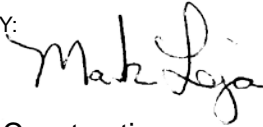


MANUAL CHANGE TRANSMITTAL		NO. 12-3
TITLE: Department of Transportation <i>Construction Manual</i>	APPROVED BY: Mark Leja Chief Division of Construction 	DATE ISSUED: August 10, 2012
SUBJECT AREA Various sections of the <i>Construction Manual</i>	ISSUING UNIT Division of Construction	
SUPERSEDES CPD 03-4	DISTRIBUTION All Requested Manual Holders	

The purpose of this manual change transmittal is to provide updates to the Caltrans *Construction Manual*.

Please update your manual according to the table below.

Section(s)	Incorporates	Remove Old Page(s)	Insert New/Revised Page(s)
Chapter 4, Section 16, "Clearing and Grubbing"	None	4-16.1 thru 4-16.3	4-16.1 thru 4-16.3
Chapter 4, Section 49, "Piling"	None	4-49.1	4-49.1 thru 4-49.2
Chapter 4, Section 50, "Prestressing Concrete"	None	4-50.1	4-50.1 thru 4-50.2

This manual change transmittal delivers the revisions of Chapter 4, Sections 4-16, 4-49, and 4-50 of the *Construction Manual*. Updated sections may contain updated language, information, corrections, formatting, and references, especially as they relate to the 2010 *Standard Specifications*. Bracketed *Standard Specification* section numbers refer to the 2006 *Standard Specifications*. Change bars in the margin indicate text that was changed or was moved.

Section 4-16, "Clearing and Grubbing"

- Updates section to align with 2010 Standard Specifications, including:
 - Deletes requirement to treat scars resulting from removal of branches.
 - Deletes limitation on payment for clearing and grubbing.

Section 4-49, "Piling"

- Updates section to align with 2010 Standard Specifications, including changing SI units to US customary units.
- Eliminates CPD 03-4, "Pile Driving Acceptance Criteria," because it is no longer needed.

Section 4-50, "Prestressing Concrete"

- Updates reference to align with 2010 Standard Specifications.

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 16 Clearing and Grubbing

Section 16 Clearing and Grubbing

4-1601 General

4-1601 General

This section covers clearing and grubbing. Clearing and grubbing is usually one of the first work items and is generally paid as a lump sum item or by the acre. During clearing and grubbing, pay special attention to the preservation of property and environmentally sensitive areas.

4-1602 Before Work Begins

4-1602 Before Work Begins

During this preliminary inspection, take the following steps:

- Review the plans, special provisions, and right-of-way agreements for details that may require special staking or issuing change orders.
- Ensure the approval of the water pollution control plan. Review the plan to ensure clearing and grubbing conforms to the plan.
- Ensure the clear marking of features and facilities that are to be preserved. Review and verify the contractor's submitted list of existing irrigation system deficiencies.
- Discuss with the contractor such items as the marking of any special locations, including environmentally sensitive areas and any additional areas to be cleared. Call the contractor's attention to any environmental commitments Caltrans made or any regulations or permits other agencies require, or both.
- Before disposing of material outside of the highway right-of-way, review any planned disposal sites. Refer to Section 5-1.20B(4) [7-1.13], "Contractor-Property Owner Agreement," of the *Standard Specifications* and Section 3-708, "Disposal of Material Outside the Highway Right-of-Way," of this manual to determine the contractor's necessary actions.
- If a planned disposal site is not available for state use, discuss the Caltrans policy in Section 7-103D, "Disposal, Staging and Borrow Sites," of this manual with the contractor. To ensure mutual understanding and agreement, hold a joint meeting including the contractor, environmental-construction liaison, and appropriate regulatory agencies. The contractor must obtain and submit permits, environmental studies, and documentation, among other items required by agencies having jurisdiction over the site. If the contractor satisfies all submittal requirements for the disposal site, provide written authorization for disposal outside the highway right-of-way.
- Before permitting the contractor to chip plant materials for disposal on the job site, investigate to determine if plant disease or insect pests will be spread to disease-free or insect-free areas. You can obtain technical advice on diseases and insects in cultivated trees from the county agricultural extension offices. For advice about natural forest trees, contact the California Department of Forestry or the U.S.

Forest Service. If the decontamination of chips is advisable and the contract does not provide for pest control, ensure this work is done as an ordered change.

4-1603 During the Course of Work

4-1603 During the Course of Work

During the work, take the following steps:

- Ensure the contractor's equipment has the required safety devices to protect personnel. In forest areas, ensure the use of the required spark arresters on equipment.
- Ensure the contractor's operation does not create a public hazard. If necessary, require traffic control during timber falling.
- Periodically observe the operation to ensure the prevention of damage to adjacent property and environmentally sensitive areas and to ensure the preservation of trees and facilities that are to remain. As set forth in permits and agreements, verify the contractor's adherence to environmental commitments and permits. For any deviations and violations, document and require corrective action by the contractor, and consult with the district environmental-construction liaison for review and comment.
- Determine the limits of clearing areas that do not require stump removal and check the height of stumps above natural ground.
- Determine if dead, dying, or otherwise unstable trees located in the right-of-way (but outside the clearing limits) constitute a hazard. Any such trees should be removed.
- The contract may state that merchantable timber is the property of other agencies. Check that any timber handling adheres to the agreement with these agencies.
- When burial of debris within the right-of-way is permitted, ensure the debris will not act as a permeable layer, does not block drainage, and will not interfere with maintenance. Also, ensure no material is buried within the roadway prism unless otherwise allowed in the special provisions.
- Ensure that the burial of debris, both on and off the right-of-way, is not aesthetically detrimental and does not create contamination problems. Keep accurate records whenever any solid waste that might interfere with future work is disposed of by burying it adjacent to the roadway. Show this information on the as-built plans.
- When burning is permitted, ensure the contractor has obtained a permit from the air pollution control officer of the local or regional authority. Prohibit burning at locations where the smoke will impede visibility for public traffic. Ensure the contractor takes adequate precautions, such as constructing fire trails and posting guards, to prevent the uncontrolled spreading of fires. When poison ivy, oak, or sumac is present in areas where burning is otherwise permitted, ensure the burning of such material complies with any local ordinances or safety regulations.
- Ensure that tree branches extending over the roadway are cut off as required by Section 16-1.03B, "Clearing," of the *Standard Specifications*. During the removal of additional branches, direct the contractor to give the trees a balanced appearance.

- A checklist showing locations where clearing is incomplete may be necessary in the final stages of the operation. Complete payment should not be made until all areas have a neat and finished appearance.

4-1604 Measurement and Payment

If the work is not to be completed within one pay period, determine a pay system that provides for periodic payments that represent the true percentage of the work completed.

4-1604 Measurement and Payment

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 49 Piling

4-4901 General

Section 49, “Piling,” of the *Standard Specifications* includes specifications for cast-in-place concrete, steel, timber, and precast prestressed concrete piling. Other materials for piling may be shown on the plans or required in the special provisions. For detailed information regarding piling, see Section 130, “Foundations,” of the Office of Structure Construction’s (OSC’s) *Bridge Construction Records and Procedures*:

<http://www.dot.ca.gov/hq/esc/construction/manuals/OSCCCompleteManuals/BCRPVol2.pdf>

and OSC’s *Foundation Manual*:

<http://www.dot.ca.gov/hq/esc/construction/manuals/OSCCCompleteManuals/Foundation.pdf>

4-4902 Before Work Begins

Before work begins, do the following:

- Review the project plans with the contractor to determine the locations where piling will be installed adjacent to traffic lanes open to the public. Require the contractor to submit for authorization a work plan for those locations where the distance from the pile driving area to the nearest traffic lane open to the public is less than the length of piles to be handled or installed. Review and authorize the plan before allowing the contractor to start piling operations adjacent to traffic lanes open to the public.
- At the start of a project, do a field review of locations where piling is to be installed, and check for overhead obstructions and underground utilities that the project plans may not have addressed. Early identification of conflicts can avoid lengthy and costly project delays.
- Verify that Form CEM-3101, “Notice of Materials to Be Used” includes piling materials. Refer to Section 6-202, “Responsibilities and Procedures for Acceptance of Materials,” of this manual for additional information.
- For instructions on preparing pile records to be kept during piling operations, review Bridge Construction Memo 3-7.0, “Pile Records,” of *Bridge Construction Records and Procedures*.

4-4903 During the Course of Work

Piling operations are dangerous. The OSC *Foundation Manual* contains safety information for various types of piling operations. In addition, the OSC Code of Safe Practices contains guidelines to follow for various piling operations. Before the

Section 49 Piling

4-4901 General

4-4902 Before Work Begins

4-4903 During the Course of Work

contractor's operations begin, review both sources of information and the contractor's work plan, if required, in a tailgate safety meeting.

Record drilling and driving information required in Bridge Construction Memo 3-7.0, "Pile Records." At the completion of the piling operation, forward the piling information collected to the OSC office in Sacramento.

**4-4904
Measurement and
Payment**

4-4904 Measurement and Payment

For furnish piling bid items, measure by the foot the longest side from the tip of the pile to the plane of pile cutoff. Driven piles include an added item for driving each pile. Record information about drilling, driving, and measurements in accordance with Bridge Construction Memo 3-7.0, "Pile Records."

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 50 Prestressing Concrete

4-5001 General

Section 50, “Prestressing Concrete,” of the *Standard Specifications* includes specifications for prestressing precast or cast-in-place concrete by tensioning prestressing steel. For detailed information regarding prestressed concrete, see the Office of Structure Construction’s (OSC’s) Section 160, “Prestressed Concrete,” of *Bridge Construction Records and Procedures*:

<http://www.dot.ca.gov/hq/esc/construction/manuals/OSCCCompleteManuals/BCRPVol2.pdf>

and OSC’s *Prestress Manual*:

http://www.dot.ca.gov/hq/esc/construction/manuals/OSCCCompleteManuals/PrestressManual_Rev1.pdf

4-5002 Before Work Begins

To comply with Section 5-1.23 [5-1.02], “Submittals,” of the *Standard Specifications*, the contractor must submit for authorization the shop drawings of the proposed prestressing system. The shop drawings are submitted directly to the Office of Structure Design documents unit, as specified in Section 50, “Prestressing Concrete,” of the *Standard Specifications*. The review of the working drawings is a coordinated effort between the Office of Structure Design and the OSC. The Office of Structure Design has the primary responsibility for authorizing the shop drawings.

Before work begins, take the following steps:

- Verify the receipt and proper distribution of Form CEM-3101, “Notice of Materials to Be Used,” which includes prestressing materials. Refer to Section 6-202, “Responsibilities and Procedures for Acceptance of Materials,” of this manual for additional information.
- Review the *OSC Prestress Manual* for instructions on prestressing records to keep during prestressing operations.
- Before the contractor’s operations begin, review both sources of information in a tailgate safety meeting.

4-5003 During the Course of Work

Prestressing operations are dangerous. The *OSC Prestress Manual* contains safety information for prestressing operations. The OSC Code of Safe Practices, found on the OSC website, contains safety guidelines for prestressing operations.

After completing the work for each structure, the contractor must electronically submit corrected as-built drawings to the resident engineer for transmittal to the Office of

Section 50 Prestressing Concrete

4-5001 General

4-5002 Before Work Begins

4-5003 During the Course of Work

Structure Design documents unit. Remind the contractor that final contract acceptance will not occur until the corrected as-built drawings have been submitted.

**4-5004
Measurement and
Payment**

4-5004 Measurement and Payment

The contract price for furnishing precast members includes payment for prestressing precast concrete members. Prestressing cast-in-place concrete is paid for on the basis of a lump sum price. For guidelines for making monthly progress payments for prestressing cast-in-place concrete, see Bridge Construction Memo 6-4.0, "Partial Payments," of *Bridge Construction Records and Procedures*.