

**COUNTY OF MARIN
STANDARD SHORT FORM CONTRACT**

THIS AGREEMENT is made and entered into this day November 22, 2005 by and between the COUNTY OF MARIN, hereinafter referred to as "County" and **STILLWATER SCIENCES**, hereinafter referred to as "Contractor."

RECITALS:

WHEREAS, County desires to retain a person or firm to provide the following services: quantify sediment delivery from upper Lagunitas watershed; and

WHEREAS, Contractor warrants that it is qualified and competent to render the aforesaid services;

NOW, THEREFORE, for and in consideration of the agreement made, and the payments to be made by County, the parties agree to the following:

1. SCOPE OF SERVICES:

Contractor agrees to provide all of the services described in **Exhibit "A"** attached hereto and by this reference made a part hereof.

2. FURNISHED SERVICES:

The County agrees to:

- A. Guarantee access to and make provisions for the Contractor to enter upon public and private lands as required to perform their work.
- B. Make available all pertinent data and records for review.
- C. Provide general bid and contract forms and special provisions format when needed.

3. FEES AND PAYMENT SCHEDULE:

The fees and payment schedule for furnishing services under this Contract shall be based on the rate schedule which is attached hereto as **Exhibit "B"** and by this reference incorporated herein. Said fees shall remain in effect for the entire term of the Contract.

Contractor shall provide County with his/her/its Federal Tax I.D. number prior to submitting the first invoice.

4. MAXIMUM COST TO COUNTY:

In no event will the cost to County for the services to be provided herein exceed the maximum sum of **\$75,000** including direct non-salary expenses.

5. TIME OF AGREEMENT:

This Agreement shall commence on **November 22, 2005**, and shall terminate on **March 2007**. Certificate(s) of Insurance must be current on day Contract commences and if scheduled to lapse prior to termination date, must be automatically updated before final payment may be made to Contractor. The final invoice must be submitted within 30 days of completion of the stated scope of services.

6. INSURANCE:

All required insurance coverages shall be substantiated with a certificate of insurance and must be signed by the insurer or its representative evidencing such insurance to County. The general liability policy shall be endorsed naming the County of Marin as an additional insured. The certificate(s) of insurance and required endorsement shall be furnished to the County prior to commencement of work. Each certificate shall provide for thirty (30) days advance notice to County of any cancellation in coverage. Said policies shall remain in force through the life of this Contract and shall be payable on a per occurrence basis only, except those required by paragraph 6.4. a. and b. which may be provided on a claims-made basis consistent with the criteria noted therein.

Nothing herein shall be construed as a limitation of Contractor's liability, and Contractor shall indemnify and hold the County, its employees, officers, and agents, harmless and defend the County against any and all claims, damages, losses and expense that may arise by reason of the Contractor's negligent actions or omissions. County agrees to timely notify Contractor of any negligence claim.

Failure to provide and maintain the insurance required by this Contract will constitute a material breach of the agreement. In addition to any other available remedies, County may suspend payment to the Contractor for any services provided during any time that insurance was not in effect and until such time as the Contractor provides adequate evidence that Contractor has obtained the required coverage.

A request for a waiver of any of the following insurance requirements must be set forth on **Exhibit "C"** attached hereto. A waiver must address reduced amounts of coverage or the type of coverage waived entirely.

6.1 GENERAL LIABILITY

The Contractor shall maintain a commercial general liability insurance policy in an amount of no less than one million dollars (\$1,000,000.00). The County shall be named as an additional insured on the commercial general liability policy and the Certificate of Insurance shall include an additional endorsement page. (see sample form: ISO - CG 20 10 11 85).

N Insurance Reduction or Waiver of Coverage Requested (Exhibit "C")
/
A

6.2 AUTO LIABILITY

Where the services to be provided under this Contract involve or require the use of any type of vehicle by Contractor in order to perform said services, Contractor shall also provide comprehensive business or commercial automobile liability coverage including non-owned and hired automobile liability in the amount of one million dollars (\$1,000,000.00).

N Insurance Reduction or Waiver of Coverage Requested (Exhibit "C")
/
A

6.3 WORKERS' COMPENSATION

The Contractor acknowledges that it is aware of the provisions of the Labor Code of the State of California which requires every employer to be insured against liability for workers' compensation or to undertake self-insurance in accordance with the provisions of that Code, and it certifies that it will comply with such provisions before commencing the performance of the work under this Contract. If Contractor has employees, a copy of the certificate evidencing such insurance or a copy of the Certificate of Consent to Self-Insure shall be provided to County prior to commencement of work.

N Insurance Reduction or Waiver of Coverage Requested (Exhibit "C")
/
A

6.4 OTHER INSURANCES

Contractor may be required to carry additional insurance based upon the nature of the work to be performed (scope of services). For each additional required insurance, a corresponding certificate of insurance must be provided. Claims-made policies must have a retroactive date either prior to the effective date of the Contract or the beginning of the Contract work. Claims-made coverage must extend a minimum of twelve (12) months beyond completion of Contract work or end of current Contract, whichever is later. If coverage is cancelled or non-renewed, and not replaced with another claims made policy with a retroactive date prior to the Contract effective date, the Contractor must purchase extended reporting coverage for a minimum of twelve (12) months beyond completion of Contract work. Contractor shall maintain a policy limit of not less than one million dollars (\$1,000,000) per incident, with a deductible or self-insured retention not to exceed *\$2,500 unless approved by the County.

- 6.4.a Professional Liability Insurance..... (check box if required)
*Deductibles greater than \$2,500 require Insurance Reduction/Waiver form (Exhibit "C") to be completed.
- 6.4.b Maritime Insurance..... (check box if required)

7. NONDISCRIMINATORY EMPLOYMENT:

Contractor and/or any permitted subcontractor, shall not unlawfully discriminate against any individual based on race, color, religion, nationality, sex, sexual orientation, age or condition of disability. Contractor and/or any permitted subcontractor understands and agrees that Contractor and/or any permitted subcontractor is bound by and will comply with the nondiscrimination mandates of all Federal, State and local statutes, regulations and ordinances.

8. SUBCONTRACTING:

The Contractor shall not subcontract nor assign any portion of the work required by this Contract without prior written approval of the County except for any subcontract work identified herein. If Contractor hires a subcontractor under this Agreement, Contractor shall require subcontractor to provide and maintain insurance coverage(s) identical to what is required of Contractor under this Agreement and shall require subcontractor to name Contractor as additional insured under this Agreement. It shall be Contractor's responsibility to collect and maintain current evidence of insurance provided by its subcontractors and shall forward to the County evidence of same.

9. ASSIGNMENT:

The rights, responsibilities and duties under this Contract are personal to the Contractor and may not be transferred or assigned without the express prior written consent of the County.

10. LICENSING AND PERMITS:

The Contractor shall maintain the appropriate licenses throughout the life of this Contract. Contractor shall also obtain any and all permits which might be required by the work to be performed herein.

11. BOOKS OF RECORD AND AUDIT PROVISION:

Contractor shall maintain on a current basis complete books and records relating to this Contract. Such records shall include, but not be limited to, documents supporting all bids, all income and all expenditures. The books and records shall be original entry books with a general ledger itemizing all debits and credits for the work on this Contract. In addition, Contractor shall maintain detailed payroll records including all subsistence, travel and field expenses, and canceled checks, receipts and invoices for all items. These documents and records shall be retained for at least three years from the completion of this contract. Contractor will permit District to audit all books, accounts or records relating to this Contract or all books, accounts or records of any business entities controlled by Contractor who participated in this Contract in any way. Contractor shall refund any moneys erroneously charged.

12. TITLE:

The contractor agrees that all data, plans, drawings, specifications, reports, computer programs, operating manuals, notes, and other written or graphic work produced in the performance of this agreement are subject to the rights of the District as set forth in this section. The District shall have the right to reproduce, publish, and use all such work, or any part thereof, in any manner and for any purposes whatsoever and to authorize others to do so. If any such work is copyrightable, the contractor may copyright the same, except that, as to any work which is copyrighted by the contractor, the District reserves a royalty-free, nonexclusive, and irrevocable license to reproduce, publish, and use such work, or any part thereof, and to authorize others to do so (40 CFR 31.34, 31.36).

13. TERMINATION:

- A. If the Contractor fails to provide in any manner the services required under this Contract or otherwise fails to comply with the terms of this Contract or violates any ordinance, regulation or other law which applies to its performance herein, the County may terminate this Contract by giving five (5) calendar days written notice to the party involved.
- B. The Contractor shall be excused for failure to perform services herein if such services are prevented by acts of God, strikes, labor disputes or other forces over which the Contractor has no control.
- C. Either party hereto may terminate this Contract for any reason by giving thirty (30) calendar days written notice to the other parties. Notice of termination shall be by written notice to the other parties and be sent by registered mail.
- D. In the event of termination not the fault of the Contractor, the Contractor shall be paid for services performed to the date of termination in accordance with the terms of this Contract so long as proof of required insurance is provided for the periods covered in the Contract or Amendment(s).

14. RELATIONSHIP BETWEEN THE PARTIES:

It is expressly understood that in the performances of the services herein, the Contractor, and the agents and employees thereof, shall act in an independent capacity and as an independent contractor and not as officers, employees or agents of the County. Contractor shall be solely responsible to pay all required taxes, including but not limited to, all withholding social security, and workers' compensation.

15. AMENDMENT:

This Contract may be amended or modified only by written agreement of all parties.

16. ASSIGNMENT OF PERSONNEL:

The Contractor shall not substitute any personnel for those specifically named in its proposal unless personnel with substantially equal or better qualifications and experience are provided, acceptable to County, as is evidenced in writing.

17. JURISDICTION AND VENUE:

This Contract shall be construed in accordance with the laws of the State of California and the parties hereto agree that venue shall be in Marin County, California.

18. INDEMNIFICATION:

Contractor agrees to indemnify, defend, and hold County, its employees, officers, and agents, harmless from any and all liabilities including, but not limited to, litigation costs and attorney's fees arising from any and all claims and losses to anyone who may be injured or damaged by reason of Contractor's willful misconduct or negligent performance of this Contract. Nothing herein shall be construed as a limitation of Contractor's liabilities.

19. COMPLIANCE WITH APPLICABLE LAWS:

The Contractor shall comply with any and all Federal, State and local laws and resolutions (including, but not limited to the County of Marin Nuclear Free Zone, Living Wage Ordinance, and Resolution #2005-97 of the Board of Supervisors prohibiting the off-shoring of professional services involving employee/retiree medical and financial data) affecting services covered by this Contract. Copies of any of the above-referenced local laws and resolutions may be secured from the County's contact person referenced in paragraph 20.

NOTICES below.

20. NOTICES:

This Contract shall be managed and administered on County's behalf by the Department Contract Manager named below. All invoices shall be submitted and approved by this Department and all notices shall be given to County at the following location:

Contract Manager: Elizabeth Lewis
Dept./Location: Public Works, Rm 304
P.O. Box 4186 San Rafael CA 94913-4186
Telephone No.: (415) 499-7226

Notices shall be given to Contractor at the following address:

Contractor: Stillwater Sciences
Address: 2855 Telegraph Avenue, Suite 400
Berkeley CA 94705
Telephone No.: (510) 848-8098x131

21. ACKNOWLEDGEMENT OF EXHIBITS

CONTRACTOR'S INITIALS

EXHIBIT A. Scope of Services CF
EXHIBIT B. Fees and Payment CF
EXHIBIT C. Insurance Reduction/Waiver N/A

IN WITNESS WHEREOF, the parties have executed this Contract on the date first above written.

APPROVED BY
COUNTY OF MARIN:

By: _____
BOARD PRESIDENT

CONTRACTOR:

By: Craig Fixler
Name: Craig Fixler
Telephone No.: (510) 848-8098

COUNTY COUNSEL REVIEW AND APPROVAL (Only required if any of the noted reason(s) applies)

REASON(S) REVIEW:

- Contract Requires Board of Supervisors' Approval
- Standard Short Form Content Has Been Modified
- Optional Review by County Counsel at Department's Request

County Counsel: James D. Flanagan
Date: 10/11/05

EXHIBIT "A"
SCOPE OF SERVICES (required)

EXHIBIT "B"
FEES AND PAYMENT SCHEDULE (required)

EXHIBIT "A"

SCOPE OF SERVICES (required)

1. Technical Approach

Approach

Studies of average annual sediment production and delivery typically rely on two analytical steps: identification of sediment sources and sinks, and estimates of the rate at which sediment is produced or deposited. The former requires staff skilled in geomorphic field interpretation, while the latter requires integration of field observation, photogrammetry and air photo interpretation, and modeling.

Our investigation of sediment delivery rates into channels of the upper Lagunitas Creek watershed will be based on the following guiding principles:

1. construction of a valid conceptual model of geomorphic processes operating under current and historical periods;
2. estimates of sediment production, storage and delivery for individual processes derived from a finite set of geomorphic processes (see below);
3. stratification of the study area into areas where certain geomorphic processes dominate according to a combination of factors such as geology, slope, land cover, land use, and channel management. Stratifying both hillslope areas and channel segments allows the extrapolation of estimated process rates into unsurveyed terrain. Such analysis can also be used to determine where sediment production is effectively disconnected from the channel network;
4. validation and corroboration of sediment source estimates against estimates derived using relevant published values for nearby and/or similar areas, downstream sites of sediment deposition, and sediment transport models derived from daily average hydrological data;
5. collecting available data with the goals of
 - a. distinguishing natural process rates from anthropogenically influenced rates, and
 - b. subdividing geomorphic process rates into historical periods based on major human and/or climatic influences.

Our experience with sediment budgets indicates that sediment rate estimates are best constrained using multiple approaches and data sources. For instance, we have previously used a combination of six methods in estimating a sediment budget for Redwood Creek, Marin Co., including:

- digital terrain modeling to compare gross watershed characteristics and assess the relative importance of difference geomorphic processes;
- field reconnaissance to ascertain and validate hillslope processes determined from aerial photographs;
- mainstem channel surveys to reveal trends in alluvial sediment storage;
- literature reviews of applicable studies to obtain process rate estimates;
- use of short-term gauging records in combination with prorated records from nearby watersheds, and;
- modeling of bedload flux rates to validate coarse sediment yields.

A similar approach using multiple data sources is proposed in this scope of work. Based on our current understanding of conditions in the upper Lagunitas Creek watershed, we estimate that the following methods will be necessary (Table 1).

Table 1 Finite geomorphic process set typical to sediment sources in watersheds of the California coast range

Category	Geomorphic Process	Method of Investigation
<i>Natural Processes</i>		
Sediment production	Conversion of bedrock to soil mantle	Not appropriate to the time frame of reference for this study
	Bedrock landsliding	
	Rockfall	
Hillslope mass wasting processes	Creep and biogenic transport	Soil creep in this study will be subsumed into rates of streamside bank erosion that represents the ultimate delivery of the creep-derived material to the channel network
	Shallow landsliding	Use of prior reports, existing landslide inventories, records of landslide activity, interpretation of sequential aerial photography and field survey to ascertain the location, volume, and timing of shallow landslides. Application of terrain modeling to identify potentially unstable areas.
	Deep-seated landsliding	Topographic evidence suggest that deep-seated sliding has not been active in the current or recent historical past. Check against geology maps
Hillslope overland flow erosion	Sheetwash and rill erosion	Evidence from prior reports and field survey
Channel production processes	Channel head advance	Evidence from prior reports, oblique and sequential aerial photographs, GPS location of channel heads, and extrapolation of measured slope-thresholds for channel initiation.
	Gully incision	Evidence from prior reports and aerial photographs, field survey of sediment volumes corroborated by age of vegetation. Use of spatial comparisons to identify stage in gully development.
	Bank erosion	Use of sequential aerial photographs where visibility permits. Field surveys focusing on determining the volume of erosion according to channel morphology, vegetation age structure, and stratigraphic evidence
	Mainstem incision / aggradation	Use of sequential aerial photographs where visibility permits. Field surveys focusing on determining the volume of erosion according to morphology, vegetation age, near-channel structures, and stratigraphic evidence. Potential use of dendrochronology where mainstem terraces are identified. Use of spatial comparisons to identify stage in erosional development. Identify sediment storage reservoirs by activity class.
Channel sediment routing and storage dynamics	Sediment transport	Use of suspended sediment and bedload gauging records where available. Application of sediment transport modeling as corroboration on sediment estimates and on variability in delivery rates/export
<i>Human Disturbances*</i>		
Road-related	Cut and fill failures	Use of prior inventories of road-related erosion in combination with field survey for evidence for
	Surface erosion	

Scope of Work to
Quantify Sediment Delivery to Channels
in the Upper Lagunitas Creek Watershed

Category	Geomorphic Process	Method of Investigation
	Stream crossing fill failures	age of failures and rate estimates
	inboard ditch incision and slope destabilization	
	Gullying caused by drainage associated with inboard ditch relief	
	Accelerated runoff and channel destabilization	
Agriculture	Surface wash rilling and gullying	See methods for rill erosion and gully incision above
	Accelerated runoff and channel destabilization	See methods for bank erosion and mainstem incision / aggradation above
	Hillslope vegetation removal and landsliding	See methods for shallow landsliding above
	Riparian vegetation removal and channel destabilization	See methods for bank erosion and mainstem incision / aggradation above
Urban	Construction phase sediment pulse	Rates of urban construction are anticipated to be too low to identify discrete fine sediment sources from field survey.
	Connection of drainage network	Examine channels above and below storm-water outfalls for erosional changes
	Post-construction low sediment and accelerated runoff	See methods for bank erosion and mainstem incision / aggradation above
Channel management	Channel destabilization through straightening and relocation	Refer to history of channelization and maintenance (if any). Field surveys of channel management activity; correlated to channel morphology changes.
	Channel destabilization through LWD removal	Refer to history of channel maintenance for evidence of LWD removal (if any)
	Sediment reduction through bank revetment, dams, source control measures	Field survey to examine potential sediment stores

Note: * with the exception of road-related erosion, human disturbances affect the geomorphic processes already identified as natural and, therefore, require efforts to separate the relative influence of natural and human factors.

Phase 1 Scope of Work

The project has been sub-divided into two phases, to match with budget availability. The first phase will involve review of data availability, development of the project work plan, analysis of existing data and watershed stratification, and field data collection. Phase 2, if funded, would consist of data analysis and report preparation. The current contract concerns only Phase 1.

Task 1. Initial site visit and collaborative objectives setting/issues formulation

- **Field kick-off meeting** with the project team and client to observe dominant hillslope processes, areas of special concern, and previously studied sites (*Meeting #1*). Meeting to occur by mid-November 2005.

Cost Estimate: ~\$3,600

Task 2. Acquire and review existing data

- **Obtain and compile relevant background materials and develop project database** specific to the watershed, including background literature and data listed in RFP (i.e. hydrologic data, geomorphic data, geologic reports and sediment assessments, vegetation and soils data, aerial photographs and maps, other reports). Determine the extent to which previous sediment source analyses provide required data and what additional analysis and/or field-based studies must be conducted to complete and/or add precision to the sediment source analysis.
- **Review literature to compile representative sediment production rates** from similar or nearby watersheds, as they relate to individual mechanisms of hillslope and channel sediment production and transfer.
- **Develop conceptual models of watershed functioning** under recent and historical periods as a transparent basis for interpreting field data.

Cost estimate: ~\$8,800

Task 3 Develop draft and final project workplan

- **Draft a comprehensive work plan** that encompasses GIS, aerial photograph interpretation, terrain modeling, data compilation, determination of geomorphic process domains, collection of hillslope and channel field data and aerial photographs, integration of pertinent sediment production rate data, field data analysis, corroboration and interpretation, and report preparation. The work plan would be sufficient for Phase 1 and, if funding permits, Phase 2. The Draft Workplan will be prepared by December 15, 2005.
- Prior to the submittal of the final workplan, a meeting will be held with the Department of Public Works (DPW) staff and the Scientific Technical Advisory Committee (STAC) to discuss comments and issues related to the draft workplan (*Meeting #2*). It is proposed that the Final Workplan will be delivered by January 7, 2006, assuming timely reviews of the Draft Workplan.

Cost estimate: ~\$13,800

Task 4. Existing data analyses and determination of geomorphic process domains

- **Analyze historical aerial photography and maps** to identify and quantify to the areal extent of sediment production from processes such as landsliding (including slumps and earthflows), gully/piping, sheet and rill erosion, and biogenic processes (e.g., burrowing, treethrow). Identify sediment pathways and quantify hillslope sediment storage features where possible, such as accumulation in hillslope hollows, debris fans in low-order tributaries etc. Identify changing land use patterns in time.
- **Analyze empirical information to indicate existing and historical sediment sources from erosion associated with anthropogenic activity.**
- **Develop models to assist in field data surveys.** The GIS-based model Shalstab indicates the likelihood of shallow landslide activity in topographic hollows and was proven in the California Coast Range. Predictions from the model are useful in focusing field data collection efforts, in combinations with prior observations and mapping of landslide extent. Another GIS-based model predicts median grain size on the channel bed form as a function of slope and drainage area, and was also developed in Marin County. Prediction from the model can be compared to field data observations to indicate deviations that may indicate local sediment sources or discrete depositional zones.
- **Determine geomorphic process domains** based on land use, geology, hillslope gradient, and channel characteristics (i.e., channel gradient and stream order), as well as empirical data on existing sediment sources and sizes, into a GIS format and combine to form unique hillslope and channel process domains indicative of the watershed under current and historical conditions.

Cost estimate: ~\$22,700

Task 5. Hillslope and Channel Field surveys

- **Conduct intensive field surveys** designed to:
 1. field truth process domain delineations and channel-reach type;
 2. estimate erosion depths and grain size distributions at hillslope and streamside mass wasting features;
 3. validate the aerial extent of these failures where estimated from aerial photographic mapping;
 4. estimate locations and volumes of gully erosion;
 5. estimate the areal extent and volume of sheet and rill erosion;
 6. estimate the extent and connectivity of road-related sediment sources;
 7. determine the volume of mainstem erosion and deposition based on interpretation of channel morphology, vegetation age class, and near-channel structures: gather evidence to constrain the estimated age of erosion or depositional features and deposits (using, as appropriate, stratigraphic interpretation and relative dating methods such as dendrochronology);
 8. Examine erosion and deposition around erosion control and sediment source control structures to determine their efficacy and potential need for repair.
 9. Corroborate sediment production estimates using depositional source evidence where available (e.g., relevant lake deposition rate, deposition behind structures, in sediment traps, etc.)
 10. Determine the effectiveness of flood events for sediment delivery for significant events occurring during the contract period.Field surveys will provide information for volume calculations, estimates of transit and residence times, and recurrence intervals of processes.

Cost estimate: ~\$26,200

Phase 1 total: ~\$75,000

2. Schedule

The schedule overleaf provides an indication of the project timeline as designed to meet client milestones outlined in the RFP.

Scope of Work to
Quantify Sediment Delivery to Channels
in the Upper Lagunitas Creek Watershed

Task Number and Work Activity	2005		2006												2007		
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	
PHASE 1																	
Workplan Development																	
1. Project commencement	X																
1. Field kick-off meeting with STAC	X																
2. Acquisition/review of existing data & development of conceptual models																	
3. Submission of draft workplan			X														
3. Revision of workplan following STAC meeting																	
3. Submission of final workplan															X		
Data Analysis and Collections																	
4. Data analysis and geomorphic process domains																	
5. Field surveys (& observations of existing BMPs)																	
5. Data QA/QC																	
PHASE 2 (FOR GUIDANCE ONLY)																	
Data Analysis																	
6. Field data analysis, corroboration, interpretation																	
Reporting																	
7. Development of recommendations																	
8. Development of internal and peer review draft																	
8. Development of draft report																	
8. Submission of draft report																	
8. Report revision following STAC review																	
8. Submission of Final Report																X	
Final Invoice																	X

X = Prescribed milestones
Light grey shading: possible field surveys during / following flood events.

3. Budget

The proposed budget detailed by task and labor below is based on our current understanding of the project requirements and is designed to be coherent relative the approach detailed in section 1. The budget considers only Phase One of the project. The project budget is based on assumed 2006 hourly rates for project staff, as the majority of the project will occur in 2006. Hourly rates for staff in 2005 is provided in Exhibit B.

UPPER LAGUNITAS CREEK WATERSHED SEDIMENT DELIVERY

STAFF CLASSIFICATION	RATE	Initial site visit, background data acquisition, workplan	Data and air photo analysis and process domain delineation	Field data collection	TOTAL HOURS	TOTAL COST
		HOURS	HOURS	HOURS		
Principal	\$ 175.00	14	0	0	14	\$2,450
Sr. Geomorphologist	\$ 140.00	54	20	34	108	\$15,120
Geomorphologist	\$ 93.27	74	42	34	150	\$13,991
Geomorphologist	\$ 90.56	34	32	28	94	\$8,513
Geomorphologist	\$ 99.96	18	16	20	54	\$5,398
Ecologist	\$ 48.38	0	0	100	100	\$4,838
GIS Specialist	\$ 117.76	0	56	0	56	\$6,595
GIS Analyst	\$ 54.85	16	32	8	56	\$3,072
Geomorphologist	\$ 54.83	60	56	124	240	\$13,159
Sediment transport modeler	\$ 156.58	0	0	0	0	\$0
TOTAL HOURS		270	254	348	872	\$73,134
TOTAL LABOR COST		\$25,958	\$22,635	\$24,542	\$73,134	\$73,134

EXPENSES	Initial site visit, background data acquisition, workplan	Data and air photo analysis and process domain delineation	Field data collection	EXPENSES COST
TRAVEL (GROUND):	\$50	\$0	\$500	\$550
MEALS:	\$50	\$0	\$250	\$300
WORD PROCESSING:	\$10	\$50	\$150	\$210
COPIES:	\$0	\$50	\$180	\$230
EQUIPMENT:	\$0	\$0	\$400	\$400
OTHER DIRECT EXPENSE COST:	\$110	\$100	\$1,480	\$1,690
ODC MARK-UP: 10%	\$11	\$10	\$148	\$169
SUBTOTAL ODCs:	\$121	\$110	\$1,628	\$1,859
TOTAL EXPENSES:	\$121	\$110	\$1,628	\$1,859

PROJECT COST:	\$26,079	\$22,745	\$26,170	\$74,993	\$74,993
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Note: this budget does not provide for some of the work to be conducted under a subcontract with Watershed Sciences, which has been discussed as an option with MPW. Should it be agreed that Watershed Sciences are to be utilized, some of the work would shift from Stillwater Sciences staff.

FEES AND PAYMENT SCHEDULE

Stillwater Ecosystem, Watershed & Riverine Sciences

2855 TELEGRAPH AVENUE, SUITE 400
BERKELEY CA 94705
PHONE (510) 848-8098 FAX (510) 848-8398

STILLWATER SCIENCES
2005

Name	Rate
Allen, Douglas	100.32
Amerson, Byron	77.52
Angell, Kathleen	42.00
Araki, Sayaka	52.72
Aspittle, Jennifer	55.04
Baker, Peter	135.44
Bass, Phoebe	45.04
Bauer, Nicolas	45.04
Bell, Ethan	96.36
Billes, Christel	42.00
Bout, Emmalien	42.00
Bowers, Ronna	52.72
Braudrick, Christian	91.88
Cabrera, Natalie	49.60
Champe, Christine	138.00
Cheang, Tom	96.00
Cholodenko, Laura	55.80
Constantine, Jose	20.00
Cosio, Tamara	62.00
Cui, Yantao	150.56
Diggory, Zooey	77.76
Downs, Peter	138.00
Dusek, Lauren	59.16
Dusterhoff, Scott	89.68
Earl, Holly	98.24
Fadde, Jessica	48.36
Fainter, Michael	117.92
Fixler, Craig	145.00
Fleming-Singer, Maia	109.52
Fox, Gila	56.44
Fox, Tim	56.44
Furber, Seaila	42.00
Gilliam, Elizabeth	52.08
Gonzales, Eric	74.40
Gorman, Deon	60.44
Gruszkowski, Rita	87.92
Hayden, Maya	89.04
Hetz, Sarah	42.00
Hose, Harry	42.00
Hume, Noah	127.84

Name	Rate
Ligon, Frank	175.00
Longcore, Robert	75.00
Lucas, Trevor	52.08
Lue, Evan	42.00
Malko, Mary	43.40
Matsuda, Brent	80.72
McCants, Dave	96.00
McDowell, Bill	42.00
Mettee, Michael	43.40
Modafferi, Sandy	55.80
Moir, Hamish	93.00
Orr, Bruce	138.00
Orr, Krista	66.36
Osterback, Ann-Marie	46.52
Parton, Michael	128.00
Pedersen, Dirk	104.28
Peek, Ryan	62.00
Percival, Angela	96.24
Pittman, Roman	54.32
Potter, John	64.48
Ralph, Stephen	138.00
Real de Asua, Rafael	113.24
Reil, Marie	59.04
Riebe, Cliff	96.12
Santana, Geraldo	49.60
Schubert, Shelly	46.52
Sears, Bill	85.68
Shanafield, Margaret	55.80
Simmons, Ryan	58.92
Simpson, Sabrina	107.76
Sloat, Matt	80.60
Smith, Lynette	46.52
Sparks, Whitney	72.04
Stallman, Jay	87.08
Stella, John	116.32
Stevens, Nancy	52.72
Swaney, Wayne	98.36
Tadano, Juliana	54.32
Trawick, Darren	46.88
Venditti, Jeremy	124.12

Jaquette, Chris	75.92
Jarrett, Kenneth	42.00
Jurjavcic, Nicole	77.52
Keith, AJ	108.64
Kelly, Bill	42.00
Khandwala, Sapna	94.36
King, Emily	43.40
Kirihara, Steve	95.36
Klamecki, Joseph	42.00
Kouffeld, Meadow	42.00
Kramer, Sharon	138.00
Kramer, Steve	94.76
Lassettre, Neil	93.00
Lau, Tami	42.00
Leverich, Glen	48.36
Liebig, Russell	79.88

Vince, Eric	42.00
Vogel, Heidi	42.00
Wade, Mark	93.00
Wagner, Samantha	46.88
Watts, Jennifer	55.80
White, Shawn	80.88
Wilcox, Alissa	42.00
Wilcox, Scott	138.00
Williams, Margo	42.00
Woo, Sheri	97.00
Wood, Steven	56.44
Woodard, Nathan	43.40
Wooster, John	84.20
Wright, Jonathan	42.00
Yee, Suk Ann	42.00
Zajanc, David	80.60

Rates listed above are for calendar year 2005. This will be a labor-hour level-of-effort contract with reimbursement for expenses (including travel expenses) at cost plus 10% (not to exceed State of California authorized travel and expense levels). Hourly rates will be adjusted on January 1st of each year.