Comparison of City and CNPS Alternative Alignments

Background

The City was asked to provide an evaluation of the proposed Arana Gulch Master Plan trail alignment to the California Native Plant Society (CNPS) alternative alignment. The alignment comparison includes only those sections of trail from the proposed Hagemann Street Bridge to the trail terminus at the existing harbor path as shown on the Preliminary Trail Alignment Study plans prepared by RRM Design Group, shown in Appendix 29 of this report. Both alignments were evaluated using Caltrans multi-use trail standards and State Park standards for ADA trail access. It is important to note that RRM Design was selected by the City in part because of their significant experience in designing environmentally sensitive trails in open space areas, and their experience in trail design in Coastal Zone resource areas.

The CNPS alignment map and narrative submitted at the March Coastal hearing was vague in several locations requiring City staff to interpret the route at some locations. As an example, the protection of the oak woodland described in the narrative moved the trail closer to the meadow area. City staff made several unsuccessful efforts to clarify the alignment, such as the location of the eastern route, with CNPS representatives through emails. The City's trail design consultant developed the plans in Appendix 29 of this report based on the same criteria as the City alignment. Once the plans were prepared City staff met with CNPS representatives to review the City's mapping of the CNPS alignment on July 15, 2010. At that meeting it was noted that the CNPS alternative showed the trail north of the historic tarplant population "B". The RRM plans were revised to reflect that alignment. There was also discussion over whether or not to alter the fencing in Area D to allow grazing of the entire area. If that area is determined to be suitable for grazing it could be included in both the City and the CNPS alternatives, without difference in that regard. Otherwise the CNPS representatives stated the map seemed to represent the routes of their alternative.

Comparison

The City alignment is intentionally designed to match the existing terrain to achieve ADA compliance with the least impact to the open space area and in the most context sensitive manner. By placing the trail on this alignment the construction footprint is minimized, the amount of grading is reduced, and drainage is unaffected. Unfortunately this is not possible with the CNPS alignment as the contours of the

existing terrain are much more variable at the interface of the oak woodland habitat and coastal prairie habitat on the west border, and the costal prairie edge at the southern and eastern borders.

The attached table compares the characteristics of the City and the CNPS alignments in great detail. The CNPS alignment is 647 feet longer than the City alignment and several retaining walls, some exceeding a height of 7 feet, with four foot high guard rails will be required in the steeper areas along the CNPS alignment. The walls and rails would be visible from the harbor. There will be a greater number of contiguous trail sections with steep grades with the CNPS alternative, which are designed to meet ADA standards technically but many people will find difficult to navigate. The construction impact zone for the CNPS alignment is more than twice the square footage of the City alignment due to the construction of the retaining walls and drainage systems. Eleven trees will have to be removed under the CNPS alternative while only one will be removed on the City alignment.

To preserve the oak woodland habitat, the paved path for the CNPS alignment would be moved onto the coastal prairie habitat and require the removal of approximately 3,000 square feet of mapped habitat. The CNPS alignment would require excavations of up to seven feet deep whereas the City alignment, due to following existing topography, would require a maximum cut of two feet. No retaining walls are required for the City alignment; seven retaining walls that total 1,030 lineal feet would be required for the CNPS alternative as well as the associated guard rails. Storm drainage infrastructure for the City alternative would not be required as the grades would continue to allow sheet flow across the site. While the CNPS alternative would require 160 lineal feet of pipe, 910 feet of earthen swale and 24 dissipation structures.

The City alignment maintains the existing dirt trail through the oak woodland habitat and around the coastal terrace prairie habitat; therefore environmental impacts to those habitats associated with the CNPS alignment do not occur. Tree removal is reduced and no retaining walls would be required. The City alignment is shorter in length and more direct to the east/west destinations, reducing the potential for cut through use. The City alignments would provide ADA access for the first time in an open space area within the City. Concurrently the public's experience of the coastal prairie and oak woodland habitats are maximized with the least environmental impact.

Conclusion

An alignment very similar to that proposed by CNPS was evaluated by the City's environmental team early on in the development of the Arana Gulch Master Plan process, and under consultation with USFWS. It was eliminated from further consideration when it was determined to have significant environmental impacts. The engineered analysis CNPS alternative clearly and absolutely validates this earlier decision.

Attached is a table comparing the revised City-proposed alignment with the CNPS alignment:

Comparison Table of City and CNPS Alternatives

Statistics	City of Santa Cruz	CNPS
	Multi-Purpose Trails	
Length	1,194 lineal feet	1,841 lineal feet
Width	8' paved trail + 2' shoulders	8' paved trail + 2' shoulders
Max. height above existing grade	at grade	7 feet high
Construction impact zone	15,804 sq. ft.	32,064 sq. ft.
Tree removal	1 tree	11 trees
Prairie habitat removal	none	3,000 sq. ft.
	Cut/fill	
Net cubic yards	441 cy (cut)	736 cy (cut)
Max. depth of excavation	2 ft.	7 ft.
	Retaining Walls With Guard Rails	
Length	0 ft.	1,030 ft.
Max. height	0 ft.	11 feet
Quantity	none	7 walls
	Storm Drainage	
Length of pipe	0 lf.	160 lineal ft.
Length of earthen swale	0 lf.	910 lineal ft.
Number of structures	none	24