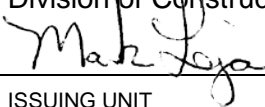


MANUAL CHANGE TRANSMITTAL		NO. 13-1
TITLE: Department of Transportation <i>Construction Manual</i>	APPROVED BY: Mark Leja, Chief Division of Construction 	DATE ISSUED: January 24, 2013
SUBJECT AREA Table of Contents and various sections of the <i>Construction Manual</i>	ISSUING UNIT Division of Construction	
SUPERSEDES N/A	DISTRIBUTION All Requested Manual Holders	

This manual change transmittal delivers the revisions of Sections 4-18 and 5-0 of the *Construction Manual*. Sections may contain updated language, information, corrections, and references resulting from updates to the 2010 *Standard Specifications*, and from policy, and procedural changes. Change bars in the margins of the revised sections indicate text that was changed or added.

Please update your manual according to the table below.

Section	Incorporates	Remove Old Page(s)	Insert New/Revised Page(s)
Chapter 4, Section 18, "Dust Palliative"	None	4-18.1	4-18.1
Goldenrod, Chapter 5, Section 0, "Conduct of the Work"	None	5-0.i	5-0.i
Chapter 5, Section 0, "Conduct of the Work"	None	5-0.1 thru 5-0.9	5-0.1 thru 5-0.9

Section 4-18, "Dust Palliative"

- Indicates that the resident engineer should call the district construction stormwater coordinator for advice on the proper methods of dust control.
- Updates language to align with 2010 *Standard Specifications*.

Section 5-0, "Conduct of the Work"

- Updates references to align with 2010 *Standard Specifications*.
- Updates language to align with 2010 *Standard Specifications*.
- Provides web link to *Labor Surcharge and Equipment Rental Rates* book.
- Corrects web link to the State Water Resources Control Board.

This manual is being updated to reflect changes from the 2006 to the 2010 *Standard Specifications*. Bracketed section numbers refer to the 2006 *Standard Specifications*.

Section 18 Dust Palliative

4-1801 General

The contractor is required to apply dust palliative under the direction of the resident engineer as provided in Section 18 of the *Standard Specifications*.

4-1802 Before Work Begins

Determine whether a dust palliative should be applied in lieu of other methods of dust control. When making this decision, consider the effects on the environment, safety, and convenience, as well as the obvious economic factors. Place an appropriate value on these factors. For assistance, call the district construction stormwater coordinator or the district environmental unit. The district lab can help with recommendations for an acceptable type of control.

4-1803 During the Course of Work

Advise the contractor of the rate of dilution for binders that are miscible in water. Make sufficient observations or checks to verify that the contractor obtained the required binder and that it was diluted properly.

Advise the contractor of the desired rate, number, and limits of the application.

The proper rate and proportion must be found by experimenting with the soil involved. Large-particled, clean materials require thicker films of binder to make them stick together than do fine-grained particles. Dust palliative will not penetrate as effectively when there is a large percentage of binder because binders are heavy, viscous liquids. For example, when a well-compacted clay is being treated, it should be treated lightly and more frequently with a small percentage of binder so that better penetration will occur. When loose, uncompacted sand is being treated, it may be desirable to spray in heavier amounts with a larger proportion of binder.

4-1804 Measurement and Payment

In general, the above instructions apply only when separate payment is to be made for dust palliative, either under a contract item or by change order. Only allow payment for dust palliative when public traffic causes dust.

The resident engineer must keep records in sufficient detail to support payment for dust control while also excluding portions for which separate payment is not to be made. Record any verbal agreements about payment in the daily report.

Section 18 Dust Palliative

4-1801 General

4-1802 Before Work Begins

4-1803 During the Course of Work

4-1804 Measurement and Payment

Section 0 Conduct of the Work

5-001 Resident Engineer's Pending File

5-002 Preconstruction Conference With Caltrans Personnel

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Section 0 Conduct of the Work

Section 0 Conduct of the Work

5-001 Resident Engineer's Pending File

5-001 Resident Engineer's Pending File

For guidance and information, the project engineer assembles and forwards to the resident engineer a set of letters, memoranda, and other data titled "resident engineer's pending file." This file must contain all pertinent information, comments, and advice that may be useful on the specific project to which the resident engineer is assigned. A detailed list of the information that should be included in the resident engineer's pending file is contained in Chapter 15, "Final Project Development Procedures," Section 2, "Construction," of the *Project Development Procedures Manual*. The file usually includes the following:

- Memoranda between programs, service centers, and districts, especially comments about preliminary reports and dummy special provisions.
- Special requirements that are enumerated in the freeway agreement and that may require action by the resident engineer. For instance, a special requirement may be notification of the date work begins on locally owned facilities.
- Memoranda about materials from the Office of Materials Engineering and Testing Services or the district materials unit.
- Copies of right-of-way agreements that require work to be done under the contract or that affect the project's construction.
- Copies of "Notice to Owner," which covers utilities and their completion status.
- Copies of the partially completed Form FA-2134, "Utility Service Request," which the resident engineer will use for the installation and coordination of utility services. Forward this form to the Division of Accounting and the district signals and lighting coordinator. If there is no form and the plans have utilities, contact the district signals and lighting coordinator to ensure proper procedures are followed. This form is available on the Division of Accounting's intranet website.
- Copies of correspondence giving the background of any unusual project features.
- All pertinent engineering data previously prepared in connection with the project. This data should include the project engineer's quantity calculations.
- Copies of the project report, preliminary report, and materials reports.
- A copy of the "materials information" as given to prospective bidders.
- A copy of the environmental document, including any permits, agreements, and commitments.
- A separate summary of all environmental commitments, as well as any special instructions or explanations for meeting permit and other legal requirements and commitments to other agencies.

- A copy of the risk register that documents possible construction issues. More information can be obtained from the *Project Risk Management Handbook: A Scalable Approach*, located at:
http://www.dot.ca.gov/hq/projmgmt/guidance_prmhbm.htm
- The resident engineer must consult with the project engineer who forwarded the file if the file has any of the following problems:
 1. Information appears to conflict.
 2. Information appears to be missing.
 3. Additional information or explanations are required.

**5-002
Preconstruction
Conference With
Caltrans Personnel**

5-002 Preconstruction Conference With Caltrans Personnel

Before the start of construction, the resident engineer should review the job with the following people:

- Project manager
- Project engineer
- Right-of-way agent
- Hydraulics engineer
- Traffic engineer
- Materials engineer
- Maintenance superintendent
- Environmental construction liaison
- Construction stormwater coordinator
- Environmental planner
- Public information officer
- Landscape architect (if landscape work is included in the project)
- Local agencies and communities
- Affected utility companies
- Others who may have a direct interest in the project

At this preconstruction stage, such a review will significantly aid in explaining the reasons for certain design features such as the following:

- Right-of-way obligations
- Signing and traffic handling difficulties
- Materials sites
- Selected material
- Foundation treatment
- Potential slides
- Environmental commitments

- Potential drainage and maintenance problems, including erosion control and water pollution

The resident engineer must ensure implementation of environmental mitigation measures included in the project approval. To be fully informed of the environmental mitigation measures, commitments, or concerns on projects that include environmental commitments, the resident engineer must review the environmental commitment record and meet with the assigned environmental staff. At the same time, the resident engineer can reach agreement on both the assistance required from environmental specialists and also the tentative schedule and plan for environmental monitoring.

On projects involving structure construction personnel, preconstruction conferences are mandatory and should be held as soon as possible after bids are opened. The conferences should include structure and construction engineers, the resident engineer, and the structure representative. These personnel should reach agreement regarding the following items:

- Office facilities. The district must provide suitable office space and furniture for both district and structure field personnel. When the office facilities are trailers, the resident engineer and structure representative should occupy the same trailer. When the office facilities are in a building, the engineer and the representative should occupy adjacent rooms. This arrangement facilitates the assignment of the structure engineer as acting resident engineer during extended absences of the assigned resident engineer.
- Personnel for the total work. Conference participants must discuss the total work (both road work and structure work) and take full advantage of instances where people could be used interchangeably to reduce the number of people on the project. When the contractor's schedule is available, meeting participants must review the personnel required.
- Division of the work. The items should be categorized as road work and structure work. In some cases, the item may be divided by portions of items or by phases of the work. Before the start of work, the Office of Structure Construction requires from the structure representative a written report on this categorization of the work.

5-003 Preconstruction Conferences With the Contractor

Before the start of work, a conference must be held. Depending on the project's complexity, more than one conference may be desirable to limit the scope and number of individuals attending. The conferences must include the resident engineer and structure representative and may include principal assistants, the construction engineer, the district construction deputy director, the contractor's superintendent, and other key personnel. Specialists should be included too, such as the district labor compliance officer and the district safety coordinator, among others. Alternatively, the resident engineer may cover the respective responsibilities.

When environmental commitments have been made that affect or constrain the contractor's operations, the environmental-construction liaison and other appropriate environmental specialists should also attend the preconstruction conference with the contractor.

Meeting participants should discuss, among other items, the following:

- Work plans

5-003

Preconstruction Conference With the Contractor

- Equipment to be used
- Progress schedule
- Layout of job
- Labor compliance
- Equal employment opportunity
- Safety requirements
- Environmental commitments and permits
- Water pollution control requirements

This discussion affords both parties a common understanding of the proposed work and the problems and possible solutions that may be expected during the life of the contract.

The contractor should receive advance notice of the items that will be discussed. Among other documents, the contractor must bring a copy of the contractor's "Code of Safe Practices" and a water pollution control plan. The project file must contain a record of the conferences (or the reason for omitting a conference). Depending on the conference's complexity, the record can be a relatively complete set of minutes or a copy of the resident engineer's daily report.

The police, fire department, public transportation agency, schools, and other affected agencies should receive any information developed from the meetings that will affect these agencies' operations.

The list below presents guidelines for the preconstruction conference. These are reminders only. Items will be included if applicable to a specific project. Also, consider any previous experience of a particular contractor with Caltrans projects. Further, the district construction office may have completed some of the items; therefore, those items need not be included at the conference.

- Introduce all participants, including in your introduction statements about each person's responsibilities for the project.
- Discuss superintendence as well as lines of authority for both contractors and Caltrans personnel. If you have not yet received it, request the written information required by Section 5-1.16 [5-1.06] "Representative", of the *Standard Specifications*.
- Discuss the subcontracting requirements covered in Section 5-1.13 [8-1.01], "Subcontracting," of the *Standard Specifications*.
- When required by the special provisions, discuss railroad insurance.
- Discuss requirements related to labor compliance and equal employment opportunity. Advise the contractor of the deadlines for submitting payrolls and other required documents. Also advise the contractor of the contractual and administrative deductions that will be applied for noncompliance. Provide the necessary Department-furnished forms and posters.
- Review the contract's safety requirements.
- Discuss the procedure for inspecting materials, particularly the early submittal of Form CEM-3101, "Notice of Materials to Be Used."

- When the contract requires, discuss the contractor's quality control plans.
- Discuss the requirements for submitting working drawings.
- Discuss the progress schedule (if the contract requires). If the contract requires a critical path method schedule, discuss the provisions for submitting, reviewing, updating, and revising it. Refer to Section 3-803, "Progress Schedule," of this manual.
- Discuss weighing procedures, weight limitations, and the Caltrans policy on overloads. For more information, refer to Section 3-702, "Load Limitations," of this manual.
- Advise the contractor of administrative procedures and deadlines for payment for material on hand. Give the contractor the required Form CEM-5101, "Request for Payment for Materials on Hand."
- Discuss the requirements for submitting survey requests and any significant survey issues.
- Review the contract provisions about water pollution control. Discuss the contractor's water pollution control plan.
- Review the contract provisions and the environmental commitments record for environmental permits and agreements. Discuss the contractor's plan for implementing environmental commitments and environmental work windows.
- Remind the contractor to submit a program to control water pollution before beginning work.
- Discuss the requirements for handling public traffic.
- Discuss any unusual project features.
- Remind the contractor of the contractual procedures to follow in the event of disagreements. Emphasize the necessity for timely written notices. Furnish Forms CEM-6201D, "Initial Potential Claim Record"; CEM-6201E, "Supplemental Potential Claim Record"; and CEM-6201F, "Full and Final Potential Claim Record."
- Discuss the scheduling of utility work. For a discussion of utility preconstruction conferences, refer to Section 3-809, "Utility and Non-Highway Facilities," of this manual.

5-004 Resident Engineer's Daily Report

The following instructions are directed to the resident engineer:

- For each day during the project's life, make a daily report on Form CEM-4501, "Resident Engineer's Daily Report/Assistant Resident Engineer's Daily Report."
- Include any information that may be pertinent even though no activity may have occurred. For example, such information could include support for determining working or nonworking days. Include the following in the daily report:
 1. Important discussions and agreements with the contractor. Record these on the day discussed. Give the names of specific persons to whom instructions were given or with whom agreements were made. If the contractor objects or comments, note these items too. Actual quotations on significant discussion points can be useful. Through letters to the contractor, confirm important

5-004

Resident Engineer's Daily Report

verbal instructions. Also refer to Section 5-403, “Response to Disputes,” of this manual.

2. A general statement about the type of work done. Include the controlling operation and any facts concerning the work’s progress.
 3. Weather conditions such as maximum and minimum temperatures and precipitation, among other items. Expand on exceptional weather conditions.
 4. Statements of any other important facts pertaining to the contract that are not specifically covered elsewhere in the contract records.
- Keep the report concise, yet include any important information. The report should not contain routine matters, such as quantities placed, that can be found in other records.
 - Promptly send one copy of the daily report to the construction engineer, who will review the copy. After the review, the construction engineer may discard the copy or file it until the project’s completion, in accordance with district policy. Retain the original copy with the project records.

5-005 Assistant Resident Engineer’s Daily Report

5-005 Assistant Resident Engineer’s Daily Report

To report the activity for a contract item, assistant resident engineers must submit a report for each contract day. Complete the report on Form CEM-4601, “Assistant Resident Engineer’s Daily Report.” Also, use this form for reporting extra work and for labor compliance. The form contains a narrative portion and a tabular portion.

The narrative portion of the assistant resident engineer’s report should include statements about the contractor’s operation and the activities of the individual preparing the report. The description of the contractor’s operation should include the following:

- The location where the work was performed
- A brief description of the operation
- The quantities placed or the amount of work completed for the day
- Significant statements by the contractor

The statement of the assistant resident engineer’s activities should be sufficient to demonstrate the performance of duties such as those outlined in Chapter 4, “Construction Details,” of this manual. Record observations of contractor compliance or noncompliance, actions taken, statements made to the contractor, and approvals given.

Use the tabular portion of Form CEM-4601, to report the following:

- Extra work. For details, refer to Section 3-904D, “Extra Work Records,” of this manual.
- Hours worked by labor and equipment. Provide sufficient detail to permit a review of the contractor’s costs in a manner similar to force account. Using the publication titled Labor Surcharge and Equipment Rental Rates (Cost of Equipment Ownership), sufficiently identify equipment to enable the determination of applicable rental rates. Sufficiently identify the labor classification to enable determination of the appropriate wage rate. Also record the equipment’s arrival and departure dates, as well as idle time for breakdowns or other reasons. This

information can be used to make a possible adjustment of compensation due to an overrun or an underrun of quantities, a change in character, a protest, or a potential claim. The *Labor Surcharge and Equipment Rental Rates* book is available on the Caltrans website at:

<http://www.dot.ca.gov/hq/construc/equipmnt.html>

- The name of the contractor or subcontractor performing the work. When the report will be used to determine compliance with the contract's labor provisions, you must include the names or identification numbers of the contractor's personnel or report these separately. However, if the report is not for determining compliance with the contract's labor provisions, you only need to include in the tabular portion of the daily report the respective classifications of the work being performed and the number of hours worked on the date the report covers.

Distribute the assistant resident engineer's reports as follows:

- Retain the original of all reports in the project files in the field office.
- File reports covering extra work according to the procedure in Section 5-102, "Organization of Project Documents," of this manual.
- Distribute all other copies in accordance with district policy.

Refer to Section 5-102, "Organization of Project Documents," of this manual for details to consider when establishing a system for handling assistant resident engineer's reports on a specific project.

5-006 Maintenance Reviews

Keep maintenance superintendents and supervisors informed of the start of work and job progress for all construction projects within the superintendents' and supervisors' maintenance areas. Before the start of construction, send a copy of Form CEM-0101, "Resident Engineer's Report of Assignment," to the maintenance region manager.

Provide the maintenance superintendents and supervisors an opportunity to review the contract with the resident engineer and to conduct a joint field review of the job site within the first 2 weeks of construction. The intent of this field review is to accomplish the following:

- Discuss the scope of the project.
- Coordinate contingency planning for traffic management.
- Discuss Caltrans' maintenance responsibility as described in Section 3-704E, "Maintenance Within Construction Limits," of this manual.
- Discuss complex construction activities that could affect adjacent maintenance operations.
- Discuss features requiring special attention.
- Discuss manufacturers' warranties and service instructions.
- Schedule regular reviews. When the contract work is 50 percent complete, schedule at least one review, unless both construction and maintenance representatives agree the review is unnecessary.

When the project nears 90 percent completion, invite the maintenance superintendent, supervisor, or both, for a final field review of the project. Ensure this review includes

5-006 Maintenance Reviews

identifying all items necessary to comply with the construction National Pollutant Discharge Elimination System permit, Section A, “Storm Water Pollution Prevention Plan,” Subsection 7, “Stabilization.” A copy of the permit is available at the State Water Resources Control Board website:

http://www.waterboards.ca.gov/water_issues/programs/stormwater/caltrans.shtml

The resident engineer should work closely with the district maintenance personnel to make minor field adjustments to the project. The project manager must approve any amendments to the contract plans or specifications that significantly affect project cost, scope, or schedule.

When the work nears completion and just before contract acceptance, the resident engineer must notify the maintenance superintendent or supervisor to facilitate the transfer of maintenance and responsibility from the contractor to Caltrans forces.

5-007 Federal Highway Administration Involvement in Contract Administration

5-007 Federal Highway Administration Involvement in Contract Administration

When assigned the responsibility for a construction contract, the resident engineer first must determine if it is a federal-aid contract and, if so, the federal-aid classification for the contract. The resident engineer should review the construction contract and the resident engineer’s pending file, and talk to the project manager to determine the project’s federal-aid classification.

Federal Highway Administration (FHWA) funded projects are classified as either high-profile or delegated projects to indicate their involvement in the project as stated in the stewardship agreement between FHWA and Caltrans. Information on this stewardship agreement can be found on the Division of Design website:

<http://www.dot.ca.gov/hq/oppd/stewardship/index.htm>

Caltrans assigns project numbers to federally funded projects, and Caltrans and FHWA jointly determine project classifications. Caltrans then adds a suffix “N” or “E” to the end of the project number. Projects with the suffix “N” are high-profile projects. Projects with the suffix “E” are delegated projects.

5-007A Federal Highway Administration Involvement on High-Profile Projects—N

Caltrans and FHWA will jointly determine high-profile project responsibilities on a project-by-project basis and usually as part of the project development team process. They will establish which project responsibilities will be retained by FHWA and which will be delegated to Caltrans in a high-profile project agreement. The resident engineer should receive a copy of the high-profile project agreement in the resident engineer’s pending file or from the project manager. Before the start of construction, the construction senior must review the agreement with the FHWA transportation engineer and discuss FHWA’s involvement on the project.

The resident engineer is required to submit a copy of the CEM-6303, “Final Acceptance Checklist for Federal-Aid High-Profile Projects,” to the FHWA transportation engineer along with a copy of the proposed final estimate. FHWA will document the project status and final voucher the project with these documents.

5-007B Federal Highway Administration Involvement on Delegated Projects—E

Caltrans is responsible for most federal approvals and oversight requirements on delegated projects. Resident engineers are not formally required to communicate with the FHWA transportation engineer except for Buy America requirements and when there are changes to the federal environmental requirements. FHWA has delegated to Caltrans some of FHWA's authority and responsibility for compliance with National Environmental Policy Act (NEPA) and other environmental laws. Resident engineers should review the project NEPA documents and discuss with the district environmental-construction liaison, to determine if FHWA involvement is necessary when there are changes to the environmental requirements for the project. Information on Buy America requirements and FHWA involvement can be found in Section 3-605A, "Buy America Requirements" of this manual. Informal discussions with FHWA for technical guidance are encouraged.

Caltrans receives federal-aid funds indirectly from the California Office of Traffic Safety (OTS). Construction projects with a federal-aid number and OTS designation contain the same special provisions as delegated projects. The same procedures apply to OTS projects as delegated projects.