
**DEPARTMENT OF
PUBLIC WORKS**

GOVERNMENTAL CENTER

JOHN A. FANTHAM
DIRECTOR OF PUBLIC WORKS



AGENDA: JUNE 16, 1998 235

COUNTY OF SANTA CRUZ

701 OCEAN STREET, SANTA CRUZ, CALIFORNIA 950604070

(408) 454-2160

FAX (408) 454-2385

June 4, 1998

SANTA CRUZ COUNTY BOARD OF SUPERVISORS

701 Ocean Street
Santa Cruz, California 95060

SUBJECT: SEISMIC SAFETY RETROFIT ENGINEERING, AMENDED CONTRACT

Members of the Board:

On January 13, 1998, your Board approved a contract for engineering services with Buckland and Taylor, Ltd. to prepare plans and specifications for seismic retrofit of seven County bridges. The program is funded by the Federal Highway Administration (FHWA) and administered by CALTRANS. FHWA guidelines require that the contract be subject to state audit because the total exceeds \$250,000.00 (a program threshold). CALTRANS has recently completed the audit and has submitted to Public Works a report requiring amendments to the Independent Contractor Agreement. The state auditor's amendment wording has been reviewed and approved by County Counsel.

Attached for your Board's review and approval is the amended Independent Contractor Agreement between the County and Buckland and Taylor, Ltd., of Walnut Creek, California. The amended agreement allows for the substitution of a subconsultant and for additional expense for CALTRANS approved engineering. The original subconsultant asked to be released from this contract. The original contract was for a total of \$552,387.78. The amended contract is for a total of \$594,448.28. The increase covers the amended scope of work by the new hydraulics subconsultant and is fully funded by FHWA.

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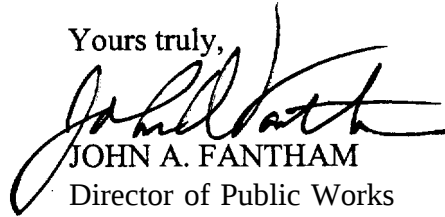
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It is therefore recommended that the Board of Supervisors take the following action:

1. Approve the attached amended Independent Contractor Agreement with **Buckland** and Taylor, Ltd. for engineering design services for seismic retrofit of seven bridges.

2. Authorize the Director of Public Works to sign the Agreement on behalf of the County.

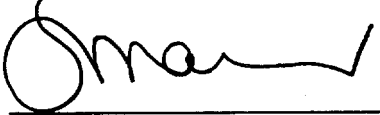
Yours truly,


JOHN A. FANTHAM
Director of Public Works

PTJ:bbs

Attachments

RECOMMENDED FOR APPROVAL:



County Administrative Officer

copy to: **Buckland and Taylor, Ltd.**
Dinh Le, CALTRANS Local Assistance
Public Works Department

SSREB

Contract No. 71577

AMENDED
INDEPENDENT CONTRACTOR AGREEMENT

THIS CONTRACT replaces and supersedes Contract No. 71577 between the County of Santa Cruz and **Buckland & Taylor Ltd.**, dated January 13, 1998.

THIS CONTRACT is entered into this ____ day of _____, 19__, by and between the County of Santa Cruz, hereinafter called COUNTY, and **BUCKLAND & TAYLOR, LTD.**, hereinafter called CONTRACTOR. The parties agree as follows:

1. DUTIES. CONTRACTOR agrees to exercise special skill to accomplish the following results: Prepare seismic retrofit plans and specifications for the bridges listed in Attachment 1.
2. COMPENSATION. The County of Santa Cruz shall reimburse the contractor for hours worked specified in the Contractor's Cost Proposal (Attachment 1). The specified hourly rates shall include direct salary costs, employee benefits, overhead and fee. The total amount payable by the COUNTY, for all Task Orders resulting from this contract, shall not exceed \$594,448.28. It is understood and agreed that this total is an estimate, and that there is no guarantee, either expressed or implied, as to the actual dollar amount that will be authorized under this contract through Task Orders.

The CONTRACTOR shall be reimbursed for direct costs, other than salary costs, that are identified in an executed Task Order.

The CONTRACTOR shall be reimbursed for actual travel expenses incurred in the performance of this work, including the use of private cars at the rate of 32.5 cents per mile, while traveling away from consultant's headquarters which is hereby designated as Walnut Creek, CA. In addition, CONTRACTOR'S personnel shall be reimbursed for per diem expenses at a rate not to exceed that currently authorized for State employees under State Department of Personnel Administration rules.

3. TIME OF BEGINNING AND COMPLETION. Time of beginning and completion shall be as described: From Board of Supervisors' approval through June 30, 1999.

The CONTRACTOR shall not commence performance of work or services until this contract has been approved by the COUNTY and notification to proceed has been issued by the County's Contract Manager. No payment will be made for any work performed prior to the approval of this contract.

4. EARLY TERMINATION. The COUNTY reserves the right to terminate this contract upon thirty (30) calendar days written notice to the CONTRACTOR with the reasons for termination stated in the notice.

5. INDEMNIFICATION FOR DAMAGES, TAXES AND CONTRIBUTIONS. CONTRACTOR shall exonerate, indemnify, defend, and hold harmless COUNTY (which for the purpose of paragraphs 5 and 6 shall include, without limitation, its officers, agents, employees and volunteers) from and against:

A. Any and all claims, demands, losses, damages, defense costs, or liability of any kind or nature which COUNTY may sustain or incur or which may be imposed upon it for injury to or death of persons, or damage to property as a result of, arising out of, or in any manner connected with, or caused, or claimed to be caused, by the willful misconduct or negligent acts, errors or omissions of the CONTRACTOR, and its agents, officers, or employees in performing the work or services herein, and all expenses of investigating and defending against same; provided, however that the CONTRACTOR'S duty to indemnify and hold harmless shall not include any claims or liability arising **from** the established sole active negligence or willful misconduct of the COUNTY, its agents, officers, or employees.

B. Any and all Federal, State and Local taxes, charges, fees, or contributions required to be paid with respect to CONTRACTOR and CONTRACTOR'S officers, employees and agents engaged in the performance of this Agreement (including, without limitation, unemployment insurance, social security and payroll tax withholding).

6. INSURANCE. CONTRACTOR, at its sole cost and expense, for the full term of this Agreement (and any extensions thereof), shall obtain and maintain at minimum compliance with all of the following insurance coverage(s) and requirements. Such insurance coverage shall be primary coverage as respects COUNTY and any insurance or self-insurance maintained by COUNTY shall be excess of CONTRACTOR'S insurance coverage and shall not contribute to it.

If CONTRACTOR utilizes one or more subcontractors in the performance of the Agreement, CONTRACTOR shall obtain and maintain Independent Contractor's Insurance as to each subcontractor or otherwise provide evidence of insurance coverage for each subcontractor equivalent to that required of CONTRACTOR in this Agreement, unless CONTRACTOR and COUNTY both initial here ____/____.

A. Types of Insurance and Minimum Limits

(1) Worker's Compensation in the minimum statutorily required coverage amounts. This insurance coverage shall not be required if the CONTRACTOR has no employees and certifies to this fact by initialing here _____

(2) Automobile Liability Insurance for each of CONTRACTOR'S vehicles used in the performance of this Agreement, including owned, non-owned (e.g. owned by CONTRACTORS employees), leased or hired vehicles, in the minimum amount of \$500,000 combined single limit per occurrence for bodily injury and property damage. This insurance coverage shall not be required if vehicle use by CONTRACTOR is not a material part of performance of this Agreement and CONTRACTOR and COUNTY both certify to this fact by initialing here ____/____.

(3) Comprehensive or Commercial General Liability Insurance coverage in the minimum amount of \$1 ,000,000 combined single limit, including coverage for: (a) bodily injury, (b) personal injury, (c) broad-form property damage, (d) contractual liability, and (e) cross-liability.

(4) Professional Liability Insurance in the minimum amount of \$1 ,000,000 combined single limit, ~~if and only if~~ this Subparagraph is initialed by CONTRACTOR and COUNTY PA [Signature].
Mid Coast Engineers: \$500,000.00 Professional Liability Insurance

B. Other Insurance Provisions

(1) If any insurance coverage required in this Agreement is provided on a "Claims Made" rather than "Occurrence" form, CONTRACTOR agrees to maintain the required coverage for a period of three (3) years after the expiration of this Agreement (hereinafter "post agreement coverage") and any extensions thereof. CONTRACTOR may maintain the required post agreement coverage by renewal or purchase of prior acts or tail coverage. This provision is contingent upon post agreement coverage being both available and reasonably affordable in relation to the coverage provided during the term of this Agreement. For purposes of interpreting this requirement, a cost not exceeding 100% of the last annual policy premium during the term of this Agreement in order to purchase prior acts or tail coverage for post agreement coverage shall be deemed to be reasonable.

(2) All required Automobile and Comprehensive or Commercial General Liability Insurance shall be endorsed to contain the following clause:

"The County of Santa Cruz, its officials, employees, agents and volunteers are added as an additional insured as respects the operations and activities of, or on behalf of, the named insured performed under Agreement with the County of Santa Cruz."

(3) All required insurance policies shall be endorsed to contain the following clause: "This insurance shall not be canceled until after thirty (30) days prior written notice has been given to:

Bill Williamson
County of Santa Cruz Public Works
701 Ocean Street, Room 410
Santa Cruz, CA 95060.

(4) CONTRACTOR agrees to provide its insurance broker(s) with a full copy of these insurance provisions and provide COUNTY on or before the effective date of this Agreement with Certificates of Insurance for all required coverages. All Certificates of Insurance shall be delivered or sent to:

Bill Williamson
County of Santa Cruz Public Works
701 Ocean Street, Room 410
Santa Cruz, CA 95060

7. **EQUAL EMPLOYMENT OPPORTUNITY.** During and in relation to the performance of this Agreement, CONTRACTOR agrees as follows:

A. The CONTRACTOR shall not discriminate against any employee or applicant for employment because of race, color, religion, national origin, ancestry, physical or mental disability, medical condition (cancer related), marital status, sex, sexual orientation, age (over 40), veteran status or any other non-merit factor unrelated to job duties. Such action shall include, but not be limited to the following: recruitment; advertising; layoff or terminate; rates of pay or other forms of compensation; and selection for training (including apprenticeship), employment, upgrading, demotion and transfer. The CONTRACTOR agrees to post in conspicuous places, available to employees and applicants for employment, notice setting forth the provisions of this non-discrimination clause.

B. If this Agreement provides compensation in excess of \$25,000 to CONTRACTOR the CONTRACTOR shall, in all solicitations or advertisements for employees placed by or on behalf of the CONTRACTOR, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, national origin, ancestry, physical or mental disability, medical condition (cancer related), marital status, sex, sexual orientation, age (over 40), veteran status or any other non-merit factor unrelated to job duties.

C. The CONTRACTOR shall comply with the Federal Disadvantaged Business Enterprises (DBE) Consultant Contract Requirements as outlined in Attachment No. 2.

(1) The CONTRACTOR shall furnish COUNTY Affirmative Action Office information and reports in the prescribed reporting format (PER 4012) identifying the sex, race, physical or mental disability and job classification of its employees and the names, dates and methods of advertisement and direct solicitation efforts made to subcontract with Minority/Women/Disabled Business Enterprises.

(2) In the event of the CONTRACTOR'S non-compliance with the non-discrimination clauses of this Agreement or with any of the said rules, regulations, or orders said CONTRACTOR may be declared ineligible for further agreements with the COUNTY.

D. The CONTRACTOR shall cause the foregoing provisions of Subparagraphs 7B. and 7C. to be inserted in all subcontracts for any work covered under this Agreement by a subcontractor compensated more than \$25,000, provided that the foregoing provisions shall not apply to contracts or subcontracts for standard commercial supplies or raw materials.

8. **INDEPENDENT CONTRACTOR STATUS.** CONTRACTOR and COUNTY have reviewed and considered the principal test and secondary factors below and agree that CONTRACTOR is an independent contractor and not an employee of COUNTY. CONTRACTOR is responsible for all insurance (workers compensation, unemployment, etc.) and all payroll related taxes. CONTRACTOR is not entitled to any employee benefits. COUNTY agrees that CONTRACTOR shall have the right to control the manner and means of accomplishing the result contracted herein.

PRINCIPAL TEST: The CONTRACTOR rather than COUNTY has the right to control the manner and means of accomplishing the result contracted for.

SECONDARY FACTORS: (a) The extent of control which, by agreement, COUNTY may exercise over the details of the work is slight rather than substantial; (b) CONTRACTOR is engaged in a distinct occupation or business; (c) In the locality, the work to be done by CONTRACTOR is usually done by a specialist without supervision, rather than under the direction of an employer; (d) the skill required in the particular occupation is substantial rather than slight; (e) The CONTRACTOR rather than the COUNTY supplies the instrumentalities, tools and work place; (f) The length of time for which CONTRACTOR is engaged is of limited duration rather than indefinite; (g) The method of payment of CONTRACTOR is by job rather than by time; (h) The work is part of a special or permissive activity, program, or project, rather than part of the regular business of COUNTY; (i) CONTRACTOR and COUNTY believe they are creating an independent contractor relationship rather than an employer-employee relationship; and (j) the COUNTY conducts public business.

It is recognized that is not necessary that all secondary factors support creation of an independent contractor relationship, but rather that overall there are significant secondary factors which indicate that CONTRACTOR is an independent contractor.

By their signatures to this Agreement each of the undersigned certifies that it is his or her considered judgement that the CONTRACTOR engaged under this Agreement is in fact an independent contractor.

9. CONTRACTOR represents that its operations are in compliance with applicable County planning, environmental and other laws or regulations.

10. COST PRINCIPLES. Code of Federal Regulations (CFR) 48 Chapter 1, Part 3 1 shall be used to determine the allowability of the individual items of cost. The contractor agrees to comply with federal procedures in accordance with CFR 49, Part 18, Uniform Administrative Requirements for Grants and Cooperative Agreements to State and Local Governments. Any costs for which payments have been made to the contractor, which are determined by subsequent audit to be unallowable under CFR 48, Chapter 1 Part 3 1, are subject to repayment by the contractor to the County of Santa Cruz, the State and the Federal Government. Any subcontract, entered into as a result of this contract, shall contain all of the provisions of this article.

11. NON-ASSIGNMENT. CONTRACTOR shall not assign this Agreement without the prior written consent of the COUNTY.

12. RECORD RETENTION AND AUDIT. CONTRACTOR shall retain records pertinent to this Agreement for a period of not less than five (5) years after final payment under this Agreement or until a final audit report is accepted by COUNTY, State and the Federal Highway Administration, or their duly authorized representatives, whichever occurs first. CONTRACTOR hereby agrees to be subject to the examination and audit by the Santa Cruz County Auditor-Controller, the Auditor General of the State of California, the Federal Highway Administration or the designee of either for a period of five (5) years after final payment under

this Agreement. Any subcontract entered into as a result of this contract shall contain all of the provisions of this Article.

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13. PRESENTATION OF CLAIMS. Presentation and processing of any or all claims arising out of or related to this Agreement shall be made in accordance with the provisions contained in Chapter 1.05 of the Santa Cruz County Code, which by this reference is incorporated herein.

14. COVENANT AGAINST CONTINGENT FEES. The CONTRACTOR warrants that he/she has not employed or retained any company or person, other than a bona fide employee working for the CONTRACTOR, to solicit or secure this agreement, and that he/she has not paid or agreed to pay any company or person, other than a bona fide employee, any fee, commission, percentage, brokerage fee, gift, or any other consideration, contingent upon or resulting from the award or formation of this agreement. For breach or violation of this warranty, the COUNTY shall have the right to annul this agreement without liability, or at its discretion to

deduct from the agreement price or consideration, or otherwise recover, the full amount of such fee, commission, percentage, brokerage fee, gift, or contingent fee.

15. DESIGN STANDARDS. The CONTRACTOR shall conform with standards for design as required by the COUNTY, State of California and the Federal Highway Administration. All documents required under this Agreement, including but not limited to plans, specifications, estimates, reports and investigations, shall be prepared in accordance with guidelines established by the COUNTY, State of California and the Federal Highway Administration.

16. OWNERSHIP OF DOCUMENTS. All tracings, plans, specifications and maps prepared or obtained under the terms of this agreement shall be delivered to and become the property of the COUNTY. Basic survey notes and sketches, charts, computations and other data prepared or obtained under this agreement shall be made available, upon request, to the COUNTY without restriction or limitation on their use. The COUNTY shall not reuse or make any modification of the plans and specifications without the prior written authorization of the CONTRACTOR.

17. CHANGES IN WORK. Changes in work shall be set forth in a supplemental agreement which shall specify, in addition to the work to be done in connection with the changes made, adjustment of contract time, if any, and the basis of compensation for such work. A supplemental agreement shall not become effective until approved by the COUNTY. When compensation for an item of work is subject to adjustment, the CONTRACTOR shall, upon request, furnish the COUNTY with adequate detailed cost data for such item of work.

18. DELAYS AND EXTENSIONS. If work called for under the agreement is not finished within the specified time period, the COUNTY may extend the period of the contract. The COUNTY may charge the CONTRACTOR for overhead expenses which are directly chargeable to the contract and accrue during the extension. The CONTRACTOR shall notify the COUNTY of any delays, in writing, within 15 days of the beginning of any delay. The CONTRACTOR shall have no claim for damage or compensation for any delay unless otherwise agreed to by the COUNTY.

19. SUBCONTRACTORS. ASSIGNMENT AND TRANSFER. The CONTRACTOR shall perform the work contemplated with resources available within its own organization and no portion of the work pertinent to this contract shall be subcontracted without written authorization by the County of Santa Cruz's Contract Manager, except that which is expressly identified in the Contractor's Cost Proposal. Any subcontract in excess of \$25,000, entered into as a result of this contract, shall contain all the provisions stipulated in this contract to be applicable to subcontractors. Any substitution of subcontractors must be approved in writing by the County of Santa Cruz's Contract Manager.

20. CONTRACTORS ENDORSEMENT OF PS&E AND OTHER DATA. The responsible CONTRACTOR shall sign all plans, specifications, estimate, PS&E and engineering data furnished by him/her and where appropriate, indicate his/her registration number.

21. GOVERNMENT CODE SECTION 7550. The CONTRACTOR shall be subject to the following part of Government Code Section 7550 concerning required notice on any documents or written reports that he/she has prepared:

"Any document or written report prepared for or under the direction of the State or Local Agency, which is prepared in whole or in part by non-employees of such Agency, shall contain the numbers and dollar amounts of all contracts and subcontracts relating to the preparation of such document or written report; provided, however, that the total cost for work performed by non-employees of the agency exceeds five thousand dollars (\$5,000). The contract and subcontract numbers and dollar amounts shall be contained in a separate section of such document or written report..."

"When multiple documents or written reports are the subject or product of the contract, the disclosure section may also contain a statement indicating that the total contract amount represents compensation for multiple documents or written reports."

22. CERTIFICATION BY CONTRACTOR AND BY COUNTY. At the time of execution of this agreement, the CONTRACTOR shall execute Attachment No. 3, "Certification of Consultant" and the COUNTY shall execute Attachment No. 4, "Certification of Local Agency."

23. ATTACHMENTS. This Agreement includes the following attachments:

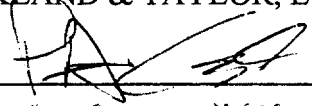
- Attachment No. 1 - Scope of Work
- Attachment No. 2 - Disadvantaged Business Enterprises (DBE) Consultant Contractor Requirements
- Attachment No. 3 - Certification by Consultant
- Attachment No. 4 - Certification by Local Agency

IN WITNESS WHEREOF, the parties hereto have set their hands the day and year first above written.

COUNTY OF SANTA CRUZ

CONTRACTOR
BUCKLAND & TAYLOR, LTD.

By: _____
Director of Public Works

By:  _____
ANDREW MUNNAGE, CA OFFICE
Address: 101 Ygnacio Valley Rd., Ste. 105

Walnut Creek, CA 94598

Telephone: (925) 472-8600

APPROVED AS TO FORM:

By:  5/28/98
Assistant Chief County Counsel

DISTRIBUTION: Auditor-Controller
Risk Management
Contractor
Public Works

PJB

Santa Cruz County
Seismic Retrofit Project
Cost Proposal Summary

PHASE II

Bridge Name	Br. No.	Prime		Prime I	Subconsultants				Subs	Totals
		Labor	ODCs	Total	Geotech.	Surveying	Hydraulics	Enviro.	Total	
Swanton Rd.	36C-0018	\$31,322.15	\$ 2,307.44	\$33,629.59	\$ 14,995.00	\$ 7,460.00	\$ 14,770.00	\$ 12,440.00	\$ 49,665.00	\$ 83,294.59
Conference Drive	36C-0038	\$82,267.35	\$ 5,445.10	\$ 87,712.45	\$ 15,000.00	\$ 7,460.00	\$ 14,770.00	\$ 12,440.00	\$ 49,670.00	\$137,382.45
Bear Creek Rd.	36C-0084	\$64,874.36	\$ 4,601.69	\$ 69,476.05	\$ 15,445.00	\$ 7,460.00	\$ 14,770.00	\$ 12,440.00	\$ 50,115.00	\$119,591.05
Mt. Hermon Rd.	36C-0092	\$52,051.37	\$ 5,718.95	\$ 57,770.32	\$ 16,000.00	\$ 7,460.00	\$ 3,217.00	\$ 12,440.00	\$ 39,117.00	\$96,887.32
Bear Creek Bridge	36C-0134	\$17,439.41	\$ 1,577.65	\$ 19,017.06	\$ 1,790.00	\$ 7,460.00	\$ 3,217.00	\$ 12,440.00	\$ 24,907.00	\$43,924.06
East Zayante Rd.	36C-0142	\$22,403.13	\$ 3,162.78	\$ 25,565.91	\$ 8,000.00	\$ 7,460.00	\$ 3,217.00	\$ 12,440.00	\$ 31,117.00	\$56,682.91
East Zayante Rd.	36C-0143	\$22,403.13	\$ 3,165.78	\$ 25,568.91	\$ 8,000.00	\$ 7,460.00	\$ 3,217.00	\$ 12,440.00	\$ 31,117.00	\$56,685.91
Totals		\$292,760.89	\$25,979.39	\$318,740.28	\$79,230.00	\$52,220.00	\$57,178.00	\$87,080.00	\$275,708.00	\$594,448.28

ATTACHMENT 1
p. 1 of 27

Santa Cruz County
 Seismic. Retrofit Design Program
 Scope of Work
 Phase II

The Santa Cruz County Seismic Retrofit Design Program comprises the following bridges.

	Name	State Bridge Number	County Bridge Number
1.	Swanton Rd.	36C-0018	32201 -BR.4.0
2.	Conference Drive	36C-0038	33153-BR.0.2
3.	Bear Creek Rd.	36C-0084	04301 -BR.0.1
4.	Mt. Hermon Rd.	36C-0092	03302-BR.0.7
5.	Bear Creek Bridge	36C-0134	43602-BR.0.2
6.	East Zayante Rd.	36C-0142	03303-BR.3.2
7.	East Zayante Rd	36C-0143	03303-BR.3.7

Optimal retrofit schemes were presented to the County and Caltrans at the strategy meeting held on October 22, 1997. All of the proposed strategies have subsequently been agreed upon.

The production of the final 100% complete and independently checked P,S&E comprises the County milestones defined as "unchecked" 30% P,S&E, the "checked" 95% P,S&E and the "final" sealed and signed 100% P,S&E.

The required engineering design services for Phase II of this project include the following tasks:

1. Geotechnical Investigation & Report

Sample soil borings will be taken at Conference Drive, Mount Hermon, Bear Creek Road and Swanton Road, and will be tested to establish necessary engineering properties. Geologic mapping will be performed at both Zayante Road Bridges. Encroachment and other permits to be **provided** by the County as described in the preliminary geotechnical report. A Geotechnical Report will be prepared and

submitted to the County. Log of Test Borings will be prepared and included in the PS&E submittals. Scour will also be investigated at sites where it is a potential concern especially Swanton Road to assess the stability of the piers.

2. Hydraulics Study

If required by the County, a report will be prepared which evaluates the existing hydrology and hydraulic characteristics of the site to establish the base flood and design flood discharges according to FHWA and Caltrans requirements for a peak 100 year event. A Locations Hydraulic Study and map showing limits of 100 year flood plain for the project area will be developed and included in the final report.

3. Surveying & Mapping

Field Surveys will be performed as required by the County to facilitate development of the PS&E package. The status of existing right-of-way will be determined and plans will be developed which will indicate existing and additional right-of-way required for construction. Should it be required, appraisal maps conforming to Caltrans standards will be prepared for acquisition of right-of-way and temporary easements and submitted to the County.

4. Environmental Mitigation & Permitting

Environmental concerns will be identified through contact with local agencies and all authorities for which permit approval is required, such as, the Army Corps of Engineers, the Department of Fish and Game, and the Regional Water Quality Control Board.

5. Utility Relocation

Utility mapping will be performed, and coordination will be provided to the County, should relocation of any utilities be deemed imminent.

6. Traffic Control

Where required, staging plans will be incorporated into the PS&E package. Design measures will be taken to ensure that interruption to traffic is minimized.

7. Plans, Specification, & Estimates

Three PS&E submittals will be delivered to the County at 30%, 95%, & 100% intervals. All work will be performed using the English standard system and will conform to State guidelines. All of the work performed will be subject to review and approval by the County and Caltrans. All deliverables will be furnished in the format specified by the County (e.g., Autocad, Word Perfect 6.1, etc.).

This proposal does not include additional design work resulting from proposed geotechnical investigation that was not anticipated in the final strategy reports, or design support services during the bidding and construction phases of work.



ATTACHMENT "A"
Santa Cruz Seismic Retrofit
Phase II
COST PROPOSAL

Date 5/14/98

Page 1 of 1

Consultant Buckland & Taylor

Contract 71577
 Number

	Employee Name	Classification	Hourly Rate
1	Peter Buckland	Principal	124.41
2	Michel Benoit	Senior Engineer	108.79
3	Paul Goryl	Project Manager	113.08
4	Jean Rathle	Project Admin.	67.79
5	Peter Dielt	Project Admin.	49.87
6	Stephanie Soley	Senior Engineer	77.65
7	Dzung Nguyen	Senior Engineer	77.65
8	Jose Carlos DaSilva	Design Engineer	88.14
9	Rajiv chamraj	Design Engineer	68.21
10	Brad Pollock	Engineer	55.70
11	Mark Veletzos	Engineer	50.96
12	Sergiu Aroneanu	Engineer	50.46
13	David Wolfe	Engineer	49.00
14	John Stephenson	Engineer	43.93
15	Elena Pleshchuk	Cadd	61.27
16	Mark Matsumoto	Cadd	59.25
17	Rod Deleon	Cadd	56.48

1. List individuals by name, the proposed hourly rate effective for the duration of Phase II
2. When Task Orders are written, the individuals and their approved hourly rates for the time period of the task order shall be used.
3. To use unlisted personnel, he/she must be approved by the Contract Manager and their hourly rates must be agreed to prior to the start of work by an unlisted personnel.
4. Attach a schedule of direct cost items which are not included in overhead and which are anticipated for this contract, with current actual costs per unit. (These items to be paid at actual cost, without markup or fee.)

Santa Cruz County
Seismic Retrofit Project

Prepared : 7/24/97

3:06 PM

250

BUCKLAND & TAYLOR LTD.

SCHEDULE OF DIRECT COST ITEMS

DESCRIPTION	UNIT	COST
Printing and Reproductions:		
A. Bluelines & Blacklines (\$0.15/sf max)	SF	ACTUAL
B. Sepia Vellum (\$0.80/sf max)	SF	ACTUAL*
C. Copying		
8 1/2" x 11" size (\$0.10/sht max)	EA	ACTUAL
11" x 17" size (\$0.15/sht max)	EA	ACTUAL
D. Plotting (\$20 per sheet or plot max)	EA	ACTUAL*
Computer:		
A. Specialty Analysis Programs (ADINA, etc.)	HR	\$20.00
B. Personal Computers (These rates have not yet been audited)	HR	\$5.00
Travel Expenses:		
A. Airfare	**	**
B. Rental Car	**	**
C. Personal Car	**	**
D. Per Diem	**	**
Delivery Services:		
A. Overnight Mail Services (\$25/unit max)	EA	ACTUAL
B. Courier Service (\$50/unit max)	EA	ACTUAL
Miscellaneous:		
A. Film, Film Developing, Binders, Report Covers, Computer Tapes and Disks, File Holders, Inspection Equipment	EA	ACTUAL
B. Space, Equipment Rental, Special Purchases, etc. (with State Authorization)	EA	ACTUAL
C. Word Processing	EA	ACTUAL
D. Communications	EA	ACTUAL

* ACTUAL COST PER LEASE/ACCESS/PURCHASE OR OTHER VENDOR ARRANGEMENT (with State Authorization).

** ACTUAL COST, IN CONFORMANCE TO CALTRANS TRAVEL GUIDE DATED JANUARY, 1995 FOR NON-REPRESENTED EMPLOYEES.

NOTE: ACTUAL COSTS ARE COMPETITIVE PRICES FROM APPROPRIATE VENDORS IN THEIR RESPECTIVE INDUSTRIES.

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MEMORANDUM

Date: 9 February 1998

Job No. 97278

To: Paul Goryl, Buckland & Taylor

From: Eric Parfrey 

Subject: Work Scope for Santa Cruz County Bridges

As requested, we have prepared this Scope of Work and cost estimate for environmental work related to the seismic retrofit for four bridges. This Scope of Work is based on the Preliminary Environmental Studies (PES) forms signed by Santa Cruz County Public Works (Patrice Johnson) and by Dinh Le (Caltrans, District 5). If additional studies are determined at a later date to be required, or if additional agencies and regulatory permits are required, beyond those identified on the PESs, the Scope of Work below may require additional effort and budget. Our assumptions for the level of effort required to complete the environmental review for each bridge is indicated below. If any of the assumptions are not accurate, the scope may need revision.

Scope of Work

1. Bear Creek Road Bridge (36C-0084)

The retrofit of the Bear Creek and Conference Creek bridges would require the greatest level of environmental analysis.

For the Bear Creek bridge, BASELINE would prepare a Water Quality Study, a Biology Study, a Wetlands Study, a Hazardous Waste Study, and a Section 106/Historic Preservation Study, all in accordance with Federal (FHWA) and State (Caltrans) standards, to qualify for a "Categorical Exclusion With Special Studies."

This steel girder bridge was built in 1953, and is 173.5 feet long. The bridge is located in Boulder Creek and crosses the San Lorenzo River, which supports a run of steelhead trout.

The seismic retrofit work that would be completed includes: 1) confining the two bridge columns with steel or fiber jackets; 2) RC cap beams retrofit; 3) installing bumper jackets at the abutments; and 4) providing concrete jackets and tiebacks at the two column foundations. The latter work would involve excavation of approximately 50 cubic yards around the foundations. Our understanding is that the excavation work would occur during the low flow, summer season when the San Lorenzo River elevation would be below the foundations. No new access roads would be

Paul Goryl, Buckland & Taylor

9 February 1998

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constructed to reach the column foundations. Vegetation around the foundations consists of poison oak and other brush.

The Preliminary Environmental Studies Form indicates that the Water Quality Study would concentrate on an analysis of any discharge and dredge fill materials, and potential alteration of the riverbed. The study would be coordinated with the U.S. Army Corps of Engineers (ACE), which may require Section 404 and Section 10 permits, and with the California Regional Water Quality Control Board and Department of Fish and Game (DFG), which may require a Water Quality Certification and a Section 16010603 permit. The Biology Study and Wetlands Study would coordinate with the Federal Highway Administration (FHWA), the U.S. Fish and Wildlife Service (FWS), the U.S. ACE, the National Marine Fisheries Service, and with DFG.

A major concern is expected to be potential impacts to steelhead. The field work proposed as part of the scope is limited to one-day field reconnaissance survey of the bridge site by the consulting biologist and fishery specialist. A Section 7 biological opinion may be required. The budget below does not reflect the cost of conducting any special status species surveys, according to the protocol of the U.S. Fish and Wildlife Service.

The Hazardous Waste Study would focus on testing for the presence of lead in the soils in the vicinity of the column foundations. We propose to collect a total of eight soil samples; four samples from each abutment would be composited into one sample for a total of two samples to be submitted to the state-certified laboratory for analysis. The samples would be analyzed for total and soluble lead (WET and TCLP).

We anticipate that the Section 106/Historic Preservation Study will determine that the bridge does not qualify as an historic structure, and that no archaeological resources will be impacted.

2. Conference Drive Bridge (36C-0038)

For this bridge retrofit, BASELINE would also prepare a Water Quality Study, a Biology Study, a Wetlands Study, a Hazardous Waste Study, and a Section 106/Historic Preservation Study, all in accordance with Federal (FHWA) and State (Caltrans) requirements.

This steel girder bridge was built in 1930, and measures 520 feet long. The bridge is located in Felton and crosses Zayante Creek, a tributary of the San Lorenzo River. The seismic retrofit work would: 1) provide seat extension at the bridge abutments; 2) install cross bars; 3) provide column stiffener for outside columns; 4) provide diagonal bracing; and 5) provide in-fill concrete grade beam at the pedestal footing. The latter work would involve excavation of approximately five feet in depth, amounting to 100 to 150 cubic yards, around the foundations. The excavation work would occur during the low flow, summer season. The high water elevation of Zayante Creek is well below

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the elevation of the column pedestal footings that would be excavated. No new access roads would be constructed to reach the column foundations, since the foundations can be accessed by Zayante Road and other existing roads. There is little vegetation around the foundations, only rock and gravel. The bridge would be sandblasted and repainted after completion of the work.

As with the Bear Creek bridge, the Water Quality Study would concentrate on an analysis of discharge and dredge fill materials, and potential alteration of the riverbed, and it would be coordinated with the U.S. Army Corps of Engineers (ACE), which may require Section 404 and Section 10 permits, and with the California Regional Water Quality Control Board and Department of Fish and Game (DFG), which may require a Water Quality Certification and a Section 1601/1603 permit. The Biology Study and Wetlands Study would be coordinated with the Federal Highway Administration (FHWA), FWS, ACE, and with DFG. The field work proposed as part of the scope is limited to a one-day field reconnaissance survey of the bridge site by the consulting biologist and fishery specialist.

The Hazardous Waste Study would involve testing for the presence of lead in the soils in the vicinity of the column foundations that are to be excavated. We propose to collect one soil sample from each of the ten column foundations. The ten samples would be composited into two samples for submittal to a state-certified laboratory and analyzed for total and soluble (WET and TCLP) lead. We anticipate that the Section 104 Historic Preservation Study will determine that the bridge does not qualify as an historic structure, and that no archaeological resources will be impacted.

3- 4. East Zavante Road Bridges (36C-142 and 36C-143)

For the retrofit of these two bridges, BASELINE would prepare a Water Quality Study, Biology Study, and Wetlands Study, according to Caltrans standards, to qualify for a Categorical Exclusion with Special Studies. The two bridges cross Zayante Creek approximately 3.5 miles northeast of Boulder Creek. Steelhead trout are present in Zayante Creek.

The seismic retrofit work would involve providing an in-fill concrete wall on the bridge beam structures, which in turn are resting on concrete piers, well above the existing ground and creek water elevation. For bridge 36C-0143, abutment brackets would also be installed.

Mt. Herman Road Bridge (36C-092)
Bear Creek Bridge (36C-134)
Swanton Road Bridge (36C-0018)

For these bridges, BASELINE would prepare no additional studies, based on the "No Studies" determination of the Preliminary Environmental Study.

BASELINE ENVIRONMENTAL CONSULTING

STANDARD SCHEDULE OF FEES

APRIL 1997

LABOR

Yane Nordhav, Principal	\$131.65/hour
Eric Parfrey, Senior Planner	\$107.71/hour
William Scott, Field Geologist	\$ 85.27/hour
Julie Pettijohn, Staff Scientist	\$ 79.29/hour
Rhodora Del Rosario, Civil Engineer	\$ 76.30/hour
Staff Engineer	\$ 56.85/hour
Melinda Bury, Project Administration	\$ 71.81/hour
Connie Ruben, Word Processing	\$ 67.32/hour
Sue Smith, Word Processing	\$ 61.34/hour
Madeline McClinton, Clerical	\$ 56.85/hour
Kulvinder Singh, Clerical	\$ 20.94/hour

DIRECT COSTS

Mileage	\$ 0.315/mile
Field Vehicle	\$ 60.00/day

MATERIALS AND EQUIPMENT

Soil Sample Containers	\$ 7.50/each
Well Development Tools	\$ 35.00/day
Industrial Hygiene/Site Safety Equipment	\$ 40.00/day
Locks	\$ 15.00/each
pH, Conductivity, DO Meter, and Temperature Meter	\$ 35.00/day
Photoionization Detector (Hnu and PID)	\$100.00/day
Soil Sampler	\$ 10.00/day
Glassware	\$ 4.00/each
Water Level Meter/Interface Probe	\$ 25.00/day
Bailer..	\$ 10.00/each
Well Plugs/Caps	\$ 35.00/each
Polytubing	\$ 0.75/foot
Double Diaphragm Pump/Compressed Air/Peristaltic Pump	\$ 50.00/day

GEOTECHNICAL CONSULTANTS, INC.

Mr. Paul Goryl
Buckland & Taylor, Ltd.
101 Ygnacio Valley Road, Suite 105
Walnut Creek, CA 94596

January 13, 1998

M96029

Subject: Proposed Geotechnical Services
Seismic Retrofit Program – Phase 2
Santa Cruz County

Dear Paul:

Geotechnical concerns identified during the Phase 1 strategy development have been discussed in our memorandum dated 11/4/97. The following geotechnical work is proposed for providing Phase 2 design recommendations for our four bridges in Santa Cruz County.

- **Subsurface Exploration.** Subsurface exploration is proposed for the Conference Drive Bridge (360038) and the Mt. Hermon Road Bridge (36C-0092). At Conference Drive, three new borings are proposed; one behind each of the abutments and one near Bent No. 8. At Mt. Hermon Road, two borings are proposed to be located between Zayante Creek and the east abutment. Actual boring locations will be determined by site access constraints. Boring depths of 25 to 70 feet are anticipated. Boring locations will be marked in the field and checked for utilities by means of Underground Service Alert. Encroachment and other permits to be provided by the County.

Drill holes will be logged in the field by our field geologist/engineer. Sampling methods will include standard penetration tests and modified California split spoons. Exploratory borings will be backfilled with soil cuttings mixed with cement grout. For the safety of the drilling crew, soil samples will be tested in the field for organic vapors using a photo-ionization detector. Although we do not anticipate the presence of contaminated soil, should any be encountered, the boring will be terminated.

- **Geologic Field Mapping.** Geologic field mapping is proposed for both of the Zayante Road bridges (36C-0142, -0143). Geologic mapping will primarily focus on identifying bedrock characteristics and areas of obvious geologic instability. Bedrock jointing and bedding plane orientations will be plotted for use in subsequent stability analyses.
- **Laboratory Testing.** Laboratory tests will be performed on soil samples obtained during subsurface exploration to measure pertinent index and engineering properties.

Mr. Paul Goryl
Buckland & Taylor, Ltd.

January 13, 1998
Page 2

Tests will evaluate moisture content and dry density, shear strength, compressibility, Atterberg limits and grain-size distribution, as appropriate.

- **Engineering Analysis.** Design-level recommendations for proposed foundation retrofit will be prepared using new subsurface exploration and geologic field data. For the Conference Drive Bridge, analysis will estimate abutment spring constants and evaluate the liquefaction potential near Zayante Creek. For the Mt. Hermon Road Bridge, analysis will evaluate the liquefaction potential and ultimate foundation capacities for the abutment and piers located on the east side of Zayante Creek. For the Zayante Road bridges, geologic stability analyses will confirm foundation bearing capacities.
- **Foundation Design Reports.** Supplemental foundation design reports will be prepared for the bridges. The reports for the Conference Drive and Mt. Hermon Road bridges will contain new Log of Test Boring sheets and laboratory test data.
- **Review and Consultation.** Provide review and consultation during PS&E preparation for all four bridges on an as-needed basis.

Our estimated costs for completing the Phase 2 geotechnical work outlined above is \$45,534. A breakdown of our estimate is presented on the attached spreadsheets. Actual costs will be billed on a time and expense basis in accordance with our contract fee schedule.

Please call if you have any questions.

Sincerely,

GEOTECHNICAL CONSULTANTS, INC.



Tim Huber
Vice President

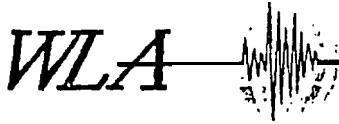
TH/ip
Attachments

GEOTECHNICAL CONSULTANTS, INC.

DIRECT COST FEE SCHEDULE

TRAVEL		
All travel will be in accordance with Caltrans established Travel Requirements for NON-REPRESENTED Employees.		
TELEPHONE		
Cellular Phone is provided to all field exploratory sites as a safety item for emergency use (see Subsurface Exploration below) Invoiced at cost per call		
PRINTING AND REPRODUCTION		
Photocopies		
8.5x11 (not to exceed)	\$0.06	per copy
11 x1 7 (not to exceed)	\$0.25	per copy
Bluelines/Blacklines (not to exceed)	\$0.65	per sheet
Sepia (not to exceed)	\$1.50	per sheet
MISCELLANEOUS		
Messenger/Overnight Delivery	At Cost	
COSTS RECOVERED IN OVERHEAD		
Costs for long-distance telephone, fax, in-house reproduction, and computer use		
SUBSURFACE EXPLORATION		
Geotechnical services provided for most previous seismic retrofit studies have been based on review of available geotechnical information. In cases where adequate information is not available, subsurface exploration through drilling, sampling, and laboratory testing may be required. A specific scope of work and cost will be submitted for approval prior to any work and fee schedules for any subcontractors to be used will be submitted at that time. All outside services will be billed at cost. For sites without ready access to a telephone, a cellular phone is used to allow for emergency use in case of accident (particularly relevant for drilling on freeway shoulders) and to facilitate immediate resolution of any difficulties encountered during subsurface exploration to avoid costly returns to the site.		
ANTICIPATED SALARY INCREASES		
This cost proposal assumes the work will be performed between 1/1 3/98 and 6/30/98. An annual wage escalation of 5 percent per year is calculated for allowable employees effective on the individual anniversary of hire date subject to Caltrans approval. Should the work extend beyond the assumed time frame, the rates will adjust in conjunction with each individual's anniversary date. All employees are salaried and any overtime charged to the project would be billed at the same rate as straight time.		

proposalgtc.odc



William Lettis & Associates, Inc.

1777 Botelho Drive, Suite 262, Walnut Creek, California 94596
Voice: (510) 256-6070 FAX: (510) 256-6076

October 14, 1997

Mr. Paul Goryl
Project Manager
Buckland & Taylor, Ltd.
1575 Treat Blvd., Suite 105
Walnut Creek, CA 94598

Re: Phase II **geologic/geotechnical** evaluation of three Santa **Cruz** County bridges (Bear Creek Road, Bear Creek Bridge, **Swanton** Road Bridge).

Dear Paul:

This letter and attached spreadsheet present a scope of work and associated costs for William Lettis & Associates, Inc. (WLA) to perform Phase II geotechnical field evaluations and retrofit design support for the three Santa **Cruz** County Bridges that were determined to warrant additional investigation on the **basis** of the **Preliminary Geotechnical** Reports. The following three bridges will be evaluated:

- 1) Bear Creek Road - No. **36C-084**
- 2) Bear Creek Bridge - No. **36C-134**
- 3) **Swanton** Road - No. **36C-018**

COST

The total estimated cost for the Phase II scope of work is \$32,230. A breakdown of labor and direct costs, and costs-per-task, are shown on the attached spreadsheet.

SCOPE OF WORK

The proposed scope of work is summarized below.

- 1) Detailed geologic mapping and field evaluation of slope and foundation stability (All Bridges);
- 2) Subsurface exploration at bridge abutments and bent foundations (Bear Creek Road and **Swanton** Road bridges);
- 3) Laboratory index testing **of** 10 to 12 **selected** samples (Bear Creek Road and **Swanton** Road bridges);
- 4) Evaluation of data and development of foundation parameters (All Bridges);
- 5) Preparation of log of test borings (**LOTB**-Bear Creek Road and **Swanton** Road Bridges); and,
- 6) Preparation of separate foundation reports for each bridge (All Bridges).

Detailed geologic mapping and slope stability evaluation will be performed at each of the three bridges prior to subsurface exploration. Bedrock materials and rock mass conditions will be assessed, and **potential** failure modes or foundation deficiencies in bedrock or soil materials will be evaluated.

Subsurface exploration will consist of the following:

Bear Creek Road: Three exploratory borings, including ^{one} boring at **the** east abutment and two borings near **the** bent foundations (**drilled** through the bridge deck).

Swanton Road: Three exploratory borings, including one boring at the north abutment and two borings through the bridge deck into the stream channel adjacent to Piers Nos. 2 and 3.

P. 17081527

Locations of proposed borings are shown on the attached maps and sections. **The** proposed **exploratory** drilling program will require lane closures and traffic control at both bridges. Borings will be extended through the zone of foundation influence using S-inch hollow-stem flight augers (abutment borings) or mud rotary equipment (deck borings), with target depths of between 30 and **50** feet. . It will be necessary to core a 4-5 inch **hole** in the bridge deck to drill near the bent and pier foundations below the bridges. A metal **detector** will be used to **locate** reinforcing steel in the bridge deck prior to drilling. Samples will be obtained at two-to three-foot intervals in the borings with Standard Penetration Test samplers, Modified **California** (O.D. 3-inch) samplers, and **3-inch** Pitcher tubes. Representative specimens will be collected from the samplers for laboratory index testing. All drilling, sampling, and field classification tasks **will follow relevant** American Society of Testing and Materials (ASTM) procedures.

Upon completion of drilling, the borings will be backfilled with drill cuttings, and the bridge deck and **upper** portion of **abutment** borings will be backfilled with quick-set grout. We have assumed that any necessary permits will be obtained by the County, and that WLA will provide technical descriptions and **locations** of the borings to help the **County** fill out permit applications. **Traffic** control will be required for the duration of drilling. We anticipate that drilling on the bridges will require about five days of traffic control.

STABILITY AND FOUNDATION ANALYSES

A geologic map and longitudinal geologic section will be developed for each bridge site. Data collected during the field investigation will be used **to evaluate** slope stability, quantify liquefaction and lateral spread hazard, and assess static and dynamic foundation conditions. The **following analyses will be performed:**

- Kinematic stability analyses of bedrock slopes at Bear Creek Road and Bear Creek-Foresthill Bridges;
- Pseudostatic computer stability analyses of composite bedrock and soil slopes below Bear Creek Road Bridge;
- Liquefaction potential evaluation at **Swanton** and Bear Creek-Foresthill Road Bridges;
- Settlement/Lateral spread assessment at **Swanton** Road Bridge abutments; and,
- Foundation response assessment for all bridges.

Geotechnical foundation retrofit parameters will be developed for each foundation element that is determined to require retrofit. WLA will work with B&T engineers to **develop** input parameters for abutment stiffness (soil spring) or foundation **rocking** analyses that will **be** performed by B&T. WLA **will** also help B&T engineers develop foundation retrofit details and plans, as required.

The results from the field investigations will be used to verify NEHERP (ATC-32) **Soil Profile** parameters and ARS curves for **final** design.

DELIVERABLES

The following deliverables will be prepared **by** WLA and submitted to B&T:

- 1) **field** notes, data collection forms, and boring logs;
- 2) laboratory test data sheets and summary tables;
- 3) draft log of test borings (**LOTB**) for Bear Creek Road and **Swanton** Road bridges;
- 4) longitudinal geologic cross-sections;
- 5) slope stability, liquefaction, and lateral spread analyses results;
- 6) recommended **geotechnical** foundation design parameters for soil and rock materials (in tabular form); and,
- 7) individual letter reports, geologic maps, and cross sections for each bridge.

PROPOSED SCHEDULE

Field work should take approximately two weeks to complete. Laboratory testing, office analyses, and graphics preparation will require an additional one to two weeks time. **Preliminary** information and results

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will be forwarded to B&T as completed. **Draft** reports **will** be issued and submitted for review approximately two weeks after completion of field work. Draft LOTB figures will be delivered to B&T along **with** the draft report for final drafting by B&T. Final reports will be completed one week after receipt of comments on the draft report.

Further geotechnical support will be provided on an as-needed basis to assist B&T engineering and design of retrofit plans.

Please contact me or Patrick Drouin at (510) 256-6070 if you have any questions regarding this letter or the attached estimate, or need additional information. We appreciate the opportunity to work with **Buckland & Taylor, Ltd.**, and the County of Santa **Cruz** on this project.

Sincerely,

WILLIAM **LETTIS & ASSOCIATES, INC.**


Jeff Bachhuber, C.E.G.
Vice President, Senior Engineering Geologist


Patrick E. Drouin
Senior Staff Geologist

attachment: Cost estimate spreadsheet-Phase II
Exploratory boring location maps and sections

Consultant **William Lettis & Assoc.**

Date 5/14/98

Contract	<u>71577</u>
	Number

Page 1 of 1

[illegible]

1. List individuals by name, the proposed hourly rate effective for the duration of Phase II
2. When Task Orders are written, the individuals and their approved hourly rates for the time period of the task order shall be used.
3. To use unlisted personnel, he/she must be approved by the Contract Manager and their hourly rates **must** be agreed to prior to the start of work by an unlisted personnel.
4. Attach a schedule of direct cost items which are not included in overhead and which are anticipated for this contract, with current actual costs per unit. (These items to be paid at actual cost, without markup or fee.)



April 1, 1998

Santa Cruz County Bridge Retrofit Project
Hydrology and Hydraulics

BASIS OF COST PROPOSAL

I. GENERAL

The basis of this cost proposal consists of completing the following two groups of reports:

- a. Preliminary Degradation Report
- b. Seismic Retrofit Hydraulic **Impact** Report

Preliminary Degradation Reports will be performed on the following sites to provide an assessment of the existing and anticipated channel bed **aggradation/degradation** and to estimate the probable bed elevation change over the life of the bridge.

- | | |
|---------------------------|---------------------|
| a. Swanton Road | Bridge No. 36C-0018 |
| b. Conference Drive | Bridge No. 36C-0038 |
| c. Bear Creek Road Bridge | Bridge No. 36C-0084 |
| d. Mt. Herman Road | Bridge No. 36C-0092 |
| e. Bear Creek Road | Bridge No. 36C-0134 |
| f. East Zayante Road | Bridge No. 36C-0142 |
| g. East Zayante Road | Bridge No. 36C-0143 |

Seismic Retrofit Hydraulic Impact Reports will be prepared for only the following three sites to evaluate any hydraulic or scour related impacts of the proposed seismic retrofit measures and to define appropriate countermeasures as required. The **Swanton Road** site will only be evaluated if the preliminary report indicates scour problems.

- | | |
|---------------------------|---------------------|
| a. Swanton Road | Bridge No. 36C-0018 |
| b. Conference Drive | Bridge No. 36C-0038 |
| c. Bear Creek Road Bridge | Bridge No. 36C-0084 |



II. PRELIMINARY DEGRADATION REPORT

The Preliminary Degradation Report will assess the existing and anticipated channel bed aggradation/degradation and estimate the probable bed elevation change over the life of the bridge. Our approach will consist of the following:

- Review as-built plans and existing conditions based on existing reports.
- Perform a field visit to verify and photograph existing conditions including measurements of thalweg elevation from known bridge deck elevation
- Plot spot elevations of channel elevations from past data and compare to existing values
- In the absence of data for profile analysis, review watershed history and changes in land use condition and estimate potential change based on simplified geomorphic relationships. Review available aerial photographs to define potential lateral instability and relationship to vertical instability.
- Describe scour potential of existing bridge configuration, considering factors such as bridge location relative to channel planform, bed and bank sediment conditions, vegetation conditions, pier alignment, degree of constriction, existing countermeasures, debris potential and any documented previous problems
- Prepare a Preliminary Degradation Report summarizing all information reviewed and findings. Estimated length, 3 pages.

III. SEISMIC RETROFIT HYDRAULIC IMPACT REPORT

The Seismic Retrofit Hydraulic Impact Report will evaluate the hydraulic and scour related impacts of the proposed seismic retrofit measures and define appropriate countermeasures as required. Our Approach will consist of the following tasks:

- It is assumed that any existing hydrology would be of only general information since most of the structures were constructed in the 1950's or before. New hydrology will be computed using the Corps of Engineers computer program HEC-1, using Soil Conservation Service curve number procedures for the smaller watersheds and by stream gage analysis for these with that data. The 50- and 100-year peak discharges will be computed for each site. The hydrology for each site will be checked by using the USGS regional regression equations for computation of peak flows.
- Bridge hydraulics will be performed using the Corps of Engineers computer program, HEC-RAS. For each flood frequency, a clear water analysis will be performed without any special consideration for sediment or debris. If a qualitative analysis of the upper watershed indicates a significant potential for mass wasting of sediment or debris, additional analyses will be performed to simulate bulked flow conditions, channel deposition conditions or debris build up conditions (or all three). The results of multiple simulations will be plotted graphically and tabulated for comparison. The worst case scenario will be used in plotting the 100-year water surface levels.

- Evaluate change in channel hydraulics resulting from retrofit measures using the same procedures and **data** as in the section above. Compare changes in velocities and water surface elevation levels.
- Evaluate changes in local scour as a result of pier or abutment modifications considering factors such as changes in pier shape and size.
- Evaluate change in contraction scour as a result of any increased constriction caused by the retrofit modifications.
- Evaluate appropriate ~~counter~~ measures to mitigate hydraulic and scour related issues.
- Prepare final 'Seismic Retrofit Hydraulic Impact Report' summarizing watershed hydrology (both existing and updated), potential hydraulic and scour related issues with the proposed retrofit strategy.

**AYRES
ASSOCIATES**p. 24 of 27
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Policy: It is the policy of Ayres Associates that costs associated with equipment and supplies identified as having been used on a specific project be charged to that project and not to general overhead.

BOATS

18' Boat, Motor, Trailer \$75/Day, \$250/Week
12' & 14' Boat, Motor, Trailer..... \$45/Day, \$150/Week

COPIES (without labor)

Paper \$0.08 Each
Paper (EC high volume copies)..... Available Upon Request
Divider and Tab Sheets \$0.20 Each
Binding w/cover & back..... \$1.00/Unit
Transparency or sticky-back..... \$0.50/each

DATA PROCESSING

Computer (Micro)..... \$10/Hour
Computer (Micro-on-site)..... \$100/Week/\$275/Month
Desktop Publisher..... \$15/Hour
CAD \$15/Hour
Plotter Translucent Bond..... \$0.14/Inch
Mylar..... \$0.24/Inch
Plotter 11X17 A3 (Metric)..... \$0.25/Each
Portable Computer..... \$12/Hour, \$60/Day

EXPENDABLES

Project expendables, such as stakes, films, etc. at cost.

MATERIALS TESTING

Concrete Coring..... \$60/Day (plus Diamond Bit \$30/Day)
Nuclear Density..... \$55/Day or \$7/Test
Portable Drill and Accessories..... \$45/Day
Vibration Monitoring..... \$60/Day
(Plus \$42/Roll of Film, One Roll Minimum)

PERSONAL EXPENSES

Meals: Breakfast..... \$5/Day
Lunch..... \$8/Day
Dinner..... \$12/Day
Lodging..... Actual Cost
Other..... Actual Cost
(Separate policy for Field or Extended Duration)

PHOTOGRAMMETRIC

Stereo Plotter & CPU..... \$20/Hour
GIS & Digital Ortho Workstation..... \$20/Hour

PHOTOGRAPHIC

Laboratory..... \$10/Hour (Plus Materials)
Camcorder..... \$25/Day

PRINTS (without labor)

Blue/Black
Roll 8.F..... \$0.05 S.F.
9 x 12..... \$0.05 Each
12 x 18..... \$0.10 Each
18x24 (A3 Metric)..... \$0.20 Each
22 x 34..... \$0.35 Each
24 x 36 (A1 Metric)..... \$0.40 Each

28 x 40..... \$0.50 Each
30 x 42..... \$0.55 Each
Sepia: Roll S.F. \$0.20 S.F.
9 x 12..... \$0.15 Each
12 x 18 (A3 Metric)..... \$0.30 Each
18 x 24..... \$0.80 Each
a x 34..... \$1.00 Each
24 x 36 (A1 Metric)..... \$1.20 Each
28 x 40..... \$1.56 Each
30 x 42..... \$1.75 Each
Mylar: Roll S.F. \$0.73 S.F.
8 x 12..... \$0.80 Each
12x 18 (A3 Metric)..... \$1.20 Each
18 x 24..... \$2.25 Each
22 x 34..... \$4.00 Each
24x36 (A1 Metric)..... \$4.50 Each
28 x 40..... \$6.75 Each
30 x 42..... \$6.50 Each

Or actual cost.

SURVEY

GPS Real Time Dual Freq. (2 Rec.)... \$700/Day, \$2400/Mo.
GPS Dual Freq. (2 Rec.)..... \$500/Day, \$2000/Mo.
GPS (3 Receivers) Single Freq. \$450/Day, \$1500/Mo.
Total Station, Data Collector..... \$30/Hour, \$150/Day
Total Station..... \$24/Hour, \$120/Day
Distance Meter and Data Collector..... \$24/Hour, \$120/Day
Distance Meter..... \$18/Hour, \$90/Day
First Order Level..... \$20/Day
Laser Level..... \$15/Hour, \$75/Day
Driver/Drill (Gas Powered)..... \$24/Hour, \$120/Day
Sounder/Recorder..... \$30/Hour, \$150/Day
Stream Flaw Gauge..... \$50/Day

TELEPHONE

Facsimile..... \$1.50/Min
Portable Phone..... \$5/Day

TESTS/SAMPLING

Wastewater Sampler..... \$50/Day
Turbidimeter..... \$40/Day

UNDERWATER

Equipment (Surface Supplied Air/Diver).... \$100/Day, \$300/Mo.
Equipment (Scuba Dive Gear/Diver)..... \$50/Day, \$150/Mo.
Exposure Suit/Diver..... \$50/Day, \$150/Mo.
Air..... \$10/Day

VEHICLES

Truck-Mini Van/Pickup..... \$0.35/Mi.
Truck-Full Size Pickup/Van/Suburban..... \$0.45/Mi.
Automobile..... Current IRS Rate



Mid Coast Engineers

Civil Engineers and Land Surveyors

70 Penny Lane, Suite A - Watsonville, CA 95076

phone: (408) 724-2580

fax: (408) 724-8025

e-mail: midcoast@compuserve.com

Richard A. Wadsworth
Civil Engineer

Stanley O. Nielsen
Land Surveyor

Jeff A. Roper
Civil Engineer & Land Surveyor

Lee D. Vaage
Land Surveyor

Jeff S. Nielsen
Land Surveyor

March 3, 1998

Jean Rathle
Buckland & Taylor
101 Ygnacio Valley Rd., #105
Walnut Creek, CA 94596
Fax: (510) 472-8602

Re: Santa Cruz County Bridge Seismic Safety Retrofit Project

Dear Mr. Rathle,

As you requested, the following is a schedule of the estimated costs for surveying services for the referenced project. We understand we have been apportioned the following 7 bridges:

<u>Bridge Location</u>	<u>Bridge Number</u>
Mt. Hermon Rd.	36C-0092
Conference Dr.	36C-0038
Bear Creek Bridge	36C-0134
East Zayante Rd.	36C-0142
East Zayante Rd.	36C-0143
Swanton Rd.	36C-0018
Bear Creek Rd.	36C-0084

Scope of work (refer to County specifications):

3. Hydraulics Study

Provide 3 cross-sections of channel within limits of 100-year flood plain under bridge and 100' up and down stream or as directed.

Plot cross-sections and plan view relative to bridge location.

Estimated Cost (per site)

\$ 1,700

4. Survey and Property Acquisition

- a. Establish 2 GPS control points with California Coordinates (NAD 83, 1991.35) and NGVD88 vertical datum.

Tie bridge location to control.

\$ 860

- b. 1) Initial site visit to determine location.

Research at County for record maps, right of way diagrams, county surveyor files.

Review assessor's records for current ownership.

2) Field survey of site and any found right of way monumentation.

3) Survey computations, reconciliation of field data to record information.

4) Prepare plan showing existing. right-of-way.

5) Determine additional right-of-way as needed.

\$ 3,100

- c. Prepare appraisal map.

Prepare legal descriptions.

\$ 1,800

TOTAL (per site)

\$ 7,460

TOTAL (all sites)

\$52,220

Please let me know if you need additional information. We are eager to proceed with the project.

Sincerely,

Lee D. Vaage

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**DISADVANTAGED BUSINESS ENTERPRISE @BE)
CONSULTANT CONTRACT REQUIREMENTS**

The provisions of Title 49, Part 23, Code of Federal Regulations (49CFR 23) and Santa Cruz County's adopted DBE Program require that Disadvantaged Business Enterprises (DBEs) have the opportunity to participate in federally funded, transportation projects.

In order to meet these requirements, the following criteria have been established:

1. Participation by CALTRANS' certified **DBEs** as prime consultants or subconsultants in this contract or
2. A good faith effort by the prime consultant n trying to secure participation by **DBEs** prior to award of this contract. Documentation of a good faith effort will be submitted in writing and will consist of the following:
 - a) A list of CALTRANS' certified **DBEs** solicited.
 - b) Description of efforts to use the services of available minority community organizations; minority contractor groups; women contractor groups; and local, state, and federal minority business assistance centers in the recruitment and placement of **DBEs** including name of contact, date of contact, and information they provided.
 - c) Identification of the portions of the work to be performed by **DBEs** including type of work and dollar value.
 - d) Documentation of good faith negotiations between subcontractors and interested **DBEs**, including names and dollar values of all bids.

ATTACHMENT NO. 2

CERTIFICATION OF CONSULTANT

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I HEREBY CERTIFY that I am the engineer and duly authorized representative of the firm of **Buckland & Taylor, Ltd.**, whose address is 101 Ygnacio Valley Road, Suite 105, Walnut Creek, CA 94598, and that, except as hereby expressly stated, neither I nor the above. firm that I represent have:

- (a) employed or retained for a commission, percentage, brokerage, contingent fee, or other consideration, any firm or person (other than a bona fide employee working solely for me or the above consultant) to solicit or secure this agreement; nor
- (b) agreed, as an express or implied condition for obtaining this contract, to employ or retain the services of any firm or person in connection with carrying out the agreement; nor
- (c) paid, or agreed to pay, to any firm, organization or person (other than a bona fide employee working solely for me or the above consultant) any fee, contribution, donation, or consideration of any kind for, or in connection with, procuring or carrying out this agreement.

I acknowledge that this Certificate is to be made available to the California Department of Transportation (CALTRANS) in connection with this agreement involving participation of federal aid highway funds, and is subject to applicable state and federal laws, both criminal and civil.

5/26/93

(Date)



(SIGNATURE OF CONSULTANT)

ATTACHMENT NO. 3

CERTIFICATION OF LOCAL AGENCY

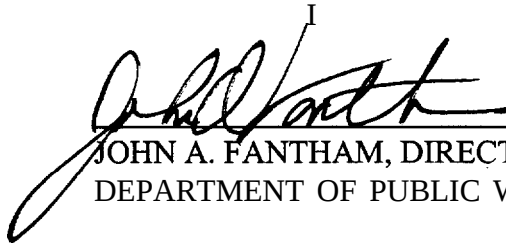
274

I HEREBY CERTIFY that I am the Director of the Santa Cruz County Department of Public Works and that the consulting firm of **Buckland & Taylor, Ltd.** or its representative has not been required (except as herein expressly stated), directly or indirectly, as an express or implied condition in connection with obtaining or carrying out this Agreement to:

- (a) employ, retain, agree to employ or retain, any firm or person; or
- (b) pay or agree to pay, to any firm, person or organization, any fee, contribution, donation, or consideration of any kind.

I acknowledge that this Certificate is to be made available to the California Department of Transportation (CALTRANS) in connection with this Agreement involving participation of federal aid highway funds, and is subject to applicable state and federal laws, both criminal and civil.

5/28/98
(Date)


JOHN A. FANTHAM, DIRECTOR
DEPARTMENT OF PUBLIC WORKS

ATTACHMENT NO. 4

PJB (5/98)

COUNTY OF SANTA CRUZ
REQUEST FOR APPROVAL OF AGREEMENT

01 275

0: Board of Supervisors
County Administrative Officer
County Counsel
Auditor-Controller

FROM:

PUBLIC WORKS

(Dept.)

(Signature)

5.29.98 (Date)

The Board of Supervisors is hereby requested to approve the attached agreement and authorize the execution of the same.

Said agreement is between the COUNTY OF SANTA CRUZ (Agency)

and Buckland & Taylor, Ltd., 101 Ygnacio Valley Rd., Ste. 105, (Name & Address)
Walnut Creek, CA 94598

The agreement will provide for engineering design services for seismic retrofit of
seven County bridges.

The agreement is needed because the work can be performed most expeditiously by contract

Period of the agreement is from Board Approval to June 30, 1998

increase

Anticipated cost is \$ 42,060.50 (Fixed amount; Monthly rate; Not to exceed)

Remarks: Contract \$594,448.28; 6% Overhead \$35,666.90; Total \$630,115.18

Appropriations are budgeted in 951046-3595-POO247-621100 (Index#) 3595 (Subobject)

NOTE: IF APPROPRIATIONS ARE INSUFFICIENT, ATTACH COMPLETED FORM AUD-74

Appropriations are available and have been encumbered.
are not will be

Contract No. CO 71577

Date

6/1/98

GARY A. KNUTSON, Auditor - Controller

By

Deputy.

Proposal reviewed and approved. It is recommended that the Board of Supervisors approve the agreement and authorize the
Director of Public Works to execute the same on behalf of the Department of

Public Works (Agency).

Remarks:

(Analyst)

By

County Administrative Officer

Date

6/8/98

Agreement approved as to form. Date

PTJ:bbs

Distribution:

Bd. of Supv. - White
Auditor-Controller - Blue
County Counsel -
Co. Admin. Officer - Conroy
Auditor-Controller - Pink
Originating Dept. - Goldenrod

To Orig. Dept. if rejected.

State of California)
County of Santa Cruz) ss

I _____ ex-officio Clerk of the Board of Supervisors of the County of Santa Cruz,
State of California, do hereby certify that the foregoing request for approval of agreement was approved by
said Board of Supervisors as recommended by the County Administrative Officer by an order duly entered
in the minutes of said Board on _____

19 _____

B _____

County Administrative Officer
Deputy Clerk