



TOWN OF HOPKINTON

OFFICE OF THE PLANNING BOARD

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STORMWATER REGULATIONS

Town of Hopkinton
Adopted October 20, 2008

1.0 PURPOSE

The purpose of these Stormwater Regulations is to protect, maintain and enhance the public health, safety, environment, and general welfare by establishing minimum requirements and procedures to control the adverse effects of soil erosion and sedimentation, construction site runoff, increased post-development stormwater runoff, decreased groundwater recharge, and nonpoint source pollution associated with new development and redevelopment, as more specifically addressed in Chapter 172 of the Bylaws of the Town of Hopkinton, Stormwater Management and Erosion Control.

Land development projects and other land use conversions, and their associated changes to land cover, permanently alter the hydrologic response of local watersheds and increase stormwater runoff rates and volumes, which in turn increase flooding, stream channel erosion, and sediment transport and deposition, and decrease groundwater recharge. Land development projects and other land use conversions also contribute to increased nonpoint source pollution and degradation of receiving waters.

During the construction process, soil is the most vulnerable to erosion by wind and water. The eroded soil endangers water resources by reducing water quality, and causing the siltation of aquatic habitat for fish and other desirable species. Eroded soil also necessitates repair of sewers and ditches, and the dredging of lakes.

The impacts of construction and post-development stormwater runoff quantity and quality can adversely affect public safety, public and private property, surface water drinking water supplies, groundwater resources including drinking water supplies, recreation, aquatic habitats, fish and other aquatic life, property values and other uses of lands and waters.

These adverse impacts can be controlled and minimized through the regulation of stormwater runoff quantity and quality from construction, new development and redevelopment, by the use of both structural and nonstructural Best Management Practices.

Therefore, the Planning Board has established these Stormwater Regulations (the "Regulations") to provide reasonable guidance for the regulation of construction and post-development stormwater runoff for the purpose of protecting local water resources from degradation. It has been determined that it is in the public interest to regulate construction and post-development stormwater runoff discharges in order to control and minimize increases in stormwater runoff

rates and volumes, soil erosion and sedimentation, stream channel erosion, and nonpoint source pollution associated with construction site and post-development stormwater runoff.

2.0 DEFINITIONS

The definitions contained in Appendix A apply to issuance of a Stormwater Management Permit (SMP) established by the Town of Hopkinton Stormwater Management and Erosion Control bylaw (the “Bylaw”) and implemented through these Stormwater Regulations. 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.

3.0 AUTHORITY

- A. The Regulations have been adopted by the Planning Board in accordance with the Bylaw.
- B. Nothing in the Regulations is intended to replace or be in derogation of the requirements of the Town of Hopkinton Wetlands Protection Bylaw or any other Town of Hopkinton Zoning Bylaw, General Bylaw or any Rules and Regulations adopted thereunder.

4.0 ADMINISTRATION

- A. The Planning Board shall administer, implement and enforce the Regulations.
- B. The Planning Board may designate another Town board, commission department, employee thereof or consultant as its authorized agent or designee for the purposes of site inspections of the stormwater management system, erosion and sediment controls, or long-term site inspections in accordance with the requirements of the Regulations.
- C. Town boards, including, but not limited to the Conservation Commission, Planning Board, Board of Appeals, Board of Public Works, Board of Health, and any other Town board or department may formally adopt the Regulations, in whole or in part, either directly or by reference.
- D. The Planning Board will distribute copies of the stormwater management applications to the Town of Hopkinton Conservation Administrator, Public Health Administrator, Director of Municipal Inspections, and Director of Public Works for review. The Town Clerk shall receive a copy of the stormwater management application directly from the applicant at the same time the application is filed with the Planning Board.
- E. The Planning Board may amend the Regulations after holding a public hearing. Notice of the time, place and subject matter shall be published in a newspaper of general circulation in Hopkinton once, not less than 14 days before the day of such hearing.

5.0 APPLICABILITY

- A. The Stormwater Regulations apply to all activities which require a SMP in accordance with § 172-2 Applicability, of the Bylaw. No activities which require a SMP may commence until a

SMP is issued by the Planning Board, regardless of whether other local permits have been received.

6.0 PERMIT PROCEDURES AND REQUIREMENTS

A. Stormwater Management Permits (SMP)

Applicants for projects requiring a SMP shall be required to submit the materials as specified in this section, and are required to meet the stormwater management criteria specified in Section 7.0. Once issued, a SMP shall be valid for a period of 3 years.

B. SMP Submission Requirements

1. The applicant shall submit six (6) copies of a completed application package with the Planning Board and one electronic copy on CD. The applicant shall also simultaneously file an additional copy of the completed application with the Town Clerk. The SMP application package shall include:
 - a. A completed application form with original signatures of all owners. While the applicant can be a representative, the permittee must be the owner of the site.
 - b. A current list of abutters, certified by the Assessor's Office; (abutters at their mailing addresses shown on the most recent applicable tax list of the assessors, including owners of land directly opposite on any public or private street or way, and abutters to the abutters within 300 feet of the property line of the applicant, including any in another municipality).
 - c. One envelope for each abutter on the list of abutters and postage sufficient to send the hearing notice by first class mail.
 - d. Application and review fees.
 - e. Stormwater Management Plan.
 - f. Erosion and Sediment Control Plan.
 - g. Operation and Maintenance Plan.

C. Fees

An Application Fee to cover expenses connected with the review of the Stormwater Management Permit application and a technical Review Fee sufficient to cover professional review services for the project shall be submitted with each application. Failure to pay Application and Review Fees may be grounds for SMP disapproval. Unless indicated otherwise, fees are payable at the time of application and are non-refundable.

1. Application Fees
 - a. SMP Application Fee - The larger of \$200.00 or \$0.0040 per square foot of land area that will be disturbed by activities authorized by the SMP, up to a maximum of \$1,000.00.
 - b. Application to amend a SMP and/or an Operation and Maintenance Plan - \$100.00.
2. Review Fees

The Planning Board is authorized to require an applicant to pay a Review Fee to pay for the reasonable costs and expenses for specific expert engineering and other consultant services to advise the Board on any or all aspects of the SMP application and plans deemed necessary by the Planning Board to come to a final decision on the application and to monitor compliance with a SMP. The services for which a fee may be utilized include, but are not limited to, wetland survey and delineation, hydrologic and drainage analysis, wildlife evaluation, stormwater quality analysis, site inspections, surety review, as-built plan review, and analysis of legal issues.

- a. SMP Application – An initial deposit of \$300.00. After submission, the Planning Board will obtain an estimate from its consultant as to the total estimated cost of review of the submitted materials. If the amount of the estimate is greater than the initial deposit, the applicant shall deposit the remaining balance with the Planning Department. Consultant review will not begin until the full estimated amount has been provided.
- b. An additional review fee deposit shall be collected from the applicant, if during the review, the deposit is found insufficient to cover the actual cost of the review. The additional review fee shall be based upon a cost estimate from the consultant performing the review, to complete the review.
- c. The Planning Board is authorized to require an applicant to pay reasonable costs and expenses for certain activities which utilize the services of Town Staff. This includes such activities as inquiries concerning potential projects as well as site inspections not associated with a pending permit application.
- d. Review fees collected after SMP issuance for the purpose of monitoring compliance, surety review, site inspections, etc. shall be based on an estimate from the consultant to perform the service to the Board.
- e. The Review fees collected under this section shall be administered in accordance with MGL Chapter 44 § 53G or § 53E ½.

D. Entry

Filing an application for a permit grants the Planning Board, its agent, or designee as specified per Section 4.0 of the Regulations permission to enter the site throughout the term of the application process and the SMP to verify the information in the application and to inspect for compliance with the SMP.

E. Public Hearings

The Planning Board shall hold a public hearing on all applications for a SMP. Notice of the time, place and subject matter of the public hearing shall be published in a newspaper of general circulation in Hopkinton once, not less than 14 days before the day of such hearing. Said notice shall be sent to abutters by first class mail at least 7 days before the day of such hearing. The applicant shall be responsible for paying for the legal advertisement directly to the newspaper publishing the notice.

F. Actions

The Planning Board's action, rendered in writing, shall consist of either:

1. Approval of the SMP application based upon determination that the proposed plan meets the Standards in Section 7.0, will adequately protect the water resources of the community and is in compliance with the requirements set forth in the Bylaw and the Regulations,
2. Approval of the SMP application subject to any conditions, modifications or restrictions required by the Planning Board which will ensure that the project meets the Standards in Section 7.0 and adequately protects water resources, set forth in the Bylaw and the Regulations,
3. Disapproval of the SMP application based upon a determination that the proposed plan, as submitted, does not meet the Standards in Section 7.0, does not adequately protect water resources, or does not comply with the provisions of the Bylaw or the Regulations.
4. The Planning Board may disapprove an application "without prejudice" where an applicant fails to provide requested additional information or review fees that in the Planning Board's opinion are needed to adequately describe or review the proposed project.

G. Failure to Act

Failure of the Planning Board to take final action on an application within 60 calendar days of receipt of a complete application package shall be deemed to be approval of said Application. Upon certification by the Town Clerk that the allowed time has passed without Planning Board action, the Planning Board must issue a SMP. Said time limit to act may be extended by mutual agreement between the Planning Board and the applicant, and filed with the Town Clerk.

H. Plan Changes and Extensions

1. The permittee must notify the Planning Board in writing of any drainage change or alteration in the stormwater management system authorized in a SMP before any change or alteration is made. If the Planning Board determines that the change or alteration is significant, based on the Stormwater Management Standards in Section 7.0 and construction practices that meet or exceed the purposes and intent of the Bylaw and Regulations, the Planning Board may require that an amended application be filed.
2. Should a land-disturbing activity associated with a SMP not begin during the 2-year period following permit issuance, the Planning Board may evaluate the existing stormwater management plan to determine whether it still satisfies local program requirements and to verify that all design factors are still valid. If the Planning Board finds the previously filed plan to be inadequate, the Board may require that a modified plan shall be submitted and approved prior to the commencement of land-disturbing activities.

3. In the event that the land-disturbing activity associated with a SMP is not completed or begun within 3 years following permit issuance, the applicant/owner may request an extension of the SMP, for a period not to exceed 2 years. A request for extension must be submitted to the Board prior to the expiration of the SMP. Only one such extension may be granted by the Planning Board. An extension may be granted by the Board at its discretion at a public meeting by majority vote.

I. Appeals of Actions of the Planning Board

A decision of the Planning Board shall be final. Further relief of a decision by the Planning Board made under the Regulations shall be reviewable in the Superior Court in an action filed within 60 days thereof, in accordance with M.G.L. Ch. 249. § 4. If such an appeal results in denial of the project approval, the SMP shall be revoked.

J. Stormwater Management Plan

1. The Stormwater Management Plan shall contain sufficient information for the Planning Board to evaluate the environmental impact, effectiveness, and acceptability of the measures proposed by the applicant for reducing adverse impacts from stormwater runoff. This plan shall be in accordance with the criteria established in the Regulations and must be submitted with the stamp and signature of a Professional Engineer.
2. The Stormwater Management Plan shall fully describe the project in drawings, narrative and calculations. Required contents of the Stormwater Management Plan are provided in Appendix B.

K. Erosion and Sediment Control Plan

1. The Erosion and Sediment Control Plan shall be designed to ensure compliance with the SMP, the Regulations, and if applicable, the NPDES General Permit for Storm Water Discharges from Construction Activities. In addition, the plan shall ensure that the Massachusetts Surface Water Quality Standards (314 CMR 4.00) are met in all seasons.
2. If a project requires a Stormwater Pollution Prevention Plan (SWPPP) per the NPDES General Permit for Storm Water Discharges from Construction Activities, then the permittee is required to submit a complete copy of the SWPPP (including the signed Notice of Intent and approval letter). If the SWPPP meets the requirements of the NPDES General Permit, it will be considered equivalent to the Erosion and Sediment Control Plan described in this section.
3. Erosion and Sediment Control Plan Contents

The Erosion and Sediment Control Plan shall contain sufficient information to describe the nature and purpose of the proposed development, pertinent conditions of the site and the adjacent areas, and proposed erosion and sedimentation controls. The applicant shall submit such material as is necessary to show that the proposed development will comply with the design requirements listed in Section 7.0.

Required contents of the Erosion and Sediment Control Plan are provided in Appendix C.

L. Operation and Maintenance Plan

1. The operation and maintenance plan (O&M Plan) shall be designed to ensure compliance with the SMP, the Bylaw and the Regulations, and that the Massachusetts Surface Water Quality Standards, 314 CMR 4.00 are met in all seasons and throughout the life of the system. The O&M Plan shall remain on file with the Planning Board and shall be an ongoing requirement.
2. Required contents of the Operation and Maintenance Plan are provided in Appendix D.
3. Changes to Operation and Maintenance Plans
 - a. The owner(s) of the stormwater management system shall notify the Planning Board immediately of any change in ownership, Responsible Parties, contact information or assignment of financial responsibility.
 - b. The inspection and maintenance schedule in the Maintenance Agreement may be amended to achieve the purposes of the Regulations, by mutual agreement of the Planning Board and the Responsible Parties. Amendments must be in writing and signed by all Responsible Parties.

M. Stormwater Management Easement(s):

1. Stormwater management easements shall be provided by the property owner(s) as necessary for:
 - a. Access for facility inspections and maintenance,
 - b. Preservation of stormwater runoff conveyance, infiltration, and detention areas and facilities, including flood routes for the 100-year storm event, and
 - c. Direct maintenance access by heavy equipment to structures requiring regular maintenance.
2. Stormwater management easements are required for all areas used for off-site stormwater control, unless a waiver is granted by the Planning Board.
3. Easements shall be recorded by the applicant with the South Middlesex County Registry of Deeds prior to issuance of a Certificate of Completion by the Planning Board.

7.0 STORMWATER MANAGEMENT CRITERIA

At a minimum, all projects subject to a SMP shall comply with the performance standards of the most recent version of Massachusetts Department of Environmental Protection (DEP) Stormwater Management Standards and accompanying Stormwater Management Handbook, as well as the criteria contained in this section.

A. Post-Development Additional Criteria

All stormwater management plans shall comply with the performance criteria provided in Appendix E, unless otherwise provided for in the Regulations.

B. Erosion and Sediment Control Additional Criteria

All erosion and sediment controls shall comply with the performance criteria provided in Appendix F, unless otherwise provided for in the Regulations.

8.0 WAIVERS

- A. The Planning Board may waive strict compliance with any requirement of the Bylaw or the Regulations where such action is:
1. Allowed by federal, state and local statutes and/or regulations,
 2. In the public interest, and
 3. Not inconsistent with the purpose and intent of the Bylaw.
- B. Requests for waivers shall be submitted in writing. The request shall be accompanied by an explanation or documentation supporting the waiver request and demonstrating that strict application of the Bylaw or the Regulations does not further the purpose or intent of the Bylaw or Regulations. It is recommended that an applicant discuss waiver requests with the Board or its agent or designee prior to a formal submission.

9.0 SURETY

A. Stormwater Completion Surety

1. As a condition of any SMP, the Planning Board may require that a performance guarantee in a form selected by the Board, secured by deposit of money, negotiable securities, surety company bond or letter of credit, be posted with the Town to guarantee completion of the permitted activities in compliance with the SMP. The amount of security shall be determined by an estimate provided by the permittee's engineer which may be modified by the Board after review by its engineer at the expense of the permittee, to reflect the Town's cost to complete the permitted activities, the administrative cost of securing the funds and completing and inspecting the work in the event of default, plus a contingency fee not to exceed 20%. The Town may use the secured funds for their stated purpose in the event that the permittee does not complete any permitted activity in a manner satisfactory to the Board within the time prescribed by the SMP, or sooner, or should the conditions of the SMP be violated.
2. Upon its own motion or upon request from the permittee, accompanied by sufficient documentation and inspection reports indicating that the cost of the permitted activities has changed or if all or a portion of the work has been completed, the Board shall from time to time adjust the performance guarantee amount to reflect the Town's cost to complete the work. If the Board determines that work has been completed in accordance

with the SMP, it shall release the interest of the Town in the security held as performance guarantee.

3. If the Board determines that the work has not been completed as required, it shall send the permittee a notice by certified mail, detailing the manner in which the performance of the work fails to comply with the SMP. If the permittee fails to cure such default or commence to cure such default and diligently prosecute such cure to completion within 45 days of receipt of the notice, the Board may use the security held as a performance guarantee for its stated purpose. If the Board obtains performance guarantee funds and they are subsequently found to be insufficient for any reason to complete the public improvement, the permittee shall be responsible for the additional cost.

B. Stormwater Maintenance Surety

The Planning Board may also require the permittee to secure the future maintenance of up to five years of the stormwater system by a perpetual surety bond or by a deposit of money of an amount as determined by the Planning Board. This shall be named the Stormwater Maintenance Surety. In the event that the permittee does not follow maintenance procedures and programs as approved by the Planning Board, the Board shall have the authority to expend any portion of said security to provide such maintenance.

10.0 CONSTRUCTION INSPECTIONS

A. Construction Commencement

1. Notice of Construction Commencement

The permittee must notify the Planning Board at least 48 hours prior to the commencement of activities permitted by a SMP and in advance of construction of critical components of the stormwater management facility. Notification shall be in writing, via letter, fax or e-mail.

2. Pre-Construction Meeting

The Planning Board may require a pre-construction meeting prior to starting clearing, excavation, construction or land disturbing activity by the permittee. The permittee's technical representative, the general contractor or any other person with authority to make changes to the project, shall meet with the Board or its representative to review construction sequencing and the permitted plans and their implementation.

B. Construction Inspection

Unless indicated otherwise in an issued SMP, inspections of the stormwater management system and erosion and sediment control plan during construction shall occur as directed in this section. Written inspection reports shall be submitted to the Planning Board within 48 hours of the inspection. The owner must retain all construction inspection records and reports for a minimum of 5 years from the date of issuance of the Certificate of Completion.

At the discretion of the Board, the inspections shall be conducted by the Board's agent, designee or a professional engineer who has been approved by the Board, at the expense of the permittee. The permittee is responsible for arranging for the Board's agent/representative to be on-site when items are required to be inspected.

The inspection reports must identify any incidents of non-compliance with the permit conditions. Where a report does not identify any incidents of non-compliance, the report must contain a statement that the construction project or site is in compliance with the SMP.

1. Inspections of the project site shall be at the following stages, at a minimum:
 - a. Initial Site Inspection: prior to issuance of a SMP.
 - b. Stormwater Management System: The completed stormwater management system, or any component thereof, prior to backfilling of any underground drainage or stormwater conveyance structures.
 - c. The physical markers showing the limits of land disturbance shall be inspected daily.
 - d. Erosion and Sediment Control Plan: At least once every 7 calendar days and within 24 hours of the end of a storm event of 0.5 inches or greater, from the start of construction until the site is permanently stabilized. Inspection frequency may be reduced to at least once a month if the site is temporarily stabilized or runoff is unlikely due to winter conditions (e.g., site is covered with snow, ice, or the ground is frozen). The permittee is required to notify the Planning Board of any change in inspection frequency, including termination of inspections due to site stabilization.
 - e. If a project requires a Stormwater Pollution Prevention Plan (SWPPP) per the NPDES General Permit for Storm Water Discharges from Construction Activities (Construction General Permit), then the permittee is required to submit all Inspection Reports to the Planning Board. If the Inspection Reports meet the requirements of the Construction General Permit, it will be considered equivalent to the Erosion and Sediment Control Inspection as described above.

2. All written inspection reports shall contain the following information, at a minimum:
 - The date and location of the inspection;
 - Names, titles and qualifications of personnel making the inspection.
 - a. Stormwater Management Plan – Inspection reports of stormwater management systems shall also contain the following:
 - i. Whether construction is in compliance with the approved stormwater management plan,
 - ii. Variations from the approved construction specifications, and
 - iii. Any other variations or violations of the conditions of the approved stormwater management plan.

 - b. Erosion and Sediment Control – Inspections of the erosion and sediment controls shall also contain the following:

- i. Weather information and a description of any discharges occurring at the time of the inspection,
 - ii. Weather information for the period since the last inspection (or since commencement of construction activity if the first inspection) including a best estimate of the beginning of each storm event, duration of each storm event, approximate amount of rainfall for each storm event (in inches), and whether any discharges occurred,
 - iii. Location(s) of discharges of sediment or other pollutants from the site,
 - iv. Location(s) of BMPs that need to be maintained,
 - v. Location(s) of BMPs that failed to operate as designed or proved inadequate for a particular location,
 - vi. Location(s) where additional BMPs are needed that did not exist at the time of inspection, and
 - vii. Corrective action required including any changes to the SWPPP necessary and implementation dates.
3. Erosion and Sediment Control Inspections

Inspections of the erosion and sediment control practices used on the site are necessary to ensure they are in accord with the approved Erosion and Sediment Control Plan. Inspections must include all areas of the site disturbed by construction activity and areas used for storage of materials that are exposed to precipitation. Inspectors must look for evidence of, or the potential for, pollutants entering the storm water conveyance system. Sedimentation and erosion control measures identified in the Erosion and Sediment Control Plan must be observed to ensure proper operation. Discharge locations must be inspected to ascertain whether erosion control measures are effective in preventing significant impacts to waters of the United States, where accessible. Where discharge locations are inaccessible, nearby downstream locations must be inspected to the extent that such inspections are practicable. Locations where vehicles enter or exit the site must be inspected for evidence of off-site sediment tracking.

C. Inadequacy of Stormwater Management System and Erosion and Sediment Control Plan

1. If existing BMPs need to be modified or if additional BMPs are necessary for any reason, implementation must be completed before the next storm event whenever practicable. If implementation before the next storm event is impracticable, the situation must be documented in the SWPPP and alternative BMPs must be implemented as soon as possible.
2. If the stormwater management system is found to be inadequate by virtue of physical evidence of operational failure, even though it was built as called for in the SMP or Stormwater Management Plan, it shall be corrected by the permittee before the Certificate of Completion is issued.
3. If the Planning Board determines that there is a failure to comply with the Stormwater Management Plan, the property owner shall be notified in writing of the nature of the violation and the required corrective actions. A Stop Work Order shall be issued until

any violations are corrected and all work previously completed has received approval of the Planning Board.

11.0 PROJECT COMPLETION

A. As-Built Plans and Final Inspection

1. After the stormwater management system has been constructed and before the surety has been released, the permittee shall submit “as-built” record drawings for all stormwater management facilities, practices and controls, which must be prepared and certified by a Professional Engineer. As-built plans shall be full size plans which reflect the “as built” conditions, including all final grades. All changes to project design should be recorded in red ink on plans to define changes made. All work deleted, corrections in elevations, and changes in materials, should be shown on the as-built drawings.
2. The Board’s agent/representative shall inspect the system to confirm its "as-built" features. The inspector shall also evaluate the effectiveness of the system during actual storm conditions for a period of up to one year from date of issuance of the Certificate of Completion. If the inspector finds the system adequate, a report to this effect shall be submitted to the Planning Board.

B. Certificate of Completion

1. Upon completion of the project which is subject of the SMP, the applicant is responsible for providing certification that the completed project is in accordance with the SMP and the approved plans and specifications, and that all required inspections have been performed.
2. The Planning Board will issue a written Certificate of Completion upon receipt of the final inspection and reports and/or upon otherwise determining that all SMP work has been satisfactorily completed in conformance with the Regulations.

12.0 PERPETUAL INSPECTION AND MAINTENANCE

A. Maintenance Responsibility

The owner of the property on which work has been done pursuant to a SMP for private stormwater management facilities, or any other person or agent in control of such property, shall maintain in good condition and promptly repair and restore all grade surfaces, walls, drains, dams and structures, vegetation, erosion and sedimentation controls, and other protective devices. Such repairs or restoration and maintenance shall be in accordance with approved plans.

B. Maintenance Inspections

1. Stormwater management facilities and practices included in an O&M Plan with a Maintenance Agreement in accordance with the Regulations must undergo ongoing

inspections to document maintenance and repair needs and ensure compliance with the requirements of the Agreement, the Plan, and the Regulations.

2. At a minimum, inspections shall occur during the first year of operation and in accordance with the O&M plan in the SMP.
3. Inspection reports shall be completed and retained by the parties responsible for the operation and maintenance of the stormwater management facility. Reports shall be submitted to the Planning Board upon request. Inspection reports for stormwater management systems shall include:
 - a. The date of inspection,
 - b. Name of inspector,
 - c. The condition of each BMP, including components such as:
 - i. Pretreatment devices.
 - ii. Vegetation or filter media.
 - iii. Fences or other safety devices.
 - iv. Spillways, valves, or other control structures.
 - v. Embankments, slopes, and safety benches.
 - vi. Reservoir or treatment areas.
 - vii. Inlet and outlet channels and structures.
 - viii. Underground drainage.
 - ix. Sediment and debris accumulation in storage and forebay areas (including catch basins).
 - x. Any nonstructural practices.
 - xi. Any other item that could affect the proper function of the stormwater management system.
 - d. Description of the need for maintenance.

C. Right-of-Entry for Inspection

The Planning Board, its agents, officers, and employees shall have authority to enter upon privately owned land for the purpose of performing their duties under these Regulations and may make or cause to be made such examinations, surveys, or sampling as the Planning Board deems necessary, subject to the constitutions and laws of the United States and the Commonwealth.

D. Records of Maintenance and Repair Activities

Parties responsible for the operation and maintenance of a stormwater management facility shall provide records of all maintenance and repairs to the Planning Board upon request. Parties responsible for the operation and maintenance of a stormwater management facility shall make records of all maintenance and repairs, and shall retain the records for at least 5 years. These records shall be made available to the Planning Board during inspection of the facility and at other reasonable times upon request.

E. Failure to Maintain

1. If a Responsible Party fails or refuses to meet the requirements of the inspection and maintenance agreement, the Planning Board, after thirty (30) days written notice (except that in the event the violation constitutes an immediate danger to public health or public safety, 24 hours notice shall be sufficient), may correct a violation of the design standards or maintenance requirements by performing the necessary work to place the facility or practice in proper working condition. In the event that the responsible person, permittee or subsequent owners do not follow maintenance procedures and programs for stormwater facilities as approved by the Planning Board, the Board or its agents shall have the authority to expend any portion of the Stormwater Maintenance Surety to provide such maintenance and repairs as needed. In the event the repairs exceed the value of the surety, the Planning Board may assess the owner(s) of the facility for the additional cost of repair work which shall be a lien on the property until paid.

2. After notification is provided to the Responsible Party for carrying out the maintenance plan of any deficiencies discovered from an inspection of a stormwater management system, the Responsible Party shall have 30 days or other time frame mutually agreed to between the Planning Board and the Responsible Party, to correct the deficiencies. The Planning Board shall then conduct a subsequent inspection to ensure completion of repairs.

13.0 ENFORCEMENT

- A. Enforcement powers of the Planning Board and enforcement provisions are provided in the Stormwater Management and Erosion Control Bylaw, § 172-4.

- B. Appeals.
The decisions or orders of the Planning Board shall be final. Further relief shall be to a court of competent jurisdiction.

- C. Remedies Not Exclusive.
The remedies listed in this Bylaw are not exclusive of any other remedies available under any applicable federal, state or local law.

14.0 SEVERABILITY

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

APPENDICES FOR STORMWATER REGULATIONS
Town of Hopkinton, MA
Adopted October 20, 2008

APPENDIX A: DEFINITIONS

ALTER: Any activity, which will measurably change the ability of a ground surface area to absorb water or will change existing surface drainage patterns. Alter may be similarly represented as “alteration of drainage characteristics,” and “conducting land disturbance activities.”

APPLICANT: A property owner or agent of a property owner who has filed an application for a Stormwater Management Permit.

BEST MANAGEMENT PRACTICE (BMP): Structural, non-structural and managerial techniques that are recognized to be the most effective and practical means to prevent and/or reduce increases in stormwater volumes and flows, reduce point source and nonpoint source pollution, and promote stormwater quality and protection of the environment. “Structural” BMPs are devices that are engineered and constructed to provide temporary storage and treatment of stormwater runoff. “Nonstructural” BMPs use natural measures to reduce pollution levels, do not require extensive construction efforts, and/or promote pollutant reduction by eliminating the pollutant source.

CERTIFICATE OF COMPLETION (COC): A document issued by the Planning Board after all construction activities have been completed, which states that all conditions of an issued Stormwater Management Permit have been met and that a project has been completed in compliance with the conditions set forth in a SMP.

CONVEYANCE: Any structure or device, including pipes, drains, culverts, curb breaks, paved swales or man-made swales of all types designed or utilized to move or direct stormwater runoff or existing water flow.

DEVELOPER: A person who undertakes or proposes to undertake land disturbance activities.

DEVELOPMENT: The modification of land to accommodate a new use or expansion of use.

DISTURBANCE OF LAND: Any action, including the removal of vegetative cover, that causes a change in the position, location, or arrangement of soil, sand, rock, gravel or similar earth material.

DRAINAGE EASEMENT: A legal right granted by a landowner to a grantee allowing the use of private land for stormwater management purposes.

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

EROSION AND SEDIMENT CONTROL PLAN: A plan that shows the location and construction detail(s) of the erosion and sediment reduction controls to be utilized for a construction site.

FLOODING: A local and temporary inundation or a rise in the surface of a body of water, such that it covers land not usually under water.

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

GROUNDWATER: All water beneath any land surface including water in the soil and bedrock beneath water bodies.

IMPERVIOUS SURFACE: Any material or structure on or above the ground that prevents water from infiltrating through the underlying soil. Impervious surface is defined to include, without limitation: paved surfaces (parking lots, sidewalks, driveways), roof tops, swimming pools, patios, and paved, gravel and compacted dirt surfaced roads.

IMPOUNDMENT: A stormwater pond created by either constructing an embankment or excavating a pit which retains a permanent pool of water.

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

MASSACHUSETTS STORMWATER MANAGEMENT STANDARDS: The Stormwater Management Standards and accompanying Stormwater Handbook issued by the Department of Environmental Protection pursuant to authority under the Wetlands Protection Act, M.G.L. c. 131, § 40, and the Massachusetts Clean Waters Act, M.G.L. c. 21, §§ 26-53. The Stormwater Management Standards are incorporated in the Wetlands Protection Act Regulations, 310 CMR 10.05(6)(k) and the Water Quality Certification Regulations, 314 CMR 9.06(6)(a).

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 man-made or altered drainage channel, reservoir, and other drainage structure that together comprise the storm drainage system owned or operated by the Town of Hopkinton.

NEW DEVELOPMENT: Any construction or land disturbance of a parcel of land that is currently in a natural vegetated state and does not contain alteration by man-made activities.

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 natural and human-made pollutants, finally depositing them into water resource areas.

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

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

PERSON: Any individual, group of individuals, association, partnership, corporation, company, business organization, trust, estate, the Commonwealth or political subdivision thereof to the extent subject to Town Bylaws, administrative agency, public or quasi-public corporation or body, the Town of Hopkinton, and any other legal entity, its legal representatives, agents, or assigns.

PRE-DEVELOPMENT: The conditions that exist at the time that plans for the land development of a tract of land are submitted to the Planning Board. Where phased development or plan approval occurs (preliminary grading, roads and utilities, etc.), the existing conditions at the time prior to the first plan submission shall establish pre-development conditions.

POINT SOURCE: Any discernible, confined, and discrete conveyance, including but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, or container from which pollutants are or may be discharged.

POST-DEVELOPMENT: The conditions that reasonably may be expected or anticipated to exist after completion of the land development activity on a specific site or tract of land. Post-development refers to the phase of a new development or redevelopment project after completion, and does not refer to the construction phase of a project.

PROFESSIONAL ENGINEER (PE): A Professional Civil Engineer licensed in the Commonwealth of Massachusetts.

RECHARGE: The replenishment of groundwater reserves.

REDEVELOPMENT: Any construction, alteration, or improvement where the existing land has been subject to previous development.

RESOURCE AREA: Any area protected under, and without limitation, the Massachusetts Wetlands Protection Act, Massachusetts Rivers Act, or Town of Hopkinton Wetlands Protection Bylaw.

RESPONSIBLE PARTIES: The owner(s), persons with financial responsibility, and persons with operational responsibility of any stormwater management system.

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

SEDIMENTATION: A process of depositing material that has been suspended and transported in water.

SLOPE: The incline of a ground surface expressed as a ratio of horizontal distance to vertical distance (e.g. a 4:1 slope). It can also be expressed as a percentage of the vertical rise divided by the horizontal distance (e.g. a twenty-five (25) percent slope).

SITE: The parcel of land being developed, or a designated planning area in which the land development project is located.

STORMWATER MANAGEMENT: The use of structural or non-structural practices that are designed to reduce storm water runoff pollutant loads, discharge volumes, and/or peak flow discharge rates.

STORMWATER MANAGEMENT PERMIT (SMP): A permit issued by the Planning Board after review of an application, plans, calculations, and other supporting documents, which is designed to protect the environment of the Town from the deleterious effects of uncontrolled and untreated stormwater runoff.

STOP WORK ORDER: An order issued which requires that all construction activity on a site be stopped.

WATER QUALITY VOLUME (WQv): The storage needed to capture a specified average annual stormwater runoff volume. WQv will numerically vary as a function of drainage area or impervious area.

APPENDIX B: STORMWATER MANAGEMENT PLAN CONTENTS

The Stormwater Management Plan shall include, at a minimum:

1. Contact Information. The name, address, and telephone number of all persons having a legal interest in the property and the tax reference parcel identification number of the property or properties affected.
2. Brief narrative description of the project and description of how and where stormwater will be controlled.
3. A current locus map.
4. Existing Site Plan depicting the existing conditions on the site.
5. The existing zoning and land use at the site and abutting properties.
6. The proposed land use.
7. The location(s) of existing and proposed easements.
8. The location of existing and proposed utilities.
9. The site's existing and proposed topography with contours at 2 foot intervals.
10. The existing site hydrology.

11. A description and delineation of existing stormwater conveyances, impoundments, wetlands, drinking water resource areas, swimming beaches or other critical environmental resource areas on or adjacent to the site or into which stormwater flows.
12. A delineation of 100-year flood plain, if applicable.
13. Estimated seasonal high groundwater elevation in areas to be used for stormwater retention, detention, or infiltration.
14. The existing and proposed vegetation and ground surfaces with runoff coefficients for each.
15. A drainage area map showing pre and post construction watershed boundaries, drainage area and stormwater flow paths, including municipal drainage system flows.
16. A description and drawings of all components of the proposed stormwater management system including:
 - a. Locations, cross sections and profiles of all brooks, streams, drainage swales and their method of stabilization,
 - b. All measures for the detention, retention or infiltration of water,
 - c. All measures for the protection of water quality,
 - d. The structural details for all components of the proposed drainage systems and stormwater management facilities,
 - e. Notes on drawings specifying materials to be used, construction specifications, and expected hydrology with supporting calculations,
 - f. Proposed improvements including location of buildings or other structures, impervious surfaces, and drainage facilities, if applicable,
 - g. Proposed locations for snow storage,
 - h. Any other information requested by the Planning Board.
17. Hydrologic and hydraulic design calculations for the pre-development and post-development conditions for the design storms specified in Section 7.0 of the Regulations. Such calculations shall include:
 - a. Description of the design storm frequency, intensity and duration,
 - b. Time of concentration,
 - c. Soil Runoff Curve Number (RCN) based on land use and soil hydrologic group,
 - d. Peak runoff rates and total runoff volumes for each watershed area,
 - e. Information on construction measures used to maintain the infiltration capacity of the soil where any kind of infiltration is proposed,
 - f. Infiltration rates, where applicable,
 - g. Culvert capacities,
 - h. Flow velocities,
 - i. Data on the increase in rate and volume of runoff for the specified design storms, and
 - j. Documentation of sources for all computation methods and field test results.
18. Post-development downstream analysis, if required by the Planning Board.

19. Soils information from test pits performed at the location of proposed stormwater management facilities, including, but not limited to, soil descriptions, depth to seasonal high groundwater, depth to bedrock, and percolation rates. Soils information will be based on site test pits logged by a Massachusetts Registered Soil Evaluator or a Professional Engineer.
20. Landscape plan describing the woody and herbaceous vegetative stabilization and management techniques to be used within and adjacent to the stormwater practice.
21. Stamp and signature of a Professional Engineer to certify that the Stormwater Management Plan is in accordance with the criteria established in the Bylaw and the Regulations.

APPENDIX C: EROSION AND SEDIMENT CONTROL PLAN CONTENTS

The Erosion and Sediment Control Plan shall include, at a minimum:

1. A current general location map (e.g., USGS quadrangle map, a portion of a city or county map, or other map) with enough detail to identify the location of the construction site and waters of the United States within one mile of the site.
2. Legible site map, showing the entire site, identifying at a minimum:
 - a. Direction(s) of storm water flow and approximate slopes anticipated after major grading activities,
 - b. Areas of soil disturbance and areas that will not be disturbed,
 - c. Locations of all structural and nonstructural erosion and sediment control measures and BMPs,
 - d. Locations where stabilization practices are expected to occur,
 - e. Locations for storage of materials, waste, vehicles, equipment, soil, snow and other potential pollutants,
 - f. Locations of bodies of water, including wetlands,
 - g. Locations where stormwater discharges to a surface water (include all roads, drains and other structures that could carry stormwater to a wetland or other water body, on or offsite),
 - h. Areas where final stabilization has been accomplished and no further construction-phase permit requirements apply, and
 - i. Location of any stormwater discharge associated with industrial activity other than construction at the site.
3. Description of the following in narrative, calculations or drawings, as appropriate:

- a. Estimates of the total area expected to be disturbed by excavation, grading, or other construction activities, including dedicated off-site borrow and fill areas.
- b. All pollution control measures (structural and non-structural BMPs) that will be implemented as part of the construction activity to control pollutants in stormwater discharges. Appropriate control measures must be identified for each major construction activity and the operator responsible for the implementation of each control measure must also be identified.
- c. The intended sequence and timing of activities that disturb soils at the site and the general sequence during the construction process in which the erosion and sediment control measures will be implemented.
- d. Structural practices to divert flows from exposed soils, retain/detain flows or otherwise limit runoff and the discharge of pollutants from exposed areas of the site. Placement of structural practices in floodplains must be avoided to the degree practicable.
- e. Interim and permanent stabilization practices for the site, including a schedule of when the practices will be implemented. Site plans should ensure that existing vegetation is preserved where possible and that disturbed portions of the site are stabilized. Use of impervious surfaces for stabilization should be avoided.
- f. Construction and waste materials expected to be stored on-site with updates as appropriate, including descriptions of controls, including storage practices, to minimize exposure of the materials to storm water, and spill prevention and response practices.
- g. Measures to minimize, to the extent practicable, off-site vehicle tracking of sediments onto paved surfaces and the generation of dust.
- h. Measures to prevent the discharge of solid materials, including building materials, to waters of the United States, except as authorized by a permit issued under Section 404 of the CWA.
- i. Pollutant sources from areas other than construction, and a description of controls and measures that will be implemented at those sites to minimize pollutant discharges.
- j. All allowable sources of non-stormwater, except for flows from fire fighting activities, that are combined with stormwater discharges associated with construction activity at the site. Non-stormwater discharges should be eliminated or reduced to the extent feasible. The Erosion and Sediment Control plan must identify and ensure the implementation of appropriate pollution prevention measures for the non-stormwater component(s) of the discharge.

Allowable sources of non-stormwater discharges include:

- i) Waterline flushing,
- ii) Flow from potable water sources,
- iii) Springs,
- iv) Natural flow from riparian habitats and wetlands,

- v) Diverted stream flow,
 - vi) Rising groundwater,
 - vii) Uncontaminated groundwater infiltration as defined in 40 CFR 35.2005(20), or uncontaminated pumped groundwater,
 - viii) Water from exterior foundation drains, footing drains (not including active groundwater dewatering systems), crawl space pumps, or air conditioning condensation,
 - ix) Discharge from landscape irrigation or lawn watering,
 - x) Water from individual residential car washing,
 - xi) Discharge from dechlorinated swimming pool water (less than one ppm chlorine), provided the water is allowed to stand for one week prior to draining and the pool is drained in such a way as not to cause a nuisance,
 - xii) Discharge from street sweeping,
 - xii) Dye testing, provided verbal notification is given to the Board prior to the time of the test,
 - xiv) Non-stormwater discharge permitted under an NPDES permit or a Surface Water Discharge Permit, waiver, or waste discharge order administered under the authority of the United States Environmental Protection Agency or the Department of Environmental Protection, provided that the discharge is in full compliance with the requirements of the permit, waiver, or order and applicable laws and regulations, and
 - xv) Discharge for which advanced written approval is received from the Board as necessary to protect public health, safety, welfare or the environment.
4. An Operation and Maintenance Schedule for structural and non-structural measures, interim grading, and material stockpiling areas.
 5. Stamp and signature of a Professional Engineer to certify that the Erosion and Sediment Control Plan is in accordance with the criteria established in the Bylaw and the Regulations.

APPENDIX D: OPERATION AND MAINTENANCE PLAN CONTENTS

The Operation and Maintenance Plan shall include, at a minimum:

1. The name(s) of the owner(s) for all components of the system.
2. A map showing the location of the systems and facilities including easements, catch basins, manholes/access lids, main, and stormwater devices.
3. A Maintenance Agreement which specifies:
 - a. The names, addresses and daytime telephone numbers of the Responsible Parties,
 - b. The person(s) responsible for financing maintenance and emergency repairs,
 - c. An Inspection and Maintenance Schedule for all stormwater management facilities including routine and non-routine maintenance tasks to be performed,

- d. A list of easements with the purpose and location of each,
- e. Provisions for the Planning Board or its designee to enter the property at reasonable times and in a reasonable manner for the purpose of inspection, and
- f. The signature(s) of the owner(s).

APPENDIX E: POST-DEVELOPMENT ADDITIONAL CRITERIA

All stormwater management plans shall comply with the following performance criteria unless otherwise provided for in the Regulations.

1. Hydrologic Basis for Design of Structural Practices

For facility sizing criteria, the basis for hydrologic and hydraulic evaluation of development sites are as follows:

- a. Impervious cover is measured from the site plan and includes any material or structure on or above the ground that prevents water from infiltrating through the underlying soil. Impervious surface is defined to include, without limitation: paved parking lots, sidewalks, rooftops, driveways, patios, and paved, gravel and compacted dirt surfaced roads.
- b. Off-site areas shall be assessed based on their “pre-developed condition” for computing the water quality volume (i.e., treatment of only on-site areas is required). However, if an offsite area drains to a proposed BMP, flow from that area must be accounted for in the sizing of a specific practice.
- c. Off-site areas draining to a proposed facility should be modeled as "present condition" for peak-flow attenuation requirements.
- d. The length of sheet flow used in time of concentration calculations is limited to no more than 50 feet for predevelopment conditions and 50 feet for post development conditions.
- e. Detention time for the one-year storm is defined as the center of mass of the inflow hydrograph and the center of mass of the outflow hydrograph.
- f. The models TR-55 and TR-20 (or approved equivalent) will be used for determining peak discharge rates.
- g. If an off-site area drains to a facility, off-site areas should be modeled, assuming an "ultimate buildout condition" upstream.
- h. Determination of flooding and channel erosion impacts to receiving streams due to land development projects shall be measured at each point of discharge from the development project and such determination shall include any runoff from the balance of the watershed which also contributes to that point of discharge.

- i. The specified design storms shall be defined as a 24-hour storm using the rainfall distribution recommended by the United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) or the Northeast Regional Climate Center “Atlas of Precipitation Extremes for the Northeastern United States and Southeastern Canada.”
- j. Proposed residential, commercial, or industrial subdivisions shall apply these stormwater management criteria to the land development as a whole. Individual lots in new subdivisions shall not be considered separate land development projects, but rather the entire subdivision shall be considered a single land development project. Hydrologic parameters shall reflect the ultimate land development and shall be used in all engineering calculations.

APPENDIX F: EROSION AND SEDIMENT CONTROL ADDITIONAL CRITERIA

All erosion and sediment controls shall comply with the following performance criteria unless otherwise provided for in the Regulations.

1. General Erosion and Sediment Control Criteria

The following are the minimum General Erosion and Sediment Control criteria:

- a. Minimize total area of disturbance and protect natural features and soil.
- b. Sequence activities to minimize simultaneous areas of disturbance. Mass clearings and grading of the entire site shall be avoided.
- c. Minimize peak rate of runoff in accordance with the Massachusetts Stormwater Standards.
- d. Minimize soil erosion and control sedimentation during construction, provided that prevention of erosion is preferred over sedimentation control.
- e. Divert uncontaminated water around disturbed areas.
- f. Maximize groundwater recharge.
- g. Install and maintain all Erosion and Sediment Control measures in accordance with the manufacturer’s specifications and good engineering practices.
- h. Prevent off-site transport of sediment.
- i. Protect and manage on and off-site material storage areas (overburden and stockpiles of dirt, borrow areas, or other areas used solely by the permitted project are considered a part of the project).

- j. Comply with applicable Federal, State and local laws and regulations including waste disposal, sanitary sewer or septic system regulations, and air quality requirements, including dust control.
- k. Prevent significant alteration of habitats mapped by the Massachusetts Natural Heritage & Endangered Species Program as Endangered, Threatened or Of Special Concern, Estimated Habitats of Rare Wildlife and Certified Vernal Pools, and Priority Habitats of Rare Species from the proposed activities.
- l. Institute interim and permanent stabilization measures, which shall be instituted on a disturbed area as soon as practicable but no more than 14 days after construction activity has temporarily or permanently ceased on that portion of the site.
- m. Properly manage on-site construction and waste materials.
- n. Prevent off-site vehicle tracking of sediments.
- o. Dust shall be controlled at the site.
- p. Divert offsite runoff from highly erodible soils and steep slopes to stable areas.

2. Specific Erosion and Sediment Control Criteria

The following are minimum Specific Erosion and Sediment Control criteria:

- a. Prior to any land disturbance activities commencing on the site, the developer shall physically mark limits of no land disturbance on the site with tape, signs, or orange construction fence, so that workers can see the areas to be protected. The physical markers shall remain in place until a Certificate of Completion has been issued.
- b. Appropriate erosion and sediment control measures shall be installed prior to soil disturbance. Measures shall be taken to control erosion within the project area. Sediment in runoff water shall be trapped and retained within the project area. Wetland areas and surface waters shall be protected from sediment.
- c. Sediment shall be removed once the volume reaches $\frac{1}{4}$ to $\frac{1}{2}$ the height of a hay bale. Sediment shall be removed from silt fence prior to reaching the load-bearing capacity of the silt fence which may be lower than $\frac{1}{4}$ to $\frac{1}{2}$ the height.
- d. Sediment from sediment traps or sedimentation ponds shall be removed when design capacity has been reduced by 50 percent.
- e. BMPs to be used for infiltration after construction shall not be used as BMPs during construction unless otherwise approved by the Board. Many infiltration 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.

- f. Soil stockpiles must be stabilized or covered at the end of each workday. Stockpile side slopes shall not be greater than 2:1. All stockpiles shall be surrounded by sediment controls.
- g. Disturbed areas remaining idle for more than 14 days shall be stabilized with seeding, wood chips bark mulch, tarpaulins, or any other approved methods.
- h. For active construction areas such as borrow or stockpile areas, roadway improvements and areas within 50 feet of a building under construction, a perimeter sediment control system shall be installed and maintained to contain soil.
- i. A tracking pad or other approved stabilization method shall be constructed at all entrance/exist points of the site to reduce the amount of soil carried onto roadways and off the site.
- j. On the cut side of roads, ditches shall be stabilized immediately with rock rip-rap or other non-erodible liners, or where appropriate, vegetative measures such as hydroseeding or jute matting.
- k. Permanent seeding shall be undertaken in the spring from March through May, and in late summer and early fall from August to October 15. During the peak summer months and in the fall after October 15, when seeding is found to be impractical, appropriate temporary stabilization shall be applied. Permanent seeding may be undertaken during the summer if plans provide for adequate mulching and watering.
- l. All slopes steeper than 3:1 (h:v, 33.3%), as well as perimeter dikes, sediment basins or traps, and embankments must, upon completion, be immediately stabilized with sod, seed and anchored straw mulch, or other approved stabilization measures. Areas outside of the perimeter sediment control system must not be disturbed.
- m. Temporary sediment trapping devices must not be removed until permanent stabilization is established in all contributory drainage areas.
- n. All temporary erosion and sediment control measures shall be removed after final site stabilization. Disturbed soil areas resulting from the removal of temporary measures shall be permanently stabilized within 30 days of removal.