

## Requirements for On-Site Drainage (Stormwater Management)

Criteria for any new structure(s) or impervious surfaces for site-drainage as follows:

### ORDINANCE NO. Z-45 30-5(c)

Projects increasing impervious surface area by more than the lesser of a) four (4.0) percent of lot size or b) four hundred (400) square feet, or that involve altering the landscape in such a way that may result in alteration of the runoff of surface water to abutting properties or erosion of soil, shall be reviewed by the commissioner of inspectional services and the city engineer to ensure compliance with this section. The commissioner of inspectional services and the city engineer may reject a project if they believe it will cause runoff of surface water to abutting properties or the erosion of soil;

1. Site grading and drainage plans shall include the following:
  - a. Topographic contours (existing and proposed) and/or adequate number of spot elevations to indicate area to be drained to each inlet.
  - b. Rim elevation and flow line elevation at each inlet and drainage structure.
  - c. Sufficient contours or spot elevations (original and final) around perimeter of building(s) and other site features to indicate extent of any filling or excavation.
  - d. The results of an on-site soil evaluation in accordance with Title V. Depict test hole/pit location on the plan (test hole should be within 25 feet of proposed infiltration structures). MADEP Form 11 – Soil Suitability Assessment for On-Site Sewage Disposal may be used as a guide for pertinent data to obtain.
  - e. Plans and Calculations shall be signed and sealed by a **Registered P.E.**
2. Computation to support drainage structures\*\* (i.e., dry wells, infiltrator systems):
  - a. Based upon a design storm of 8.78 inches of precipitation in 24 hours (i.e., a Type III Rainfall, as defined by the U.S. Soil Conservation Service).
  - b. Based upon the standard methodologies set forth in U.S. Soil Conservation Service Technical Release No. 55 *Urban Hydrology for Small Watersheds* and Section 4 of U.S. Soil Conservation Service, *National Engineering Hydrology Handbook*.
  - c. Existing and proposed building sizes, driveways and natural/grassed areas.
  - d. Total area (and sub areas as applicable) proposed to drain to each drywell or approved inlet.
3. The minimum size of drain pipes shall be 4" diameter PVC.
4. The runoff from driveways and parking lots shall be captured on-site via catch basin(s) with a 4' sump or trench drain(s). A drainage structure with 4' sump and a gas trap outlet approved by Engineering must be installed prior to connection to the on-site infiltration system. Note: gas traps are optional for single-family residential projects unless the project is located near wetlands or waterways, or connection to the City drainage system is proposed.
5. The runoff from roofs is considered "clean" and may be collected via gutters and connected directly to the on-site infiltration system or recycled for irrigation purposes.
6. Erosion control (e.g., siltation fence or hay bales) shall be shown on plan.
7. If project is located within a wetlands/conservation and/or floodplain, then a filing must also be submitted to the Conservation Commission for their approval.

\* Note: Drainage control structures may not be required if a Registered Professional Engineer licensed in Massachusetts submits Plans and Documentation certifying that there will be no increase in runoff (volume or peak flow) to abutting properties or to the City of Newton right-of-way.