

FINAL Trail Management Plan Devil's Slide Montara to Pacifica

SAN MATEO COUNTY PARKS
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1. INTRODUCTION

The Devil's Slide Trail will follow along the Pacific coastline, connecting Pacifica and Montara. Visitors will enjoy 1.3 miles of scenic views on this paved, two-directional and multi use trail. On a clear day, Devil's Slide boasts views of the Farallon Islands and is the nesting area for several seabird colonies. The County of San Mateo Parks is responsible for opening and operating the trail within one year of the completion of the Devil's Slide Tunnel Project, which is expected in early 2013. The trail facility will be open for free public access 365 days a year and will include provisions for opening and closing barrier gates on the same daily schedule as other San Mateo County parks..

1.1 **BACKGROUND**

Due to the composition of marine sediment rock and the steep surrounding hillside, this section of road has a long history of closures due to land slides and erosion. The narrow, winding road and steep drop offs to the Pacific Ocean have presented safety issues as well. Caltrans has been involved in planning for a safer alternative to Devil's Slide for over 30 years finally resulting in the Devil's Slide Tunnel Project. Upon realignment of Route 1 and the completion of the tunnel project, Caltrans agreed to relinquish the Devil's Slide segment for conversion to a public trail for recreational use.

2. STANDARDS

2.1 **DESCRIPTION OF ACCESS FEATURES**

2.1.1 Caltrans will construct several access features in support of the Devil's Slide Trail as soon as possible, but no later than one year from the opening of the tunnel for public use. These include 41 number of parking areas (35 regular spaces, 2 RV spaces, and 4 ADA spaces), pedestrian signal lights, traffic signage, xx trash receptacles, guardrails, barriers, entry gates, water hookups, and signage as discussed below in 2.1.3.

2.1.2 **FENCING**

In addition to K rail, a fence 4-ft. high with 4- 3/8" stainless steel cables will be added to the West side K rail to deter visitors from climbing out onto unsafe cliff areas. Visitors should also be kept off cliff areas to help protect sensitive seabird nesting areas. Although cables are not the most successful method in keeping visitors on trail, the advantage is that coastal views will not be blocked, thus encouraging visitors to stay in a safe area to take pictures. New attractive fencing to replace the existing

chain link (condition # 11c) will also be installed at the staircase to the Bunker Hill Area (bird research area). A new gate will be constructed to allow officially sanctioned Bird Observers access while restricting use of the general public

2.1.3 SITE FURNISHINGS

Site furnishings will include restrooms and trash receptacles at both the North and South entrance to Devil's Slide trail as well as informational Kiosks and/or stand alone panels with map boards showing the trailheads, trail alignment and nearby connections/destinations in the area, i.e. trails, parking lots, parks and beaches. Benches and picnic tables will be installed to provide visitors with a place to rest and enjoy views. Drinking fountains will also be installed (condition # 10). Most furnishings will be made of wood or metal and must be inspected for deterioration, splintering, chipping paint and damage. Replacement of site furnishings due to deterioration may occur more often around Devil's Slide due to the high salt content in the air. There are two locations (turnouts) that will be used as overlooks. These areas will have 3-4 coin operated telescopes that would be contracted with a San Mateo County Parks vendor if feasible.

2.1.4 SIGNAGE

A full signage plan (CDP condition #17) will be developed by Caltrans. Caltrans funds will be directed to the County for the design, fabrication and installation of up to ten California Coastal Trail interpretive panels for visitors explaining the history of the area including, for example, the Ocean Shore Railroad, how and why the tunnel was chosen as the best solution to this vexing transportation challenge, the regions' inhabitants on land and in the sea, interpretation of the Farallon Islands, geology and other natural and cultural history of the area.

2.1.5 CONSISTENT WITH REGIONAL TRAILS

Signage will be consistent with all San Mateo County Parks policies. All signage will be made and installed under the supervision of Parks Management Staff and will be maintained by Park Staff.

2.1.6 TRAIL HEAD

Signs will be made for both the North and South entrance to the trail. Signage will include Park Rules and Hours of Operation (it is to be open every day on the same daily schedule as other San Mateo County parks,; with no fee for entry or parking—per CDP condition #10) as well as Trail Safety Information and any other pertinent information.

2.1.7 TRAIL DISTANCE MARKERS

Distance markers will be installed incrementally along both sides of the trail.

2.1.8 WARNING AND REGULATORY SIGNS

Signs will need to be posted advising visitors of falling rocks and degrading hillside. Signs will also need to be posted on West side K-rail (consider replacing with alternate material) and fencing advising visitors

not to cross fencing due to sensitive habitat and dangerous cliffs. Signs may also be needed to advise bicyclists that the trail is slippery when wet. Signage to include: speed limits, slow, steep section, keep off fencing/K rail, etc.

2.1.9 SPEED LIMIT

The grade of certain sections of the trail will require staff to post signage regarding speed limit for bicyclists along trail at 10 MPH. With a multi use trail, maintaining a safe speed will be necessary to keep all visitors safe.

2.1.10 KIOSKS

Kiosks and/ or self standing panels will be constructed and installed under the supervision of Parks Staff at the North and South Entrance. Kiosks will include a map of the trail and other information regarding trail use and San Mateo County Parks.

2.2 TRAIL

2.2.1 INTENDED USE

Devil's Slide trail is a section of the California Coastal Trail offering a multi-use trail experience for visitors in search of panoramic ocean views. The trail will be accessible to pedestrians, bicyclists, dogs (on leash), skaters, runners, and sightseers. Coastal views will be accessible to all visitors immediately inside the South Entrance of the trail. Motorized vehicles, including Segways and motorized skateboards, will not be permitted except for maintenance and emergency vehicles, and those motorized vehicles permitted under new ADA rules allowing motorized assistance devices. When open, the Devils Slide trail will be subject to all applicable San Mateo County ordinances and San Mateo County Parks Policies.

2.2.2 SURFACING

Due to cracks, uneven elevations and potholes in certain areas, repair of the existing asphalt road, including crack sealing, pothole repair and surface leveling, will need to take place immediately after assuming the trail. Inspection of the road surface will need to be done regularly. The history of rock slides onto this road suggests that inspections will need to be done at least once daily during the rainy season. To insure the safety of users, trail surfacing must also be inspected daily to identify deficiencies and initiate repairs.. The trail will need to be swept keeping smaller gravel and other debris to a minimum.

2.2.3 WIDTH

County of San Mateo Parks will be maintaining the current vehicle lanes North and South bound at the current width for the trail. Installation of K rail will need to occur immediately after assuming the trail. Daily inspections will need to be done to insure debris has not exceeded the height of the barrier, thus detracting from the trails width. Insuring that the width of trail is maintained will be important as South Bound traffic may potentially be traveling at a higher rate of speed due to the steep incline in some sections of trail. Maintaining trail width will help prevent accidents

that may occur due to North bound traffic entering South bound lanes to avoid fallen material.

2.2.4 EROSION CONTROL

8 ft cyclone fencing with .5" steel cable or 8 ft. to 10 ft. removable panels with .5" will need to be installed against the hillside to minimize the amount of debris falling and landing on the trail surface. It will also help maintain hillside stability.

2.2.5 ACCESS BARRIERS

A complete K rail barrier will need to be installed on both the West and East side of the trail. Currently, some K rail is already in place on the ocean side of the trail and some on the inside hillside. K rail may need to be painted semi-annually to ensure barrier visibility and to cover graffiti.

2.2.6 TRAIL ACCESS CONTROL

Bollards and gates will need to be installed on both the North and South entrance to the Devil's Slide Trail. Bollards can be used on half of each entrance to allow pedestrians and bicyclist easy access. The gated portion of the entrance will be necessary for emergency response vehicles as well as access for maintenance vehicles and heavy equipment that will be needed for trail maintenance, patrol, and repairs.

2.2.7 PEST MANAGEMENT

Eradication of non-native pampas grass on much of the Devil's Slide hillside will require annual chemical spot spraying contracts as well as staff participation in physical removal of the plant. The area may also require monthly weed eradication on both sides of trail as well as keeping weeds from coming through the pavement surface.

2.2.8 GRAFFITI AND VANDALISM

Inspection for vandalism and graffiti will need to take place regularly. Repairs must be completed quickly to ensure public safety and to demonstrate San Mateo County Parks' commitment to maintaining a beautiful and safe place for visitors. Graffiti will be removed or painted over using San Mateo County Parks Removal of Graffiti Policy.

2.2.9 PAVEMENT MARKINGS

The trail will be two way and paved and will require pavement markers such as directional signs, dividers and stop signs. The trail may need to be repainted annually to ensure visibility of markers. This is needed due to the heavy coastal weather conditions that cause paint to fade and peel.

2.2.10 LITTER AND TRASH REMOVAL

Litter pick-up and trash removal must occur at least once daily to ensure trash does not end up in the nearby Pacific Ocean. Trash pick-up will also be necessary to insure that waste left behind is not consumed by surrounding seabirds. Installation of animal proof cans will be necessary at several locations.

OPERATIONAL MAINTENANCE

3.1 MAINTENANCE TASKS

3.1.1 DAILY

Duties will include litter and trash removal, cleaning restrooms, road inspection, erosion inspection, vandalism and graffiti inspection. Daily patrols will be conducted by Park Staff for inspections and public safety.

3.1.2 WEEKLY

At a minimum, staff will need to weekly sweep the trail to ensure removal of small debris for safety reasons. In addition, periodic removal of fallen debris from behind the K-rail will be necessary to ensure the K-rail barrier continues to prevent debris from reaching the trail surface.

3.1.3 MONTHLY

Encroaching weed removal will be needed monthly to maintain a certain trail width as well as culvert cleanings and maintenance on de-watering devices.

3.1.4 ANNUALLY

The painting of trail markers and K rail may need to occur annually to ensure visibility. Chemically spot spraying Pampas grass may also need to occur annually to control the current problem.

3.1.5 AS NEEDED

Repair or replacement of damaged or deteriorated signage, Kiosks, benches, fencing, markings, and restroom fixtures as needed. Vandalism and graffiti removal will be done as needed as well as patching potholes, leveling trail surface, and filling cracks.

3.1.6 CLOSURES

Any temporary closures (e.g. less than 30 days) of the Trail will be promptly noticed and the Trail reopened for public use as soon as possible.

In the case of a catastrophic failure event which results in significant closure of the Trail, the County will immediately seek a coastal development permit for the closure and for construction of repairs or an alternate equivalent trail route (CDP condition # 15).

3.2 STAFFING

3.2.1 STAFFING LEVELS

To operate at Devil's Slide, there must be (1) Park Ranger III (\$120,000 benefits included), 2 Park Ranger II's (\$95,000 each, benefits included) and 3 Park Aides at 3,000 hours per year (1,000 hrs each). Staff must be on site to respond to daily maintenance needs, do quick repairs, handle

medical emergencies, search and rescue situations, education, vegetation management, and enforcement (\$355,000/yr.).

STAFF	DESCRIPTION	ANNUAL COST
(1) Ranger III	\$120,000 with benefits	\$120,000
(2) Ranger II	\$ 95,000 with benefits	\$190,000
(3) Park Aide	\$ 15,000 each	\$ 45,000
Subtotal		\$355,000

3. MAINTENANCE MATERIALS

3.1 START-UP MATERIALS CHART

START-UP MATERIALS	ONE-TIME COST
Plans, Specifications, and Permitting	\$250,000
Observation Decks/Raised Decks (2) Safe public area for observation of Ocean views	\$250,000
2 CXT 2 stall model Vault Toilets, North and South end	\$200,000
Animal Proof Cans, Trash/ recycling combo cans	\$15,000
Cyclone fencing with gate at gunnery site; 10ft high, possibly razor wire top (200ft)	\$8,000
1.3 miles Cyclone Fencing 8-10ft high, erosion control eastern side	\$270,000
Trail Access Control Gates and Bollards	\$34,000
Bird Blind Fencing and Screening	\$8,000
Security keyed locks For Bollards and Gates (maybe add to above cost)	\$1,000
Benches and Tables, Possibly Memorial Bench Program	\$15,000
Initial Painting of Pavement Markings, K rail (color to be decided)	\$30,000
1.3 mile, 4 strand SS cable, Western/Ocean side, to allow scenic viewing	\$210,000
Signage, Including maps and Kiosks, regulations, traffic control and public safety signs, posts, hardware, concrete, etc	\$40,000
K- rail to complete existing eastern and western sides of trail	\$58,125
AED (1)	\$2,500
Donation Boxes (2)	\$5,000
Metal Out Building, house tractor and sweeping unit, ATV and on-site tools, on site office (POSSIBLY TALK TO CALTRANS ABOUT SHARING THEIR CORP YARD, ADDING BUILDING THERE)	\$200,000
Subtotal	\$1,596,625

3.3 ANNUAL MATERIALS CHART

MATERIALS NEEDED ANNUALLY	ANNUAL COST
Toilet sundries (toilet paper, cleaning products, hand sanitizer, can liners)	\$17,500
Paint and supplies (REPAINT PARKING LOTS, K-RAIL,	\$15,000

PAVEMENT MARKINGS ON TRAIL)	
Replacement of Signage	\$12,000
First Aid Supplies	\$1,500
Maintenance on Benches, Tables, and Kiosks, and Bollards Cleaning, re-oiling, sanding, replacement, Stain/Paint	\$2,500
Subtotal	\$48,500

3. EQUIPMENT

4.1 WHEELED EQUIPMENT CHART

ITEM	DESCRIPTION	ONE-TIME COST
Wheel Tractor	John Deer or Fermac	\$80,000
Kubota ATV	Kubota 4X4 with dump bed	\$16,000
Medical Bed for Kubota	Kubota attachment	\$2,500
Trailer Pressure Washer with Hot Water System	Northern Tools Honda gas motor	\$10,000
Cabbed Sweeper		\$65,000
Vehicle	½ Ton pick-up	\$45,000
Subtotal		\$218,500

3.2 SMALL EQUIPMENT CHART

ITEM	DESCRIPTION	ONE-TIME COST
Back Pack Blowers (3), Honda 2000 Generator (2), Electric Spades		\$7,000
4 String cutters, 2 Blade cutters	Noxious weed removal	\$5,000
Plate compactor / Honda	Patch asphalt	\$1,400
Airless sprayer/ attachments	Paint K - Rail	\$1,800
Honda 3000 generator / power cords for airless sprayer	Paint K-Rail	\$2,700
Hand tools, rolling tool box complete / drill press and woodworking saws for shop building	Maintenance tools for shop to maintain trail and equipment	\$8,500
Subtotal		\$26,400

3.2.1 ANNUAL EQUIPMENT DEPRECIATION/OPERATION CHART

ITEM	DESCRIPTION	ANNUAL COST
Wheel Tractor	John Deer or Fermac	\$8,240

Kubota ATV	Kubota 4X4 with dump bed	\$3,700
Trailer Pressure Washer with Hot Water System	Northern Tools Honda gas motor	\$1,000
Cabbed Sweeper		\$9,240
Vehicle	½ Ton pick-up	\$9,800
Misc Equipment Maintenance	Sprayer, generator, blowers, etc.	\$5,000
Subtotal		\$36,980

4. CONTRACTS

5.1 INITIAL CONTRACTED COSTS CHART

CONTRACT	DESCRIPTION	ONE-TIME COST
Paving and Crack sealing/ Road Resurfacing, Road Patches (INITIAL)	Trail resurfacing for public safety and erosion (ROAD DEPARTMENT)	\$100,000
Noxious Weed Removal (INITIAL)	Cost for First Pampas Grass spot spray - Maximum \$50,000 per year to be reviewed	\$50,000
Subtotal		\$150,000

5.2 ANNUAL CONTRACTED COSTS CHART

CONTRACT	DESCRIPTION	ANNUAL COST
Bi-monthly toilet pumping	Contract bi-monthly	\$25,000r
Noxious weed removal contract yearly follow up	Pampas Grass, etc. ("GO NATIVES" DAVE SANDS estimate) to be reviewed	\$40,000
Paving, Patching and Crack sealing of roadway Roadway Resurfacing	Contract work DPW	\$80,000
County Road Dept Equipment/Operator	Clearing Rock Slides, Cleaning inside ditches bi-annually	\$80,000
Annual Pavement markings (Parking lots, Directional)	Also included in start up material and annual material, where do we want to include it? Repaint existing markers (DPW)	\$30,000
Subtotal		\$255,000

Approximate Total One-Time Project Cost:	\$1,991,525
Approximate Total Annual Operations and Maint Cost:	\$695,480
Approximate Total First Year Cost of Project:	\$2,687,005

CONCERNS:

Radios and cell phones do not receive well on this section, if at all. This safety concern will need to be addressed.

The Trail and parking areas are open every day. The barrier gates may be closed on the same daily schedule as other San Mateo County parks.. No fee for day use or parking. Other fees may be charged such as special event fees, commercial filming, and commercial photography fees. Trail and parking areas will need to be inside lockable barrier gates.