

Storm Water Management Design Criteria

Storm water management design criteria apply to the following: (1) erosion and sediment control systems (2) conveyance systems such as culverts, catch basins and pipelines and (3) treatment systems. Existing Town and State Standards apply as noted in the Town Storm Water Ordinance, Section §10.20.014. The purpose of this Appendix is to provide supplemental guidance to those guidelines and standards that are listed in the Ordinance.

The goal for all new development and redevelopment is to reduce the impervious area to the minimum essential area to meet regulatory requirements and to restrict runoff to the maximum practical extent from the site.

Erosion and Sediment Control Systems

Clearing, except that necessary to establish sediment control devices, shall not begin until all sediment control devices have been installed and stabilized.

Soil stabilization shall be completed within 10 business days following clearing or construction inactivity.

Soil stockpiles must be protected or stabilized at the end of each workday; properly installed silt fence or hay bales shall be used to prevent erosion from unused soil stockpiles in existence for longer than 72 hours.

The entire disturbed site must be stabilized, using a heavy mulch layer or another method that does not require germination to control erosion, at the close of the construction season.

The area of disturbance shall be limited to the minimum necessary to perform the construction task being undertaken; entire sites shall not be cleared or graded without prior permission from the Town.

Temporary and permanent erosion and sediment control, if required, may consist of rock check dams, specialized plantings for erosion control and topographic changes that create grassed depressed areas to allow for the infiltration of runoff water onsite.

A component of an effective erosion and sediment control plan is the rapid growth of replacement land cover and landscaping. The landscaping plan, when required, shall detail both the vegetation to be used in the practice and how/who will manage and maintain this vegetation. This plan must be prepared by a qualified person, experienced in landscape planning. The criteria for vegetative cover is:

- A. Reseeding must be done with an annual or perennial cover crop accompanied by placement of straw mulch or its equivalent of sufficient coverage to control erosion until such time as the cover crop is established over 90% of the seeded area.
- B. Replanting with native woody and herbaceous vegetation must be accompanied by placement of straw mulch or its equivalent of sufficient coverage to control erosion until the plantings are established and are capable of controlling erosion.
- C. Any area of re-vegetation must exhibit survival of a minimum of 90% of the cover crop throughout the year immediately following re-vegetation. Re-vegetation must be repeated in successive years until the minimum 90% survival for 1 year is achieved.
- D. All disturbed areas must be mulched before winter.

Conveyance Systems

All storm water management practices shall be designed to convey storm water to allow for the maximum removal of pollutants and reduction in flow velocities.

Pre and post development drainage calculations must be submitted. The post development calculations shall include conveyance systems and treatment systems.

Conveyance systems that allow for the infiltration of storm water, in part or in whole are preferred, providing the designer can demonstrate that the underlying soil can accommodate the infiltration without a negative impact on adjacent roads, structures, etc.

All conveyance systems located within a current or planned Town Right of Way shall be designed with non-leak joints for both pipes and catch basins. Catch basin “boots” for both the inlet and outlet piping shall be provided on all catch basins. No new catch basins will be allowed that have a portion of the frame or concrete basin under the curb.

In special situations, the Town may require the use of catch basin inserts to capture added solids, organics or oil based products

Flow paths shall be maximized from inflow points to outflow points.

All catch basins and associated piping shall be protected from sediment during construction and shall be cleaned prior to Town acceptance..

The outlet from all piped drainage systems shall be designed so there is no vertical head loss to the adjacent stream and the outlet stream channel shall be stone lined to eliminate erosive flow velocities.

The as built plans on all completed projects shall contain a certification that no cross-connections have been made between storm and sanitary service lines and main lines.

The Town Subdivision requirements state that all post-development drainage calculations must be based on a 25-year storm event; structural components of a storm drainage system may be designed on the basis of a lesser storm event providing the calculations demonstrate that the 25 year event can be accommodated through a combination of design features, such as infiltration and storage. The minimum pipe sizes in the Public Works Specifications shall apply.

Treatment Systems:

All storm water management systems shall be designed to capture and treat storm water runoff according to the specifications outlined in the current State Storm Water Design Manual.

On large projects, involving up to 5% of the specific watershed in the Town, the Town may require that studies be undertaken to determine the cumulative impact on other downstream storm-water facilities in the specific watershed of the Town.

Site design feasibility. Storm water management practices for a site shall be chosen based on the physical conditions of the site. Factors that should be considered include: topography, maximum drainage area, depth to water table, soils, slopes, terrain, head, location in relation to environmentally sensitive features or ultra-urban areas.

Applicants shall consult the current state storm water design manual for guidance on the factors that determine site design feasibility when selecting a storm water management practice.

Pretreatment requirements. Every storm water treatment practice shall have an acceptable form of water quality pretreatment, in accordance with the pretreatment requirements found in the current state storm water design manual. Certain storm water treatment practices, as specified in said manual are prohibited even with pretreatment in the following circumstances: storm water generated from highly contaminated source areas know as “hotspots,” storm water carried in a conveyance system that also carries contaminated non-storm water discharges, storm water managed in a designated groundwater recharge area, or certain geologic conditions that prohibit the proper pretreatment of storm water.