STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

MANUAL CHANGE TRANSMITTAL

NO. **14-3**

TITLE:	APPROVED BY:	DATE ISSUED:
Department of Transportation *Construction Manual*	Mark Leja, Chief Division of Construction	May 23, 2014
SUBJECT AREA Table of Contents and various sections of the *Construction Manual*	ISSUING UNIT Division of Construction	
SUPERSEDES CPBs 08-2, 09-13, 10-1, 11-5, 12-2	DISTRIBUTION All Requested Manual Holders	

This manual change transmittal delivers the revisions of the Chapter 7, Section 1 of the *Construction Manual.* Updated 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)
Table of Contents	None	TOC.4	TOC.4
Goldenrod, Chapter 7, Section 1, "Environmental Rules and Requirements"	None	7-1.i thru 7-1.ii	7-1.i thru 7-1.ii
Chapter 7, Section 1, "Environmental Rules and Requirements"	All of CPB: 08-2, 09-13, 10-1, 11-5, 12-2	7-1.1 thru 7-1.24	7-1.1 thru 7-1.35

Section 7-1, "Environmental Rules and Requirements"

- Updates references to align with 2010 *Standard Specifications.*
- Adds subsections to align with 2010 *Standard Specifications*.
- Adds responsibilities of resident engineer and contractor inspectors to emphasize their roles for protecting various environmental resources during construction.

- Incorporates the following Construction Policy Bulletins:
  - CPB 08-2, "Construction Project Stormwater Compliance Evaluation Plan."
  - CPB 09-13, Aerially Deposited Lead."
  - CPB 10-1, "Emissions Reduction."
  - CPB 11-5, "Revised Guidance for SMARA."
  - CPB 12-2, "Initiating, Terminating, and Reporting on Projects Subject to the Provisions of the Construction General Permit"
- Allows for contractor's personnel to be designated as a SMARTS data entry person.
- Updates list of state, federal, and local agency permits, licenses, agreements, and certifications.
- The content of 2001 Standard Specifications Section 4-10, "Dust Control" is moved into Section 7-1.
- Updated to reflect elimination of some construction forms.

CONSTRUCTION MANUAL

TABLE OF CONTENTS

Chapter-Section

Section 1 Environmental Rules and Requirements

Chapter 7 Environmental Stewardship

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 1 Environmental Rules and Requirements

Section 1 Environmental Rules and Requirements

7-101 General

7-101 General

This section provides information and guidelines for administering the various environmental requirements for Caltrans construction contracts.

The district construction deputy director is responsible for ensuring that environmental permit, license, agreement, and certification (PLAC) requirements are enforced. Within district construction, stormwater coordinators are appointed. Within either the district environmental or district construction unit, environmental construction liaisons are appointed. The environmental construction liaisons must have appropriate training, background, and experience to facilitate effective communications necessary to carry out the responsibilities of both district construction and the district environmental unit. To meet legal requirements, district construction staff must coordinate and communicate with environmental staff, possess appropriate skills, receive appropriate training, and understand their role in successfully carrying out environmental commitments, including PLACs, within the contract requirements.

7-102 Environmental Commitments Record

7-102 Environmental Commitments Record

Caltrans established the Environmental Commitments Record (ECR) in a memo dated June 5, 2005 from the chief engineer to ensure that Caltrans meets its environmental commitments by:

- Documenting all environmental commitments including PLACs made for an individual project.
- Specifying how each commitment will be met.
- Documenting the completion of each commitment.

The ECR contains all relevant environmental compliance information and PLAC requirements; basic project information, including each environmental commitment, person, or unit responsible for commitment completion; timing and manner of implementation; location; and a commitment reference document and other commitment requirements. The ECR is part of the resident engineer's pending file and is necessary to oversee and track the project environmental commitments. It is used to prepare the Certificate of Environmental Compliance (CEC) during contract acceptance.

The resident engineer will review the ECR with the environmental construction liaison or district environmental unit during the preconstruction meeting with Caltrans personnel before meeting with the contractor. The environmental construction liaison or district environmental unit can assist with discussing the requirements at the preconstruction meeting. The resident engineer monitors the progress of all construction-related environmental commitments on an ongoing basis throughout the

life of the contract and ensures their implementation. Commitments completed during construction should be tracked on the ECR.

7-103 Protection of Environmental Resources

The following are necessary for fulfilling the responsibility for protecting and preserving various environmental resources during construction as required by Caltrans policy and law.

7-103A Resident Engineer Responsibilities

The resident engineer uses all available assistance and expertise to protect natural resources. This assistance may come from the environmental construction liaison, project biologist or other state-furnished biologist, or other functional areas in the district (such as design, cultural resources, stormwater, hazardous waste, paleontology, and hydraulics).

Before work begins, the resident engineer must do the following:

- Review the construction contract and the resident engineer's file for instructions and commitments.
- Review the ECR, PLACs, construction contract, and Section 14 of the *Standard Specifications*.
- Identify notices and required approvals and actions necessary to meet regulatory requirements and stewardship goals. When the contract specifies a contractor-supplied biologist, regulatory agency approvals may be required prior to accepting the contractor-supplied biologist. Do not accept submittals from the contractor-supplied biologist until approval is obtained. Understand that a contractor-supplied biologist works for the contractor and does not speak for Caltrans.
- Meet with the project biologist and appropriate environmental and engineering experts in the district to ensure a full understanding of the contract requirements for species and natural resource protection.
- Depending on the project's size and complexity, an additional preconstruction meeting may be used exclusively for discussing natural resource impact prevention.
- Provide the contractor with a copy of the Biological Resource Information Program, if one has been prepared for the project by the district environmental unit. If none has been prepared, receive and review the contractor's Biological Resource Information Program and accept the plan only if it complies with the PLACs or provisions of the contract. The environmental construction liaison or project biologist will assist in the review.
- Review the contractor's natural resource protection plan, as required by the specifications. The project biologist will assist in the review. Accept the plan only if it does not adversely impact the protected species and their habitat. Note that the specifications prohibit any work that has the potential to adversely impact protected species and their habitat without permission from regulatory agencies.
- Before earthwork or clearing and grubbing begins, request that required preconstruction biological surveys be completed and results be provided to understand regulatory requirements that may delay activities.

- When work occurs in water, or where vibrations or sounds from construction or other project-related activities may pass into waters, review hydroacoustic requirements for the protection of water-dependant species and ensure that necessary protections, approvals, monitoring activities, and reports are complete or active as required.
- Designate appropriate staff to assist in preventing impacts to biological resources as needed.

During the course of work, the resident engineer must do the following:

- In compliance with the permits, maintain a copy of the Biological Resource Information Program on the project site and ensure that construction staff completes required training.
- Inspect the contractor's operations for compliance with the specifications and the PLACs, the biological provisions, and the accepted natural resource protection plan, when required.
- Ensure the contractor adheres to the monitoring or survey schedule set forth in the PLACs, the biological provisions, and the accepted natural resource protection plan, and provides written reports of these inspections on schedule.
- Ensure the contractor maintains species protection measures so that they will function as planned.
- Ensure the contractor has the necessary staff and materials on hand to inspect and maintain species protection measures.
- Ensure the contractor notifies and obtains the resident engineer's approval in advance for each new activity as required.
- Direct the contractor to correct any deficiencies in compliance efforts identified as a result of reviewing the contractor's or project biologist's evaluation reports.
- Ensure that construction does not result in new barriers to aquatic species passage or create issues with maintenance of existing passages.
- Immediately notify the environmental construction liaison and project biologist when protected resources are impacted or may be impacted by project activities. The project biologist will determine what action is necessary and will advise the resident engineer.
- Should noncompliance occur, initiate contractual enforcement procedures appropriate to the nature and severity of the situation.
- Meet with personnel from regulatory agencies, such as the United States Fish and Wildlife Service (USFWS); United States Environmental Protection Agency (EPA); United States Army Corps of Engineers (ACOE); National Oceanographic and Atmospheric Agency, National Marine Fisheries Service (NOAA Fisheries); and the California Department of Fish and Wildlife (CDFW), to discuss protected natural resources and necessary measures to protect resources. The environmental construction liaison or project biologist will assist in discussions and negotiations.

Before accepting the contract, the resident engineer must do the following:

- As required by the PLACs and by the contract, determine that all biological requirements are complete.

- Ensure that the project has not maintained or created barriers to aquatic organism passage.
- Require the contractor to remove temporary best management practices (BMPs) such as environmentally sensitive area (ESA) fences or other measures that are not a part of permanent species protection measures or that the district maintenance unit has not requested to be left in place.
- Conduct a final walk-through of the project area with the project biologist.

7-103B Contractor Inspections

The PLACs and special provisions for species protection may require the contractor to inspect the job site periodically for the proper implementation, performance, and maintenance of species protection measures. The contractor must follow the species protection measure procedures specified in the PLACs, in the special provisions, and in the natural resource protection plan, and may be required to report on activities.

If any situation constitutes noncompliance with the permit, the resident engineer must conduct a verification inspection, and, if a noncompliant condition exists, report it to the environmental construction liaison or project biologist. District environmental will determine the actions required, including timely reporting to regulatory agencies and necessary options for compliance. The resident engineer must require the contractor to amend the natural resource protection plan, if necessary, and to install additional species protection measures as needed to achieve compliance.

7-103C Project Files

The resident engineer must keep copies of all documents related to species protection measures required in PLACs, special provisions, Biological Resource Information Program, and the natural resource protection plan, and retain copies in the project files. Retain all the required documents for at least 3 years after contract completion, or longer if required in the PLACs. These documents include the following:

- Survey or monitoring reports.
- Periodic reports and photographs related to species protection as required.
- Notices of take of regulated species.
- All correspondence related to species protection, including notices of noncompliance.
- Inspection, survey, and monitoring reports.
- Inspection reports from the resident engineer and assistant resident engineer.
- Copies of the approvals and certifications required by the specifications.

7-103D Environmentally Sensitive Area

The ESA is shown on the plans and creates a secure area within the plan boundaries enclosed by an ESA temporary fence. If the ESA is breached, immediately secure the area and stop all operations within 60 feet of the ESA boundary and ensure the contractor follows the directions in Section 14-1.02, "Environmentally Sensitive Area," of the *Standard Specifications*. The resident engineer will consult with the environmental construction liaison, project biologist, or project cultural specialist prior to approving entry into an ESA and when identifying or assessing damage. If the ESA

is damaged by the contractor, document the damage because the contractor is responsible for fixing it at their cost.

7-103E Cultural Resources

Mitigating a project's impact on historical and archaeological sites during construction may require the recovery of artifacts. Mitigation may also require Native Americans, archeologists, architects, and historians to monitor and coordinate the recovery process. Normally, archaeological work is done in advance of construction, but occasionally finds are made during construction. If human remains or previously unknown historic and archaeological artifacts are unearthed, suspend work in the vicinity until the find can be evaluated and properly treated. Seek assistance from the project manager, environmental construction liaison, project cultural specialist, or district environmental unit. For more information, refer to the *Standard Environmental Reference* (SER), Volume 2.

7-103F Community Impacts and Environmental Justice

Mitigating project impact on communities during construction may require actions in the community. These requirements may be included as part of the contract, including change orders, but can also be listed as an item on the ECR. Also, refer to Chapter 8-2, "Equal Employment Opportunity," of this manual regarding Title VI and environmental justice.

Executive Order 12898, "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations," directs federal agencies to achieve environmental justice by identifying and addressing disproportionately high and adverse human health and environmental effects, including the interrelated social and economic effects of their programs, policies, and activities on minority and low-income populations in the United States.

7-103G Native American Concerns

These requirements are placed to alleviate concerns of the Native American community. If resources of concern to Native Americans, human remains, or previously unknown associated artifacts are unearthed, suspend work in the vicinity until the concern can be evaluated and properly resolved. Seek assistance from the project manager, environmental construction liaison, project cultural specialist, or district environmental unit. For more information, refer to the SER, Volume 2.

7-103H Aesthetics

Aesthetics are considered during the planning, design, and construction of transportation projects to adequately address a transportation project's visual impacts and to help integrate the facility into the surrounding context. Aesthetic features included in the construction documents are the result of commitments included in the environmental document or made to the community to address scenic, aesthetic, historic, cultural, environmental, and recreational values. The integration and construction of these aesthetic features on a project is critical to fulfilling the aesthetic commitments.

Proposed changes to the plans and specifications that affect the aesthetic features must be coordinated with and approved by the district landscape architect to ensure that Caltrans' aesthetic commitments are accomplished as intended.

7-103I Biological Resources and Species Protection

Both state and federal laws protect designated plant and animal species and their respective habitats. Strict prohibitions exist on certain types of work, work during certain times of the year, or work at specific locations. Even inadvertently impacting protected species can result in fines or jail sentences and may result in significant project delays. The PLACs and species protection measures in the contract will specify the necessary protection measures and restrictions, and the plans will show ESAs. However, during construction, project staff or personnel from regulatory agencies may discover protected species that were not anticipated in the contract. If such a discovery occurs, suspend work in the area and immediately notify the environmental construction liaison, project biologist, or district environmental unit.

7-103J Bird Protection

The Migratory Bird Treaty Act and the California Fish and Game Code make it illegal to harm migratory birds, non-game birds, and their occupied nests. Activities which are most likely to encounter migratory birds, non-game birds, and their occupied nests include clearing and grubbing; and bridge demolition, maintenance, and retrofit work. Bird protection is a sub-set of species protection. Species protection responsibilities apply to bird protection. PLACs and the bird protection or species protection measures in the contract will specify the necessary protection measures and restrictions, and the plans will show any ESAs.

When occupied nests are found within the project area, the resident engineer will evaluate, with the assistance of the environmental construction liaison or project biologist, whether work in the area can continue or if suspension of work is necessary. The resident engineer will immediately contact the environmental construction liaison or district environmental unit for assistance in this evaluation.

7-103K Paleontological Resources

Paleontological resources are evidence of ancient life, not including human life, preserved as fossils in sediments and rock. In geologically diverse California, vertebrate, invertebrate, and plant fossils are found throughout the state. Paleontological resources have unique scientific value and as a result must be protected. Refer to Volume 1, Chapter 8 of the SER for information about applicable laws.

Paleontological resources may be encountered when a project includes invasive activities such as excavation or drilling of previously undisturbed sediments and rock. If paleontological resources are anticipated, the contract should include special provisions in Section 14-7, "Paleontological Resources," of the *Standard Specifications*. Protection of paleontological resources usually includes preservation of scientific information through monitoring and fossil and data recovery. This work is normally performed by a consultant working directly for Caltrans, not the construction contractor. In these cases the resident engineer must ensure the coordination and cooperation of the construction contractor with the paleontological consultant. This is accomplished by including the paleontological consultant in preconstruction meetings, providing the paleontological consultant with an accurate and updated schedule of subsurface disturbing activities, and, when required, ensuring that the contractor's staff attends paleontological awareness training presented by the paleontological consultant.

In most cases, paleontological monitoring and fossil and data recovery can be performed with minimal impact to construction activities. However, when large

specimens or fossil-rich areas are encountered, excavation activities may need to be temporarily diverted while the paleontological team stabilizes and removes them. In these cases, the resident engineer must facilitate coordination and cooperation between the paleontological monitoring team and the construction contractor.

If unanticipated paleontological resources are encountered, the construction contractor is directed to stop work within a 60-foot radius of the discovery and contact the resident engineer. The resident engineer must contact the environmental construction liaison who will enlist the assistance of the appropriate technical staff to investigate the discovery. Work in the area of discovery cannot resume until the find has been properly evaluated and recovery activities completed as necessary. The remaining construction activities must be evaluated in context of the discovery and monitoring may be required. If monitoring is required, it may be accomplished through either a separate contract (preferred) or a subcontract through the prime construction contractor. In either case, assistance from the environmental construction liaison or district environmental unit will be necessary.

After excavation is complete, a paleontological mitigation report will be prepared by the paleontological consultant. If fossils are recovered from the project, they will be properly curated. The resident engineer must coordinate with the environmental construction liaison or district environmental unit to ensure that funding is made available to pay for reporting and curation activities performed by the consultant.

7-103L Disposal, Staging, and Borrow Sites

Caltrans construction projects often require contractors to make use of either state-owned or private off-site lands and facilities for the disposal of excess materials; the acquisition of necessary borrow materials; and to stage equipment, store supplies, and house their offices. Contract documents generally require the contractor to show that construction activities on these sites comply with all local, state, and federal environmental and permitted use regulations. However, in some geographic locations there have been issues regarding final compliance responsibility. To resolve these issues and to foster better cooperation with regulatory agencies, the option of designating disposal, staging, and borrow (DSB) sites has been facilitated.

Those construction projects that cannot accommodate the DSB material needs of the project within the right-of-way may have designated sites for these purposes located outside the project limits. However, even when such sites are made available, the contractor will continue to have the flexibility of using alternative sites. Alternative sites selected by the contractor require the contractor to prepare and submit a DSB site to the resident engineer for approval. Requirements for this submittal are outlined in the following section, and additional guidance is available at:

http://www.dot.ca.gov/hq/oppd/dib/dib85.pdf

The need for identifying and obtaining environmental approvals for a designated DSB site will generally have been made by the project engineer on a case-by-case basis, considering historical and geographical issues and practices, project design requirements, environmental concerns, economic factors, and other aspects specific to projects and their locale. During project development, the project engineer should have considered and identified sites readily available for use by the contractor. These sites would have included, but not be limited to, commercial dumpsites, recycling plants, private property, and other local sites. If it was deemed necessary that one or more DSB sites needed to be designated, the project engineer would have proposed sites

evaluated during the environmental review process and, as necessary, included them in the environmental compliance documentation. To ensure their availability to the contractor, right-of-way agreements would have been obtained for private sites selected as designated DSB sites. Any necessary permits for selected DSB sites would have been included among those obtained during the plans, specifications, and estimate development. Information or documents regarding arrangements made by Caltrans to ensure the availability of designated sites are provided to prospective bidders or contractors in a materials information handout.

Summaries are provided below for the minimum items expected in: (1) a DSB site submittal for a site designated by Caltrans; and (2) a summary of the minimum items expected in a DSB site submittal for a contractor to get approval for the use of an alternate site. The submittal and support documents are then filed in the project files.

7-103L (1) Caltrans- and Contractor-Designated Disposal, Staging, and Borrow Sites

For Caltrans-designated DSB sites:

- Caltrans will:
  1. Provide a general site plan, including site limits and access roads.
  2. Obtain temporary property owner agreements as necessary to "reserve" property.
  3. Prepare California Environmental Quality Act or National Environmental Policy Act documentation as needed in consultation with the environmental unit.
  4. Verify the existence of or obtain the necessary PLACs to satisfy regulatory agencies and ensure site availability in consultation with the environmental unit.
  5. Review and accept the contractor's submittal.
- The contractor will:
  1. Prepare a final grading plan in conformance with the *Standard Specifications*.
  2. Provide a release of liability.
  3. Provide final property owner agreements (refer to Section 3-603, "Local Materials," of this manual).
  4. Submit a written plan for water pollution prevention in conformance with the *Standard Specifications*.

For alternative sites (outside the right-of-way) selected by the contractor:

- Caltrans will review and accept the contractor's submittal.
- The contractor will:
  1. For borrow sites, demonstrate that the site is either not subject to or in compliance with the Surface Mining and Reclamation Act (SMARA). If the borrow site is not subject to SMARA, confer with the environmental construction liaison or district environmental unit to ensure that the borrow site is not a potential contamination source.

2. For all DSB sites:

   - Provide a site plan, including site limits and access roads.
   - Obtain and provide property owner agreements (refer to Section 3-603, "Local Materials," of this manual).
   - Provide a release of liability.
   - Provide environmental documentation prepared by appropriately qualified environmental specialists.
   - Obtain or update all necessary PLACs.
   - Determine the final grading plan in conformance with the *Standard Specifications.*
   - Submit a written plan for water pollution prevention in conformance with the *Standard Specifications*.

7-103L (2) Surface Mining and Reclamation Act

Section 10295.5 of the Public Contract Code requires that Caltrans buy or accept sand, gravel, aggregates, or other mined materials (including imported borrow) from mining operations in compliance with or not subject to SMARA. The resident engineer can use the list of mining operations in compliance with SMARA, also called the "AB 3098 List," to verify which mining operations are in compliance. The current list may be obtained from the Department of Conservation website:

http://conservation.ca.gov/omr/SMARA%20Mines/ab_3098_list/Pages/Index.aspx

Mining operations that meet the following criteria are not subject to SMARA and are not required to be on the AB 3098 List:

- A total amount of mined materials less than 1000 cubic yards in any one location of 1 acre or less.
- Onsite excavations and onsite earth-moving activities on a Caltrans construction project that are an integral and necessary part of the project.
- Materials mined from federal lands, except for lands that the Bureau of Land Management and U.S. Forest Service regulate.
- Materials mined from tribal lands, when mined by a tribal mining operator.
- Materials mined from outside of California.

Review contractor-proposed sources and verify that the source is on the current AB 3098 List. If the contactor proposes to use mined material from a mining operation not on the AB 3098 List, obtain from the contractor proof that the operation is not subject to SMARA, in accordance with the criteria above, and confirm with the Department of Conservation. Contact their Office of Mine Reclamation, Reporting and Compliance Unit, at: OMR@conservation.ca.gov or (916) 323-9198.

SMARA allows the State Mining and Geology Board (SMGB) to exempt certain mining operations or construction projects. Caltrans can accept material from exempted sources if the contractor provides proof of the SMGB-granted exemption.

If the proposed site is not on the AB 3098 List, and the contractor cannot demonstrate that the site is not subject to SMARA or that an exemption has been granted, the

resident engineer must not accept the contractor's submittal. Refer challenges to the acceptance of materials to the Division of Construction field coordinator.

7-103M Other Contractor Uses of the State Right-of-Way

During the development of the project, the project engineer may identify areas within the right-of-way for the disposal of portland cement concrete grinding and grooving residue. The project engineer may identify these areas in the materials information handout or in the contract. If a permit or approval has not been included, contact the project engineer or environmental construction liaison for assistance in obtaining the documents. Refer to the contract special provisions to obtain information about off-site disposal facilities for portland cement concrete grinding and grooving residue.

The contractor's use of Caltrans-owned parcels that are outside of the project limits will be contingent upon approval by the resident engineer, based on: (1) the DSB site submittal; (2) the execution of a fair market rental agreement with Caltrans; and (3) the execution of an encroachment permit by the district permit engineer. The resident engineer should consult with the project engineer and environmental construction liaison or district environmental unit before approving the DSB site submittal. For more information, refer to Section 3-516, "Areas for Use," of this manual.

7-104 Air, Water, and Noise Pollution Control

7-104 Air, Water, and Noise Pollution Control

This section contains guidelines for administering the contract's air, water, and noise requirements.

7-104A Air Pollution Control

7-104A (1) Air Quality

Section 7-102C "Emissions Reduction," of the *Standard Specifications* states that the contractor, by executing the contract, is aware of California Air Resources Board (CARB) regulations and will comply with those regulations before starting work and throughout the duration of the contract.

The resident engineer does not need to verify that the contractor's equipment complies with CARB regulations. The local air quality control district or air quality management district, commonly referred to as the "air district," is responsible for enforcing air quality regulations. If complaints are brought to the resident engineer's attention, the resident engineer should direct the complainant to file the complaint with the local air district.

If the complaining party insists that Caltrans handle the situation, the resident engineer should forward the complaint to the local air quality control district, based on project location, and send the contractor a copy of the complaint filed.

A list of local air quality control districts, contacts, and addresses is available at:

http://www.arb.ca.gov/capcoa/roster.htm

All Caltrans projects must comply with the Clean Air Act. Permits are issued by local air quality management districts and require that the project create no smoke, offensive odors, or visible dust. Contractors must take appropriate measures to ensure their equipment is properly maintained and to apply water and other dust palliatives as frequently as necessary. Violations can result in fines and sanctions against the contractor and Caltrans.

7-104A (2) Dust Control

Under the terms of the project contract, the contractor must control dust. The contractor must maintain such control whether payment is included in the prices paid for the various items of work involved or whether payment is made separately. Refer to Section 4-17, "Watering," and Section 4-18, "Dust Palliative," of this manual for additional guidance related to dust control.

During the preliminary inspection, before work begins, take the following steps:

- Determine whether a planned method to control dust is included in the contractor's accepted plan for water pollution prevention.
- Whenever it is proposed to handle temporary traffic changes on an unpaved roadway, anticipate the necessity for dust control.
- Notify and require corrective action whenever the contractor is not adequately controlling dust. In cases of neglect, work may be suspended under the resident engineer's authority, pursuant to Section 8-1.06, "Suspensions," of the *Standard Specifications*.

7-104B Water Pollution Control

To ensure the control of pollutants in discharges of stormwater runoff, Caltrans construction projects may be subject to federal law under the Clean Water Act and state law under the California Water Code. All Caltrans construction projects are subject to the Caltrans National Pollutant Discharge Elimination System (NPDES) permit issued by the State Water Resources Control Board (SWRCB) and one of the following NPDES permit requirements: the statewide Construction General Permit (CGP) issued by the SWRCB, the Lake Tahoe CGP issued by the Lahonton Regional Water Quality Control Board (RWQCB), or the federal CGP issued by the EPA. The project specifications should identify which permits apply to the project.

For each construction project, the contractor must prepare either a storm water pollution prevention plan (SWPPP) or a water pollution control program (WPCP) in accordance with Section 13, "Water Pollution Control," of the *Standard Specifications*, *Caltrans Storm Water Quality Handbooks*, and the contract's special provisions. These documents describe the measures the contractor must implement to ensure that construction activities do not pollute the waters of the United States. The resident engineer must authorize all such preventive measures, and then the contractor's forces must implement and maintain the measures.

Successfully protecting water resources (streams, waterways, and other bodies of water) and protected water-dependant species from pollution is critical to the project's success. These waters must be protected from chemical pollutants, including petroleum products, paint residues, and curing compounds, and from sediment in stormwater runoff. To ensure this, Caltrans has developed an evaluation plan to review the contractor's water pollution control program and to evaluate construction projects for overall adequacy in implementing stormwater pollution prevention measures. The Construction Compliance Evaluation Plan (CCEP), provides a process for evaluating the potential threat to water quality that is sensitive to forecasted storm events and contractor preparedness. The plan also separates water quality compliance from stormwater contract administration.

For projects covered by the statewide or Lake Tahoe CGP, Permit Registration Documents (PRDs) and other permit-related compliance documents must be filed

electronically with the SWRCB through the Storm Water Multiple Application and Report Tracking System (SMARTS).

All requests to start construction, Notice of Intent (NOI), requests for termination of a project, Notice of Termination (NOT), and interim reporting are performed through SMARTS.

To set up a SMARTS profile, the CGP and SMARTS require establishment of certain responsibilities, including:

- The legally responsible person (LRP).
- The approved signatory.
- A data entry person (DEP).

For Caltrans, the LRP is the district director, although up to three backup LRPs may be designated to perform the same duties. The LRP is responsible for permit compliance and designating the approved signatory for the project. Assignment of an approved signatory is accomplished by the linking process in SMARTS as detailed in the *SMARTS User's Manual.* The manual is posted on the Division of Construction stormwater training website:

http://www.dot.ca.gov/hq/construc/stormwater/swppp_training.html

A project can have more than one approved signatory. The resident engineer is responsible for the project data submitted in SMARTS and must be designated an approved signatory. The LRP may link other approved signatories to the project as necessary to support project delivery. Documentation for SMARTS submittals comes from various members of a project development team; however, the approved signatory is responsible for submitting PRDs, the NOI, annual reports, ad-hoc reporting, and NOT certification.

A DEP may be any Caltrans staff member or contractor's personnel designated by the LRP or approved signatory to input information into SMARTS.

The NOI provides the RWQCBs with details about the project and is a request for coverage under the CGP. The NOI process involves filing PRDs including project-related information and the project SWPPP. Obtain information necessary to complete the SMARTS NOI from the project "Storm Water Data Report Attachment for SMARTS Input."

Reporting in SMARTS is accomplished by entering data into specific tabs or by uploading documents. For example, the NOI is created by entering data in the fields under the NOI tab, whereas the project SWPPP and its amendments are uploaded into the system. There are also screens for discharge reporting, annual reports, and other permit-related project reports. The approved signatory may certify submittals in SMARTS and, when applicable, will need to provide the qualified SWPPP developer's certification. Hard copies of these documents must be maintained in the project files.

Filing a NOT should coincide with the acceptance of the construction contract but project conditions may justify a different submittal time. Section II.D, "Conditions for Termination of Coverage," of the CGP details when a project is complete according to the CGP. Project-specific information regarding conditions to satisfy permit requirements is detailed in the contract, SWPPP, and the project Stormwater Data Report. Consult with the project engineer to ensure the conditions have been satisfied.

7-104B (1) District Construction Stormwater Coordinator Responsibilities

District construction must have at least one designated district construction stormwater coordinator who will carry out necessary administrative functions to prevent water pollution. This coordinator reviews the contractor's SWPPP or WPCP, visits projects, and acts as technical advisor to the resident engineer. The coordinator evaluates projects for potential threats to water quality and the effectiveness of stormwater contract administration. The district construction stormwater coordinator works with other functional areas in the district, assists resident engineers to ensure compliance, and ensures that field construction personnel are appropriately trained.

7-104B (2) Resident Engineer Responsibilities

The resident engineer uses all available assistance and expertise in preventing water pollution. This assistance may come from the district construction stormwater coordinator, environmental construction liaison, or other functional areas in the district (such as landscape architecture, environmental, and hydraulics)

Before work begins, the resident engineer must do the following:

- Designate appropriate staff as stormwater inspectors to assist in preventing stormwater pollution.
- Review the construction contract and the resident engineer's file for instructions and commitments.
- Ensure that PRDs are submitted into SMARTS.
- Ensure that all proper forms have been filed with the RWQCB.
- Meet with the appropriate environmental and engineering experts in the district to ensure a full understanding of the contract requirements for water pollution prevention.
- Conduct a preconstruction meeting with the contractor to discuss all required stormwater measures and requirements. Depending on the project's size and complexity, this preconstruction meeting may be used exclusively for discussing water pollution prevention or the topic may be included in a general preconstruction meeting.
- Provide the contractor with a copy of the district design unit's conceptual SWPPP for the project, if one has been prepared.
- Review and accept the contractor's SWPPP or WPCP as required by the specifications. The district construction stormwater coordinator may assist in the review. Note that before the resident engineer has accepted the plan, the specifications prohibit any job site activities.
- Before any job site activities begin, ensure the contractor deploys any stormwater BMPs called for in the SWPPP or WPCP.

During the course of work, the resident engineer must do the following:

- In compliance with the CGP, maintain a copy of the SWPPP or WPCP on the project site.
- Inspect the contractor's operations for compliance with the specifications and the accepted SWPPP or WPCP, including deployment of BMPs.

- Ensure the contractor adheres to the inspection schedule set forth in the SWPPP or WPCP and provides written reports of these inspections.
- Ensure the contractor prepares and submits appropriate Rain Event Action Plans (Form CEM-2045) for risk levels 2 and 3 SWPPP projects.
- Ensure the contractor prepares and submits project annual reports.
- Ensure the contractor deploys stormwater and non-stormwater BMPs whenever associated construction activities are taking place.
- Ensure the contractor maintains BMPs so that they will function as planned.
- Ensure the contractor has the necessary materials on hand to deploy any necessary additional BMPs in the event of a storm.
- Ensure the contractor uses appropriate measures to stabilize slopes at the times specified. In accordance with the specifications, ensure the contractor submits an implementation schedule for soil stabilization and sediment control for disturbed soil areas.
- Ensure the contractor complies with any provisions that restrict the size of the contractor's disturbed soil area.
- Ensure the contractor notifies the resident engineer and obtains the resident engineer's authorization in advance for each first-time non-stormwater discharge, excluding exempted discharges.
- Monitor the contractor's active and non-active disturbed soil areas.
- Ensure the contractor conducts soil stabilizing activities as specified.
- Ensure the contractor's water pollution protection plan addresses avoiding water quality impacts related to pre-nesting season removal of existing bird nests on bridges and other structures over or near water.
- Direct the contractor to correct any deficiencies in compliance efforts identified in the contractor's or district construction stormwater coordinator's project evaluation reports.
- If any pollutants are discharged into the waters of the United States, notify the district construction stormwater coordinator immediately. Review the NPDES permit and *Statewide Stormwater Management Plan* to determine the appropriate reporting timeframe, and provide a draft report of noncompliance to the district NPDES stormwater coordinator. Unless otherwise indicated in the district or regional work plans, the district NPDES stormwater coordinator will then forward the report to the RWQCB. For SWPPP projects, require the contractor to prepare Form CEM-2061, "Notice of Discharge Report."
- Report to the district construction stormwater coordinator any illegal discharges or illicit connections. Require the contractor to prepare Form CEM-2061, "Notice of Discharge Report," as specified in the SWPPP.
- Should noncompliance occur, initiate contractual enforcement procedures commensurate with the nature and severity of the noncompliance. Contract enforcement may include the following:

  1. Withholding funds from contract payment as specified in the contract.

2. Suspending any work that would exacerbate the noncompliance or interfere with or prevent the contractor's efforts to correct the deficiency. For example, earthwork operations may be suspended until the contractor controls sediment or stabilizes soil as specified. Other work performed by a crew might be suspended if that crew is needed to install BMPs.

- Meet with personnel from regulatory agencies, such as the EPA and the RWQCB to discuss stormwater issues and measures.
- Ensure the contractor submits an annual certification of compliance, Form CEM-2070, "SWPPP/WPCP Annual Certification of Compliance," as specified. Sign, date, and file this certification in the project files.
- At 90 percent construction completion, conduct a field review with the maintenance superintendent or supervisor, or the district maintenance stormwater coordinator, and complete Form MTCE-0023, "Construction to Maintenance 90% BMP Completion Walkthrough."

Before accepting the contract, the resident engineer must do the following:

- Determine that all slopes are stabilized, as required by the contract.
- Require the contractor to remove temporary BMPs such as silt fences or other measures that are not a part of permanent erosion control or that the district maintenance unit has not requested to be left in place.
- Conduct a final walk-through of the project area with the maintenance superintendent or region manager. During the final inspection, update Form MTCE-0023 to reflect changes and corrective actions implemented since the 90 percent construction completion field review with maintenance.

7-104B (3) Stormwater Inspector Responsibilities

The resident engineer may assign an assistant resident engineer as the stormwater inspector. The stormwater inspector will assist the resident engineer in carrying out the work described above, as determined by the resident engineer. Typically, the stormwater inspector will do the following:

- Review and become familiar with the *Standard Specifications* and project special provisions pertaining to water pollution control.
- Review and become familiar with the project WPCP or SWPPP.
- Conduct site inspections. Verify that BMPs are properly installed and meet the requirements in the *Caltrans Storm Water Quality Handbooks* and the contract specifications. Look for areas that may require BMPs that are not deployed or not addressed in the WPCP or SWPPP. Observe and identify any discharges, illicit connections, and illegal discharges. Take photographs of all areas.
- Prepare daily reports on stormwater pollution prevention. Record all stormwater management activities, or inactivity, and conversations with the contractor regarding stormwater pollution prevention.
- Document site visits from regulatory agencies, such as the SWRCB, the RWQCB, or EPA, and any inspections the agencies perform.
- Monitor the weather reports of the National Weather Service for rainfall predictions. If a qualifying rain event (greater than 0.5 inch for each event) or storm event (greater than 0.1 inch in 24 hours) is predicted, ensure the contractor

prepares a rain event action plan for risk levels 2 and 3 projects and deploys appropriate BMPs as identified in either the rain event action plan, the SWPPP, or the WPCP.

- Inform the resident engineer immediately of any problems with BMPs during the implementation of the WPCP or SWPPP and any observed discharges.
- Identify changes in construction that may require amendments to the WPCP or SWPPP, and notify the resident engineer of these findings.
- For sites covered by permits, ensure site access and the safety of representatives of regulatory agencies and local agencies when they are on site for any reason.

7-104B (4) Contractor Inspections

The special provisions for water pollution control require the contractor to inspect the construction site at least once a week for the proper implementation, performance, and maintenance of BMPs identified in the WPCP or SWPPP. The contractor must follow the site inspection procedure specified in the SWPPP or WPCP, and the Construction Site Monitoring Program. The water pollution control manager, or trained personnel under the supervision of the water pollution control manager, must conduct the site inspections using Form CEM-2030, "Stormwater Site Inspection Report."

The contractor must notify the resident engineer whenever the SWPPP, WPCP, or BMPs may not reduce or have not reduced the discharge of sediment or other pollutants into a waterway or outside of the project limits. The contractor must follow the verbal notification with a written report using Form CEM-2061, "Notice of Discharge Report." The contractor's report must conform to the provisions of Section 900.3, "Discharge Reporting," of the SWPPP or those of Section 50.2, "Discharge Reporting," of the WPCP.

If the situation constitutes noncompliance with the permit, the resident engineer must conduct a verification inspection, and if a noncompliance condition exists, report it to the district construction stormwater coordinatorand district NPDES stormwater coordinator. Unless otherwise indicated in the district or regional work plans, the district NPDES stormwater coordinator will report it to the appropriate RWQCB. The resident engineer must require the contractor to amend the WPCP or the SWPPP, if necessary, and to install additional BMPs.

7-104B (5) Amendment Review and Processing

During construction, conditions may occur that affect the ability of the contractor to implement the WPCP or SWPPP as initially accepted or the ability of the accepted WPCP or SWPPP to meet the objectives for water pollution control. A change in construction operations or site conditions may result in the discharge of significant quantities of pollutants to surface waters, municipal storm drain systems, or outside of the project limits. The project biologist must be notified of such releases, asked to determine the effect on protected species and their habitats, and asked to determine the need for required notices to regulatory agencies. These changes can include construction staging or schedule changes, staging area modifications, unanticipated offsite drainage impacts, and failures of BMPs. The contractor must amend the WPCP or SWPPP if either plan's effectiveness is diminished by any such changed condition.

Upon the resident engineer's authorization, the contractor must incorporate all WPCP or SWPPP amendments into the onsite documents. The contractor must prepare WPCP or SWPPP amendments in the format prescribed in the *Stormwater Pollution*

*Prevention Plan (*SWPPP*) and Water Pollution Control Program (*WPCP*) Preparation Manual*.

The resident engineer must review the contractor's proposed revised WPCP or SWPPP amendment for completeness and conformance with the revised conditions, and give written acceptance to the contractor if the amendments are acceptable. The accepted revised SWPPP must be uploaded into SMARTS.

7-104B (6) Project Files

The resident engineer must keep copies of all documents related to stormwater pollution prevention in Category 20, "Water Pollution Control Program or Storm Water Pollution Prevention Plan," of the project files. Retain the following documents:

- SWPPP or WPCP and all amendments.
- Daily reports and photographs related to the prevention of stormwater pollution.
- The weekly contractor-prepared Stormwater Site Inspection Report.
- The Notice of Discharge Reports.
- All correspondence related to stormwater pollution prevention, including notices of noncompliance.
- Inspection reports from the district construction stormwater coordinators.
- Inspection reports from the resident engineer and assistant resident engineer.
- Copies of the certifications required by the specifications.
- The printout from SMARTS after filing the NOT.

7-104B (7) Contractor Files

The specifications require the contractor to keep at the project site copies of the SWPPP or WPCP and all accepted amendments.

7-104C Noise Control

Construction and traffic noise may be a sensitive issue in neighborhoods and communities adjacent to state highways. Major funding has often been provided to pay for highway noise reduction through the construction of sound walls and other noise attenuation. Special restrictions may be employed on night work in sensitive areas such as residential neighborhoods, schools, and hospitals near the project site. Section 14-8, "Noise and Vibration," of the *Standard Specifications*, provides the contractor's requirements for noise control.

7-105 Permits, Licenses, Agreements, and Certifications

7-105 Permits, Licenses, Agreements, and Certifications

This section covers environmental-related permits issued by regulatory agencies. PLACs are part of the contract supplemental project information as described in the special provisions. For assistance regarding PLAC requirements, such as contractor submittals on reporting requirements, protocols, or information training, contact the environmental construction liaison or project biologist.

7-105A Special Use Permits and Other Federal Permits

The U.S. Forest Service, Bureau of Land Management, and other federal agencies issue permits to Caltrans to construct and operate highway facilities across lands under their jurisdictions. There can be special use permits, temporary use permits, U.S.

Department of Transportation easements, federal land transfers, and, in the case of already existing roadways, there may be prescriptive rights of way. In addition, an Archaeological Resources Protection Act permit may be required.

7-105B California Fish and Game Code Sections 1602 and 5650

Section 1602 of the California Fish and Game Code requires that public agencies such as Caltrans reach an agreement with the California Department of Fish and Wildlife (CDFW) if the proposed work affects a waterway. The agreement required by this section of the code is known as the "Lake or Streambed Alteration Agreement," also known as the "1602 Agreement." The 1602 Agreement specifically prohibits polluting the waters of the state and may specifically prohibit certain activities at certain times of the year, such as working in the river during spawning season. It may also require the contractor to undertake specific measures, such as installing fish ladders. Violations of the agreement are punishable by fine, imprisonment, or both.

Section 5650 of the Fish and Game Code prohibits placing specified materials in the waters of the state. Violations are punishable by fine, imprisonment, or both. Examples of violations include the following:

- Causing dirt and sediment to enter the waters of the state.
- Using creosoted timbers in the waters of the state.
- Placing petroleum products, such as asphalt or diesel, into, or where they can get into, the waters of the state.

Placing asphalt concrete grindings, chunks, and pieces in areas where they can pass into the waters of the state is also a violation of Section 5650 of the Fish and Game Code. A memorandum of understanding exists between CDFW and Caltrans regarding the placement of asphalt concrete pavement grindings as shoulder backing and the placement of asphalt concrete pieces and chunks in embankments. For a discussion of reusing asphalt concrete as fill material and shoulder backing and a summary of the memorandum of understanding, refer to Section 110.11, "Conservation of Materials and Energy," of the *Highway Design Manual*. If a question exists as to whether asphalt concrete grindings or chunks may get into the waters of the state, consult with the environmental construction liaison or project biologist.

7-105C List of Potential Permits, Licenses, Agreements, and Certifications

Table 7-1.1 may be used as a guideline for determining when permits or approval of contract plans may be required from state or local governmental agencies. The first column lists the activity or a resource affected by construction activity. The second column lists the agency or agencies that may have jurisdiction in the area shown in the first column. The third column indicates the type of permit or plan approval that may be required by the agency or agencies.

Table 7-1.2 lists federal environmental statutes and regulations. The first column lists resources or activities. The second column shows the federal agency having jurisdiction in the area. The third column lists the statute or regulation that applies to the resource or activity.

Most required permits and plan approvals should be obtained during the project's design phase. However, the following tables may be used as a reminder of the types of permits and plan approvals that may be required when making changes to the original plans. Any changes to plan approvals or PLACs must be coordinated with the environmental construction liaison or environmental unit.

Table 7-1.1 State and Local Agency Permits, Licenses, Agreements, and Certifications (1 of 2)

Resource or Activity	Agency	Permit or Approval
Commercial, industrial, and residential development	Local agency (county or city)	Land use, general plans, specific plan, conditional use, or subdivision
Conversion of timberland to non-forest uses through timber operations and immediate timberland production zone rezoning	California Department of Forestry; California Department of Fish and Wildlife	Timberland conversion permit; California Endangered Species Act (Consultation)
Power transmission lines, pipelines, and railroad crossings	Public Utilities Commission	Review of plans and approval
Solid waste disposal	Department of Resource Recycling and Recovery (CalRecycle)	Disposal requirements
Sewage disposal	County health department	Disposal requirements
Waste discharge	State Water Resources Control Board; Regional Water Quality Control Board	Waste discharge requirements
Re-use of soil containing hazardous concentrations of aerially deposited lead (ADL)	Department of Toxic Substances Control	ADL variance
Storing, treating, or disposing of hazardous waste	Department of Toxic Substances Control	Hazardous Waste Facilities Permit required for facilities receiving hazardous waste from Caltrans
Right-of-way across state parkland	California Department of Parks and Recreation	Right of-way permit, license, easement, joint agreement, or lease
Encroachment on or across a local street or highway	Local agency (county or city)	Encroachment permit
Encroachment on 100-year floodplain, intermittent streams, and desert washes	California Department of Fish and Wildlife	Lake/Streambed Alteration Agreement (1602 agreement); California Endangered Species Act (Consultation)
Encroachment on or across cove, bay, or inlet	California Department of Parks and Recreation, Division of Boating and Waterways	Review of plans
Air quality	Air Resources Board or local air pollution control district	Authority to construct and permit to operate for activities emitting stationary source pollutants to the atmosphere
Fish and wildlife habitat	California Department of Fish and Wildlife	Lake/Streambed Alteration Agreement for activities in lakes, streams, and channels and crossings; California Endangered Species Act
Coastal zone	California Coastal Commission; local government local coastal program	Coastal Development Permit; California Coastal Act

Table 7-1.1 State and Local Agency Permits, Licenses, Agreements, and Certifications (2 of 2)

Resource or Activity	Agency	Permit or Approval
Water	California State Lands Commission; State Water Resources Control Board; Regional Water Quality Control Board; Department of Public Health, Division of Drinking Water and Environmental Management; or local health office	Land use lease (for encroachments, crossings on tidelands, submerged lands, and so forth); National Pollutant Discharge Elimination System Permit for stormwater discharges to surface water; waste discharge requirements for nonstorm discharges to surface water or groundwater to the waters of the state; Permit to Operate a Public Water System
Dredging	California Department of Fish and Wildlife; State Lands Commission	Standard or special suction dredging permit; dredging permit
Surface (material borrow sites, and so forth)	Local agency (county or city)	Surface Mining and Reclamation Act (SMARA) permit
Burning	Local air pollution control district; California Department of Forestry and Fire; local fire control agency	Burn permit
Grading	Local agency (county or city)	Grading permit
Entering private property to gather information for temporary use	Caltrans district right-of-way unit; Property owner right of entry approval	Property owner approval for temporary encroachment
Entering surface waters to gather information or for construction	Regional Water Quality Control Board	Water quality certification or waiver
All activities involving dams or reservoirs	California Department of Water Resources, Division of Safety of Dams	Approval of plans

Table 7-1.2 Federal Agency Permits, Licenses, Agreements, and Certifications

Resource or Activity	Agency	Federal Statute, Regulation, or Executive Order
Water	U.S. Army Corps of Engineers; U.S. Environmental Protection Agency (EPA); Bureau of Reclamation; U.S. Fish and Wildlife Service; National Oceanic and Atmospheric Administration	Federal Clean Water Act (Section 404) Regulations concerning the National Pollutant Discharge Elimination System (40 CFR); Federal Endangered Species Act
Air	U.S. EPA	Clean Air Act, Title 42, Sections 7401–7414
Fish and Wildlife Habitat	U.S. Fish and Wildlife Service; U.S. Forest Service; National Park Service; National Oceanic and Atmospheric Administration	Federal Endangered Species Act (Section 7) Biological Opinion for protection of species and habitats
Navigable Waters	U.S. Army Corps of Engineers; U.S. Coast Guard	Rivers & Harbor Act
Federal Lands	U.S. Forest Service; Bureau of Land Management; National Park Service; U.S. Army Corps of Engineers; U.S. Fish and Wildlife Service; National Oceanic and Atmospheric Administration	Federal Clean Water Act (Section 404); Federal Endangered Species Act (Section 7)
Historic Properties	Advisory Council on Historic Preservation; State Historic Preservation Office	National Historic Preservation Act (Section 106)
Paleontological Resources	Bureau of Indian Affairs; Bureau of Land Management, National Forest Service; National Park Service; U.S. Army Corps of Engineers	Antiquities Act of 1906; Paleontological Resources Preservation Act of 2009; Federal Land Policy and Management Act of 1976
Coastal Zone	U.S. Army Corps of Engineers; U.S. Fish and Wildlife Service; National Oceanic and Atmospheric Administration	Biological Opinion for protection of species and habitats; Federal Endangered Species Act; Federal Coastal Zone Mgmt. Act of 1972
Wild and Scenic Rivers	National Park Service; U.S. Forest Service, Bureau of Land Management	Code of Federal Regulations: 36 CFR 297; 43 CFR 8350
Wetlands	U.S. Army Corps of Engineers; U.S. EPA	Executive Order 11990 (Protection of Wetlands)
Floodplains	Federal Emergency Management Agency	Executive Order 11988 (Floodplains Management)
Dredging	U.S. Army Corps of Engineers; U.S. Fish and Wildlife Service; National Oceanic and Atmospheric Administration; U.S. Coast Guard	Federal Clean Water Act (Section 404); Executive Order 11990; Federal Endangered Species Act
Airport Airspace	Federal Aviation Administration	Federal Aviation Regulations, Part 77
Farmland	Natural Resources Conservation Service	Farmland Protection Policy Act

7-106 Hazardous Materials

Many hazardous materials are used in the construction of highway facilities. Employees must take appropriate precautions to minimize their exposure and use protective clothing and equipment. Contractors must submit safety data sheets (SDS) and obtain permission from the resident engineer before bringing any hazardous material onto the job site. For instructions, guidelines, and requirements for handling hazardous materials to ensure employee safety, refer to Chapter 16, "Hazardous Materials Communication Program," of the *Caltrans Safety and Health Manual* and Chapter 2, "Safety and Traffic," of this manual. For pesticide use guidelines, refer to Section 4-20, "Landscape," of this manual.

Key sources of SDS information are available at the websites listed below. The information these websites provide could be critical in the event the contractor fails to provide an SDS or should additional information or clarification be required.

Each of the websites provides the general purpose of the site, the name of the party supporting the site, and that party's general internet address. In using this information, keep in mind that some of these addresses may change over time and it may be necessary to search the more general website listing or call directly for assistance.

For SDS information by chemical name or Chemical Abstracts Services number, use the Louisiana State University Center for Advanced Microstructures and Devices:

http://www.camd.lsu.edu/msds/index.htm

For general SDS information or information by manufacturer or product name, refer to the Vermont Safety Information Resources, Inc.:

http://hazard.com/msds

7-107 Hazardous Waste and Contamination

Hazardous waste may be generated as a result of construction activities. Examples of hazardous waste include the removal of stripe and pavement marking containing high levels of lead, removing lead-based paint from a bridge or other structure, and excavating soil containing aerially deposited lead. Removing hazardous waste and contamination that has been released into the environment may be part of the project activities. For example, the work may include excavating a defined area of contaminated soil at an old gas station location.

Special permits may be required when generating hazardous waste during construction. For example, demolishing a bridge, whether new, old, or temporary, requires an asbestos survey and a permit from the local air quality management district. For guidance regarding special permit and variance requirements and procedures, contact the environmental construction liaison or district environmental unit.

The district construction division must have a designated district hazardous waste coordinator who will carry out necessary administrative functions for hazardous waste and assist the resident engineer. The coordinator will assist the resident engineer by working with other functional areas in the district and headquarters to do the following:

- Identify hazardous waste training that might be needed.
- Ensure the proper notifications if unidentified waste is found during construction.

- Provide field personnel with procedures and other information so that the personnel may safely deal with anticipated and unanticipated hazardous waste and contamination.

The construction contractor is responsible for ensuring that hazardous waste and contamination is managed in compliance with all applicable laws and regulatory requirements. For information about the applicable laws and regulations, refer to Volume 1, Chapter 10 of the SER. Additional information regarding hazardous waste management is available at the California Department of Toxic Substances Control (DTSC):

http://www.dtsc.ca.gov

For information regarding hazardous waste transportation, refer to the DTSC:

http://www.dtsc.ca.gov/HazardousWaste/Transporters/index.cfm

Section 14-11, "Hazardous Waste and Contamination," of the *Standard Specifications* defines the contractor's responsibilities, including requirements for proper storage and handling. Guidance for managing hazardous waste during construction can be found at:

http://env.dot.ca.gov/haz_waste/haz_construction/hw_construction_management.shtml

Guidance for implementing specific standard special provisions can be found at:

http://env.dot.ca.gov/haz_waste/haz_sp_provisions/hw_sp.shtml

7-107A Contractor-Generated Hazardous Waste Versus Department-Generated Hazardous Waste

Section 14-11 of the *Standard Specifications* differentiates between contractor-generated waste and Department-generated waste.

Contractor-generated hazardous wastes are hazardous materials that the contractor brings to the job site that have no further use and must be disposed of. Examples include extra or spent chemicals and waste generated as a result of contractor spills and leaks. Caltrans does not pay for disposal of contractor-generated hazardous wastes. The contractor obtains the EPA generator identification number and signs manifests for contractor-generated hazardous waste disposal.

Department-generated hazardous wastes result from removal of materials that exist within the project limits such as stripe on the highway and soil containing aerially deposited lead. The *Standard Specifications* requires that Department-generated hazardous waste is labeled consistently, and the resident engineer obtains the EPA temporary generator identification number and signs the hazardous waste manifests. Department-generated hazardous waste is required to be disposed of within California at a facility that holds a DTSC permit to accept the waste. For more information regarding in-state disposal, refer to Chapter 18 of the *Project Development Procedures Manual*.

At the preconstruction meeting, have the contractor identify the permitted site for disposal of project hazardous waste. The resident engineer should follow up and confirm the disposal site's ability to dispose of the waste stream.

During the course of work, the resident engineer must do the following:

1. Retain a copy of the manifest. Make a copy and send it to: DTSC, P.O. Box 400, Sacramento, CA, 95812-0400 within 30 days.

2. Review the manifest for accuracy before signing it as the generator. If you identify any errors at the time, line them out, correct them, and initial the correction. If you identify an error after the waste is transported, prepare a manifest correction letter. Seek assistance from the district hazardous waste coordinator if needed. The mailing address on the manifest should be the district office and the manifest should also show the project location address.

3. Check that the load is transported by a hauler with a valid hazardous waste hauler certification.

7-107B Aerially Deposited Lead

Aerially deposited lead (ADL) from leaded gasoline emissions still exists in unpaved areas along California highways, and lead is ubiquitous in the environment. Sample and analysis of soil is normally performed during project development to determine whether the lead is present at hazardous waste concentrations. Sample results are analyzed statistically. The sampling and analysis methods were developed and are required by the EPA and DTSC. For safety purposes do not allow Caltrans staff and contractor staff that have not completed a lead safety training program provided by the contractor to work in areas where soil is being disturbed.

7-107B (1) Non-Hazardous Lead Concentrations

If lead concentrations are non-hazardous, a lead compliance plan is required for safety precautions, but special disposal of the soil is not required. The requirements for the lead compliance plan are found in Section 7-1.02K (6)(j)(ii), "Lead Compliance Plan," of the *Standard Specifications* and project-specific information is found in Section 7-1.02K (6)(j)(iii) of the standard special provisions. The special provisions will specify whether soil must be retained on the job site or will be relinquished to the contractor. The special provisions may contain handling requirements (e.g., excavate to total depth, not in lifts). These requirements are included and must be followed in situations where mismanagement of the soil could result in unintended misclassification of the soil and unnecessary hazardous waste generation. For more information about these special provisions refer to the guidance at:

http://env.dot.ca.gov/haz_waste/haz_sp_provisions/hw_sp.shtml

7-107B (2) Hazardous Lead Concentrations

If lead concentrations are hazardous and soil will be disturbed by project activities, the contract special provisions will require worker protection and soil management and disposal or re-use under the variance issued to Caltrans by the DTSC. Reuse of ADL soils with lead concentrations exceeding regulatory thresholds is allowed when the DTSC ADL variance requirements are met and the variance is properly invoked through notification of the DTSC and the appropriate RWQCB. Soil that can be re-used is designated in the specifications and on the plans as Y-1 (can be buried under soil) or Y-2 (must be placed under pavement). When the project includes Types Y-1 or Y-2, the resident engineer must verify that the district has submitted the paperwork to invoke the statewide variance to the DTSC and notified the applicable RWQCB.

If the submittals were not sent, the resident engineer must contact the environmental construction liaison or district hazardous waste coordinator for assistance in preparing and sending the submittals by at least 5 days before the start of construction affecting ADL. The RWQCB normally requires at least 30 days' notice prior to project advertisement. If the notification was not submitted, notify the board and negotiate a

special time allowance. More information about the DTSC ADL variance is available at:

http://env.dot.ca.gov/haz_waste/haz_contaminant_waste/adl.shtml

The resident engineer must be aware of the requirements for burying soil containing ADL, and must adequately record information on the daily reports so that the burial locations of ADL can be found.

The contractor must submit Form CEM-1901, "Burial Location of Soil Containing Aerially Deposited Lead," to the resident engineer within 5 business days of completing placement of soil containing ADL at a burial location. The resident engineer should verify the information submitted on the form and notify the contractor within 5 business days if the information must be corrected. The contractor must then submit the corrected form to: ADL@dot.ca.gov.

The resident engineer is responsible for showing on the as-built plans the locations where ADL was buried. Information submitted on Form CEM-1901 should be used as the basis for the plotting locations.

7-107B (3) Minimal Disturbance of Material Containing Hazardous Waste Concentrations of Aerially Deposited Lead

The EPA allows certain discrete areas of generally dispersed contamination to be considered an individual waste management unit (equivalent to a landfill). These discrete areas are defined as areas of contamination (AOCs). An AOC is equated to a single unit; therefore, movement, consolidation, or in-situ treatment of hazardous waste within the AOC does not create a new point of hazardous waste generation. For an AOC, contamination must be contiguous but can have various concentrations.

The DTSC allows Caltrans to apply the AOC approach to projects that will only cause minimal disturbances of soil containing hazardous waste concentrations of ADL. Minimal or minor disturbances include installing guardrail, fencing, sign posts, traffic operation systems, highway planting and irrigation; minor clearing and grubbing; shoulder backing, pavement, and trenches for electrical systems. All soil disturbed must remain in the immediate area of disturbance and not be transported elsewhere. Health and safety precautions and dust control for hazardous waste must be implemented.

When the AOC approach can be applied, the contract specifications will require a lead compliance plan for worker safety and dust control, and require that disturbed soil be placed back in the immediate area that it came from.

7-107C Naturally Occurring Asbestos

If naturally occurring asbestos (NOA) exists within the project area, the contract will include specifications that contain safety and management requirements. The specifications require that the contractor must, at all times, comply with the dust mitigation requirements of the local air pollution control district or the county air quality management district and the California Occupational Safety and Health Administration code of safe work practices for working with asbestos (California Code of Regulations Title 8, Section 1529 [8 CCR 1529]).

The CARB restricts the use of material containing detectable NOA (equal to or greater than 0.25 percent) and the DTSC regulates material containing hazardous levels of NOA (defined as equal to or greater than 1.0 percent asbestos). However, the DTSC

does not require that NOA be managed as a hazardous waste for disposal purposes, and, therefore, disposal at a Class I facility is not required. Because of this determination, an EPA generator identification number is not necessary for disposing of excess NOA material, nor are waste manifests or DTSC-registered hazardous waste transporters required. However, surplus material containing 1.0 percent or greater of NOA must be disposed of by the contractor in a Class II or Class III landfill facility permitted to receive it and may not be relinquished for reuse on a site that is not a permitted disposal facility.

Ultramafic rock that has been tested and found to contain below 0.25 percent asbestos and all NOA material containing less than 0.25 percent asbestos may be used in a surfacing application per the CARB Airborne Toxic Control Measure for Surfacing Applications, Title 17, Section 93106, (i) 20. Restricted material is defined as ultramafic rock and serpentine rock, any material extracted from a region defined on geologic maps as an ultramafic rock unit, and any material that has been tested and found to have an asbestos content of 0.25 percent or greater. Surplus material with an NOA content greater than or equal to 0.25 percent, but less than 1.0 percent NOA must be disposed of in a licensed landfill facility if it is not relinquished to the contractor. If material containing less than 1.0 percent NOA is relinquished to the contractor for reuse in non-surfacing applications, the contractor must provide the following warning to the entity receiving the NOA material:

W A R N I N G!

This material may contain asbestos.

It is unlawful to use this material for surfacing or any application
in which it would remain exposed and subject to possible disturbances.

Extreme care should be taken when handling this material to minimize the generation of dust.

The resident engineer must obtain written documentation from the contractor stating that the relinquished NOA material will not be reused in a surfacing application and what the final disposition of the restricted material is.

7-107D Department-Generated Contaminated Soil

If contaminated soil exists within the project area, the contract will include specifications that contain safety and management requirements. Depending on the depth to groundwater within the project area and the depth of construction activities, management of contaminated water may also be included. These specifications will vary depending upon the site-specific conditions and, therefore, must be reviewed carefully by the resident engineer to ensure that they are properly implemented.

7-107E Removing Yellow Traffic Stripe and Pavement Marking with Hazardous Waste Residue

Follow the procedures below when assessing, removing, and disposing of yellow traffic stripe and pavement marking materials on all projects. If such pavement markings exist on the project, Section 14-11.07 of the special provisions will be included in the contract.

The resident engineer must review the construction contract to determine whether yellow traffic stripe and pavement marking material must be removed. If so, the

resident engineer must also determine whether special handling as a hazardous waste is specified.

If yellow traffic stripe and pavement markings are to be removed and the removal has not been addressed in the contract, the resident engineer must consult with the district hazardous waste coordinator to determine whether a change order is needed.

The resident engineer must ensure the following:

- *Training*: The contractor must provide a safety training program that meets the requirements of 8 CCR 1532.1, "Lead." Before performing any yellow traffic stripe and pavement marking removal, personnel (including Caltrans employees) who have had no prior lead training must complete the safety training program.
- *Lead compliance plan*: Work practices and worker health and safety must conform to 8 CCR 1532.1. The contractor must submit the written compliance programs required in Subsection (e)(2), "Compliance program," of Section 1532.1, to the resident engineer before starting to remove yellow traffic stripes and pavement markings and at such times when a program revision is required. An industrial hygienist certified by the American Board of Industrial Hygiene must prepare the compliance program. A competent person capable of taking corrective action must monitor the program. Require that copies of all inspection reports made in accordance with Section 1532.1 are given to the resident engineer.
- *Work plan*: The contractor must submit a work plan that documents the removal equipment that will be used, removal and waste collection procedures, storage containers, storage location and security, sampling procedures, sampling personnel qualifications, certified laboratory that will run the analyses, hazardous waste hauler certifications, and receiving disposal site and requirements. Removal work may not start until the resident engineer has reviewed and accepted the work plan.
- *Storage of residue*: The contractor must store the residue from traffic stripe and pavement marking removal as follows:
    1. While waiting for any test results required by the disposal facility, store the collected residue as hazardous waste in properly labeled metal containers approved by the U.S. Department of Transportation for hazardous waste transport.
    2. Cover and handle the containers in such a manner that no spillage will occur.
    3. Enclose the stored containers with temporary chain link fencing or a lockable shipping container at a location within the project limits approved by the resident engineer.
    4. Begin disposing of the contained residue no more than 90 days after accumulating 220 pounds of residue.
- *Testing and disposal*: Before disposal, the contractor is required to test the residue collected in the containers for proper waste classification. The level of lead waste contained in the removed material will be diluted by pavement debris that has also been removed. Depending on the test results, disposal of the stored material is as follows:
    1. Dispose of the stored residue as hazardous waste when its lead content is detected to be at levels greater than 1,000 mg/kg total lead or greater than 5 mg/l soluble lead. Keep records in accordance with current requirements for

hazardous waste handling and disposal, and file them in the project files. The contractor must dispose of all hazardous waste residues resulting from yellow traffic stripe and pavement marking removal at an approved DTSC-permitted Class I disposal facility in accordance with the requirements of the disposal facility operator. A transporter currently registered with the DTSC using correct manifesting procedures must haul the yellow traffic stripe and pavement marking residue.

The contractor must make all arrangements with the disposal facility operator and perform any testing of the yellow traffic stripe and pavement marking debris required by the operator. The resident engineer must obtain the EPA temporary generator identification number and sign all manifests as the generator. The resident engineer must also pay the manifest fees that may be billed several months after project completion.

2. Unless the lead removal work was already contemplated in the construction contract, pay as change order work all work performed for testing, additional removal costs, retesting, and additional disposal.

3. If the analytical test results demonstrate that the waste is actually non-hazardous, a change order must be prepared to direct the contractor to dispose of the waste at a Class II or Class III facility with no additional payment provided.

7-107F Disturbance of Existing Paint Systems on Bridge

Bridge paints contained high levels of lead, zinc, and chromium before being reformulated to reduce their toxicity. Even though the phase-out of those paints occurred many years ago, lead, zinc, and chromium are still a concern because when bridges are repainted, not all of the prior layers of paint are completely removed. In addition, lead from the paint is actually absorbed into the steel and, as a result, even steel that no longer has paint on it can be a hazard if heated because heating causes the lead to be released as a toxic fume.

When bridge paints are disturbed, the paint debris must be properly contained to protect waterways and workers. It has been determined that the grime and debris that collects on bridges also contains elevated concentrations of lead. Consider this grime and debris part of the existing paint system.

When bridge paint will be disturbed as part of the project, the contract specifications will require a lead compliance plan for worker safety, waste management, and verification sampling to document that heavy metals are not released during the work.

The resident engineer must ensure the following:

- *Training*: The contractor must provide a safety training program that meets the requirements in 8 CCR 1532.1, "Lead." Before performing any bridge paint removal, personnel (including Caltrans employees) who have had no prior lead training must complete the safety training program.
- *Lead compliance plan*: Work practices and worker health and safety must conform to 8 CCR 1532.1. The contractor must submit the written compliance programs required in Subsection (e)(2), "Compliance program," of Section 1532.1, to the resident engineer before starting to remove bridge paint and at such times when a program revision is required. An industrial hygienist certified by the American Board of Industrial Hygiene must prepare the compliance program. A competent

person capable of taking corrective action must monitor the program. Require that copies of all inspection reports made in accordance with Section 1532.1 are given to the resident engineer.

- *Debris Containment and Collection Plan*: The contractor must submit a plan that documents the removal equipment and containment systems that will be used, removal and waste collection procedures, certified laboratory that will run the analyses, hazardous waste hauler certifications, and receiving disposal site and requirements. Work that will disturb the paint system may not start until the resident engineer has reviewed and accepted the plan.
- *Storage of residue*: The contractor must store the residue from paint disturbance or removal as follows:

  1. While waiting for any test results required by the disposal facility, store the collected residue as hazardous waste in properly labeled metal containers approved by the U.S. Department of Transportation for hazardous waste transport.
  2. Cover and handle the containers in such a manner that no spillage will occur.
  3. Enclose the stored containers with temporary chain link fencing or a lockable shipping container at a location within the project limits approved by the resident engineer.
  4. Begin disposing of the contained residue no more than 90 days after accumulating 220 pounds of residue.

- *Waste testing and disposal*: Before disposal, the contractor is required to test the residue collected in the containers for proper waste classification. Depending on the test results, disposal of the stored material is as follows:

  1. Dispose of the stored residue as hazardous waste when its lead content is detected to be at levels greater than 1,000 mg/kg total lead or greater than 5 mg/l soluble lead. Keep records in accordance with current requirements for hazardous waste handling and disposal, and file them in the project files. The contractor must dispose of all hazardous waste residues at an approved DTSC-permitted Class I disposal facility in accordance with the requirements of the disposal facility operator. A transporter currently registered with the DTSC using correct manifesting procedures must haul the residue.

     The contractor must make all arrangements with the disposal facility operator and perform any testing of the residue required by the operator. The resident engineer must obtain the EPA temporary generator identification number and sign all manifests as the generator. The resident engineer must also pay the manifest fees which may be billed several months after project completion.
  2. Unless the lead removal work was already contemplated in the construction contract, pay as change order work all work performed for testing, additional removal costs, retesting, and additional disposal.
  3. If the analytical test results demonstrate that the waste is actually non-hazardous, a change order must be prepared to direct the contractor to dispose of the waste at a Class II or Class III facility with no additional payment provided.

- *Work area monitoring:* The contractor must perform air monitoring to demonstrate that lead is not being released from the containment structure and perform soil sampling before and after the work to demonstrate that lead has not been released to the ground beneath the work area. Consult the hazardous waste coordinator to determine the adequacy of the reports and whether a release has occurred requiring corrective action. If the area beneath the bridge is paved soil, sampling will not be included in the specifications. In these cases, look for color changes on the pavement which indicate a release of paint residue.

7-107G Treated Wood Waste

Treated wood has been used to support metal beam guard railing, thrie beam barrier, piles, and roadside signs. These wood products are typically treated with preserving chemicals that protect against insect attack and fungal decay. These chemicals may be hazardous and include but are not limited to arsenic, chromium, copper, creosote, and pentachlorophenol. The DTSC requires that treated wood waste (TWW) either be disposed of as hazardous waste or, if not tested, the generator may presume that TWW is a hazardous waste and manage the waste using DTSC's Alternative Management Standards (AMS). The AMS are described in 22 CCR 67386.1–67386.12. The AMS lessen storage requirements, extend accumulation periods, allow shipment of TWW without manifests and use of a registered hazardous waste hauler, and permit disposal at specific non-hazardous waste landfills.

Whenever TWW will be removed as part of the project, the contract specifications will direct the contractor to follow the AMS, including providing training to all personnel who may come into contact with TWW.

For projects that will generate more than 10,000 pounds of TWW per calendar year, the DTSC must be notified within 30 days of exceeding this weight threshold. Notification must include the name and mailing address of the generator, EPA generator identification number, date that the 10,000-pound limit was or is expected to be exceeded, the weight of the TWW as measured by the receiving facility, and the name and address of the receiving facility. The resident engineer requests the EPA temporary generator identification number from the DTSC and files an electronic form available on DSTC's website for TWW. The DTSC will forward a copy to the Board of Equalization (BOE) who, in turn, sets up an administrative record. If a project will generate more than 10,000 pounds of TWW, a Basic Engineering Estimating System item 066915, "BOE TWW Generation Fee," will be included as a department-furnished material. This item will be paid prior to or during the closeout process of the project, up to 1 year after construction contract acceptance.

TWW can be shipped off-site by a hauler with a shipping document, bill of lading, or invoice serving as documentation. If TWW is less than 10,000 pounds per calendar year per project, an EPA generator identification number is not required. Records must be kept for 3 years from the date of the last waste shipment.

If there is limited space or no area to temporarily store TWW on the job site, it may be transferred to a remote consolidation site, such as a maintenance facility, or a location that meets all the requirements of 22 CCR 67386.7(c).

7-107H Disposal of Electrical Equipment Requiring Special Handling

California law requires special handling of electrical waste such as ballasts containing polychlorinated biphenyl (PCB), batteries, and fluorescent or mercury tubes, bulbs, and lamps. PCBs found in ballasts and thionyl chloride found in vehicle sensor node

batteries are considered extremely hazardous wastes if they are released from the equipment.

PCB disposal is regulated by the EPA under the Toxic Substances Control Act and by the Code of Federal Regulations (40 CFR Part 761). PCB wastes are also regulated as hazardous waste by the DTSC under the California Health and Safety Code and 22 CCR. All PCB wastes must be packaged in a container approved to transport PCB, marked, "Contains PCBs," and transported with a proper hazardous waste manifest by an authorized PCB or hazardous waste transporter to an appropriately permitted disposal facility. If a ballast containing PCBs is damaged, it may leak and, therefore, requires special management. Damaged ballasts containing PCBs must be contained and transported to an EPA-approved high-temperature incinerator.

Waste batteries and fluorescent or mercury tubes, bulbs, and lamps are considered universal wastes under 22 CCR 66273.1–66273.90. These are wastes generated by everyone, hence the term "universal." The management requirements are more relaxed than those for hazardous wastes. However, universal wastes can adversely impact public health and the environment if not properly managed, and, therefore, must be disposed of at appropriately permitted facilities. Damaged vehicle sensor node batteries may leak thionyl chloride and, therefore, must be contained. Once damaged, these batteries are no longer considered universal waste and must be managed and disposed of as a hazardous waste.

When these types of electrical equipment will be removed as part of the project, the contract specifications will alert the contractor to the special management requirements for these wastes.

7-107I Unanticipated Discovery of Hazardous Waste and Contamination

Caltrans construction employees must follow safe practices and minimize their exposure when dealing with unanticipated and unidentified hazardous wastes and contamination. Minimize potential risks during project construction by having all construction personnel follow the general procedures below:

- After unknown and potentially hazardous wastes and contamination (including underground tanks) are discovered, cease construction work in that area. When a waste is discovered, follow the procedure described in Figure 7-1.1, "Unknown Hazards Procedure," of this manual.
- Secure the vicinity of the find by cordoning off the area with barriers or fences, and evacuate the vicinity.
- Prohibit construction personnel from any exploratory or investigative work that would result in further personal exposure. Such personnel are prohibited from taking samples or testing potentially hazardous waste and contamination. This prohibition includes activities such as the following:
    1. Touching, smelling, or ingesting suspected materials.
    2. Climbing into trenches or enclosed areas where contamination is suspected.
    3. Reaching, looking, or placing a foreign object (such as a stick to probe or a rock to test depth or to determine the presence of a liquid) into exposed or leaking tanks or other enclosed spaces.
    4. State law specifically prohibits the use of the prime contractor's forces (including subcontractors) to respond to an unanticipated discovery if the type

of hazard was not identified in the original contract documents. The contractor must stop work in the area and Caltrans must independently hire a contractor with a Class A Haz certification to respond. To ensure rapid response, Caltrans regions and districts are the contract administrators for on-call construction emergency contracts. For assistance, contact the contract manager for your specific region or district. A list is located on the Division of Environmental Analysis web site:

http://env.dot.ca.gov/haz_waste/haz_construction/hw_construction_management.shtml

- For any necessary exploratory, investigative, or cleanup work, use specialized consultants or safety workers who are fully trained, licensed, and qualified for hazardous waste work in accordance with state and federal regulations.
- Because of potentially catastrophic health effects, 29 CFR 1910.120 requires that no one enter the designated exclusion zones until a complete and effective "hazardous waste worker protection program" is established or until the consultant has determined no exposure danger exists. (The designated exclusion zones are delineated in the consultant-prepared hazardous waste site safety plans.)

7-108 Solid Waste Disposal and Recycling Reporting

7-108 Solid Waste Disposal and Recycling Reporting

Projects containing special provisions for solid waste disposal and recycling reports require the contractor to chronicle landfill disposal and material recycling activity performed throughout the duration of the contract. The contractor reports this information annually on Form CEM-4401, "Solid Waste Disposal and Recycling Report." The resident engineer must ensure that the form is given to the contractor and checked as received during the preconstruction conference. The requirements of the form should be explained and reiterated during the preconference and other meetings.

Form CEM-4401 must include, at a minimum:

- The report calendar year.
- Amount of solid waste taken to landfills.
- Amount of solid waste diverted from landfills to recycling facilities.
- Amount of recycled material generated and then reused on a project.
- Name, title, and signature of the contractor's representative.
- Date of the report.

The contractor submits the annual report for ongoing contracts to the resident engineer by January 15, and a final annual report 5 days following contract acceptance. If no work was conducted during the reporting period, the report states that no work was performed during that period.

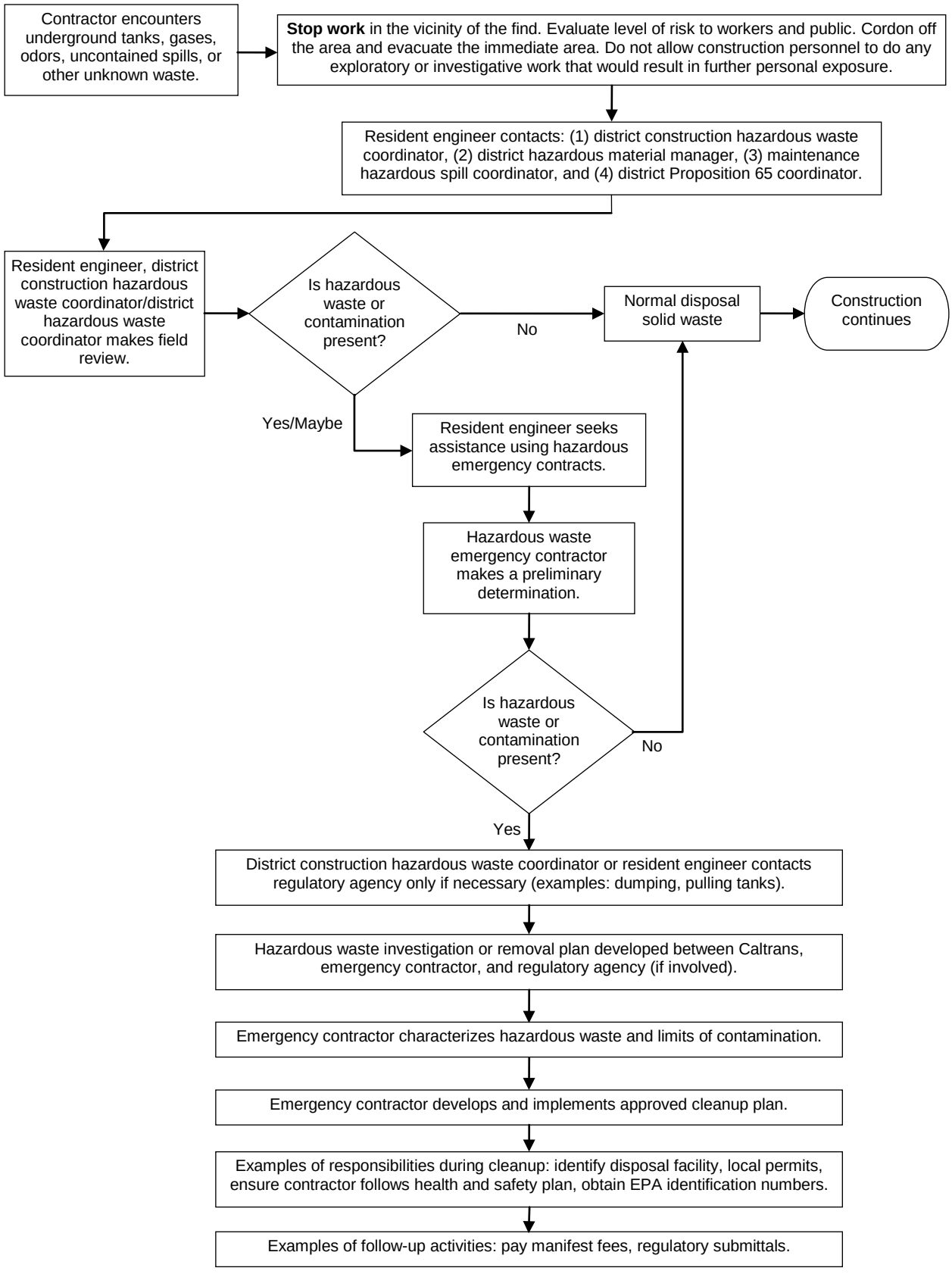
Contract special provisions require that all reports be received from the contractor in good order before the contract can be finalized. Form CEM-4401 must be completely filled out and signed by the contractor for it to be acceptable. The resident engineer must review for accuracy all reports submitted by the contractor. Compare the total amount listed on Forms CEM-4401 of materials taken to and diverted from landfills with the approximate amount of work requiring the removal of materials. Before signing each report, resolve any discrepancies in material type or amount with the contractor. In accordance with Section 14-10.02, "Solid Waste Disposal and Recycling

Report," of the *Standard Specifications*, Caltrans withholds $10,000 for each failure to submit a completed report.

The resident engineer must submit the approved Form CEM-4401 to the district recycling coordinator with a copy to the district construction office no later than February 1 of each year or within 15 days after receiving the final report. Contact information for district and statewide recycling coordinators is available at:

http://www.dot.ca.gov/hq/oppd/rescons/sb1016/coordinators.htm

Figure 7-1.1 Unknown Hazards Procedure



7-109 Certificate of Environmental Compliance

A Certificate of Environmental Compliance (CEC) is prepared at the end of construction to document and certify Caltrans' environmental compliance efforts for measures specified in final environmental (or other project) documentation, including PLACs; ECR; and mitigation, monitoring, and reporting program.

For any commitments not completed by the end of construction, initiate notification to, and have ongoing communication with, appropriate staff including, but not limited to, the environmental construction liaison, project manager, and environmental unit chief, to discuss and document the logistics (timing, staff, resources) of when those commitments will be completed, and to identify who is responsible for tracking such completion efforts. All activities to complete post-construction commitments are identified in the CEC. This includes the expenditure authorization, funding type, activity, responsible party, timing, and duration. Upon completion of the environmental commitments that extend beyond construction, the ECR and CEC are updated and placed in the project file. The resident engineer is responsible for ensuring that the CEC is prepared and distributed. The CEC refers to the ECR to determine:

- Whether the mitigation measures were met and, if not, what measures were implemented.
- Which contract specifications satisfied environmental commitments and concerns.
- Whether additional mitigation measures are required as a result of project changes, and their outcomes.

The ECR will serve as the basis for the CEC documentation.

The CEC will be signed by the environmental construction liaison, environmental branch chief, project manager, and resident engineer, and will be filed in the project files.

Provide copies of the CEC to all district or regional organizational units responsible for the project including the district Divisions of Environmental, Design, Project Management, and Construction.

Discuss the CEC fully at the project closeout meeting. This can result in identifying the lessons learned on the project and areas of environmental compliance that may need improvement. Include district Maintenance staff in the project closeout meeting if there are post-project commitments.

The CEC form may be obtained from the Division of Environmental Analysis website at:

http://www.dot.ca.gov/ser/forms.htm#cert_compliance