



Over-watering is Detrimental to Plant Health

Both temporary and permanent best management practices (BMPs) must be included as part of a storm water pollution prevention plan (SWPPP) to effectively manage erosion and sediment control within the highway right-of-way during and after construction.

Major factors to the success of any BMP are:

- appropriate design
- proper construction/installation
- maintenance

In addition, compliance monitoring is also imperative to determine the usefulness of current practices, identify areas for improvement, and to document successes and failures in meeting the BMP objectives.

Post Construction Inspection

This summer, a team of Caltrans design, construction and soil stabilization specialists inspected several recently completed Caltrans projects in an effort to assess the current state-of-the-art of Caltrans design, implementation and maintenance of storm water pollution prevention practices. The goal of the site visits was to share any lessons learned with Caltrans functional units in Design, Construction & Maintenance.

Inspection Observations

The Post Construction Inspection Team identified several practices that could be modified to enhance storm water pollution prevention efforts. One of the lessons learned, appropriate watering, will be discussed here. Others will be discussed in future Post Construction Bulletins.

Over-watering of sites during the plant establishment period was observed by the Team at several project locations. Thus, this activity warrants some attention.



Over-watered site in Southern California

Over-watering is Detrimental

Over-watering of landscape planting can reduce or eliminate the effectiveness of soil stabilization efforts incorporated into the design and construction process. Sheet and rill erosion was observed within newly planted areas at several sites visited by the inspection team. Soil within the planted area appeared to be saturated even as overhead watering continued to operate.

Newly planted sites need adequate water to become established and flourish; however, over-watering can negatively impact plant establishment as well as create soil erosion problems. Too much water can lead to poor root development resulting in decreased plant vigor. Underdeveloped root systems can lead to increased plant mortality. Since both roots and emergent growth from plants are the primary means by which soil erosion is curbed, poor vegetative cover and underdeveloped root systems may have a detrimental impact on long-term soil stabilization.

Course of Action

Field personnel can resolve an over-watering/soil stabilization issue by following a prescribed course of action described below:

- Monitor soil moisture conditions.
- Monitor weather conditions
- Monitor plant health and vigor.
- Develop or revise a watering schedule appropriate for plant and site conditions.

- Consult with the District Landscape Architect, Landscape Specialist, Construction Coordinator or the Maintenance Area Superintendent for other options.

These individuals should be able to assist in providing alternatives to help correct the problem.

Possible Solutions

If difficult conditions can be foreseen, considerations should be given to the following:

- Request a special irrigation schedule.
- Incorporate a light application of mulch or soil stabilizer.
- Decrease plant spacing in areas with greater erosion potential.



Soil erosion resulting from over-watering.

Caution

Remember that the Contractor is responsible for repairing any erosion or slippage caused by watering (see the Caltrans Standard Specifications (July 1999), Section 20-4.06, WATERING. In addition, Section 20-4.08 PLANT ESTABLISHMENT requires that the Contractor repair any damage caused by erosion. The responsibilities of the Contractor must not be eliminated or reduced. Furthermore, any course of action must be in writing and mutually agreed upon.