covered at the end of every workday and before rain events. Dumpsters shall not be allowed to leak or otherwise discharge to any stormwater conveyance, storm drain inlet, or waterbody. Concrete mixers shall be washed out only in designated areas with liners. Demolition debris, discarded building materials, concrete truck wash out, chemicals, litter, and sanitary wastes shall not be discharged to the MS4 and shall be disposed of in compliance with all local, state, and federal requirements.
- (13) Post-Construction BMPs: Stormwater management facilities to be used after construction shall not be used as BMPs during construction unless otherwise approved by the Stormwater Authority. Many technologies are not designed to handle the high concentrations of sediments typically found in construction runoff, and thus must be protected from construction-related sediment loadings.
- (14) Dust Control: Dust control shall be used during grading operations. Dust control methods may consist of grading fine soils on calm days only or dampening the ground with water.
- (15) Inspection and Maintenance: Erosion and sediment controls shall be inspected as needed and at a minimum before and after rain events. Accumulated sediments shall be removed, and erosion and sediment controls shall be repaired or replaced as needed to ensure they perform as intended.

6.2. Post-Construction Stormwater Management

Projects that do not involve the development or redevelopment of impervious surfaces are exempt from meeting Post-Construction Stormwater Management performance standards.

A. Minor Stormwater Permits

- (1) Projects eligible for Minor Stormwater Permits shall evaluate and, unless impracticable, implement Low Impact Development (LID) planning and design strategies. LID practices may include, but not be limited to, protection and restoration of natural resources, minimizing impervious surfaces, grading to direct runoff onto pervious surfaces, and soil decompaction and amendments

to improve infiltration capacity. Further guidance on LID practices may be found in the Massachusetts Stormwater Handbook.

- (2) Projects shall implement at least one stormwater BMP to mitigate the impacts from stormwater runoff and pollutants generated from impervious surfaces on the property. The Applicant may select a BMP type including but not limited to:
 - i. Impervious area disconnection
 - ii. Rain barrel for roof runoff
 - iii. Rain garden
 - iv. Pervious pavement
 - v. Dry well
 - vi. Infiltration trench
 - vii. Vegetated swale
- (3) Stormwater BMPs shall be designed in accordance with the Massachusetts Stormwater Handbook and shall have a storage volume equivalent to 1 inch multiplied by the net increase in impervious surface area or by 500 square feet of impervious surface area, whichever is greater. Sizing of infiltration BMPs may be adjusted using a BMP sizing tool provided by the Stormwater Authority.

B. Major Stormwater Permits

- (1) At a minimum, Major Stormwater Permit projects shall comply with the Massachusetts Stormwater Standards and the MS4 Permit. Design of stormwater management systems shall be consistent with the requirements of the Massachusetts Stormwater Handbook, or more stringent standards as specified in these Regulations.
- (2) Applicants shall evaluate and, unless infeasible, implement LID planning and design strategies. LID practices shall include, but not be limited to, protection and restoration of natural resources, minimizing impervious surfaces, grading to direct runoff onto pervious surfaces, and soil decompaction and amendments to improve infiltration capacity. Further guidance on LID practices may be found in the Massachusetts Stormwater Handbook. If the Applicant finds that LID practices are infeasible, the Applicant shall demonstrate which LID practices were evaluated and reasons why those practices were deemed infeasible.
- (3) Selection and design of stormwater BMPs shall be optimized for the removal of phosphorus and nitrogen. Infiltration BMPs, bioretention, and constructed stormwater wetlands are recommended for reducing the concentration of nutrients in stormwater discharges. Additional guidance on BMP performance for phosphorus and nitrogen removal may be found in the MS4 Permit.

- (4) Drainage analyses and design calculations shall use precipitation depths based on 90% of the NOAA Atlas 14¹ upper confidence interval for the project location, also known as “NOAA Plus”. These “Plus” values are calculated by multiplying the NOAA Atlas 14 upper confidence interval by 0.9.
- (5) BMPs located on commercial or industrial land use areas shall be designed to allow for shutdown and containment to isolate the drainage system in the event of an emergency spill or other unexpected event.
- (6) New Development
 - a. Stormwater management systems for new development shall be designed to remove, at a minimum, 90% of the average annual load of Total Suspended Solids (TSS) and 60% of the average annual load of Total Phosphorus (TP) generated from the total post-construction impervious surface area on the site. Average annual pollutant removal requirements may be achieved through one of the following methods:
 - i. Installing stormwater BMPs that provide the required pollutant removal based on calculations developed using EPA Region 1’s BMP Accounting and Tracking Tool (2016), the MS4 Permit methodology, or other BMP performance evaluation tool provided by the Stormwater Authority; or
 - ii. Retaining the volume of runoff equivalent to, or greater than, 1.0 inch multiplied by the total post-construction impervious surface area on the site; or
 - iii. Providing a combination of retention and treatment that achieves the above standards.
- (7) Redevelopment
 - a. Redevelopment activities that are exclusively limited to maintenance and improvement of existing roadways (including widening less than a single lane, adding shoulders, correcting substandard intersections, improving existing drainage systems, and repaving projects) shall improve existing conditions unless infeasible and are exempt from the requirements of Section 6.2.C(7)b.
 - b. Stormwater management systems for redevelopment shall be designed to remove, at a minimum, 80% of the average annual load of TSS and 50% of the average annual load of TP generated from the total post-construction impervious surface area on the site. Average annual pollutant removal requirements may be achieved through one of the following methods:
 - i. Installing stormwater BMPs that provide the required pollutant removal based on calculations developed using EPA Region 1’s BMP Accounting and Tracking Tool (2016), the MS4 Permit methodology,

¹ NOAA Atlas 14 Precipitation Frequency Data Server <https://hdsc.nws.noaa.gov/hdsc/pfds/>

- or other BMP performance evaluation tool provided by the Stormwater Authority; or
- ii. Retaining the volume of runoff equivalent to, or greater than, 0.8 inch multiplied by the total post-construction impervious surface area on the site; or
- iii. Providing a combination of retention and treatment that achieves the above standards.

Section 7. Construction Inspections

- 7.1. For Minor Stormwater Permit projects, inspection requirements will be determined by the Designated Agent based on the proposed project's scale and complexity.
- 7.2. For Major Stormwater Permit projects, the following inspection requirements shall apply:
 - A. The Stormwater Authority may, at its discretion, require a pre-construction meeting prior to the start of clearing, excavation, construction, or land disturbing activity by the Applicant. The Permittee's technical representative, general contractor, or other authorized person(s) shall meet with the Stormwater Authority to review the permitted plans and their implementation.
 - B. For projects subject to the NPDES Construction General Permit, construction may not commence until the Permittee has submitted EPA's approval of the Construction General Permit Notice of Intent to the Stormwater Authority and posted the final Stormwater Pollution Prevention Plan (SWPPP) at the site.
 - C. The approved Stormwater Management Plan bearing the signature of approval of the Stormwater Authority shall be maintained at the site during the progress of the work.
 - D. The Stormwater Authority or its designated agent may inspect the site at the following stages, at a minimum:
 - (1) Initial Site Inspection: An inspection may be made of erosion and sedimentation controls and signage prior to any land disturbance to assess overall effectiveness and functioning to protect resources.
 - (2) Stormwater Management System Excavation Inspection: An inspection may be made of the excavation for the stormwater management system to ensure adequate separation of the stormwater system from groundwater and presence of approved soil type.
 - (3) Stormwater Management System Inspection: An inspection may be made of the completed stormwater management system, prior to backfilling of any underground drainage or stormwater conveyance structures.
 - (4) Final Inspection: An inspection may be made of the completed stormwater management system and final site stabilization to confirm as-built features and other permit conditions.
 - E. Inspections will be conducted by a "qualified person" from the Stormwater Authority or a third party hired to conduct such inspections. A "qualified person" is a person

knowledgeable in the principles and practice of erosion and sediment controls and pollution prevention, who possesses the appropriate skills and training to assess conditions at the construction site that could impact stormwater quality, and the appropriate skills and training to assess the effectiveness of any stormwater controls selected and installed to meet the requirements of these Regulations.

F. The Permittee shall notify the Stormwater Authority at least five (5) business days before each of the following events, to keep the Stormwater Authority informed of construction progress and to facilitate timely inspections by the Stormwater Authority:

- (1) Commencement of construction, with erosion and sedimentation control measures in place and stabilized;
- (2) Site clearing has been substantially completed;
- (3) Rough grading has been substantially completed;
- (4) Excavation for stormwater BMPs has been completed;
- (5) Subsurface components of stormwater BMPs have been installed, prior to backfilling;
- (6) Stormwater BMP surface features have been substantially completed;
- (7) Final grading has been substantially completed;
- (8) Close of the construction season; and,
- (9) Final landscaping (permanent stabilization) and project final completion.

G. Permittee Inspections. The Permittee, or their agent, shall conduct and document inspections of all erosion and sediment control measures no less than weekly or as specified in the permit, and prior to and following anticipated storm events. The purpose of such inspections will be to determine the overall effectiveness of the Erosion and Sedimentation Control Plan, and the need for maintenance or additional control measures as well as verifying compliance with the Stormwater Management Plan. The Permittee, or their agent, shall submit monthly reports to the Stormwater Authority or designated agent in a format approved by the Stormwater Authority.

Section 8. Long-Term Operation and Maintenance

8.1. For Minor Stormwater Permits, the Permittee shall maintain post-construction stormwater BMPs to ensure that they continue to function as intended.

8.2. For Major Stormwater Permits, the Permittee shall meet the following requirements:

A. The Permittee shall ensure that all components of the proposed Stormwater Management Plan are functioning according to manufacturer or design specifications for the life of the system. All components shall be maintained in good condition and promptly repaired, in accordance with the approved Operation and Maintenance Plan. This shall constitute a perpetual condition of any Major Stormwater Permit issued under these Regulations.

B. To ensure adequate long-term operation and maintenance of stormwater management practices, the Stormwater Authority or Designated Agent may require Permittees to implement one or more of the following procedures, depending on the scale and complexity of the project:

- (1) Submit an annual certification documenting the work that has been done over the last 12 months to properly operate and maintain the stormwater control measures. The certification shall be signed by the person(s) or authorized agent of the person(s) named in the permit as being responsible for ongoing operation and management.
- (2) Establish a dedicated fund or escrow account in the form of a Bond, Insurance Policy, or similar instrumentality, to be maintained for a number of years and for an amount specified by the Stormwater Authority. Such fund or account may be used by the applicant to perform its operation and maintenance responsibilities or, if the Stormwater Authority finds that the applicant has failed to comply with the Permit, by the Stormwater Authority to perform or cause to be performed the required operation and maintenance tasks.
- (3) Pay to the Town an amount specified by the Stormwater Authority in compensation for its acceptance of ownership of privately constructed BMPs.
- (4) Establish a maintenance contract between with the Stormwater Authority whereby the Stormwater Authority will perform or cause to be performed the required operation and maintenance tasks.

8.3. Recording

For Major Stormwater Permits, the Operation and Maintenance Plan shall be recorded with the Barnstable County Registry of Deeds prior to issuance of a Stormwater Management Certificate of Compliance by the Stormwater Authority pursuant to Section 5.9 of these Regulations.

8.4. Record Keeping

- A. The Permittee shall keep records of all inspections, maintenance, and repairs and shall retain the records for at least five (5) years. These records shall be made available to the Stormwater Authority or Designated Agent during inspection of the stormwater management structure or system and at other reasonable times upon request.
- B. The Stormwater Authority or Designated Agent may request written records documenting maintenance of the system, including receipts of inspection or cleaning services, and/or may physically inspect the systems to ensure that the proper maintenance has been carried out. Failure of the Permittee to maintain the stormwater management system in reasonable order and condition, in conformance with the approved Operation and Maintenance Plan, shall be considered a violation of these Regulations and shall be subject to enforcement action in accordance with § 272-14 of the Stormwater Management Bylaw.

8.5. Changes to Ownership and/or Operation and Maintenance Plans

- A. The Permittee shall notify the Stormwater Authority or Designated Agent of changes in ownership or assignment of financial responsibility for O&M of the stormwater management system or any changes to the Operation and Maintenance Plan within thirty (30) business days of the change. The Permittee shall also be responsible for informing prospective new owners of the requirements of the existing Operation and Maintenance Plan. This shall be an on-going requirement of any Major Stormwater Permit issued.

Section 9. Surety

For Major Stormwater Permits, the Stormwater Authority may require the Applicant to post surety before the start of land disturbance or construction activity. The form of the surety shall be approved by the Stormwater Authority and be in an amount deemed sufficient by the Stormwater Authority to ensure that the work will be completed in accordance with the Permit. If the project is phased, the Stormwater Authority may release part of the surety as each phase is completed in compliance with the permit.

Funds held pursuant to this Section shall be deposited in a separate account pursuant to M.G.L. c. 44, §53G1/2. Surety shall be in the form of a surety bond, irrevocable letter of credit, or cash. All interest shall be held within said account; surety shall be released upon satisfaction of all Permit requirements; upon satisfaction of all Permit requirements, Applicant shall request, in writing, to the Town Treasurer, that the funds be released. The funds shall not be released until the Stormwater Authority certifies, in writing, that all requirements of the Permit have been met. If the Permittee defaults on any obligations imposed by the Permit, the Stormwater Authority may (after notification of the Permittee) inform the holder of the security (and the municipal treasurer if the treasurer is not holding the funds) of the default, in which event the Town shall be entitled to the security funds to complete the outstanding permit requirements.

Section 10. Severability

The invalidity of any section, provision, paragraph, sentence, or clause of these Regulations shall not invalidate any other section, provision, paragraph, sentence, or clause thereof, nor shall it invalidate any permit or determination that previously has been issued.

Appendix A. Definitions

ABUTTER: The owner(s) of land adjacent to regulated activity.

ALTERATION OF DRAINAGE CHARACTERISTICS: Any activity on an area of land that changes the water quality, force, direction, timing, or location of runoff flowing from the area. Such changes include: change from distributed runoff to confined or discrete discharge, change in the volume of runoff from the area; change in the peak rate of runoff from the area; and change in the recharge to groundwater on the area.

APPLICANT: Any person, individual, partnership, association, firm, company, corporation, trust, authority, agency, department, or political subdivision of the Commonwealth or the Federal government, to the extent permitted by law, requesting a Stormwater Permit.

BEST MANAGEMENT PRACTICE (BMP): Schedules of activities, practices (and prohibitions of practices), structures, vegetation, maintenance procedures, and other management practices to prevent or reduce the discharge of pollutants to Waters of the United States. BMPs also include treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

CERTIFIED PROFESSIONAL IN EROSION AND SEDIMENT CONTROL (CPESC): A certified specialist in soil erosion and sediment control. This certification program, sponsored by the Soil and Water Conservation Society in cooperation with the American Society of Agronomy, provides the public with evidence of professional qualifications.

CLEAN WATER ACT: The Federal Water Pollution Control Act (33 U.S.C. § 1251 et seq.) as hereafter amended.

CLEARING: Any activity that removes the vegetative surface cover.

COMMON PLAN OF DEVELOPMENT: A "larger common plan of development or sale" is a contiguous area where multiple separate and distinct construction activities may be taking place at different times on different schedules under one plan.

DESIGNATED AGENT: Staff of the Planning, Conservation, Public Works, and Building Departments designated by the Stormwater Authority to review and act upon Minor Stormwater Permit applications.

EROSION: The wearing away of the land surface by natural or artificial forces such as wind, water, ice, gravity, or vehicle traffic and the subsequent detachment and transportation of soil particles.

EROSION AND SEDIMENTATION CONTROL PLAN: A document containing narrative, drawings and details developed by a registered Professional Engineer (PE) or a Certified Professional in Erosion and Sedimentation Control (CPESC), which includes best management practices, or equivalent measures designed to control surface runoff, erosion, and sedimentation during pre-construction and construction related land disturbing activities.

EROSION CONTROL: The prevention or reduction of the movement of soil particles or rock fragments due to stormwater runoff.

GRADING: Changing the level or shape of the ground surface.

GRUBBING: The act of clearing land surface by digging up roots and stumps.

IMPERVIOUS SURFACE: Any surface that prevents or significantly impedes the infiltration of water into the underlying soil. This can include but is not limited to: roads, driveways, parking areas and other areas created using nonporous material; buildings, rooftops, structures, solar panels, artificial turf, and compacted gravel or soil.

INFILTRATION: The act of conveying surface water into the ground to permit groundwater recharge and the reduction of stormwater runoff from a project site.

LAND DISTURBANCE ACTIVITY: Any activity that causes a change in the position or location of soil, sand, rock, gravel, or similar earth material; results in an increased amount of runoff or pollutants; measurably changes the ability of a ground surface to absorb waters; involves clearing, grading, or excavating, including grubbing; or results in an alteration of drainage characteristics.

LOW IMPACT DEVELOPMENT (LID): Site planning and design strategies that use or mimic natural processes that result in the infiltration, evapotranspiration, or use of stormwater in order to protect water quality and associated aquatic habitat.

M.G.L.: Massachusetts General Laws.

MASSACHUSETTS STORMWATER MANAGEMENT STANDARDS: The performance standards as further defined by the Massachusetts Stormwater Handbook, issued by the Department of Environmental Protection, and as amended, that coordinate the requirements prescribed by state regulations promulgated under the authority of the Massachusetts Wetlands Protection Act M.G.L. c. 131 §. 40 and Massachusetts Clean Waters Act M.G.L. c. 21, §. 23-56 to prevent or reduce pollutants from reaching water bodies and control the quantity of runoff from a site.

MS4 PERMIT: General Permit for Stormwater Discharges from Small Municipal Separate Storm Sewer Systems in Massachusetts.

MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4) or MUNICIPAL STORM DRAIN SYSTEM: The system of conveyances designed or used for collecting or conveying stormwater, including any road with a drainage system, street, gutter, curb, inlet, piped storm drain, pumping facility, retention or detention basin, natural or altered drainage channel, reservoir, and other drainage structure that together comprise the storm drainage system owned or operated by the Town of Brewster.

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

STORMWATER DISCHARGE PERMIT: A permit issued by the Environmental Protection Agency that authorizes the discharge of pollutants to Waters of the United States.

NEW DEVELOPMENT: Any construction activities or land alteration on an area that has not previously been developed to include impervious surface.

NONPOINT SOURCE POLLUTION: Pollution from many diffuse sources caused by rainfall or snowmelt moving over and through the ground. As the runoff moves, it picks up and carries away pollutants finally depositing them into a water resource area.

OPERATION AND MAINTENANCE PLAN: A plan setting up the functional, financial and organizational mechanisms for the ongoing operation and maintenance of a stormwater management system to ensure that it continues to function as designed.

OWNER: A person with a legal or equitable interest in property.

PERSON: An individual, partnership, association, firm, company, trust, corporation, agency, authority, department or political subdivision of the Commonwealth or the federal government, to the extent permitted by law, and any officer, employee, or agent of such person.

PUBLIC SHADE TREES: All trees within a public way or on the boundaries thereof, as defined within Massachusetts General Law Chapter 87 (Public Shade Tree Law).

RECHARGE: The process by which groundwater is replenished by precipitation through the percolation of runoff and surface water through the soil.

RECORD: Recorded in the Barnstable County Registry of Deeds; if registered land is affected, filed with the recorder of the Land Court of Massachusetts.

REDEVELOPMENT: Development, rehabilitation, expansion, demolition, construction, land alteration, or phased projects that disturb the ground surface, including impervious surfaces, on previously developed sites.

RUNOFF: Rainfall, snowmelt, or irrigation water flowing over the ground surface.

SEDIMENT: Mineral or organic soil material that is transported by wind or water, from its origin to another location; the product of erosion processes.

SEDIMENTATION: The process or act of deposition of sediment.

SITE: The areal extent of land disturbance and construction activities, including but not limited to the creation of new impervious surface and improvement of existing impervious surface.

STABILIZATION: The use, singly or in combination, of mechanical, structural, or vegetative methods, to prevent or retard erosion.

STORMWATER AUTHORITY: The Town of Brewster Planning Board or its authorized agent(s), acting pursuant to the Town of Brewster Stormwater Management Bylaw (Chapter 272) to administer, implement, and enforce the Bylaw and to adopt regulations pursuant to it.

STORMWATER: Stormwater runoff, snow melt runoff, and surface runoff and drainage.

STORMWATER MANAGEMENT CERTIFICATE OF COMPLIANCE (SMCC): A document issued by the Stormwater Authority which states that all conditions of an issued Stormwater Permit have been met and that a project is currently in compliance with the conditions set forth in the permit.

STORMWATER PERMIT: A permit issued by the Stormwater Authority, after review of an application, plans, calculations, and other supporting documents, in accordance with the provisions of the Town of Brewster Stormwater Management Bylaw (Chapter 272).

TOTAL MAXIMUM DAILY LOAD (TMDL): A regulatory plan (authorized by the Clean Water Act) that identifies the amount of a pollutant that a waterbody can assimilate without exceeding its water quality standard for that pollutant.

TOTAL SUSPENDED SOLIDS (TSS): A measure of undissolved organic or inorganic particles in water.

TOTAL PHOSPHORUS (TP): A measure of the total dissolved and particulate forms of phosphorus.

WATERCOURSE: A natural or man-made channel through which water flows or a stream of water, including a river, brook, or underground stream.

WATERS OF THE COMMONWEALTH: All waters within the jurisdiction of the Commonwealth, including, without limitation, rivers, streams, lakes, ponds, springs, impoundments, estuaries, wetlands, coastal waters, groundwater, and Waters of the United States as defined under the Federal Clean Water Act as hereafter amended.

WETLAND RESOURCE AREA: Areas specified in the Massachusetts Wetlands Protection Act M.G.L. c. 131, § 40 and in the Brewster Wetlands Protection Bylaw (Chapter 172).

Appendix B. Stormwater Management Plan Checklists

Minor Stormwater Permit Applications

The application for a Minor Stormwater Permit shall contain sufficient information for the Designated Agent to evaluate the environmental impact, effectiveness, and acceptability of the measures proposed by the Applicant to reduce adverse impacts from stormwater runoff during and after construction.

The Applicant shall submit one digital copy and two (2) printed copies of the Minor Permit application package. The Minor Permit application package shall include:

- A. Completed Application Form with original signatures of all property owners;
- B. Narrative describing the proposed work including:
 - (1) Existing and proposed site conditions (including structures, vegetation, and drainage),
 - (2) The square footage of the proposed land disturbance area, existing impervious surface area, and proposed impervious surface area,
 - (3) Proposed low impact development practices, and
 - (4) Proposed measures to control erosion, sediment, and wastes during construction and to mitigate any long-term stormwater impacts.
- C. For proposed stormwater BMPs, if applicable, calculations for the stormwater volume to be managed. The volume may be calculated using the following formulas, or using a BMP sizing tool provided by the Stormwater Authority:
 - (1) Stormwater volume (cubic feet) = impervious surface area (square feet) x 1 inch x 1 foot / 12 inches
 - (2) Stormwater volume (gallons) = stormwater volume (cubic feet) x 7.48 gallons / cubic foot
- D. For proposed stormwater BMPs, if applicable, a description of anticipated maintenance activities and schedule to ensure that the stormwater BMP continues to function as intended. A stormwater BMP maintenance guide, provided by the Stormwater Authority and customized as needed for the project, may be used to meet this requirement.
- E. A drawing, map, or plan that shows:
 - (1) Existing site features including structures, pavement, trees, plantings, and stormwater management systems, etc.;
 - (2) Proposed work including proposed stormwater management systems and limits of disturbance; and
 - (3) Proposed erosion and sedimentation controls.

Major Stormwater Permit Applications

The Stormwater Management Plan shall contain sufficient information for the Stormwater Authority to evaluate the environmental impact, effectiveness, and acceptability of the site planning process and the measures proposed by the applicant to prevent adverse impacts from stormwater runoff during and after construction.

The applicant shall submit one digital copy and twelve (12) printed copies of the Stormwater Management Plan. Stormwater Management Plans submitted for consideration shall contain the following minimum components:

1. Site Plan;
2. Stormwater Management Report; and
3. Operation and Maintenance Plan.

More information than the minimum required herein may be required by the Stormwater Authority, provided such information is reasonably necessary for the proper evaluation of the Stormwater Management Plan. Additional plans, such as but not limited to utility plan, landscaping plan, etc., may be required for more complex projects.

Site Plan

The Site Plan shall be prepared to fully detail and explain the intentions of the Applicant. Site Plan sheets shall be prepared at a standard scale (1" = 20', 1" = 40', or 1" = 80', whichever is appropriate to the size of the proposal). All sheets shall include a reasonable numbering system with an appropriate title block, north arrow, signature block, and legend identifying any representative symbols used on the sheet in question.

Design Certification: Each plan sheet shall show the seal and signature of an Engineer, Landscape Architect, or Surveyor, as appropriate to the data.

The Site Plan shall include the following sheets (pages), at a minimum:

A. Existing Conditions Sheet

The Existing Conditions sheet shall contain all the necessary information to convey existing surface features and drainage patterns. It shall contain a topographical survey plan prepared by a Surveyor, including the following information:

1. Name, seal, and signature of the Surveyor who performed the survey.
2. Date(s) of the survey.
3. Reference to all deeds, plans of record, and other information used to establish the existing property lines, the layout of all streets and ways, and public and private easements, including deed references to the abutting lots.
4. Locus, prepared at a scale not smaller than 1" = 1200' and a minimum extent of

one mile diameter. Major streets, buildings, brooks, streams, rivers, or other landmarks should be shown on the Locus with sufficient clarity to be easily discernible.

5. Existing property lines, public and private easements, and road layouts with bearings and distances. All distances shall be in feet and decimals of a foot and all bearings shall be given to the nearest ten seconds. The error of closure shall not exceed one to ten thousand.
6. Boundary of the entire property held in common ownership by the Applicant regardless of whether all or part is being developed at this time.
7. Acreage of the property to the nearest tenth of an acre.
8. Existing monuments.
9. Location and name of all abutters as they appear on the most recent tax list, including owners of the property on the opposite side of all streets abutting the property.
10. Location, names, status (i.e., public or private), and present widths of streets and sidewalks bounding, approaching, or within reasonable proximity of the property, showing both roadway widths and right-of-way width.
11. Location of all test pits, borings, percolation tests, or similar, in or adjacent to the development. Logs of observed groundwater elevations and other test data shall be included in the Stormwater Management Report.
12. Location of all existing buildings and structures on the property and within reasonable proximity of the perimeter of the property.
13. Location of all existing wells and septic systems that can be observed and/or are on file with the Health Department, on the property and within reasonable proximity of the perimeter of the property.
14. Features within and abutting the property, including but not limited to, waterways, water bodies, drainage ditches, streams, brooks, stone walls, fences, curbing, walkways and other paths (paved or unpaved), utility and light poles, buildings and other structures, ledge outcrops, wooded areas, public shade trees and all other trees greater than four (4) inches in diameter at breast height (4½ feet above grade), and historic sites.
15. Location and identification of resource areas regulated under the Massachusetts Wetlands Protection Act or the Brewster Wetlands Protection Bylaw, including areas located within the property and areas outside of the property with buffer zones or offsets that may intersect the property. This shall include wetlands and associated offsets and buffer zones, isolated lands subject to flooding (ILSF), bordering land subject to flooding (BLSF), and riverfront protection areas. If a currently valid delineation for the property does not exist, wetland boundaries shall be delineated in the field with numbered flags by a qualified wetlands specialist, surveyed, and shown on the plan(s) with reference to the flag numbers. The date of any Resource Area Delineation, Determination of Applicability, Order of Conditions, or other applicable decision from the Brewster Conservation Commission shall be indicated on the plans.
16. Location of aquifer protection zones, including Zone 1 and Zone II as defined in

the Brewster Water Quality Protection Bylaw, Chapter 179 Article XI.

17. Location of all existing above- and below-ground utilities and all associated appurtenances within and abutting the property. All utility pipe types, sizes, lengths, and slopes shall be provided, as well as utility structure information, including rim and invert elevations.
18. Existing topography within the property and within reasonable proximity of the perimeter of the property. Topography shall be provided at a minimum one-foot contour intervals. The plan survey datum shall be the National American Vertical Datum 1988 (NAVD88), and this reference shall be identified on the plans.
19. Stormwater flow direction.

B. Proposed Conditions Sheet

The Proposed Conditions sheet shall indicate all proposed site improvements, including but not limited to structures, buildings, sidewalks, handicap ramps, parking areas, curb type and limits, walls, fences, landscaped areas, and the proposed location of all utilities, as described below:

1. All applicable information from the Existing Conditions sheet. The proposed improvements shall be overlaid on the existing conditions and shown in a darker line weight.
2. The boundaries of the site, the outline or footprint of all proposed buildings, structures, parking areas, walkways, loading facilities, or significant landscaping features shall be shown.
3. All means of vehicular access for ingress and egress to and from the site onto the public streets. Plans should show the size and location of driveways and curb cuts.
4. The location of all public shade trees and all other trees over four (4) inches in diameter at breast height (4½ feet above grade) to be removed.
5. The location and type of all above-ground and below-ground utilities.
6. The existing and proposed above- and below-ground stormwater management system, with pipe sizes, lengths, slopes, and materials including conveyances, catch basins, manholes, culverts, headwalls, detention and/or retention basins, treatment units, infiltration systems, and outlet pipes/structures. Rim and invert elevations shall be provided for all structures and other appurtenant features.
7. Proposed contours indicating the finished grades of all proposed construction in the site. The plan shall show how the proposed grades will tie in to the existing grades within and outside of the limit of disturbance. The grades should be provided at a minimum one-foot contour intervals. Walls, curbing and any other features creating a break in grade shall be shown, including proposed top and bottom grades.
8. Stormwater flow direction.

C. Erosion and Sediment Control Sheet

The Erosion and Sediment Control sheet shall contain sufficient information to demonstrate that erosion will be minimized and sediment contained as part of a land disturbance activity,

including the following:

1. All applicable information from both the Existing and Proposed Conditions sheets. The proposed development information shall be shown in a darker line weight.
2. Location of the proposed limit of land disturbance activity, to be lined by perimeter sediment controls in downgradient areas and along all resource areas.
3. Location of anti-tracking area at each construction entrance.
4. Inlet and outlet erosion and sediment controls at all existing and proposed drainage structures.
5. Tree protection for all public shade trees and all other trees over six inches in caliper proposed to remain.
6. Seeding, sodding, or revegetation plans and specifications for all unprotected or unvegetated areas.
7. Location and design of all structural erosion and sediment control measures, such as grade stabilization practices, temporary drainage swales, dewatering devices, and temporary sedimentation basins.
8. Location of all proposed construction stockpiling and staging areas with appropriate erosion and sediment control measures.
9. Location of areas designated for revegetation or infiltration-based BMPs, with notes indicating that soil compaction shall be avoided in those areas.
10. Notes detailing the proposed operation, maintenance, and inspection schedule for all erosion and sedimentation control measures, including proposed schedule for street sweeping of adjacent roadways and paved areas.
11. Notes indicating that demolition debris, discarded building materials, concrete truck wash out, chemicals, litter, and sanitary wastes may not be discharged to the MS4 and must be legally disposed of.
12. Where a site is located in whole or in part within the floodplain, a Floodplain Contingency Plan shall be included. The Floodplain Contingency Plan shall describe the steps necessary to stabilize the site during construction in the event that a flood watch is declared by the National Weather Service.
13. Where a project is also subject to coverage under a National Pollutant Discharge Elimination System (NPDES) Construction General Permit issued by the EPA, submission of the Stormwater Pollution Prevention Plan (SWPPP) shall be required prior to commencement of land disturbance activities.

D. Construction Details Sheet

The Construction Details sheet should provide information regarding the component parts of the construction, illustrating how they fit together. The sheet shall show the following:

1. Typical construction details of all proposed stormwater management system devices, including but not limited to conveyances, catch basins, manholes, headwalls, sub-drains, detention and retention systems, and other stormwater management system structures.

2. Landscaping details including, but not limited to, tree plantings, shrubs, perennials, fences, walls, guard rails, street furniture, and other specialty items, if applicable.
3. Construction details for all hard surfaces, including but not limited to, roadways, sidewalks, driveways, loading docks, handicap ramps, permeable pavers, and curbing.
4. Erosion and sediment control details that for components included in the Erosion and Sediment Control Plan.
5. Where site constraints or differing conditions require work that deviates from “typical details,” specific construction details shall be provided.
6. All proposed work within the public right-of-way shall conform to Town of Brewster and/or MassDOT Standard Details, where applicable.

Stormwater Management Report

A separate Stormwater Management Report shall be submitted with the Stormwater Permit Application. It shall be prepared and stamped by an Engineer, and shall contain the following information:

1. Contact Information. The name, address, and telephone number of all persons having a legal interest in the property and the tax reference number and parcel number of the property or properties affected.
2. Description of the watershed that the site is located in, the immediate downgradient waterbody(s) that stormwater runoff from the site discharges to, the impairment status and Total Maximum Daily Load (TMDL), if applicable, of the watershed and waterbody(s), and the pollutant(s) of concern.
3. Description of the existing and proposed soil conditions (including Hydrologic Soils Group [HSG] classification published by the National Resources Conservation Service [NRCS]), land use, land cover, estimated high groundwater elevations, design points, drainage patterns, and proposed stormwater management practices.
4. Description of proposed work within proximity of regulated wetland resources, aquifer protection zones, earthwork within 4 feet of seasonal high groundwater elevations, and other sensitive environmental areas.
5. Description of the low impact development (LID) site planning and design techniques considered for the project and an explanation as to why they were included or excluded from the project.
6. Description of the existing and proposed stormwater management system, including all proposed BMPs incorporated in the project design.
7. Description of all soil testing conducted in the study area, including sieve analyses, tests for saturated hydraulic conductivity, test pits, or soil borings. Soils information shall be based on field investigations by a Soil Evaluator approved by the Commonwealth of Massachusetts, or by an Engineer. Testing shall be performed in accordance with Volume 3 of the Massachusetts Stormwater Handbook (dated February 2008, as amended) and these Rules and Regulations.

Raw test data shall be provided in an appendix to the report.

8. Narrative describing the methodology used to conduct the hydrologic and hydraulic analyses of the site and the design of the proposed stormwater management system.
9. Tables comparing existing and proposed impervious areas, peak stormwater runoff rates, and total stormwater runoff volumes for each design point and for the 2-, 10-, 25-, and 100-year design storms.
10. Narrative and calculations demonstrating compliance with the Massachusetts Stormwater Management Standards.
11. Narrative and calculations demonstrating compliance with the requirements of Section 6 of these Regulations, including estimated reductions to annual average load of total suspended solids (TSS) and annual average load of total phosphorus (TP). Calculations shall be completed using the Environmental Protection Agency (EPA) Region 1's BMP Accounting and Tracking Tool (2016), the Massachusetts MS4 Permit methodology, or other BMP performance evaluation tool provided by the Stormwater Authority.
12. Description of any impacts to the floodplain and floodway and a summary of compensatory flood storage calculations, if appropriate.
13. Description of existing and proposed groundwater recharge on the site, including quantitative summary of existing and proposed recharge volumes, and summary of groundwater mounding analysis, if applicable.
14. Plans showing existing and proposed drainage areas, including any off-site contributions, and time of concentration travel flow-paths. Study design points should be indicated on the plan.
15. If applicable, a map showing the location of the site overlaid on the Federal Emergency Management Agency's (FEMA) Flood Insurance Rate Map (FIRM) for the Town of Brewster, or other appropriate information pertaining to location of the floodplain and floodway boundaries in relation to the site.
16. Appendix containing all drainage calculations for existing and proposed conditions, including hydrologic analysis of the site, hydraulic analysis of the proposed drainage system, and calculations supporting the design of all BMPs that will control stormwater runoff pollutants, peak rates, and volumes.
17. Massachusetts Department of Environmental Protection (MassDEP) Checklist for Stormwater Report, stamped and signed by a registered Professional Engineer (PE) licensed in the Commonwealth of Massachusetts to certify that the Stormwater Management Plan is in accordance with the criteria established in the Massachusetts Stormwater Management Standards, Brewster Stormwater Management Bylaw, and these Regulations.

Operation and Maintenance Plan

An Operation and Maintenance (O&M) Plan, in accordance with the Massachusetts Stormwater Management Standards, shall be included with the Stormwater Management Plan. The purpose of the plan is to identify the actions necessary to ensure that stormwater management systems and BMPs function as designed, in perpetuity.

At a minimum, the O&M Plan shall contain:

1. The name(s) of the Owner of all components of the system, and the name(s) and address(es) of the Responsible Party for O&M of each component, if different from the Owner.
2. A plan that is prepared to scale and shows the location of all stormwater management system components and all discharge points.
3. A description of all BMPs, including proper operating parameters and how the Owner will determine if a BMP is not functioning properly.
4. A description of long-term source control and pollution prevention measures.
5. An inspection log and a description of all inspection and maintenance procedures, responsibilities, and frequencies. Where applicable, this schedule shall refer to the Maintenance Criteria provided in the Stormwater Handbook or the EPA National Menu of Stormwater Best Management Practices or equivalent;
6. An inspection and maintenance schedule for all routine and non-routine maintenance tasks to be performed.
7. Minimum qualifications for personnel that will perform inspections and maintenance.
8. Snow storage procedures and locations in accordance with the MassDEP Snow Disposal Guidance, dated December 11, 2020, as amended. Snow shall not be stored or disposed of in any proposed stormwater BMP.
9. A list of easements held to access any BMPs.
10. An estimated O&M budget.
11. A copy of the As-built Plan prepared in accordance with Section 5.9 of these Regulations, upon project completion.

Appendix C. Fee Schedule

| | Fee |
|--|------------------------------------|
| Minor Stormwater Permit Application | \$50 |
| Major Stormwater Permit Application | \$100 |
| Consultant Services and Technical Review | Determined on a case-by-case basis |