

**COUNTY OF SAN LUIS OBISPO BOARD OF SUPERVISORS  
AGENDA ITEM TRANSMITTAL**

(1) DEPARTMENT Public Works	(2) MEETING DATE August 22, 2006	(3) CONTACT/PHONE Rosemarie Gaglione, Project Manager (805) 788-2318
(4) SUBJECT Request to Approve a Contract Amendment – Quincy Engineering, Price Canyon Road Widening Project 300136 to increase the amount of the contract by \$864,145 and approve a Corresponding Budget Adjustment in the amount of \$342,395		
(5) SUMMARY OF REQUEST Action will revise the existing agreement to extend the contract duration and add the construction contract preparation phase of the work. Quincy has completed 65% of the project design, 88.53% of bridge related direct project costs will be reimbursed under the Federal Highway Bridge Replacement/Rehabilitation Program (HBRR).		
(6) RECOMMENDED ACTION We recommend that your Honorable Board: 1. Approve the amendment of our existing design contract with Quincy Engineering, which will increase the amount of the contract from \$588,968.75 to \$1,453,144, and extend the term of the Contract to December 10, 2009, 2. Direct the Chairperson to sign the contract amendment; and 3. Approve the Attached Budget Adjustment in the amount of \$342,395 by a 4/5 <sup>th</sup> 's vote to increase the appropriation and funding source for the project.		
(7) Funding Sources HBRR, RSHA, STIP, PXP Oil Cont. to Bike Lanes, Road Fund	(8) CURRENT YEAR PROJECT COST: \$1,874,256	(9) ANNUAL COST -0-
(10) BUDGETED? <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes <input type="checkbox"/> N/A		
(11) OTHER AGENCY/ADVISORY GROUP INVOLVEMENT (LIST): Caltrans, Federal Highway Administration, State Water Resources Control Board, Army Corps of Engineers, National Marine Fisheries Service, U.S. Fish and Wildlife Service, San Luis Obispo Council of Governments		
(12) WILL REQUEST REQUIRE ADDITIONAL STAFF? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes, How Many? _____ <input type="checkbox"/> Permanent _____ <input type="checkbox"/> Limited Term _____ <input type="checkbox"/> Contract _____ <input type="checkbox"/> Temporary Help _____		
(13) SUPERVISOR DISTRICT(S) <input type="checkbox"/> 1st, <input type="checkbox"/> 2nd, <input checked="" type="checkbox"/> 3rd, <input type="checkbox"/> 4th, <input type="checkbox"/> 5th, <input type="checkbox"/> All	(14) LOCATION MAP <input checked="" type="checkbox"/> Attached <input type="checkbox"/> N/A	(15) Maddy Act Appointments Signed-off by Clerk of the Board <input checked="" type="checkbox"/> N/A
(16) AGENDA PLACEMENT <input checked="" type="checkbox"/> Consent <input type="checkbox"/> Hearing (Time Est. _____) <input type="checkbox"/> Presentation <input type="checkbox"/> Board Business (Time Est. _____)	(17) EXECUTED DOCUMENTS <input type="checkbox"/> Resolutions (Orig + 4 copies) <input checked="" type="checkbox"/> Contracts (Orig + 4 copies) <input type="checkbox"/> Ordinances (Orig + 4 copies) <input type="checkbox"/> N/A	
(18) NEED EXTRA EXECUTED COPIES? <input checked="" type="checkbox"/> Number: <u>1</u> <input checked="" type="checkbox"/> Attached <input type="checkbox"/> N/A	(19) BUDGET ADJUSTMENT REQUIRED? <input type="checkbox"/> Submitted <input checked="" type="checkbox"/> 4/5th's Vote Required <input type="checkbox"/> N/A	
(20) OUTLINE AGREEMENT REQUISITION NUMBER (OAR) N/A	(21) W-9 <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes	(22) Agenda Item History <input type="checkbox"/> N/A Date 11/9/04
(23) ADMINISTRATIVE OFFICE REVIEW  <div style="text-align: right; font-family: cursive; font-size: 1.2em;">OK Justin O'Brien Bm</div>		

8-22-06  
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# SAN LUIS OBISPO COUNTY DEPARTMENT OF PUBLIC WORKS

Noel King, Director

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County Government Center, Room 207 • San Luis Obispo CA 93408 • (805) 781-5252

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Fax (805) 781-1229

email address: [pwd@co.slo.ca.us](mailto:pwd@co.slo.ca.us)

**TO:** Board of Supervisors

**FROM:** Rosemarie Gaglione, Project Manager *RG by CAW*

**VIA:** Glen L. Priddy, Deputy Director of Public Works - Engineering Services *G*

**DATE:** August 22, 2006

**SUBJECT:** Request to Approve a Contract Amendment – Quincy Engineering, Price Canyon Road Widening Project 300136 to increase the amount of the contract by \$864,145 and approve a Corresponding Budget Adjustment in the amount of \$342,395

## Recommendation

We recommend that your Honorable Board:

1. Approve the amendment of our existing design contract with Quincy Engineering, which will increase the amount of the contract from \$588,968.75 to \$1,453,114, and extend the term of the Contract to December 10, 2009,
2. Direct the Chairperson to sign the contract amendment; and
3. Approve the Attached Budget Adjustment in the amount of \$342,395 by a 4/5<sup>th</sup>s vote to increase the appropriation and funding source for the project.

## Discussion

The Department of Public Works is developing this project to widen Price Canyon Road in the community of Edna to accommodate bike lanes and allow recovery room for vehicles. The project is being funded by a combination of Highway Bridge Replacement and Rehabilitation (HBRR), Regional State Highway Account (RSHA), State Transportation Improvement Program (STIP) and Federal Demonstration funds, as well as contributions to Price Canyon Road Bike Lanes from the PXP Oil & Gas Company.

Numerous issues and hurdles have been encountered due to environmental and archeological restrictions and segregated work items based on various funding sources. Work began on the project in 2000.

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Quincy Engineering has completed 65% of design for the project as required in the existing contract. The contract amendment will provide for the completion of the construction contract document and right-of-way exhibits. The costs are itemized and explained in the Scope of Work (see attachment).

**Other Agency Involvement/Impact**

Caltrans is processing the funding and acting as lead federal agency. Federal Highway Administration, State Water Resources Control Board, Army Corps of Engineers, National Marine Fisheries Service, U.S. Fish and Wildlife Service will be regulatory agencies from which the County will seek approval.

**Financial Considerations**

This is a multi-year project budgeted at \$1,874,256. This increase in cost for the Consultant Contract was not anticipated when the Fiscal Year 2006/07 Road Budget was prepared.

Funding for this project will come from Various Sources including the Federal Highway Bridge Rehabilitation/Replacement Program, STIP Funds, RSHA, TEA, The Road Fund, as well as from contributions to Price Canyon Road Bike Lanes previously received from the Plains Exploration and Production Oil Company.

It is now necessary for Your Honorable Board to approve the attached Budget Adjustment to increase the amount of appropriation by \$342,395 and the corresponding revenue from the contributions to Price Canyon Road Bike Lanes.

Please see Exhibit A for an estimated cost breakdown for the project.

**Results**

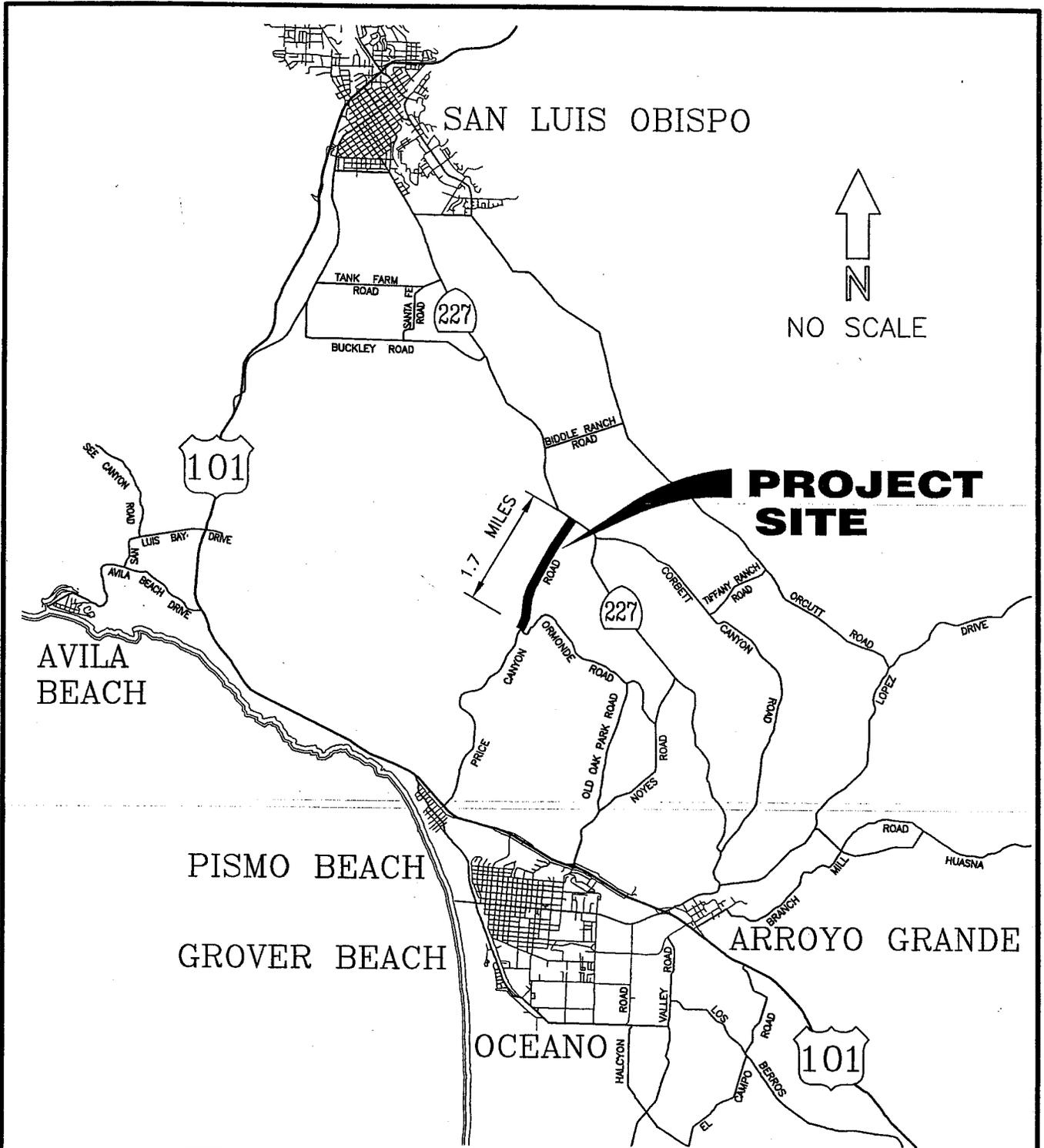
Amending this contract will allow the County to be reimbursed at 88.53% for all design engineering and construction costs related to bridge widening. Construction of the project will result in a safer community by improving road operations along Price Canyon Road.

- Attachments:
- Vicinity Map
  - Exhibit A Project Estimated Costs
  - Budget Adjustment
  - Project Schedule
  - Amendment
  - W-9

File: Contract No. 300136

Reference: 06AUG22-C-7

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PRICE CANYON ROAD WIDENING FOR BICYCLE LANES  
 NEAR SAN LUIS OBISPO, CA. W.O. #P12A178

**FROM STATE HWY 227 TO ORMONDE ROAD**

COUNTY OF SAN LUIS OBISPO, CA.  
 PUBLIC WORKS DEPARTMENT

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## EXHIBIT A

Project Cost Estimates for  
Price Canyon Road  
WBS 300136

<b>Expenditures:</b>	<b>Prior Years Costs</b>	<b>2006/07 Project Budget</b>	<b>Total Project Budget</b>	<b>Estimated Project Costs</b>
Preliminary Engineering	\$257,500	\$0	\$257,500	\$257,500
Environmental Document	135,500	0	135,500	135,500
Design	270,823	398,927	669,750	1,565,000
Right of Way		126,825	126,825	126,825
Utility Coordination		64,750	64,750	64,750
Environmental Permitting		42,563	42,563	42,563
AD-15 Processing		24,513	24,513	24,513
Construction Engineering *		552,855	552,855	0
Total Expenditures	<b>\$663,823</b>	<b>\$1,210,433</b>	<b>\$1,874,256</b>	<b>\$2,216,651</b>
<b>Budget Funding Sources:</b>				
HBRRP	\$426,045	\$715,189	\$1,141,234	\$1,141,234
STIP		100,000	100,000	100,000
RSHA	42,074	290,244	332,318	332,318
PXP Contribution to Bikelanes		0	0	342,395
Road Fund	195,704	105,000	300,704	300,704
Total Funding	<b>\$663,823</b>	<b>\$1,210,433</b>	<b>\$1,874,256</b>	<b>\$2,216,651</b>

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ID	Project Number	Project Name	Project Manager	Task Name	Duration	Start	Finish	06	Aug
1	300136.01	Price Canyon Road Widening	R Gaglione	Preliminary Engineering	121 days	Mon 10/2/00	Mon 3/19/01		
2	300136.01	Price Canyon Road Widening		Prelim Eng PID/Description	120 days	Mon 10/2/00	Fri 3/16/01		
3	300136.01	Price Canyon Road Widening		PID Completed	1 day	Mon 3/19/01	Mon 3/19/01		
4	300136.02	Price Canyon Road Widening	R Gaglione	Environmental Document	1140.25 days?	Mon 7/16/01	Mon 11/28/05		
5	300136.02	Price Canyon Road Widening		Environmental Studies	783 days	Mon 7/16/01	Wed 7/14/04		
6	300136.02	Price Canyon Road Widening		Develop Draft ED	186 days	Wed 12/31/03	Wed 9/15/04		
7	300136.02	Price Canyon Road Widening		Final ED Processing	76 days	Wed 6/2/04	Wed 9/15/04		
8	300136.02	Price Canyon Road Widening		Public Meeting	2 days?	Wed 1/26/05	Thu 1/27/05		
9	300136.02	Price Canyon Road Widening		ED Complete	265.75 days	Thu 9/16/04	Mon 11/28/05		
10	300136.03	Price Canyon Road Widening	R Gaglione	Environmental Permitting	402.95 days	Fri 1/28/05	Wed 8/16/06		
11	300136.03	Price Canyon Road Widening		Develop Application	51 days	Fri 1/28/05	Thu 12/29/05		
12	300136.03	Price Canyon Road Widening		Agency Consultation	55 days	Thu 12/29/05	Thu 3/16/06		
13	300136.03	Price Canyon Road Widening		Permit Issued	109 days	Thu 3/16/06	Wed 8/16/06		
14	300136.04	Price Canyon Road Widening	R Gaglione	Design	1764 days	Wed 5/16/01	Mon 2/18/08		
15	300136.04	Price Canyon Road Widening		Design 30%	300 days	Wed 5/16/01	Tue 7/9/02		
16	300136.04	Price Canyon Road Widening		Design R/W Map	126 days	Thu 10/28/04	Thu 4/21/05		
17	300136.04	Price Canyon Road Widening		PS&E Contract	30 days	Tue 8/22/06	Mon 10/2/06		
18	300136.04	Price Canyon Road Widening		Permit & ED Conditions incorp	5 days	Fri 8/3/07	Thu 8/9/07		
19	300136.04	Price Canyon Road Widening		Final PS&E	1 day	Mon 2/18/08	Mon 2/18/08		
20	300136.04	Price Canyon Road Widening		Design Complete	0 days	Mon 2/18/08	Mon 2/18/08		
21	300136.05	Price Canyon Road Widening	R Gaglione	Right of Way	360 days	Fri 8/11/06	Thu 12/27/07		
22	300136.05	Price Canyon Road Widening		Develop R/W Package (Map, ROE)	64 days	Mon 9/4/06	Thu 11/30/06		
23	300136.05	Price Canyon Road Widening		Request ROW Allocation	4 days	Fri 8/11/06	Wed 8/16/06		
24	300136.05	Price Canyon Road Widening		R/W Acquisition	165 days	Mon 9/4/06	Fri 4/20/07		
25	300136.05	Price Canyon Road Widening		R/W Certification	5 days	Mon 4/23/07	Fri 4/27/07		
26	300136.05	Price Canyon Road Widening		R/W & Utilities Complete	0 days	Thu 12/27/07	Thu 12/27/07		
27	300136.06	Price Canyon Road Widening	R Gaglione	Utility Coordination	942 days	Wed 5/19/04	Thu 12/27/07		
28	300136.06	Price Canyon Road Widening		Notify and Request Data	25 days	Wed 5/19/04	Tue 6/22/04		
29	300136.06	Price Canyon Road Widening		Schedule Potholing	60 days	Fri 12/1/06	Thu 2/22/07		

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Project: Price Canyon Road  
Date: Fri 8/11/06

ID	Project Number	Project Name	Project Manager	Task Name	Duration	Start	Finish	06 Aug
30	300136.06	Price Canyon Road Widening		Relocation Scheduled	120 days	Fri 2/23/07	Thu 8/9/07	
31	300136.06	Price Canyon Road Widening		Relocation of Utilities	100 days	Fri 8/10/07	Thu 12/27/07	
32	300136.07	Price Canyon Road Widening	R Gaglione	AD-15 Processing	106 days	Tue 2/19/08	Tue 7/15/08	
33	300136.07	Price Canyon Road Widening		Ready to Advertise Checklist	1 day	Tue 2/19/08	Tue 2/19/08	
34	300136.07	Price Canyon Road Widening		Contract Approved	15 days	Wed 2/20/08	Tue 3/11/08	
35	300136.07	Price Canyon Road Widening		Board Letter	15 days	Wed 3/12/08	Tue 4/1/08	
36	300136.07	Price Canyon Road Widening		Advertise	45 days	Wed 4/2/08	Tue 6/3/08	
37	300136.07	Price Canyon Road Widening		Notice of Intent Filed	9 days	Wed 2/20/08	Mon 3/3/08	
38	300136.07	Price Canyon Road Widening		Bids Open/Board Letter	10 days	Wed 6/4/08	Tue 6/17/08	
39	300136.07	Price Canyon Road Widening		Bonds and Insurance	10 days	Wed 6/18/08	Tue 7/1/08	
40	300136.07	Price Canyon Road Widening		Notice to Proceed	10 days	Wed 7/2/08	Tue 7/15/08	
41	300136.08	Price Canyon Road Widening	R Gaglione	Construction	139 days	Wed 7/16/08	Mon 1/26/09	
42	300136.08	Price Canyon Road Widening		Pre Construction Meeting	1 day	Wed 7/16/08	Wed 7/16/08	
43	300136.08	Price Canyon Road Widening		SWPPP Approved	10 days	Thu 7/17/08	Wed 7/30/08	
44	300136.08	Price Canyon Road Widening		Construct	118 days	Thu 7/31/08	Mon 1/12/09	
45	300136.08	Price Canyon Road Widening		Notice of Completion	10 days	Tue 1/13/09	Mon 1/26/09	
46	300136.09	Price Canyon Road Widening	R Gaglione	Environmental Mitigation	325 days	Tue 1/27/09	Mon 4/26/10	
47	300136.09	Price Canyon Road Widening		Mitigation/Reveg Plan	25 days	Tue 1/27/09	Mon 3/2/09	
48	300136.09	Price Canyon Road Widening		Mitigation Complete	300 days	Tue 3/3/09	Mon 4/26/10	

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Project: Price Canyon Road  
Date: Fri 8/11/06

Task		Rolled Up Task		Project Summary	
Split		Rolled Up Split		External Milestone	
Progress		Rolled Up Milestone		External Milestone	
Milestone		Rolled Up Progress		Deadline	
Summary		External Tasks			

**AMENDMENT NO. 2**

**TO**

**AGREEMENT FOR ENGINEERING, DESIGN AND ENVIRONMENTAL SERVICES  
CONTRACT NO. 300136**

This Amendment No. 2 executed this \_\_\_\_\_ day of \_\_\_\_\_, 2006, to the Agreement made by and between the County of San Luis Obispo (County) and Quincy Engineering, Inc. (Engineer) on February 13, 2001, hereby amends said agreement as follows:

- 1 Under Article 1, "Engineering Services," in addition to the services in the original contract and those listed in Amendment No. 1 of said Contract, the Engineer shall perform the additional services outlined in the attached "Request for Additional Design Budget/Extra Work."
2. Under Article 3a, "Payment for Services – Compensation" the Contract "not to exceed" sum shall be increased from \$588,969 to \$1,453,114.
3. Under Article 2, Time for Completion of Services shall be changed to December 10, 2008.
4. The effective date of this Amendment No. 2 is immediately upon its complete execution by all of the parties.
5. All other terms and conditions of said Contract shall remain in full force and effect.

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IN WITNESS WHEREOF, this AGREEMENT is hereby amended by the parties hereto, upon the date written above.

SAN LUIS OBISPO COUNTY

\_\_\_\_\_  
Chairperson of the Board of  
Supervisors  
of the County of San Luis Obispo

ATTEST:

County Clerk and Ex-officio Clerk  
of the Board of Supervisors of the  
County of San Luis Obispo

By: \_\_\_\_\_  
Deputy Clerk

QUINCY ENGINEERING, INC.

By: John Quincy  
Title: President

APPROVED AS TO FORM AND LEGAL EFFECT:

JAMES B. LINDHOLM, JR.  
County Counsel

By: James Lindholm, Jr.  
Deputy County Counsel

Dated: 8/11/06

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Price Canyon Road Widening Phase 1 PS&E

8/9/06

**Quincy Engineering, Inc.**

Direct Labor:		\$243,167.65
Overhead (1.72):		\$418,248.36
Escalation over life of Project	12.0%	\$79,369.92

**A.** Subtotal: \$740,785.93

**Subconsultant Costs:**

Fugro West	\$66,200.00
Westland Engineering	\$35,843.00
Y&C Transportation	\$11,675.00

**B.** Subconsultant Subtotal: \$113,718.00

**Other Direct Costs:**

Plotter/Computer	@ \$10.0	\$0.00
Travel	4000 @ \$0.41 per mi.	\$1,620.00
Phone/Fax		\$0.00
Delivery		\$200.00
Printing: Blue Line		\$0.00
Vellum		\$0.00
8 1/2 X 11		\$500.00
11 X 17		\$500.00
Mounting Exhibits		\$0.00
Misc.		\$0.00
(1) Travel Expenses:		\$1,000.00

**C.** Direct Cost Subtotal: \$3,820.00

<b>A =</b>	\$740,785.93
<b>Fixed Fee</b>	\$111,117.89
<b>B+C =</b>	\$117,538.00

**TOTAL =** \$969,441.82

Note: Invoices will be based upon actual QEI hourly rates plus overhead at 172% plus prorated portion of fixed fee. Subconsultant Costs will be billed at actual cost.

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Project Number: S13-400

Project Name: Price Canyon Road Widening

Rev. 07/2003

No.	Initial	Project Manager	Roadway Project Engineer	Associate Roadway Engineer	Assistant Engineer	Bridge Project Engineer	Senior Bridge Engineer	Associate Bridge Engineer	Assistant Bridge Engineer	Drafting	QA/QC Engineer	Admin	Total Hours	Total Cost	Subsidiaries Cost by Task in Dollars		
															Fugro West	Westland Engineering	Y&C Transportation
1	Design												0.0				
1a	Project Management	200											200.0	9,780.00			
1a	Administration and Project Management	60											180.0	7,898.00			
1a	Meetings	24											104.0	5,075.20			
1c	Initial CPW/Progress Reports												24.0	1,080.80			
2	Design Survey	4											44.0	2,088.80			
3	Geotechnical Investigation												124.0	5,254.20			
4	Drainage Design	24											324.0	13,355.20			
5	Utility Coordination	24											216.0	9,197.80			
6	Railroad Coordination	32											136.0	5,829.60			
7	Right-of-Way	32											0.0				
8	Design												640.0	28,478.00			
	Roadway												520.0	21,876.00			
	Bridge												400.0	16,168.00			
9	Retaining Walls												0.0				
	Drafting												400.0	15,750.00			
	Roadway												320.0	12,000.00			
	Bridge												40.0	1,879.20			
	Retaining Walls												0.0				
10	Draft (85%) Plans, Specifications and Estimate	4											44.0	1,879.20			
11	Obtain Construction Permits	4											280.0	11,385.00			
12	Independent Design Check	4											180.0	6,782.00			
	Roadway												448.0	18,925.40			
	Bridge												184.0	8,768.20			
	Retaining Walls												9.0	412.40			
13	Quantities and Engineer's Estimate	8											58.0	3,184.80			
14	Special Provisions	2											184.0	8,913.40			
15	Construction Schedule	4											192.0	9,137.40			
16	QA/QC and Constructability	4											16.0	789.80			
17	Draft (95%) PS&E Submittal	4											20.0	899.80			
18	100% PS&E Submittal	4											52.0	2,356.80			
19	Prepare RE File	4											0.0				
20	Prepare Surveyor's File	4											0.0				
21	Final PS&E	4											0.0				
22	Bidding Assistance (By Amendment)												0.0				
23	Construction Support												0.0				
24	Prepare As-Built Plans												0.0				
	Subconsultant Direct Costs	315	492	1280	360	248	220	972	480	1312	204	28	5891.0	\$246,033.80	\$66,200.00	\$35,573.00	\$11,675.00

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### Scope of Work – Final Plans, Specifications, and Estimate

Under the original Scope of Work for the Price Canyon Road Widening Project (Project), the Quincy Engineering Team is tasked to provide Preliminary Engineering and an approved Environmental Document (Project Approval and Environmental Document, PA&ED).

Due to funding concerns, the County has not determined the exact limits of Phase 1, nor the work to be embraced. Three possible scenarios were presented to County staff, Caltrans and San Luis Obispo Council of Government. These scenarios include:

1. Widening and retrofitting the Corral de Piedra Creek bridge and widening the Union Pacific Railroad Overhead only (no bike lanes);
2. Bridge work above plus addition of right turn pocket at Corral de Piedra Road (no bike lanes);  
or
3. Phase 1 widening Price Canyon Road, including all appurtenances, as outlined in the Design Concept Approval Report (with shifting traffic for bike lanes) from design Station 311+31.88 north of the through cut section to the northerly termini of the project at State Route 227.

This scope of work assumes Option 3 will be undertaken and provides for the preparation of the final plans, specifications and estimate (PS&E) and other related services for construction advertising. As described below, the following scope of work is applicable only to Phase 1 as shown in the Design Concept Approval Report (design Station 311+31.88 to State Route 227). Design concerns for Phase 2 construction (Ormonde Road to beginning of Phase 1) are not be addressed in this scope of work.

#### DESIGN

##### Task 1 – Project Management

###### 1a – Administration and Project Management

The Quincy Engineering Project Manager will be the single point of contact for the County's Manager for this project, and will coordinate and resolve all project and contractual issues during the life of the project. Quincy Engineering establishes and maintains a Quality Control/Quality Assurance Program for each project to assure final products are of high quality and meets the needs of our clients. The Project Manager will assure that the project is closely monitored and meets the expectations of the County and the QA/QC plan.

###### 1b – Meetings

**Kickoff Meeting:** For a successful project it is important for key personnel from both the County and the Quincy Engineering Team to thoroughly discuss the project background, scope, concepts, schedule and management, and to gather all existing information about the project that has not been previously obtained. As part of this task, a kickoff meeting will be held at the County offices with appropriate team members to establish a cooperative effort toward *timely* completion of this project.

**Progress/Coordination Meetings:** This scope provides for up to five (5) technical coordination meetings to be held at the County's office to ensure that the project stays on schedule and that technical decisions are made in a timely manner. The Quincy Team will arrange these meetings, prepare agendas approximately one week in advance and prepare post-meeting minutes to be sent to the attendees and other team members. The Quincy Team will be represented at each meeting by the Project Manager, Project Engineer, and other team members as required for the agenda to be discussed.

###### 1c – Initial CPM Schedule/Progress Reports

A comprehensive CPM schedule will be prepared for all tasks and deliverables beginning at approval of the Environment Document and continuing through final PS&E. The schedule will be developed in Microsoft Project in Gantt format, and will be updated monthly to indicate progress made against the original (master) schedule.

**Task 2 – Design Survey**

Since the initial survey in 2001, San Luis Obispo County has completed an overlay project along Price Canyon Road including the portion between Ormonde Road and State Route 227. A supplemental survey will be performed by Westland Engineering, Inc. to augment the existing topographic file updating the surface elevations of the roadway and adding detailed information where necessary.

The supplemental survey will be limited to updated pavement elevation, limited refinement of surface features at the intersection of Price Canyon Road and SR 227, and utility potholes. Information will be combined with existing information to create a new topographic mapping file. The supplemental information will include:

- Spot elevations along the dike flowline of Price Canyon Road at approximately 50-foot intervals along each side of the road from State Route 227, southerly for a distance of approximately 5,300 feet.
- Spot elevations along centerline (crown) of the roadway at 50-foot intervals from State Route 227, southerly for a distance of approximately 5,300 feet. Intervals will be established as approximate distances and may vary from exact sections.
- Existing roadway striping along State Route 227 from the intersection at Price Canyon Road to approximately 350 feet northerly of the intersection with Price Canyon Road.
- Reference utility pothole information. It is assumed that utility owners will expose, measure, set reference mark, and backfill existing utilities along the roadway corridor. After the potholing is complete, Westland Engineering will make ties to the reference marks made by other at each point of exposure and record the information at each location. This information will consist of horizontal and vertical relationship of the mark to the utility, the utility owner, type of facility, etc.

**Task 3 – Geotechnical Investigation**

Fugro West will provide geotechnical services for the widening of the two bridges, roadway design parameters and for up to four (4) retaining walls identified as Walls 3 through 6 in the Design Concept Approval Report. Their scope of work is located in Attachment 1.

**Task 4 – Drainage Design**

The *Existing Culvert Analysis* completed under the PA&ED scope established that the existing culverts are mostly undersized and/or beyond their service life. Also, existing surveys failed to locate all the cross culverts shown on the as-built plans, indicating that some of the culverts are obstructed or buried. Preparation of that report did not include final design for replacement systems. For PS&E, elements of the drainage design will include assessment of drainage system needs and establishing sizes and locations of new or replacement cross culverts.

**Task 5 – Utility Coordination**

Communications with all known utility owners was established during preliminary design, and it was determined that some of the existing utilities will require relocation. For the purpose of utility coordination, Plains Exploration Productions (formerly Stocker Resources) will be treated as a utility owner.

Within the limits of Phase 1, existing utilities include overhead electrical and telephone, and underground telephone, fiber optics telephone and natural gas. No facilities were identified for Plains Exploration Productions within the Price Canyon Road Right-of-Way for Phase 1. Coordination with Plains Exploration Productions for this scope will be limited to confirmation that no new facilities have been installed.

The size of pipeline and operating pressures for the natural gas facility will be investigated during the project development. For the purpose of this scope, it is assumed that potholing of the gas line will be

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required to identify any conflicts with proposed bridge and retaining wall construction. Also, potholing is recommended for fiber optics facilities to avoid potentially costly repair work during construction.

QEI will coordinate with utility owners to arrange to have the facilities potholed (assumes potholing will be completed by utility owners), and Westland Engineering will survey the utility information and incorporate it into the topographic basemap.

Quincy Engineering will provide the basemap with potential utility conflict information to the utility companies, and will coordinate with these utility companies to facilitate utility company reviews, design, and relocations. Quincy Engineering will arrange and attend up to three (3) on-site joint utility coordination meetings, as needed, with utility companies and agencies impacted by the project.

Once relocation needs have been identified, the County will prepare and issue the relocation notices as appropriate.

As appropriate, and in compliance with the Caltrans' *Policy on High and Low Risk Underground Facilities Within Highway Rights of Way*, Quincy Engineering will reflect either existing utility locations or relocated utilities, on the project plans, including relocation or removal of conduits crossing Price Canyon Road through existing culverts. Design and construction of utility facilities will be the responsibility of the utility owners. It is assumed that utility relocation work will be completed before the commencement of the Price Canyon Road construction contract.

**Deliverables:**    **Utility Relocation Plans**  
                          **Utility Relocation Notices (By County)**  
                          **Potholing (by Utility Companies)**

**Task 6 – Railroad Coordination**

Quincy Engineering will coordinate reviews and obtain agreements and approval from Union Pacific Railroad (UPRR) and the California Public Utilities Commission (PUC). We anticipate the agreements and approvals to be:

- UPRR Construction and Maintenance Master Agreement
- UPRR Temporary Construction Easements for Geotechnical and utilities exploration
- UPRR Temporary Construction Easement for bridge construction
- UPRR Permanent Easement for the Edna Overhead
- PUC Approval for modifications to existing structure

Based on preliminary coordination meeting with Union Pacific Railroad, the existing railroad communications overhead lines must not be disturbed. Because this facility has low vertical clearance, it is assumed that construction equipment will not be able to be transported under it. Also based on the preliminary meeting with Union Pacific, one crossing of the active tracks will be allowed. Therefore, it is assumed that negotiations with Union Pacific will result in access the UPRR right-of-way from the existing driveway along the vineyard for construction of Abutment 4; and accessing the right-of-way by pioneering a temporary roadway from Corral de Piedra Road for construction of Abutment 1 and both piers. Following the bridge widening construction, it is anticipated that the temporary roadway will be superseded by a new retaining wall.

All fees assessed by the Union Pacific Railroad and the PUC will be borne by the County including: application fees, plans review fees, easement fees and construction inspection fees.

**Task 7 – Right-of-Way**

Quincy Engineering will coordinate with the County to refine the Right-of-Way requirements from those shown in the Design Concept Approval Report. Final Right-of-Way needs will be provided to the County in CAD format. Based upon information developed through the Project Approval and Environmental Document stage, it is anticipated that up to two parcels will be acquired for this phase of the project.

Westland Engineering, Inc. will:

- Prepare two (2) legal descriptions consisting of metes and bounds description and a plat.
- Set temporary markers in the field to delineate the location of the new Right-of-Way at intervals not exceeding 200 feet.
- Set property corners to denote the new boundary of each acquisition parcels.
- Prepare a record of survey map depicting the relationship and character of the found and new monumentations. Information presented on the Record of Survey Map will be in compliance with the California Land Surveyor's Act. It is anticipated that the Record of Survey Map will consist of one sheet using imperial units.
- Revise the Record of Survey Map following County review and file the approved map with the County.

Appraisal and acquisition services will be provided by the County

**Deliverables:** CAD file with Right-of-Way requirements  
Right of Way Plats and Legal Descriptions (2)

### **Task 8 – Roadway, Bridge, and Retaining Wall Design**

At the intersection of Price Canyon Road with State Route 227, the one-side widening will shift the center of the traffic lanes laterally approximately six feet. This shift, along with upgrading the intersection to current geometric standards, will require the existing signal system to be reconstructed.

Y&C Transportation will prepare the electrical portion of the PS&E. Their scope is included in Attachment 2.

Coordination with Caltrans during the design phase will be provided to secure their review and approval of improvements to the intersection of Price Canyon Road and State Route 227. This scope assumes three (3) meetings with Caltrans for this purpose.

Preparation of the design of the project will be performed in accordance with:

- AASHTO's A Policy on Geometric Design of Highways and Streets (2001);
- Caltrans Highway Design Manual;
- San Luis Obispo County Design Standards;
- Caltrans Traffic Manual;
- Caltrans Bridge Design Specifications; and
- Caltrans Structure Design Manuals.

Structures design will be based on the "Load Factor Design" method, with HS20-44 and permit truck live loads. Seismic design at the West Corral de Piedra Creek Bridge will be performed in accordance with Bridge Design Specifications (Section 3.21) and Caltrans Seismic Design Criteria, Version 1.2.

The County has indicated that replanting work for tree mitigation will be performed by County forces. Therefore, landscaping work is not included in this scope of work. Erosion control of disturbed areas and slopes will be made part of the construction contract.

### **Task 9 – Roadway, Bridge, and Retaining Wall Drafting**

Plans will be prepared in Microstation in English units, consistent with County design standards and the latest English units Caltrans Standard Plans (currently dated July 2002, new release anticipated July 2006). All plans will be signed by the engineer (registered in the state of California) in responsible charge of the design, in accordance with the Caltrans Local Programs Manual.

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The following is a list of the types of plan sheets anticipated, with the anticipated number of plan sheets for each type shown in parenthesis.

**Roadway (39 Sheets)**

- ☐ Title (1)
- ☐ Right of Way (1)
- ☐ Environmentally Sensitive Area (1)
- ☐ Typical Cross Section (2)
- ☐ Layout (1"=50')(4)
- ☐ Construction Detail (2)
- ☐ Drainage Profiles and Details (4)
- ☐ Drainage Quantities (1)
- ☐ Utilities (4)
- ☐ Sign Plan (1)
- ☐ Pavement Delineation (4)
- ☐ Traffic Handling (4)
- ☐ Construction Area Signs (2)
- ☐ Summary of Quantities (3)
- ☐ Water Pollution Control (3)
- ☐ Electrical (2)

**Bridges (25 Sheets)**

**Edna Overhead (Bridge No. 49C-330)**

- ☐ General Plan (1)
- ☐ Foundation Plan (1)
- ☐ Abutment 1 Details (1)
- ☐ Abutment 4 Details (1)
- ☐ Bent Details (1)
- ☐ Typical Section (1)
- ☐ Girder Layout (1)
- ☐ Precast Girder Details (1)
- ☐ Barrier Rail Details (1)
- ☐ Miscellaneous Details (1)
- ☐ Log of Test Borings (1)

**West Corral de Piedra Creek (Bridge No. 49C-329)**

- ☐ General Plan (1)
- ☐ Foundation Plan (1)
- ☐ Abutment Layout (1)
- ☐ Abutment Details (1)
- ☐ Bent Details (3)
- ☐ Typical Section (1)
- ☐ Girder Layout (1)
- ☐ Precast Girder Detail (1)
- ☐ Pipe Seat Extender Retrofit Details (1)
- ☐ Barrier Rail Details (1)
- ☐ Miscellaneous Details (1)
- ☐ Log of Test Borings (1)

**Retaining Walls (18 Sheets)**

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**Retaining Wall No. 3** (Sta. 322 to 327, left side of road, fill section; assumed MSE wall)

- ☐ General Plan (1)
- ☐ Layout (2)
- ☐ MSE Wall Details (6)
- ☐ Log of Test Borings (1)

**Retaining Wall No. 4** (Sta. 328 to 334, left side of road, fill section; assumed MSE wall)

- ☐ General Plan (1)
- ☐ Layout (2)
- ☐ MSE Wall Details (6) (use same sheets as Wall No. 3)
- ☐ Log of Test Borings (1)

**Retaining Wall No. 5** (Sta. 319 to 321, left side of road, fill section; assumed MSE wall)

- ☐ General Plan (1)
- ☐ Layout (1)
- ☐ MSE Wall Details (6) (use same sheets as Wall No. 3)

**Retaining Wall No. 6** (Sta. 321 to 323 right side of road, fill section; assumed concrete barrier type 27B or similar)

- ☐ General Plan (1)
- ☐ Miscellaneous Details (1)

**82 Total Sheets Assumed**

Quincy Engineering will prepare all the structure plan sheets except the Log of Test Borings, which will be prepared by Fugro Geotechnical, Inc.

**Task 10 – Draft (65%) Plans, Specification and Estimate Submittal**

Upon completion of the draft roadway, bridge, and retaining wall design and plans, the engineer's estimate on probably construction cost will be updated, and a preliminary set of proposed project technical standard special provisions (SSP) will be assembled. The preliminary special provisions will not be edited for project specificity. The PS&E will be submitted to the County for their review. After the County has completed their review, a meeting with Quincy and County staff will be held in the County's office to discuss and resolve the County's review comments. This meeting will result in the resolution of most major design issues, and should expedite the review of subsequent submittals.

**Deliverables:** 65% Plans (11"x17" Reproducible)  
Updated Engineer's Estimate  
Standard Special Provisions  
Progress Meeting

**Task 11 – Obtain Construction Permits**

Quincy Engineering will prepare various construction permit applications for the project, including:

- ☐ Union Pacific Railroad Construction and Maintenance Agreement (Prepared under Task 8)
- ☐ California Public Utilities Commission Order (Prepared under Task 8)
- ☐ Caltrans Encroachment Permit

The County will obtain all permits and agreements from the various resource agencies that have jurisdiction over the project. The following permits and agreements are anticipated:

- ☐ California Department of Fish and Game, 1601 Streambed Alteration Agreements
- ☐ U.S. Army Corps of Engineers Nationwide Permit
- ☐ California Regional Water Quality Control Board Section 401 Water Quality Certification
- ☐ California Regional Water Quality Control Board Section 402 Notice of Intent

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■ Agreement for Native American Construction Monitor

The construction contractor will be responsible for the preparation and implementation of a Storm Water Pollution Prevention Plan. Conceptual Storm Water Pollution Prevention Plan will not be prepared under this scope of work.

**Deliverables: Construction Permits**

**Task 12 – Independent Design Check**

An independent check of the design will be performed, and the plans will be reviewed for completeness, constructibility, and conformance to design criteria. Road and bridge Engineers not involved in the design phase of the project will perform independent analyses of the project elements. Based upon these independent evaluations, and agreement to revisions by the checkers and designers, the plans will be revised as appropriate.

**Task 13 – Construction Quantities and Engineer’s Estimate**

Construction quantities will be determined in accordance with standard Caltrans pay items. In accordance with QEI quality control standards, two independent sets of quantities will be calculated for each roadway, bridge, and retaining wall item. For bridge quantities, the two set of calculations must be within tolerances specified in Bridge Design Aids.

The Engineer’s Estimate will be based on unit costs from the Caltrans Construction Cost Database, or other databases provided by the County. The engineer’s estimate will include individual quantities, unit costs, and a project cost summary, including appropriate supplemental work items and contingencies.

Due to the multiple funding sources for this project, the Engineer’s Estimate will be segregated to reflect the proportional contribution from each of the funding sources as appropriate. For example, costs associated with widening the Edna Overhead approach roadway will be proportioned 80% to the Federal-Aid project for the Edna Overhead and 20% among the Federal-Aid project for Price Canyon Widening, TEA-21, CMAC and other funds contributing to the project.

**Task 14 – Special Provisions**

Quincy Engineering will prepare contract technical specifications to be submitted at the 90% and 100% submittals. The technical specifications will be based on the latest English units Caltrans Standard Specifications (currently dated July 2002, new release anticipated July 2006) and Caltrans standard special provisions. It is anticipated that the technical special provisions will be limited to Caltrans format sections 8, 9, 10, 11 and 13.

The County will prepare boilerplate specifications and will combine them with the technical specifications prepared by the Quincy Team.

**Task 15 – Construction Schedule**

Quincy Engineering will prepare a construction schedule to estimate the number of working days to be included in the construction contract. The schedule will be provided to the Resident Engineer for use during construction.

**Task 16 – Quality Assurance/Quality Control and Constructibility Review**

As an integral part of the Quincy Engineering QA/QC Program, a senior level engineer will review the entire draft PS&E (90% PS&E) package for uniformity, compatibility, and constructibility.

The review will include comparing the roadway, bridge, electrical, and utility plans for conflicts or inconsistencies, and to assure that the final design is in accordance with the approved environmental documents and permit requirements. The specifications and estimate will be reviewed for consistency with the plans, and to assure that each construction item is addressed.

**Task 17 - Draft (95%) Plans, Specifications, and Estimate Submittal**

Upon the completion of the QA/QC review, the plans, specifications and estimate, the construction working days schedule, along with the QA/QC comments and resolution will be submitted for County review.

- Deliverables:** 95% Plans (11"x17" Reproducible)  
95% Special Provisions (Reproducible and Electronic)  
Engineer's Estimate  
Working Day Schedule  
QA/QC comments and resolution

**Task 18 – 100% Plans, Specifications, and Estimate Submittal**

Upon receipt of the County's (and other stakeholders) comments on the 95% PS&E, the comments will be reviewed, discussed and addressed as appropriate. Quincy Engineering will incorporate the review comments as appropriate, and the 100% PS&E will be submitted for the County's review. Written responses to 95% PS&E review comments will also be provided at this time.

- Deliverables:** 100% Plans (11"x17" Reproducible)  
100% Special Provision (Reproducible and Electronic)  
Engineer's Estimate  
Design Calculations  
Independent Check Calculations  
Quantity Calculations  
Quantity Check Calculations  
Roadway Cross Section (11"x17" Reproducible)

**Task 19 – Resident Engineer's File**

Quincy Engineering will prepare the Resident Engineer's File. Included in this file will be any notes from the designer regarding unusual or unique items and any design information useful to the Resident Engineer during the construction of the project.

**Task 20 – Surveyor's File**

Quincy Engineering will prepare the Surveyor's File including copies of all survey monuments and bench marks used for design, and copies of alignments and calculations.

**Task 21 – Final Plans, Specification, and Estimate Submittal**

Upon approval from the County, a final set of reproducible signed and stamped plans and special provisions will be produced. The signature sheet for Special Provisions will be hard copy only.

- Deliverables:** One-half size plans (11"x17" Reproducible)  
Full size plans (22"x34" Vellum)  
Special Provision (Reproducible and Electronic)  
PS&E Checklist  
Resident Engineer's File  
Surveyor's File

**CONSTRUCTION**

Quincy Engineering staff involved in the project will be made available to assist the County during this phase of the project. Because of the unknown level of effort required for the following services, the scope for these tasks is being provided for information purposes only at this time. The level of effort can be determined at the time such services are needed, and a contract amendment issued to cover the services as requested.

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**Task 22 – Bidding Assistance**

During the advertising period, all questions concerning the intent of the construction documents may be referred to Quincy Engineering for resolution. In the event that any items requiring interpretation in the drawings or specifications are discovered, Quincy Engineering can provide analysis and recommendations for resolution of such items, which would be forwarded to the County for their review and approval.

Corrective action taken will either be in the form of an addendum prepared by Quincy Engineering or by a change order issued after the award of the construction contract.

**Task 23 – Construction Support**

Quincy Engineering will assist the County’s Resident Engineer and/or Bridge Representative as requested to provide services such as reviewing contractor submittals, preparing and/or reviewing change orders, and making other field observations, at the County’s request. All activities will include appropriate recommendations and documentation.

If, during the construction phase of the project, a problem occurs that is directly caused by an error on the part of Quincy Engineering, Quincy Engineering will modify the design, details, specifications, and/or estimates as necessary at no cost to the County.

Quincy Engineering will be available to attend a pre-construction meeting held with the Resident Engineer and the Contractor prior to the start of actual construction activities.

**Task 24 – Prepare As-Built Plans (Optional)**

Based on construction field changes clearly marked, by County’s Resident Engineer, on a set of contract plans, at County’s options, Quincy Engineering will be available to incorporate the field change information into the CAD files and prepare a set of electronic Record Drawings (as-builts).

**Deliverable: 22” x 34” Vellum As-Built Plans**

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**Attachment 1**

**Geotechnical Investigations**

**Fugro West, Inc.**

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**FUGRO WEST, INC.**



660 Clarion Court, Suite A  
San Luis Obispo, CA 93401  
Tel: (805) 542-0797  
Fax: (805) 542-9311

March 2, 2006  
Project No. 2003.314

Quincy Engineering  
3247 Ramos Circle  
Sacramento, California 95827-2512

Attention: Ms. Ivy Lane

Subject: Revised Proposal for Geotechnical Services, Price Canyon Road Widening – Bike Lanes, Ormonde Road to Highway 227, San Luis Obispo County, California

Dear Ms. Lane:

Fugro is providing geotechnical services for the Price Canyon Road widening in San Luis Obispo County. Our services are being provided according to our agreement with Quincy dated April 3, 2001. We previously completed preliminary geotechnical services for the project, and submitted our report on August 14, 2001. The project has subsequently been delayed while environmental studies were being performed. We understand that the project is now entering the final design phase. This proposal was prepared in response to your request to update our December 14, 2004 proposal for the current phase of work and fee schedule. Our scope of work, estimated fee and schedule for the remaining services, and an optional task to perform pavement deflection testing is presented in this proposal.

### **SCOPE OF WORK**

Fugro will prepare a Geotechnical Report for the project. The report will include recommendations for the design of the roadway widening, bridge and overhead widening, and the retaining walls. Log of Test Borings sheets will also be prepared for bridge and overhead structures. We assume that the fieldwork for the bridges and roadway can be performed under the same mobilization. We will perform the following tasks:

#### **Task 1 – Coordination and Data Review**

We will review the current design information to select boring locations for the roadway, bridge, and retaining wall improvements. We will review the planned boring locations and objectives for the project with Quincy. We will visit the site to coordinate access for field exploration. We will mark the locations of our planned explorations and contact Underground Services Alert (USA) to review the locations relative to underground utilities. Fugro will not be responsible for damages resulting from damage to buried structures or underground utilities that are not brought to our attention and properly marked at the site. We will coordinate site access and drilling with the County. We expect that site access will be provided to us.

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**Task 2 – Field Exploration**

A tentative schedule of the borings for this project is summarized below:

Location	Field Exploration	Purpose and Comment
<b>Roadway</b>	5 borings to 10 feet deep	Characterize subgrade conditions for pavement, cut slope, and embankment slope design along Price Canyon Road. Characterize subgrade drainage conditions in cut areas. Supplement with retaining wall boring information.
<b>Overhead and Bridge Widening</b>	2 borings to 80 feet at OH 2 borings to 60 feet at Bridge	Characterize subsurface conditions for the design of the bridge and overhead foundation.
<b>Retaining Walls at Overhead Approaches</b> (Sta. 322+00 to 332+00)	3 borings to 50 feet	Characterize subsurface conditions along southbound toe of embankment for wall design. Supplement with bridge and overhead boring information.
<b>Retaining Walls at CDP Road</b> (Sta. 318+50 to 321+50)	2 borings to 15 feet	Characterize subsurface conditions for wall/reinforced slope design. Borings will be limited to depth of existing embankment fill.
<b>TOTALS:</b>	<b>12 borings totaling 510 feet</b>	<b>Geotechnical Report for roadway, bridge, and retaining wall design.</b>

**Borings.** The borings will be drilled using a truck mounted drill rig equipped with hollow stem augers. The borings may be deepened or terminated at shallower depths depending on the conditions encountered during drilling. We will sample the borings at approximately 5-foot intervals using standard penetration test (SPT) split-spoon, modified California split-spoon, or Shelby tube samplers depending on the conditions encountered. The samples will be used to classify the soils encountered, and be retained for subsequent laboratory testing. The borings will be backfilled with the cuttings upon on the completion of drilling.

**Geologic Mapping:** We will perform geologic mapping of the various cuts to help characterize the rock slope conditions for design. The main types of information that we expect to obtain from the mapping are: geologic structure (orientation of bedding and joint planes) relative to the planned cut slopes; location of springs and oil seeps that may need to be controlled; and areas of creep, erosion or past slope movement that could impact the design of cut slopes and retaining walls. We will also obtain selected bulk and driven ring samples of the bituminous sandstone materials. These samples will be used to help characterize the strength and asphalt content of the sandstone for slope design.

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**Traffic Control.** We will provide traffic control during the course of our exploration. We expect that lane closures with flagmen will be needed for drilling that may be performed at structure locations. We anticipate providing up to 4 days of lane closures for this study.

**Corrosion Survey.** In accordance with Caltrans guidelines for materials reports, we will observe existing drainage structures for obvious signs of corrosion, and obtain near-surface soil samples from proposed drainage improvement areas for corrosion testing. The data obtained from the corrosion survey will be tested in accordance with Caltrans test methods to provide information for the design of culverts.

**Hazardous Materials.** This scope of work specifically excludes the search for, and evaluation of, hazardous materials in soil, water or air. In the event that hazardous materials are encountered during field exploration, Fugro will be required to report the contamination and to follow protocols required by various agencies. The cost for work performed in association with the discovery of hazardous materials will be provided on a time and materials basis, and is not included in this work.

### **Task 3 – Laboratory Tests**

We will perform laboratory tests on selected samples obtained from the field exploration program to assist in our characterization of the geotechnical engineering properties of the materials encountered. We expect to perform tests for soil classification, compaction, shear strength, consolidation, corrosion and R-value. The types and numbers of tests that we expect to perform will be selected based on the results of the field exploration program.

### **Task 4 – Draft Geotechnical Report**

We will prepare a Geotechnical Report for the design of the roadway, bridge and overhead foundations, and retaining walls.

We will provide the following opinions and recommendations regarding roadway design:

- ❖ Subgrade and groundwater conditions encountered;
- ❖ Thickness of existing pavements and permeable material encountered in our borings;
- ❖ Slope inclinations for the design of cut and embankment slopes;
- ❖ Cuts and excavations including subdrain requirements, geologic structure, excavation characteristics of on-site soil and rock materials, and estimated rippability;
- ❖ Embankments, including suitability of excavated materials for use as fill, moisture control, erosion control and drainage considerations, expansive soils, and estimated settlement;
- ❖ Fill placement and compaction requirements for bituminous sandstone materials for use in embankment construction;

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- ❖ Corrosion considerations for culverts and buried concrete structures (cement factors, pipe thickness, and need for coatings);
- ❖ Earthwork factors for onsite materials that are excavated and replaced as compacted fill; and
- ❖ Structural sections for asphalt concrete pavements based on traffic indices provided to us, and recommendations for underdrains, drainage blankets or thickened sections depending on results of the field exploration program.

We will provide the following opinions and recommendations regarding the design of the bridge and overhead foundations:

- ❖ Soil, rock, and groundwater conditions encountered;
- ❖ Site geology, faulting and seismicity;
- ❖ Potential for geologic hazards to impact the project (such as, seismic shaking, liquefaction, slope instability and lateral spreading, landslides, flooding and inundation, and subsidence);
- ❖ Seismic data for use with Caltrans design methods (causative fault, peak bedrock acceleration, depth to bedrock, soil profile type, increases for fault type, increases for near-source faults, Edna fault characteristics, and response spectra from ATC-32);
- ❖ Corrosion considerations for design of subsurface structures (minimum cement factors estimated in accordance with Caltrans guidelines);
- ❖ Scour considerations, estimated scour velocity for streambed materials encountered, if needed;
- ❖ Suitable foundations types for the conditions encountered (such as spread footings, driven concrete or steel piles, or CIDH piles);
- ❖ Specified tip elevation, settlement, and size for suitable deep foundation types and class of pile loading considered;
- ❖ Lateral capacity of pile foundations for free-head and fixed-head conditions based on p-y analysis;
- ❖ Pile spacing and group reduction factors for vertical and lateral loads;
- ❖ Lateral earth pressures, spring constants, and passive pressure resistance for abutment design;
- ❖ Special considerations for approach fill settlements: allowable slope inclinations, waiting periods, and need for monitoring; and
- ❖ Construction considerations: need for dewatering, pile driving, CIDH pile construction, adjacent structures, temporary excavations, and shoring.

We will provide the following opinions and recommendations regarding the design of the retaining wall foundations:

- ❖ Soil and groundwater conditions encountered;

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- ❖ Suitable retaining wall types for the areas being considered, such as MSE walls for support of the approach fill near the overhead, and MSE or geosynthetic reinforced embankments near the CDP Road intersection. (The retaining wall type(s) will be selected in conjunction with Quincy. Alternatively, Caltrans standards type retaining walls can be used for these locations).
- ❖ Site preparation and grading for support of the walls;
- ❖ Minimum base widths and bearing elevations for MSE walls, or standard cantilever retaining wall types, for use with Caltrans standards;
- ❖ Foundation and grading recommendations to reduce potential impacts that the retaining walls could have on environmentally sensitive areas at the Corral de Piedra Road Intersection.
- ❖ Minimum base widths and bearing elevations for MSE walls or minimum reinforcement requirements for geosynthetic reinforced embankment (GRE) at Corral de Piedra Road;
- ❖ Slope stability of retaining walls on slopes;
- ❖ Construction considerations, such as, temporary cut slope inclinations, need for temporary shoring to construct retaining walls;
- ❖ Suggested materials specifications for recommended wall alternatives, such as for geosynthetic reinforcement, soil nail installation and testing, and grouting.

We will submit 3 copies of the draft report for review by the County and the design team. Field and laboratory data obtained from our evaluation will be included in the report. We may recommend that additional exploration or evaluation be performed based on the results of the work performed. Upon receipt of written comments, we will then address the comments and incorporate them into a final report.

#### **Task 5 - Log of Test Borings Sheets**

We will prepare two log of test borings sheets for the project: one for the Union Pacific Railroad overhead, and one for the West Corral de Piedra Creek Bridge. The sheets will be prepared on Caltrans standard plan sheets for log of test borings, and can be modified to incorporate the County's plan sheet border, if requested.

#### **Task 6 - Final Geotechnical Report**

The report will be prepared from the draft report prepared under Task 4, and will be revised to incorporate comments from the design team and to address design modifications, if needed. We will consult with the County and design team to review the comments prior to finalizing the report. Six copies of the final report will be submitted.

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### Task 7 - Revised Log of Test Borings Sheets

We will revise the Log of Test Borings sheets for inclusion in the project plans and the foundation report. A full-size, reproducible copy of the final log of test borings sheets will be provided.

### OPTIONAL TASKS

The following scope is for an optional task to provide deflection testing and overlay recommendations for rehabilitation of the pavement on Price Canyon Road. These services would be provided at the option of the County. As the existing road was recently overlaid and is in relatively good condition, it does not appear that a deflection survey is necessary at this time. The purpose of our pavement evaluation will be to characterize the existing pavement section, estimate the traffic index for the pavement using a layered elastic model and Caltrans test methods, and to recommend an overlay thickness or maintenance of the existing pavement, if needed, to provide the design traffic index. Our scope of work, estimated fee, and schedule for these services is presented in this proposal.

### SCOPE OF WORK

Fugro will prepare a Pavement Evaluation Report for the project. We will provide a program of pavement coring, deflection survey, and analyses to assist in preparation of the report. We will perform the following tasks:

1. We will coordinate site access and obtain an encroachment permit from the County. We will mark the locations of our planned core location and contact Underground Services Alert (USA) to review the locations relative to underground utilities. Fugro will not be responsible for damages resulting from damage to buried structures or underground utilities that are not brought to our attention and properly marked at the site.
2. **Deflection Survey.** We will perform a deflection survey of the roadway using a Falling Weight Deflectometer (FWD). The FWD is used to measure the load-response characteristics of the pavement layers and subgrade. The FWD test procedure utilizes a buffered 9,000-pound load acting on a 12-inch-diameter plate to simulate the wheel load resulting from an 18,000-pound (18-kip), single-axle truckload. Geophones and an on-board computer are used to measure the surface deflection of the pavement at various intervals as the FWD strikes the pavement. The pavement deflection measurements will be recorded in the inside and outside wheel paths. Measurements will be taken in both directions at approximately 100-foot intervals.

**Pavement Coring.** We will also obtain approximately 6 pavement cores to check the thickness of the existing pavement, measure the structural section of the existing pavement, and obtain subgrade samples for subsequent laboratory testing.

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The data collected from the field testing and coring will be used by Fugro to prepare a layered elastic model for pavement analyses, and to recommend a maintenance strategy for the streets surveyed.

**Traffic Control.** We will provide traffic control during the course of our exploration. We expect that flagging and periodic stopping of traffic in one direction will be needed during testing to divert traffic around the work area. We anticipate that the work can be completed within one day.

3. We will perform R-value laboratory tests on selected samples obtained from the field exploration program to assist in our characterization of the geotechnical engineering properties of the materials encountered. These tests can be provided within our existing contract budget, and therefore are not included in this proposal.
4. Fugro will prepare a Pavement Evaluation Report for the project. The report will provide a summary of the data obtained, and our opinions and recommendations regarding:
  - ❖ General condition of the existing pavement;
  - ❖ Estimated thickness of existing pavements and subgrade conditions;
  - ❖ Estimated traffic index for the existing pavements based on deflection data and layered elastic modeling;
  - ❖ Location and approximate areas of distressed or failed pavements that should be patched or replaced prior to overlay;
  - ❖ Estimated overlay thickness needed to strengthen the structural section, if needed; and
  - ❖ Need for seal coats, maintenance overlays, or resurfacing in areas that are found to not require strengthening.

Four copies of the report will be submitted. Field and laboratory data obtained from our evaluation will be included in the report. We may recommend that additional exploration or evaluation be performed based on the results of the work performed.

#### FEE ESTIMATE

We will provide our services on a time and expense basis in accordance with current fee schedule rates. Our estimated hours and fee for the scope of work described in this proposal is presented on Plate 1. The estimated fee for the optional deflection survey is shown on Plate 2. The fee was prepared based on our understanding of the project described in this proposal, and our experience with similar projects. We can provide additional services according to the attached fee schedule rates. This proposal can be considered valid for a period of 30 days, after which time Fugro reserves the right to revise the proposal prior to receiving authorization

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for our services. Invoices will be submitted at monthly intervals based on the amount of work completed. Our currently authorized contract amount is \$38,500. We have currently billed \$6,900 for services already provided for this project. Additional authorization would be needed to provide the additional services described in this proposal and estimated on Plates 1 and 2.

### SCHEDULE

We are prepared to initiate this scope of work upon receiving authorization to proceed. Field activities will be scheduled based on the availability of access to the site, the availability of field equipment, and the prevailing weather conditions. We expect that the report can be completed within 8 weeks after the completion of fieldwork. We can provide verbal information to the design team as work progresses. The final report can typically be prepared within approximately 2 weeks following the receipt of written comments from the design team.

We trust this proposal meets your needs at this time. Please contact the undersigned if you have questions or require additional information.

Sincerely,

FUGRO WEST, INC.

A handwritten signature in black ink that reads "Jonathan D. Blanchard".

Jonathan D. Blanchard, P.E.  
Principal Geotechnical Engineer

Copies: 2- Addressee

Enclosures: Plate 1 – Revised Fee for Geotechnical Services  
Plate 2 – Revised Fee for Pavement Evaluation Services (Optional)  
Fee Schedule (January 2006cc)



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Task	Rate/Hour (2005CC)	Principal	Senior	Project II	Project I	Staff II	Staff I	CAD/GIS Operator	Word Processor	Total Hours	Total Cost
		\$170	\$130	\$115	\$110	\$95	\$90	\$90	\$60		
<b>Geotechnical Services:</b>											
1. Coordination and Permitting		6	2			16				24	\$ 2,800
2. Field Exploration											
Drilling:		2	4			45				51	\$ 5,135
Geologic Mapping:		2	12							14	\$ 1,900
Corrosion Survey:					8					8	\$ 880
3. Laboratory Tests					Based on Unit Rates						\$ 12,435
4. Draft Geotechnical Report		12	16		8	100		24	4	164	\$ 16,900
5. Draft Log of Test Borings Sheet			4			8		24	4	40	\$ 3,680
6. Final Geotechnical Report		2	4			24		4	4	38	\$ 3,740
7. Final LOTB sheet (2 sheets)			2			4		8	2	16	\$ 1,480
<b>Subtotal:</b>		<b>24</b>	<b>44</b>	<b>0</b>	<b>16</b>	<b>197</b>	<b>0</b>	<b>60</b>	<b>14</b>	<b>355</b>	<b>\$ 48,950</b>

**Laboratory Costs**

**Other Direct Costs**

	Rate	No.		Units	Rate	Billing Factor	ODC Costs
Moisture Content-Unit Weight	\$ 25	55	Rig Mobilization (per hour)	10	\$ 175	1.15	\$ 2,013
Atterberg Limits	\$ 130	8	Drilling (per hour)	32	\$ 195	1.15	\$ 7,176
Sieve Analysis	\$ 90	8	Chase Vehicle	4	\$ 60	1.15	\$ 276
AC Extraction and Sieve Analyses	\$ 300	4	Additional Drilling or OT (if needed)	4	\$ 195	1.15	\$ 897
Compaction Curve	\$ 200	4	CPT Mobilization	0	\$ -	1.00	\$ -
Direct Shear	\$ 285	8	CPT Soundings (per foot)	0	\$ -	1.00	\$ -
CIU Triaxial (per point)	\$ 450	0	Pickup Truck (per day)	5	\$ 100	1.00	\$ 500
UU Triaxial	\$ 120	16	Backhoe (per hour)	0	\$ -	1.15	\$ -
Unconfined Compression	\$ 90	0	Traffic control, 2 person crew (per day)	4	\$ 1,100	1.15	\$ 5,060
Falling Head Permeability	\$ 275	0	Sand Cement Slurry (per cubic yard)	5	\$ 80	1.15	\$ 460
Consolidation	\$ 260	6	Short load surcharge	1	\$ 100	1.15	\$ 115
Swell/Collapse	\$ 110	0	Bob Tail Dump Truck (per hour)	0	\$ -	1.15	\$ -
Expansion Index	\$ 200	0	Coring (each)	0	\$ -	1.15	\$ -
R-value	\$ 260	3	Coring (per hour)	0	\$ -	1.15	\$ -
Corrosion	\$ 190	4	Field Supplies	1	\$ 400	1.15	\$ 460
Admixture	\$ 65	0	Shipping, Overnight, Copies, etc.	1	\$ 200	1.15	\$ 230
<b>Subtotal ODC:</b>							<b>\$ 17,187</b>

**Estimated Total for Geotechnical Services: \$ 66,200**

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**REVISED FEE ESTIMATE FOR GEOTECHNICAL SERVICES**

Price Canyon Road Widening  
 San Luis Obispo County, California

## **Attachment 2**

### **Electrical (Signal) Design**

**Y&C Transportation Consultants, Inc.**

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**County of San Luis Obispo  
Price Canyon Road Improvements  
Y&C's Proposed Work Scope and Schedule  
July 18, 2005**

**WORK SCOPE**

**Task 1 Traffic Signal Design**

Y&C will obtain Microstation base plan and as-built signal plan for the S.R. 227/Price Canyon Road intersection from Quincy Engineering Incorporated (QEI) and Caltrans, respectively. Y&C will verify the as-built plan in the field. Using the obtained information, Y&C will prepare traffic signal plans, specifications, and estimates (PS&E) for the signal modification at the S.R. 227/Price Canyon Road intersection to reflect the improvements at the southeast and southwest corners. The PS&E will be submitted to the County of San Luis Obispo (SLO) and Caltrans for review at the 90% and 100% levels. Any comments by review agencies will be incorporated into the final design.

We assume no construction stage temporary signal plan will be required.

*Deliverables:*

- *One sheet of 1"=20' existing signal layout plan*
- *One sheet of 1"=20' proposed signal layout plan*
- *One sheet of no scale equipment and conductor schedules*
- *Technical specifications and Engineer's Estimates*

**Task 2 Bidding and Construction Support**

Y&C will answer questions from the bidders during the bidding period. Y&C will also review the Contractor's shop drawing submittals and respond to the Contractor's RFI as necessary during construction.

**SCHEDULE**

Y&C will submit 90% PS&E within four weeks after receipt of base plans and as-built plans. Y&C will submit 100% PS&E within three weeks after receipt of comments. Y&C will submit final PS&E within two weeks after receipt of comments on 100% submittal.

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