Capture and Use

Multi-Benefit Trash Treatment Systems

Figure A: Large Scale Capture and Use Tank

Description

Capture and Use or Release Multi-Benefit Trash Treatment Systems come in various shapes and sizes and harvest stormwater runoff to store for later use or release for immediate use. Stormwater is then used in a variety of applications including irrigation, toilet flushing, and other non-potable uses. There are numerous designs for these Multi-Benefit Trash Treatment Systems, in addition to the two shown above.

Certified Capture and Use or Release Multi-Benefit Trash Treatment Systems must be designed in accordance with the following five (5) requirements:

Performance, Design, and Maintenance

1. The Capture and Use or Release Multi-Benefit Trash Treatment Systems 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. A Multi-benefit trash treatment system, 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. Capture and Use or Release Multi-Benefit Trash Treatment Systems 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, 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. small drainage areas (For generally less than 50 acres) the Rational equation method 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 Capture and Use or Release Multi-Benefit Trash Treatment System design plans must 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 capacity of the Capture and Use or Release Multi-Benefit Trash Treatment System, storm frequency, and estimated or measured trash loading from the drainage area.

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.