

STATE OF CALIFORNIA
STANDARD AGREEMENT

Department Of Transportation

STD 213 (rev 9/01)
 Division Of Procurement And Contracts (DPAC) A&E Boiler Revision Date 02/21/14

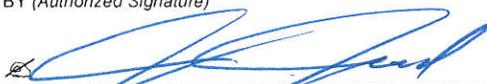
AGREEMENT NUMBER 12A1535	REGISTRATION NUMBER
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- This Agreement is entered into between the State Agency and the Contractor named below:
 STATE AGENCY'S NAME
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION (Hereinafter referred to as "Department" or "Caltrans")
 CONSULTANT'S NAME
Geocon Consultants, Inc. (Hereinafter referred to as "the Consultant")
- The term of this Agreement is from May 15, 2014 or upon Caltrans approval, whichever is later, through June 30, 2017.
- The maximum amount of this Agreement is: **\$675,000.00**
Six Hundred Seventy Five Thousand Dollars and No Cents
- The parties agree to comply with the terms and conditions of the following exhibits/attachments which are by this reference made a part of the Agreement.

Exhibit A – Scope Of Work And Deliverables	4 Pages
Exhibit B – Budget Detail And Payment Provisions	7 Pages
Exhibit C – General Terms And Conditions 610 (Electronic File: GTC 610*)	1 Page
Exhibit D – Special Terms And Conditions	26 Pages
Exhibit E – Additional Provisions	10 Pages
Exhibit F – Prevailing Wage Requirements	7 Pages
Attachment 1 – Scope Of Work	53 Pages
Attachment 2 – Cost Proposal	42 Pages
Attachment 3 – Sample Task Order Format	5 Pages
Attachment 4 – DBE Participation (form ADM-0227F A&E)	1 Page
Attachment 5 – Disadvantaged Business Enterprises Utilization Report (form ADM-3069)	2 Pages
Attachment 6 – Davis-Bacon Wage Determinations	14 Pages

Items shown with an Asterisk (*) are hereby incorporated by reference and made part of this Agreement as if attached hereto. These documents can be viewed at <http://www.ols.dgs.ca.gov/standard+language/default.htm>.

IN WITNESS WHEREOF, this Agreement has been executed by the parties hereto.

CONTRACTOR (herein referred to as "the Consultant")		<i>California Department of General Services Use Only</i>
CONSULTANT'S NAME (if other than an individual, state whether a corporation, partnership, etc.) Geocon Consultants, Inc.		
BY (Authorized Signature) 	DATE SIGNED (Do not type) 5-14-14	
PRINTED NAME AND TITLE OF PERSON SIGNING JOHN SVARENO, PRESIDENT		
ADDRESS 3303 N. San Fernando Blvd., Suite 100, Burbank, CA 91504		
STATE OF CALIFORNIA		
AGENCY NAME Department of Transportation		
BY (Authorized Signature) 	DATE SIGNED (Do not type) 5/15/14	
PRINTED NAME AND TITLE OF PERSON SIGNING Phillip Rodriguez, Branch Chief		
ADDRESS		

Exempt per: PCC 10430 (d)

EXHIBIT A
SCOPE OF WORK AND DELIVERABLES

I. SCOPE OF WORK

The Consultant shall perform professional and technical Hazardous Waste on an “as-needed” basis to support the development and construction of proposed Caltrans transportation facilities.

A. The work to be performed under this Agreement is described in Attachment 1.

B. The services shall be performed in Orange County.

C. CONFLICT OF INTEREST SUPPORT WORK

1. For services in which the Consultant cannot perform the work free of conflict of interest as defined in this Agreement, the Consultant agrees that Caltrans may obtain these services from another qualified Consultant, whose contract includes the same scope of work, or in any other manner permitted by law.
2. Caltrans may require the Consultant to perform work as described herein but located outside the geographic limits of this Agreement when the consultant contractor for another Caltrans District cannot perform the work free of conflict of interest. For such work, Caltrans will select a consultant to perform the same work by assignment of a Task Order in the following order of priority:
 - a. The consultant contract covers the same District, but not the same geographic area as this Agreement;
 - b. The consultant contract covers the closest area geographically to the geographic jurisdiction of this Agreement;
 - c. The consultant contract covers the next closest area geographically to the geographic jurisdiction of this Agreement; and so on.
3. Should the consultant for priority number 1 not exist or be unable to perform the work free of conflict of interest, then Caltrans shall select the consultant for priority number 2 to perform the work, and so on.

EXHIBIT A
SCOPE OF WORK AND DELIVERABLES

- D. This Agreement will commence on **May 15, 2014** or upon approval by Caltrans, whichever is later and no work shall begin before that time. This Agreement is of no effect unless approved by Caltrans. The Consultant shall not receive payment for work performed prior to approval of the Agreement and before receipt of notice to proceed by the Caltrans Contract Manager. This Agreement shall expire on **June 30, 2017**. The services shall be provided during working hours, Monday through Friday, except holidays, unless otherwise specified in a Task Order. The parties may amend this Agreement as permitted by law.
- E. All inquiries during the term of this Agreement will be directed to the project representatives identified below:

THE DEPARTMENT	THE CONSULTANT
Caltrans Contract Manager: Reza Aurasteh	Consultant Contract Manager: Michael Conkle, PG
District/Division: Environmental Anaysis, MS 12	Office/Branch:
Address: 3347 Michelson Drive #100 Irvine, CA 92612	Address: 3303 N. San Fernando Blvd., Suite 100 Burbank, CA 91504
Phone: 949-724-2738	Phone: 818-841-8388
Fax: 949-756-7633	Fax: 818-841-1704
e-mail: reza.aurasteh@dot.ca.gov	e-mail: conkle@geoconinc.com

F. Work Guarantee

Caltrans does not guarantee, either expressly or by implication, that any work or services will be required under this Agreement.

G. Licenses and Permits

1. The Consultant shall obtain at its expense all license(s) and permit(s) required by law for accomplishing any work required in connection with this Agreement.
2. In the event the Consultant fails to keep in effect at all times all required license(s) and permit(s), Caltrans may, in addition to any

EXHIBIT A
SCOPE OF WORK AND DELIVERABLES

other remedies it may have, terminate this Agreement upon occurrence of such event.

II. TASK ORDER

- A. Specific projects will be assigned to the Consultant through issuance of Task Orders. See sample Task Order format, Attachment 3.
- B. After a project to be performed under this Agreement is identified by Caltrans, Caltrans will prepare a draft Task Order. The draft Task Order will identify the scope of services, expected results, project deliverables, period of performance, project schedule and will designate a Caltrans Project Coordinator. The draft Task Order will be delivered to the Consultant for review. The Consultant shall return the draft Task Order within no more than ten (10) calendar days along with a cost estimate including a written estimate of the number of hours per staff person, any anticipated reimbursable expenses, and total dollar amount. The Consultant agrees that each cost estimate shall be the product of a good faith effort exercise of engineering judgment. After agreement has been reached on the negotiable items, the finalized Task Order shall be signed by both Caltrans and the Consultant. If Caltrans and Consultant are unable to reach agreement, Caltrans may terminate this Agreement in accordance with the provisions of Exhibit D, entitled "Termination."
- C. Task Orders may be negotiated for a Firm Fixed Price or for specific rates of compensation, both of which must be based on the labor and other rates set forth in the Consultant's Cost Proposal, Attachment 2.
- D. A Task Order is of no force or effect until returned to Caltrans and signed by an authorized representative of Caltrans. No expenditures are authorized on a project and work shall not commence until a Task Order for that project has been executed by Caltrans.
- E. The Consultant shall not commence performance of work or services on a Task Order until it has been approved by Caltrans and notification to proceed has been issued by the Caltrans Contract Manager. No payment will be made for any work performed prior to approval or after the period of performance of the Task Order.

EXHIBIT A
SCOPE OF WORK AND DELIVERABLES

- F. If the Consultant fails to satisfactorily complete a deliverable according to the schedule set forth in a Task Order, no payment will be made until the deliverable has been satisfactorily completed.
- G. The period of performance for Task Orders shall be in accordance with dates specified in the Task Order. No Task Order will be written which extends beyond the expiration date of this Agreement.
- H. The total amount payable by Caltrans for an individual Task Order shall not exceed the amount agreed to in the Task Order. Task Orders and/or Task Order Revisions require written approval by the Consultant and Caltrans.
- I. If applicable, when a subsequent agreement for the same or similar scope of work is executed within three (3) months prior to the termination of this Agreement, no additional Task Orders shall be executed under this Agreement upon the effective date of the subsequent agreement.
- J. Task Orders may not be used to amend this Agreement and may not exceed the scope of work under this Agreement.

III. CONSULTANT REPORTS AND/OR MEETINGS

- A. The Consultant shall submit progress reports at least once a month. The report should be sufficiently detailed for the Caltrans Contract Manager to determine if the Consultant is performing to expectations and is on schedule, to provide communication of interim findings and to afford occasions for airing difficulties or special problems encountered so remedies can be developed. Separate detail shall be provided for each on-going Task Order.
- B. Progress reports shall identify the total number of hours worked by the Consultants' and Subconsultants' personnel by use of the Caltrans Work Breakdown Structure (WBS) level element(s). The WBS is included in the Guide to Project Delivery Workplan Standards, which can be found at <http://www.dot.ca.gov/hq/projgmt/guidance.htm>.
- C. The Consultant's Contract Manager shall meet with the Caltrans Contract Manager as needed to discuss progress on the Agreement.

EXHIBIT B
BUDGET DETAIL AND PAYMENT PROVISIONS

I. FUNDING REQUIREMENTS

- A. It is mutually understood between the parties that this Agreement may have been written before ascertaining the availability of congressional or legislative appropriation of funds for the mutual benefit of both parties in order to avoid program and fiscal delays that would occur if the Agreement were executed after that determination was made.
- B. This Agreement is valid and enforceable only if sufficient funds are made available to Caltrans by the United States Government or the California State Legislature for the purpose of this program. In addition, this Agreement is subject to any additional restrictions, limitations, conditions, or any statute enacted by the Congress or the State Legislature that may affect the provisions, terms, or funding of this Agreement in any manner.
- C. It is mutually agreed that if the Congress or the State Legislature does not appropriate sufficient funds for the program, this Agreement shall be amended to reflect any reduction in funds.
- D. Caltrans has the option to terminate the Agreement under the 30-day termination clause pursuant to Exhibit D, section III.
- E. Pursuant to Government Code, Section 927.13(d), no late payment penalty shall accrue during any time period for which there is no Budget Act in effect, nor on any payment or refund that is the result of a federally mandated program or that is directly dependent upon the receipt of federal funds by a state agency.

EXHIBIT B
BUDGET DETAIL AND PAYMENT PROVISIONS

II. COMPENSATION AND PAYMENT

- A. The Consultant will be reimbursed for hours worked at the hourly rates specified in the Consultant's Cost Proposal, (See Attachment 2). The specified hourly rates shall include direct salary costs, employee benefits, prevailing wages, employer payments, overhead, and fee. These rates are not adjustable for the performance period set forth in this Agreement.
- B. In addition, the Consultant will be reimbursed for direct costs, other than salary costs, that are identified in an executed Task Order.
- C. Consultant shall be responsible for any future adjustments to prevailing wage rates including, but not limited to, base hourly rates and employer payments as determined by the Department of Industrial Relations. The Consultant is responsible for paying the appropriate rate, including escalations that take place during the term of the Agreement.
- D. A mistake, inadvertence, or neglect by the Consultant in failing to pay the correct rates of prevailing wage will be remedied solely by the Consultant and will not, under any circumstances, be considered as the basis of a claim against Caltrans on the Agreement.
- E. In compliance with 49 CFR 26.37, revised on February 28, 2011, a Disadvantaged Business Enterprises Utilization Report (form ADM-3069) is required, as specified in this Agreement.
 - 1. The Consultant shall submit a Disadvantaged Business Enterprises Utilization Report (form ADM-3069), Attachment 5, with each invoice. Also refer to Exhibit D, Special Terms and Conditions.
 - 2. Failure to provide the Disadvantaged Business Enterprises Utilization Report (form ADM-3069) with the invoice will result in twenty-five percent (25%) of the dollar value of the invoice being withheld from payment until the form is submitted. The amount will be returned to the Consultant when a satisfactory Disadvantaged Business Enterprises Utilization Report (form ADM-3069) is submitted to the Caltrans Contract Manager.

EXHIBIT B
BUDGET DETAIL AND PAYMENT PROVISIONS

- F. Transportation and subsistence costs to be reimbursed shall be the actual costs incurred, but not to exceed the rates stipulated in the “Caltrans Travel Guide, Consultant/Contractors Travel Policy.” See <http://www.dot.ca.gov/hq/asc/travel/ch12.htm>. When prevailing wages apply to the services described in Attachment 1, transportation and subsistence costs shall be reimbursed at the minimum rates set by the Department of Industrial Relations (DIR) as outlined in the applicable Prevailing Wage Determination. See <http://www.dir.ca.gov>.
- G. Progress payments:
1. Progress payments will be made monthly in arrears based on services provided at specific hourly rates and allowable direct cost incurred for Task Orders negotiated with specific rates of compensation. Progress payments for Firm Fixed Price Task Orders will be based on the percentage of work completed.
 2. To determine allowable incurred Subconsultant costs that are eligible for reimbursement, in addition to reimbursement for actual costs that are incurred, Caltrans will allow Subconsultant costs that are treated by the Consultant as accrued due to such costs having been billed to the Consultant and recognized by the Consultant and Caltrans as valid, undisputed, due and payable.
 3. By submitting accrued but unpaid Subconsultant costs for reimbursement, the Consultant agrees that within ten (10) days of receipt of reimbursement, the full amount submitted as a reimbursable accrued Subconsultant cost shall be paid to the Subconsultant.
- H. The Consultant shall not commence performance nor will payment be made for any work performed prior to approval of this Agreement by State and written notification to proceed has been issued by the Caltrans Contract Manager, nor will any payment be made for work performed after the expiration date of this Agreement.
- I. The Consultant will be reimbursed in arrears for services satisfactorily rendered and approved by the Caltrans Contract Manager, as promptly as fiscal procedures will permit upon receipt by the Caltrans Contract

EXHIBIT B
BUDGET DETAIL AND PAYMENT PROVISIONS

Manager of itemized invoices in triplicate. Separate invoices itemizing all costs are required for all work performed under each Task Order.

- J. Invoices shall be submitted showing the Caltrans WBS level element for each billable hour increment and/or detail of work performed on each milestone, on each project as applicable. Task Orders and invoicing shall include, but are not limited to, the WBS elements listed for defined/related services and products. The WBS is included in the Guide to Project Delivery Workplan Standards, which can be found at <http://www.dot.ca.gov/hq/projmgmt/guidance.htm>. Incomplete invoices shall be returned unpaid to the Consultant for correction. Caltrans shall not pay disputed portions of invoices.
- K. When prevailing wage rates apply, the Consultant must submit with each invoice a certified copy of the payroll for compliance verification. Invoice payment will not be made until the payroll has been verified and the invoice approved by the Caltrans Contract Manager.
- L. The sample invoice format can be found at <http://caltrans-opac.ca.gov/aeinfo.htm>. Invoices shall reference this Agreement number, project title, and Task Order number. Invoices shall be submitted no later than 45 calendar days after completion of each billing period. Any credit, as provided under this Agreement, due Caltrans must be reimbursed by the Consultant prior to the expiration or termination of this Agreement. Invoices shall be mailed to the Caltrans Contract Manager or Consultant Service Unit at the following address:

DEPARTMENT OF TRANSPORTATION
Attention: Reza Aurasteh
District 12/Environmental Analysis, MS 12
3347 Michelson Drive #100
Irvine, CA 92612

- M. Task Orders will be encumbered with various types of funding. 49 CFR 18.23 requires that federal funds must be expended within 90 days of the expiration of the funding period. In addition, the encumbrances for state and local funds can be lost if not expended within specified time frames. Accordingly, the invoices for approved monthly services must be submitted by the Consultant and received by the Caltrans Contract

EXHIBIT B
BUDGET DETAIL AND PAYMENT PROVISIONS

Manager within 45 calendar days of the completion of the approved monthly services specified in each Task Order so that encumbered funds can be expended. If Caltrans does not receive invoices from the Consultant by the required deadline, and this results in a loss of funding, Caltrans will reduce the payment on the invoices in the amount of the loss.

- N. The final Task Order invoice shall state the final cost and all credits due Caltrans. The final invoice should be submitted within 60 calendar days after Caltrans Contract Manager notifies the Consultant Contract Manager of completion of the services. Should Caltrans dispute any of the costs billed in the final Task Order invoice, Caltrans shall pay the undisputed portions of the invoice as provided in this Section II. Caltrans will not pay for charges that are in dispute until final resolution of the cost-related disputes.
- O. Payment will be made in accordance with, and within the time specified in, Government Code Chapter 4.5, commencing with Section 927.
- P. The total amount payable by Caltrans, for all Task Orders resulting from this Agreement, shall not exceed **\$675,000.00**. It is understood and agreed that this total is an estimate, and that the actual amount of work requested by Caltrans may be less. There is no guarantee, either expressed or implied, as to the actual dollar amount that will be authorized under this Agreement through Task Orders. In no event shall Task Orders be issued that will exceed this maximum.
- Q. Any written report prepared as a requirement of this Agreement shall contain, in a separate section of such written report, the number and dollar amounts of all agreements and subagreements relating to the preparation of those reports if the combined costs for work by nonemployees of the State exceed \$5,000.00.
- R. Prime Consultant's Indirect Cost Rates (ICR) indicated in Attachment 2, Cost Proposal, are based on 48 CFR, Part 31.
- S. Caltrans, at its sole discretion, may review and/or audit and approve either the Independent CPA's ICR documentation for the Consultant, or the Consultant's and/or Subconsultants' in-house developed ICRs at any

EXHIBIT B
BUDGET DETAIL AND PAYMENT PROVISIONS

time before the execution of this Agreement, while this Agreement is in effect, or after expiration of this Agreement up to the time limit set forth in Exhibit D, section XII, Retention of Records/Audits.

- T. Limitations: Use of the rate(s) contained in this Agreement is subject to any statutory or administrative limitations and is applicable to a given contract only to the extent that funds are available. Acceptance of the rate(s) agreed to herein is predicated upon the following conditions:
1. That no costs other than those incurred by the Consultant or allocated to the Consultant were included in its indirect cost pool as finally accepted and that such costs are legal obligations of the Consultant and allowable under the governing cost principles.
 2. That the same costs that have been treated as indirect costs have not been claimed as direct costs.
 3. That similar types of costs have been accorded consistent accounting treatment to all clients (state, federal, local government, commercial/private) under similar circumstances, and
 4. That the information provided by the Consultant which was used as a basis for acceptance of the rate(s) agreed to herein is not subsequently found to be materially inaccurate.

The elements of indirect cost and the type of distribution base(s) used in computing provisional rates are subject to revision when final rates are established. Also, the rates cited in this Agreement are subject to audit.

- U. At the discretion of Caltrans, the indirect cost rate(s) and related Independent CPA workpapers may be reviewed by Caltrans Division of Audits & Investigations (A&I) to verify the accuracy and the CPA's compliance with 48 CFR, Part 31 and related laws and regulations, compliance with Government Auditing Standards, and to determine if the audit report format is acceptable.
- V. Any subagreement in excess of \$25,000.00, entered into as a result of this Agreement, shall contain all of the provisions of this clause.

EXHIBIT B
BUDGET DETAIL AND PAYMENT PROVISIONS

III. COST PRINCIPLES

- A. The Consultant agrees that Title 48 Code of Federal Regulations (CFR), Part 31, Contract Cost Principles and Procedures (48 CFR 31 et seq.), shall be used to determine the allowability of individual terms of cost.
- B. The Consultant also agrees to comply with Federal procedures in accordance with Title 49 CFR, Part 18, Uniform Administrative Requirements for Grants and Cooperative Agreements to State and Local Governments (49 CFR 18).
- C. Any costs for which payment has been made to the Consultant that are determined by subsequent audit to be unallowable under 48 CFR 31 or 49 CFR 18 are subject to repayment by the Consultant to Caltrans.
- D. Any subagreement in excess of \$25,000.00, entered into as a result of this Agreement, shall contain all the provisions of this clause.

EXHIBIT C
GENERAL TERMS AND CONDITIONS

NOTE: In this Exhibit C – GTC 610, the General Terms and Conditions are included in this Agreement by reference and made part of this Agreement as if attached hereto. See <http://www.dgs.ca.gov/ols/Resources/StandardContractLanguage.aspx>.

The following language is to be included in lieu of the Standard Indemnification Clauses used in DGS GTC – 610 General Terms and Conditions.

Indemnification

The Consultant agrees to indemnify, defend, and hold harmless Caltrans, its officers, agents, and employees from any and all claims, demands, costs, or liability arising from or connected with the services provided hereunder due to negligent or intentional acts, errors, or omissions of the Consultant. The Consultant will reimburse Caltrans for any expenditure, including reasonable attorney fees, incurred by Caltrans in defending against claims ultimately determined to be due to negligent or intentional acts, errors, or omissions of the Consultant.

EXHIBIT D
SPECIAL TERMS AND CONDITIONS

I. AMENDMENT (CHANGE IN TERMS)

- A. No amendment or variation of the terms of this Agreement shall be valid unless made in writing, signed by the parties, and approved as required. No oral understanding or agreement not incorporated in Agreement is binding on any of the parties.
- B. The Consultant shall only commence work covered by an amendment after the amendment is executed and notification to proceed has been provided by the Caltrans Contract Manager.
- C. There shall be no change in the Consultant's Contract Manager or members of the project team, as listed in the cost proposal, which is a part of this Agreement, without prior written approval by the Caltrans Contract Manager. If the Consultant obtains approval from the Caltrans Contract Manager to add or substitute personnel, the Consultant must provide the Personnel Request Form, a copy of the SF330 or resume for the additional or substituted personnel, along with a copy of the certified payroll for that person.

II. DISPUTES

- A. The Consultant shall continue with the responsibilities under this Agreement during any work dispute. Any dispute concerning a question of fact arising under this Agreement that is not disposed of by agreement shall be decided by a committee consisting of the Caltrans Contract Manager and the Caltrans Contract Officer who may consider written or verbal information submitted by the Consultant.
- B. Any dispute not resolved by the committee consisting of the Caltrans Contract Manager and Caltrans Contract Officer may be reviewed by the Consultant Claims Review Committee (CCRC). The CCRC will consist of the Division Chief of Project Delivery (Chairperson), Deputy Director of Administration and the Chief Counsel of Legal Services or their designees. Additional members or their designees may serve on the committee.

EXHIBIT D
SPECIAL TERMS AND CONDITIONS

- C. No later than 30 calendar days after Caltrans Contract Manager notifies the Consultant Contract Manager that all work under the Agreement has been completed, the Consultant may request review by the CCRC of claims or disputes that are not resolved by the Caltrans Contract Manager and Caltrans Contract Officer under subsection II.A. above. The request for review will be submitted in writing through the Caltrans Contract Officer to the Chairperson, CCRC. A meeting by the CCRC will be scheduled after the Chairperson concurs. After the meeting, the CCRC will make recommendations to the Deputy Director of the functional program area, who will make the final decision for Caltrans.
- D. Neither the pendency of a dispute nor its consideration by the committee will excuse the Consultant from full and timely performance in accordance with the terms of this Agreement.

III. TERMINATION

This section regarding termination is in addition to GTC 610.

- A. Caltrans reserves the right to terminate this Agreement immediately in the event of breach or failure of performance by the Consultant, any Subconsultant, and by extension, the Consultant's Independent CPA, or upon 30 calendar days written notice to the Consultant if terminated for the convenience of Caltrans.
- B. Caltrans may terminate this Agreement and be relieved of any payments except as provided for under early termination should the Consultant fail to perform the requirements of this Agreement at the time and in the manner herein provided. In the event of such termination, Caltrans may proceed with the work in any manner deemed proper by Caltrans. All costs to Caltrans shall be deducted from any sum due the Consultant under this Agreement and the balance, if any, shall be paid to the Consultant upon demand.

IV. EARLY TERMINATION OF THIS AGREEMENT OR TASK ORDER(S),
OR SUSPENSION OF THIS AGREEMENT

General Conditions

EXHIBIT D
SPECIAL TERMS AND CONDITIONS

- A. In the event this Agreement is terminated, suspended, or a Task Order is terminated for the convenience of Caltrans, the Consultant shall be paid for the percentage of the work completed, relative to the total work effort called for under this Agreement, and for termination costs. No billable costs will be considered payable under the Agreement during suspension.
- B. Within 30 calendar days of the date the Consultant is notified of the early termination of Task Order(s) issued against this Agreement for the convenience of Caltrans, the Consultant shall prepare and submit to the Caltrans Contract Manager, for approval, two (2) separate supplemental cost proposals:
 - 1. A final revised cost proposal for all project-related costs for the revised termination date, and
 - 2. A cost proposal specifically addressing the termination settlement costs only.

V. CONSULTANT'S DELIVERABLES UNDER EARLY TERMINATION

The Consultant shall provide all project-related documents and correspondence required as part of the Scope of Work/Deliverables or included in Task Orders. Project-related documents shall be described, listed, and identified as part of the final revised cost proposal. Project-related documents shall include all documents that are in complete and final form and which have been accepted as complete by Caltrans, or documents in draft and/or incomplete form for those deliverables, which are in progress by the Consultant and have not been accepted as complete. All documents must be received and accepted before the settlement cost invoice is paid.

VI. INVOICE SUBMITTAL UNDER EARLY TERMINATION

Separate final invoices for project-related costs and termination settlement costs shall be submitted no later than 30 calendar days after the date the Consultant is notified of acceptance of the final cost proposals by the Caltrans Contract Manager. Invoices shall be submitted in accordance with EXHIBIT B. The invoice for termination settlement costs shall include the following, to the extent they are applicable: lease termination costs for equipment and

EXHIBIT D
SPECIAL TERMS AND CONDITIONS

facilities approved under the terms of this Agreement; equipment salvage costs for equipment valued over \$500.00; rental costs for unexpired leases, less the residual value of the lease; cost of alterations and reasonable restorations required by the lease; settlement expenses, e.g., accounting, legal, clerical, storage, transportation, protection and disposition of property acquired or produced under this Agreement, indirect costs, such as payroll taxes, fringe benefits, occupancy costs, and immediate supervision costs related to wages and salaries, incurred as settlement costs.

VII. TERMINATION ISSUES FOR SUBCONSULTANTS, SUPPLIERS, AND SERVICE PROVIDERS

The Consultant shall notify any Subconsultant and service or supply vendor providing services under this Agreement of the early termination date of this Agreement. Failure to notify any Subconsultant and service or supply vendor shall result in the Consultant being liable for the termination costs incurred by any Subconsultant and service or supply vendor for work performed under this Agreement, except those specifically agreed to in the termination notice to the Consultant.

VIII. COST PRINCIPLES UNDER EARLY TERMINATION

Termination settlement expenses will be reimbursed in accordance with 48 CFR, Federal Acquisition Regulations System, Chapter 1, Part 31. Subpart 31.205-42 (c) dealing with initial costs is not applicable to Architectural and Engineering Agreement terminations.

IX. DISPUTES UNDER EARLY TERMINATION CONDITIONS

Disputes under early termination conditions shall be resolved in accordance with this Exhibit.

X. CONSULTANT CLAIMS AGAINST THIS AGREEMENT OR TASK ORDER(S) UNDER EARLY TERMINATION

The Consultant agrees to release Caltrans from any and all further claims for services performed arising out of this Agreement or its early termination, upon acceptance by the Consultant of payment in the total amount agreed upon as

EXHIBIT D
SPECIAL TERMS AND CONDITIONS

full and final payment of its costs from performance and early termination of this Agreement or Task Order(s).

XI. NON-DISCRIMINATION

This section regarding non-discrimination is in addition to GTC 610.

- A. During the performance of this Agreement, the Consultant and its Subconsultants shall not unlawfully discriminate, harass or allow harassment against any employee or applicant for employment because of sex, race, color, ancestry, religious creed, national origin, physical disability (including HIV and AIDS), medical condition (cancer), age, marital status, denial of family and medical care leave, and denial of pregnancy disability leave. Consultants and Subconsultants shall insure that the evaluation and treatment of their employees and applicants for employment are free of such discrimination and harassment. The Consultant and Subconsultants shall comply with the provision of the Fair Employment and Housing Act (Government Code, Section 12900 et seq.) and the applicable regulations promulgated thereunder (California Code of Regulations, Title 2, Section 7285.0 et seq.). The applicable regulations of the Fair Employment and Housing Commission implementing Government Code, Section 12990 (a-f), set forth in Chapter 5 of Division 4 of Title 2 of the California Code of Regulations are incorporated into this Agreement by reference and made a part hereof as if set forth in full. The Consultant and its Subconsultants shall give written notice of their obligations under this clause to labor organizations with which they have a collective bargaining or other agreement.
- B. Appendix A, relative to nondiscrimination on federally assisted projects, is attached hereto and made a part of this Agreement. (See the last three pages of this Exhibit D.)
- C. The Consultant shall comply with the nondiscrimination program requirements of Title VI of the Civil Rights Act of 1964. Accordingly, 49 CFR Part 21, and 23 CFR Part 200 is applicable to this Agreement by reference.

EXHIBIT D
SPECIAL TERMS AND CONDITIONS

- D. The Consultant shall include the nondiscrimination and compliance provisions of this clause in all subagreements to perform work under this Agreement.

XII. RETENTION OF RECORD/AUDITS

- A. For the purpose of determining compliance with Government Code Section 8546.7, the Consultant, Subconsultants, and Caltrans shall maintain all books, documents, papers, accounting records, Independent CPA Audited Indirect Cost Rate workpapers, and other evidence pertaining to the performance of the Agreement including, but not limited to, the costs of administering the Agreement. All parties, including the Consultant's Independent CPA, shall make such workpapers and materials available at their respective offices at all reasonable times during the Agreement period and for three (3) years from the date of final payment under the Agreement. Caltrans, the State Auditor, FHWA, or any duly authorized representative of the Federal government having jurisdiction under Federal laws or regulations (including the basis of Federal funding in whole or in part) shall have access to any books, records, and documents of the Consultant, Subconsultants, and the Consultant's Independent CPA, that are pertinent to the Agreement for audits, examinations, workpaper review, excerpts, and transactions, and copies thereof shall be furnished if requested without limitation.
- B. Any subagreement in excess of \$25,000.00, entered into as a result of this Agreement, shall contain all the provisions of this clause.

XIII. SUBCONTRACTING

- A. Nothing contained in this Agreement or otherwise, shall create any contractual relation between the State and any Subconsultants, and no subagreement shall relieve the Consultant of its responsibilities and obligations hereunder. The Consultant agrees to be as fully responsible to the State for the acts and omissions of its Subconsultants and of persons either directly or indirectly employed by any of them as it is for the acts and omissions of persons directly employed by the Consultant. The Consultant's obligation to pay its Subconsultants is an independent

EXHIBIT D
SPECIAL TERMS AND CONDITIONS

obligation from the State's obligation to make payments to the Consultant.

- B. The Consultant shall perform the work contemplated with resources available within its own organization and no portion of the work shall be subcontracted without written authorization by the Caltrans Contract Manager, except that which is expressly identified in the Consultant's Cost Proposal.
- C. Any subagreement in excess of \$25,000, entered into as a result of this Agreement, shall contain all the provisions stipulated in this Agreement to be applicable to Subconsultants unless otherwise noted.
- D. Contractor shall pay its Subconsultants within ten (10) calendar days from receipt of each payment made to the Consultant by the State.
- E. Any substitution of Subconsultants must be approved in writing by the Caltrans Contract Manager in advance of assigning work to a substitute Subconsultant.

XIV. EQUIPMENT PURCHASE

- A. Prior authorization in writing by the Caltrans Contract Manager shall be required before the Consultant enters into any non-budgeted purchase order or subagreement exceeding \$500.00 for supplies, equipment, or Consultant services. The Consultant shall provide an evaluation of the necessity or desirability of incurring such costs.
- B. For purchase of any item, service or consulting work not covered in the Consultant's Cost Proposal and exceeding \$500.00, with prior authorization by the Contract Manager, three (3) competitive quotations must be submitted with the request or the absence of bidding must be adequately justified.
- C. The Consultant shall maintain an inventory record for each piece of non-expendable equipment purchased or built with funds provided under the terms of this Agreement. The inventory record of each piece of such equipment shall include the date acquired, total cost, serial number, model identification (on purchased equipment), and any other

EXHIBIT D
SPECIAL TERMS AND CONDITIONS

information or description necessary to identify said equipment. Non-expendable equipment so inventoried are those items of equipment that have a normal life expectancy of one (1) year or more and an approximate unit price of \$5,000.00 or more. In addition, theft-sensitive items of equipment costing less than \$5,000.00 shall be inventoried. A copy of the inventory record must be submitted to Caltrans on request by Caltrans.

- D. Any equipment purchased by the Consultant will be returned to Caltrans at the end of this Agreement or, if not returned to Caltrans, it will be disposed of as agreed to by both parties. Both Caltrans and Consultant agree to comply with State Administrative Manual, Section 3520, Disposal of Surplus Personal Property, if Caltrans determines that Caltrans will not retain the equipment.
- E. 49 CFR, Part 18 requires a credit to Federal funds when participating equipment with a fair market value greater than \$5,000.00 is credited to the project.
- F. Any subagreement entered into as a result of this Agreement shall contain all the provisions of this clause.

XV. INSPECTION OF WORK

The Consultant and any Subconsultants shall permit Caltrans and the FHWA to review and inspect the project activities at all reasonable times during the performance period of this Agreement including review and inspection on a daily basis.

XVI. SAFETY

- A. The Consultant shall comply with OSHA regulations applicable to the Consultant regarding necessary safety equipment or procedures. The Consultant shall comply with safety instructions issued by the District Safety Officer and other State representatives. The Consultant's personnel shall wear white hard hats and orange safety vests at all times while working on the construction project site.

EXHIBIT D
SPECIAL TERMS AND CONDITIONS

- B. Pursuant to the authority contained in Section 591 of the Vehicle Code, Caltrans has determined that within such areas as are within the limits of the project and are open to public traffic, the Consultant shall comply with all of the requirements set forth in Divisions 11, 12, 13, 14, and 15 of the Vehicle Code. The Consultant shall take all reasonably necessary precautions for safe operation of its vehicles and the protection of the traveling public from injury and damage from such vehicles.
- C. The Consultant or Subconsultant(s) must have a Division of Occupational Safety and Health (CAL-OSHA) permit(s) as outlined in California Labor Code Sections 6500 and 6705, prior to the initiation of any practice, work, method, operation, or process related to the construction or excavation of trenches which are five feet or deeper.
- D. Any subagreement, entered into as a result of this Agreement, shall contain all of the provisions of this clause.

XVII. INSURANCE

- A. The Consultant shall furnish to Caltrans Certificates of Insurance for the minimum coverage set forth below. The Consultant shall be fully responsible for all policy deductibles and any self-insured retention. All insurance shall be with an insurance company with an A.M. Best's Financial Strength Rating of A- or better with a Financial Size Category of VI or better.
 - B. Required Coverages and Limits:
 - 1. Workers Compensation (statutory) and Employers Liability Insurance:
 - \$1,000,000 for bodily injury for each accident
 - \$1,000,000 policy limit for bodily injury by disease
 - \$1,000,000 for each employee for bodily injury by disease
- If there is an exposure of injury to the Consultant's employees under the U.S. Longshoremen's and Harbor Workers' Compensation Act, the Jones Act, or under laws, regulations, or statutes applicable to

EXHIBIT D
SPECIAL TERMS AND CONDITIONS

maritime employees, coverage shall be included for such injuries or claims.

If work is performed on State owned or controlled property the policy shall contain a waiver of subrogation in favor of the State. The waiver of subrogation endorsement shall be provided in addition to the certificate of insurance.

2. Commercial General Liability Insurance with limits no less than:

\$1,000,000 per occurrence

\$2,000,000 products completed operations aggregate

\$2,000,000 general aggregate

The policy's general aggregate shall apply separately to the Consultant's work under this Agreement by evidencing a per project aggregate endorsement separately attached to the certificate of insurance.

The policy shall include coverage for liabilities arising out of premises, operations, independent consultants, products, completed operations, personal & advertising injury, and liability assumed under an insured Agreement. This insurance shall apply separately to each insured against whom claim is made or suit is brought subject to the Consultant's limit of liability. The policy must include:

Caltrans, State of California, its officers, agents, employees and servants are included as additional insureds, but only with respect to work performed under this Agreement.

This endorsement must be supplied under form acceptable to the Office of Risk and Insurance Management.

3. Automobile liability, including owned, non-owned and hired autos, with limits not less than \$1,000,000 combined single limit per

EXHIBIT D
SPECIAL TERMS AND CONDITIONS

accident. The same additional insured designation and endorsement required for general liability is to be provided for this coverage.

4. A \$1,000,000 umbrella or excess liability shall include premises/operations liability, products/completed operations liability, and auto liability coverage. The umbrella or excess policy shall contain a clause stating that it takes effect (drops down) in the event the primary limits are impaired or exhausted.

5. Professional Liability insurance with limits no less than:

\$1,000,000 per claim

\$2,000,000 in the aggregate

The policy's retroactive date must be shown on the certificate and must be before this contract is executed or before the beginning of contract work.

Additionally, the Consultant shall maintain, or make a good faith effort to maintain, the Professional Liability insurance for a period of three (3) years after its performance under this Agreement.

6. Pollution Liability

Contractor shall maintain Pollution Liability covering the Contractor's liability for bodily injury, property damage and environmental damage resulting from pollution and related cleanup costs incurred all arising out of the work or services to be performed under this Agreement. Coverage shall be provided for both work performed on site, as well as during the transport of hazardous materials. Limits of not less than \$1,000,000 per incident and an annual aggregate amount of \$2,000,000 shall be provided.

- C. The insurance above shall be maintained in effect at all times during the term of this Agreement. If the insurance expires during the term of the Agreement, a new certificate must be submitted to the Caltrans Contract Manager not less than ten (10) days prior to the expiration of insurance.

EXHIBIT D
SPECIAL TERMS AND CONDITIONS

Failure to maintain the required coverage shall be sufficient grounds for Caltrans to terminate this Agreement for cause, in addition to any other remedies Caltrans may have available. Inadequate or lack of insurance does not negate the Consultant's obligations under the Agreement.

- D. The Consultant shall provide to the Caltrans Contract Manager within five (5) business days following receipt by Consultant a copy of any cancellation or non-renewal of insurance required by this Agreement. In the event Consultant fails to keep in effect at all times the specified insurance coverage, Caltrans may, in addition to any other remedies it may have, terminate this Agreement upon the occurrence of such event, subject to the provisions of the Agreement.
- E. Any required endorsements requested by Caltrans must be physically attached to all requested certificates of insurance and not substituted by referring to such coverage on the certificate of insurance.
- F. Any required insurance contained in this Agreement shall be primary and not in excess of or contributory to any other insurance carried by Caltrans.
- G. Caltrans will not be responsible for any premiums or assessments on the policy.
- H. For Agreements with hazardous activities, new certificates of insurance are subject to the approval of DGS, and the Consultant agrees that no work or services shall be performed prior to such approval.
- I. The Consultant shall require all Subconsultants to carry insurance based on the cost of the subcontract and the potential risk to Caltrans of the subcontracted work. Notwithstanding any coverage requirements for Subconsultants, the Consultant shall be responsible for ensuring sufficient insurance coverage for all work performed under the Agreement, including the work of Subconsultants.

XVIII. OWNERSHIP OF PROPRIETARY PROPERTY

For the purposes of this section (Ownership of Proprietary Property) the following definitions shall apply:

EXHIBIT D
SPECIAL TERMS AND CONDITIONS

Work: As delineated in Attachment 1 (Scope of Work) of the Agreement.

Work Product: As defined as Deliverable in Attachment 1 (Scope of Work) of the Agreement, including but not limited to, all Work and Deliverables conceived or made, or made hereafter conceived or made, either solely or jointly with others during the term of this Agreement and during a period of six (6) months after the termination thereof, which relates to the Work commissioned or performed under this Agreement.

Inventions: Any idea, design, concept, technique, invention, discovery, improvement or development regardless of patentability made solely by the Consultant or jointly with the Consultant's Subcontractor and/or the Consultant's Subcontractor's employee's with one or more employees of the Department of Transportation (hereinafter referred to as "Caltrans"), during the term of this Agreement and in performance of any Work under this Agreement, provided that either the conception or reduction to practice thereof occurs during the term of this Agreement and in performance of Work issued under this Agreement.

A. Ownership of Work Product and Rights

1. Ownership of Work Product

All Work Product derived by the Work performed by the Consultant, its employees or by any of the Consultant's Subcontractor's employees under this Agreement, shall be owned by Caltrans and shall be considered works made for hire by the Consultant's Subcontractor for Caltrans. Caltrans shall own all United States and international copyrights in the Work Product.

As such, all Work Product shall contain, in a conspicuous place, a copyright designation consisting of a "c" in a circle followed by the four-digit year in which the Work Product was produced, followed by the words "California Department of Transportation." For example, a Work Product created in the year 2003 would contain the copyright designation © 2003 California Department of Transportation.

EXHIBIT D
SPECIAL TERMS AND CONDITIONS

2. Vesting of Copyright Rights

Consultant, its employees or any of Consultant's Subcontractor's employees agrees to perpetually assign, and upon creation of each Work Product automatically assigns, to Caltrans, its successors and assigns, ownership of all United States and international copyrights in each and every Work Product, insofar as any such Work Product, by operation of law, may not be considered work made for hire by the Consultant's Subcontractor from Caltrans. From time to time upon Caltrans' request, the Consultant's Subcontractor and/or its employees shall confirm such assignments by execution and delivery of such assignments, confirmations or assignment, or other written instruments as Caltrans may request. Caltrans, its successors and assigns, shall have the right to obtain and hold in its or their own name(s) all copyright registrations and other evidence of rights that may be available for Work Product. Consultant hereby agrees to waive all moral rights relating to identification of authorship restriction or limitation on use, or subsequent modifications of the Work.

B. Inventions

1. Vesting of Patent Rights

The Consultant, its employees and any Consultant's Subcontractor hereby agrees to assign to Caltrans, its successors, and assigns, all Inventions, together with the right to seek protection by obtaining patent rights therefore and to claim all rights or priority there under, and the same shall become and remain Caltrans' property regardless of whether such protection is sought. The Consultant, its employees and Consultant's Subcontractor shall promptly make a complete written disclosure to Caltrans of each Invention not otherwise clearly disclosed to Caltrans in the pertinent Work Product, specifically pointing out features or concepts that the Consultant, its employees and Consultant's Subcontractor believes to be new or different. The Consultant, its employees and Consultant's Subcontractor shall, upon Caltrans' request and at Caltrans' expense, cause patent applications to be filed thereon, through solicitors designated by Caltrans, and shall sign all such applications over to Caltrans, its successors, and

EXHIBIT D
SPECIAL TERMS AND CONDITIONS

assigns. The Consultant, its employees and Consultant's Subcontractor shall give Caltrans and its solicitors all reasonable assistance in connection with the preparation and prosecution of any such patent applications and shall cause to be executed all such assignments or other instruments or documents as Caltrans may consider necessary or appropriate to carry out the intent on this Agreement.

2. Agency

In the event that Caltrans is unable for any reason whatsoever to secure the Consultant's, its employees' and/or Consultant's Subcontractor's signature to any lawful or necessary document required or desirable to apply for or prosecute any United States application (including renewals or divisions thereof), Consultant, its employees and Consultant's Subcontractor hereby irrevocably designates and appoints Caltrans and its duly authorized officers and agents, as its agent and attorney-in-fact, to act for and on Consultant, its employees and Consultant's Subcontractor's behalf and stead, to execute and file such applications and to do all other lawfully permitted acts to further the prosecution and issuance of any copyrights, trademarks or patents thereon with the same legal force and effect as if executed by Consultant, its employees and/or Consultant's Subcontractor. Caltrans shall have no obligations to file any copyright, trademark or patent applications.

3. Avoidance of Infringement

In performing services under this Agreement, Consultant and its employees agree to avoid designing or developing any items that infringe one or more patents or other intellectual property rights of any third party. If Consultant or its employees becomes aware of any such possible infringement in the course of performing any Work under this Agreement, Consultant or its employees shall immediately notify Caltrans in writing.

C. Additional Provisions

Subcontractors

EXHIBIT D
SPECIAL TERMS AND CONDITIONS

Consultant shall affirmatively bind by contract any of its subcontractors or service vendors (hereinafter "Consultant's Subcontractor") providing services under this Agreement to conform to the provisions of Exhibit D, section XIX. Consultant's Subcontractor shall then provide the signed contract to the Consultant, who shall provide it to the Caltrans Contract Manager prior to the commencement of any work. In performing services under this Agreement, Consultant's Subcontractor agrees to avoid designing or developing any items that infringe one or more patents or other intellectual property rights of any third party. If Consultant's Subcontractor becomes aware of any such possible infringement in the course of performing any Work under this Agreement, Consultant's Subcontractor shall immediately notify the Consultant in writing, Consultant will then immediately notify Caltrans in writing.

XIX. OWNERSHIP OF DATA

- A. Upon completion of all work under this Agreement, all intellectual property rights, ownership and title to all reports, documents, plans, specifications, and estimates produced as part of this Agreement will automatically be vested in Caltrans and no further agreement will be necessary to transfer ownership to Caltrans. The Consultant shall furnish Caltrans all necessary copies of data needed to complete the review and approval process.
- B. It is understood and agreed that all calculations, drawings and specifications, whether in hard copy or machine readable form, are intended for one-time use in the construction of the project for which this Agreement has been entered into.
- C. The Consultant is not liable for claims, liabilities or losses arising out of, or connected with, the modification or misuse by Caltrans of the machine readable information and data provided by the Consultant under this Agreement; further, the Consultant is not liable for claims, liabilities or losses arising out of, or connected with, any use by Caltrans of the project documentation on other projects, for additions to this project, or for the completion of this project by others, excepting only such use as may be authorized, in writing, by the Consultant.

EXHIBIT D
SPECIAL TERMS AND CONDITIONS

- D. Any subagreement in excess of \$25,000.00, entered into as a result of this Agreement, shall contain all of the provisions of this clause.

XX. CLAIMS FILED BY CALTRANS CONSTRUCTION CONTRACTOR

- A. If claims are filed by the Caltrans construction contractor relating to work performed by the Consultant's personnel and additional information or assistance from the Consultant's personnel is required in order to evaluate or defend against such claims, the Consultant agrees to make its personnel available for consultation with Caltrans construction contract administration and legal staff and for testimony, if necessary, at depositions and at trial or arbitration proceedings.
- B. The Consultant's personnel that Caltrans considers essential to assist in defending against construction contractor claims will be made available on reasonable notice from Caltrans. Consultation or testimony will be reimbursed at the same rates, including travel costs, that are being paid for the Consultant's personnel services under this Agreement.
- C. Services of the Consultant's personnel in connection with Caltrans' construction contract claims will be performed pursuant to a written supplement, if necessary, extending the termination date of this Agreement in order to finally resolve the claims.
- D. Any subagreement in excess of \$25,000.00, entered into as a result of this Agreement, shall contain all of the provisions of this clause.

XXI. CONFIDENTIALITY OF DATA

- A. All financial, statistical, personal, technical, or other data and information relative to Caltrans' operations, which is designated confidential by Caltrans and made available to the Consultant in order to carry out this Agreement, shall be protected by the Consultant from unauthorized use and disclosure.
- B. Permission to disclose information on one occasion or public hearing held by Caltrans relating to this Agreement shall not authorize the Consultant to further disclose such information or disseminate the same on any other occasion.

EXHIBIT D
SPECIAL TERMS AND CONDITIONS

- C. The Consultant shall not comment publicly to the press or any other media regarding this Agreement or Caltrans' actions on the same, except to Caltrans staff, Consultant's own personnel involved in the performance of this Agreement, at public hearings, or in response to questions from a Legislative committee.
- D. The Consultant shall not issue any news release or public relations item of any nature whatsoever regarding work performed or to be performed under this Agreement without prior review of the contents thereof by Caltrans and receipt of Caltrans' written permission.
- E. All information related to the construction estimate is confidential and shall not be disclosed by the Consultant to any entity, other than Caltrans.
- F. Any subagreement, entered into as a result of this Agreement, shall contain all of the provisions of this clause.

XXVI. STANDARD OF CARE

Consultant represents that it possesses all necessary training, licenses, experience, and certifications to perform the Scope of Work, and shall perform all services in accordance with the degree of skill and care ordinarily used by competent practitioners of the same professional discipline under similar circumstances, and localities, taking into consideration the contemporary state of the practice and the project conditions.

XXVII. EVALUATION OF CONSULTANT

The Consultant's performance will be evaluated by Caltrans. A copy of the evaluation will be sent to the Consultant for comments. The evaluation, together with the comments, shall be retained by Caltrans.

XXVIII. STATEMENT OF COMPLIANCE

The Consultant's signature affixed herein and dated shall constitute a certification under penalty of perjury under the laws of the State of California that the Consultant has, unless exempt, complied with the nondiscrimination

EXHIBIT D
SPECIAL TERMS AND CONDITIONS

program requirements of Government Code Section 12990 and Title 2, California Code of Regulations, Section 8103.

XXIX. DEBARMENT AND SUSPENSION CERTIFICATION

- A. The Consultant's signature affixed herein shall constitute a certification under penalty of perjury under the laws of the State of California, that the Consultant or any person associated therewith in the capacity of owner, partner, director, officer or manager:
1. Is not currently under suspension, debarment, voluntary exclusion, or determination of ineligibility by any federal agency;
 2. Has not been suspended, debarred, voluntarily excluded, or determined ineligible by any federal agency within the past three (3) years;
 3. Does not have a proposed debarment pending; and
 4. Has not been indicted, convicted, or had a civil judgment rendered against it by a court of competent jurisdiction in any matter involving fraud or official misconduct within the past three (3) years.
- B. Any exceptions to this certification must be disclosed to Caltrans. Exceptions will not necessarily result in denial of recommendation for award, but will be considered in determining bidder responsibility. Disclosures must indicate the party to whom the exceptions apply, the initiating agency, and the dates of agency action.

XXX. CONFLICT OF INTEREST

- A. During the term of this Agreement, the Consultant shall disclose any financial, business, or other relationship with Caltrans or the California Transportation Commission that may have an impact upon the outcome of this Agreement or any ensuing Caltrans construction project. The Consultant shall also list current clients who may have a financial interest in the outcome of this Agreement or any ensuing Caltrans construction project which will follow.

EXHIBIT D
SPECIAL TERMS AND CONDITIONS

- B. The Consultant hereby certifies that it does not now have nor shall it acquire any financial or business interest that would conflict with the performance of services under this Agreement.
- C. All consultant personnel are required to complete security and privacy awareness training each year. See <http://itsecurity.dot.ca.gov/training>.
- D. Any subagreement in excess of \$25,000.00, entered into as a result of this Agreement, shall contain all of the provisions of this clause.

XXXI. REBATES, KICKBACKS OR OTHER UNLAWFUL CONSIDERATION

The Consultant warrants that this Agreement was not obtained or secured through rebates, kickbacks or other unlawful consideration either promised or paid to any state agency employee. For breach or violation of this warranty, Caltrans shall have the right, in its discretion, to terminate this Agreement without liability, to pay only for the value of the work actually performed, or to deduct from this Agreement price or otherwise recover the full amount of such rebate, kickback or other unlawful consideration.

XXXII. PROHIBITION OF EXPENDING STATE OR FEDERAL FUNDS FOR LOBBYING

- A. The Consultant certifies, to the best of his or her knowledge and belief, that:
 - 1. No State or Federal appropriated funds have been paid or will be paid, by or on behalf of the Consultant, to any person for influencing or attempting to influence an officer or employee of any State or Federal agency, a Member of the State Legislature or United States Congress, an officer or employee of the Legislature or Congress, or any employee of a Member of the Legislature or Congress in connection with the awarding of any State or Federal agreement, the making of any State or Federal grant, the making of any State or Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any State or Federal agreement, grant, loan, or cooperative agreement.

EXHIBIT D
SPECIAL TERMS AND CONDITIONS

2. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a member of Congress in connection with this Federal Agreement, grant, loan, or cooperative agreement, the Consultant shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

B. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by Section 1352, Title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000.00 and not more than \$100,000.00 for each such failure.

C. The Consultant also agrees by signing this document that he or she shall require that the language of this certification be included in all lower tier subagreements, which exceed \$100,000.00, and that all such subrecipients shall certify and disclose accordingly.

XXXIII. CONSULTANT CODE OF BUSINESS ETHICS AND CONDUCT (Dec. 2007)

A. Definition

United States, as used in this clause, means the 50 States, the District of Columbia, and outlying areas.

B. Code of Business Ethics and Conduct

1. Within 30 calendar days after contract award, the Consultant shall:
 - a. Have a written code of business ethics and conduct; and
 - b. Provide a copy of the code to each employee engaged in performance of the contract.

EXHIBIT D
SPECIAL TERMS AND CONDITIONS

2. The Consultant shall promote compliance with its code of business ethics and conduct.

C. Awareness Program and Internal Control System for Other Than Small Businesses

This paragraph C does not apply if the Consultant has represented itself as a small business concern pursuant to the award of this contract. The Consultant shall establish within 90 days after contract award:

1. An ongoing business ethics and business conduct awareness program; and
2. An internal control system.
 - a. The Consultant's internal control system shall:
 - (1) Facilitate timely discovery of improper conduct in connection with Government contracts; and
 - (2) Ensure corrective measures are promptly instituted and carried out.
 - b. For example, the Consultant's internal control system should provide for:
 - (1) Periodic reviews of company business practices, procedures, policies, and internal controls for compliance with the Consultant's code of business ethics and conduct and the special requirements of Government contracting.
 - (2) An internal reporting mechanism, such as a hotline, by which employees may report suspected instances of improper conduct, and instructions that encourage employees to make such reports;
 - (3) Internal and/or external audits, as appropriate; and
 - (4) Disciplinary action for improper conduct.

D. Subcontracts

The Consultant shall include the substance of this clause, including this paragraph D, in subcontracts, except when the subcontract:

1. Is for the acquisition of a commercial item; or

EXHIBIT D
SPECIAL TERMS AND CONDITIONS

2. Is performed entirely outside the United States.

EXHIBIT D
SPECIAL TERMS AND CONDITIONS

STATE OF CALIFORNIA • DEPARTMENT OF TRANSPORTATION

APPENDIX A — FEDERAL FUNDING REQUIREMENTS

I. COMPLIANCE WITH REGULATIONS

The Consultant shall comply with regulations relative to Title VI (nondiscrimination in federally-assisted programs of the Department of Transportation – Title 49 Code of Federal Regulations Part 21 – Effectuation of Title VI of the 1964 Civil Rights Act). Title VI provides that the recipients of federal assistance will implement and maintain a policy of nondiscrimination in which no person in the state of California shall, on the basis of race, color, national origin, religion, sex, age, disability, be excluded from participation in, denied the benefits of or subject to discrimination under any program or activity by the recipients of federal assistance or their assignees and successors in interest.

II. NON-DISCRIMINATION

The Consultant, with regard to the work performed by it during the Agreement shall act in accordance with Title VI. Specifically, the Consultant shall not discriminate on the basis of race, color, national origin, religion, sex, age, or disability in the selection and retention of Subconsultants, including procurement of materials and leases of equipment. The Consultant shall not participate either directly or indirectly in the discrimination prohibited by Section 21.5 of the U.S. DOT's Regulations, including employment practices when the Agreement covers a program whose goal is employment.

III. SOLICITATIONS FOR SUBAGREEMENTS, INCLUDING
PROCUREMENTS OF MATERIALS AND EQUIPMENT

In all solicitations, either by competitive bidding or negotiation made by the Consultant for work to be performed under a subcontract, including procurements of materials or leases of equipment, each potential Subconsultant or supplier shall be notified by the Consultant of the Consultant's obligations under this Agreement and the Regulations relative to nondiscrimination on the grounds of race, color, or national origin.

EXHIBIT D
SPECIAL TERMS AND CONDITIONS

IV. INFORMATION AND REPORTS

The Consultant shall provide all information and reports required by the Regulations, or directives issued pursuant thereto, and shall permit access to its books, records, accounts, other sources of information, and facilities as may be determined by the State Department of Transportation or any duly authorized representative of the Federal Government to be pertinent to ascertain compliance with such regulations or directives. Where any information required of a Consultant is in the exclusive possession of another who fails or refuses to furnish this information, the Consultant shall so certify to the State Department of Transportation, or any duly authorized Federal Agency as appropriate, and shall set forth what efforts it has made to obtain the information.

V. SANCTIONS FOR NONCOMPLIANCE

In the event of the Consultant's noncompliance with the nondiscrimination provisions of this Agreement, the State Department of Transportation shall impose such Agreement sanctions as it or any Federal funding agency may determine to be appropriate, including, but not limited to:

- A. Withholding of payments to the Consultant under the Agreement until the Consultant complies, and/or
- B. Cancellation, termination or suspension of the Agreement, in whole or in part.

VI. INCORPORATION OF PROVISIONS

The Consultant shall include the provisions of paragraphs (1) through (6) in every subagreement, including procurements of materials and leases of equipment, unless exempt by the Regulations or directives issued pursuant thereto. The Consultant will take such action with respect to any Subconsultant procurement as the State Department of Transportation or any Federal funding agency may direct as a means of enforcing such provisions including sanctions for noncompliance: Provided, however, that in the event a Consultant becomes involved in, or is threatened with, litigation with a Subconsultant or supplier as a result of such direction, the Consultant may request the State Department of Transportation to enter into such litigation to

EXHIBIT D
SPECIAL TERMS AND CONDITIONS

protect the interest of the State, and, in addition, the Consultant may request the United States to enter into such litigation to protect the interests of the United States.

FM 94 1984M

EXHIBIT E
ADDITIONAL PROVISIONS

- I. DBE INFORMATION AND CONTRACT GOAL REQUIREMENT FOR DBE PARTICIPATION
- A. This Agreement is subject to Title 49, Code of Federal Regulations, Part 26 (49 CFR 26), entitled “Participation by Disadvantaged Business Enterprises (DBEs) in Department of Transportation Financial Assistance Programs,” in the award and administration of federally assisted Agreements. The regulations in their entirety are incorporated by reference and made part of this Agreement as if attached hereto.
 - B. A DBE is a firm that has been certified as a DBE as specified in 49 CFR 26. Only the participation of certified DBEs will count toward any contract goal.
 - C. The contract goal for DBE participation for this Agreement is thirteen percent (13%). Participation by DBE prime and Subconsultants shall be in accordance with the information contained in the Disadvantaged Business Enterprise (DBE) Information form (ADM 0227F A&E) attached hereto and incorporated as part of this Agreement.
 - D. Non-compliance by Consultant or Subconsultant(s) with the requirements of the regulations is a material breach of this Agreement and may result in termination of the Agreement or other such appropriate remedy for a breach of this Agreement, as Caltrans deems appropriate.
 - E. Consultant or Subconsultant shall not discriminate on the basis of race color, national origin or sex in the performance of this Agreement. Each subcontract signed by and between Consultant and Subconsultant(s) in the performance of this Agreement must include this assurance.
- II. SUBCONSULTANTS
- A. Consultant shall perform the work contemplated with resources available within its own organization and no portion of the work shall be subcontracted without written authorization by the Caltrans Contract Manager.

EXHIBIT E
ADDITIONAL PROVISIONS

- B. Any subcontract in excess of \$25,000, entered into as a result of this Agreement shall contain all the provisions stipulated in this Agreement to be applicable to Subconsultants.
- C. Any substitution of Subconsultant(s) must be approved in writing by the Caltrans Contract Manager in advance of assigning work to a substitute Subconsultant(s).
- D. Nothing contained in this Agreement or otherwise shall create any contractual relation between the State and any Subconsultant(s), and no subcontract shall relieve Consultant of its responsibilities and obligations hereunder. Consultant agrees to be as fully responsible to the State for the acts and omissions of its Subconsultant(s) and of persons either directly or indirectly employed by any of them as it is for the acts and omissions of persons directly employed by Consultant. Consultant's obligation to pay its Subconsultant(s) is an independent obligation from the State's obligation to make payments to Consultant. As a result, the State shall have no obligation to pay or to enforce the payment of any moneys to any Subconsultant.

III. PERFORMANCE OF DBE CONSULTANTS AND OTHER DBE
SUBCONSULTANTS/SUPPLIERS

- A. A DBE performs a Commercially Useful Function (CUF) when it is responsible for execution of the work of the Agreement and is carrying out its responsibilities by actually performing, managing, and supervising the work involved. To perform a CUF, the DBE must also be responsible for materials and supplies used on the Agreement, for negotiating price, determining quality and quantity, ordering the material, and installing (where applicable) and paying for the material itself. To determine whether a DBE is performing a CUF, evaluate the amount of work subcontracted, industry practices, whether the amount the firm is to be paid under the Agreement is commensurate with the work it is actually performing, and other relevant factors.
- B. A DBE does not perform a CUF if its role is limited to that of an extra participant in a transaction, Agreement, or project through which funds are passed in order to obtain the appearance of DBE participation. In

EXHIBIT E
ADDITIONAL PROVISIONS

determining whether a DBE is such an extra participant, examine similar transactions, particularly those in which DBEs do not participate.

- C. If a DBE does not perform or exercise responsibility for at least thirty percent (30%) of the total cost of its Agreement with its own work force, or the DBE subcontracts a greater portion of the work of the Agreement than would be expected on the basis of normal industry practice for the type of work involved, presume that it is not performing a CUF.
- D. DBE Subconsultants shall perform the work and supply the materials that they have listed in their response to the Agreement award requirements specified on form ADM 0227F A&E, attached, unless Consultant has received prior written authorization to perform the work with other forces or to obtain the materials from other sources as set forth in the section below entitled "DBE Substitution."
- E. Consultant shall not be entitled to any payment for such work or material unless it is performed or supplied by the listed DBE or by other forces (including those of Consultant) pursuant to prior written authorization of the Caltrans Contract Manager.

IV. EXCLUSION OF RETENTION

- A. In conformance with 49 CFR 26.29 (b) (1), the retention of proceeds required by Public Contract Code (PCC), Section 10261 shall not apply.
- B. In conformance with Public Contract Code (PCC) Section 7200 (b), in subcontracts between Consultant and a Subconsultant and in subcontracts between a Subconsultant and any Subconsultant thereunder, retention proceeds shall not be withheld, and the exceptions provided in PCC Section 7200 (c), shall not apply. At the option of Consultant, Subconsultant(s) may be required to furnish payment and performance bonds issued by an admitted surety insurer.
- C. Any subcontract entered into as a result of this Agreement shall contain all of the provisions of this section.

V. PAYMENT TO DBE AND NON-DBE SUBCONSULTANT(S)

EXHIBIT E
ADDITIONAL PROVISIONS

- A. Consultant shall pay its DBE Subconsultant(s) and non-DBE Subconsultant(s) within ten (10) calendar days from receipt of each payment made to Consultant by the State.
- B. Prior to the fifteenth of each month, Consultant shall submit documentation to the Caltrans Contract Manager showing the amount paid to DBE trucking companies listed in Consultant's DBE information. This monthly documentation shall indicate the portion of the revenue paid to DBE trucking companies, which is claimed toward DBE participation. Consultant shall also obtain and submit documentation to the Caltrans Contract Manager showing the amount paid by DBE trucking companies to all firms, including owner-operators, for the leasing of trucks. The DBE who leases trucks from a non-DBE is entitled to credit only for the fee or commission it receives as a result of the lease arrangement. The records must confirm that amount of credit claimed toward DBE participation conforms to the requirements of section VIII below entitled, "DBE Substitutions."
- C. Consultant shall also submit to the Caltrans Contract Manager documentation showing the truck number, name of owner, California Highway Patrol CA number and if applicable, the DBE certification number of the truck owner for all trucks used during that month for which DBE participation will be claimed. This documentation shall be submitted on the Monthly DBE Trucking Verification form provided to Consultant by the Caltrans Contract Manager.
- D. Consultant shall return all moneys withheld in retention from a Subconsultant within 30 calendar days after receiving payment for work satisfactorily completed, even if other Agreement work is not completed and has not been accepted in conformance with the terms of the Agreement. This requirement shall not be construed to limit or impair any contractual, administrative, or judicial remedies otherwise available to Consultant or Subconsultant in the event of a dispute involving late payment or non-payment to Consultant or deficient subcontract performance or noncompliance by a Subconsultant.

VI. DBE RECORDS

EXHIBIT E
ADDITIONAL PROVISIONS

- A. Consultant shall maintain records of all subcontracts entered into with certified DBE Subconsultant(s) and records of materials purchased from certified DBE supplier(s). The records shall show the name and business address of each DBE Subconsultant or vendor and the total dollar amount actually paid each DBE Subconsultant or vendor, regardless of tier. The records shall show the date of payment and the total dollar figure paid to all firms. DBE (prime) Consultant shall also show the date of work performed by their own forces along with the corresponding dollar value of the work.
- B. The Consultant shall prepare and submit a Disadvantaged Business Enterprises Utilization Report (form ADM-3069), Attachment 5, to the Caltrans Contract Manager with every invoice (refer to Exhibit B, Budget Detail and Payment Provisions).

VII. DBE SUBSTITUTIONS

- A. Consultant may not substitute a listed DBE Subconsultant, supplier or, if applicable, a trucking company, without the prior written approval of the Caltrans Contract Manager. Failure to obtain approval of substitute Subconsultants before work is performed, supplies are delivered, or services are rendered may result in payment being denied by Caltrans.
- B. Consultant must make an adequate good faith effort (GFE) to find another certified DBE Subconsultant to substitute for the original DBE Subconsultant. GFE shall be directed at finding another DBE Subconsultant to perform at least the same amount of work under the Agreement as the DBE Subconsultant that was substituted or terminated to the extent needed to meet the contract goal for DBE participation established for the Agreement.
- C. The requirement that DBEs must be certified by the Statement of Qualification due date does not apply to DBE substitutions after award of the Agreement. DBEs substituted after award must be certified at the time of the substitution.
- D. Consultants shall submit requests for substitution to the Caltrans Contract Manager. Authorization to use other Subconsultants or suppliers may be requested for the following reasons:

EXHIBIT E
ADDITIONAL PROVISIONS

1. Listed DBE, after having had a reasonable opportunity to do so, fails or refuses to execute a written Agreement, when such written Agreement, based upon the terms and conditions for this Agreement or on the terms of such Subconsultant's or supplier's written proposal, is presented by Consultant.
 2. Listed DBE becomes bankrupt or insolvent.
 3. Listed DBE fails or refuses to perform subcontract or furnish listed materials.
 4. Consultant stipulated that a bond was a condition of executing subcontract and listed DBE Subconsultant failed or refuses to meet the bond requirements of Consultant.
 5. Work performed by listed Subconsultant is substantially unsatisfactory and is not in substantial conformance with scope of work to be performed, or Subconsultant is substantially delaying or disrupting the progress of work.
 6. When it would be in the best interest of the State.
- E. At a minimum, Consultant's substitution request to the Caltrans Contract Manager must include a:
1. Written explanation of the substitution reason and, if applicable, Consultant must also include the reason a non-DBE Subconsultant is proposed for use.
 2. Written description of the substitute business enterprise, including its business status, DBE certification number, and status as a sole proprietorship, partnership, corporation, or other entity.
 3. Written notice detailing a clearly defined portion of the work identified both as a task and as a percentage share/dollar amount of the overall Agreement that the substitute firm will perform.
- F. Prior to the approval of Consultant's substitution request, the Caltrans Contract Manager must give written notice to the Subconsultant being substituted by Consultant. A copy of the notice sent by the Caltrans Contract Manager must be sent to the Division of Procurement and Contracts (DPAC). The notice must do all of the following:

EXHIBIT E
ADDITIONAL PROVISIONS

1. Give the reason Consultant is requesting substitution of the listed Subconsultant;
2. Give the listed Subconsultant five working days within which to submit written objections to DPAC and copies to the Caltrans Contract Manager;
3. Notify the Subconsultant that if a written objection is not received or received past the due date, such failure will constitute consent to the substitution; and
4. Be served by certified or registered mail to the last known address of the listed Subconsultant.

The listed Subconsultant, who has been so notified, shall have five working days within which to submit written objections of the substitution to the Caltrans Contract Manager. Failure to submit a written objection shall constitute the listed Subconsultant's consent to the substitution.

- G. If written objections are filed by the listed Subconsultant, DPAC will render a written decision. DPAC shall give written notice of at least five (5) working days to the listed Subconsultant of a hearing by Caltrans on Consultant's request for substitution.

VIII. DBE CERTIFICATION AND DE-CERTIFICATION STATUS

- A. If a DBE Subconsultant is decertified during the life of the Agreement, the decertified Subconsultant shall notify Consultant in writing with the date of decertification. If a Subconsultant becomes a certified DBE during the life of the Agreement, the Subconsultant shall notify Consultant in writing with the date of certification.
- B. Consultant shall report any changes to the Caltrans Contract Manager within 30 days.

IX. DBE ELIGIBILITY

- A. The dollar value of work performed by a DBE is credited/counted toward the goal only after the DBE has been paid.

EXHIBIT E
ADDITIONAL PROVISIONS

B. Credit for DBE Prime Consultants

Consultant, if a certified DBE, is eligible to claim all of the work toward the goal except that portion of the work to be performed by non-DBE Subconsultants.

C. Credit for Material or Supplies

Credit for materials or supplies purchased from DBEs will be as follows:

1. If the materials or supplies are obtained from a DBE manufacturer, one hundred percent (100%) of the cost of the materials or supplies will count toward the DBE goal. A DBE manufacturer is a firm that operates or maintains a factory or establishment that produces, on the premises, the materials, supplies, articles, or equipment required under the Agreement and of the general character described by the specifications.
2. If the materials or supplies are purchased from a DBE regular dealer, sixty percent (60%) of the cost of the materials or supplies will count toward the DBE goal. A DBE regular dealer is a firm that owns, operates or maintains a store, warehouse, or other establishment in which the materials, supplies, articles or equipment of the general character described by the specifications and required under the Agreement are bought, kept in stock, and regularly sold or leased to the public in the usual course of business. To be a DBE regular dealer, the firm must be an established, regular business that engages, as its principal business and under its own name, in the purchase and sale or lease of the products in question. A person may be a DBE regular dealer in such bulk items as petroleum products, steel, cement, gravel, stone or asphalt without owning, operating or maintaining a place of business provided in this paragraph.
3. If the person both owns and operates distribution equipment for the products, any supplementing of regular dealers' own distribution equipment shall be by a long-term lease agreement and not an ad hoc or Agreement by Agreement basis. Packagers, brokers, manufacturers'

EXHIBIT E
ADDITIONAL PROVISIONS

representatives, or other persons who arrange or expedite transactions are not DBE regular dealers within the meaning of this paragraph.

4. Credit for materials or supplies purchased from a DBE that is neither a manufacturer nor a regular dealer will be limited to the entire amount of fees or commissions charged for assistance in the procurement of the materials and supplies, or fees or transportation charges for the delivery of materials or supplies required on the job site, provided the fees are reasonable and not excessive as compared with fees charged for similar services.

D. Credit for DBE trucking companies will be as follows:

1. The DBE must manage and supervise the entire trucking operation for which it is responsible. There cannot be a contrived arrangement for the purpose of meeting the DBE goal.
2. The DBE must itself own and operate at least one fully licensed, insured and operational truck used on the Agreement.
3. The DBE receives credit for the total value of the transportation services it provides on the Agreement using trucks it owns, insures, and operates using drivers it employs.
4. The DBE may lease trucks from another DBE firm, including an owner-operator who is certified as a DBE. The DBE who leases trucks from another DBE receives credit for the total value of the transportation services the lessee DBE provides on the Agreement.
5. The DBE may also lease trucks from a non-DBE firm, including an owner-operator. The DBE who leases trucks from a non-DBE is entitled to credit only for the fee or commission it receives as a result of the lease arrangement. The DBE does not receive credit for the total value of the transportation services provided by the lessee, since these services are not provided by the DBE.
6. For the purposes of this paragraph, a lease must indicate that the DBE has exclusive use and control over the truck. This does not preclude

EXHIBIT E
ADDITIONAL PROVISIONS

the leased truck from working for others during the term of the lease with the consent of the DBE, as long as the lease gives the DBE absolute priority for use of the leased truck. Leased trucks must display the name and identification number of the DBE.

X. TERMINATION OF DBE

A. In conformance with 49 CFR 26.53 (f) (1) and 26.53 (f) (2):

1. Consultant shall not terminate for convenience a listed DBE Subconsultant and then perform that work with its own forces (personnel), or those of an affiliate, unless Consultant has received prior written authorization from the Caltrans Contract Manager to perform the work with other forces (other than Consultant's own personnel) or to obtain materials from other sources; and
2. If a DBE Subconsultant is terminated or fails to complete its work for any reason, Consultant will be required to make GFE to replace the original DBE Subconsultant with another DBE Subconsultant to the extent needed to meet the Agreement goal.

B. Noncompliance by Consultant with the requirements of this section is considered a material breach of this Agreement and may result in termination of the Agreement or other such appropriate remedies for a breach of this Agreement as Caltrans deems appropriate.

EXHIBIT F
PREVAILING WAGE REQUIREMENTS

I. STATE PREVAILING WAGE RATES

- A. The Consultant shall comply with all of the applicable provisions of the California Labor Code requiring the payment of prevailing wages. The General Prevailing Wage Rate Determinations applicable to work under this Agreement are available and on file with the Department of Transportation's Regional/District Labor Compliance Officer. (http://www.dot.ca.gov/hq/construc/LaborCompliance/LCO_District_Map.pdf). These wage rates are made a specific part of this Agreement by reference pursuant to Labor Code Section 1773.2 and will be applicable to work performed at a construction project site. Prevailing wages will be applicable to all inspection work performed at Caltrans construction sites, at Caltrans facilities and at off-site locations that are set up by the construction contractor or one of its subcontractors solely and specifically to serve Caltrans projects. Prevailing wage requirements do not apply to inspection work performed at the facilities of vendors and commercial materials suppliers that provide goods and services to the general public.
- B. General Prevailing Wage Rate Determinations applicable to this project may also be obtained from the Department of Industrial Relations Internet site at <http://www.dir.ca.gov>.
- C. Payroll Records
1. Each Consultant and Subconsultant shall keep accurate certified payroll records and supporting documents as mandated by Section 1776 of the California Labor Code and as defined in Section 16000 of Title 8 of the California Code of Regulations, showing the name, address, social security number, work classification, straight time and overtime hours worked each day and week, and the actual per diem wages paid to each journeyman, apprentice, worker, or other employee employed by the Consultant or Subconsultant in connection with the public work. Each payroll record shall contain or be verified by a written declaration that it is made under penalty or perjury, stating both of the following:
 - a. The information contained in the payroll record is true and correct.

EXHIBIT F
PREVAILING WAGE REQUIREMENTS

- b. The employer has complied with the requirements of Sections 1771, 1811, and 1815 for any work performed by his or her employees on the public works project.
2. The payroll records enumerated under paragraph (1) above shall be certified as correct by the Consultant under penalty of perjury. The payroll records and all supporting documents shall be made available for inspection and copying by Caltrans representatives at all reasonable hours at the principal office of the Consultant. The Consultant shall provide copies of certified payrolls or permit inspection of its records as follows:
 - a. A certified copy of an employee's payroll record shall be made available for inspection or furnished to the employee or the employee's authorized representative on request.
 - b. A certified copy of all payroll records enumerated in paragraph (1) above, shall be made available for inspection or furnished upon request to a representative of Caltrans, the Division of Labor Standards Enforcement and the Division of Apprenticeship Standards of the Department of Industrial Relations. Certified payrolls submitted to Caltrans, the Division of Labor Standards Enforcement and the Division of Apprenticeship Standards shall not be altered or obliterated by the Consultant.
 - c. The public shall not be given access to certified payroll records by the Consultant. The Consultant is required to forward any requests for certified payrolls to the Caltrans Contract Manager by both facsimile and regular mail on the business day following receipt of the request.
 3. Each Consultant shall submit a certified copy of the records enumerated in paragraph (1) above, to the entity that requested the records within ten (10) days after receipt of a written request.
 4. Any copy of records made available for inspection as copies and furnished upon request to the public or any public agency by Caltrans shall be marked or obliterated in such a manner as to prevent disclosure of each individual's name, address and social security

EXHIBIT F
PREVAILING WAGE REQUIREMENTS

number. The name and address of the Consultant awarded the Agreement or performing the Agreement shall not be marked or obliterated.

5. The Consultant shall inform Caltrans of the location of the records enumerated under paragraph (1) above, including the street address, city and county, and shall, within five working days, provide a notice of a change of location and address.
 6. The Consultant or Subconsultant shall have ten (10) days in which to comply subsequent to receipt of written notice requesting the records enumerated in paragraph (1) above. In the event the Consultant or Subconsultant fails to comply within the ten-day period, he or she shall, as a penalty to Caltrans, forfeit twenty-five dollars (\$25) for each calendar day, or portion thereof, for each worker, until strict compliance is effectuated. Such penalties shall be withheld by Caltrans from payments then due. A contractor is not subject to a penalty assessment pursuant to this section due to the failure of a subcontractor to comply with this section.
- D. When prevailing wage rates apply, the Consultant must submit with each invoice a certified copy of the payroll for compliance verification. Invoice payment will not be made until the payroll has been verified and the invoice approved by the Caltrans Contract Manager.
- E. Penalty
1. The Consultant and any Subconsultant under the Consultant shall comply with Labor Code Sections 1774 and 1775. Pursuant to Section 1775, the Consultant and any Subconsultant shall forfeit to the State or political subdivision on whose behalf the Agreement is made or awarded a penalty of not more than fifty dollars (\$50.00) for each calendar day, or portion thereof, for each worker paid less than the prevailing rates as determined by the Director of Industrial Relations for the work or craft in which the worker is employed for any public work done under the Agreement by the Consultant or by any Subconsultant under the Consultant in violation of the requirements of the Labor Code and in particular, Labor Code Sections 1770 to 1780, inclusive.

EXHIBIT F
PREVAILING WAGE REQUIREMENTS

2. The amount of this forfeiture shall be determined by the Labor Commissioner and shall be based on consideration of mistake, inadvertence, or neglect of the Consultant or Subconsultant in failing to pay the correct rate of prevailing wages, or the previous record of the Consultant or Subconsultant in meeting their respective prevailing wage obligations, or the willful failure by the Consultant or Subconsultant to pay the correct rates of prevailing wages. A mistake, inadvertence, or neglect in failing to pay the correct rates of prevailing wages is not excusable if the Consultant or Subconsultant had knowledge of the obligations under the Labor Code. The Consultant is responsible for paying the appropriate rate, including any escalations that take place during the term of the Agreement.
3. In addition to the penalty and pursuant to Labor Code Section 1775, the difference between the prevailing wage rates and the amount paid to each worker for each calendar day or portion thereof for which each worker was paid less than the prevailing wage rate shall be paid to each worker by the Consultant or Subconsultant.
4. If a worker employed by a Subconsultant on a public works project is not paid the general prevailing per diem wages by the Subconsultant, the prime Consultant of the project is not liable for the penalties described above unless the prime Consultant had knowledge of that failure of the Subconsultant to pay the specified prevailing rate of wages to those workers or unless the prime Consultant fails to comply with all of the following requirements:
 - a. The Agreement executed between the Consultant and the Subconsultant for the performance of work on public works projects shall include a copy of the requirements in Sections 1771, 1775, 1776, 1777.5, 1813, and 1815 of the Labor Code.
 - b. The Consultant shall monitor the payment of the specified general prevailing rate of per diem wages by the Subconsultant to the employees by periodic review of the certified payroll records of the Subconsultant.
 - c. Upon becoming aware of the Subconsultant's failure to pay the specified prevailing rate of wages to the Subconsultant's workers,

EXHIBIT F
PREVAILING WAGE REQUIREMENTS

the Consultant shall diligently take corrective action to halt or rectify the failure, including but not limited to, retaining sufficient funds due the Subconsultant for work performed on the public works project.

- d. Prior to making final payment to the Subconsultant for work performed on the public works project, the Consultant shall obtain an affidavit signed under penalty of perjury from the Subconsultant that the Subconsultant had paid the specified general prevailing rate of per diem wages to the Subconsultant's employees on the public works project and any amounts due pursuant to Section 1813 of the Labor Code.
5. Pursuant to Section 1775 of the Labor Code, Caltrans shall notify the Consultant on a public works project within 15 days of receipt of a complaint that a Subconsultant has failed to pay workers the general prevailing rate of per diem wages.
6. If Caltrans determines that employees of a Subconsultant were not paid the general prevailing rate of per diem wages and if Caltrans did not retain sufficient money under the contract to pay those employees the balance of wages owed under the general prevailing rate of per diem wages, the Consultant shall withhold an amount of moneys due the Subcontractor sufficient to pay those employees the general prevailing rate of per diem wages if requested by Caltrans.

F. Hours of Labor

Eight (8) hours labor constitutes a legal day's work. The Consultant shall forfeit, as a penalty to the State of California, twenty-five dollars (\$25.00) for each worker employed in the execution of the Agreement by the Consultant or any Subconsultant under the Consultant for each calendar day during which such worker is required or permitted to work more than eight (8) hours in any one calendar day and 40 hours in any one calendar week in violation of the provisions of the Labor Code, and in particular Sections 1810 to 1815 thereof, inclusive, except that work performed by employees in excess of eight (8) hours per day, and forty (40) hours during any one week, shall be permitted upon compensation for all hours worked in excess of eight (8) hours per day and forty (40) hours in any week, at

EXHIBIT F
PREVAILING WAGE REQUIREMENTS

not less than one and one-half times the basic rate of pay, as provided in Section 1815.

G. Employment of Apprentices

1. Where either the prime contract or the subcontract exceeds \$30,000, the Consultant and any subcontractors under him or her shall comply with all applicable requirements of Labor Code sections 1777.5, 1777.6 and 1777.7 in the employment of apprentices.
2. Contractors and subcontractors are required to comply with all Labor Code requirements regarding the employment of apprentices, including mandatory ratios of journey level to apprentice workers. Prior to commencement of work, Contractors and subcontractors are advised to contact the State Division of Apprenticeship Standards, P. O. Box 420603, San Francisco, California 94142-0603, or one of its branch offices, for additional information regarding the employment of apprentices and for the specific journey-to-apprentice ratios for the contract work. The prime Consultant is responsible for all subcontractors' compliance with these requirements. Penalties are specified in Labor Code Section 1777.7.

H. Any subagreement entered into as a result of this Agreement shall contain all of the provisions of this clause.

II. FEDERAL PREVAILING WAGES

A. The work herein proposed will be financed in whole or in part with Federal funds; therefore, all of the statutes, rules, and regulations promulgated by the Federal government are applicable to work financed in whole or in part with Federal funds and will be applicable to work performed at a construction project site.

B. Federal Requirements

1. Federal Requirements for Federal-Aid Construction Projects provisions shall apply to this Agreement and are made a part of the Agreement.

EXHIBIT F
PREVAILING WAGE REQUIREMENTS

2. The current Federal Prevailing Wage Determinations issued under the Davis-Bacon and related Acts shall apply to this Agreement and are made a part of the Agreement.
- C. When prevailing wage rates apply, the Consultant must submit, with each invoice, a certified copy of the payroll for compliance verification. Invoice payment will not be made until the payroll has been verified and the invoice approved by the Caltrans Contract Manager.
- D. If there is any conflict between the State prevailing wages and the Federal prevailing wages, the higher rate shall be paid.
- E. Any subagreement entered into as result of this Agreement shall contain all of the provisions of this clause.

SCOPE OF WORK/DELIVERABLES
Hazardous Waste Services

A. Project Description

1. Purpose of Work

The Consultant shall perform professional and technical Hazardous Waste on an "as-needed" basis to support the development and construction of proposed Caltrans transportation facilities. Caltrans Contract Manager shall assign specific studies to the Consultant through the issuance of Task Orders.

The Task Orders for Hazardous Waste Services include Initial Site Assessments (ISA), Surveys, and Site Investigations (SI).

2. Location of Work

In general, the work shall be performed in support of projects to improve the State's transportation system, facilities, and adjacent properties in Orange County. The specific location of the work to be performed will be identified in each Task Order.

B. Description of Required Services

1. Initial Site Assessments - The Consultant shall perform Initial Site Assessments to identify hazardous waste problems and potentially contaminated areas within and next to existing and proposed right of way, for Caltrans projects. This work shall include, but is not limited to, search and review of published lists of hazardous waste sites, review of available Environmental Information listed in Local, State, and Federal agency databases, field review and survey, historic original document research and review, and submitting findings in a report. See item I of this Scope of Work for more information.

2. Site Investigations – The Consultant shall perform all services required to perform Site Investigations. These services may include, but are not limited to, the following:

- Preparing Work Plans
- Preparing Health and Safety Plans
- Providing Traffic Control
- Performing Soil Gas Surveys and Surface Geophysics
- Performing Trenching
- Performing Drilling of Soil Borings and Monitoring Wells
- Performing Land Surveys (third order surveys and GPS)

- Performing Well Installation, Development, and Destruction
- Performing Aerially Deposited Lead Investigation Data Evaluation
- Performing Soil, Ground Water, and Surface Water Sampling
- Performing Statistical Data Evaluation
- Providing Laboratory Sample Handling and Testing (Stationary and Mobile Laboratories)
- Performing Quality Assurance/ Quality Control for Office, Field and Laboratory Services.
- Decontamination and Disposal of Investigation Derived Waste
- Obtaining Permits and Rights of Entry

See item J, Site Investigations (WBS 235.10) of this Attachment 1 for more information.

3. Survey, Inspection, and Testing - The Consultant shall perform surveying, inspection and testing of buildings, containers, and miscellaneous structures to determine whether hazardous waste or materials are present for selected sites. This work shall include, but is not limited to, surveying, inspecting, and testing for asbestos materials, lead based paint, Polychlorinated Biphenyls (PCB) materials, fuels, and stored hazardous materials. The Consultant shall present all findings in a report. See item K, Hazardous Waste Site Survey (WBS 235.10.10), of this Attachment 1 for more information.
4. Report Requirements - The Consultant shall perform all work required to prepare any of the following reports:
 - Initial Site Assessment (ISA) Reports
 - Historic Research Report
 - Site Investigation Reports
 - Aerially Deposited Lead in Soil Investigation Report
 - Monitoring Well Report
 - Soil Gas Survey Report
 - Geophysical Reports
 - Trenching Reports
 - Risk Based Corrective Action (RBCA) Reports
 - Lab Test Reports
 - Remedial Action Options Reports
 - Survey Reports
 - Quality Assurance/Quality Control Reports
 - Preliminary Endangerment Assessment (PEA) Reports

See Item L, Report Requirements, of this Attachment 1 for more information.

5. Health & Safety – The Consultant shall complete all work in accordance with a site specific Health and Safety Plan. In addition, the Consultant shall provide a Site Safety Officer. All elements of the site investigations must meet standards set by local, State, and Federal regulatory agencies. See items E4, Safety, and J4, Health and Safety Plans, of this Attachment 1 for more information.
6. This Contract does not include Hazardous Waste Remediation.

C. WBS Codes

Task Orders are based on the Caltrans Work Breakdown Structure (WBS). The standard State WBS is on the Internet at

<http://www.dot.ca.gov/hq/projmgmt/guidance.htm>

Examples of the WBS Codes to be used for this contract include, but are not limited to, the followings:

165.10.35	Perform Water Quality Studies
165.10.80	Hazardous Waste Initial Site Assessment/Investigation
165.10.85	Hazardous Waste Preliminary Site Investigation
185.25.25	Determine Water Well Abandonment Needs
205.05	Determine Required Permits
205.10	Obtain Permits
235.10	Detailed Site Investigation for Hazardous Waste
235.10.05	Right or Permit for Hazardous Waste Site Investigations
235.10.10	Hazardous Waste Sites Survey
235.10.15	Detailed Hazardous Waste Site Investigation
235.15	Hazardous Waste Management Plan
235.20	Hazardous Waste PS & E
235.30	Hazardous Materials Disclosure Document (HMDD)
235.35	Long Term Mitigation Monitoring

D. Personnel

The Consultant's personnel shall be capable of performing the Hazardous Waste work described above in "Required Services" with minimal instruction.

1. Consultant Contract Manager - The Consultant Contract Manager shall coordinate all Hazardous Waste matters with the Caltrans Contract Manager. In addition to other specified responsibilities, the Consultant Contract Manager shall be a licensed Professional Engineer or a Registered Geologist or a Certified Engineering Geologist in the State of California. The Consultant Contract Manager is responsible for all matters related to the

Consultant's personnel and Hazardous Waste operations, including, but not limited to the following:

- a. Supervising, reviewing, monitoring, training, and directing the Consultant's personnel
 - b. Assigning personnel to complete the required Task Order work as specified
 - c. Administering personnel actions
 - d. Maintaining project files
 - e. Developing, organizing, facilitating, and attending scheduled coordination meetings and preparation and distribution of meeting minutes
 - f. Implementing and maintaining quality control procedures to manage conflicts, ensure product accuracy and identify critical reviews and milestones
 - g. Overseeing that all safety measures are in place
2. Consultant Task Order Managers/Staff – The Consultant's Task Order Managers and technical staff shall be capable of assisting the Consultant's Consultant Contract Manager in all aspects of the required Hazardous Waste work. Depending on the substance of the Task Order, the Consultant's Task Order Managers shall fulfill one of the following licensing requirements:
- Certified Engineering Geologist (C.E.G.) in the State of California
 - Registered Geologist (R.G.) in the State of California
 - Registered Civil Engineer (RCE or PE) in the State of California
3. The Consultant's team of technical staff and subconsultants shall fulfill the following licensing and certification requirements:
- Class A contractor's license with a Hazardous Waste Certificate.
 - Registered Surveyor in the State of California or a California Registered Civil Engineer licensed to perform surveying
 - Certified Industrial Hygienist (CIH) by the American Board of Industrial Hygiene
 - Registered Geophysicist in the State of California.
 - Certified Hydrogeologist in the State of California
 - Historian with a Masters Degree in History with experience in primary document research
 - Certified Asbestos Consultant (CAC), per Section 7058.5 of the Business and Professions Code, with Asbestos Hazard Emergency Response Act (AHERA) training
 - C57 Contractor's Drilling License.
 - C31 Contractor's Traffic Control License

- Department of Health Services Certified Lead Assessor/Inspector per Title 17 of the California Code of Regulations (CCR's)
 - Stationary Laboratory Certification – Certification by California Department of Health Services Environmental Laboratory Accreditation Program
 - Mobile Laboratory Certification – Certification by California Department of Health Services Environmental Laboratory Accreditation Program
 - Hazardous Waste Transporter Registered by DTSC per Chapter 6.5, Division 20 of the Health and Safety Code, and Division 4.5, Title 22 of the CCR's with Transport Vehicles Certified per Title 22 Section 66263.14 and documentation of CHP Hazardous waste inspection Biennial Inspection of Terminals (BIT) program
4. All drilling and sampling must be under the responsible charge of a Certified Engineering Geologist (C.E.G.), Registered Civil Engineer (RCE or PE) or Registered Geologist (R.G.) who shall act as the Consultant's Task Order Manager. If requested in the Task Order, the R.G., RCE or C.E.G. shall provide field supervision during the investigation.
 5. The Consultant's personnel that conduct asbestos surveys shall have, as a minimum, current Asbestos Hazardous Emergency Response Act (AHERA) training for building inspections and sampling. This staff shall comply with Title 8, California Code of Regulations certification requirements for asbestos consultants and site surveillance technicians.
 6. All Site Assessment, Site Investigation and Site Survey work shall be completed in accordance with a site-specific health and safety plan developed by the Consultant and signed by a Certified Industrial Hygienist (CIH) for conditions expected during the work.
 7. A Site Safety officer must be present for each site and must be familiar with hazardous waste laws and regulations in California and Cal/OSHA requirements.
 8. All field and laboratory staff shall have Hazard Materials training appropriate for the type of services requested.
 9. The Consultant staff shall be experienced in the use of Caltrans CADD Based Software MicroStation.
 10. The Consultant shall, throughout the life of the contract, retain within Consultant firm or through subconsultant's a staff of people qualified to perform each of the tasks.
 11. The Consultant's personnel shall be capable of performing the hazardous

waste work described above in "Required Services" with minimal instruction. Caltrans prior written approval is required for any substitutions or alterations to Consultant's originally proposed staff.

E. Additional Requirements

1. Equipment

- a. Field Equipment – The Consultant (or the Consultant's subcontractors) shall have the ability to provide all materials and equipment to complete all required field work including, but not limited to, the following:

Drilling - Consultant (or the Consultant's subcontractors) shall have the capability to drill through, core, and sample soft or poorly consolidated material, engineered fill, asphalt, PCC and waste, and also have the capability to properly drill, construct and develop wells.

Drill rigs shall have the ability to drill and sample boreholes which are at least 8 inches in diameter to a depth of at least 100 feet and 12 inches in diameter to a depth of at least 50 feet. Drill rigs must also be capable of hydraulically pushing thin-walled soil samplers or driving thick-walled soil samplers or coring sediments. In addition, drill rigs must be capable of obtaining continuous samples of soil through hollow-stem augers by either wireline method, using thin-walled sample tubes or by a 5-foot sample tube used within the lead auger.

(See Item J9, Drilling Equipment, of this Attachment 1 for more information).

- b. Office Equipment and Supplies (Consultant's Office) – The Consultant shall have adequate office equipment and supplies to complete the required hazardous waste work. Such equipment and supplies shall include, but are not limited to the followings:
- i. Computers, printers, plotters, and calculators
 - ii. Data processing systems, including software for:
 - Processing digital terrain models in the Caltrans-approved roadway design format (CaiCE).
 - Coordinate geometry calculations. This software shall use/create coordinate geometry databases, naming and coding conventions in the Caltrans-approved format (CaiCE)

- iii. Computer Aided Drafting equipment and software capable of producing drawings and documents in the Caltrans- approved format (MicroStation)
- iv. Written documents shall be in Caltrans-approved format (Microsoft Word)

2. Availability and Work Hours

- a. Unless specified in each Task Order, the Consultant shall begin the required work within three (3) working days after receiving a fully executed Task Order. Once the work begins, the work shall be executed diligently until all required work has been completed satisfactorily.
- b. The Consultant Contract Manager shall be accessible to the Caltrans Contract Manager at all times during normal working hours.
- c. Unless otherwise specified in the Task Order or directed by the Caltrans Contract Manager, the normal workday will consist of Monday through Friday, from 8 a.m. to 5 p.m. and the normal workweek shall consist of 40 hours.
- d. Overtime may be required. However, overtime shall be worked only when directed in writing by the Caltrans Contract Manager or specifically required by the Task Order.

3. Standards

a. General Standards

Plans, specifications, and reports shall be prepared in conformance with current editions of Caltrans, State and Federal standards. These documents include, but are not limited to, the following:

- i. "Minimum Standards for Management of Hazardous and Extremely Hazardous Wastes," Title 22, California Code of Regulations, Division 4 and 4.5, including all revisions through Register 85, No. 38 -- 9-21-85 or latest revision.
<https://archive.org/details/gov.ca.ccr.22.3>
- ii. Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods," U. S. Environmental Protection Agency, SW-846, U. S. Environmental Protection Agency, 1987 (or latest edition)
<http://www.epa.gov/osw/hazard/testmethods/sw846/>

- iii. Title 8 California Code of Regulations, Section 5192 and 1532.1
<http://www.dir.ca.gov/title8/5192.html>
http://www.dir.ca.gov/title8/1532_1.html
- iv. "Standard Methods for Chemical Analysis of Water and Wastes," EPA-600/4-79-020, 18th edition, 1992 (or latest edition).
<http://www.epa.gov/osa/fem/methcollectns.htm>
- v. "Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA," OSWER Directive 9335.3-01, Draft, March 1988 (or latest edition)
<http://www.epa.gov/superfund/cleanup/rdra.htm>
- vi. "Leaking Underground Fuel Tank Field Manual: Guidelines for Site Assessment, Cleanup, and Underground Storage Tank Closure," State Water Resources Control Board, October 1989
http://www.waterboards.ca.gov/ust/luft_manual/manual_oct1989.pdf
- vii. "Preliminary Endangerment Assessment Guidance Manual)," State of California, Environmental Protection Agency, Department of Toxic Substances Control, January 1994
- viii. <https://dtsc.ca.gov/SiteCleanup/Brownfields/upload/Preliminary-Endangerment-Assessment-Guidance-Manual.pdf>
- ix. "Risk Assessment Guidance for Superfund, Human Health Risk Assessment (RAGS)" Volumes A, B, C, United States Environmental Protection Agency
<http://www.epa.gov/oswer/riskassessment/ragsa>
<http://www.epa.gov/oswer/riskassessment/ragsb>
<http://www.epa.gov/oswer/riskassessment/ragsc>
- x. "Standard Guide for Risk-Based Corrective Action applied at Petroleum Release Sites," ASTM E 1739-95
- xi. Caltrans Environmental Handbook.
<http://www.dot.ca.gov/ser/envhand.htm>
- xii. Caltrans Biological Guide
<http://dot.ca.gov/ser/vol3/vol3.htm>

- xiii. Federal Highway Administration (FHWA) Guidance for Consultants: Procedures for the Protection of Historic Properties - Section 106 Process, and Guide for Consultants: Procedures for Completing the Natural Environment Study and Related Biological Reports
<http://www.environment.fhwa.dot.gov/guidebook/chapters/v2ch10.asp>
 - xiv. Caltrans Traffic Manual
<http://www.dot.ca.gov/hq/traffops/engineering/control-devices/trafficmanual-current.htm>
 - xv. Caltrans Manual on Uniform Traffic Control Devices.
<http://www.dot.ca.gov/hq/traffops/engineering/mutcd/index.htm>
 - xvi. Caltrans Standard Plans, Dual Units, 2002
http://www.dot.ca.gov/hq/esc/oe/project_plans/HTM/stdPlans-dual-new02.htm
 - xvii. Caltrans Guidance Manual: Storm Water Monitoring Protocols
<http://www.dot.ca.gov/hq/env/stormwater/ongoing/monitoring/>
- b. Additional Standards
- 1. The Consultant is responsible for the accuracy and completeness of the plans, related designs, specifications, estimates and other deliverables as specified in the Task Order. The deliverables will be reviewed by Caltrans for conformity with Project standards. Reviews by Caltrans do NOT include detailed review or checking of design or major components and related details or the accuracy with which such designs are depicted on the plans. The responsibility for accuracy and completeness of such items remains solely that of the Consultant.
 - 2. The Consultant or its subconsultants shall not incorporate in the design any materials or equipment of a single or sole source origin without written approval of Caltrans.
 - 3. Additional standards for specific work may be included in the Task Order. Such standards supplement the standards specified herein. If such additional standards conflict with the standards specified herein, the standards specified herein shall govern.

4. The title sheet for specifications and reports, and each sheet of plans, shall bear the professional seal, certificate number, registration classification, and expiration date of the certificate. The signature of the professional engineer responsible for their preparation shall be included on final submittals.
5. The Consultant shall have a quality control plan in effect during the entire time the work is being performed under the contract. The Consultant shall provide an outline of the firm's quality control program and shall identify critical quality control reviews within each Task Order (See item J17, Quality Assurance/Quality Control (QA/QC), of this Attachment 1 for additional information).
6. The plans, designs, specifications, estimates, calculations, reports, studies, graphics and other documents furnished under this contract shall be of a quality acceptable to Caltrans Contract Manager. The criteria for acceptance shall be a product of neat appearance, well organized, technically and grammatically correct, checked for error and conformity to Caltrans standards and having the maker and checker identified.

4. Safety

a. General Safety

In addition to the safety requirements specified elsewhere in this contract, the following also shall apply:

1. The Consultant's personnel shall comply with all safety provisions of Caltrans Safety and Traffic Manuals Which may be accessed at:
<http://www.dot.ca.gov/hq/traffops/engineering/control-devices/pubs.htm>
2. The Consultant shall provide, at no cost to Caltrans, all safety equipment. The Consultant's personnel shall wear white hard hats, eye protection, and approved safety vests at all times while working in the field.
3. Fieldwork shall not be performed when conditions prevent a safe, efficient operation and shall only be performed with written authorization by Caltrans.
4. The Consultant shall provide, at no cost to Caltrans, appropriate safety training for all Consultant's field personnel, including training required for working on and near highways.

b. Health and Safety

For the Initial Site Assessment, Site Investigations, Surveys, Inspections and Testing, and any fieldwork, the Consultant shall apply the followings:

1. Consultant shall be solely responsible for the health and safety protection of its employees, subconsultant and sub-consultant's employees in performance of this contract.
2. The Consultant shall conform to all applicable occupational health and safety standards, rules and regulations established by the State of California and the U.S. Government as applicable.
3. The site health and safety plan shall be developed as described in item J4, Health and Safety Plans, of this Attachment 1 for more information. Noncompliance by Consultant with the site health and safety plan is grounds for suspension or termination of the agreement per exhibit D, section III
4. Conditions expected during ISA fieldwork should not pose health and safety problems. However, if conditions in the subject area create health and safety considerations, these considerations will be addressed at the Task Order meeting prior to start of work. Caltrans Contract Manager shall be notified at least 24 hours before the commencement of any investigative or fieldwork.
5. All survey work may require the presence of the Certified Industrial Hygienist (CIH) who developed the Health and Safety Plan.

c. Site Safety Officer

1. The Consultant shall designate a site safety officer for each site that is under active investigation. The site safety officer shall present the health and safety plan before the start of work. A site safety officer or designated representative shall be present at all times at each site under active investigation. The site safety officer must be familiar with hazardous waste laws and regulations in California and with Cal/OSHA requirements.

2. The site safety officer shall direct the implementation and operation of the health and safety plan. The site safety officer shall enforce compliance with the health and safety plan by all persons while they are on site.
 3. The site safety officer or designated representative shall be available to accompany and provide safe access to the work-site for Caltrans Contract Manager and representatives of the applicable local and/or state regulatory agencies during normal work hours. Designated observation areas outside the work zone shall be established for these site visits.
 4. The Consultant shall furnish adequate safety equipment for such visits. Equipment on hand shall include hard hats, safety vests, eye protection, gloves, and boot covers. The Consultant shall be prepared for a maximum of six (6) visitors at any one time. All work performed and all materials furnished shall be subject to inspection by Caltrans Contract Manager.
5. Coordination
- a. Underground Services Alert (USA) - Before any work that involves disturbance of the ground beyond surface sampling begins, the Consultant shall obtain an inquiry identification number from USA. The documentation must be given to Caltrans Contract Manager. In Southern California, the Consultant should call 1-800-227-2600. USA should respond within 48 hours.
 - b. Owner/Regulatory Contacts - The Consultant shall only contact property owners as directed by Caltrans Contract Manager. The Consultant shall coordinate with other agencies, such as federal Environmental Protection Agency (EPA), California Environmental Protection Agency (Cal-EPA), Department of Toxic Substances Control (DTSC), Regional Water Quality Control Board (RWQCB), local environmental health agency, and others as necessary to complete the field survey.

CONTACT WITH OTHER AGENCIES SHALL ONLY BE MADE AT THE DIRECTION OF THE CALTRANS CONTRACT MANAGER. Caltrans Contract Manager shall notify and invite the Consultant to all regulatory agency meetings related to this investigation. All written correspondence with regulatory agencies shall be submitted to Caltrans Contract Manager and sent to those agencies by Caltrans.

F. Materials to be Provided by Caltrans

Caltrans shall provide the Consultant materials necessary to complete a Task Order. The Consultant shall execute the specific work described in the Task Order based on the material supplied. Materials (if applicable) that may be furnished by Caltrans are:

1. Project Limits
2. Right of Way alignments and survey limits
3. Preliminary Utility location maps, if available
4. Areas where focused studies are needed
5. As-builts and Construction Contract documents
6. Shop Drawings
7. Pertinent correspondence and investigations
8. Lane Closure Request Forms
9. Permit to Enter Property Outside the State Right-of-Way

G. Work to be Performed by Caltrans

1. Orientation

Caltrans shall provide orientation for each Task Order as necessary. The orientation shall consist of instructions on Caltrans procedures, practices, and requirements for the work to be performed. The Consultant shall perform the work in conformance with the orientation instructions and the requirements specified herein and in the Task Order.

2. Product Approval

All Hazardous Waste deliverables, drawings, and documents produced by the Consultant as specified by the task order shall be subject to the approval and acceptance by Caltrans Contract Manager.

In the event of non-acceptance due to errors or omissions, the Consultant shall make corrections prior to payment. Work that does not conform to the requirements specified herein and the applicable Task Order will not be paid.

3. Personnel Approval

Resumes containing the qualifications and experience of the Consultant's personnel shall be submitted to Caltrans Contract Manager for review prior to assignment on the projects. If, in the opinion of Caltrans Contract Manager, an individual lacks adequate experience, the Consultant's employee may be accepted on a trial basis until such time as the individual's ability to perform the required services has been demonstrated.

Caltrans Contract Manager will have the responsibility of determining the quality and quantity of work performed by the Consultant's personnel. If, at any time, the level of performance is below expectations, Caltrans may release Consultant personnel and request another person assigned as needed.

H. Deliverables

Unless otherwise specified in the Task Order, the deliverables shall conform to the following:

Consultant shall obtain written approval from Caltrans for any products (deliverables) if they form part of any Task Order issued by Caltrans Contract Manager.

1. All plans shall be submitted in both hardcopy and electronic files in the Caltrans approved format (MicroStation & CaiCE) and shall conform to the requirements of the Caltrans Office Engineer.
2. Specifications and other written documents shall be submitted in both hardcopy and electronic files in the Caltrans approved format (Microsoft Word) and shall conform to the requirements of the Caltrans Office Engineer.
3. For each Task Order, Caltrans Contract Manager shall prepare a milestone submittal schedule. Milestones may be changed by written agreement between Caltrans Contract Manager and the Consultant's Contract Manager, through amendment of the Task Order.
4. Consultant shall prepare and update the Work Break Down Structure (WBS) for each Task Order issued by Caltrans Contract Manager showing a deliverables' schedule as well as other relevant data needed for Consultant's work control and Caltrans review of work status.
5. Consultant shall maintain a separate set of project files for each Task Order issued by Caltrans Contract Manager. These files shall be indexed in accordance with Caltrans Project Development Uniform File System. If requested by Caltrans Contract Manager, the Consultant shall provide these file copies.
6. As part of the work involved in the PS & E, the Consultant shall prepare and furnish to Caltrans special provisions for items of work included in the plans, which are not covered by the "Standard Specifications" and California Caltrans-approved special provisions.
7. Project Diary/Time Sheets

- a. A Project Diary shall be maintained to document the conditions of all work performed under this contract. The diary shall be filled out and signed to affirm its accuracy, shall identify the Consultant's employee who is responsible for project management and include, at minimum, the following:
 1. Task Order number and contract number
 2. Project name and location
 3. Name and title of the personnel performing the work, including Sub-Consultants
 4. Name of company performing work
 5. Date work is performed
 6. Actual start and end times of work
 7. Description of work performed
 8. Additional notations, observations or remarks to further characterize
- b. Copies of actual time sheets must be included with invoices submitted for payment to support all hours shown as billed on the invoice. A copy of the signed project diary shall be furnished if requested by Caltrans Contract Manager to substantiate hours submitted for payment.
- c. Work Items (Hazardous Waste & Survey)

The Consultant shall be capable of providing the necessary equipment for and performing any and all assigned work.

I. Initial Site Assessments (ISA)– (WBS 165.10.80)

The ISA shall identify hazardous and potentially contaminated areas, and hazardous waste problems within and next to existing and proposed Caltrans right of way. The ISA checklist in Caltrans' Project Development Procedures Manual shall not be considered as the ISA. The ISA checklist is for guidance use only. ASTM standards 1527 and/or 1528 can also be used as guidance documents for completion of the ISA.

ISAs may also be used to fulfill the background research requirements of a Preliminary Endangerment Assessment (PEA), following the guidance developed by the California Department of Toxic Substances Control (DTSC), (The background research requirements of the PEA are similar to the ISA except that the preliminary endangerment assessment focuses on impacts to public health and the environment). The data collection portion of the United States Environmental Protection Agency Risk Assessment guidance may also be a required part of the ISA work.

1. Records Review

Hazardous Waste and Substances Sites List (known as the Cortese list) contains FINDS, CALSITES, HWIS, LTANK, SWRCB, UTANK, SWIS, AGT25, and A1025. However, the individual agency's lists may be updated more frequently. The Consultant shall review the following published lists of hazardous waste sites:

- a. Environmental Protection Agency (EPA)
 - 1.) NPL - National Priority List
 - 2.) FINDS - Facility Index System
- b. California Environmental Protection Agency
- c. Department of Toxic Substances Control (DTSC)
 - 1.) CALSITES - Abandoned Sites Program Information System
 - 2.) HWIS - Hazardous Waste Information System
- d. California State Water Resources Control Board
 - 1.) LTANK - Leaking Underground Storage Tanks
 - 2.) SWRCB - Waste Discharger System
 - 3.) UTANK - Underground Tanks
- e. California Integrated Waste Management Board
 - 1.) SWIS - Solid Waste Disposal Facilities
- f. Orange County Health Care Agency
- g. California Air Resources Control Board
 - AGT25 - Dischargers of criteria air pollutant (>25 tons)
 - A1025 - Dischargers of criteria air pollutants (10 to 25 tons)
- h. California Regional Water Quality Control Boards (RWQCB) (lists, reports, violations & permits)
- i. Caltrans (right-of-way maps, aerial photos and/or 'as-built' map files)
- j. Sanborn Fire Insurance Maps
- k. Aerial photograph repositories

When requested in the Task Order, the Consultant shall also research the records and information sources as follows:

- a. Office of Emergency Services (hazardous materials management plans)

- b. Department of Water Resources (maps, well logs, and files).
- c. Department of Conservation, Division of Oil, Gas & Geothermal Resources (maps, well logs, and files)
- d. Environment Affairs Agency Office of Hazardous Materials Data Management/SARA Title III, Section 313
- e. Local health departments (site lists, permits, and reports)
- f. Local fire departments (site lists, permits, and reports)
- g. County Recorder's Office (parcel maps and files)
- h. County Courthouse (maps and files)
- i. Utility companies (maps, plans, records)
- j. Property Title Searches

Records on the above lists shall be reviewed to determine past and present land uses and to identify known or potential hazardous waste sites on parcels of land within and adjacent to the proposed right of way as specified in the Task Order. The Consultant shall research the entire period extending to when the land was undeveloped or agricultural.

The Consultant shall review published data from the United States Geological Survey (USGS), State, and other available maps and reports in order to compile a general geologic map and general hydrologic profile of the right of way.

2. Field Review

As directed, the Consultant shall conduct a field survey for potential hazardous waste sites on all parcels of land within and adjacent to the proposed right of way as specified in the Task Order. It is not necessary to confirm the actual presence of hazardous waste in soil or ground water during the ISA.

3. Historic Research and Report

When requested as part of the Task Order the CONSULTANT shall research appropriate sources of historic information to identify historic land uses within the project area and identify those that used hazardous materials and/or may have generated hazardous waste. Sources such as, but not limited to, the following shall be researched, as appropriate:

- a. Historic maps.
 - 1. Sanborn maps

2. United States Geodetic Survey maps
3. Flood control maps
4. Oil survey maps
- b. City directories
- c. State, City and County libraries
- d. County Recorder's office
- e. Business License and other business records
- f. Planning Departments
- g. Newspapers
- h. State Archives
- i. Historical Societies

The Consultant shall research and analyze material gathered from such sources and prepare a report describing the research and results, focusing on those land uses that were likely to result in the deposit of hazardous waste.

Historic research and reporting are to be undertaken by personnel with minimum qualifications of a bachelor's degree in history and demonstrated competence in local history, primary document and historic land use research.

J. Site Investigations – (WBS 235.10)

The Consultant shall perform all services required to perform site investigations. These services include, but are not limited to, the following:

1. General Site Investigation Requirements

The Consultant shall complete the following requirements:

- a. Perform all work in accordance with a site specific Health and Safety Plan.
- b. Provide well construction design, acquire drilling permits, and check for utilities and other underground obstacles including but not limited to water, electric, gas, and sewer lines, (See item E5a, Underground Services Alert, of this Attachment 1 for more information).
- c. Ensure that all necessary equipment and materials are present at the site and in good operating condition at the beginning of each workday. Consultant shall supply backup equipment, as needed on-

site for each job. This includes, but is not limited to, extra drill bits, auger flights, cables, fuel, and soil sampling equipment.

- d. Have, or be able to obtain, all the personnel, energy sources, equipment and materials necessary to comply with the provisions of this contract throughout the contract term. Consultant (or Consultant's subcontractors) personnel must hold all appropriate California Contracts State License Board licenses, including, but not limited to, C-57 and/or C-61 licenses.
- e. Obtain all necessary regulatory and/or Caltrans permits, including encroachment permits, (See item J21, Obtain Permits and Right of Entry, of this Attachment 1 for more information).

2. Basic Work Plan Preparation

The Consultant shall prepare a basic work plan that describes means of accomplishing the scope of work outlined in the Task Order. The work plan shall include maps of proposed sampling locations, sampling and analysis methodology, work scheduling, plans for accomplishing the work and for disposing of drill cuttings and any other wastes. The Consultant shall provide a draft copy of work plan for the STATE's Contract Manager to review and comment upon. The final work plan shall address all STATE comments.

3. Site Specific Work Plan Preparation

In more complex situations, a specific project may require development of a detailed site investigation work plan. The work plan developed by the Consultant will include:

- a. Preliminary scoping of investigation includes any available ISA information, (See item I, Initial Site Assessments, of this Attachment 1 for more information).
- b. Review of available information on the site and vicinity
- c. Site visit and review
- d. Evaluation of available area groundwater data
- e. Evaluation of available area geology data
- f. Investigation strategy and rationale for number and location of borings, number of borings, and sample analysis
- g. Revision of site investigation objectives as necessary

The Consultant shall provide a draft copy of the work plan for Caltrans Contract Manager to review and comment upon. The final work plan shall address all Caltrans comments.

Under the direction of the Consultant's Contract Manager, appropriate professional personnel shall develop the work plan. Interpretation of geology, hydrogeologic, and/or hydrologic information shall be completed under the supervision of a California Registered Geologist and/or Certified Engineering Geologist. The Registered Geologist and/or Certified Engineering Geologist that supervised the work shall sign the final work plan.

4. Health and Safety Plans

All site investigations will require development of a site-specific Health and Safety Plan. The Consultant shall submit the plan to Caltrans Contract Manager for approval at the Task Order meeting or at least one (1) week prior to the start of fieldwork. The Health and Safety Plan shall conform to all regulatory requirements and shall be signed by a Certified Industrial Hygienist.

Unless otherwise specified, the plan shall include all of the following:

- a. Identification of key personnel for the project, including:
 1. Site safety officer
 2. Specific assignments for the project
 3. Health and safety responsibilities
- b. Job hazard analysis for each work assignment at the site
- c. Summary of risk assessment for the project, including:
 1. Workers
 2. Nearby community
 3. Environmental receptors
- d. Air monitoring plan for the project, if applicable, including:
 1. Ambient air quality
 2. Assessment of community exposure
 3. Assessment of worker exposure
- e. Personal protective equipment selected for the project
- f. Delineation of work zones on-site and decontamination procedures for personnel and equipment
- g. Listing of general safe work practices for on-site activities.
- h. Description of security measures established for the site.
- i. Emergency response plans established for the project, including:
 1. On-site emergencies.

2. Off-site emergencies.
 3. Access for emergency personnel and vehicles.
- j. Nearby community protection procedures.
1. Location and direction of nearest emergency care facilities.
 2. Phone numbers of key personnel.
 3. Alternate field communication options.
- k. Worker training requirements for the project.
- l. Medical surveillance program for field staff that complies with Title 8 CCR, Section 5192.
- The Consultant shall complete all work in accordance with the site health and safety plan as provided to Caltrans Contract Manager. The Consultant shall ensure that all personnel, while on the project site, comply with the plan requirements. All personnel engaged in field investigation work shall be appropriately trained for such activity. Training shall include, but is not limited to, the use of personnel protection equipment (including respirators), decontamination, hazard recognition, and safe operation procedures.
 - Before the field investigation begins, a copy of the Health And Safety Plan shall be distributed to all field investigation workers and they shall certify by signing the Health and Safety Plan that they have read, understand, and agree to comply with the site health and safety plan.
 - When respirator use becomes necessary, the Consultant shall provide certification that the provisions of Title 8 CCR Section 5192 have been met for all on-site employees. If any on-site personnel are not certified in the use of Level C protection, the Consultant shall take immediate and prudent actions to remove uncertified site personnel from the work location.
 - Throughout the performance of the site investigation, the Consultant shall, at a minimum, fully comply with Level D protection requirements. The Site Safety Officer (SSO) shall be responsible for informing the Consultant's work crew and Consultant's Task Order Manager of the need to upgrade to Level C. On-site upgrade to Level C may be determined by PID (Photo Ionization Detector) readings for gasoline contamination, or FID (Flame Ionization Detector) reading for diesel contamination during field activities.
 - Under level C protection, the required equipment shall be worn, carried or made available on site as described in Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities,

NIOSH, OSHA, USCG, and EPA, DHHS (NIOSH) publication No. 85-115, 1985.

5. Traffic Control

Unless otherwise specified in the Task Order, Caltrans shall provide Traffic Control to accomplish the work within Caltrans right-of-way. When Caltrans provides Traffic Control, the Consultant must request the Traffic Control in advance of the work to obtain proper clearance. Limited work hours, night work or weekend work may be necessitated by the closure schedule that is approved by Caltrans for work on state freeways or highways. For work outside of the Caltrans right-of-way, the Consultant shall provide Traffic Control in coordination with the appropriate local jurisdiction and/or private owners.

When the Consultant provides traffic control or traffic control devices, the Consultant shall fulfill the following requirements:

- a. Submit a traffic plan to the Caltrans contract manager for review and comment at least 10 working days prior to the start of work.
- b. Comply with the traffic control requirements in section 12 of the Caltrans "Standard Specifications".
- c. Obtain the necessary approvals and encroachment permits, if required.
- d. The Consultant shall provide all labor, equipment, and materials that are required for placing, operating, maintaining, repairing, replacing, transporting and removing of traffic control and traffic control devices. This work includes furnishing, placing and maintaining required signs, safety equipment, and traffic control and warning devices in accordance with the Manual of Traffic Controls published by Caltrans which may be accessed at:
<http://www.dot.ca.gov/hq/traffops/engineering/control-devices/pubs.htm>
- e. Conduct operations so as to offer the least possible obstruction and inconvenience to the public and to have under traffic control no greater length or amount of work than can be prosecuted properly with due regard to the rights of the public. All public traffic shall be permitted to pass through the work with a minimum of inconvenience and delay.
- f. Implement protective measures that are necessary to prevent accidents, damage or injury to the public. No operations shall create a condition hazardous to traffic or to the public.

If an accident or other incident (related to or not related to the work being done for Caltrans) occurs within, or close to the work being done for Caltrans, the Consultant shall immediately stop work and remove traffic controls from the highway unless public health, welfare and safety is endangered by unfinished work or by removal of the traffic control devices. After free traffic flow is restored, work may be resumed.

- g. Enter and leave the highway via existing ramps and crossover in the direction of public traffic. There will be no movement across lanes.
- h. All trucks or other mobile equipment leaving the public traffic lane to enter the work area shall slow down gradually in advance of the turnoff to allow following traffic an opportunity to slow down.
- i. All work requiring traffic control requires the Consultant to apply for and obtain a lane closure number before the start of any work that may affect traffic. The Consultant shall request lane closure numbers in accordance with the procedures specified in District's "Encroachment Permit Projects Traffic Control Procedures". The Consultant shall use the "Caltrans Lane Closure Request Form" to request all lane closures necessary to complete the work. The Consultant shall submit the Caltrans Lane Closure Request Form to the Task Order Manager for review and approval. Once the Task Order Manager has reviewed the lane closure request the Consultant shall then fax the "Caltrans Lane Closure Request Form" to Caltrans Division of Traffic Management (DTM). Additional time beyond the minimum seven days advanced notice may be required for obtaining traffic control approval.
- j. Any damage to existing facilities, landscaping or irrigation within the State's right of way shall be replaced in kind by the Consultant at the Consultant's sole expense.
- k. Unless otherwise specified in the Task Order, Traffic Control shall occur only between 9:00 am and 3:00 p.m., Monday through Thursday.

6. Soil Gas Survey

When requested, the Consultant shall provide subsurface soil gas sampling and analysis services. The soil gas monitoring service is to include field personnel, equipment, and quantitative and qualitative data to provide rapid and cost effective definition of volatile organic compounds (VOC's) present in soil. A mobile laboratory with gas chromatographic capability shall be available and provide personnel with sampling equipment capable of extracting soil gases and identifying a broad range of VOC's and their concentrations. Gas survey personnel on site shall include a chemist or other experienced professional responsible for equipment operation.

The Consultant (or the Consultant's subcontractors) shall fulfill the following requirements:

- a. Have the capability of sampling through native material of varying densities, engineered fill, asphalt, and concrete in on-road and off-road locations. The Consultant shall provide all necessary equipment.
- b. Drive sample probes to varying depths, with a nominal probe depth of five (5) feet, depending on soil conditions and as specified in the Task Order.
- c. Decontaminate all necessary equipment prior to sampling, upon completion of sampling and analysis, and before leaving the site (See item J19, Decontamination, of this Attachment 1 for more information).
- d. Ensure that all equipment is maintained and operated in conformance with the manufacturer's recommendations.
- e. Supply all electrical power and energy sources required.
- f. Provide a sufficient number of probes so that no equipment is reused without cleaning.
- g. Run ambient air through the entire sampling system from probe (above ground) through the adapter to collect a system blank at the start of each day, after every 10 samples, and before reusing any sampling system component.
- h. Collect soil gas samples from the gas stream being withdrawn from the sample probe. The withdrawal of the soil gas shall be measured on a cubic-inch-per-minute basis. An in-line flow meter placed between the sample probe and vacuum pump shall be used to monitor flow rates during sampling. Three to five probe volumes shall be evacuated prior to withdrawing the first soil gas sample for analysis. After purging the sample extraction device with soil gas, a sample shall be collected.
- i. Backfill shallow boreholes (< 3 feet) with local soil or granulated bentonite after sampling, and replace removed concrete or asphalt with new patch material.
- j. The Consultant shall maintain a logbook, which contains pertinent sampling, environmental and technical information for each location. This log will be provided to Caltrans as part of the soil gas survey report. The following information shall be included in the log book:
 - Time
 - Ambient air and soil temperature
 - Sample number

- Sampling depth
- Evacuation time between samples
- Flow rate (cubic inches per minute)
- Probe and adapter numbers and volume of the sample probe
- Number of sampling points used
- Observations (including, but not limited to, ground conditions, presence of concrete or asphalt, paving, soil appearance, surface water, odors, and vegetation)
- Backfill procedure and materials
- Actual sample location marked on the site map

7. Surface Geophysics

The Consultant shall have the capability to mobilize a surface geophysics team for the purpose of acquiring data as specified in the Task Order. The surface geophysical work shall be interpreted by and conducted under the responsible charge of a California Registered Geophysicist.

Caltrans Contract Manager will provide access, specify the area to be investigated, and in consultation with the geophysicist, determine the appropriate method to attain quality resolution of the subsurface features of interest.

The Consultant shall fulfill the following requirements:

- a. Provide and operate all equipment necessary to perform geophysical surveys (i.e., ground-penetrating radar, magnetic, EM, and utility surveys, etc.) to usual maximums for specific equipment under normal conditions. Utility surveys shall be performed on property that can not be cleared by Underground Services Alert (USA) and where critical utilities may be present. Utility surveys are not to be done in lieu of a USA clearance.
- b. Procure licenses and/or permits necessary to perform the work as specified, (See item J21, Obtain Permits and Rights of Entry, of this Attachment 1 for more information).
- c. Ensure that all necessary equipment, materials, and personnel are present and in normal operating condition at the beginning of each workday.
- d. Ensure that equipment operators have the necessary training and certification to operate and handle geophysical devices.
- e. Supply all electrical power and any other energy sources required for Consultant's work at each site.

8. Trenching

Caltrans may require trenching for shallow site investigation purposes. Excavation may be needed to determine shallow subsurface conditions or to excavate and expose subsurface structures such as tanks, pipes or sumps. The Consultant shall provide backhoe equipment capable of excavating to a depth of 10–15 feet, personnel, sampling equipment, and decontamination equipment.

The Consultant shall fulfill the following requirements:

- a. Comply with all State, Federal, and local laws and regulations regarding trench shoring and worker safety.
- b. Remove from the site all equipment, unused materials, temporary facilities and other miscellaneous items resulting from or used in the operation and replace or repair any items damaged during the activities.
- c. Restore the trenching site to pre-work condition unless otherwise directed by Caltrans Contract Manager.

Trenching activities shall be observed and supervised by a site geologist or engineering geologist. The site geologist or engineering geologist shall log the subsurface geologic and geotechnical conditions found during trenching. Under normal circumstances, OVA (organic vapor analyzer) or PID (photo ionization detector) measurements shall be taken to monitor the materials excavated and for the health and safety of workers. Material removed from the trench shall be properly collected in containers or stockpiled on plastic sheeting provided by the Consultant. If the materials are non-hazardous, they shall be returned to the trench or otherwise legally disposed of by the Consultant. If contaminated, the material may be returned to the trench or temporarily stored as directed by Caltrans Contract Manager and ultimately disposed of in compliance with regulatory requirements. See Items J19, Decontamination, and J20, Disposal (decontamination water, well development and purge water, and boring cuttings), of this Attachment 1 for decontamination and disposal requirements.

9. Drilling Equipment

In addition to the equipment requirements listed in item E1, Field equipment, of this Attachment 1, the Consultant shall have all necessary equipment to perform the following functions:

- a. Tremie materials into boreholes
- b. Maintain drilling fluids
- c. Mix grout or grout mixtures

- d. Pump grout in one continuous motion, beginning at the bottom of the space to be grouted

Driven Bailer

The driven bailer (hydropunch or equivalent) technique shall use a temporary tool emplacement to obtain undisturbed water samples or product samples from ahead of the lead auger. Drill rigs or cone penetrometer rigs shall have the ability to sample ground water. The sample inlet area shall be in hydraulic contact with the water-bearing zone and sample a discrete water interval. The water samples shall be unaltered and uncontaminated by drilling fluids or cuttings. The sampler shall be chemically inert.

Direct Push Drilling

Direct push drilling method shall consist of a dual tube sampling system with continuous small diameter 1" to 2" stainless steel or brass tubes that are pushed or vibrated into the ground and generate minimal drill cutting waste. Where samples will not be compromised by incompatibilities between the acetate and chemical contamination in the soil or ground water, clear acetate sleeves may be used for sample and core collection. This method may be used for soil core lithologic logging, soil vapor sampling, groundwater sampling, product sampling and soil sampling.

In cases where soil samples are not required below a depth of 15 feet and access or space is limited, a compact and/or mobile direct push rig may be required. A compact direct push rig shall employ the same technology as a standard direct push rig, but can be used from a smaller Platform Direct push (dual tube) drilling systems may be used at: limited-space work areas, under low overhead structures that are less than 10 feet in height, in buildings, on uneven/sloping topography, or on soft terrain such as wetlands. Mobile (i.e., pickup truck-mounted) rigs will be needed for Aerially deposited lead surveys next to roads.

Hand Augering

Hand augering may be used to collect soil samples for laboratory analysis, or for detecting utility lines ahead of other drilling methods. All hand augering devices shall be cleaned prior to use in each borehole. All hand auger sampling devices shall be cleaned prior to collection of each sample. Unless otherwise specified, all hand-augured borings shall be logged using the unified soil classification system. Prevailing wages are required for hand augering work that does not require geologic logging of each individual borehole. This work falls within the "Laborer" classification.

Sampling Capabilities

Samples collected for laboratory analysis shall be obtained using a drive hammer sampler equipped with brass or stainless steel sample tubes. If approved by Caltrans Contract Manager, glass jars may be used for non-volatile samples from containers, stockpiles, and excavations.

Consultant shall provide containers for waste materials and shall control and collect all drill cuttings and fluids for proper disposal. See Items J19, Decontamination, and J20, Disposal (decontamination water, well development and purge water, and boring cuttings), of this Attachment 1 for decontamination and disposal requirements.

Borings/Boring Logs

Borings shall be logged in accordance with *Soil & Rock Logging Classification Manual* (Field Guide), State of California, Department of Transportation, Engineering Service Center, Office of Structural Foundations, June 2007 which may be accessed at:
http://www.dot.ca.gov/hq/esc/geotech/sr_logging_manual/srl_manual.html

The field log shall include, but not be limited to, description of materials penetrated and drilling method. Drill penetration rate, bit pressure and drill chatter may be included if it is pertinent to the investigation. Fill materials shall be logged for content, color, texture, and cultural items. At a minimum, samples for logging purposes shall be taken every 5 feet. Field instrument readings shall be noted on the log corresponding to the depth of the sample.

When borings are completed as monitoring wells, graphic representation of the well construction shall be added to the log. Borings that are not turned into monitoring wells shall be backfilled with grout, neat cement or bentonite grout during the same day or as directed by the Caltrans Contract Manager and as required by permitting agencies and accordance with Water Well Standards State of California in Bulletin 74-81 and 74-90 Which may be accessed at:

http://www.water.ca.gov/groundwater/well_info_and_other/well_standards.cfm

All emplacements shall be overseen, described, and signed in the field log by the field geologist or engineering geologist. The Consultant's Task Order Manager (a California Registered Geologist or Certified Engineering Geologist) shall review the final boring logs.

12. 10 Surveying

a. Third Order Surveys

Third order surveys may be performed under the supervision of a licensed surveyor. When required in the task order, locations will be surveyed for X, Y and Z coordinates. Horizontal (X and Y) coordinates will be surveyed to the nearest 1/2 inch, with the vertical (Z) coordinate measured to the nearest 0.1 inch. The California Coordinate System 1983, epic 1991.35 (CCS 83[1991.35]) coordinates shall be calculated for each location. All vertical measurements shall be based on the North American Vertical Datum of 1988 (NAVD 88). Unless otherwise specified in the Task Order, all survey data shall be submitted in Excel (version 2007 or newer)

spreadsheet format and GIS-ready (Arc/Info or ArcView) format, and should include description, X, Y and Z data.

b. GPS Requirements

The Consultant shall provide site boundary and borehole locations within three-foot accuracy in CCS 83 (1991.35) datum. Unless otherwise specified in the Task Order, the GPS survey data shall be submitted in Excel (version 2007 or newer) spreadsheet format and GIS-ready (Arc/Info or ArcView) format, and should include description, X, Y and Z data.

As specified in the Task Order, the locations of drilling or sampling may also be provided in one of the following digital formats:

- Trimble SSF or RINEX Global Positioning System files
- Delimited text files
- Microstation (CADD) files

This information shall be submitted in digital format via email or CD-ROM along with the final written report.

13. 11 Well Installation and Development and Temporary Wells

Monitoring wells may be required to determine if ground water contamination is present, the extent of any contamination, and the general characteristics of subsurface hydro-geological conditions. Monitoring wells shall be designed and constructed to obtain water samples representative of the formation water. Monitoring wells shall include the following elements:

- a. Prior to drilling and installation of wells, the Consultant shall obtain necessary well permit(s). Copies of these permits shall be included in the final reports.
- b. Wells shall be screened and filter packed to match the formation material of the screened zone. Sieve analysis may be required to fulfill this task. A filter bridge of finer sand than used for the filter pack shall be placed above the screen and below the bentonite.
- c. Filter pack material shall extend 460 to 610 mm above the screen, 9.53 mm (3/8") bentonite pellets shall be placed 3 to 5 feet above the filter pack, and cement or cement bentonite grout shall be used to fill the annular space. Well surface completion shall be concrete. The surface is integrated with the concrete annular seal in the upper 600-mm of the hole. The materials shall be tremied into the annular space around the casing. Filter pack material shall be clean, inert material; bentonite shall be non-beneficiated.
- d. Grout shall be mixed in correct proportions so not to affect ground water chemistry.

- e. Grout shall consist of approximately 5% bentonite and 95% cement.
- f. Bentonite and/or grout shall not be allowed to free fall-down the annular space if greater than 5 feet deep.
- g. Centralizers shall be used when wells are not completed within a hollow stem auger.
- h. Monitoring wells shall not provide a conduit for cross contamination of water bearing zones.
- i. Wells shall be completed at the surface to prevent damage and tampering. Traffic-proof covers or monument covers shall be used. Waterproof well caps shall be used in flush-mounted wells.
- j. Screen lengths shall be appropriate to the monitoring task and shall meet regulatory agency requirements.
- k. Wells shall be designed to meet the requirements of appropriate regulatory agency requirements.
- l. Wells shall be completed so as to prevent surface water from entering the well or ground water table.
- m. A licensed surveyor as required by the Task Order shall complete a 3rd order survey as described in item J10.a, Third Order Survey, on of this Attachment 1. When noted in the Task Order, elevations will be calculated based on the top of casing elevations and depth to water measurements. A reference point (notch or mark) will be placed at the top of casing to ensure consistent and accurate measurements. The elevation of the ground or the top of the concrete slab adjacent to the monitoring well shall also be surveyed, to the nearest one inch. This data will be used to determine the direction and gradient of groundwater flow beneath the site.
- n. Wells shall be developed after construction by surging with a vented surge block, or equivalent technology, as approved by Caltrans Contract Manager, and pumped to remove sediments.
- o. Wells will be surged and pumped as often as necessary to produce sediment free water samples with a goal of less than 10 Nephelometric Turbidity Unit's (NTU's). The Consultant shall measure turbidity in NTU's once per hour during development and once at the end of development. The Consultant shall keep a well development log documenting development method, temperature, pH, conductivity, NTU's, and volume of water produced.
- p. Boring and well cuttings placed in drums may be stored at the site or transported to a storage site in the vicinity.
- q. Temporary wells may be completed in open holes advanced by hollow stem auger or direct push methods for the purposes of water level measurements and water sample collection. Temporary wells are intended for use in situations where a water sample can not be

obtained by driven bailer within one hour due to formation permeability. Temporary wells shall be constructed of 25.4 or 50.8 mm (1 or 2 inch) PVC. They shall remain in place for as long as it takes to collect a water sample, but no more than 24 hours or as directed by Caltrans Contract Manager, and only be used in borings completed to the first water bearing zone. The surface of the temporary well shall be protected from surface water infiltration and vandalism.

12. Well Destruction

Consultant shall destroy 50.8-mm (2 inch) and 101.6-mm (4 inch) PVC wells in accordance with applicable local and state requirements (DWR Bulletins 74-81 and 74-90). Reports of well destruction shall be filed with the Department of Water Resources (per the requirements of California Department of Water Resources, Bulletin 74-81 and Part III section 19, A-1, 2a), and local agencies if required. Copies of these reports shall be included in the draft and final reports. Caltrans will provide site access when necessary. Neat cement (5% bentonite, 95% cement by volume) or sand cement shall be used to decommission wells.

Unless separately requested by Caltrans Contract Manager, the Consultant shall fully describe the well destruction in a report included with the final site investigation report and well destruction log.

13. Statistical Data Evaluation

Unless otherwise specified in the Task Order, the data obtained in environmental site investigation shall be statistically analyzed according to "Test Method for the Evaluation of Solid Waste, Physical/Chemical Methods", U.S. Environmental Protection Agency, SW-846, U.S. Environmental Protection Agency, 1987 (or latest edition).

The data obtained in environmental site investigations [including Aerially Deposited Lead (ADL)] is frequently nonparametric. If specified in the Task Order, the Consultant shall use the Nonparametric Bootstrap Method to evaluate test data in lieu of the statistical methods outlined in EPA SW-846.

a. Normalizing Data and Handling Nondetects (for SW 846 Statistical Data Analysis)

The presence of non-detects in the lead analysis data can strongly skew sample data toward low values. Classical statistical methods do not work properly in these cases. A natural log $[\ln(x)]$ transformation of the data allows calculation of upper confidence intervals for the mean. A histogram of the data set shall be developed to determine if the data are skewed and if transformation is necessary. If a data set is skewed, the data will be transformed

using an $[\ln(x)]$ transformation and a new histogram developed to document the transformation. Other methods of transformation that may be necessary include the square-root, arcsine or power series transformation, which may be used when the natural log $[\ln(x)]$ transformation does not yield a mean greater than the variance.

Please note: analytical results for total and soluble lead will have results below the method detection limits. Nondetect results should be numerically set at one half the detection limit and all results used in calculations.

Total lead levels are often below 50mg/kg and a follow up WET analysis may not be necessary for all samples. Consequently, a project may have, for example, 30 total lead analysis and five (5) WET analysis. Of the five (5) WET analyses, three (3) may have lead levels which exceed the regulatory limit for hazardous waste of 5 mg/l. In this case, three (3) out of 30 samples would not necessarily make the sediment next to the road a hazardous waste. On the other hand, a single very high lead level out of many samples may not be representative of the concentrations of lead in sediment at a project and would not be considered representative of the waste. Good judgment and documentation of the data and how it is used are very important. In general, all sample data should be considered and used when evaluating lead levels and determining if a material is hazardous, and/or if it meets the criteria for re-use within Caltrans Right-of-Way, as defined by a Variance issued by the DTSC to Caltrans District 12 for the handling aerially deposited lead-containing waste soils. The Consultant shall confer with the task order manager prior to and during the statistical analysis if clarification is needed.

b. Correlation of Total and Soluble Lead (ADL) Data

Total lead (TTLC) and soluble lead (STLC) data are bivariate data with a linear structure. The plot of the data shows basically a straight-line trend except for some randomness. A lack of correlation usually means that the total and soluble constituent samples were not pulled from the same sample aliquot. The correlation coefficient can be used as a quality check of the data. A correlation/regression analysis shall be performed on the data comparing soluble constituent levels to total lead levels.

The following correlation coefficient formula (or equivalent) shall be used:

$$r = \frac{(\overline{XY}) - X \times Y}{S_x \times S_y} \times \frac{n}{n - 1}$$

Where: $\overline{(XY)}$ = the average of products or the average of each soluble lead level multiplied by the matching total lead level.

X = the soluble lead average

Y = the total lead average

Sx = the standard deviation of soluble lead

Sy = the standard deviation of total lead

n = the number of samples

If the analysis indicates a correlation coefficient below 0.8, this must be explained in the report or the sample procedures adjusted and the sample reanalyzed for both total and soluble lead (see Laboratory: Laboratory Sampling Handling Procedures for Aerially-Deposited Lead Investigation Samples). The best time to look at this data is at the lab where problems can be resolved quickly and within the task order schedule.

For the linear regression analysis the soluble levels vs. the total levels will be graphed and a best-fit line plotted for the data. A least squares method shall be used to estimate a straight line. This estimate is easily (and routinely) done by computer. The formulas to be used for determining the least squares straight line shall be:

The slope of the line = (correlation) x (standard deviation of the total lead) / (standard deviation of the soluble lead).

The intercept of the line = (average total lead concentration) - (line slope) x (average soluble lead level).

Once the slope and the intercept are found, the line itself is known and can be drawn in the bivariate plot of the data. This graph can be used to approximate the expected solubility concentration from the average total concentrations.

14. Soil Sampling

The objective of sampling is to obtain a representative sample of the subsurface soils to determine the level of contamination at a site. The CONSULTANT shall communicate to the laboratory the analyses required on samples and any special criteria for performing analyses. Soil samples shall be obtained using thin and/or thick walled sample barrels with brass or stainless steel inserts (Acetate may be used for direct push core barrels.) Soil samples obtained using the Standard Penetrometer Test shall be accomplished according to ASTM D 1586-84. Thin-walled Shelby tube samples shall be obtained in accordance with ASTM D 1587-83. Cost for sample barrels, tubes, Teflon tape, caps, and sealers are included in the cost of sampling. Thin-walled samplers shall be pushed into the soil while

thick-walled samplers may be driven. Continuous coring of unconsolidated materials or rock may be requested in the Task Order.

Soil samples shall be obtained in as undisturbed a state as possible. Soil samples shall be obtained in brass or stainless steel sleeves during drilling or hand sampling. Caltrans Contract Manager may waive this requirement on a case by case basis. At the discretion of Caltrans Contract Manager, glass jars may be used for aerial deposited lead samples and acetate liners may be used for direct push samples where there is no chemical incompatibility. No fluids shall be introduced into sample boring except in special cases approved by Caltrans Contract Manager. Sample tubes shall be capped with Teflon film or aluminum foil and plastic caps, sealed with appropriate taping (not electrical or duct tape), and preserved immediately at 4^o C. Soil samples shall be delivered to the laboratory for analysis within 24 hours of sampling unless specified otherwise in the Task Order. Soil samples to be analyzed for volatile organic compounds shall be preserved with dry ice. For metals analysis of soil samples, when the total metal concentration (TTLC) is greater than ten times the soluble threshold limit concentration (STLC) the laboratory shall contact the Consultant, who shall contact Caltrans Contract Manager for approval before proceeding with the waste extraction test (WET).

In some cases soil samples will be obtained using EPA Method 5035, the Closed-System Purge-and Trap and Extraction for Volatile Organics in Soil and Waste Sample. Consultant will be directed in the task order to collect samples using this procedure and shall be responsible for supplying all equipment and trained personnel for performing Method 5035.

15. Water Sampling

Water samples may be taken from surface sources, undeveloped borings, by direct push or CPT systems or from monitoring wells. Samples taken from undeveloped borings shall be obtained with clean stainless steel or Teflon bailers within the hollow stem auger. Water samples may also be obtained from monitoring wells after the well has been developed and purged. Well water shall be monitored for temperature, pH, and conductivity during purging. A minimum of 3 well volumes shall be purged prior to sampling. Purging shall continue until measurements of temperature, pH, and conductivity have stabilized (reproducible within 10%). This information shall be documented on a well purge log. These requirements may be waived in the case of low yielding wells that would be pumped dry during purging. This monitoring shall be done during development and sampling and no additional compensation shall be allowed. Direct push or CPT systems may not use bailer systems, which agitate the water sample.

Samples shall be placed in SW-846 required sterilized VOC containers, and preserved immediately at 4^o C. Unless otherwise specified, water samples shall be delivered to the laboratory within 24 hours of sampling. A trip blank

shall be included in each ice chest. When sample preservation in the field is necessary, the laboratory shall supply containers with the added preservative for water samples. Water samples shall be packed or secured in such a manner so as to prevent cross-contamination of samples and freezing or breaking of containers. When wells are installed to determine if a chemical product is present, the well shall be sampled to determine if such a product exists before purging the well for dissolved constituents.

Requirements for filtering shall also be communicated to the laboratory. If a sample is to be filtered before analysis for metals no preservatives or acid shall be added until after filtration. Samples taken for dissolved metal determination shall be filtered through a 0.45 um filter. Filtration shall not be done for total metal analyses. If filtration is performed, it shall be done in-line or in the field immediately following sampling.

The Consultant shall obtain new samples without expense to Caltrans if Quality Control/Quality Assurance (QA/QC) data shows any of the following:

- a. Cross-contamination has occurred.
- b. Samples were held too long before analysis.
- c. Samples were compromised while in the custody of the Consultant prior to delivery for analysis.
- d. Any chain of custody violation.

16. Laboratory

a. General Information

Laboratories performing chemical analyses shall be certified by the California Department of Health Services Environmental Laboratory Accreditation Program (DHS-ELAP). The Consultant shall provide a current DHS-ELAP certification for all contract test methods throughout the life of the contract. For specific test methods not as yet certified by DHS, the laboratory may perform laboratory analysis only if presently certified by DHS for comparable test methods (e.g., volatile organics, semi volatile organics, etc.), or if it is currently a certified US EPA Contract laboratory. Water sample analysis shall be conducted in surface water, ground water, rinse water, monitoring well samples, and other water sources. Standard turnaround time for chemical analysis shall not exceed ten working days.

Laboratories shall be physically located within the Contract Region in which the task order work is being performed. Under extenuating circumstances, laboratories outside the Contract Region in which the Task Order work is being performed may be used with written permission from the Contract Manager. The Consultant shall be

responsible for sample transport from worksite to the laboratory, and for providing decontaminated or new sample containers, labels, appropriate preservation and chain of custody records.

Remaining and unused portions of samples shall be stored in a chilled state (4o C) at the laboratory for 30 days following completion of the last analysis for that group of samples listed on the same chain of custody form. Disposal of samples shall be the responsibility of the laboratory.

Retention of samples beyond the 30-day period following the last analysis shall be by written request from Caltrans Contract Manager to the Consultant.

The Consultant and the laboratory provide clear and accurate explanation of analytical results including graphical presentations and summaries of the laboratory data in reports.

b. Laboratory Sampling Handling Procedures for Aerially-Deposited Lead Investigation Samples

Soil samples taken from roadside sites are not homogeneous. Aerially deposited lead tends to be very soluble and total lead levels as low as 100 to 150 ppm can produce soluble lead levels greater than 5mg/l using the California Waste Extraction Test (WET). After the total analysis is run on a sample, it is very important to run a solubility test on sediment that is representative of the original total lead test.

Each sample shall be homogenized adequately in the laboratory. A sample aliquot sufficient to cover the amount necessary for the Total and WET analysis shall then be taken. This aliquot shall be homogenized a second time and the total and soluble (if necessary) run on this aliquot. The homogenization process shall not include grinding the samples.

The lab shall then compare the solubility versus total lead results for the sample set. The lab should see a high correlation factor using a regression analysis on the data. If the correlation is less than 0.8, the lab should re-examine the sample and determine if re-analysis is needed.

c. Mobile Laboratory

Mobile laboratories shall be certified by the Department of Health Services Environmental Laboratory Accreditation Program (DHS-ELAP) for analyses. Mobile laboratory gas chromatograph equipment shall be calibrated on-site at the beginning of each working day.

Mobile laboratories shall record gas chromatograph system parameters on the first page of each day's chromatograms. The parameters include the temperatures of the injector, column, and detector; integrator parameters of the injector, peak markers, and baseline offset; column type, length and diameter; and packing material. The name of the operator and the date shall also be included. Any changes to the system parameters shall be documented.

17. Quality Assurance/Quality Control (QA/QC)

a. Field QA/QC

Field QA/QC procedures shall be reported in summary form for all samples submitted. Field QA/QC procedures shall include the following:

- i. One equipment blank for every chain of custody by pouring deionized water onto the sampling device and into a laboratory container.
- ii. For water sampling events, one trip blank for every ice chest or sample shipment container. Water samples will require one laboratory prepared trip blank for each individual group of water samples transported to the laboratory. The contents of each ice chest or refrigerated container constitute an individual group of water samples. The trip blank is a clean water sample that shall be opened at the site in the same location as the field sampling. The trip blank shall be analyzed for the same compounds as the other samples.

b. Laboratory QA/QC

Quality Assurance/Quality Control (QA/QC) shall be performed for each method of analysis and specific for every appropriate analyte requested and/or representative analyte listed in the test method's QA/QC. QA/QC data shall be reported in summary form for all samples submitted.

Laboratory QA/QC procedures specified by each test method shall include the following:

- i. One method blank for every ten samples, batch of samples or type of matrix, whichever is more frequent
- ii. One sample analyzed in duplicate for every ten samples, batch of samples or type of matrix, whichever is more frequent

- iii. One spiked sample for every ten samples, batch of samples or type of matrix, whichever is more frequent, with spike made at ten times the detection limit or at the analytic level

Where the test method does not specify QA/QC procedures, all of the above will apply.

Trip blank(s), laboratory blank(s), spiked samples, and duplicate sample analyses shall be reported on either the laboratory testing report or the QA/QC summary report. Spiked samples shall be reported as percent spike recovery.

c. Other QA/QC Requirements

Acetone, methylene chloride, chloroform, and methyl ethyl ketone (MEK) detected in soil and ground water contaminants shall be considered laboratory contaminants. It shall be the lab's responsibility to determine if the laboratory processes introduced these chemicals to the samples.

With the draft Site Investigation report, the Consultant shall submit to STATE the lab's written discussion documenting QA/QC evaluation and analytical checks.

Task Orders, which have more than 50 soil or ground water samples, shall also include a holding timetable. The holding timetable shall include the sample collection date, the date the sample was received at the laboratory and the dates the sample was extracted and analyzed.

18. Geotracker Requirements

Some Task Orders will include investigation at sites under State Water Resources Control Board (SWRCB) oversight. Analytical results for these task orders will be submitted to the SWRCB Geotracker program.

19. Decontamination

- a. All personnel shall be decontaminated before leaving the site exclusion zone as specified in the Site Health and Safety Plan.
- b. Consultant shall equip, supply, and maintain an on-site decontamination station for the drilling, installation and sampling equipment. Consultant shall ensure that this station has the capacity to contain all decontamination fluids used in the decontamination

- procedure. Consultant shall collect these fluids in appropriate containers. Consultant shall manage and dispose of these materials as part of the Task Order in compliance with all-applicable regulations and permits.
- c. Consultant shall wash and clean all equipment before initiating work at the site. This includes drilling machines, pipes, rods, samplers, pumps, casing, screens and any other material brought onsite. Before reuse of any equipment at another drilling location at the site, all equipment shall be decontaminated.
 - d. General requirements for decontamination include:
 - i. Auger flights and other tools used in drilling, monitoring and sampling shall be steam-cleaned before initial use and between boreholes.
 - ii. Before each use sampling tubes, stainless steel liners and bailers shall be rinsed in a mixture of Liquinox, or similar non-phosphate product, and clear water, rinsed in clear water, then rinsed in distilled water and air-dried.
 - e. The Consultant shall avoid contamination of the project area and shall not dump waste oil, drilling fluids, rubbish or other materials on the ground. All equipment, unused materials, temporary facilities and other miscellaneous items resulting from or used in the operation shall be removed from the site. Any existing facilities damaged during site activities will be replaced or repaired at the Consultant's expense. Site cleanup shall be completed to the satisfaction of the Caltrans Contract Manager.
20. Disposal (decontamination water, well development and purge water, and boring cuttings)
- a. The Consultant shall properly collect these materials in containers (e.g. drums and dumpsters). All containers shall be properly labeled with the Consultant's name and borehole identification. The Consultant shall properly dispose of the containers with contaminated materials within 60 days after results of laboratory chemical analysis from the investigation are available to the Consultant, unless otherwise specified in the Task Order. Soils found to be clean may be disposed of on the selected sites, depending on site conditions, or other sites acceptable to the Caltrans Contract Manager. No liquid or solid wastes shall be allowed to enter storm drains or waterways. Trash, rags, tyvec or similar materials shall be disposed of in containers separate from the cuttings.
 - b. Work under this contract shall conform to the requirements of National Pollutant Discharge Elimination System (NPDES) Permit for

the State of California Department of Transportation Properties, Facilities, and Activities, No. CAS000003, issued by the State Resources Control Board. This permit, hereafter referred to as the "Permit," regulates storm water discharges associated with construction activities.

- c. Hazardous Waste Manifest - Caltrans Contract Manager or his/her designated representative will sign all Hazardous Waste Manifests for hazardous waste removed from the site. The CONSULTANT shall not sign the Hazardous Waste Manifest as the generator.

21. Obtain Permits and Rights of Entry

a. Encroachment Permits

For contract work on Caltrans' Right of Way, an executed contract constitutes the Consultant's "Encroachment permit." The Consultant (prime as well as any subs) shall carry a copy of the fully executed contract along with the pertinent task order(s) at all times while conducting work for Caltrans within the Caltrans' right of way.

b. Rights of Entry

For contract work on property not owned or controlled by Caltrans, all permits and, agreements will be obtained by Caltrans in the advance of Consultant's activities. The Consultant is required to perform the following:

- i. The Consultant shall not enter property or facilities not owned by the Caltrans without prior permission or permit obtained through the State.
- ii. The Consultant shall notify Caltrans, in writing, in advance of their need to enter said property or facility to perform work.
- iii. The Consultant notice shall specify the date, purpose, duration, location, and the time of day of the Consultant's activities.
- iv. The Consultant shall comply with all reasonable conditions imposed by the Contract Manager and requirements set forth in the permission, permit, or agreement.

K. Hazardous Waste Sites Survey (WBS 235.10.10)

The Consultant shall perform surveying, inspection and testing, as applicable, of buildings, structures, stored materials, tank contents and containers to determine

whether hazardous waste or materials are present. Typical surveys would include inspections for:

- Asbestos Containing Materials (ACM) in buildings, bridges, and utilities.
- Lead based paint on surfaces of bridges, buildings, and yellow traffic striping.
- PCB-containing materials in transformers, equipment and containers.
- Fuels and other chemicals in tanks, barrels and storage containers.
- Hazardous materials being used or stored in buildings or structures.

1. Asbestos Survey

Prior to demolition, the Consultant shall conduct a pre-sampling survey of all accessible areas of structures and facilities to determine the presence of ACM requiring removal.

In the asbestos survey Work Plan, the Consultant shall provide documentation that Consultant's personnel who conduct asbestos surveys have, as a minimum, current Asbestos Hazard Emergency Response Act (AHERA) training for building inspections and sampling, and that they comply with Title 8, California Code of Regulations certification requirements for asbestos Consultant and site surveillance technicians. After the Work Plan has been submitted and reviewed by Caltrans, representative samples of suspect materials shall be taken, as delineated in the Task Order and Work Plan, and analyzed using State-certified laboratory procedures.

2. Lead-Based Paint Survey

The Consultant shall conduct a pre sampling survey of all accessible areas of structures and facilities to determine the presence of lead based paint and the condition of paint. Samples may be collected from bridges, buildings, yellow traffic striping and other surfaces as directed by the Task Order.

In the survey Work Plan the Consultant shall provide documentation that personnel who conduct lead surveys have, as a minimum, current Certified Lead Inspector/Assessor training for building inspections and sampling and that they comply with California Department of Health Services (Title 17, CCR, Sections 36000 and 36001). After the Work Plan has been submitted and reviewed by Caltrans, samples representative of the suspect painted material (wood, steel, asphalt, concrete, dry wall, or other painted materials) shall be analyzed using State-certified laboratory procedures. Paint chip samples may be placed in individual containers, including self-sealing plastic bags, or glass jars.

X-ray Fluorescence (XRF) testing may also be used as appropriate for the testing of paints and other materials for the presence of lead, zinc, or chrome, etc. If XRF testing is used by the Consultant, it shall be done in

accordance with all applicable Federal, State and local regulations, procedures and ordinances. A discussion of testing procedures used, applicable regulations and data interpretation and evaluation shall be included in the final report.

3. Tanks, Barrels, Storage Containers Survey

The Consultant shall conduct a pre-sampling survey of the designated site. Samples may be collected from aboveground or underground tanks, barrels or storage containers.

The survey Work Plan shall provide a container-sampling plan including recommended analysis and sampling equipment. The Consultant shall pay particular attention to Health and Safety and recommend any specific sampling safety requirements for unknown materials. After the Work Plan has been submitted and reviewed by Caltrans, samples from aboveground or underground tanks, barrels or storage containers shall be analyzed using State-certified laboratory procedures.

If, in the judgment of the Consultant, this work appears to be dangerous or requires more than Level C safety protection, the Consultant shall stop work and contact the Caltrans Contract Manager.

L. Report Requirements

Unless otherwise specified, all reports shall include, but are not limited to, the followings:

- Title Sheet – Identifying Contract and Task Order numbers, all EA's included in the report, project name, project location, Consultant's name, name of author and date prepared
- Signature Page – Signature, title, and registration number of the Consultant's Task Order Manager and/or professional responsible for the report
- Table of Contents
- Investigative Summary – Present and summarize the findings of the report
- Project Description – Briefly describe the project undertaken
- Reference List – If applicable

In addition, the specific individual reports shall incorporate sections as follows:

1. Initial Site Assessment Reports

The Initial Site Assessment (ISA) report shall include, but is not limited to, the following:

- a. Background section including:

- i. Aquifer descriptions (depth to ground water, gradient, conductivity, yield, quality and beneficial uses). Public sources such as Department of Water Resources (DWR) reports, area site investigations, and United States Geologic Survey (USGS) reports will be typical sources for this information.
 - ii. Geologic units. Geologic and Hydrologic information should be scaled to the freeway project. The shallow subsurface conditions, i.e. less than 5 feet, will have the greatest impact on construction.
 - iii. Location and use of ground water monitoring wells in the project vicinity. Public sources such as the Department of Water Resources, Regional Water Quality Control Boards, cities and counties will have well records.
- b. Historical background summary
- c. Investigative narrative including:
- i. Investigative methods and evaluation criteria
 - ii. Known hazardous waste sites (problem type, Federal or State, impact, schedule for cleanup)
 - iii. Potential hazardous waste sites (name, type of operation, why suspect, potential area of impact)
 - iv. The following information for all known and potential hazardous waste sites:
 - The name, addressee and telephone number of the business/owner(s) of each such site
 - The type of hazardous waste/material containers involved at each site, such as sludge pits, ponds, underground or aboveground storage tanks.
 - Chemicals/hazardous materials that have been stored/used in the past at each site, and the known generators (if available) of that material
 - Permits, violations, plans, records and any other information reviewed
 - Site sketches, site photographs and descriptive comments to identify important features such as major utilities at each site.
 - Site maps for every site with features of concern identified, at a scale of 1:1000 unless otherwise specified in the Task Order, and depicting the relationship between the contamination and the proposed right of way and pertinent project features
- d. Maps including site features, corresponding symbols and physical features such as geologic units, aquifer descriptions, and depth to ground water

- e. A description of how project work will affect, or impinge upon, the suspect site (i.e., area of soil contamination in relation to construction excavation)
 - f. The Consultant may be required to perform preliminary endangerment assessment (PEA) work. If the suspected contamination is impacted by the project, a description of how the suspect site will affect public health and the surrounding environment will be required.
 - g. A list of sites that are recommended for detailed site investigations. To facilitate scheduling these future site investigations, the sites on this list shall be prioritized—ranked by magnitude of potential hazardous waste problem and estimated expense for follow-up investigations, monitoring and mitigation. The rationale used for this prioritizing of sites shall be fully explained in the report.
 - h. Description of the magnitude of each hazardous waste problem in terms of length of time and approximate costs for mitigating the problem
 - i. Description of future plans, if any, (by the U.S. Environmental Protection Agency, California Department of Toxic Substances Control, Regional Water Quality Control Board, or others) to remediate the hazardous waste sites listed in the ISA
 - j. Resumes of staff performing the ISA.
 - k. Description of the ISA development process followed.
 - l. Identification of individuals or agencies contacted in developing the information included in the ISA. Identification shall include a complete list of contact names, phone numbers, dates contacted, and information reviewed.
 - m. The Consultant shall explain any limitations in the adequacy and/or conclusions reached in the assessment.
2. Historic Research Reports
- Historic research reports that are prepared for Initial Site Assessments shall include the following:
- a. Reports prepared and signed by a historian with a bachelor's or higher degree in History
 - b. Survey scope and methods

- c. Results of the research, focusing on properties which used or may have used hazardous materials and/or generated or may have generated hazardous waste
- d. Interpretation of results
- e. Recommendations
- f. Sources consulted
- g. Maps and figures, both historic and recent, depicting properties of interest.

3. Site Investigation Reports

The site investigation reports shall include the following items in the format described as follows:

- a. A Signature by a Registered Geologist or Registered Engineering Geologist.
- b. Introduction -This section shall include the general objectives of the investigation, a short chronology of site activities, previous site work, and items of work completed for the investigation.
- c. Investigative Methods -This section shall describe the field methods used for the investigation and any deviations from the workplan.
- d. Investigative Results and Field Observations -This section shall include a discussion of the site geology, hydrogeologic conditions observed during the investigation, and chemical test results. The data shall be presented clearly and concisely, including reference to previous work or results, and shall be summarized in table form.
- e. Description of any contacts with regulatory agencies or personnel.
- f. Internal Data Validation – The Consultant shall perform data validation for each task order
- g. Data Evaluation and Discussion - Site investigation results shall be evaluated in the report. Data evaluation shall include:
- h. Maps showing the site, feature locations, boring and well locations, vertical and horizontal extent of contamination, contour maps of contaminant concentrations, and hydraulic gradient. All maps shall have title blocks, scale and north arrow. Consultant shall obtain the Caltrans Contract Manager's approval of map scales.
- i. Cross sections showing subsurface geologic and hydrologic conditions, sample results and estimated extent of contamination. Consultant shall estimate the volumes of contaminated soil and ground water present and shall describe fully the assumptions and calculations on which estimates are based.

- j. Charts showing contamination levels of soil and/or ground water in specific, identifiable locations.
- k. Color photographs that document the site surroundings, the investigation area with flagged boring locations, and any significant geological features. If specified in the Task Order or requested by the Caltrans Contract Manager, Consultant shall provide additional photographs that document the progress of the investigation and any significant areas or activities.
- l. Statistical analyses of sample results, estimating trends, contaminant distribution and average concentration.
- m. Maps, cross sections, and graphs that shall be supported by data and shall be included in the reports.
- n. Summary of laboratory results.
- o. Conclusions and Recommendations - This section shall describe the type, extent, and estimated amount of contamination. Recommendations for any necessary additional work to characterize the site and the estimated cost of that work shall be included in this section.
- p. Identification of subconsultant and staff performing work, including resumes, if they were not provided in the cost proposal or work plan.
- q. Appendices that contain all data used to support the report, such as:
 - i) Well and boring logs for both existing and new well and soil borings. This includes all wells that can influence hydrogeologic conditions of the site, not just wells used to develop cross sections. Both field and final logs shall be included in the report.
 - ii) Copies of well permits from the Department of Water Resources, county regulatory agencies or other applicable permits.
 - iii) Laboratory analysis of each sample tested. Laboratory reports shall include Chain of Custody forms that contain required EPA and Department of Health Services information, (See Laboratory Test Report section for reporting requirements.)
 - iv) Surveyed elevations and horizontal positions of wells and borings, bench marks and monuments (third order survey). Maps showing relative positions and coordinates of these features.

4.) Lead in Soil Investigation Reports

The Lead in Soil Investigation Reports shall include the following items in the format described below:

- a. Signature by a Registered Geologist or Registered Engineering Geologist .
- b. Investigative methods - This section shall describe the field methods used for the investigation and any deviations from the workplan.
- c. Investigative Results and Field observations - This section shall include a discussion of the sediment conditions observed during the investigation, and chemical tests-results (as described in laboratory testing). The data shall be presented in clear, concise form and summarized in table form, including previous works or results.
- d. Data Evaluation and Discussion - Site investigation results shall be evaluated in the report. Data evaluation shall include:
 - i. Maps showing the site, boring locations, total and soluble lead levels found in each boring. All maps shall have title blocks, scale and north arrow. Caltrans Contract Manager shall approve map scale. Map sheets supplied by the Caltrans Contract Manager shall have the Engineer's stamp removed from the maps used in the report.
 - ii. Tables of laboratory results showing total and soluble lead levels in soil samples with specific locations identified. Extraction ratio for total versus soluble shall be included.
 - iii. Statistical evaluation, tables and graphs. The mean, median, standard deviation, and the calculated 90th and 95th Upper Confidence Limit (UCL) percentiles of the total lead and soluble lead distributions (as specified in the Task Order) shall be calculated and presented. The report shall include a graph showing the total versus soluble lead levels and a least squares (or other method) regression line. The report shall include a determination of the concentration and show the total and soluble lead concentrations that would be expected in each layer of soil depending on how the various levels of soil were segregated. The data shall be compared to Title 22 criteria and the DTSC Variance. The statistical results shall be clearly described in the text.
- e. All maps, cross-sections, and graphs shall be backed up by data and shall be included in the reports.
- f. Conclusions and Recommendations - This section shall describe the type, extent, and estimated amount of contamination. Recommendations for material handling shall be presented based on DTSC Variance requirements or exceptions.
- g. Identification of Consultant and subconsultant and staff performing work, including resumes, if they were not provided in the cost proposal.

- h. Laboratory analysis of each sample tested. Laboratory reports must include Chain of Custody forms that contain required EPA and Department of Health Services information (See Laboratory Test Report section for reporting requirements.)
- i. At least one representative typical cross-section shall be prepared showing average statistical lead concentrations (90% UCL and 95% UCL) for both TTLC and STLC data, relative to the depth and distance from the edge of roadway pavement.

5) Monitoring Wells Reports

Monitoring well reports shall include a summary of any field activities and observations, water level measurements, groundwater gradient and a summary of the laboratory results and conclusions from the work. Analytical results for samples taken from permanent monitoring wells shall be uploaded to the State Water Resources Control Board GeoTracker electronic reporting system.

The following shall be included as appendices to the Monitoring Well Report as appropriate to the investigation or as directed by the Caltrans Contract Manager:

- a. Site Background
- b. Base maps with groundwater gradient
- c. Discussion of changes noted from last season or monitoring event. Base maps with contaminant concentrations
- d. Charts of changes in ground water elevation with time, elevation vs. contaminant concentrations
- e. Groundwater sampling field data sheets
- f. Cumulative tables of well elevations, analytical and water data
- g. Laboratory reports (in tabular form)
- h. Chain of Custody forms

6)- Soil Gas Survey Reports

When soil gas activities are included in the Task Order, the following information shall be included in the report, in addition to the general site investigation reporting requirements:

- a. Data Presentation:
 - i. Concentration contour map of sample area with the property boundaries indicated and probe location (logged and numbered) shown

- ii. Explanation of data anomalies
- b. Description of Soil Gas Survey:
 - i. Daily logs of sampling procedures and results
 - ii. Chronology of daily sampling and probe hole logs
- c. Quality Assurance/Quality Control (QA/QC) Summary:
 - i. Description of procedures, results, corrective action taken and effect on data
 - ii. Table comparing QA sample results with known QA sample concentrations

7)- Geophysical Reports

When geophysical activities are included in the Task Order, the following additional categories of information shall be presented in the site investigation report:

- a. Signature by a Registered Geophysicist in the State of California
- b. Data Presentation, including:
 - i. survey area with property boundaries
 - ii. mapping at a scale no smaller than 1:1000
 - iii. sampling points for magnetometer surveys measured at no greater than 5 feet intervals, unless the Caltrans Contract Manager approves greater intervals
 - iv. cross sections along lines of investigation
- c. Description of field work
- d. Interpretation of all data, conclusions, and recommendations for additional work.
- e. Excel-or ACSII- compatible format computer files of the site investigation and evaluation data including a summary of all supporting data used to compile the report, if requested by the Caltrans Contract Manager;
- f. Raw data if requested by the Caltrans Contract Manager.

8) Trenching Reports

When trenching activities are included in the Task Order, the following information shall be included in the site investigation report:

- a. Detailed description of the subsurface conditions with color photographs and sketches to illustrate subsurface features

- b. Description of the field activities
- c. Summary table of Organic Vapor Analyzer (OVA) and Photo Ionization Detector (PID) readings, when they were taken, and summary tables of the sample results
- d. Map showing the trench locations and the sampling locations within the trenches, as well as other relevant site features, such as boring and monitoring well locations
- e. Analysis of the subsurface conditions found in the trench and how the results relate to conditions found in any other phase of the investigation

9) Risk Based Corrective Action (RBCA) Reports

The reporting format shall follow the general Site Investigation format requirements. The contents shall follow ASTM Designation E 1739-5, Standard Guide for Risk-Based Corrective Action Applied at Petroleum Release Sites. Risk assessments may be performed for human receptors, for biological/ecological system receptors, or for both as specified in the Task Order.

10) Laboratory Test Reports

Complete copies of all laboratory reports, including QA/QC summary reports, shall be placed in an appendix of the laboratory report. Draft copies of raw laboratory data shall be faxed, or electronically submitted, to the Caltrans Contract Manager when requested. Chromatographs, graphical presentations and summaries of the laboratory data shall be provided with the laboratory reports at no additional cost to Caltrans. The Consultant shall keep the chromatographs on file and shall provide them upon Caltrans request. Laboratory test reports shall contain all of the following information:

- a. Name of analytical laboratory
- b. Address of laboratory
- c. Telephone number of laboratory
- d. Laboratory number for each sample reported
- e. Consultant's number for each sample reported, if applicable
- f. Date sample(s) collected
- g. Date sample(s) received by laboratory
- h. Date of laboratory testing
- i. Brief sample description (i.e. soil, water, sludge)
- j. Specific test method.

- k. Extraction method utilized (if not unique to test method)
- l. Test result for each sample and method (reported in mg/kg or mg/liter as appropriate)
- m. Limit of detection for each test method (reported in mg/kg or mg/liter as appropriate)
- n. Written explanation of higher detection limits, dilution factors, laboratory contaminants, or other unusual results.
- o. Samples which failed QA/QC procedures and why
- p. Date of test reports
- q. US EPA Region IX's current Preliminary Remedial cleanup Goals (PRG) for industrial sites for the contaminants of concern when requested by the Caltrans Contract Manager
- r. Signature and title of the director of the laboratory

11) Remedial Action Options Reports

If requested in the Task Order, this report shall include a review of all potentially feasible remedial actions and their potential costs. The review must be of sufficient depth and breadth for Caltrans to make an informed decision on the most appropriate remedial technology for a specific hazardous waste problem at a specific site. The development of a Remedial Action Options Report does not include the design of a remedial action or cleanup. The options report shall include:

- a. An analysis of the "do nothing" alternative and analyses of at least two other remedial alternatives. The analysis of each alternative should address time; operation and maintenance requirements; risks to health and environment; cost-effectiveness; level of cleanup; potential economic impact on the responsible party; the physical limitations of the site; and the impact of the cleanup methods on the continuing site activities, future construction activities and use by Caltrans.
- b. Prediction of each treatment alternative's effectiveness on the material in question, and the applicability of the alternative relative to the project life.
- c. Reliability of each alternative in terms of its demonstrated degree of effectiveness at other sites and its operation and maintenance requirements.
- d. Ability to implement each alternative, in the context of the site conditions, location and time frame.
- e. Discussion of any possible adverse impacts to public and site-worker health and safety presented by alternative treatments.

- f. The regulations that will control each alternative and the permits required to implement the alternative.
- g. Identification of the public health concerns of the current site conditions, as well as those during and after the treatment or alternative action.
- h. Direct and indirect capital costs, including engineering, equipment, labor and materials for the installation and construction of each remedial action alternative.

If the Consultant finds that any additional data and information is needed before a remedial action alternative can be chosen and designed, the Consultant shall describe them in the report.

12) Survey Reports

This section describes standard reporting requirements for all types of surveys (e.g., asbestos, lead-based paint, PCBs, containers, barrels, tanks). The report shall include, but is not limited to, the following:

- a. Signature by a Registered Geologist or Engineering Geologist, as well as signature by certified asbestos or lead inspector responsible for asbestos or lead survey work
- b. Introduction - This section shall describe the general objective of the investigation, a short chronology of the site, previous site work, and items of work completed for the survey investigation.
- c. Investigative Results and Observations - This section shall be written in clear concise form and summarized in table form. It shall include a discussion of the following:
 - i. Location of ACM, lead-based paint, PCB, barrel(s), and tank(s)
 - ii. Estimated quantities of ACM, PCB, barrel(s), and tank(s)
 - iii. Type of material (i.e. tiles, acoustical spray-on, and insulation)
 - iv. Condition/distribution of material
 - v. Locations where obvious flaking lead based paint would have to be removed prior to demolition
 - vi. Drawing or plan showing location of the following (at a scale no greater than 1:200, unless otherwise specified in the Task Order):
 - Sampling points
 - ACM - friable or non-friable
 - Containers - barrels, and tanks

- Hazardous materials/waste storage
 - d. Photographs of the exterior of structures, of sample locations, of representative surface conditions, and of any significant areas, as requested by the Caltrans Contract Manager.
 - e. Chemical Test Results - As stated in Part 4 - Laboratory Test Reports
 - f. Naturally occurring asbestos lab results which include point counting, as per Air Resources Board (ARB) Method 435, Section 7
 - g. Discussion of whether there is a need for National Emission Standards for Hazardous Air Pollutants (NESHAP) and Air Quality Management District notifications during construction and/or demolition
 - h. Appendices - Reports shall contain, or be accompanied by appendices that contain, all data used to support statements of the report, such as:
 - i. Copies of permits needed to gain access to site (if applicable)
 - ii. Laboratory analysis of each sample tested. Lab reports must include Chain of Custody forms that contain required EPA and Department of Health Services information. Refer to the Laboratory Testing section reporting requirements
 - iii. Discussion of waste disposal requirements, including waste classification, packaging requirements, USDOT requirements, manifesting and generator ID requirements.
- 13) Quality Assurance/Quality Control Reports
- The QA/QC summary reports shall include:
- a. Temperature of incoming samples
 - b. Constituent/analyte
 - c. Specific test method
 - d. Date (include holding timetable for more than 50 samples)
 - e. Detection limit of the specific test method (mg/kg or mg/liter)
 - f. Percent accuracy and precision
 - g. Signature of laboratory manager or director