

Control Peak Stormwater Runoff Discharge Rates

Purpose

Unless controlled, peak stormwater runoff rates from developed areas are typically higher than those from previously undeveloped areas. Higher peak flows can change stream morphology and increase downstream erosion that can damage stream habitat and impact aesthetic value. In addition, higher flows convey larger pollutant loads to receiving waters. Control of peak stormwater discharge rates is thus required to protect stream habitat and aesthetic value by maintaining non-erosive hydraulic conditions in unlined receiving streams during stormwater runoff events.

Design Criteria

SQUIMP category projects, excluding single family hillside residences, that directly discharge to unlined receiving streams shall implement the following interim criteria:

1. 2-year post development discharge rates shall not exceed the predeveloped discharge rates for the 2-year frequency storm event.
2. Peak flows shall be determined using the procedures set forth in the latest edition of the *Hydrology Manual* and Direct Runoff curves produced by Ventura County Public Works Agency, Flood Control Department. The designer is specifically reminded to regard minimum subarea sizes required in the *Hydrology Manual*. Where jurisdictions within Ventura County have approved alternative hydrologic calculation methods, the alternative methods may be used if they have been approved by the jurisdiction for use in design of flow-based stormwater controls.

The Ventura County Public Works Agency, Flood Control Department is currently developing a modeling procedure to establish peak flow design criteria to avoid erosive conditions. A study in the upper reaches of the Arroyo Simi (Simi Valley) is currently underway to examine the relationship between runoff discharge rates and erosion. The results of the study will be used to revise/finalize the interim peak flow criteria presented in this manual upon approval of the co-permittee cities.