Table 4.1
Cost Estimate

Section ID	Task/Resource	Creek Study Baseline (Fluvial plus Tidal from Railroad Trestle to Matadero Creek)				Option 1 Tidal Area Railroad Trestle to Menlo Park City Limits				Option 2 Tidal Area Matadero Creek to Adobe Creek			
		Duration (days)	COE Labor	COE Contract	In-kind Services	Duration (days)	COE Labor	COE Contract	In-Kind Services	Duration (days)	COE Labor	COE Contract	In-kind Services
1.1	**Hazardous, Toxic and Radioactive Waste (HTRW) Assessment**												
1.1.1	Review Existing Project Information	4	2,600.00			1	650.00			1	650.00		
1.1.2	HTRW Study	111	3,000.00	45,000.00		96	1,500.00	15,000.00		96	1,500.00	15,000.00	
1.1.3	Data Evaluation and Recommendations to Manage HTRW	4	2,500.00			2	1,300.00			2	1,300.00		
1.1.4	ITR Responses and Coordination		7,500.00										
	Sub-total	***119***	***15,600.00***	***45,000.00***		***99***	***3,450.00***	***15,000.00***		***99***	***3,450.00***	***15,000.00***	
1.2	**Sediment Studies**												
1.2.1	In-House Responsibilities		36,500.00										
1.2.2.1	Research and Review Existing Data	25		30,000.00									
1.2.2.2	Bathymetric Survey	25		22,000.00									
1.2.2.3	Work Plan Development	15		35,000.00									
1.2.2.4	Permit Acquisitions	15		10,000.00									
1.2.2.5	Sediment Sampling and Processing	20		90,000.00									
1.2.2.6	Laboratory Testing	25		90,000.00									
1.2.2.7	Data Compilation and Analysis	10		15,000.00									
1.2.2.8	Report Preparation	60		23,000.00									
1.2.2.9	Project Coordination and Site Visits			10,000.00									
1.2.2.10	ITR Responses and Coordination		7,500.00										
	Supervision & Administration (10%)		3,500.00										
	Sub-total	***195***	***47,500.00***	***325,000.00***									
1.3	**Cultural Studies**												
1.3.2.1	Gather Information to ID Historic Properties	44	10,000.00										
1.3.2.1b	Cultural Resource Contract	90		75,000.00									
1.3.2.2b	Field Survey	47	8,000.00										
1.3.2.2c	Native American Consultation	13	10,000.00										
1.3.2.2d	Coordination for GIS	13	5,000.00										
1.3.3	Coordination /Meetings	13	4,000.00										
1.3.4 &1.3.7	Consultation SHPO and ACHP	13	8,000.00										
1.3.8	Technical Report/Documentation	47	25,700.00										
1.3.9	Public Interest/Web Page	25	3,000.00										
1.3.10	ITR Responses and Coordination		7,500.00										
	Supervision & Administration (10%)		5,000.00										
	Sub-total	***305***	***86,200.00***	***75,000.00***									
2	**Environmental Planning Section**												
2.1.1	Preliminary Alternatives Analysis	60	7,000.00										
2.1.2	Environmental Impact Statement/Report (NEPA/CEQA)	520	70,000.00	400,000.00		520		5,250.00		520		5,250.00	
2.1.3	Summary for F3 Package	4	3,000.00										
2.1.4	Summary of W/Project Environmental Conditions	10	16,000.00										
2.1.5	F4A Summary of W/project Environmental Conditions	4	3,000.00										
2.1.6	Fish and Wildlife Studies	260	75,000.00	80,000.00		260		1,500.00		260		1,500.00	

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Section ID	Task/Resource	Creek Study Baseline (Fluvial plus Tidal from Railroad Trestle to Matadero Creek)				Option 1 Tidal Area Railroad Trestle to Menlo Park City Limits				Option 2 Tidal Area Matadero Creek to Adobe Creek			
		Duration (days)	COE Labor	COE Contract	In-kind Services	Duration (days)	COE Labor	COE Contract	In-Kind Services	Duration (days)	COE Labor	COE Contract	In-kind Services
2.1.7	Biological Assessment (Section 7 Consultation)	90	10,000.00	65,000.00		90		2,000.00		90		2,000.00	
2.1.8	ITR Responses and Coordination		15,000.00										
	Supervision and Administration (10%)		19,900.00										
	Sub-total	***948***	***218,900.00***	***545,000.00***		***870***		***8,750.00***		***870***		***8,750.00***	
3	**Economics**												
3.1	Literature Review/ Data Assessment	2	1,600.00										
3.2	Analysis Configuration	2	2,400.00										
3.3	Data Collection/Manipulation	30	29,000.00			5	4,000.00			5	4,000.00		
3.4	@Risk Model Set Up/Derivation Stage-Damage Curves	10	8,000.00			5	4,000.00			5	4,000.00		
3.5	HEC-FDA Model Set Up/Computation of Equivalent Annual Damages	10	8,000.00			5	4,000.00			5	4,000.00		
3.6	Preliminary NED Analysis	5	4,000.00			3	2,000.00			3	2,000.00		
3.7	Technical Documentation	8	6,000.00			3	2,000.00			3	2,000.00		
3.8	Site Visits	5	4,150.00										
3.9	Team Meetings	3	2,000.00										
3.10	Miscellaneous Tasks	11	11,000.00										
3.11	Develop Trade-Off Analysis	20	10,000.00			3	2,000.00			3	2,000.00		
3.12	Ability to Pay	5	4,000.00										
3.13	ITR Responses and Coordination		20,000.00										
3.14	Supervision and Administration (10%)		11,015.00				1,800.00				1,800.00		
	Sub-total	***111***	***121,165.00***			***24***	***19,800.00***			***24***	***19,800.00***		
4	**Specifications & Cost Engineering Section**												
4.1	Meeting/Coordinate with PDT	5	5,000.00			1	1,000.00			1	1,000.00		
4.2	Develop Cost Estimates - Alternatives	20	20,000.00			5	5,000.00			5	5,000.00		
4.3	Conduct Review on Cost Estimates	5	5,000.00			2	2,000.00			2	2,000.00		
4.4	Develop Draft Feas. Level Cost Estimate	10	10,000.00										
4.5	Develop Final MCACES and Basis of Cost	10	10,000.00			2	2,000.00			2	2,000.00		
4.6	ITR Responses and Coordination	15	7,500.00										
4.7	AE Contract Admin.	15	15,000.00										
	Sub-total	***80***	***72,500.00***			***10***	***10,000.00***				***10,000.00***		
5	**Water Resources Section**												
5.1	Develop Baseline Hydrology	100	50,000.00			40	8,000.00			40	8,000.00		
5.2.1	Develop Baseline Hydraulic Analysis (Fluvial)	100	70,000.00			40	15,000.00			40	15,000.00		
5.2.2	Tidal Processes	30	15,000.00			15	5,000.00			15	5,000.00		
5.2.3	Geomorphic and Sediment Yield Analysis	270	150,000.00			70	35,000.00			70	35,000.00		
5.3	PDT Development of F3 Conceptual	20	10,000.00			20	2,500.00			20	2,500.00		
5.4	F3 H&H Package	40	15,000.00			20	2,000.00			20	2,000.00		

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Section ID	Task/Resource	Creek Study Baseline (Fluvial plus Tidal from Railroad Trestle to Matadero Creek)				Option 1 Tidal Area Railroad Trestle to Menlo Park City Limits				Option 2 Tidal Area Matadero Creek to Adobe Creek			
		Duration (days)	COE Labor	COE Contract	In-kind Services	Duration (days)	COE Labor	COE Contract	In-Kind Services	Duration (days)	COE Labor	COE Contract	In-kind Services
5.5	Preliminary Alternative Design	150	80,000.00			25	10,000.00			25	10,000.00		
5.6	F4 H&H Package	40	15,000.00			30	3,500.00			30	3,500.00		
5.7	NED/NER Hydraulic Design	100	44,000.00			40	12,000.00			40	12,000.00		
5.8	Draft Appendix	60	38,000.00			30	13,000.00			30	13,000.00		
5.9	ITR Responses and Coordination		20,000.00										
5.10	Comment Response	30	25,000.00			40	10,000.00			40	10,000.00		
	Supervision and Administration (10%)	0	53,200.00				11,600.00				11,600.00		
	Sub-total	***940***	***585,200.00***			***370***	***127,600.00***			***370***	***127,600.00***		
6	**Geotechnical Design and Analysis**												
6.1	Data Collection, Coordination and Preliminary Analysis	200	46,200.00			13	3,600.00			17	4,800.00		
6.2	Develop Boring Locations	13	6,500.00			2	500.00			2	600.00		
6.3	Develop Scope of Work Geotech RFP	26	13,000.00			2	1,000.00			3	1,200.00		
6.4	Negotiate A/E Soil Sampling/Testing	5	5,000.00										
6.5	A/E Contract for Soil Sampling and Testing Program	165		370,000.00		15		36,000.00		20		50,000.00	
6.6	Review A/E Soil Testing Program	145	13,000.00			10	1,000.00			10	1,500.00		
6.7	Develop Soils Conditions Report	40	20,000.00			5	2,000.00			5	2,500.00		
6.8	Design Coordination	30	5,000.00										
6.9	Summary for F4 Package	5	2,000.00										
6.10	Draft Appendix	20	15,000.00			2	1,000.00			2	1,000.00		
6.11	ITR Responses and Coordination	10	20,000.00										
6.12	Final Appendix and Public Comment Response	10	5,000.00										
	Sub-total	***669***	***150,700.00***	***370,000.00***		***49***	***9,100.00***	***36,000.00***		***59***	***11,600.00***	***50,000.00***	
7	**Civil Design Scope of Work**												
7.1	Verify Existing Survey Data	13	13,000.00			2	1,500.00			2	1,500.00		
7.2	DTM Creation	8	8,000.00			1	1,000.00			1	1,000.00		
7.3	Utilities Investigation	15	15,000.00			2	1,500.00			2	1,500.00		
7.4	F3 Design Summary	10	10,000.00			1	1,000.00			1	1,000.00		
7.5	Plans and Profiles for Alternatives	20	20,000.00			5	5,000.00			5	5,000.00		
7.6	Quantity Takeoffs for Alternatives	10	10,000.00			2	2,000.00			2	2,000.00		
7.7	F4 Design Summary	5	5,000.00			1	1,000.00			1	1,000.00		
7.8	F4A Design Summary	3	3,000.00			1	1,000.00			1	1,000.00		
7.9	Plans and Profiles for NED/NER Plan	20	20,000.00			5	5,000.00			5	5,000.00		
7.10	Quantity Takeoffs for NED/NER Plan	5	5,000.00			1	1,000.00			1	1,000.00		
7.11	Draft Appendix	8	8,000.00			1	1,000.00			1	1,000.00		
7.12	ITR Responses and Coordination		15,000.00										
7.13	Final ET-ED and Public Comment Response	8	5,000.00			1	1,000.00			1	1,000.00		
	Additional Work	20	20,000.00			5	5,000.00			5	5,000.00		
	Topographic Survey (if needed)	100		450,000.00		40		25,000.00		40		25,000.00	
	Supervision & Administration (10%)		14,500.00				2,700.00				2,700.00		
	Sub-total	***245***	***171,500.00***	***450,000.00***		***68***	***29,700.00***	***25,000.00***		***68***	***29,700.00***	***25,000.00***	

Table 4.1
Cost Estimate

Section ID	Task/Resource	Creek Study Baseline (Fluvial plus Tidal from Railroad Trestle to Matadero Creek)				Option 1 Tidal Area Railroad Trestle to Menlo Park City Limits				Option 2 Tidal Area Matadero Creek to Adobe Creek			
		Duration (days)	COE Labor	COE Contract	In-kind Services	Duration (days)	COE Labor	COE Contract	In-Kind Services	Duration (days)	COE Labor	COE Contract	In-kind Services
8	**Plan Formulation**												
8.1.1	Develop Initial Feasibility Team Briefing	5	2,080.00										
8.1.2	Prepare and coordinate P3 Conference	20	10,400.00										
8.1.3	Prepare for TRSS	10	5,200.00										
8.2	Develop Communication Plan	10	5,200.00										
8.3.1a	Identify Problems and Opportunities	20	5,200.00										
8.3.1.b	Identify Objectives and Constraints	20	5,200.00										
8.3.1c	Inventory Existing Conditions	20	5,200.00										
8.3.1d	Forecast Future without project conditions	30	7,800.00										
8.3.2	Public Meeting Preparation	20	10,400.00										
8.3.3a	Measure identification and screening	20	7,800.00										
8.3.3b	Initial plan formulation	30	10,400.00										
8.3.4a	Preparation of F3 package	20	10,400.00										
8.3.4b	Participation in ITR F3	15	7,800.00										
8.3.4c	Coordination and support for F3 conference	20	7,800.00										
8.3.4d	Coordination of F3 Conference	10	4,160.00										
8.3.5	Post F3 Conference	10	5,200.00										
8.4.1	Plan Evaluation and Comparison	30	13,000.00										
8.4.2	Plan Selection	10	5,200.00										
8.4.3	Formulation of recreation components	10	5,200.00										
8.4.4	Preparation of F4 Package	30	15,600.00										
8.4.5	Participation in ITR F4	80	10,400.00										
8.4.6	Coordination and support for F4 Conference	20	7,800.00										
8.5.1	Plan selection rationale and post F4 refinements	10	5,200.00										
8.5.2	Refinement of recommended plans based on F4A Conference	20	7,800.00										
8.5.3	Cost apportionment	10	3,120.00										
8.5.4	Responsibilities of Fed and non Fed Sponsor	10	3,120.00										
8.5.5	Preparation of AFB Package	30	15,600.00										
8.5.6	Participation in ITR F4A	60	7,800.00										
8.6.1	Preparation of Draft Feasibility Report	40	26,000.00										
8.6.2	Participation Draft Feasibility ITR	15	5,200.00										
8.6.3	Input to Final Public Meeting	20	10,400.00										
8.7	Preparation for FRC	10	5,200.00										
8.8.1	Preparation of Final Report	40	20,800.00										
8.8.2	Participation in ITR of Final Feasibility Report and EIS/R	15	10,400.00										

Table 4.1
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Section ID	Task/Resource	Creek Study Baseline (Fluvial plus Tidal from Railroad Trestle to Matadero Creek)				Option 1 Tidal Area Railroad Trestle to Menlo Park City Limits				Option 2 Tidal Area Matadero Creek to Adobe Creek			
		Duration (days)	COE Labor	COE Contract	In-kind Services	Duration (days)	COE Labor	COE Contract	In-Kind Services	Duration (days)	COE Labor	COE Contract	In-kind Services
8.9	Support to Division Engineer's Submittal	60	20,800.00										
8.10	PDT Meeting preparation		25,000.00										
8.11	Other Project Meetings		25,000.00										
8.12.1	Documentation for F3 package	3	3,120.00										
8.12.2	Documentation for F4 package	5	5,200.00										
8.12.3	Documentation for AFB package	5	5,200.00										
8.12.4	Draft Feasibility Report		25,000.00										
8.12.5	Final Feasibility Report		25,000.00										
	Sub-total	***813***	***422,400.00***										
9	**Construction Services Branch**												
9.1	Review and Coordination of Draft Alternatives		10,000.00										
9.2	Review and Coordination of Draft Feasibility Report		20,000.00										
9.3	Review and Coordination of Final Feasibility		20,000.00										
	Sub-total		***50,000.00***										
10	**Real Estate Studies**												
10.1	Real Estate Coordination	15	10,000.00										
10.2	Establish Right of Entry	8	3,000.00			3	500.00			3	500.00		
10.3	Obtain Right of Entry	90	5,000.00			30	1,000.00			30	1,000.00		
10.4	Mapping NED/LRR	15	8,000.00			6	2,000.00			6	2,000.00		
10.5	Land Value Cost Estimate	20	20,000.00			10	5,000.00			10	5,000.00		
10.6	Draft Real Estate Plan for F4	13	4,000.00			3	1,000.00			3	1,000.00		
10.7	F4A Summary	2	3,000.00			1	500.00			1	500.00		
10.8	Prepare Maps and Determine Ownerships	15	8,000.00			6	2,000.00			6	2,000.00		
10.9	Preliminary Attorney's Opinion	7	8,000.00			3	1,000.00			3	1,000.00		
10.10	Gross Appraisal	60	40,000.00			35	20,000.00			35	20,000.00		
10.11	Develop Real Estate MCACES	3	2,000.00			1	500.00			1	500.00		
10.12	ITR Responses and Coordination		15,000.00										
10.13	Prepare Real Estate Appendix	10	8,000.00			2	2,000.00			2	2,000.00		
10.14	Market Study of Land Values **1/**	20	20,000.00			10	5,000.00			10	5,000.00		
	Supervision and Administration (10%)		15,400.00				500.00				500.00		
	Sub-total	***278***	***169,400.00***			***110***	***41,000.00***			***110***	***41,000.00***		
11	**GIS**												
11.1	Assessment Report		3,200.00										
11.2	GIS Implementation Plan		6,400.00										
11.3	Implementing GIS Plan		32,800.00										
	Supervision & Administration (10%)		4,240.00										
	Sub-total		***46,640.00***										
12	**Management**												
12.1	ETS		147,000.00										
12.2	PPMD		30,000.00										
12.3	Program Management		30,000.00		500,000.00				10,000.00				10,000.00

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Section ID	Task/Resource	Creek Study Baseline (Fluvial plus Tidal from Railroad Trestle to Matadero Creek)				Option 1 Tidal Area Railroad Trestle to Menlo Park City Limits				Option 2 Tidal Area Matadero Creek to Adobe Creek			
		Duration (days)	COE Labor	COE Contract	In-kind Services	Duration (days)	COE Labor	COE Contract	In-Kind Services	Duration (days)	COE Labor	COE Contract	In-kind Services
12.4	Project Management Support		30,000.00										
12.6	Project Management		330,000.00										
	Sub-total		***567,000.00***		***500,000.00***				***10,000.00***				***10,000.00***
13	**Office of Counsel**		***20,000.00***										
14	**Contracting Division**		***10,000.00***										
15	**Independent Technical Review**												
15.1	ITR F3		20,000.00										
15.2	Value Engineering		50,000.00										
15.3	ITR F4		40,000.00										
15.4	ITR F4A		20,000.00										
15.5	ITR Draft Report		55,000.00										
15.6	ITR Final Report		27,500.00										
15.7	External Peer Review **1/**		150,000.00										
15.8	Model Certification **1/**		20,000.00										
15.9	Washington Level Review		50,000.00										
	Sub-total		***432,500.00***										
17	**Planning Engineering Design (PED)**		***50,000.00***										
Ch VIII	**Communication Plan**		***283,000.00***				***14,500.00***				***14,600.00***		
	14% Contingency		***492,828.70***	***253,400.00***	***70,000.00***		***35,721.00***	***11,865.00***	***1,400.00***		***36,085.00***	***13,825.00***	***1,400.00***
Total			***4,013,033.70***	***2,063,400.00***	***570,000.00***		***290,871.00***	***96,615.00***	***11,400.00***		***293,835.00***	***112,575.00***	***11,400.00***

1/ Task(s) may not be needed; therefore total study cost will be reduced.

Total for Creek Study Baseline: $6,646,400 (rounded)

Total for Option 1 Tidal Area: $398,900

Total for Option 2 Tidal Area: $417,800