

Appendices

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Appendix A

Current Access Road Maintenance Method

Under current conditions, RGC road maintenance work normally consists of two basic operations. One is general repair work where truckloads of base rock (3/4" minus Class II aggregate base) are shaped by a homemade spreader screed and wheel-rolled for compaction. This work is normally performed once every two years and takes about a day to complete. The second operation is filling "pot holes" by shovel loads then dragging the road with the screed to level and reshape it. This work is done between 10 and 12 times per year and is done by one individual. Hours expended are around 50 to 60 per year. Approximately ten cubic yards were purchased by RGC in 2002 and spread over the length of the road, between the two gates, with a small remainder stockpiled for subsequent "pot hole" repair work. Since January 2005, approximately four pick-up truckloads have been purchased and applied to the road (personal communication, email, Bob Fallis, RGC, April 17, 2005).

Currently, vehicular traffic is relatively light, infrequent and controlled. Most of the traffic occurs on Saturdays and Sundays when the RGC range is open to its general membership and the public. According to Bob Fallis of RGC (personal communication, April 17, 2005), the two most significant factors affecting the condition of the road are vehicular traffic and storm water retained on the road. Currently, storm water retained on the road appears to be most problematic. The road between the two gates is nearly flat, longitudinally and cross-sectionally. Most of it is in a "choker" condition in between vegetated sand dune and berms. Storm water is trapped on the roadbed itself and can not free-drain off to the side and escape. The only place for this water to go is down, through infiltration, which is a slow process. Because the base rock is a relatively thin layer on top of sand, when open water is present and traffic moves across it the hydrostatic shock wave that it sets up causes the fines in the base rock to "pump" causing the road surface to lose shape and load-bearing strength, thus creating a "pot hole." Left unchecked, this process will continue and accelerate, ultimately resulting in the loss of the entire roadbed section.

Appendix B

Wiyot Trail Names

English	Wiyot	Sounds like
north	p'uri	b'oaree
trail	woLal	
north wind	dotaga'n	
sunshine	letik	
sunset	katawariSH	
snake	ho'raCH	
ocean	SHu'r	
berries	hop'o'y	hophoy
bird	cukiSH	
sand	latkak	ludgug
surf fish	hut	hudt
south	k'atb	g'udtb
spruce tree	wonokw	wawnawgw
spruce roots	top'	dtawb'
whale	k'imak	g'eemug
sea lion	ku'moyulił	gu'mawyuleeł

Words in bold were selected as trail names for the Ma-le'l Dunes CMA. Spelling of the names is draft and requires further consultation with the Wiyot Tribe.

Appendix C

Shared Maintenance Responsibilities and Costs

BLM and USFWS will be responsible for maintenance of all infrastructure, signage and visitor records associated with their respective properties. Table 1 below assigns all other responsibilities to the cooperating partners. The caretaker will carry out routine maintenance, including replacement of signs (other than those to be replaced by BLM), but materials will be supplied by the responsible landholding agency. USFWS will contract with the various entities, including the California Department of Forestry (CDF) to maintain vegetation growth along Hammond Road.

Table 1. Assignment of Shared Responsibilities

Maintenance Task	Responsible Party
Ma-le'l Dunes CMA main entry sign	BLM, USFWS
Access roadway surface, including portion to Ma-le'l South	USFWS, RGC
Access roadway signs	USFWS, BLM
Access roadway vegetation	USFWS with CDF
Redwood Gun Club boundary signage	USFWS, BLM, RGC
Redwood Gun Club boundary fences	USFWS, BLM, RGC
HBMWD easement fence, gate and signs	USFWS, HBMWD
Caretaker compensation, trailer maintenance, and utilities	USFWS
Caretaker Radio	BLM
FOD restoration volunteer and guided walk records	FOD

A brief comparison of cost sharing expenses between entities appears in Table 2.

Table 2. Comparison of Cost-Share Expenses

Cost Share Expenses	USFWS	BLM	RGC
Start-up Costs			
Access Road Improvements	\$ 5,000	\$ -	\$ -
Caretaker Residence re-establishment	\$ -	\$ 2,500	\$ -
Total shared start-up O&M costs	\$ 5,000	\$ 2,500	\$ -
Annual On-going Costs			
Access Road Maintenance	\$ 2,550	\$ -	\$ 450.00
Caretaker salary	\$ 3,650	\$ -	\$ -
Caretaker utilities (power, propane, water) at \$150/mo	\$ 1,800	\$ -	\$ -
BLM Ranger Back-up Enforcement	\$ -	\$ 9,600	\$ -
Total shared annual O&M costs	\$ 8,000	\$ 9,600	\$ 450

*This cost is based on \$1000/yr for vegetation control, \$2000/yr for road surface maintenance, and an estimated 85% of use by USFWS and 15% by RGC.

Appendix D

Implementation Tasks Phase One and Two

PHASE ONE IMPROVEMENTS	RESPONSIBILITY
INFRASTRUCTURE	
1. Establish caretaker trailer pad	BLM
2. Improve Ma-le'l Road	USFWS
3. Relocate Ma-le'l North entry gate	USFWS
4. Install new board fencing, along Ma-le'l Road adjacent to private residential properties	BLM
	USFWS
5. Close parking area at power tower and install 1,000 ft walkway along Ma-le'l Road	BLM
6. Install new gate and fencing to HBMWD easement on east side of Ma-le'l Road	USFWS
7. Install live fence plantings along Ma-le'l Road adjacent to SPI property	USFWS
8. Install new post and wire fencing along Ma-le'l Road adjacent to RGC	USFWS
9. Upgrade parking areas	USFWS
10. Install temporary restrooms	USFWS
11. Install trash receptacles/picnic tables/bikes racks	USFWS
TRAIL WORK	
12. Preliminary upgrade of Gokwera Trail and control erosion	USFWS
13. Install trail steps at Hop'o'y Trailhead	USFWS
14. Repair step and rail on Hop'o'y Trail	USFWS
15. Re-vegetation of casual trails throughout forest and at Iron Creek	BLM
	USFWS
16. Re-route forest egress/Establish Hudt Trail with markers	USFWS
17. Establish Ki'mak Trail with markers	USFWS
18. Install puncheon bridge over wetland on Hudt Trail	USFWS
19. Remove unwanted fences	BLM
	USFWS
20. Dismantle dilapidated structures	BLM
	USFWS
21. Remove existing kiosks	USFWS
SIGNAGE AND PUBLICATIONS	
22. Install new main entry signage at Young Lane	BLM
	USFWS
23. Install Ma-le'l North entry signage	USFWS
24. Install highway and coastal access signage	BLM
PHASE ONE IMPROVEMENTS, continued	RESPONSIBILITY
SIGNAGE AND PUBLICATIONS, continued	

25. Install jurisdictional boundary signage (for RGC, SPI, HBMWD)	USFWS
26. Install regulatory signage	USFWS
27. Install temporary signage	BLM
28. Install trail markers	USFWS
29. Install orientation signage	BLM
	USFWS
30. Update Humboldt Bay Beach and Dunes map and create trail brochure	BLM
	USFWS
OPERATIONS	
31. Hire Caretaker	USFWS
32. Develop special permits for overnight camping and vegetative and traditional gathering	BLM
	USFWS
33. Develop and execute agreement between USFWS and BLM	BLM
	USFWS
34. Develop law enforcement protocol	BLM
	USFWS
35. Develop and execute other agreements with partners (RGC, SPI, FOD, Wiyot Tribe)	BLM
	USFWS
36. Organize and conduct opening ceremony	CMA Partners
37. Begin interpretive programs	CMA Partners
PHASE TWO IMPROVEMENTS	RESPONSIBILITY
INFRASTRUCTURE	
38. Upgrade benches	USFWS
39. Install new boat ramp and stairs	USFWS
40. Install vault toilets	USFWS
TRAIL WORK	
41. Upgrade ADA Railroad Trail	USFWS
42. Install new board fencing, along Ma-le'l Road adjacent to private residential properties	USFWS
43. Install cable steps at forest egress/Hudt Trailhead	USFWS
44. Wetland view deck repair	
45. Dune view deck installation	USFWS
46. Replace 100 ft section of step and rail and install 30 ft boardwalk on Wonowk Trail	BLM
SIGNAGE	
47. Install interpretive signage	BLM
	USFWS

Appendix E

ESTIMATED COSTS PHASE ONE				
Infrastructure				
	Quantity	Unit	Unit Cost	Subtotal
Ma-le'l Road improvements	4400	LN	\$5.00	\$22,000.00
Ma-le'l North Entry Gate	1	Ea	\$3,000.00	\$3,000.00
Board fencing	300	LF	\$20.00	\$6,000.00
Pedestrian walkway	400	LF	\$15.00	\$6,000.00
Gate at HBMWD Easement	1	Ea	\$3,000.00	\$3,000.00
Live fence plantings	500	LF	\$2.00	\$1,000.00
Caretaker trailer pad improvements	1	Ea	\$1,000.00	\$1,000.00
Ma-le'l North parking area improvements	7000	LF	\$3.00	\$21,000.00
Ma-le'l North temporary restroom	1	Ea	\$1,500.00	\$1,500.00
Ma-le'l North trash receptacles	1	Ea	\$500.00	\$500.00
Ma-le'l North picnic tables	1	Ea	\$1,000.00	\$1,000.00
Ma-le'l North bike rack	1	Ea	\$500.00	\$500.00
Ma-le'l North post and cable	300	LF	\$20.00	\$6,000.00
Total Phase 1 Infrastructure Costs				\$72,500.00
Trail Work				
	Quantity	Unit	Unit Cost	Subtotal
Railroad Berm Trail Preliminary	3000	LF	\$1.00	\$3,000.00
Trailhead Steps at Hop'o'y Trail	30	LF	\$40.00	\$1,200.00
Step and Rail on Hop'o'y Trail	75	LF	\$50.00	\$3,750.00
Casual Trail Revegetation	1500	LF	\$5.00	\$7,500.00
Re-route Forest Egress	1	Ea	\$500.00	\$500.00
Hudt Trail trailmarkers	10	Ea	\$150.00	\$1,500.00
Ki'mak Trail trailmarkers	15	LF	\$150.00	\$2,250.00
Puncheon bridge on Hudt Trail	60	SF	\$75.00	\$4,500.00
Remove unwanted fences	5000	LF	\$1.00	\$5,000.00
Dismantle dilapidated structures	2	Ea	\$2,000.00	\$4,000.00
Remove existing kiosks in Ma-le'l North	2	Ea	\$200.00	\$400.00
Total Phase 1 Trail Works Costs				\$33,600

Signage				
	Quantity	Unit	Unit Cost	Subtotal
Main Entry Signage at Young Lane	1	Ea	\$2,000.00	\$1,000.00
Highway and coastal access signage	2	Ea	\$1,000.00	\$200.00
Jurisdictional Boundary Signage (for RGC,	20	Ea	\$100.00	\$2,000.00
Temporary Signage	8	Ea	\$50.00	\$400.00
Ma-le'l North Entry Signage	1	Ea	\$1,000.00	\$1,000.00
Ma-le'l North Regulatory Signage	5	Ea	\$500.00	\$2,500.00
Ma-le'l South Orientation Signage	1	Ea	\$1,000.00	\$1,000.00
Ma-le'l North Kiosk	1	Ea	\$5,000.00	\$5,000.00
Total Phase 1 Signage Costs				\$13,100.00
Operations				
	Quantity	Unit	Unit Cost	Subtotal
Develop special permits for overnight camping and gathering	0	Staff Hour	\$35.00	
Develop and execute cooperative agreements	0	Staff Hour	\$35.00	
Develop law enforcement protocol	0	Staff Hour	\$35.00	
Organize and conduct opening ceremony	0	Staff Hour	\$35.00	
Interpretive Programs	0	Staff Hour	\$35.00	
Total Phase 1 Operations Costs				
PHASE ONE SUBTOTAL				\$119,200
Environmental Review and Permitting (12%)				
Project Management (20%)				
TOTAL				\$119,200
Contingency (10%)				\$11,920
TOTAL PHASE ONE COSTS				\$131,120.00

ESTIMATED COSTS PHASE TWO				
Infrastructure				
	Quantity	Unit	Unit Cost	Subtotal
Install Vault Toilet	2	Ea	\$16,500.00	\$33,000.00
New Benches	8	Ea	\$500.00	\$4,000.00
Install Boat Ramp and Stairs	400	sf	\$15.00	\$6,000.00
Ma-le'l North trash receptacles	2	Ea	\$500.00	\$1,000.00
Ma-le'l North picnic tables	3	Ea	\$1,000.00	\$3,000.00
Live fence plantings	1500	LF	\$2.00	\$3,000.00
Potable water at Ma-le'l South	1	Ea	\$7,500	\$7,500.00
Total Phase 2 Infrastructure Costs				\$57,500.00
Trail Work				
	Quantity	Unit	Unit Cost	Subtotal
Railroad Trail Erosion Control	750	LF	\$75.00	\$56,250.00
Repair Wetland Viewdeck	100	sf	\$75.00	\$7,500.00
Dune Overlook View Deck	50	Ea	\$150.00	\$7,500.00
Step and rail on Wonowk Trail	100	LF	\$50.00	\$5,000.00
Boardwalk on Wonokw Trail	30	LF	\$150.00	\$4,500.00
Cable Steps to Dune Overlook	100	LF	\$50.00	\$5,000.00
Cable Steps at Forest Egress/Hudt Trailhead	50	LF	\$75.00	\$3,750.00
Step and Rail on Hop'o'yTrail	125	LF	\$50.00	\$6,250.00
ADA Access Trail Improvments	15000	sf	\$8.00	\$120,000.00
Total Phase 2 Trail Work Costs				\$215,750.00
Signage and Publications				
	Quantity	Unit	Unit Cost	Subtotal
Humboldt Bay Beach and Dunes Map Update	80	Hours	\$50.00	\$4,000.00
Print Map Update	5000	Ea	\$1.00	\$5,000.00
Ma-le'l Dunes CMA Trails Brochure	80	Hours	\$50.00	\$4,000.00
Print Trails Brochure	5000	Ea	\$1.00	\$5,000.00
Ma-le'l South Interpretive Signage	3	Ea	\$2,500.00	\$7,500.00
Ma-le'l North Interpretive Signage	5	Ea	\$2,500.00	\$12,500.00
Total Phase 2 Signage Costs				\$38,000.00

PHASE TWO SUBTOTAL				\$311,250.00
Permitting (12%)				
Project Management (20%)				
TOTAL				\$311,250.00
Contingency (10%)				\$31,125.00
TOTAL PHASE 2 COSTS				\$342,375.00
GRAND TOTAL PHASE 1 & 2				\$473,495.00