

CLARION COUNTY
STORMWATER DESIGN SPECIFICATIONS

Stormwater Design Criteria

A. General Criteria

1. The Stormwater Management Plan must consider all the stormwater runoff flowing over the project site.
2. All stormwater runoff detention controls shall be designed by a person qualified and/or experienced in the design of such structures.
3. Stormwater roof drains and pipes shall discharge water into cisterns or French drains (where soils are suitable), sheet drains or other stormwater runoff dispersion and absorption control devices and not into storm sewers unless recommended in the Watershed Stormwater Plan.
4. No discharge of toxic materials into any stormwater management system is permitted.
5. Flow velocities from any storm drain may not result in a deflection of the receiving channel.
6. Method of Computation - Peak discharge and runoff shall be computed using the soil-cover complex method as set forth in the latest edition of Urban Hydrology for Small Watershed, Technical Release No. 55 as published by SCS.
7. Design Storms - The 2-, 10-, and 100-year design storm frequencies shall be used for analyzing stormwater runoff in predevelopment and postdevelopment conditions as well as for designing runoff control facilities in the watershed. The SCS 24-hour, Type II rainfall distribution shall be used for all analyses. The design storm along with the 24-hour total rainfall for these storm frequencies for the watershed are:

<u>Design Storm</u>	<u>Rainfall Depth in Inches</u>
2-year	2.60
10-year	3.90
100-year	5.50

8. Maintenance of Natural Drainage Ways - All natural streams, channels, swales, drainage systems and/or areas of surface water concentration shall be maintained in their existing conditions unless an alteration is approved by the Planning Commission. All encroachment activities shall comply with the requirements of Chapter 105 (Water Obstructions and Encroachments) of Title 25, Rules and Regulations of the Pennsylvania DEP.

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9. Methods of Stormwater Runoff Detention and Control - The following is a listing of detention and control methods which may be utilized in stormwater management systems, if appropriate. The choice of control techniques is not limited to the ones appearing on this list.
- a. Detention basins
 - b. Roof-top storage
 - c. Parking lot and street ponding
 - d. Seepage pits, seepage trenches or other infiltration structures
 - e. Porous pavement and concrete lattice block surfaces
 - f. Grassed channels and vegetated strips
 - g. Cisterns and underground reservoirs
 - h. Routed flow over grass
 - i. Decreased impervious area coverage

The use of other control methods which meet the criteria in this section will be permitted when approved by the Planning Commission. Various combinations of methods shall be tailored to suit the particular requirements of the type of development and the topographic features of the project area.

10. The following provisions shall be considered the overriding performance standards against which all proposed stormwater control measures shall be evaluated.
- a. Stormwater Rate
 - (1) Any landowner and any person engaged in the alteration or development of land which may affect stormwater runoff characteristics shall implement such measures as are reasonably necessary to prevent injury to health, safety, or other property. Such measures shall include such actions as are required:
 - (a) To assure that the maximum rate of stormwater runoff is no greater after development than prior to development activities.
 - (b) To manage the quantity, velocity, and direction of resulting stormwater runoff in a manner which otherwise adequately protects health and property from possible injury.

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11. The Stormwater Management Plan for the development site must consider stormwater runoff flowing across the site from upgradient areas as well as the runoff originating from the site itself.
12. Stormwater Management Plans are to be submitted and approved for all off-site borrow pits and waste pits associated with all subdivision and land developments.

B. Definitions

Cistern - An underground reservoir or tank for storing rainwater.

Culvert - A pipe, conduit or similar structure including appurtenant works which carries surface water.

Design Storm - The magnitude or precipitation from a storm event measured in probability of occurrence (e.g., 100-year storm) and duration (e.g., 24-hour) and used in computing stormwater management control systems.

Detention Basin - A basin designed to retard stormwater runoff by temporarily storing the runoff and releasing it at a predetermined rate. A detention basin can be designed to drain completely after a storm event, or it can be designed to contain a permanent pool of water.

Diversion Terrace - A channel and a dike constructed up slope of a project for the purpose of diverting stormwater away from the unprotected slope.

Swale - A low-lying stretch of land which gathers or carries surface water runoff.