

Establishment of Native Vegetation for Erosion Control on the Cal Poly, San Luis Obispo, Campus. (6070)

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Abstract:

When applied to a bare slope, vegetation and mulch will prevent further erosion and enhance the aesthetic appeal of the area, ultimately improving the quality of the soil. If nothing is done to this barren slope, its condition will continue to deteriorate. Core samples were taken at six different sites located on a highly degraded and barren slope on the Cal Poly campus. Bulk density, porosity, soil temperature, and nitrogen and phosphorous levels were measured prior to vegetating the slope. Thirty-three groundcover rose bushes were planted and drip irrigation was installed. Mulch was laid down and two un-official coarse-sand walking trails were constructed to direct foot traffic. After a period of three months, core samples were taken again at each of the six sites, and the measurements were repeated. We expected the condition of the slope to be much improved, with minimal erosion and increased aesthetic value. The bulk density decreased and porosity increased. Decomposition of the mulch and vegetative growth added organic matter to the soil. The benefits of such improvement to the soil will be enhanced water quality of the runoff that flows into the sewer drains and an educational opportunity for all who participate in the project and observe the site as they walk to class.

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