



STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

REQUEST FOR QUALIFICATIONS NOTICE

NUMBER 12A2042

Read carefully as the following revisions have been made to this document:

- **On 04/01/22, GENERAL, Ukraine-Russian-related Sanctions Requirement added**
- **On 04/01/22, SUBMISSION OF STATEMENTS OF QUALIFICATIONS (SOQs), the electronic submittal time changed to 10:00am**
- **On 01/18/22, under DBE Goals, section 2 added NAICS Codes.**

Note: Questions concerning this Request for Qualifications (RFQ) must be submitted in writing to the attention of Michelle Nelson at michelle.nelson@dot.ca.gov. Questions must be received no later than seven (7) business days after the RFQ advertisement. Consultants contacting the District or Division directly seeking information about this RFQ will be disqualified from consideration in the selection process.

Proposers are advised that Caltrans has established a federally mandated overall annual DBE goal comprising both race neutral and race conscious elements to ensure equal participation of DBE groups specified in 49 CFR 26.5. In compliance with 49 CFR 26, Caltrans set a contract goal for DBEs participating in this solicitation expressed as a percentage of the total dollar value of the resultant Agreement. The DBE participation goal for this solicitation is twenty-two percent (22%). See section I.H. in this RFQ for requirements.

I. GENERAL INFORMATION

- A. Caltrans is soliciting Statements of Qualifications (SOQs) from qualified firms that may lead to the award of a contract for On-Call Construction Inspection Services. In submitting your SOQ, you shall comply with the instructions found herein. In addition to those programs that are specified in this solicitation, prospective consultants are encouraged to consider programs that are available, such as those for the use of small businesses, disadvantaged businesses, disabled veteran businesses, new emerging firms, and other businesses covered by State and Federal programs.
- B. The estimated contract amount is \$5,600,000 - \$9,100,000
- C. The estimated contract term is three (3) years.

- D. Interviews will be held via WebEx on November 15, 2022. Confirmation letters will be sent to those firms short-listed.
- E. The most highly qualified consulting firm will be required to submit an electronic copy of the financial documents listed on the appropriate Financial Documents Submittal Checklist available on the [AE Contract Information](#) website. The most highly qualified consulting firm will be notified of their selection and receive instructions for the electronic submission of the financial documents.

The most highly qualified consulting firm must submit a complete financial documents package no later than five (5) business days after notification of selection. The prime consultant must submit the complete financial documents package in order for Caltrans to have the information necessary to engage in negotiations. The prime consultant is solely responsible for timely and complete submission of financial documents on behalf of the entire proposed team; financial documents will not be accepted from proposed subconsultant firms. Failure to submit a complete financial documents package by the specified due date may result in termination of negotiations with the most highly qualified consulting firm.

- F. Negotiations will be held with the top-ranked firm by teleconference/WebEx during the week of November 21, 2022. The fee for profit shall be 10.0 percent, and the escalation shall be as follows:

Period	Escalation
9/29/2022 – 9/30/2023	0%
10/1/2023 – 9/30/2024	1.5%
10/1/2024 – 9/30/2025	3.0%
10/1/2025 – 3/31/2026	3.0%

Notes:

1. Partial year will only occur on the last year of the contract term. All other periods are full years.
2. Increases to the loaded billing rates after contract execution is not authorized for any reason per Article IV, Section 17 and Article XVI, Section 6 of the California Constitution.

- G. The scheduled date to complete cost negotiations and submit final cost proposal is January 5, 2023.
- H. Disadvantaged Business Enterprise Program
 1. This solicitation and resultant Agreement is financed in whole or in part with federal funds and therefore subject to Title 49, Code of Federal Regulations, Part 26 (49 CFR 26) entitled "Participation by Disadvantaged Business Enterprises in Department of Transportation Financial Assistance Programs." To ensure equal participation for

Disadvantaged Business Enterprise (DBE) groups specified in 49 CFR 26.5, Caltrans specifies a contract goal for DBE participation. The required goal for DBE participation in this solicitation is not less than twenty-two percent (22%).

2. Only participation by certified DBEs will count toward the contract goal for this solicitation. In order to count toward a contract goal, a firm must be certified as a DBE by the California Unified Certification Program (CUCP) and possess the NAICS and work codes applicable to the type of work the firm will perform on the Agreement by the SOQ submittal due date. NAICS and Work codes are provided by the [Office of Civil Rights](#) website.
3. It is the proposer's responsibility to verify that the DBE firm is certified as a DBE by the specified SOQ submittal due date and time. The list of DBEs certified by the CUCP are located on the [Office of Civil Rights](#) website.
4. A DBE must perform a commercially useful function (CUF) for the type of work it will perform on the Agreement as provided in 49 CFR 26.55(c)(1)-(4). A DBE performs a CUF when it is responsible for the execution of a distinct element of the work of the Agreement and is carrying out its responsibilities by actually performing, managing, and supervising the work involved.
5. See "Statement of Qualifications Submittal Instructions and General Contract Process Information" for detailed information and references to the required forms. Required forms will be made a part of the Agreement. Failure to meet the DBE goal or Good Faith Effort requirements and provide required DBE participation at due date and time of SOQ submittal may result in the SOQ submittal being rejected as non-responsive.
 - I. Federal and/or State prevailing wage rates may apply. This requirement, if applicable, will be specified in the draft Agreement. See SOQ Submittal Instructions, Section I., H. regarding the California Department of Industrial Relations (DIR) Consultant/Contractor Registration Program on the AE Contract Information website.
 - J. Caltrans does not guarantee, either expressly or by implication, that any work or services will be required under any contract issued as a result of this RFQ.
 - K. A Pre-award or Post-award Audit will be performed on any contract issued as a result of this RFQ.
 - L. Contract boilerplate can be obtained on the AE Contract Information website.
 - M. Pursuant to Executive Order (EO) N-6-22 issued March 4, 2022, persons identified in the list established by the US Department of the Treasury are

ineligible to bid on, submit a proposal for, enter into, or renew any Agreement with the State for any goods and/or services.

Any person who submits a bid or proposal to Caltrans certifies that it is not identified in the most current lists located <https://home.treasury.gov/policy-issues/financial-sanctions/sanctions-programs-and-country-information/ukraine-russia-related-sanctions>.

If applicable, any person who submits a bid or proposal to Caltrans certifies that its subcontractors are not identified in the most current lists located <https://home.treasury.gov/policy-issues/financial-sanctions/sanctions-programs-and-country-information/ukraine-russia-related-sanctions>

II. SCOPE OF WORK/DELIVERABLES

The work to be performed for this RFQ is described in the Scope of Work/Deliverables and is hereby incorporated as Attachment 1.

III. CONFLICT OF INTEREST

- A. Conflicts of interest may occur due to direct or indirect financial or business interests in the work to be performed or in any real property acquired for such project. Conflicts of interest can include, but are not limited to, past, existing or planned activities or because of relationships with other persons or firms. If there is a conflict of interest, the proposed team, including both the prime consultants and subconsultants, and individual employees of team members would actually or potentially be unable to render impartial assistance or advice to Caltrans. The proposer's objectivity or availability in performing the contract work may be impaired due to actual or potential conflicts of interest.
- B. If the proposed team determines that any actual or potential conflicts of interest exists, it must identify and describe in detail each conflict of interest to Caltrans, using the Disclosure of Potential Conflict of Interest Form, which can be found on the [AE Contract Information](#) website. Along with the description of the actual or potential conflicts of interest, the proposed team shall also offer measures to avoid, neutralize, or mitigate all listed conflicts. The list of conflicts, including conflicts that apply to individuals as well as firms, and the mitigation measures on the Disclosure of Potential Conflict of Interest Form must be submitted as a separate section in the Statement of Qualifications. Disclosure of information will not disqualify a proposed team from competing for a contract. The existence of actual or potential conflicts of interest will be used as a criterion to evaluate team availability during the evaluation and selection process. Caltrans reserves the right to terminate negotiations with the first selected firm and begin negotiations with the next selected firm or to cancel the procurement prior to execution if Caltrans learns that the selected team failed to disclose any actual or potential conflicts, which it knew or should have known about, or if the proposed team provided or omitted information

on the disclosure form that results in the information being false or misleading.

- C. After award, conflict of interest guidelines and policies shall continue to be monitored and enforced by the Caltrans Contract Manager. Additional information about Conflict of Interest issues can be found in the SOQ Submittal Instructions and General Contract Process Information document (Section V. Post Government Employment Restrictions and Section VI. Conflict of Interest Concerning Consultant(s)) found on the [AE Contract Information](#) website. The State and Federal contract boilerplates on DPAC's website also contain information on conflict of interest issues (Exhibit D) and can be found on the [AE Contract Information](#) website.
- D. The prime consultant and subconsultants may be proposed on SOQs for other Caltrans A&E on-call contracts; however, the Caltrans Contract Manager may prohibit work on specific project(s) where Caltrans determines that a conflict of interest exists.

IV. SUBMISSION OF STATEMENTS OF QUALIFICATIONS (SOQs)

- A. **IMPORTANT:** Download "Statement of Qualifications Submittal Instructions and General Contract Process Information" from the [Streamlined A&E Contract Process](#) website . Failure to follow these instructions may result in rejection of your SOQs.
- B. SOQ Package Submittal Instructions

Read instructions below carefully. You will be required to submit an electronic SOQ file to Sacramento.

1. The electronic submission of a single unprotected (i.e. not password protected) PDF file of the SOQ is required. The electronic submittal will be accepted until **10:00 a.m. on October 31, 2022**. Hard copies of the SOQs are **NOT** required. Fax copies or copies transmitted by email will not be allowed.
2. You will be required to create a Novell Filr account with Caltrans. Send an email message to the Contract Analyst, Michelle Nelson, at michelle.nelson@dot.ca.gov containing the information listed below for a link and instructions to complete the self-registration page and submit the SOQ electronically.
 - Your firm's name
 - Your email address
 - The solicitation number for which you would like to submit a SOQ

The file name shall include the contract number, consultant name (max. 25 characters) separated by an underscore (_), ending with the “.pdf” extension.

Example A: 50A0694_JohnDoeConsulting.pdf

Example B: 50A0694_aaa1234engineer.pdf

3. SOQ submittals will be considered non-responsive if the electronic submittal is not received by the date and time specified in this RFQ.

C. Request for RFQ Copies

Copies of this RFQ may be obtained on the [CaleProcure](#) website.

**SCOPE OF WORK/DELIVERABLES
 ROADWAY CONSTRUCTION SERVICES**

For Caltrans, Division of Project Delivery, District 12
On-Call Contract

A. Purpose of Work.

The Consultant shall perform professional and technical services required for Roadway Construction Services, on an “as-needed” basis to support Caltrans, Division of Project Delivery, District 12, in the construction of proposed Caltrans transportation facilities.

B. Explanation of Work.

The Caltrans Contract Manager shall assign specific work to the Consultant through the issuance of Task Orders describing in detail the services to be performed. The Consultant shall only perform work that is assigned in an authorized Task Order. This Contract does not guarantee that a Task Order shall be issued.

This contract is to replace the existing contract 12A1887 when the existing contract is exhausted or the replacement contract is executed, whichever occurs sooner.

1. Exclusion of Work.

- a. All Roadway Construction Services associated with structures including, but not limited to, bridges and buildings, are specifically excluded from the scope of this Contract.
- b. The following projects are excluded from this Contract:

Contract Number	Project Number	Co-Rte-PM	Project Description
12A1751	1200000633	12-ORA-057 PM 20.3/21/6	SR-57 and Lambert Road Interchange Improvements.

12A1860	1200000180	12-ORA-405 PM 9.3/24.2	I-405 Improvement Project (Design Build Delivery)
		07-LA-405 PM 0.0/1.2	
		12-ORA-22 PM R0.7/R3.8	
		12-ORA-22 PM R0.5/R0.7	
		12-ORA-73 PM R27.2/R27.8	
		12-ORA-605 PM 3.5/R1.6	
		07-LA-605 PM R0.0/R1.2	

C. Location of Work.

The work shall be performed on projects to improve the State transportation system throughout the counties of Orange in California within the limits of District 12. The specific location within the above-described geographical limits of the work to be performed within this geographic area shall be identified in each Task Order. It may become necessary for projects to extend into another adjoining District /County line. In such instances, the project work shall not extend more than a thirty (30)-mile radius from the geographic boundary.

D. Required Services.

1. Pursuant to an authorized Task Order, the Consultant shall provide Roadway Construction Services within the geographical jurisdiction of this Contract set forth in “Location of Work” Section, and all necessary personnel, material, transportation, lodging, instrumentation, and the specialized facilities and equipment necessary to satisfy all appropriate agencies and required to ensure compliance with all applicable Federal, State, and Local statutes, laws, codes, regulations, policies, procedures, ordinances, standards, specifications, performance standards, and guidelines, applicable to the Consultant's services and work product. The specific Roadway Construction Services shall be described in the attachment templates chosen to create the scope of work for this contract. The attachment template(s) that were used with this base template to create a scope of work as follows:

- A - Roadway Construction Inspection and Office Engineering
- B - Electrical Construction Inspection
- C - Landscape Architectural Construction Inspection
- D - Construction Claims Support
- E - Construction Scheduling / CPM

F - Construction Materials Sampling and Testing
G - Construction Stormwater Implementation

2. Provided in Attachment 1A is a list of proposed Caltrans projects in District 12. This list is not exclusive, however, and it does not constitute a commitment that the projects will be initiated or completed or work assigned to the Consultant. Caltrans reserves the right to add or delete from this list of projects that are within the geographical jurisdiction of this Contract set forth in "Location of Work" Section.

Caltrans intends to utilize this Contract to complete a specific piece of work as long as it is located within the geographical jurisdiction of this Contract set forth in the "Location of Work" for each of the projects listed in this Contract utilizing the services described in this Scope of Work and as described in a Task Order. In the future, Caltrans may find it necessary to create a separate contract (or contracts) that involves a specific project listed in this Contract and includes part of the work contained in this Contract. Caltrans reserves the right to procure Architectural and Engineering (A&E) services involving the listed projects or unlisted projects (within the geographical jurisdiction of this Contract set forth in "Location of Work" Section) involving in whole or in part the same work using a project-specific agreement if the schedule to complete performance of the specific project extends beyond the term of this Contract or the cost to complete the specific project exceeds the dollar balance remaining in the Contract after accounting for amounts due to the Consultant for work previously performed and for work that is scheduled to be performed in executed task orders.

Should a project-specific agreement be procured under these provisions, the parties mutually agree that, in accordance with Exhibit D, Section III, Termination of this Contract, Caltrans shall terminate for convenience the portion of the Contract that includes the common scope of work identified in the project-specific agreement per Exhibit D, Section III, Termination of this Contract. Such partial termination for convenience shall be processed by amendment to this Contract. Unless otherwise required by law, regulation, or Caltrans policy or procedure, the Consultant may compete for these project-specific Contracts.

3. In this Contract is a list of proposed personnel classifications for which services are anticipated to be needed by Caltrans during the term of this Contract. Caltrans reserves the right to add/or delete personnel classifications from this list. Consultant personnel will work under the general direction of either the Caltrans Contract Manager or a Caltrans Task Order Manager.
4. Consultant agrees that:
 - a. The Consultant Contract Manager or designee shall manage, instruct and supervise all Consultant employees and subconsultants, and shall not allow any other party to manage, instruct and supervise such parties.
 - b. Consultant shall employ and discharge its own employees and

subconsultants.

- c. Unless approved in writing by Caltrans Contract Manager, Consultant shall not hire employees or subconsultants to exclusively and only work on Caltrans matters. Consultant may hire employees and subconsultants for a specific Caltrans matter provided such party has the skills and knowledge to work on other matters and they are assigned to other matters from time to time.
 - d. The work performed by Consultant, its employees and its subconsultants shall be a regular part of Consultant's regular and established business.
 - e. Consultant shall make all of its own business (including personnel) decisions and bear the risk for its decisions.
 - f. Consultant shall provide its own tools, equipment and supplies, and Consultant shall not rely on Caltrans to provide such tools, equipment and supplies. Notwithstanding the foregoing, Caltrans may, during the term of the Agreement, allow Consultant to access selected items of equipment; provide non-employee userids and related access to Caltrans computer systems to Consultant employees and subconsultants; and provide non-employee access cards and other such forms of identification to Consultant employees and subconsultants.
 - g. Consultant shall provide its own training to its employees and subconsultants, and Consultant shall not rely upon Caltrans to provide such training.
 - h. Consultant shall advise its employees and subconsultants of the foregoing contract terms that apply to them, and Consultant advise such employees and subconsultants to report to Consultant any apparent or actual breaches. Consultant shall relay any such reports to Caltrans.
5. A wide range of tasks associated with Roadway Construction Services should be expected. The Consultant shall perform and have the expertise, capability, and equipment necessary to perform this Scope of Work.
 6. At the sole discretion of Caltrans, Consultant may be required to provide the required services on safety projects, emergency projects, Emergency Storm Damage Projects, excess parcel assessments, or other current/future transportation projects, including minor projects not listed above, except for those specially excluded above, within the geographical jurisdiction of this Contract set forth in "Location of Work" Section.
 7. The potential projects may vary in scope and size, and may encompass any type of improvement for the State transportation system including, but not limited to, roadway rehabilitation, widening and/or realignment of existing facilities, relocation of existing facilities, and construction of new facilities. The project location, project limits, purpose, expected results, project deliverables, period of performance, project schedule, and scope of work to be performed shall be described in each Task Order.

8. Consultant shall be available, on two (2) days' written notice:
 - a. To meet with Caltrans or other Caltrans meetings.
 - b. To attend public meetings (day and evening) where an expert is required.
 - c. To participate in any public hearings necessary for a Project.
 - d. To provide technical expertise on an "as-needed" basis.
9. Maintaining a stable work force is essential to the successful completion of Caltrans work. Consultant shall implement a personnel retention plan strategy and shall submit a written plan with the Statement of Qualification submittal.
10. The Consultant may be expected to spend time for extended assignments to perform A&E services at Caltrans offices. At the sole discretion and convenience of Caltrans, Caltrans may permit Consultant to use office space, office equipment (such as copiers, printers and telephones) and furniture at various Caltrans (field) offices. Consultant will provide its own computers, office supplies, and related work materials. The Consultant, including its Subconsultants, shall include the Field Office Indirect Cost Rate in its cost proposals and use the Field Office Indirect Cost Rate in billing Caltrans for those personnel utilizing Caltrans' (field) office facilities, and the cost rates will reflect the Consultant's lower costs where Caltrans provides office space, office equipment and furniture. If the Consultant, including its Subconsultants, does not currently have a Field Office Indirect Cost Rate, it will develop and use a Field Office Indirect Cost Rate to reflect an equitable distribution of allowable costs to the contract (as specified in 48 CFR 31.203(f)). When working on-site in the Caltrans Facilities, the Consultant shall adjust its hours to meet the business needs of Caltrans and shall generally work and be present during Caltrans building business hours (which are 8:00 a.m. - 5:00 p.m.) The business hours can be adjusted in different Task Orders.

E. Workplan Standards Guide Codes.

Task Orders are based on the Caltrans Workplan Standards Guide (WSG). The latest WSG is found in the Guide to Project Delivery Workplan Standards Guide, which is available from the Caltrans' Publication Unit and on the Internet at https://dot.ca.gov/-/media/dot-media/programs/project-management/documents/workplan_standards_guide_all1y1.pdf. The WSG references the Work Breakdown Structure (WBS) categories, which are potential and related work activities applicable to this Contract. The WGS references WBS categories which present the potential and related work activities that the Consultant may be required to perform. All revisions to the current version of the Work Breakdown Structure (WBS) shall apply during the life of this Contract. Refer to the attachment template(s) used with this base template for the WBS activities applicable to this Contract.

F. General Personnel Requirements.

1. The Consultant's personnel shall be capable, competent, and experienced in

performing the types of work in this Contract with minimal instruction. Personnel skill level should match the specific job classifications, as set forth herein or in the Consultant's Cost Proposal, Attachment 2 and task complexity. The Consultant's personnel shall be knowledgeable about, and comply with, all applicable Federal, State, and Local laws and regulations.

2. The Consultant is required to submit a written request and obtain the Caltrans Contract Manager's prior written approval for any substitutions, additions, alterations, or modifications to the Consultant's originally proposed personnel and project organization, as depicted on the proposed Consultant's Organization Chart or the Consultant's cost proposals. The Consultant personnel shall have the same job classification, as set forth herein or in the Consultant's Cost Proposal, Attachment 2, not exceed the billing rate, and meet or exceed the qualifications and experience level of the previously assigned personnel, at no additional cost to Caltrans. The Consultant personnel shall have significant experience in the work involving a similar transportation facility for at a minimum two (2) previous projects, unless otherwise approved by the Caltrans Contract Manager.
3. In responding to Caltrans' Task Order and in consultation with the Caltrans Contract Manager, the Consultant Contract Manager shall identify the specific individuals proposed for the task and their job assignments. The Consultant shall provide documentation that proposed personnel meet the appropriate minimum qualifications as required by this Contract.
4. The Consultant's personnel shall typically be assigned to and remain on specific Caltrans projects/deliverables until completion and acceptance of the project/deliverables by Caltrans. Personnel assigned by the Consultant shall be available at the start of a Task Order and after acceptance of the project/deliverable by Caltrans.
5. After the Caltrans Contract Manager's approval of the Consultant's personnel proposal and finalization of a Task Order, the Consultant may not add, delete or substitute personnel without the Caltrans Contract Manager's prior written approval.
6. Resumes containing the qualifications and experience of the Consultant's and Subconsultant's personnel, which include existing and additional personnel, and copies of their minimum required certifications, shall be submitted to the Caltrans Contract Manager for review before assignment on a project or Task Order. The resume and copies of current certification for each candidate shall be submitted to the Caltrans Contract Manager within one (1) week of receiving the request.
7. The Caltrans Contract Manager or designee may interview the Consultant's personnel for the qualifications and experience. The Caltrans Contract Manager's decision to select the Consultant's personnel shall be binding to the Consultant and its Subconsultants. The Consultant shall provide adequate qualified personnel to be

interviewed by the Caltrans Contract Manager within one (1) week of receiving the request.

8. The Caltrans Contract Manager or designee shall evaluate the adequacy (quality and quantity) of the work performed by the Consultant's personnel, and determining whether the deliverables satisfy the acceptance tests and criteria. The Caltrans Contract Manager may reject any Consultant personnel who are determined by the Caltrans Contract Manager to lack the minimum qualifications. If at any time the level of performance is below expectations, the Caltrans Contract Manager may direct the Consultant to immediately remove Consultant personnel from the project specified in a Task Order and request that the Consultant provide another qualified person be assigned as needed. The Consultant personnel shall meet the qualifications required by this Contract for performance of the work as demonstrated by a resume and copies of current certifications submitted by the Consultant. Consultant personnel shall receive prior written approval from the Caltrans Contract Manager. Invoices with charges for personnel not pre-approved by the Caltrans Contract Manager for work on the Contract and for each Task Order shall not be reimbursed.
9. The Consultant shall not remove or replace any existing personnel assigned to Task Orders without the prior written consent of the Caltrans Contract Manager. The removal or replacement of personnel without the written approval from the Caltrans Contract Manager shall be violation of the Contract and may result in termination of the Contract per Exhibit D, Section III, Termination of the Contract.
10. When assigned consultant personnel is on approved leave and required by the Caltrans Contract Manager, the Consultant Contract Manager shall provide a temporary substitute employee until the assigned employee returns to work from the approved leave. The Consultant personnel shall have the same job classification, as set forth herein or in the Consultant's Cost Proposal, Attachment 2, not exceed the billing rate and meet or exceed the qualifications and experience level of the previously assigned personnel, at no additional cost to Caltrans. Consultant personnel shall receive prior written approval from the Caltrans Contract Manager to work on this Contract.
11. Other project personnel who are not identified on the Consultant's cost proposal shall also satisfy appropriate minimum qualifications for assigned Task Orders. Caltrans' prior written approval is required for all personnel not identified on the Consultant's organization chart or the Consultant's cost proposals before providing services under this Contract.
12. The Consultant is responsible to provide fully trained personnel to efficiently perform the work. The Consultant's personnel may be asked to attend certain

special training if recommended by the Caltrans Contract Manager. On such occasions, with the approval of the Caltrans Contract Manager, Caltrans shall compensate the Consultant for the Consultant's actual cost for time spent in training only. All other costs, fees, and expenses associated with the training, including any transportation costs and training fees, shall be the Consultant's responsibility. In addition, services to train the Caltrans personnel shall not be provided by the Consultant under this Contract.

13. In location(s) where the Consultant personnel is expected to work for extended period(s) of time, the Consultant shall either relocate the personnel or make every effort to hire local persons.
14. The attachment scopes chosen for this contract, as indicated in the Required Services section previously, will specify personnel requirements for the Consultant depending on the work. The attachment templates that can be used with this base template to create a scope of work are as follows:
 - A- Roadway Construction Inspection and Office Engineering
 - B - Electrical Construction Inspection
 - C - Landscape Architectural Construction Inspection
 - D - Construction Claims Support
 - E - Construction Scheduling / CPM
 - F - Construction Materials Sampling and Testing
 - G - Construction Stormwater Implementation
15. The Consultant and all subconsultants, shall throughout the life of the Contract, retain within its firm, a staff of people who shall be properly licensed and certified in accordance with the laws of the State of California and qualified to perform all aspects of the required work described in this Contract and all work specified in a Task Order along with any emergencies that may arise during the life of this Contract. The Consultant shall be prepared to provide additional personnel, as necessary, during the period performance of this Contract to accommodate the work.
16. It is expected that a majority of the work (>60%) shall be completed with Caltrans staff at a Caltrans facility.

Most Consultant personnel shall be assigned in the "field" at Caltrans facilities for an extended period.

At the request of the Caltrans Contract Manager, Consultant personnel will complete security and privacy awareness training each year, see <http://itsecurity.dot.ca.gov/training>.

Consultant personnel whose work involves field work must:

- a. Have current certification of Defensive Driving Training and current California Driver's License.
- b. Have attended an 8 hr Construction Safety Orientation Class prior to being assigned to work on Caltrans projects and current on annual refresher class. (See Section on Field Safety for additional requirements.)

G. Consultant Contract Manager.

The Consultant Contract Manager shall coordinate work-related matters and Consultant's operations under this Contract with the Caltrans Contract Manager in coordination with the Caltrans Task Order Manager, Functional Manager, District/Region Area Construction (Claims) Engineer, Laboratory Supervisor, Headquarters' Structural Construction Engineer, Resident Engineer, District Landscape Architect, District Surveys Engineer, District Right-of-Way Engineer, District Water Quality Program Manager, District Deputy Director for Program/Project Management, District's Traffic Operations Units, Project Coordinator, Deputy District Director for Environmental Analysis, District Surveys Office Chief, and/or District's Public Information Officer.

The Consultant Contract Manager shall have a minimum of five (5) years of responsible experience performing the duties as a contract manager for similar Roadway Construction Services contracts. The Consultant Contract Manager shall be knowledgeable about all Caltrans policies and procedures. The Consultant Contract Manager shall have a documented minimum ten (10) years of demonstrated experience acceptable to Caltrans in Roadway Construction Services work. The Consultant Contract Manager shall be an employee of the prime Consultant.

In addition to other specified responsibilities, the Consultant Contract Manager shall be responsible for all matters related to the Consultant's personnel, Subconsultants, Roadway Construction Services work, and Consultant's and Sub-Consultants' operations including, but not limited to, the following:

- a. Ensuring that deliverables are clearly defined, acceptance tested and that criteria are specific, measurable, attainable, realistic and time-bound; and that the deliverables satisfy the acceptance tests and criteria.
- b. Supervising, reviewing, monitoring, training, and directing the Consultant's and Sub-Consultants' personnel.
- c. Assigning qualified personnel to complete the required Task Order work as specified on an "as-needed" basis in coordination with the Caltrans Contract Manager.
- d. Administering personnel actions for Consultant personnel and ensuring appropriate actions taken for Subconsultant personnel.
- e. Maintaining and submitting organized project files for record tracking and

- auditing.
- f. Developing, organizing, facilitating, and attending scheduled coordination meetings, and preparation and distribution of meeting minutes.
- g. Implementing and maintaining quality control procedures to manage conflicts, insure product accuracy, and identify critical reviews and milestones.
- h. Assuring that all applicable safety measures are in place.
- i. Providing invoices in a timely manner and providing monthly Contract expenditures.
- j. Reviewing invoices for accuracy and completion before billing to Caltrans.
- k. Managing Subconsultants.
- l. Managing overall budget for Contract and provide report to the Caltrans Contract Manager.
- m. Monitoring and maintaining required DBE or DVBE involvement.
- n. Ensuring compliance with the provisions in this Contract and all specific Task Order requirements.
- o. Possessing knowledge, experience, and familiarity with prevailing wage issues and requirements in State of California.
- p. Possessing knowledge, experience, and familiarity in reviewing the Critical Path Method (CPM) schedules and providing expert comments.
- q. Attending meetings with the Caltrans Functional Managers for project CPM activities.
- r. Monitoring the health and safety of personnel working in a hazardous environment in accordance with all applicable Federal, State, and Local regulations.

H. Consultant Task Order Manager.

For each Task Order, if required by Caltrans Contract Manager, the Consultant shall provide a Consultant Task Order Manager to coordinate the Consultant Task Order operations with the Caltrans Contract Manager in coordination with the Caltrans Task Order Manager.

The Consultant Task Order Manager (who may be other than the Consultant Contract Manager) shall be assigned to conduct, or direct the conduct of, all work assigned under a single Task Order. The Consultant Task Order Manager shall be the primary contact for the assigned Task Order and be available as needed for communication with Caltrans.

I. Consultant Responsible Person.

- 1. The attachment scope(s) of work for this contract will indicate specific personnel requirements for the Consultant Responsible Person, depending on the work. The attachment templates that can be used with this base template to create a complete scope of work are as follows:

- A - Roadway Construction Inspection and Office Engineering
- B - Electrical Construction Inspection
- C - Landscape Architectural Construction Inspection
- D - Construction Claims Support
- E - Construction Scheduling / CPM
- F - Construction Materials Sampling and Testing
- G - Construction Stormwater Implementation

2. One contract may have multiple Consultant Responsible Persons with differing minimum requirements, depending on the attachment templates chosen (A-G) to create the scope of work.
3. In this Contract, a person who is authorized to review and approve Consultant analytical results, plans, designs, specifications, estimates, notes, calculations, analysis, reports, graphics, drawings, visual simulations, studies, product, data, manuals, details, other documents, other items, and deliverables in place of the Consultant Contract Manager shall be hereafter referred to as the Consultant Responsible Person for a particular attachment scope (A-G).
4. The Consultant Responsible Person's minimum requirements will be specified in each attachment scope of work (A-G).
5. The Consultant Responsible Person shall be currently employed by the Consultant or its Subconsultants at the time the deliverables are submitted to Caltrans for consideration under the review and acceptance process.
6. All analytical results, plans, designs, specifications, estimates, notes, calculations, analysis, reports, graphics, drawings, visual simulations, studies, product, data, manuals, details, other documents, other items, and deliverables under this Contract not fully approved by Caltrans bearing the signature of the Consultant Responsible Person shall be replaced by analytical results, estimates, notes, calculations, analysis, reports, graphics, drawings, product, data, details, other documents, other items, and deliverables under this Contract bearing the signature of a qualified replacement Consultant Responsible Person who is currently employed by the Consultant or its Subconsultants. In such an event, no additional time shall be allowed or cost reimbursed to the Consultant without the prior written approval of the Caltrans Contract Manager.
7. All of the Consultant's work shall be conducted under the direction of the Consultant Contract Manager who shall have the appropriate experience as described in this Contract. All analytical results, plans, designs, specifications, estimates, notes, calculations, analysis, reports, graphics, drawings, visual simulations, studies, product, data, manuals, details, other documents, other items, and deliverables under this Contract requiring the Consultant Responsible Person's

signature, shall be produced by the responsible Consultant personnel having appropriate experience, and shall be signed by the Consultant Responsible Person.

J. Consultant Availability and Work Hours.

1. The typical workday includes all hours worked by the Caltrans construction contractor on the project as identified in the Task Order and also as directed by the Caltrans Contract Manager. Unless otherwise specified in the Task Order or directed by the Caltrans Contract Manager, the normal workday shall be Monday through Friday, from 8 a.m. to 5 p.m. or any combination of five (5) consecutive days which may include Saturday and/or Sunday, and the normal workweek shall consist of forty (40) hours. If Saturday and/or Sunday is part of a regular work week as determined by Caltrans, then the Saturday and/or Sunday work shall be treated as work performed on a regular workday and no overtime shall be paid for the first eight (8) hours on Saturday or Sunday. Consultant Contract Manager shall be responsible for providing Consultant personnel who can satisfy the requirements set forth in this Agreement.

If Caltrans determines that the Consultant's services and work product need to be received outside of normal business hours (including instances where receipt is required to avoid danger to life or property), the Consultant may be directed to provide its services and work product during specific hours during the week (including hours that are outside of normal business hours). Night work may be required on projects involving high traffic areas. The Caltrans construction contractor's operations may be restricted to specific hours during the week, which shall become the normal workday for Consultant's personnel. Any shift differential rate pay for prevailing wage tasks shall be reimbursed in accordance with the applicable Department of Industrial Relations (DIR) determination.

On days when work is not performed by the Caltrans construction contractor, such as rainy or unsuitable weather days, Consultant's services shall not be provided unless authorized by the Caltrans Contract Manager in coordination with the Caltrans staff.

The Caltrans Contract Manager in coordination with the Caltrans staff shall provide advance notice of eight (8) hours if the Consultant's services are not required as a result of a cessation of construction activities or if reassignment of personnel is required. If Caltrans fails to provide the required advance notice and the Consultant personnel are not required as a result of cessation of construction activities, Caltrans shall provide a maximum of four (4) hours compensation.

It is anticipated that variations in the Caltrans' construction contract activities will occur. During the contract period, the Caltrans Contract Manager or designee may ask the Consultant Contract Manager to reassign Consultant employees from a project or an office with low activity to assist on another project or office with high

activity. The Consultant Contract Manager will be notified at least two (2) working days prior to this reassignment.

2. The Consultant's typical work day(s) shall include, but not be limited to, working in conjunction, coordination, and cooperation with all of the following:
 - a. Caltrans Contract Manager
 - b. Caltrans District Construction Staff
 - c. Caltrans Construction Resident Engineer
 - d. Caltrans Construction Contractor(s) and subcontractor(s)
 - e. Other State and/or Local Agencies
3. The Consultant shall obtain approval from the Resident Engineer prior to entering any Caltrans' project construction site.
4. The Consultant shall obtain approval from the Caltrans Facility Manager prior to conducting activities within a maintenance station or other Caltrans facility.

K. General Requirements.

1. The Consultant shall prepare the required analytical results, plans, designs, specifications, estimates, notes, calculations, analysis, reports, graphics, drawings, visual simulations, studies, product, data, manuals, details, other documents, other items, and deliverables required by this Contract according to requirements of this Contract and applicable Caltrans Manuals for the work.
2. If directed by the Caltrans Contract Manager, the Consultant shall prepare and update a comprehensive Critical Path Method (CPM) network diagram, Bar Chart Schedule, Logic Network Schedule, and the Caltrans Work Breakdown Structure (WBS) for each Task Order issued by the Caltrans Contract Manager showing a deliverables schedule as well as other relevant data to monitor project progress, Consultant's work control, and Caltrans review of work status, if required in the Task Order. The relevant data shall include a list of activities with budgeted cost, milestones, and target date for completion of each activity. The minimum number of task details shall be identified in the Task Order. This workplan shall be updated once a month to show the approved baseline schedule and the actual progress schedule.

Caltrans shall review these documents and return them to the Consultant with notes and comments as soon as possible in order to validate the planning and cost control procedures within the first calendar month of performance period.

3. The Consultant's timesheet/invoices/expenses shall be subject to the review of the Consultant Contract Manager and the subsequent review and the approval of the Caltrans Task Order Manager before submitting timesheets, invoices, or expense reimbursement requests for payment.

4. The Consultant shall begin the required work within two (2) working days after receiving a fully executed Task Order and the issuance of the Notice to Proceed (NTP) from the Caltrans Contract Manager to the Consultant Contract Manager or on the date specified in the Task Order. Some work, however, may require Consultant personnel to mobilize within 24-hour of notifications. Once the work begins, the work shall be prosecuted/performed diligently until all required work has been completed to the satisfaction of the Caltrans Contract Manager or Caltrans designee.
5. The work shall not be performed when conditions prevent a safe and efficient operation, and shall only be performed with written authorization by Caltrans.
6. The Consultant Contract Manager, Consultant Task Order Manager, and Key Personnel shall be accessible to the Caltrans Contract Manager at all times during normal Caltrans working hours or after hours as required by the Caltrans Contract Manager.
7. The Consultant Contract Manager or designee may advise the Consultant's Contract Manager of the perceived need to have the Consultant's employees to work overtime to meet Task Order schedules, and the Consultant's Contract Manager shall take effective measures to address the Caltrans Contract Manager's need. All overtime shall be pre-approved by the Caltrans Contract Manager or designee. Overtime pay shall be paid to only persons covered by the Fair Labor Standards Act.
8. All Consultant personnel are required to sign a confidentiality and nondisclosure agreement.
9. The Consultant may not disclose any information to third parties without prior written approval of the Caltrans Contract Manager.
10. The Consultant shall only provide incidental non-Architectural and Engineering (A&E) services, such as GIS support, utilities location support, traffic control, office support, field office support, and meeting support, provided (a) such services are necessary for the completion of the A&E tasks and/or deliverables performed by the Consultant described in executed Task Orders and covered by the work in this Contract and (b) the rendering of the services is approved in advance by the Caltrans Contract Manager. These incidental services shall only be provided to support the Consultant's personnel who are performing A&E services, tasks, and deliverables on this Contract. The Contract amount spent on such incidental services shall be relatively minor when compared to the professional A&E services performed. The Consultant shall not be paid or reimbursed for any incidental non-A&E services provided to Caltrans unless provided in the fashion described in this Contract and included in the executed Task Order. The Consultant is responsible for ensuring that Task Orders only include any incidental non-A&E services.

11. Incidental training services may be provided only if the training involves the specific work product of this Agreement. Such incidental training services are permitted, but only if:
 - a. The training involves the specific work product created under this Agreement (and does not involve general A&E training and is not the work product of a previous agreement); and
 - b. The total aggregate cost of all training under this Agreement does not exceed 10% of the total authority of the Agreement; and
 - c. The training is an incidental task within the Agreement and not the purpose for entering into this Agreement.
12. The Consultant shall include the Caltrans Contract Manager in written communications to other Caltrans personnel for any clarification on the scope of work.

L. Coordination.

1. For each Task Order, the Consultant shall carry out instructions received from the Caltrans Contract Manager, and as directed by the Caltrans Contract Manager, shall coordinate activities and work closely with multiple stakeholders including, but not limited to, Caltrans' various functional units, Caltrans' project managers, local agencies, various environmental groups, other state agencies, Native American tribal governments, utility companies, railroads, other agencies, other entities with an interest in the project (including, but not limited to, FHWA), other consultants, other contractors, and planning, engineering, and construction firms (and its suppliers and subcontractors) contracted by Caltrans working on the same projects or adjacent projects. In the event an instruction or direction is unclear to the Consultant, the Consultant shall ask the Caltrans Contract Manager or designee to clarify the instruction or direction. The work is a critical element of compatible designs, project planning and construction schedules and shall be accomplished in a timely fashion. Projects having complex and overlapping schedules and therefore Project work may have overlapping and parallel (not serial order) schedules or make work discontinues. Projects have complex and overlapping schedules and field work may be intermittent. Task Orders may be written for treatment of unanticipated finds encountered during project work. When unanticipated finds are encountered, a rapid response shall be necessary to avoid costly construction delays.
2. The foregoing paragraph does not relieve the Consultant of professional responsibility during the performance of this Contract. In instances where the Consultant believes a better standard solution to a task being performed or an issue being addressed is possible, the Consultant shall promptly notify the Caltrans Contract Manager of these concerns, together with the reasons therefore. However,

Caltrans shall make all final decisions on the interpretation of the instructions, directions, work product and outputs that are described in the Task Order.

3. The Consultant shall be required to work with other Caltrans Functional Units and others (including, but not limited to, Regional Water Quality Control Board - RWQCB, Permitting Agencies,) as directed by the Caltrans Contract Manager.
4. The Consultant shall work closely with the Caltrans Contract Manager and the Caltrans designee identified in the Task Order.
5. The Consultant shall have the capability to send to and receive from Caltrans' digital electronic mail system and file transfer protocol system including, but not limited to, attachments for word processing, photographs, spreadsheets, and databases.
6. Caltrans shall not reimburse the Consultant for costs to relocate its personnel to the service area of this Contract. Caltrans shall not reimburse the Consultant for per diem costs, unless preapproved by the Caltrans Contract Manager. Caltrans shall not reimburse the Consultant for out-of-state travel without prior written approval from the Caltrans Contract Manager.
7. The Consultant shall obtain the Caltrans Contract Manager's approval prior to making presentations at non-Caltrans sponsored conferences or workshops for any services provided under this Contract.
8. The Consultant shall notify the Caltrans Contract Manager or Caltrans designee in writing a minimum one (1) week before it begins any field work, unless the Task Order specifies some other notification date.
9. Caltrans shall not incur costs beyond the funding commitments in the Contract and each Task Order. If the Consultant anticipates that funding for work will be insufficient to complete work, the Consultant shall promptly notify the Caltrans Contract Manager.
10. The Consultant shall submit personnel resumes for all of the personnel that it and its Subconsultants propose to use for this Contract. When the Consultant proposes to add personnel to cost proposals, the Consultant shall submit updated cost proposals to Caltrans. The Caltrans Contract Manager may request that the update be for either the incremental change or the complete list. The Consultant shall provide the electronic copy of the cost proposals and subsequent proposed changes to the cost proposals in Microsoft Excel format, version 2013 or format currently in use by Caltrans. All resumes and cost proposals to add personnel must be submitted and approved by the Caltrans Contract Manager prior to being submitted to other Caltrans staff.

M. General Equipment Requirements.

1. The Consultant or its Subconsultants shall not incorporate any materials or equipment of a single or sole source origin without the advance written approval of Caltrans.
2. The Consultant may claim reimbursement for providing equipment or supplies. However, such claimed costs shall be in compliance with 48 Code of Federal Regulation (CFR), Chapter 1, Part 31 (Federal Acquisition Regulation - FAR cost principles) and 2 CFR, Part 200, and be consistent with the Consultant's company-wide allocation policies and charging practices with all clients including federal government, state governments, local agencies, and private clients.

N. Roadway Construction Services Equipment Requirements.

1. Office Equipment and Supplies (Consultant's Office):

The Consultant shall have and provide adequate office equipment and supplies to complete the work required by this Contract. Such equipment and supplies shall include, but not be limited to, the following:

- a. Office Supplies.
- b. Computers with appropriate software, printers, plotters, fax machines, calculators, data collectors and their necessary attachments and accessories.
- c. Data processing systems, software packages, reference materials, or other tools, including hardware and software, used in providing transportation engineering deliverables. This includes, but not be limited to, the following:
 - i. Microsoft Office Software (including, but not limited to, Word, Excel, PowerPoint).
 - ii. Adobe Acrobat Professional version 5 or later.
 - iii. Critical Path Method (CPM) software, with Primavera Project Planner (P3, P6) and SureTrak, or any updated version, as a minimum; Scheduler Analyzer Pro; and Microsoft Project. The Consultant shall have access to additional industry standard CPM software, as used by the contractors.
- d. The Consultant shall provide a computer system for each person working under a Task Order that meets the Caltrans current specifications. Caltrans reserves the right to provide the computer equipment and access to computer system if such items are beneficial to Caltrans' interest.
- e. Reference material, or other tools, used in providing deliverables.
- f. Caltrans shall not purchase any hardware, software, or other equipment (including, but not limited to, batteries, paper, and office supplies) that may be required for the Consultant to perform work required in this Contract. The Caltrans Contract Manager shall approve any Consultant's request for digital electronic connections and compatibility with current Caltrans Windows-based networks and programs in writing prior to the use and/or

- g. installation of any electronic hardware and/or software.
- g. In-house printing, reproduction, and delivery services.

2. Field Equipment and Supplies:

Consultant shall have and provide adequate field tools, instruments, equipment, materials, supplies, and safety equipment to complete the required field work and that meet or exceed Caltrans Specifications per the Caltrans Manuals. The tools, instruments, equipment, materials, supplies, and safety equipment required for each Consultant field personnel shall include, but not be limited to, the following, if required by the Task Order:

- a. Sufficient vehicles suitable for the work to be performed and terrain conditions of the project sites. Vehicles shall be fully equipped with all necessary tools, instruments, equipment, materials, supplies, and safety equipment required for the efficient operation of the Consultants' field personnel, including cellphones. Each vehicle shall have a load carrying capacity of 1500 pounds of materials and equipment. Each Vehicle shall have sufficient ground clearance to safely maneuver through highway construction sites while fully loaded with equipment and materials. Each vehicle shall have overhead flashing amber light(s), visible from all sides (360 degrees), with a driver control switch; locking toolbox; fire extinguisher; and first aid kit. Vehicles without side windows shall not be used. All vehicles shall be clearly marked as to ownership. Each vehicle shall be equipped to meet Caltrans safety requirements.
 - b. A laptop computer or tablet with appropriate software. An aircard may be required by Caltrans by written notice.
 - c. Communication device: Mobile telephone, cell phone shall be compatible with the current Caltrans cellular phone system.
 - d. Hand tools such as shovels, gloves, pick, measuring tape, buckets, wheel barrow, heat gun, sledge hammer, concrete and asphalt thermometers, clip board, calculator, and peg book.
 - e. All necessary safety equipment including, but not limited to, fire extinguisher, hard-soled safety footwear, white hard hats, eye protection, hearing protection, and approved safety attire as appropriate for the requested field work to be performed safely and efficiently within operating highway and construction zone environments.
 - f. Digital Camera.
 - g. Electronic Calculator
3. The Consultant shall provide all necessary tools, instruments, equipment, materials, supplies, and safety equipment required to perform the work identified in each Task Order and this Contract accurately, efficiently, and safely. The Consultant's personnel shall be fully trained in the use of such necessary tools, instruments,

equipment, materials, supplies, and safety equipment. The Consultant shall not be reimbursed separately for tools of the trade, which may include, but not be limited to, the above-mentioned equipment.

4. Consultant shall use all necessary equipment, tools, and instruments provided by Caltrans to perform the work identified in this scope of work accurately, efficiently, and safely. Consultant personnel shall use Caltrans equipment with the utmost care. Any negligent damage caused to Caltrans equipment shall be the responsibility of the Consultant.
5. Inertial Profilograph—If specified in the Task Order, the Consultant shall provide an Inertial Profilograph and properly certified operator. The equipment and operator shall in accordance to current Caltrans specifications.
6. Consultant shall possess and skillfully operate:
 - a. Critical Path Method (CPM) software, with Primavera Project Planner (P3, P6) and SureTrak, or any updated version, as a minimum; Scheduler Analyzer Pro; and Microsoft Project. The Consultant shall have an access to use additional industry standard CPM software, used by the contractors.
 - b. Microsoft Office (Word, Excel, PowerPoint, and others) software.
 - c. Full-size plotter.
 - d. Laptop computer.
7. Consultant shall be capable of providing:
 - a. Full-size color plots of CPM charts and graphs.
 - b. A digital electronic calculator, laptop computer with Wireless Network connection and printer.

O. Standards.

1. All work/services under this Contract shall be performed in accordance with all applicable Federal, State, and Local statutes, laws, codes, regulations, policies, procedures, ordinances, standards, specifications, performance standards, and guidelines, including the latest Caltrans regulations, policies, procedures, manuals, standards, specifications, performance standards, directives, guidelines, handbooks, guidance documents, forms, templates, policy memo, methodologies, and other informational or directive publications, including compliance with Federal Highway Administration (FHWA) and State guidelines for implementing those requirements; and any permits, licenses, agreements or certifications that apply to specific Task Orders; the terms and conditions of this Contract; and current Caltrans Manuals and any future revisions. Work not covered by the “Manuals” shall be performed as specified in the Task Order. If no standards exist, Task Orders may call for the development of new standards, so long as these standards do not conflict with the requirements, or amend the Scope of Work under of this Contract.

- a. The Consultant is responsible for obtaining, at its expense, all necessary manuals, reference documents, and other materials.
- b. Caltrans Manuals generally may be purchased from the Publication Distribution Unit. The Publications staff may be reached at (916) 263-0822, and the center is located at the following address:
State of California
California Department of Transportation
Publication Distribution Unit
1900 Royal Oaks Drive
Sacramento, CA 95815-3800
- c. Manuals and documents that are not available from the Caltrans Publication Distribution Center or are not available from Caltrans' Internet web site may be requested from the Caltrans Contract Manager. Caltrans does not guarantee the availability of publications nor its Internet web pages. Required Manuals include:
 - i. <http://www.dot.ca.gov/dpac/publications.html>
 - ii. <https://dot.ca.gov/manuals>
- d. Caltrans' regulations, policies, procedures, manuals, standards, specifications, performance standards, directives, guidelines, handbooks, guidance documents, forms, templates, policy memo, methodologies, and other informational or directive publications, are dynamic documents and subject to change. The Consultant is responsible to verify that the latest version or update is used.

2. Manuals, Documents, and Websites.

The following manuals, documents and links to internet sites are referenced in association with the work in this Contract. The list is not all-inclusive, but is intended to illustrate the types of reference material and sources of information.

- a. Caltrans' Internet Home Webpage:
<http://www.dot.ca.gov/>
- b. Caltrans' Code of Safe Practices:
<http://www.dot.ca.gov/hq/construc/safety/>
- c. California Business and Professions Code:
<http://leginfo.legislature.ca.gov/faces/codesTOCSelected.xhtml?tocCode=BPC&tocTitle=+Business+and+Professions+Code+-+BPC>
- d. California Code of Regulations:
<https://oal.ca.gov/publications/ccr/>

- e. California Health and Safety Code:
<https://leginfo.legislature.ca.gov/faces/codesTOCSelected.xhtml?tocCode=HSC&tocTitle=+Health+and+Safety+Code+-+HSC>
- f. California Public Contract Code:
<https://leginfo.legislature.ca.gov/faces/codesTOCSelected.xhtml?tocCode=PCC&tocTitle=+Public+Contract+Code+-+PCC>.
- g. California Public Resources Code:
<https://leginfo.legislature.ca.gov/faces/codesTOCSelected.xhtml?tocCode=PRC&tocTitle=+Public+Resources+Code+-+PRC>
- h. Caltrans Highway Design Manual:
<http://www.dot.ca.gov/hq/oppd/hdm/hdmtoc.htm>
<https://dot.ca.gov/programs/design/manual-highway-design-manual-hdm>
- i. Manual of Uniform Traffic Control Devices (MUTCD):
California Manual on Uniform Traffic Control Devices:
<http://mutcd.fhwa.dot.gov/>
<http://www.dot.ca.gov/hq/traffops/signtech/mutcdsupp>
http://www.dot.ca.gov/hq/traffops/signtech/mutcdsupp/ca_mutcd.htm
<http://www.dot.ca.gov/hq/traffops/engineering/mutcd/index.htm>
- j. Caltrans Traffic Manual and Manual on Uniform Traffic Control Devices (MUTCD) 2003 California Supplement:
<http://www.dot.ca.gov/hq/traffops/signtech/signdel/trafficmanual.htm>
<http://www.dot.ca.gov/hq/traffops/signtech/signdel/trafficmanual-current.htm>
<http://www.dot.ca.gov/hq/traffops/engineering/control-devices/trafficmanual-current.htm>
<http://www.dot.ca.gov/hq/traffops/signtech/mutcdsupp>
http://www.dot.ca.gov/hq/traffops/signtech/mutcdsupp/ca_mutcd.htm
- k. Caltrans Traffic Impact Studies (TIS) Guidelines:
<http://www.dot.ca.gov/hq/traffops/developserv/operationalsystems/reports/tisguide.pdf>
<http://www.dot.ca.gov/dist1/d1transplan/tisguide-Dec02.pdf>
- l. Caltrans Surveys Manual:
http://www.dot.ca.gov/hq/row/landsurveys/SurveysManual/Manual_TOC.html

- m. Caltrans Construction Manual:
<http://www.dot.ca.gov/hq/construc/constmanual/>
<http://www.dot.ca.gov/hq/construc/manual2001/>
- n. Construction Manual:
Chapter 5 Section 1 Project Records and Reports
<http://www.dot.ca.gov/hq/construc/constmanual/chapter5/sec5-1.pdf>
- o. Caltrans Project Development Procedures Manual (PDPM):
<https://dot.ca.gov/programs/design/manual-project-development-procedures-manual-pdpm>
- p. Project Development Procedures Manual: Chapter 7 - Uniform File System:
<https://dot.ca.gov/-/media/dot-media/programs/design/documents/pdpm-chapter7-a11y.pdf>
<https://dot.ca.gov/-/media/dot-media/programs/design/documents/pdpm-chapter7-a11y.pdf>
- q. Project Development Procedures Manual: Chapter 15 - Final Project Development Procedures:
<https://dot.ca.gov/-/media/dot-media/programs/design/documents/pdpm-chapter15-a11y.pdf>
- r. Caltrans CADD Users Manual:
<https://dot.ca.gov/programs/design/manual-cadd-users-manual>
<http://www.dot.ca.gov/hq/oppd/cadd/usta/caddman/default.htm>
<https://dot.ca.gov/programs/engineering-services/>
- s. CADD Users Manual Chapter 4.3 As-Built Plans (March 30, 2011)
<https://dot.ca.gov/-/media/dot-media/programs/design/documents/cadd/caddman-ch4-sect1-a11y.pdf>
- t. Caltrans Construction Manual: Traffic Safety Guidelines:
http://www.dot.ca.gov/hq/construc/manual2001/chapter2/chp2_2.pdf
- u. Caltrans Surveys Manual - Chapter 12: Construction Staking Handbook
Construction Staking Handbook:
Construction Staking: Chapter 12 of Caltrans Surveys Manual:
http://www.dot.ca.gov/hq/row/landsurveys/SurveysManual/12_Surveys.pdf
f

- v. Caltrans Standard Plans and Standard Specifications:
Caltrans Specification and Estimate Procedures:
<http://www.dot.ca.gov/hq/esc/oe/>
<http://www.dot.ca.gov/hq/esc/oe/standards.php>
<http://www.dot.ca.gov/hq/esc/oe/conststand.html>
http://www.dot.ca.gov/hq/esc/oe/construction_standards.html
http://www.dot.ca.gov/hq/esc/oe/project_plans/
http://www.dot.ca.gov/hq/esc/oe/project_plans/highway_plans/stdplans_US-customary-units_10/viewable_pdf/2010-Std-Plns-for-Web.pdf
http://www.dot.ca.gov/hq/esc/oe/construction_contract_standards/std_specs/2010_StdSpecs/2010_StdSpecs.pdf
http://www.dot.ca.gov/hq/esc/oe/project_plans/HTM/06_plans_disclaim_US.htm
http://www.dot.ca.gov/hq/esc/oe/project_plans/highway_plans/stdplans_US-customary-units_10/viewable_pdf/2010-Std-Plns-for-Web.pdf
http://ppmoe.dot.ca.gov/hq/esc/oe/construction_contract_standards/std_specs/2010_StdSpecs/2010_StdSpecs.pdf

- w. Standard Plans 2002 Dual Units:
http://www.dot.ca.gov/hq/esc/oe/project_plans/HTM/stdplns-dual-new02.htm

- x. Caltrans Standard Special Provisions:
<http://www.dot.ca.gov/hq/esc/oe/conststand.html>
http://www.dot.ca.gov/hq/esc/oe/construction_standards.html

- y. Caltrans Guide for the Submittal of Plans, Specifications, and Estimates:
Caltrans Plans Preparation Manual:
<https://dot.ca.gov/programs/design/manual-plans-preparation-manual-ppm>
<http://www.dot.ca.gov/hq/oppd/cadd/usta/caddman/english/4-1.pdf>
<http://www.dot.ca.gov/hq/oppd/cadd/usta/caddman/default.htm>
<http://www.dot.ca.gov/hq/oppd/cadd/usta/ppman/default.htm>
<http://www.dot.ca.gov/hq/esc/oe/standards.php>
http://www.dot.ca.gov/hq/esc/oe/construction_standards.html

- aa. Project Plan Preparation Manual of Instructions:
https://design.onramp.dot.ca.gov/downloads/design/files/lap/PPM_LAP_Manuals.pdf

- bb. Caltrans Policy and Guidelines: Cost Estimate:
<https://dot.ca.gov/programs/design/cost-estimating-improvements>

- cc. Caltrans Right of Way Manual:
<http://www.dot.ca.gov/hq/row/rowman/manual/index.htm>
<http://www.dot.ca.gov/hq/row>
- dd. Caltrans Project Management Handbook:
<http://www.dot.ca.gov/hq/projmgmt/guidance.htm>
http://www.dot.ca.gov/hq/projmgmt/documents/pmhb_5thed.pdf
- ee. Caltrans Storm Water Quality Handbooks, Manuals, Project Planning, and Design Guide:
Caltrans Storm Water Quality Handbooks:
Caltrans Storm Water Quality Handbooks and Manuals:
Caltrans Storm Water Project Planning and Design Guide:
<http://www.dot.ca.gov/hq/oppd/stormwtr/>
<http://www.dot.ca.gov/hq/construc/stormwater/manuals.htm>
- ff. Caltrans Project Management Directives:
http://pd.dot.ca.gov/pm/ProjectOffice/ProcessGuidance_Directives/Guidance_DirectivesHome.asp
- gg. Caltrans Project Risk Management Handbook:
http://www.dot.ca.gov/hq/projmgmt/guidance_prmhb.htm
- hh. Quantitative Risk Analysis section (page 14) of Caltrans Project Risk Management Handbook:
https://des.onramp.dot.ca.gov/downloads/des/files/strucpolcyinnov/risk_management/PRM_Handbook.pdf
http://www.dot.ca.gov/hq/projmgmt/documents/prmhb/archive/caltrans_project_risk_management_handbook_20070502.pdf
- ii. Project Management Institute (PMI) "A Guide to the Project Management Body of Knowledge":
<http://www.pmi.org>
- jj. Caltrans Standard Environmental Reference Webpage:
Caltrans Standard Environmental Reference (SER), Caltrans Environmental Handbook, Volume I, Volume II, Volume III, and Volume IV:
<http://www.dot.ca.gov/ser/>
<http://www.dot.ca.gov/ser/envhand.htm>

- kk. Caltrans Standard Environmental Reference, Biological Resources:
<http://www.dot.ca.gov/ser/vol3/vol3.htm>
- ll. Caltrans PEAR Handbook:
<http://www.dot.ca.gov/ser/pear.htm>
- mm. Caltrans Quality Control and Assurance for Biological Technical Documents:
http://www.dot.ca.gov/ser/vol1/sec3/natural/Ch14Bio/files/QC_guidance.pdf
- nn. Secretary of the Interior's Professional Qualification Standards:
http://www.nps.gov/history/local-law/arch_stnds_9.htm
- oo. Secretary of the Interior's Standards and Guidelines for Archaeology and Historic Preservation (Federal Register, Vol. 48, No. 190, September 1983):
https://www.nps.gov/history/local-law/arch_stnds_0.htm
- pp. Caltrans Technical Publications and Manuals:
<http://www.dot.ca.gov/hq/esc/techpubs/>
- qq. Caltrans Ready-to-list and Construction Contract Award Guide:
http://www.dot.ca.gov/hq/esc/oe/rtl_guide.html
- rr. Caltrans Design Information Bulletins:
<http://www.dot.ca.gov/hq/oppd/dib/dibprg.htm>
- ss. Construction Policy Bulletins (CPBs):
<http://www.dot.ca.gov/hq/construc/manual2001/CPBindex.HTM>
- tt. Caltrans Design Memorandum:
<http://www.dot.ca.gov/hq/oppd/design/index.htm>
- uu. Caltrans Cooperative Agreements Manual:
http://www.dot.ca.gov/hq/oppd/pdpm/chap_pdf/chapt16.pdf
- vv. Caltrans Environmental Handbook:
<http://www.dot.ca.gov/ser/envhand.htm>
- ww. Caltrans Preliminary Environmental Analysis Report (PEAR) Handbook:
Caltrans PEAR Handbook:

<http://www.dot.ca.gov/ser/pear.htm>

- xx. Caltrans Environmental Policy Memos:
Environmental Policy Memos:
<http://www.dot.ca.gov/ser/memos.htm>
- yy. California Test Methods:
<http://www.dot.ca.gov/hq/esc/ctms/index.html>
- zz. Bridge Construction Records and Procedures Manual, Volume I (8/31/07):
<http://www.dot.ca.gov/hq/esc/construction/manuals/OSCCCompleteManuals/BCRPVol1.pdf>
http://www.dot.ca.gov/hq/esc/construction/manuals/OSCCCompleteManuals/BCRPVol1_Terms.pdf
- aaa. Bridge Construction Records and Procedures Manual, Volume II (8/31/07):
<http://www.dot.ca.gov/hq/esc/construction/manuals/OSCCCompleteManuals/BCRPVol2.pdf>
http://www.dot.ca.gov/hq/esc/construction/manuals/OSCCCompleteManuals/BCRPVol2_Terms.pdf
- bbb. Caltrans Value Analysis Program:
<http://www.dot.ca.gov/hq/oppd/value>
- ccc. METS Website:
<http://www.dot.ca.gov/hq/esc/Translab/>
- ddd. AASHTO Pavement Design Guidance:
<https://bookstore.transportation.org>
- eee. Superpave Mix Design Standards:
<http://www.asphaltinstitute.org>
- fff. Federal Highway Administration Title 23, Code of Federal Regulations, 637B:
<http://www.fhwa.dot.gov/legregs/directives/fapg/cfr0637b.htm>
- ggg. Independent Assurance Manual:
http://www.dot.ca.gov/hq/esc/Translab/ormt/IA_reports/2005_IA_Manual.pdf

- hhh. Office of Structural Materials Practices and Procedures Manual:
<http://www.dot.ca.gov/hq/esc/Translab/OSM/documents/smdocuments/OSMPP.pdf>
- iii. Caltrans Falsework Manual:
http://www.dot.ca.gov/hq/esc/construction/manuals/OSCCCompleteManuals/FW_Terms.pdf
- jjj. Caltrans Trenching and Shoring Manual:
http://www.dot.ca.gov/hq/esc/construction/manuals/OSCCCompleteManuals/TS_Terms.pdf
- kkk. Caltrans Foundation Manual:
http://www.dot.ca.gov/hq/esc/construction/manuals/OSCCCompleteManuals/Foundation_Terms.pdf
- lll. Caltrans Prestress Manual:
http://www.dot.ca.gov/hq/esc/construction/manuals/OSCCCompleteManuals/PS_Terms.pdf
- mmm. Other applicable Offices of Structure Construction manuals:
<http://www.dot.ca.gov/hq/esc/construction/manuals/>
- nnn. Manual of Traffic Controls for Construction and Maintenance Work Zones:
<http://www.dot.ca.gov/hq/traffops/engineering/mutcd/pdf/camutcd2014/Part6.pdf>
<http://www.dot.ca.gov/hq/traffops/engineering/control-devices/pdf/TMChapter5.pdf>
- ooo. Median Barrier Guidelines.
(Not available on the internet)
- ppp. AASHTO Policy on Geometric Design of Highways and Structures.
(Not a Caltrans Publication)
- qqq. Standard Test Methods.
(Not a Caltrans Publication)
- rrr. Division of Construction Oversight Engineer Field Guidelines.
Chapter 4 Project Completion.
<http://www.dot.ca.gov/hq/construc/oversightengineerfieldguidelines2005.pdf>

- sss. Caltrans Encroachment Permits Manual.
Chapter 206.2A As-Built Plans and Other Completion Records.
http://www.dot.ca.gov/hq/traffops/developserv/permits/encroachment_permits_manual/index.html

- ttt. Local Assistance Procedures Manual.
Chapter 17.4 AS BUILT PLANS.
<http://www.dot.ca.gov/hq/LocalPrograms/lam/lapm.htm>

- uuu. Office of Special Funded Projects Information and Procedures Guide.
Chapter 1-9 Project Records.
<http://www.dot.ca.gov/hq/esc/osfp/osfp-manual/osfp-manual.htm>

- vvv. 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.fhwa.dot.gov/>
<http://www.environment.fhwa.dot.gov/guidebook/index.asp>

- www. Caltrans Guidance Manual: Storm Water Monitoring Protocols:
<http://www.dot.ca.gov/hq/env/stormwater/index.htm>
<http://www.dot.ca.gov/hq/env/stormwater/ongoing/monitoring/>

- xxx. “United States Environmental Protection Agency (U.S. EPA) Test Methods for Evaluating Solid Waste,” 3rd Edition (SW-846) :
<http://www.epa.gov/hw-sw846>

- yyy. Caltrans Soil and Rock Logging Manual, Classification, and Presentation Manual:
http://www.dot.ca.gov/hq/esc/geotech/sr_logging_manual/srl_manual.html

- zzz. State of California, Department of Water Resources, California Well Standards/Well Standards Bulletins, in Bulletins 74-81 and 74-90:
<https://www.countyofglenn.net/resources/code-enforcement-environment-water/california-water-well-standards-dwr-bulletin-74-90>

- aaaa. California Department of Toxic Substances Control Guidance Manual: Monitoring Well Design and Construction for Hydrogeologic Characterization, Interim Final August 1994:

https://dtsc.ca.gov/wp-content/uploads/sites/31/2018/09/Well_Design_Constr_for_Monitoring_GWContam_Sites1.pdf

- bbbb. California Department of Toxic Substances Control Guidance manual: Representative Sampling of Ground Water for Hazardous Substances, July 1995.
- cccc. California Department of Toxic Substances Control (DTSC) Aerially Deposited Lead Variance No. V09HQSCD006, July 1, 2009.
- dddd. Caltrans Biological Guide for Consultants:
<https://dot.ca.gov/programs/environmental-analysis/standard-environmental-reference-ser/volume-3-biological-resources>
- eeee. Guide to the Caltrans Capital Project Work Breakdown Structure (WBS).
- ffff. Caltrans Survey Engineer's File (SEF) Oversight Guideline.
- gggg. Caltrans Project Planning and Design Activities Guide.
- hhhh. Caltrans Externally Financed Projects Branch (EFPB) Information and Procedures Guide.
- iiii. Caltrans Right of Way Procedural Handbook- Volume 13 "Utilities".
- jjjj. Caltrans Manual on High and Low Risk Underground Facilities.
- kkkk. Caltrans Drafting Design User's Manual.
- llll. Caltrans Bridge Design Specifications Manual.
- mmmm. Caltrans Bridge Design Details Manual.
- nnnn. Caltrans Bridge Design-Aids Manual.
- oooo. Caltrans Bridge Memo to Designers.
- pppp. Caltrans Bridge Standard Details Sheets.
- qqqq. Caltrans Bridge Detail Decals.

- rrrr. Caltrans Formatted Highway Plan Sheets.
- ssss. Caltrans Formatted Bridge Plan Sheets.
- tttt. Caltrans Construction Site Best Management Practices Guide.

LOCAL MANUALS

- uuuu. "Site Assessment and Mitigation Manual" (SAM) of the San Diego County Department of Environmental Health (DEH).
- vvvv. "Tri-Regional Board Staff Recommendations for Preliminary Evaluation and Investigation of Underground Tank Sites," North Coast, San Francisco and Central Valley Regional Water Quality Control Boards, August 10, 1990.
- wwww. "Tri-Regional Board Staff Recommendations for Preliminary Evaluation and Investigation of Underground Tank Sites," Central Valley Regional Water Quality Control Boards, 16 April 2004.
- xxxx. "The Designated Level Methodology for Waste Classification and Cleanup Level Determination", Central Valley Regional Water Quality Control Board.
- yyyy. RWQCB - Region 2 Draft Fact Sheet for Reviewing Wetland and Riparian Projects.
http://www.swrcb.ca.gov/rwqcb2/water_issues/programs/401_certs/fact_sheet_wetland_projects_12-1-06.doc
- zzzz. U.S. Army Corps of Engineers. 2008. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0), Final Report. September. U.S. Army Research and Development Center, Vicksburg, Mississippi.
http://www.usace.army.mil/CECW/Pages/reg_supp.aspx (broken link)
- aaaaa. U.S. Army Corps of Engineers. 2010. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0), Final Report. May. U.S. Army Research and Development Center, Vicksburg, Mississippi.
https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb1046489.pdf
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<https://www.cpe.rutgers.edu/Wetlands/1987-Army-Corps-Wetlands-Delineation-Manual.pdf>

cccc. USACE Sacramento District.
<https://www.spk.usace.army.mil/>

dddd. USACE San Francisco District.
<https://www.spn.usace.army.mil/>

eeee. USACE standards for delineation of other waters of the U.S.: Lichvar, Robert W., and Shawn M. McColley. 2008. A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the United States: a Delineation Manual. August. U.S. Army Corps of Engineers, ERDC/CRREL TR-08-12.
https://www.spk.usace.army.mil/Portals/12/documents/regulatory/pdf/Ordinary_High_Watermark_Manual_Aug_2008.pdf

ffff. USACE standards for delineation of other waters of the U.S.: U.S. Army Corps of Engineers. 2005. Regulatory Guidance Letter 05-05: Ordinary High Water Mark Identification. December 7.
<https://usace.contentdm.oclc.org/utis/getfile/collection/p16021coll9/id/1253>

P. Field Safety.

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

1. The Consultant shall maintain a working environment that is safe for project personnel and the public. The Consultant shall provide a Code of Safe Practices that includes at a minimum, fall protection safety, lead training, respirator training, and promotes an awareness of health and safety requirements and enforce applicable regulations and contract provisions for the protection of the project personnel and the public. The Consultant's personnel shall comply with all safety provisions of the Caltrans Safety Manual (<https://dot.ca.gov/programs/construction/construction-manual/section-2-1-safety>), Caltrans Surveys Manual (http://www.dot.ca.gov/hq/row/landsurveys/SurveysManual/Manual_TOC.html), Caltrans Laboratory Safety Manual (http://www.dot.ca.gov/hq/esc/ctms/pdf/lab_safety_manual.pdf), Caltrans Traffic Manual (<https://dot.ca.gov/programs/safety-programs/camutcd>) and Caltrans Code of Safe Practices (<http://www.dot.ca.gov/hq/construc/safety/>). The Consultant shall comply with all Federal, State, and Local Occupational

Safety and Health Administration (OSHA) statutes, laws, codes, regulations, policies, procedures, ordinances, standards, rules, specifications, performance standards, and guidelines, and the safety instructions that Caltrans issues for performance of Task Order work, applicable to the work under this Contract, regarding safety equipment and procedures (including, but not limited to, use and operation). Under no circumstance shall the Consultant's safety policies be less stringent than Caltrans'.

2. The field work shall not be performed when conditions prevent a safe and efficient operation, and shall only be performed with written authorization by Caltrans.
3. The Consultant shall provide, at no cost to Caltrans, all safety equipment to perform the required services in a safe manner including, but not limited to: gloves, coveralls, sunscreen, insect repellents, fire extinguisher, hard-soled safety footwear, white hard hats, eye protection, hearing protection, and approved safety attire. The Consultant's personnel shall wear hard-soled safety footwear, white hard hats, eye protection, hearing protection, and approved safety vests at all times while working in the field.
4. The Consultant shall provide, at no cost to Caltrans, appropriate safety training for all the Consultant's and the Subconsultant's office, laboratory, and field personnel, including training required for performing the work in an office setting or in the field to work on and near highways in a safe manner.
5. The Consultant shall be solely responsible for the protection of health and safety of its personnel, Subconsultants, and Subconsultant's personnel in performance of this Contract.
6. The Consultant shall conform to all safety requirements for testing and storage of nuclear gauges.
7. The Consultant shall provide, at no cost to Caltrans, a valid Thermoluminescent Dosimeters (TLD) badge to each Consultant employee engaged in nuclear gauge testing to meet the safety requirement by the California Department of Public Health. Quarterly radiation exposure reports and yearly operator's radiation safety training shall be submitted to Caltrans' District Radiation Safety Officer.
8. Any safety violations committed by the consultant personnel may be cause for termination

Q. Orientation Provided by Caltrans.

Caltrans may provide orientation regarding the requirements for this Contract and each Task Order as deemed necessary by Caltrans. The orientation may consist of a description of Caltrans procedures, practices, and requirements for the specific work to be performed

and sharing of project related files and notes. However, if the orientation instructions conflict with the contract or task order requirements, the Contract and the executed Task Order shall prevail over any descriptions provided.

R. Monitoring and Review Procedure.

1. The Caltrans Contract Manager shall have the unilateral right to monitor and review the progress and processes of the Consultant related to work performed under this Contract.
2. The performance of the Consultant Contract Manager, key personnel, and team shall be evaluated by the Caltrans Contract Manager, as needed, but no less frequently than annually, and at the expiration of the Contract. Unsatisfactory reviews of specific consultant personnel may result in Caltrans requesting that they be replaced with new personnel; the Consultant shall immediately replace personnel with individuals whose qualifications at a minimum equal those of the personnel replaced at no additional cost to Caltrans. Evaluation includes, but not be limited to, the following:
 - a. Job performance.
 - b. Quality of Work.
 - c. Timely submittal of reports, invoices, daily diaries, and other required documents.
 - d. Early detection of problems and timely resolutions.
 - e. Requesting timely approval for personnel changes and travel expenditure.
 - f. Responsiveness and ability to control costs.
 - g. DBE or DVBE Participation.
 - h. Conflicts of interest.

Poor performance and any negative evaluations may result in the request for replacement of the Consultant Contract Manager, key personnel, or any personnel; the need to replace key personnel shall reflect adversely on the Consultant's performance evaluation, and if warranted, may result in the termination of the Contract per Exhibit D, Section III, Termination of the Contract.

3. Construction Inspectors (Roadway, Electrical, Landscape Architectural and Stormwater) shall prepare daily diary reports of construction operations. Construction Office Engineers and Construction Schedule Support Analysts shall prepare a brief report of daily office operations. The reports shall be prepared on Caltrans-provided forms and shall be prepared daily at the end of the day's work.

S. General Materials to be provided or made available by Caltrans.

Materials (if deemed applicable, necessary, and when available from Caltrans) that may be furnished or made available by Caltrans and where listed in the individual Task Orders and

this Contract, are for the Consultant's use only, shall be returned at the end of the Contract. The Consultant shall use the materials in the execution of the specific work described in the Task Order. These materials may include, but not be limited to, the following:

1. Appropriate background or reference information for each Task Order.
2. Project special provisions, full-size and reduced-size sets of project plans, materials information handout, and construction contract and proposal, as necessary.
3. Caltrans standardized forms.
4. Caltrans shall provide Permits to Enter for private property access. The Consultant shall notify Caltrans, in writing, sufficiently in advance of its need to enter upon private property or facility to perform work. The Consultant's notice shall specify the date, purpose, duration, location, and the time of day of the Consultant's activities. The Consultant shall not perform work on property outside of the Caltrans right-of-way until Caltrans has obtained an entry permit from the property owner. The Consultant is responsible for notifying the property owner 48 hours in advance of entering the property, unless otherwise specified in the Permit. The Consultant shall notify the Caltrans Contract Manager within 48 hours if permission has been denied. The Consultant personnel shall carry the Permits to Enter on their person while performing work outside the Caltrans Right-of-Way. No work shall be performed by the Consultant outside the Caltrans Right-of-Way without Permits to Enter. The Consultant shall comply with all conditions imposed by the Caltrans Contract Manager and requirements set forth in the Permit to Enter. The Consultant shall be responsible for any damages that consultant did to owner property at Consultant's own expense.
5. Appropriate background information, site topographic maps, as-built drawings, blank Caltrans plan sheet overlays, digital electronic seed files, cell libraries, lane closure request forms, right-of-way alignments and survey limits, preliminary utility location maps, areas where focused studies are needed, Construction Contract Documents, and Shop Drawings, as available, for each Task Order.
6. Digital Electronic templates of Task Order formats.
7. For Contract work on Caltrans' Right-of-Way, an executed contract constitutes the consultant's "Encroachment Permit." The consultant (prime as well as any subconsultants) 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 Caltrans' Right-of-Way.
8. All pertinent correspondence and investigations.
9. The Caltrans Contract Manager may designate a Caltrans Task Order Manager to manage the technical aspects of the Task Order or each specific Task Order.

10. The Caltrans Contract Manager or Caltrans designee shall review all deliverables for compliance, substance, and quality.
- T. Construction Engineering and Construction Inspection Materials to be provided or made available by Caltrans.
1. Relevant and existing documents, if any are available, that are applicable to the current project within the project limits.
 2. Caltrans construction forms as necessary, including digital electronic or hardcopy (as specified by the Caltrans Resident Engineer on the Project) forms.
 3. Construction Materials Testing:
 - a. When appropriate, Caltrans shall provide the Consultant with the appropriate forms for recording test data in accordance with Caltrans' practices and procedures outlined in the California Test Methods.
 - b. Caltrans may permit the Consultant to calibrate the Consultant's nuclear gauges on Caltrans' test blocks, if available.
 - c. Limited office space, office equipment and office supplies typically used by the Caltrans material testing field personnel may be made available for use by the Consultant's personnel.

Note: The Consultant is responsible for the return to Caltrans, in original condition, of all items provided for use under this Contract. The Consultant shall replace, at the Consultant's sole expense, all lost or damaged Caltrans data or materials.

- U. Materials to be Provided by the Consultant.

Unless otherwise specified in this Contract, the Consultant shall provide all materials to complete the required work in accordance with the delivery schedule and cost estimate outlined in each Task Order.

1. The Consultant shall be responsible for obtaining all necessary approvals and permits for Task Order work performed on any property that Caltrans does not own or control, with the exception of private property. The Consultant shall identify all necessary approvals and permits, prepare signature-ready permit applications, and track the status of permit applications, as specified in each Task Order. Also, the Caltrans District NPDES Coordinator shall be notified prior to performance of any work.
2. The Consultant shall provide to its Roadway Construction Services personnel sets of the following that are applicable to the current project:

- a. Standard Specifications.
 - b. Standard Plans.
 - c. Materials listed under section “Equipment Requirements”.
3. When performing work within Railroad Company property, the Consultant is required to obtain sufficient and/or adequate insurance coverage that shall comply with the Railroad Company’s requirements when performing work within their jurisdiction. The amount of insurance and types of coverage required by the Railroad Company may be above and beyond that required by Caltrans. The Consultant may be required to provide additional Railroad liability insurance including, but not limited to:
- a. Commercial General Liability Insurance.
 - b. Business Automobile Coverage Insurance.
 - c. Worker Compensation and Employers Liability Insurance.
 - d. Railroad Protective Liability Insurance.
 - e. Umbrella or Excess Insurance.
 - f. Pollution Liability Insurance.

V. Product Approval and Payment

1. All analytical results, plans, designs, specifications, estimates, notes, calculations, analysis, reports, graphics, drawings, visual simulations, studies, product, data, manuals, details, deliverables, backup documents, other documents, and other items produced by the Consultant in the performance of this Contract, shall be subject to the approval and acceptance by the Caltrans Contract Manager prior to invoicing and payment for these items.
2. All of the deliverables and tasks provided for acceptance under each Task Order shall comply with the terms, covenants and conditions of this Contract.
3. Upon completion of each deliverable or task, the Caltrans Contract Manager shall either accept or reject the completed work. In the event of non-acceptance due to errors, omissions, or non-compliance with the Caltrans Manuals, as revised as of the time of the Task Order, or the provisions of this Contract, the Consultant shall remedy the errors, omissions, or non-compliance to the satisfaction of the Caltrans Contract Manager at no cost to Caltrans prior to payment. Caltrans shall withhold payment until the work is satisfactorily completed and approved by the Caltrans Contract Manager. Additional cost incurred to correct errors will not be compensated.
4. Caltrans shall not pay the Consultant for the Consultant’s work under this Contract and the charges incurred by the Consultant that does not conform to the requirements specified in this Contract and to the applicable Task Order, and such work shall be corrected at the Consultant’s sole expense at no additional cost to Caltrans.

5. All reviews, inspections and approvals made prior to the final acceptance of deliverables or Task Orders are intended only to provide interim authorizations to proceed and do not constitute final approval of the deliverable or Task Order.
6. Notwithstanding any other provision of this Agreement, until final acceptance of a Task Order under the Agreement, any acceptance or approval means approval to proceed, but it does not mean acceptance or approval of a deliverable or task, and, it does not reduce or eliminate any of the Consultant's duties or responsibilities under this Agreement.

W. General Deliverables.

All deliverables, intermediate work products, and original documents including, but not limited to, original field notes, photographs, reports, documents, plans, data, data files, edits to field data, adjustment calculations, final results, drawings, specifications, estimates, studies, record search, records, books, maps, manuscripts, manuals, digital electronic software developed, databases, background information, spreadsheets, procedural scripts, macros developed, and intellectual properties, developed pursuant to this Contract, shall be subject to the provisions of Exhibit D, sections XIX and XX and shall be sent to Caltrans upon completion of each Task Order deliverable and acceptance/approval of the work by the Caltrans Contract Manager or immediately upon request by the Caltrans Contract Manager. The Consultant shall retain a copy of all documents furnished to Caltrans until expiration of the Contract.

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

1. Data Format for Unprotected and Modifiable Digital Electronic File Transfers.

The Consultant shall deliver unprotected and modifiable digital electronic files meeting the following requirements and as specified in each Task Order:

- a. Alphanumeric information (80 character, ASCII data type).
 - b. Reports (Acrobat Writer 5 and above).
 - c. Graphs, charts (Acrobat Writer 5 and above).
 - d. Compliance with standard naming convention (including, but not limited to, Project ID, County, Route/PM, Date).
2. The Consultant shall work in close liaison with the Caltrans Contract Manager. Time is of the essence. Caltrans shall exercise review and approval functions through the Caltrans Contract Manager at key points, as specified in each Task Order. Milestone reviews shall be performed with the Caltrans Contract Manager for the specific performance, products, and deliverables listed in each Task Order.
 3. The Consultant shall prepare a cost estimate showing task, subtask, personnel,

personnel hours estimated for each task or subtask, and a schedule of deliverables.

4. All analytical results, plans, designs, specifications, estimates, notes, calculations, analysis, reports, graphics, drawings, visual simulations, studies, product, data, manuals, details, other documents, other items, and deliverables required by this Contract shall be prepared on Caltrans standardized forms. Necessary forms shall be provided by Caltrans for the Consultant's use.
5. All analytical results, plans, designs, specifications, estimates, notes, calculations, analysis, reports, graphics, drawings, visual simulations, studies, product, data, manuals, details, other documents, other items, and deliverables required by this Contract shall be submitted in both hardcopy and unprotected and modifiable digital electronic files in the Caltrans-approved forms and in the Caltrans-approved and designated digital electronic formats (Microsoft Word, Microstation, CA ice, AutoCAD Civil 3D, PhotoShop, 8 1/2 x 11 in green, plastic, three ring binder), in accordance with the guidelines in this Contract and each Task Order, and shall conform to Caltrans standards and the requirements of the Caltrans Office Engineer at the end of Contract or when requested by the Caltrans Contract Manager or Caltrans designee. The unprotected and modifiable digital electronic files shall include the responsible person's digital electronic signature and seal. The Consultant shall verify the latest version of software used prior to submittal. The Consultant shall also provide plot parameter (.par) or IPARM (.i) files in accordance with I-Plot standards.
6. At the end of each Task Order or when requested by the Caltrans Contract Manager, the Consultant shall also submit one (1) unprotected and modifiable digital electronic copy of all analytical results, plans, designs, specifications, estimates, notes, calculations, analysis, reports, graphics, drawings, visual simulations, studies, product, data, manuals, details, other documents, other items, and deliverables required by this Contract in a specified digital device format (CD, DVD, and/or flash drive). The file formats shall be specified in each Task Order. Appropriate documentation shall accompany each digital device indicating the contents of each file.
7. When the Consultant is required to prepare and submit analytical results, plans, designs, specifications, estimates, notes, calculations, analysis, reports, graphics, drawings, visual simulations, studies, product, data, manuals, details, other documents, other items, and deliverables required by this Contract and any approved Task Order to Caltrans or review analytical results, plans, designs, specifications, estimates, notes, calculations, analysis, reports, graphics, drawings, visual simulations, studies, product, data, manuals, details, deliverables, backup documents, other documents, and other items submitted to Caltrans by others, these documents shall be reviewed. They shall be submitted in draft as scheduled and the opportunity provided for Caltrans to provide comments and feedback, prior to final

submittal. The specific schedule for Caltrans' review of the Consultant's submittals shall be specified in the Task Order.

The Consultant personnel involved in preparation or review of analytical results, estimates, notes, calculations, analysis, reports, graphics, drawings, visual simulations, studies, product, data, manuals, details, deliverables, backup documents, other documents, and other items shall be identified in the prepared or review report.

8. If the Consultant fails to submit the required analytical results, plans, designs, specifications, estimates, notes, calculations, analysis, reports, graphics, drawings, visual simulations, studies, product, data, manuals, details, other documents, other items, and deliverables required by this Contract and any approved Task Order, Caltrans shall have the right to withhold payment and/or terminate this Contract in accordance with the termination provisions of this Contract per Exhibit D, Section III, Termination. If the Contract is terminated, the Consultant shall, at Caltrans' request, return all materials recovered or developed by the Consultant under the Contract including, but not limited to, photos, field notes, computer data files, maps, artifact collections, catalogs, analytical results, plans, designs, specifications, estimates, notes, calculations, analysis, reports, graphics, drawings, visual simulations, studies, product, data, manuals, details, deliverables, backup documents, other documents, and other items required by this Contract.
9. For each Task Order, a milestone submittal schedule shall be prepared by the Consultant and approved by the Caltrans Contract Manager. Milestones may be changed by written agreement between the Caltrans Contract Manager and the Consultant Contract Manager through an amendment to the Task Order.
10. The Consultant shall prepare and update the Caltrans Work Breakdown Structure (WBS) as set forth in this Contract for each Task Order issued by the Caltrans Contract Manager showing a deliverables schedule. It is expected that the Consultant shall complete and meet the agreed upon schedule for each Task Order. Failure to complete the work based on the agreed upon schedule in the Task Order may result in termination of the Task Order or this Contract. Caltrans may have work completed in any way allowed by law, for which the Consultant shall be liable for any additional costs incurred by Caltrans to complete the work. Such costs may be deducted from amounts due to the Consultant in pending or future invoices, or if the Contract is terminated, may be recouped by any means allowed by law.
11. The Consultant shall maintain a separate complete set of project files for each Task Order issued by the Caltrans Contract Manager performed under this Contract. The Consultant shall maintain two (2) sets of these files. One (1) set shall be maintained on site with the Consultant and the other set shall be updated by the Consultant monthly and delivered to the Caltrans Contract Manager in coordination with the Caltrans Task Order Manager. These files shall be indexed in accordance with

Caltrans' Project Development Uniform File System (<https://dot.ca.gov/-/media/dot-media/programs/design/documents/pdpm-chapter7-a11y.pdf><https://dot.ca.gov/-/media/dot-media/programs/design/documents/pdpm-chapter7-a11y.pdf>). These files shall be made available to the Caltrans Contract Manager during normal working hours and shall be transferred to Caltrans upon completion of work under the Task Order. If requested by the Caltrans Contract Manager, the Consultant shall provide these project files.

12. Deliverables specified in each Task Order shall be delivered to the attention and address indicated in each Task Order.
13. The Consultant shall be capable of working in either English or Metric units.
14. All deliverables shall be prepared in Imperial English Units unless an exception is approved. The units to be used for deliverables shall be addressed within individual Task Orders.
15. A Task Order may require the Consultant to use software and digital electronic formats other than those indicated in this Contract as needed to accomplish the objectives of the Task Order.
16. Quality Control Plan

Prior to the work, the Consultant shall prepare the quality control plan and the minimum standard of work quality and obtain approval from the Caltrans Contract Manager, in effect for each and every Task Order during the entire time the work is being performed under the Contract. The Consultant shall complete the quality control plan and certify at the completion of work that all measures contained therein were satisfied. Caltrans shall perform quality assurance on the quality control plan to assure that quality control was satisfied.

The Consultant's quality control plan shall establish a process whereby:

- a. All deliverables are reviewed for accuracy, completeness, and readability before submittal to Caltrans.
- b. Calculations and plans are independently checked, corrected and re-checked.
- c. All job-related correspondence and memoranda are routed and received by affected persons and then filed in the appropriate Task Order file.
- d. Field activities are routinely verified for accuracy and completeness, such that any discovered deficiencies do not become systemic or affect the result of a Task Order deliverable.

The Consultant shall provide an outline of the quality control program before a specific task begins and shall identify critical quality control reviews within each Task Order. The Caltrans Contract Manager shall periodically request evidence that

the quality control/quality assurance plan is functioning. All analytical results, plans, designs, specifications, estimates, notes, calculations, analysis, reports, graphics, drawings, visual simulations, studies, product, data, manuals, details, deliverables, backup documents, other documents, and other items required by this Contract submitted to the Caltrans Contract Manager for review shall be marked clearly as being fully checked or unchecked, and that the preparation of the material followed the quality control plan established for the work. The Quality Control/Quality Assurance (QC/QA) plan shall contain provisions for the development of appropriate "checklists" to maintain product quality and control. These "checklists" shall be delivered to the Caltrans Contract Manager with the QC/QA plan. The Consultant shall update these documents when directed by the Caltrans Contract Manager. Within thirty (30) calendar days of the Notice to Proceed (NTP), the Consultant shall submit to the Caltrans Contract Manager or Caltrans designee a job specific QC/QA plan and staffing plan.

17. Subject to Caltrans review, approval, and acceptance, the Consultant has total responsibility for and shall verify the accuracy and completeness of the analytical results, plans, designs, specifications, estimates, notes, calculations, analysis, reports, graphics, drawings, visual simulations, studies, product, data, manuals, details, other documents, other items, and deliverables required by this Contract prepared by the Consultant or its Subconsultants for the projects as specified in this Contract and in each Task Order. All analytical results, plans, designs, specifications, estimates, notes, calculations, analysis, reports, graphics, drawings, visual simulations, studies, product, data, manuals, details, other documents, other items, and deliverables required by this Contract shall be reviewed by Caltrans for conformity with project standards and the requirements in the Task Order and this Contract. The analytical results, plans, designs, specifications, estimates, notes, calculations, analysis, reports, graphics, drawings, visual simulations, studies, product, data, manuals, details, other documents, other items, and deliverables required by this Contract are subject to Caltrans' review, approval, and acceptance. Reviews by Caltrans do NOT include detailed review or checking of major components, quantitative calculations, related details or accuracy of information. The responsibility for accuracy and completeness of such items remains solely that of the Consultant.
18. The Caltrans Contract Manager shall address all questions which may arise as to the quality or acceptability of deliverables furnished and work performed for this Contract.
19. Prepare the analytical results, plans, designs, specifications, estimates, notes, calculations, analysis, reports, graphics, drawings, visual simulations, studies, product, data, manuals, details, other documents, other items, and deliverables required by this Contract in accordance with prevailing industry standards and in a form acceptable to the Caltrans Contract Manager. These items shall identify the preparer, the designated reviewers, and the criteria for acceptance. The deliverables

shall satisfy the Caltrans acceptance criteria and tests. The work product shall be complete, of neat appearance, well-organized, technically and grammatically correct, independently checked for error, checked by designated reviewers (Caltrans and Consultant Personnel), dated, and shall conform to industry standards and all applicable Caltrans, State, and Federal Standards, Requirements, and Procedures. All deliverables shall be approved by the Caltrans Contract Manager or Caltrans designee.

The minimum standard of appearance, organization, and content of analytical results, plans, designs, specifications, estimates, notes, calculations, analysis, reports, graphics, drawings, visual simulations, studies, product, data, manuals, details, deliverables, backup documents, other documents, and other items required by this Contract, shall be that of similar types produced by Caltrans and set forth in related Caltrans manuals.

Caltrans and the Consultant shall develop and agree to a schedule for the services and deliverables to be completed and delivered, and where appropriate, for acceptance criteria and acceptance tests that the services and deliverables must satisfy as a prerequisite for approval by Caltrans. All deliverables shall satisfy the Standards set forth in “Standards” Section in order to be accepted for payment.

X. Roadway Construction Services Deliverables.

1. The Consultant shall obtain written approval from Caltrans for all analytical results, plans, designs, specifications, estimates, notes, calculations, analysis, reports, graphics, drawings, visual simulations, studies, product, data, manuals, details, other documents, other items, and deliverables required by this Contract. If there are no Caltrans standardized forms, the format and content requirements for all analytical results, plans, designs, specifications, estimates, notes, calculations, analysis, reports, graphics, drawings, visual simulations, studies, product, data, manuals, details, deliverables, backup documents, other documents, and other items required by this Contract shall be specified in each Task Order.
2. All Roadway Construction Services analytical results, plans, designs, specifications, estimates, notes, calculations, analysis, reports, graphics, drawings, visual simulations, studies, product, data, manuals, details, other documents, other items, and deliverables required by this Contract performed on computer shall be delivered to Caltrans including, but not limited to, the formats specified below:
 - a. Text-based documents shall be submitted as an Adobe Portable Document Format (“pdf”) file using Adobe Acrobat Professional version 5 or later software. The pdf file shall be inclusive of all graphics (e.g. page orientation, photographs or other images, charts, and tables) and be suitable for printing in final form. The pdf file shall:
 - i. Contain functioning bookmarks, indexes, tables of contents or other hyperlinks as required by the Task Order.

- ii. Be configured (e.g. bookmarks, indexes, table of contents, thumbnails, annotations, signatures, and security settings) as required, or as directed by the Task Order.
- iii. Be optimized for use by Adobe Acrobat Reader 10 or newer.
- b. Text-based documents shall also be submitted in Microsoft Word format, version 2013. The document shall include all graphics (e.g. photographs, image graphics, charts, and tables). Photographs shall be in “jpeg” file format. Other image graphics shall be in “gif” format unless otherwise specified.
- c. All graphics (e.g. photographs or other drawings) shall be submitted separately from the pdf and Microsoft Word documents in archive-type file formats (e.g. photographs and bitmapped drawings as “tif”, Microstation drawings as “dgn”, and vector drawings as “ai”) unless otherwise specified. The intent of this section is for the Consultant to provide Caltrans with a copy of each graphic in an uncompressed file format for archive purposes. The Consultant may suggest alternative formats that are compatible with this goal.
- d. Spreadsheet files shall be submitted in Microsoft Excel format, version 2013, or format currently in use by Caltrans.
- e. Word processing files shall be submitted in Microsoft Word format, version 2013, or format currently in use by Caltrans.
- f. Database files shall be submitted in Microsoft Access format, version 2013, or format currently in use by Caltrans.
- g. The Consultant shall not format digital electronic files as “view only” or “read only” unless so specified in the Task Order.
- h. Other - As specified in the Task Order.
- i. All scheduling deliverables and documents performed on computer shall be delivered to Caltrans in the specified formats per executed Task Orders.
- j. Schedules in Critical Path Method (CPM) software, with Primavera Project Planner (P3, P6) and SureTrak, or any updated version, as a minimum; Scheduler Analyzer Pro; and Microsoft Projects. The Consultant shall have an access to use additional industry standard CPM software, used by the contractors.

Y. Conflict of Interest

The Consultant, its subconsultants and their subsidiaries thereof who may provide, has provided, or is currently providing design engineering services and/or construction engineering services under a contractual relationship with a construction contractor(s) on any Caltrans project listed in this Scope of Work, must disclose the contractual relationship, the dates and the nature of the services (either actually provided or potentially to be provided under the contract(s)).

The Consultant, its subconsultants and their subsidiaries are required to disclose in the SOQ and throughout the term of the awarded contract any design engineering services including claim services, lead project management services and construction engineering services provided to Caltrans and all consultant clients which either actually provided or potentially to be provided under that contract(s) on the projects listed in this SOW.

Throughout the contract term, the Consultant will ensure that the consultant and its subconsultants will agree that, prior to providing any engineering services to any construction contractor on any of the Caltrans projects listed in this SOW, it will disclose all actual and potential business relationship and mitigation efforts, if any, to eliminate any conflicts of interest and will submit a written request, and seek Caltrans' consent to render those services.

The submitted documentation regarding conflicts of interest will be used for determining potential conflicts of interest; Caltrans will use this documentation to determine whether the consultant or subconsultant may work on specific projects. A conflict of interest may include a situation in which, during the term of the Contract, the consultant or any subconsultants provide engineering services to a construction contractor who is awarded a contract with Caltrans on a project for which the consultant or subconsultant is working on an assigned Task Order under this contract. In this situation, the Consultant must immediately notify the Caltrans Contract Manager regarding the conflict. The Caltrans Contract Manager will then terminate the Task Order involving the conflict of interest and Caltrans may obtain the conflicted services in any way allowed by law. Failure by the Consultant to notify the Caltrans Contract Manager is grounds for termination of the contract for default pursuant to Exhibit D, Section III, Termination, of the awarded Contract. The Consultant and its subconsultants have not, currently do not, and will not provide design engineering services including lead project management services and claim services on the same Caltrans project(s) identified in this SOW.

All roadway construction services deliverables produced by the Consultant and its subconsultants shall be free of any actual or potential conflict of interest and shall be subject to the approval and acceptance by the Caltrans Contract Manager.

In the event of non-acceptance due to discovery of conflict of interest, the Consultant shall provide replacement deliverables free of any conflict of interest as a prerequisite for receipt of payment and at no additional cost to Caltrans. In the event the Consultant is unable to provide replacement deliverables, the Consultant shall not receive compensation for the deliverables containing the conflict of interest. If work is later determined to contain a conflict of interest, either the Consultant shall reimburse Caltrans for any amount paid for the conflicted work or Caltrans may deduct that payment from any current or future amounts owed to the Consultant. Failure by the Consultant to disclose any conflict of interest to the Caltrans Contract Manager is grounds for termination of the contract for default pursuant to Exhibit D, Section III, Termination, of the awarded contract.

Z. Conflict of Interest Examples

1. Provide design engineering services and Construction Management/Inspection services for the same project listed in this SOW.
2. Provide Construction Management/Inspection services for the construction contractor and/or Caltrans on the same project.
3. Certified Materials Tester(s) or Plant Inspector(s) from the same company that performs Quality Control for the Contractor and Quality Assurance for Caltrans on the same project.
4. Certified Materials Tester(s) or Plant Inspector(s) from the same company that currently performs Quality Control for the Contractor on any project within that District where the services are being performed and Quality Assurance for Caltrans on different projects within that District where the services are being performed where the same Contractor is performing work.
5. Providing services to construction contractor's subcontractors, fabricators, equipment installer, material suppliers and other firms associated with the projects listed in the Contract can be a potential conflict of interest when such contractor teams are identified.

AA. Travel

The Consultant is required to submit "Travel Authorization Request" to the Caltrans Task Order Manager and Caltrans Contract Manager for approval. Transportation and subsistence costs shall be the actual costs incurred, but not to exceed the rates stipulated in the "Caltrans Travel Guide, Consultant/Contractors Travel Policy.

SCOPE OF WORK/DELIVERABLES
ROADWAY CONSTRUCTION INSPECTION AND OFFICE ENGINEER

For Caltrans, Division of Project Delivery, District 12
On-Call Contract

A. Purpose of Work.

The Consultant shall perform professional and technical services required for Roadway Construction Inspection and Office Engineer, on an “as-needed” basis to support Caltrans, Division Project Delivery, District 12, in the construction of proposed Caltrans transportation facilities.

B. Consultant Roadway Construction Inspection and Office Engineer Required Services

Typical duties to be performed by the Consultant’s personnel shall include, but not be limited to, the following:

1. Performing and assisting in performing the duties of an Assistant Resident Engineer, including, but not limited to, roadway construction inspection, quantity calculations, checking grade and alignment, labor compliance interviews, traffic control review, and assuring compliance with project plans and specifications.
2. Identifying actual and potential problems associated with the construction project work and recommending sound engineering solutions in a timely manner.
3. Maintaining an awareness of safety and health requirements and assuring compliance with applicable regulations and construction contract provisions for the protection of the public and construction project personnel.
4. Preparing quantity calculations, records, reports, and correspondence related to construction project activities.
5. Assisting in the preparation of final As-Built plans and reports at the completion of construction.
6. Performing minor construction surveying activities including, but not limited to, barrier rail layout, grades, incidental slope grade check points and shoulder grades as covered under Caltrans Surveys Manual, Chapter 12, Section 1-1 “Responsibilities.”
7. Performing and assisting in all aspects of required office construction engineering work including setting up and maintaining project files, processing required documents and progress payments, as necessary.
8. Performing the Inspection and compliance monitoring of Storm Water Pollution Prevention Plans (SWPPP)/Best Management Practices (BMP).

C. Work Breakdown Structure Activities

The following Work Breakdown Structure (WBS) activities are applicable to the work described in this attachment template:

270	Construction Engineering and Contract Administration
270.10	Construction Staking Package and Control
270.10.10	Construction Staking Package
270.10.20	Project Control for Construction
270.22	Contract Administration
270.33	Construction Inspection
270.44	Control of Materials
270.56	Employment Compliance
270.66	Technical Support
280	Administration of Permits, Licenses, Agreements or Certifications (PLACs) and Environmental Stewardship
	Use the below reporting codes with WBS 280 activity
	- 401 COMP 401 permit compliance during construction of a project
	- 401VIO Response to PLAC violation(s) under the 401 permit.
	- COMP Compliance to regulations not included in the 401 permit.
	- VIO Response to alleged PLAC violation(s) not under 401 permit
	- UPDECR Updates to the Environmental Commitments Record (ECR).
	- REEV Changes that affect project's environmental documentation.
	- UPDPLAC Renewal and/or extension requests for previously issued PLACs.
280.70	Updated Environmental Commitments Record
285	Change Order Administration
285.05	Change Order (CO) Process
285.10	Functional Support
285.10.15	Other Functional Support
295	Accept Contract/Prepare Final Construction Estimate And Final Report
295.05	Processed Estimate after Acceptance
295.10	Proposed Final Contract Estimate
295.15	As-Built Plans
295.20	Project History File
295.25	Final Report

295.30	Processed Final Estimate
295.35	Certificate Of Environmental Compliance (CEC)
295.40	Long Term Environmental Mitigation/Mitigation Monitoring After Construction Contract Acceptance
395.40.10	Commission TMS Elements
295.99	Other Accept Contract/Prepare Final Construction Estimate and Final Report

D. Consultant Roadway Construction Inspection and Office Engineer Responsible Person Requirements

The Consultant Roadway Construction Inspection and Office Engineer responsible person shall be a Registered Professional Engineer (Civil) licensed in the State of California in good standing with the California State Board for Professional Engineers, Land Surveyors, and Geologists at all times during the Contract period, to perform the tasks described in this Contract and in the Task Orders.

E. Consultant Roadway Construction Inspection and Office Engineer Personnel Requirements

1. Consultant Registered Roadway Construction Inspector

Consultant Registered Roadway Construction Inspectors shall be in possession of a valid certificate of registration as a civil engineer issued by the California State Board of Registration for Professional Engineers, Land Surveyors, and Geologists. Registered Roadway Construction Inspectors shall have a documented minimum (6) years of demonstrated experience acceptable to Caltrans in roadway construction inspection, and shall have a minimum of two (2) of these six (6) years as a lead worker.

Consultant Registered Roadway Construction Inspectors shall also have:

- a. Knowledge and experience with equipment used in roadway construction inspection, surveying, and construction office engineering.
- b. Knowledge of computers, computer applications, and computer software programs such as Microsoft Office (Word, Excel, PowerPoint, and others); Critical Path Method (CPM) software such as Primavera Project Planner (P3, P6) and SureTrak, or any updated version, as a minimum; Scheduler Analyzer Pro; and Microsoft Project.
- c. Knowledge and experience with principles of effective communication.
- d. Knowledge and experience with monitoring labor compliance.
- e. Knowledge and experience with subcontracting laws and policies.

- f. Knowledge and experience with the Storm Water Pollution Prevention Program and the General Permit.
- g. Knowledge of Caltrans Standard Plans, Standard Specifications, and *Construction Manual*.
- h. Proper background clearance, as necessary, when performing work on or near the rail system.
- i. Experience in Dispute Review Board (DRB) meetings and preparing position paper.
- j. Knowledge and experience with analyzing construction claims and reviewing cost.
- k. Knowledge and experience in keeping complete, accurate, and concise records of the work and quantities.

2. Consultant Roadway Construction Inspector

Consultant Roadway Construction Inspectors shall meet one of the following minimum qualifications (Either I or II below):

- I) Graduation from a four-year curriculum in civil engineering accredited by the Accreditation Board for Engineering Technology (ABET). Possession of a valid certificate as an Engineer-in- Training issued by the California State Board of Registration for Professional Engineers, Land Surveyors, and Geologists, or issued by another jurisdiction and accepted by the California Board may be substituted for the required education. A documented minimum two (2) years of demonstrated experience in roadway construction inspection of highways or major public works projects performing the duties described in this Contract.

Or

- II) A master's or doctorate degree in a civil engineering curriculum from a college or university that has a baccalaureate degree program in a civil engineering curriculum which is accredited by the Accreditation Board of Engineering Technology (ABET). A documented minimum two (2) years of demonstrated experience in roadway construction inspection of highways or major public works projects performing the duties described in this Contract.

Consultant Roadway Construction Inspectors shall also have knowledge and experience in the following:

- a) Capable of assisting the Caltrans Resident Engineer in all aspects of required field and office engineering work including, but not limited to the following: inspection of non-structural construction operations;

inspection of traffic control system compliance; contract change order (CCO) preparation, review, and analysis; and Water Pollution Control Program (Storm Water Pollution Prevention Plan) enforcement.

- b) Capable of reviewing, inspecting, and approving traffic control systems, including lane closures, in accordance with Caltrans' standards and requirements. Personnel reviewing, inspecting, and approving traffic control system work shall have one (1) year demonstrated experience in such work.
- c) Consultant Roadway Construction Inspectors shall also have:
 - i. Knowledge and experience with equipment used in roadway construction inspection, surveying, field testing of construction materials, and construction office engineering.
 - ii. Knowledge of computers, computer applications, and computer software programs such as Microsoft Office (Word, Excel, PowerPoint, and others); Critical Path Method (CPM) software such as Primavera Project Planner (P3, P6) and SureTrak, or any updated version, as a minimum; Scheduler Analyzer Pro; and Microsoft Project.
 - iii. Knowledge and experience with principles of effective communication and supervision.
 - iv. Knowledge and experience with monitoring labor compliance.
 - v. Knowledge of subcontracting laws and policies.
 - vi. Knowledge and experience with the Storm Water Pollution Prevention Program and the General Permit.
 - vii. Knowledge of Caltrans Standard Plans, Standard Specifications, and *Construction Manual*.
 - viii. Proper background clearance, as necessary, when performing work on or near the rail system.
 - ix. Experience in assisting in preparation of Resident Engineers for the Dispute Review Board (DRB) position papers and meetings.
 - x. Experience in assisting Resident Engineers to respond to preliminary claim findings and preparation for Dispute Review Board (DRB).
 - xi. Experience in preparation of Claims files, documents and reports.
 - xii. Knowledge and experience in keeping complete, accurate, and concise records of the work and quantities.

3. Consultant Assistant Roadway Construction Inspector

Consultant Assistant Roadway Construction Inspectors shall meet the following minimum qualifications:

EITHER

Two years of education equivalent to completion of a curriculum beyond the 12th grade in either (1) engineering which includes courses in trigonometry and algebra or higher, drafting, computer science, and physics, chemistry, or a comparable physical science; or (2) surveying which includes courses in trigonometry and algebra or higher, drafting, surveying, and computer science.

Or

One year in the California state service performing duties comparable to those of a Junior Engineering Technician, Range B.

AND

A documented minimum four (4) years of demonstrated experience in roadway construction inspection of highways or major public works projects performing the duties described in this Contract.

Consultant Assistant Roadway Construction Inspectors shall also have knowledge and experience in the following:

- I) Capable of assisting the Caltrans Resident Engineer in all aspects of required field and office engineering work including, but not limited to the following: inspection of non-structural construction operations; inspection of traffic control system compliance; contract change order (CCO) preparation, review, and analysis; and Water Pollution Control Program (Storm Water Pollution Prevention Plan) enforcement.
- II) Capable of reviewing, inspecting, and approving traffic control systems, including lane closures, in accordance with Caltrans' standards and requirements. Personnel reviewing, inspecting, and approving traffic control system work shall have one (1) year demonstrated experience in such work.
- III) Consultant Assistant Roadway Construction Inspectors shall also have:
 - a) Knowledge and experience with equipment used in roadway construction inspection, surveying, field testing of construction materials, and construction office engineering.
 - b) Knowledge of computers, computer applications, and computer software programs such as Microsoft Office (Word,

Excel, PowerPoint, and others); Critical Path Method (CPM) software such as Primavera Project Planner (P3, P6) and SureTrak, or any updated version, as a minimum; Scheduler Analyzer Pro; and Microsoft Project.

- c) Knowledge and experience with principles of effective communication and supervision.
- d) Knowledge and experience with monitoring labor compliance.
- e) Knowledge of subcontracting laws and policies.
- f) Knowledge and experience with the Storm Water Pollution Prevention Program and the General Permit.
- g) Knowledge of Caltrans Standard Plans, Standard Specifications, and *Construction Manual*.
- h) Proper background clearance, as necessary, when performing work on or near the rail system.
- i) Experience in assisting in preparation of Resident Engineers for the Dispute Review Board (DRB) position papers and meetings.
- j) Experience in assisting Resident Engineers to respond to preliminary claim findings and preparation for Dispute Review Board (DRB).
- k) Experience in preparation of Claims files, documents and reports.
- l) Knowledge and experience in keeping complete, accurate, and concise records of the work and quantities.

4. Consultant Construction Office Engineers (COEs)

Consultant Construction Office Engineers shall meet one of the following minimum qualifications (Either I or II below):

- I) Graduation from a four-year curriculum in civil engineering accredited by the Accreditation Board for Engineering Technology (ABET) and a documented minimum two (2) years of demonstrated experience acceptable to Caltrans in highway construction office engineering or in roadway construction inspection of highways or major public works projects performing the duties described in this Contract.

OR

- II) Possession of a valid certificate as an Engineer-in- Training issued by the California State Board of Registration for Professional Engineers, Land Surveyors, and Geologists, or issued by another jurisdiction and accepted by the California Board and a documented minimum two (2) years of demonstrated experience acceptable to

Caltrans in highway construction office engineering or in roadway construction inspection of highways or major public works projects performing the duties described in this Contract.

Consultant COEs shall be capable of assisting the Caltrans Resident Engineer in all aspects of required office construction engineering work including, but not limited to, labor compliance requirements; and shall also be knowledgeable and experienced in the following areas:

- a. Setting up and maintaining project files.
- b. Writing construction change orders.
- c. Processing required documents and progress payments.
- d. Prevailing Wage Laws and Regulations.
- e. Monitoring and enforcing labor compliance.
- f. Computers, computer applications, and computer software programs such as Microsoft Office (Word, Excel, PowerPoint, and others).
- g. Subcontracting laws and policies.

5. Consultant Assistant Construction Office Engineers (Assistant COEs)

Consultant Assistant Construction Office Engineers shall meet the following minimum qualifications:

Two years of education equivalent to completion of a curriculum beyond the 12th grade in either (1) engineering which includes courses in trigonometry and algebra or higher, drafting, computer science, and physics, chemistry, or a comparable physical science; or (2) surveying which includes courses in trigonometry and algebra or higher, drafting, surveying, and computer science. A documented minimum four (4) years of demonstrated experience acceptable to Caltrans in highway construction office engineering or in roadway construction inspection of highways or major public works projects performing the duties described in this Contract. .

Consultant Assistant COEs shall be capable of assisting the Caltrans Resident Engineer in all aspects of required office construction engineering work including, but not limited to, labor compliance requirements; and shall also be knowledgeable and experienced in the following areas:

- a. Setting up and maintaining project files.
- b. Writing construction change orders.
- c. Processing required documents and progress payments.
- d. Prevailing Wage Laws and Regulations.

- e. Monitoring and enforcing labor compliance.
 - f. Computers, computer applications, and computer software programs such as Microsoft Office (Word, Excel, PowerPoint, and others).
 - g. Subcontracting laws and policies.
- F. Roadway Construction Inspection and Office Engineer materials to be provided or made available by Caltrans.
- 1. Relevant and existing documents, if any are available, that are applicable to the current project within the project limits.
 - 2. Caltrans construction forms as necessary, including digital electronic or hardcopy (as specified by the Caltrans Resident Engineer on the Project) forms.
- G. Roadway Construction Inspection and Office Engineer Deliverables.
- 1. Consultant Daily reports and extra work daily reports shall be delivered to the Caltrans Resident Engineer (RE) within one workday of the work being covered by the daily report.
 - 2. Construction contract progress payment quantity documents shall be delivered to the Caltrans Resident Engineer within five (5) working days after completion of the work or no later than the last working day proceeding the 20th of each month.
 - 3. Final payment quantity documents shall be delivered to the Caltrans Resident Engineer no later than five (5) working days after acceptance by Caltrans of the completed construction project final pay item.
 - 4. Field measurements, test data and other documents as required by Caltrans procedures shall be recorded, maintained and submitted as directed by the Caltrans Resident Engineer.

**SCOPE OF WORK/DELIVERABLES
ELECTRICAL CONSTRUCTION INSPECTION**

For Caltrans, Division of Project Delivery, District 12
On-Call Contract

A. Purpose of Work.

The Consultant shall perform professional and technical services required for Electrical Construction Inspection, on an “as-needed” basis to support Caltrans, Division of Project Delivery, District 12, in the construction of proposed Caltrans transportation facilities.

B. Electrical Construction Inspection Required Services.

Typical duties to be performed by the Consultant’s personnel shall include, but not be limited to, the following:

1. Performing and assisting in performing the duties of an Electrical Construction Inspector, including, but not limited to, electrical construction inspection, quantity calculations, labor compliance interviews, safeguarding project, and assuring compliance with project plans and specifications.
2. Identifying actual and potential problems associated with the construction project work and recommending sound engineering solutions in a timely manner.
3. Maintaining an awareness of safety and health requirements and assuring compliance with applicable regulations and construction contract provisions for the protection of the public and construction project personnel.
4. Preparing calculations, records, reports, and correspondence related to construction project activities.
5. Assisting in the preparation of final As-Built plans and reports at the completion of construction.
6. Performing the Electrical Construction inspection and compliance monitoring of projects.

C. Work Breakdown Structure Activities

The following Work Breakdown Structure (WBS) activities are applicable to the work described in this attachment template:

270	Construction Engineering and Contract Administration
270.10.20	Project Control for Construction
270.22	Contract Administration

270.33	Construction Inspection
270.44	Control of Materials
270.56	Employment Compliance
270.66	Technical Support
285	Change Order Administration
285.05	Change Order (CO) Process
285.10	Functional Support
285.10.15	Other Functional Support
295	Accept Contract/Prepare Final Construction Estimate And Final Report
295.05	Processed Estimate after Acceptance
295.10	Proposed Final Contract Estimate
295.15	As-Built Plans
295.20	Project History File
295.25	Final Report
295.30	Processed Final Estimate
295.45.10	Commission TMS Elements
295.99	Other Accept Contract/Prepare Final Construction Estimate and Final Report

D. Consultant Electrical Construction Inspection Responsible Person Requirements

The Consultant Electrical Construction Inspection responsible person, shall be a Registered Professional Engineer (Electrical) licensed in the State of California in good standing with the California State Board for Professional Engineers, Land Surveyors, and Geologists at all times during the Contract period, to perform the tasks described in this Contract and in the Task Orders.

E. Consultant Electrical Construction Inspector Personnel Requirements

1. Consultant Lead Electrical Construction Inspector

Consultant Lead Electrical Construction Inspectors shall have the following minimum qualifications:

- a. A documented minimum seven (7) years of demonstrated experience in electrical construction inspection of highways or major public works projects performing the duties described in this contract. Graduation from a four-year curriculum in electrical engineering accredited by the Accreditation Board for Engineering Technology (ABET) can be substituted for two (2) years of electrical work experience. A valid certificate of registration as an electrical engineer issued by the California State Board of Registration for Professional Engineers Land Surveyors, and

Geologists can also be substituted for two (2) years of electrical work experience.

- b. Capable of assisting the Caltrans Resident Engineer in all aspects of required field and office engineering work including, but not limited to the following: inspection of non-structural electrical construction operations and contract change order (CCO) preparation, review, and analysis.
- c. Consultant Lead Electrical Construction Inspectors shall also have:
 - i. Knowledge and experience with equipment used in electrical construction inspection, and construction office engineering.
 - ii. Knowledge of computers, computer applications, and computer software programs such as Microsoft Office (Word, Excel, PowerPoint, and others); Critical Path Method (CPM) software such as Primavera Project Planner (P3, P6) and SureTrak, or any updated version, as a minimum; Scheduler Analyzer Pro; and Microsoft Project.
 - iii. Knowledge and experience with principles of effective communication.
 - iv. Knowledge and experience with monitoring labor compliance.
 - v. Knowledge subcontracting laws and policies.
 - vi. Knowledge and experience with the Storm Water Pollution Prevention Program and the General Permit.
 - vii. Knowledge of Caltrans Standard Plans, Standard Specifications, and *Construction Manual*.

2. Consultant Electrical Construction Inspector

Consultant Electrical Construction Inspectors shall have the following minimum qualifications:

- a. Possession of a valid certificate of registration as an electrical engineer issued by the California Board of Registration for Professional Engineers.

OR

Graduation from a four-year curriculum in electrical, electronic or computer engineering accredited by the Accreditation Board for Engineering Technology (ABET).

- b. A documented minimum four (4) years of demonstrated experience in in construction inspection of highways or major public works projects performing the duties described in this contract, with two (2) of these four (4) years inspecting electrical work.
- c. Capable of assisting the Caltrans Resident Engineer in all aspects of required field and office engineering work including, but not limited to the following: inspection of non-structural electrical construction operations and contract change order (CCO) preparation, review, and analysis.

- d. Consultant Electrical Construction Inspectors shall also have:
 - i. Knowledge and experience with equipment used in electrical construction inspection and construction office engineering.
 - ii. Knowledge of computers, computer applications, and computer software programs such as Microsoft Office (Word, Excel, PowerPoint, and others); Critical Path Method (CPM) software such as Primavera Project Planner (P3, P6) and SureTrak, or any updated version, as a minimum; Scheduler Analyzer Pro; and Microsoft Project.
 - iii. Knowledge and experience with principles of effective communication.
 - iv. Knowledge and experience with monitoring labor compliance.
 - v. Knowledge subcontracting laws and policies.
 - vi. Knowledge and experience with the Storm Water Pollution Prevention Program and the General Permit.
 - vii. Knowledge of Caltrans Standard Plans, Standard Specifications, and *Construction Manual*.
 - viii. Proper background clearance, as necessary, when performing work on or near the rail system.

F. Electrical Construction Inspection materials to be provided or made available by Caltrans.

1. Relevant and existing documents, if any are available, that are applicable to the current project within the project limits.
2. Caltrans construction forms as necessary, including digital electronic or hardcopy forms (as specified by the Caltrans Resident Engineer on the Project).

G. Electrical Construction Inspection Deliverables.

1. Consultant Daily reports and extra work daily reports shall be delivered to the Caltrans Resident Engineer (RE) within one workday of the work being covered by the daily report.
2. Construction contract progress payment quantity documents shall be delivered to the Caltrans Resident Engineer within five (5) working days after completion of the work or no later than the last working day proceeding the 20th of each month.
3. Final payment quantity documents shall be delivered to the Caltrans Resident Engineer no later than five (5) working days after acceptance by Caltrans of the completed construction project final pay item.

4. Field measurements, test data and other documents as required by Caltrans procedures shall be recorded, maintained and submitted as directed by the Caltrans Resident Engineer.

SCOPE OF WORK/DELIVERABLES
LANDSCAPE ARCHITECTURAL CONSTRUCTION INSPECTION

For Caltrans, Division of Project Delivery, District 12
On-Call Contract

A. Purpose of Work.

The Consultant shall perform professional and technical services required for Landscape Architectural Construction Inspection, on an “as-needed” basis to support Caltrans, Division of Project Delivery, District 12, in the construction of proposed Caltrans transportation facilities.

B. Required Services

Typical duties to be performed by the Consultant’s personnel shall include, but not be limited to, the following:

1. Performing and assisting in performing the duties of a Landscape Architectural Construction Inspector, including, but not limited to, landscape architectural construction inspection, quantity calculations, labor compliance interviews, and assuring compliance with project plans and specifications.
2. Identifying actual and potential problems associated with the construction project work and recommending sound engineering solutions in a timely manner.
3. Maintaining an awareness of safety and health requirements and assuring compliance with applicable regulations and construction contract provisions for the protection of the public and construction project personnel.
4. Preparing quantity calculations, records, reports, and correspondence related to construction project activities.
5. Assisting in the preparation of final As-Built plans and reports at the completion of construction.

C. Work Breakdown Structure Activities

The following Work Breakdown Structure (WBS) activities are applicable to the work described in this attachment template:

270	Construction Engineering and Contract Administration
270.22	Contract Administration
270.33	Construction Inspection
270.44	Control of Materials
270.56	Employment Compliance

270.66	Technical Support
280	Administration of Permits, Licenses, Agreements or Certifications (PLACs) and Environmental Stewardship
	Use the below reporting codes with WBS 280 activity
	- 401 COMP 401 permit compliance during construction of a project
	- 401VIO Response to PLAC violation(s) under the 401 permit.
	- COMP Compliance to regulations not included in the 401 permit.
	- VIO Response to alleged PLAC violation(s) not under 401 permit
	- UPDECR Updates to the Environmental Commitments Record (ECR).
	- REEV Changes that affect project's environmental documentation.
	- UPDPLAC Renewal and/or extension requests for previously issued PLACs.
280.70	Updated Environmental Commitments Record
285	Change Order Administration
285.05	Change Order (CO) Process
285.10	Functional Support
285.10.15	Other Functional Support
295	Accept Contract/Prepare Final Construction Estimate And Final Report
295.05	Processed Estimate after Acceptance
295.10	Proposed Final Contract Estimate
295.15	As-Built Plans
295.20	Project History File
295.25	Final Report
295.30	Processed Final Estimate
295.35	Certificate Of Environmental Compliance (CEC)
295.40	Long Term Environmental Mitigation/Mitigation Monitoring After Construction Contract Acceptance
295.99	Other Accept Contract/Prepare Final Construction Estimate and Final Report

D. Consultant Landscape Architectural Construction Inspection Responsible Person Requirements

The Consultant Landscape Architectural Construction Inspection responsible person shall have a license as a Landscape Architect, issued by the California Landscape Architects

Technical Committee, at all times during the Contract period, to perform the tasks described in this Contract and in the Task Orders.

E. Consultant Landscape Architectural Construction Inspection Personnel Requirements

1. Consultant Landscape Architectural Construction Inspector

Consultant Landscape Architectural Construction Inspectors shall have the following minimum qualifications:

- a. Possession of a valid Certificate of Registration as a Landscape Architect issued by the California Board of Landscape Architects.
OR
Graduation from a curriculum in Landscape Architecture from a college or university accredited by the American Society of Landscape Architects.
- b. A documented minimum four (4) years demonstrated experience in construction inspection of highways or major public works projects performing the duties described in this contract, with two (2) of these four (4) years inspecting Landscape Architectural construction.
- c. Capable of assisting the Caltrans Resident Engineer in all aspects of required field and office construction engineering work including, but not limited to the following: inspection of non-structural landscape architectural construction operations and contract change order (CCO) preparation, review, and analysis.
- d. Consultant Landscape Architectural Construction Inspectors shall also have:
 - i. Knowledge and experience with equipment used in landscape architectural construction inspection, and construction office engineering.
 - ii. Knowledge of computers, computer applications, and computer software programs such as Microsoft Office (Word, Excel, PowerPoint, and others); Critical Path Method (CPM) software such as Primavera Project Planner (P3, P6) and SureTrak, or any updated version, as a minimum; Scheduler Analyzer Pro; and Microsoft Project.
 - iii. Knowledge and experience with principles of effective communication.
 - iv. Knowledge and experience with monitoring labor compliance.
 - v. Knowledge of subcontracting laws and policies.
 - vi. Knowledge and experience with the Storm Water Pollution Prevention Program and the General Permit.
 - vii. Knowledge of Caltrans Standard Plans, Standard Specifications, and *Construction Manual*.

- viii. Proper background clearance, as necessary, when performing work on or near the rail system.
- F. Landscape Architectural Construction Inspection materials to be provided or made available by Caltrans.
1. Relevant and existing documents, if any are available, that are applicable to the current project within the project limits.
 2. Caltrans construction forms as necessary, including digital electronic or hardcopy (as specified by the Caltrans Resident Engineer on the Project) forms.
- G. Landscape Architectural Construction Inspection Deliverables.
1. Consultant Daily reports and extra work daily reports shall be delivered to the Caltrans Resident Engineer (RE) within one workday of the work being covered by the daily report.
 2. Construction contract progress payment quantity documents shall be delivered to the Caltrans Resident Engineer within five (5) working days after completion of the work or no later than the last working day proceeding the 20th of each month.
 3. Final payment quantity documents shall be delivered to the Caltrans Resident Engineer no later than five (5) working days after acceptance by Caltrans of the completed construction project final pay item.
 4. Field measurements, test data and other documents as required by Caltrans procedures shall be recorded, maintained and submitted as directed by the Caltrans Resident Engineer.

**SCOPE OF WORK/DELIVERABLES
CONSTRUCTION CLAIMS SUPPORT**

For Caltrans, Division of Project Delivery, District 12
On-Call Contract

A. Purpose of Work.

The Consultant shall perform consultation, research, professional and technical services required for Construction Claims Support on an “as-needed” basis to support Caltrans, Division of Project Delivery, District 12, in the construction of proposed Caltrans transportation facilities.

B. Construction Claims Support Required Services

Typical duties to be performed by the Consultant’s personnel shall include, but not be limited to, the following:

1. Provide claims expertise.
2. Provide specialized expertise in reviewing and assessing potential claims.
3. Perform detailed analysis of complex construction claims and provide assessment for merit, entitlement and compensation, and propose claim resolution based on analysis of contract documents, including Standard Specifications and Special Provisions.
4. Analyze potential claims and provide recommendations of entitlement and compensation based on specific sections of the contract document.
5. Analyze and compare both Caltrans’ and the Contractor’s records pertaining to construction claims and provide technical advice to the Resident Engineer regarding merit and entitlement.
6. Assist Resident Engineers in preparation of Dispute Review Board (DRB) position papers.
7. Assist Resident Engineers for Dispute Review Board (DRB) meetings, including support in development and delivery of presentations.
8. Preparation of claims files, documents and reports.
9. Participate in the Constructability review process as it pertains to claims.
10. Assist Resident Engineer in completing and responding to preliminary claim findings.
11. Perform audit and quantification of labor and material escalations.
12. Audit of the construction contractor’s records to define and quantify allowable overhead and any escalation costs.
13. Performance of financial reviews and analysis of construction contractor’s records, according to an agreed upon format, including the calculation of overhead.

14. Expert witness and preparation of expert exhibits. The Consultant shall provide qualified on-call construction management, civil engineering, and financial personnel to perform various types of Construction Claims Support and expert witness services.
15. The Consultant shall review, make recommendations, and provide construction contract claims expertise for project Notice of Potential Claims and Construction Contract Claims. These services are to include, but not be limited to, claims resolution principles, timeline awareness, and claim report writing.

C. Work Breakdown Structure Activities

The following Work Breakdown Structure (WBS) activities are applicable to the work described in this attachment template:

270	Construction Engineering and Contract Administration
270.22	Contract Administration
270.44	Control of Materials
270.56	Employment Compliance
270.66	Technical Support
285	Change Order Administration
285.05	Change Order (CO) Process
285.10	Functional Support
285.10.15	Other Functional Support
295	Accept Contract/Prepare Final Construction Estimate And Final Report
295.05	Processed Estimate after Acceptance
295.10	Proposed Final Contract Estimate
295.15	As-Built Plans
295.20	Project History File
295.25	Final Report
295.30	Processed Final Estimate
295.99	Other Accept Contract/Prepare Final Construction Estimate and Final Report

- D. Consultant Construction Claims Support Responsible Person Requirements.
The Consultant Construction Claims Support responsible person shall be a Registered Professional Engineer (Civil) licensed in the State of California in good standing with the California State Board for Professional Engineers, Land Surveyors, and Geologists at all times during the Contract period, to perform the tasks described in this Contract and in the Task Orders.
- E. Consultant Construction Claims Support Personnel Requirements.

1. Consultant Construction Claims Support Analysts

Consultant Construction Claims Support Analysts shall meet one of the following minimum qualifications (Either I, II, III, or IV below):

I) Be in possession of a valid certificate of registration as a civil engineer issued by the California State Board of Registration for Professional Engineers, Land Surveyors, and Geologists. A documented minimum five (5) years of demonstrated experience acceptable to Caltrans in Construction Claims support

OR

II) Graduation from a four-year curriculum in civil engineering accredited by the Accreditation Board for Engineering Technology (ABET). Possession of a valid certificate as an Engineer-in- Training issued by the California State Board of Registration for Professional Engineers, Land Surveyors, and Geologists, or issued by another jurisdiction and accepted by the California Board in lieu of the first division of the examination as an engineer may be substituted for the required education. A documented minimum five (5) years of demonstrated experience acceptable to Caltrans in Construction Claims support.

OR

III) A master's or doctorate degree in a civil engineering curriculum from a college or university that has a baccalaureate degree program in a civil engineering curriculum which is accredited by the Accreditation Board of Engineering Technology (ABET). A documented minimum five (5) years of demonstrated experience acceptable to Caltrans in Construction Claims support.

OR

IV) A documented minimum ten (10) years of demonstrated experience acceptable to Caltrans in Construction Claims support.

The Consultant Construction Claims Support Analysts shall be knowledgeable and experienced in the following:

a. Preparing reports, plots, exhibits, and other presentation materials and items related to claims.

- b. Assists the Resident Engineer (RE) in preparing Claim Settlement Request Memoranda and Construction Claim Findings Reports as appropriate.
- c. Providing expert support to Resident Engineers for the Dispute Review Board (DRB) process and assisting Resident Engineers in preparation of draft position papers.
- d. Prepares RE's for District Claim meetings and Board of Review meetings as appropriate.
- e. Expertise in usage of Critical Path Method (CPM) software, with Primavera Project Planner (P3, P6), SureTrak, or any updated version, as a minimum; Scheduler Analyzer Pro; Microsoft Projects; and Microsoft Office (Word, Excel, PowerPoint, and others) software. The Consultant shall have an access to use additional industry standard CPM software, used by the contractors.
- f. Principles of effective communication.
- g. General knowledge of construction process, terminology and timelines, and working knowledge of Caltrans' construction process and filing system.
- h. Caltrans' timeline for claims resolution.
- i. Analyzing construction claims and providing expert assessment for merit of entitlement and estimating their costs.
- j. Providing specialized expertise for the support of review and analysis of potential claims, and have the ability to assist the resident engineers to respond to the supplemental and full and final documentations in a timely manner.
- k. Providing expert support to Resident Engineers for the District Management Review (DMR) process.
- l. Working knowledge of Caltrans' plans, specifications, and manuals (including, but not limited to, Standard Plans, Standard Specifications, Construction Manual, Bridge Construction Records and Procedures Manual, Standard Test Methods, Manual of Traffic Controls for Construction and Maintenance Work Zones, and State of California contract law); and provisions as listed in this Contract.
- m. Claims resolution principles and claims avoidance techniques.
- n. Examines proposed final estimates (PFE) for construction contract compliance.
- o. Assures uniform district construction administration of construction contracts and coordinates with other functions concerning plans, specifications, and construction methods.
- p. Generating and analyzing CPM schedules with respect to time, resource and cost pertaining to construction claims analysis. The personnel shall possess the experience and skills to conduct detailed schedule analysis.
- q. Analyzing Time Impact Analyses (TIA), perform TIA and write narrative.
- r. Provides technical data, analysis, reports, and recommendations for claims resolution to the Deputy District Director, Construction.

- s. Assures uniform district construction administration of construction contracts and coordinates with other functions concerning plans, specifications, and construction methods.

F. Construction Claims Support Materials to be provided or made available by Caltrans.

- 1. Relevant and existing documents, if any are available, that are applicable to the current project within the project limits.
- 2. Caltrans construction forms as necessary, including digital electronic or hardcopy (as specified by the Caltrans Resident Engineer on the Project) forms.

G. Construction Claims Support Deliverables.

- 1. The Consultant shall obtain written approval from Caltrans for all analytical results, plans, designs, specifications, estimates, notes, calculations, analysis, reports, graphics, drawings, visual simulations, studies, product, data, manuals, details, deliverables, backup documents, other documents, and other items required by this Contract. If there are no Caltrans standardized forms, the format and content requirements for all analytical results, plans, designs, specifications, estimates, notes, calculations, analysis, reports, graphics, drawings, visual simulations, studies, product, data, manuals, details, deliverables, backup documents, other documents, and other items required by this Contract shall be specified in each Task Order.
- 2. All Construction Claims Support analytical results, plans, designs, specifications, estimates, notes, calculations, analysis, reports, graphics, drawings, visual simulations, studies, product, data, manuals, details, deliverables, backup documents, other documents, and other items required by this Contract performed on computer shall be delivered to Caltrans including, but not limited to, the formats specified below:
 - a. Text-based documents shall be submitted as an Adobe Portable Document Format (“pdf”) file using Adobe Acrobat Professional version 5 or later software. The pdf file shall be inclusive of all graphics (e.g. page orientation, photographs or other images, charts, and tables) and be suitable for printing in final form. The pdf file shall:
 - i. Contain functioning bookmarks, indexes, tables of contents or other hyperlinks as required by the Task Order.
 - ii. Be configured (e.g. bookmarks, indexes, table of contents, thumbnails, annotations, signatures, and security settings) as required, or as directed by the Task Order.

- iii. Be optimized for use by Adobe Acrobat Reader 10 or newer.
- b. Text-based documents shall also be submitted in Microsoft Word format, version 2007 or later version. The document shall include all graphics (e.g. photographs, image graphics, charts, and tables). Photographs shall be in “jpeg” file format. Other image graphics shall be in “gif” format unless otherwise specified.
- c. All graphics (e.g. photographs or other drawings) shall be submitted separately from the pdf and Microsoft Word documents in archive-type file formats (e.g. photographs and bitmapped drawings as “tif”, Microstation drawings as “dgn”, and vector drawings as “ai”) unless otherwise specified. The intent of this section is for the Consultant to provide Caltrans with a copy of each graphic in an uncompressed file format for archive purposes. The Consultant may suggest alternative formats that are compatible with this goal.
- d. Spreadsheet files shall be submitted in Microsoft Excel format, version 2007 or later version, or format currently in use by Caltrans.
- e. Word processing files shall be submitted in Microsoft Word format, version 2007 or later version, or format currently in use by Caltrans.
- f. Database files shall be submitted in Microsoft Access format, version 2007 or later version, or format currently in use by Caltrans.
- g. The Consultant shall not format digital electronic files as “view only” or “read only” unless so specified in the Task Order.
- h. Other - As specified in the Task Order.

**SCOPE OF WORK/DELIVERABLES
CONSTRUCTION SCHEDULING SUPPORT**

For Caltrans, Division of Project Delivery, District 12
On-Call Contract

A. Purpose of Work.

The Consultant shall perform professional and technical services required for Construction Scheduling Support on an “as-needed” basis to support Caltrans, Division of Project Delivery, District 12, in the construction of proposed Caltrans transportation facilities.

B. Construction Scheduling Support Required Services

Typical duties to be performed by the Consultant’s personnel shall include, but not be limited to, the following:

1. Scheduling, Critical Path Method (CPM) expertise, and scheduling using Critical Path Method (CPM) software.\
2. Develop as-built construction schedules.
3. Develop and/or analyze CPM schedules for planned versus as-built work and delays pertaining to construction claims.
4. Administration support incidental to the Construction Claims Services.

C. Work Breakdown Structure Activities

The following Work Breakdown Structure (WBS) activities are applicable to the work described in this attachment template:

270	Construction Engineering and Contract Administration
270.22	Contract Administration
270.56	Employment Compliance
270.66	Technical Support
285	Change Order Administration
285.05	Change Order (CO) Process
285.10	Functional Support
285.10.15	Other Functional Support
295	Accept Contract/Prepare Final Construction Estimate And Final Report
295.05	Processed Estimate after Acceptance
295.10	Proposed Final Contract Estimate

295.15	As-Built Plans
295.20	Project History File
295.25	Final Report
295.30	Processed Final Estimate
295.99	Other Accept Contract/Prepare Final Construction Estimate and Final Report

D. Consultant Construction Scheduling Support Analyst Responsible Person Requirements

The Consultant Construction Scheduling Support Analyst Responsible Person shall be a Registered Professional Engineer (Civil) licensed in the State of California in good standing with the California State Board for Professional Engineers, Land Surveyors, and Geologists at all times during the Contract period, to perform the tasks described in this Contract and in the Task Orders.

E. Consultant Construction Scheduling Support Analyst Requirements

1. Consultant Construction Scheduling Support Analyst

The Consultant Construction Scheduling Support Analyst shall meet one of the following minimum qualifications (Either I, II, III, or IV below):

- I) Be in possession of a valid certificate of registration as a civil engineer issued by the California State Board of Registration for Professional Engineers, Land Surveyors, and Geologists. A documented minimum five (5) years of demonstrated experience acceptable to Caltrans in Construction Scheduling.
OR
- II) Graduation from a four-year curriculum in civil engineering accredited by the Accreditation Board for Engineering Technology (ABET). Possession of a valid certificate as an Engineer-in- Training issued by the California State Board of Registration for Professional Engineers, Land Surveyors, and Geologists, or issued by another jurisdiction and accepted by the California Board in lieu of the first division of the examination as an engineer may be substituted for the required education. A documented minimum five (5) years of demonstrated experience acceptable to Caltrans in Construction Scheduling.
OR
- III) A master's or doctorate degree in a civil engineering curriculum from a college or university that has a baccalaureate degree program in a civil engineering curriculum which is accredited by the Accreditation Board of Engineering Technology (ABET). A documented minimum five (5) years

of demonstrated experience acceptable to Caltrans in Construction Scheduling.

OR

- IV) A documented minimum ten (10) years of demonstrated experience acceptable to Caltrans in Construction Scheduling.

The Consultant Construction Scheduling Support Analyst shall be knowledgeable and experienced in the following:

- a. Preparing reports, plots, exhibits, and other presentation materials and items related to scheduling.
- b. Expertise in usage of Critical Path Method (CPM) software, with Primavera Project Planner (P3, P6), SureTrak, or any updated version, as a minimum; Scheduler Analyzer Pro; Microsoft Project; and Microsoft Office (Word, Excel, PowerPoint, and others) software. The Consultant shall have an access to use additional industry standard CPM software, used by the contractors.
- c. Principles of effective communication and supervision.
- d. General knowledge of construction process, terminology and timelines, and working knowledge of Caltrans' construction process and filing system.
- e. Caltrans' timeline for claims resolution.
- f. Analyzing construction scheduling and providing expert assessment for merit of entitlement and estimating costs.
- g. Working knowledge of Caltrans' plans, specifications, and manuals (including, but not limited to, Standard Plans, Standard Specifications, Construction Manual, Bridge Construction Records and Procedures Manual, Standard Test Methods, Manual of Traffic Controls for Construction and Maintenance Work Zones, and State of California contract law); and provisions as listed in this Contract.
- h. Generating and analyzing CPM schedules with respect to time, resource and cost pertaining to construction claims analysis. The personnel shall possess the experience and skills to conduct detailed schedule analysis.
- i. Analyzing Time Impact Analyses (TIA), perform TIA and write narrative.

F. Construction Scheduling Support Materials to be provided or made available by Caltrans.

1. Relevant and existing documents, if any are available, that are applicable to the current project within the project limits.
2. Caltrans construction forms as necessary, including digital electronic or hardcopy (as specified by the Caltrans Resident Engineer on the Project) forms.

G. Construction Scheduling Support Deliverables

1. The Consultant shall obtain written approval from Caltrans for all analytical results, plans, designs, specifications, estimates, notes, calculations, analysis, reports, graphics, drawings, visual simulations, studies, product, data, manuals, details, deliverables, backup documents, other documents, and other items required by this Contract. If there are no Caltrans standardized forms, the format and content requirements for all analytical results, plans, designs, specifications, estimates, notes, calculations, analysis, reports, graphics, drawings, visual simulations, studies, product, data, manuals, details, deliverables, backup documents, other documents, and other items required by this Contract shall be specified in each Task Order.
2. All Construction Scheduling Support analytical results, estimates, notes, calculations, analysis, reports, graphics, drawings, visual simulations, studies, product, data, details, deliverables, backup documents, other documents, and other items required by this Contract performed on computer shall be delivered to Caltrans including, but not limited to, the formats specified below:
 - a. Text-based documents shall be submitted as an Adobe Portable Document Format (“pdf”) file using Adobe Acrobat Professional version 5 or later software. The pdf file shall be inclusive of all graphics (e.g. page orientation, photographs or other images, charts, and tables) and be suitable for printing in final form. The pdf file shall:
 - i. Contain functioning bookmarks, indexes, tables of contents or other hyperlinks as required by the Task Order.
 - ii. Be configured (e.g. bookmarks, indexes, table of contents, thumbnails, annotations, signatures, and security settings) as required, or as directed by the Task Order.
 - iii. Be optimized for use by Adobe Acrobat Reader 10 or newer.
 - b. Text-based documents shall also be submitted in Microsoft Word format, version 2007. The document shall include all graphics (e.g. photographs, image graphics, charts, and tables). Photographs shall be in “jpeg” file format. Other image graphics shall be in “gif” format unless otherwise specified.
 - c. All graphics (e.g. photographs or other drawings) shall be submitted separately from the pdf and Microsoft Word documents in archive-type file formats (e.g. photographs and bitmapped drawings as “tif”, Microstation drawings as “dgn”, and vector drawings as “ai”) unless otherwise specified. The intent of this section is for the Consultant to provide Caltrans with a copy of each graphic in an uncompressed file format for archive purposes. The Consultant may suggest alternative formats that are compatible with this goal.

- d. Spreadsheet files shall be submitted in Microsoft Excel format, version 2007, or format currently in use by Caltrans.
- e. Word processing files shall be submitted in Microsoft Word format, version 2007, or format currently in use by Caltrans.
- f. Database files shall be submitted in Microsoft Access format, version 2007, or format currently in use by Caltrans.
- g. The Consultant shall not format digital electronic files as “view only” or “read only” unless so specified in the Task Order.
- h. Other - As specified in the Task Order.

SCOPE OF WORK/DELIVERABLES
Construction Materials Sampling and Testing Services

for Caltrans, Division of Project Delivery, District 12
On-Call Contract

A. Purpose of Work.

The Consultant shall perform professional and technical services required for Construction Materials Sampling and Testing Services, including, but not limited to, field sampling, construction materials testing, analysis, reports, plant inspection, and work related to test equipment calibration on an “as-needed” basis to support Caltrans, Division of Project Delivery, District 12, in the construction of proposed Caltrans transportation facilities.

B. Construction Materials Sampling and Testing Required Services.

1. The Consultant shall perform services relating to field sampling and in situ testing of materials (collectively, "Materials Sampling and Testing Work") as required by the Caltrans Contract Manager and specified in a Task Order. The Consultant shall perform services relating to laboratory testing, analysis, and reporting of materials (collectively, "Special Materials Analysis Work") as required by the Caltrans Contract Manager and as specified in a Task Order.
2. The Consultant shall make inspections for material control at roadway material processing plants' operations during the production of Asphalt Concrete, Portland Cement Concrete, and other related materials. The Consultant shall sample and test rock and sand according to the California Test Methods and Caltrans' Construction Manual. The Consultant shall also obtain samples of binders, cements and admixtures in accordance with the requirements of the Construction Manual. The Consultant shall visit quarries and mine pits to witness material source sampling and stockpiling.
3. The Consultant shall maintain a set of project files that shall be indexed in accordance with Caltrans' California Test Methods Manual.
4. The Consultant shall prepare the required calculations and reports according to Caltrans standards and requirements for the Materials Sampling and Testing Services work including the plant inspection services work.

5. The Consultant shall have access to plant and mobile laboratories to perform Materials Sampling and Testing Services. The Consultant shall provide a copy of the firm's nuclear gauge license to Caltrans.
6. The Consultant shall have the ability to respond in a timely and cost efficient manner to Caltrans requests for Materials Sampling and Testing Services work at any project locations.
7. Construction Materials Testing during construction of State highway facilities may include, but not be limited to, the following tests:

California Test Method No.	Description	Response Time for Completing Tests (Hours)
105	Calculations pertaining to Gradings and Specific Gravities	1
125	Sampling Roadway Materials	2
201	Method of Test for Soil and Aggregate Sample Preparation	1
202	Sieve Analysis	4
205	Crushed Particles	4
211	LA Rattler	4
216	Maximum Density	4
217	Sand Equivalent	4
226	Moisture Content	4
227	Cleanness Value	5
229	Durability	
231	Nuclear Gage Relative Compaction	4
302	Film Stripping	
308	Method of Test for Determining Bulk Specific Gravity and Density of Compacted Hot Mix Asphalt	1
309	Method of Test for Theoretical Maximum Specific Gravity and Density of Hot Mix Asphalt	4
366	Stabilometer	6
367	Air Voids	2
371	TSR	
375	Relative Compaction of A.C.	4
382	Ignition Oven	
504	Entrained Air Content	1
518	Unit Weight/PCC	2

California Test Method No.	Description	Response Time for Completing Tests (Hours)
521	Method of Test for Compressive Strength of Molded Concrete Cylinders	4
523	Flexural Strength (Beam)	4
524	Method of Test for Flexural Strength of Rapid Strength Concrete	4
526	Operation of California Profilograph and Evaluation of Profiles	6
533	Ball Penetration	1
539	Sampling Fresh Concrete	1
540	Concrete Cylinder Fabrication	2
552	Method of Test for Operation of California Highway Profilograph and Evaluation of Profiles	4

The above list are common field or laboratory test methods that require certification.

8. Source/Plant Inspection and Laboratory Work.
9. The Consultant shall provide a Consultant Lead Material Engineering Tester to supervise Consultant Material Engineering personnel working in Southern Regional Laboratory.
10. Duties assigned to the Consultant's Material Engineering personnel shall generally be in line of the overall Southern Regional Laboratory activities and services that support the Caltrans project delivery plan in Districts 12. Typical duties may include, but not be limited to, the following:
 - a. Providing Material Engineering personnel to the Material Testing Unit performing testing and engineering analysis on hot mix asphalt and asphalt binder. The Material Engineering personnel shall be responsible for: construction materials testing, batching samples, and mix design verifications and analysis in accordance with test methods from American Association of State Highway and Transportation Officials (AASHTO), American Standards for Testing and Materials (ASTM) and/or California Test Method (CTM). Information is available at:
 - i. <http://www.transportation.org/>
 - ii. <http://www.astm.org>
 - iii. <http://www.dot.ca.gov/hq/esc/Translab/>
 - b. Perform data analysis and prepare draft report on material data analysis.

- c. Install, test, operate, and maintain laboratory instrumentation and devices including regular maintenance and calibration as required for laboratory certification.
 - d. Operate computer to record and file test results.
11. The Consultant laboratory shall be accredited and Material Engineering personnel shall be certified by Caltrans in performing California Test Methods relating to concrete, aggregate, surface treatment materials, or hot mix asphalt. Information on accreditation is located in the Caltrans Independent Assurance Manual at:
- a. http://www.dot.ca.gov/hq/esc/Translab/ormt/IA_reports/2005_IA_Maunal.pdf
12. The Consultant shall be accredited by AASHTO, American Material Research Laboratory (AMRL), and Concrete Cement Research Laboratory (CCRL) certified for aggregates, soils, concrete, cement, masonry, and metals. Proofs of current accreditation are required to be submitted at the time of the Contract execution.
13. Materials District laboratory testing during construction of State highway facilities may include, but not be limited to, the following tests:

California Test Method No.	AASHTO Test	Description
105	None	Calculations Pertaining to Gradings and Specific Gravities
106	None	Definitions of Terms Relating to SG
125	None	Sampling HMA Highway Materials
125	None	Sampling Aggregate Highway Materials
125	None	Sampling PCC Highway Materials
125	None	Sampling Miscellaneous Highway Materials
201	None	Sample Preparation
202	T11,T27	Sieve Analysis
204	T89, T90	Liquid Limit, Plastic Limit and Plasticity Index
205	ASTM 05821	Crushed Particles
206	T84	SpG & Absorption (course)
207	T85	SpG & Absorption (fine)
211	T96	LA Rattler
212	None	Unit Weight of Aggregate
217	T176	Sand Equivalent (S.E)
227	None	Evaluating Cleanness of Course Aggregate
229	None	Durability Index
235	ASTM D4791	% of Flat and Elongated Particles in Course Aggregate
301	T190	R Value

California Test Method No.	AASHTO Test	Description
304	None	Prep of Bitumenous Mixes
308	T275	Bulk SpG of Bituminous Mixes
309	T209	Rice Specific Gravity
366	T246	Stabilometer
367	None	Recommending OBC
368	None	OBC for Open Graded HMA
None	T-283	Tensile Strength Ratio
382	T308	Asphalt Content of HMA by Ignition Oven
None	T-312	Gyratory Compactor
None	T-324	Hamburg Wheel Track Test

14. Tests to be provided by the Consultant Material Engineering personnel may include, but not be limited to:

a. California Test Methods.

CTM	AASHTO	ASTM	California Test Methods
105	None	None	Calculations Pertaining to Gradings and Specific Gravities
AG125	None	None	Sampling Highway Materials - Aggregates
AC125	None	None	Sampling Highway Materials - Asphalt Concrete
PC125	None	None	Sampling Highway Materials - PCC
MS125	None	None	Sampling Highway Materials - Miscellaneous
201	None	None	Soil and Aggregate Sample Preparation
202	None	None	Sieve Analysis of Fine and Coarse Aggregate
203	None	None	Mechanical Analysis of Soils
204	None	None	Plasticity Index of Soils
205	None	None	Determining Percentage of Crushed Particles
206	None	None	Specific Gravity and Absorption of Coarse Aggregate
207	None	None	Specific Gravity and Absorption of Fine Aggregate
208	None	None	Apparent Specific Gravity of Fine Aggregate
209	None	None	Specific Gravity of Soils

CTM	AASHTO	ASTM	California Test Methods
211	None	None	Abrasion of Coarse Aggregate (LA Rattler Machine)
213	None	None	Organic Impurities in Concrete Sand
214	None	None	Soundness of Aggregates by Use of Sodium Sulfate
216	None	None	Method of Test for Relative Compaction of Untreated and Treated Soils and Aggregates
217	None	None	Determination of Sand Equivalent of Fine Aggregate
226	None	None	Method of Determination of Moisture Content by Oven Drying
227	None	None	Evaluating Cleanness of Coarse Aggregate
229	None	None	Durability Index
231	None	None	Method of Test for Relative Compaction of Untreated and Treated Soils and Aggregates using Nuclear Gage
301	None	None	Determination of the "R" Value (Aggregates & Soils)
308	None	None	Method of Test for Determining Bulk Specific Gravity and Density of Compacted Hot Mix Asphalt
309	None	None	Method of Test for Theoretical Maximum Specific Gravity and Density of Hot Mix Asphalt
375	None	None	Determining the In-Place Density and Relative Compaction of Hot Mix Asphalt Pavement using Nuclear Gages
504	None	None	Air Content of Freshly Mixed Concrete by the Pressure Method
518	None	None	Unit Weight of Fresh Concrete
521	None	None	Compressive Strength of Molded Concrete Cylinders
523	None	None	Flexural Strength of Concrete (Simple Beam, Center-Point Loading)
524	None	None	Method of Test for Flexural Strength of Rapid Strength Concrete
529	None	None	Proportions of Coarse Aggregate in Fresh Concrete
533	None	None	Method of Test for Ball Penetration in Fresh Portland Cement Concrete
539	None	None	Method of Test for Sampling Fresh Concrete

CTM	AASHTO	ASTM	California Test Methods
540	None	None	Method of Test for Making, Handling, and Storing Concrete Compressive Test Specimens in the Field
552	None	None	Relative Compaction of Polymer Concrete, Nuclear
940	None	None	Making, Handling, and Storing Concrete Compressive Test Specimens

b. Soil.

CTM	AASHTO	ASTM	Soil
None	R 0058	D 0421	Dry Preparation of Disturbed Soil and Soil-Aggregate Samples for Testing
None	T 0088	D 0422	Particle Size Analysis of Soils
None	T 0089	D 4318	Determining the Liquid Limit of Soils
None	T 0090	D 4318	Determining the Plastic Limit and Plasticity Index of Soils
None	T 0100	None	Specific Gravity of Soils
None	T 0176	D 2419	Plastic Fines in Graded Aggregates and Soils by Use of the SE Test
None	T 0190	D 2844	Resistance R-Value and Expansion Pressure of Compacted Soils
None	T 0265	D 2216	Laboratory Determination of Moisture Content of Soils
None	None	D 1140	Amount of Material in Soils Finer than No. 200 (75- μ m) Sieve

c. Aggregate.

CTM	AASHTO	ASTM	Aggregate
None	T 0011	C 0117	Amount of Material in Soils Finer than No. 200 (75- μ m) Sieve
None	T 0021	C 0040	Organic Impurities in Fine Aggregates for Concrete
None	T 0027	C 0136	Sieve Analysis of Fine and Coarse Aggregates
None	T 0084	C 0128	Specific Gravity and Absorption of Fine Aggregate
None	T 0085	C 0127	Specific Gravity and Absorption of Coarse Aggregate

CTM	AASHTO	ASTM	Aggregate
None	T 0096	C 0131	Resistance to Degradation, Coarse Agg by Abrasion & Impact in the LA Rattler
None	T 0104	C 0088	Soundness of Aggregate by Use of Sodium Sulfate or Magnesium Sulfate
None	T 0176	D 2419	Plastic Fines in Graded Aggregates and Soils by Use of the Sand Equivalent Test
None	T 0210	D 3744	Aggregate Durability Index
None	T 0248	C 0702	Reducing Samples of Aggregate to Testing Size
None	T 0255	C 0566	Total Evaporable Moisture Content of Aggregate by Drying
None	T 0304	None	Uncompacted Void Content of Fine Aggregate
None	None	D 4791	Flat Particles, Elongated Particles, or Flat and Elongated in Coarse Aggregate

d. Portland Cement Concrete.

CTM	AASHTO	ASTM	Portland Cement Concrete
None	None	C 0031	Making and Curing Concrete Test Specimens in the Field
None	None	C 0039	Compressive Strength of Cylindrical Concrete Specimens
None	None	C 0078	Flexural Strength of Concrete (Using Simple Beam with Third-Point Loading)
None	None	C 0138	Density (Unit Weight), Yield, and Air Content (Gravimetric) of Concrete
None	None	C 0143	Slump of Hydraulic-Cement Concrete
None	None	C 0172	Sampling Freshly Mixed Concrete
None	None	C 0173	Air Content of Freshly Mixed Concrete by the Volumetric Method
None	None	C 0192	Making and Curing Concrete Test Specimens in the Laboratory
None	None	C 0231	Air Content of Freshly Mixed Concrete by the Pressure Method
None	None	C 0617	Capping Cylindrical Concrete Specimens - (7000 psi and below)
None	None	C 1064	Temperature of Freshly Mixed Hydraulic-Cement Concrete

CTM	AASHTO	ASTM	Portland Cement Concrete
None	None	C 1231	Unbonded Caps, Comp. Strength, Hardened Concrete Cyl. - (7000 psi & below)

e. Hydraulic Cement - Physical Tests.

CTM	AASHTO	ASTM	Hydraulic Cement - Physical Tests
None	None	C 0109	Comp. Strength of Hyd. Cement Mortars (Using 2-in. or [50-mm] Cube Spec.)
None	None	C 0151	Autoclave Expansion of Hydraulic Cement
None	None	C 0183	Sampling and the Amount of Testing of Hydraulic Cement
None	None	C 0185	Air Content of Hydraulic Cement Mortar
None	None	C 0187	Amount of Water Required for Normal Consistency of Hydraulic Cement Paste
None	None	C 0191	Time of Setting of Hydraulic Cement by Vicat Needle
None	None	C 0204	Fineness of Hydraulic Cement by Air-Permeability Apparatus
None	None	C 0266	Time of Setting of Hydraulic-Cement Paste by Gillmore Needles
None	None	C 0305	Mechanical Mixing of Hyd. Cement Pastes and Mortars of Plastic Consistency
None	None	C 0430	Fineness of Hydraulic Cement by the 45- μ m (No. 325) Sieve
None	None	C 0451	Early Stiffening of Hydraulic Cement (Paste Method)
None	None	C 1437	Flow of Hydraulic Cement Mortar

f. Masonry.

CTM	AASHTO	ASTM	Masonry
None	None	C 1552	Capping Concrete Masonry Units, Related & Masonry Prisms for Comp. Testing
None	None	C 0140	Sampling - Sampling and Testing Concrete Masonry Units and Related Units
None	None	C 0140	Measurement - Sampling and Testing Concrete Masonry Units and Related Units
None	None	C 0140	Capping - Sampling and Testing Concrete Masonry Units and Related Units

CTM	AASHTO	ASTM	Masonry
None	None	C 0140	Absorption -Sampling and Testing Concrete Masonry Units and Related Units
None	None	C 0140	Strength -Sampling and Testing Concrete Masonry Units and Related Units

15. Typical duties to be performed by the Consultant’s personnel shall include, but not be limited to, the following:
 - a. Performing construction materials sampling and testing, including plant inspection.
16. All field testing is to be performed in accordance with California Test Methods located at <http://www.dot.ca.gov/hq/esc/ctms/index.html>, by Consultants certified in the appropriate test methods. In addition, equivalent alternatives may be described in each project’s “Special Provisions” and shall be provided by Caltrans.
17. Sampling and testing of materials for quality assurance.
18. Performing plant inspections for quality assurance.
19. Preparing calculations, records, reports and correspondence related to project activities.
20. Provide incidental engineering support services for construction change orders and claims issues as required.
21. Assist and advise Caltrans as technical experts during the claims process including, but not limited to, Dispute Review Board (DRB), District Board Review (DBR) and Arbitration process as relating to, but not be limited to, welding, structural steel members fabrication, precast concrete members fabrication and painting. Consultant shall not be required to administer the DRB process.

C. Workplan Standards Guide Codes.

Task Orders are based on the Caltrans Workplan Standards Guide (WSG). The latest WSG is found in the Guide to Project Delivery Workplan Standards Guide, which is available from the Caltrans’ Publication Unit and on the Internet at https://dot.ca.gov/-/media/dot-media/programs/project-management/documents/workplan_standards_guide_all11.pdf. The WSG references the Work Breakdown Structure (WBS) categories, which are potential and related work activities applicable to this Contract. The WGS references WBS categories which present the potential and related work activities that the Consultant may be required to perform. All revisions to the current version of the Work Breakdown Structure (WBS) shall apply during the life of this Contract.

The WBS activities below applicable to this Contract are limited to those set forth below:

100	Perform Project Management (Contract Management)
100.20	Project Management - Construction Component
270.22	Contract Administration
270.33	Construction Inspection
270.44	Control of Materials
270.56	Employment Compliance
270.66	Technical Support
285.05	Change Order (CO) Process
285.10	Functional Support
285.10.15	Other Functional Support
290	Resolve Contract Claims
290.40	Potential Claim Record
290.50	Alternative Dispute Resolution
290.60	Claim Resolution
290.70	Arbitration
295	Accept/Prepare Final Construction Estimate and Final Report
295.05	Processed Estimate after Acceptance
295.10	Proposed Final Contract Estimate
295.15	As-Built Plans
295.20	Project History File
295.25	Final Report
295.30	Processed Final Estimate
295.99	Other Accept Contract/Prepare Final Construction Estimate and Final Report

D. Consultant Construction Material Sampling and Testing Responsible Person Requirements

The Consultant Construction Material Sampling and Testing responsible person shall be a Registered Professional Engineer (Civil) licensed in the State of California in good standing with the California State Board for Professional Engineers, Land Surveyors, and Geologist at all times during the Contract period, to perform the tasks described in this Contract and in the Task Orders.

E. Construction Materials Sampling and Testing Personnel Requirements.

1. Consultant Dispatch Coordinator.

For each Task Order, the Consultant shall provide a Dispatch Coordinator to assign material testers and plant inspectors to specific projects per Caltran's request.

2. Consultant Personnel and Team Member Qualifications.
The Consultant's personnel assigned to perform Construction Materials Sampling and Testing shall have the following desirable minimum qualifications:
- a. The Consultant's field construction personnel shall be capable of reviewing, inspecting, and approving traffic control systems, including lane closures, in accordance with Caltrans' standards and the requirements. Personnel reviewing, inspecting, and approving traffic control system work shall have a documented minimum one (1) year of demonstrated experience acceptable to Caltrans in such work.
 - i. The Consultant's personnel assigned to perform construction materials testing and plant inspection work shall have the following minimum qualifications:
 - Consultant Material Testers and Consultant Plant Inspectors must be qualified under the Department's Independence Assurance Program

The Consultant team member shall be capable of assisting the Consultant Contract Manager in all aspects of the required work. The Consultant team member's required professional qualifications shall be identified in each Task Order.

3. Consultant Plant Inspectors shall:
- a. Have knowledge of physical properties and uses of engineering construction materials used in state transportation projects.
 - b. Have familiarity with weighing and batching equipments.
 - c. Have knowledge of how materials are placed, sampled, and tested.
 - d. Have knowledge of construction contract documents including Plans and Specifications.
 - e. Have knowledge of the Standard Specifications and Special Provisions relating to material testing.
 - f. Have knowledge of sampling and testing frequencies shown in the Construction Manual, in the QC/QA procedures, or as outlined in the Special Provisions.
 - g. Have ability to interpret material test data and visually recognize basic material properties throughout production and placement.
 - h. Have ability to work independently, make clear recommendations, prepare concise reports/documentation, and work constructively with others.
 - i. Have analytical determination of material acceptability and interpretation of material problems.
 - j. Have current certification required by Caltrans in the testing procedure before execution of the Contract and prior to that individual's performance of any Field or Laboratory work that requires certification. Common test methods that require certification include, but not be limited to, the

following California Test Methods: 105, 109, AG125, AC125, PC125, MS125, 201, 202, 217, 226, and 227.

- k. Have knowledge of, and comply with, safety and health regulations and requirements applicable to the projects.
4. Consultant Field Material Testers shall:
- a. Have knowledge of uses of engineering construction materials used in state transportation projects.
 - b. Have knowledge of how materials are placed, sampled, and tested.
 - c. Have knowledge of construction contract documents including plans and specifications.
 - d. Have knowledge of the Standard Specifications and Special Provisions relating to material testing.
 - e. Have knowledge of field testing frequencies shown in the Construction Manual, in the QC/QA procedures, or as outlined in the Special Provisions.
 - f. Have ability to interpret material test data and visually recognize basic material properties throughout production and placement.
 - g. Have ability to work independently, to make clear recommendations, to prepare concise reports/documentation, and work constructively with others.
 - h. Have analytical determination of material acceptability and interpretation of material problems.
 - i. Have certification of Nuclear Gauge Operator Training.
 - j. Have current certification required by Caltrans in the testing procedure before execution of the Contract and prior to that individual's performance of any Field or Laboratory work that requires certification. Common test methods that require certification include, but not be limited to, the following California Test Methods: 105, AG125, AC125, PC125, MS125, 201, 202, 216, 231, 375, 504, 518, 521, 523, 524, 533, 539, 540, and 552.
 - k. Certified in radiation safety prior to starting work.
 - l. Shall be capable of assisting the Resident Engineer in all aspects of material testing work including, but not limited to, the following:
 - i. Have the ability to establish specific location for appropriate tests when construction contract administration personnel are not available.
 - ii. Be familiar with construction practices and be able to orient themselves at the project site.
 - iii. Have knowledge of, and comply with, safety and health regulations and requirements applicable to the projects.
5. Consultant Construction Materials Sampling and Testing personnel assigned to work in the Southern Regional Laboratory shall in addition to the above requirements be certified in the tests that have been identified for the Southern Regional Laboratory prior to starting work. They include: 105, 106, AG125,

AC125, PC1 25, MS125, 201, 202, 204.205, 206, 207, 211.212, 217, 227, 229, 235, 301, 304, 309, 366, 367, 382, and AASHTO test T-283, T-312, and T -324.

6. Consultant Supervisors of laboratory and/or field technicians shall have a documented minimum three (3) years of demonstrated experience acceptable to Caltrans in performing the material tests, which are run by the technicians they are supervising. The supervisors shall be certified by the National Institute for Certification in Engineering Technologies (NICET) at Level III or higher in the appropriate Construction Materials Testing field, or complete the Joint Training Certification Program, or meet one (1) of the following requirements:
 - a. Be registered as a Professional Engineer licensed in the State of California in good standing with the California State Board for Professional Engineers, Land Surveyors, and Geologists at all times during the Contract period, and shall have a documented minimum one (1) year of demonstrated experience acceptable to Caltrans in highways.
 - b. Possession of a valid Engineer-in-Training (EIT) certificate issued or accepted by the California State Board for Professional Engineers, Land Surveyors, and Geologists and shall have a documented minimum two (2) years of demonstrated experience acceptable to Caltrans in highways.
 - c. Hold a Degree (Bachelors, Masters, or higher) in Civil Engineering from an ABET accredited institution (College or University) or an Associate Degree in Civil Engineering Technology and shall have a documented minimum three (3) years of demonstrated experience acceptable to Caltrans in highways.

7. The Consultant's Lead Material Engineering Tester.

The Consultant's Lead Material Engineering Tester shall be a Registered Professional Civil Engineer licensed in the State of California in good standing with the California State Board for Professional Engineers, Land Surveyors, and Geologists at all times during the Contract period, and shall have a documented minimum three (3) years of demonstrated experience acceptable to Caltrans in a responsible role, following licensing, in his/her responsible field of work.

The Consultant's Lead Material Engineering Tester shall communicate and coordinate with the Southern Regional Laboratory Manager and be available at all time during normal working hours. In addition to other specified responsibilities, the Consultant's Lead Material Engineering Tester is required to be working in Southern Regional Laboratory and shall be responsible for all matters related to Material Engineering personnel daily operation and tasks, including, but not limited to:

- a. Directing, reviewing, and monitoring, all work performed by the Consultant's Material Engineering personnel.
 - b. Overseeing, coordinating, and scheduling the entire Consultant's Material Engineering personnel.
 - c. Assigning and matching Consultant's Material Engineering personnel to specific tasks and engineering expertise.
8. The Consultant's Material Engineering personnel shall have the following qualifications.
- a. Shall have a minimum education equivalent to completion of the 12th grade.
 - b. A documented minimum three (3) years of demonstrated experience acceptable to Caltrans in laboratory testing on transportation materials. A Degree (Bachelors, Masters, or higher) in engineering or related fields may be used to compensate for one (1) year of demonstrated experience acceptable to Caltrans.
 - c. Shall be able to communicate effectively and write clearly in English.
 - d. Knowledge of the following:
 - i. Material testing equipment, setup, operation, calibration, maintenance, certification, procedures, and records.
 - ii. Materials sampling, testing, verification, and batching.
 - iii. Have knowledge of QC/QA procedures.
 - iv. Have various current certifications with California Test Methods, AASHTO, and ASTM test methods relating to roadway and structural materials used in highway and bridge construction.
 - v. Using and adjusting precision instruments.
 - vi. Methods, materials, tools, and equipment used in highway and bridge construction and maintenance work.
 - vii. Physical characteristics and properties of highway and bridge construction materials and the approved methods and equipment used in making physical tests of construction materials.
 - viii. Conventional and state-of-the-art computer applications to transportation engineering work.
9. Consultant's Material Engineering Testers qualifications shall be in conformance with the Caltrans Independent Assurance Manual. Consultant's Material Engineering Testers are required to go through the Qualification Program mentioned in the manual prior to the working in the SRL. The Independent Assurance Manual is located at:
- a. <https://dot.ca.gov/programs/engineering-services/independent-assurance-program>
 - b. http://www.dot.ca.gov/hq/esc/Translab/ormt/IA_reports/2005_IA_Manual.pdf

F. General Requirements.

1. The Consultant shall prepare the required analytical results, plans, designs, specifications, estimates, notes, calculations, analysis, reports, graphics, drawings, visual simulations, studies, product, data, manuals, details, deliverables, backup documents, other documents, and other items required by this Contract according to requirements of this Contract and applicable Caltrans Manuals for the work.
2. As directed and as a first order of work, the Consultant shall prepare and update a comprehensive Critical Path Method (CPM) network diagram, Bar Chart Schedule, Logic Network Schedule, and the Caltrans Work Breakdown Structure (WBS) for each Task Order issued by the Caltrans Contract Manager showing a deliverables schedule as well as other relevant data to monitor project progress, Consultant's work control, and Caltrans review of work status, if required in the Task Order. The relevant data shall include a list of activities with budgeted cost, milestones, and target date for completion of each activity. The minimum number of task details shall be identified in the Task Order. This workplan shall be updated once a month to show the approved baseline schedule and the actual progress schedule.

Caltrans shall review these documents and return them to the Consultant with notes and comments as soon as possible in order to validate the planning and cost control procedures within the first calendar month of performance period.

3. The Consultant's timesheet/invoices/expenses shall be subject to the Consultant Contract Manager's review and the approval of the Caltrans Contract Manager before submitting timesheets, invoices, or expense reimbursement requests for payment.
4. The Consultant shall begin the required work within two (2) working days after receiving a fully executed Task Order and the issuance of the Notice to Proceed (NTP) from the Caltrans Contract Manager to the Consultant Contract Manager or on the date specified in the Task Order. Some work, however, may require Consultant personnel to mobilize within 24-hour of notifications. Once the work begins, the work shall be prosecuted/performed diligently until all required work has been completed to the satisfaction of the Caltrans Contract Manager or Caltrans designee.
5. The work shall not be performed when conditions prevent a safe and efficient operation, and shall only be performed with written authorization by Caltrans.
6. The Consultant Contract Manager, Consultant Task Order Manager, and Key Personnel shall be accessible to the Caltrans Contract Manager at all times during normal Caltrans working hours or after hours as required by the Caltrans Contract Manager.

7. The Consultant Contract Manager may direct the Consultant's employees to work overtime to meet Task Order schedules at the request of the Caltrans Contract Manager. All overtime shall be pre-approved by the Caltrans Contract Manager. Overtime shall be worked only when directed in writing by the Caltrans Contract Manager and specifically required by the Task Order, and shall only be paid to persons covered by the Fair Labor Standards Act.
8. All Consultant personnel are required to sign a confidentiality and nondisclosure agreement.
9. The Consultant may not disclose any information to third parties without prior written approval of the Caltrans Contract Manager.
10. The Consultant shall only provide incidental non-Architectural and Engineering (A&E) services, such as Computer Aid Drafting & Design (CADD) support, GIS support, utilities location support, traffic control, office support, field office support, and meeting support, provided (a) such services are necessary for the completion of the A&E tasks and/or deliverables performed by the Consultant described in executed Task Orders and covered by the work in this Contract and (b) the rendering of the services is approved in advance by the Caltrans Contract Manager. These incidental services shall only be provided to support the Consultant's personnel who are performing A&E services, tasks, and deliverables on this Contract. The Contract amount spent on such incidental services shall be relatively minor when compared to the professional A&E services performed. The Consultant shall not be paid or reimbursed for any incidental non-A&E services provided to Caltrans unless provided in the fashion described in this Contract and included in the executed Task Order. The Consultant is responsible for ensuring that Task Orders only include any incidental non-A&E services.
11. Incidental training services may be provided only if the training involves the specific work product of this Agreement. Such incidental training services are permitted, but only if:
 - a. The training involves the specific work product created under this Agreement (and does not involve general A&E training and is not the work product of a previous agreement); and
 - b. The total aggregate cost of all training under this Agreement does not exceed 10% of the total authority of the Agreement; and
 - c. The training is an incidental task within the Agreement and not the purpose for entering into this Agreement.

13. The Consultant shall include the Caltrans Contract Manager in written communications to other Caltrans personnel for any clarification on the scope of work.

G. Coordination.

1. For each Task Order, the Consultant shall carry out instructions received from the Caltrans Contract Manager, and as directed by the Caltrans Contract Manager, shall coordinate activities and work closely with multiple stakeholders including, but not limited to, Caltrans' various functional units, Caltrans' project managers, local agencies, various environmental groups, other state agencies, Native American tribal governments, utility companies, railroads, other agencies, other entities with an interest in the project (including, but not limited to, FHWA), other consultants, other contractors, and planning, engineering, and construction firms (and its suppliers and subcontractors) contracted by Caltrans working on the same projects or adjacent projects. In the event an instruction or direction is unclear to the Consultant, the Consultant shall ask the Caltrans Contract Manager to clarify the instruction or direction. The work is a critical element of compatible designs, project planning and construction schedules and shall be accomplished in a timely fashion. Projects having complex and overlapping schedules and therefore Project work may have overlapping and parallel (not serial order) schedules or make work discontinues. Projects have complex and overlapping schedules and field work may be intermittent. Task Orders may be written for treatment of unanticipated finds encountered during project work. When unanticipated finds are encountered, a rapid response shall be necessary to avoid costly construction delays.
2. The foregoing paragraph does not relieve the Consultant of professional responsibility during the performance of this Contract. In instances where the Consultant believes a better standard solution to a task being performed or an issue being addressed is possible, the Consultant shall promptly notify the Caltrans Contract Manager of these concerns, together with the reasons therefore. However, Caltrans shall make all final decisions on the scope of the Consultant's activities and investigations.
3. The Consultant shall be required to work with other Caltrans Functional Units and others (including, but not limited to, Regional Water Quality Control Board - RWQCB, Permitting Agencies,) as directed by the Caltrans Contract Manager.
4. The Consultant shall work closely with the Caltrans Contract Manager and the Caltrans designee identified in the Task Order.
5. The Consultant shall have the capability to send to and receive from Caltrans' digital electronic mail system and file transfer protocol system including, but not

limited to, attachments for word processing, photographs, spreadsheets, and databases.

6. Caltrans shall not reimburse the Consultant for costs to relocate its personnel to the service area of this Contract. Caltrans shall not reimburse the Consultant for per diem costs, unless preapproved by the Caltrans Contract Manager. Caltrans shall not reimburse the Consultant for out-of-state travel without prior written approval from the Caltrans Contract Manager.
7. The Consultant shall obtain the Caltrans Contract Manager's approval prior to making presentations at non-Caltrans sponsored conferences or workshops for any services provided under this Contract.
8. The Consultant shall notify the Caltrans Contract Manager or Caltrans designee in writing a minimum one (1) week before it begins any field work, unless the Task Order specifies some other notification date.
9. Caltrans shall not incur costs beyond the funding commitments in the Contract and each Task Order. If the Consultant anticipates that funding for work will be insufficient to complete work, the Consultant shall promptly notify the Caltrans Contract Manager.

H. General Equipment Requirements.

1. The Consultant or its Subconsultants shall not incorporate any materials or equipment of a single or sole source origin without the advance written approval of Caltrans.
2. The Consultant may claim reimbursement for providing equipment or supplies. However, such claimed costs shall be in compliance with 48 Code of Federal Regulation (CFR), Chapter 1, Part 31 (Federal Acquisition Regulation - FAR cost principles) and 2 CFR, Part 200, and be consistent with the Consultant's company-wide allocation policies and charging practices with all clients including federal government, state governments, local agencies, and private clients.

I. Construction Materials Sampling and Testing Equipment Requirements.

1. Laboratory Equipment - The Consultant shall use all measurement and testing equipment certified by Caltrans or equivalent agency. The Consultant's laboratory shall meet the latest requirements, as applicable, of American Standard for Testing Materials (ASTM) Designation D3666 "Evaluation of Inspection and Testing Agencies for Bituminous Paving Materials", E329 "Recommended Practice for Inspection and Testing Agencies for Concrete, Steel, and Bituminous Materials as Used in Construction", and C1077 "Testing Concrete and Concrete Aggregates for

use in Construction and Criteria for Laboratory Evaluation”. The Consultant shall use material specimens from an accredited laboratory acceptable to Caltrans for calibration of all equipment. The Consultant shall provide fully equipped testing laboratories. The laboratories shall be certified and functional for all listed test methods during entire term of the Contract.

In case of discrepancy or conflict, the following requirements supersede those of the above ASTM standards:

- a. All Testing and laboratory equipment used on the Contract shall conform to the requirement of the California Test Methods.
- b. When required by Caltrans, a temporary testing laboratory shall be established in the general vicinity of the project or projects requiring construction materials testing. The laboratory is to be fully staffed, equipped and supplied to conduct all the tests required in a timely manner.
- c. Testing machines shall be calibrated annually by impartial means using devices of accuracy traceable to the National Bureau of Standards. Records for calibration shall be provided to the Caltrans Contract Manager upon request.

Calibration charts for nuclear devices shall be within one (1) year of use and shall be kept up to date throughout the term of the Contract. No separate payments shall be made for calibration of equipment.

2. Nuclear Gauges - If specified in the Task Order, the Consultant shall provide their own Nuclear Gauges and provide storage in accordance with Caltrans' and Department of Health Service's requirements.
3. Consultant's Material Engineering personnel shall use Caltrans equipment with utmost care. Any negligent damage caused to Caltrans equipment shall be the responsibility of the Consultant.

J. Standards.

1. Laboratory Standards.
 - a. Materials sampling and testing during construction shall be in accordance with the current Caltrans Manuals and their current revisions.
 - b. The Consultant's laboratory shall participate in the AASHTO Material Reference Laboratory (ARML) or Cement and Concrete Reference

Laboratory (CCRL) inspection programs as appropriate. Copies of applications, correspondence, reports and corrective actions shall be provided to Caltrans.

Due to the time requirements to enter into these programs, the Consultant may perform work on Caltrans projects prior to field engineering. However, the Consultant shall provide proof an application has been submitted to enter one or both of the programs and shall continue to make a good faith effort to have its laboratory inspected at the earliest possible opportunity. Certification by the AASHTO Accreditation program shall be required for laboratories, upon completion of the current cycle of field engineering.

- c. Other than assignments covered by the ASTM standards, the Consultant's laboratory shall accept only those assignments from Caltrans in which the Consultant will be able to perform competently with its own personnel and equipment.
- d. When the Consultant is providing material testing during construction, Caltrans shall request testing from Consultant on the afternoon prior to the day that testing is required. Unless otherwise stated in the Task Order, the Consultant shall submit completed test documents for each test performed to the relevant field project offices by the end of the week following the week in which the test was completed. Test documents that are incomplete or unsatisfactory shall be returned to the Consultant for the necessary revisions and shall be resubmitted within one (1) week.
- e. When the Consultant is providing construction materials testing during construction, failing tests shall be reported immediately to the Caltrans Contract Manager.
- f. All test documents produced by the Consultant shall be certified (signed and stamped) by the Laboratory Manager. In the absence of the Laboratory Manager, certification shall be made by an Acting Laboratory Manager who is a Registered Professional Civil Engineer licensed in the State of California in good standing with the California State Board for Professional Engineers, Land Surveyors, and Geologists at all times during the Contract period. All test results shall be recorded on the appropriate forms as prescribed in the Caltrans California Test Methods.
- g. The Consultant shall certify in writing that each tester is qualified to perform the required tests and plant field engineering according to the current procedures described in the Caltrans California Test Methods.

- h. The Consultant shall have a program in effect during the entire time work is being performed under Contract to train personnel and arrange achievement of the required certifications.
- i. The Consultant shall maintain a laboratory procedure manual describing the methods used for recording, processing, and reporting data, sources of reference materials, standards, and test methods.
- j. The Consultant shall maintain an inventory of the testing equipment (listing the manufacturer, model, serial number, calibration and tolerances).
- k. Caltrans and the Federal Highway Administration (FHWA) reserve the right to periodically review field testing and sampling in progress at job sites and laboratory facilities by Consultant personnel.
- l. The Consultant shall have a quality control plan in effect for the duration of work being performed under the Contract. This plan shall include quality control, quality assurance and equipment calibration programs for the Consultant's main laboratory and for any satellite or project laboratories.
- m. If any laboratory work is to be subcontracted, the Subconsultant's laboratory shall meet the same requirements as the Consultant's laboratory.

K. Field Safety.

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

- 1. The Consultant's Material Engineering personnel shall wear safety gloves, eye protection, and approved safety apparels during material testing while working in the laboratory.
- 2. Any safety violations committed by Consultant Material Engineering personnel may be cause for termination.

L. Construction Materials Sampling and Testing Deliverables.

1. The Consultant shall obtain written approval from Caltrans for all analytical results, plans, designs, specifications, estimates, notes, calculations, analysis, reports, graphics, drawings, visual simulations, studies, product, data, manuals, details, deliverables, backup documents, other documents, and other items required by this Contract. If there are no Caltrans standardized forms, the format and content requirements for all analytical results, plans, designs, specifications, estimates, notes, calculations, analysis, reports, graphics, drawings, visual simulations, studies, product, data, manuals, details, deliverables, backup documents, other documents, and other items required by this Contract shall be specified in each Task Order. All analytical results, plans, designs, specifications, estimates, notes, calculations, analysis, reports, graphics, drawings, visual simulations, studies, product, data, manuals, details, deliverables, backup documents, other documents, and other items required by this Contract to be used for the project includes, but not be limited to, the following:
 - a. Materials Sampling and Testing Work.
 - b. Special Materials Analysis Work.
 - c. Plant Inspection Work.

2. All Construction Materials Sampling and Testing Services analytical results, plans, designs, specifications, estimates, notes, calculations, analysis, reports, graphics, drawings, visual simulations, studies, product, data, manuals, details, deliverables, backup documents, other documents, and other items required by this Contract performed on computer shall be delivered to Caltrans including, but not limited to, the formats specified below:
 - a. Text-based documents shall be submitted as an Adobe Portable Document Format (“pdf”) file using Adobe Acrobat Professional version 5 or later software. The pdf file shall be inclusive of all graphics (e.g. page orientation, photographs or other images, charts, and tables) and be suitable for printing in final form. The pdf file shall:
 - i. Contain functioning bookmarks, indexes, tables of contents or other hyperlinks as required by the Task Order.
 - ii. Be configured (e.g. bookmarks, indexes, table of contents, thumbnails, annotations, signatures, and security settings) as required, or as directed by the Task Order.
 - iii. Be optimized for use by Adobe Acrobat Reader 10 or newer.
 - b. Text-based documents shall also be submitted in Microsoft Word format, version 2007. The document shall include all graphics (e.g. photographs, image graphics, charts, and tables). Photographs shall be in “jpeg” file

- format. Other image graphics shall be in “gif” format unless otherwise specified.
- c. All graphics (e.g. photographs or other drawings) shall be submitted separately from the pdf and Microsoft Word documents in archive-type file formats (e.g. photographs and bitmapped drawings as “tif”, Microstation drawings as “dgn”, and vector drawings as “ai”) unless otherwise specified. The intent of this section is for the Consultant to provide Caltrans with a copy of each graphic in an uncompressed file format for archive purposes. The Consultant may suggest alternative formats that are compatible with this goal.
 - d. Spreadsheet files shall be submitted in Microsoft Excel format, version 2007, or format currently in use by Caltrans.
 - e. Word processing files shall be submitted in Microsoft Word format, version 2007, or format currently in use by Caltrans.
 - f. Database files shall be submitted in Microsoft Access format, version 2007, or format currently in use by Caltrans.
 - g. The Consultant shall not format digital electronic files as “view only” or “read only” unless so specified in the Task Order.
 - h. Other - As specified in the Task Order.
3. Field measurements, test data and other documents as required by Caltrans procedures shall be recorded, maintained and submitted as directed by the Caltrans Resident Engineer.
4. Plant Inspection and Field Construction Materials Testing:
- a. Consultant Daily reports, extra work diaries, plant inspection reports and construction materials testing reports shall be delivered to the Caltrans Resident Engineer and/or the Caltrans Task Order Manager same day services conducted or as stipulated in the Task Order.
 - i. One (1) unprotected and modifiable digital electronic copy of the Test Report and all supporting documents.
 - b. The Consultant shall perform all services and meet all required standards.
5. The Consultant shall obtain written acceptance from the Caltrans Contract Manager for each of the following deliverables of the project:
- a. Material Testing and Sampling work.
 - b. Special Material Analyses Work.
 - c. Plant Inspection Work.

SCOPE OF WORK/DELIVERABLES
CONSTRUCTION STORMWATER IMPLEMENTATION SUPPORT

For Caltrans, Division of- Project Delivery, District 12
On-Call Contract

A. Purpose of Work.

The Consultant shall perform professional and technical services required for Construction Stormwater Implementation Support, on an “as-needed” basis to support Caltrans, Division of Project Delivery, District 12, in the construction of proposed Caltrans transportation facilities.

B. Construction Stormwater Implementation Support Required Services

Typical duties to be performed by the Consultant’s personnel shall include, but not be limited to, the following:

1. Performing the Inspection and compliance monitoring of Storm Water Pollution Prevention Plans (SWPPP)/Best Management Practices (BMP).
2. Performing and assisting in performing the duties of Construction Stormwater Implementation Support, including, but not limited to, roadway construction inspection, quantity calculations, checking grade and alignment, materials sampling and control, labor compliance interviews, traffic control review, and assuring compliance with project plans and specifications.
3. Identifying actual and potential problems associated with the construction project work and recommending sound engineering solutions in a timely manner.
4. Maintaining an awareness of safety and health requirements and assuring compliance with applicable regulations and construction contract provisions for the protection of the public and construction project personnel.
5. Preparing quantity calculations, records, reports, and correspondence related to construction project activities.
6. Assisting in the preparation of final As-Built plans and reports at the completion of construction.

C. Work Breakdown Structure Activities

The following Work Breakdown Structure (WBS) activities are applicable to the work described in this attachment template:

270	Construction Engineering and Contract Administration
270.22	Contract Administration

270.33	Construction Inspection
270.56	Employment Compliance
270.66	Technical Support
280	Administration of Permits, Licenses, Agreements or Certifications (PLACs) and Environmental Stewardship
	Use the below reporting codes with WBS 280 activity
	- 401 COMP 401 permit compliance during construction of a project
	- 401VIO Response to PLAC violation(s) under the 401 permit.
	- COMP Compliance to regulations not included in the 401 permit.
	- VIO Response to alleged PLAC violation(s) not under 401 permit
	- UPDECR Updates to the Environmental Commitments Record (ECR).
	- REEV Changes that affect project's environmental documentation.
	- UPDPLAC Renewal and/or extension requests for previously issued PLACs.
280.70	Updated Environmental Commitments Record
285	Change Order Administration
285.05	Change Order (CO) Process
285.10	Functional Support
285.10.15	Other Functional Support
295	Accept Contract/Prepare Final Construction Estimate And Final Report
295.05	Processed Estimate after Acceptance
295.10	Proposed Final Contract Estimate
295.15	As-Built Plans
295.20	Project History File
295.25	Final Report
295.30	Processed Final Estimate
295.35	Certificate Of Environmental Compliance (CEC)
295.40	Long Term Environmental Mitigation/Mitigation Monitoring After Construction Contract Acceptance
295.99	Other Accept Contract/Prepare Final Construction Estimate and Final Report

- D. Construction Stormwater Implementation Support Responsible Person Requirements
The Consultant Construction Stormwater Implementation Support responsible person shall be a Registered Professional Engineer (Civil) licensed in the State of California in good standing with the California State Board for Professional Engineers, Land Surveyors, and

Geologists at all times during the Contract period, to perform the tasks described in this Contract and in the Task Orders.

E. Consultant Stormwater Construction Inspector Personnel Requirements

1. Consultant Stormwater Construction Inspector

Consultant Stormwater Construction Inspectors shall meet one of the following minimum qualifications (Either I, II, or III below):

- I) Be in possession of a valid certificate of registration as a civil engineer issued by the California State Board of Registration for Professional Engineers, Land Surveyors, and Geologists.
OR
- II) Graduation from a four-year curriculum in civil engineering accredited by the Accreditation Board for Engineering Technology (ABET). Possession of a valid certificate as an Engineer-in- Training issued by the California State Board of Registration for Professional Engineers, Land Surveyors, and Geologists, or issued by another jurisdiction and accepted by the California Board in lieu of the first division of the examination as an engineer may be substituted for the required education.
OR
- III) A master's or doctorate degree in a civil engineering curriculum from a college or university that has a baccalaureate degree program in a civil engineering curriculum which is accredited by the Accreditation Board of Engineering Technology (ABET).

Consultant Stormwater Construction Inspectors shall also have knowledge and experience in the following:

- a. A documented minimum four (4) years demonstrated experience in construction inspection of highways or major public works projects performing the duties described in this contract, with two (2) of these four (4) years inspecting SWPPP (Storm Water Pollution Prevention Plan) work. In addition, a QSD (Qualified Stormwater Developer) and QSP (Qualified Stormwater Preparer) certification may be required.
- b. Implementation of Storm Water Pollution Prevention Plans (SWPPPs) at construction sites.
- c. Meets the requirements of a Qualified SWPPP Developer (QSD) and/or Qualified SWPPP Practitioner (QSP) under the new construction general permit.
- d. Knowledge and experience with equipment used in roadway construction inspection, surveying, field testing of construction materials, and construction office engineering.

- e. Knowledge of computers, computer applications, and computer software programs such as Microsoft Office (Word, Excel, PowerPoint, and others); Critical Path Method (CPM) software such as Primavera Project Planner (P3, P6) and SureTrak, or any updated version, as a minimum; Scheduler Analyzer Pro; and Microsoft Project.
- f. Knowledge and experience with principles of effective communication and supervision.
- g. Knowledge and experience with the Storm Water Pollution Prevention Program and the General Permit.
- h. Knowledge of Caltrans Standard Plans, Standard Specifications, and *Construction Manual*.
- i. Review and evaluation of environmental compliance at construction sites relative to hazardous wastes, hazardous materials, air quality, and water quality.
- j. Evaluation of soil, water, Asphalt Concrete grinding, and Portland Cement Concrete grinding characteristic for profiling, reuse and/or disposal.
- k. Construction dewatering operations and treatment systems.

2. Consultant Assistant Stormwater Construction Inspector

Consultant Assistant Stormwater Construction Inspectors shall meet one of the following minimum qualifications:

Two years of education equivalent to completion of a curriculum beyond the 12th grade in either (1) engineering which includes courses in trigonometry and algebra or higher, drafting, computer science, and physics, chemistry, or a comparable physical science; or (2) surveying which includes courses in trigonometry and algebra or higher, drafting, surveying, and computer science. A documented minimum four (4) years of demonstrated experience acceptable to Caltrans in highway construction office engineering or in roadway construction inspection of highways or major public works projects performing the duties described in this Contract.

Consultant Assistant Stormwater Construction Inspectors shall also have:

- a. A documented minimum four (4) years demonstrated experience in construction inspection of highways or major public works projects performing the duties described in this contract, with two (2) of these four (4) years inspecting SWPPP (Storm Water Pollution Prevention Plan) work. In addition, a QSD (Qualified Stormwater Developer) and QSP (Qualified Stormwater Preparer) certification may be required.
- b. Implementation of Storm Water Pollution Prevention Plans (SWPPPs) at construction sites.

- c. Meets the requirements of a Qualified SWPPP Developer (QSD) and/or Qualified SWPPP Practitioner (QSP) under the new construction general permit.
 - d. Knowledge and experience with equipment used in roadway construction inspection, surveying, field testing of construction materials, and construction office engineering.
 - e. Knowledge of computers, computer applications, and computer software programs such as Microsoft Office (Word, Excel, PowerPoint, and others); Critical Path Method (CPM) software such as Primavera Project Planner (P3, P6) and SureTrak, or any updated version, as a minimum; Scheduler Analyzer Pro; and Microsoft Project.
 - f. Knowledge and experience with principles of effective communication and supervision.
 - g. Knowledge and experience with monitoring labor compliance.
 - h. Knowledge and experience with subcontracting laws and policies.
 - i. Knowledge and experience with the Storm Water Pollution Prevention Program and the General Permit.
 - j. Knowledge of Caltrans Standard Plans, Standard Specifications, and *Construction Manual*.
 - k. Review and evaluation of environmental compliance at construction sites relative to hazardous wastes, hazardous materials, air quality, and water quality.
 - l. Evaluation of soil, water, Asphalt Concrete grinding, and Portland Cement Concrete grinding characteristic for profiling, reuse and/or disposal.
 - m. Construction dewatering operations and treatment systems.
- F. Construction Stormwater Implementation Support materials to be provided or made available by Caltrans
- 1. Relevant and existing documents, if any are available, that are applicable to the current project within the project limits.
 - 2. Caltrans construction forms as necessary, including digital electronic or hardcopy (as specified by the Caltrans Resident Engineer on the Project) forms.
- G. Construction Stormwater Implementation Support Deliverables.
- 1. Consultant Daily reports and extra work daily reports shall be delivered to the Caltrans Resident Engineer (RE) within one workday of the work being covered by the daily report.
 - 2. Construction contract progress payment quantity documents shall be delivered to the Caltrans Resident Engineer within five (5) working days after completion of the work or no later than the last working day preceding the 20th of each month.

3. Final payment quantity documents shall be delivered to the Caltrans Resident Engineer no later than five (5) working days after acceptance by Caltrans of the completed construction project final pay item.
4. Field measurements, test data and other documents as required by Caltrans procedures shall be recorded, maintained and submitted as directed by the Caltrans Resident Engineer.

ATTACHMENT 1A

EA	Project ID	Description
0K672	1220000035	Add 1 general purpose lane on both directions.
0J34U	1218000034	Construct northbound auxiliary lane. Rte 55 between Dyer Rd and Edinger Ave and Widen Rte 55 for an additional (HOV) lane and a general-purpose lane. each direction
0K981	1220000029	Mainline widening, Modification to Interchange, connector, ramps & intersections
0R320	1218000078	Work on pavement, OH signs, TMS, roadside, bridge, rail, drainage, stormwater, and ZEV station.
0K671	1220000034	Add 1 general purpose lane on both directions
0Q320	1216000129	Replace concrete barrier and sign panel and modify lighting system
0R570	1218000120	Upgrade pavement, roadside safety and rehab, and WIM scales
0R311	1220000021	Upgrade pavement, WIM, OH signs, TMS, drainage, roadside elements and offramp
0K970	1200020097	Provide direct connector between SR-241 & SR-91
0R560	1218000117	Rehabilitate pavement and replacing asphalt concrete with (RHMA-G) at 17 connectors 1 ramp and 1 overcrossing.
0N890	1214000130	Extend the No. 4 lane on SBSR-133 from SB I-5 Connector & add a second lane to NB 405 Connector.
0R200	1218000065	Pavement rehabilitation and upgrade safety devices
0R410	1218000090	AC overlay and cold plane, upgrade ADA ramps and safety devices, restripe pavement, remove & replace traffic loops
0P030	1215000024	Install High Friction Surface Treatment, Standard Lane Width and Shoulder Widening
0P94U	1217000076	Roadway widening, restriping and drainage work
0K023	1214000100	Widen freeway and bridges, reconstruct bridge and walls
0K022	1214000097	Add one lane In each direction, Oso Pkwy & Alicia Pkwy, reconstruct La Paz Rd and add Aux lane where needed.
0K021	1214000096	Add one lane In each direction, between SR73 and Oso Pkwy, reconstruct Avery Pkwy IC and add Aux lane where needed.