CHAPTER 16 ADMINISTER CONSTRUCTION CONTRACTS

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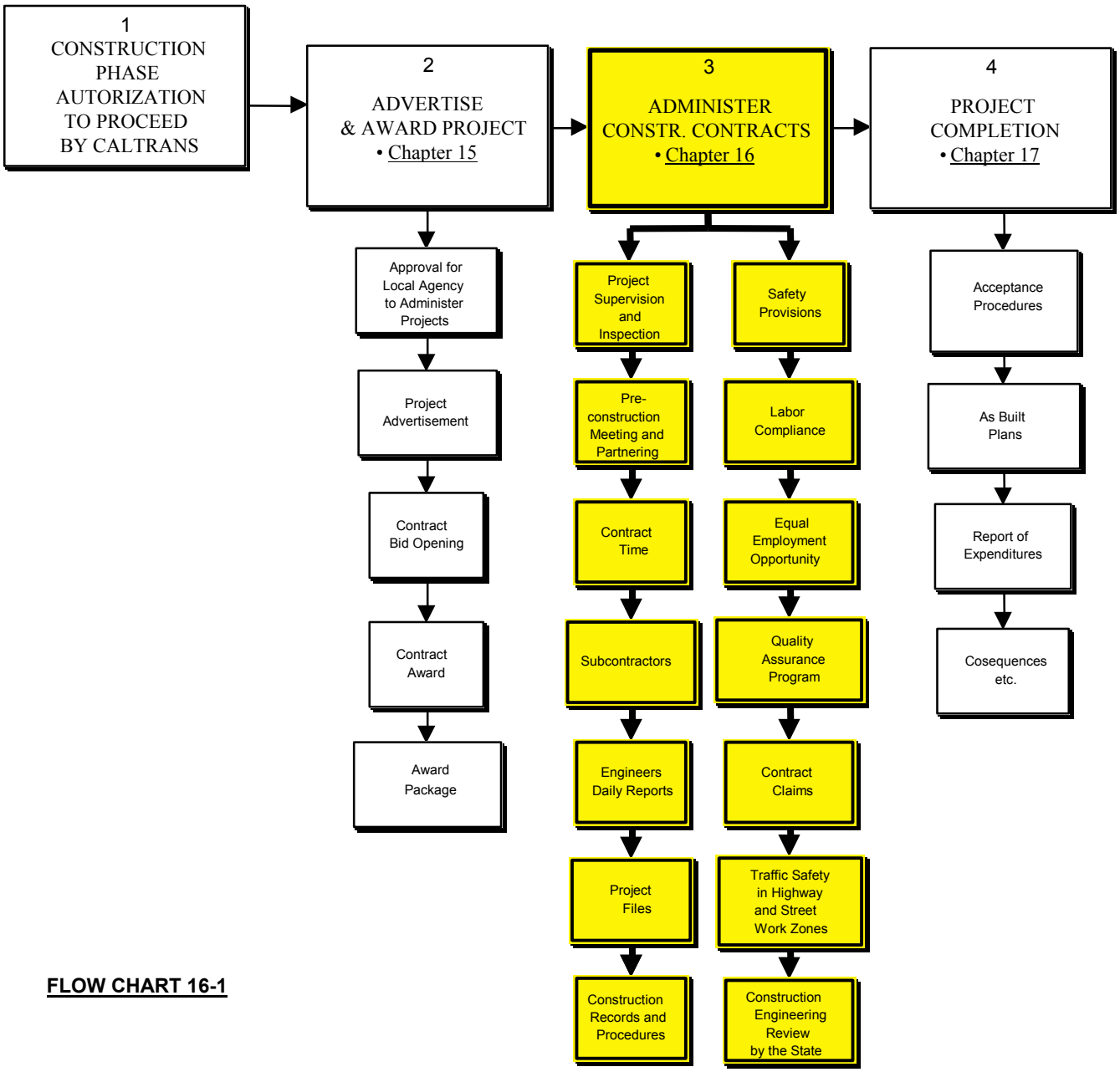
CHAPTER 16 ADMINISTER CONSTRUCTION CONTRACTS

16.1 INTRODUCTION

This chapter, Chapter 15 and Chapter 17 of this manual are for use by local agencies who administer federal-aid projects under "Administering Agency-State Agreement." These three chapters replace the previously issued *Local Programs Manual, Volume II*, titled "Contract Administration Procedures." When a locally sponsored project funded with federal-aid is within the State R/W and the State (Caltrans) is the administering agency, the State's *Construction Manual* is normally used in lieu of these procedures.



FLOW CHART 16-1

This chapter covers the topics beginning with project supervision, contract time, subcontractors, Engineer's daily reports, projects files, construction records and procedures, safety provisions, labor compliance, equal opportunity employment, disadvantaged business enterprise, contract change orders, material sampling and testing, and traffic safety in the highway and street zones. This chapter has been prepared mainly as a guide for administration of federal-aid contracts by local agencies. Each local agency resident engineer should be familiar with the contents of this chapter, Chapter 15, and 17 before administering such contracts.

The University of California Berkeley Institute of Transportation Studies (ITS) conducts courses titled the Resident Engineer Academy, and "Construction Administration and Project Completion of Federal-aid Project." These courses are offered to local agency Resident Engineers (REs) through the Cooperative Training and Assistance Program (CTAP). The RE Academy is designed to introduce new RE to the roles and responsibilities of being an RE, and to the requirements of the Federal-aid Program. (To attend the RE Academy you need to contact your DLAE.) The "Construction Administration and Project Completion of Federal-aid Projects" explains in detail the federal-aid requirements in this chapter and Chapter 17 "Project Completion."

This manual is not a contract document. It is a book of reference and instruction to be used in the administration of federal-aid projects. In case of conflicts the contract documents and the Local Agency-State agreements shall prevail.

16.2 DEFINITIONS OF TERMS

- AASHTO - American Association of State Highway and Transportation Officials

- ASTM - American Society for Testing and Materials. A national technical society formed in 1902 to standardize specifications, methods of testing materials, and publish information regarding improvement of engineering materials.

- Acceptance Testing (AT) - The testing of materials entering a construction project to verify that the materials, or products, comply with contract specifications.

- Certificate of Compliance - A certificate signed by the manufacturer of materials stating that the materials involved comply in all respects with the requirements of the specifications.

- Construction - As defined in the United States Code (USC): The term "construction" means the supervising, inspecting, actual building, and all expenses incidental to the construction or reconstruction of a highway, including locating, surveying, and mapping (including the establishment of temporary and permanent geodetic markers in accordance with specifications of the National Oceanic and Atmospheric Administration in the Department of Commerce), resurfacing, restoration, and rehabilitation, acquisition of rights-of-way, relocation assistance, elimination of hazards of railway grade crossings, elimination of roadside obstacles, acquisition of replacement housing sites, acquisition and rehabilitation, relocation, and construction of replacement housing, and improvements which directly facilitate and control traffic flow, such as grade separation of intersections, widening of lanes, channelization of traffic, traffic control systems, and passenger loading and unloading areas. The term also includes capital improvements which

directly facilitate an effective vehicle weight enforcement program, such as scales (fixed and portable), scale pits, scale installation, and scale houses and also includes costs incurred by the State in performing federal-aid project related audits which directly benefit the federal-aid highway program.

- Contract Claim - A demand for additional compensation which cannot be resolved between the contractor and the local agency representative in responsible charge of the project.

- Contract Claim Award - A payment made by a local agency to a federal-aid contractor on the basis of an arbitration or mediation proceeding, administrative board determination, court judgment, negotiated settlement, or other contract claim settlement.

- Contract Claim Defense Costs - Local agency costs related to the defense and settlement of contract claims including, but not limited to salaries of employees, consultants, attorney fees, boards of arbitration, appeals boards, courts or similar tribunals.

- CFR - Code of Federal Regulations. Document produced by the federal government implementing the requirements of federal statutes.

- DVBE - Disabled Veteran Business Enterprise (for State only programs)

- DBE - Disadvantaged Business Enterprise (includes Women-owned Business Enterprise (WBE) and Minority-owned Business Enterprise (MBE). The breakdown of different Business Enterprise descriptions is due to the difference between the State and federal requirements.

- Exempt Project - A classification for federal-aid projects which are exempt from FHWA review and oversight required by *Title 23 Code of Federal Regulations*. For exempt federal-aid projects the FHWA and Caltrans exercises the maximum degree of delegation of authority to local agencies (see Chapter 2, Section 2.3, "Roles and Responsibilities" and Figure 2-1, "FHWA Oversight").

- Final Invoice - For an example see Chapter 17, "Project Completion," Exhibit 17-C, and refer to Chapter 5, "Accounting/Invoices," for instructions.

- Force Account - A basis of payment for the direct performance of highway construction work with payment based on actual cost of labor, equipment, and materials furnished with consideration for overhead and profit.

- Foremen - Men and women in direct charge of crafts workers or laborers performing work on the project.

- Independent Assurance Sampling and Testing (IAST) - Periodic testing by a specially trained tester, to verify that acceptance testing is being performed correctly with accurate test equipment.

- Laborer, Semi-Skilled - All laborers classified by specialized type of work.

- Laborer, Unskilled - Non-classified laborers.

- Local agency - Any city, county, township, municipality, or other political subdivision that may be empowered to cooperate with the State in transportation related programs.

- Maintenance - As defined in the USC: the preservation of the entire highway, including surface, shoulders, roadsides, structures, and such traffic control devices as are necessary for its safe and efficient utilization.

- "Materials Certificate" - See Chapter 17, "Project Completion," Exhibit 17-F.

- MBE - Minority Business Enterprise

- Mechanics - Equipment service and maintenance personnel

- NHS - National Highway System

- Officials (Managers) - Officers, project engineers, superintendents, etc., having management level responsibilities and authority

- Others - Miscellaneous job classifications are to be incorporated in the most appropriate category listed on the form. All employees on the project should thus be accounted for.

- Progress Invoice - See Exhibit 16-F of this chapter.

- QAP - Quality Assurance Program

- QC/QA - Quality Control/Quality Assurance - see "Statistical Quality Assurance" in this chapter

- Quality Assurance Program - A sampling and testing program that will provide assurance that the materials and workmanship incorporated in each highway construction project are in conformance with the contract specifications. The main elements of a Quality Assurance Program are acceptance testing and independent assurance sampling and testing.

- RE - Resident Engineer. A registered engineer who is empowered to administer the construction contract.

- SHA - State Highway Agency (Caltrans)

- Source Inspection - Acceptance testing of manufactured and prefabricated materials at locations other than the job site.

- Supervisors - All levels of project supervision, if any, between management and foreman levels

- TCP - Traffic Control Plan

- "Frequency Tables (Tables)" - See Exhibit 16-R, "Size, Frequency, and Location of Sampling and Testing."

- WBE - Women-owned Business Enterprise

16.3 PROJECT SUPERVISION AND INSPECTION

INTRODUCTION

Construction engineering is eligible for federal-aid reimbursement if it is identified and programmed in the "Authorization to Proceed." A fifteen percent (15%) limitation on construction engineering is required for the federal-aid program on a statewide basis. For more information on programming construction engineering see Chapter 3, "Project Authorization."

For exempt projects, FHWA has assigned the responsibility of contract administration and construction inspection to Caltrans. This responsibility is conveyed to Caltrans by way of an E-76, which is executed for each federal-aid project. For all local federal-aid projects, further delegation of responsibility is made by Caltrans to the agency administering the project by way of the State/local agreements called master agreements and program supplements. This delegation is based on the following conditions:

- All federal requirements shall be met on work performed under a contract awarded by a local public agency.
- Force account work shall be in full compliance with Chapter 12, "PS&E," Section 12.2, "Method of Construction."
- Local public agency is adequately staffed and suitably equipped to undertake and satisfactorily complete the work.
- Local public agency shall provide a full-time employee of the agency to be in responsible charge of the project that employs consultants for construction engineering services.

Such an arrangement does not relieve the Caltrans of overall project responsibility. Caltrans shall review local agency project staffing by periodic process reviews to assure compliance.

PROJECT STAFFING

Adequate construction personnel shall be provided to ensure adequate field control, conformance with the contract specifications, accurate contract payments to the contractor, and that quality transportation facilities are constructed. Local agencies shall include in the project records the names and titles of all staff assigned to each federal-aid project.

The documentation of project staffing is essential in making a determination of the adequacy of the local agency's construction staffing.

PROCEDURES

The administering agency must designate a qualified engineer who is empowered to administer the contract. The agency may employ a consultant to provide construction engineering services such as inspection or survey work, however, the agency must provide a full-time employee to be in charge of and have administrative

control of the project. A consulting firm that is on retainer as City Engineer is considered as a full-time publicly employed engineer.

Contractors, including those operating in joint venture, are required under the contract to designate in writing a person or persons authorized to supervise the work and to act for the contractor on the project. The administering agency's engineer is to assure that this information is on file. The addresses and local telephone numbers of such persons should be included.

The work must be inspected to assure compliance with the contract. Deviations must promptly be brought to the contractor's attention. Material samples must be taken and tests performed as noted in Section 16.14 of this chapter or in accordance with the local agencies own Quality Assurance Program. A record must be made of the engineer's and inspector's activities, as noted in Section 16.7 of this chapter.

The activities of the engineer and inspector may vary considerably depending on the terms of the contract; such as, end result specifications; method specification; types of measurement and payment clauses; experience of the contractor; complexity of the work; adequacy of the plans and specifications; protection of the public; and other factors. The local agency shall assign the necessary personnel to the project to assure that all the requirements of the contract are being fulfilled.

The primary responsibility for assuring the contractor's compliance with the Disadvantaged Business Enterprise (DBE) commitments approved prior to award rests with the local agency's DBE Liaison Officer and Resident Engineer (RE). The Resident Engineer should ascertain that no one other than the approved DBE contractors are performing the work, and that DBE subcontractor substitutions have been approved in advance.

When a problem arises, the Resident Engineer may request assistance or clarification from the District Local Assistance Engineer (DLAE). The DLAE shall evaluate staff availability and determine if assistance can be provided. It is recommended that Chapter VI of the Caltrans *Construction Manual* be reviewed for more specific activities relating to roadwork. For structure work the State's *Bridge Construction Records and Procedures Manual* contains much technical reference material.

The local agency's DBE Liaison Officer and his/her reporting manager are to be immediately advised of any circumstances wherein a contractor appears to be violating the approved DBE commitments. The Liaison Officer shall investigate and recommend any corrective action needed. The RE is responsible for resolving contractor violations by verifying that corrective action was completed. If corrective action can not be achieved then termination of the contract should be pursued. Noncompliance with the DBE requirements may result in withholding of funds by Caltrans or by the administering agency on the items already completed if permitted in the Special Provisions of the contract (see Chapter 9, "Civil Rights and Disadvantaged Business Enterprises," of this manual).

16.4 PRE-CONSTRUCTION CONFERENCE AND PARTNERING

PARTNERING

Partnering is a relationship between the local agency and the contractor, formed in order to effectively complete the contract to the benefit of both parties. The purpose of this relationship is to maintain cooperative communication and to mutually resolve

conflicts at the lowest possible management level. A Caltrans special provision on partnering is included as a sample in the "Boiler Plate" contract documents in Section 12.8 of this manual.

Partnering is not a requirement of the federal-aid program, but it is eligible for participation as part of the construction engineering cost of the project. Generally, the costs are shared between the contractor and administering agency. Partnering can be a valuable extension of the pre-construction conference.

Partnering is not an alternate dispute resolution method. It is a change in the attitude and the relationship between owner and contractor. Partnering is the creation of a relationship between the owner and contractor that promotes achievement of mutual and beneficial goals. Partnering is where trust, cooperation, teamwork and the successful attainment of mutual goals are the hallmark.

The keys to making partnering work include communication, willing participants, senior management support, up front commitment, and a plan. Communication starts early in the process through a team-building session. All the key managers for the project are assembled for a workshop which focuses on team building, goal setting, identifying issues, and solving problems. The workshop is run by a facilitator who ensures all issues are brought out into the open. Authority to solve problems is delegated to the lowest level. Follow up meetings are held to evaluate goals and objectives.

When a local agency chooses to use the partnering approach, the partnering workshop can be independent of the pre-construction conference or integrated as a breakout session.

When formal partnering is desired the contract should contain appropriate specifications for partnering. The Caltrans Office Engineer in each district is available to assist in providing specifications for the process. Partnering is not always appropriate and judgment should be exercised when selecting which projects this process would be beneficial to. Informal partnering may also be beneficial and does not require contract provisions to be implemented.

PRE-CONSTRUCTION CONFERENCE

For all construction projects, the administering agency shall schedule a pre-construction conference, unless the administering agency determines that the project is of such a minor nature that a meeting is not necessary.

The meeting shall be attended by representatives of the local agency and contractor. It is suggested that other affected agencies; local authorities (police, fire, etc.); and public utilities personnel be invited to attend. When an invitation is extended to Caltrans, representation will be up to the DLAE when he/she determines resources are available. Additional meetings may be advisable where considerable effort and time is required to cover specific areas, such as labor compliance, Equal Employment Opportunity (EEO), record keeping, etc.

Local agency representatives shall explain the various forms, reports, as well as sanctions for noncompliance with local, State, and federal requirements. Discussion is to include requirements for Equal Employment opportunity, State and federal safety, labor compliance and DBE. Potential utility and traffic safety problems should also be discussed, as well as environmental requirements.

A written record of attendance and items discussed shall be made by the administering agency. A copy of the written record or the reasons for not holding the pre-construction conference shall be kept in the project files.

16.5 CONTRACT TIME

PROCEDURES

The administering agency is responsible for reviewing working days, contract time requirements, and documenting time extensions according to their own requirements. These requirements must be consistent with other similar projects not using federal aid. Contract time extensions proposed after acceptance of the contract must have written approval of the administering agency. Generally the approval is made by change order for a specified amount of working days. Approvals can be made if the justification demonstrates a delay to the controlling item of work in the contractors schedule.

The administering agency shall maintain a written record of project progress. This record must indicate factors which may affect the work, such as weather conditions, utility delays, strikes or labor disputes, and material shortages. Based on these factors a record of working days shall be maintained.

Documentation similar to Exhibit 16-A, "Weekly Statement of Working Days,"Form CEM-2701 (Old HC-146) is an acceptable record of project progress and shall be retained in the project file. A discussion of the use of the form is contained in Section 2-08 of the State's *Construction Manual*.

16.6 SUBCONTRACTORS

INTRODUCTION

Subcontracting procedures only apply to federal-aid projects on the NHS.

PROCEDURES

1. NHS PROJECTS

Contracts for NHS projects shall specify the minimum percentage of work that a contractor must perform with "its own organization." This percentage shall be not less than 30 percent (for NHS projects only) of the total original contract price excluding any identified "specialty items"[1]. When "specialty items" are specifically identified, they may be performed by subcontract and the amount of any such specialty items may be deducted from the total original contract before computing the amount of work required to be performed by the contractor's own organization. The contract amount upon which the above requirement is computed includes the cost of materials and manufactured products which are to be purchased or produced by the contractor under the contract provisions.

[1] Local Agencies which use *Caltrans Standard Specifications* or the *Standard Specifications for Public Works Construction (Green Book)* and choose to use the 30 percent (NHS Projects only) or the no limit option (Non NHS projects) specified for federal-aid projects must include a special provision to override the *Caltrans Standard Specifications Section 8-1.01,* or the *Green Book specifications Section 2-3.1*, which require that the minimum percentage of work that a contractor must perform with its own organization is 50 percent excluding any identified specialty items. The no limit for subcontractors option for Non NHS projects also requires that the FHWA boiler plate provisions (FHWA Form 1273) section VII must be overriden by a Special Provision to exclude the 30 percent requirement.

2. SUBCONTRACTING

a. The contractor must request permission in writing and receive written consent from the local agency **before** subletting any portion of a contract to a first tier subcontractor. This is accomplished by using the "Subcontracting Request" (FORM DC-CEM-1201). This form is included as Exhibit 16-B, of this chapter and states what portion of an item is to be subcontracted along with the dollar value of that item. The requirement for written consent does not apply to second and lower tier subcontracts. However, all weekly payroll, DBE, labor compliance, EEO, insurance and other contractual obligations remain in effect regardless of tier. All subcontracts shall be in the form of a written agreement and contain all pertinent provisions and requirements of the prime contract including all or a portion of the federal boiler plate specifications. Certain provisions of the boiler plate are required based on the dollar amount of the contract, or type of facility being constructed. Refer to Chapter 12, "Plans Specifications & Estimate," for specific details of these requirements.

b. There are special requirements for DBE trucking as reporting must be done monthly on all trucking done by DBE subcontractors in order to get DBE credit toward the contract goal. Monthly reporting will be accomplished using Exhibit 16-Z, "Monthly DBE Trucking Verification".

3. TERMS: Terms used above are defined as follows**:**

"its own organization" - includes only workers employed and paid directly by the prime contractor, and equipment owned or rented, with or without operators. Such term does not include employees or equipment of a subcontractor, assignee, or agent of the prime contractor.

"Specialty Items" - are limited to items of work that require highly specialized knowledge, craftsmanship or equipment not ordinarily available in the type of contracting organizations qualified and expected to bid on the contract as a whole. The items are generally limited to minor components of the overall contract. However, the fabrication and erection of certain types of steel structures are of such a nature and intricacy that they should be considered "specialty items" even though the cost of this work may constitute the major portion of the contract amount. For each individual construction contract, the administering agency must select any items that are to be treated as "specialty items" and list such selected items in the Special Provisions, or bid schedule.

4. SUBCONTRACTOR SUBSTITUTION

Substitution of subcontractors shall be in accordance with the contract specifications. If a listed or approved DBE subcontractor is unable to perform the work in accordance with the specifications, the prime contractor shall, if needed to meet the DBE goal, replace the DBE subcontractor with another DBE subcontractor, or make a good faith effort to do so subject to approval of the local agency.

A letter from the Prime Contractor at the time a request for substitution is submitted to the Liaison Officer must include as a minimum, the following:

- Reason for substitution if it is initiated by a DBE subcontractor
- Name, address and telephone number of the listed or approved DBE
- Name, address and telephone number of the proposed subcontractor
- Item numbers, description of work and the proposed subcontractor's bid amount
- Good-faith effort if the substitute subcontractor is not a DBE

The DBE Liaison Officer shall evaluate the substitution request for documentation of the good faith effort and approve the request in accordance with the contract specifications. In addition, there shall be on-going monitoring of work by the DBE subcontractors in accordance with the subcontractor listing.

16.7 ENGINEER'S DAILY REPORTS

PROCEDURES

The administering agency's Resident Engineer, Assistant Resident Engineers, and construction inspectors shall keep daily reports to record work in progress.

The Daily Reports shall record the hours worked by men and equipment:

- Where work is being paid for based on the cost of labor, equipment, and material
- When there is an anticipated change in character of work
- When there is a potentially significant overrun or underrun, or
- When there is disputed work or a potential claim

The detail should be sufficient to permit review of the contractor's costs of the work in a manner similar to force account. Equipment should be identified sufficiently to enable determination of the applicable rental rates and operator's minimum wage. In some cases it may be desirable to record dates of arrival or departure of equipment, as well as idle time for breakdown or other reasons.

The narrative portion of the report should include a description of the contractor's operation and the location where the work was performed. It should also include statements made by the contractor or agency personnel which are pertinent to the work. The report must also contain the name of the contractor or subcontractor performing the work.

When the report is used to determine compliance with the labor provisions (see (Section 16.11, "Labor Compliance") of the contract, include the following additional information:

- The names or identification numbers of the contractor's personnel
- The respective classifications of the work being performed
- The number of hours worked on the date covered by the report

Reporting for labor compliance shall be done on a random spot-check basis only. The number of reports for labor compliance purposes should vary with the size and duration of the contract and the degree of compliance revealed by checking previous reports. One report per week for each operation being performed on the project should be used as an initial guide. The frequency may be reduced after a high degree of compliance has been verified.

An example of both the Resident Engineer and Assistant Resident Engineers daily report forms used by Caltrans are shown as Exhibit 16-C.

The engineers' daily reports discussed herein are required in addition to the extra work reports submitted by the contractor. For more information on the organization and use of the daily reports see the Caltrans *Construction Manual*, Chapter I, Section 1-10, and Chapter III, Section 3-00 and Section 3-01.

16.8 PROJECT FILES

An administering local agency must establish a separate record file for each federal-aid highway project. The project file shall contain all data pertinent to the work and to

the requirements of the specifications. In general project files should support 1) adequacy of field control, 2) conformance to contract specifications, and 3) contract payments to the contractor. The file must be complete, available at a single location, and organized and maintained in a manner that permits inspection by Caltrans and FHWA personnel during process reviews or random checks.

Generally, whenever the local agency is unable to produce requested data or information, it shall be assumed by reviewing personnel the required actions were either never performed or not properly recorded. Organized project files can minimize these negative assumptions.

DLAEs shall periodically perform process reviews and inspect, during construction, local agency project files for compliance with federal and State requirements. Organization and content of the project file is one indicator of the effective and efficient management of the project by the resident engineer. It also minimizes resources necessary for conducting process reviews.

ORGANIZATION OF FILES

Local agency administered federal-aid highway project files shall be organized and include the following information indicated below:

Project Record Filing System - Locally Administered Federal-aid Projects

1. Project Personnel

2. Correspondence
   a. Contractor
   b. General

3. Weekly record of working days (if contract time is specified. See Sections 12.9 and 16.5 of this manual)

4. Materials Data[1]
   a. Certificate of Proficiency -Form 03-HC-1 (Exhibit 16-D)[2]
   b. Independent Assurance Sampling and Testing - Form MR-0102 (Exhibit 16-E)[4]
   c. Report of Witness Tests- Form MR-0103 (Exhibit 16-F)[4]
   d. Project Acceptance Test Results and Initial Tests (no form available)
   e. Project Independent Assurance Tests (no form available)[4]
   f. Report of Comparison Between Independent Assurance Tests (IAT) and Acceptance Tests - Form MR-0104 (Exhibit 16-G)[4]
   g. Summary of Independent Assurance Testing - Form MR-0105 (Exhibit 16-H)[4]
   h. Notice of Materials to be Used - Form HC-30 (3/81) (Exhibit 16-I)[4]
   i. Notice of Materials to be Furnished - Form MR-0608 (Old: TL-608) (Exhibit 16-J)[4]
   j. Notice of Materials to be Inspected - Form MR-0028 (Old: TL-28) (Exhibit 16-M)[4]
   k. Report of Inspection of Material - Form TL-29 (REV. 2-80) (Exhibit 16-K)[4]
   l. Field Laboratory Assistant Reports
   m. Certificates of Compliance[1]

[1] Material Data will vary according to the Local Agency's Quality Assurance Program (QAP). Items listed are required for the Caltrans QAP if adopted by the local agency.
[2] Used for NHS projects only.
[2] Note that these forms are not standard and vary by agency and manufacturer

n. Material Testing Summary Log (as specified in Section 16.14, "Quality Assurance Program")

5. Engineer's Daily Reports
   a. Resident engineer
   b. Structure engineer

6. Contract Item Pay Quantity Documents

7. Contract Change Orders

8. Extra Work Reports

9. Progress Pay Estimates and Status of Funds

10. Labor Compliance and EEO records

11. Contractor's Payrolls

12. Final Report

13. Materials Certificate

14. DBE Records

Other sections of this chapter explain the contents of the above listed file categories.

A large and complex local agency project usually requires a more detailed record-keeping system. The record-keeping system described in Caltrans *Construction Manual*, Section 3-01-1 is suggested for large projects. This chapter includes a standardized category system which helps the Resident Engineer and staff keep their files organized.

AVAILABILITY

All contract documentation and backup records shall be available at any time for inspection by Caltrans and FHWA reviewing personnel. Use of a uniform project record-keeping system, together with diligent maintenance of the system, greatly facilitates a process review and minimizes negative findings. Good records of all construction activities clearly demonstrate to all concerned that project supervision and control were attained on the project.

16.9 CONSTRUCTION RECORDS AND ACCOUNTING PROCEDURES

PROCEDURES

On "State Administered" projects, the procedures outlined in the State's *Construction Manual* shall be followed. On "Locally Administered" projects, a similar accounting system should be used. The essential elements of the system are as follows:

[1] Note that these forms are not standard and vary by agency and manufacturer

1. It must contain a file of source documents supporting payments made to contractors. Source documents shall be any written record(s) prepared by the administering agency which clearly record:

   - To what specified portion of work it applies;
   - The necessary measurements and/or calculations by which the quantity is Determined; and
   - The name of the individual who made the determination.

2. The calculations on source documents are to be checked in accordance with good engineering practice and the name of the checker included thereon. Checking should be performed as soon as practicable, but in any event prior to payment of a final estimate. Quantities from source documents must be entered in the appropriate project records.

3. Weighmaster certificates are source documents and must be validated by a representative of the administering agency at the point of delivery.

4. It should contain a separate item sheet for each contract item and each other appropriate accounting category such as; adjustments of compensation; extra work payments; payments for materials not yet incorporated into the work; and deductions.

5. It should contain a contingency balance and anticipated changes sheet, on which the current estimated probable final cost of the work is recorded.

6. It must provide for retention of the records in accordance with the local agency-State Agreement. This agreement requires that records be retained by the local agency for a period of three years from the date of final payment under the project program supplement.

Progress Estimates must be prepared and a copy submitted to the Caltrans Accounting Service Center Attention: Local Programs Accounting Branch with each invoice requesting reimbursement. The local agency may use its own format. The Progress Estimate shall be used as part of the back-up for the invoice shown as Exhibit 16-L.

Chapter III, Section 3-02, of the Caltrans *Construction Manual* is a good reference document to assist local agencies in organizing their accounting system for a typical federal-aid project.

16.10 SAFETY PROVISIONS

INTRODUCTION

This section applies to <u>all</u> federal-aid projects.

Federal and State laws have established occupational safety and health standards with which all employers must comply. These laws basically require an employer to provide a safe place of employment; i.e., one that is reasonably free from danger to life, or health.

PROCEDURES

The contractor shall be required under the contract specifications to comply with

safety rules and regulations (see the FHWA Form 1273 section titled "Safety - Accident Prevention"). The "Construction Safety Orders" of the California Division of Industrial Safety apply to all federal-aid contracts.

In administering this part of the contract, the engineer is required to see that the contractor properly provides for the safety of the workmen. **Under no circumstances should the contractor be instructed orally or in writing on how to correct a deficiency.** The unsafe condition should simply be identified as well as the specific regulation involved if it is known. In carrying out the responsibilities of assuring safety compliance as a contract requirement, the following guidelines shall be used:

1. **Imminent Hazard** -- These are conditions that, if not corrected, would likely result in an accident causing severe or permanently disabling injury, or death.

   When an imminent hazard is found to exist or when the Contractor permits repeated occurrences of a hazardous condition the Resident Engineer should take the following steps:

   1. Advise the Contractor verbally of the condition and the need for immediate correction.

   2. Remove all employees from the hazardous exposure.

   3. Have the Contractor remove all personnel not necessary to make the corrections. Complete all necessary abatement actions.

   4. If the Contractor complies, document the incident in the contract's Safety Diary with appropriate references in the Resident Engineer's Diary.

   5. If the Contractor does not comply, shut-down the affected operation(s). Document the condition(s) and your order in writing.

   Whenever it is necessary to shut-down a Contractor's operation the Local Agency Construction Safety Coordinator and the Division of Occupational Safety and Health should be notified of the hazardous condition and the actions taken. Diaries giving all details leading up to the suspension and copies of orders by the Resident Engineer and/or the Division of Occupational Safety and Health shall be maintained in of the contract files (Category 6 if Caltrans' filing system is used).

2. **Dangerous Conditions (Serious Hazards)** -- These are conditions that do not present an immediate danger to workers, but if not corrected could result in a disabling injury and possibly death, or could develop into an imminent hazard.

   When a dangerous condition (sometime referred to as a Serious Hazard) is found to exist the Resident Engineer should take the following steps:

   1. Advise the Contractor verbally of the condition and the need for timely correction. If appropriate, set a compliance deadline.

   2. Remove State and Consultant employees from the hazardous exposure.

   3. If the Contractor complies, document the incident in the contract's Safety Diary with appropriate references in the Resident Engineer's Diary.

4. If the Contractor does not comply, consider ordering the shut-down the affected operation(s). Document the condition(s) and your order in writing. If the operation is ordered to be shut-down proceed in the same manner as described for an imminent hazard.

3. **Minor or Non-Serious** -- These are conditions that could result in minor injuries or that may be classified as a threat to health.

   When an non-serious or minor condition is found to exist the Resident Engineer should take the following steps:

   1. Advise the Contractor verbally of the condition and the need for correction.

   2. If the Contractor complies, document the incident in the contract's Safety Diary.

   3. Protect State and consultant employees from exposure.

   4. If the Contractor fails to correct the condition or permits its repeated occurrence, the Construction Safety Coordinator should be notified.

CITATIONS & INFORMATION MEMORANDUM

Cal/OSHA issues citations if, during an inspection, they observe an employee exposed to an unsafe or unsanitary condition. Citations may also be issued in situation where an employee exposure can be shown to have occurred even though it was not observed during the course of the inspection. Every citation will identify the violation and the gravity of the violation (serious, general or regulatory).

In addition to the authority to issue citations, Cal/OSHA has the authority to prohibit entry into an unsafe area or to use unsafe equipment (Labor Code Section 6325) when an imminent hazard exists. The violation of this type of order is a misdemeanor

When an actual exposure can not be demonstrated, but a condition is found to exist that would be a violation if an exposure where to occur, then Cal/OSHA may issue an "Information Memorandum." To allow an employee to be exposed to a condition identified in an Information Memorandum constitutes a willful violation of the Safety Orders.

Should a Contractor receive a Citation, shut down order (yellow tag) or an Information Memorandum the Construction Safety Coordinator should be notified. The Resident Engineer should react to the Cal/OSHA action as outlined in the previous section. The level of action shall be based on the severity as determined by Cal/OSHA.

16.11 LABOR COMPLIANCE

INTRODUCTION

Labor compliance regulations apply to all projects both on and off the NHS system.

PROCEDURES

The administering agency (defined in Chapter 15) is responsible to designate a labor compliance officer to enforce the contract provisions and ensure that all labor compliance requirements are performed and documented in the project file. Generally, labor compliance requirements are discussed at the pre-construction conference.

Labor compliance requirements shall be monitored by Caltrans through a process review or a mini process. Process review teams should include representatives from Caltrans District Local Assistance and a District Labor Compliance Officer. Coordination for the process review is the responsibility of the DLAE.

When labor compliance problems are discovered by the administering agency they should be reported to DLAE for statistical purposes. The local agency is responsible for determining the appropriate action required to remedy or address the problem. When labor compliance problems are discovered by process review, they should be documented in the process review report with a recommendation for correction of the problem. The report shall be submitted to Headquarters Division of Local Assistance, Attention: Process Review Committee. The committee shall review the report and recommendations for statewide consistency and implement approved recommendations.

The administering agency must maintain sufficient records to ensure contractor/subcontractor compliance with wage and apprenticeship sections of the contract. Specific actions required, include but are not limited to:

- Preparing inspector's daily reports which note employee, labor classifications, hours worked, and equipment working on the project. Ideally, the number of employees, names, classifications, and hours worked should be noted on each daily report. See "Resident and Assistant Engineers Daily Report" (forms CEM-4501 and HC-10A4) Exhibit 16-C, (first and second page). If this is not possible, then as a minimum, the data must be reported in at least one diary during the week.

- Conducting spot interviews with employees on the project. A form similar to, or State Form HC-0031 should be used (Exhibit 16-N, "Employee Interview: Labor Compliance/EEO").

- Maintaining written evidence of apprentices employed on the project.

- Ensuring that the contractor submits certified payrolls and/or owner operator listings (as appropriate) for their work and from all subcontractors or equipment rental companies who perform work on the project. Every laborer or mechanic performing work on the project must appear on either a certified payroll or owner operator list.

- Spot checking the payrolls or listings to ensure that at least the applicable Davis-Bacon or State prevailing wage rates as referred by the Special Provisions are paid.

- Cross checking reports, interviews, payrolls and wage rates in order to determine the contractor's and subcontractor's compliance. Comparing all force account or day labor work to certified payrolls. Employees' names, classifications, and wage rates should match.

- Ensuring that the contractor posts all specified posters, notices, wage determinations, etc. at the job site.

- Applying necessary sanctions against the prime contractor for failure to submit payrolls or noncompliance with the labor standard requirements. Sanctions must be in conformance with current Department of Transportation policy as described in the *Construction Manual, Chapter IX, Section 9-01, "Labor Compliance."*

- Reporting any apparent violation of state or federal labor requirements to the Caltrans District Labor Compliance Officer immediately upon discovery. In the case of local agency contracts that are 100 percent federally funded, violations should also be reported to the US Department of Labor, a listing of their office addresses is shown in Exhibit 16-Q. This information shall be maintained by the District Labor Compliance Officer and is to be forwarded on form FHWA-1494 semi-annually, to the Caltrans Headquarters Construction Office. Caltrans Headquarters Construction is responsible for summarizing the information statewide and submitting it to FHWA. The local agencies may contact the District Labor Compliance Officer for advice, training, and assistance as needed, or the following for labor compliance cases at the California Department of Industrial Relations, Division of Labor Standards Enforcement

Southern California
Public Works Contracts
Division Of Labor Standards Enforcement
6150 Van Nuys Blvd., Rm. 100
Van Nuys, Ca 91401
(818) 901-5538

Northern California
Public Works Contracts
Division of Labor Standards Enforcement
2424 Arden Way, Rm. 340
Sacramento, Ca 95825
(916) 263-2842

16.12 EQUAL EMPLOYMENT OPPORTUNITY

INTRODUCTION

Equal Employment Opportunity (EEO) requirements apply to all federal-aid construction contracts and all related subcontracts of $10,000 or more. The Contractor is subject to the U.S. Department of Transportation EEO and nondiscrimination requirements pursuant to 23 USC 140 and its implementing regulations. In addition, the contractor is subject to the U.S. Department of Labor's federal-aid contract requirements that include women and minority recruitment goals and the adherence to specific EEO and affirmative action standards pursuant to 41 CFR, Chapter 60 (see FHWA Form 1273, Exhibit 12-E, Chapter 12).

PROCEDURES

A proactive approach to ensure compliance is to discuss the requirements of the contract at the pre-construction conference. The EEO responsibilities specifically listed in the "Required Contract Provisions, Federal-aid Construction Contracts (Form 1273)" are broad and inclusive, requiring specific actions regarding all aspects of employment including but not limited to recruitment, hiring, upgrading, promotion, transfer, overtime, demotion, layoff, termination, training, working with the union, addressing discrimination complaints, and dissemination of EEO policy.

The DLAE assists the local agency by informing the contractor of EEO requirements. The DLAE also provides the local agency with training and assistance in checking EEO compliance of the contractor.

RECORDKEEPING

The administering agency must document contractor's compliance with the EEO requirements according to the FHWA Form 1273, Exhibit 12-E, Chapter 12 and maintain the record for three years.

COMPLIANCE REVIEWS

If the local agency's federal-aid project is selected by the Department to be reviewed, the administering agency shall conduct a formal compliance review of the prime and subcontractors during the peak employment period of contract. The formal compliance review shall consist of a desk audit and an on-site review that examines the contractor's personnel policies, EEO practices, workforce composition (i.e., job classification, race, gender) and documentation of the contractor's efforts to recruit women and minorities in all aspects of employment. An EEO Contractor Compliance Review model based on 23 CFR Part 230, Subparts A and D shall be used by the administering agency and may be found online at: http://www.dot.ca.gov/hq/LocalPrograms/

REPORTING

The FHWA Form PR-1391, (see sample: Exhibit 16-O, "Federal-aid Highway Construction Contractors Annual EEO Report", Chapter 16) is prepared by the prime contractor and by each subcontractor if the federal-aid construction contract work exceeds $10,000. The reporting period is only for federal-aid construction contracts that are active during the last pay period in July. If the contract is completed prior to the last pay period in July, or the construction contract does not begin until August, then no PR-1391 report needs to be filed. The report form must be downloaded from the Caltrans Division of Local Assistance website at:

http://www.dot.ca.gov/hq/LocalPrograms/DBE_CRLC/DBE_CRLC.html#EEO

It is the responsibility of the administering agency to ensure that the prime and subcontractors complete the form accurately and timely. The administering agency must review, countersign and submit the PR-1391 to the DLAE by August 25 of each year. Failure to submit the report form timely may result in sanction and/or a process review. The DLAE compiles and forwards the reports to the Division of Local Assistance Civil Rights Coordinator no later than August 30.

Exhibit 16-X "Report Compliance Review Determination for Federal-aid Contractor or Subcontractor," form is prepared by the administering agency immediately after the EEO Contractor Compliance Review. The report should be sent to the DLAE who will forward the report to the Division of Local Assistance Civil Rights Coordinator for compilation and annual reporting to the FHWA.

U.S. Department of Labor (DOL), Executive Order 11246 - Only the DOL has the authority to determine compliance with EO 112456 and its implementing regulations. Local agencies do not have independent authority to determine compliance with EO 11246, 41 CFR, Chapter 60, or the minority and female goals established by the Office of Federal Contract Compliance Programs, (OFCCP). If the administering agency becomes aware of any possible violations of EO 11246 or 41 CFR, Chapter 60, the administering agency has the authority and responsibility to notify the OFCCP. For contact information, see Exhibit 16-Q, " U.S. Department of Labor, Office of Federal Contract Compliance Programs (Offices Within California)"Chapter 16.

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16.13 CONTRACT CHANGE ORDERS

PROCEDURES

Any change of the approved plans or specifications or work required which was not included in the contract must be covered by a contract change order. All change orders are to be approved by the administering agency in advance of any work being done on the change. **CAUTION: Additional** federal funds required for change orders may be jeopardized if work is done before authorization is received from Caltrans (see Chapter 4 of this manual for more information on project authorization). To receive authorization for additional federal funds the administering agency shall submit the following to the DLAE:

- A letter explaining the change order
- A revised detailed estimate
- Written approval for additional federal funds for the change order from the RTPA/MPO

Approval must be received in writing for the additional federal funds from the DLAE before the change order is approved by the administering agency. All information regarding approved change orders shall be retained in the project construction records.

It is recommended that Section 2-50 of the Caltrans *Construction Manual* be reviewed for additional information on change orders. The procedures described therein shall be followed on "State administered" local assistance projects. For "locally administered" projects, the following procedures apply.

Changes on planned design/environmental/mitigation features may need to be reevaluated before proceeding with the change. Any change in environmental mitigation commitments, permit conditions, agreements with resource agencies, or the introduction of new social, environmental, or economic issues that need to be addressed under applicable federal, State, or local law shall be referred to Caltrans for further action.

If the change order work is of an emergency nature and additional federal funds are needed, the administering agency shall request the increase in federal funds from the DLAE and RTPA/MPO. Approval for additional federal funds may be given verbally, but the local agency shall submit the request in writing to the DLAE and RTPA/MPO immediately to confirm such approval in writing. The request by the administering agency shall include a revised detail estimate. The approval for additional federal funds shall be retained in the construction records.

The administering agency is responsible for determining eligibility of all change orders. Some examples of work which require change orders are listed below:

- Revisions to geometric design (main road, ramps, frontage road, or crossing)
- Revision of the structural section above sub-base level
- Revisions in conflict with standards upon which project approval was based
- Revisions involving addition, deletion, or relocation of major structures
- Any change in planned access provisions
- Any change which should alter the scope of the contract
- Any change related to type or quality of materials to be furnished
- Changes in specifications or specified method of processing
- Adjustments resulting from the application of the Caltrans *Standard Specifications Section 9-1.08.* Changes resulting in an increase or decrease of over 25 percent in a significant item of the contract or total contract amount, or changes resulting in adjustment in unit prices when due to change in the character of the work. A "significant" item shall be one for which the bid schedule amount for the item exceeds 5 percent of the-total bid.
- Force account work over $15,000 in amount and not provided for, in an approved PS&E as supplemental work, or within the amount budgeted for contingencies

A change order may be determined participating, participating in part, or nonparticipating, in regards to using federal funds. In general, most changes are participating provided they are necessary to complete the project as originally contemplated at the time the plans and specifications were approved.

Nonparticipation should not be a determination used in order to circumvent federal requirements (i.e., waiver of Buy America in order to accept foreign materials would jeopardize project funding).

NONPARTICIPATING

Following are some items which normally are **nonparticipating:**

- Utility work - betterments or work not programmed
- Plant establishment periods of over 3 years[1]
- Work outside project limits as defined in the project authorization document
- Work not on properly designated route
- R/W obligation not programmed
- R/W obligation already compensated
- Work chargeable to other programs
- Maintenance work (except Demonstration Programs)
- Work not in accordance with approved Specifications, unless quality is not reduced
- Non highway related work
- Work outside of local agency rules or limits
- Work done for CCOs which exceeds the authorized amount of federal funds.
- Work over and above amount programmed
- Deviations from design standards
- Nonconforming materials
- Equipment rental rates in excess of those allowed by FHWA (see equipment rental rates at the end of this section for more information).

TIME EXTENSIONS

Change orders shall also provide the time needed to accomplish the work. Standard specifications should require the contractor to submit an activity schedule that outlines the contract operations from start to finish. Reasonably, this schedule should depict the planned operation by day or week and may take the form of a critical path. A trace of the critical path identifies the controlling operations. In the absence of a critical path or activity schedule, a determination of the controlling operation(s) is necessary.

If work covered by a change order affects a controlling operation, an extension of the contract time is warranted. If the controlling operation is unaffected, an extension of the contract time is not warranted. In order to establish the time required to perform the work, an estimate of the time should be developed as the other components (i.e., labor, equipment, and materials) are estimated.

[1] *Federal Policy Guide*, December 9, 1991, Transmittal 1 23 CFR 752, Section 752.4 Landscape development. Normal one year plant establishment periods may be extended to a 3 year period where survival is considered essential to their function, such as junkyard screening and urban landscape projects.

Occasionally, there are events that are beyond the control of either the local agency or the contractor that affect the controlling operation. These should be enumerated in the local agency's standard specifications and be acceptable to support an extension of contract time. Such events include the following:

- Labor strikes (including job pickets)
- Public protests (to the project)
- General riot
- Declaration of war
- "Acts of God"
- Traffic accidents (e.g., hazardous spills)

Events that are normally considered to be under the control of the contractor and, as such, do not warrant a time extension include:

- Shutdowns for maintenance
- Breakdowns
- Suspensions or stop work orders for violation of safety or pollution regulations
- Shutdowns for construction accidents
- Materials delays

MATERIALS DELAYS

The contractor is responsible for the timely order and delivery of materials for the project. A delay in delivery of materials does not in itself generally support an extension of contract time. However, if an unusual market condition (i.e., an industry-wide strike, natural disaster, or area-wide shortage) occurs, a time extension may be in order.

RIGHT OF WAY DELAYS

Because of the Right of Way Certification required from the local agencies prior to the FHWA project authorization, the FHWA policy generally does not permit participation in time extensions for such delays. Whenever the railroad or utility is permitted to adjust its facilities coincidentally with contract operations, such activities must be clearly addressed in the contract provisions. All parties should understand that any interference by the railroad or utility to the contractor's operations generally will not constitute an allowable delay. In general, an extension of contract time due to ROW delays is very unusual and is the exception rather than the rule. For federal-aid eligibility of an extension, it must be shown that:

- The construction work was actually delayed by the ROW, railroad, or utility difficulty;
- The contractor did everything required by the contract to minimize the delay; and
- The local agency was unable to exercise effective control of the situation despite its best efforts.

Caution: Compensation for right of way delays is not eligible for federal participation if the delay is defined as per Caltrans *Standard Specification*s, Section 8-1.09, "Right of Way Delays."

All questions regarding eligibility (federal funding participation) can be directed to the DLAE for guidance.

Process reviews shall be conducted by DLAE periodically to monitor approved change orders. If change orders are found to be ineligible during a process review, federal funds paid for the change order shall be withdrawn from the project.

EQUIPMENT RENTAL RATES

Federal policy requires that actual costs be used to determine extra work payments; however, actual equipment costs are not readily available. Therefore, the FHWA permits the local to specify in their construction contract specifications the use of commercially available rate guides (i.e., *Dataquest Rental Rate Blue Book*) as well as equipment rate schedules developed by SHAs (*Caltrans Blue Book*) which are in conformance with the federal cost principles and the FHWA's policy contained herein.

The federal cost principles applicable to rental rates for contractor furnished equipment are contained in 48 CFR, Part 31. The provisions in OMB Circular 87 apply when State-owned equipment is used.

Rental Rate Guides: A State may, subject to the FHWA's concurrence, adopt the *Dataquest Rental Rate Blue Book* or another industry rate guide, or it may develop its own guide (which Caltrans has done, and is referred to as the *Caltrans Blue Book*). The State must make the determination that the equipment rental rates developed or adopted fairly estimate a contractor's actual cost to own and operate the equipment. It is the FHWA's responsibility to review each State's rates for compliance with the policy.

Adjustment Factors: Equipment is not expected to operate for 12 consecutive months. Maps at the beginning of each (*Dataquest Rental Rate Blue Book*) equipment section indicate adjustment factors based on climate and regional costs. Rate adjustment tables indicate adjustment factors based on equipment age. The adjustment factors in the maps and tables are to be applied when determining the eligible rate.

Maximum Rate: The Blue Book adjusted rates cover all eligible equipment related costs. Therefore, they are considered to be the maximum eligible rates for federal-aid participation purposes.

Hourly Rates: The developer of the Blue Book accumulates all contractor costs for owning a piece of equipment on an hourly basis. The monthly rate displayed in the rental guide is determined by multiplying the hourly accumulated costs by the monthly standard of 176 hours. Therefore, for periods of equipment use less than the standard 176 hours per month, federal-aid participation shall be limited to the hourly rate obtained by dividing the monthly rate by 176. Premium rates contained in the rate guides shall not be used.

Standby Equipment Rates: The contractor continues to incur certain ownership costs when equipment is required to be on standby. The use of a standby rate is appropriate when equipment has been ordered to be available for force account work but is idle for reasons which are not the fault of the contractor. While an industry standard does not exist for standby rates, it has been the normal practice of the courts to reduce published ownership rental guide rates by 50 percent for standby rate usage. Therefore, the FHWA will accept use of 50 percent of the ownership rental rates of an approved guide as the standby rate in lieu of a contractor's actual standby costs. There should be no operating costs included in the rate used, and standby time should not exceed 8 hours per day, 40 hours per week, or the annual usage hours as established by the rate guide.

Mobilization: The costs required to mobilize and demobilize equipment not available on the project is eligible for reimbursement. Standby rates should be used for equipment while being hauled to and from the project. This will be in addition to applicable rates for the hauling equipment. All costs associated with the assembly and disassembly of the equipment for transport should also be considered in the mobilization costs.

Overhead: Equipment overhead includes such items as insurance, property taxes, storage, licenses and record keeping. The Blue Book rates include all equipment overhead costs. Therefore, if a project or home office overhead rate is proposed to be applied to a Blue Book rate, the State must assure that it contains no equipment overhead cost factors. The reasonableness of such a rate shall be determined by the Division Administrator.

Profit: Profit on equipment rental is not provided for in the Blue Book published rates. There is no federal regulation which prevents the addition of an amount for profit. If a State has a policy for the payment of profit, it should be followed on federal-aid contracts. If a profit amount is to be used, the reasonableness must be determined by the Division Administrator based on experience.

Contractor Leased Equipment: When a contractor obtains equipment through a third party rental agreement for use in a force account situation, the cost will normally be the invoice cost. The invoice cost should be comparable with other rental rates of the area. *The Associated Equipment Distributors (AED) Rental Rate and Specifications* may be used to evaluate the costs for such equipment rental. Since rental agreements vary, the specific operating costs included in the rental agreement may need to be determined. There may be additional eligible operating costs not covered by the agreement which the contractor incurs and should be reimbursed (i.e., fuel, lubrication, field repairs, etc.).

Note: The AED book is not acceptable as a rate guide for contractor owned equipment.

The AED rates are based on national averages of rates charged by equipment distributors and do not reflect the contractors cost of owning and operating the equipment.

16.14 QUALITY ASSURANCE PROGRAM

INTRODUCTION

A Quality Assurance Program (QAP) is a sampling and testing program that will provide assurance that the materials and workmanship incorporated in each highway construction project are in conformance with the contract specifications. The main elements of a Quality Assurance Program are acceptance testing and independent assurance sampling and testing.

The requirements for the type of QAP depend on whether the project is on or off the NHS. Where appropriate, sections of this chapter are divided into two parts; NHS Projects, and Non-NHS Projects.

The QAP for all local agency projects shall include acceptance tests (AT). AT results shall be used to determine the quality and acceptability of materials and workmanship incorporated into the project. Both California and the American Society for Testing and Materials (ASTM) test methods are acceptable. The California Test Methods are published on the Internet and the address is:

http://tresc.dot.ca.gov/ctms/mindex.html

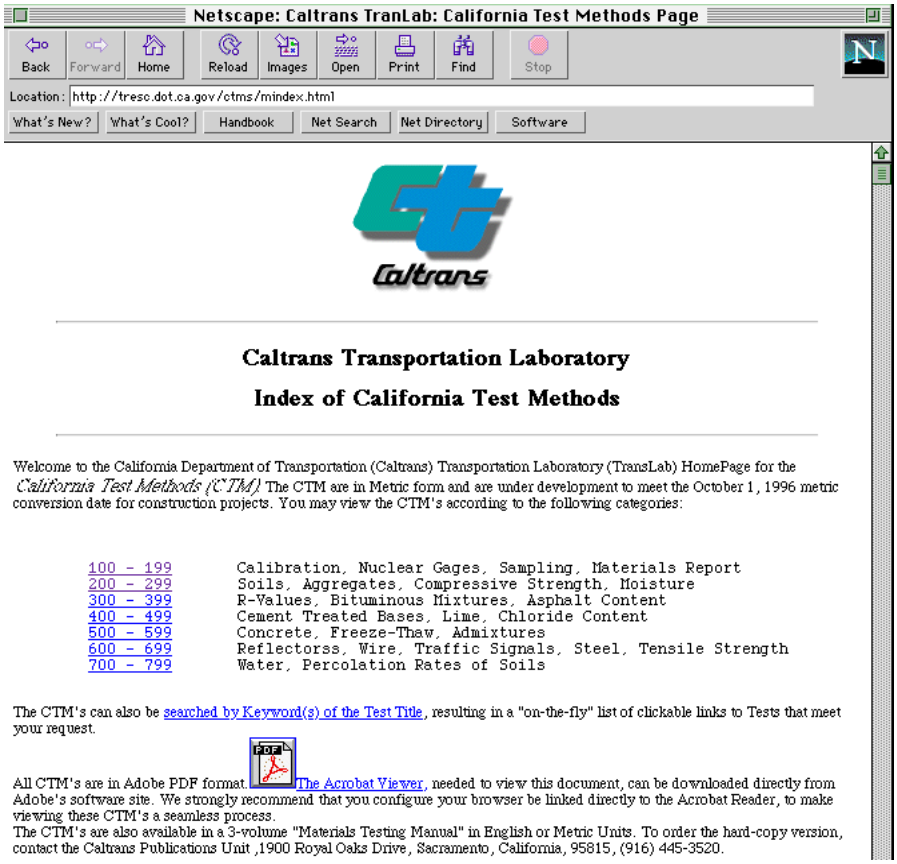


Figure 16-1

Figure 16-1 is a copy of the index page on the Internet for obtaining the metric version of these California Test Methods. "Caltrans Test Method - ASTM Test Method Conversion Chart" is attached as Exhibit 16-S.

Material testing and sampling costs are eligible to be charged to the construction engineering phase of the project.

Failure by a local agency to comply with the requirements described in this section may result in loss of federal funds.

NON -NHS PROJECTS

For federal-aid projects off the National Highway System, local agencies may adopt their own Quality Assurance Program used for transportation projects not utilizing federal-aid funds, or adopt the Caltrans QAP described in this section. Caltrans will not process a Request for Authorization for Construction without verification of an adopted QAP.

For local agencies that adopt the Caltrans QAP procedures the following shall apply:

- Caltrans will not certify the local agency's (or their consultants') laboratory or acceptance testers unless the local agency is also administering a project on the NHS or State Highway System at the same time.

- If the local agency's QAP includes IAST as required for NHS projects, Caltrans will not conduct the testing unless the local agency is also administering a project on the NHS or State Highway System at the same time. The local agency shall either conduct the testing or contract out with a consultant that meets local agency requirements.

- Acceptance of manufactured and prefabricated structural materials shall be based on either a Certificate of Compliance and/or source inspection by the local agency or a qualified consultant. If the administering agency cannot perform the source inspection and qualified consultants are not available, the agency may request that Caltrans conduct the inspections on a reimbursed basis (see "Source Inspection" in this chapter for details on requesting Caltrans' services).

For local agencies that do not adopt Caltrans QAP, they shall develop their own QAP that includes as a minimum:

- Acceptance Testing - procedures for regular testing of materials entering a construction project to verify that the materials, or products, comply with contract specifications or standards

- Independent Assurance Sampling and Testing - procedures to verify that acceptance testing is being performed correctly by:

  a) Verifying that equipment used for acceptance testing is properly calibrated and in good working condition.
  b) Witnessing sampling and testing by the Acceptance Tester.
  c) Splitting material samples and comparing the test results between the Acceptance Tester and Independent Assurance Sampler and Tester.

- Testing of Manufactured Materials - procedures for inspecting, accepting and testing of manufactures and prefabricated materials either by source inspection, job site inspection, or certificate of compliance

Whatever QAP the local agency chooses for projects off the NHS, the program decided upon shall be documented and approved by the Public Works Director. A non-registered Public Works Director must delegate the approval to the City/County Engineer if such individual is appropriately registered. If the City/County Engineer is not registered, the delegation can be made to the highest level engineer in the agency who is. Copies of the approved quality assurance program shall be kept on file and available for State review.

If the local agency chooses to follow the Caltrans QAP it must perform its own IAST. Caltrans will not provide IAST service for personnel and equipment being used only on Non-NHS projects. It is the local agency's responsibility to perform IAST with its own staff, or hire a consultant determined qualified by the local agency.

NHS PROJECTS

It is Caltrans' responsibility to have a Quality Assurance Program (QAP) for use on both State highway and local street and road federal-aid construction projects. The QAP described in this section meets the requirements of the Federal Highway Administration (FHWA) for local agency projects. **Local agencies must follow the QAP procedures described in this section for all projects on the NHS.**

The Caltrans QAP requires IAST as a check on the reliability of sampling and testing performed during acceptance testing. The independent assurance sampling and testing is not to be used for determining quality and acceptability of material incorporated into the job. Such tests are used only for the purpose of determining the reliability of testing personnel, procedures used, and calibration of testing equipment. When the local agency elects to use ASTM test methods, it is Caltrans' responsibility to perform necessary IAST with its own ASTM proficient staff and equipment, or hire a qualified consultant to perform the ASTM IAST.

GENERAL PROCEDURES

Local projects covered by a cooperative agreement may be administered by the State. All material sampling and testing required for State-administered cooperative projects is performed as described in Chapter 8 of the Caltrans *Construction Manual* and the *Quality Assurance Program Manual*. Local projects typically are administered by the local agency. Materials sampling and testing for these projects must use the procedures described in this manual.

NHS PROJECTS

Correlation Testing Program

Testing and inspection of materials that cannot be adequately performed by the awarding local agency must be arranged for in advance of advertising a project. Testing options are permitted provided the laboratory utilized is a participant in a correlation testing program approved by the Caltrans Office of Materials Engineering and Testing Services. Three correlation testing programs approved by Caltrans are:

- The AASHTO Materials Reference Laboratory (AMRL)
- Cement and Concrete Reference Laboratory (CCRL)
- Caltrans' own Reference Samples Program (RSP)

These correlation testing programs conform to the FHWA requirement that each State Transportation Agency must participate in an approved laboratory inspection and comparative sample testing program. All laboratories which use Caltrans' test methods must participate in the Caltrans Reference Sample Program. Those laboratories which do not use Caltrans' test methods may participate in the AMRL and CCRL programs to fulfill correlation testing program requirements.

Qualifying Laboratories

In addition to their own staff, a local agency may use any of the following options for sampling and testing materials:

- Laboratory operated by another local agency
- Caltrans laboratory (if Caltrans "local assistance work for others" resources are available)
- Private consultant laboratory
- Require a certificate of compliance in lieu of testing manufactured products

A private consultant laboratory may be permitted to subcontract materials testing, provided the test results are received by the Resident Engineer within 7 days after materials are sampled. The subcontractor must be approved by the local agency and must be a participant in an approved correlation testing program. All materials provisions that apply to the consultant laboratory shall apply to the subcontracted consultant.

Any laboratory providing testing services for projects located in California (except for products manufactured out of state) shall be under the responsible engineering management of a California registered professional Engineer with experience in inspection and testing of construction materials. The Engineer shall certify the results of all tests performed by laboratory personnel under his supervision.

Agencies using the *Standard Specifications for Public Works Construction* (commonly referred to as the Green Book) can as outlined in Section 4-1.3.3, select a consultant laboratory to sample and test material at locations too distant for the agency staff to conduct the sampling and testing. This specification allows for the agency to have the contractor pay for the costs of this service, however the contractor shall not select or exercise any authority over the consultant laboratory.

Certification of Personnel

Acceptance sampling and testing by project personnel or construction, or central laboratory personnel shall be performed only by those who have been certified by the District Materials Engineer or other designated district authority, to be proficient in acceptance sampling and testing. These personnel shall possess a current "Certificate of Proficiency for an Acceptance Tester," (MR-0111) (old Form HC-1) (Exhibit 16-D) which is valid in all districts. This certificate is required for all samplers and testers, including personnel from the District Materials Laboratory, construction (including Resident Engineers and their assistants), construction field laboratory, Office of Structures Construction, local agencies, and consultant laboratory employees, including employees of sub-contracted laboratories.

The District Materials Engineer shall individually certify personnel of local agencies and consultant employees upon receiving from them evidence of training, experience and/or certification by a non-Caltrans organization such as the "National Institute for Certification in Engineering Technologies" (NICET).

A copy of each person's certificate of proficiency, is to be on file in both the District Materials Laboratory, and the Resident Engineer's project files. The MR-0111 form lists the sampling and testing which the individual is authorized to perform.

A person possessing the MR-0111 Certification issued on the basis of a certification from NICET or other organizations recognized by Caltrans, if observed by qualified IAST personnel not to be performing materials sampling and testing in accordance with applicable test methods, shall have his or her MR-0111 certification withdrawn or modified for the particular test method observed to have been incorrectly performed.

During witness and split sample testing, acceptance testers should carry adequate identification with them so that Independent Assurance sampling and testing personnel can verify certification of personnel. Acceptance testers without valid identification shall not be allowed to perform sampling and testing.

A person whose certification has been withdrawn for a particular test method may have the certification revalidated upon demonstration that deficiencies have been eliminated to the satisfaction of the Caltrans District Materials Engineer.

In cases of extreme emergency, sampling and testing may be performed by someone not certified. The local agency Resident Engineer is to assure himself or herself of the person's competency and every effort should be made to obtain a certified person as soon as possible. These occasions should be limited to unforeseen circumstances. Prior arrangements shall be made to have certified personnel available for foreseeable occasions such as vacation, compensating time off, rotation, or separation.

Laboratory Equipment Calibration Requirements

The local agency laboratory shall calibrate field construction laboratory equipment and portable field test equipment (sand cones, scales, moisture test equipment, slump cones, air meters, etc.) prior to use on construction projects, and re-calibrate as frequently as required. The maximum interval between calibrations is one year. The local agency is responsible for calibration of laboratory testing equipment used for testing on local agency projects, whether or not the equipment is owned by the local agency, a consultant contractor, or sub-contractor. Consultant laboratory-supplied equipment shall be calibrated by the consultant or local agency, and evidence of such calibration shall be provided to the Caltrans District Materials Engineer upon request.

Calibration of test equipment shall conform to Section 8-03, "Field Tests," of the Caltrans *Construction Manual*. [1]Limited resources are available for calibrating asphalt concrete testing equipment for local agencies. This Caltrans service requires the agency and Caltrans to be under agreement and that payment for the service be provided prior to performance of the service. Contact the Caltrans Accounting Service Center-Reimbursement Unit for procedures on making advance payment. Two sections in the *Quality Assurance Program Manual* (Part 3-10, "Testing Equipment Used on Construction Projects Administered by Local Agencies," and Appendix B, "Procedures for Calibrating Materials Testing Equipment") describe the procedures that the Independent Assurance Sampler and Tester personnel are to use when calibrating materials testing equipment for local agencies.

Local agencies and/or private consultants electing to use nuclear test equipment to determine soil, aggregate or asphalt concrete compaction, shall calibrate their nuclear gages on Caltrans' standard density blocks. Calibration arrangements should be made by contacting a Caltrans District Local Assistance Engineer, a Caltrans Independent Assurance Sampler and Tester, or a Caltrans Radiation Safety officer. A minimum of 3 working days advance notice is required for nuclear gage calibration. Nuclear gages not calibrated on Caltrans Standard density blocks shall not be accepted. Specified

[1] Engineering Service Center Policy Memo dated 11/2/94

calibration tables for each device shall be used for all State and federally-funded contracts on the NHS. All nuclear gage compaction tests conducted without Caltrans' calibration tables shall be reported "Unacceptable" by Caltrans' IAST personnel.

Upon proper calibration, a decal shall be firmly affixed to each piece of calibrated equipment. Decal type and required information are specified on page 63 Appendix B of the *Quality Assurance Program Manual*. A manufacturer's or service contractor's decal is acceptable as long as the above-required information is readily available.

Should such decal become unreadable or lost, then the equipment is to be re-calibrated as soon as possible. Where such equipment either requires repair or cannot be repaired, a timely repair or replacement shall be secured.

The Caltrans Office of Materials Engineering and Testing Services, local agency, private contractor and sub-contractor laboratories shall participate in one or all of the following;

- The AASHTO Materials Reference Laboratory (AMRL),
- The Cement and Concrete Reference Laboratory (CCRL) inspection programs,
- The Caltrans Reference Sample Program

All laboratories shall maintain their laboratory testing equipment in accordance with recognized national calibration standards.

Local agencies that have their own laboratories may participate in Caltrans' RSP. The local agencies are furnished reference samples of road construction materials upon which they shall perform specific tests (California Test Methods). The results of such tests shall be submitted to the Office of Materials Engineering and Testing Services for analysis and evaluation. Test results which have poor correlation shall be repeated using new material. The District Materials Engineer shall be assigned follow-up responsibilities regarding retesting of reference samples by participating laboratories.

Notification of Equipment Calibration

Whenever a local agency wishes a Caltrans laboratory to perform equipment calibration, the local agency and/or the Caltrans District Local Assistance Engineer (DLAE) must furnish the following to the appropriate Caltrans District Materials Engineer:

- A letter requesting required testing services (letter should note if ASTM test methods shall be used in lieu of the California Test Methods (CTM))

- Specific instructions on how the agency is to be billed

- A Engineering Authorization number provided by the Caltrans DLAE

An advance deposit (procedures and amounts of advance deposits vary by Caltrans Districts) is required to cover the cost of calibration done by Caltrans. All such requests shall be made through the appropriate Caltrans DLAE.

Manufactured and Assembled Materials

A local agency may permit the use of certain manufactured products, materials or assemblies accompanied by a Certificate of Compliance prior to sampling and testing,

provided these products, materials or assemblies do not involve structural integrity or safety to the public. Additionally, these items must have a history of having met specifications based upon previous sampling and testing. The manufacturer of the products, materials or assemblies shall sign the Certificate of Compliance and state that the included materials and workmanship conform in all respects to the project specifications for the material.

Certificate of Compliance

Acceptance of manufactured and prefabricated structural materials shall be based on either a Certificate of Compliance and/or source inspection by the local agency, qualified consultant or Caltrans (see "Source Inspection" in this chapter).

The contract documents should specify which materials require a Certificate of Compliance. For such specified materials the Resident Engineer is responsible for insuring that a Certificate of Compliance is furnished with each lot of these materials delivered to the work site. The certified material lot number and project number shall be clearly identified on the certificate and on lot tags affixed or stenciled to the released materials. All materials accepted on the basis of a signed Certificate of Compliance shall be referenced by project inspectors to daily inspection reports and laboratory releases. Certified materials such as Portland Cement and Asphalt products shall be sampled for testing as indicated in the "Size, Frequency and Location of Sampling and Testing Tables" (Exhibit 16-R) (hereinafter referred to as "Frequency Tables").

Manufactured products, materials or assemblies used on the basis of a Certificate of Compliance may be sampled again at the job site and tested at any time during the life of the contract. Items found later not in conformance with contract requirements shall be subject to rejection whether in place or not. The form and distribution of Certificates of Compliance shall be acceptable to the DLAE. A Certificate of Compliance for each item shall be kept in the Resident Engineer's file. Exhibit 16-T is a listing of materials typically accepted by a Certificate of Compliance for projects advertised using Caltrans Standard Specifications - 1995 edition.

NON-NHS PROJECTS

For projects off the National Highway System, the local agency must develop its own procedures for certification of personnel performing acceptance testing. Caltrans will not be involved in certifying acceptance testers.

TYPES OF SAMPLING AND TESTING

PRELIMINARY SAMPLES AND TESTS

Preliminary Tests are tests prior to award of a contract. Construction personnel rarely sample for Preliminary Tests. Such tests are for design purposes or to provide data for the "Materials Information" package for prospective bidders.

Samples and tests on potential sources sampled after award of the contract are typically called "Initial Samples and Tests," or "Process Control Samples and Tests." Normally, these samples and tests are performed on material proposed for use in the work by the contractor. The purpose of these tests is to:

- Determine the ability of a material or product to meet specifications; or

- Indicate to the contractor the extent of processing and control required to produce a material that meets specifications. Sufficient samples should be taken to assure the local agency Resident Engineer that the proposed materials are capable of producing a finished product of the specified quality.

ACCEPTANCE SAMPLING AND TESTING

Tests of materials entering the work are called "Acceptance Tests" (AT). Acceptance sampling and testing of materials or work should start the first day a construction material is placed or work is performed. To obtain the greatest benefit, testing should be performed as soon as possible after samples are taken or segments of work are completed. This provides early test data for the Resident Engineer's and contractor's guidance.

The local agency Resident Engineer shall maintain a material and testing "Summary Log" for each material requiring multiple sampling and testing as defined in the "Frequency Tables." The "Summary Log" shall include appropriate data such as station location, depth of test sample, approximate quantity of material represented by the test sample, test result, and tester. Failing tests results require retesting of the material with cross references of the retest to the initial failing test result previously entered in the "Summary Log."

Representative samples of all materials entering into the work shall be sampled at the location specified in the standard specifications or special provisions. If not so specified, the samples shall be taken at the location indicated in the "Frequency Tables."

SOURCE INSPECTION

Source Inspection is acceptance testing of manufactured and prefabricated materials at locations other than the job site.

If the administering agency cannot perform the source inspection and qualified consultants are not available, the agency may request that Caltrans conduct the inspections on a reimbursed basis for NHS and non NHS projects. Caltrans HQ Engineering Service Center - Office of Materials Engineering and Testing Services (METS) will agree to this work only to the extent that their inspectors are available. (Caltrans will continue to provide Source Inspection services for local assistance projects, as long as resources are available, on a reimbursed basis.) METS is responsible for assigning personnel for Caltrans' source inspection services.

The local agency must make the request sufficiently in advance for METS to make this determination and to allow for special processing to cover reimbursement for the State's services. Requests received after the "Request for Authorization" has been submitted for the construction phase of the project will not be considered.

In order for a local agency to receive Caltrans' Source inspection services, the following must occur: (see also the following flow chart for number references)

1. Local agency submits "Request for Source Inspection" (see Exhibit 16-V) to District Local Assistance Engineer (DLAE).

   Note: This should be submitted at least 30 days prior to the local agency submittal of the "Request for Authorization to Proceed with Construction." Justification should be based on requirements above.

2. DLAE receives the request for source inspection services. DLAE faxes a copy of request for source inspection services to METS or DLAE rejects the request and returns it to the local agency.

3. METS notifies the DLAE, within 5 working days, that METS can do the inspection or that the local agency has to make their own arraignments. METS also provides an estimated cost for the source inspection service.

4. DLAE notifies local agency that their request has been rejected by Caltrans.

5. Local agency makes other arrangements for source inspection.

6. DLAE obtains single phase EA (9XXXXX) for the project and assigns a subjob number (33333) for materials testing, or, obtains a multiphase EA (XXXXX7) for the project.

7. DLAE notifies local agency that their request for Caltrans source inspection (reimbursed) services has been accepted. DLAE also gives the local agency the project EA (and subjob # if required) and the estimated cost for the reimbursed services

8. The local agency sends in the "Request for Authorization to Proceed with Construction," "Local Programs Agreement Checklist" and "Finance Letter," to DLAE along with other required documentation.

   Note: Checklist and Finance Letter require the identification of Source Inspections.

9. DLAE reviews the local agency's submittal package, inputs "Request for Authorization" into FADS system, and transmits the package to DLA Area Engineer.

10. DLA Area Engineer reviews package and authorizes construction

11. DLA Area Engineer prepares Program Supplement Agreement (PS) with special covenant, for reimbursed services, and transmits PS to local agency after funds are certified by Local Programs Accounting.

12. DLA Area Engineer transmits Finance Letter along with other information to Local Programs Accounting (LPA)

13. LPA bills the local agency for an advance deposit to cover the estimated full amount of the reimbursed services. EA is shown on the bill.

14. Local agency executes the PS and returns it to DLA. Local agency also submits advance deposit to LPA.

    Note: The Program Supplemental Agreement has to be executed and advance deposit received before Caltrans can perform the reimbursed services.

15. Local agency advertises and awards construction contract.

16. The Local agency's Resident Engineer completes the top portion of Caltrans' "Notice of Materials to be Used" form # CEM-3101 including not only the information listed, but also, includes the Resident Engineer's mailing address, phone number and Federal/State aid project number. The additional information is required so that the Caltrans' inspectors know where to send the inspection report.

17. Resident Engineer gives CEM-3101 to the contractor to fill out the bottom portion.

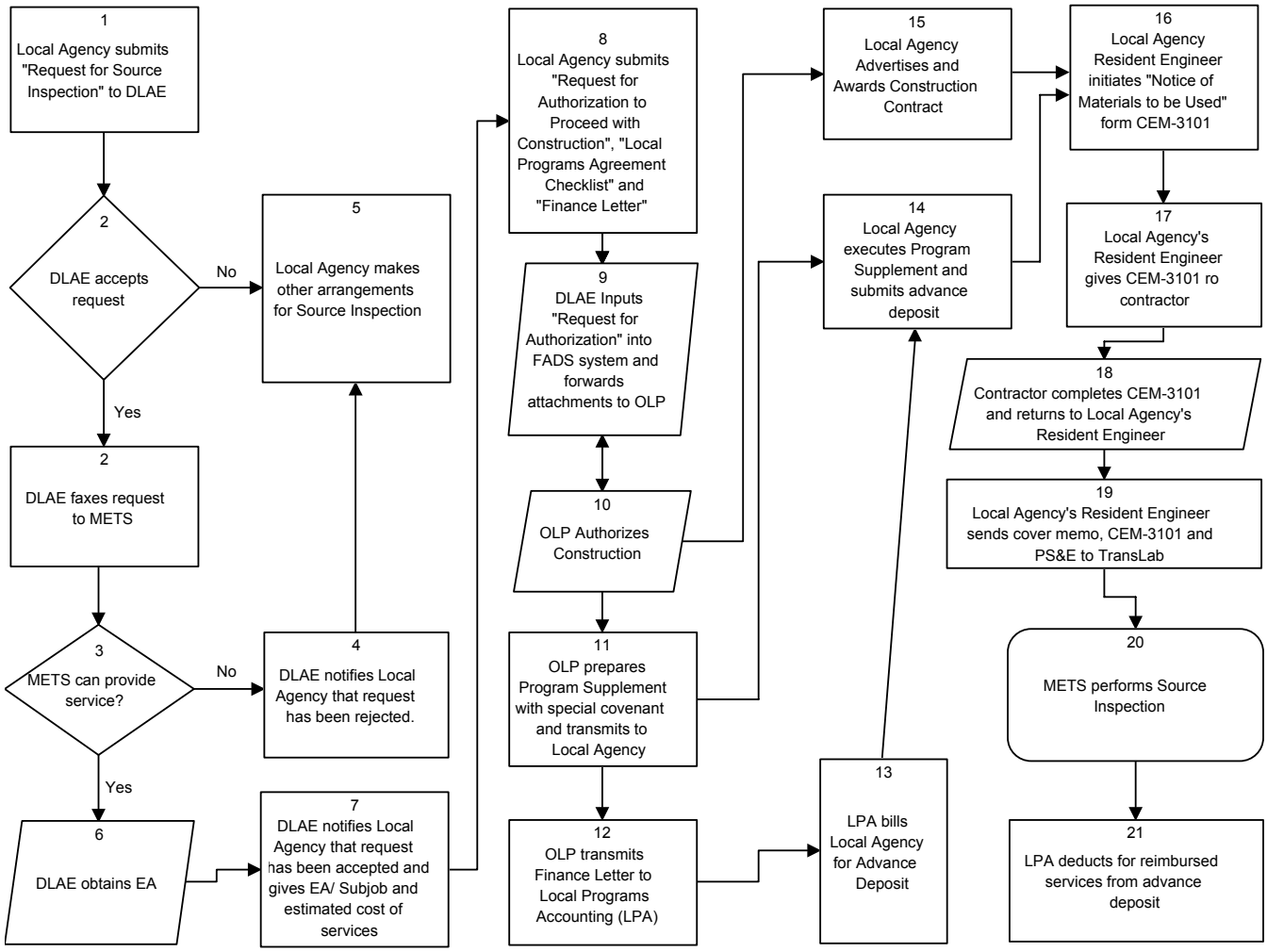
18. Contractor completes the bottom portion and returns CEM-3101 to the Resident Engineer.

19. Resident Engineer sends "Cover Memo" (see Exhibit 16-W), the CEM-3101 and one set of PS&E, to Rich Spring in Caltrans HQ Office of Materials Testing & Engineering Services, MS # 5, 5900 Folsom Blvd., Sacramento, CA 95819.

20. METS inspector performs source inspection, see Caltrans *Construction Manual,* Section 8-02-1 for the Source Inspection procedures.

21. LPA deducts reimbursed services from the advance deposit. After LPA deducts for the reimbursed services any remaining funds will be refunded to the local agency. Or, the local agency will be billed for any Caltrans' Source Inspection services provided that was not covered by the advance deposit.

Source Inspection Procedures



REPORTING TEST RESULTS

The following are goals for reporting material tests results to the Resident Engineer:

- When the aggregate is sampled at materials plants, test results for Sieve Analysis, Sand Equivalent and Cleanness Value should be submitted to the Resident Engineer within 24 hours after sampling.

- When materials are sampled at the job site, test results for compaction and maximum density should be submitted to the Resident Engineer within 24 hours after sampling.

- When soils and aggregates are sampled at the job site, test results for Sieve Analysis, Sand Equivalent and Cleanness Value should be submitted to the Resident Engineer within 72 hours after sampling.

- When soils and aggregates are sampled at the job site, test results for "R" Value and asphalt concrete extraction should be submitted to the Resident Engineer within 96 hours after sampling.

When sampling products such as Portland Cement Concrete (PCC), cement-treated base (CTB), asphalt concrete (AC), and other such materials, the time of such sampling shall be varied with respect to the time of day insofar as possible, in order to avoid a predictable sampling routine. The reporting of AT test results for tests not performed by the Resident Engineer staff shall be done on an expedited basis such as by fax or telephone.

INDEPENDENT ASSURANCE SAMPLING AND TESTING

The primary purposes of independent assurance samples and tests (IAST) are:

- To verify that project sampling and testing of materials is performed correctly (i.e., test the tester)
- To ensure that equipment is properly calibrated

NHS Projects

Independent assurance sampling and testing is mandatory for **all NHS projects**. Caltrans shall perform the IAST requirement. The local agency Resident Engineer shall schedule on a timely basis with the Caltrans Materials Engineer, the independent assurance testing of his/her personnel responsible for the acceptance testing on the project. The frequency of IAST tests to be performed or witnessed by the IAST personnel are listed in the *Quality Assurance Manual*.

Independent assurance samples are taken at random for the purpose of making independent checks on the reliability of the acceptance test results. Generally, acceptance sampling and testing personnel shall go to a central location to have IAST conducted. Both independent assurance test samples and acceptance test samples should be taken from the same point in the material delivery process, and normally are split samples for purposes of comparing test results between the IAST and field laboratory (acceptance) tester. IAST does not have to be performed on materials actually incorporated into the work. The tests, however, shall be performed while a project is active and the same AT tester and testing equipment shall be used for the project. The split sample is to be tested separately by the field laboratory person and by the IAST laboratory person using separate equipment. Independent assurance samples are to be tested on equipment that <u>is not</u> assigned to the project.

All sampling by independent assurance testing personnel must be identified as an independent assurance sample even when the number of IASTs may exceed the sampling schedule. Such identity must be maintained throughout the testing procedure. Independent assurance samples shall be kept under the direct control of the independent assurance sampler until they are shipped or delivered to the testing laboratory.

Acceptance tester results are compared with IAST results by the Caltrans District Materials Engineer. The local agency Resident Engineer is responsible to see that the frequency of IAST testing is conducted in accordance with the *Quality Assurance Program Manual*. The Caltrans District Materials Engineer is responsible for the resolution of testing differences and reporting results to the local agency Resident Engineer in a timely manner.

Poor correlation between acceptance testers' results and the independent assurance testers' results indicate probable deficiencies with the job quality acceptance sampling and testing procedures. Independent assurance samples and tests are not to be used for determining compliance with contract requirements. Such contract compliance is determined only by acceptance testing, as mentioned earlier under "Tests on Material Entering the Work." The frequency of IAST is described in the *Quality Assurance Program Manual*, Section 3-13, "Performing Independent Assurance Sampling and Testing Functions."

The following are the procedures to follow for IAST when performed on all NHS local agency contracts:

1. IAST is required for each federal-aid contract on the NHS. The Caltrans DLAE is responsible for assuring that there is a continual process in the district where the local agency Resident Engineer and the IAST testing laboratory are notified prior to the start of work. This is accomplished by forwarding a copy of the PS&E package to the District Materials Engineer for review and determination of the required IAST requirements. The IAST requirements are then sent to the DLAE on Form MR-0102, "Independent Assurance Sampling and Testing letter" (see Exhibit 16-E). The IAST requirements are determined from the *Quality Assurance Program Manual* and are recorded on either the "Report of Witness Test" (Form MR-0103), or the "Corroboration Report" (Form MR-0104). Results are retained in summary on the "Independent Assurance Sampling and Testing Log Summary" (Form MR-0110) (See *the Quality Assurance Program Manual*, Appendix C for examples of MR forms mentioned above). The frequency of IAST is specified in Table 1, "Frequency of Split Sample and Witness Tests" of the *Quality Assurance Program Manual*. The DLAE is responsible for assuring that acceptance testing and IAST activities are monitored by the local agency Resident Engineer during the construction phase of each federal-aid project on the NHS.

2. The local agency Resident Engineer is responsible for a timely notification of the appropriate Materials Laboratory when IAST is needed based on information from #1.

3. For Caltrans-administered local agency contracts, personnel from the District Materials Laboratory perform IAST. Caltrans Resident Engineers, construction laboratory personnel, or individually qualified consultant testers may perform IAST for federally-funded local agency projects. All personnel performing IAST shall possess an Independent Assurance Sampler Tester Certificate, (Form MR-0100). Consultants and their personnel must be free of conflict of interest for each project where they IAST. Consultant testers, when performing IAST duties, must be under direct Caltrans supervision. IAST personnel are to witness and record the sampling methods and tests performed by project personnel as specified in the *QAP Manual*. A copy of the completed Form MR-0103, "Report of Witness Tests" (Exhibit 16-F), shall to be kept in the Materials Engineers file

4. Independent assurance samples are to be tested on a priority basis. Independent assurance testing personnel are to promptly compare independent assurance test results with acceptance tests performed by project personnel. Acceptability for the purpose of satisfying independent assurance requirements rests solely with comparing test results, not on meeting contract requirements. The District Materials Engineer is responsible for resolving differences when IASTs results compare poorly with acceptance sampling and tests results. The District Materials Engineer shall immediately report the poor comparison results to the local agency Resident Engineer by telephone or fax. He/she shall also transmit to the local agency Resident Engineer, the "Corroboration Report" (Form MR-0104). A copy shall also be sent to the DLAE.

   The District Materials Engineer shall immediately initiate follow-up actions whenever poor comparisons are noted between IAST and AT results. Independent assurance testing personnel's follow-up actions may include further IAST, and the results (Forms MR-0103 and MR-0104 - Exhibits 16-F and 16-G, respectively) placed in the Resident Engineer's file, with a copy furnished to the Caltrans DLAE. The District Materials Engineer shall continue follow up actions until the discrepancies are resolved.

5. The appropriate Materials Laboratory shall retain the original "Independent Assurance Sampling and Testing Log Summary" (Exhibit 16-H). If a consultant IAST is used then a copy of the log summary for each acceptance tester shall be submitted to the local agency Resident Engineer upon project completion. This copy shall be retained in the construction project files.

   Note: The use of the following Caltrans forms for local agency projects is on an optional basis for reporting IAST activities and/or results, and information relating to IAST. The local agency or its consultant testing organization may use any similar form provided the forms contain the same information those listed below.

   - Exhibit 16-E - "Independent Assurance Sampling and Testing" letter (Form MR-0102)
   - Exhibit 16-F - "Report of Witness Tests" (Form MR-0103)
   - Exhibit 16-G - "Corroboration Report" (Form MR-0104)
   - Exhibit 16-H - "Independent Assurance Sampling and Testing Log Summary" (Form MR-0110)

Independent assurance testing is to be done in a manner that shall avoid needless duplication. The construction sampling and/or testing person may be working on several different construction projects concurrently, utilizing the same equipment during the same time period. When this is the case, it is not necessary to make independent assurance tests for all projects. Instead, the results can be incorporated into each appropriate project file to show that the sampler and/or tester has been performing the job correctly, and that the testing equipment is in proper working order.

In order to provide required documentation for multiple construction projects as described above, each independent assurance sampling or test result shall be entered into the IAST Log Summary for the person tested. This summary is retained by the IAST personnel and shall be readily available for future reference. Applicable contracts, sample identification numbers, and tests performed can be traced to the IAST Log Summary. Copies of the IAST log summary for each acceptance sampler and tester shall be provided to each affected Resident Engineer for inclusion in each Engineer's file.

Non-NHS Projects

The local agency shall use the IAST procedures described in their approved QAP. Individually-qualified local agency, or consultant testers may perform the work. Consultant testers used to perform IAST shall be free of conflicts of interest if also performing other acceptance testing work.

STATISTICAL QUALITY ASSURANCE

A means to improving quality as part of construction materials and processes has been developed utilizing statistical control as part of an overall management strategy. The goals, in addition to improving quality, include reducing life cycle costs, redirecting responsibility for quality control to the contractor, and reducing disputes.

The contractor is responsible for quality control, which is achieved through quality control/quality assurance (QC/QA) specifications, which include pay factors which are set to encourage quality. Pay factors are set to encourage production, placement and installation based on consistent test results within a narrow band within the specification ranges rather than widely variable results from a lack of quality control. QC/QA specifications provide for contractor testing which is independently verified, and payment is based on fulfillment of statistically based acceptance.

Caltrans' specifications for statistically based quality control/quality assurance have been developed for asphalt concrete. Refer to the Caltrans *Manual for Quality Control and Quality Assurance for Asphalt Concrete*, April 1996, for information.

FHWA SAMPLES AND TESTS

When federal funds are included in the financing of a project, a representative of the FHWA may select samples or sample locations. The sampling shall be done by Caltrans or local agency personnel as directed by the FHWA , and the samples thus obtained must be labeled as, "FHWA Check Samples," and sent for testing to either a Caltrans District Materials Laboratory or the Office of Materials Engineering and Testing Services. Copies of the check sample test results shall be sent to the FHWA, Caltrans District Director, Attention: District Local Assistance Engineer, and the local agency Resident Engineer.

RECORDS

All material records of samples and tests, material releases and certificates of compliance for a given project shall be incorporated into the Resident Engineer's project file. This file shall be organized as described in Section 16.8, "Project Files," of this chapter. The complete project file shall be available at a single location for inspection by Caltrans and FHWA personnel at any time during the construction project. The file shall be available at the local agency administrative office for at least three years following the date of final payment. The use of a "Summary Log," as described in "Tests on Materials Entering the Work" of this chapter, facilitates reviews of material sampling and testing by Caltrans and FHWA reviewing personnel, and assist the Resident Engineer in tracking the frequency of testing.

When two or more projects are being furnished materials simultaneously from a single plant, it is not be necessary to secure separate samples for each project; however, individual test reports are to be supplied to complete the records for each project.

PROJECT CERTIFICATION

Upon completion of the project a "Materials Certificate" shall be completed by the local agency Resident Engineer. The local agency shall include a "Materials Certificate" (see Chapter 17, "Project Completion," Exhibit 17-G) in the Report of Expenditures submitted to the Caltrans District Director, Attention: District Local Assistance Engineer. A copy of the "Materials Certificate" shall also be included in the local agency construction records. A Registered Engineer in charge of the construction function for the local agency shall sign the certificate. **All materials incorporated into the work which did not conform to specifications must be explained and justified on the "Materials Certificate," including changes by virtue of contract change order.**

FREQUENCY TABLES

The "Frequency Tables" (Exhibit 16-R) provide a guide for sampling and testing required for various materials and products. Close adherence to the sample size requirement avoids the unnecessary delay and expense of obtaining supplementary samples to complete the tests.

The frequency of sampling is intended as a guide under normal conditions. Material well within specifications and uniform in character may result in less frequent sampling and testing, whereas borderline materials may need an increase in the frequency of testing to assure specification compliance. Materials supplied from reliable sources and proven by frequent testing to be of uniform high quality, may subsequently receive less sampling and testing than indicated in the Frequency Testing Tables; however, any deviation from the prescribed frequency must be noted and explained in the material testing records. When materials are being furnished intermittently, with interruptions of several days or weeks, the frequency of sampling and testing should be increased to assure that specification materials are being incorporated into the work.

Whenever failures occur, sufficient additional acceptance tests should be taken to isolate the affected work. Documentation of the results of such additional tests shall be included in the records, including a description of the corrective measures taken.

The frequency of obtaining Independent Assurance sampling and performing the tests for projects on the NHS, shall be the minimum number required by the Caltrans *QAP Manual*. This assures that sampling and testing of materials by project personnel are reliable and that the quality of materials incorporated into the work meet specifications. For projects off the NHS, the local agency shall use the frequency described in their approved QAP.

The "Frequency Tables" include sampling required for process control (potential source) tests of various materials.

Relatively minor quantities of construction materials may be accepted without testing provided acceptance conforms to the conditions stated below in paragraphs l and 2. Generally, this provides for accepting minor quantities of materials from a commercial source that is known to be a supplier of specification material.

1. The Engineer, on the basis of a visual examination, may accept minor quantities of materials without testing provided the source of the supplies has recently furnished similar materials found to be satisfactory using normal sampling and testing requirements.
2. Acceptance of a product may be established on the basis of certification by the manufacturer or supplier that the material furnished complies with all specification requirements.

Documentation for acceptance of material as described in paragraphs l and 2 above must be provided and included in the project records. Documentation should include statements in the project inspector's reports that clearly indicate conditions under which the material was accepted (e.g., description, quantity, location, where placed, certification numbers and/or other accompanying data).

The following list suggests approximate maximum quantities of materials that may be accepted under the conditions indicated above:

- Aggregates other than for use in Portland Cement Concrete--not to exceed 100 tons per day nor more than 500 tons per project
- Bituminous mixtures--not to exceed 50 tons per day. Sample at Engineer's discretion if project total is less than 500 tons
- Bituminous material--not to exceed 100 gallons per project
- Paint--not to exceed 20 gallons per project. Acceptance to be based on weights and analysis on container
- Masonry items -- check dimensions of products for specification compliance and uniformity of manufacture
- Non-reinforced or clay pipe--not more than 100 lineal feet

16.15 CONTRACT CLAIMS

INTRODUCTION

This section applies to all federal-aid highway construction projects.

BACKGROUND

A claim is defined as a demand for additional compensation that is formally submitted to someone in the local agency above the level of direct project supervision. In simple terms, a demand is termed a claim once it goes beyond the local agency project staff level.

Both the local agency and the contractor share in the responsibility for claims. Many claims can be avoided if reviews of the contract documents are more-thorough, both in preparation of the project and in bidding the project. Problems often occur when agencies rush to let projects for bids with incomplete plans. Due to public pressure, local agencies sometimes promise to get work under construction or to open highways on some predetermined date. Also plans that were developed several years earlier can be especially dispute-prone because traffic patterns and other field conditions may have changed. Contractors can contribute to claims through ineffective project management, scheduling practices and substandard work.

CLAIMS AVOIDANCE

Some methods that can be included in the contract provisions to help reduce contract claims are listed below:

Partnering: See Section 16-4, "Pre-construction Conference and Partnering."

Alternative Dispute Resolution (ADR) Techniques: The use of ADR techniques allows fair-minded people to resolve their differences in a manner which emphasizes reasonableness and fairness. ADR does not mean turning responsibility for decisions on the project over to others (i.e., lawyers). The magnitude of dispute resolutions range from less hostile methods, such as, negotiation and increases up to heated argument. The methods vary by the assistance from outside sources and the amount of decision taken away from the disputing parties. These methods are negotiation, mediation, non-binding arbitration, disputes review board, mini-trial, binding arbitration, litigation.

Negotiation: Negotiation occurs when parties resolve the issues themselves, usually at the project level. However the local agency's administrative processes would also be considered as negotiation.

Mediation: Mediation consists of using a neutral party as a catalyst to depersonalize the dispute. The mediator provides assistance in resolving the dispute by narrowing and clarifying issues, however, the mediator does not decide the dispute. Mediation is normally non-binding.

Disputes Review Board: This method requires the creation of a standing committee of three persons which meets on a regular basis to review and resolve all project disputes before they become formal claims. Both parties choose a member who represents them and selects the third member. The operating procedures are described in the contract and the operating costs are shared by both parties. Written decisions are rendered by the board, however, the decisions are typically non-binding upon the parties.

Mini-Trial: Mini-Trials are more formal than mediation in that a dispute is treated as a business problem. Mini-Trials are conducted with the aid of Lawyers and experts

who present a summary of their "best case" to senior officials of the owner and the contractor. The senior officials settle the dispute with the aid of a neutral party.

Each party is represented by a principal participant with the authority to settle the dispute on behalf of the party he represents. The FHWA also has a representative at the mini-trial whom has the authority to approve any settlement reached by the parties. The mini-trial is chaired by a neutral advisor to be selected jointly by the parties. The neutral advisor performs a mediation function, enforces time limitations, asks questions of witnesses and, if necessary, issues an advisory opinion on the merits of the dispute. The presentations at the mini-trial are informal with the rules and procedures stated in the agreement. The mini-trial is conducted within a specific time frame.

Arbitration: Arbitration is a method under which decisions are made by one or three arbitrators, chosen by the parties, based on fact and law. Although decisions may or may not be binding and without appeal, in almost all cases, the arbitration decision is accepted by both parties. Usually, the only cases carried on to litigation are those that involve a point of law. Arbitration is permitted under the State Public Contract Code.

Specifications are available from Caltrans. For more information contact the DLAE.

FALSE STATEMENTS CONCERNING HIGHWAY PROJECTS

Applies to all federal-aid highway construction projects.

This provision is an anti-fraud statute originating from the federal-aid Road Act of 1916.

The making or use of false statements is a felony, punishable by fine of not more than $10,000, or imprisonment of not more than 5 years, or both. Making or using false claims for the purpose of obtaining payment against federal funds subjects violators to forfeiture of $2,000 for each violation.

This section specifically provides that "willful falsification, distortion, or misrepresentation with respect to any facts related to the project is a violation of federal law" and requires that the "false statements" poster, Form FHWA-1022, shall be posted on the project.

The local agency is to conduct investigations on complaints and review records that are potentially vulnerable to fraud. It is also the local agency's responsibility to furnish the prime contractor with the required poster (Form FHWA-1022) and to ensure that it is posted accordingly. These posters are normally available at the Caltrans District Offices.

CONTRACT PROVISIONS

All federal-aid projects shall include contract provisions containing administrative procedures for dealing with contractor claims. These procedures shall allow for the proper treatment of the following two conditions:

1) Protest and potential claims which have not been resolved during the progress of the work and which have been restated as claims with the return of the proposed final estimate.

2) Situations wherein the first notification of any problem is a claim submitted with the return of the proposed final estimate.

The contractor's claims procedure provisions contained in a local agency's Special Provision or Standard Specification shall not be bypassed or modified through the use of Change Orders.

"Notice of Potential Claim" (form DC-CEM-6201) is included as Exhibit 16-U for projects using Caltrans *Standard Specifications Section 9-1.04*.

CLAIMS PROCEDURES

Local agencies must diligently pursue the satisfactory resolution of claims within a reasonable period of time. Local agencies shall use the same procedures for resolution of contract claims on federal-aid projects as they use for their other transportation-related projects constructed without federal-aid funding. Claims procedures shall be included in a local agency's contract Special Provision or Standard Specifications. These provisions shall not be bypassed or modified through the use of Change Orders.

Caltrans *Construction Manual*, Section 2-70, "Protests Potential Claims and Claims - 1990" should be used for guidance by those local agencies using Caltrans Standard Specifications and Standard Special Provisions. Included are contract administration procedures for; (1) dealing with protests arising from change orders; (2) considering the merits of potential claims; (3) obtaining determinations from sources above the level of direct project supervision; and (4) the keeping of proper records, in order to have adequate information in the event of a contract claim. Local agencies are required to provide adequate supervision and inspection of each federal-aid construction project. The keeping of proper records is an important element of this requirement.

The local agency is not required to give advance notification to the DLAE or FHWA of the details of claims unless estimated defense and/or settlement costs would require an increase in the amount of federal funds authorized for the project.

Claims that involve difficult, complex, or novel legal issues should be brought to the attention of the DLAE. The DLAE will contact the FHWA for assistance if appropriate. The DLAE may provide limited engineering and administrative assistance in the claim defense, depending on the complexity and size of the claim, and the availability of Caltrans' staff resources.

FEDERAL-AID PARTICIPATION

The eligibility for and extent of federal-aid participation, up to the amount of federal funds authorized for the project, in a contract claim shall be determined by the local agency in *accordance with the following:*

(a) Contract claim defense costs which are directly allocable to a federal-aid project, but not including general administrative and other overhead costs, are reimbursable up to the federal statutory share. Such cost are reimbursable at the same participation rate as the related construction project.

(b) Federal funds will participate in contract claim awards to the extent that any contract adjustments made are supported, and have a basis in terms of the contract and applicable State law, as fairly construed. Further, the basis for the adjustment and contractor compensation shall be in accord with prevailing principles of public contract law.

(c) Federal funds can participate in interest associated with a claim if three conditions are met:

- The interest must be allowable by statute or specification
- The interest is not the result of delays caused by dilatory action of the local agency or contractor
- The interest rate does not exceed the rates provided for by statute or specification

(d) Acts of local agency employees involved in contract administration and contract plan preparation matters, which subsequently give rise to claims are reimbursable to the extent the actions are reasonable and within the standards of the profession. Federal funds will not participate if it has been determined that local agency employees, officers, or agents acted with gross negligence, or participated in intentional acts or omissions, fraud, or other acts not consistent with usual local agency practices in project design plan preparation or contract administration.

(e) Federal funds will not participate in such cost items as consequential or punitive damages, anticipated profit, or any award or payment of attorney's fees paid by a local agency to an opposing party in litigation; and in tort, inverse condemnation, or other claims erroneously styled as claims "under a contract."

(f) In those cases where the local agency receives an adverse decision in an amount more than the local agency can support prior to the decision or settles a claim in an amount more than the local agency can support, the contract claim award is eligible for federal-aid participation up to the appropriate federal matching share, to the extent that it involves a federal-aid participating portion of the contract, provided that:

- The DLAE was consulted and concurred in the proposed course of action
- All appropriate courses of action had been considered
- The local agency pursed the case diligently and in a professional manner

ADDITIONAL FUNDS

If contract claim defense and or award costs will exceed the amount of federal funds authorized for the project, the local agency should contact the DLAE for assistance. For regionally programmed federal-aid funds (RSTP, CMAQ, FCR, etc.) the RTPA or MPO must be involved in authorizing additional funds. For State discretionary funds (HBRR, Local Seismic, HES, etc.) the Division of Local Assistance will make the determination. Many of these programs may also require CTC approval for the additional funds. Caltrans *Local Assistance Program Guidelines* should be consulted for procedures for obtaining funding from the various local assistance funding programs.

Generally, the local agency must take action to settle the claims that are deemed to have merit first, and then initiate the request for the additional funds. However, if estimated claim defense costs alone will exceed available funds, approval for the additional claim defense costs may be obtained in advance, depending on the funding program. If approval is received, the DLAE will initiate authorization of the

additional federal funds upon receipt of a "Request for Authorization," and copies of a revised finance letter and detail estimate. It is important to note that while additional funds may be authorized and obligated, reimbursement of costs is still subject to the standards described in this manual.

Upon resolution of all contract claims, if additional federal funding is required, the DLAE will review the documentation and recommend the appropriate action depending on program constraints and the circumstances of the claim settlement. The adequacy of the local agency's project supervision and inspection, including the keeping of proper records, will be considered in this determination.

INVOICES

Claim defense costs are considered construction engineering if incurred before the final invoice and should be included in progress billing invoices prepared and submitted directly to Caltrans, Accounting Service Center (ASC) in Sacramento (see Chapter 5, "Accounting/Invoices"). These will be reviewed by the ASC and paid up to the limits of the project authorization.

Contract claim awards are billed as construction contract costs. These costs are usually not known until the final invoice is prepared. Claims awards costs are included in the Final Invoice, Final Detail Estimate, and reported on the CCO Summary. These documents are included in the mandatory Report of Expenditures submitted to the DLAE (see Chapter 17, "Project Completion"). Documentation of approvals from the appropriate fund manager for additional funds, if required, shall also be included in the Report of Expenditures.

Upon receipt of the Report of Expenditures, the DLAE will accept the local agency certification regarding the accuracy of the reported costs and approve payment after verifying the project was completed in accordance with the scope described in the project authorization.

DOCUMENTATION

The local agency shall document the determination of participation by setting forth in writing the legal and contractual basis for the claim, together with the cost data and other facts supporting the award or settlement. Federal-aid participation shall be supported by an audit of the contractor's actual costs unless; (1) the costs can be substantiated with project records; or (2) the audit would not be cost effective. Where difficult, complex, or novel legal issues appear in the claim, such that evaluation of legal controversies is critical to consideration of the award or settlement, the local agency shall include in its documentation a legal opinion from its counsel setting forth the basis for determining the extent of the liability under local law, with a level of detail commensurate with the magnitude and complexity of the issues involved.

All contract records must be retained by the local agency for a minimum period of three years from the date of final payment.

RECOVERY OF COMPENSATORY DAMAGES

In cases where local agencies affirmatively recover compensatory damages through contract claims, cross-claims, or counter claims from contractors, subcontractors, or their agents on projects on which there was federal-aid participation, the federal share of such recovery shall be equivalent to the federal share of the project or projects

involved. Such recovery shall be credited to the project or projects from which the claim or claims arose.

16.16 TRAFFIC SAFETY IN HIGHWAY AND STREET WORK ZONES

INTRODUCTION

The purpose of this section is to provide guidance and to establish procedures to ensure that adequate consideration is made for traffic safety in highway and street work zones, regarding motorists, pedestrians and construction workers on all federal-aid construction projects.

PROCEDURES

Each local agency shall develop and implement procedures consistent with the requirements of this section and Chapter 12, "PS&E," Section 12.6, "Plans," that shall contribute to the safety of motorists, pedestrians and construction workers on all federal-aid highway construction projects.

For each construction project, the local agency's procedures shall include, but not be limited to the following:

- Traffic Control Plan (TCP)

  1) A traffic control plan is a plan for handling traffic through a specific highway or street work zone or project. TCPs may range in scope from a very detailed plan designed solely for a specific project, to a reference to standard plans, or various manuals. The degree of detail in the TCP shall depend on the project complexity and traffic interference with construction activity.

  2) Traffic control plans shall be developed for all federal-aid projects and included in the plans, specifications and estimates (PS&Es).

  3) The scope of the TCP should be determined during the planning and design phases of a project.

  4) Provisions may be made to permit contractors to develop their own TCPs and use them if the local agency find that these plans are as good or better than those provided in the PS&E.

- Responsible Person

  The local agency shall designate a qualified person at the project level who shall have the primary responsibility and sufficient authority for assuring that the TCP and other safety aspects of the contract are effectively administered. While the project or resident engineer may have this responsibility, on large complex projects another person should be assigned at the project level to handle traffic control on a full-time basis. The person's name should be included in the "Resident Engineer Contract Administration Checklist" (see Chapter 15, Exhibit 15-B) if the resident engineer is not given this responsibility.

- Training

  All persons responsible for the development, design, implementation and inspection of traffic control shall be adequately trained.

- Accident Analysis

Local agencies should analyze construction and maintenance work site accidents for the purpose of correcting deficiencies which are found to exist on individual projects and to improve the content of future traffic control plans.

- Pay Items

  The method of payment for traffic control items should be described in the project specifications.

16.17 CONSTRUCTION ENGINEERING REVIEW BY THE STATE

On State administered projects the procedures outlined in the Caltrans *Construction Manual* shall be followed. On locally-administered projects the construction engineering of "Locally Administered" projects shall be reviewed as outlined in the "Process Reviews," Chapter 19. When structure (bridge) work is involved, the process review team shall include a representative from the Caltrans Engineering Service Center, Office of Structure Construction.

As part of the process review, a Caltrans review team will annually review randomly selected local agency projects throughout the State for assessing the effectiveness of their traffic control procedures. The results of this process review will be forwarded to the FHWA Division Administrator.

A final inspection of the work shall be made by the local agency. This inspection shall be prior to final completion and acceptance by the local agency and before project verification by Caltrans DLAE. For details on final inspection see Chapter 17, Section 17.3, "Final Inspection Procedures for federal-aid Projects."

16. 18 REFERENCES

18 USC 1020
23 CFR
29 CFR 5.7(b)
41 CFR 60
48 CFR Part 31 (provisions for contractor furnished equipment)
49 CFR
US DOT, FHWA, 1997 *Contract Administration Core Curriculum*
FHWA Technical Advisory, *Construction Contract Time Determination Procedures*, T 5080.15 - 10/11/91
California Department of Transportation Standard Specifications
California Public Contract Code Chapter 4
49 CFR part 23
Form FHWA 1273 Contract Provisions
State of California DOT, *Quality Assurance Program Manual*, July 1994
Caltrans *Construction Manual*
California Division of Industrial Safety - *Construction Safety Orders*
"An informational Guide on Occupational Safety" 1972 AASHTO publication
California Public Records Act (Government Code Section 6253)
California Information Practices Act (Civil Code Sections 1798, et seq.)
Federal Aid Programming Guide (NS 23 CFR 635A) (Materials and right of way delays)
Technical Advisories (TA): T 4540.1 Equipment Rental Rates

Washington State Department of Transportation, *Local Agency Guidelines*, Section 52.3 "Quality Control" - 1994
Department of Transportation Traffic Manual - January 1996

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Form CEM-2701 (Old HC-146)

FORM
CEM 2701
(REV. 7-79)

JOB
STAMP

WEEKLY STATEMENT OF WORKING DAYS

File Index No. 27
REPORT NO.
_____

To_____Contractor
The following statement shows the number of working days charged to your contract for the week ending _____ 19_____

Date	Day	Weather, Weather Conditions, or Other Conditions (Note 1)	Working Day	Non-Working Days Caused by Weather	Working Days No Work Done on Controlling Operation (Note 2)
	Mon.				
	Tu.				
	Wed.				
	Thur.				
	Fri.				
Days this week					
Days previously reported					
Total days to date					

TIME EXTENSIONS	CCO Numbers (Note 3)	Days Approved	
		CCO	Other
Days This Report			
Days Previously Reported			
Total days to date			

COMPUTATION OF EXTENDED DATE FOR COMPLETION	Number of Days	Numbered Day (Note 5)	Date
1. Date Contract approved by Attorney General			
2. Working days specified in contract			
3. COMPUTED DATE FOR COMPLETION (if all days specified are workable)			
4. Total time extension days approved to date (CCO plus other)			
5. Total non-working days to date (Note 4)			
6. Sub Total (Line 4 Plus Line 5)			
7. EXTENDED DATE FOR COMPLETION (Line 3 Plus Line 6)			
8. Revised Working days for contract (Line 2 Plus Line 4)			
9) Total working days to date			
10) WORKING DAYS REMAINING (line 8 minus line 9)			

Controlling Operation(s)

_____

_____

_____

REMARKS (Note 6) (Continues on reverse)

The Contractor will be allowed fifteen (15) days in which to protest in writing the correctness of the statement; otherwise the statement shall be deemed to have been accepted by the Contractor as correct. NOTE: All footnotes are on reverse side.

_____
Resident Engineer

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

Distribution: (1) Original-Contractor (2) Copy-local agency RE Project File

INSTRUCTIONS TO LOCAL AGENCY RESIDENT ENGINEER
for Form CEM-2701

Procedures:

l. When recording non working days due to weather, state the reason why the day is unworkable when the weather description itself does not adequately describe conditions. For example, "Clear -- wet grade" to describe conditions when the weather was clear, but the grade is too wet to work. Do not list days merely as "Unworkable."

2. Enter days on which no productive work has been performed on the controlling operation(s) for reasons other than weather.

3. List numbers of contract change orders providing for time extensions.

4. Do not include non working days which occur after expiration of the Extended DATE OF COMPLETION. On contracts that are overtime, the total under WORKING DAYS shall not be greater than the total of REVISED WORKING DAYS, (Line 8). After approved total of working days has been reached, continue recording working and non working days but do not add into the totals. Make statement under REMARKS that WORKING and NON WORKING days are shown for record only since the contract time has elapsed.

   If an extension of time is subsequently approved, determine the new Extended DATE by taking into account all non working DAYS.

5. Use the calendar issued by headquarters Construction with working days numbered for convenience in computations. Internet address: http://www.dot.ca.gov/hq/construc.

6. Time extensions are to be explained under REMARKS and the following information is to be included:

   (a) Cause of delay and specification reference under which approval was granted
   (b) Statement as to what controlling operation or operations are being delayed and to what extent
   (c) Dates for which the extension was granted
   (d) Reference to supporting data

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION FRONT

SUBCONTRACTING REQUEST

DC-CEM-1201 (REV. 4/94) (OLD HC-45) CT# 7541-3514-7

See Instructions On Back

		REQUEST NUMBER
CONTRACTOR NAME	**COUNTY**	**ROUTE**
BUSINESS ADDRESS	**CONTRACT NO.**	
CITY/STATE / **ZIP CODE**	**FEDERAL AID PROJECT NO. (From Special Provisions)**	

SUBCONTRACTOR (Name, Business Address, Phone)	BID ITEM NUMBER(S)	% OF BID ITEM SUBBED	CHECK IF: (See Categories Below) (1)	(2)	(3)	DESCRIBE WORK WHEN LESS THAN 100% OF WORK IS SUBBED	$ AMOUNT BASED ON BID $ AMOUNT

Categories: 1) Specialty 2) Listed Under Fair Practices Act 3) Certified DBE/MBE/WBE/DVBE

I Certify That:

- The Standard Provisions for labor set forth in the contract apply to the subcontracted work.
- If applicable, (Federal Aid Projects only) Section 14 (Federal Requirements) of the Special Provisions have been inserted in the subcontracts and shall be incorporated in any lower-tier subcontract. Written contracts have been executed for the above noted subcontracted work.

CONTRACTOR'S SIGNATURE	**DATE**

NOTE: This section is to be completed by the Resident Engineer

1. Total of bid items ..... $ _____
2. Specialty items (previously requested) ..... $ _____
3. Specialty items (this request) ..... $ _____
4. Total (lines 2+3) ..... $ _____
5. Contractor must perform with own forces (lines 1 minus 4) x_____% ..... $ _____
6. Bid items previously subcontracted ..... $ _____
7. Bid items subcontracted (this request) ..... $ _____
8. Total (lines 6+7) ..... $ _____
9. Balance of work Contractor to perform (lines 1 minus 8) ..... $ _____ $ _____

APPROVED

RESIDENT ENGINEER'S SIGNATURE	DATE

CEM-1201 (HC-46 REV. 4/94) COPY DISTRIBUTION: 1. Original - Contractor 2. Copy - local agency Resident Engineer 3. Copy - local agency Labor Compliance Officer 4. Contractor's Information Copy

Back

INSTRUCTIONS FOR COMPLETING SUBCONTRACTING REQUEST FORM

All First-tier subcontractors must be included on a subcontracting request.

Submit in accordance with Section 8-1.01 of the Standard Specifications. Type or print requested information. Information copy is to be retained by the contractor. Submit other copies to project's Resident Engineer. After approval, the original will be returned to the contractor.

When an entire item is subcontracted, the value to be shown is the contractor's bid price.

When a portion of an item is subcontracted, describe the portion, and show the % of bid item and value.

THIS FORM IS NOT TO BE USED FOR SUBSTITUTIONS.

Prior to submittal of a DC-CEM-1201 involving a replacement Subcontractor, submit a separate written request for approval to substitute a listed subcontractor. Section 4107 of the Government Code covers the conditions for substitution.

Submit a separate written request for approval of any DBE/MBE/WBE/DVBE substitution. Include appropriate backup information and state what efforts were made to accomplish the same dollar value of work by other certified DBE/MBE/WBE/DVBEs.

NOTE: For contractors who will be performing work on railroad property, it is necessary for the contractor to complete and submit the Certificate of Insurance (State Form DH-OS-A10A) naming the subcontractor as insured. *No work shall be allowed which involves encroachment on railroad property until the specified insurance has been approved.*

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

JOB STAMP

RESIDENT ENGINEER'S DAILY REPORT
ASST. RESIDENT ENGINEER'S DAILY REPORT

DC-CEM-4501 (OLD) HC-0010 REV 11/92 7541-3506-1

RESIDENT ENGINEER'S DAILY REPORT - FILE CAT. 45 ☐
ASST. RESIDENT ENGINEER'S DAILY REPORT - FILE CAT. 46 ☐

REPORT NO.	DATE: M T W T F S S (Circle day)
SHIFT HOUR: START STOP	TEMPERATURE; MIN. MAX.
WEATHER	

SIGNATURE	TITLE

CEM-4501 (HC-0010 REV. 11/92)

Note: See over for detailed Assistant Resident Engineers Daily Report

Distribution (All projects): Original local agency project file (field office) Reports covering extra work should be filed separately

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
Form HC-10A4 (Rev. 7/85)

Job Stamp

(Back)

Report No. _____
Date _____
M T W T F S Sun. Circle Day
Shift Hours Start _____ Stop _____

ASSISTANT RESIDENT ENGINEER'S DAILY REPORT
Location & Description of Operation

_____
_____
_____

EQUIPMENT AND/OR LABOR			HOURS - ITEM NO.								WEATHER
EQUIP. NO.	NO. MEN	DESCRIPTION (Of Equipment or Labor)								IDLE OR DOWN	REMARKS (Reason for Idleness or other remarks)

_____
_____
_____
_____
_____
_____
_____
_____
_____

_____
Signature **Title** 91 92184

Distribution (All projects): Original local agency project file (field office) Reports covering extra work should be filed separately

CALIFORNIA DEPARTMENT OF TRANSPORTATION

CERTIFICATE OF PROFICIENCY

In the Sampling and Testing of Construction Materials

This certifies that

_____

is qualified to perform the following tests:

CALIFORNIA TEST	DATE CERTIFIED BY	DATE RENEWED BY
202 Sieve Analysis		
217 Sand Equivalent		
226 Moisture Content		
227 Cleanness Value		
229 Durability Index		
231 Relative Compaction-Nuclear		
375 Relative Compaction of AC		
379 Asphalt Content-Nuclear		
504 Air entertainment in PCC		
518 Unit Weight-PCC		
523 Flexural Strength of PCC-Beams		
533 Kelly Ball penetration-PCC		
539 Sampling Fresh Concrete		
540 Fabricating PCC Cylinders		
___ _____		
___ _____		
___ _____		
___ _____		

_____ _____
District Materials Engineer **IAST Certificate #**

Certification expires three years from above dates.

Note: This certificate is valid as long as the Acceptance Tester complies with the applicable requirements of the Caltrans *Quality Assurance Program Manual.*

THIS FORM IS TO BE ON FILE AT THE DISTRICT MATERIALS LAB AND CONSTRUCTION OFFICES. A COPY OF THE MASTER LIST SHALL BE KEPT IN THE RESIDENT ENGINEERS PROJECT FILE.

MR - 0111 (1/93) (Old HC-1)

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CALIFORNIA DEPARTMENT OF TRANSPORTATION
INDEPENDENT ASSURANCE SAMPLING AND TESTING

MR-0102

Date _____ File: Category 39, Independent Assurance Tests

District _____ County _____ Route _____ P.M. _____

Contract No. _____ Federal No. _____

To: RESIDENT ENGINEER

This is to inform you that your contract requires INDEPENDENT ASSURANCE SAMPLING AND TESTING. The primary Independent Assurance Tester assigned to your project is _____ however, other materials personnel may be utilized.

We will sample, test and/or witness material being incorporated into this project as per the *Local Assistance Procedures Manual, Chapter 16, Construction Administration*, for Federal-aid Projects administered by local public agencies.

Personnel performing individual acceptance tests must be certified (Form MR-0111). Upon your request, we will provide certification for those persons.

The following bid items on your contract will require Independent Assurance Sampling and Testing:

We would appreciate your cooperation in contacting the District Materials Laboratory at phone _____, FAX # _____, at least _____ hours prior to any contractor operations requiring Independent Assurance Sampling and Testing.

Signed: _____
District Materials Engineer

Form MR -0102

Distribution:	NHS Projects:	Prepared by District Materials Engineer and sent to DLAE to forward to local agency Resident Engineer
	Non NHS Projects:	(Similar form) Prepared by local agency IAST and sent to local agency Resident Engineer

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CALIFORNIA DEPARTMENT OF TRANSPORTATION
REPORT OF WITNESS TESTS

Form: MR-0103 (New 4/90)

Date _____

File: Category 39, Independent Assurance Tests

District _____ County _____

Route _____ P.M. _____

Contract No. _____

Federal No. _____

Resident Engineer: _____

Contractor: _____

Test No. _____

Material Being Tested: _____

Test Procedure (No. and Title):

_____
_____
_____

Samples from:_____

Location of Source:

_____

Certificate of Proficiency
(Yes/No/Not Applicable)

Sampler/Tester: _____

RESULTS:

Were the sampling and testing procedures satisfactory?
Remarks:_____
_____
_____
_____
_____
_____
_____

Signed by
Witness: _____
Independent Assurance Sampler and Tester

MR-0103 (New 4/90)

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State of California - Department of Transportation
CORROBORATION REPORT
Form MR-0104 (Rev.6/94)

File: Materials Category 100

Instructions: Use this form to compare Split-Sample Test results (Acceptance Tester's test results of the Independent Assurance Sample and Tester)

NAME (Acceptance Tester)		Valid MR-0111 [ ] YES [ ] NO
DATE (When the split sample was presented to the Acceptance Tester)	DATE(when the Acceptance Tester's results were received by the IAST)	DATE (When the Independent Assurance Sampler's & Tester's results were completed.

CORROBORATION OF TEST RESULTS

	ACCEPTANCE TESTER (AT)		INDEPENDENT ASSURANCE SAMPLER & TESTER (AST)		CORROBORATION BETWEEN THE AT AND THE AST		
TEST PROCEDURE OR CALIFORNIA TEST NUMBER	TEST RESULTS	SAMPLE ID NUMBER	TEST RESULTS	SAMPLE ID NUMBER	GOOD	FAIR	POOR

(1) SUBSEQUENT ACTION TAKEN FOR POOR CORROBORATION (List all actions taken and follow-up tests performed. Attach copy of each test report. If no action was taken, document reason(s) for no action taken).

LAST NAME (Please print)	DISTRICT
SIGNATURE (Last)	AST CERTIFIED? [ ]YES [ ] NO
IF YES, AST CERTIFICATE NUMBER	REPORT DATE

FM93 1901 M

NOTE: ATTACH ALL TEST DATA (Form MR-0107)

APPENDIX C

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STATE OF CALIFORNIA • DEPARTMENT OF TRANSPORTATION

INDEPENDENT ASSURANCE SAMPLING AND TESTING LOG SUMMARY

TL-0110 (REV. 9/95)

FILE : MATERIALS CATEGORY 100

IAST LOG SUMMARY SHEET: *(Print Full Name of Acceptance Tester)*	DISTRICT

DATE	WITNESS OF TEST PROCEDURE *(Indicate Test Number)*	WITNESS OF MATERIALS SAMPLING *(Indicate Test Number)*	Did the Acceptance Tester successfully pass the Witness Test?	Was equipment in good working condition?	Did equipment have a current calibration sticker?	SPLIT-SAMPLE COMPARISON *(Check one)*	COMMENTS OR FOLLOW-UP ACTION
			☐Yes ☐No	☐Yes ☐No	☐Yes ☐No	☐Good ☐Fair ☐Poor	
			☐Yes ☐No	☐Yes ☐No	☐Yes ☐No	☐Good ☐Fair ☐Poor	
			☐Yes ☐No	☐Yes ☐No	☐Yes ☐No	☐Good ☐Fair ☐Poor	
			☐Yes ☐No	☐Yes ☐No	☐Yes ☐No	☐Good ☐Fair ☐Poor	
			☐Yes ☐No	☐Yes ☐No	☐Yes ☐No	☐Good ☐Fair ☐Poor	
			☐Yes ☐No	☐Yes ☐No	☐Yes ☐No	☐Good ☐Fair ☐Poor	
			☐Yes ☐No	☐Yes ☐No	☐Yes ☐No	☐Good ☐Fair ☐Poor	
			☐Yes ☐No	☐Yes ☐No	☐Yes ☐No	☐Good ☐Fair ☐Poor	
			☐Yes ☐No	☐Yes ☐No	☐Yes ☐No	☐Good ☐Fair ☐Poor	
			☐Yes ☐No	☐Yes ☐No	☐Yes ☐No	☐Good ☐Fair ☐Poor	
			☐Yes ☐No	☐Yes ☐No	☐Yes ☐No	☐Good ☐Fair ☐Poor	
			☐Yes ☐No	☐Yes ☐No	☐Yes ☐No	☐Good ☐Fair ☐Poor	
			☐Yes ☐No	☐Yes ☐No	☐Yes ☐No	☐Good ☐Fair ☐Poor	
			☐Yes ☐No	☐Yes ☐No	☐Yes ☐No	☐Good ☐Fair ☐Poor	
			☐Yes ☐No	☐Yes ☐No	☐Yes ☐No	☐Good ☐Fair ☐Poor	
			☐Yes ☐No	☐Yes ☐No	☐Yes ☐No	☐Good ☐Fair ☐Poor	
			☐Yes ☐No	☐Yes ☐No	☐Yes ☐No	☐Good ☐Fair ☐Poor	
			☐Yes ☐No	☐Yes ☐No	☐Yes ☐No	☐Good ☐Fair ☐Poor	

FM 93 1900 M

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FORM CEM-3101 (Old HC-30(REV3-81)

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
NOTICE OF MATERIALS TO BE USED

To: _____ Date: _____19_____
Resident Engineer

You are hereby notified that materials required for use under Contract No. _____

for construction of _____

_____

in Dist. _____, Co. _____, Rte. _____,
P.M._____

will be obtained from sources herein designated.

CONTRACT ITEM NO.	KIND OF MATERIAL	NAME AND ADDRESS WHERE MATERIAL CAN BE INSPECTED

It is requested that you arrange for sampling, testing and inspection of materials prior to delivery in accordance with Section 6 of the Standard Specifications where the same is practicable and in accord with your policy. It is understood that source inspection does not relieve me of the full responsibility for incorporating in the work materials that comply in all respects with the contract plans and specifications, nor does it preclude the subsequent rejection of materials found to be unsuitable.

Distribution:

White Office of Materials Engineering & Testing Services
5900 Folsom Blvd.
Sacramento, California 95819

Yellow Resident Engineer

Green Contractor's File

Blue District

Yours truly,

_____
Address

_____

Phone No. ( )_____ - _____

STATE OF CALIFORNIA • DEPARTMENT OF TRANSPORTATION

NOTICE OF MATERIALS TO BE USED

DC-CEM-3101 (OLD HC-30 REV. 10/92) 7541-3511-1

INSTRUCTIONS TO CONTRACTOR

Section 6 of the Standard Specifications states that, "Promptly after the approval of the Contract, the Contractor shall notify the Engineer of the proposed sources of supply of all materials to be furnished by him, using a form which will be supplied by the Engineer upon request."

In order to avoid delay in approval of materials, the Department of Transportation must receive notice as soon as possible.

Please comply with the following as closely as possible:

The Contract number and job limits should be the same as appears on the Special Provisions.

The column headed "Contract Item No." should show all the item numbers for which the material is to be used.

The column headed "Material Type" should be a description of the material and not necessarily the name of the contract item.

The column headed "Name and Address of Inspection Site" should be that of the actual source of supply and not subcontractor or jobber.

If the sources of all materials are not known at the beginning of a Contract, report those known. Supplemental "Notices of Materials to Be Used" should be submitted for the others as soon as possible thereafter. Do not delay submitting the original notice until all information is known.

All changes in kinds and/or sources of materials to be used should be reported on supplemental "Notices of Materials to Be Used" immediately.

Retain your copy and mail all other copies to the Resident Engineer.

Note: When placing orders for materials that required inspection prior to shipment, be sure to indicate on your order that State inspection is required.

CEM-3101 (OLD HC-30 REV 10/92)

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
MR-0608

NOTICE OF MATERIALS TO BE FURNISHED

To:	**Date:**
	From: Branch Office P. O. Box 19128 Sacramento, CA 95819
	Phone: (916) 227-7263
Contractor:	
On State Contract* **Dist.** * **Co.*** **Rte.** * **P.M.***	

has notified this department that your firm is to furnish the following materials:

This material is subject to our inspection and release before shipment is made; therefore, please notify this office as soon as manufacture or fabrication is proposed or as soon as sampling is required. **Sampling, tests and inspection will be made in accordance with Section 6 of the Standard Specifications.**

You are reminded that source inspection is random and does not relieve the contractor of the full responsibility of incorporating materials in the work that comply in all respects with the contract plans and specifications, nor does it preclude the subsequent rejection of materials found to be unsuitable.

Material shipped without proper release shall constitute sufficient reason for rejection.

Your cooperation in notifying us be telephone as much in advance of expected action as possible, so that we may arrange for inspection, sampling and testing will be appreciated.

Very Truly Yours,

ROY BUSHEY, Chief
Office of Materials Engineering
and Testing Services

By	
Title	Caltrans Sr. M&R Engineer / da
Resident Engineer	

* This information and contract item numbers should appear on all orders and invoices.

INSTRUCTIONS: Route Copies To:
SUPPLIER
RESIDENT ENGINEER
CONTRACT FILES

MR-0608 (old:TL-608) (Rev. 9/94)

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RE/ Br Rep
Contract file

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
OFFICE OF MATERIALS
ENGINEERING AND TESTING SERVICES

REPORT OF INSPECTION OF MATERIAL

Dist.: _____ **Co.:** _____ **Rte.:** _____ **P.M.:** _____

Contract No.: _____

F.A.P. No.: _____

Purchase Order: _____

Estimate (Requisition) No.: _____

Date Inspected: _____

The following material has been inspected in accordance with Section 6 of the Standard Specifications and found to substantially comply* with contract plans and specifications at the source which is

at _____

Lot Number	Quantity	Description of Material
H -		

Identification: _____ **Contractor** _____

Shipped to: JOBSITE

RESIDENT ENGINEER

Signed

NAME _____ _____
ADDRESS _____
CITY _____

***Based on random sampling, testing and inspection procedures. Subject to final inspection and acceptance by the Resident Engineer**

MR-0029 (old:TL-29) (Rev. 9/94)

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SAMPLE FEDERAL-AID INVOICE
Single-Phase EA
Two Appropriation Codes (33D and 33T)
(Letterhead of local agency)

Date of Invoice

(For Progress Invoice)
Department of Transportation
Accounting Service Center
Local Program Accounting Branch
Mail Station #33
P.O. Box 942874
Sacramento, CA 94274-0001

(For Final Invoice)
Name, District Director
Department of Transportation
Street or P. O. Box
City, CA Zip Code
Attention: ***Name***, Local Assistance Engineer

Billing No: ***1, 2, .., or Final***
Invoice No: ***local agency's Invoice No.***
Federal-aid Project No: ***Fund Abbr.-Route-(Job #)***
Tax Identification No: ***Agency IRS ID Number***
Date Accepted by City/County: ***Final Date :"Ongoing" (if not Final)***
Project Location: ***Project Limits***

Reimbursement for federal funds are claimed pursuant to Local Agency-State Agreement

No. ***Number***, Program Supplement No. ***Number***, executed on ***Date***.

	Preliminary Engineering	Construction Engineering	Construction Contract	Total 33D
Federal Appropriation Code	33D	33D	33D	
Expenditure Authorization No	969696	969696	969696	
Federal Authorization Date	06/30/94	01/02/95	01/02/95	
Federal participating costs from	07/05/94	01/30/95	02/15/95	
to	12/30/94	04/30/95	04/30/95	
Total Costs	$3,500.60	$8,400.30	$200,000.10	$211,901.00
Less: Retention			(20,000.00)	(20,000.00)
Non participating Costs	(350.00)	(840.00)	(16,000.00)	(17,190.00)
Subtotal	$3,150.60	$7,560.30	$164,000.10	$174,711.00
Plus: Payment of Previously Withheld Retention				
Federal Participating Costs to Date	$3,150.60	$7,560.30	$164,000.10	$174,711.00
Less: Participating Costs on Previous Invoice				88,495.62
Change in Participating Costs				$86,125.38
Reimbursement Ratio				88.53%
Amount This Claim				$76,326.47

	Construction Engineering	Construction Contract	Total 33T
Federal Appropriation Code	33T	33T	
Expenditure Authorization No	969696/30600	969696/30600	
Federal Authorization Date	01/02/95	01/02/95	
Federal participating costs from	01/30/95	02/15/95	
to	04/30/95	04/30/95	
Total Costs	$2,100.10	$50,000.00	$52,100.10
Less: Retention	(0.00)	(5,000.00)	(5,000.00)
Non participating Costs	(210.00)	(4,000.00)	(4,210.00)
Subtotal	$1,890.10	$41,000.00	$42,890.10
Plus: Payment of Previously Withheld Retention			
Federal Participating Costs To Date	$1,890.10	$41,000.00	$42,890.10
Less: Participating Costs on Previous Invoice			21,470.00
Change in Participating Cost			$21,420.10
Reimbursement Ratio			100.00%
Amount This Claim			$21,420.10
INVOICE TOTAL			$97,746.57

I certify that the work covered by this invoice has been completed in accordance with approved plans and specifications; the costs shown in this invoice are true and correct; and the amount claimed, including retention as reflected above, is due and payable in accordance with the terms of the agreement.

_____ _____

(Signature, Title and Unit of Local Agency Representative) ***(Phone No.)***

Note: When multiplying "Change in Participating Costs" by "Reimbursement Ratio", the result is be rounded to the lowest cent. Federal rules do not allow rounding up.

Distribution of Progress Invoice: (1) Original + two copies to Caltrans Local Programs Accounting (2) Copy-retained by local agency
Distribution of Final Invoice: (1) Original + 1 copy included in the Report of Expenditures sent to the Caltrans District Local Assistance Engineer (2) Copy-retained by local agency

NOTICE OF MATERIALS TO BE INSPECTED

DEPARTMENT OF TRANSPORTATION

To:	Date:			
	Dist.	Co.	Rte.	P.M.
	Contract Number		Federal Project Number	

Contractor:

Item #	Material	Source

NOTE: INSPECTION WILL NOT BE PERFORMED AT THE SOURCE. THE R.E. SHOULD INSPECT SAMPLE AT THE JOBSITE. ASSISTANCE WILL BE PROVIDED BY NEAREST SOURCE FACILITY.

Remarks:

Rich Spring -Sacramento 916-227-7263
Subhash Johar - Bay Area 510-601-1620
Hernando Morales - L.A. 213-620-3012

Route Copies to:
RE/BR Rep.
Contract File
Contractor Vendor

Office of Materials
and Testing

ROY BUSHEY, Chief

By: _____

Richard J. Spring/SMRE/da

MR-0028 (old:TL-28) (Rev.9/94)

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STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION
EMPLOYEE INTERVIEW: LABOR COMPLIANCE/EEO
HC-0031A(REV.4/91 CT#7541-3512-3

CONFIDENTIAL *This document contains personal information and pursuant to Civil Code 1798.21 it shall be kept confidential in order to protect against unauthorized disclosure*	CONTRACT # FEDERAL #

INSTRUCTIONS-(See Reverse Side)

1. TO BE FILLED IN BY INTERVIEWER (Data may be obtained from payroll records or during source document review

EMPLOYEE NAME		LABOR CLASSIFICATION
MINIMUM BASE WAGE PER CONTRACT:	Base Rate	FRINGE BENEFITS
MINIMUM BASE WAGE PER PAYROLL (if available):	Base Rate	FRINGE BENEFITS
EMPLOYER		PRIME CONTRACTOR ON THE PROJECT (If same, state so)
WORK BEING PERFORMED AT TIME OF INTERVIEW		
2. QUESTIONS TO BE ASKED OF EMPLOYEE		
A. HOW LONG HAVE YOU WORKED FOR YOUR PRESENT EMPLOYER?		**HOW LONG ON THIS PROJECT?**
B. DESCRIBE THE TYPE OF WORK YOU HAVE BEEN DOING THIS PAST WEEK?		
C. WHAT IS YOUR WAGE (Including Base Rate and Fringe Benefits (Compare to Payroll)		**DO YOU KEEP A RECORD OF HOURS WORKED?** ☐YES ☐NO
D. DO YOU WORK OVERTIME? ☐FREQUENTLY ☐SELDOM ☐NONE **ARE YOU PAID TIME AND ONE HALF FOR OVERTIME?** ☐YES ☐NO		**IF NO, EXPLAIN**
E. HAS YOUR EMPLOYER DIRECTED YOUR ATTENTION TO THE REQUIRED WAGE RATE POSTER ON THE PROJECT? ☐ YES ☐ NO	**HAVE YOU SEEN THESE POSTERS?** ☐YES ☐NO	**IF NO, EXPLAIN**
F. ARE YOU AWARE OF THE CONTRACTOR'S EEO POLICIES? ☐YES ☐NO	**DOES THE CONTRACTOR HOLD REGULAR EEO MEETINGS** ☐YES ☐NO	**HOW OFTEN?**
WHO CONDUCTS THE MEETINGS?	**WHO IS THE EEO OFFICER FOR YOUR EMPLOYER?**	**WHO IS THE EEO OFFICER FOR THIS PROJECT?**
G. ARE YOU INTERESTED IN/OR HAS YOUR EMPLOYER INFORMED YOU OF UPGRADING AND TRAINING POSSIBILITIES? ☐YES ☐NO		**IF YES, PLEASE EXPLAIN**
3. ADDITIONAL QUESTIONS FOR OWNER OPERATORS		
A. EQUIPMENT DESCRIPTION		**TRUCK LICENSE NO.** / **TRUCK (CAL-T)NO**
HOURLY RATE $_____ (Fully operated & Maintained)	**BASE EQUIPMENT RATE $_____**	**ON WHAT DO YOU BASE YOUR EQUIPMENT RENTAL RATE?** ☐ HOURLY ☐WEEKLY ☐MONTHLY
B. DO YOU OWN THE EQUIPMENT ☐YES ☐NO		**MAY I SEE YOUR CERTIFICATE OF OWNERSHIP? (Interviewer Note Response)** ☐YES ☐NO
LEGAL OWNER		**REGISTERED OWNER**
4. EMPLOYEE COMMENTS Do you have any comments or complaints about wages or EEO policies?		**5. INTERVIEWER'S COMMENTS**
INTERVIEWER'S SIGNATURE		**RESIDENT ENGINEER SIGNATURE**
DATE: _____		**DATE: _____**

Distribution: (1) Original - Local agency project files

STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION
EMPLOYEE INTERVIEW: LABOR COMPLIANCE/EEO
HC-0031B(REV.4/91 CT#7541-3512-3

DIRECTIONS TO INTERVIEWER

1. Fill in Section 1 from payroll records, if available, after interview
2. Fill in Section 2 completely. (does not apply to owner operators
3. Fill in Section 3 completely.
4. Employee comments optional in Section 4.
5. Interviewer comments on findings and recommendations
   further actions be taken. Attach additional sheets if necessary.

U.S. DEPARTMENT OF TRANSPORTATION

OMB NO. 2125-0019

FEDERAL HIGHWAY ADMINISTRATION

Local Agency Contract No.

Report For

FEDERAL-AID HIGHWAY CONSTRUCTION CONTRACTOR'S ANNUAL EEO REPORT

JULY ____ 200_

1. CHECK APPROPRIATE BLOCK	2. NAME AND ADDRESS OF FIRM	3. FEDERAL-AID PROJECT NUMBER	4. TYPE OF CONSTRUCTION
☐ Contractor ☐ Subcontractor			

5. COUNTY AND STATE	6. PERCENT COMPLETE	7. BEGINNING CONSTR. DATE	8. DOLLAR AMOUNT OF CONTRACT	9. ESTIMATED PEAK EMPLOYMENT	
				Month and Year (a)	Number of Employees (b)

10. EMPLOYMENT DATA

Table A **Table B**

JOB CATEGORIES	TOTAL EMPLOYEES		TOTAL MINORITIES		BLACK Not of Hispanic Origin		HISPANIC		AMERICAN INDIAN OR ALASKAN NATIVE		ASIAN OR PACIFIC ISLANDER		WHITE Not of Hispanic Origin		APPRENTICES		ON THE JOB TRAINEES	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
OFFICIALS (Managers)																		
SUPERVISORS																		
FOREMEN/WOMEN																		
CLERICAL																		
EQUIPMENT OPERATORS																		
MECHANICS																		
TRUCK DRIVERS																		
IRONWORKERS																		
CARPENTERS																		
CEMENT MASONS																		
ELECTRICIANS																		
PIPEFITTERS, PLUMBERS																		
PAINTERS																		
LABORERS, SEMI-SKILLED																		
LABORERS, UNSKILLED																		
TOTAL																		
Table C																		
APPRENTICES																		
ON THE JOB TRAINEES																		

11. PREPARED BY: (Signature and Title of Contractor's Representative) DATE

12. REVIEWED BY: (Signature and Title of Local Agency Official) DATE

Distribution: Prepared by the contractor and subcontractors and sent to the local agency (1) Original - Local agency project files (2) Copy - Caltrans District Local Assistance Engineer

Form FHWA-1391 (Rev. 3-92) **Electronic** PREVIOUS EDITIONS ARE OBSOLETE

LOCAL AGENCY CONTRACTORS AND SUBCONTRACTORS INSTRUCTIONS FOR COMPLETING FEDERAL HIGHWAY ADMINISTRATION 1391 FORM

The FHWA-1391 form shall be used to report the number of minority and non-minority employees by gender employed in each work classification on a Federal-aid Contract. The "Job Categories" column is used to identify work classification. When identifying work classification use only the categories listed on the form. Miscellaneous job categories are to be incorporated in the most appropriate category listed on the form.

WHO MUST REPORT:

Each prime contractor and subcontractor, regardless of tier, who has a Federal-aid Contract exceeding $10,000.

REPORT DATA:

Each contractor is to collect data of the number of project personnel who worked all or any part of the last full week of July. Contractors who do not perform any work during the last full week of July must write "Not Applicable" across the form, sign, date and return.

DUE DATE:

Due on or before the 15th of August.

DEFINITION OF TERMS:

OFFICIALS (Managers): Officers, project engineers, superintendents, etc., who have management level responsibility and authority.

SUPERVISORS: All levels of project supervision, if any, between management and foremen levels.

FOREMEN/WOMEN: Men and women in direct charge of crafts workers and laborers performing work on the project.

MECHANICS: Equipment service and maintenance personnel.

LABORERS, SEMI-SKILLED: All laborers classified by specialized type of work.

LABORERS, UNSKILLED: All Non-classified laborers.

OTHERS: Miscellaneous job classifications are to be incorporated in the most appropriate category listed on the form. All employees on the project should be accounted for.

BLOCK ENTRIES

(1) CHECK APPROPRIATE BLOCK – Check only one box.

(2) NAME AND ADDRESS OF FIRM – Enter the firm's name, street address, city, town, state and zip code. Do not abbreviate.

(3) FEDERAL-AID PROJECT NUMBER – Enter all Federal-aid project number(s) associated with the contract number. (If you are a subcontractor and do not know the Federal-aid project number, contact the prime contractor).

(4) TYPE OF CONSTRUCTION – Enter type of work associated with the contract number. (If you are a subcontractor and do not know the type of construction, contact the prime contractor).

(5) COUNTY AND STATE – Enter all county(ies) and state(s) associated with the contract number. (If you are a subcontractor and do not know the county(ies) and state(s), contact the prime contractor).

(6) PERCENT COMPLETE – Enter percentage completed, based on the dollar amount of the contract completed.

(7) BEGINNING CONSTR. DATE – Enter date construction began.

(8) DOLLAR AMOUNT OF CONTRACT – Enter dollar amount of contract, including amended amounts.

(9) ESTIMATED PEAK EMPLOYMENT –

(a) Month and Year – Enter month and year of peak employment during the life cycle of the contract.
(b) Number of Employees – Enter number of employees, based on the peak employment during the life of the contract.

(10) EMPLOYMENT DATA –
(Table A) – Enter number of employee(s) based on race, gender and job category during the reporting period.
(Table B) – Enter number of apprentice(s) and on-the-job trainee(s) based on gender and job category during the reporting period.
(Table C) – Enter number of apprentice(s) and on-the-job trainee(s) based on race and gender during the reporting period.

(11) PREPARED BY – Signature and Title of Contractor's Representative certifying the reported data to be true.

(12) REVIEWED BY – Signature and Title of Local Agency Official reviewing data.

Note: Include contract number in the block located at the top of the form.

Distribution: Prepared by the contractor and subcontractors and sent to the local agency. (1) Original – Local agency project files (2) Copy – Caltrans Local Assistance District Engineer

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U. S. DEPARTMENT OF LABOR
OFFICE OF FEDERAL CONTRACT COMPLIANCE PROGRAMS
EMPLOYMENT STANDARDS ADMINISTRATION

OFCCP OFFICES WITHIN CALIFORNIA

Ms. Andrea A. Brown
District Director
Los Angeles Dirstrict Office
OFCCP / ESA
U. S. Department of Labor
11000 Wilshire Blvd. Suite 8103
Los Angeles, CA 90024
Phone No. (310) 235-6800

Mr. Hector Sanchez
Area Director
Santa Ana Area Office
OFCCP / ESA
U. S. Department of Labor
34 Civic Center Plaza, Suite 406
Santa Ana, CA 92701-2800
Phone No. (714) 836-2784

Mr. Emilio Lopez
District Director
San Diego District Office
OFCCP / ESA
U. S. Department of Labor
5675 Ruffin Road, Suite 320
San Diego, CA 92123-5378
Phone No. (619) 557-6489

Mr. Woody Gilliland
Regional Director
San Francisco Regional Office
OFCCP / ESA
U. S. Department of Labor
71 Stevenson Street, Suite 1700
San Francisco, CA 94105
Phone No. (415) 848-6969

Mr. Angel G. Luevano
District Director
Oakland District Office
OFCCP / ESA
U. S. Department of Labor
1301 Clay Street, Suite 1080N
Oakland, CA 94612-5217
Phone No. (510) 637-2938

Ms. Alice V. Young
District Director
San Jose District Office
OFCCP / ESA
U. S. Department of Labor
60 South Market, Suite 410
San Jose, CA 95113-2328
Phone No. (408) 291-7384

or contact the Federal Information Center at (800) 688-9889 for other OFCCP office information.

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SIZE, FREQUENCY AND LOCATION OF SAMPLING AND TESTING TABLES

PORTLAND CEMENT CONCRETE (6) - PAVEMENT

MATERIAL OR PRODUCT		TEST FOR	TEST NO.	SAMPLE SIZE & CONTAINER TYPE	POTENTIAL SOURCE TESTS LOCATION OR TIME OF SAMPLING	ACCEPTANCE TESTS FREQUENCY OF SAMPLING	LOCATION OR TIME OF SAMPLING	REMARKS
AGGREGATE	COARSE AGGREGATE	LA Rattler (500) Rev.) 6 Cleanness value	211 227	See Note (3)	See Note (2)	1 for every 500 cu. yds. 1 per day min. See Notes (1)(7). If production is less than 300 cu. yds, 1 per accumulative 300 cu. yds.	One of the following locations listed in order of preference: a. Belt from weigh hopper to central or transit mixer. b. Belt which feeds batch plant bins immediately preceding the weigh hopper. c. Discharge gate of weigh hopper. A single sample 400+ lbs. into loader or dump truck; split to test portion required for grading analysis. d. Discharge gates of bins feeding the weigh hopper at batch plant	Recommend 1 acceptance test per day if 3 consecutive tests over 80
	FINE AGGREGATE	Colometric Test Mortar Strength Sand Equivalent Durability	213 515 217 229	See Note (3)	See Note (2)	Only if initial test shows critical or contamination is suspected 1 for every 500 cu. yds. See Notes (1) (7). If production is less than 300 cu. yds., 1 per accumulative 300 cu. yds.	The location and method of sampling are to be determined and agreed upon by the engineer and the contractor. Once selected, the location and method of sampling are not to be changed during the life of a project, or so long as there is no change in plant's configuration or operation.	Recommend 1 acceptance Test per day if 3 consecutive tests over 80
	COARSE & FINE AGGREGATE	Specific gravity & absorption Soundness Sieve Analysis Freeze-Thaw Moisture	206 & 207 214 202 528 223 &/ or 226	See Note (3) See Note (4)	See Note (2) Non See Note (5) None	When aggregate changed. See Note 7 1 for every 500 cu. yds. 1 per day min. See Notes (1)(7). If production less than 300 cu. Yds, 1 per accumulative 300 cu. yd. 1 for every 500 cu. yds. 1 per day min. See Notes (1) (7). If production less than 300 cu. Yds, 1 per accumulative 300 cu. yd.	Same as Fine Aggregate (above) Same Fine Aggregate (above) Same Fine Aggregate (above)	Sample must be in an airtight container
CEMENT		Compliance w/Std. Specs. & Special Provisions		8 lb.	None with Certificate of Compliance (See REMARKS.)	1 for every 500 cu. yds. 1 per min. See Notes (1)(7). If production is less than 300 cu. yds, 1 per accumulative 300 cu. yd.	Weigh hopper or in the feed line immediately in advance of the hopper	If no Certificate of Compliance, sample at least 14 days prior to use for previously tested brands, 35 days for untested brands.
WATER		Compliance with Sec. 90 of Std. Specs. & Special Provisions	405	Clean 1/2 gallon plastic jug with lined sealed lid	At point of use (See REMARKS)KS)	As required for acceptance (See REMARKS)	At point of use	City water supplies for domestic use usually need not be tested unless suspected of high chloride or sulfate content. On-the-job wells are to be tested.

ADMIXTURES	Air Entraining Agent	Air entraining properties, chloride identification	ASTM C 260	1-quart can or plastic bottle of liquid, 2 lbs. of powder	Samples must reach testing lab at least 1 week prior to use.	As required for information	Sample must reach testing lab at least 1 week prior to use	
	Water Reducers Set Retarders	Claimed properties, chloride identification	ASTM C 494	1-quart can of liquid, 2 lbs. of powder	Samples must reach Testing lab at least 1 week prior to use. Untested brands require 5 weeks prior to use.	As new supplies arrive on the job or each time brand is changed.	Samples must reach testing lab at least 1 week prior to use. Untested brands require 5 weeks prior to use.	
CONCRETE		Yield	518	See test method See Note (8)		One for each 4 hours production	At point it is deposited on the grade	If yield test used for payment, 1 per each 1,500 cu. yds.; min. of 2 per mix design per job.
		Ball Penetration	533			When test specimen is fabricated & when consistency or uniformity is questionable. Min. 2 per day	At point concrete is deposited in the work and from different portions of the batch to check uniformity.	
		Modules of rupture	523	1 set of 3 beams 6" x 6" x 34" each	See California Test 539	One set for each 4,000 cubic yards	See California Test 539	Recommend min. 2 sets per shift. Normally, from each set, break 1 beam at 7 days, 1 beam at 10 days, and 3rd beam as required 50% decrease after 10 sets.
		Air Content	504	Approx. 1/2 cubic foot		As required for information; min. once every 4 hours. Each time 518 is performed.	At point deposited on the grade.	Where specified for freeze thaw resistance, acceptance testing shall not be less than once every hour.
		Coarse agg. per cu. ft. of concrete	529			As required to assure uniformity of concrete. See Std. Specs., Section 90	1st and last 4th of batch	
		Dimensions				As required for information. See Std. Specs. Section 40		
PIGMENTED CURING COMPOUND		Compliance (See Std. Specs. & Special Prov.)		1 Quart (Can)		As new shipments arrive on job or each time brand is changed	From spray nozzle or feed line at point of field application.	

Note:

(1) Not required if P.C. from same source is being used on other work and test is being made there. No need to duplicate the test just for the sake of record. The actual test results may be used anywhere they are applicable.
(2) From material site or stockpile; 60 days prior to use.
(3) 150# of 2 1/2" x 1 1/2 - 100# of 1 1/2 x 3/4 - 75# of 3/4" x No. 4-75# of pea gravel -50# of sand. This material for test numbers 202, 206, 207, 211, 213, 214, 217, 227, 229 and 515.
(4) See California Test No. 528 or contact the Division of New Technology, Materials and Research.
(5) Contact District Materials Engineer for special sampling procedures at least 120 calendar days before intended use.
(6) For lightweight concrete, see Standard Specifications and Special Provisions.
(7) When prior test results are acceptable and material appears to be of uniform composition, a max. of 2 tests per day will satisfy acceptance test requirements for this material. Adjustments to testing frequencies shall be documented in the project files.
(8) No deductions for cement content will be made based on the results of California test 518.

PORTLAND CEMENT CONCRETE (6) - BRIDGES & MAJOR STRUCTURES (R.C.B., P.C.C. Arch Culverts, Retaining Walls)

					POTENTIAL SOURCE TESTS	ACCEPTANCE TESTS		
MATERIAL OR PRODUCT		TEST FOR	TEST NO.	SAMPLE SIZE & CONTAINER TYPE	LOCATION OR TIME OF SAMPLING	FREQUENCY OF SAMPLING	LOCATION OR TIME OF SAMPLING	REMARKS
AGGREGATE	COARSE AGGREGATE	LA Rattler (500) Rev.) Cleanness Value	211 227	See Note (3)	See Note (2)	1 for every 500 cu. yds. 1 per day min. See Notes (1)(7). If production is less than 300 cu. yds, 1 per accumulative 300 cu. yds.	One of the following locations listed in order of preference: a. Belt from weigh hopper to central or transit mixer. b. Belt which feeds batch plant bins immediately preceding the weigh hopper. c. Discharge gate of weigh hopper. A single sample 400+ lbs. into loader or dump truck; split to test portion required for grading analysis. d. Discharge gates of bins feeding the weigh hopper at batch plant	Recommend 1 acceptance test per day if 3 consecutive tests over 80
	FINE AGGREGATE	Colometric test Mortar Strength Sand Equivalent Durability	213 515 217 229	See Note (3)	See Note (2)	Only if initial test shows critical or contamination is suspected 1 for every 500 cu. yds. See Notes (1) (7). If production is less than 300 cu. yds., 1 per accumulative 300 cu. yds.	The location and method of sampling are to be determined and agreed upon by the engineer and the contractor. Once selected, the location and method of sampling are not to be changed during the life of a project, or so long as there is no change in plant's configuration or operation.	Recommend 1 acceptance test per day if 3 consecutive tests over 80
	COARSE & FINE AGGREGATE	Specific gravity & absorption Soundness Sieve Analysis Freeze-Thaw Moisture	206 & 207 214 202 528 223 &/ or 226	See Note (3) See Note (4)	See Note (2) See Note (5) None	When aggregate changed. See Note (7) 1 for every 500 cu. yds. 1 per day min. See Notes (1)(7). If production less than 300 cu. yds, 1 per accumulative 300 cu. yd. or every 500 cu. yds. 1 per day min. See Note (7). If production less than 300 cu. yds, 1 p umulative 300 cu. yd.	As per potential source list Same Fine Aggregate (above) Same Fine Aggregate (above)	Sample must be in an airtight container
CEMENT		Compliance w/Std. Specs. & Special Provisions		8 lb.	None with Certificate of Compliance (See REMARKS.)	1 for every 500 cu. yds. 1 per min. See Notes (1)(7). If production is less than 300 cu. yds, 1 per accumulative 300 cu. yd.	Weigh hopper or in the feed line immediately in advance of the hopper	If no Certificate of Compliance, sample at least 14 days prior to use for previously tested brands, 35 days for untested brands.
WATER		Compliance with Sec. 90 of Std. Specs. & Special Provisions	405	1/2 gallon plastic jug with lined sealed lid	At point of use (See REMARKS.)	As required for acceptance (See REMARKS)	At point of use	City water supplies for domestic use need not be tested unless suspected of high chloride or sulfate content. On-the-job wells are to be tested.

ADMIXTURES	Air Entraining Agent	Air entraining properties, chloride identification	ASTM C 260	1-quart can or plastic bottle of liquid, 2 lbs. of powder	Samples must reach testing lab at least 1 wk prior to use.	As required for information	Sample must reach testing lab at least 1 week prior to use	Check with DNTM&R for brands which may be used prior to sampling and testing when properly certified
	Water Reducers Set Retarder	Claimed properties, chloride identification	ASTM C 494	1-quart can of liquid, 2 lbs. of powder	Samples must reach testing lab at least 1 wk prior to use. Untested brands require 5 wks prior to use.	As new supplies arrive on the job or each time brand is changed.	Samples must reach testing lab at least 1 week prior to use. Untested brands require 5 weeks prior to use.	
CONCRETE		Yield	518	Approx. 1 cu. ft. See Note (8)	See California Test 539	As necessary to assure accuracy of mix design; min. 2 per each mix design	At point it is deposited in the work	
		Ball Penetration	533			When test specimen is fabricated & when consistency or uniformity is questionable. Min. 2 per day	At point concrete is deposited in the work and from different portion of the batch to check uniformity	
		Compressive Strength	539 & 540	1 set of 2-6" x 12" cylinders for each test age		1 set for approx. every 300 cu. yds. concrete or as required for acceptance. Min. 1 set per job & class of concrete for each days production.	At point deposited in the work	For trial batches, see Std. Specs. or job Special Provisions and Section 8-03 of this manual.
		Air Content	504			A Min. once every 4 hours of production and when test specimens are fabricated	At point deposited on the grade.	Where air is specified for freeze-thaw resistance, a min. of 1 per each 30 cu. yds.
		Coarse agg. per cu. ft· of concrete	529			As required to assure uniformity of concrete. See Std. Specs., Section 90	1st and last 4th of batch	
		Dimensions				As required for information. See Std. Specs. Sec. 40		
PRESTRESSED TENDON GROUT		Efflux time	541	1-6" x 12" cylinder mold can	From batch immediately after mixing for prequalification; thereafter from outlet end of tendon &/or storage tank.	At the start of each day's work and thereafter 1 test per each 5% of ducts		Repeat acceptance tests whenever source of material is changed
PIGMENTED CURING COMPOUND		Compliance (See Std. Specs. & Special Prov.)		1 Quart (Can)		Periodically to ensure compliance	From storage drums	For chlorinated rubber base type, sample and test if not previously inspected at the source.

Note:
(1) Not required if P.C. from same source is being used on other work and test is being made there. No need to duplicate the test just for the sake of record. The actual test results may be used anywhere they are applicable.
(2) From material site or stockpile; 60 days prior to use.
(3) 150# of 2 1/2 x 1 1/2"-100# of 1 1/2 x 3/4 - 75# of 3/4" x No. 4-75# of pea gravel -50# of sand. This material for test numbers 202, 206, 207, 211, 213, 214, 217, 227, 229 and 515.
(4) See California Test 528 or contact the Division of New Technology, Materials and Research.
(5) Contact District Materials Engineer for special sampling procedures at least 120 calendar days before intended use.
(6) For lightweight concrete, see Standard Specifications and Special Provisions.
(7) When prior test results are acceptable and material appears to be of uniform composition, a max. of 2 tests per day will satisfy acceptance test requirements for this material. Adjustments to testing frequencies shall be documented in the project files.
(8) No deductions for cement content will be made based on the results of California Test 518.

PORTLAND CEMENT CONCRETE MISCELLANEOUS CONCRETE
See Notes (6) and (9)

MATERIAL OR PRODUCT		TEST FOR	TEST NO.	SAMPLE SIZE & CONTAINER TYPE	POTENTIAL SOURCE TESTS LOCATION OR TIME OF SAMPLING	ACCEPTANCE TESTS FREQUENCY OF SAMPLING	LOCATION OR TIME OF SAMPLING	REMARKS
AGGREGATE	COARSE AGGREGATE	LA Rattler (500) Rev.) Cleanness Value	211 227	See Note (3)	See Note (2)	1 for every 500 cu. yds. 1 per day min. See Notes (1)(7). If production is less than 300 cu. yds, 1 per accumulative 300 cu. yds.	One of the following locations listed in order of preference: a. Belt from weigh hopper to central or transit mixer. b. Belt which feeds batch plant bins immediately preceding the weigh hopper. c. Discharge gate of weigh hopper. A single sample 400+ lbs. into loader or dump truck; split to test portion required for grading analysis. d. Discharge gates of bins feeding the weigh hopper at batch plant	Recommend 1 acceptance test per day if 3 consecutive tests over 80
	FINE AGGREGATE	Colometric Test Mortar Strength Sand Equivalent Durability	213 515 217 229	See Note (3)	See Note (2)	Only if initial test shows critical or contamination is suspected 1 for every 500 cu. yds. See Notes (1) (7). If production is less than 300 cu. yds., 1 per accumulative 300 cu. yds.	The location and method of sampling are to be determined and agreed upon by the engineer and the contractor. Once selected, the location and method of sampling are not to be changed during the life of a project, or so long as there is no change in plant's configuration or operation.	Recommend 1 acceptance test per day if 3 consecutive tests over 80
	COARSE & FINE AGGREGATE	Specific gravity & absorption Soundness Sieve Analysis Freeze-Thaw Moisture	206 & 207 214 202 528 223 &/ or 226	See Note (3) See Note (4)	See Note (2) See Note (5) None	When aggregate changed. 1 for every 500 cu. yds. 1 per day min. See Notes (1)(7). If production less than 300 cu. yds, 1 per accumulative 300 cu. yd. 1 for every 500 cu. yds. 1 per day min. See Notes (1) (7). If production less than 300 cu. yds, 1 per accumulative 300 cu. yd.	Same as Fine Aggregate (above)	
CEMENT (6)		Compliance w/Std. Specs. & Special Provisions		8 lb.	None with Certificate of Compliance (See REMARKS.)	1 for each 500 cu. yds. used. I per day min.: 2 per day max. See Note (1). See Section 8-02 of this Construction Manual	From weigh hopper, screw leading to weigh hopper	If no Certificate of Compliance, sample at least 14 days prior to use for previously tested brands, 35 days for untested brands.
WATER		Compliance with Sec. 90 of Std. Specs. & Special Provisions	405	1/2 gallon plastic jug with lined sealed lid	At point of use (See REMARKS.)	As required for acceptance (See REMARKS.)	At point of use	City water supplies for domestic use usually need not be tested unless suspected of high chloride or sulfate content. On-the-job wells are to be tested.

ADMIXTURES	Air Entraining Agent	Air entraining properties, chloride identification	ASTM C 260	1-quart can or plastic bottle of liquid, 2 lbs. of powder	Samples must reach testing lab at least 1 week prior to use.	As required for information	Samples must reach testing lab at least 1 week prior to use.	Check with DNTM&R for brands which may be used prior to sampling and testing when properly certified.
	Water Reducers Set Retarder	Claimed properties, chloride identification	ASTM C 494	1-quart can of liquid, 2 lbs. of powder	Samples must reach Testing lab at least 1 week prior to use. Untested brands require 5 weeks prior to use.	When new lots are to be used.	Samples must reach testing lab at least 1 week prior to use. Untested brands require 5 weeks prior to use.	
COMBINED MIX (6)		Yield Cement Factor	518	See test method See Note (8)		As necessary to assure accuracy of mix design	At point concrete is deposited in the work from different portions of the batch to check uniformity	If yield test used for payment, 1 per each 1,500 cu. yds.; min. of 2 per mix design per job.
		Ball Penetration	533			When test specimen is fabricated & when consistency or uniformity is questionable. Min. 2 per day		
		Compressive Strength	539 & 540	1 set of 2-6" x 12 cylinders		One set for each day when volume exceeds 25 cu. yd. (1) None if total days run less than 25 cu. yds.	At point deposited in work	
		Entrained Air	504	Approx. 1/2 cubic foot		As required for information	At point concrete is deposited in work	

Note:
(1) Not required if P.C. C. from same source is being used on other work and test is being made there. No need to duplicate the test just for the sake of record. The actual test results may be used anywhere they are applicable.
(2) From material site or stockpile; 60 days prior to use.
(3) 150# of 2 1/2" x 1 1/2 - 100# of 1 1/2 x 3/4 - 75# of 3/4" x No. 4-75# of pea gravel -50# of sand. This material for test numbers 202, 206, 207, 211, 213, 214, 217, 227, 229 and 515.
(4) See California Test 528 or contact the Division of New Technology, Materials and Research.
(5) Contact District Materials Engineer for special sampling procedures at least 120 calendar days before intended use.
(6) For minor concrete, sample and test only at Resident Engineer's discretion.
(7) When prior test results are acceptable and material appears to be of uniform composition, a max. of 2 tests per day will satisfy acceptance test requirements for this material. Adjustments to testing frequencies shall be documented in the project files.
(8) No deductions for cement content will be made based on the results of California test 518.
(9) For lightweight concrete, see Standard Specifications and Special Provisions.

ASPHALT CONCRETE (3)

MATERIAL OR PRODUCT	TEST FOR	TEST NO.	SAMPLE SIZE & CONTAINER TYPE	POTENTIAL SOURCE TESTS: LOCATION OR TIME OF SAMPLING	ACCEPTANCE TESTS: FREQUENCY OF SAMPLING	ACCEPTANCE TESTS: LOCATION OR TIME OF SAMPLING	REMARKS
AGGREGATE PRIOR TO MIXING	LA Rattler (500) Rev.)	211	Type A & B UNPROCESSED 250#	Materials site, stockpile, or plant (7)	As necessary for information and/or acceptance (8)	Plant bin prior to mixing (2) (7)	
	Specific gravity (coarse and fine aggregate)	206 & 208	PROCESSED 50# of each bin size				
	CKE	303	Open graded 50#				
	Stabilometer	366					Not made on open graded. Performed on laboratory mixture.
	Swell	305					Performed on laboratory mixture
	Moist Vapor Susceptibility	307					Performed on laboratory mixture
	% Crushed Particles	205`					
	Sieve Analysis	202			1 for each 500 tons; 1 per day min.; 2 per day max. See Note (1) (5) if production is less than 300 cu. yds. 1 per accumulative 300 cu. yds.		
	Sand Equivalent	217					
	Film Stripping	302			As necessary for information an/or acceptance		Made on open graded asphaltic concrete only
PAVING ASPHALT LIQUID ASPHALT ASPHALTIC EMULSION	In accordance with applicable Section of Std. Specs		Asphalt 1 quart can	Test only if no Certificate of Compliance. Asphalt line (6)	Once daily (6)	Asphalt line or distributor	
			Emulsion 1/2 gallon plastic jug	Test only if no certification of compliance. Emulsion Storage Tank	Each shipment	Emulsion Storage Tank or Distributor	

COMPLETE MIXTURE	Swell	305	DGAC 15# carton		As necessary for information and/or acceptance		When less than a total of 500 tons is to be placed, sample and test only at Resident Engineers discretion. Total sample: DGAC: Four Cartons (about 60#) OGAC: Four 1 Qt. cans (about 14#)
	Moist, vapor susceptibility	307	OGAC 1 qt. can				
	Stabilometer	304					
	Sieve Analysis	202					
	Asphalt Content	310, 362 & 379			1 for each 500 ton; 2 per day minimum		
	Moisture	310 & 370				Completed pavement	
	In-Place Density	375	As specified or lot size		1 sample representing each 4 hours of production	As per California Test 375	
	Maximum Density	375	Two 15# cartons		As per California Test 375		

Note:

(1) On smaller projects being supplied from sources currently in use on larger projects, a copy of the acceptance test information on asphalt concrete aggregate is all that is required.
(2) For continuous mixing, sample from the combined feed in advance of mixing, for mixing, sample from hot bins.
(3) When special provisions state that production shall be “from commercial quality asphalt and aggregate” sample and test only at Resident Engineers discretion.
(4) Not required if P.C.C. from same source is being used on other work and test is being made there. No need to duplicate tests; results may be used anywhere they are applicable.
(5) When prior test results are acceptable and material appears to be of uniform composition, a max. of 2 tests per day will satisfy acceptance test requirements for this material. Adjustments to testing frequencies shall be documented in the project files.
(6) When continuous mixing plants used, sample and test for specific gravity at least monthly.
(7) When sampling for AC mix design (California Test 367), aggregate samples must be taken as described in Note 2.
(8) Refer to Standard Specifications, 39-3.03 “Proportioning” for frequency of AC mix design (California test 367) sampling.
(9) When prior test results are acceptable and material appears to be of uniform composition, a max. of 2 tests per day will satisfy acceptance test requirements for this item. Adjustments to testing frequencies shall be documented in the project files.

LEAN CONCRETE BASE

MATERIAL OR PRODUCT	TEST FOR	TEST NO.	SAMPLE SIZE & CONTAINER TYPE	POTENTIAL SOURCE TESTS LOCATION OR TIME OF SAMPLING	ACCEPTANCE TESTS FREQUENCY OF SAMPLING	ACCEPTANCE TESTS LOCATION OR TIME OF SAMPLING	REMARKS
AGGREGATE	Sand equivalent Sieve analysis Compressive strength of laboratory mixtures	217 202 & 105 548	100 lbs. for aggregate qualification As required for method of test for acceptance tests.	Material site or stockpile	1 sample for each 3,000 tons or 2,000 cu. yds. (1)	One of the following locations listed in order of preference: a. Belt from weigh hopper to central or transit mixer. b. Belt which feeds batch plant bins immediately preceding the weigh hopper. c. Discharge gate of weigh hopper. A single sample 400+ lbs. into loader or dump truck; split to test portion required for grading analysis. d. Discharge gates of bins feeding the weigh hopper at batch plant The location and method of sampling are to be determined and agreed upon by the engineer and the contractor. Once selected, the location and method of sampling are not to be changed during the life of a project, or so long as there is no change in plant's configuration or operation.	
CEMENT	Compliance with Section 90 of Std. Spec.		8 lbs.	None with Certificate of Compliance (see REMARKS)	Each 120 tons of cement, 2 per day max.	Weigh hopper or screw leading to weigh hopper or from distributor if road-mixed.	If no Certificate of Compliance, sample at least 14 days prior to use for previously tested brands; 35 days for untested brands.
WATER	Compliance with Section 90 of Std. Spec.	405	Clean 1/2 gallon plastic jug with lined sealed lid.	At point of use(see REMARKS)		At point of use.	City water supplies for domestic use need not be tested unless suspected chlorine or sulfate content. On-the-job wells are to be tested
ADMIXTURES: Air Entraining Agents Retarders	Compliance with specifications	530 or 415	1 quart can or plastic bottle of liquid, 2 lbs. of powder		Each new lot of material brought to the job	Samples much reach testing lab at least 1 week prior to use. Untested brands require 5 weeks prior to use.	Contact DNTM&R for information Contact DNTM&R for brands which may be used prior to sampling and testing when properly certified

COMPLETED MIXTURE	Penetration Entrained Air Dimensions	533 504	Approx. 1/2 cu. ft.	Request laboratory to perform this test during aggregate qualification.	At least once for every 4 hours of production At least once for each day's production As required	At point concrete is deposited in the work	
CURING COMPOUND	Compliance with specifications		1 quart can		Each new lot of material brought to the job	From spray nozzle or feed line at point of field application	

NOTE; (1) If material is uniform and well within specification limits, the frequency is decreased to 1 a day unless source is changed. Adjustments to testing frequencies shall be documented in the project files.

CEMENT TREATED BASE ROAD MIX OR PLANT MIX

				POTENTIAL SOURCE TESTS	ACCEPTANCE TESTS		
MATERIAL OR PRODUCT	TEST FOR	TEST NO.	SAMPLE SIZE & CONTAINER TYPE	LOCATION OR TIME OF SAMPLING	FREQUENCY OF SAMPLING	LOCATION OR TIME OF SAMPLING	REMARKS
AGGREGATE	R-value (with & without cement)	301	100 lbs. for aggregate qualification	Material site or stockpile			Class B only
	Compressive Strength	312	As required for method of test for acceptance tests.				Class A
	Sieve Analysis	202			1 sample for each 3,000 tons or 2,000 cu. yds. (1)	As specified.	Minimum 1 acceptance test per project on smaller projects.
	Sand Equivalent	217			1 sample for each 3,000 tons or 2,000 cu. yds. (1)	As specified.	
COMPLETED MIX	Compressive Strength	312	See California Test 312 Part II		See Section 6-27 of this manual.	See California Test 312 Part II	
	Cement Titration	338	See California Test 338 Part I		As necessary for acceptance (See REMARKS)	See California Test 338 Part I	Use minimum of 1 person full time during full-time operation.
	Relative Compaction	312 216 231			1 sample for each 3,000 tons or 2,000 cu. yds. (1).	See California Test 375·	
	Dimensions				As necessary for information.	In place after compaction.	
CEMENT	Compliance with Section 90 of Std. Spec.		8 lbs.	None with Certificate of Compliance (see REMARKS)	Each 120 tons of cement, 2 per day max.	Weigh hopper or screw leading to weigh hopper or from distributor if road-mixed.	If no Certificate of Compliance, sample at least 14 days prior to use for previously tested brands; 35 days for untested brands.
WATER	Compliance with Section 90 of Std. Spec.		1/2 gallon plastic jug with lined sealed lid.	At point of use(see REMARKS)	As necessary for acceptance (see REMARKS).	At point of use.	No sample necessary if from obviously suitable source such as municipal water supply. On-the-job wells should be tested.
Liquid Asphalt	In accordance with Special. Prov. & Std. Specs.		1 quart can	None with Certificate of Compliance. If no Certificate of Compliance, then from storage tank of distributor truck.	Each shipment.	Distributor truck.	

NOTE; (1) If material is uniform and well within specification limits, the frequency is decreased to 1 a day unless source is changed. Adjustments to testing frequencies shall be documented in the project files.

ASPHALT TREATED PERMEABLE BASE (ATPB)

				POTENTIAL SOURCE TESTS	ACCEPTANCE TESTS		
MATERIAL OR PRODUCT	TEST FOR	TEST NO.	SAMPLE SIZE & CONTAINER TYPE	LOCATION OR TIME OF SAMPLING	FREQUENCY OF SAMPLING	LOCATION OR TIME OF SAMPLING	REMARKS
AGGREGATE	Grading	202	50#	Materials, site, stockpile or plant bins.	2 times daily	Plant bins prior to mixing. See Note (1).	
	% crushed particles	205			As necessary for information and /or acceptance.		
	LA Rattler (500 rev.)	211					
	Cleanness Value	227			Once for each 4 hours of production.		Recommend 1 acceptance test per day if 3 consecutive tests over 62.
	Film Stripping	302			1 for every 5 days paving, for 1st 10 days.		
ASPHALT	In accordance with Std. Specs.		quart can	Test only if no cert. of compliance	One daily.		
COMPLETED MIX	Asphalt content	310 & 362	Two 1-quart cans		1 for every 4 hours of production		

CEMENT TREATED PERMEABLE BASE (CTPB)

AGGREGATE	Grading	202	See note (2)	See note (3)	Once for each 4 hours of production. See note (4).	One of the following locations listed in order of preference: a. Belt from weigh hopper to central or transit mixer. b. Belt which feeds batch plant bins immediately preceding the weigh hopper. c. Discharge gate of weigh hopper. A single sample 400+ lbs. into loader or dump truck; split to test portion required for grading analysis. d. Discharge gates of bins feeding the weigh hopper at batch plant. The location and method of sampling are to be determined and agreed upon by the engineer and the contractor. Once selected, the location and method of sampling are not to be changed during the life of a project, or so long as there is no change in plant's configuration or operation..	
	LA Rattler (500 rev.)	211					
	Cleanness Value	227			One for each 4 hours of production. See Note (4).		Recommend 1 acceptance test per day if 3 consecutive tests over 80
CEMENT	Compliance w/ Std. Specs & Spec. Prov.		8 lbs.	None with Cert. of Compliance	Once for each 120 tons, 2 per day mix.		
WATER	Compliance with/ Sec 90 of Std. Specs and Special Provisions		1/2 gallon plastic jug with lined sealed lid.				City water supplies for domestic use; need not be tested unless suspected chlorine or sulfate content. On-the-job wells are to be tested.

NOTE:
(1) For continuous mixing plants, sample from combined feed in advance of mixing.
(2) 75 # of 1' x No. 3/4" x No. 4. This material for test numbers 202, 211, and 227.
(3) From material site or stockpile; 60 days prior to use.
(4) Not required if P. C. C. from same source is being used on other work and test is being made there. No need to duplicate the test just for the sake of record. The actual test results may be used anywhere they are applicable.

MISCELLANEOUS MATERIALS

MATERIAL OR PRODUCT	TEST FOR	TEST NO.	SAMPLE SIZE & CONTAINER TYPE	POTENTIAL SOURCE TESTS: LOCATION OR TIME OF SAMPLING	ACCEPTANCE TESTS: FREQUENCY OF SAMPLING	ACCEPTANCE TESTS: LOCATION OR TIME OF SAMPLING	REMARKS
AGGREGATE BASE	% crushed Particles	205		Materials site or stockpile.	As necessary for acceptance.	As specified	Minimum 1 acceptance test per project.
	Sieve Analysis	202	100 # for initial samples. 50 # for control samples.		Every 3,000 tons or 2,000 cu. yds. (1).		Minimum 1 acceptance test per project on smaller projects.
	Durability Index	229			If initial source changes or new source developed.		
	R-Value	301			Every 3,000 tones of 2,000 cu. yds. (1)(2).		
	Sand Equivalent	217			Every 3,000 tones of 2,000 cu. yds. (1)		Minimum 1 acceptance test per project on smaller projects.
	Moisture	226			2 times daily if paid for by weight·	At time of weighing.	
	Relative Compaction	216 or 231	30#		As necessary for acceptance.	In place after compaction.	
	Dimensions				As necessary for information	Upon completion of layer.	
AGGREGATE SUBBASE	Sieve analysis	202		Material site or stockpile.	1 for every 3,000 tons or 2,000 cu. yds. (1).	As specified.	Minimum 1 acceptance test per project on smaller project. None if less than 300 tons.
	R-value	301	50 #		1 for every 3,000 tons or 2,000 cu. yds. (1) (2).		
	Sand equivalent	217			1 for every 3,000 tons or 2,000 cu. yds. (1).		
	Relative compaction	216 or 231	30#		As necessary for acceptance.	In place after compaction.	
	Dimensions				As necessary for information.	Upon completion of layer.	

NOTE:
(1) If material is uniform and well within specification limits, the frequency may be decreased to one a day unless source is changed. Adjustments to testing frequencies shall be documented in the project files.
(2) R-value testing may be waived when test records demonstrate that material from the same source, and having comparable grading and sand equivalent values, meets the minimum R-value requirements.

MISCELLANEOUS MATERIALS

MATERIAL OR PRODUCT		TEST FOR	TEST NO.	SAMPLE SIZE & CONTAINER TYPE	POTENTIAL SOURCE TESTS: LOCATION OR TIME OF SAMPLING	ACCEPTANCE TESTS: FREQUENCY OF SAMPLING	ACCEPTANCE TESTS: LOCATION OR TIME OF SAMPLING	REMARKS
IMPORTED BORROW		Relative Compaction	216 or 231			As required for acceptance.	Immediately after material is placed and compacted	
BASEMENT SOIL		R-Value	301	50 #	Test material below grading plane, both in cut and in fill.	As necessary for acceptance.	Prior to placement of cover material.	
		Relative Compaction	216 or 231	30 #			Immediately prior to placement of cover material.	
		Grade Tolerance					Grading plane.	
EMBANKMENT		Relative compaction	216 or 231	30 #			In place after compaction.	
LIME TREATMENT (1)	Soil or Aggregate to be Treated	Unconfined compressive strength	301	100 #	Native soils. Test each type of material to be treated.	If initial source changes.	Prior to beginning of lime treatment.	To determine appropriate lime content.
	COMPLETED MIX	Lime Content	338	20 #		As necessary for acceptance.	See California Test 338, Part I	
		Relative Compaction	216 & 231				In place after compaction.	
		Dimensions					In place after compaction.	
	LIME	Compliance with Special Provisions		1/2 gallon can with friction lid	None with Certificate of Compliance.	Each load delivered.	From distributor.	
	EMULSION (CURING SEAL)	In accordance with Special Provisions and Standard Specifications		1/2 gallon plastic jug.	None with Certificate of Compliance. If no Certificate of Compliance, then from storage tank or distributor truck.	Each shipment.	Distributor truck.	

NOTE: (1) Not to be used for the lime treatment of AC aggregates.

MISCELLANEOUS MATERIALS

	MATERIAL OR PRODUCT	TEST FOR	TEST NO.	SAMPLE SIZE & CONTAINER TYPE	POTENTIAL SOURCE TESTS: LOCATION OR TIME OF SAMPLING	ACCEPTANCE TESTS: FREQUENCY OF SAMPLING	ACCEPTANCE TESTS: LOCATION OR TIME OF SAMPLING	REMARKS
PENETRATION TREATMENT	LIQUID ASPHALT	In accordance with applicable section of Std. Specs.		1 quart can	None with Certificate of Compliance.	Each shipment.	Plant storage tank or distributor.	
	SAND	Sieve Analysis	202			As necessary for acceptance.	As delivered to project.	
BITIMINOUS SEALS	PAVING ASPHALT LIQUID ASPHALT ASPHALTIC EMULSION	In accordance with applicable section of Std. Specs		Asphalts 1 quart can , Emulsion 1/2 gallon plastic jug	None with Certificate of Compliance.	Each shipment.	Storage tank or distributor	
		Binder distribution	339					
	SCREENINGS	LA Rattler	211	50 #	Stockpile	As necessary for acceptance..	As delivered to spread, equipment.	
		% crushed particles	205					
		Sieve Analysis	202			Twice daily.		
		Film Stripping	302			As necessary for acceptance.		
		Cleanness Value	227			Once daily		
		Sand Equivalent	217		Stockpile	As necessary for acceptance	Prior to mixing	
	SLURRY SEAL AGGREGATE	Sieve Analysis	202	25#				
		Film Stripping	302					
	SOLID OR SEMI-SOLID AIR REFINED ASPHALT	In accordance with Std. Specs		3 #	Barrels or sacks.	Each 29 barrels or sacks.	Barrels or sacks.	

MISCELLANEOUS MATERIALS

				POTENTIAL SOURCE TESTS	ACCEPTANCE TESTS		
MATERIAL OR PRODUCT	TEST FOR	TEST NO.	SAMPLE SIZE & CONTAINER TYPE	LOCATION OR TIME OF SAMPLING	FREQUENCY OF SAMPLING	LOCATION OR TIME OF SAMPLING	REMARKS
PERMEABLE MATERIAL	Sieve Analysis	202	150 #	Stockpile	1 daily, or as required for acceptance.	In place, at time of placing.	Minimum 1 acceptance test per project.
	Durability Index	229			If initial source changes or new source developed.	Material site or stockpile	
	Sand Equivalent	217			1 daily, or as required for acceptance.	In place, at time of placing.	Minimum 1 acceptance test per project.
STRUCTURE BACKFILL	Sieve Analysis	202	50 #	Materials site.	As required for acceptance.	At time of use	
	Sand Equivalent	217					
	Relative Compaction	216 & 231				In place after compaction.	
SLOPE PROTECTION	Size			Quarry	As required for acceptance (See REMARKS)	Upon delivery to job site or at time of placing.	Adequate size of slope protection documented by measuring or weighing the material.
	Apparent Specific Gravity	206					
	Absorption	206					
	Durability Index	229	75 #				
ASBESTOS SHEET PACKING			12" X 12"		1 each lot.	At delivery	Sample and test if not previously inspected at the source.
ASPHALT PLANK			Contact DNTM&R for instructions.		Contact DNTM&R for instructions.		
BARBED WIRE			3 ' length		Each 50 rolls or fraction	At time of use.	Sample and test if not previously inspected at the source. If less than 500 LF. of fence, see Note (1).
BOLTS AND HARDWARE			2 samples each diameters		Each lot.		Sample and test if not previously inspected at the source.

NOTE: (1) Resident Engineer may accept on the basis of visual examination provided the source has recently furnished similar material found to be satisfactory under the normal sampling and testing procedures of the Department. Place Resident Engineer's written approval in the project file.

MISCELLANEOUS MATERIALS

MATERIAL OR PRODUCT	TEST FOR	TEST NO.	SAMPLE SIZE & CONTAINER TYPE	POTENTIAL SOURCE TESTS: LOCATION OR TIME OF SAMPLING	ACCEPTANCE TESTS: FREQUENCY OF SAMPLING	ACCEPTANCE TESTS: LOCATION OR TIME OF SAMPLING	REMARKS
BRICK	Compliance with Specifications		10 full size		Contact DNTM&R for instructions.	At time of use	
CHAIN LINK FENCING			24" width		Each 50 rolls or fraction.		Sample and test if not previously inspected a the source. if less than 500 LF of fence, see note (1).
CONCRETE AND CLAY PIPE			Contact DNTM&R for instructions.		Contact DNTM&R for instructions.		Sample and test if not previously inspected at the source. If less than 100 LF. of fence, see Note (1).
JOINT FILLER EXPANSION			6" long full width of sheet		Each 1,000 sq. ft. not less than 2 per shipment.		Sample and test if not previously inspected at the source. If less than 100 sq. ft. see Note (1).
ELECTRICAL CONDUCTOR	Compliance with Specifications		2 each 3" long, include markings		Each type each lot.		Sample and test if not previously inspected at the source. Certificate of Compliance required for 5,000 volt cable.
GALVANIZED PIPE			1 ' length from each end of length tested of each size		Each 500 lengths or fraction		Sample and test if not previously inspected at the source.
GEO-SYNTHETICS Filler, Reinf. & Paving Fabric S/R Fence, Etc.			1 piece, 3' x full width of roll		Each lot.	Distribution Warehouse.	Certificate of Compliance required for each lot. Unroll at least 1 circumference before sampling.
JOINT SEAL, Type B			Contact DNTM&R			At time of use.	Sample and test if not previously inspected at the source.
JOINT SEALING COMPOUND 2-COMPONENT POLYSULFIDE POLYMER TYPE	Specification requirements		1 gallon of each component		1 sample from each component of each batch	From cans at job site.	
MOPPING ASPHALT	Compliance with Specification		1 quart		Each lot.	At time of use.	Sample and test if not previously inspected at the source.
PAINT	Compliance with Specification		For Br. or major Str. send an unopened 5 Gal. can. For misc. painting, 1 qt. (See Sec. 8-02)		Each batch		Unused portion of 5 gallon sample will be returned to job. See Section 8-02. If less than 20 gallons, see note (1).
PAVEMENT MARKERS	Compliance with Specification		20 Markers		1 Sample (20 markers) from each lot of 10,000		Sample and test if not previously inspected at the source
PLASTIC CONDUIT	Compliance with Specification		2" long from center of length		2 samples each size		Sample and test if not previously inspected at the source
RAISED BARS (PRECAST)	Compliance with Specification		1 unit or full size bar		Each lot		Sample and test if not previously inspected at the source
REINFORCING STEEL	Compliance with Specification		2 samples 30" except 36" for #14 & #18		As necessary for acceptance	Before use	Sample and test at job site

NOTE: (1) Resident Engineer may accept on the basis of visual examination provided the source has recently furnished similar material found to be satisfactory under the normal sampling and testing procedures of the Department. Place Resident Engineer's written approval in the project file.

MISCELLANEOUS MATERIALS

MATERIAL OR PRODUCT	TEST FOR	TEST NO.	SAMPLE SIZE & CONTAINER TYPE	POTENTIAL SOURCE TESTS LOCATION OR TIME OF SAMPLING	ACCEPTANCE TESTS FREQUENCY OF SAMPLING	LOCATION OR TIME OF SAMPLING	REMARKS
STEEL PRODUCTS			Contact DNTM&R for instructions.		Contact DNTM&R for instructions.	At time of use	Sample and test if not previously inspected at the source.
STRUCTURAL STEEL & MISC. IRON & STEEL			2 samples, 2" x 30" cut parallel to direction of rolling		Each heat or melt or 10 tons or fraction.		Sample and test if not previously inspected at the source
WATER-PROOFING MATERIALS		ASTM D173 ASTM D449 ASTM D41	1 sq. yd. of asphalt saturated cotton fabric 5 pounds of asphalt 1 quart of asphalt primer.		1 sample from each lot.	Manufacturer's stock or contractor yard.	Meshes of fabric shall be substantially open Contractor's stock must be kept covered.
WIRE MESH REINFORCING			3' x 3'		Each 10 tons or fraction.	At time of use.	Sample and test at if not previously inspected at the source. If less than 2 rolls, see note (1).
WIRE ROPE OR CABLE			Per Special Provisions or as instructed.		Per Special Provisions or as instructed. At time of use.		Sample and test if not previously inspected at the source.

NOTE: (1) Resident Engineer may accept on the basis of visual examination provided the source has recently furnished similar material found to be satisfactory under the normal sampling and testing procedures of the Department. Place Resident Engineer's written approval in the project file.

CTM - ASTM Testing Procedures - for local agency use only

Use this CTM - ASTM conversion chart to assist you in determining acceptance test requirements and frequencies, as detailed in Caltrans *Construction Manual* Chapter VIII (revised 1994). Refer to the Agency, special provisions, contract plans, and applicable standard specifications, for correct sampling and test methods (ASTM-CTM).

CTM	ASTM	Book of Standard	TEST PROCEDURE	NOTES
105			Calculations Pertaining to Gradings and Specific Gravities	*2*
125			Sampling Highway Materials (when approved)	
	D75	4.02	Standard Practice for Sampling Aggregates	*3*
	D979	4.03	Practice for Sampling Bituminous Paving Mixtures	*3*
201			Soil & Aggregate Sample Preparation	
	C702	4.02	Reducing Field Samples of Aggregate to Testing Size	*13*
202			Sieve Analysis of Fine and Coarse Aggregate	
	C136	4.02	Sieve Analysis of Fine and Coarse Aggregate	
	C117	4.03	Material Finer Than 75-um (#200) Sieve in Mineral Aggregates by Washing	
205			Percentage of Crushed Particles	*1*
206			Specific Gravity and Absorption of Coarse Aggregate	
	C127	4.02	Specific Gravity and Absorption of Coarse Aggregate	
207			Specific Gravity and Absorption, Fine Aggregate	
	C128	4.02	Specific Gravity and Absorption, Fine Aggregate	
208			Apparent Specific Gravity of Fine Aggregate	*1*
211			Abrasion of Coarse Aggregate by Use of the Los Angeles Rattler Machine	
	C131	4.02	Resistance to Degradation , Small-Size Coarse Agg. by Abrasion & Impact, L.A. Machine	
213			Organic Impurities in Concrete Sand	
	C40	4.02	Organic Impurities in Fine Aggregate for Concrete	
214			Soundness of Aggregates by Use of Sodium Sulfate	*1*
	C88	4.02	Soundness of Aggregates by Use of Sodium Sulfate or Magnesium Sulfate	
216			Relative Compaction of Untreated and Treated, Soils & Aggregates	
	D1556	4.08	Density of Soil In-place by the Sand Cone Method	
	D1557	4.08	Moisture-Density Relations of Soils & Soil-Agg. Mixtures, 10-lb. Rammer, 18-in Drop	*11*
217			Sand Equivalent (only authorized method per Caltrans 07, District Materials Engineer)	*1,9*
223			Surface Moisture in Concrete Aggregate	*1*
226			Moisture Content in Soils by Oven Drying	
	C566	4.02	Total Moisture Content of Aggregate by Drying	
227			Evaluating Cleanness of Coarse Aggregate	*1*
229			Durability Index	*1*
	D3744	4.03	Aggregate Durability Index	
231			Relative Compaction of Soils by the Area Concept Utilizing Nuclear Gages	*4*
	D2922	4.08	Density of Soil & Soil-Aggregate In-place by the Nuclear Method	*4*

CTM - ASTM Testing Procedures - for local agency use only

Use this CTM - ASTM conversion chart to assist you in determining acceptance test requirements and frequencies, as detailed in Caltrans *Construction Manual* Chapter VIII (revised 1994). Refer to the Agency, special provisions, contract plans, and applicable standard specifications, for correct sampling and test methods (ASTM-CTM).

CTM	ASTM	Book of Standards	TEST PROCEDURE	NOTES
301	D2844	4.08	R-Value of Treated & Untreated, Bases, Subbases & Basement Soils R-Value and Expansion Pressure of Compacted Soils	*1*
302	D1664	4.03	Film Stripping Coating and Stripping of Bitumen-Aggregate Mixtures	
303			Centrifuge Kerosene Equivalent	*1*
304	D1561	4.03	Preparation of Bituminous Mixtures for Testing Prep. of Bituminous Mixture Test Specimens by Means of Calif. Kneading Compactor	*1*
305			Swell of Bituminous Mixtures	*1*
307			Moisture Vapor Susceptibility of Bituminous Mixtures	*1*
308	D1188	4.03	Bulk Specific Gravity and Weight Per Cubic Foot of Bituminous Mixtures Bulk Sp.G. and Density of Compacted Bituminous Mixtures, Paraffin-Coated Specimens	
310	D2172	4.03	Asphalt and Moisture Contents of Bituminous Mixtures by Hot Solvent Extraction Extraction of Bitumen from Bituminous Paving Mixtures (Method A, B, or C)	*5* *6,10*
312			Design and Testing of Class “A” and “B” Cement Treated Base	*1*
338			Cement or Lime Content in Treated Aggregate by the Titration Method	*1*
339	D2995	4.03	Determination of Distributor Spread Rate Determining Application Rate of Bituminous Distributors	
362	D2172	4.03	Asphalt Content of Bituminous Mixtures by Vacuum Extraction Quantitative Extraction of Bitumen from Bituminous Paving Mixtures (Method “E”)	*5* *6*
366			Stabilometer Value	*1*
367			Recommending Optimum Bitumen Content (OBC.)	*1*
370	D4643	4.08	Determining Moisture Content of Asphalt Mixtures or Mineral Agg., Microwave Ovens Determination of Water (Moisture) Content of Soil by the Microwave Oven Method	
375	D2950	4.03	In-place Density & Relative Compaction of AC Pavement (nuclear) Density of Bituminous Concrete In-place by the Nuclear Method	*5,7,12* *6,7*
379	D4125	4.03	Asphalt Content of Bituminous Mixtures by use of the Troxler Nuclear Gage Asphalt Content of Bituminous Mixtures by the Nuclear Method	*5,8* *6,8*
405			Chemical Analysis of Water	*1*
415			Chloride Content in Organic Additives for Portland Cement Concrete	*1*

CTM - ASTM Testing Procedures - for local agency use only

Use this CTM - ASTM conversion chart to assist you in determining acceptance test requirements and frequencies, as detailed in Caltrans *Construction Manual* Chapter VIII (revised 1994). Refer to the Agency, special provisions, contract plans, and applicable standard specifications, for correct sampling and test methods (ASTM-CTM).

CTM	ASTM	Book of Standards	TEST PROCEDURE	NOTES
504			Air Content of Freshly Mixed Concrete by the Pressure Method	
	C231	4.02	Air Content of Freshly Mixed Concrete by the Pressure Method	
515			Relative Mortar Strength of Portland Cement Concrete Sand	*1*
518			Unit Weight of Fresh Concrete	
	C138	4.02	Unit Weight, Yield, and Air Content (Gravimetric) of Concrete	
521			Compressive Strength of Molded Concrete Cylinders	
	C39	4.02	Compressive Strength of Cylindrical Concrete Specimens	
523			Flexural Strength of Concrete (using simple beam with center-point loading)	*1*
	C293	4.02	Flexural Strength of Concrete (using simple beam with center-point loading)	
	C78	4.02	Flexural Strength of Concrete (using simple beam with third-point loading)	
528			Freeze Thaw Resistance of Aggregates in Air-Entrained Concrete	*1*
529			Proportions of Coarse Aggregate in Fresh Concrete	*1*
530			Determining the Effect of H_2O-Reducing and Set-Retard. Admix. Drying Shrinkage PCC	*1*
533			Ball Penetration in Fresh Portland Cement Concrete	
	C360	4.03	Ball Penetration in Fresh Portland Cement Concrete	
	C143	4.02	Slump of Freshly Mixed PCC	
539			Sampling Fresh Concrete	
	C172	4.02	Sampling Freshly Mixed Concrete	
540			Making, Handling, & Storing Concrete Compressive. Test Specimens in the Field	
	C31	4.02	Making & Curing Concrete Test Specimens in the Field	
541			Flow of Grout Mixtures (flow cone method)	*1*
543			Air Content of Freshly Mixed Concrete by the Volumetric Method	
	C173	4.02	Air Content of Freshly Mixed Concrete by the Volumetric Method	
548			Evaluation of Aggregate for Lean Concrete Base (LCB.)	*1*

Notes

1. ***Use the CALTRANS Method.***
2. ***Use the methods of calculation within the applicable test method first. Refer to CTM 105 as necessary.***
3. ***Use the Caltrans Construction Manual procedures as necessary when ASTM D75 or D979 do not adequately cover the item to be sampled.***
4. ***Use the direct transmission method only, the air gap method shall not be used. All nuclear gages must have local Caltrans District calibration within the last year. The data sheets provided by the local Caltrans District shall be used when determining the in-place density.***
5. ***Sample from the job site, across the mat, immediately behind the paving machine (Caltrans Construction Manual).***
6. ***Sample per ASTM D 979 paragraph 4.2.3., sample from the job site, across the mat, immediately behind the paving machine.***
7. ***All nuclear gages used for this test must be calibrated on the six (6) DNTM&R AC Standard Blocks. The Data sheets provided by the local Caltrans District shall be used when determining the in-place density.***
8. ***Recommended Percent (%) AC method for Rubberized Bituminous Paving mixtures.***
9. ***The hand method of shaking is not authorized and shall not be used. An electro-mechanical or hand-operated mechanical. Sand Equivalent shaker must be utilized for this test.***
10. ***This Method covers hot solvent, centrifuge, and vacuum extraction.***
11. ***Compaction Apparatus shall be calibrated in accordance with ASTM D 2168, Method B (ASTM Book 4.08).***
12. ***Test Maximum Density (TMD) shall be performed by Caltrans Test Method 375, Section F. Test Max. Density.***
13. ***Splitters must be of the fixed riffle type (no adjustable splitters).***

MATERIALS TYPICALLY ACCEPTED BY CERTIFICATE OF COMPLIANCE PER CALTRANS STANDARD SPECIFICATIONS - 1995 Edition

Section	Material	Page
20-2.03	Soil amendment	20-2
20-2.07	Fiber	20-2
20-2.08	Mulch	20-3
20-2.11	Stabilizing emulsion	20-4
20-2.15B(1)	Plastic pipe supply line (Limited circumstance)	20-6
20-2.15B(2)	Plastic pipe irrigation line	20-7
24-1.02	Lime	24-1
51-1.12F(3)	Preformed elastomeric joint seal	51-19
51-1.12H(1)	Plain and fabric reinforced elastomeric bearing pads	51-22
51-1.12H(2)	Steel reinforced elastomeric bearing pads	51-24
51-1.14	Waterstops (Special Condition)	51-26
52-1.02B	Epoxy coated bar reinforcement	52-1
52-1.04	Reinforcing steel	52-3
55-1.03	Structural Steel	55-2
57-1.02A	Structural Timber & Lumber	57-1
57-1.02A	Treated Timber & Lumber	57-1
58-1.03	Lumber and timber	58-1
61-1.02	Culvert and drainage pipe joints	61-3
64-1.02	Plastic pipe	64-1
65-1.02A(2)	Reinforced concrete pipe	65-4
66-2.02	Aluminum pipe and aluminum pipe arch	66-4
66-3.02	Corrugated steel pipe and corrugated steel pipe arch	66-5
67-1.02	Structural metal plate pipe arches and pipe arches	67-1
68-1.02F	Perforated steel pipe	68-2
68-1.02J	Aluminum underdrain pipe	68-3
68-1.02K	Polyvinyl chloride pipe or polyethylene tubing	68-3
69-1.02A	Steel entrance tapers, pipe downdrains, reducers, coupling bands and slip joints	69-1
69-1.02F	Aluminum entrance tapers, pipe downdrains, reducers, coupling bands and slip joints	69-2
82-1.02D	Metal target plates	82-3
84-3.02	Paint (Traffic stripe)	84-3
86-2.08	Conductors	86-18
86-2.16	Painting of electrical equipment	86-33
86-4.01C	Electrical Components	86-43
88-1.01	Engineering fabric	88-1
90-2.01	Portland Cement	90-3
90-2.02A	Concrete coarse aggregate (Cleanness value)	90-5
90-2.02B	Concrete fine aggregate (Sand equivalent)	90-6
90-4.03	PCC admixtures	90-10
90-10.03	Minor concrete	90-33
92-1.03	Asphalt (Oil)	92-2
93-1.02	Liquid asphalt	93-2
94-1.05	Asphaltic emulsion	94-6
95-1.02	Epoxy	95-1

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NOTICE OF POTENTIAL CLAIM

STATE OF CALIFORNIA • DEPARTMENT OF TRANSPORTATION

NOTICE OF POTENTIAL CLAIM

DC-CEM-6201 (OLD HC-11 REV 6/93)

FOR STATE USE ONLY

Received by _____ **Date** _____
(For Resident Engineer)

TO _____ CONTRACT NUMBER _____ DATE _____
(Resident Engineer)

This is a Notice of Potential Claim for additional compensation under the provisions of Section 9-1.04 of the Standard Specifications. ãct of the Engineer, or his /her failure to act, or the event, thing, occurrence, or other cause giving rise to the potential claim occurred

DATE

The particular circumstances of this potential claim are described in detail as follows:

The reasons for which I believe additional compensation may be due are:

The nature of the costs involved and the amount of the potential claim are described as follows:
(If accurate cost figures are not available, provide an estimate, or describe the types of expenses involved.)

The undersigned certifies that the above statements are made in full cognizance of the California False Claims Act, Government Code sections 12650-12655 . The undersigned further understands and agrees that this potential claim, unless resolved, must be restated as a claim in response to the States proposed final estimate in accordance with Section 9-1.07B of the Standard Specifications, in order for it to be further considered.

_____
CONTRACTOR

BY _____
(Authorized Representative)

CEM-6201 (OLD HC-11 REV. 6/93)

Prepared by the contractor and subcontractors and sent to the local agency Resident Engineer
Distribution: All projects:(1) Original - Local agency project files
NHS Projects: 1 Copy to Caltrans District Local Assistance Engineer

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SAMPLE COVER MEMO
SOURCE INSPECTION REQUEST
FROM LOCAL AGENCY to
CALTRANS' DISTRICT LOCAL ASSISTANCE ENGINEER
(Prepared By Applicant On Applicant Letterhead)

To: (name) **Date:** _____
Caltrans' District Local Assistance Engineer
Caltrans' Local Assistance Office
(district office address)

Federal-aid Project Number: (if one has been assigned)_____
Project Description: _____
Project Location: _____
_____

Subject: ***(Source Inspection for Project Name, County)***

We are requesting that Caltrans provide Source Inspection (reimbursed) services for the above mentioned project. We understand we are responsible for paying for this service provided for by the State. Listed below are the materials for which we are requesting Caltrans' Source Inspection (reimbursed) services.

Materials that will require source inspection:
_____
_____
_____
_____
_____

Justification for request: (Based on the requirements in Section 16.14 under "Source Inspection") _____
_____
_____

Any question you might have about the above materials should be directed to:_____ , at ___(phone #)_____.

Approved:

_____ _____
(***Applicant Representative Name***) District Local Assistance Engineer

_____ _____
(***Title***) (Date)

_____
(Local agency, name & address)

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SAMPLE COVER MEMO
SOURCE INSPECTION REQUEST
FROM LOCAL AGENCY's RESIDENT ENGINEER to CALTRANS' OFFICE of MATERIALS ENGINEERING AND TESTING SERVICES
(Prepared By Applicant On Applicant Letterhead)

To: Office of Materials Engineering & Testing Services, MS #5
California Department of Transportation
5900 Folsom Blvd.
Sacramento, CA 95819
Attn.: Rich Spring

Date: _____

EA: _____
Project Number: _____
Project Description: _____

Subject: ***(Source Inspection for Project Name, County)***

We are requesting that Caltrans provide Source Inspection (reimbursed) services for the above mentioned project. We requested and received prior authorization for this service from our district Local Assistance Engineer, as noted by the attached approval memo from District Local Assistance Engineer..

Please find the following documents enclosed as required:

1. Completed CEM-3101
2. One set of PS&E

Any question you might have about the materials, to be inspected, should be directed to:_____ , at ___(phone #)_____.

_____
(***Applicant Representative Name***)

_____
(***Title***)

_____
(Local agency, name & address)

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REPORTING OF COMPLIANCE REVIEW DETERMINATION FOR FEDERAL –AID CONTRACTOR OR SUBCONTRACTOR
(EEO CONTRACTOR COMPLIANCE, CFR 23, Part 230)

1. Local Agency: _____

2. Federal-aid Project No.: _____

3. Is the contractor reviewed the Prime Contractor? ___ or a Subcontractor: ___
(Please check the appropriate box)

4. Contract Amount: $_____

5. Location and Description of Project: _____

_____

6. Name and Address of Contractor: _____

_____

_____

7. Contract Peak Employment Period:_____

8. Date of Compliance Review: _____

9. Contractor was found in Compliance? _____Noncompliance? _____
(If contractor is in Compliance, skip to Question #9)

10. If Contractor found in Noncompliance:

a. Attach a summary of findings.
b. Was the contractor sent a Show Cause Notice? _____
c. Was the Show Cause Notice Rescinded? _____
d. Is the Show Cause Notice still under conciliation and unresolved? _____
e. Is there a corrective action plan? _____
f. Is there a scheduled follow up with the contractor? ____ Date: _____

9. Reviewer's Name: _____ Date: _____
(Please Print)

Telephone Number: _____

Note: Please complete for ***each*** prime and subcontractor compliance review conducted. For conducting EEO Contractor Compliance Reviews, the EEO compliance review procedures found at **www.dot.ca.gov/hq/LocalPrograms/DBE_CRLC.html** should be used.

Distribution:

(1) Copy -DLAE
(2) Original in the project file.

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STATE OF CALIFORNIA – DEPARTMENT OF TRANSPORTATION

MONTHLY DBE TRUCKING VERIFICATION

CP-CEM-2404(F) (NEW 12/99)

CONTRACT NO.	MONTH	YEAR

Truck Owner	DBE Cert. No.	Company Name and Address	Truck No.	California Hwy. Patrol CA No.	Commission Or Amount Paid*	Date Paid	Lease Arrangement (√ if applicable)
					$		Lease Agreement ☐ with Non-DBE ☐ with DBE ☐
					$		Lease Agreement ☐ with Non-DBE ☐ with DBE ☐
					$		Lease Agreement ☐ with Non-DBE ☐ with DBE ☐
					$		Lease Agreement ☐ with Non-DBE ☐ with DBE ☐
					$		Lease Agreement ☐ with Non-DBE ☐ with DBE ☐
					$		Lease Agreement ☐ with Non-DBE ☐ with DBE ☐
					$		Lease Agreement ☐ with Non-DBE ☐ with DBE ☐
					$		Lease Agreement ☐ with Non-DBE ☐ with DBE ☐
					$		Lease Agreement ☐ with Non-DBE ☐ with DBE ☐
				TOTAL AMOUNT PAID	$		

PRIME CONTRACTOR	BUSINESS ADDRESS	BUSINESS PHONE NO.

** Upon request all Lease Agreements shall be made available, in accordance with the Special Provisions.*

I CERTIFY THAT THE ABOVE INFORMATION IS COMPLETE AND CORRECT

CONTRACTOR REPRESENTATIVE'S SIGNATURE	TITLE	DATE

CEM-2404F (NEW 12/99)

COPY DISTRIBUTION: ORIGINAL - RESIDENT ENGINEER

Form CP-CEM 2404 (F)(NEW 12/99)
MONTHLY DBE TRUCKING VERIFFICATION

The top of Form CEM-2404(F) contains boxes to put in the Contract Number, the Month of the reporting period and the Year of the reporting period.

The Form CEM-2404(F) has a column to enter the name of the Truck Owner, the DBE Cert. No. (if DBE certified) and the Name and Address of the trucking company. The Form CEM-2404(F) also requires the Truck No. and the California Highway Patrol CA No.

Form CEM-2404(F) is to be submitted prior to the 15th of each month and must show the dollar amount paid to the DBE trucking company(s) for trucking work performed by DBE certified trucks and for any fees or commissions of nonDBE trucks utilized each month on the project. The amount paid to each trucking company is to be entered in the column called "Commission or Amount Paid," in accordance with the Special Provisions Section 5-1.X.

Payment information is derived using the following:

1.) 100% for the trucking services provided by the DBE using trucks it owns, operates and insures.
2.) 100% for the trucking services provided by the trucks leased from other DBE firms.
3.) The fee or commission paid to nonDBEs for the lease of trucks. The Prime does not receive 100% credit for these services because they are not provided by a DBE company.

The total dollar figure of this column is to be placed in the box labeled "Total Amount Paid." The column "Date Paid" requires a date that each trucking company is paid for services rendered. The next column contains information that must be completed if a lease arrangement is applicable. Located at the bottom of the form is a space to put the name of the "Prime Contractor," their "Business Address" and their "Business Phone No."

At the bottom of the form there is a space for the Contractor or designee "Contractor Representative's Signature, Title and Date" certifying that the information provided on the form is complete and correct.