

FACT SHEET- BOVINE TERRACE

Runoff Reduction Measure

BOVINE TERRACE

Also known as: Terracing, Cow Terraces, and Infiltration Terraces.



DESCRIPTION

Bovine terraces are a low tech option for slowing runoff on slopes and maximizing infiltration potential. Cows (bovine) walk on contour when they graze on hillsides and create ruts, or terraces, where they walk. Intentionally replicating this natural occurrence slows runoff, increases infiltration and prevents erosion.

ADVANTAGES

- Reduces the size of downstream storm water BMPs.
- Can be used on sloped sites.
- Increases infiltration potential.
- Increases time of concentration.
- Decreases erosion.
- Enhances water quality of downstream water bodies through natural processes.
- Aesthetically pleasing.
- Can establish habitat for birds and other pollinators like butterflies and bees.
- Require minimal maintenance.

LIMITATIONS

- Requires sufficient area.
- Ultimate storm water collection needs to be considered in design.

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- Prohibited in areas of known contamination. If soil and/or groundwater contamination is present on the site or within a 100' radius of the proposed location, the North Coast Regional Water Quality Control Board review and approval is required.
- Not appropriate for sites with a high risk of landslides or other geotechnical concerns. Slope stability shall be determined by a licensed Geotechnical Engineer.

KEY DESIGN FEATURES

- Fill portion of terrace not to exceed 8" high.
- Vertical portion of cut not to exceed 2' high.
- Horizontal portion of cut must be at least as wide as vertical portion of cut is high.
- For slopes between 4:1 and 2:1 spacing of terraces shall not exceed 15'.
- Not to be used on slopes exceeding 2:1.
- Terraces must be installed on contour.
- Termination of terraces needs to be designed to avoid concentrating flow at edges.
- Top portion of each terrace must be adequately constructed to prevent wash out.
- Vegetate sufficiently to support slope stability.
- Install overflow collection system to accept flow that exceeds design capacity of the terraces.
- Infiltration rate and flow rate must be considered in the design.
- Terraces must be designed to eliminate standing water within 72 hours to prevent mosquito breeding.
- All calculations shall be completed using the "Storm Water Calculator" available at www.srcity.org/stormwaterLID.

INSPECTION AND MAINTENANCE REQUIREMENTS

A maintenance plan shall be provided with the Final SWLID Submittal. The maintenance plan shall include recommended maintenance practices, designation of parties responsible for maintenance and upkeep, specify the funding source for ongoing maintenance with provisions for full replacement when necessary and provide site specific inspection checklist.

At a minimum inspection and maintenance shall include the following:

- Inspect prior to the start and end of the rainy season to repair washouts or remove excess sediment accumulation.
- Pesticides and fertilizers should be avoided in terraced areas.

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