

# **TOWN OF AMHERST NH STORMWATER REGULATIONS**

Adopted by the Planning Board December 16, 2020

Adopted by the Board of Health January 4, 2021

Adopted by the Board of Selectmen January 4, 2021

TOWN OF AMHERST STORMWATER REGULATIONS  
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**Introduction**

Like 44 other municipalities in New Hampshire, the Town of Amherst's stormwater discharges to the environment are regulated by the Environmental Protection Agency under the Clean Water Act through the National Pollutant Discharge Elimination System (NPDES). One key Clean Water Act requirement is that Amherst have an EPA-issued small Municipal Separate Storm Sewer System (MS4) Permit. The Town's current MS4 permit was issued in July 2018 and the Town received an Authorization to Discharge from EPA Region 1 on May 19, 2019.

Among numerous other requirements, the current MS4 permit requires the Town to review its stormwater management regulations within two years of the issuance of the permit to ensure those regulations incorporate appropriate stormwater retention and treatment requirements for new development and redevelopment occurring within the town. The technical requirements for stormwater retention and treatment are detailed in the MS4 permit itself and in state stormwater control handbooks and Best Management Practices.

The Town's current stormwater regulations were adopted in 2007 and do not meet the current technical requirements for stormwater retention and treatment. The 2007 regulations also include outdated references to expected precipitation values and do not require design for severe precipitation events commonly used by the state and other communities (a so-called "50- year storm").

The Town's Office of Community Development, Public Works Department, and Conservation Commission have cooperatively developed draft stormwater regulations to address the MS4 permit requirements and these other issues. Their efforts started with a model regulation developed by a coalition of towns and cities in the Manchester and Nashua area (the New Hampshire Lower Merrimack Valley Stormwater Coalition) to meet the 2018 MS4 permit requirements, an effort that included substantial participation by Amherst. Appropriate stormwater requirements from the current regulations were incorporated into that draft after updating references and design standards. The attached proposed regulations are the result of those efforts.

Larger development projects (those disturbing more than 100,000 square feet (just over two acres) are already subject to extensive stormwater controls under the NHDES's Alteration of Terrain Permit Program Rules. Projects disturbing an acre or more of land are required to comply with the federal EPA NPDES Construction General Permit (CGP). The proposed stormwater regulations rely largely on the same calculations, technical requirements, and stormwater control methods that are already used under the state rules and federal program, which should reduce the need for applicants to perform different or duplicative analyses, or to use different control methods, to comply with the Town's proposed regulations.

Additional efforts will be necessary over the next few years to address other MS4 permit requirements. The MS4 permit includes several requirements to examine existing impervious cover (roads, parking lots, and structures) and to assess the feasibility of reducing such impervious cover or its impact on water quality. Most of those studies must be complete in the 2022 timeframe, with implementation to be tracked in subsequent years.

STORMWATER REGULATIONS

**1. Purpose and Goals**

The purpose of these regulations is to protect local natural resources from degradation and to prevent adverse impacts to adjacent and downstream land, property, facilities and infrastructure by planning for and managing stormwater runoff during design, construction and post- construction phases. These regulations cover land development projects and other construction activities to control and minimize increases in stormwater runoff rates and volumes, soil erosion, stream channel erosion, and nonpoint source pollution associated with stormwater runoff.

These regulations are designed to be used for land in the Town's designated Municipal Separate Storm Sewer System (MS4) as well as other property in Town where construction, development or redevelopment is taking place, whether or not it is part of an application before the Planning Board. See Section 3. A. below for applicability.

The goal of these regulations is to establish minimum stormwater management requirements and controls to protect and safeguard the general health, safety, and welfare of the public in the Town of Amherst. These regulations seek to meet this goal through the following objectives:

- A. Minimize stormwater runoff from any development to reduce flooding, siltation and streambank erosion and maintain the integrity of stream channels.
- B. Minimize nonpoint source pollution caused by stormwater runoff which would otherwise degrade local water quality.
- C. Minimize the total volume of surface water runoff which flows from any specific site during and following development to not exceed the pre-development hydrologic condition.
- D. Reduce stormwater runoff rates and volumes, soil erosion and nonpoint source pollution through stormwater management controls and ensure that these management controls are properly maintained and pose no threat to public safety nor cause excessive municipal expenditures.
- E. Protect the quality of groundwater resources, surface water bodies and wetlands.

**2. Authority**

The provisions of these regulations are adopted pursuant to NH RSA 147:1, Local Regulations; 674:16, Grant of Power; RSA 674:17, Purposes of Zoning Ordinance; RSA 674:36, Subdivision Regulations; and, RSA 674:44, Site Plan Review Regulations.

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**3. General**

**A. Square Footage Thresholds and Other Applicability Provisions**

1. Sections 10 and 11 of these regulations apply to all persons and places within the Town.
2. These regulations apply as set forth herein to any development or redevelopment project that disturbs more than 20,000 square feet or disturbs more than 10,000 square feet within 100 feet of a surface water body or wetland.
3. These regulations apply as set forth herein to disturbances of less than the limits in section 3.A.2 above if that disturbance is part of a larger common plan of development that would cumulatively disturb 20,000 square feet or more.
4. These regulations apply as set forth herein to disturbances of any square footage if the disturbed area is directly adjacent to a wetlands buffer established under the Town's Wetland and Watershed Conservation District Ordinance.
5. These regulations apply as set forth herein to disturbances of any square footage if the disturbed area is a Critical Area.
6. These regulations apply as set forth herein to construction or reconstruction of a street or road.
7. These regulations apply as set forth herein to any site work performed in connection with a subdivision of more than three building lots.
8. These regulations apply to subdivisions that result in creation of a private road or a road intended for adoption as a public road. All stormwater runoff generated from the proposed private or public roadway(s) and any other stormwater runoff contributing to the roadway stormwater management system(s) shall be managed and treated in full compliance with these regulations.
9. For subdivisions comprising lots with frontage on existing private or public roadways, roadside drainage and any other stormwater runoff from the new lots discharging to the roadside drainage system shall be managed for: stormwater runoff quantity/volume; and water quality treatment if stormwater is discharged to the municipality's drainage system subject to the EPA MS4 permit.

- B. Exemptions.** The following activities are considered exempt from sections 4 through 9 of these regulations:

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1. Agricultural and forestry practices in accordance with current versions of BMPs published by the NH Department of Agriculture.
  2. Resurfacing and routine maintenance of roads and parking lots currently surfaced with impervious materials.
  3. Interior alterations and exterior maintenance to existing buildings and structures.
- C. All development projects and disturbances covered by section 3. A. and not exempt shall comply with the requirements of sections 3, 4, and 7 through 11.
1. All new development projects shall also comply with the requirements of section 5.
  2. All redevelopment projects shall also comply with the requirements of section 6.
- D. Application and Requirement for Written Approval to Proceed
- All projects subject to these regulations require an application for approval and submission of plans and other required documents as detailed below. Prior to commencement of land disturbance, the applicant shall obtain written approval under these regulations. The Planning Board or Board of Health may adapt or relax these application requirements for smaller or less complex applications provided the intent of these regulations is followed.

**Completed Application Submission Requirements**

The following shall be required in the final application and plan:

1. Completed and signed Stormwater Management Plan Application.
2. Site drawing of existing and proposed conditions showing:
  - a. Locus map showing property boundaries.
  - b. North arrow, scale, date.
  - c. Property lines.
  - d. Structures, roads, utilities, earth stockpiles, equipment storage, and plan for stump and debris removal.
  - e. Topographic contours at two (2) foot intervals.
  - f. Critical areas.
  - g. Within the project area and within two hundred (200) feet of project boundary surface waters, wetlands, and drainage patterns and watershed boundaries.
  - h. Vegetation.
  - i. Extent of one hundred (100) year flood plain boundaries if published or determined.
  - j. Soils information for design purposes from a National Cooperative Soil Survey (NCSS) soil series map or a High Intensity Soil Map of the site, prepared in accordance with SSSNNE Special Publication No. 1. Highly erodible soils shall be determined by soil series.
  - k. Easements, existing and proposed.
  - l. Areas and timing of soil disturbance, including calculation of square

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footage disturbed.

- m. Areas of cut and fill, including existing and proposed elevations.
- n. Locations of earth stockpiles
- o. Locations of equipment storage and staging.
- p. Stump disposal.
- q. Highlighted areas of poorly and very poorly drained soils.
- r. Highlighted areas of poorly and/or very poorly drained soils proposed to be filled.
- s. Locations, descriptions, details, and design calculations for all structural, non- structural, permanent, and temporary erosion and sedimentation control measures and BMPs.
- t. Identification of all permanent control measures.
- u. Identification of permanent snow storage areas.
- v. Identification of snow management measures during construction.
- w. Construction schedule.
- x. Earth movement schedule.
- y. Temporary (additional) detention and/or sediment control facilities may be designed to accommodate the storm most likely to occur during the anticipated duration of construction (e.g., construction duration of two years requires a two-year frequency storm evaluation).
- z. A proposed schedule and procedures for the inspection and maintenance of BMPs, during and after construction.
- aa. Identification of all permanent control measures and responsibility for continued maintenance.

3. Stormwater Management Report Section Including:

- 1. Design calculations for all temporary and permanent structural control BMP measures.
- 2. A proposed schedule and procedural details for the inspection and maintenance of all BMPs, during and after construction.
- 3. Identification of all permanent control measures and responsibility for continued maintenance.
- 4. Drainage report with calculations showing volume, peak discharge, and velocity of present and future runoff as required in Section 5. Stormwater Management for New Development and Section 6. Stormwater Management for Redevelopment.
- 5. Plans showing the entire drainage area affecting or being affected by the development of the site. Proposed lot boundaries and drainage areas shall be clearly shown on the plan.
- 6. The direction of flow of runoff through the use of arrows shall clearly be shown on the plan.
- 7. The location, elevation, and size of all existing and proposed catch basins, drywells, drainage ditches, swales, retention basins, and storm sewers shall be shown on the plan.
- 8. When detention structures are planned to reduce future condition peak discharge, the soil cover complex method shall be used to compute the runoff

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volume and peak discharge for designing the structure. The design shall conform to the criteria outlined for those types of structures given in the latest version of the NH Stormwater Manual, 3 vols.

9. Copies of pertinent State and Federal Permits.
10. An example Stormwater Management Plan table of contents follows:
  - i. Project Overview
  - ii. Owner.
  - iii. Address of development.
  - iv. Location of the site.
  - v. Description of receiving waters.
  - vi. Nature and purpose of the land disturbing activity.
  - vii. Limits of disturbance.
  - viii. Construction schedule.
  - ix. Existing conditions summary.
  - x. Define topography, drainage patterns, soils, ground cover, critical areas adjacent areas, upstream areas draining through site, existing development, existing stormwater facilities, on- and off-site utilities, construction limitations, buffers, wetlands, streams, sensitive areas, and other pertinent features.
  - xi. Include an existing conditions plan (drawing) showing the above existing conditions and labeled per the narrative above.
  - xii. Off-site analysis.
  - xiii. Describe the tributary area (include at least one-quarter (¼) mile downstream), drainage channels, conveyance systems, and downstream receiving waters.
  - xiv. Review existing or potential problems resulting from the development including, but not limited to, sedimentation, erosion, water quality issues, chemical spills.
  - xv. Demonstrate that development of the site will not affect the downstream systems negatively.
  - xvi. Demonstrate adequate capacity of the downstream system to handle flow conditions after development.
  - xvii. As applicable, include an off-site drainage plan (the plan may be part of the existing conditions plan), special reports, studies, maintenance information.
  - xviii. As applicable, include test pit log forms, soil conditions data, and wetland delineation information.
  - xix. As applicable, include information regarding long-range maintenance of any closed drainage systems, detention/retention facilities, etc.
  - xx. Appendix (include copies of all tables, graphs, and charts, test pit and percolation test data used in any of the above calculations).

E. Notification of Disturbance Adjacent to Town Property or Rights-of-Way

There are many construction, development or redevelopment projects that create disturbance as defined in these regulations but that do not meet the applicability criteria in Section 3. A. When viewed in isolation, these projects may present minimal



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stormwater impacts. However, the impacts of these projects if viewed cumulatively can create significant issues for the Town of Amherst's drainage system, particularly if care is not taken to control erosion and sedimentation.

Projects that create disturbance adjacent to Town property or rights-of-way (including roadsides), but which do not meet any of the criteria of Section 3. A., do not require an application or approval from the Planning Board or Board of Health, but shall provide notice to the Office of Community Development, on forms to be provided, prior to the commencement of the disturbance. Use of Stormwater Management Best Management Practices is strongly encouraged for such projects to minimize potential stormwater impacts on Town property. No excavation or disturbance to shoulders, ditches, swales or embankments may take place without written permit permission (RSA 236:9, 236:11 and 236:19).

Road opening, temporary access and driveway permit applications may be required by the DPW in accordance with the Town's Roadway and Utility Standards.

F. Other Required Permits; Precedence; Severability

1. In addition to local approval, all applicable state and federal permits shall be obtained, including, but not limited to, NHDES Alteration of Terrain and EPA NPDES Construction General Permit. Any errors or omissions in these regulations shall not exempt applications from complying with applicable state and federal statutes, rules and regulations.
2. In the event of conflicting requirements, pursuant to NH RSA 676:14, Determination of Which Local Ordinance Takes Precedence, the stricter standard applies.
3. If any section, subsection, sentence, clause, phrase, or other part of these regulations is for any reason held by a court of competent jurisdiction to be invalid, such decision shall not affect the validity of the remaining portions of these regulations.

G. Jurisdiction

The Planning Board and the Board of Health (comprised of the Health Officer and the Board of Selectmen) share jurisdiction over stormwater regulation matters. The Planning Board shall have initial jurisdiction over stormwater regulation for and during development that occurs in connection with a subdivision, site plan, or Conditional Use Permit review.

The Board of Health shall have initial jurisdiction over stormwater regulation in all other instances. Additional requirements post-construction are as specified in these regulations.

H. Waivers

A waiver from these regulations may be granted under the following conditions:

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1. The applicant identifies the specific provisions from which relief is sought and its proposed substitute solution, and
2. a. For applications relating to a subdivision, site plan, or Conditional Use Permit (CUP), the applicant demonstrates, and the Planning Board finds: (1) that granting the waiver will not impair achieving the spirit and intent of these regulations; (2) that compliance with these regulations is not reasonably possible given the specific circumstances relative to the subdivision, site plan, or CUP, or the conditions of the land in such subdivision, site plan, or CUP; and (3) that the proposed substitute solution is consistent with the goals of these regulations and is in the best interest of the Town; or
- b. For all other applications, the applicant demonstrates, and the Board of Health finds: (1) that granting the waiver will not impair achieving the spirit and intent of these regulations; (2) that compliance with these regulations is not reasonably possible; and, (3) that the proposed substitute solution is consistent with the goals of these regulations and is in the best interest of the Town.

**4. Stormwater Management General Performance Criteria**

A. General Performance Criteria for Stormwater Management:

1. All applications shall apply site design practices to reduce the generation of stormwater during construction and in the post-developed condition, reduce overall impervious surface coverage, seek opportunities to capture and reuse and minimize discharge of stormwater to the municipal stormwater management system.
2. Water Quality Protection
  - a. No stormwater runoff generated from new development or redevelopment shall be discharged directly into a jurisdictional wetland or surface water body without adequate treatment. Wetland areas and surface waters shall be protected from sediment.
  - b. All developments shall provide adequate management of stormwater runoff and prevent discharge of stormwater runoff from creating or contributing to water quality impairment.
3. Onsite groundwater recharge rates shall be maintained by promoting infiltration through use of structural and non-structural methods. Capture and reuse of stormwater runoff is encouraged in instances where groundwater recharge is limited by site conditions. All stormwater management practices shall be designed to convey stormwater to allow for maximum groundwater recharge. This shall include, but not be limited to:
  - a. Maximizing flow paths from collection points to outflow points.
  - b. Use of multiple best management practices.
  - c. Retention of and discharge to fully vegetated areas.
  - d. Maximizing use of infiltration practices.
  - e. Stormwater System Design Performance Standards.
4. Stormwater system design, performance standards and protection criteria shall be provided as prescribed in the NHDES Alteration of Terrain program, unless more

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stringent requirements are established in these regulations. Calculations shall include sizing of all structures and best management practices, including sizing of emergency overflow structures, based on assessment of the 50-year frequency 24-hour storm discharge rate.

5. Stormwater discharges shall comply with the setback requirements from water supply sources established in the NH DES Alteration of Terrain Permit Program Rules (*see* Env-Wq 1508.02).
6. The sizing and design of stormwater management practices shall utilize the then- current precipitation data from the Northeast Region Climate Center (NRCC) or the most recent precipitation atlas published by the National Oceanic and Atmospheric Administration (NOAA) for the sizing and design of all stormwater management practices. *See* the NRCC website at <http://precip.eas.cornell.edu/>.
7. Runoff shall not be discharged from the development site to municipal drainage systems or offsite privately owned drainage systems (whether enclosed or open drainage) or to surface water bodies and wetlands in volumes greater than discharged under existing conditions (developed condition or undeveloped condition).
8. All stormwater management practices involving bioretention and vegetative cover as a key functional component shall have a landscape plan detailing both the type and quantities of plants and vegetation to be in used in the practice and how and who will manage and maintain this vegetation. The use of native plantings appropriate for site conditions is strongly encouraged for these types of stormwater treatment areas. The landscape plan shall be prepared by a licensed landscape architect, or other qualified professional. Whenever practicable, native site vegetation shall be retained, protected, or supplemented. Any stripping of vegetation shall be done in a manner that minimizes soil erosion.
9. Seasonal high water tables shall be accounted for in all BMP design criteria.
10. Salt storage areas shall be fully covered with permanent or semi-permanent measures and loading/offloading areas shall be located and designed to not drain directly to receiving waters and shall be maintained with good housekeeping measures in accordance with NH DES published guidance. Runoff from snow and salt storage areas shall enter treatment areas before being discharged to receiving waters or being allowed to infiltrate into the groundwater.
11. Low Impact Development (LID) site planning and design strategies shall be used to the maximum extent practicable (MEP) to reduce stormwater runoff volumes, protect water quality, and maintain predevelopment site hydrology. LID techniques with the goals of protecting water quality, maintaining predevelopment site hydrology, preserving existing vegetation, reducing the development footprint, minimizing or disconnecting impervious area, and using enhanced stormwater BMP's (such as rain gardens, bioretention systems, tree box filters, and similar stormwater management landscaping techniques) shall be incorporated into landscaped areas. Capture and reuse of stormwater is strongly encouraged. The applicant shall document in writing why LID strategies are not appropriate when not used to manage stormwater.

- B. The applicant shall demonstrate that all stormwater management and treatment

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practices have an Operations and Maintenance Plan in place and agreement to ensure the system will continue to function as designed. This agreement shall include all maintenance easements required to access and inspect the stormwater treatment practices, and to perform routine maintenance as necessary to ensure proper functioning of the stormwater system. The Operations and Maintenance Plan shall specify the parties responsible for the proper maintenance of all stormwater treatment practices and frequency of inspections. The Operations and Maintenance Plan shall be provided to the Planning Board as part of the application prior to issuance of any local permits for land disturbance and construction activities or the Board of Health during their review process.

- C. The applicant shall provide legally binding documents for filing with the Registry of Deeds at the applicant's expense, which demonstrate that the obligation for maintenance of stormwater best management practices and infrastructure runs with the land and that the Town has legal access to inspect the property to ensure their proper function or maintain onsite stormwater infrastructure when necessary to address emergency situations or conditions.
- D. The property owner shall bear responsibility for the installation, construction, inspection, and maintenance of all stormwater management and erosion control measures required by the provisions of these regulations and as approved by the Planning Board or Board of Health, including emergency repairs completed by the Town.

**5. Stormwater Management for New Development**

- A. All proposed stormwater management practices and treatment systems shall meet the following performance standards:
  - 1. Stormwater management and erosion and sediment control practices shall be located outside any specified wetland or other buffer zones unless otherwise approved by the Planning Board pursuant to a Conditional Use Permit application.
  - 2. All stormwater treatment areas shall be planted with plantings appropriate for the site conditions: trees, grasses, shrubs and/or other plants in sufficient numbers and density to prevent soil erosion and to achieve the water quality treatment requirements of this section. Preference should be given to native plant materials or improved cultivars of native plants.
  - 3. All stormwater installations and areas that receive rainfall runoff shall be designed to drain within a maximum of 72 hours for vector control, unless specifically identified and approved for longer term water storage.
  - 4. Surface runoff shall be directed into appropriate stormwater control measures designed for treatment and/or filtration to the maximum extent practicable and/or captured and reused onsite.
  - 5. All newly generated stormwater from new development shall be treated on the development site. A development plan shall include provisions to retain stormwater on the site by using the natural flow patterns.
  - 6. Impervious surfaces for parking areas and roads shall be minimized to the extent

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possible (including minimum parking requirements for proposed uses). All runoff from new impervious surfaces and structures shall be directed to a subsurface filtration and/or infiltration device or properly discharged to a naturally occurring or fully replanted and vegetated area with slopes of 15 percent or less and with adequate controls to prevent soil erosion and concentrated flow.

Runoff from impervious surfaces shall be treated to achieve at least 90% removal of Total Suspended Solids (TSS) and at least 60% removal of both total nitrogen and total phosphorus using appropriate treatment measures, as specified in the NH Stormwater Manual, Volumes 1 and 2, December 2008, as amended or other equivalent means.

Where practical, the use of natural, vegetated filtration and/or infiltration practices or subsurface gravel wetlands for water quality treatment is preferred given its relatively high nitrogen removal efficiency. All new impervious area draining to surface waters impaired by nitrogen, phosphorus or nutrients shall be treated with stormwater BMP's designed to optimize pollutant removal efficiencies based on design standards and performance data published by the UNH Stormwater Center and/or included in the latest version of the NH Stormwater Manual.

7. Measures shall be taken to control the post-development peak runoff rate so that it does not exceed pre-development runoff rate. Drainage analyses shall include calculations comparing pre- and post-development stormwater runoff rates (cubic feet/second) for the 1-inch rainstorm and the 2-year, 10-year, 25-year, and 50-year frequency 24-hour storm events.  
Similar measures shall be taken to control the post-development runoff volume to infiltrate the groundwater recharge volume (GRV) in accordance with NHDES Alteration of Terrain requirements. For sites where infiltration is limited or not practicable, the applicant shall demonstrate that the project will not create or contribute to water quality impairment.
8. The design of the stormwater drainage systems shall provide for the disposal of stormwater without flooding or functional impairment of streets, adjacent properties, downstream properties, soils, or vegetation.
9. The design of the stormwater management systems shall account for existing site hydrology, including flows originating from off-site.

**6. Stormwater Management for Redevelopment**

- A. Redevelopment (as applicable to these stormwater regulations) means: Construction, alteration, or improvement that disturbs existing impervious area (including demolition and removal of road/parking lot materials down to the erodible subbase) or expands existing impervious cover, and the area being disturbed or added reaches the square footage threshold or occurs in an area covered by the criteria of Section 3.
- B. The following activities are not considered redevelopment:
  - Interior and exterior building renovation.
  - Resurfacing of an existing paved impervious surface (e.g. parking lot, walkway or roadway).
  - Pavement excavation and patching that is incidental to the primary project purpose, such as replacement of a collapsed storm drain.

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- Landscaping installation and maintenance.
  - C. For sites meeting the definition of a redevelopment project and having less than 60% existing impervious surface coverage, the stormwater management requirements shall be the same as new development projects (see sections 4 and 5). The applicant shall satisfactorily demonstrate that impervious area is minimized, and LID practices have been implemented on-site to the maximum extent practicable.
  - D. For sites meeting the definition of a redevelopment project and having more than 60% existing impervious surface area, stormwater shall be managed for water quality in accordance with one or more of the following techniques, listed in order of preference:
    1. Implement measures onsite that result in disconnection or treatment of 100% of the additional proposed impervious surface area and at least 30% of the existing impervious area and pavement areas, preferably using filtration and/or infiltration practices.
    2. If resulting in greater overall water quality improvement on the site, implement LID practices to the maximum extent practicable to provide treatment of runoff generated from at least 60% of the entire developed site area.
  - E. Runoff from impervious surfaces shall be treated to achieve at least 90% removal of Total Suspended Solids and at least 60% removal of both total nitrogen and total phosphorus using appropriate treatment measures, as specified in the NH Stormwater Manual Volumes 1 and 2, December 2008, as amended, or other equivalent means.

Where practical, the use of natural, vegetated filtration and/or infiltration practices or subsurface gravel wetlands for water quality treatment is preferred given its relatively high nitrogen removal efficiency.
- All new impervious area draining to surface waters impaired by nitrogen, phosphorus or nutrients shall be treated with stormwater BMP's designed to optimize pollutant removal efficiencies based on design standards and performance data published by the UNH Stormwater Center and/or included in the latest version of the NH Stormwater Manual.
- F. All newly generated stormwater from redevelopment shall be treated on the development site.
  - G. Off-site mitigation
    1. In cases where the applicant demonstrates, to the satisfaction of the Planning Board or Board of Health, that on-site treatment has been implemented to the maximum extent possible or is not feasible, off-site mitigation may, at the Planning Board's or Board of Health's sole discretion, be an acceptable alternative if implemented within the same subwatershed, within the project's drainage area or within the drainage area of the receiving water body. To comply with local watershed objectives the mitigation site would be preferably situated in the same subwatershed as the development and impact/benefit the same receiving water.
    2. Off-site mitigation shall be equivalent to no less than the total area of impervious cover NOT treated on-site. Treatment of the impervious area shall comply with all standards of these regulations.

An approved off-site location shall be identified, the specific management measures

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identified, and if not owned by the applicant, a written agreement with the property owner(s) and an implementation schedule developed in accordance with Planning Board or Board of Health review. The applicant shall also demonstrate that there is no downstream drainage or flooding impacts that would result from not providing on-site management for large storm events.

**7. Stormwater Management Documentation**

**A. Stormwater Management Report and Plans.**

1. All applications shall include a Stormwater Management Plan (SMP). The SMP shall include a narrative description and an Existing Conditions Site Plan showing all pre- development impervious surfaces, buildings and structures; surface water bodies and wetlands; drainage patterns, sub-catchment and watershed boundaries; building setbacks and buffers, locations of various hydrologic group soil types, mature vegetation, land topographic contours with minimum 2-foot intervals and spot grades where necessary for sites that are flat.
2. The SMP shall include a narrative description and a Proposed Conditions Site Plan showing all post-development proposed impervious surfaces, buildings and structures; temporary and permanent stormwater management elements and best management practices (BMP), including BMP GIS coordinates and GIS files; important hydrologic features created or preserved on the site; drainage patterns, sub-catchment and watershed boundaries; building setbacks and buffers; proposed tree clearing and topographic contours with minimum 2-foot intervals. The plans shall provide calculations and identification of the total area of disturbance proposed on the site (and off site if applicable) and total area of new impervious surface created. A summary of the drainage analysis showing a comparison of the estimated peak flow and volumes for various design storms at each of the outlet locations shall be included. For residential subdivisions meeting the threshold for applicability in Section 3, an allowance for individual lot development shall be included in the drainage calculations, including an allowance for impervious area as a result of lot development, and hydrologic changes as a result of ground cover changes.
3. The SMP shall describe the general approach and strategies implemented, and the facts relied upon, to meet the goals of Sections 1, 4, and 5 or 6. The SMP shall include design plans and/or graphical sketch(es) of all proposed above ground LID practices.
4. The SMP shall include calculations of the change in impervious area, removal rates for each best management practice, and GIS files containing the coordinates of all stormwater infrastructure elements (e.g. catch basins, swales, detention/bioretenion areas, piping).
5. The SMP shall include a description and a proposed Site Plan showing proposed erosion and sediment control measures, limits of disturbance, temporary and permanent soil stabilization measures in accordance with the NHDES Stormwater Manual Volume 3 (most recent version) as well as a construction site inspection plan including temporary water quality measures, phased installation of best management practices and final inspection upon completion of construction (see Section 8).

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6. The SMP shall include a long-term stormwater management BMP Operations and Maintenance Plan (see Section 4.B.) that describes the responsible parties and contact information for the qualified individuals who will perform future BMP inspections. Required inspections, inspection frequency, maintenance schedule and reporting protocols shall be included. This Operations and Maintenance Plan shall be kept current by the responsible parties and any changes shall be reviewed and approved by the Planning Board or Board of Health prior to implementation. Revisions shall be submitted to the Planning Board or Board of Health after approval.
7. The SMP shall describe and identify locations of any proposed deicing chemical and/or snow storage areas. SMP will describe how deicing chemical use will be minimized or used most efficiently.
8. In urbanized areas that are subject to the EPA MS4 Stormwater Permit and will drain to chloride-impaired waters, any new developments and redevelopment projects shall submit a description of measures that will be used to minimize salt usage, and track and report amounts applied using the UNH Technology Transfer Center online tool (<http://www.roadsalt.unh.edu/Salt/>) in accordance with Appendix H of the NH MS4 Permit.
9. Stormwater management plans shall be incorporated as part of any approved site plan, subdivision plan or Conditional Use Permit, if applicable and recorded as appropriate at the Hillsborough County Registry of Deeds. The approval shall be referenced to the property deed (title/book/page number) and apply to all persons that may acquire any property subject to the approved stormwater management plans. Further, the plans and documents shall reference the requirements for maintenance pursuant to the stormwater management plans as approved by the Planning Board. Approvals granted by the Board of Health shall also require the plans and documents as described in this section.
10. The applicant shall submit as-built drawings of the constructed stormwater management system to the Community Development Office within six months following the completion of construction.
11. Easements  
Where a development is traversed by or requires the construction of a watercourse or a drainage way, an easement to the Town of adequate size to enable construction, reconstruction and required maintenance shall be provided for such purpose.

Easements to the Town shall also be provided for the purpose of periodic inspection of drainage facilities and BMPs should such inspections by the Town become necessary. All easements shall be recorded at the Hillsborough County Registry of Deeds at the applicant's expense. Where stormwater management or treatment facilities are constructed outside of public rights of way, a permanent easement to the Town shall be recorded to allow construction, maintenance or inspection of the facility, as well as flowage rights.

Granting of the easements required by this section shall not relieve the applicant and/or landowner from its design, construction, inspection and maintenance responsibilities under these regulations, and shall not obligate the Town to



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undertake those responsibilities.

12. The Planning Board or Board of Health may adapt or relax these SMP documentation requirements for smaller or less complex applications provided the intent of these regulations is followed.

**8. Stormwater Management During Construction**

- A. The applicant and the applicant's engineer (or technical representative) shall schedule and attend a mandatory preconstruction meeting with the Office of Community Development and/or Health Officer at least two (2) weeks prior to commencement of construction. Two (2) copies of the Stormwater Management Plan, associated construction documents and permits, and Notice of Intent (if required) shall be provided at that time. All documents shall bear the seal and signature of the licensed Professional Engineer preparing the documents. Prior to commencement of construction, the Planning Board/Board of Health or their agents shall confirm that the documents submitted meet the conditions of plan approval. An appropriate notation shall be made on the official construction set.
- B. The applicant shall implement erosion, sediment and good housekeeping controls as prescribed in the Stormwater Management Plan (SMP) (see Section 7) and reduce potential pollutants during construction activities. Best Management Practices (BMP) shall be followed and shall include management of non-stormwater discharges and materials, (including, but not limited to, wastes such as discarded building materials, concrete truck wash out, chemicals, litter, and sanitary wastes, which may not be discharged to the MS4), minimization of disturbed area, phased construction activity, good housekeeping practices, stabilization of construction site entrances and exits to prevent off-site tracking, containment of materials and waste, perimeter controls, control for dust and particulate generating activities, street sweeping, the protection of all storm drain inlets and slopes, and stabilization of the site during temporary cessation of activities and upon completion.
- C. The Planning Board may require a bond or other security in an amount and with satisfactory surety conditions providing for the actual construction and installation of stormwater control measures within a specified period and expressed in the bond or the surety.
- D. The Board of Health or its agent may require a bond or other security in an amount and with surety conditions satisfactory to the Board of Health, providing for the actual construction and installation of stormwater control measures within a specified period and expressed in the bond or the surety.
- E. The landowner or his authorized agent may be required to deposit in escrow with the Town an amount of money sufficient to cover the costs for inspection and any professional assistance required by the Town for site monitoring during construction.
- F. Controls shall be regularly inspected and maintained per the schedule established in the SMP but, in any case, not less frequently than once every seven days, and within 24 hours after a storm of 0.25 inches or greater. Any deficiencies noted shall be corrected within 24 hours and said corrective actions documented and submitted to the Planning Board or Board of Health.
- G. Records of inspections of any corrective actions and construction activities shall be maintained on site and submitted electronically to the Planning Board or Board of

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Health if requested.

- H. The SMP shall be updated, if necessary, during construction and the revisions submitted to the Planning Board or Board of Health as appropriate.
- I. The applicant shall achieve final site stabilization upon the completion of construction, including removal of temporary measures and restoration of affected areas.

**9. Inspection and Maintenance Responsibility During and After Construction**

- A. The purpose of this section is to enact locally the administrative and enforcement procedures set forth in RSA 676:15, 16, 17, 17-a and 17-b, of the existing planning and land use statutes.
- B. RSA 676:15, 16, 17, 17-a and 17-b, authorize the following penalties and remedies for enforcement of the provisions of these regulations:
  - i. Injunctive relief in accordance with RSA 676:15.
  - ii. Fines and penalties in accordance with RSA 676:17.
  - iii. Issuance of a cease and desist order in accordance with RSA 676:17-a.
  - iv. Pleas by mail for local land use citations in accordance with RSA 676:17-b.
- C. Any violation of the requirements of these regulations shall be subject to enforcement by Town officials, or their designated agent(s), who shall be empowered to take any action authorized by the provisions of the statutes noted above, or any other applicable law or regulation.
- D. Community Development Office staff or their designated agent shall be granted site access to complete routine inspections to ensure compliance with the approved stormwater management plans. Such inspections shall be performed at a time agreed upon with the landowner.
  - i. If permission to inspect is denied by the landowner, Community Development Office staff or their designated agent may secure an administrative inspection warrant from district or superior court under RSA 595-B, Administrative Inspection Warrants. Expenses associated with inspections shall be the responsibility of the applicant/property owner.
  - ii. If violations or non-compliance with a condition(s) of approval are found on the site during inspections, the inspector shall provide a report documenting these violations or non-compliance including recommended corrective actions. The Town shall notify the property owner in writing of these violations or non-compliance and the corrective actions necessary to bring the property into full compliance. During construction, the Planning Board, at their discretion, may recommend to the Board of Health to issue a stop work order if corrective actions are not completed within 10 days, or sooner if a danger to the public health or welfare is present.
  - iii. If corrective actions are not completed within a period of 30 days from the Planning Board or Board of Health notification, the Planning Board may exercise their jurisdiction under RSA 676:4-a, Revocation of Recorded Approval, and the Town may take, at the property owner's expense, any actions within its authority to correct violations and non-compliances or to require and have others do so.
- E. The applicant shall bear final responsibility for the installation, construction,

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inspection, and disposition of all stormwater management and erosion control measures as required by these regulations.

- F. The Town retains the right, though accepts no obligation, to repair or maintain stormwater infrastructure at the property owner's expense if a property is abandoned or becomes vacant; and in the event a property owner refuses to repair infrastructure that is damaged or is not functioning properly.
- G. Landowners subject to a Stormwater Management Plan shall submit to the Community Development Office, by September 1 each year, an annual report prepared by a qualified professional confirming that all stormwater management and erosion control measures are functioning per the approved stormwater management plan. The annual report shall note if any stormwater infrastructure has needed any repairs other than routine maintenance and the results of those repairs. If the stormwater infrastructure is not functioning per the approved stormwater management plan the landowner shall report on the malfunction in their annual report and include detail regarding when the infrastructure shall be repaired and functioning as approved.  
The Planning Board or Board of Health may adapt, relax or waive these reporting requirements for smaller or less complex installations provided the intent of these regulations is followed.
- H. If a required report is not filed by September 1, the Community Development Office staff or their designated agent shall be granted site access to complete routine inspections to ensure compliance with the approved stormwater management plans. Such inspections shall be performed at a time agreed upon with the landowner and shall be at landowner expense.
- I. All projects shall be subject to a final inspection prior to issuance of a Certificate of Occupancy.

**10. Notification for Spills or Other Non-Stormwater Discharges**

As soon as any person responsible for a facility, site, activity, or operation has information of any known or suspected release of pollutants or non-stormwater discharges which are resulting or may result in illicit discharges or pollutants discharging into stormwater, the Town of Amherst's municipal storm system, state waters, or waters of the United States, said person shall take all necessary steps to ensure the discovery, containment, and cleanup of such release so as to minimize the effects of the discharge. (If said individual is not competent to assess, contain, or clean-up, that person shall immediately notify another competent individual or firm.) If the substance poses an immediate health or safety concern, the Town of Amherst Emergency Services shall immediately be notified. If the substance does not pose an immediate concern, the Town of Amherst Board of Health should be notified. This notification should be made as soon as possible, however, no later than twenty-four (24) hours post event. This notification does not substitute for and must be made in addition to any Federal or State required notifications.

The site operator/owner must be aware that discharges such as treated swimming pool water are not allowed discharges unless appropriate measures have been taken to reduce the treatment chemical concentrations in the water.

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**11. Alteration of Stormwater Management Structures Prohibited**

No person shall alter any structure or feature installed for stormwater management pursuant to a Stormwater Management Plan, or by the Town on town property or right of way whether or not pursuant to a formal plan, without approval by the Planning Board or Board of Health, following review and comment by the DPW and Board of Selectmen, as appropriate. The costs of repair or restoration of any structure or feature altered in violation of this provision shall be the responsibility of the person(s) making the alteration, the landowner responsible for the alteration, or both.

Maintenance of driveway culverts is the continuing responsibility of the property owner for the life of the culvert.

**12. Effectivity**

These regulations shall become effective upon adoption and publication by the Town of Amherst Board of Health and Planning Board, in accordance with the provisions of NH RSA 147 and 675:6.

**13. Definitions**

Best Management Practices (BMPs):	A proven or accepted structural, non-structural, or vegetative measure, the application of which reduces erosion sediment, or peak storm discharge, or improves the quality of Stormwater runoff.
Bioretention:	A water quality practice that utilizes vegetation and soils to treat stormwater runoff by collecting it in shallow depressions, before filtering through an engineered bioretention planting soil media.
Bioretention Areas/Systems:	A bioretention system (sometimes referred to as a “rain garden”) is a type of filtration BMP designed to collect and filter moderate amounts of stormwater runoff using conditioned planting soil beds, gravel beds and vegetation within shallow depressions.
Board of Health:	Town of Amherst Board of Health (comprised of the Board of Selectmen and the Health Officer).
Catch Basin:	An engineered drainage structure with the sole function of collecting rainwater, snowmelt and stormwater runoff from streets and parking lots and transporting it to local waterways through a system of underground piping, culverts, and / or drainage ditches.
Construction:	The building of things such as structures, roads, bridges,

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	drainage infrastructure, etc.
Critical Area:	Disturbed areas of any size within fifty (50) feet of any wetland; one hundred (100) feet of any Public Water Protection Wetland (as defined in Zoning Ordinance Section 4-11 Part C); disturbed areas exceeding two thousand (2,000) square feet in highly erodible soils; or, disturbed areas containing slope lengths exceeding twenty-five (25) feet on slopes greater than ten (10) percent.
Detention:	Temporary storage of runoff before releasing it at a controlled rate, thereby reducing the intensity of peak flows during storm events.
Disturbance:	Action to alter the existing vegetation and/or underlying soil of a site, such as clearing, grading, site preparation (e.g. excavating, cutting and filling), soil compaction, and movement and stockpiling of topsoils.
Disturbed Area:	An area where the natural vegetation, including tree stumps, has been removed exposing the underlying soil, or vegetation has been covered.
Drainage System:	A network of structures, channels and underground pipes that carry stormwater to ponds, lakes, streams and rivers. The network consists of both public and private systems and is designed to control the quantity, quality, timing and distribution of storm runoff.
Erosion:	The detachment and movement of soil or rock fragments by water, wind, ice or gravity.
Filtration:	The process of physically or chemically removing pollutants from runoff. Practices that capture and store stormwater runoff and pass it through a filtering media such as sand, organic material, or the native soil for pollutant removal. Stormwater filters are primarily water quality control devices designed to remove particulate pollutants and, to a lesser degree, bacteria and nutrients.
Flowage Rights:	The perpetual right, power, privilege and easement to overflow, flood and submerge the lands affected.
Geographic Information System (GIS):	A framework for gathering, managing, and analyzing data. Rooted in the science of geography, GIS integrates many types of data. It analyzes spatial location and organizes layers of information into visualizations using maps and 3D scenes.

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Groundwater:	Groundwater is water that exists underground in saturated zones beneath the land surface.
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 non-porous material: buildings, rooftops, structures, artificial turf, and compacted gravel or soil.
Infiltration:	The process of runoff percolating into the ground (subsurface materials). Stormwater treatment practices designed to capture stormwater runoff and infiltrate it into the ground over a period of days.
Low Impact Development (LID):	A site planning and design strategy intended to maintain or replicate predevelopment hydrology through the use of site planning, source control, and small-scale practices integrated through the site to prevent, infiltrate and manage runoff as close to its sources as possible. Examples of LID strategies are pervious pavement, rain gardens, green roofs, bioretention basins and swales, filtration trenches, and other functionally similar BMPs located near the runoff source.
New Development:	Any construction activities or land alteration on an area that has not previously been developed to include impervious cover.
Non-point Source Pollution:	Pollution resulting from many diffuse sources, in direct contrast to point source pollution which results from a single source. Nonpoint source pollution generally results from land runoff, precipitation, atmospheric deposition, drainage, seepage, or hydrological modification (rainfall and snowmelt) where tracing pollution back to a single source is difficult.
Outlet Locations:	The point at which water discharges from a stormwater pipe or drain.
Peak Flow:	The maximum flow of water during a storm event, usually expressed in CFS (cubic feet per second).
Pollutant:	Dredged spoil, solid waste, incinerator residue, filter backwash, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, heat, wrecked or discarded equipment, rock, sand, cellar dirt, and industrial, municipal and agricultural

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	waste discharged into water.
Post-Construction:	The phase following construction of new development or re-development.
Precipitation:	Any product of the condensation of atmospheric water vapor that falls under gravity from clouds. The main forms of precipitation include drizzle, rain, sleet, snow, ice pellets, graupel and hail.
Pre-Construction Meeting:	Initial project meeting to discuss the proposed project, construction schedule, construction standards, construction observations and municipal expectations
Predevelopment:	The phase prior to construction new development or re-development.
Recharge:	The process by which water seeps into the ground, eventually replenishing groundwater aquifers and surface waters such as lakes, streams and the oceans. This process helps maintain water flow in streams and wetlands and preserves water table levels that support drinking water supplies.
Redevelopment:	Any construction, land alteration, or improvement of impervious surfaces that does not meet the definition of new development.
Restoration:	Return of an area to a close approximation of its condition prior to disturbance.
Retention:	The amount of precipitation on a drainage area that does not escape as runoff.
Sedimentation:	The process by which solids are removed from the water column by settling.
Siltation:	Water pollution caused by particulate fine minerals and rock material, with a particle size dominated by silt or clay.
Stabilization:	A site is stabilized when the soils onsite will not experience accelerated or unnatural erosion. In areas that will not be paved, a minimum of 85% vegetative cover has been established, a minimum of 3" of non- erosive material such as stone or a certified compost blanket has been installed, or erosion control blankets have been installed. In areas to be

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	paved, base course gravels have been installed.
Stormwater:	Stormwater runoff, snow melt runoff, and surface runoff and drainage.
Stormwater Management:	Managing stormwater runoff through site design, pollutant source controls, structural BMPs and construction phase practices.
Stormwater Runoff:	The water from precipitation that is not absorbed, evaporated, or otherwise stored within the contributing drainage area.
Stormwater Treatment:	The action of capturing pollutants and contaminants from stormwater runoff before they reach a watercourse or body of water such as a river, lake or ocean.
Subsurface Gravel Wetland:	A low impact development stormwater design that offers a high level of treatment for nonpoint source pollution. Gravel wetlands combine sedimentation on the surface of the system and microbial nitrogen removal in an anaerobic subsurface zone with physical filtration.
Surface Water:	Water located on top of the Earth's surface such as streams, rivers, lakes, and wetlands.
Swale:	A shallow, low-gradient, vegetated drainage channel designed to convey and treat shallow, concentrated stormwater runoff. Vegetation may consist of grasses (grass swale) or herbaceous plants and shrubs (vegetated swale)
Watershed:	A watershed is an area of land upstream of a waterbody (a point in a stream or the outlet of a lake) in which all the surface water drains to the waterbody.
Wetlands:	As defined in the Town of Amherst Zoning Ordinance. In general terms, an area that is inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that under normal conditions does support, a prevalence of vegetation typically adapted for life in saturated soil conditions.