

Appendix G.1: Prototype facility development costs

Playground - 10 child capacity					
	unit	unit cost	qnty	qnty cost	
a	clear playground, parking, access road	acre	\$1,520.00	0.5	\$760
b	earthwork for playground, parking, access road	cu yd	\$7.00	746	\$5,222
c	site preparation, 12" sand or bark @100'diameter	sq ft	\$1.10	15,700	\$17,270
d	medium play structure	each	\$15,000.00	1	\$15,000
e	parent bench, 8"x8"x10' wood beams w/conc support	each	\$925.00	3	\$2,775
f	trash receptacle w/concrete support	each	\$800.00	2	\$1,600
g	drinking fountain, precast concrete	each	\$2,000.00	1	\$2,000
h	bike rack, prefab galvanized pipe	each	\$950.00	1	\$950
i	parking, 2" asphalt concrete/4" crushed rock, 10 cars	sq ft	\$3.00	3,000	\$9,000
j	wheel stops, 10"x6"x8' precast concrete	each	\$156.00	10	\$1,560
k	access road, 2" asphalt concrete/4" crushed rock, 24'x50'	sq ft	\$2.00	1,200	\$2,400
l	water service, 8" service line	lr ft	\$30.00	100	\$3,000
m	water meter, 2" size	each	\$4,880.00	1	\$4,880
Total construction cost per playground				\$66,417	
a	construction sales tax (const)	8.2%		\$5,446	
b	design/engineering fees (const)	12.0%		\$7,970	
c	financing costs (const, tax, design)	8.0%		\$6,387	
d	contingency (const, tax, design, financing)	10.0%		\$8,622	
Total development cost per playground				\$94,842	
Grassy playfield - 1 acre					
	unit	unit cost	qnty	qnty cost	
a	clear field, structures, parking, access road	acre	\$1,520.00	1	\$1,520
b	earthwork for field, structures, parking, road	cu yd	\$7.00	1,613	\$11,293
c	restroom facility, sani-can w/concrete platform	each	\$100.00	2	\$200
d	trash receptacles w/concrete support	each	\$800.00	2	\$1,600
e	playfield, grass seed w/subdrain	sq ft	\$3.20	43,560	\$139,392
f	irrigation system-quick coupler	sq ft	\$0.45	43,560	\$19,602
g	drinking fountain	each	\$2,000.00	1	\$2,000
h	bike rack, prefab galvanized pipe	each	\$950.00	1	\$950
i	parking, 2" asphalt concrete/4" crushed rock, 20 spaces	sq ft	\$3.00	6,000	\$18,000
j	wheel stops, 10"x6"x8' precast concrete	each	\$156.00	35	\$5,460
k	access road, 2" asphalt concrete/4" crushed rock, 24'x200'	sq ft	\$2.00	4,800	\$9,600
l	water service, 8" service line	lr ft	\$30.00	500	\$15,000
m	water meter, 2" size	each	\$4,880.00	1	\$4,880
Total construction cost per field				\$229,497	
a	construction sales tax (const)	8.2%		\$18,819	
b	design/engineering fees (const)	12.0%		\$27,540	
c	financing costs (const, tax, design)	8.0%		\$22,068	
d	contingency (const, tax, design, financing)	10.0%		\$29,792	
Total development cost per field				\$327,717	
Outdoor handball courts - 3 wall 20'x40'					
	unit	unit cost	qnty	qnty cost	
a	earthwork for court and support area	cu yd	\$7.00	50	\$350
b	3" asphalt/4" aggreg/6" gravel	sq ft	\$3.20	1,000	\$3,200
c	concrete side walls	lr ft	\$25.00	80	\$2,000
d	trash receptacles w/conc support	each	\$800.00	1	\$800
e	drinking fountain	each	\$2,000.00	1	\$2,000
f	bike rack, prefab galvanized pipe	each	\$950.00	1	\$950
g	parking, 2" asphalt concrete/4" crushed rock, 2 spaces	sq ft	\$3.00	600	\$1,800
h	wheel stops, 10"x6"x8' precast concrete	each	\$156.00	2	\$312
i	access road, 2" asphalt concrete/4" crushed rock, 24'x25'	sq ft	\$2.00	600	\$1,200
j	water service, 8" service line	lr ft	\$30.00	100	\$3,000
k	water meter, 2" size	each	\$4,880.00	1	\$4,880
Total construction cost per court				\$20,492	
a	construction sales tax (const)	8.2%		\$1,680	
b	design/engineering fees (const)	12.0%		\$2,459	
c	financing costs (const, tax, design)	8.0%		\$1,971	
d	contingency (const, tax, design, financing)	10.0%		\$2,660	
Total development cost per court				\$29,262	

Outdoor basketball - 70'x114'					
	unit	unit cost	qnty	qnty cost	
a	earthwork for court, parking, access road	cu yd	\$7.00	460	\$3,220
b	3"asphalt/4"aggreg/6"gravel	sq ft	\$3.20	7,980	\$25,536
c	standards w/hoop and net, 6"steel poles	each	\$800.00	2	\$1,600
d	trash receptacles w/conc support	each	\$800.00	1	\$800
e	drinking fountain	each	\$2,000.00	1	\$2,000
f	bike rack, prefab galvanized pipe	each	\$950.00	1	\$950
g	parking, 2"asphalt concrete/4"crushed rock, 10 spaces	sq ft	\$3.00	3,000	\$9,000
h	wheel stops, 10"x6"x8"precast concrete	each	\$156.00	10	\$1,560
i	access road, 2"asphalt concrete/4"crushed rock, 24'x50'	sq ft	\$2.00	1,200	\$2,400
j	water service, 8"service line	lr ft	\$30.00	100	\$3,000
k	water meter, 2"size	each	\$4,880.00	1	\$4,880

Total construction cost per court **\$54,946**

a	construction sales tax (const)	8.2%		\$4,506
b	design/engineering fees (const)	12.0%		\$6,594
c	financing costs (const, tax, design)	8.0%		\$5,284
d	contingency (const, tax, design, financing)	10.0%		\$7,133

Total development cost per court **\$78,462**

Outdoor volleyball - 42'x72'					
	unit	unit cost	qnty	qnty cost	
a	earthwork for court, parking, access road	cu yd	\$7.00	276	\$1,932
b	playing surface, 6"sand/compacted subgrade	cu yd	\$25.00	56	\$1,400
c	boundary lines, imbedded 4"x4"cedar	lr ft	\$2.65	180	\$477
d	net and anchors, 6"x6" treated wood posts	each	\$515.00	1	\$515
e	line judges stand, galvanized pipe w/2"x4" frame	each	\$700.00	2	\$1,400
f	players bench, 8"x8"x10'wood beams w/conc support	each	\$925.00	2	\$1,850
g	trash receptacles w/concrete support	each	\$800.00	1	\$800
g	drinking fountain	each	\$2,000.00	1	\$2,000
i	bike rack, prefab galvanized pipe	each	\$950.00	1	\$950
j	parking, 2"asphalt concrete/4"crushed rock, 10 spaces	sq ft	\$3.00	3,000	\$9,000
k	wheel stops, 10"x6"x8"precast concrete	each	\$156.00	10	\$1,560
l	access road, 2"asphalt concrete/4"crushed rock, 24'x50'	sq ft	\$2.00	1,200	\$2,400
m	water service, 8"service line	lr ft	\$30.00	100	\$3,000
n	water meter, 2"size	each	\$4,880.00	1	\$4,880

Total construction cost per court **\$32,164**

a	construction sales tax (const)	8.2%		\$2,637
b	design/engineering fees (const)	12.0%		\$3,860
c	financing costs (const, tax, design)	8.0%		\$3,093
d	contingency (const, tax, design, financing)	10.0%		\$4,175

Total development cost per court **\$45,929**

Outdoor tennis - 60'x120' with lights					
	unit	unit cost	qnty	qnty cost	
a	earthwork for court, parking, access road	cu yd	\$7.00	320	\$2,240
b	colorcoat/1"asphalt/2"asphalt/4"crushed rock	sq ft	\$5.00	7,200	\$36,000
c	perimeter fencing, 12'galvanized w/1.75"fabric	lr ft	\$27.00	360	\$9,720
d	lighting system, 4 poles w/2 km projectors	system	\$46,150.00	1	\$46,150
e	net and anchors, 3.5"galvanized pipe posts	each	\$700.00	1	\$700
f	trash receptacles w/conc support	each	\$800.00	1	\$800
g	drinking fountain	each	\$2,000.00	1	\$2,000
h	bike rack, prefab galvanized pipe	each	\$950.00	1	\$950
i	parking, 2"asphalt concrete/4"crushed rock, 4 spaces	sq ft	\$3.00	1,200	\$3,600
j	wheel stops, 10"x6"x8"precast concrete	each	\$156.00	4	\$624
k	access road, 2"asphalt concrete/4"crushed rock, 24'x50'	sq ft	\$2.00	1,200	\$2,400
l	water service, 8"service line	lr ft	\$30.00	100	\$3,000
m	water meter, 2"size	each	\$4,880.00	1	\$4,880

Total construction cost per court **\$113,064**

a	construction sales tax (const)	8.2%		\$9,271
b	design/engineering fees (const)	12.0%		\$13,568
c	financing costs (const, tax, design)	8.0%		\$10,872
d	contingency (const, tax, design, financing)	10.0%		\$14,678

Total development cost per court **\$161,453**

Outdoor tennis - 60'x120' without lights					
	unit	unit cost	qnty	qnty cost	
a	earthwork for court, parking, access road	cu yd	\$7.00	320	\$2,240
b	colorcoat/1"asphalt/2"asphalt/4"crushed rock	sq ft	\$5.00	7,200	\$36,000
c	perimeter fencing, 12'galvanized w/1.75"fabric	lr ft	\$27.00	360	\$9,720
d	net and anchors, 3.5"galvanized pipe posts	each	\$700.00	1	\$700
e	trash receptacles w/conc support	each	\$800.00	1	\$800
f	drinking fountain	each	\$2,000.00	1	\$2,000
g	bike rack, prefab galvanized pipe	each	\$950.00	1	\$950
h	parking, 2"asphalt concrete/4"crushed rock, 4 spaces	sq ft	\$3.00	1,200	\$3,600
i	wheel stops, 10"x6"x8'precast concrete	each	\$156.00	4	\$624
j	access road, 2"asphalt concrete/4"crushed rock, 24'x50'	sq ft	\$2.00	1,200	\$2,400
k	water service, 8"service line	lr ft	\$30.00	100	\$3,000
l	water meter, 2"size	each	\$4,880.00	1	\$4,880
Total construction cost per court				\$66,914	
a	construction sales tax (const)	8.2%		\$5,487	
b	design/engineering fees (const)	12.0%		\$8,030	
c	financing costs (const, tax, design)	8.0%		\$6,434	
d	contingency (const, tax, design, financing)	10.0%		\$8,687	
Total development cost per court				\$95,552	
Football field - 150'x300'					
	unit	unit cost	qnty	qnty cost	
a	clear field, structures, parking, access road	acre	\$1,520.00	2	\$3,040
b	earthwork, 1'depth	cu yd	\$7.00	1,667	\$11,667
c	playing surface, grass turf/12" sand w/subdrain	sq ft	\$4.50	45,000	\$202,500
d	irrigation system-quick coupler	sq ft	\$0.45	45,000	\$20,250
e	spectator stands, movable metal (40 seats)	each	\$6,500.00	4	\$26,000
f	restroom facility, sani-can on concrete platform	each	\$1,044.00	2	\$2,088
g	trash receptacles w/conc support	each	\$800.00	2	\$1,600
h	drinking fountain	each	\$2,000.00	1	\$2,000
i	bike rack, prefab galvanized pipe	each	\$950.00	1	\$950
j	parking, 2"asphalt concrete/4"crushed rock, 50 spaces	sq ft	\$3.00	15,000	\$45,000
k	wheel stops, 10"x6"x8'precast concrete	each	\$156.00	50	\$7,800
l	access road, 2"asphalt concrete/4"crushed rock, 24'x200'	sq ft	\$2.00	4,800	\$9,600
m	water service, 8"service line	lr ft	\$30.00	500	\$15,000
n	water meter, 2"size	each	\$4,880.00	1	\$4,880
Total construction cost per field				\$352,375	
a	construction sales tax (const)	8.2%		\$28,895	
b	design/engineering fees (const)	12.0%		\$42,285	
c	financing costs (const, tax, design)	8.0%		\$33,884	
d	contingency (const, tax, design, financing)	10.0%		\$45,744	
Total development cost per field				\$503,183	
Soccer field - 240'x330' with grass turf					
	unit	unit cost	qnty	qnty cost	
a	clear field, structures, parking, access road	acre	\$1,520.00	2.1	\$3,192
b	earthwork for field, structures, parking, road	cu yd	\$7.00	5,094	\$35,658
c	playing surface, grass turf/12"sand w/subdrain	sq ft	\$4.50	79,200	\$356,400
d	irrigation system-quick coupler	sq ft	\$0.45	79,200	\$35,640
e	spectator stands, movable metal (50 seats)	each	\$6,500.00	2	\$13,000
f	trash receptacles w/conc support	each	\$800.00	2	\$1,600
g	drinking fountain	each	\$2,000.00	1	\$2,000
h	restroom facility, sani-can w/conc platform	each	\$1,044.00	2	\$2,088
i	bike rack, prefab galvanized pipe	each	\$950.00	1	\$950
j	parking, 2"asphalt concrete/4"crushed rock, 50 spaces	sq ft	\$3.00	15,000	\$45,000
k	wheel stops, 10"x6"x8'precast concrete	each	\$156.00	50	\$7,800
l	access road, 2"asphalt concrete/4"crushed rock, 24'x200'	sq ft	\$2.00	4,800	\$9,600
m	water service, 8"service line	lr ft	\$30.00	500	\$15,000
n	water meter, 2"size	each	\$4,880.00	1	\$4,880
Total construction cost per field				\$532,808	
a	construction sales tax (const)	8.2%		\$43,690	
b	design/engineering fees (const)	12.0%		\$63,937	
c	financing costs (const, tax, design)	8.0%		\$51,235	
d	contingency (const, tax, design, financing)	10.0%		\$69,167	
Total development cost per field				\$760,837	

Soccer field - 240'x330' with dirt surface					
	unit	unit cost	qnty	qnty cost	
a	clear field, structures, parking, access road	acre	\$1,520.00	2.1	\$3,192
b	earthwork for field, structures, parking, road	cu yd	\$7.00	5,094	\$35,658
c	playing surface, cinder w/subdrain	sq ft	\$0.25	79,200	\$19,800
d	spectator stands, movable metal (50 seats)	each	\$6,500.00	2	\$13,000
e	trash receptacles w/conc support	each	\$800.00	2	\$1,600
f	drinking fountain	each	\$2,000.00	1	\$2,000
g	restroom facility, sani-can w/conc platform	each	\$1,044.00	2	\$2,088
h	bike rack, prefab galvanized pipe	each	\$950.00	1	\$950
i	parking, 2"asphalt concrete/4"crushed rock, 50 spaces	sq ft	\$3.00	15,000	\$45,000
j	wheel stops, 10"x6"x8'precast concrete	each	\$156.00	50	\$7,800
k	access road, 2"asphalt concrete/4"crushed rock, 24'x200'	sq ft	\$2.00	4,800	\$9,600
l	water service, 8"service line	lr ft	\$30.00	500	\$15,000
m	water meter, 2"size	each	\$4,880.00	1	\$4,880
Total construction cost per field				\$160,568	
a	construction sales tax (const)	8.2%		\$13,167	
b	design/engineering fees (const)	12.0%		\$19,268	
c	financing costs (const, tax, design)	8.0%		\$15,440	
d	contingency (const, tax, design, financing)	10.0%		\$20,844	
Total development cost per field				\$229,287	

Soccer field - regulation 300'x390' with grass and lights					
	unit	unit cost	qnty	qnty cost	
a	clear field, structures, parking, access road	acre	\$1,520.00	3.1	\$4,712
b	earthwork for field, structures, parking, road	cu yd	\$7.00	5,094	\$35,658
c	playing surface, grass turf/12"sand w/subdrain	sq ft	\$4.50	117,000	\$526,500
d	irrigation system-quick coupler	sq ft	\$0.45	117,000	\$52,650
e	lighting system, 8 poles w/luminaires	system	\$92,300.00	1	\$92,300
f	goal posts, galvanized pipe	each	\$2,500.00	2	\$5,000
g	spectator stands, movable metal (50 seats)	each	\$6,500.00	4	\$26,000
h	trash receptacles w/conc support	each	\$800.00	2	\$1,600
i	drinking fountain	each	\$2,000.00	1	\$2,000
j	restroom facility, sani-can w/conc platform	each	\$1,044.00	2	\$2,088
k	bike rack, prefab galvanized pipe	each	\$950.00	1	\$950
l	parking, 2"asphalt concrete/4"crushed rock, 50 spaces	sq ft	\$3.00	15,000	\$45,000
m	wheel stops, 10"x6"x8'precast concrete	each	\$156.00	50	\$7,800
n	access road, 2"asphalt concrete/4"crushed rock, 24'x200'	sq ft	\$2.00	4,800	\$9,600
o	water service, 8"service line	lr ft	\$30.00	500	\$15,000
p	water meter, 2"size	each	\$4,880.00	1	\$4,880
Total construction cost per field				\$831,738	
a	construction sales tax (const)	8.2%		\$68,203	
b	design/engineering fees (const)	12.0%		\$99,809	
c	financing costs (const, tax, design)	8.0%		\$79,980	
d	contingency (const, tax, design, financing)	10.0%		\$107,973	
Total development cost per field				\$1,187,702	

Soccer field - regulation 300'x390' with dirt surface					
	unit	unit cost	qnty	qnty cost	
a	clear field, structures, parking, access road	acre	\$1,520.00	3.1	\$4,712
b	earthwork for field, structures, parking, road	cu yd	\$7.00	5,094	\$35,658
c	playing surface, cinder w/subdrain	sq ft	\$0.25	117,000	\$29,250
d	goal posts, galvanized pipe	each	\$2,500.00	2	\$5,000
e	spectator stands, movable metal (50 seats)	each	\$6,500.00	4	\$26,000
f	trash receptacles w/conc support	each	\$800.00	2	\$1,600
g	drinking fountain	each	\$2,000.00	1	\$2,000
h	restroom facility, sani-can w/conc platform	each	\$1,044.00	2	\$2,088
i	bike rack, prefab galvanized pipe	each	\$950.00	1	\$950
j	parking, 2"asphalt concrete/4"crushed rock, 50 spaces	sq ft	\$3.00	15,000	\$45,000
k	wheel stops, 10"x6"x8'precast concrete	each	\$156.00	50	\$7,800
l	access road, 2"asphalt concrete/4"crushed rock, 24'x200'	sq ft	\$2.00	4,800	\$9,600
m	water service, 8"service line	lr ft	\$30.00	500	\$15,000
n	water meter, 2"size	each	\$4,880.00	1	\$4,880
Total construction cost per field				\$189,538	
a	construction sales tax (const)	8.2%		\$15,542	
b	design/engineering fees (const)	12.0%		\$22,745	
c	financing costs (const, tax, design)	8.0%		\$18,226	
d	contingency (const, tax, design, financing)	10.0%		\$24,605	
Total development cost per field				\$270,656	

Baseball field - 200' with grass turf					
	unit	unit cost	qnty	qnty cost	
a	clear field, structures, parking, access road	acre	\$1,520.00	1.2	\$1,824
b	earthwork for field, structures, parking, road	cu yd	\$7.00	2,586	\$18,102
c	infield mix w/subdrain	cu yd	\$34.00	133	\$4,533
d	outfield, grass turf/12" sand w/subdrain	sq ft	\$4.50	36,400	\$163,800
e	irrigation system-quick coupler	sq ft	\$0.45	36,400	\$16,380
f	backstop, 3"pipe posts w/supports, 2"chain link	each	\$7,400.00	1	\$7,400
g	players bench, 8"x8"x10'wood beams w/conc support	each	\$925.00	4	\$3,700
h	spectator stands, movable metal (50 seats)	each	\$6,500.00	2	\$13,000
i	trash receptacles w/conc support	each	\$800.00	2	\$1,600
j	drinking fountain	each	\$2,000.00	1	\$2,000
k	restroom facility, sani-can w/conc platform	sq ft	\$1,044.00	2	\$2,088
l	bike rack, prefab galvanized pipe	each	\$950.00	1	\$950
m	parking, 2"asphalt concrete/4"crushed rock, 35 spaces	sq ft	\$1.90	10,500	\$19,950
n	wheel stops, 10"x6"x8'precast concrete	each	\$156.00	35	\$5,460
o	access road, 2"asphalt concrete/4"crushed rock, 24'x200'	sq ft	\$2.00	4,800	\$9,600
p	water service, 8"service line	lr ft	\$30.00	500	\$15,000
q	water meter, 2"size	each	\$4,880.00	1	\$4,880
Total construction cost per field					\$290,267
a	construction sales tax (const)	8.2%			\$23,802
b	design/engineering fees (const)	12.0%			\$34,832
c	financing costs (const, tax, design)	8.0%			\$27,912
d	contingency (const, tax, design, financing)	10.0%			\$37,681
Total development cost per field					\$414,495

Baseball field - 200' with dirt surface					
	unit	unit cost	qnty	qnty cost	
a	clear field, structures, parking, access road	acre	\$1,520.00	1.2	\$1,824
b	earthwork for field, structures, parking, road	cu yd	\$7.00	2,586	\$18,102
c	infield mix w/subdrain	cu yd	\$34.00	133	\$4,533
d	backstop, 3"pipe posts w/supports, 2"chain link	each	\$7,400.00	1	\$7,400
e	players bench, 8"x8"x10'wood beams w/conc support	each	\$925.00	4	\$3,700
f	spectator stands, movable metal (50 seats)	each	\$6,500.00	2	\$13,000
g	trash receptacles w/conc support	each	\$800.00	2	\$1,600
h	drinking fountain	each	\$2,000.00	1	\$2,000
i	restroom facility, sani-can w/conc platform	sq ft	\$1,044.00	2	\$2,088
j	bike rack, prefab galvanized pipe	each	\$950.00	1	\$950
k	parking, 2"asphalt concrete/4"crushed rock, 35 spaces	sq ft	\$3.00	10,500	\$31,500
l	wheel stops, 10"x6"x8'precast concrete	each	\$156.00	35	\$5,460
m	access road, 2"asphalt concrete/4"crushed rock, 24'x200'	sq ft	\$2.00	4,800	\$9,600
n	water service, 8"service line	lr ft	\$30.00	500	\$15,000
o	water meter, 2"size	each	\$4,880.00	1	\$4,880
Total construction cost per field					\$121,637
a	construction sales tax (const)	8.2%			\$9,974
b	design/engineering fees (const)	12.0%			\$14,596
c	financing costs (const, tax, design)	8.0%			\$11,697
d	contingency (const, tax, design, financing)	10.0%			\$15,790
Total development cost per field					\$173,695

Baseball field - 250' with grass/lights/concession					
	unit	unit cost	qnty	qnty cost	
a	clear field, structures, parking, access road	acre	\$1,520.00	3.1	\$4,712
b	earthwork for field, structures, parking, road	cu yd	\$7.00	3,700	\$25,900
c	infield mix w/subdrain	cu yd	\$34.00	300	\$10,200
d	outfield, grass turf/12" sand w/subdrain	sq ft	\$4.50	44,700	\$201,150
e	irrigation system-quick coupler	sq ft	\$0.45	44,700	\$20,115
f	lighting system, 8 poles w/luminaires	system	\$92,300.00	1	\$92,300
g	backstop, 3"pipe posts w/supports, 2"chain link	each	\$7,400.00	1	\$7,400
h	players bench, 8"x8"x10'wood beams w/conc support	each	\$925.00	4	\$3,700
i	spectator stands, movable metal (50 seats)	each	\$6,500.00	2	\$13,000
j	trash receptacles w/conc support	each	\$800.00	2	\$1,600
k	drinking fountain	each	\$2,000.00	1	\$2,000
l	concession facility, warming and refrigeration	sq ft	\$100.00	250	\$25,000
m	bike rack, prefab galvanized pipe	each	\$950.00	1	\$950
n	parking, 2"asphalt concrete/4"crushed rock, 35 spaces	sq ft	\$3.00	10,500	\$31,500
o	wheel stops, 10"x6"x8'precast concrete	each	\$156.00	35	\$5,460
p	access road, 2"asphalt concrete/4"crushed rock, 24'x200'	sq ft	\$2.00	4,800	\$9,600
q	water service, 8"service line	lr ft	\$30.00	500	\$15,000
r	water meter, 2"size	each	\$4,880.00	1	\$4,880

Total construction cost per field **\$474,467**

a	construction sales tax (const)	8.2%			\$38,906
b	design/engineering fees (const)	12.0%			\$56,936
c	financing costs (const, tax, design)	8.0%			\$45,625
d	contingency (const, tax, design, financing)	10.0%			\$61,593

Total development cost per field **\$677,527**

Baseball field - 250' w/o lights or concession					
	unit	unit cost	qnty	qnty cost	
a	clear field, structures, parking, access road	acre	\$1,520.00	3.1	\$4,712
b	earthwork for field, structures, parking, road	cu yd	\$7.00	3,700	\$25,900
c	infield mix w/subdrain	cu yd	\$34.00	300	\$10,200
d	backstop, 3"pipe posts w/supports, 2"chain link	each	\$7,400.00	1	\$7,400
e	players bench, 8"x8"x10'wood beams w/conc support	each	\$925.00	4	\$3,700
f	spectator stands, movable metal (50 seats)	each	\$6,500.00	2	\$13,000
g	trash receptacles w/conc support	each	\$800.00	2	\$1,600
h	drinking fountain	each	\$2,000.00	1	\$2,000
i	bike rack, prefab galvanized pipe	each	\$950.00	1	\$950
j	parking, 2"asphalt concrete/4"crushed rock, 35 spaces	sq ft	\$3.00	10,500	\$31,500
k	wheel stops, 10"x6"x8'precast concrete	each	\$156.00	35	\$5,460
l	access road, 2"asphalt concrete/4"crushed rock, 24'x200'	sq ft	\$2.00	4,800	\$9,600
m	water service, 8"service line	lr ft	\$30.00	500	\$15,000
n	water meter, 2"size	each	\$4,880.00	1	\$4,880

Total construction cost per field **\$135,902**

a	construction sales tax (const)	8.2%			\$11,144
b	design/engineering fees (const)	12.0%			\$16,308
c	financing costs (const, tax, design)	8.0%			\$13,068
d	contingency (const, tax, design, financing)	10.0%			\$17,642

Total development cost per field **\$194,065**

Baseball field - 300' w/grass/lights/concession					
	unit	unit cost	qnty	qnty cost	
a	clear field, structures, parking, access road	acre	\$1,520.00	3.5	\$5,320
b	earthwork for field, structures, parking, road	cu yd	\$7.00	4,000	\$28,000
c	infield mix w/subdrain	cu yd	\$34.00	296	\$10,074
d	outfield, grass turf/12" sand w/subdrain	sq ft	\$4.50	38,000	\$171,000
e	irrigation system-quick coupler	sq ft	\$0.45	45,000	\$20,250
f	lighting system, 8 poles w/luminaires	system	\$92,300.00	1	\$92,300
g	backstop, 3"pipe posts w/supports, 2"chain link	each	\$7,400.00	1	\$7,400
h	players bench, 8"x8"x10'wood beams w/conc support	each	\$925.00	4	\$3,700
i	spectator stands, movable metal (50 seats)	each	\$6,500.00	2	\$13,000
j	trash receptacles w/conc support	each	\$800.00	2	\$1,600
k	drinking fountain	each	\$2,000.00	1	\$2,000
l	concession facility, warming and refrigeration w/pa system	sq ft	\$100.00	250	\$25,000
m	bike rack, prefab galvanized pipe	each	\$950.00	1	\$950
n	parking, 2"asphalt concrete/4"crushed rock, 50 spaces	sq ft	\$3.00	15,000	\$45,000
o	wheel stops, 10"x6"x8'precast concrete	each	\$156.00	35	\$5,460
p	access road, 2"asphalt concrete/4"crushed rock, 24'x200'	sq ft	\$2.00	4,800	\$9,600
q	water service, 8"service line	lr ft	\$30.00	500	\$15,000
r	water meter, 2"size	each	\$4,880.00	1	\$4,880

Total construction cost per field \$460,534

a	construction sales tax (const)	8.2%			\$37,764
b	design/engineering fees (const)	12.0%			\$55,264
c	financing costs (const, tax, design)	8.0%			\$44,285
d	contingency (const, tax, design, financing)	10.0%			\$59,785

Total development cost per field \$657,632

Baseball field - 300' w/dirt w/o lights/concession					
	unit	unit cost	qnty	qnty cost	
a	clear field, structures, parking, access road	acre	\$1,520.00	3.5	\$5,320
b	earthwork for field, structures, parking, road	cu yd	\$7.00	4,000	\$28,000
c	infield mix w/subdrain	cu yd	\$34.00	296	\$10,074
d	backstop, 3"pipe posts w/supports, 2"chain link	each	\$7,400.00	1	\$7,400
e	players bench, 8"x8"x10'wood beams w/conc support	each	\$925.00	4	\$3,700
f	spectator stands, movable metal (50 seats)	each	\$6,500.00	2	\$13,000
g	trash receptacles w/conc support	each	\$800.00	2	\$1,600
h	drinking fountain	each	\$2,000.00	1	\$2,000
i	bike rack, prefab galvanized pipe	each	\$950.00	1	\$950
j	parking, 2"asphalt concrete/4"crushed rock, 50 spaces	sq ft	\$3.00	15,000	\$45,000
k	wheel stops, 10"x6"x8'precast concrete	each	\$156.00	35	\$5,460
l	access road, 2"asphalt concrete/4"crushed rock, 24'x200'	sq ft	\$2.00	4,800	\$9,600
m	water service, 8"service line	lr ft	\$30.00	500	\$15,000
n	water meter, 2"size	each	\$4,880.00	1	\$4,880

Total construction cost per field \$151,984

a	construction sales tax (const)	8.2%			\$12,463
b	design/engineering fees (const)	12.0%			\$18,238
c	financing costs (const, tax, design)	8.0%			\$14,615
d	contingency (const, tax, design, financing)	10.0%			\$19,730

Total development cost per field \$217,030

Softball field - 200-300' w/grass/lights/concession					
	unit	unit cost	qnty	qnty cost	
a	clear field, structures, parking, access road	acre	\$1,520.00	0.8	\$1,216
b	earthwork for field, structures, parking, road	cu yd	\$7.00	1,335	\$9,345
c	infield mix w/subdrain	cu yd	\$34.00	150	\$5,100
d	outfield, grass turf/12" sand w/subdrain	sq ft	\$4.50	15,950	\$71,775
e	irrigation system-quick coupler	sq ft	\$0.45	15,950	\$7,178
f	lighting system, 5 poles w/luminaires	system	\$57,700.00	1	\$57,700
g	backstop, 3"pipe posts w/supports, 2"chain link	each	\$7,400.00	1	\$7,400
h	players bench, 8"x8"x10'wood beams w/conc support	each	\$925.00	4	\$3,700
i	spectator stands, movable metal (50 seats)	each	\$6,500.00	2	\$13,000
j	trash receptacles w/conc support	each	\$800.00	2	\$1,600
k	drinking fountain	each	\$2,000.00	1	\$2,000
l	concession facility, warming and refrigeration	sq ft	\$100.00	250	\$25,000
m	bike rack, prefab galvanized pipe	each	\$950.00	1	\$950
n	parking, 2"asphalt concrete/4"crushed rock, 35 spaces	sq ft	\$3.00	10,500	\$31,500
o	wheel stops, 10"x6"x8'precast concrete	each	\$156.00	35	\$5,460
p	access road, 2"asphalt concrete/4"crushed rock, 24'x200'	sq ft	\$2.00	4,800	\$9,600
q	water service, 8"service line	lr ft	\$30.00	500	\$15,000
r	water meter, 2"size	each	\$4,880.00	1	\$4,880

Total construction cost per field \$272,404

a	construction sales tax (const)	8.2%			\$22,337
b	design/engineering fees (const)	12.0%			\$32,688
c	financing costs (const, tax, design)	8.0%			\$26,194
d	contingency (const, tax, design, financing)	10.0%			\$35,362

Total development cost per field \$388,986

Softball field - 200-300' w/dirt w/o lights/concession					
	unit	unit cost	qnty	qnty cost	
a	clear field, structures, parking, access road	acre	\$1,520.00	0.8	\$1,216
b	earthwork for field, structures, parking, road	cu yd	\$7.00	1,335	\$9,345
c	infield mix w/subdrain	cu yd	\$34.00	150	\$5,100
d	backstop, 3"pipe posts w/supports, 2"chain link	each	\$7,400.00	1	\$7,400
e	players bench, 8"x8"x10'wood beams w/conc support	each	\$925.00	4	\$3,700
f	spectator stands, movable metal (50 seats)	each	\$6,500.00	2	\$13,000
g	trash receptacles w/conc support	each	\$800.00	2	\$1,600
h	drinking fountain	each	\$2,000.00	1	\$2,000
i	bike rack, prefab galvanized pipe	each	\$950.00	1	\$950
j	parking, 2"asphalt concrete/4"crushed rock, 35 spaces	sq ft	\$3.00	10,500	\$31,500
k	wheel stops, 10"x6"x8'precast concrete	each	\$156.00	35	\$5,460
l	access road, 2"asphalt concrete/4"crushed rock, 24'x200'	sq ft	\$2.00	4,800	\$9,600
m	water service, 8"service line	lr ft	\$30.00	500	\$15,000
n	water meter, 2"size	each	\$4,880.00	1	\$4,880

Total construction cost per field \$110,751

a	construction sales tax (const)	8.2%			\$9,082
b	design/engineering fees (const)	12.0%			\$13,290
c	financing costs (const, tax, design)	8.0%			\$10,650
d	contingency (const, tax, design, financing)	10.0%			\$14,377

Total development cost per field \$158,150

Parcourse facility - 5 stations/0.25 mile					
	unit	unit cost	qnty	qnty cost	
a	clear/earthwork parcourse corridor	sq ft	\$0.75	8,070	\$6,053
b	crushed rock, 6"depth, 4'wide, 3/8" minus	sq ft	\$1.00	5,380	\$5,380
c	interpretative signs, 4"x4"cedar framed	each	\$200.00	5	\$1,000
d	bench, 8"x8"x10'wood beams w/conc support	each	\$925.00	2	\$1,850
e	trash receptacles w/concrete support	each	\$800.00	2	\$1,600

Total construction cost per facility \$15,883

a	construction sales tax (const)	8.2%			\$1,302
b	design/engineering fees (const)	12.0%			\$1,906
c	financing costs (const, tax, design)	8.0%			\$1,527
d	contingency (const, tax, design, financing)	10.0%			\$2,062

Total development cost per facility (5 stations) \$22,680

Jogging track - 0.25 mile w/starting spur					
	unit	unit cost	qnty	qnty cost	
a	clear track, parking, access road	acre	\$1,520.00	0.9	\$1,368
b	earthwork for track, parking, access road	cu yd	\$7.00	1,532	\$10,724
c	12'track, 1"rubber/4" Cinder/4"crushed rock	sq ft	\$1.10	18,464	\$20,311
d	bench, 8"x8"x10'wood beams w/conc support	each	\$925.00	2	\$1,850
e	trash receptacles	each	\$800.00	2	\$1,600
f	drinking fountain, precast concrete	each	\$2,000.00	1	\$2,000
g	bike rack, prefab galvanized pipe	each	\$950.00	1	\$950
h	parking, 2"asphalt/4"crushed rock, 10 spaces	sq ft	\$3.00	3,000	\$9,000
i	wheel stops, 10"x6"x8'precast concrete	each	\$156.00	10	\$1,560
j	access road, 2"asphalt/4"crushed rock, 24'x50'	sq ft	\$2.00	1,200	\$2,400
k	water service, 8"service line	lr ft	\$30.00	100	\$3,000
l	water meter, 2"size	each	\$4,880.00	1	\$4,880

Total construction cost per track				\$59,643
a	construction sales tax (const)	8.2%		\$4,891
b	design/engineering fees (const)	12.0%		\$7,157
c	financing costs (const, tax, design)	8.0%		\$5,735
d	contingency (const, tax, design, financing)	10.0%		\$7,743
Total development cost per track				\$85,168

Picnic site - 25 table capacity w/o shelter					
	unit	unit cost	qnty	qnty cost	
a	clear picnic sites, parking, access road	acre	\$1,520.00	2.3	\$3,496
b	earthwork for sites, parking, access road	cu yd	\$7.00	3,748	\$26,236
c	picnic tables and benches, 4"x6"wood beams w/conc support	each	\$2,100.00	25	\$52,500
d	barbecue stand, metal with iron grill	each	\$300.00	12	\$3,600
e	group barbecue, 3'x8' concrete w/iron grill	each	\$900.00	2	\$1,800
f	trash receptacle, galvanized metal can w/holder	each	\$800.00	12	\$9,600
g	drinking fountain	each	\$2,000.00	2	\$4,000
h	parking, 2"asphalt concrete/4" crushed rock (50 cars)	sq ft	\$3.00	15,000	\$45,000
i	wheel stops, 10"x6"x8'precast concrete	each	\$156.00	50	\$7,800
j	access road, 2"asphalt concrete/4"crushed rock, 24'x1,000'	sq ft	\$2.00	24,000	\$48,000
k	water service, 8"service line	lr ft	\$30.00	1,000	\$30,000
l	water meter, 2"size	each	\$4,880.00	1	\$4,880

Total construction cost for 25 tables				\$236,912
a	construction sales tax (const)	8.2%		\$19,427
b	design/engineering fees (const)	12.0%		\$28,429
c	financing costs (const, tax, design)	8.0%		\$22,781
d	contingency (const, tax, design, financing)	10.0%		\$30,755
Total development cost for 25 tables				\$338,305
Prorated per table				\$13,532

Picnic site - shelter					
	unit	unit cost	qnty	qnty cost	
a	picnic shelter (20'x30'), cedar pole w/shake roof	each	\$27,000.00	2	\$54,000
Total construction cost for 25 tables				\$54,000	
b	construction sales tax (const)	8.2%		\$4,428	
c	design/engineering fees (const)	12.0%		\$6,480	
d	financing costs (const, tax, design)	8.0%		\$5,193	
e	contingency (const, tax, design, financing)	10.0%		\$7,010	
Total development cost for 1 shelter				\$77,111	
Prorated per shelter				\$38,555	

Swimming beach - 100 swimmer capacity					
	unit	unit cost	qnty	qnty cost	
a	clear site for improvements	acre	\$1,520.00	0.3	\$456
b	earthwork for site improvements	cu yd	\$7.00	511	\$3,577
c	beach sand, 6"depth of area 200'x50'	cu yd	\$20.00	200	\$4,000
d	safety markers, pilings w/nylon ropes and buoys	each	\$1,100.00	4	\$4,400
e	diving/swimming platform, 2"x6"wood over buoys	sq ft	\$28.00	80	\$2,240
f	lifeguard stand, 8"cedar poles w/2"x4"framing	each	\$1,400.00	1	\$1,400
g	exterior shower facilities	each	\$1,200.00	1	\$1,200
h	drinking fountain	each	\$2,000.00	1	\$2,000
i	restroom/changing facility, 6 stalls w/4 sinks	sq ft	\$100.00	600	\$60,000
j	parking, 2"asphalt concrete/4" crushed rock (40 cars)	sq ft	\$3.00	12,000	\$36,000
k	wheel stops, 10"x6"x8'precast concrete	each	\$156.00	30	\$4,680
l	access road, 2"asphalt concrete/4"crushed rock, 24'x200'	sq ft	\$2.00	4,800	\$9,600
m	water service, 8"service line	lr ft	\$30.00	400	\$12,000
n	sewer line, 8"service line	lr ft	\$17.00	400	\$6,800
o	fire hydrants	each	\$2,675.00	1	\$2,675
p	water meter, 2" size	each	\$4,880.00	1	\$4,880
q	trash receptacles	each	\$800.00	4	\$3,200

Total construction cost per site **\$159,108**

a	construction sales tax (const)	8.2%			\$13,047
b	design/engineering fees (const)	12.0%			\$19,093
c	financing costs (const, tax, design)	8.0%			\$15,300
d	contingency (const, tax, design, financing)	10.0%			\$20,655

Total development cost per site **\$227,202**

Prorated per parking space (2.5 swimmers/car=40 spaces) **\$5,680**

Fishing from a bank or dock - 25 car capacity					
	unit	unit cost	qnty	qnty cost	
a	clear site improvements	acre	\$1,520.00	0.3	\$380
b	earthwork for site improvements	cu yd	\$7.00	550	\$3,850
c	pier supported dock, treated wood 12'x100'	sq ft	\$50.00	1,200	\$60,000
d	fishing platform, treated wood/styrofoam 12'x20'	sq ft	\$32.00	240	\$7,680
e	parking, 2"asphalt concrete/4"crushed rock - 25 spaces	sq ft	\$3.00	7,500	\$22,500
f	wheel stops, 10"x6"x8'precast concrete	each	\$156.00	25	\$3,900
g	access road, 2"asphalt concrete/4"crushed rock, 24'x200'	sq ft	\$2.00	4,800	\$9,600
h	picnic tables and benches, 4'x6"wood beams w/concrete platform	each	\$2,100.00	8	\$16,800
i	restroom facility, sanican w/concrete platform	each	\$1,044.00	2	\$2,088
j	trash receptacles w/concrete support	each	\$800.00	2	\$1,600

Total construction cost per site **\$128,398**

a	construction sales tax (const)	8.2%			\$10,529
b	design/engineering fees (const)	12.0%			\$15,408
c	financing costs (const, tax, design)	8.0%			\$12,347
d	contingency (const, tax, design, financing)	10.0%			\$16,668

Total development cost per facility **\$183,349**

Prorated per parking space **\$7,334**

Boat launch - 25 boat capacity					
	unit	unit cost	qnty	qnty cost	
a	clear site improvements	acre	\$1,520.00	0.4	\$532
b	earthwork for site improvements	cu yd	\$7.00	2,400	\$16,800
c	boat access ramp, precast concrete ramp units	each	\$17,500.00	1	\$17,500
d	mooring platform, treated wood/styrofoam	sq ft	\$32.00	400	\$12,800
e	bank stablization/landscape plantings	each	\$7,200.00	1	\$7,200
f	marker buoys and signage	each	\$250.00	4	\$1,000
g	car/trailer parking, 2"asphalt concrete/4"crushed rock	sq ft	\$3.00	12,500	\$37,500
h	wheel stops, 10"x6"x8'precast concrete	each	\$156.00	25	\$3,900
i	access road, 2"asphalt concrete/4"crushed rock, 24'x200'	sq ft	\$2.00	4,800	\$9,600
j	trash receptacles	each	\$800.00	2	\$1,600

Total construction cost per site **\$108,432**

a	construction sales tax (const)	8.2%			\$8,891
b	design/engineering fees (const)	12.0%			\$13,012
c	financing costs (const, tax, design)	8.0%			\$10,427
d	contingency (const, tax, design, financing)	10.0%			\$14,076

Total development cost per ramp **\$154,838**

Prorated per boat trailer parking stall **\$6,194**

Handboat launch - 10 car capacity					
	unit	unit cost	qnty	qnty cost	
a	clear site improvements	acre	\$1,520.00	0.3	\$380
b	earthwork for site improvements/launching ramp	cu yd	\$7.00	2,400	\$16,800
c	concrete launching ramp	each	\$17,500.00	1	\$17,500
d	launching platform, treated wood/styrofoam 10'x20'	sq ft	\$32.00	200	\$6,400
e	landscape/bank stabilization plantings	each	\$7,200.00	1	\$7,200
f	parking, 2"asphalt concrete/4"crushed rock - 10 spaces	sq ft	\$3.00	3,000	\$9,000
g	wheel stops, 10"x6"x8'precast concrete	each	\$156.00	10	\$1,560
h	access road, 2"asphalt concrete/4"crushed rock, 24'x100'	sq ft	\$2.00	2,400	\$4,800
i	restroom facility, sanican w/concrete platform	each	\$1,044.00	2	\$2,088
j	trash receptacles w/concrete support	each	\$800.00	2	\$1,600
Total construction cost per site				\$67,328	
a	construction sales tax (const)	8.2%		\$5,521	
b	design/engineering fees (const)	12.0%		\$8,079	
c	financing costs (const, tax, design)	8.0%		\$6,474	
d	contingency (const, tax, design, financing)	10.0%		\$8,740	
Total development cost per facility				\$96,143	
Prorated per parking space				\$9,614	
Tent camping - 25 campsite capacity					
	unit	unit cost	qnty	qnty cost	
a	clear camping area, parking, access road	acre	\$1,520.00	5.6	\$8,512
b	earthwork in camping area, parking, access road	cu yd	\$7.00	9,157	\$64,099
c	campsite parking, 2"asphalt concrete/4"crushed rock	sq ft	\$3.00	20,000	\$60,000
d	picnic tables and benches, 4"x6"wood beams w/conc support	each	\$2,100.00	25	\$52,500
e	barbecue pits, concrete with iron grill	each	\$300.00	25	\$7,500
f	camp shelter (10'x6'), cedar pole w/shake roof	each	\$2,700.00	25	\$67,500
g	trash receptacle, galvanized can w/4"x4" post	each	\$800.00	25	\$20,000
h	restroom/showering fclty, 6 stalls/4 sinks/4 show	sq ft	\$100.00	850	\$85,000
i	camp directory signs, 4'x4"cedar pole framed	each	\$200.00	20	\$4,000
j	access road, 6"crushed rock, 24'x5,380'	sq ft	\$2.00	129,120	\$258,240
k	water service, 8"service line	lr ft	\$30.00	5,380	\$161,400
l	sewage disposal, campgrnd septic tank drainfield	each	\$20,000.00	1	\$20,000
m	fire hydrant	each	\$2,675.00	1	\$2,675
n	water meter, 2"size	each	\$4,880.00	1	\$4,880
Total construction cost for 25 campsites				\$816,306	
a	construction sales tax (const)	8.2%		\$66,937	
b	design/engineering fees (const)	12.0%		\$97,957	
c	financing costs (const, tax, design)	8.0%		\$78,496	
d	contingency (const, tax, design, financing)	10.0%		\$105,970	
Total development cost for 25 campsites				\$1,165,665	
Prorated per campsite				\$46,627	
Group daycamping facility - 100 person capacity					
	unit	unit cost	qnty	qnty cost	
a	clear camping site, parking, access road	acre	\$1,520.00	3.1	\$4,712
b	earthwork for sites, parking, access road	cu yd	\$7.00	5,134	\$35,938
c	group campfire/amphitheater, wood stage/benches	each	\$26,200.00	1	\$26,200
d	camp directory signs, 4'x4"cedar pole framed	each	\$200.00	20	\$4,000
e	group cooking, 4'x12' concrete w/iron grill	each	\$1,800.00	2	\$3,600
f	eating shelter (30'x30'), cedar pole w/shake roof	sq ft	\$45.00	900	\$40,500
g	picnic tables and benches, 4"x6"wood beams w/conc support	each	\$2,100.00	25	\$52,500
h	trash bin, metal dumpster w/wood fence screen	each	\$1,500.00	3	\$4,500
i	restroom facility, 6 stalls w/4 sinks	sq ft	\$100.00	600	\$60,000
j	drinking fountain	each	\$2,000.00	1	\$2,000
k	parking, 2"asphalt concrete/4"crushed rock, 50 cars	sq ft	\$3.00	15,000	\$45,000
l	wheel stops, 10"x6"x8'precast concrete	each	\$156.00	50	\$7,800
m	access road, 2"asphalt concrete/4"crushed rock, 24'x1,000'	sq ft	\$2.00	24,000	\$48,000
n	water service, 8"service line	lr ft	\$30.00	1,000	\$30,000
o	sewage disposal, septic tank w/drainfield	system	\$20,000.00	1	\$20,000
p	fire hydrant	each	\$2,675.00	1	\$2,675
q	water meter, 2"size	each	\$4,880.00	1	\$4,880
Total construction cost per group camp				\$392,305	
a	construction sales tax (const)	8.2%		\$32,169	
b	design/engineering fees (const)	12.0%		\$47,077	
c	financing costs (const, tax, design)	8.0%		\$37,724	
d	contingency (const, tax, design, financing)	10.0%		\$50,927	
Total development cost per group camp				\$560,202	
Prorated per person				\$5,602	

Recreational vehicle camping - 25 campsites capacity					
	unit	unit cost	qnty	qnty cost	
a	clear campsites, parking, access road	acre	\$1,520.00	10.1	\$15,352
b	earthwork for campsites, parking, access road	cu yd	\$7.00	16,460	\$115,220
c	campsites parking, 2"asphalt concrete/4"crushed rock	sq ft	\$3.00	30,000	\$90,000
d	picnic tables and benches, 4"x6"wood beams w/conc support	each	\$2,100.00	25	\$52,500
e	barbecue pits, concrete with iron grill	each	\$300.00	25	\$7,500
f	drinking fountain	each	\$2,000.00	1	\$2,000
g	trash receptacle, galvanized can w/4"x4" post	each	\$800.00	25	\$20,000
h	sanitary dump facility, 2 stalls	each	\$18,000.00	1	\$18,000
i	camp directory signs, 4"x4"cedar pole framed	each	\$200.00	20	\$4,000
j	access road, 2"asphalt concrete/4"crushed rock, 24'x8,070'	sq ft	\$2.00	193,680	\$387,360
k	water service, 3"service line	lr ft	\$13.50	8,070	\$108,945
l	water meter, 2"size	each	\$4,880.00	1	\$4,880
Total construction cost for 25 campsites				\$825,757	
a	construction sales tax (const)	8.2%			\$67,712
b	design/engineering fees (const)	12.0%			\$99,091
c	financing costs (const, tax, design)	8.0%			\$79,405
d	contingency (const, tax, design, financing)	10.0%			\$107,196
Total development cost for 25 campsites				\$1,179,161	
Prorated per campsite				\$47,166	
Outdoor swim pool - 75'x42'=3,150 sf/294 person capacity					
	unit	unit cost	qnty	qnty cost	
a	clear pool area, deck, parking, access road	acre	\$1,520.00	1.1	\$1,672
b	earthwork, 1'depth except pool @5'depth	cu yd	\$7.00	2,370	\$16,590
c	diving area, 1 meter board capacity = 3 in pool + 9 in line/board/10'radius = 12 divers/board	sq ft	\$41.00	628	\$25,748
d	swimming area, 50'x42' less diving area reqmnt capacity = 27 sq ft/swimmer with 75% of swimmers in pool = 54 in pool + 18 on deck = 72 swimmers	sq ft	\$41.00	1,472	\$60,352
e	nonswimming area, 25'x42' capacity = 10 sq ft/person with 50% in pool = 105 in pool + 105 on land = 210 persons	sq ft	\$41.00	1,050	\$43,050
f	pool deck, 10'on sides, 20'on ends, tile/concrete	sq ft	\$4.00	1,590	\$6,360
g	lifeguard stand, galvanized pipe w/2"x4"framing	each	\$700.00	2	\$1,400
h	drinking fountain	each	\$2,000.00	1	\$2,000
i	locker/shower facility, 20 showers w/50 lockers	sq ft	\$100.00	1,000	\$100,000
j	restroom facility, 10 stalls w/6 sinks	sq ft	\$100.00	1,000	\$100,000
k	concession facility, grill and refrigeration	sq ft	\$100.00	250	\$25,000
l	bike rack, prefab galvanized pipe	each	\$950.00	3	\$2,850
m	parking, 2"asphalt concrete/4"crushed rock, 128 spaces 2.5 swimmers/car = 118 cars + 10 employees = 128	sq ft	\$3.00	38,400	\$115,200
n	wheel stops, 10"x6"x8'precast concrete	each	\$156.00	128	\$19,968
o	access road, 2"asphalt concrete/4"crushed rock, 24'x250'	sq ft	\$2.00	6,000	\$12,000
p	water service, 8"service line	lr ft	\$30.00	400	\$12,000
q	sewer service, 8"side sewer	lr ft	\$17.00	400	\$6,800
r	fire hydrant	each	\$2,675.00	1	\$2,675
s	water meter, 8"size	each	\$19,520.00	1	\$19,520
t	chainlink perimeter fence, 6'	lr ft	\$17.00	317	\$5,389
u	seed grass over 4"topsoil	sq ft	\$0.85	1,564	\$1,329
Total construction cost for 294 swimmers				\$579,903	
a	construction sales tax (const)	8.2%			\$47,552
b	design/engineering fees (const)	12.0%			\$69,588
c	financing costs (const, tax, design)	8.0%			\$55,764
d	contingency (const, tax, design, financing)	10.0%			\$75,281
Total development cost for 294 swimmers/3,150 sq ft pool				\$828,088	
Prorated per square foot of total pool				\$263	

Indoor swim pool - 75'x42'=3,150 sf/294 person capacity					
	unit	unit cost	qnty	qnty cost	
a	clear pool area, deck, parking, access road	acre	\$1,520.00	1.1	\$1,672
b	earthwork, 1'depth except pool @5'depth	cu yd	\$7.00	2,370	\$16,590
c	diving area, 1 meter board	sq ft	\$41.00	628	\$25,748
	capacity = 3 in pool + 9 in line/board/10'radius = 12 divers/board				
d	swimming area, 50'x42' less diving area reqmnt capacity = 27 sq ft/swimmer with 75% of swimmers in pool = 54 in pool + 18 on deck = 72 swimmers	sq ft	\$41.00	1,472	\$60,352
e	nonswimming area, 25'x42' capacity = 10 sq ft/person with 50% in pool = 105 in pool + 105 on land = 210 persons	sq ft	\$41.00	1,050	\$43,050
f	pool deck, 10'on sides, 20'on ends, tile/concrete	sq ft	\$4.00	1,590	\$6,360
g	enclosed structure for pools et.al.	sq ft	\$60.00	4,740	\$284,400
h	lifeguard stand, galvanized pipe w/2"x4"framing	each	\$700.00	2	\$1,400
i	drinking fountain	each	\$2,000.00	1	\$2,000
j	locker/shower facility, 20 showers w/50 lockers	sq ft	\$100.00	1,000	\$100,000
k	restroom facility, 10 stalls w/6 sinks	sq ft	\$100.00	1,000	\$100,000
l	concession facility, grill and refrigeration	sq ft	\$100.00	250	\$25,000
m	bike rack, prefab galvanized pipe	each	\$950.00	3	\$2,850
n	parking, 2"asphalt concrete/4"crushed rock, 128 spaces 2.5 swimmers/car = 118 cars + 10 employees = 128	sq ft	\$3.00	38,400	\$115,200
o	wheel stops, 10"x6"x8'precast concrete	each	\$156.00	128	\$19,968
p	access road, 2"asphalt concrete/4"crushed rock, 24'x250'	sq ft	\$2.00	6,000	\$12,000
q	water service, 8"service line	lr ft	\$30.00	400	\$12,000
r	sewer service, 8"side sewer	lr ft	\$17.00	400	\$6,800
s	fire hydrant	each	\$2,675.00	1	\$2,675
t	water meter, 8"size	each	\$19,520.00	1	\$19,520
u	chainlink perimeter fence, 6'	lr ft	\$17.00	317	\$5,389
v	seed grass over 4"topsoil	sq ft	\$0.85	1,564	\$1,329

Total construction cost for 294 swimmers \$864,303

a	construction sales tax (const)	8.2%			\$70,873
b	design/engineering fees (const)	12.0%			\$103,716
c	financing costs (const, tax, design)	8.0%			\$83,111
d	contingency (const, tax, design, financing)	10.0%			\$112,200

Total development cost for 294 swimmers/3,150 sq ft pool) \$1,234,205

Prorated per square foot of total pool \$392

Community center - 250 person capacity					
	unit	unit cost	qnty	qnty cost	
a	clear building site, parking, access road	acre	\$1,520.00	3	\$4,560
b	earthwork for structure, parking, access road	cu yd	\$7.00	1,613	\$11,293
c	gymnasium, 2 full basketball courts	sq ft	\$80.00	11,280	\$902,400
d	racquetball courts	sq ft	\$95.00	3,680	\$349,600
e	kitchen facility	sq ft	\$75.00	360	\$27,000
f	game/classroom	sq ft	\$65.00	960	\$62,400
g	exercise/aerobics room, 50 persons	sq ft	\$65.00	5,000	\$325,000
h	physical conditioning/hydro/wellness facility	sq ft	\$65.00	2,745	\$178,425
i	office and reception area	sq ft	\$65.00	1,000	\$65,000
j	multipurpose, restroom, locker room, showers	sq ft	\$110.00	3,400	\$374,000
k	bike rack	each	\$950.00	1	\$950
l	parking, 2"asphalt concrete/4"crushed rock, 175 cars	sq ft	\$3.00	52,500	\$157,500
m	wheel stops, 10"x6"x8'precast concrete	each	\$156.00	75	\$11,700
n	access road, 2"asphalt concrete/4"crushed rock, 24'x250'	sq ft	\$2.00	6,000	\$12,000
o	water service, 8"service line	lr ft	\$30.00	400	\$12,000
p	sewage disposal, 8"service line	lr ft	\$17.00	400	\$6,800
q	fire hydrant	each	\$2,675.00	1	\$2,675
r	water meter, 2"size	each	\$4,880.00	1	\$4,880
s	parking lot lighting, 10 poles	system	\$100,400.00	1	\$100,400
t	art sculpture	each	\$5,000.00	1	\$5,000

Total construction cost per center \$2,613,583

a	construction sales tax (const)	8.2%			\$214,314
b	design/engineering fees (const)	12.0%			\$313,630
c	financing costs (const, tax, design)	8.0%			\$251,322
d	contingency (const, tax, design, financing)	10.0%			\$339,285

Total development cost per center \$3,732,134

Prorated per square foot \$131.30

Restroom/support facilities					
	unit	unit cost	qnty	qnty cost	
a	restroom facility, 4 stalls w/2 sinks	sq ft	\$100.00	500	\$50,000
b	sewer service, 8"side sewer	lr ft	\$17.00	500	\$8,500
c	water service, 8"service line	lr ft	\$30.00	500	\$15,000
d	fire hydrant	each	\$2,675.00	1	\$2,675
e	water meter, 2"size	each	\$4,880.00	1	\$4,880
Total construction cost per facility/4 fixtures					\$81,055
a	construction sales tax (const)	8.2%			\$6,647
b	design/engineering fees (const)	12.0%			\$9,727
c	financing costs (const, tax, design)	8.0%			\$7,794
d	contingency (const, tax, design, financing)	10.0%			\$10,522
Total development cost per 4 stall facility					\$115,745

Source: the Beckwith Consulting Group

Appendix G.2: Prototype trail development costs

Multipurpose trail - 8 foot crushed rock (5 miles w/svs)					
	unit	unit cost	qty	qty cost	
a	clear/grade/earthwork along trail corridor - 12' wide	sq ft	\$0.75	322,800	\$242,100
b	crushed rock, rolled to 4", 3/8" minus - 8' wide	sq ft	\$1.00	215,200	\$215,200
c	trail directory, 4"x4"cedar pole framed	each	\$350.00	20	\$7,000
d	trail bench, 8"x8"x10'wood beams w/conc support	each	\$1,900.00	5	\$9,500
e	trash receptacles w/concrete support	each	\$800.00	10	\$8,000
f	restroom facilities, sanican w/concrete platforms	each	\$1,500.00	2	\$3,000
g	parking, 2" asphalt concrete/4"crushed rock (30 cars)	sq ft	\$3.00	9,000	\$27,000
h	wheel stops, 10"x6"x8'precast concrete	each	\$156.00	30	\$4,680
i	access road, 2"asphalt concrete/4"crushed rock, 24'x200'	sq ft	\$2.00	4,800	\$9,600
Total construction cost per 5 miles				\$526,080	
j	construction sales tax (const)	8.2%		\$43,139	
k	design/engineering fees (const)	12.0%		\$63,130	
l	financing costs (const,tax, design)	8.0%		\$50,588	
m	contingency (const, tax, design, financing)	15.0%		\$102,440	
Total development cost per 5 miles				\$785,376	
Prorated per mile				\$157,075	
Multipurpose trail - 8 foot asphalt (5 miles w/svs)					
	unit	unit cost	qty	qty cost	
a	clear/grade/earthwork along trail corridor - 12' wide	sq ft	\$0.75	322,800	\$242,100
b	2"asphalt over 4"crushed rock - 8' wide	sq ft	\$2.50	215,200	\$538,000
c	trail directory, 4"x4"cedar pole framed	each	\$350.00	20	\$7,000
d	trail bench, 8"x8"x10'wood beams w/conc support	each	\$1,900.00	5	\$9,500
e	trash receptacles w/concrete support	each	\$800.00	10	\$8,000
f	restroom facilities, sanican w/concrete platforms	each	\$1,500.00	2	\$3,000
g	parking, 2" asphalt concrete/4"crushed rock (30 cars)	sq ft	\$3.00	9,000	\$27,000
h	wheel stops, 10"x6"x8'precast concrete	each	\$156.00	30	\$4,680
i	access road, 2"asphalt concrete/4"crushed rock, 24'x200'	sq ft	\$2.00	4,800	\$9,600
Total construction cost per 5 miles				\$848,880	
j	construction sales tax (const)	8.2%		\$69,608	
k	design/engineering fees (const)	12.0%		\$101,866	
l	financing costs (const,tax, design)	8.0%		\$81,628	
m	contingency (const, tax, design, financing)	15.0%		\$165,297	
Total development cost per 5 miles				\$1,267,279	
Prorated per mile				\$253,456	
Multipurpose trail - 10 foot crushed rock (5 miles w/svs)					
	unit	unit cost	qty	qty cost	
a	clear/grade/earthwork along trail corridor - 14' wide	sq ft	\$0.75	376,600	\$282,450
b	crushed rock, rolled to 4", 3/8" minus - 10' wide	sq ft	\$1.00	269,000	\$269,000
c	trail directory, 4"x4"cedar pole framed	each	\$350.00	20	\$7,000
d	trail bench, 8"x8"x10'wood beams w/conc support	each	\$1,900.00	5	\$9,500
e	trash receptacles w/concrete support	each	\$800.00	10	\$8,000
f	restroom facilities, sanican w/concrete platforms	each	\$1,500.00	2	\$3,000
g	parking, 2" asphalt concrete/4"crushed rock (30 cars)	sq ft	\$3.00	9,000	\$27,000
h	wheel stops, 10"x6"x8'precast concrete	each	\$156.00	30	\$4,680
i	access road, 2"asphalt concrete/4"crushed rock, 24'x200'	sq ft	\$2.00	4,800	\$9,600
Total construction cost per 5 miles				\$620,230	
j	construction sales tax (const)	8.2%		\$50,859	
k	design/engineering fees (const)	12.0%		\$74,428	
l	financing costs (const,tax, design)	8.0%		\$59,641	
m	contingency (const, tax, design, financing)	15.0%		\$120,774	
Total development cost per 5 miles				\$925,931	
Prorated per mile				\$185,186	

Multipurpose trail - 10 foot asphalt (5 miles w/svs)					
	unit	unit cost	qty	qty cost	
a	clear/grade/earthwork along trail corridor - 14' wide	sq ft	\$0.75	376,600	\$282,450
b	2"asphalt over 4"crushed rock - 10' wide	sq ft	\$2.50	269,000	\$672,500
c	trail directory, 4"x4"cedar pole framed	each	\$350.00	20	\$7,000
d	trail bench, 8"x8"x10'wood beams w/conc support	each	\$1,900.00	5	\$9,500
e	trash receptacles w/concrete support	each	\$800.00	10	\$8,000
f	restroom facilities, sanican w/concrete platforms	each	\$1,500.00	2	\$3,000
g	parking, 2" asphalt concrete/4"crushed rock (30 cars)	sq ft	\$3.00	9,000	\$27,000
h	wheel stops, 10"x6"x8'precast concrete	each	\$156.00	30	\$4,680
i	access road, 2"asphalt concrete/4"crushed rock, 24'x200'	sq ft	\$2.00	4,800	\$9,600
Total construction cost per 5 miles				\$1,023,730	
j	construction sales tax (const)	8.2%		\$83,946	
k	design/engineering fees (const)	12.0%		\$122,848	
l	financing costs (const,tax, design)	8.0%		\$98,442	
m	contingency (const, tax, design, financing)	15.0%		\$199,345	
Total development cost per 5 miles				\$1,528,310	
Prorated per mile				\$305,662	

Park walk trail class 1 - crushed rock (1 mile w/o svcs)					
	unit	unit cost	qty	qty cost	
a	clear/grade/earthwork trail corridor - 10' wide	sq ft	\$0.75	53,800	\$40,350
b	crushed rock, 6"depth, 3/8" minus - 6' wide	sq ft	\$1.10	32,280	\$35,508
c	interpretative signs, 4"x4"cedar framed	each	\$1,000.00	5	\$5,000
d	trail bench, 8"x8"x10'wood beams w/conc support	each	\$1,900.00	10	\$19,000
e	trash receptacles w/concrete support	each	\$800.00	2	\$1,600
Total construction cost per mile				\$101,458	
f	construction sales tax (const)	8.2%		\$8,320	
g	design/engineering fees (const)	12.0%		\$12,175	
h	financing costs (const,tax, design)	8.0%		\$9,756	
i	contingency (const, tax, design, financing)	15.0%		\$19,756	
Total development cost per mile				\$151,465	

Park walk trail class 1 - asphalt (1 mile w/o svcs)					
	unit	unit cost	qty	qty cost	
a	clear/grade/earthwork trail corridor - 10' wide	sq ft	\$0.75	53,800	\$40,350
b	2"asphalt over 4"crushed rock - 6' wide	sq ft	\$2.50	32,280	\$80,700
c	interpretative signs, 4"x4"cedar framed	each	\$200.00	5	\$1,000
d	trail bench, 8"x8"x10'wood beams w/conc support	each	\$1,900.00	10	\$19,000
e	trash receptacles w/concrete support	each	\$800.00	2	\$1,600
Total construction cost per mile				\$142,650	
f	construction sales tax (const)	8.2%		\$11,697	
g	design/engineering fees (const)	12.0%		\$17,118	
h	financing costs (const,tax, design)	8.0%		\$13,717	
i	contingency (const, tax, design, financing)	15.0%		\$27,777	
Total development cost per mile				\$212,960	

Park walk trail class 2 - crushed rock (1 mile w/o svcs)					
	unit	unit cost	qty	qty cost	
a	clear/grade/earthwork trail corridor - 8' wide	sq ft	\$0.75	43,040	\$32,280
b	crushed rock, 6"depth, 3/8" minus - 5' wide	sq ft	\$1.00	26,900	\$26,900
c	interpretative signs, 4"x4"cedar framed	each	\$1,000.00	5	\$5,000
d	trail bench, 8"x8"x10'wood beams w/conc support	each	\$1,900.00	10	\$19,000
e	trash receptacles w/concrete support	each	\$800.00	2	\$1,600
Total construction cost per mile				\$84,780	
f	construction sales tax (const)	8.2%		\$6,952	
g	design/engineering fees (const)	12.0%		\$10,174	
h	financing costs (const,tax, design)	8.0%		\$8,152	
i	contingency (const, tax, design, financing)	15.0%		\$16,509	
Total development cost per mile				\$126,567	

Park walk trail class 2 - asphalt (1 mile w/o svcs)					
	unit	unit cost	qty	qty cost	
a	clear/grade/earthwork trail corridor - 8' wide	sq ft	\$0.75	43,040	\$32,280
b	2"asphalt over 4"crushed rock - 5' wide	sq ft	\$2.50	26,900	\$67,250
c	interpretative signs, 4"x4"cedar framed	each	\$200.00	5	\$1,000
d	trail bench, 8"x8"x10'wood beams w/conc support	each	\$1,900.00	10	\$19,000
e	trash receptacles w/concrete support	each	\$800.00	2	\$1,600
Total construction cost per mile				\$121,130	
f	construction sales tax (const)	8.2%		\$9,933	
g	design/engineering fees (const)	12.0%		\$14,536	
h	financing costs (const,tax, design)	8.0%		\$11,648	
i	contingency (const, tax, design, financing)	15.0%		\$23,587	
Total development cost per mile				\$180,833	

Day hike trail class 3 - crushed rock (5 miles w/svs)					
	unit	unit cost	qty	qty cost	
a	clear/grade/earthwork along trail corridor - 6' wide	sq ft	\$0.75	161,400	\$121,050
b	crushed rock, rolled to 4", 3/8" minus - 4' wide	sq ft	\$1.00	107,600	\$107,600
c	trail directory, 4"x4"cedar pole framed	each	\$350.00	20	\$7,000
d	trail bench, 8"x8"x10'wood beams w/conc support	each	\$1,900.00	5	\$9,500
e	trash receptacles w/concrete support	each	\$800.00	10	\$8,000
f	restroom facilities, sanican w/concrete platforms	each	\$1,500.00	2	\$3,000
g	parking, 2" asphalt concrete/4"crushed rock (30 cars)	sq ft	\$3.00	9,000	\$27,000
h	wheel stops, 10"x6"x8'precast concrete	each	\$156.00	30	\$4,680
i	access road, 2"asphalt concrete/4"crushed rock, 24'x200'	sq ft	\$2.00	4,800	\$9,600
Total construction cost per 5 miles				\$297,430	
j	construction sales tax (const)	8.2%		\$24,389	
k	design/engineering fees (const)	12.0%		\$35,692	
l	financing costs (const,tax, design)	8.0%		\$28,601	
m	contingency (const, tax, design, financing)	15.0%		\$57,917	
Total development cost per 5 miles				\$444,028	
Prorated per mile				\$88,806	

Day hike trail class 3 - asphalt (5 miles w/svs)					
	unit	unit cost	qty	qty cost	
a	clear/grade/earthwork along trail corridor - 6' wide	acre	\$0.75	161,400	\$121,050
b	2" asphalt over 4" crushed rock - 4' wide	sq ft	\$2.50	107,600	\$269,000
c	trail directory, 4"x4"cedar pole framed	each	\$350.00	20	\$7,000
d	trail bench, 8"x8"x10'wood beams w/conc support	each	\$1,900.00	5	\$9,500
e	trash receptacles w/concrete support	each	\$800.00	10	\$8,000
f	restroom facilities, sanican w/concrete platforms	each	\$1,500.00	2	\$3,000
g	parking, 2" asphalt concrete/4"crushed rock (30 cars)	sq ft	\$3.00	9,000	\$27,000
h	wheel stops, 10"x6"x8'precast concrete	each	\$156.00	30	\$4,680
i	access road, 2"asphalt concrete/4"crushed rock, 24'x200'	sq ft	\$2.00	4,800	\$9,600
Total construction cost per 5 miles				\$458,830	
j	construction sales tax (const)	8.2%		\$37,624	
k	design/engineering fees (const)	12.0%		\$55,060	
l	financing costs (const,tax, design)	8.0%		\$44,121	
m	contingency (const, tax, design, financing)	15.0%		\$89,345	
Total development cost per 5 miles				\$684,980	
Prorated per mile				\$136,996	

Day hike trail class 4 - crushed rock (5 miles w/svs)					
	unit	unit cost	qty	qty cost	
a	clear/grade/earthwork along trail corridor - 5' wide	sq ft	\$0.75	134,500	\$100,875
b	crushed rock, rolled to 4", 3/8" minus - 3' wide	sq ft	\$1.00	80,700	\$80,700
c	trail directory, 4"x4"cedar pole framed	each	\$350.00	20	\$7,000
d	trail bench, 8"x8"x10'wood beams w/conc support	each	\$1,900.00	5	\$9,500
e	trash receptacles w/concrete support	each	\$800.00	10	\$8,000
f	restroom facilities, sanican w/concrete platforms	each	\$1,500.00	2	\$3,000
g	parking, 2" asphalt concrete/4"crushed rock (30 cars)	sq ft	\$3.00	9,000	\$27,000
h	wheel stops, 10"x6"x8'precast concrete	each	\$156.00	30	\$4,680
i	access road, 2"asphalt concrete/4"crushed rock, 24'x200'	sq ft	\$2.00	4,800	\$9,600
Total construction cost per 5 miles				\$250,355	
j	construction sales tax (const)	8.2%		\$20,529	
k	design/engineering fees (const)	12.0%		\$30,043	
l	financing costs (const,tax, design)	8.0%		\$24,074	
m	contingency (const, tax, design, financing)	15.0%		\$48,750	
Total development cost per 5 miles				\$373,751	
Prorated per mile				\$74,750	

Day hike trail class 5 - compacted dirt (10 miles w/svs)					
	unit	unit cost	qty	qty cost	
a	clear/grade/earthwork along trail corridor - 4' wide	sq ft	\$0.75	215,200	\$161,400
b	finish grade compacted dirt trail - 2' wide	sq ft	\$0.20	107,600	\$21,520
c	trail directory, 4"x4"cedar pole framed	each	\$350.00	40	\$14,000
d	trail bench, 8"x8"x10'wood beams w/conc support	each	\$1,900.00	10	\$19,000
e	trash receptacles w/concrete support	each	\$800.00	20	\$16,000
f	restroom facilities, sanican w/concrete platforms	each	\$1,500.00	4	\$6,000
g	parking, 2" asphalt concrete/4"crushed rock (30 cars)	sq ft	\$3.00	9,000	\$27,000
h	wheel stops, 10"x6"x8'precast concrete	each	\$156.00	30	\$4,680
i	access road, 2"asphalt concrete/4"crushed rock, 24'x200'	sq ft	\$2.00	4,800	\$9,600
Total construction cost per 10 miles				\$279,200	
j	construction sales tax (const)	8.2%		\$22,894	
k	design/engineering fees (const)	12.0%		\$33,504	
l	financing costs (const,tax, design)	8.0%		\$26,848	
m	contingency (const, tax, design, financing)	15.0%		\$54,367	
Total development cost per 10 miles				\$416,813	
Prorated per mile				\$41,681	

Shoreline hike trail - access only (5 miles w/svs)					
	unit	unit cost	qnty	qnty cost	
a	clear/grade/earthwork for site improvements	sq ft	\$0.75	10,890	\$8,168
b	landscape/bank stabilization plantings about access site	sq ft	\$3.25	2,723	\$8,848
c	picnic tables and benches, 4"x6"wood beams w/conc support	each	\$2,100.00	3	\$6,300
d	barbecue pits, concrete with iron grill	each	\$300.00	3	\$900
e	trail shelter (10'x6'), cedar pole w/shake roof	each	\$2,700.00	1	\$2,700
f	trail directory signs, 4"x4"cedar pole framed	each	\$200.00	10	\$2,000
g	parking, 2"asphalt concrete/4"crushed rock - 10 spaces	sq ft	\$3.00	3,000	\$9,000
h	wheel stops, 10"x6"x8'precast concrete	each	\$156.00	10	\$1,560
i	access road, 2"asphalt concrete/4"crushed rock, 24'x100'	sq ft	\$2.00	2,400	\$4,800
j	restroom facility, sanican w/concrete platform	each	\$1,500.00	2	\$3,000
k	trash receptacles w/concrete support	each	\$800.00	2	\$1,600
Total construction cost per 5 miles				\$48,876	
l	construction sales tax (const)	8.2%			\$4,008
m	design/engineering fees (const)	12.0%			\$5,865
n	financing costs (const,tax, design)	8.0%			\$4,700
o	contingency (const, tax, design, financing)	15.0%			\$9,517
Total development cost per 5 miles				\$72,966	
Prorated per mile/access site				\$14,593	
Off-road mtn bike trail class 1 - dirt (10 miles w/svs)					
	unit	unit cost	qnty	qnty cost	
a	clear/grade/earthwork along trail corridor - 6' wide	sq ft	\$0.75	322,800	\$242,100
b	finish grade bike trail - 2' wide	sq ft	\$0.20	107,600	\$21,520
c	trail directory, 4"x4"cedar pole framed	each	\$350.00	10	\$3,500
d	trail bench, 8"x8"x10'wood beams w/conc support	each	\$1,900.00	10	\$19,000
e	bike rack, prefab galvanized pipe (54 bikes)	each	\$950.00	1	\$950
f	trash receptacles w/concrete support	each	\$800.00	5	\$4,000
g	restroom facilities, sani-can w/concrete platform	each	\$1,500.00	2	\$3,000
h	parking, 2"asphalt concrete/4"crushed rock (20 cars)	sq ft	\$3.00	6,000	\$18,000
i	wheel stops, 10"x6"x8'precast concrete	each	\$156.00	20	\$3,120
j	access road, 2"asphalt concrete/4"crushed rock, 24'x200'	sq ft	\$2.00	4,800	\$9,600
Total construction cost per 10 miles				\$324,790	
k	construction sales tax (const)	8.2%			\$26,633
l	design/engineering fees (const)	12.0%			\$38,975
m	financing costs (const,tax, design)	8.0%			\$31,232
n	contingency (const, tax, design, financing)	15.0%			\$63,244
Total development cost per 10 miles				\$484,874	
Prorated per mile				\$48,487	
Off-road mtn bike trail class 2 - dirt (20 miles w/svs)					
	unit	unit cost	qnty	qnty cost	
a	clear/grade/earthwork along trail corridor - 5' wide	sq ft	\$0.75	538,000	\$403,500
b	finish grade bike trail - 1.5' wide	sq ft	\$0.20	161,400	\$32,280
c	trail directory, 4"x4"cedar pole framed	each	\$350.00	20	\$7,000
d	trail bench, 8"x8"x10'wood beams w/conc support	each	\$1,900.00	15	\$28,500
e	bike rack, prefab galvanized pipe (54 bikes)	each	\$950.00	2	\$1,900
f	trash receptacles w/concrete support	each	\$800.00	10	\$8,000
g	restroom facilities, sani-can w/concrete platform	each	\$1,500.00	2	\$3,000
h	parking, 2"asphalt concrete/4"crushed rock (20 cars)	sq ft	\$3.00	6,000	\$18,000
i	wheel stops, 10"x6"x8'precast concrete	each	\$156.00	20	\$3,120
j	access road, 2"asphalt concrete/4"crushed rock, 24'x200'	sq ft	\$2.00	4,800	\$9,600
Total construction cost per 20 miles				\$514,900	
k	construction sales tax (const)	8.2%			\$42,222
l	design/engineering fees (const)	12.0%			\$61,788
m	financing costs (const,tax, design)	8.0%			\$49,513
n	contingency (const, tax, design, financing)	15.0%			\$100,263
Total development cost per 20 miles				\$768,686	
Prorated per mile				\$38,434	

Off-road mtn bike trail class 3 - dirt (25 miles w/svs)					
	unit	unit cost	qty	qty cost	
a	clear/grade/earthwork along trail corridor - 4' wide	sq ft	\$0.75	538,000	\$403,500
b	finish grade bike trail - 1' wide	sq ft	\$0.20	134,500	\$26,900
c	trail directory, 4"x4"cedar pole framed	each	\$350.00	25	\$8,750
d	trail bench, 8"x8"x10'wood beams w/conc support	each	\$1,900.00	20	\$38,000
e	bike rack, prefab galvanized pipe (54 bikes)	each	\$950.00	3	\$2,850
f	trash receptacles w/concrete support	each	\$800.00	15	\$12,000
g	restroom facilities, sani-can w/concrete platform	each	\$1,500.00	2	\$3,000
h	parking, 2"asphalt concrete/4"crushed rock (20 cars)	sq ft	\$3.00	6,000	\$18,000
i	wheel stops, 10"x6"x8'precast concrete	each	\$156.00	20	\$3,120
j	access road, 2"asphalt concrete/4"crushed rock, 24'x200'	sq ft	\$2.00	4,800	\$9,600

Total construction cost per 25 miles **\$525,720**

k	construction sales tax (const)	8.2%			\$43,109
l	design/engineering fees (const)	12.0%			\$63,086
m	financing costs (const,tax, design)	8.0%			\$50,553
n	contingency (const, tax, design, financing)	15.0%			\$102,370

Total development cost per 25 miles **\$784,839**

Prorated per mile **\$31,394**

Off-road bike trail AASHTO 1 - crushed rock (5 miles w/svs)					
	unit	unit cost	qty	qty cost	
a	clear/grade/earthwork along trail corridor - 14' wide	sq ft	\$0.75	376,600	\$282,450
b	crushed rock, rolled to 4", 3/8" minus - 10' wide	sq ft	\$1.00	269,000	\$269,000
c	trail directory, 4"x4"cedar pole framed	each	\$350.00	20	\$7,000
d	trail bench, 8"x8"x10'wood beams w/conc support	each	\$1,900.00	10	\$19,000
e	bike rack, prefab galvanized pipe (54 bikes)	each	\$950.00	1	\$950
f	trash receptacles w/concrete support	each	\$800.00	10	\$8,000
g	restroom facilities, sani-can w/concrete platform	each	\$1,500.00	2	\$3,000
h	parking, 2"asphalt concrete/4"crushed rock (30 cars)	sq ft	\$3.00	9,000	\$27,000
i	wheel stops, 10"x6"x8'precast concrete	each	\$156.00	30	\$4,680
j	access road, 2"asphalt concrete/4"crushed rock, 24'x200'	sq ft	\$2.00	4,800	\$9,600

Total construction cost per 5 miles **\$630,680**

k	construction sales tax (const)	8.2%			\$51,716
l	design/engineering fees (const)	12.0%			\$75,682
m	financing costs (const,tax, design)	8.0%			\$60,646
n	contingency (const, tax, design, financing)	15.0%			\$122,809

Total development cost per 5 miles **\$941,532**

Prorated per mile **\$188,306**

Off-road bike trail AASHTO 1- asphalt (5 miles w/svs)					
	unit	unit cost	qty	qty cost	
a	clear/grade/earthwork along trail corridor - 14' wide	sq ft	\$0.75	376,600	\$282,450
b	class 2 asphalt 2"crushed rock - 10'wide	sq ft	\$2.50	269,000	\$672,500
c	trail directory, 4"x4"cedar pole framed	each	\$350.00	20	\$7,000
d	trail bench, 8"x8"x10'wood beams w/conc support	each	\$1,900.00	10	\$19,000
e	bike rack, prefab galvanized pipe (54 bikes)	each	\$950.00	1	\$950
f	trash receptacles w/concrete support	each	\$800.00	10	\$8,000
g	restroom facilities, sani-can w/concrete platform	each	\$1,500.00	2	\$3,000
h	parking, 2"asphalt concrete/4"crushed rock (30 cars)	sq ft	\$3.00	9,000	\$27,000
i	wheel stops, 10"x6"x8'precast concrete	each	\$156.00	30	\$4,680
j	access road, 2"asphalt concrete/4"crushed rock, 24'x200'	sq ft	\$2.00	4,800	\$9,600

Total construction cost per 5 miles **\$1,034,180**

k	construction sales tax (const)	8.2%			\$84,803
l	design/engineering fees (const)	12.0%			\$124,102
m	financing costs (const,tax, design)	8.0%			\$99,447
n	contingency (const, tax, design, financing)	15.0%			\$201,380

Total development cost per 5 miles **\$1,543,911**

Prorated per mile **\$308,782**

On-road bike tour AASHTO 2 - 2 lanes (10 miles w/o svcs)					
	unit	unit cost	qty	qty cost	
a	clear/grade/earthwork along road shoulder - 8' wide	sq ft	\$0.75	860,800	\$645,600
b	asphalt, 2" class 1/4" crushed rock - 6' wide	sq ft	\$2.50	645,600	\$1,614,000
c	pavement markings, paint stripes and symbols	lr ft	\$1.15	107,600	\$123,740
d	route directory, steel post w/reflective sign	each	\$100.00	80	\$8,000

Total construction cost per 10 miles **\$2,391,340**

e	construction sales tax (const)	8.2%			\$196,090
f	design/engineering fees (const)	12.0%			\$286,961
g	financing costs (const,tax, design)	8.0%			\$229,951
h	contingency (const, tax, design, financing)	15.0%			\$465,651

Total development cost per 10 miles **\$3,569,993**

Prorated per mile **\$356,999**

On-road bike tour AASHTO 3 - 2 shlders (10 miles w/o svcs)					
	unit	unit cost	qty	qty cost	
a	clear/grade/earthwork along road shoulder - 6' wide	sq ft	\$0.75	645,600	\$484,200
b	asphalt, 2" class 1/4" crushed rock - 4' wide	sq ft	\$2.50	430,400	\$1,076,000
c	pavement markings, paint stripes and symbols	lr ft	\$1.15	107,600	\$123,740
d	route directory, steel post w/reflective sign	each	\$100.00	80	\$8,000
Total construction cost per 10 miles				\$1,691,940	
e	construction sales tax (const)	8.2%			\$138,739
f	design/engineering fees (const)	12.0%			\$203,033
g	financing costs (const,tax, design)	8.0%			\$162,697
h	contingency (const, tax, design, financing)	15.0%			\$329,461
Total development cost per 10 miles				\$2,525,870	
Prorated per mile				\$252,587	

On-road bike tour AASHTO 4 - in lane (10 miles w/o svcs)					
	unit	unit cost	qty	qty cost	
a	pavement markings, paint symbols and occasional strips	lr ft	\$1.15	107,600	\$123,740
b	route directory, steel post w/reflective sign	each	\$100.00	80	\$8,000
Total construction cost per 10 miles				\$131,740	
c	construction sales tax (const)	8.2%			\$10,803
d	design/engineering fees (const)	12.0%			\$15,809
e	financing costs (const,tax, design)	8.0%			\$12,668
f	contingency (const, tax, design, financing)	15.0%			\$25,653
Total development cost per 10 miles				\$196,673	
Prorated per mile				\$19,667	

On-road bike tour - backcountry (10 miles w/o svcs)					
	unit	unit cost	qty	qty cost	
a	route directory, steel post w/reflective sign	each	\$100.00	80	\$8,000
Total construction cost per 10 miles				\$8,000	
b	construction sales tax (const)	8.2%			\$656
c	design/engineering fees (const)	12.0%			\$960
d	financing costs (const,tax, design)	8.0%			\$769
e	contingency (const, tax, design, financing)	15.0%			\$1,558
Total development cost per 10 miles				\$11,943	
Prorated per mile				\$1,194	

Horse trail - seperate trail (5 miles w/svcs)					
	unit	unit cost	qty	qty cost	
a	clear/grade/earthwork along trail corridor - 6' wide	sq ft	\$0.75	32,280	\$24,210
b	finish grade horse trail, compacted dirt - 2' wide	sq ft	\$0.20	10,760	\$2,152
c	trail directory, 4"x4"cedar pole framed	each	\$350.00	20	\$7,000
d	hitching posts, galvanized pipe w/cedar posts	each	\$500.00	10	\$5,000
e	trash receptacles w/concrete support	each	\$800.00	4	\$3,200
f	restroom facilities, sanican w/concrete platform	each	\$1,500.00	2	\$3,000
g	trailer parking, 2"asphalt concrete/4"crushed rock (20 stalls)	sq ft	\$3.00	10,000	\$30,000
h	wheel stops, 10"x6"x8'precast concrete	each	\$156.00	20	\$3,120
i	access road, 2"asphalt concrete/4"crushed rock, 24'x200'	sq ft	\$2.00	4,800	\$9,600
Total construction cost per 5 miles				\$87,282	
j	construction sales tax (const)	8.2%			\$7,157
k	design/engineering fees (const)	12.0%			\$10,474
l	financing costs (const,tax, design)	8.0%			\$8,393
m	contingency (const, tax, design, financing)	15.0%			\$16,996
Total development cost per 5 miles				\$130,302	
Prorated per mile				\$26,060	

Water trailhead - launch and campsite (5 miles w/svcs)					
	unit	unit cost	qty	qty cost	
a	clear/grade/earthwork for site improvements	sq ft	\$0.75	10,890	\$8,168
b	landscape/bank stabilization plantings about site	sq ft	\$2.50	2,723	\$6,806
c	picnic tables and benches, 4"x6"wood beams w/conc support	each	\$2,100.00	3	\$6,300
d	barbecue pits, concrete with iron grill	each	\$300.00	2	\$600
e	camp shelter (10'x6'), cedar pole w/shake roof	each	\$2,700.00	1	\$2,700
f	camp directory signs, 4"x4"cedar pole framed	each	\$200.00	10	\$2,000
g	restroom facility, sanican w/concrete platform	each	\$1,500.00	2	\$3,000
h	trash receptacles w/concrete support	each	\$800.00	2	\$1,600
i	parking, 2"asphalt concrete/4"crushed rock - 10 spaces	sq ft	\$3.00	3,000	\$9,000
j	wheel stops, 10"x6"x8'precast concrete	each	\$156.00	10	\$1,560
k	access road, 2"asphalt concrete/4"crushed rock, 24'x100'	sq ft	\$2.00	2,400	\$4,800
Total construction cost per 5 miles				\$46,534	
l	construction sales tax (const)	8.2%			\$3,816
m	design/engineering fees (const)	12.0%			\$5,584
n	financing costs (const,tax, design)	8.0%			\$4,475
o	contingency (const, tax, design, financing)	15.0%			\$9,061
Total development cost per 5 miles				\$69,469	
Prorated per mile/access site				\$13,894	

Trailhead - w/sanican svcs					
	unit	unit cost	qty	qty cost	
a	clear/grade/earthwork for site improvements	sq ft	\$0.75	10,890	\$8,168
b	landscape/bank stabilization plantings about site	sq ft	\$3.25	2,723	\$8,848
c	trail directory, 4"x4"cedar pole framed	each	\$350.00	2	\$700
d	trail bench, 8"x8"x10'wood beams w/conc support	each	\$1,900.00	3	\$5,700
e	bike rack, prefab galvanized pipe (54 bikes)	each	\$950.00	1	\$950
f	trash receptacles w/concrete support	each	\$800.00	2	\$1,600
g	restroom facilities, sani-can w/concrete platform	each	\$1,500.00	2	\$3,000
h	parking, 2"asphalt concrete/4"crushed rock (30 cars)	sq ft	\$3.00	9,000	\$27,000
i	wheel stops, 10"x6"x8'precast concrete	each	\$156.00	30	\$4,680
j	access road, 2"asphalt concrete/4"crushed rock, 24'x200'	sq ft	\$2.00	4,800	\$9,600
Total construction cost per 5 miles				\$70,246	
k	construction sales tax (const)	8.2%			\$5,760
l	design/engineering fees (const)	12.0%			\$8,429
m	financing costs (const,tax, design)	8.0%			\$6,755
n	contingency (const, tax, design, financing)	15.0%			\$13,679
Total development cost per site				\$104,869	
Trailhead - w/permanent restroom facilities					
	unit	unit cost	qty	qty cost	
a	clear/grade/earthwork for site improvements	sq ft	\$0.75	10,890	\$8,168
b	landscape/bank stabilization plantings about site	sq ft	\$2.50	2,723	\$6,806
c	trail directory, 4"x4"cedar pole framed	each	\$350.00	2	\$700
d	trail bench, 8"x8"x10'wood beams w/conc support	each	\$1,900.00	3	\$5,700
e	bike rack, prefab galvanized pipe (54 bikes)	each	\$950.00	1	\$950
f	trash receptacles w/concrete support	each	\$800.00	2	\$1,600
g	restroom facility, 4 stalls w/2 sinks	sq ft	\$125.00	500	\$62,500
h	sewer service, 8" side sewer	lr ft	\$17.00	500	\$8,500
i	water service, 8" service line	lr ft	\$30.00	500	\$15,000
j	fire hydrant	each	\$2,675.00	1	\$2,675
k	water meter, 2" size	each	\$4,880.00	1	\$4,880
l	parking, 2"asphalt concrete/4"crushed rock (30 cars)	sq ft	\$3.00	9,000	\$27,000
m	wheel stops, 10"x6"x8'precast concrete	each	\$156.00	30	\$4,680
n	access road, 2"asphalt concrete/4"crushed rock, 24'x200'	sq ft	\$2.00	4,800	\$9,600
Total construction cost per 5 miles				\$158,759	
o	construction sales tax (const)	8.2%			\$13,018
p	design/engineering fees (const)	12.0%			\$19,051
q	financing costs (const,tax, design)	8.0%			\$15,266
r	contingency (const, tax, design, financing)	15.0%			\$30,914
Total development cost per site				\$237,008	

Source: Beckwith Consulting Group

Appendix G.3: Guidelines for motorized/non-motorized systems

	Multipurpose			Walking and hiking					Bicycling					Other non-motorized				Motorized								
	Bike/hike/horse			Sidewalk	Barrier-free		Hiking		On-road		Off-road		Horse	X-country ski		Trail bike	ATV		4-wheel		Snowmobile					
Path tread - width	1	2	3	1	2+	1	2+	1	2+	1	2+	1	2+	1	2+	1	2+	1	2+	1	2+					
width - two way	14-10	12-8'	8-6'	14-8'	8-5'	8'	8-4'																			
width - one way						4'	4-3'	2'	1.5-1'	6-4'	0*	na	2'	1.5-1'	2'	2-1.5'	0.5'	0.5'	1.5'	1.5-1'	6.2'	5.2-4.10'	5'	12'	11-10'	
Clearing																										
shoulder width	2'	2'	2'	0'	0'	2'	2-1'	1'	1-0.5'	-	-	-	1'	1'	8'	6-3'	4'	5-6.5'	2'	2-1.5'	3.1'	2.5'	15'	2.5-8'	16'	15-14'
height in feet	10'	10'	10'	8'	8'	8'	8'	8'	8'	8'	8'	8'	8'	8'	10'	10'	10'*	10'*	8'	8'	6'	6'	12'	9-8'	7'***	7'***
Grade																										
slope - sustained	5%	5%	5%	5%	8.3%	5%	12.5%	10%	10%				5%	15%	15%	30%	7.5%	17%			15%	25-35	20%	20-30	8%	12-15%
length in feet	80'	80'	80'	80'	80+'	80'	160'	100'	300+				100'	300+'	200'	300+'					200'	300+'	200'	250+'		
slope - maximum	8.3%	8.3%	11%	8.3%	8.3%	8.3%	20%	20%	30+%	11%	11%	11%	10%	30+%			10%	20%	15%	30-50'	20%	30-50	20%	30-50	25%	30-35%
length in feet	30'	30'	50'	30'	30'	30'	50'										35'	70+'								
cross slope	2%	2%	2%	2%	2%	2%	3-5%	5%	10%	2%	2%	2%	5%	5%	5%	5%			5%	8-10%	5%	5%	5%	8-10%		
Surface																										
concrete				yes	yes	yes	yes																			
brick pavers				yes	yes	yes	yes																			
asphalt	yes	yes	yes	yes	yes	yes	yes			yes	yes	yes														
crushed rock	yes	yes	yes				yes																			
coarse gravel							yes	yes	yes				yes	yes							yes	yes	yes	yes	yes	yes
sand								yes	yes				yes	yes	yes	yes					yes	yes	yes	yes	yes	yes
compact dirt			yes				yes	yes	yes				yes	yes	yes	yes					yes	yes	yes	yes	yes	yes
mud																										
water																										
snow - inches																	2"	2"							4"	4"
Turns																										
radius in feet													6'	3-2'											25'	25'
number/1/4 mile																										
number/150 feet																								0	2-5	
Obstacles																										
small logs/mile																					0	5	0	5	0	5
log - inch diameter																					6-16"	8"		6-10"		
water xing - deep																					6"	10"				
water xing - long																					10'	25'				

* ideal lane 18-14'

na - backcountry road

**above snow

** above sno

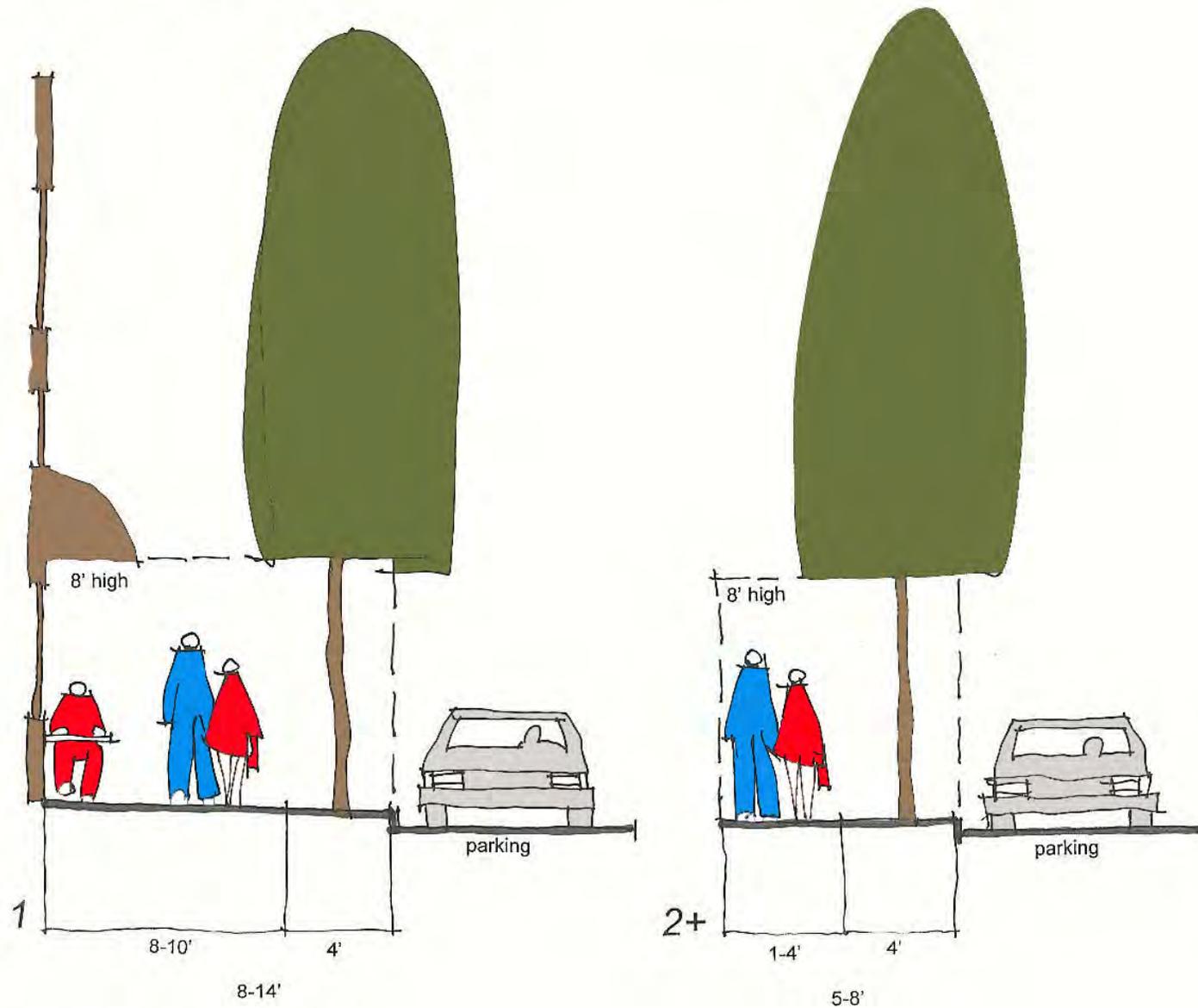
Sources:

Pedestrian Facilities Handbook, WSDOT,/PSRC1997
 WSDOT Design Manual, Chapter 1020 - Bicycle Facilities, May 2001
 US Forest Service Handbook, Washington 1987
 AASHTO, Guide for Development of Bicycle Facilities,1999

Source:

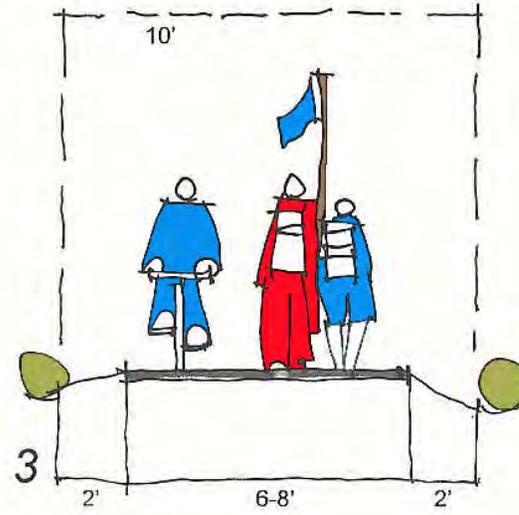
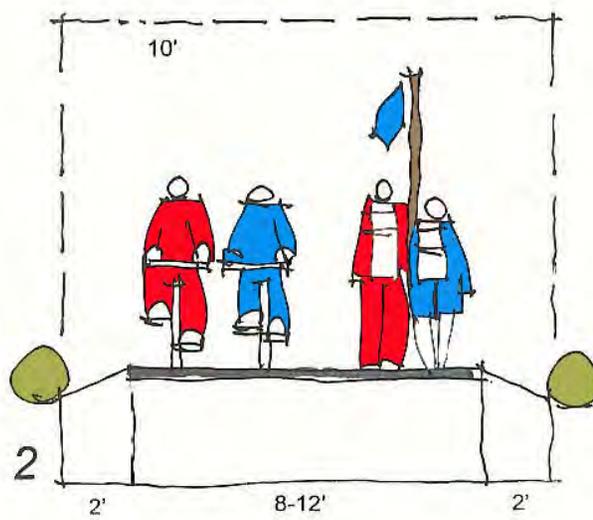
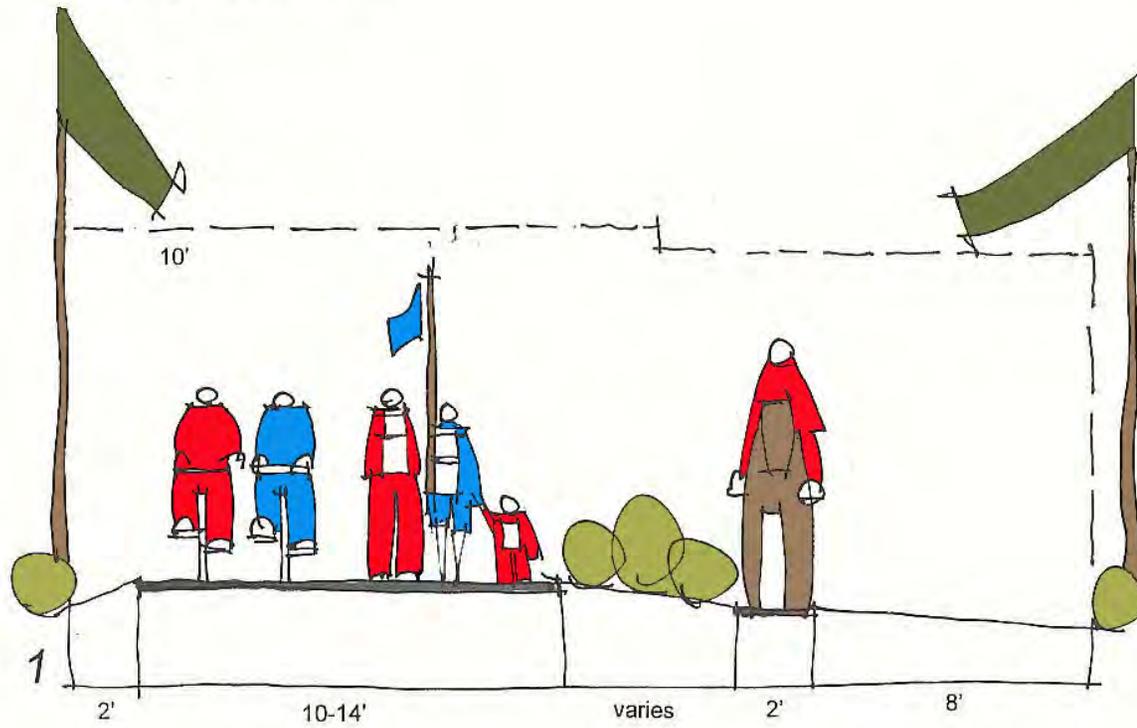
US Forest Service Handbook, Washington 1987

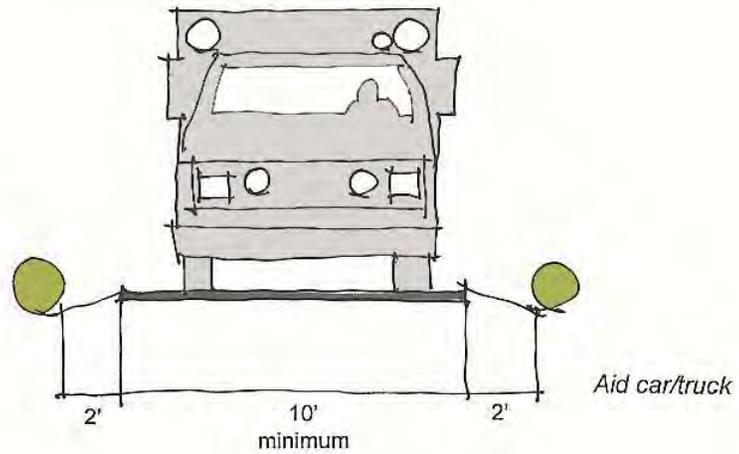
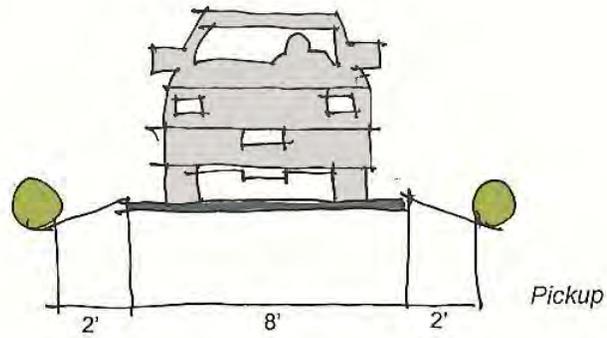
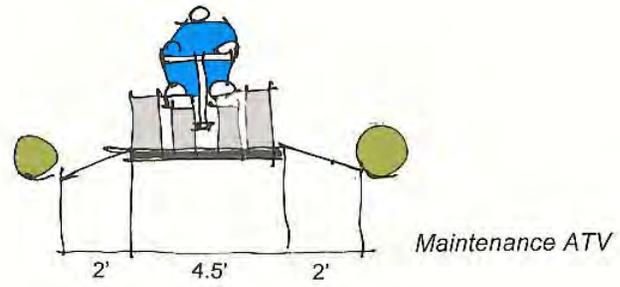
Walking and hiking trails



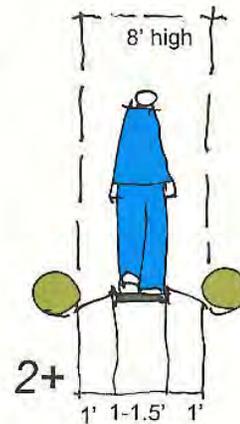
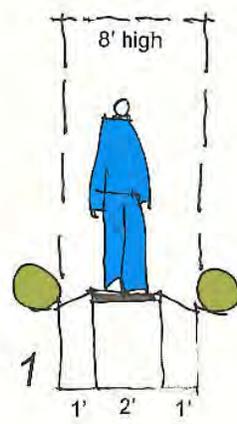
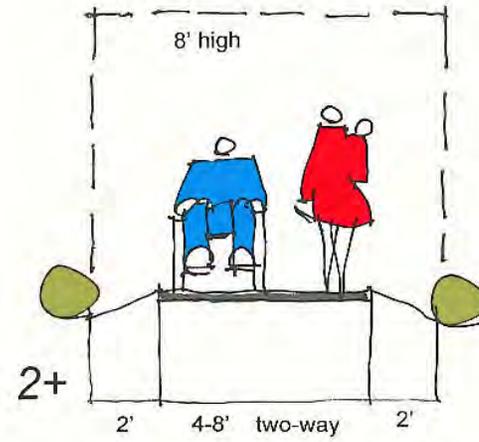
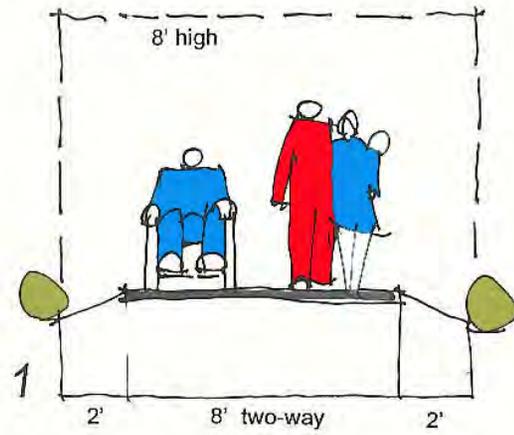
Streetscape and sidewalk

Multipurpose trails





Barrier-free

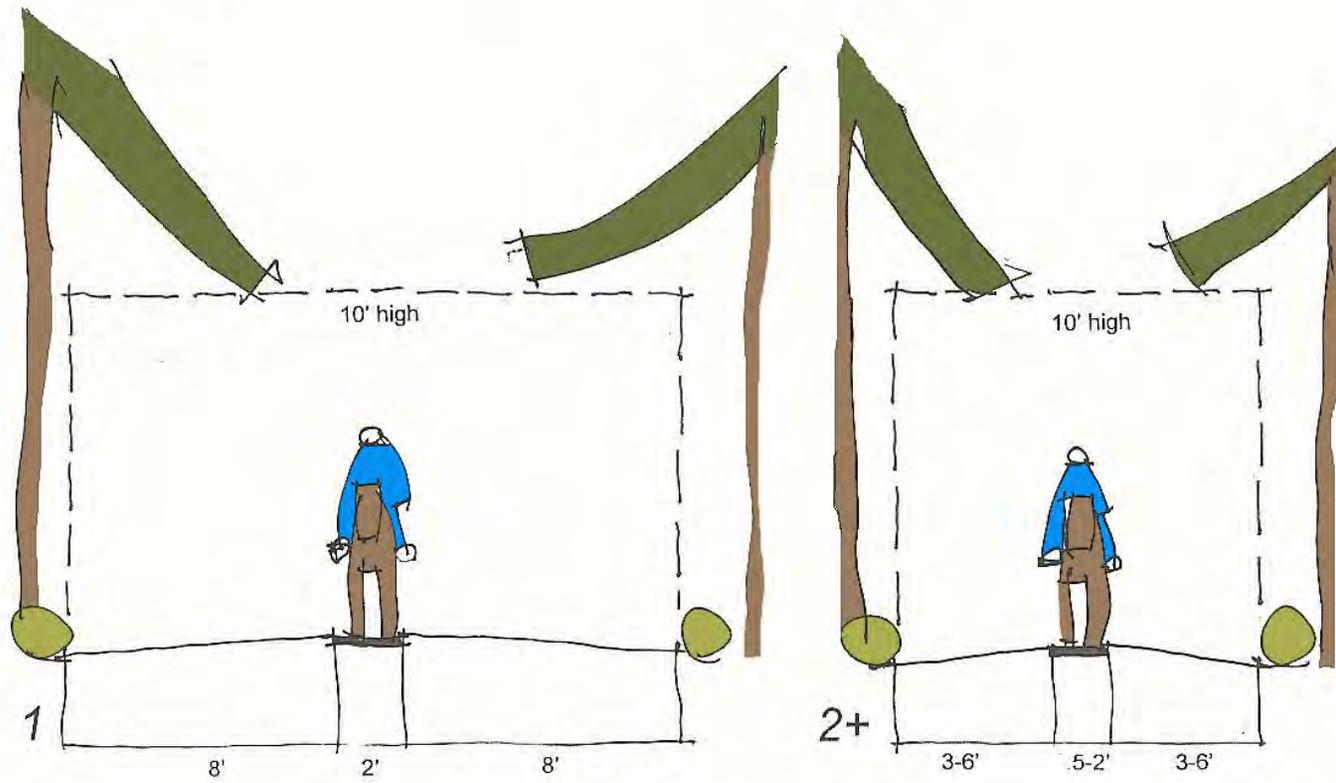


Hiking trails

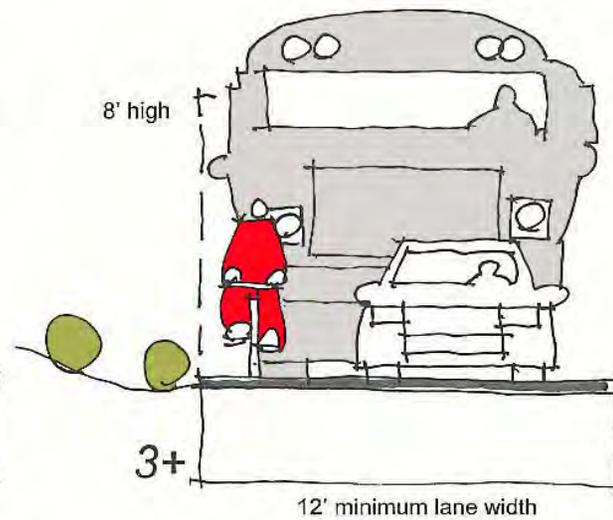
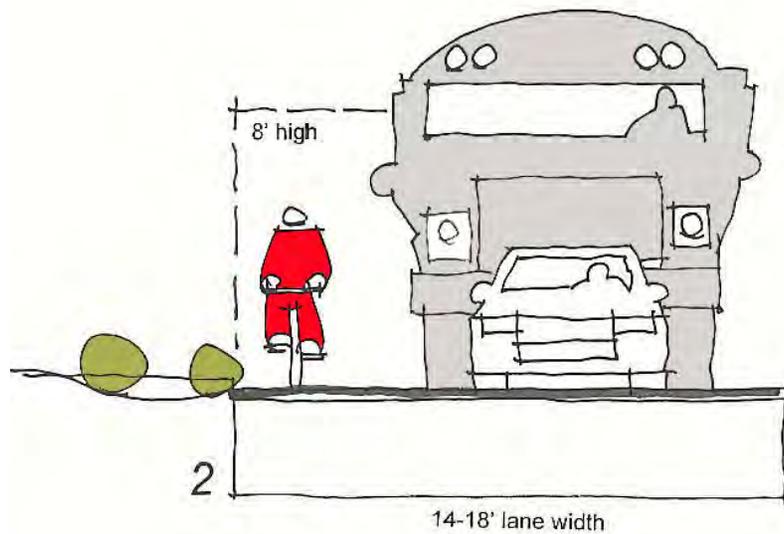
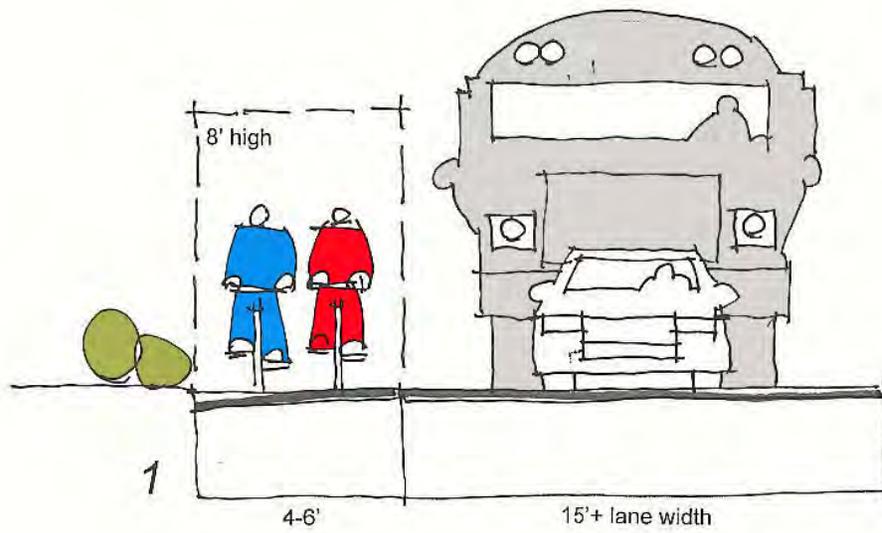
Bicycling off-road



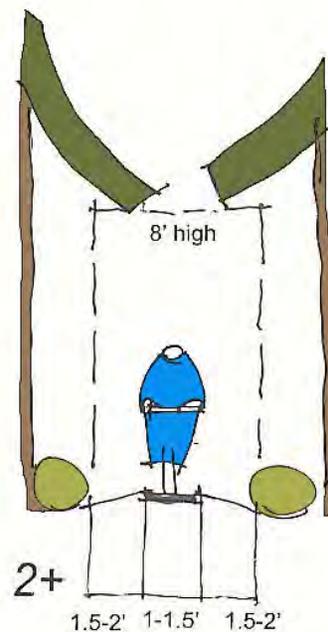
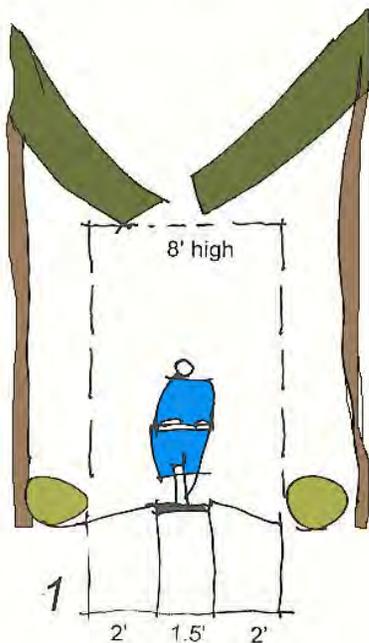
Horse trails



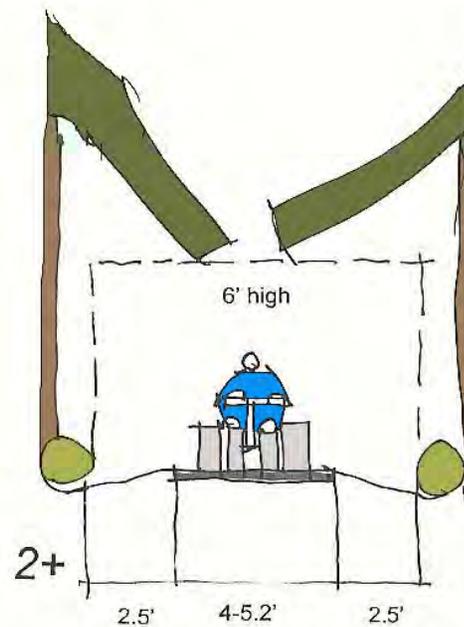
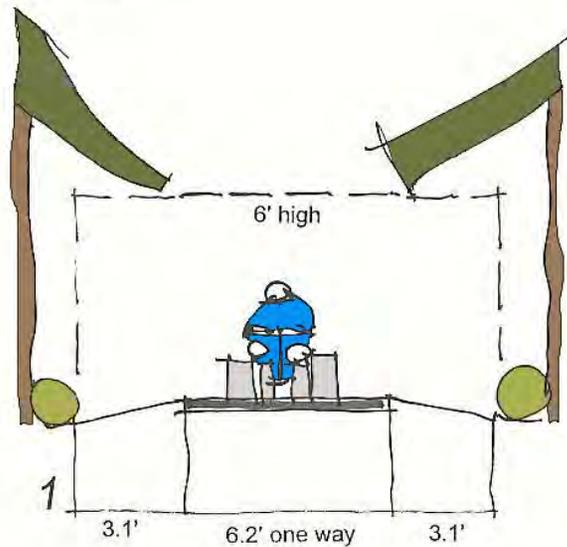
Bicycling on-road



Motorized trails



Trail bike



All-terrain vehicle (ATV)