

11.28.020 STORM WATER MANAGEMENT AND LAND DISTURBANCE REGULATION

A. Applicability and Administration:

1. Except as authorized by the City Engineer in a Land Disturbance Permit or as otherwise permitted by ordinance, no person shall engage in any activity which disturbs
 - a. one acre or more of land that drains to the municipal storm drainage system;
 - b. less than one acre of land but is part of a larger common plan of development or sale that will ultimately disturb one acre or more of land that drains to the municipal storm drainage system.

2. The following activities shall be exempt from the provisions of this ordinance:
 - a. routine maintenance to maintain the original line, grade, hydraulic capacity or the original purpose of the site;
 - b. normal maintenance and improvement of land in agricultural use as defined by Wetlands Protection Regulation;
 - c. maintenance of existing landscaping, gardens, or lawn areas associated with a single family dwelling;
 - d. construction of fencing that will not substantially alter existing terrain or drainage patterns;
 - e. construction of utilities other than drainage which will not alter terrain and drainage patterns;
 - f. activities that are subject to the Wetlands Protection Act and demonstrate compliance with an Order of Conditions issued by the Conservation Commission.
 - g. normal maintenance or improvement to agricultural or aquacultural land as defined in 310 CMR 10.4.

3. The City Engineer shall enforce the provisions of this ordinance and may delegate any duties imposed by it to his employees and agents. The Director may adopt rules and regulations for stormwater management not inconsistent with the provisions of this ordinance and may waive strict compliance with any requirement of this ordinance where such action is allowed under federal, state or local statutes and regulations, is in the public interest and is not inconsistent with the purpose and intent of this ordinance.

B. Storm Water Management Plan: The Stormwater Management Plan shall fully describe the proposed project in drawings and narrative and shall include:

1. a locus map
2. existing zoning and land use at the site;
3. the proposed land use;
4. the location of existing and proposed easements and utilities;
5. existing and proposed topography with contours at 2 foot intervals;
6. existing site hydrology;
7. description and delineation of existing stormwater conveyances, impoundments and

- wetlands on or adjacent to the site or into which stormwater flows;
8. a delineation of 100 year flood plains, if applicable;
 9. estimated seasonal high groundwater elevation in areas to be used for stormwater retention, detention or infiltration;
 10. existing and proposed vegetation and ground surfaces with runoff coefficients for each;
 11. an area drainage map showing pre-construction and post-construction watershed boundaries, drainage area and stormwater flow paths;
 12. description and drawings of all components of the proposed drainage system including
 - a. locations, cross sections and profiles of all brooks, streams, drainage swales and their method of stabilization;
 - b. measures for detention, retention or infiltration of water;
 - c. measures for the protection of water quality;
 - d. structural details for all components of the proposed drainage system and stormwater management facilities;
 - e. specification of materials to be used, construction specifications and typicals, and
 - f. expected hydrology with supporting calculations;
 13. proposed improvements, including buildings or other structures, impervious surfaces and drainage facilities, as applicable;
 14. timing, schedules and sequence of development;
 15. a maintenance schedule for the construction period.
 16. such other information as is required by the Water Utilities Department.

C. Land Disturbance Permit - Applications and Procedures:

1. Application for a Land Disturbance Permit shall be signed by all owners of the property for which the permit is requested and shall be accompanied by all of the following:
 - a. a list of abutters, certified by the Assessor's Office;
 - b. a non-refundable filing fee of \$50.00;
 - c. three copies of an Construction Phase Erosion and Sediment Control Plan as described in Paragraph D.
 - d. three copies of a Post-Construction Storm Water Management Plan as described in Paragraph F.
 - e. three copies of a Operation and Maintenance Plan for Storm Water Management as described in Paragraph G.
 - f. verification that an additional copy of required materials have been placed on file in the City Clerk's Office. Filing of a completed application shall constitute permission for the City Engineer and his agents to enter the site to verify information contained in the application, to inspect for compliance with permit conditions and to make such tests and take such samplings as may be required to determine compliance with the permit or permit conditions.
2. The City Engineer may request additional information as he deems necessary to issue a

decision on the application.

3. Within 10 days of receipt of a completed application, the City Engineer shall notify abutters that the application is available for inspection at a time and place designated by the Director and that public comment will be accepted for 21 days from the date of notice. Within 14 days of the expiration of the time for public comment, the Director shall render a decision on the permit application in one of the following forms:
 - a. approve the application and issue the permit;
 - b. approve the application and issue a permit with such conditions, restrictions or modifications as he deems necessary to protect water resources;
 - c. disapprove the application and deny a permit as failing to meet the requirements of this ordinance.
4. A permit shall be deemed to be approved if the City Engineer fails to take action within the times specified herein and, upon certification by the City Clerk that allowed times have passed, a permit shall be issued by the Water Utilities Department.
5. Prior to any change or alteration of the permitted plan, the permit holder shall notify the Water Utilities Department in writing. When, in the opinion of the City Engineer, the change or alteration is significant, he may require the permittee to install interim erosion and sedimentation control measure and to submit an amended Land Disturbance Permit applications, which shall conform to the procedures outlined above.

D. Construction Phase - Erosion and Sediment Control Plan - Form, Contents & Design Standards:

1. The Erosion and Sediment Control Plan shall be designed so as to:
 - a. minimize the total area of disturbance;
 - b. sequence activities to minimize simultaneous areas of disturbance;
 - c. minimize peak rate runoff in accordance with the Massachusetts Stormwater Policy;
 - d. minimize soil erosion and control sedimentation during construction, provided that prevention of erosion shall take precedence 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 product specifications and good engineering practice;
 - h. prevent off-site transport of sediment;
 - i. protect and manage on and off-site material storage areas, including all areas used solely by the permitted project;
 - j. comply with all applicable laws and regulations, including waste disposal, sanitary sewer or septic system regulations, air quality requirements and dust control;
 - k. prevent significant alteration of habitats mapped by the Massachusetts Natural Heritage and Endangered Species Program as endangered, threatened or of special concern, estimated habitats of rare wildlife, certified vernal pools and priority habitats of rare species from the proposed activities;
 - l. institute interim and permanent stabilization measures as soon as practicable but no more than 14 days after construction activity has temporarily or permanently

- ceased on a specified portion of the site;
 - m. properly manage on-site construction and waste materials;
 - n. prevent off-site vehicle tracking of sediments.
2. The Erosion and Sediment Control Plan shall be certified by a Professional Engineer or a Certified Professional in Erosion and Sediment Control and contain the following:
- a. Names, addresses and telephone numbers for the owner, applicant and the person or firm preparing the plan;
 - b. Title, date, north arrow, names of abutters, scale, legend and locus map;
 - c. Location and description of natural features including:
 - (1) watercourses and waterbodies, wetland resource areas and all floodplain information, including the 100 year flood elevation based on the most recent Flood Insurance Rate Map or as calculated by a professional engineer for areas not assessed on maps;
 - (2) existing vegetation including tree lines, canopy layer, shrub layer and ground cover, and trees with a caliper twelve (12) inches or larger, noting specimen trees and forest communities; and
 - (3) habitats mapped by the Massachusetts Natural Heritage and Endangered Species Program as endangered, threatened or of special concern, estimated habitats of rare wildlife, certified vernal pools and priority habitats of rare species within five hundred (500) feet of any construction activity
 - (4) Lines of existing abutting streets showing drainage, driveway and curb cut locations;
 - (5) existing soil volume and nature of imported soil materials;
 - (6) topographical features, including existing and proposed contours at intervals no greater than two (2) feet, with spot elevations provided when needed;
 - (7) surveyed property lines showing distances and monument locations, existing and proposed easements, rights-of-way and other encumbrances, the size of the entire parcel and the delineations and number of square feet of land area to be disturbed;
 - (8) Drainage patterns and approximate slopes anticipated after major grading activities;
 - (9) location, details, and a narrative of the steps taken to conform with the design standards set forth above;
 - (10) such other information as is required by the Water Utilities Department.

E. Inspection and Site Supervision:

- 1. The City Engineer may require the permittee to post a surety bond or other acceptable security prior to the start of work under a Land Disturbance Permit. The form of the bond shall be in an amount deemed sufficient to ensure that the work will be completed in accordance with the approved plan and shall be in a form approved by the City Solicitor. The Director may release portions of the bond on a phased project as each phase is

completed in compliance with the permit; provided that the bond is not fully released until certification of final completion of the project.

2. Prior to the start of any permitted land disturbing activity, the City Engineer shall meet with responsible representatives of the permittee to review the permitted plans and their implementation. The permit and associated plans shall be maintained at the site until final certification of completion.
3. The permittee shall conduct and document weekly inspections to determine the overall effectiveness of the control plan and shall cause additional control or maintenance measures to be taken as needed. The permittee shall submit monthly reports to the Water Utilities Department in a format designated by the City Engineer.
4. The City Engineer or his agents shall inspect work under an approved permit in conformance with the following schedule:
 - a. erosion and sediment control measures are in place and stabilized;
 - b. site clearing has been substantially completed;
 - c. rough grading has been substantially completed;
 - d. final grading has been substantially completed;
 - e. close of the construction season and
 - f. final stabilization and project completion.
5. The permittee shall notify the Water Utilities Department no less than two working days before inspection is required.
6. Upon completion of the work, the permittee shall submit a report, including as-built construction plans, from a Professional Engineer, surveyor or Certified Professional in Erosion and Sediment Control certifying that all erosion and sediment control devices have been completed in accordance with the approved permit or approved changes or modifications to the permit.

F. Post- Construction Storm Water Management Plan - Form, Contents & Design Standards:

1. The Plan shall be meet the following standards:
 - a. No new stormwater conveyances shall discharge untreated stormwater directly to or cause erosion in wetlands or water of the Commonwealth;
 - b. Post-development peak discharge rates shall not exceed pre-development peak discharge rates;
 - c. Post-development annual recharge to groundwater shall approximate the pre-development recharge rate, based on soil types;
 - d. for new development, stormwater management systems shall remove 80% of the average annual load to total suspended solids. This standard will be presumed to be met when:
 - (1) suitable nonstructural practices for source control and pollution prevention are implemented;
 - (2) stormwater management best practices are sized to capture the prescribed runoff volume; and
 - (3) stormwater management best practices are maintained as designed;

- (4) stormwater discharges from areas with higher potential pollutant loads use specific stormwater management best practices, as established in the Stormwater Policy Handbook;
- (5) stormwater discharges to shellfish beds, swimming beaches, cold water fisheries and recharge areas for public water supplies utilize stormwater management best practices approved for critical areas, as established in the Stormwater Policy Handbook;
- (6) for redevelopment, Stormwater Management Standards must be met to the maximum extent practicable through retrofitted or expanded stormwater management systems;
- (7) erosion and sediment controls must prevent impacts during construction activities.

2. In lieu of meeting one or more of the standards set forth here, an applicant may demonstrate that an equivalent level of environmental protection will be provided.

G. Operation and Maintenance Plans:

1. The Operation and Maintenance Plan shall be designed to insure compliance with the permit and shall be signed by the property owners, shall include the name of the owner of each component of the Stormwater Management system and shall contain a maintenance agreement specifying:
 - a. Names and addresses of persons responsible for operation and maintenance of the stormwater management system;
 - b. Names and addresses of the persons responsible for financing maintenance and emergency repairs of the stormwater management system;
 - c. a maintenance schedule for all drainage structures, including swales and ponds;
 - d. a listing of easements with the purpose and location of each and shall include easements providing:
 - (1) access for facility inspections and maintenance;
 - (2) preservation of stormwater runoff conveyance, infiltration and detention areas and facilities, including flood routes for the 100 year storm event;
 - (3) direct maintenance access by heavy equipment to structures requiring regular cleanout.
2. Unless waived by the City Engineer, easements shall be required for all areas used for off-site stormwater control and shall be recorded in the Middlesex County Registry of Deeds.

H. Enforcement:

1. The City Engineer may issue a written order to enforce the provisions of this ordinance, including but not limited to:
 - a. an order to cease and desist from activity pending compliance with this ordinance or a permit issued thereunder;
 - b. maintenance, installation or performance of additional erosion and sediment control measures;

- c. monitoring, analyses and reporting;
 - d. remediation of erosion and sedimentation resulting directly or indirectly from land disturbing activity.
2. Where abatement or remediation is required, the order shall set forth a deadline for completion of said abatement or remediation. Said order shall state that, failure to abate the violation or perform the required remediation within the specified time, may result in the city undertaking such work at the expense of the owner.
 3. The city shall, within 30 days of completing abatement or remediation of a violation, notify the property owner of cost incurred in remediation, including administrative costs. If the amount due is not received within 30 days of notification or within thirty days following a final decision of a court of competent jurisdiction affirming or reducing the costs, the costs shall become a special assessment and shall constitute a lien on the owners property for the amount of said costs. Costs remaining unpaid more than 31 days after becoming due shall accrue interest at the rate provided by law.
 4. The City Engineer and his authorized agents may purpose any civil and criminal remedy available in law and in equity to enforce the provisions of this ordinance or permits issued thereunder and may also punish violations in the manner provided in Mass. Gen. Laws ch 40 § 21D by a fine of \$300.00. Every twenty-four hours during which a violation exists shall constitute a separate offense punishable by an additional fine.