# SANTA MARGARITA LOW IMPACT DEVELOPMENT DEMONSTRATION PROJECT

CSA #23 Advisory Group Meeting, June 7 2007

## 1. Overview of Projects

The Santa Margarita Low Impact Development (L.I.D.) project is intended to be a demonstration in the environmentally sensitive management of stormwater. San Luis Obispo County has been awarded grant money from the State Water Resources Control Board to fund 75% of the work, with the remaining funds being provided by the County. The project actually comprises work in two geographically independent sites; however, both are linked by hydrology:

The first project is located on the Santa Margarita Ranch south-west of town, and will result in an enhanced wetland that will also attenuate peak storm flows to slow down storm water runoff into the urban area.

The second project involves the construction of wet-swales in the existing roadside ditches on Muphy Avenue and two blocks of F Street. For the most part, the depth of swales is governed by elevations of existing driveway culverts. Depending on seasonal groundwater levels, wet swales may intersect the ground water and behave similarly to a linear wetland. As is currently the case, at certain times of the year there may be shallow standing pools of runoff in the swales in certain areas, and wetland vegetation is intended to provide additional stormwater treatment for the ponded water. As stormwater runoff flows through the wetland, pollutant removal is intended to be achieved through settling and biological uptake.

## 2. Community Benefits

a. To improve water quality by slowing down storm water to aid infiltration during lower runoff events (particularly the 'first flush');
b. To mitigate flooding in Santa Margarita by reducing peak flows during storm events, and providing better drainage functionality;
c. To provide public education in storm water best management practices (BMP's);
d. To provide a case study for the county to aid in the development of local engineering standards.

## 3. Design Notes

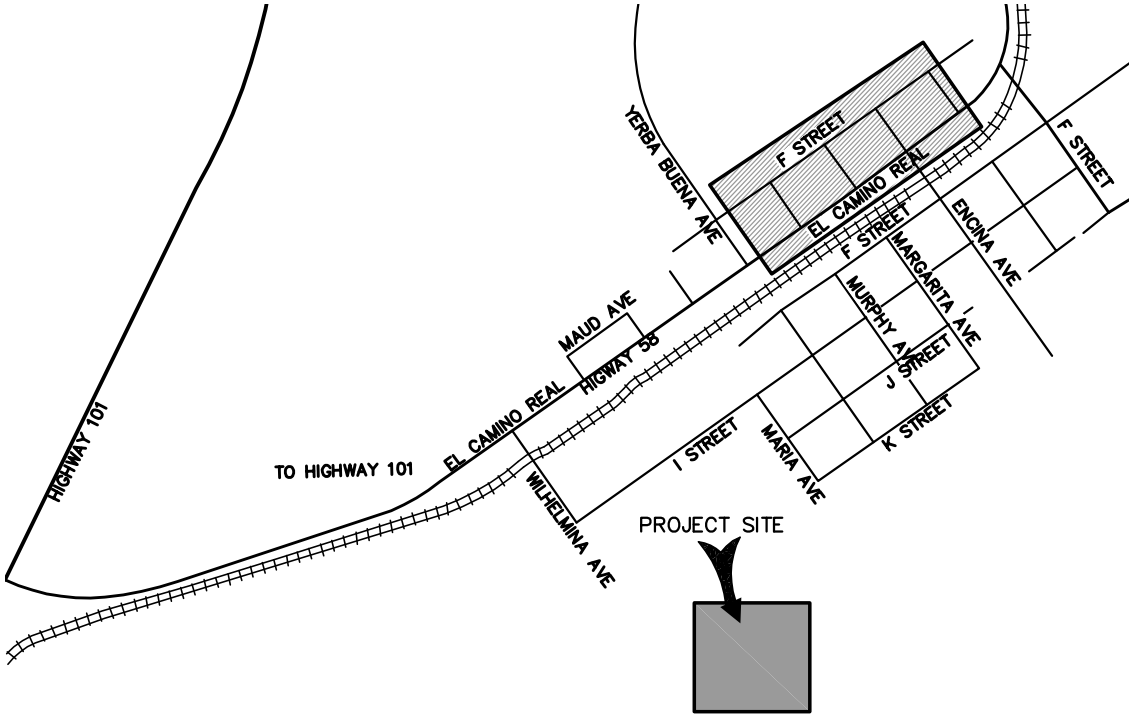
a. The wetland enhancement is designed to blend into the landscape, and will be visually unobtrusive.
b. The project will reduce the peak flow rate of storm water that discharges into the swales on Murphy Avenue by up to one-third to one-half for certain storm events, helping to mitigate flooding around the Murphy Ave/F Street area.
c. Swales will be vegetated with a native grass mix that will provide bank stabilization and a uniform aesthetic look along the street. Plant material is intended to be aesthetically pleasing and low maintenance *(see photos on next sheet)*.

## 4. Other Concerns

a. County will maintain the projects for a minimum of five years after completion, including removal of silt from swales as needed.
b. No herbicides should be used on seeded areas (including by County staff), as it is contrary to the abiding principals of low impact development.
c. Parking in swales should be avoided at all times, and parking on the road shoulder should be limited wherever possible, to provide plant material with a situation conducive to healthy growth.

*Not to Scale*

## WETLAND PLAN VIEW




*Not to Scale*

## VICINITY MAP

These images represent a sampling of the plants that will be included in the wet-swale palette:

*Deschampsia caespitosa*
Tufted Hairgrass

*Deschampsia holciformis*
Pacific Hairgrass

*Hordeum intercedens*
Bobtail Barley

*Juncus acutus*
Spiny Rush

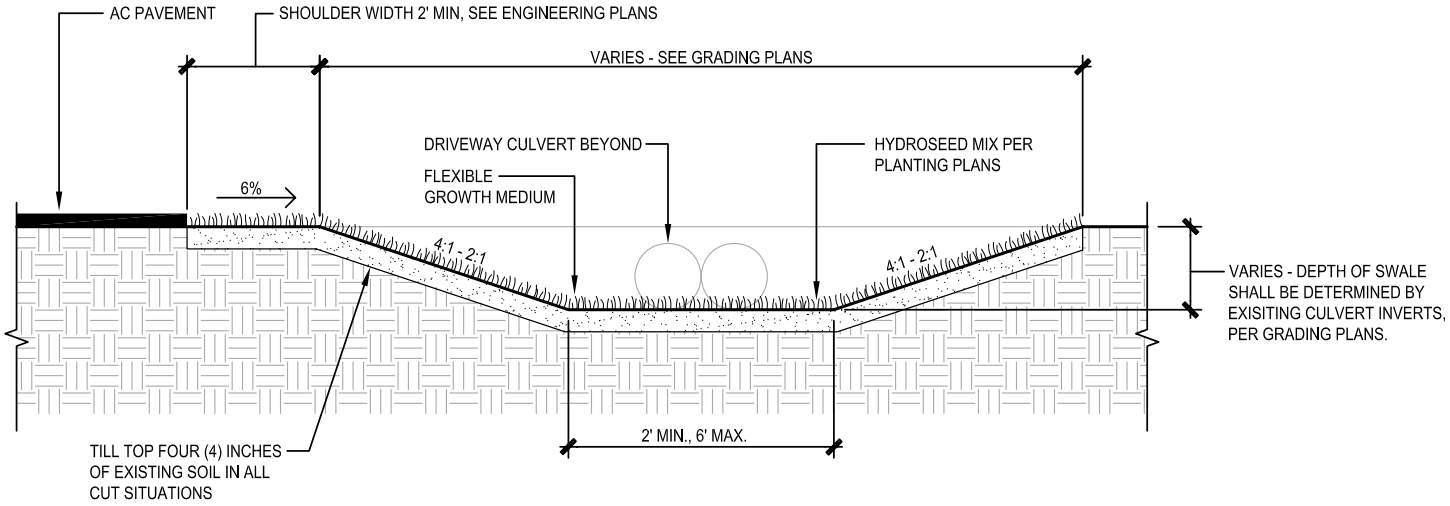
*Juncus mexicanus*
Mexican Rush

*Lasthenia glabrata*
Goldfields

*Layia platyglossa*
Tidy Tips

*Scirpus maritimus*

*Vulpia microstachys*
Small Fescue



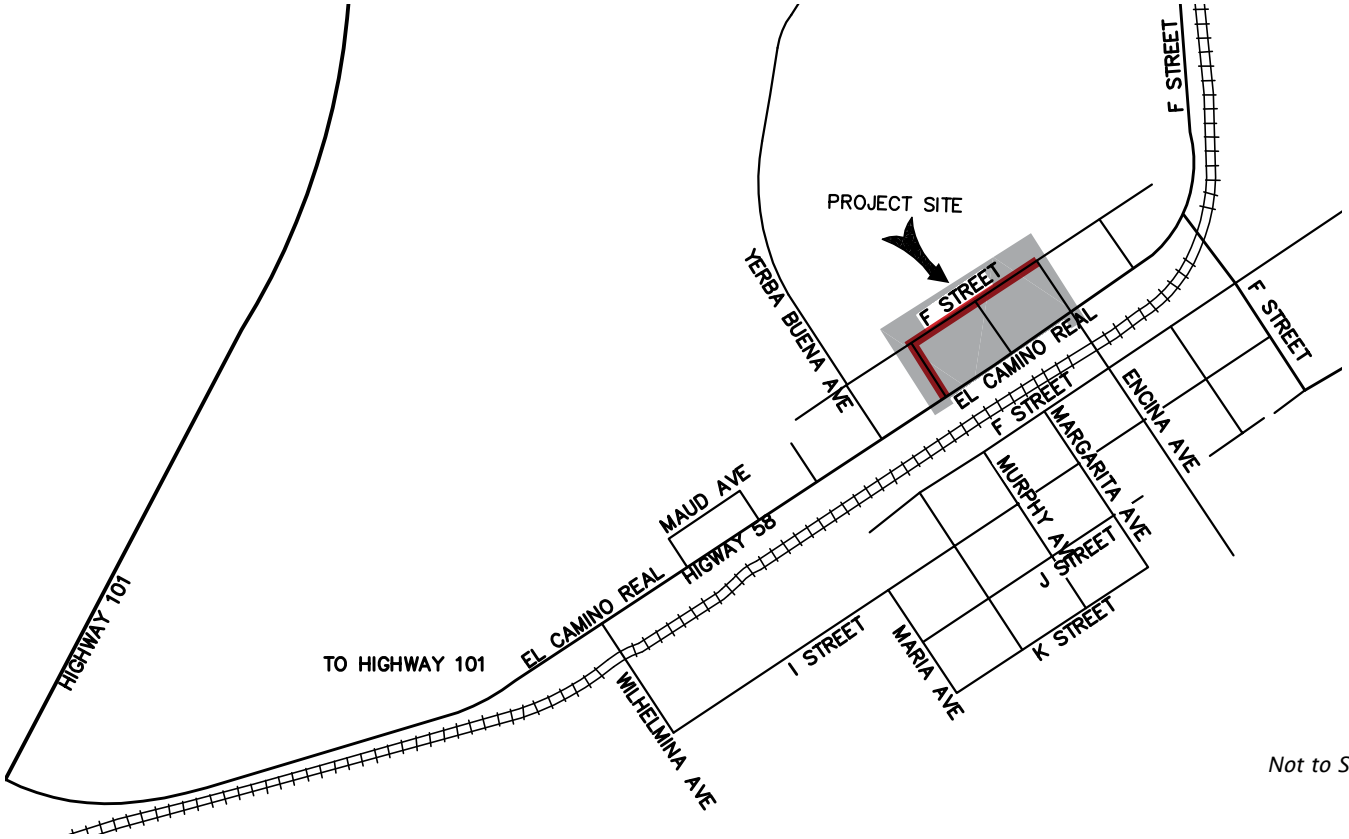

NOTES:

A. SIDE SLOPES MAY BE AS STEEP AS 2:1 IN CUT SITUATIONS ONLY. NO SLOPE SHALL EXCEED 2:1.

B. GRADE SWALE BOTTOM FLUSH TO EXISTING CULVERT INVERTS PER GRADING PLANS.

*Not to Scale*

## TYPICAL WET-SWALE CONSTRUCTION




*Not to Scale*

## VICINITY MAP