Chapter 1: Introduction

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1-1 About this Manual

This manual has been developed to assist field personnel responsible for the administration of projects that involve the rehabilitation of existing structures. The information presented in this chapter follows the typical sequence of construction activity on a rehabilitation project. Rehabilitation of existing structures involves many construction activities that would also occur in the construction of new structures.

Accordingly, Structure Construction (SC) has provided ample information in various manuals to explain construction activities that would apply to any type of structure. A goal of this manual is to avoid reiteration of information common to all structures. Instead, this chapter provides references to applicable material found in other manuals and focuses on topics of structure rehabilitation that have not been covered elsewhere.

As part of the broader Quality Management System (QMS) implementation, the Bridge Construction Memos (BCMs) in the *Bridge Construction Records and Procedures (BCR&P) Manual* are intended to describe the procedures (and, by the same token, SC construction policies) related to SC staff duties. In other words, the "What to do" is intended to be covered in the *BCR&P Manual*. The information presented in this chapter is aimed at complementing BCMs in the *BCR&P Manual* and providing the "How to do" as well as "justification of" the BCMs.

The chapters of this manual are generally divided into the following two parts:

- Part 1 describes the contract requirements and provides an understanding of the product that the Contractor is tasked to construct, describing related special provisions, standard specifications, standard plans, and other contract components.
- Part 2 complements the BCMs; the "How to do" component of "What to do". This part describes the SC staff's Quality Assurance (QA) duty, how they administer the contract, and the steps taken regarding risks/opportunities identified in BCMs to verify and document that the product created by the Contractor complies with the contract and quality requirements for the product.

Part 1 and Part 2 also fit conveniently into the sequence of work activities SC staff perform when assigned a project.

At the start of the project, SC staff typically begin to plan for their projects by studying the project plans and related contract requirements. In other words, at the beginning of a project, SC staff should complete Part 1 by familiarizing themselves with the product the Contractor needs to deliver. Then SC staff complete Part 2, which includes performing field inspection and contract administration.

1-2 The Life Cycle of a Bridge and the Importance of Bridge Rehabilitation

As structures age, rehabilitation work is needed to keep structures in good working order. Bridge structures, for example, have a life cycle. When they are new, little maintenance needs to be done to keep them in good condition. Throughout their life span, they need regular maintenance, such as replacing joint seals. As they reach the middle of their life span, they may require more work to remain in good condition, including things such as barrier rail upgrades or deck treatments. As they age further, they may need more extensive work, such as deck replacements or strengthening. Ultimately, one day they will need to be replaced. With a well-maintained structure, the life span can be extended well beyond its design life. Many bridges that are replaced are due to their inability to accommodate current traffic demands. The cost of replacing a structurally deficient bridge is very high. That is why it is important to have a strong program for maintaining and rehabilitating existing bridges whenever possible.

With most of the bridges in California reaching the middle or end of their design life, it is anticipated that there will be an increase in rehabilitation work on structures. This manual was created so SC field engineers will be better equipped to work on rehabilitation projects. Although this manual covers most types of rehabilitation work, predicting all future methods is impossible; thus, the SC field engineer needs to develop and exercise good engineering judgment.

1-3 Pre-job Preparation and Planning

In explaining SC field engineers' role in rehabilitation projects, this work will be discussed in two parts:

- Part 1: Pre-job preparation and planning
- Part 2: Field inspection and contract administration

As with any construction activity, Part 1 begins with significant pre-job preparation and planning by both the Contractor and SC field engineers before actual fieldwork starts. The planning and pre-job preparation is a very important step in delivering projects on time and within budget while meeting quality and safety requirements.

Activities involved in the pre-job preparation and planning include:

1. Reviewing and understanding all pertinent contract documents.
2. Understanding current job-site conditions. This work involves reviewing as-built drawings and the Resident Engineer's (RE) Pending File, visiting the job site, observing current job-site conditions, and documenting any matter that might

affect the construction project via photographs and written notes. SC staff should refer to BCM C-2, *Using the Resident Engineer's Pending File for Structure Work*, when performing this task.

3. Having internal Caltrans meetings and discussions, including the RE office personnel and the structure design personnel, to address any concerns or issues with current field conditions and clarifying any specific contract requirements.
4. Reviewing and authorizing the Contractor's construction submittals. The *Standard Specifications* (*SS*) requires the Contractor to deliver several types of submittals for review and authorization by the Engineer before the start of the construction activity. These submittals describe the Contractor's plan for various construction operations and the materials they intend to use. A careful review of submittals is required to verify that all Contractor construction plans satisfy the corresponding contract requirements.
5. Meeting with Contractor personnel and resolving any issues with their construction plan as described in their submittals, as well as discussing any other concerns (field visit observations, contract requirements, etc.).

In Part 2, once construction has started, SC staff are involved in the field inspection and contract administration activities described below:

1. Verifying that the construction activity and materials comply with authorized submittals and all contract requirements.
2. Preparing documentation that must be filed in the project folders along with documents that must be submitted to SC Headquarters (HQ) at the end of the job, such as as-builts and reports of completion. BCM C-6, *Required Documents to be Submitted During Construction*, establishes the procedure for submitting the required documents.

In this section, each of the activities described in Part 1 will be looked at. In later chapters, Part 2 will be covered when specific types of rehabilitation projects are discussed- such as barrier rail or joint seal replacement.

1-3.01 Understanding Project Documents and Requirements

To verify the Contractor's compliance with all the project requirements, a detailed study of all pertinent contract documents is necessary. This section will provide a general overview of contract documents commonly encountered during rehabilitation projects. In later chapters of this manual, contract documents will be looked at again to explain in more detail the requirements specific to each type of structure rehabilitation operation.

1-3.01A Contract Plans

Figure 1-1 shows the first page of a sample project plan sheet that is referred to as the "Title and Location Map" plan sheet. On this sheet, an Index of Plans is provided that lists the various sections of the plans. The index typically provides a section labelled "Structure Plans". The plan sections above the Structure Plans are commonly referred to as "Roadway Plans" whereas the plan sections below the Structure Plans are plans specific to a given structure.

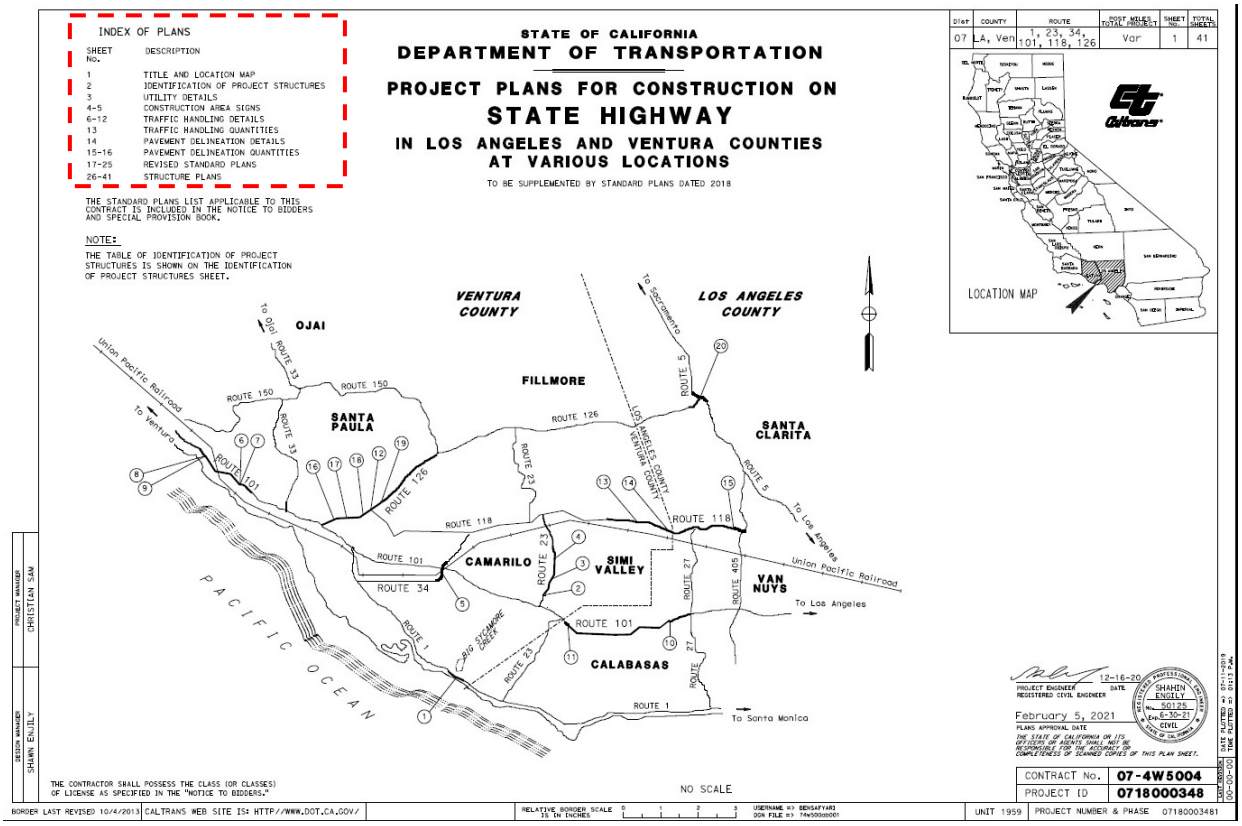


Figure 1-1. Sample "Title and Location Map" Sheet Showing the Index of Plans

1. Roadway Plans:

   There are several sections of the Roadway Plans that outline the requirements for rehabilitation projects. Below is a list of the common sections along with a brief description:

   a. "Construction Details" plan sheets:

      This section often provides construction details such as:

      i. Limits of Aerially Deposited Lead

      ii. Transition at Bridge Columns

      iii. Aesthetic Soundwall

SC staff need to examine the details described in this section and determine which plan sheets are needed for inspection of structure items. For example, in a rehabilitation project involving barrier replacement with soundwall on top, an “Aesthetic Soundwall Details” sheet is often provided to describe the masonry wall architectural pattern and thus is needed when inspecting soundwall construction.

b. “Utility Plans” and “Electrical Plans” sheets:

Often, utility lines are carried inside the barrier or sometimes are attached to the exterior of the barrier or under the bridge overhang. Examples of the types of utilities carried are communication lines, electrical lines, and small irrigation water supply lines. These plan sheets describe the type of utilities that might be installed, relocated, or otherwise rearranged. The presence of these utilities affects the construction schedule of various rehabilitation operations and the construction of the bridge item being rehabilitated. For example, the installation of utilities often requires additional hardware to be incorporated into the construction of the barrier. SC field staff need to communicate with the RE office to verify that all contract requirements for the utilities are complied with.

c. “Stage Construction Plans” and “Traffic Handling Plans” sheets

Plan sheets in this section, along with the related special provision section “Maintaining Traffic”, describe the traffic-handling requirements of the project. The requirements of traffic handling provide the schedule and the available State right-of-way during construction. Available construction windows, choice of construction equipment, number of construction crews, and types of devices used for protection of existing highway facilities are directly affected by the requirements of traffic handling plans. When reviewing Contractor submittals for removal plans, SC field staff should seek the assistance of the RE office in verifying that the submittals comply with the traffic handling plan.

2. Structure Plans:

Plan sheets that describe plans specific to a given structure and (for a bridge project) typically consist of the “General Plan” sheet, “Stage Construction”, “Abutment Layout”, “Abutment Details”, “Typical Section”, and “Architectural Details”. This section will be revisited in later chapters when a specific type of bridge rehabilitation operation is discussed.

1-3.01B Special Provisions

Special provisions (SP) describe project-specific requirements. Several requirements are commonly found in most rehabilitation projects' special provisions. Below is a list with a brief description of the requirements that are frequently provided in the rehabilitation projects SP.

1. Maintaining traffic:

   This section provides requirements for traffic closures. Frequently, this section significantly affects the work schedule of rehabilitation projects.

2. Noise control, bird protection, and bat protection:

   These SP sections often affect the construction and the schedule of the rehabilitation project. While *Standard Specifications* Section 14, *Environmental Stewardship*, provides general requirements, depending on the geographical location, specific environmental conditions might present requirements that must be addressed during construction. For example, the presence of endangered species in a river flowing under the bridge, or the nesting of protected species of birds on or near a bridge, might limit construction windows to certain times of the year or restrict permissible activities and allotted space for construction. Similarly, nearby radio stations or recording studios might require more stringent noise requirements. Noise control requirements might affect the construction schedule, allowable working hours, and the allowable type of equipment used. SC field staff should seek assistance from the RE to verify compliance with environmental requirements.

3. Revised standard specifications:

   These may also be included in the special provisions and would need to be cross-referenced. Note that these were more typical in specifications issued prior to 2022, when new specification editions were issued every several years.

1-3.01C Supplemental Project Information

This is a packet of information included in the bid documents that may include:

1. Specific permits that are often issued to Caltrans by various government agencies, such as Fish and Wildlife, for the construction of a project. These permits often describe requirements and restrictions on various aspects of the construction activities; temporary easement and temporary right-of-way access are a few examples of type of restrictions and requirements that might be described on a permit issued to Caltrans for a project. The RE should be consulted about details of any permit restrictions or requirements that might affect construction on a rehabilitation project.

2. An *Information Handout*: This may include additional environmental information as well as the Geotechnical Design Reports.

1-3.01D Standard Specifications

Although in some SC manuals and Bridge Construction Memos (BCMs) the inclusive term *Contract Specifications* is often used in lieu of *Standard Specifications*, this manual will generally refer to the *Standard Specifications* and the *Special Provisions* separately.

Below, several sections of the standard specifications that describe requirements common to most rehabilitation projects will be looked at.

1. **Section 5-1.37, *Control of Work – Maintenance and Protection***

   During any construction work, cranes might be used for lifting forms or excavators might be used for removing portions of the bridge, such as during a barrier replacement project; such pieces of equipment are often very heavy and this section of the specifications describes load limitations on equipment that may be placed on a bridge. See Figure 1-2 for an example of heavy equipment used for a barrier replacement project to construct a temporary structure to catch falling debris.

Figure 1-2. Example of Heavy Equipment on Bridge

2. **Section 7-1.04, *Legal Relations and Responsibility to the Public – Public Safety***

   Some structure work including structure rehabilitation work might involve operations that would reduce the vertical and horizontal clearances; examples of such operation could be the placement of a steel plate under the bridge to protect the road from falling debris during barrier/overhang removal or attachment of brackets to the exterior girder of bridge to support replacement or walkway

planks, as illustrated in Figure 1-3. This section requires the Contractor to notify the Engineer not less than 25 days and not more than 125 days before the anticipated start of an activity that will change the vertical or horizontal clearance available to traffic, including shoulders.

3. **Section 14, *Environmental Stewardship***

   This section of the standard specifications describes requirements related to environmental compliance and environmental resource management.

   An example of environmental resource management specifications that might affect the scheduling and construction of a rehabilitation operation is Section 14-6.03, *Environmental Stewardship – Biological Resources – Species Protection*.

   During rehabilitation projects, asbestos, lead paint (e.g., on steel girders), and other hazardous material might be encountered. Also, construction activities have the potential to create significant dust and noise.

   Examples of additional environmental compliance specifications that might affect a rehabilitation project include:

   a. Section 14-7.03, *Environmental Stewardship – Paleontological Resources - Discovery of Unanticipated Asbestos and Hazardous Substances*
   b. Section 14-8, *Environmental Stewardship – Noise and Vibration*
   c. Section 14-9, *Environmental Stewardship – Air Quality*
   d. Section 14-11.04, *Environmental Stewardship – Hazardous Waste And Contamination-Dust Control*, and
   e. Section 14-11.13, *Environmental Stewardship – Hazardous Waste And Contamination-Disturbance of Existing Paint Systems on Bridges*.

4. **Section 48, *Temporary Structures***

   This section describes the material requirements, design loads (vertical and horizontal), as well as allowable stresses and deflections for the temporary structure.

   During the construction of rehabilitation projects, temporary structures:

   a. Might be created for the removal of the existing structure, for building the new structure elements, or both.
   b. Are sometimes built to support forming the new part of the structure and to provide a walkway for the construction crew.
   c. Are also created to catch any falling debris during existing structure removal, such as barrier removal over the railroad.
   d. Can also be used to support existing structures when an element of the structure needs to be replaced.

For example, during a bridge bearing replacement operation, a temporary structure is needed to support an existing bridge while bearings are being replaced. See Figure 1-3 for an example of a temporary structure created as a walkway and for debris containment.

Figure 1-3. Temporary Walkway and Debris Containment

5. **Section 60, *Existing Structures***

   This section describes requirements for performing work on existing structures, including structure removal, structure rehabilitation, structure modification, and structure abandonment. This section will be revisited in all other chapters and describes in detail the requirements for specific types of structure rehabilitation work.

6. **Other sections**

   Depending on the project, various roadway elements such as utilities, sign structures, chain-link fences, or sound walls might be installed on a rehabilitated structure. As such, SC staff might also need to understand specifications described in other sections, which may include:

   a. Section 58, *Sound walls*
   b. Section 83, *Railing and Barriers,* and
   c. Section 87, *Electrical Systems*.

   Some of these sections will be discussed in later chapters to describe requirements specific to a type of rehabilitation work.

1-3.01E Standard Plans

The *Standard Plans* provide details for common roadway and structural elements used on Caltrans projects; they are divided into several sections that are specific to standard structural elements, such as barriers or piles. This section will be revisited in later chapters to describe plan details applicable to a specific type of rehabilitation work.

1-3.01F Legal Requirements Including Safety Requirements

Standard Specifications (SS) Section 7-1.02, *Legal Relations and Responsibility to the Public – Laws*, requires the Contractor to comply with laws, regulations, orders, and decrees applicable to the project. Legal requirements, including public and worker safety that the Contractor must comply with, will be described when various rehabilitation work in the following chapters is discussed.

1-3.02 Understanding Current Job Site Conditions - Field Visits in Preconstruction

As part of preconstruction preparation, SC staff should conduct a field visit for the following reasons:

1. To verify/observe the current condition of the structure and note any recent damage or changes, such as nesting or encampment, that might affect the construction of the rehabilitation project. As structures age, cracks, chips, spalls, and various other damage occur. It is important to note any damage or changes that might affect the construction as soon as possible to mitigate their effects and minimize their impact on project schedule.
2. Observing details that might not be shown or are not clear on the as-built project plans. Currently, as-built project plans for structures are available on the BIRIS system (or alternatively in BView[1]). However, the records in the BIRIS system of old structures are often scanned images of old hand-drafted bridge plans. Sometimes, these scanned images are not easy to read. Also, important details of some items installed on the bridge may not be shown on the structure plans and instead be included on roadway plans, such as roadway signs. These items might interfere with the planned construction. It is important to realize that BIRIS is intended to be an archive of the bridge plans and not the roadway plans. As such, without the assistance of archive retrieval tools such as BIRIS, as-built records of roadway plans might not be readily available and field visits may be a more convenient way of gathering the required information. For example, Figure 1-4 shows a roadway sign that was attached to the bridge but was not indicated on the structure's as-built project plans. This sign interfered with the Contractor's proposed installation of brackets used to remove and replace the bridge barrier

[1] Caltrans internal use only

and overhang. In this example, the Contractor removed and reinstalled the sign after construction was complete.

Figure 1-4. Example of a Field and Construction Conflict

3. To document the condition of the bridge via photo, video, or hand-written notes; this is useful to prevent or resolve claims. During the construction, inadvertent damage to a structure might occur, which the Contractor would need to repair. Preconstruction photos are intended to document the initial state of the structure to identify any new damage that may occur during construction.

1-3.03 Internal Discussions and Meetings

After reviewing project documents and making a preconstruction field visit, SC field staff commonly meet with other Caltrans personnel, including the RE personnel and the structure design personnel, to discuss any concerns or issues with current field conditions and clarify any specific contract requirements. Also, meeting with the RE affords all parties clarity on the division of work regarding field inspection duties.

It is important to realize that contract plans take time to develop. As a result, field conditions might differ from those illustrated in the project plans. In rehabilitation projects, review of current Bridge Inspection Reports (BIR) is an important element in assessing current field conditions. SC staff may contact the Area Bridge Maintenance Engineer (ABME) to discuss any bridge rehabilitation issues, such as structural defects, load rating, or any other matters of concern in the BIR. Note that these resources are found within Structure Maintenance & Investigations[1] (SM&I).

1-3.04 Contractor's Submittals

In this section, submittals that are commonly required for rehabilitation projects will be discussed. Each submittal is first identified by the source of the contract document specifications, and then a brief explanation of the submittal and its review is presented.

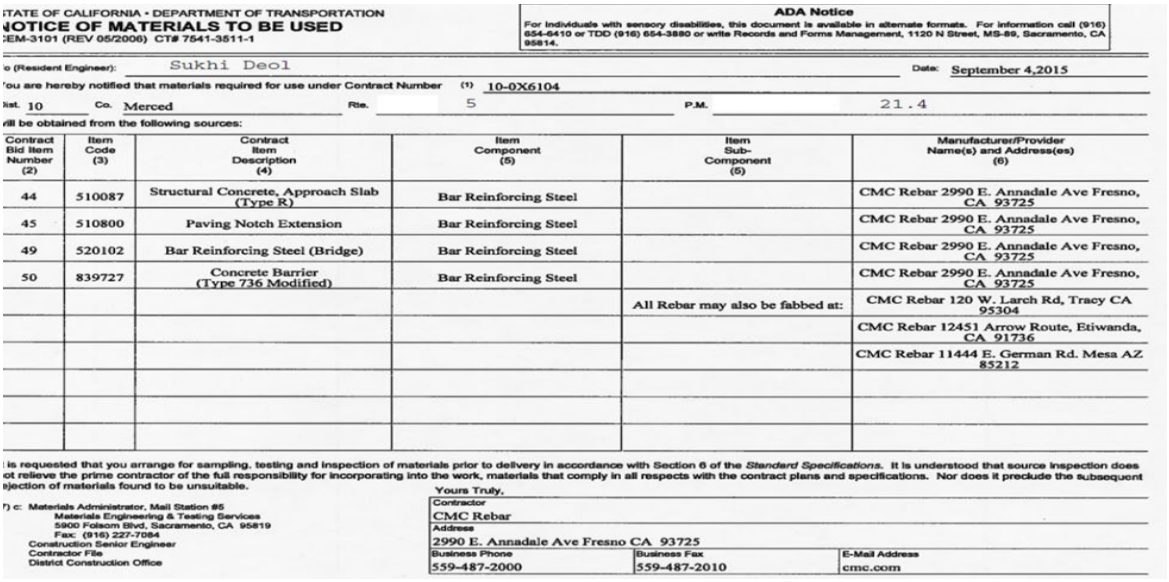
[1] Caltrans internal use only

Many submittals are required to be reviewed and authorized by other organizations before the Engineer may authorize the submittal to the Contractor; a notable example is the railroad entities that require Caltrans to provide Contractor submittals for railroad review and authorization before Caltrans can work on the railroad right of way. It should also be noted that there might be additional submittals required by the specifications depending on the type of activities that the Contractor needs to perform. For example, if the Contractor is planning to build a temporary structure to capture removal debris during demolition, then a submittal to construct a temporary structure will be needed. Later chapters will discuss submittals that are required for specific construction activities.

To follow are sections of the standard specifications that include submittal requirements:

1. ***SS* Section 6-1.01, *Control of Materials – General*** (for Notice of Materials to be Used)

   This section of the specifications is related to the control of materials. At the end of every project, the Structure Representative is required to certify that all materials used in the project meet contract specification requirements. A Contractor submitted Form CEM-3101, *Notice of Materials to be Used*, is the first step of the certification process for every material to be used on a project. Figure 1-5 illustrates an example of this form.



ITATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
NOTICE OF MATERIALS TO BE USED
EM-3101 (REV 05/2006) CT# 7541-3511-1

ADA Notice
For individuals with sensory disabilities, this document is available in alternate formats. For information call (916) 654-6410 or TDD (916) 654-3880 or write Records and Forms Management, 1120 N Street, MS-89, Sacramento, CA 95814.

o (Resident Engineer): Sukhi Deol Date: September 4,2015

ou are hereby notified that materials required for use under Contract Number (1) 10-0X6104

ist. 10 Co. Merced Rte. 5 P.M. 21.4

ill be obtained from the following sources:

Contract Bid Item Number (2)	Item Code (3)	Contract Item Description (4)	Item Component (5)	Item Sub-Component (5)	Manufacturer/Provider Name(s) and Address(es) (6)
44	510087	Structural Concrete, Approach Slab (Type R)	Bar Reinforcing Steel		CMC Rebar 2990 E. Annadale Ave Fresno, CA 93725
45	510800	Paving Notch Extension	Bar Reinforcing Steel		CMC Rebar 2990 E. Annadale Ave Fresno, CA 93725
49	520102	Bar Reinforcing Steel (Bridge)	Bar Reinforcing Steel		CMC Rebar 2990 E. Annadale Ave Fresno, CA 93725
50	839727	Concrete Barrier (Type 736 Modified)	Bar Reinforcing Steel		CMC Rebar 2990 E. Annadale Ave Fresno, CA 93725
				All Rebar may also be fabbed at:	CMC Rebar 120 W. Larch Rd, Tracy CA 95304
					CMC Rebar 12451 Arrow Route, Etiwanda, CA 91736
					CMC Rebar 11444 E. German Rd. Mesa AZ 85212

is requested that you arrange for sampling, testing and inspection of materials prior to delivery in accordance with Section 6 of the *Standard Specifications*. It is understood that source inspection does ot relieve the prime contractor of the full responsibility for incorporating into the work, materials that comply in all respects with the contract plans and specifications. Nor does it preclude the subsequent ejection of materials found to be unsuitable.

Yours Truly,

Contractor: CMC Rebar
Address: 2990 E. Annadale Ave Fresno CA 93725
Business Phone: 559-487-2000 | Business Fax: 559-487-2010 | E-Mail Address: cmc.com

) c: Materials Administrator, Mail Station #5
Materials Engineering & Testing Services
5900 Folsom Blvd, Sacramento, CA 95819
Fax: (916) 227-7084
Construction Senior Engineer
Contractor File
District Construction Office

Figure 1-5. Sample Notice of Materials to be Used Form

As mentioned previously, when a subject is covered in another manual, reiteration is avoided, and instead, a reference to the material is provided. The *Construction Manual* Section 3-6, *General Provisions – Control of Materials*, provides guidance on how to process Form CEM-3101.

2. ***SS* Section 60-2.02A(3), *Existing Structures – Structure Removal – Bridge Removal – Submittals***

   This section includes requirements for a bridge removal work plan. This submittal describes the contract requirements for the removal of any portion of a bridge or the complete removal of a bridge. BCM 60-2.02A(3-4), *Existing Structures – Structure Removal – Submittals and Quality Assurance,* describes the review and authorization of bridge removal submittals. It is important to remember that for bridge removal work plans, the registered civil engineer signing the work plan must always be present during bridge removal activities. If the engineer signing the work plan becomes unavailable for a future bridge removal operation, the Contractor must resubmit the plan with their new registered civil engineer signing the plans. In reviewing the bridge removal work plan, the Structure Representative is advised to consult with the project-specific Bridge Design Project Engineer to verify that the Contractor's registered civil engineer's design calculations and procedure adequately demonstrate the stability of the structure during all stages of the removal operations. It is critical that the Engineer considers all the design loads acting on the bridge, and follows the load path to verify that the removed portion of the bridge does not create an unstable structure. Please refer to the *Bridge Removal Manual* for further information.

3. ***SS* Section 90-1.01C(6), *Concrete – Submittals – Mix Design***

   The specifications require the Contractor to submit a mix design for any concrete to be used in the work. BCM 90-1, *Concrete – General*, describes the detail and procedure to review a mix design. Also, the *Concrete Technology Manual* provides information about concrete characteristics and technology.

4. ***SS* Section 48-2.01C(2), *Temporary Structures – Falsework – Shop Drawings*** and ***SS* Section 48-3.01C(2), *Temporary Structures – Temporary Supports – Shop Drawings***

   When a temporary structure is needed to construct a bridge element, such as a barrier or bridge stem and soffit, the specifications require the Contractor to provide a falsework submittal and/or temporary support submittal. When reviewing temporary structure submittals, please refer to the following resources for details of the review and authorization process: BCM C-11, *Shop Drawing Review of Temporary Structures*, and *Falsework Manual* Chapter 2, *Review of Shop Drawings*.

5. ***SS* Section 7-1.04*, Legal Relations and Responsibility to the Public – Public Safety*** (Informational Submittal)

   When the installation of a temporary structure becomes necessary for a rehabilitation project, the temporary structure might affect the vertical or horizontal clearances available for traffic. The standard specifications require the Contractor to "Notify the Engineer not less than 25 days and not more than 125

days before the anticipated start of an activity that will change the vertical or horizontal clearance available to traffic, including shoulders". For processing this notification please refer to the following items:

a. *Construction Manual* Section 3-703A(1), *General Provisions – Temporary Vertical and Horizontal Clearance Changes*

b. *Falsework Manual* Section 4-12.02, *Design Considerations – Falsework Openings*

c. BCM C-6, *Required Documents to be Submitted During Construction*

   i. Attachment 1, *List of Required Documents Submitted to SC HQ* (Item 6, Permanent Vertical Clearance, applies to temporary conditions as well)

   ii. Attachment 2, *Guidance for Completing Required Documents Submitted to SC HQ* (Item 6 as stated above)

6. ***SS* 14-11.02, *Environmental Stewardship – Discovery of Unanticipated Asbestos and Hazardous Substances***

   The standard specifications require the Contractor to notify the Engineer if the Contractor reasonably believes they discovered asbestos or another hazardous substance.

7. ***SP* 14-11.16D *Environmental Stewardship – Asbestos-Containing Construction Materials in Bridges – Submittals*** (for various submittals)

   On some projects where asbestos-containing waste material (for example, when old barriers need to be removed) is expected, the *Special Provisions* will include a contract requirement for various submittals, which may include:

   a. An asbestos compliance plan

   b. An asbestos removal work plan

   c. An asbestos removal report.

1-3.05 Conducting a Preconstruction Meeting with the Contractor

The purpose of a preconstruction meeting, in general, is to establish contacts and communication protocol for the Contractor, the Engineer, and their representatives involved on a construction project, and to afford all parties a common understanding of the construction process, any needed testing, and clarification of how the Contractor plans to meet certain contract requirements for specific construction activities.

The preconstruction meeting described in this section should **not** be confused with the preconstruction conference of *SS* Section 8-1.03, *Prosecution and Progress* –

Preconstruction Conference. For certain activities, such as CIDH concrete pile construction, the standard specifications require a preconstruction meeting. However, when such a meeting is not contractually required, the Structure Representative and the Contractor will determine together whether one is warranted. Several BCMs discuss preconstruction meetings that are not contractually required but are recommended.

The meeting agenda often includes a discussion of the Contractor's submittal plans. For the preconstruction meeting, the attendees include the Resident Engineer, Structure Representative, Assistant Structure Representatives, Materials Engineering and Testing Services Representative (METS Rep), Contractor's Project Manager, Project Superintendent, and any subcontractor's personnel responsible for making key construction field decisions. In the meeting, the following items are generally discussed; however, the SR will create a meeting agenda to include project-specific requirements:

1. Standard specifications
2. Special provisions
3. Cal/OSHA Construction Safety Orders
4. *Falsework Manual* (if necessary).