

APPENDIX EE - Highway Planting “One Liner” and Design Intent Statement (DIS)

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Sample "One-Liner" for Item 2.5a of the CTC Book

Date: June 22, 2004

04-SM101, KP 28.5/32.3 (PM 17.8/20.2)	[Dist.-Co.-Rte., KP (PM)
04-135001	(EA)
PPNO: 1234	(Project Program Number)
20.20.201.210	(Program Code)

This project will upgrade 4 hectares (9.8 acres) of existing manual irrigation systems to automatic operation and rehabilitate planting areas.

**Performance Measure: 4 HA (9.8 acres) Highway Planting Restoration
 14 Locations Freeway Maintenance Access**

Sample "Supporting Fact Sheet" for Department Presentation to the CTC for Item 2.5a Projects

Date: June 22, 2004

FACT SHEET Highway Planting Restoration

04-SM-101
KP 28.5/32.3 (PM 17.8/20.2)
04-135011
PPNO: 1234
20.20.201.210

In San Mateo County in and near Burlingame and Millbrae from 0.3 kilometers (0.2 mile) of Millbrae Avenue Overcrossing to 0.5 kilometers (0.3 mile) South of San Bruno Avenue Overcrossing.

PROPOSAL

This project will correct existing safety deficiencies by providing 4 hectares (9.8 acres) of rehabilitation of highway planting and upgrading the existing manual irrigation system to a remote irrigation control system. Other Design for Safety items will include 4 areas of concrete gore paving, the installation of 4 chain link access gates and six Maintenance Vehicle Pullouts. Permanent highway planting for erosion control with groundcover and mulch will be provided to control weeds, and reduce the use of herbicides, and provide stormwater pollution prevention.

WATER SUPPLY

This project will make use of one existing water meter located at the Millbrae Avenue Overcrossing. Reclaimed water is currently not feasible for this project.

NEED AND PURPOSE

The planting and irrigation restoration is necessary to improve maintenance safety and the safety of the motoring public. Overgrown vegetation impedes sight distance in some areas and must be removed or pruned to maintain traffic safety. Much of the original groundcover has died leaving large areas of bare soil subject to erosion and weed infestation that requires on-going maintenance. The project will also improve the visual quality at a major entry to the City of Millbrae.

COST FOR PROJECT

The estimated cost of this project is \$1,225,000. The annual maintenance costs after the plants are established is approximately \$7,800 hectare (\$3,160 per/acre/yr). A 3-year plant establishment period is included.

SUPPORT FOR THIS PROJECT

The City of Millbrae and the City of Burlingame support this project.

CATEGORY 7, CTC Planting Policy; G-85-9

Outline Design Intent Statement (DIS) for Highway Planting

Purpose of Project

Explain the circumstances that led to the initiation of the project, typically as identified in the Project Study Report (PSR) and Project Report (PR) under project need and purpose. Identify deficiencies addressed by the project, including aesthetics, environmental resources, scenic and visual resources, community goals, and traveler and worker safety.

Landscape Concept

Planting:

Briefly discuss the proposed planting concept for achieving the purpose and goals of the project. Discuss the following topics that apply:

Functional Planting Goals (Function of tree, shrub, groundcover planting and seeding):

- Planting to satisfy environmental mitigation requirements and memorandum of understanding.
- Planting to satisfy legal mandates.
- Replacement, restoration and rehabilitation of existing vegetation.
- Wetland habitat conservation and restoration.
- Conservation of agricultural lands.
- Planting to discourage graffiti on noise barriers.
- Erosion control and storm water pollution prevention.

Other Planting Goals:

- Aesthetic integration with the surrounding environment.
- Incorporation of feedback from the local community and stakeholders.
- Compliment significant visual or scenic resources.
- Maintenance of sightline requirements through placement, pruning or removal.
- Herbicide reduction to satisfy Department goals and community values.
- Water conservation through use of drought tolerant plants.

In addition to fulfilling functional and aesthetic goals, a well-planned landscape design incorporates plant material best suited to the unique site conditions. Describe project plant selection with regard to the following topics:

- Climate – potential for freezing, drought, high winds.
- Soils – type, compaction, salinity, pH and water table elevation.
- Steep slopes, aspect, runoff patterns and areas susceptible to erosion.
- Air quality.
- Site propensity for recurrent wildfires.
- Plant tolerance to commonly used herbicides.
- Plant tolerance of local or regional pests and diseases
- Competition from invasive exotic plant material and common weeds.
- Compatibility with adjacent plant communities.
- Community desires regarding plant use.

Irrigation Systems:

Describe the irrigation system concept:

- Sprinkler type used for each functional purpose.
- Use of Remote Irrigation Control System (RICS).
- Conversion of quick-coupling valves to permanent fixed-head systems.
- Water source - potable or nonpotable.

Irrigation Management:

Sound irrigation management requires an understanding of the interaction between plant water requirements, soils and climate. Water conservation results from irrigation management techniques that put this understanding in action. Water shortages are inevitable during the lifespan of a project so priorities should be established for periods of drought. Describe the following in the discussion on the irrigation system concept: Describe irrigation system design with regard to the following topics:

- California Irrigation Management Information System (CIMIS).
- Impact of climate upon plant material water requirements.
- Use of RICS Irrigation system
- Irrigation scheduling
- Drought tolerance of project plant material.
- Infiltration rate of water into site soils
- Irrigation concept for slope planting
- Water holding capacity of soils
- Water budget
- Moisture, wind and rain sensors

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- Use of check valves
- Use of mulches for water conservation
- Selection of irrigation components
- Deep watering tubes

When a nonpotable water source is proposed for irrigation, the DIS should describe the following:

- Source
- Quality
- Quantity
- Reliability
- Availability
- Health/environmental considerations
- Testing of water quality, if required
- Impact on adjacent or nearby planting projects
- Cooperation with other potential users
- Unique irrigation equipment requirements (scrubber valves, etc)
- Identifying signage and markers
- Potential storm water quality issues

When a Remote Irrigation Control System (RICS) or automated irrigation sprinkler system is proposed, discuss the recommended water management practices that will be used to operate the new system utilizing existing maintenance resources. Describe the following:

- How the proposed irrigation system will fit into the District's overall automatic irrigation management plan;
- District expertise and ability to manage and operate the new system;
- Training needs, including who will provide training.

Traveler and Worker Safety

Describe proposed traveler and worker safety techniques including, but not limited to the following:

Relocating facilities which require maintenance work such as irrigation controllers, backflow preventers, remote control valves, and similar facilities, to protected areas or adjacent to the right-of-way fence.

Vegetation management techniques which reduce or eliminate recurrent maintenance activities such as pruning, irrigation work, herbicide application and mowing. Describe how the proposed design concept will help achieve the Department's chemical reduction goal of a 80% reduction in herbicide use by 2012. Describe as well other vegetation management techniques utilized, including:

- Removal of plant material which encroaches upon sight distances;
- Removal or replacement of aged and deteriorated plants;
- Planting of vines or the use of textures on noise barriers;
- Automation of irrigation systems (RICS);
- Stabilization of eroding slopes;
- Paving beneath guardrails and signs;
- Paving of slopes beneath bridge structures;
- Paving of narrow areas and additional gore paving;
- Placing of rock or other inert mulch materials to reduce herbicide use.

Safe worker access improvements which provide maintenance workers with safe access to roadway and roadside facilities that require regular maintenance:

- Maintenance vehicle pullouts;
- Maintenance access roads;
- Walk or vehicle access gates.

Maintenance

The DIS should describe the project's long term maintenance requirements and goals. These requirements and goals should be identified following discussions with District Maintenance. The DIS should describe the quality of the landscape project expected at the completion of plant establishment and post plant establishment, in terms of a Level of Service (LOS) score agreed upon by District Maintenance. These LOS scores for the initial and long-term maintenance of the project represent Maintenance's long-term commitment to the success of the project.

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Describe the procedures maintenance should follow for the planting and irrigation systems, as well as other landscape improvements. Identify requirements in terms of maintenance activity, criteria, and frequency/schedule for plant establishment, post plant establishment to 5 years, and beyond 5 years.

Describe the following applicable maintenance requirements:

- Graffiti control and removal
- Mowing, weeding and/or burning of grasses
- Pruning for plant health and safety (techniques and timing)
- Replacement and removal of tree stakes and protective cages.
- Control of escaped exotics or "volunteer" plants
- Removal of litter and debris
- Pesticide application
- Application of fertilizer, compost and soil amendments
- Irrigation schedule, water budgeting, RICS system capabilities
- Actions to be taken in the event of drought
- Replacement and removal of dead plants
- Placement or replacement of wood chips, bark mulch or inert materials
- Miscellaneous landscape components and furnishings, if applicable
- Pruning to maintain sight distance requirements.
- Maintenance requirements for any permanent storm water pollution prevention treatment BMPs.

Signatures

_____ <i>PROJECT LANDSCAPE ARCHITECT</i> (responsible for project design)	_____ <i>DATE</i>	_____ <i>PHONE #</i>
_____ <i>DISTRICT LANDSCAPE ARCHITECT</i> (signature denotes concurrence)	_____ <i>DATE</i>	_____ <i>PHONE #</i>
_____ <i>DISTRICT LANDSCAPE SPECIALIST</i> (signature denotes concurrence)	_____ <i>DATE</i>	_____ <i>PHONE #</i>