

JE Fuller/ Hydrology & Geomorphology, Inc.

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Ted Lehman, PE	Jeff Despain, PE, CFM	Brian Schalk, PE, CFM	Robert Shand, PE
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Mike Kellogg, RG, CFM	Ethan Rode, CTC	Nathan Logan, PE, CFM	Cyrus Miller, PE, CFM
Hari Raghavan, PhD, PE, CFM	Annette Griffin, AAS	Peter Acton, MS	Cory Helton, EIT, MS

April 24, 2014

Karen Riggs, PE
Cochise County Highway & Floodplain
1415 Melody Lane
Bisbee, AZ 85603

RE: Proposal – Equipment Installation and Monitoring at Palominas Recharge Project

Dear Karen:

Per your request, JE Fuller/Hydrology & Geomorphology (JEF) is providing you with this proposal for the referenced services. The following items are attached;

- A. Scope of Work from Cochise County
- B. GeoSystems Analysis, Inc (GSA) Cost Proposal.

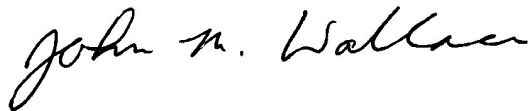
The total estimated fee for services based on the enclosed is \$203,490.

The above fee is based on the following;

- \$179,400 fee per the attached GSA cost proposal, and
- A 5% markup on the GSA proposal plus up to 12 hours/month of JEF staff time at \$105/hour for the 12 month duration of the project. Total JEF fee of \$24,090.

JEF appreciates the opportunity to provide you with this proposal. Please feel free to contact myself or Cyrus Miller at 623-3112 if you have any questions regarding this proposal.

Sincerely,
JE Fuller/Hydrology & Geomorphology, Inc.



John M. Wallace, P.E.
President

Attachments; A & B as described above

8400 S. Kyrene Rd., Ste 201	1 West Deer Valley Rd., Ste 101	523 N. Beaver St., 2 nd Floor	40 E. Helen Street
Tempe, Arizona 85284	Phoenix, AZ 85027	Flagstaff, AZ 86001	Tucson, Arizona 85705
480-752-2124 (voice)	623-889-0166 (voice)	928-214-0887 (voice)	520-623-3112 (voice)
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ATTACHMENT A
COCHISE COUNTY and THE NATURE CONSERVANCY
EQUIPMENT INSTALLATION AND MONITORING
CONTRACT
SCOPE OF WORK
PALOMINAS RECHARGE PROJECT

ATTACHMENT A

COCHISE COUNTY and THE NATURE CONSERVANCY EQUIPMENT INSTALLATION AND MONITORING CONTRACT SCOPE OF WORK PALOMINAS RECHARGE PROJECT Dated April 15th, 2014

The tasks listed below are the identified elements to this scope of work for equipment installation, monitoring, and reporting for the Palominas Recharge Project. The contractor, in its proposal, may suggest modifications to this scope of work and the tasks with justification for those suggested modifications to the Project Team. The scope shall be revised to include any accepted modifications prior to contract award.

TASK 1. PROJECT MANAGEMENT

The contractor shall:

- Identify a project manager who shall be responsible for managing the budget, schedule, and deliverables throughout the project, including the management of budget, schedule, and deliverables of any subcontractors, as well as report directly to the County's project manager;
- Identify all subcontractors who shall be involved in the project;
- Participate in and/or lead as appropriate all monthly conference calls/meetings;
- Suggest modification of project scope details, including phasing, critical path items and decision points, as the project progresses;
- Suggest modifications to clarify and prioritize monitoring goals/approaches, as the project progresses;
- Suggest additional milestones leading to ensure achievement of project goals, as the project progresses;
- Assign roles and communication system for contractor and subcontractor project team members; and
- Identify key stakeholders groups, contacts for each group, and timing for project participation with assistance from the Project Team.

It is anticipated that the contract shall be awarded on or before May 15th, 2014. The contractor shall work closely with the County's project manager to develop a schedule for review and approval by the Project Team within 10 days of contract award.

Deliverable 1. Monthly Reports and Invoices and Monthly Conference Calls/Meetings
Deliverable 2. Initial Project Schedule with Monthly Updates as needed

TASK 2. MONITORING EQUIPMENT INSTALLATION RELATED ACTIVITIES

The contractor shall install new monitoring equipment as described in the Monitoring Plan (Attachment B) and in the following sections.

ATTACHMENT A

Installation of monitoring equipment shall be conducted after essential construction activities of the Flood Control and Recharge Project have been completed, unless otherwise noted. The contractor shall work closely with the Owner's Representative to determine the ideal time for work activities.

TASK 2.1. DRILLING OVERSIGHT FOR INSTALLATION OF MONITORING WELLS AND INSTRUMENTED BOREHOLES

The contractor shall provide oversight of drilling and installation of monitoring wells and instrument boreholes. Three new monitoring wells plus eight instrumented boreholes shall be installed at the approximate locations shown in Figure 1 of Attachment B.

- The three new monitoring wells shall be drilled and completed to total depths not to exceed 50 feet below ground surface (ft bgs) (Attachment B, Figure 5).
- Five Level 1 instrumented boreholes shall be installed to total depths not to exceed 30 ft bgs (Attachment B, Figure 7).
- Three Level 2 instrumented boreholes shall be installed to total depths not to exceed 35 ft bgs (Attachment B, Figure 8).

The contractor shall oversee drilling and completion of each monitoring well and instrumented borehole and characterize and log the lithology of cuttings at each hole during drilling. During drilling, the contractor shall collect representative samples for laboratory analysis of particle size, water content, and saturated and unsaturated hydraulic properties. Laboratory analysis shall be performed to support lithologic classification and flux analysis.

At a minimum, the contractor shall acquire and install the following monitoring equipment as specified for each monitoring well and instrumented borehole (Attachment B, Figures 7 and 8):

- At each monitoring well: One pressure transducer and datalogger.
- At each Level 1 instrumented borehole: Five volumetric water content and temperature sensors at selected depths, plus datalogger.
- At each Level 2 instrumented borehole: Five volumetric water content and temperature sensors at selected depths, three matric potential sensors (e.g., advanced tensiometers) at selected depths, plus datalogger.

All equipment shall be calibrated as necessary and evaluated for functionality prior to installation. Equipment shall be connected to datalogger, which shall be programmed to record measurements at least four times per day. Installation diagrams shall be provided for all equipment.

TASK 2.2. INSTALLATION OF STILLING WELLS

The contractor shall install basic stilling wells at the outflow of each in-channel basin and the detention basin (Attachment B, Figure 1).

ATTACHMENT A

The stilling wells shall consist of 2-inch diameter PVC housing to be attached to the concrete weir walls using concrete bolts. Pressure transducers shall be positioned in each stilling well and programmed to record the water level height at 15-minute intervals. Installation diagrams shall be provided for the still wells.

TASK 2.3. INSTALLATION OF DRY WELLS AND INFILTRATION TRENCHES

The contractor shall install pressure transducers in the dedicated locations (that is, the PVC tubing installed specifically to house the pressure transducer) for each of six dry wells and three infiltration trenches (see 95% design plans for more details). Each pressure transducer shall be programmed to record water levels at 15-minute intervals. Installation diagrams shall be provided for all equipment.

TASK 2.4. INSTALLATION OF PRECIPITATION GAGES

The contractor shall install three tipping-bucket precipitation gages at locations throughout the Palominas watershed (Attachment B, Figure 4). Gages shall be installed according to manufacturer's specifications. Installation diagrams shall be provided for all equipment.

TASK 2.5. DRAFT AND FINAL INSTALLATION REPORT

Once installation activities are complete, the contractor shall prepare and submit a draft Installation Report within one month. The Installation Report shall include installation diagrams for all equipment as well as laboratory results. Following review by the Project Team, the contractor shall respond to comments and revise and submit the final Installation Report.

Deliverable 3. Draft Installation Report

Deliverable 4. Response to Comments and Final Installation Report

3.0 MONITORING ACTIVITIES

For purposes of this Scope of Work, the monitoring activities include compilation of data collected during background (ongoing) monitoring plus actively monitoring the project site for the period of one year following installation of monitoring equipment.

TASK 3.1. BACKGROUND MONITORING

Water levels in one existing monitoring well (East Well, Attachment B, Figure 1) have been monitored since March 2013. A pressure transducer records continuous water levels and periodic manual measurements are taken when data is downloaded approximately four times per year. The contractor shall continue to monitor water levels at this well throughout the duration of the project.

ATTACHMENT A

Additionally, there are two existing USGS wells near the study area. Water levels at the southern well (USGS Site ID 312214110071602) have been continuously monitored while water levels at the northern well (USGS Site ID 312318110071901) are measured periodically. The contractor shall provide and install a pressure transducer to measure water levels continuously in the northern well; the contractor shall coordinate with the well owner and the Project Team as necessary to install the transducer and collect data. The contractor shall collect and compile all available data from these two USGS wells; data shall be evaluated in conjunction with the first year of monitoring.

TASK 3.2 MONITORING THE FIRST YEAR OF RECHARGE ACTIVITIES

Following installation of the monitoring equipment, the contractor shall monitor the project for a period of one year, with a minimum of four site visits. During each site visit, data shall be downloaded from all equipment. Water levels shall be measured manually and site observations shall be recorded. If necessary, instrument repair and maintenance shall be performed within two weeks of data quality assurance. Data shall be collected and quality assurance conducted according to industry-accepted standards. All field data shall be recorded in field logs and on field sheets, as appropriate. All field notes shall be converted to an electronic format (PDF files). Automated data shall be uploaded to an Excel or Access database, as appropriate, and provided to the Project Team.

TASK 4.0. DATA INTERPRETATION AND REPORTING

TASK 4.1. DATA INTERPRETATION

The contractor shall calculate the following monitoring metrics for the surface water detention basin, the in-channel recharge basins, and the improved in-channel basins (with dry wells and infiltration trenches):

- Estimated volume of surface water flow,
- Estimated volume of infiltration,
- Estimated evaporative depths and volumes,
- Estimated recharge rate and volume of recharge per acre and/or per linear foot,
- Estimated additional recharge resulting from alternative technologies (single-chamber dry wells, dual-chamber dry wells and trenches),
- Estimated cost per acre-foot of recharge, and
- Relationship between precipitation and surface water flow into the detention and recharge basins, correlation of real data to modeled precipitation-runoff estimates.

For the above items, incremental changes (increases or decreases) obtained from the dry wells and infiltration trenches shall be calculated.

Additionally, data collected as part of the monitoring plan shall be used to:

ATTACHMENT A

- Evaluate the relationship between precipitation and surface water flow into the detention basins and recharge basins
- Correlate observed data to modeled precipitation-runoff estimates, as described in Monitoring Plan (Attachment B)
- Compare soil conditions for those areas affected by recharge to those upstream from project activities

TASK 4.2. QUARTERLY INTERIM DATA SUMMARIES

Following quarterly data collection, the contractor shall evaluate observed infiltration rates. If observed infiltration rates have fallen below a threshold limit (for example, less than 6 inches per day), Cochise County staff shall be notified of the need for basin maintenance (i.e. sediment removal and/or scarification, as specified in the Operation Plan).

Interim data summaries shall be provided to the Project Team on a quarterly basis following data collection. Data summaries shall include a brief overview of the project status, events, and recommendations (including maintenance recommendations).

Deliverables 5, 6, 7, and 8. Quarterly Interim Reports

TASK 4.3. ANNUAL REPORT

Prior to preparation of reports, the contractor shall provide a draft outline and summary of the organization and content of the annual report for review and comment by the Project Team.

The Draft Annual Report shall be submitted to the Project Team at the end of the first one-year monitoring period. Responses to Comments and a Final Annual Report shall be submitted within one month of receipt of comments from the Project Team.

The contractor shall clearly document all project activities, including data interpretation and analysis in the Annual Reports; all data and associated interpretations shall be provided to the Project Team in electronic format, as an appendix to Annual Reports.

Deliverable 9. Outline and Summary of Annual Report Organization and Content

Deliverable 10. Draft Annual Report

Deliverable 11. Responses to Comments and Final Annual Report

ATTACHMENT B
GSA Cost Proposal

April 24, 2014

John Wallace, PE
President
JE Fuller/Hydrology & Geomorphology, Inc.
40 E. Helen Street
Tucson, AZ 85705

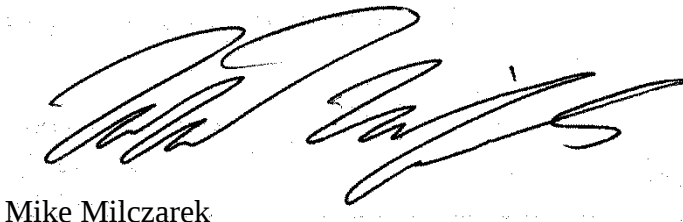
RE: Attachment B - Palominas Recharge Project – Monitoring Equipment Installation & Monitoring Cost Proposal

Dear John,

Please find attached an estimated cost proposal for the “Equipment Installation and Monitoring Contract Scope of Work Palominas Recharge Project” received from Cochise County and The Nature Conservancy.

If you should have any questions whatsoever, please do not hesitate to contact us.

Sincerely,



Mike Milczarek
Project Director

Table 1 - Cost Summary By Task

	Total Costs
1.0 - PROJECT MANAGEMENT	\$10,428
No Subtask	\$10,428
2.1 DRILLING OVERSIGHT FOR INSTALLATION OF MONITORING WELLS AND INSTRUMENTED BOREHOLES	\$82,711
2.1a INSTALLATION OF MONITORING WELLS	\$29,757
2.1b - INSTALLATION OF INSTRUMENTED BOREHOLES	\$52,954
2.2 - INSTALLATION OF STILLING WELLS	\$14,647
No Subtask	\$14,647
2.3 - INSTALLATION OF DRY WELLS AND INFILTRATION TRENCHES	\$8,561
No Subtask	\$8,561
2.4. INSTALLATION OF PRECIPITATION GAGES	\$9,153
No Subtask	\$9,153
2.5. DRAFT AND FINAL INSTALLATION REPORT	\$11,273
No Subtask	\$11,273
3.0 MONITORING ACTIVITIES	\$24,301
3.1 BACKGROUND MONITORING	\$3,247
3.2 MONITORING THE FIRST YEAR OF RECHARGE ACTIVITIES	\$21,053
4.0 DATA INTERPRETATION AND REPORTING	\$18,326
4.1. DATA INTERPRETATION	\$5,554
4.2 QUARTERLY INTERIM DATA SUMMARIES (3)	\$3,269
4.3 ANNUAL REPORT	\$9,503

Table 1 - Cost Summary By Task

	Total Costs
Proposal Grand Total	\$179,400

Palominas Recharge & Flood Control Project - Monitoring Equipment Installation
Table 2 - Detailed Costs

Task: 1.0 - PROJECT MANAGEMENT

			Quantity	Unit Cost	Shipping	Total Cost
Personnel Costs						
Subtask: No Subtask						
Program Director		Milczarek	64	\$145	NA	9280
Clerical Staff		Torres	16	\$65	NA	1040
Subtask Total:						\$10,320
Other Direct Costs						
Subtask: No Subtask						
Communications			1	\$50	NA	50
Miscellaneous			1	\$50	NA	50
Subtask Total:						\$108
			8.00% Overhead: \$8.00		Task Total	\$10,428

Palominas Recharge & Flood Control Project - Monitoring Equipment Installation

Table 2 - Detailed Costs

Task: 2.1 DRILLING OVERSIGHT FOR INSTALLATION OF MONITORING WELLS AND INSTRUMENTED BOREHOLES

		Quantity	Unit Cost	Shipping	Total Cost
Personnel Costs					
Subtask: 2.1a INSTALLATION OF MONITORING WELLS					
Program Director	Milczarek	12	\$145	NA	1740
Laboratory Manager	Yao	2	\$135	NA	270
Senior Hydrologist	Rice	60	\$95	NA	5700
Hydrologist 1	Calabrese	32	\$75	NA	2400
Clerical Staff	Torres	4	\$65	NA	260
Subtask Total:					\$10,370
Subtask: 2.1b - INSTALLATION OF INSTRUMENTED BOREHOLES					
Program Director	Milczarek	12	\$145	NA	1740
Laboratory Manager	Yao	2	\$135	NA	270
Senior Hydrologist	Rice	96	\$95	NA	9120
Hydrologist 1	Calabrese	112	\$75	NA	8400
Clerical Staff	Torres	8	\$65	NA	520
Subtask Total:					\$20,050
Drilling Costs					
Subtask: 2.1a INSTALLATION OF MONITORING WELLS					
Mob/Demob		1	\$1,200	NA	1200
Bollards (4 each)		2	\$800	NA	1600
Support Equipment		3	\$375	NA	1125
Surface Completion (per client's specifications)		3	\$325	NA	975
Per Diem		2	\$300	NA	600
ADWR Well Permit		3	\$200	NA	600
Well Development		6	\$180	NA	1080
Complete 2-inch Sch 40 PVC well casing, 0.20 slot screen, and stemming materials		140	\$27	NA	3780
Drilling Auger Rig 6-inch borehole		140	\$12	NA	1680
Subtask Total:					\$13,651
Subtask: 2.1b - INSTALLATION OF INSTRUMENTED BOREHOLES					
Support Equipment		4	\$375	NA	1500
Surface Completion (per client's specifications)		8	\$325	NA	2600
Per Diem		2	\$300	NA	600
Well Completion Materials (all except client's instruments)		220	\$19	NA	4180
Drilling Auger Rig 6-inch borehole		220	\$12	NA	2640
Subtask Total:					\$12,442
Lab Costs					

Palominas Recharge & Flood Control Project - Monitoring Equipment Installation

Table 2 - Detailed Costs

<i>Subtask: 2.1a INSTALLATION OF MONITORING WELLS</i>				
ACZ - Inorganic Primary & Secondary Drinking Water Standards	2	\$451	\$100	1002
<i>Subtask Total:</i>				<i>\$1,082</i>
<i>Subtask: 2.1b - INSTALLATION OF INSTRUMENTED BOREHOLES</i>				
GSA - Saturated Hydraulic Conductivity (6-inch Repacked Core)	9	\$100	NA	900
GSA - Particle Size Analysis - Wet Sieve	18	\$65	NA	1170
GSA - Atterberg Limits	18	\$55	NA	990
GSA - Bulk Density (2-inch core)	18	\$10	NA	180
GSA - Moisture Content (Oven)	18	\$10	NA	180
<i>Subtask Total:</i>				<i>\$3,694</i>
Rental Costs				
<i>Subtask: 2.1a INSTALLATION OF MONITORING WELLS</i>				
Grundfos controller	1	\$250	NA	250
Grundfos 2" Pump	1	\$180	NA	180
Water Sounder	1	\$50	NA	50
<i>Subtask Total:</i>				<i>\$518</i>
<i>Subtask: 2.1b - INSTALLATION OF INSTRUMENTED BOREHOLES</i>				
Toughbook	1.5	\$50	NA	75
<i>Subtask Total:</i>				<i>\$81</i>
Instruments Costs				
<i>Subtask: 2.1a INSTALLATION OF MONITORING WELLS</i>				
In-situ communications package	1	\$500	NA	500
In-Situ Level Logger	4	\$425	\$100	1800
Miscellaneous supplies	2	\$100	NA	200
<i>Subtask Total:</i>				<i>\$2,700</i>
<i>Subtask: 2.1b - INSTALLATION OF INSTRUMENTED BOREHOLES</i>				
Decagon 5-channel datalogger	5	\$450	\$100	2350
Refurbish CR-10X dataloggers	3	\$350	NA	1050
Advanced tensiometers	9	\$250	NA	2250
ECH20 Water Content & Temperature Sensors	40	\$140	\$200	5800
Miscellaneous supplies	4	\$100	NA	400
Decagon Cables 50-ft extenders	40	\$40	NA	1600
Sensor Cable - Burial Grade	355	\$1	\$30	385
1-inch PVC for AT's	175	\$1	NA	131.25
1-inch tubing for AT's	175	\$0	NA	43.75
<i>Subtask Total:</i>				<i>\$15,131</i>
Other Direct Costs				
<i>Subtask: 2.1a INSTALLATION OF MONITORING WELLS</i>				
Lodging	6	\$85	NA	510

Palominas Recharge & Flood Control Project - Monitoring Equipment Installation
Table 2 - Detailed Costs

Miscellaneous	4	\$50	NA	200
Subsistence	8	\$35	NA	280
2WD Transportation	600	\$1	NA	339
Subtask Total:				\$1,435
Subtask: 2.1b - INSTALLATION OF INSTRUMENTED BOREHOLES				
Lodging	6	\$85	NA	510
Miscellaneous	4	\$50	NA	200
Subsistence	8	\$35	NA	280
2WD Transportation	800	\$1	NA	452
Subtask Total:				\$1,557
8.00% Overhead: \$3873.44		Task Total		\$82,711

Palominas Recharge & Flood Control Project - Monitoring Equipment Installation
Table 2 - Detailed Costs

Task: 2.2 - INSTALLATION OF STILLING WELLS

			Quantity	Unit Cost	Shipping	Total Cost
Personnel Costs						
Subtask: No Subtask						
Program Director	Milczarek		4	\$145	NA	580
Senior Hydrologist	Rice		48	\$95	NA	4560
Hydrologist 1	Calabrese		24	\$75	NA	1800
Clerical Staff	Torres		2	\$65	NA	130
Subtask Total:						\$7,070
Instruments Costs						
Subtask: No Subtask						
In-Situ Level Logger			14	\$425	\$200	6150
Miscellaneous supplies			5	\$100	NA	500
Subtask Total:						\$7,182
Other Direct Costs						
Subtask: No Subtask						
Subsistence			4	\$35	NA	140
2WD Transportation			400	\$1	NA	226
Subtask Total:						\$395
8.00% Overhead: \$561.28			Task Total		\$14,647	

Palominas Recharge & Flood Control Project - Monitoring Equipment Installation
Table 2 - Detailed Costs

Task: 2.3 - INSTALLATION OF DRY WELLS AND INFILTRATION TRENCHES

		Quantity	Unit Cost	Shipping	Total Cost
Personnel Costs					
<i>Subtask: No Subtask</i>					
Program Director	Milczarek	4	\$145	NA	580
Hydrologist 1	Calabrese	36	\$75	NA	2700
Clerical Staff	Torres	2	\$65	NA	130
<i>Subtask Total:</i>					\$3,410
Rental Costs					
<i>Subtask: No Subtask</i>					
Toughbook		1	\$50	NA	50
<i>Subtask Total:</i>					\$54
Instruments Costs					
<i>Subtask: No Subtask</i>					
In-Situ Level Logger		9	\$425	\$50	3875
Miscellaneous supplies		4	\$100	NA	400
<i>Subtask Total:</i>					\$4,617
Other Direct Costs					
<i>Subtask: No Subtask</i>					
Subsistence		3	\$35	NA	105
2WD Transportation		600	\$1	NA	339
<i>Subtask Total:</i>					\$480
8.00% Overhead: \$381.52					
Task Total				\$8,561	

Palominas Recharge & Flood Control Project - Monitoring Equipment Installation
Table 2 - Detailed Costs

Task: 2.4. INSTALLATION OF PRECIPITATION GAGES

			Quantity	Unit Cost	Shipping	Total Cost
Personnel Costs						
Subtask: No Subtask						
	Program Director	Milczarek	8	\$145	NA	1160
	Senior Hydrologist	Rice	24	\$95	NA	2280
	Hydrologist 1	Calabrese	48	\$75	NA	3600
	Clerical Staff	Torres	2	\$65	NA	130
Subtask Total:						\$7,170
Rental Costs						
Subtask: No Subtask						
	Toughbook		1	\$50	NA	50
Subtask Total:						\$54
Instruments Costs						
Subtask: No Subtask						
	In-Situ Level Logger		3	\$425	\$100	1375
	Miscellaneous supplies		2	\$100	NA	200
Subtask Total:						\$1,701
Other Direct Costs						
Subtask: No Subtask						
	Subsistence		2	\$35	NA	70
	2WD Transportation		250	\$1	NA	141.25
Subtask Total:						\$228
			8.00% Overhead: \$146.90		Task Total	\$9,153

Palominas Recharge & Flood Control Project - Monitoring Equipment Installation
Table 2 - Detailed Costs

Task: 2.5. DRAFT AND FINAL INSTALLATION REPORT

				Quantity	Unit Cost	Shipping	Total Cost
Personnel Costs							
<i>Subtask: No Subtask</i>							
	Program Director	Milczarek		12	\$145	NA	1740
	Technical Reviewer	Keller		6	\$125	NA	750
	Senior Hydrologist	Rice		24	\$95	NA	2280
	AutoCAD/GIS	Osorio		16	\$75	NA	1200
	Hydrologist 1	Calabrese		64	\$75	NA	4800
	Clerical Staff	Torres		4	\$65	NA	260
<i>Subtask Total:</i>							\$11,030
Other Direct Costs							
<i>Subtask: No Subtask</i>							
	Shipping			0.5	\$50	NA	25
	Reproduction			3	\$50	NA	150
	Communications			1	\$50	NA	50
<i>Subtask Total:</i>							\$243
8.00% Overhead: \$18.00				Task Total		\$11,273	

Palominas Recharge & Flood Control Project - Monitoring Equipment Installation

Table 2 - Detailed Costs

Task: 3.0 MONITORING ACTIVITIES

			Quantity	Unit Cost	Shipping	Total Cost
Personnel Costs						
Subtask: 3.1 BACKGROUND MONITORING						
Hydrologist 1	Calabrese		16	\$75	NA	1200
Subtask Total:						\$1,200
Subtask: 3.2 MONITORING THE FIRST YEAR OF RECHARGE ACTIVITIES						
Program Director	Milczarek		16	\$145	NA	2320
Laboratory Manager	Yao		8	\$135	NA	1080
Project Hydrologist	Buchanan		36	\$90	NA	3240
Hydrologist 1	Calabrese		160	\$75	NA	12000
Clerical Staff	Torres		4	\$65	NA	260
Laboratory Technician	Chavez		8	\$65	NA	520
Subtask Total:						\$19,420
Instruments Costs						
Subtask: 3.1 BACKGROUND MONITORING						
Equipment replacement			2	\$750	NA	1500
Subtask Total:						\$1,620
Other Direct Costs						
Subtask: 3.1 BACKGROUND MONITORING						
Miscellaneous			4	\$50	NA	200
Subsistence			2	\$35	NA	70
2WD Transportation			222	\$1	NA	125.43
Subtask Total:						\$427
Subtask: 3.2 MONITORING THE FIRST YEAR OF RECHARGE ACTIVITIES						
Lodging			1	\$85	NA	85
Miscellaneous			4	\$50	NA	200
Communications			2	\$50	NA	100
Subsistence			8	\$35	NA	280
2WD Transportation			1500	\$1	NA	847.5
Subtask Total:						\$1,633
8.00% Overhead: \$272.63			Task Total		\$24,301	

Palominas Recharge & Flood Control Project - Monitoring Equipment Installation
Table 2 - Detailed Costs

Task: 4.0 DATA INTERPRETATION AND REPORTING

				Quantity	Unit Cost	Shipping	Total Cost
Personnel Costs							
Subtask: 4.1. DATA INTERPRETATION							
Program Director		Milczarek		8	\$145	NA	1160
Senior Soil Physist		Keller		4	\$125	NA	500
Project Hydrologist		Buchanan		16	\$90	NA	1440
Hydrologist 1		Calabrese		32	\$75	NA	2400
Subtask Total:							\$5,500
Subtask: 4.2 QUARTERLY INTERIM DATA SUMMARIES (3)							
Program Director		Milczarek		12	\$145	NA	1740
Project Hydrologist		Buchanan		12	\$90	NA	1080
AutoCAD/GIS		Osorio		3	\$75	NA	225
Clerical Staff		Torres		2	\$65	NA	130
Subtask Total:							\$3,175
Subtask: 4.3 ANNUAL REPORT							
Program Director		Milczarek		16	\$145	NA	2320
Senior Soil Physist		Keller		8	\$125	NA	1000
Project Hydrologist		Buchanan		16	\$90	NA	1440
Editor		Banerjee		8	\$85	NA	680
Hydrologist 1		Calabrese		32	\$75	NA	2400
AutoCAD/GIS		Osorio		12	\$75	NA	900
Clerical Staff		Torres		8	\$65	NA	520
Subtask Total:							\$9,260
Other Direct Costs							
Subtask: 4.1. DATA INTERPRETATION							
Reproduction				1	\$50	NA	50
Subtask Total:							\$54
Subtask: 4.2 QUARTERLY INTERIM DATA SUMMARIES (3)							
Reproduction				1	\$50	NA	50
Shipping				0.75	\$50	NA	37.5
Subtask Total:							\$94
Subtask: 4.3 ANNUAL REPORT							
Shipping				0.5	\$50	NA	25
Reproduction				4	\$50	NA	200
Subtask Total:							\$243
8.00% Overhead: \$29.00					Task Total	\$18,326	
PROPOSAL GRAND TOTAL:						\$179,400	