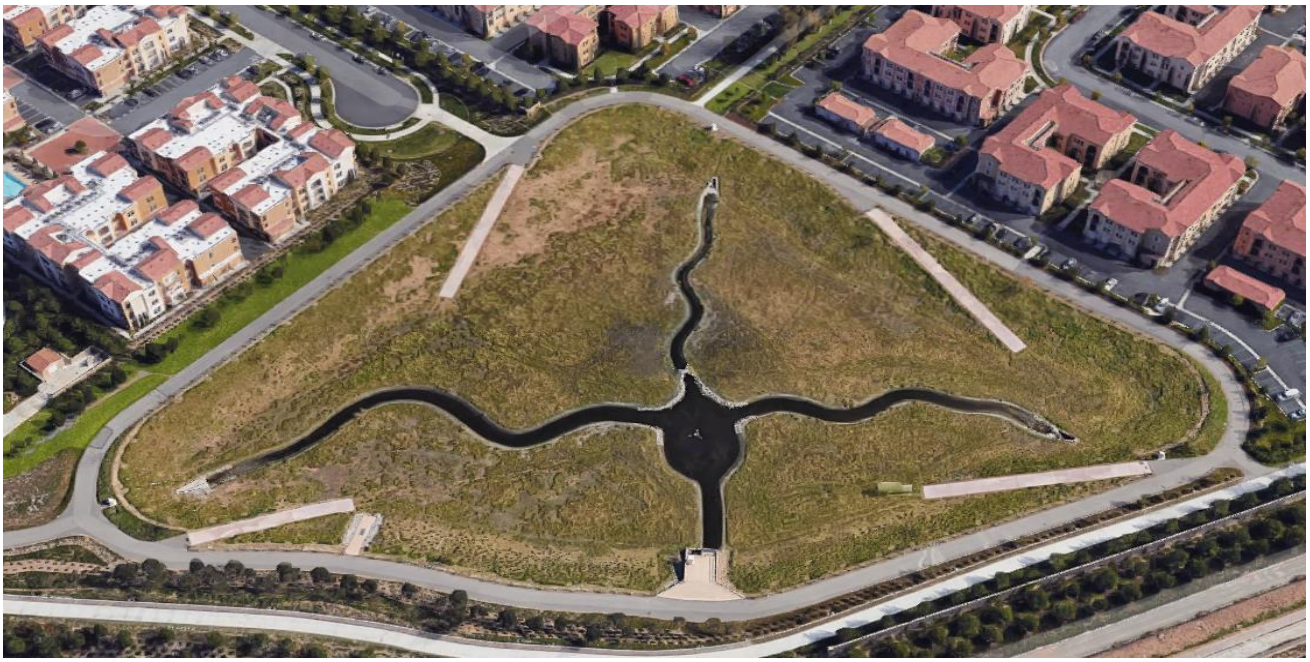
Detention Basins
Multi-Benefit Trash Treatment Systems



Typical Detention Multi-Benefit Trash Treatment System

Description

Detention Basin Multi-Benefit Trash Treatment Systems come in various shapes and sizes. Such systems remove pollutants from stormwater runoff.in a holding area that either permanently or temporarily stores stormwater flows to reduce flooding potential. Detention Basin Multi-Benefit Trash Treatment Systems are also known as dry ponds, holding ponds, retarding basins, or dry detention basins. These may be a topographical depression or an underground system of pipes, chambers, concrete vaults, or similar void structures. Detention Multi-Benefit Trash Treatment Systems incorporate filtration through media or infiltration to underlying soils. Detention Basin Multi-Benefit Trash Treatment Systems also include wet retention basins designed to contain some water all year round.

To qualify as a Certified Full Capture System, the design of the Detention Basin Multi-Benefit Trash Treatment System shall conform to the following five (5) requirements:

Performance, Design, and Maintenance

1. A Detention Basin Multi-Benefit Trash Treatment System shall be designed and maintained to trap trash particles that are 5-mm or greater for the following:[1]
   a. The peak flow rate generated by the region specific 1-year, 1-hour storm event from the applicable sub-drainage area; or

[1] Certified full capture devices have a design capacity to trap trash from flows not less than the peak flow rate at any time within a storm event. Multi-Benefit Trash Treatment Systems, including those that are volume-based, must have a design capacity to trap trash from flows not less than the peak flow rate at any time within a storm event to be a certified full capture system.

   b. The peak flow rate of the corresponding storm drain (if corresponding storm drain is designed for less than the peak flow rate generated from a 1-year, 1-hour storm event).

2. The Detention Basin Multi-Benefit Trash Treatment System may include either or both of the following to trap trash particles for either flow described above in section 1.a or 1.b:
   a. A screen at the system's inlet, overflow, or bypass outlet; or
   b. An up-gradient structure designed to bypass flows exceeding the flows described above in section 1.a or 1.b.[2]

3. The peak flow rates referenced in section 1.a, above, shall be calculated using one of the following methods:
   a. For small drainage areas (generally less than 50 acres) - The Rational equation method which is expressed as: **Q = CIA** where:
      Q = design flow rate, cubic feet per second;
      C = runoff coefficient, dimensionless;
      I = design rainfall intensity as determined per the rainfall isohyetal map specific to each region, inches/hour; and
      A = subdrainage area, acres.
   b. For large drainage areas (~50 acres or more) - Other accepted hydrologic mathematical methods that more accurately calculate peak flow rates from large drainage areas.

4. The Detention Basin Multi-Benefit Trash Treatment System Design shall be stamped and signed by a registered California licensed Professional Engineer as required by California Business & Profession Code section 6700, et seq.

5. Regular maintenance is required to maintain adequate trash capture capacity and to ensure that captured trash does not migrate offsite. The owner shall establish a maintenance schedule based on site-specific factors including the design trash capture capacity of the Detention Basin Multi-Benefit Trash Treatment System, storm frequency, and characterization of upstream trash and vegetation accumulation.

[2] Upon approval by the appropriate Regional Water Quality Control Board Executive Officer, a 5mm screen and/or upgradient structure may *not* be required if the Multi-Benefit Trash Treatment System is designed for flows generated from very large 24-hour storm events.