Drainage Manual (rev. 09/2020) 5.3 Basin (Pond) Design Requirements

Screen Share PC 6-10-21 Distribution at Hearing Hem #2

must be taken to eliminate accumulation of stagnant water within the pond.

- All earthen slopes must be covered with topsoil and re-vegetated as soon as is practical. If the slopes are subject to wave action, additional protection must be provided.
- Safety features to protect the public must be incorporated. Fencing, consisting of 6-ft chain-link meeting Caltrans standards, should be provided around the perimeter of detention basins when appropriate. Access gates constructed of the same material as the fencing must be included, with a minimum opening of 12 ft.
- Maintenance of all storage facilities must be addressed explicitly in the 0 design and construction. Vehicular access for maintenance of the pond and outlet works, removal of sediment, and removal of floating objects during all weather conditions must be provided. This access must be from a public street or from the parcel upon which the basin is constructed. An access road must be provided to the basin floor of all detention facilities. This road must have a minimum width of 12 ft and a maximum grade of 20%. Turn-a-rounds at the control structure and the bottom of the basin must have a 40 ft minimum outside turning radius. A maintenance plan must be developed and provided along with the design documents.
- Basins should be designed to drain within 72 hours in accordance with vector control requirements.

5.4 Embankment Design Requirements

Detention and retention basins (ponds) constructed as a component of a stormwater storage system must satisfy the requirements that follow. Exceptions to these requirements may be considered and granted on a case by case basis.

- A minimum of 1.5 ft of freeboard must be provided between the top of the embankment and the maximum design water-surface elevation of the spillway (see Section 5.5). To determine this water-surface elevation, assume that the 100-yr storm runoff occurs when the basin is full, compute the corresponding spillway discharge, and determine the maximum water-surface elevation of this spillway flow.
- The maximum embankment depth must be determined by a gualified engineer.
- The embankment must have a minimum 15-ft top width where necessary for maintenance access. Otherwise the top width may vary as recommended by a qualified engineer.
- The toe of the exterior slope of the embankment must be more than 25 ft from the tract or easement property line.

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