

# California, Vetiver System, and Drought



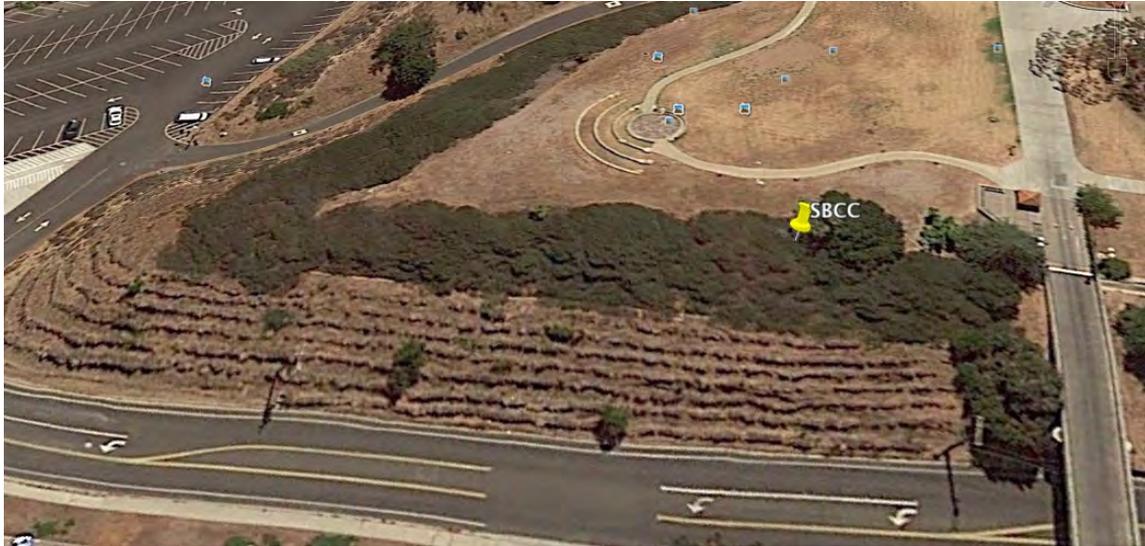
Photo credit - Doug Richardson

Doug Richardson (a landscaper who uses vetiver and native plants in landscape design) planted the slope in the photo above at the Santa Barbara City College (California) in 2000. Before Vetiver was planted there was mud and rock in the street after every major storm. **There have been no problems since.**

Native plants have **voluntarily** established themselves. The image shows this slope protected with vetiver, along with the volunteer trees and shrubs that include: the tree - Toyon (*Heteromeles arbutifolia*). Also you can also make out a number of smaller shrubs native to this area including Coastal Sage (*Artemisia californica*), and Chaparral Broom (*Baccharis pilularis*) both of which are growing well with the Vetiver. The native Blackberry is also growing with the Vetiver but is harder to see in this photo.

Doug (who was Chairman of the Environmental Horticulture Department at Santa Barbara City College) says that experience in California is that after a season of irrigation to establish Vetiver no further irrigation is required to assure its survival. Fires are a serious problem in California. He has found that Vetiver outperforms the native grass *Leymus Condensatus* in maintaining green less flammable foliage in drought conditions. This does not mean that vetiver does not burn once ignited, but it produces flames that are about 6 to 8 ft high, compared to native chaparral species (like most of the Sages) which can be quick to ignite, burn at higher temperatures, throw flames 50'-100' in height (*Ceanothus*, *Manzanita*, *Adenostoma*, etc.) and throw embers which are large and persistent. Vetiver, as a grass with high moisture content, has less actual biomass and density than the woodier species. Vetiver sprouts quickly from its roots if burned, and this is a huge plus for subsequent erosion control not to mention the preservation of the original costs and investment that went to getting it established.

Over the past 15 years this planting at The Santa Barbara City College has received very little maintenance and has survived the current four year drought well (6 to 8 inches of rain per year). Here are a couple of images from Google



Earth (imagery date May 1 2015) of the site. One is a traditional GE image showing clearly these 15 year hedgerows, the other is from GE Street View (a remarkable image that clearly shows the current state of the vetiver hedgerows – a bit ragged – but still very effective. Doug tells me that the college will shortly order a “tune up” of the vetiver – including pruning, and he expects a rapid recovery to fuller hedgerows. Note even there may be “holes” in the

hedgerows the root systems will be well established throughout the slope to provide the added shear strength to prevent slippage. Note the local species between hedgerows don't look very happy after prolonged drought. Although there has been some damage from gophers, it does not appear extreme



For those of you who want to take a look at this site and see more from "Street View" – here are the coordinates;

34°24'15.68"N 119°41'56.67"W