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SR-91 CORRIDOR IMPROVEMENT PROJECT (CIP)

AGENCY QUALITY MANAGEMENT PLAN

Volume III - Design-Build Construction Manual







Prepared for:

RCTC

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List of Acronyms

AASHTO	American Association of State Highway and Transportation Officials
AB	Assembly Bill
ACM	asbestos-containing material
ADL	aerially deposited lead
AQMP	agency quality management plan
ASTM	American Society for Testing and Materials
bgs	below ground surface
BMPs	Best Management Practices
BNSF	Burlington Northern Santa Fe
Cal-OSHA	California Division of Occupational Safety and Health
Caltrans	California Department of Transportation
CAT	contract acceptance testing
CCO	contract change order
CCP	construction contingency plan
CCR	California Code of Regulations
CCTV	closed-circuit television
CDFW	California Department of Fish and Wildlife
CEC	Certificate of Environmental Compliance
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CHP	California Highway Patrol
CIP	Corridor Improvement Project
City	City of Corona
CMP	Construction Monitoring Program
CMS	changeable message sign
CMT	Construction Management Team
CMU	Compliance Monitoring Unit
ConOps	concept of operations
COSP	Caltrans Construction Code of Safe Practices
County	County of Riverside
COZEEP	Construction Zone Enhanced Enforcement Program
CPUC	California Public Utilities Commission
CQMP	construction quality management plan
CSC	Customer Service Center
CWP	construction work plan
DBCM	Design-Build Construction Manual
DBDM	Design-Build Design Manual
DBE	Disadvantaged Business Enterprise

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DIR	Department of Industrial Relations
DOT	Department of Transportation
DPR	California Department of Parks and Recreation
DQMP	design quality management plan
DRB	Disputes Review Board
DTSC	Department of Toxic Substances Control
ECM	environmental compliance manager
ECR	Environmental Commitment Record
EEO	Equal Employment Opportunity
EIR	environmental impact report
EIS	environmental impact statement
EMP	environmental management plan
EO	Executive Order
ESA	environmentally sensitive area
ETC	electronic toll collection
ETTM	electronic toll and traffic management
FHWA	Federal Highway Administration
FSP	Freeway Service Patrol
GP	general purpose
HMA	hot mix asphalt
HSP	health and safety plan
HPPA	High Profile Project Agreement
I-15	Interstate 15
IA	independent assurance
IAST	independent assurance sampling and testing
IIPP	Injury and Illness Prevention Program
IQA	Independent Quality Assurance
ITP	inspection and testing plan
ITS	intelligent transportation system
LAPM	Local Assistance Procedures Manual
LBP	lead-based paint
MCS	materials control schedule
METS	Materials Engineering and Testing Service
MOT	maintenance of traffic
MPM	monthly progress meeting
MPR	monthly progress report
MSDS	material safety data sheet
MSHCP	multiple species habitat conservation plan
MTBF	mean time between failures
MTTR	mean time to repair
MUTCD	Manual on Uniform Traffic Control Devices
NCR	nonconformance report
NDC	notice of design change
NEMA	National Electrical Manufacturer's Association

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NEPA	National Environmental Policy Act
NHS	National Highway System
NIST	National Institute of Standards and Technology
NPDES	National Pollutant Discharge Elimination System
NPS	National Park Service
OCTA	Orange County Transportation Authority
OE	office engineer
OFCCP	Office of Federal Contract Compliance Programs
ORCA	OCTA and RCTC Cooperative Agreement
OS	oversight
OSFP	Caltrans Office of Special Funded Projects
OSHA	Occupational Safety and health Administration
OSMPP	Office of Structural Materials Practices and Procedures
PA&ED	project approval and environmental document
PAH	polynuclear aromatic hydrocarbon
PCB	polychlorinated biphenyl
PCC	Portland cement concrete
PCM	project and construction management
PCQCP	precast quality control plan
POM	project oversight manager
POP	public outreach plan
ppm	part(s) per million
PS&E	plans, specifications, and estimates
PSP	project safety plan
PUA	project utility agreement
QA	quality assurance
QAM	quality assurance manager
QAT	quality assurance testing
QC	quality control
QMP	quality management plan
RAMS	revenue and account management system
RCFC&WCD	Riverside County Flood Control and Water Conservation District
RCTC	Riverside County Transportation Commission
RE	resident engineer
RFC	release for construction
RFI	Request for Information
RFP	Request for Proposals
ROD	Record of Decision
ROW	right-of-way
RWQCB	Regional Water Quality Control Board
SAFETEA-LU	Safe, Accountable, Flexible, Efficient, Transportation Equity Act: A Legacy for Users

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SARWQCB	Santa Ana Regional Water Quality Control Board
SB	Senate Bill
SCAQMD	South Coast Air Quality Management District
SCE	Southern California Edison
SEMP	systems engineering management plan
SERF	systems engineering review form
SFM	state-furnished material
SHPO	State Historic Preservation Officer
SHS	State Highway System
SIIC	systems installation and integration contract
SR-71	State Route 71
SR-91	State Route 91
SR-241	State Route 241
SRL	Southern Regional Laboratory
STIP	State Transportation Improvement Program
SWPPP	storm water pollution prevention plan
SWRCB	State Water Resources Control Board
TCA	Transportation Corridor Agencies
TCE	temporary construction easement
TFA	toll facility agreement
TIFIA	Transportation Infrastructure Finance and Innovation Act
TIGER	Transportation Investment Generating Economic Recovery
TM	traffic management
TMC	traffic management center
TMP	traffic management plan
TOC	traffic operations center
TP	technical provision
TTC	temporary traffic control
TUB	toll utility building
TZC	toll zone computer
USA	Underground Service Alert
USACE	US Army Corps of Engineers
USC	United States Code
USFWS	US Fish and Wildlife Service
VECP	value engineering change proposal
VES	violation enforcement system
WQCP	weeding quality control plan
WRC-RCA	Western Riverside County Resource Conservation Agency

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Terms and Definitions

Baseline Schedule: A fixed Project schedule used in measuring Project progress and Contract performance.

Batch Plant Inspection: An inspection of offsite facilities and materials pertaining to asphalt mixtures used on the Project.

Caltrans Oversight: Oversight performed by Caltrans to ensure that its and FHWA's requirements are being met and that the quality plans are being implemented by RCTC.

Certificate of Environmental Compliance: A certificate prepared at the end of the Project to document that the Project complies with all applicable environmental regulations, regulatory permit conditions, and Project environmental commitments made in National Environmental Policy Act (NEPA) and California Environmental Quality Act (CEQA) approved documents.

Certificate of Substantial Completion: A certificate prepared when the Work or a designated portion of the Work is sufficiently complete in accordance with the Contract so that RCTC can occupy or use the facilities.

Construction Management Team (CMT) Daily Inspection Reports: Reports that document Independent Quality Assurance (IQA)-related information pertinent to the assigned operations, such as sampling, testing, testing results, visual inspections of the Work, and review of Design-Builder's quality control (QC) and QA records.

Compensatory Offsite Mitigation: The restoration, establishment, enhancement, or (in certain circumstances) preservation of wetlands, streams, or other aquatic resources for the purpose of offsetting unavoidable adverse impacts.

Construction Incident Response Team: A team activated by the RCTC toll project manager when warranted by the sensitivity and severity of a major construction incident.

Construction Management Team (CMT): The core team that is responsible for managing the construction of the Project. Includes the Construction Manager, Deputy Construction Manager, Resident Engineers, Assistant Resident Engineers,

Construction Monthly Progress Meeting: A meeting in which the Project and Construction Management (PCM) Construction Manager provides the monthly status of the Project.

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Construction Monthly Progress Report: A report that compiles all monthly summary status reports.

Construction Safety Records: A collection of reports, meeting minutes, findings, statistics, and other documentation pertaining to Design-Builder's safety performance on the Project.

Construction Work Plan (CWP): This plan consists of information packages that describe individual elements of the Work in detail, such as the following key components: Work overview; safety concerns; submittals required (records); responsible persons; dates and times; inspection types, frequencies, and critical activity points (Inspection Testing Plan); and required plans and specifications.

Construction Zone: Any portion of the Project area in which construction activities take place.

Contract: The Design-Build Contract, which was executed on May 8, 2013, between RCTC and Atkinson/Walsh Joint Venture.

Contract Change Order (CCO): Document issued to record changes to any part of the original Contract.

Crisis Communication Plan: This plan outlines the procedures and course of action to be followed when responding to a crisis or emergency related to the Project.

Critical Activity Points: Critical activity points are hold points at which proper inspection, testing, and verification are performed before proceeding to the next activity or next stage of that particular item of Work or when a material is first used on the Project.

Design-Builder: Atkinson-Walsh Joint Venture, which was selected by RCTC under a competitive procurement, is Design-Builder for the Project.

Design-Builder Daily Inspection Reports: Design-Builder Daily reports that must comply with requirements of the Caltrans Construction Manual and are filed by Design-Builder Inspectors.

Design-Builder Public Outreach Plan: This plan is developed by the Design-Builder and must include Design-Builder's media relations protocols, crisis communication strategy, and public complaints and claims mitigation process.

Disadvantaged Business Enterprise (DBE): A for-profit small business concern that is at least 51 percent owned by one or more individuals who are socially and economically disadvantaged. If the DBE is a corporation, 51 percent of the stock is owned by one or more such individuals,

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and the corporation's management and daily business operations are controlled by one or more of the socially and economically disadvantaged individuals who own it.

Dispute Resolution Process: A process that is established for the Project as specified in the Contract and that includes activities and documentation to ensure that Contract disputes are addressed and resolved in a timely and consistent manner.

Document Control System: A system of processing Project documents through all procedural steps in accordance with well-defined procedures and guidelines.

Encroachment Permit: A permit issued by Caltrans or another agency granting permissive authority to enter its right-of-way (ROW) and construct the approved facilities. An encroachment permit is a valid Contract when accepted by the Permittee. An encroachment permit is not a property right. It authorizes only the Permittee or Permittee's agent to perform the scope of Work specified within the encroachment permit.

Environmental Commitments Record (ECR): The ECR ensures that the Project meets its environmental commitments by: (1) recording each environmental mitigation, compensation, and enhancement commitment made for an individual project; (2) specifying how each commitment will be met; and (3) documenting the completion of each commitment. The ECR brings all relevant environmental compliance information together in a single document, making it easier to track progress and identify needed actions.

Environmental Management Plan: This Plan is developed by the Design-Builder to ensure that commitments in the ECR and all permit requirements are addressed throughout the life of the Project. It describes in detail how to address the Project's environmental commitments and documents the requirements that are stated in the ECR.

Environmental Monitoring Reports: These reports are submitted monthly by the Design-Builder to document compliance with, and fulfillment of, the environmental commitments listed in the ECR. They include a summary of environmental commitments completed and in progress, resources addressed, recommended remedial action, and updated Project environmental commitments record matrix.

Environmental Revalidation/Reevaluation: Revalidation or reevaluation of the environmental permit(s) that is required when substantial changes are made to the project or when significant new circumstances or information arises that is relevant to environmental issues.

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Environmentally Sensitive Areas (ESAs): Areas within or adjacent to the Project limits that contain natural features, such as the habitat of a rare species, and that are protected by government regulations.

Electronic Toll and Traffic Management (ETTM) Final Acceptance Testing: This process includes a review of all toll transactions over the test period and a review of each invalid transaction to determine the chargeability and develop pass/fail designations based on accuracy and availability.

Electronic Toll and Traffic Management (ETTM) Infrastructure Turnover Inspection: This inspection confirms that all physical, functional, construction, and installation requirements have been completed before the ETTM facilities are released to the Systems Integrator for its installation and integration work.

Equal Employment Opportunity Requirements: These requirements ensure that employment in connection with federal highway construction projects is provided without regard to race, color, creed, national origin, or sex.

Fabrication Site Inspection: An inspection performed at sites where materials are being fabricated. At a fabrication facility, Materials Engineering and Testing Service (METS) inspects both the materials and the fabrication process. This inspection is often conducted for welding shops that fabricate structural steel, prefabricated concrete facilities, and sign structure fabricators. Many of these facilities are also audited periodically, and they must maintain a satisfactory audit status in order to perform Caltrans work.

Federal Highway Administration (FHWA): The FHWA maintains overall responsibility for the Federal Highway Program, except for the assignment of environmental responsibilities under the Safe, Accountable, Flexible, Efficient, Transportation Equity Act: A Legacy for Users (SAFETEA-LU).

FHWA Oversight: FHWA performs oversight to ensure that the Project conforms to federal laws, regulations, and executive orders.

FHWA Standards: FHWA standards include FHWA manuals, technical memoranda, standards, guidelines, and modifications to such standards in effect as of the date of issuance of the final addendum to the Request for Proposals (RFP).

Final Acceptance: Riverside County Transportation Commission (RCTC) issues a final acceptance letter upon receipt of notification from the Roadway and Structure Resident Engineers (REs)

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and Caltrans Oversight (OS) Managers and Lead Inspectors that the Design-Builder has finalized all items required by the Contract.

Final Inspection: Upon receipt of notification from Design-Builder that all conditions to Final Acceptance have been met, the Roadway and Structure REs and Caltrans OS Managers and Lead Inspectors conduct a final inspection.

Four-Week Look Ahead: A filter of the overall Project schedule showing the activities planned to occur over the following 4 weeks.

Freeway Service Patrol (FSP): FSP assigns tow vehicles patrolling the construction zone, removes stalled vehicles to designated drop locations, and performs other related duties, such as removing vehicles and debris that block the roadway.

Furnished Materials: Construction materials provided to Design-Builder by RCTC and Caltrans.

Good Faith Efforts: Required methods employed by all FHWA financial aid Project dollar recipients to ensure that all DBEs in or around the Project area have the opportunity to compete for procurements funded by FHWA.

Health and Safety Program: This program includes policies, plans, training programs, project controls, incident response plans, and enforcement for the health and safety of personnel involved in, and the public affected by, the Project during the term of the Contract. It sets task-specific work zone safety and mobility policies in accordance with Contract requirements, and it includes the means to monitor and enforce safety, health, and environmental requirements, as well as procedures for monitoring and evaluating the safety practices of employees and Subcontractors at all tiers.

High-Profile Project Agreement (Appendix A): This agreement, executed on June 4, 2012, outlines the roles, responsibilities, and requirements of FHWA, Caltrans, and RCTC as it relates to oversight and risk management on the Project.

Independent Assurance Sampling and Testing: Independent assurance sampling and testing is performed by Caltrans to certify material testing personnel as required by Caltrans policies and FHWA.

Independent Referee Laboratory: A third-party laboratory tasked with testing materials in instances where test result variances fall outside allowable tolerances.

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Injury and Illness Prevention Program (IIPP): A safety program created by RCTC based on Design-Builder's Health and Safety Plan (HSP) and RCTC's Project Safety Plan (PSP).

Independent Quality Assurance (IQA): IQA is performed by RCTC and Caltrans to verify QC and QA compliance and confirm that the quality characteristics of the products incorporated into the Project meet the Contract requirements for acceptance and payment. IQA includes inspection and verification sampling and testing performed by qualified personnel employed by RCTC or Caltrans.

IQA Verification Process: Process used to determine that completed construction products meet the requirements specified in the Contract.

Issue Resolution Process: Process developed for the Project to resolve issues in order to avoid or minimize claims.

Maintenance of Traffic (MOT): MOT includes, but is not limited to, providing safe and efficient movement of people, goods, and services around the Project while minimizing impacts to residents, commuters, and businesses.

Major Contract Change Order: Major changes are defined by FHWA. Major contract change orders require approval by FHWA before the effective date of the change to preserve the eligibility for federal-aid funding.

Major Construction Incident: An unusual or extraordinary construction occurrence.

Material Inspection: Inspection performed for all materials to be placed in the Project by Design-Builder, Inspectors, Southern Regional Laboratory (SRL), or Materials Engineering and Testing Service (METS).

Materials Control Schedule: This schedule provides the minimum Construction QA Testing to be performed by Design-Builder for commonly used test methods.

Measure A: RCTC's voter-approved half-cent local transportation sales tax.

Measured Accuracy Rate: Minimum rate of accuracy that the toll system must maintain for given toll periods for a lane, a direction, or the system as a whole.

Minor Contract Change Order: Contract change orders that do not require approval by FHWA before the effective date of the change to preserve the eligibility for federal-aid funding.

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Monthly Summary Status Report: This report is compiled by discipline from the daily inspection reports used by the PCM Construction Manager to create the Construction monthly progress report.

Management of Traffic (MOT) Coordination Meetings: Biweekly coordination meetings with Design-Builder and RCTC, California Highway Patrol (CHP), Caltrans, the City of Corona (City), and other Project stakeholders to address traffic management plan (TMP) strategies, construction staging, traffic analysis plans, and Project disruptions to public and commercial services, as well as the traveling public.

National Pollution Discharge Elimination System (NPDES) Permit: This permit is issued by the State Water Resources Control Board (SWRCB) to ensure the control of pollutants in discharges of stormwater runoff into waters of the United States.

Nonconformance: Design documents, construction drawings, manufactured or imported materials or products, and installations that include workmanship and material and/or any other construction activities that do not conform to Project Contract requirements.

Nonconformance Report (NCR): An NCR is written if any member of Design-Builder or Construction Management Team discovers a nonconformance within any of the quality process or workmanship areas.

Notice to Proceed: Written notice from RCTC authorizing Design-Builder to proceed with the Work on a specified date.

Offsite Materials Testing – Source Inspection: Source inspection is typically conducted for material verification purposes. Source Inspection relates to all materials manufactured or fabricated away from the jobsite that will be incorporated into the final work.

Onsite Materials Testing: Testing of materials performed at the Project location.

Partnering Agencies: Riverside County Transportation Commission (RCTC), Caltrans, and Federal Highway Administration (FHWA).

Project and Construction Management (PCM): Consultant (Parsons) that assists RCTC with Project development and execution.

Plant Establishment Work: Landscaping maintenance process used to ensure that all landscaping requirements of the Caltrans are met before, during, and after construction.

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Plant Establishment Period: Predetermined period during which the plant establishment Work must be performed and maintained.

Post-construction (Pre-Final) Meeting: Meeting to review Design-Builder's punchlist documentation prior to the Final Acceptance walk-through to determine that all punchlist activities have been performed correctly.

Pre-Activity Meetings: These meetings review execution plans and site safety issues, requirements, and concerns. They present an opportunity to explain the approach to managing safety on high-risk tasks.

Preconstruction Meeting: Before Project begins, this meeting is held to review the Contract, proper Project protocols and procedures, construction details, approved baseline schedules, and the Project's quality management expectations and CMT roles.

Project Completion: The Project is considered complete when Design-Builder provides notice to the PCM Construction Manager that it has completed all construction Work or punchlist items, has certified that the construction conforms with the Design Documents and Contract, and has satisfied all conditions of acceptance by local agencies.

Project: SR-91 Corridor Improvement Project.

Project Closeout: Caltrans policies and procedures for closing out projects and specific Project components.

Project Monthly Progress Report: Reports, including the Construction MPR, created by the PCM Project Manager to document progress of the Project.

Project Partners: Caltrans and FHWA.

Project Stakeholders: Entities that have an interest in the Project. The major stakeholders other than the Project partners are Orange County Transportation Authority (OCTA), City of Corona, County of Riverside (County), Burlington Northern Santa Fe (BNSF), utility owners, California Highway Patrol (CHP), and regulatory and permit agencies are the Project stakeholders.

Punchlist Items: Tasks that must be completed prior to Project Completion and in order for RCTC to provide Final Acceptance to the Design-Builder.

Quality Assurance: A process performed independently from Design-Builder's production forces to determine conformance of the Work by examining the QC data or providing objective

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evidence, or independent sampling and testing, to verify Design-Builder's QC sampling and testing. QA includes all required sampling and testing required by the Contract and the Caltrans Construction Manual.

Quality Control: The operational processes, practices, and activities performed by Design-Builder at the production level to ensure that the product meets the Contract quality requirements. QC measures the quality characteristics and the inspection activities at a time when action can be taken.

Riverside County Transportation Commission (RCTC): RCTC is the Project sponsor and is working in partnership with Caltrans and FHWA. RCTC was created by the California Legislature in 1976 and is governed by a Commission that includes a mayor or council member from each of Riverside County's cities, all five members of the County Board of Supervisors, and a nonvoting appointee of the Governor.

RCTC Public Outreach Plan: This plan serves as the blueprint for communications related to the Project and supports public outreach and participation in the Project by agencies, organizations, elected officials, residents, business operators, commuters, emergency responders, and other stakeholders.

Readiness Review Meetings: These meetings are held to ensure that the Project is on schedule and that all minor details required to release materials have been completed or that a plan is in place to complete all those items. They also ensure that all deliverables associated with the release are properly consolidated and are available as needed.

Relief of Maintenance: The point at which the State will grant completed segments of the nontoll Project facilities "Maintenance and Protection Relief," as allowed in the Design-Build Agreement between RCTC and Caltrans.

Standard Specifications: 2010 Caltrans Standard Specifications.

Stop Work Notice: A notice to stop Work when there is evidence that the Construction Quality Management Plan (CQMP) or implementing procedures are not being followed or that the materials and workmanship are not meeting the Contract requirements. Work may be stopped until appropriate rework, repair, and quality procedures have been established and implemented.

Substantial Completion: The point at which RCTC and Caltrans have determined that Design-Builder has satisfied the requisite criteria for Substantial Completion per the Contract requirements.

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Systems Integrator: As Systems Integrator, Cofiroute USA, the current operator of OCTA's SR-91 Express Lanes, is charged with completing the systems installation, integration, testing, and acceptance of the ETTM system.

Temporary Closures: Includes temporary full or partial closure of any traffic lane in any portion of the Project (other than Express Lane closures) and for any duration, including main lanes, ramps, direct connectors, frontage roads, and cross roads.

Temporary Construction Easement (TCE): Temporary right-of-way (ROW) acquired by RCTC and Design-Builder for the purpose of construction.

Tolled Express Lanes: SR-91 tolled express lanes.

Tolled Express Lane Operator: Cofiroute USA is the current operator of OCTA's SR-91 Express Lanes and designated by RCTC to operate the tolled express lanes facilities and ETTM infrastructure.

Traffic Management Center (TMC): The TMC is operated by Caltrans and provides intermodal, interregional, and interagency traffic management (TM) services 24/7. The TMC is the command and control emergency center during major catastrophes.

Useable Shoulder Area: Paved or unpaved contiguous surface adjacent to the traveled way with sufficient weight-bearing capacity to support portable changeable message signs (CMSs) and with a slope no greater than 6:1 (horizontal:vertical).

Value Engineering Change Proposal (VECP): A proposal submitted by Design-Builder under the Value Engineering provisions of the Federal Acquisition Regulations that, through a change in the Contract, would lower the Project's life-cycle cost to the Project sponsor.

Weekly Coordination Meetings: Weekly meetings between the PCM, RCTC, Caltrans, and Design-Builder intended to facilitate the review of completed Work and safety procedures for upcoming tasks.

Weekly Status Meetings: Weekly meetings between the PCM and Design-Builder in which plans for upcoming Work and associated risks and control measures are discussed.

Willful Violations: This type of violation occurs when the Design-Builder knowingly violates labor law or refuses to comply with the Contract labor requirements. This includes situations such as fraud, wage kickback schemes, or falsification of certified payrolls, fringe benefit statements, evidentiary source documents, and daily extra work bills.

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Work: Design-Builder's scope of work defined on the design-build Contract, which was executed on May 8, 2013, between RCTC and Atkinson/Walsh Joint Venture.

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INTRODUCTION

The Riverside County Transportation Commission (RCTC) has created an Agency Quality Management Plan (AQMP) to comply with the Project Quality Program required under the Cooperative Agreement for Design-Build between the California Department of Transportation (Caltrans) and RCTC. The AQMP is divided into three volumes:

- Volume I – AQMP General Requirements, includes the general overview of quality oversight and Independent Quality Assurance (IQA) by RCTC, general requirements, and other topics relevant to design and construction.
- Volume II – Design-Build Design Manual (DBDM), provides the Project Team with an efficient resource to guide team members in performing their roles and responsibilities to ensure Design-Builder's compliance with all Contract and state and federal requirements during the design of the Project .
- Volume III – Design-Build Construction Manual (DBCM), provides the Construction Management Team (CMT) with an efficient resource to guide team members in performing their roles and responsibilities to ensure Design-Builder's compliance with all Contract and state and federal requirements during the construction of the Project. It also covers the Caltrans Quality Assurance Program requirements applicable to a design-build project with the required Assembly Bill (AB) 2098 personnel structure.

PROJECT DESCRIPTION AND SCOPE

The State Route 91 (SR-91) Corridor Improvement Project (Project) will extend the two SR-91 Express Lanes in each direction and will construct one general purpose (GP) lane in each direction from the Orange County line to Interstate 15 (I-15) in Riverside County, a distance of approximately 8 miles. The Project limits along I-15 begin at the SR-91/I-15 interchange and extend south approximately 3 miles, ending near Ontario Avenue in Corona. Tolled Express Lane direct connectors will be provided to south I-15. The existing SR-91 will be restriped from the County line west to the State Route 241 (SR-241) interchange and east of I-15 to Pierce Street.

The existing and proposed cross sections for SR-91 are shown in Figures 1 and 2, respectively.

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Figure 1 – SR-91 Existing Cross Section

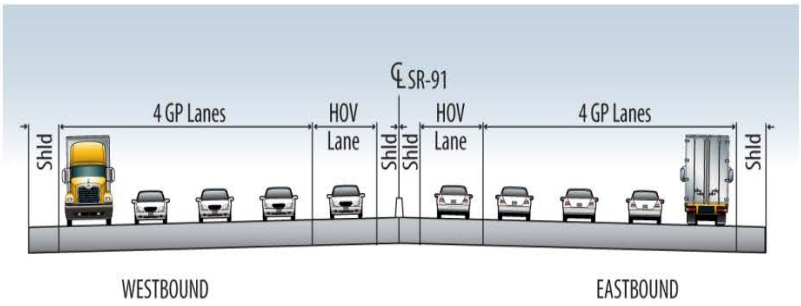
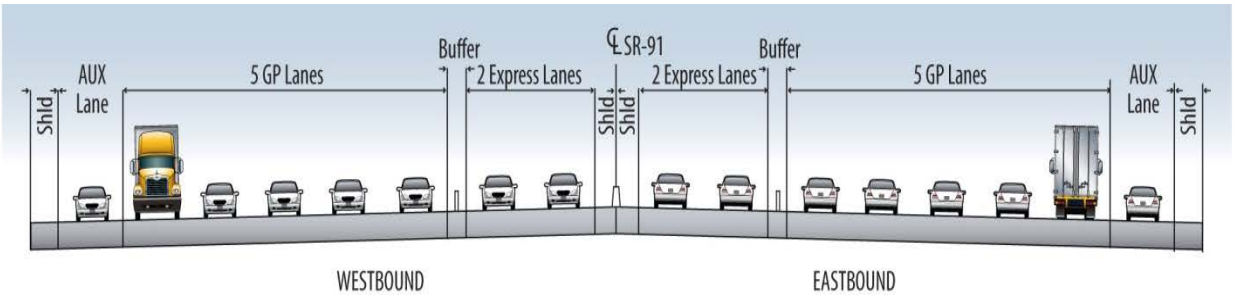


Figure 2 – SR-91 Proposed Cross Section



More specifically, the Project improvements include the following:

- Extending the existing Orange County Transportation Authority (OCTA) SR-91 tolled express lanes east from Orange County to I-15, a distance of approximately 8 miles.
- Adding tolled express lanes direct connectors to I-15 south to Ontario Avenue, a distance of approximately 2.3 miles.
- Adding a GP lane in each direction from the SR-91/State Route 71 (SR-71) interchange to I-15.
- Reconstructing and making geometric improvements to five local interchanges within the city of Corona at Main Street, Grand and Lincoln avenues, Maple Street, and Serfas/Auto Center Drive.
- Adding auxiliary lanes and other operational improvements.
- Installing a fully automated Electronic Toll Collection (ETC) system.
- Reconstructing affected city streets, constructing soundwalls, and implementing aesthetic improvements.

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PROJECT PHASES

To provide clearer definition and control of the overall program, the Project has been divided into two major phases for delivery: Phase I, Project Development; and Phase II, Design-Build. The major objectives of the two major phases for delivery of the Project are described below.

Phase I, Project Development

Project development is complete. This phase included work associated with the Project Approval and Environmental Document (PA&ED), design-build procurement, and early right-of-way (ROW) acquisition; and obtaining the required authorizations, clearances, and financing.

Agreements among federal, state, and local agencies were imperative to mitigate exposure to certain Project risks. These agreements include the following:

- **Federal Highway Administration (FHWA)/Caltrans/RCTC High Profile Project Agreement (HPPA).** This agreement outlines the roles, responsibilities, and requirements of FHWA, Caltrans, and RCTC as it relates to oversight and risk management on the Project (Appendix A).
- **RCTC/Caltrans Toll Facility Agreement (TFA)**. This agreement outlines RCTC's leasehold rights to Caltrans' ROW and Caltrans' role and oversight of the operations and maintenance of the Project.
- **RCTC/Caltrans Design-Build Cooperative Agreement.** This agreement outlines the roles and responsibilities of RCTC and Caltrans relative to Project implementation, including design, ROW, construction, and funding. The agreement also outlines the respective agency roles in providing design and construction oversight.
- **RCTC/OCTA Cooperative Agreement.** The tolled express lanes will be interoperable with the OCTA SR-91 Express Lanes and will share a common operator. Under this cooperative agreement, RCTC and OCTA will use a common toll operator and will agree on cost and revenue sharing, toll policies and business rules, interoperability of technology, OCTA review of design plans and construction activities, and sharing of marketing activities.
- **RCTC/Corona Cooperative Agreement.** This agreement outlines the roles, responsibilities, and obligations of RCTC and the City of Corona (City) relative to Project implementation, including design, ROW, construction, and funding.
- **RCTC/Riverside County Cooperative Agreement.** This agreement outlines the roles, responsibilities, and obligations of RCTC and the County of Riverside (County) relative to Project implementation, including design, ROW, construction, and funding.

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Phase II, Design-Build

The design-build construction phase begins with financial close and concludes upon Project final acceptance. The major tasks that occur during this phase, and the parties performing those tasks, are shown in Table 1.

Table 1 – Design-Build Execution Tasks

Activity	*Party Performing the Task*
Final Design	Design-Builder
Final Acquisition of ROW	RCTC
Construction of the Roadway and Structures Improvements	Design-Builder
Installation of the Tolling Civil Components	Design-Builder
Electronic Toll Collection System	Systems Integrator
Tolling System Integration	Systems Integrator
Relocation of the Wet Utilities (Water and Sewer)	Design-Builder
Relocation of the Dry Utilities (e.g., Electric, Gas, Telephone)	Private Utility Owner
Relocation of the Railroad Track	BNSF
Contract Management	RCTC
Project Control	RCTC
Public Outreach and Information	RCTC
Design Oversight and Review	RCTC
Risk Management	RCTC and Design-Builder
Construction Management	RCTC
Construction IQA	RCTC and Caltrans (AB 2098)
Project Approvals (1)	Caltrans and FHWA
Project Oversight (1)	Caltrans and FHWA
Environmental Monitoring	RCTC

Note: (1) Specific roles outlined in the Stewardship and Oversight Agreements.

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This DBCM provides further details on the RCTC approach for controlling the Project during construction including (but not limited to) quality, safety, traffic, environmental monitoring and employment practice monitoring, Contract administration, tolled express lanes systems installations and integration coordination, public outreach, and coordination with other entities.

DESIGN-BUILD CONTRACT

The Project has been procured and contracted through a single private entity under a best-value, design-build procurement. **Design-Builder, as a major private participant, assumes risk in areas relating to design, construction schedule, differing site conditions, third-party approvals, and utilities relocation. Design-Builder has the primary responsibility for the overall Quality Assurance (QA) and Quality Control (QC) for both the design and construction elements of the Project.**

The Design-Build Contract Documents (Contract) define the requirements for Design-Builder to develop the Project. These requirements will comply with local, state, and federal standards. Design-Builder must also comply with the requirements of standards and specifications cited in the Contract.

Each Contract Document is an essential part of the Contract, and a requirement that occurs in one document is as binding as though occurring in all. The Contract Documents are intended to be complementary and to describe and provide a complete agreement. If any conflict arises among the Contract Documents, the order of precedence must be as set forth below:

- Change Orders and Contract amendments
- The Contract, including all appendices, except Contract Appendix 2
- Technical Provisions
- All Technical Provision Attachments
- Modified Standard Specification (Contract Appendix 2)
- Project Standards
- Design-Builder's Proposal Commitments (Contract Appendix 13)
- Final Design Documents are also considered Contract Documents

Design-Builder's Quality Management Plan

As required by the Contract, Design-Builder has developed a Quality Management Plan (QMP). Design-Builder's QMP describes the overall policies, program, organizational responsibilities, procedures, and the means of ensuring that all disciplines, aspects, and elements of the Work will comply with the requirements of the Contract and that all materials incorporated into the

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Work will perform satisfactorily for the purpose intended. RCTC and Caltrans' responsibility is to verify that Design-Builder complies with all of its quality responsibilities.

PROJECT PARTNERS AND STAKEHOLDERS

The Project participants involved are broken into two major groups: partnering agencies and stakeholders.

Partnering Agencies

This section outlines the Project participants. Their overall responsibilities are described in Chapter 2, Project Organization for Construction. The specific task responsibilities are described in each specific chapter. The following major agencies have overall Project delivery and oversight responsibilities:

- RCTC: Sponsoring agency
  - Project and Construction Management Consultant
  - Design-Builder
  - Systems Integrator
- Caltrans: State oversight agency
- FHWA: Federal oversight agency

Riverside County Transportation Commission

RCTC is the Project sponsor and is working in partnership with Caltrans and FHWA.

RCTC has awarded the following contracts to execute the Project:

- ***Project and Construction Management Consultant.*** RCTC awarded a professional services contract for Parsons to serve as the Project and Construction Management (PCM) Consultant. The PCM will assist RCTC in Project development and execution.
- ***Design-Builder***. RCTC awarded a contract to Atkinson-Walsh Joint Venture for the final design and construction of the Project.
- ***Systems Integrator***. RCTC is working with Cofiroute USA, the current operator of the OCTA SR-91 Express Lanes, on an agreement for the systems installation, integration, testing, and acceptance of the electronic toll and traffic management (ETTM) system.

California Department of Transportation

The Project will be built on Caltrans ROW under rights granted to RCTC pursuant to Senate Bill (SB) 1316 and pursuant to an amendment of the existing franchise agreement between Caltrans and OCTA, as set forth in SB 1316. SB 1316 provides RCTC the right to toll the new

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facilities for 50 years following service commencement. RCTC and Caltrans have entered into two separate agreements:

- A Design-Build Cooperative Agreement executed on July 25, 2012 (relating to Caltrans' role and oversight of the design and construction of the Project).
- A Toll Facilities Agreement executed on May 14, 2012 (relating to RCTC's leasehold rights to Caltrans' ROW and Caltrans' role and oversight of the operations and maintenance of the Project's tolled express lanes).

AB 2098, Appendix B, authorizes RCTC to use a design-build procurement process for the Project and makes Caltrans responsible for the performance of specified construction inspection services. A distinctive feature of the construction oversight is the integration of Caltrans and RCTC quality personnel, roles, and responsibilities directly into the Project oversight and IQA personnel structure. The integration of Caltrans personnel to the Project is a requirement of AB 2098. The integrated Project organization chart during construction is provided in Figure 2-1 of this DBCM.

Federal Highway Administration (FHWA)

FHWA maintains overall responsibility for the Federal Highway Program, except for the assignment of environmental responsibilities under the Safe, Accountable, Flexible, Efficient, Transportation Equity Act: A Legacy for Users (SAFETEA-LU). FHWA is ultimately responsible for ensuring financial integrity and compliance with applicable federal laws and regulations and Project approvals as prescribed under the HPPA. Because the SR-91 Corridor Improvement Project is defined as a Major Project, FHWA has an enhanced level of oversight, including review and approval of all Major Project deliverables.

In recognition of the national significance of the Project and the critical need for jobs creation, this Project was accepted into the Enhanced Technical Assistance component of FHWA's Every Day Counts Program on November 1, 2011.

Main Stakeholders

Other participants in the Project consist of local governments, permitting agencies, regulatory agencies, Consultants, contractors, advisors, and other third parties; and include the following:

- City of Corona
- County of Riverside
- OCTA
- Burlington Northern Santa Fe (BNSF) Railroad
- California Highway Patrol (CHP)

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- Riverside County Flood Control and Water Conservation District (RCFC&WCD)
- Permitting and regulatory agencies, including the U.S. Army Corp of Engineers (USACE), California Department of Fish and Wildlife, and the Regional Water Quality Control Board (RWQCB)
- Various private utility companies

The coordination requirements for these entities are described in Chapter 11.

Orange County Transportation Authority

OCTA is the owner of the existing SR-91 Express Lanes along the SR-91 Corridor in Orange County. Its roles and responsibilities are detailed in the RCTC/OCTA Cooperative Agreement executed on December 16, 2011.

OCTA has review and approval rights on any improvements influencing its Express Lanes. The agreement allows plans to be deemed approved if OCTA fails to provide comments within the specified period. The RCTC Toll Program Director will interface directly with the OCTA SR-91 Express Lanes General Manager on any Project-related issues.

City of Corona

Corona is the only city that the Project transects. Its roles and responsibilities are outlined in the RCTC/City of Corona Cooperative Agreement executed on November 9, 2011. To meet the Project schedule objectives, the City has delegated in-process design reviews and construction IQA inspection to RCTC. The City will retain final design and construction approval for all Work within its jurisdiction. The City has designated a Project Manager who will be the direct contact person on Project-related issues with the RCTC Toll Project Manager.

County of Riverside

The Project lies almost exclusively within Corona, except for a portion of frontage road and portions of Serfas Club Drive, which fall under the County's jurisdiction. The County's roles and responsibilities are outlined in the RCTC/County of Riverside Cooperative Agreement executed on June 5, 2012. To meet the Project schedule objectives, the County has delegated in-process design reviews and construction IQA inspection to RCTC. The County will retain final design and construction approval for all Work within its jurisdiction. The County has designated a Project Manager who will be the direct contact on Project-related issues with the RCTC Toll Project Manager.

Burlington Northern Santa Fe Railroad

BNSF is the owner of active railroad tracks used by freight and commuter trains. The same railroad tracks cross the Project at four separate locations. BNSF will be responsible for

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reviewing and approving the Design-Builder-prepared plans that encroach or cross railroad ROW. The approved plans will be the basis for the Railroad Construction and Maintenance Agreements to be executed among RCTC, Caltrans, and BNSF.

Utilities Owners

Utilities along the corridor include stormwater drainage, water, sanitary sewer, electricity, natural gas, and telecommunication. Relocation of the wet utilities will be included in the scope of Work to be completed by Design-Builder; the dry utilities will be relocated by the private Utility Owners.

Enforcement Agencies

CHP will participate in the Project through the Construction Zone Enhanced Enforcement Program (COZEEP). The COZEEP services will be provided via the current Caltrans statewide COZEEP agreement. Design-Builder will coordinate the COZEEP required services with RCTC.

CHP will also provide supervision and dispatch services for the Freeway Service Patrol (FSP) required for the Design-Builder's Work. FSP tow truck services will be coordinated by Design-Builder and will be provided by RCTC via existing FSP tow operator's contracts with RCTC.

Other police agencies, primarily the City of Corona Police Department, may be called on to provide similar services for portions of the Project not currently on the State Highway System (SHS).

Regulatory and Permitting Agencies

Regulatory and permitting agencies will issue the required permits and specify the permit conditions. Each permitting agency will have a role in addressing any failures to comply with permit conditions. The RCTC Environmental Compliance Coordinator will identify a contact at each agency for each permit to facilitate regular and easy communication throughout the Project duration.

RCTC and Caltrans will monitor Design-Builder's implementation of all conditions associated with the required environmental commitments stated in the environmental document and permit conditions for the Project. The permits and approvals identified in the Project's environmental document are identified in Chapter 7.

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Funding

The current funding sources consist of the following:

- RCTC Measure A sales tax
- Transportation Infrastructure Finance and Innovation Act (TIFIA) Loan through the Transportation Investment Generating Economic Recovery (TIGER) III program directly paid to RCTC
- Toll Revenue Bonds
- State Transportation Improvement Program (STIP) funds with no federal funds

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Chapter 1: Design-Build Construction Manual Approach

The purpose of the approach of this Construction Quality Oversight Manual (CQOM) is to provide the Construction Management Team (CMT) with an efficient resource to guide them in performing their respective roles and responsibilities under a design-build delivery environment to ensure that the Design-Builder complies with the Contract requirements in constructing the Project.

This DBCM is not intended to be an all-inclusive list of responsibilities; the objectives of the DBCM's approach are as follows:

- Identify the participants, organizations, roles, and responsibilities for those ensuring that the work performed meet the requirements of the Contract consistent with AB2098 and the Caltrans-RCTC Design Build Cooperative Agreement.
- Identify and define the work processes associated with IQA and the relationships among the various parties in contributing to these quality work processes.
- Describe the respective activities and requirements that will be performed by the CMT members to ensure that the Design-Builder complies with the Contract quality requirements.
- Identify the means and tools to evaluate, track, and monitor the Design-Builder's conformance with the quality requirements under the Contract.
- Identify the training that is required for the CMT members.

1.1 CONSTRUCTION QUALITY DOCUMENTS

Design-build is often used on large, fast-paced projects and can create challenges for conducting quality activities. Coordination and communication between Design-Builder and the agencies are essential for effective quality management. By working together within a well-defined quality program, the agencies and Design-Builder can meet the goal of delivering a high-quality project to the traveling public.

To clearly specify the quality roles during construction of the Project, the following documents were created:

- Design-Builder has developed a Construction Quality Management Plan (CQMP), which provides the approach by which Design-Builder will ensure that its Work complies with the Contract requirements.
- RCTC has developed this DBCM, which provides the approach by which RCTC will ensure that Design-Builder's Work complies with the Contract.

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1.1.1 Design-Builder Construction Quality Management Plan

Design-Builder has developed a CQMP, which provides the approach by which it will ensure that its Work complies with the Contract. This approach is based on contractual requirements and includes the organization, roles and responsibilities, and quality management processes for ensuring that the quality requirements are achieved. The Design-Builder's CQMP could be found in the Project ConstructWare. The appendices and attachments to that CQMP are available through document control, and hard copies will be distributed to appropriate locations. The CQMP is considered a living document and is therefore subject to revision. It will be incumbent on all users of that document to keep apprised of revisions.

Design-Builder Process Control

Processes (e.g., construction, manufacturing, installation, and testing) will be planned, documented, and approved by authorized individuals. Quality workmanship standards will be stipulated in written standards. Individuals performing the Work will be trained and qualified in specific processes and quality workmanship standards.

Design-Builder requires that all civil construction, basic production operations, and other processing and fabricating be prescribed and performed under controlled conditions in accordance with the Release for Construction (RFC) Packages, Construction Documents, and the CQMP. Establishment of these controlled conditions will be based on the documented work instructions, adequate production equipment, and special working environments, as necessary; statistical analysis, tests, and other QC procedures may be used when appropriate in the QA process.

Adequate in-process inspection and test points will be included to ensure conformance with the Contract requirements. RCTC and Caltrans may impose inspection and test points to verify compliance.

Inspection by Caltrans does not relieve Design-Builder from performing required inspections and tests.

Management process controls include construction management activities such as preparing construction work plans (CWPs), schedule updates, invoicing, and shop drawing reviews, as well as document control. These activities are subject to audit and surveillances, and files will be stored on ConstructWare and made available to RCTC and Caltrans for review and approval.

In-process and completed Work will be documented. Records of completed Work operations must be maintained by Design-Builder and be made available to RCTC and Caltrans.

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1.1.2 RCTC Design-Build Construction Manual

The DBCM provides the CMT, management, and support members with an efficient resource to guide them in performing their roles and responsibilities to ensure that Design-Builder complies with all Contract, state, and federal requirements.

The quality of the construction and the processes that support or assist construction will be verified by the CMT under the following activities, which are described in each chapter of this DBCM:

1. DBCM Approach
2. Project Organization for Construction
3. Project Safety Verification
4. Materials and Workmanship Independent Quality Assurance (IQA)
5. TM Verification
6. Contract Administration
7. Environmental Monitoring
8. Employment Practices Verification
9. Tolled Express Lanes Responsibilities
10. Public Relations Protocol
11. Coordination with Stakeholders

The DBCM also covers the Caltrans' Quality Assurance Program requirements applicable to a design-build project with the required AB 2098 personnel structure.

1.2 CONSTRUCTION QUALITY PROCESS

The Construction Quality Process is an integrated program among Design-Builder and the partnering agencies that oversee the Project. **Design-Builder has the primary responsibility for construction quality;** it will perform the Work and ensure that the Work approach and methods are clearly described in the CWPs and are in compliance with the Contract requirements.

RCTC and Caltrans are continually integrated into the overall Construction Quality Process, as further described in Figure 1-1, which is based on the Design-Builder's CQMP.

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Figure 1-1 – Construction Quality Process



1.2.1 Phase I: Construction Work Plans

Following approval of the Design Documents, Design-Builder will prepare CWPs for individual Work elements or as requested by RCTC. The CWP includes the following discussion items:

- Work Overview: Describe the Work and applicable RFC Design Documents and Contract specification section, prerequisite activities, and construction sequence.
- Safety: Identify potential hazards and safety issues.
- Identify all resources, materials, equipment, and elements of the Work.
- Include actions that are defined as “special events”; such Work may constitute exposing the general public to danger, inconvenience, or risk.
- List the required submittals to complete the Work activity.
- Identify the individual(s) and position(s) responsible for supervision of the Work.
- Identify the planned start date of the Work, progress rate expected, and extended Work hours required.
- Identify the prerequisite activities, including notifications.
- Include a hazard analysis for the scope of work.
- List the inspection and/or tests to be accomplished, including frequency and type.
- List the inspection critical activity points.
- Identify quality issues, such as high-risk areas and recent material defects.
- Environmental: Identify sensitive areas and features, and describe debris handling.

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- Plans and Specifications: List the required construction drawings, shop drawings, and working drawings stamped by the approving authority.

The CWP must also include the individuals and/or organizations performing any function(s) under Design-Builder's CQMP and must provide control over all activities affecting the quality of all such materials, equipment, and elements of the Work.

The CWPs are presented and discussed at the redline review meetings. The CMT Resident Engineer (RE) and Assistant RE will review and concur on the CWPs. For off-site materials, Caltrans METS will also be involved and must concur with the CWP.

1.2.2 Phase II: Construction

Following concurrence from the Roadway and/or Structure RE(s), the CWP will be issued to the field. A CWP issued to the field will be identified by the special mark on the cover page. The special mark will be controlled by each Design-Builder's Segment Manager. This special mark will be determined by Design-Builder's Construction Quality Assurance Manager (QAM).

As part of the CMT's IQA role, all Design-Builder processes and procedures, materials, and each part or detail of the Work are subject to inspection, sampling, and testing by the Inspectors, Southern Regional Laboratory (SRL) testers, and Materials Engineering and Testing Services (METS) as further described in Chapter 4. The CMT will provide a QA role for offsite fabrication and source inspection.

Aside from IQA duties, Caltrans will also provide construction oversight, at its discretion, to ensure that its and FHWA's requirements are being met.

QC will take place within the production workforce and under direction of the Design-Builder's Construction Manager. QC activities will be documented by the production workforce and maintained in ConstructWare; however, the QC will be monitored by the QA organization to ensure product conformance, and QA will document the materials and installation quality process. The Design-Builder QA Inspectors will document the QC processes and procedures, and will determine the testing frequencies and types of tests in accordance with Caltrans Construction Manual Chapter 6. The documentation will include photographs and completed checklists for each Work activity. All quality records will be maintained in ConstructWare.

As required by AB2098, Caltrans will provide quality acceptance, verify construction activities and testing requirements, oversee Design-Builder QC/QA activities, and verify construction management activities and the statistical evaluation of the QA testing activities.

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Materials will be controlled through source inspection and field batch in accordance with the Materials Control Schedule and discussed later in the CQMP. Caltrans has the responsibility to provide IQA of the materials. RCTC and Caltrans will have access to the quality records at all times via ConstructWare.

1.2.3 Phase III: Acceptance

RCTC and Caltrans' responsibility for acceptance does not change when using the design-build delivery method. While Design-Builder is fully responsible for design, construction, and material selection, RCTC is responsible for verifying the Contract requirements and making progress payments by acceptance of the Work.

All acceptance activities must be performed by Caltrans and RCTC. This does not preclude the inclusion of Design-Builder QC data in the acceptance decision, provided that the QC data are validated by the CMT's independently obtained verification data. RCTC's acceptance responsibilities are clearly defined in the Contract.

After the Work has been completed by Design-Builder and RCTC and Caltrans have determined that the applicable Contract requirements have been met, the Roadway and Structure REs will provide acceptance of materials and/or workmanship. In addition to verifying closure of all nonconformances, a punchlist process may be used at this time. At this point, the Lead Inspectors will have completed the IQA verification process (QA process for offsite and source inspection) will have and determined that the completed construction products meet the requirements specified in the Contract.

After the Project substantial completion and completion certificate has been issued as outlined in the Contract, RCTC and Caltrans are also responsible for the Inspection and acceptance of the completed Work. Design-Builder will receive relief of maintenance from the CMT after Caltrans's Construction Managers have provided Final Acceptance of the Project.

The requirements for Substantial Completion, Project Completion, and Final Acceptance are described in Section 20 of the Contract. The acceptance process is summarized in the following subsections.

Substantial Completion

Design-Builder must provide the Roadway and Structure REs a written notification no less than 120 days before the date on which Design-Builder determines it will achieve Substantial Completion. During this 120-day period, Design-Builder and the Assistant REs and Lead Inspectors will meet, confer, and exchange information on a regular basis so that the CMT can conduct the orderly and timely inspection and review of the Project and the Final Design.

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Design-Builder will provide to Roadway and Structure REs a second written notification when Design-Builder determines it has achieved Substantial Completion. The Inspectors will then conduct such inspections, surveys, and/or testing as deems desirable. If such inspections, surveys, and/or tests disclose that any of the Work does not meet the requirements of the Contract, the Inspectors will notify the REs.

The Roadway and Structure REs, after consultation with Caltrans' Oversight (OS) Manager(s), will promptly advise Design-Builder of any errors in the Work that must be corrected as a condition to Substantial Completion and of any errors that may be corrected as punch list items. Upon correction of the errors identified as a prerequisite to Substantial Completion, Design-Builder must provide written notification to the Roadway and Structure REs.

The REs will notify the Inspectors, and the inspectors will conduct additional inspections, surveys, and/or testing as deems desirable. This procedure must be repeated until the Inspectors find that all prerequisites to Substantial Completion have been met.

Within 5 days after expiration of the 120-day period and Roadway and Structure REs receipt of the second notification described in Contract Section 20.1.3.3, the Roadway and Structure REs must either:

a) Issue the Certificate of Substantial Completion; or
b) Notify Design-Builder in writing, setting forth (as applicable), why the Project has not reached Substantial Completion.

If the Roadway and Structure REs and Design-Builder cannot agree on the date of Substantial Completion, this dispute must be resolved according to the dispute resolution procedures set forth in the Contract and summarized in Chapter 6 of this DBCM.

Notification of Completion of Electronic Toll and Traffic Management Infrastructure Work

Design-Builder must complete all Work related to the ETTM Infrastructure as required in the Contract Technical Provisions (TP), Section 19, and must secure the written Certificate of ETTM Infrastructure Turnover from the PCM Roadway, Structures, and Systems Installation RE and Systems Integrator (collectively, "ETTM Infrastructure Turnover") no later than 270 days before the Substantial Completion Deadline.

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Project Completion

Design-Builder must provide notice to the PCM Construction Manager when all requirements of Contract Section 20.3.1.1 have been met with respect to the Project. Those requirements are:

- Design-Builder has completed all construction Work, including punchlist items and correction of all errors;
- Design-Builder has furnished to PCM's Construction Manager an updated certification from Design-Builder's Construction QAM, in form and substance satisfactory to the CMT, certifying conformity of the construction with the Design Documents in accordance with Contract TP Section 19.2.2 and TP Attachment 19-1; and
- Design-Builder has satisfied all conditions to acceptance by local agencies, BNSF, and utility owners; all Design-Builder's and Subcontractors' personnel, supplies, equipment, waste materials, rubbish, and temporary facilities has been removed from the site; and Design-Builder has restored and repaired all damage or injury arising from such removal to the satisfaction of RCTC, and the site is in good working order and condition.

The notice must be accompanied by a certification from Design-Builder's Construction QAM, in form and substance satisfactory to RCTC, certifying conformity of the construction with the Design Documents.

The PCM Construction Manager will issue a Certificate of Project Completion when the RCTC finds that all conditions set forth in the Contract have been satisfied and all errors that are prerequisites to Project Completion have been corrected.

Design-Builder must record a notice of completion meeting according to the requirements of California Civil Code Section 8182 within 15 days after completion of all construction Work. This notice will reduce the period for filing of stop payment notices and claims against the Payment Bond under California Civil Code Sections 9356 and 9560.

If Design-Builder wishes RCTC to record a notice of completion, Design-Builder must prepare this notice and deliver it to the PCM Deputy Project Manager at least 10 days before the scheduled date for completion of construction. The notice must:

- Identify RCTC as the Project owner as defined in Civil Code Section 8188.
- State that RCTC has been granted certain rights with respect to the Project pursuant to the Caltrans Cooperative Agreement.
- Provide the names and addresses of the record owners of the improvements constructed hereunder (i.e., Caltrans, local agencies, and utility owners).

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- Otherwise meet the requirements of Civil Code Sections 8182 and 9200 *et seq.*

Final Acceptance

Final Acceptance will be granted according to Contract Section 20.4.2 and can be granted if all of the following have occurred:

- All requirements for Project Completion have been fully satisfied.
- RCTC has received all Design Documents, original working drawings, shop drawings, and final As-Built Documents of the Project, ROW record maps, surveys, test data, and other deliverables required under the Contract Documents.
- Design-Builder has submitted and received RCTC approval of the submittals identified in Contract TP Section 3.4.5.3.
- All special tools, equipment, furnishings, and supplies purchased and/or used by Design-Builder as provided in the Contract Documents have been delivered to RCTC, and all replacement spare parts have been purchased and delivered to RCTC free and clear of liens.
- The items on the Final Acceptance punchlist have been completed to the satisfaction of RCTC and Caltrans, and all of Design-Builder's other obligations under the Contract Documents (other than obligations which, by their nature, must be performed after Final Acceptance, including Plant Establishment Work) have been satisfied in full or have been waived in writing by RCTC.
- RCTC's governing board formally accepts the Project as complete.

Upon receipt of notification from Design-Builder that all conditions to Final Acceptance have been met, the Roadway and Structure REs and Caltrans OS Managers and Lead Inspectors will conduct a final inspection (Section 4.16.4) and the PCM Construction Manager will either issue a Certificate of Final Acceptance or notify Design-Builder regarding any Work remaining to be performed. Final Acceptance is subject to concurrence by Caltrans' OS Managers. Design-Builder must promptly remedy the defective and/or uncompleted portions of the Work requested by Caltrans. Thereafter, Design-Builder will give the PCM Construction Manager a revised Affidavit of Final Acceptance with a new date based on when the defective and/or uncompleted portions of the Work were corrected.

The foregoing procedure will apply successively thereafter until the PCM Construction Manager recommends to the RCTC Toll Project Manager to issue an executed Certificate of Final Acceptance to Design-Builder.

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Final Acceptance will not prevent RCTC from correcting any measurement, estimate, or certificate made before or after completion of the Work, nor will it prevent RCTC from recovering from Design-Builder, any Guarantor, Surety, or other provider of performance security or any combination of the foregoing, overpayment sustained for Design-Builder's failure to fulfill its obligations under the Contract Documents. A waiver on the part of RCTC of any breach of any part of Design-Builder will not be held to be a waiver of any other or subsequent breach. Final Acceptance will not relieve Design-Builder from any of its continuing or surviving obligations, including Warranty obligations.

Opening Sections of Project to Traffic

The Project Schedule will indicate Design-Builder's plan for completing sections of the Project and opening them to traffic. RCTC may request that Design-Builder expedite certain sections of the Project, and Design-Builder will accommodate such requests to the extent that it can do so in consideration of safety to the public and construction personnel and without significant disruption to its schedule or a significant increase in its costs. If RCTC orders Design-Builder to open portions of the Project that cannot be accommodated without significant disruption to Design-Builder's schedule or a significant increase in Design-Builder's costs, the direction will be considered an RCTC-Directed Change provided that Design-Builder has given RCTC notice and has otherwise followed the process for RCTC-Directed Changes in Contract Section 13. No early openings will constitute Substantial Completion, Project Completion, or Final Acceptance.

If Design-Builder is delinquent in completing shoulders, drainage structures, or other features of the Work, RCTC may, but is not obligated to, order all or a portion of the Project opened to traffic. The Design-Builder will then conduct the remainder of the construction operations and will minimize obstructions to traffic. Except as provided in Contract Section 20.5.1, Design-Builder will not receive any added compensation due to the added costs or any time extension due to the schedule impacts attributable to opening the Project to traffic.

Plant Establishment

Design-Builder is required to perform Plant Establishment Work for a period of 3 years starting at Project Completion. Design-Builder activities required during the Plant Establishment Period are described in the Contract.

As a condition of Final Acceptance, the Design-Builder must submit a landscaping maintenance plan for review and approval of RCTC and Caltrans. The landscaping maintenance plan must include the following information:

- All anticipated weekly/daily activities, including the frequency of maintenance activities, to be performed at the site.

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- The primary contact person to be charged to manage the maintenance, including his or her contact information.
- A sample monthly maintenance status report that will be included with the Monthly Progress Report (MPR).

The Inspectors will conduct a final inspection of the Plant Establishment Work by no more than 28 days and no less than 21 days before expiration of the Plant Establishment Period. In addition to the requirements of the Caltrans Standard Specifications, final inspection will confirm that all:

1. Irrigation equipment is properly functioning.
2. Plantings are in a thriving condition.
3. Groundcover areas provide 95 percent cover for the specified groundcover with no bare areas greater than 144 square inches.
4. Project areas are weeded.
5. Trash and debris have been collected and disposed of offsite.
6. Shrub beds and tree wells have been wood-chip mulched at a depth of 3 inches.

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Chapter 2: Project Organization for Construction

The Project organization structure and definition of roles and responsibilities must clearly communicate to Project personnel the leadership and management structure necessary to achieve successful execution of construction of the Project.

During construction, the Project organization is structured to fulfill the following objectives:

- Aid the Team in understanding the key agency participants involved in the management and oversight of construction activities of the Design-Builder.
- Describe the organizational structure and relationship between RCTC and Caltrans in jointly providing construction management, including IQA.
- Describe Caltrans and FHWA's oversight roles on the Project to ensure that all federal and state requirements are met throughout the course of the Work.
- Identify the functional areas and principal positions to address proper staffing and performance of construction management, including IQA and oversight activities. Describe the roles and responsibilities of the CMT and key support functions that will assist with the IQA and oversight of the construction.
- Define and communicate the functional, discipline, and resource requirements necessary to effectively provide construction management.

2.1 ENTITIES' RESPONSIBILITIES

2.1.1 Riverside County Transportation Commission

RCTC is the Project sponsor and is working in partnership with Caltrans and FHWA to design and construct the Project and to operate and maintain the tolled express lanes.

RCTC currently plans and implements transportation and transit improvements, assists local governments with money for local streets and roads, and administers the half-cent local transportation sales tax mandated by Measure A. Resources within the agency are used as needed including, but not limited to, financial programming, ROW, and Contract administration. As an agency, RCTC engages the services of Bechtel Infrastructure Corporation to provide staff augmentation services in support of the agency objectives and activities. These services will provide Project-specific tasks, including Consultant oversight, general engineering, special studies, and Project administration.

Subject to the requirements of the executed Caltrans/RCTC Design-Build Cooperative Agreement and the FHWA/Caltrans/RCTC HPPA, RCTC will:

- Approve Value Engineering Change Proposals (VECPs).

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- Approve changes in or deviations from the approved Design Documents of extra work or changed work (changes exceeding $200,000 require approval of the RCTC Executive Director and/or Commission before proceeding).
- Waive any Contract requirements or provisions through a Contract amendment.
- Approve Contract amendments. Contract amendments require approval of the Director and/or Commission before proceeding.
- Oversee the PCM firm to ensure that the Project goals, objectives, and PCM Contract provisions are met.

Project and Construction Management

RCTC awarded a professional services Contract to Parsons to serve as the Project PCM Consultant. As the sponsoring agency, RCTC will manage the Project execution through the PCM. RCTC works in partnership with Caltrans and FHWA to obtain the necessary Project clearances, permits, and approvals.

During construction of the design-build Project, the PCM will have the following responsibilities:

- Coordinate with FHWA and Caltrans on Project elements subject to their review and/or approval.
- Ensure Project safety by Design-Builder.
- Perform IQA with Caltrans per AB 2098.
- Review and monitor the Design-Builder's TM activities.
- Administer the Contract, including document control, cost and schedule control, change management, and invoice review. In addition, assist RCTC in claims avoidance, mitigation, and resolution.
- Support environmental monitoring activities.
- Support the efforts of the RCTC Procurement Manager to ensure that employment practices requirements are being met.
- Assist and oversee the tolled express lanes installation start-up and testing.
- Provide public outreach support.
- Facilitate agency coordination between Design-Builder and other agencies.

2.1.2 California Department of Transportation

As the owner and operator of the National Highway System (NHS) and SHS, Caltrans provides Project oversight, independent assurance sampling and testing (IAST), IQA, materials sampling and testing, and Project acceptance of work performed by RCTC. Caltrans has numerous Project roles, as outlined in various Project agreements, primarily the following:

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- Joint Stewardship and Oversight Agreement between Caltrans and the FHWA executed on October 14, 2010.
- HPPA, executed on June 4, 2012.
- Design-Build Cooperative Agreement between Caltrans and RCTC, executed on July 25, 2012.
- Toll Facility Agreement between Caltrans and RCTC, executed on May 14, 2012.

Caltrans' role during construction includes, but is not limited to, the following:

- Provide applicable state approvals and acceptance of Project constructed improvements.
- Perform IQA inspection and testing in accordance with AB 2098 and the executed Design-Build Caltrans/RCTC Cooperative Agreement, and as required by applicable laws and the Project-specific QMPs.
- Provide approvals as shown in the Project Responsibilities List in Appendix A – HPPA Project Responsibility List (June 4, 2012).
- Conduct laboratory and/or field testing through Caltrans METS and Caltrans SRL Conducting Caltrans Project oversight process reviews and participating in FHWA process reviews of RCTC's adherence to federal and state requirements for the Project.

A distinct feature of the construction CMT is the integration of Caltrans staff directly into the PCM Team. This structure is a requirement of AB 2098 (Appendix B), the enabling state design-build legislation.

2.1.3 Federal Highway Administration

FHWA maintains overall responsibility for the Federal Highway Program, except for the assignment of environmental responsibilities under SAFETEA-LU.

FHWA is ultimately responsible for ensuring financial integrity and compliance with applicable federal laws and regulations and project approvals as prescribed under the HPPA. Because the SR-71 Corridor Improvement is defined as a Major Project, FHWA has an enhanced level of oversight, including review and approval of all Major Project deliverables.

In recognition of the national significance of the Project and the critical need for jobs creation, this Project was accepted into the Enhanced Technical Assistance component of FHWA's Every Day Counts Program on November 1, 2011.

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2.2 ORGANIZATIONAL CHART, AND ROLES AND RESPONSIBILITIES

RCTC, Caltrans, and FHWA provide an integrated organization in administering the Project. This integrated Project organization is presented in Figure 2-1 and illustrates specifically the hierarchy in authority, functional roles, reporting structure, and respective staff positions for the function among the agencies. This chart shows only the personnel that are involved in or support the construction management of the Project. The overall organization is presented in Volume I – Design Build General Requirements.

Figure 2-1 outlines the RCTC Organization Chart for managing the Project and the Caltrans and FHWA organization for oversight of the Project. It also shows the Caltrans IQA Inspectors and how they fit within the Project organization. RCTC is contractually responsible for providing construction management of the Project, including IQA. This IQA responsibility includes the direct engagement, coordination, and scheduling of Inspectors in the daily performance of their IQA duties. RCTC will provide work assignments to Inspectors performing IQA, and Caltrans management will retain supervisory responsibilities over those employees.

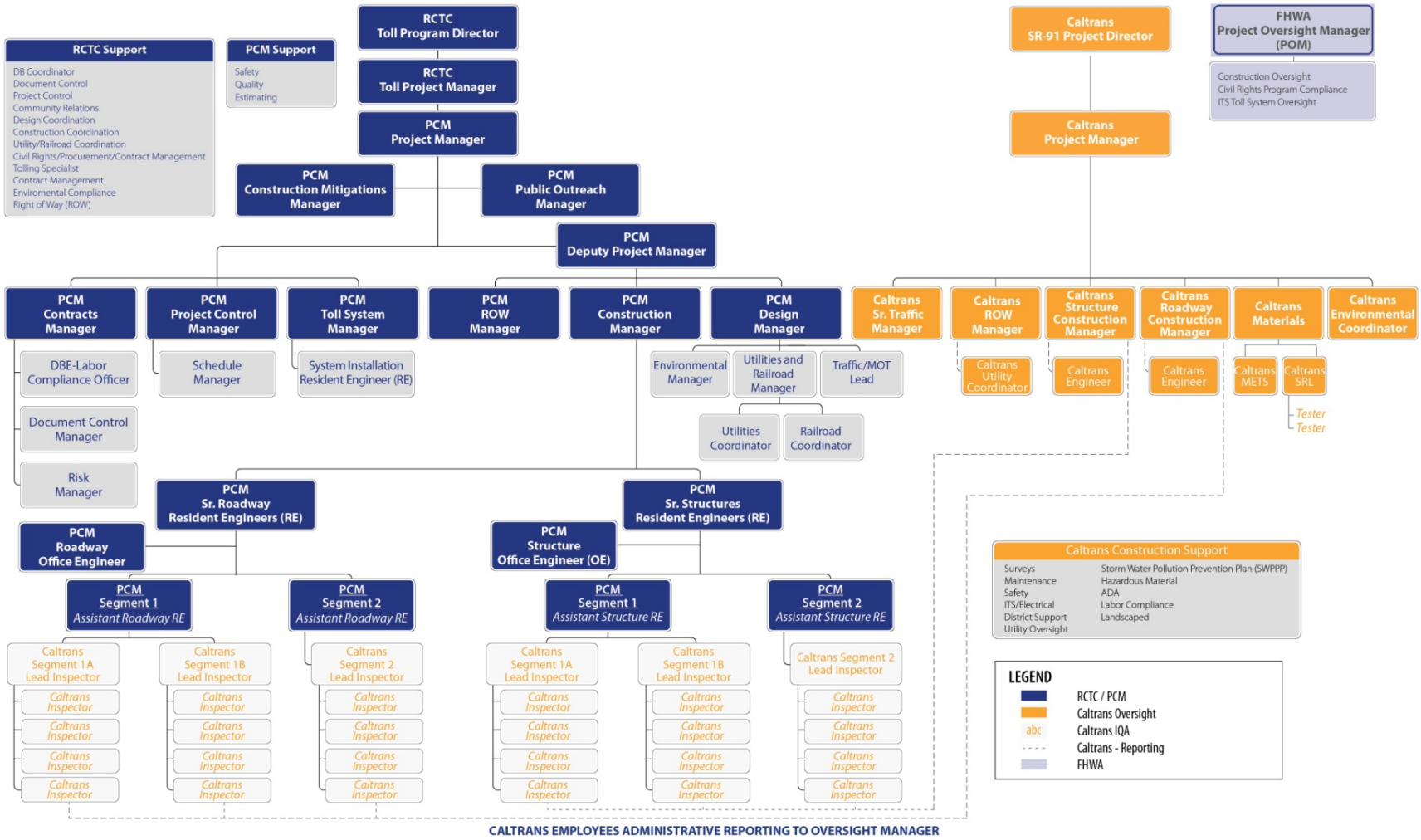
Caltrans is primarily responsible for providing construction inspection resources to RCTC in performing IQA for construction. Caltrans will also perform oversight of RCTC's responsibilities for construction management. Caltrans is directly responsible for source inspection and random material testing as commonly performed by Caltrans on its projects.

In regard to Caltrans' oversight role over RCTC, Caltrans has additional responsibilities respective of its obligations to FHWA under the HPPA, included as Appendix A, and the Joint Stewardship and Oversight Agreement between Caltrans and the FHWA executed on October 14, 2010. These agreements provide a risk-based approach to Project-level management by FHWA's stewardship and oversight of Caltrans federally funded projects, and they further define the nature of a "High-Profile Project" and the respective responsibilities and authorities of FHWA, Caltrans, and RCTC during certain Project-level actions.

Project Team members will be co-located with Design-Builder to provide better communication, timely coordination of activities, and quicker dispute resolution. The resultant benefit is "first line" owner verification testing while time providing the required Project oversight.

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Figure 2-1 – Project Organization for Construction



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The entire team is responsible for IQA. The organization structure for construction is divided into two groups:

1. **Project Management, Support, and Oversight:**
    - RCTC oversees the PCM work and provides contractual reviews and approvals.
    - PCM Managers perform general Project management duties, and supervise and support the CMT in their areas of expertise.
    - PCM provides first-level support to the CMT in its areas of expertise.
    - Caltrans and RCTC also provide support, when needed.
    - Caltrans provides oversight.
    - Caltrans performs testing as required by applicable laws and the Project-specific QMPs; and QA of Source Inspection and offsite fabrication.
    - FHWA audits and provides oversight to certain elements.
2. **Construction Management Team:**
    - PCM provides the Construction Manager, REs, Assistant REs, and Office Engineers (OEs) who will manage construction of the Project.
    - Caltrans:
        - Performs IQA inspection and testing as required by applicable laws and the Project-specific QMPs; and QA of Source Inspection and offsite fabrication

Definitions of the respective personnel roles and responsibilities in providing construction management of the Contract, including IQA, oversight, source inspection, and testing, are provided in Sections 2.2.1 and 2.2.2.

2.2.1 Management, Support, and Oversight

The roles and responsibilities of project management, support, and oversight personnel are defined in the following subsections.

RCTC

RCTC Toll Program Director

The RCTC Toll Program Director oversees daily planning, development, and implementation of the toll program, specifically those projects along the SR-91 and I-15 corridors. His/her primary role is to provide Project oversight, strategic Project direction, and decision making. The RCTC Toll Program Director reports directly to the RCTC Executive Director.

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During construction of the Project, the duties of the RCTC Toll Program Director include, but are not limited to, the following:

- Approval of minor changes and extra work orders less than $200,000.
- Involvement in the management-level dispute resolution process.
- Interface directly with the OCTA Express Lane General Manager on any Project-related issues.

RCTC Toll Project Manager

Under general direction of the RCTC Toll Program Director, the RCTC Toll Project Manager oversees the daily technical administration of the Project development activities; supervises the work of program and Project management staff, support staff, and consultants; manages the Project budget, schedule, and scope; and reviews all Design-Builder change orders and Claims. The RCTC Design-Build Coordinator works under the direction of the RCTC Toll Program Director.

During construction of the Project, the duties of the RCTC Toll Project Manager include, but are not limited to, the following:

- Perform safety audits at least annually. Caltrans and FHWA may attend the RCTC audits or inspections and may conduct independent audits or inspections at its discretion. Inspections are generally less formal than audits.
- Activate a Construction Incident Response Team when warranted by the sensitivity and severity of a major construction incident. The Team enables the RE to focus on restoring the transportation system, the Project, or both. The Team may also advise the RE on technical matters. Section 3.8.3 of this DBMC provides more detailed information on what constitutes major construction incidents.
- Approve deviations from any of the Contract and Systems Installation and Integration Contract (SIIC) requirements.
- Approve changes in, or deviations from, the approved Design Documents.
- Waive any Contract requirements or provisions, if deemed necessary.
- Approve VECPs.
- Approve minor changes that are less than $50,000 and participate in the Project-level dispute resolution process.
- Attend Monthly Progress Meetings (MPMs).
- Review and approve all Design-Builder’s invoices.

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- Collect and approve Design-Builder's final Environmental Monitoring and Reporting Plan, documenting closure or concurrence of nonclosure for all compliance actions upon Project completion.
- Environmentally certify the Project when all Environmental Commitments in the Environmental Commitments Record (ECR) are satisfied.
- Make determinations on plans of action relating to Design-Builder violations and/or noncompliance. Document and approve all plans of action relating to Design-Builder violations and/or noncompliance. Approve changes in or deviations from the approved Design Documents or performance by Toll Systems Integrator of extra work or changed work.

RCTC Right-of-Way Manager

The RCTC ROW Manager oversees all aspects of the ROW acquisition process, including relocation and property management, to ensure that all Project requirements and obligations are met. The RCTC ROW Manager ensures that any commitments, restrictions, and/or limitations agreed to during the acquisition process for specific parcels are relayed to the Construction Team for incorporation into the CWPs and assists with any ROW-related issues encountered during construction. The RCTC ROW Manager works under the direction of the RCTC Toll Project Manager.

RCTC Project Controls Coordinator

The RCTC Project Controls Coordinator supports the RCTC Toll Project Manager by overseeing the PCM in the management of all Project controls-related aspects of the Project, including budgeting, cost, scheduling, and progress tracking. The RCTC Project Controls Coordinator works under the direction of the RCTC Toll Project Manager.

RCTC Toll Systems Coordinator

The RCTC Toll Systems Coordinator supports the RCTC Toll Project Manager by overseeing the PCM in the management of all toll system-related aspects of the Project. The RCTC Toll Systems Coordinator works under the direction of the RCTC Toll Project Manager.

RCTC Design-Build Coordinator

The RCTC Design-Build Coordinator supports the RCTC Toll Project Manager by overseeing the PCM in the management of all design-build-related aspects of the Project,. The RCTC Design-Build Coordinator works under the direction of the Toll Project Manager.

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During construction of the Project, the duties of the RCTC Design-Build Coordinator include, but are be limited to, the following:

- Oversee the PCM in the management of all design-build-related aspects of the Project, including design, construction, utility relocation, and railroad coordination.
- Perform safety audits at least annually.

RCTC Design Coordinator

The RCTC Design Coordinator supports the RCTC Toll Project Manager by overseeing the PCM in the management of all design-related aspects of the Project, including design development, design submittal reviews, coordination with Project stakeholders, resolution of technical issues, and support during construction. The RCTC Design Coordinator works under the direction of the RCTC Design-Build Coordinator.

RCTC Construction Coordinator

The RCTC Construction Coordinator supports the RCTC Toll Project Manager by overseeing the PCM in the management of all construction-related aspects of the Project, including safety, quality and schedule performance, coordination with stakeholders, issue resolution, and Project closeout and acceptance. The RCTC Construction Coordinator works under the direction of the RCTC Design-Build Coordinator.

During construction of the Project, the duties of the RCTC Construction Coordinator include, but are not limited to, the following:

- Perform safety audits at least annually. RCTC Utility/Rail Coordinator

The RCTC Utility/Rail Coordinator supports the RCTC Toll Project Manager by overseeing the PCM in the management of all utility relocation-related aspects of the Project, including utility coordination, execution of the Project Utility Agreements (PUAs), and utility relocation work. The RCTC Utility/Rail Coordinator works under the direction of the RCTC Design-Build Coordinator.

RCTC Environmental Compliance Coordinator

The RCTC Environmental Compliance Coordinator supports the RCTC Toll Project Manager by overseeing the PCM in the management of all environmental-related aspects of the Project, including acquisition of the Project environmental permits, implementation of the environmental commitments, and permit conditions and environmental compliance during construction. The RCTC Environmental Compliance Coordinator works under the direction of the RCTC Toll Project Manager.

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During construction of the Project, the duties of the RCTC Environmental Compliance Coordinator include, but are not limited to, the following:

- Monitor Design-Builder's implementation of all conditions associated with the required environmental commitments stated in the environmental document and permit conditions for the Project.

RCTC Community Relations Manager

The RCTC Community Relations Manager's primary responsibility is to manage the day-to-day tasks related to implementation of the Public Outreach Plan (POP). The RCTC Community Relations Manager also assists the PCM Public Outreach Manager with leading Project Communications Team meetings to promote the flow of information and cross communication among RCTC, the PCM Team, the Design-Builder's Public Outreach Coordinator, and Caltrans' Public Information Officer. The RCTC Community Relations Manager reports directly to the RCTC Project Development Director and, on this Project, supports the RCTC Toll Project Manager.

During construction of the Project, the duties of the RCTC Community Relations Manager include, but are not limited to, the following:

- Receive notice of traffic incidents from REs and release information about the incident to the public and media.
- Educate and inform media representatives about Project benefits, scheduling, ongoing construction activities, milestones, funding, commitment to safety, and other items of interest.
- Be proactive in his/her media outreach efforts and respond to inquiries in a timely manner.

RCTC Procurement Manager

The RCTC Procurement Manager is responsible for procurement needs of the Project, administering the various Project agreements, ensuring uniform application of RCTC Contract compliance requirements, Civil Rights Programs program implementation, and oversight of the Design-Builder's Civil Rights program-related activities. The RCTC Procurement Manager reports directly to the RCTC Chief Financial Officer and, on this Project, supports the RCTC Toll Project Manager.

During construction of the Project, the duties of the RCTC Procurement Manager include, but are not limited to, the following:

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- Provide oversight and support of the PCM Disadvantaged Business Enterprise (DBE)-Labor Compliance Officer.
- Communicate with the RCTC Community Relations Manager to ensure that public outreach activities include disadvantaged communities.
- Approve in writing all revisions to the DBE performance plan made by RCTC or Design-Builder.
- Submit a semiannual uniform report to Caltrans and FHWA on DBE attainments for the Project.

RCTC Document Control

The RCTC Document Control ensures that all documentation is filed in accordance with RCTC and Caltrans standards. The RCTC Document Control works under the direction of the RCTC Toll Project Manager.

PCM

PCM provides Project and Construction Management to RCTC, including IQA. PCM functions during construction are defined below.

PCM Project Manager

The PCM Project Manager is the RCTC-designated person responsible for management of the PCM Team and for the quality of work performed on the Project. He/she will provide daily Project management of all PCM activities and will ensure that implementation of the PCM scope of work adheres to all required Contract requirements. He/she will provide the required qualified staff, adherence to practices and policies, and any compliance issues. He/she will serve as the main point of contact with RCTC on all PCM contractual matters. The PCM Project Manager reports directly to the RCTC Toll Project Manager.

During construction of the Project, the duties of the PCM Project Manager include, but are not limited to, the following:

- Review and approve the Project monthly progress report (MPR).

PCM Deputy Project Manager

The PCM Deputy Project Manager is responsible for implementation and compliance of the quality program, which includes leading all meetings, addressing all noncompliance issues, and approving progress payments. The PCM Deputy Project Manager assists the PCM Project Manager with the daily Project management and oversight of the ROW, design, and construction activities. The PCM Deputy Project Manager reports directly to the PCM Project Manager.

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During construction of the Project, the duties of the PCM Deputy Project Manager include, but are not limited to, the following:

- Ensure overall implementation of Design-Builder's Project Safety Plan (PSP).
- Conduct random safety audits as deemed necessary.
- Implement and execute the PCM's approved Project Quality Program.
- Oversee and monitor adherence to the Project Quality Program.
- Attend quality coordination meetings at the site with RCTC, Design-Builder, and Caltrans quality and construction representatives.
- Conduct periodic quality audits of Design-Builder's operations.
- Review, comment, and finalize the MPR for construction.
- Develop the construction MPM agenda, lead the MPM, and generate the meeting notes.
- Review and assist with approval of the Construction MPR.

PCM Safety and Security Manager

The PCM Safety and Security Manager reviews Design-Builder's Health and Safety Plan (HSP) and periodically reviews the Project site. He/she attends Design-Builder's Project safety meetings to ensure that the Contract requirements, as well as the HSP components, are implemented on the Project. He/she reviews Design-Builder's operations to ensure a safe and secure Project site for all Project-related work staff and the traveling public. The PCM Safety and Security Manager reports directly to the PCM Project Manager.

During construction of the Project, the duties of the PCM Safety and Security Manager include, but are not limited to, the following:

- Implement and execute PCM's approved PSP.
- Conduct random safety audits as deemed necessary.
- Verify the Project's safety records and maintain copies of all safety audit-related documentation, including internal audit reports, and records of all corrective and preventive actions.
- Oversee and monitor adherence to the PSP.
- Attend weekly safety coordination meetings at the site with RCTC, Design-Builder, and Caltrans safety representatives.
- Conduct periodic safety audits of Design-Builder's operations.

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PCM Quality Assurance Support Personnel

The PCM Quality Assurance support personnel help the PCM team with audits of the Design-Builder's quality program to ensure compliance with its developed quality plans.

PCM Estimator

The PCM Estimator supports PCM personnel with all Project-related cost estimates. He/she also supports the PCM Risk Manager in calculating high-risk event costs so that the impact of the risk or cost of addressing the risk can be analyzed and a decision can be made to avoid or address the risk. The PCM Estimator supports the PCM Project Manager.

PCM Construction Mitigations Manager

The PCM Construction Mitigations Manager is responsible for ROW mitigation, demolition, and biomitigation. The PCM Construction Mitigations Manager reports directly to the PCM Project Manager.

During construction of the Project, the duties of the PCM Construction Mitigations Manager include, but are not limited to, the following:

- Perform safety and weekly progress meetings.
- Monitor pay application process and payment request.
- Process Requests for Information (RFIs) and monitor change orders.
- Review and monitor submittals.
- Coordinate with subcontractors and conduct inspections of disciplines.
- Record daily activities.
- Manage schedule; track and control cost.
- Report construction mitigation updates to the PCM Project Manager.
- Coordinate with the city inspectors for sewer/water line capping on ROW demolition parcels
- Update as-built drawings.

PCM Public Outreach Manager

The PCM Public Outreach Manager's primary responsibility is to manage the day-to-day tasks related to implementation of the POP. Under direction of the RCTC Toll Project Manager, the PCM Public Outreach Manager also assists the RCTC Community Relations Manager with leading Public Outreach Management Team meetings to promote the flow of information and cross communication among RCTC, the PCM Team, Design-Builder's Public Outreach Coordinator, and Caltrans' Public Information Officer. The PCM Public Outreach Manager reports directly to the PCM Project Manager.

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During construction of the Project, the duties of the PCM Public Outreach Manager include, but are not limited to, the following:

- Attend weekly construction progress meetings and a follow-up public outreach meeting to review construction activities.
- Act as the point of contact for public outreach matters between Design-Builder, RCTC, and Caltrans.
- Provide Project updates to all interested parties.
- Maintain the stakeholders' database.
- Maintain the content of the SR-91 website.
- Retrieve and respond to SR-91 website feedback.
- Manage the support staff that respond to helpline messages not related to Design-Builder activities.
- Distribute Project contact cards to all Project personnel who will be in contact with the public.
- Confer with RCTC regarding appropriate responses to public inquiries and forward the responses to the Design-Builder Project Information Manager to log.
- Establish protocols with partner agencies to ensure that all Project questions and comments are routed appropriately.
- Prepare and distribute collateral material, including Project newsletters, electronic bulletins, brochures, fact sheets, and frequently asked questions.
- Coordinate community presentations and provide support for RCTC's Speaker's Bureau.
- Organize public open houses and provide staffing for information booths at community events.
- Organize Project groundbreaking and ribbon-cutting ceremonies and other milestone events as directed.
- Develop and maintain a key issues matrix of questions and standard responses.
- Ensure that all Project Team members understand RCTC's protocol related to media relations and elected official relations.
- Track Project news coverage, post coverage to the website, and provide copies to Team members.
- Develop a system for temporary public relocation support for residents.

PCM Contracts Manager

The PCM Contracts Manager manages the overall Contracts administration, including employment practice (i.e., DBE program, nondiscrimination/equal employment opportunity

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[EEO], prevailing wage and labor) compliance, Contract procurement, change order administration, claims resolution processes, and document control. The PCM Contracts Manager provides oversight of the DBE labor compliance, document control, and risk management activities. The PCM Contracts Manager reports directly to the PCM Deputy Project Manager and coordinates with the RCTC Procurement Manager.

During construction of the Project, the duties of the PCM Contracts Manager include, but are not limited to, the following:

- Administer the contract change order (CCO) process.
- Maintain a detailed and accurate CCO log.
- Regularly update the CCO log and submit it along with monthly Project status reports to Caltrans and FHWA.
- Obtain the proper CCO approvals.
- Coordinate processing of claims disputes between RCTC and Design-Builder.
- Include the status of all significant claims in each Project status report for discussion at the monthly Project status meetings.
- Promptly process any required change order or amendment to the Contract Documents based on: (1) an agreed-upon resolution between RCTC and Design-Builder; (2) a binding recommendation of the Disputes Board; or (3) a final judgment or award in Design-Builder's favor from arbitration or judicial review.

PCM DBE-Labor Compliance Officer

The PCM DBE-Labor Compliance Officer ensures that employment practices are followed on the Project. The PCM DBE-Labor Compliance Officer reports directly to the PCM Contracts Manager.

During construction of the Project, the duties of the DBE-Labor Compliance Officer include, but are not limited to, the following:

- Bring labor compliance issues to the attention of Design-Builder and RCTC Toll Project Manager.
- Conduct labor law investigations and report its findings to the RCTC Toll Project Manager, Department of Industrial Relations (DIR) Compliance Monitoring Unit (CMU), and other DIR departments.
- Collect certified payroll records from Design-Builder via ConstructWare.
- Perform periodic and random onsite interviews of Design-Builder's employees, including subcontractors' employees, during Work hours.

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- Monitor Design-Builder's compliance with apprenticeship, skill improvement, or other upgrading programs that provide equal opportunity for training and employment.
- Collect FHWA Form PR-1391 from Design-Builder and each of its subcontractors for work that exceeds $10,000. Ensure that Design-Builder and subcontractors complete the form accurately and timely, and then countersign and submit FHWA Form PR-1391 to FHWA by August 30 of each year.
- Provide oversight and document Design-Builder's compliance with EEO requirements.
- Document Design-Builder's compliance with the EEO requirements according to FHWA Form 1273.
- Conduct formal compliance reviews of Design-Builder and subcontractors subject to EEO requirements.
- Monitor compliance by Design-Builder toward the approved DBE program performance plan, which includes quarterly meetings, DBE outreach and communication activities, and additional reporting and data recording requirements.
- Collect monthly reports of DBE program activities, including ongoing good faith efforts, DBE commitments, and DBE attainments from Design-Builder's DBE Program Administrator.
- Submit regular reports, including the monthly DBE utilization report, to RCTC on DBE attainments for the Project.

PCM Document Control Manager

The PCM Document Control Manager ensures that all Project documents are properly maintained and retained. The PCM Document Control Manager reports directly to the PCM Contracts Manager.

During construction of the Project, the duties of the PCM Document Control Manager include, but are not limited to, the following:

- Process Project documents through all procedural steps in accordance with well-defined procedures and guidelines, and as requested by the Project Team members.
- Comply with document management policies and procedures for storing and cataloguing all Project-related documents, facilitating communication, archiving and retrieving, tracking, sharing, systems interface, and notices required in the Contract.
- Develop a filing system for construction. The system must use numbered categories for filing Project documents.
- Log all submittals into the Project submittal log. This function can be performed by document control staff.

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- Implement pre-established document control requirements (e.g., which document numbering system will be used; how many and which signatures will be required for certain approvals), and ensure they are satisfactorily met throughout the duration of the Project.
- File, organize, and store all paper documents, manuals, books, and CDs in the paper filing system.
- Consistently monitor and audit the paper files and document control system to ensure that all checked-out documents are returned in a timely manner.
- Conduct document control system audits as directed by the Project Manager or Quality Manager.
- Monitor the entire document control system and coordinating audits as appropriate to ensure that the system contains all required documents and files.
- Provide assistance and training to users in capturing and locating electronic information.

PCM Risk Manager

The PCM Risk Manager facilitates the identification and mitigation of risk associated with the Project. The Risk Register, maintained by the PCM Risk Manager, is the Project tool used to identify, track, and analyze risks associated with all aspects of the Project. The PCM Risk Manager reports directly to the PCM Contracts Manager.

During construction of the Project, the duties of the PCM Risk Manager include, but are not limited to, the following:

- Review Design-Builder's risk plan.
- Identify, track, and analyze RCTC risks.

PCM Project Controls Manager

The PCM Project Controls Manager provides overall Project controls, including implementation of an integrated system of budgeting, cost, scheduling, and tracking the progress of Project activities. The PCM Project Controls Manager reports directly to the PCM Project Manager.

During construction of the Project, the duties of the PCM Project Controls Manager include, but are not limited to, the following:

- Administer Project invoicing and costs with assistance of the PCM Construction Manager.

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- Review and comment on the details of Design-Builder's daily inspection reports in a manner sufficient to permit review of Design-Builder's costs of the Work in a manner similar to force account.
- Derive from MPRs the cost data that will be formatted to provide cost reporting.

PCM Schedule Manager

The PCM Schedule Manager provides scheduling-related support services for the Project. The PCM Schedule Manager reports directly to the PCM Project Controls Manager.

During construction of the Project, the duties of the PCM Schedule Manager include, but are not limited to, the following:

- Oversee and coordinate the review and approval process of Design-Builder's preliminary and baseline schedules.
- Develop cost and resource loading, schedule start and finish dates, and any changes.
- Oversee the monthly schedule reviews, review any time extensions, and conduct meetings to review the percent completes submitted in Design-Builder's updates for processing of the pay applications.
- Establish and maintain the overall PCM program schedule on a monthly basis and coordinate the ROW schedule activities for parcels that must be turned over to the Design-Builder on specific Contract dates.
- Review the following documents submitted by the Toll Systems Integrator: Baseline Schedule, MPRs, Four-Week Look Ahead, and Recovery Schedules. Coordinate this review with the PCM Systems Installation RE.

PCM Toll Systems Manager

The PCM Toll Systems Manager is responsible for analyzing, developing, and documenting strategies, policies, procedures, business rules, management rules, and technical requirements for the toll operations and facilities. He/she provides oversight of Design-Builder's coordination with the Toll Systems Integrator and design development of the tolling infrastructure for the Project. The PCM Toll Systems Manager provides oversight of the Toll System Integrator's work, including installation, testing, and startup of the Project's Electronic Toll Collection (ETC) system. The PCM Toll Systems Manager reports directly to the PCM Project Manager.

During construction of the Project, the duties of the PCM Toll Systems Manager include, but are not limited to, the following:

- Provide oversight of Design-Builder's coordination with the Toll Systems Integrator and design development of the tolling infrastructure for the Project.

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- Provide oversight of Toll Systems Integrator's work, including installation, testing, and startup of the Project's ETC system.

PCM Systems Installation Resident Engineer

The PCM Systems Installation RE is responsible for ensuring that Systems Integrator is complying with its QC program as well as the SIIC and TPs. The PCM Systems Installation RE is the point of contact for the PCM and reports directly to the PCM Toll Systems Manager.

During construction of the Project, the duties of the Systems Installation RE include, but are not limited to, the following:

- Collect and receive the Toll Systems Integrator's training plan that defines the specific training required to qualify personnel in the operation, maintenance, and administration of the new tolled express lanes system and equipment.
- Provide coordination and guarantee a smooth process for transferring the state-furnished materials (SFMs) between Toll Systems Integrator and Design-Builder.
- Ensure that Toll Systems Integrator complies with its QC program and the SIIC.
- Collect from Toll Systems Integrator the baseline schedule, MPRs, Four-Week Look Ahead, and Recovery Schedules, and coordinate the review of these documents with the PCM Schedule Manager.
- Verify that Toll Systems Integrator coordinates with Caltrans the cable splice points for connecting the Caltrans fiber-optic network as part of the ETTM infrastructure.
- Work in conjunction with Toll Systems Integrator and Roadway Assistant RE to identify and develop a punchlist related to completion of any work for the ETTM infrastructure.

PCM Right-of-Way Manager

The PCM ROW Manager oversees all aspects of the ROW acquisition process, including relocation, property management, and demolition, to ensure that all Project requirements and obligations are met. The PCM ROW Manager reports directly to the PCM Deputy Project Manager.

During construction of the Project, the duties of the PCM ROW Manager include, but are not limited to, the following:

- Work with Design-Builder regarding all aspects of ROW including, but not limited to, delivery of ROW to Design-Builder, change orders, and additional ROW requests.
- Review and approve temporary construction easement (TCE) area work requests.

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- Notify the respective owners and tenants of the Project's proposed activities within TCE work areas.
- Review and approve right-of-entry requests made by Design-Builder prior to presenting the ROW entry request to a parcel owner.

PCM Design Manager

The PCM Design Manager provides daily management of design activities, including development of the RFP TPs during Phase I and review of Design-Builder's design plans during Phase II. The PCM Design Manager provides oversight of the environmental, utilities, railroad, and traffic/maintenance of traffic (MOT) activities. He/she also coordinates technical meetings with RCTC, Caltrans, local agencies, jurisdictions, and other stakeholders, as required, to obtain their involvement and approval as necessary. The PCM Design Manager reports directly to the PCM Deputy Project Manager.

During construction of the Project, the duties of the PCM Design Manager include, but are not limited to, the following:

- Support construction activities related to environmental monitoring, utility relocation, railroad coordination, shop drawing and RFI coordination and tracking, as-built review and approvals, and final acceptance.
- Support PCM with potential change order design activities resulting from notices of design changes (NDCs).
- Coordinate with RCTC, Caltrans, local agencies, and jurisdictional and other stakeholders, as required, for their involvement and necessary approvals.

PCM Environmental Manager

The PCM Environmental Manager's primary responsibility is to coordinate the acquisition of the Project environmental permits and ensure implementation of the environmental commitments and permit conditions during construction. The PCM Environmental Manager reports directly to the PCM Design Project Manager.

During construction of the Project, the duties of the PCM Environmental Manager include, but are not limited to, the following:

- Monitor and document compliance with all environmental commitments and permit conditions for the Project.
- Collect and review monthly environmental monitoring reports submitted by Design-Builder. Review and validate monthly environmental monitoring reports prior to signing off and closing out each compliance action.

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- Collect and approve Design-Builder's final Environmental Monitoring and Reporting Plan documenting closure or concurrence of nonclosure for all compliance actions upon Project completion.
- Environmentally certify the Project when all environmental commitments in the ECR are satisfied.
- Identify potential Design-Builder violations or noncompliance and determine the plan of action on how to comply or accept noncompliance. Document and approve any plan of action relating to violations or noncompliance.
- Manage and oversee Design-Builder's performance of restoration or rehabilitation activities of disturbed native and endangered species habitats within the Project area, including coastal sage scrub, chaparral, and riparian habitats.
- Manage and oversee Design-Builder's compliance with National Pollutant Discharge Elimination System (NPDES) requirements, including implementation of temporary and permanent stormwater facilities, such as bioswales, media filters, and detention and retention basins.
- Oversee Design-Builder's construction activities related to avoiding the spread of invasive plant species.
- Oversee Design-Builder's activities related to documenting the minimization of impacts and functionality of affected wildlife crossings during construction.
- Manage Design-Builder during the monitoring and documentation of the integrity of the historical or cultural resources that have been temporarily disturbed.
- Manage Design-Builder to ensure the proper removal, disposal, and documentation of hazardous waste.
- Manage and coordinate compensatory offsite mitigation, including restoration, enhancement, or creation of native habitats.
- Confirm the performance of compensatory offsite mitigation and any activities that follow the end of the Contract period.
- Ensure reporting of the post-construction environmental performance in the final Project Environmental Monitoring Report.
- Coordinate, as necessary, with resource agencies related to permits, sensitive environmental resources, and major Project changes.
- Manage the revalidation process for any Design-Builder-related Project changes and facilitate the approval process.

PCM Utilities/Railroad Manager

The PCM Utilities/Railroad Manager's primary responsibility is to provide utility coordination, execution of the utility agreement, utility relocation work, and work within the BNSF ROW,

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including execution of the construction and maintenance agreements and California Public Utilities Commission (CPUC) authorization. The PCM Utilities/Railroad Manager reports directly to the PCM Design Manager.

During construction of the Project, the duties of the PCM Utilities/Railroad Manager include, but are not limited to, the following:

- Work closely with Design-Builder to monitor the Utility Owners' relocation construction schedule.
- Proactively identify any schedule or cost impacts of utility relocations.
- Ensure that utility relocation and construction occurs as scheduled.
- Review as-built details for Utility Owners' construction work to ensure their accuracy and conformance.
- Coordinate CPUC review and approval of proposed railroad crossings.
- Coordinate construction and maintenance agreements for Project improvements inside BNSF ROW.

PCM Utilities Coordinator

The PCM Utilities Coordinator is responsible for coordination and design review oversight of all utility activities among RCTC, PCM, Caltrans, Design-Builder, and utility agencies. This work primarily includes utility agreement coordination, utility task force and over-the-shoulder participation, design reviews and oversight of Design-Builder's design, and coordination of utility activities between utility agencies and Design-Builder. The PCM Utilities Coordinator reports directly to the PCM Utilities/Railroad Manager.

PCM Railroad Coordinator

The PCM Railroad Coordinator is responsible for coordination and design review oversight of all railroad activities among RCTC, PCM, Caltrans, Design-Builder, BNSF, and CPUC. This work primarily includes construction and maintenance agreement and CPUC agreement coordination, focus meetings and over-the-shoulder participation, design reviews and oversight of Design-Builder's design, and coordination of railroad activities among RCTC, Caltrans, BNSF, CPUC, and Design-Builder. The PCM Railroad Coordinator reports directly to the PCM Utilities/Railroad Manager.

PCM Traffic/Maintenance of Traffic Lead

The PCM Traffic/MOT Lead's primary responsibility is design oversight and plan review and approval activities pertaining to Design-Builder's Traffic Management Plan (TMP) and MOT plans. The PCM Traffic/MOT Lead reports directly to the PCM Design Manager.

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During construction of the Project, the duties of the PCM Traffic/MOT Lead include, but are not limited to, the following:

- Review and approve Design-Builder's TMP and MOT plans.

Caltrans

Caltrans Project team provides oversight and has additional responsibilities with regard to its obligations to FHWA. Caltrans oversight responsibilities will follow Caltrans guidelines, laws, and regulations. Caltrans' project-specific responsibilities are defined below.

Caltrans SR-91 Project Director

The Caltrans SR-91 Project Director's (Caltrans Project Director) primary responsibility is to manage and supervise the Caltrans staff assigned to the Project, and coordinate Project work involving the Caltrans District 8 Director, Headquarters, and other Caltrans districts as required. He/she ensures the appropriate Caltrans staff levels and adherence to the Project budget and schedule commitments, and provides guidance on Caltrans' policies and procedures. The Caltrans Project Director reports directly to the Caltrans District 8 Director.

During construction of the Project, the duties of the Caltrans Project Director include, but are not limited to, the following:

- Manage and/or supervise Caltrans staff assigned to the Project.
- Make decisions on how to apply resources, staff, overtime, and Consultants.
- Maintain staff/supervisor/management ratios.
- Determine Caltrans staff priorities and set priorities among competing resource demands.
- Resolve Project issues in consultation with the District Director, functional District Deputy Directors, and Headquarters senior management.
- Identify Project conflicts and issues and elevate them to the District Director if unable to resolve them directly.
- Act as the primary liaison with the FHWA Project Oversight Manager (POM).
- Confer with Caltrans senior management on difficult technical and administrative matters and resolve highly technical or politically sensitive issues impacting the Project and staff.
- Represent Caltrans in high-level meetings and dealings with federal, state, regional, and local agencies.
- Hold Project and functional managers accountable to mutually agreed-upon schedules and deliverables.

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- Provide status reports to the District Director and other high-level managers as required.
- Implement and support task management functions.
- Ensure that Project/functional managers have the training and resources to implement all Project tasks, budgets, and schedules while producing quality services and deliverables.
- Implement and support risk management.

Caltrans Project Manager

The Caltrans Project Manager is responsible for assisting the Caltrans Project Director in daily management of the Project oversight function including, but not limited to, internal issue resolution, guidance on Caltrans policies and procedures, adherence to federal and state requirements, and conflict resolution. The Caltrans Project Manager reports directly to the Caltrans Project Director.

During construction of the Project, the duties of the Caltrans Project Manager include, but are not limited to, the following:

- Plan, monitor, control, and coordinate activities of the Caltrans technical functions assigned to the Project.
- Coordinate the efforts of the overall Project Team.
- Monitor and control Caltrans-related Project budgets and schedules.
- Identify Project conflicts and issues and elevate them to the Caltrans Project Director if unable to resolve them directly.
- Communicate sensitive issues and Project progress to Project Director and District management.
- Ensure that Roadway and Structure REs are coordinating, reviewing, and providing the appropriate approvals of Design-Builder's submittals.
- Certify applicable environmental documents.
- Issue a Certificate of Project Completion and provide relief of maintenance to Design-Builder.

Caltrans Roadway Construction Manager

The Caltrans Oversight Roadway Construction Manager (Caltrans Roadway Construction Manager) is responsible for construction oversight of the roadway, or civil, elements ensuring RCTC conformance to applicable state policies, regulations, and quality procedures. The Caltrans Roadway Construction Manager ensures that RCTC's administration of the construction Contract is performed in accordance with federal and state requirements. He/she is also

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responsible for administrative supervisory duties with respect to the Caltrans Roadway Inspectors. The Caltrans Roadway Construction Manager will work under the general direction of the Caltrans Project Director.

During construction of the Project, the duties of the Caltrans Roadway Construction Manager include, but are not limited to, the following:

- Implement safety procedures of assigned personnel.
- Participate in the nonconformance resolution process.
- Assist in the resolution of IQA issues.
- Provide final acceptance of Design-Builder's roadway Work.

Caltrans Roadway Engineer

The Caltrans Roadway Engineer is responsible for construction administration oversight of the roadway (i.e., civil) elements, ensuring RCTC conformance to applicable state policies, regulations, and quality procedures. The Caltrans Roadway Engineer reports directly to the Caltrans Roadway Construction Manager.

Caltrans Structure Construction Manager

The Caltrans Structure Construction Manager is responsible for construction oversight of all structural elements of the Project, ensuring RCTC conformance to applicable state policies, regulations, and quality procedures. The Caltrans Structure Construction Manager ensures that RCTC's administration of the construction Contract is performed in accordance with federal and state requirements. He/she is also responsible for administrative supervisory duties with respect to the Caltrans Structure Inspectors. The Caltrans Structure Construction Manager works under the general direction of the Caltrans Project Director.

During construction of the Project, the duties of the Caltrans Structure Construction Manager include, but are not limited to, the following:

- Participate in the nonconformance resolution process.
- Assist in the resolution of IQA issues.
- Implement safety procedures of assigned personnel.
- Provide final acceptance of Design-Builder's structure Work.

Caltrans Structure Engineer

The Caltrans Structure Engineer is responsible for construction administration oversight of the structural elements of the Project, ensuring RCTC conformance to applicable state policies,

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regulations, and quality procedures. The Caltrans Structure Engineer reports directly to the Caltrans Structure Construction Manager.

Caltrans Environmental Coordinator

The Caltrans Environmental Coordinator oversees RCTC activities to ensure conformance with all required environmental commitments listed in the ECR and Project regulatory permits. The Caltrans Environmental Coordinator works under the general direction of the Caltrans Project Director.

The duties of the Caltrans Environmental Coordinator include, but are not limited to, the following:

- Collect and approve Design-Builder's final Environmental Monitoring and Reporting Plan documenting closure or concurrence of nonclosure for all compliance actions upon Project completion.
- Monitor Design-Builder's implementation of all conditions associated with the required environmental commitments stated in the environmental document and permit conditions for the Project.
- Document and approve all plans of action relating to Design-Builder violations and/or noncompliance.
- Monitor and document the performance of restoration or rehabilitation activities of disturbed native and endangered species habitats within the Project area, including coastal sage scrub, chaparral, and riparian habitats.
- Monitor and document the operation of permanent stormwater facilities, including bioswales, media filters, and detention and retention basins.
- Monitor and document the performance of highway planting.
- Monitor and document the spread of invasive plant species.
- Monitor and document the functionality of affected wildlife crossings.
- Monitor and document the integrity of historical or cultural resources that may have been temporarily disturbed.
- Ensure the proper removal, disposal, and documentation of hazardous waste.
- Implement compensatory offsite mitigation, including restoration, enhancement, or creation of native habitats.
- Environmentally certify the Project when all environmental commitments in the ECR are satisfied.
- Sign the Certificate of Environmental Compliance (CEC) at Project completion.

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Caltrans Senior Traffic Manager

The Caltrans Senior Traffic Manager (Caltrans Traffic Manager) oversees and supports the Project's TM efforts and implementation of the TMP, and monitors activities to ensure conformance with all required state policies and regulations. The Caltrans Traffic Manager works under the general direction of the Caltrans Project Director.

During construction of the Project, the duties of the Caltrans Traffic Manager include, but are not limited to, the following:

- Coordinate construction notifications on Caltrans' jurisdictional highways with the Traffic Management Center (TMC).
- Conduct early coordination meetings to discuss closures and confirm plan requirements for closures.

Caltrans Right-of-Way Manager

The Caltrans ROW Manager acts as the point of contact to coordinate the exchange of information and to ensure RCTC conformance with all required federal and state statutes, including the Uniform Act. He/she coordinates any required internal Caltrans approvals. The Caltrans ROW Manager works under the general direction of the Caltrans Project Director.

Caltrans Utility Coordinator

The Caltrans Utility Coordinator oversees RCTC activities to ensure conformance with all required federal and state requirements and applicable agreements, including the master utility agreements.

Caltrans Materials Engineering and Testing Services

METS conducts specialized outside inspection, witnesses specialty testing, and gives expert advice on materials and manufactured products for the Project. METS verifies that the fabrication of offsite materials and materials coming from the source meet the Project specifications and tags them for shipment to the jobsite. METS may perform testing or may verify the offsite Supplier's testing. METS writes an inspection report with the results and forwards it to the Lead Inspectors, Caltrans Project Manager, and the REs. METS also reviews and approves splice prequalification, precast, welding, and painting QC plans.

Caltrans Southern Regional Laboratory

SRL will perform onsite materials verification testing as requested by the CMT, as well as random batch plant inspection, and approval of the Resident Engineer (RE)'s concurrence of the hot mix asphalt (HMA) and Portland cement concrete (PCC) mix design. The SRL also performs other testing as directed by the Caltrans Project OS Team.

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FHWA

FHWA Project Oversight Manager

The FHWA POM is responsible for all Project actions and approvals required under the HPPA. The FHWA POM is also responsible for oversight of the Project, as needed, for Project conformance with applicable federal policies and regulations.

2.2.2 Construction Management Team

The CMT organization is an extract from Figure 2-1 and clearly illustrates the core groups responsible for construction management, including IQA, over the construction activities of the Design-Builder. The CMT is composed of Parsons, including its subconsultants, and Caltrans inspector personnel.

The roles and responsibilities of each of the CMT personnel are defined in the following subsections.

PCM

PCM Construction Manager

The PCM Construction Manager is the RCTC-designated person responsible for implementation of RCTC's QMP. This responsibility involves supervision of all field construction IQA activities, including inspection of Design-Builder's Work product and workmanship. The PCM Construction Manager is also responsible for field administration, documentation, and review of progress payments; change orders; Project construction schedules; and field engineering activities. The PCM Construction Manager reports directly to the PCM Deputy Project Manager.

During construction of the Project, the duties of the PCM Construction Manager include, but are not limited to, the following:

- Direct the overall planning of the CMT activities to identify critical milestones and priorities; determine budget estimates and staffing requirements for the defined scope and schedule.
- Monitor Design-Builder's use of sound construction practices to attain required QC; prepare periodic reports summarizing progress of construction activities for higher level management and the client.
- Ensure effective implementation of all Project policies and procedures and perform other responsibilities associated with this position as appropriate.
- Keep alert to possible problem areas and recommend preventive action to ensure that critical milestones are met for each segment and phase of the Project.
- Provide program guidance to the REs and monitor their performance.

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- Manage and coordinate the assignment of manpower for CMT, materials, and equipment for various work areas of construction management operations to maximize efficiency and maintain schedule, and meet Project's safety, quality, and budget goals.
- Conduct random safety audits, as deemed necessary, and report Project safety statistics to Caltrans and FHWA at the MPMs.
- Ensure that the CMT Team collects incident investigation reports from Design-Builder's Project and/or Safety Manager as they arise. If deemed necessary, order REs to perform an investigation into the accident or incident.
- Document in writing any concerns regarding the competence of any certified individual on the Project site and provide that documentation to Design-Builder's Project Manager and Construction QAM.
- Attend weekly meeting and MPMs.
- Support the PCM Project Controls Manager in the administration of the Project invoicing and costs.
- Support the PCM Contract Manager with CCO process and claims disputes.
- Develop a Project closeout procedure in collaboration with Design-Builder.
- Be responsible for all construction Project records consisting of all documents in the construction files, whether in the field office, the Corona office, or Design-Builder's office.
- Conduct various types of Construction progress and Design-Builder's performance reviews; evaluate, monitor progress, and recommend corrective action as necessary.
- Generate the MPR for construction based on the compiled-per-discipline daily inspection reports.

PCM Senior Roadway Resident Engineer

The PCM Roadway Senior RE (Roadway RE) is responsible for construction management oversight of the roadway (i.e., civil) elements of the Work and conformance to applicable state policies, regulations, and QC procedures. He/she also manages all onsite field construction management activities associated with the Project. The Roadway RE reports directly to the PCM Construction Manager.

During construction of the Project, the duties of the Roadway RE include, but are not limited to, the following:

- Provide construction management supervision to the Assistant Roadway RE, Roadway OEs, Lead Inspectors, and Inspectors.

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- Manage and coordinate the assignment of manpower for the Roadway CMT, materials, and equipment for various work areas of construction management operations to maximize efficiency and to maintain schedule, and to meet Project safety, quality, and budget goals.
- Monitor Project safety to ensure the safety of all personnel working within the Project limits and the public traveling through construction sites. Ensure that construction management personnel receive proper safety training.
- Conduct various types of construction progress and Contractor's performance reviews; evaluate and monitor progress, and recommend corrective action as necessary.
- Provide effective implementation of all Project policies and procedures, perform other responsibilities associated with this position as appropriate, and keep alert to possible problem areas and recommend preventive action to ensure that critical milestones are met for each segment and phase of the Project.
- Monitor Design-Builder's use of sound construction practices to attain required QC; prepare periodic reports summarizing progress of construction activities for higher level management and the client.
- Attend weekly meeting and MPMs. Attend all pre-activity meetings with Design-Builder and appropriate CMT personnel to commencement of any major operation.
- Monitor compliance with the plans and specifications by Design-Builder and provide engineering assessment of plans for adequacy of design, particularly with respect to suitability to actual field conditions. Coordinate and work jointly with the Structure RE.
- Ensure overall implementation of Design-Builder's HSP for Design-Builder's daily activities and assist the PCM Construction Manager in conducting necessary training and safety sessions; review Design-Builder's operations for compliance with Cal-OSHA, environmental, labor, and all other required regulations.
- Ensure that no tests or samples are taken on the Project unless the tester is qualified in the test being performed.
- Review and concur CWPs for individual work elements. Provide acceptance of materials and/or workmanship after the Work has been completed by Design-Builder and RCTC and Caltrans have determined that the applicable Contract requirements have been met.
- Review and concur with the HMA and PCC mix designs. Suspend all or part of Design-Builder's operations in accordance with Contract for failure to implement and comply with TMP elements, or failure to correct unsafe traffic conditions within 24 hours after such notification is given in writing to Design-Builder.

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- Approve lane closures by sending a request to the TMC. Inform the PCM Public Outreach Manager of all closures and any other Project activity or incident that may affect the public.
- Ensure that Design-Builder is scheduling biweekly MOT coordination meetings with RCTC, the City, CHP, Caltrans, and other Project stakeholders to address TMP strategies, construction staging, traffic analysis plans, and Project disruptions to public and commercial services, as well as the traveling public.
- Formally accept any critical activity CWP submitted by Design-Builder and signed off by the respective Lead Inspectors.
- Coordinate material testing with Caltrans SRL.
- Provide acceptance, if warranted, of any proposed nonconformance report (NCR) resolutions.
- Notify the PCM Public Outreach Manager and Construction Manager of any traffic incidents that occur within or adjacent to the Project site.
- Coordinate the request of furnished materials with Caltrans and Systems Integrator.
- Support the Project Controls Manager with review and concurrence of the construction activities of Design-Builder's invoice and Contract administration issues.
- Support the PCM Contracts Manager in the CCO process and with all claims disputes.
- Ensure that the ECR is signed and dated when the environmental commitments are completed and continually update the ECR as the Project progresses through construction.
- Collect and review monthly environmental monitoring reports submitted by Design-Builder. Review and validate monthly environmental monitoring reports prior to signing off and closing out each compliance action. Collect and approve Design-Builder's final Environmental Monitoring and Reporting Plan, and sign the CEC at Project completion.
- Review and approve Design-Builder's Storm Water Pollution Prevention Plan (SWPPP) and future amendments of the SWPPP, and verify compliance with the SWPPP and stormwater permits.
- Collect and approve material safety data sheets (MSDSs) prior to allowing Design-Builder to bring any hazardous material onto the jobsite. Identify hazardous waste training needs. Ensure proper notifications.
- Verify that the Roadway RE's file or the materials information handout includes a copy of the Project variance submittal sent to the Department of Toxic Substances Control (DTSC).
- Provide to Design-Builder, accept, and submit to Caltrans Construction's Caltrans Form CEM-4401 "Solid Waste Disposal and Recycling Report."

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- Maintain complete Project records in regard to hazardous waste work, MSDSs, materials information handouts, and annual solid waste disposal and recycling reports.
- Prepare CMT supervisor's daily reports and recommend changes to procedures.
- Assist the PCM-DBE Labor Compliance Officer in enforcing labor requirements stated in the Contract Documents.
- Ensure that Design-Builder is properly coordinating with the agencies, providing proper notifications, and obtaining all required permits.
- Ensure that Design-Builder complies with all conditions of the permanent easements and TCEs acquired by RCTC.
- Review and approve right-of-entry requests made by Design-Builder prior to presenting the ROW entry request to a parcel owner.
- Monitor development of Design-Builder's punchlist for the Project. Direct final inspection of the completed Work and review associated as-built documents, certifications, and other documentation.
- Issue the Certificate of Substantial Completion or notify Design-Builder in writing why the Project has not reached Substantial Completion.

PCM Roadway Office Engineer

The PCM Roadway OE (Roadway OE) performs general construction office duties relating to tracking, coordinating, and processing technical documents (i.e., requisitions, data books, drawings, specifications, calculations) among Project operations, engineering disciplines, and other related support groups. The Roadway OE is typically responsible for all technical document control and coordinates processes from beginning to end of the Project. The Roadway OE reports directly to the Roadway RE.

During construction of the Project, the duties of the Roadway OE include, but are not limited to, the following:

- Coordinate and cooperate with the Structures OE to maintain a complete, up-to-date set of all Contract Documents.
- Coordinate with designers, reviewers, approvers, and the Roadway RE to receive and distribute Project plans and documents throughout the Project term.
- Maintain accurate records of the Work, identify any changes to the design-build scope of work, and support the PCM Contract Manager in evaluating, processing, and negotiating change orders in compliance with Contract requirements.
- Coordinate with field personnel, Roadway Assistant REs, and Roadway Inspectors in tracking and logging all field documents, including reports and Daily Progress Reports.

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- Track and document all safety procedures and reports, and coordinate with the PCM Safety and Security Manager.
- Track and document all environmental and storm water pollution prevention-related reports and inspections, and coordinate with environmental personnel on the Project.
- Track, follow, and document all roadway closures on the Project, and document all calls to the Caltrans TMC.
- Together with the PCM Project Control Manager, track and post Project work schedules.
- Develop, maintain, and update Project's contact matrix and ensure posting and distribution of the Project's Team.
- Develop and maintain reports, analyses, logs, or any technical work-related documents as necessary and as requested.
- Coordinate visitor's field visits and prepare for any required services.
- Collect copies of the COZEEP forms from the Inspectors and assist with the review of the COZEEP invoices sent by CHP.

PCM Roadway Assistant Resident Engineer

The PCM Roadway Assistant RE (Roadway Assistant RE) is responsible for construction oversight of the roadway (i.e., civil) elements' conformance to applicable state construction standards and QC procedures. He/she is also directly responsible for field engineering, administration of Design-Builder construction Contracts in her/his field, and review of the Work. He/she manages all onsite field construction activities associated with the Project. He/she applies comprehensive knowledge of various disciplines to be used during construction, as well as the methods and techniques to be used for installation. The Roadway Assistant RE reports directly to the Roadway RE.

During construction of the Project, the duties of the Roadway Assistant RE include, but are not limited to, the following:

- Coordinate and plan the Project daily verification testing and inspection plan with the Lead Inspector.
- Assist Roadway RE in the overall planning of construction activities to identify critical milestones and priorities; recommend budget estimates and staffing requirements for the roadway.
- Help coordinate and work jointly with the Structure Assistant RE(s) in the same segment of the Project.
- Ensure overall implementation of Design-Builder's HSP for Design-Builder's daily activities. Monitor Project safety to ensure safety of all personnel working within the

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Project limits, as well as the public traveling through the construction site. Ensure construction management personnel receive proper safety training.

- Keep alert to possible problem areas and take preventive action to ensure that critical milestones are met for each segment and phase of the Project.
- Monitor Design-Builder's use of sound construction practices to attain required QC; prepare periodic reports summarizing progress of construction activities for higher level management and the client.
- Under the Roadway RE's direction and recommendations, confer with Contractors regarding compliance with plans and quality of Work and construction activity.
- Provide engineering assessment of plans for adequacy of design, particularly with respect to actual field conditions. Coordinate and work jointly with the Structure Assistant RE.
- Provide preliminary engineering assessment of plans for adequacy of design, particularly with respect to suitability to actual field conditions.
- Monitor compliance with the plans and specifications by the Design-Builder. Provide engineering assessment of plans for adequacy of design, particularly with respect to suitability to actual field conditions.
- Supervise field activities to ensure compliance and communications regarding current and planned construction activities, including traffic detours and road closures for the Project.
- Assist and support the PCM labor compliance staff in enforcing labor requirements stated in the Contract.
- For all accidents occurring in construction zones, take sufficient photographs or videotapes to document the conditions that existed at the time of the accident, including all signage and traffic control features that may have been in effect at the time of the accident.
- Ensure that Design-Builder coordinates with CHP and FSP.
- Ensure that Design-Builder's MOT is installed in accordance with Caltrans and/or the local agency requirements.
- Monitor development of Design-Builder's punchlist for the Project. Direct the final inspection of the completed Work and review associated as-built documents, certifications, and other documentation.
- Attend Design-Builder's pre-activity meetings at the worksite.
- Review CMT daily inspection reports prepared by the Roadway Inspectors.
- Prepare CMT supervisor's daily reports and recommend changes to procedures.

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PCM Senior Structure Resident Engineer

The PCM Senior Structure RE (Structure RE) is responsible for construction management oversight of the structure elements' conformance to applicable state construction standards and QC procedures. The Structure RE reports directly to the PCM Construction Manager.

During construction of the Project, the duties of the Structure RE include, but are not limited to, the following:

- Provide construction management supervision to the Assistant Structure RE, Structure OEs, Lead Inspectors, and Inspectors.
- Manage and coordinate the assignment of manpower for the Structure CMT, materials, and equipment for various work areas of construction management operations to maximize efficiency and to maintain schedule, and to meet Project safety, quality, and budget goals.
- Monitor Project safety to ensure the safety of all personnel working within the Project limits and the public traveling through construction sites. Ensure that construction management personnel receive proper safety training.
- Verify that all employees beginning work assignment at a new site or location have received a local safety program orientation.
- Conduct various types of construction progress and Design-Builder's performance; evaluate, monitor progress, and recommend corrective action as necessary.
- Provide effective implementation of all Project policies and procedures and perform other responsibilities associated with this position as appropriate, and keep alert to possible problem areas and recommend preventive action to ensure that critical milestones are met for each segment and phase of the Project.
- Monitor Design-Builder's use of sound construction practices to attain required QC; prepare periodic reports summarizing progress of construction activities for higher level management and the client.
- Attend weekly meetings and MPMs. Attend all pre-activity meetings with Design-Builder and appropriate CMT personnel to commencement of any major operation.
- Monitor compliance with the plans and specifications by Design-Builder and provide engineering assessment of plans for adequacy of design, particularly with respect to suitability to actual field conditions. Coordinate and work jointly with the Structure RE.
- Ensure that no tests or samples are taken on Caltrans unless the tester is qualified in the test being performed. Review and concur on CWPs for individual work elements. Provide acceptance of materials and/or workmanship after the Work has been

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completed by Design-Builder and RCTC and Caltrans have determined that the applicable Contract requirements have been met.

- Formally accept any critical activity CWP submitted by Design-Builder and signed off by the respective Lead Inspectors.
- Review and concur with the HMA and PCC mix designs.
- Coordinate structure material testing and source inspections.
- Provide acceptance, if warranted, of any proposed NCR resolutions.
- Support the Project Controls Manager with review and concurrence of the construction activities of Design-Builder's invoice and Contract administration issues.
- Support the PCM Contracts Manager in the CCO process and with all claims disputes.
- Prepare CMT supervisor's daily reports and recommend changes to procedures.
- Assist the PCM-DBE Labor Compliance Officer in enforcing labor requirements stated in the Contract Documents.
- Monitor development of Design-Builder's punchlist for the Project. Direct final inspection of the completed Work and review associated as-built documents, certifications, and other documentation.
- Coordinate, review, and provide the appropriate approvals of Design-Builder submittals.
- Review and provide comments on Design-Builder Falsework and Guying Plans.
- Collect offsite fabrication inspection schedules from Design-Builder. Coordinate with METS to witness fabrication of the work required. Notify Design-Builder of METS testing results.

PCM Structure Office Engineer

The PCM Structure OE (Structure OE) performs general construction office duties relating to tracking, coordinating, and processing technical documents (i.e., requisitions, data books, drawings, specifications, calculations) between Project operations, engineering disciplines, and other related support groups. The Structure OE is typically responsible for all technical document control and coordinates processes from beginning to end of the Project.

During construction of the Project, the duties of the Structure OE include, but are not limited to, the following:

- Coordinate and cooperate with Roadway OE to maintain a complete, up-to-date set of all Contract Documents.
- Coordinate between designers, reviewers, approvers, and the Structure RE to receive and distribute Project plans and documents throughout the Project term.

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- Maintain accurate records of the Work, identify any changes to the design-build scope of work, and support the PCM Contract Manager in evaluating, processing, and negotiating change orders in compliance with Contract requirements.
- Coordinate between field personnel, Structure Assistant REs, and Structure Inspectors in tracking and logging all field documents, including reports and daily progress reports.
- Track and document all Design-Builder structure submittals.
- Develop, maintain, and update Project's contact matrix and ensure posting and distribution of the Project's Team.
- Develop and maintain reports, analyses, logs, or any technical work-related documents as necessary and as requested.

PCM Structure Assistant Resident Engineer

The PCM Structure Assistant RE (Structure Assistant RE) is responsible for construction oversight of the structure elements' conformance to applicable state construction standards and QC procedures. He/she is directly responsible for field engineering, administration of Design-Builder construction Contracts in her/his field, and reviewing the Work. He/she also manages all onsite field construction activities associated with Project completion. He/she applies a comprehensive knowledge of various disciplines to be used during construction, as well as the methods and techniques to be used for installation. He/she coordinates and plans the Project daily verification testing and inspection plan with the Lead Inspector. The Structure Assistant RE reports directly to the Structure RE.

During construction of the Project, the duties of the Structure Assistant RE include, but are not limited to, the following:

- Coordinate and plan the Project daily verification testing and inspection plan with the Lead Inspector.
- Assist the Structure RE in the overall planning of construction activities to identify critical milestones and priorities; recommend budget estimates and staffing requirements for the roadway.
- Help coordinate and work jointly with the Roadway Assistant REs in the same segment of the Project.
- Keep alert to possible problem areas and take preventive action to ensure that critical milestones are met for each segment and phase of the Project.
- Monitor Design-Builder's use of sound construction practices to attain required QC; prepare periodic reports summarizing progress of construction activities for higher level management and the client.

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- With the Structure RE's direction and recommendations, confer with Contractors regarding compliance with plans and quality of Work and construction activity.
- Provide engineering assessment of plans for adequacy of design, particularly with respect to actual field conditions. Coordinate and work jointly with the Roadway Assistant REs.
- Provide preliminary engineering assessment of plans for adequacy of design, particularly with respect to suitability to actual field conditions.
- Monitor compliance with the plans and specifications by the Design-Builder. Provide engineering assessment of plans for adequacy of design, particularly with respect to suitability to actual field conditions.
- Supervise field activities to ensure compliance and communications regarding current and planned construction activities, including traffic detours and road closures for the Project.
- Assist and support the PCM labor compliance staff in enforcing labor requirements stated in the Contract.
- Monitor development of Design-Builder's punchlist for the Project. Direct the final inspection of the completed Work and review associated as-built documents, certifications, and other documentation.
- Attend Design-Builder's pre-activity meetings at the worksite.
- Review CMT daily inspection reports prepared by the Structure Inspectors.
- Prepare CMT supervisor's daily reports and recommend changes to procedures.

Caltrans

Caltrans Roadway Lead Inspector

The Caltrans Roadway Lead Inspector (Roadway Lead Inspector) is responsible for the roadway-related IQA inspections and is the liaison between the Roadway Assistant RE and the Caltrans Roadway Inspectors. The Roadway Lead Inspector works under the general direction of the Assistant RE and supervision of the Caltrans Roadway Construction Manager.

During construction of the Project, the duties of the Roadway Lead Inspector include, but are not limited to, the following:

- Coordinate and assign daily inspection tasks to the Inspectors.
- Assist the Roadway Assistant REs in directing the overall planning of construction management activities to identify critical milestones and priorities.
- Recommend staffing requirements for the assigned roadway Work defined scope and schedule.
- Coordinate with the Structure Lead Inspector(s).

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- Serve as lead worker and coordinate IQA roadway inspection verification for all Design-Builder QC and QA teams' activities.
- Verify that Design-Builder is complying with the MCS.
- Ensure overall implementation of Design-Builder's HSP.
- Verify that lane closures comply with the details shown on the approved plans and in accordance with the local agency and Contract requirements.
- Verify Design-Builder's proper handling of any hardware and materials to prevent damage or deterioration.
- Document potential nonconformance and participate in determining appropriate resolution.
- Immediately report all reportable accidents and major incidents to the Roadway RE.
- Report to the Roadway RE any situation that requires unplanned closures of traffic lanes or the highway.
- Verify, witness, and sign off on critical activity points.
- Attend Design-Builder's pre-activity meetings at the worksite.
- Review CMT daily inspection reports prepared by the Roadway Inspectors.
- Prepare CMT supervisor's daily reports and recommend changes to procedures.
- Monitor the development of Design-Builder's punchlist.
- Direct final inspection of the completed Work and review associated as-built documents, certifications, and other documentation.

Caltrans Roadway Inspector

The Caltrans Roadway Inspector (Roadway Inspector) is responsible for the IQA of the daily roadway activities of Design-Builder. The Roadway Inspector works under the general direction of the Roadway Lead Inspector and administrative supervision of the Caltrans Roadway Construction Manager.

During construction of the Project, the duties of the Roadway Inspector include, but are not limited to, the following:

- Perform difficult and sometimes complex roadway inspection tasks.
- Conduct random verification tests to determine if QC and QA Work has been performed in accordance with Contract specifications and approved QMP.
- Verify implementation of Design-Builder's HSP on the Project daily activities. Monitor the safety of State and Design-Builder's employees, as well as the traveling public, when observing Design-Builder's operations and traffic conditions and take corrective action when necessary.

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- Review temporary traffic control activities. Verify that lane closures comply with the details shown on the approved plans and the Contract requirements.
- Verify that the Design-Builder is completing Design-Builder daily inspection reports properly and in compliance with all Caltrans reporting requirements.
- Prepare CMT daily inspection reports documenting the Design-Builder's compliance with the QC/QA Plan and the Contract.
- Document potential nonconformance in the Inspector's daily reports.
- Verify correction of all NCRs.
- Immediately report all reportable accidents and major incidents to the Roadway RE and Roadway Lead Inspector.
- Report to the Roadway RE and Roadway Lead Inspector any situation that requires unplanned closures of traffic lanes or the highway.
- Verify that the Design-Builder prepares detailed inspection instructions for its inspectors.
- Attend the Design-Builder's pre-activity meetings at the worksite.
- Assist the Roadway Assistant RE and PCM labor compliance staff in enforcing labor requirements stated in the Contract.

Caltrans Structure Lead Inspector

The Caltrans Structure Lead Inspector (Structure Lead Inspector) is responsible for structure-related IQA inspections and will be the liaison between the Structure Assistant RE and the Caltrans Structure Inspectors. The Structure Lead Inspector works under the general direction of the Assistant RE and administrative supervision of the Caltrans Structure Construction Manager.

During construction of the Project, the duties of the Structure Lead Inspector include, but are not limited to, the following:

- Coordinate and assign daily inspection tasks to the Inspectors.
- Assist the Structure Assistant REs in directing the overall planning of construction management activities to identify critical milestones and priorities.
- Recommend staffing requirements for the assigned structure Work defined scope and schedule.
- Coordinate with the Roadway Lead Inspector(s).
- Serve as a lead worker and coordinate IQA structure inspection verification for all Design-Builder QC and QA teams' activities.
- Verify that Design-Builder is complying with the MCS.
- Ensure overall implementation of the Design-Builder's HSP.

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- Document potential nonconformance and participate in determining appropriate resolution.
- Immediately report all reportable accidents and major incidents to the Structure RE.
- Verify, witness, and sign off on critical activity points.
- Attend Design-Builder's pre-activity meetings at the worksite.
- Review CMT daily inspection reports prepared by the Caltrans Structure Inspectors.
- Prepare CMT supervisor's daily reports and recommend changes to procedures.
- Monitor the development of the Design-Builder's punchlist.

Caltrans Structure Inspector

The Caltrans Structure Inspector (Structure Inspector) is responsible for the IQA of the daily structure activities of Design-Builder. The Structure Inspector works under the general direction of the Structure Lead Inspector and administrative supervision of the Caltrans Structure Construction Manager.

During construction of the Project, the duties of the Structure Inspector include, but are not limited to, the following:

- Perform difficult and sometimes complex structure inspection tasks.
- Conduct random verification tests to determine if QC and QA Work has been performed in accordance with Contract specifications and approved QMP.
- Verify implementation of Design-Builder's HSP on the Project daily activities. Monitor the safety of State and Design-Builder's employees, as well as the traveling public when observing Design-Builder's operations and traffic conditions and take corrective action when necessary.
- Verify that the Design-Builder is generating Design-Builder daily inspection reports properly and in compliance with all Caltrans reporting requirements.
- Prepare CMT daily inspection reports documenting the Design-Builder's compliance with the QC/QA Plan and the Contract.
- Document potential nonconformance in the Inspector's daily reports; Verify correction of all NCRs.
- Immediately report all reportable accidents and major incidents to the Structure RE and Structure Lead Inspector.
- Verify that the Design-Builder prepares detailed inspection instructions to its inspectors.
- Attend the Design-Builder's pre-activity meetings at the worksite.
- Assist the Structure Assistant RE and PCM labor compliance staff in enforcing labor requirements stated in the Contract.

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Chapter 3: Project Safety Verification

The goal of Project Safety Verification is to verify that the Design-Builder's Work complies with all safety requirements in order to prevent damage, injury, or loss of life to all persons on the Project site or who would reasonably be expected to be affected by the Work. Design-Builder is solely and completely responsible for safety conditions on the site until Project completion. The CMT verifies that Design-Builder is complying with all safety requirements.

Safety verification for the Project during construction includes the following objectives:

- Define clear roles and responsibilities for each Project entity.
- Ensure utilization and implementation of the safety and security plans and requirements to ensure full compliance with those requirements and safe completion of the Project.
- Ensure that all Project Teams, including Design-Builder, implement and comply with the agencies, Cal-OSHA, the Contract, and the site-specific safety plans and requirements, and that they comply with all safety, health, and sanitation laws and standards.
- Establish processes to ensure that all Work is performed in safe conditions.

3.1 ENTITIES' RESPONSIBILITIES

Although safety conditions on the site are the responsibility of Design-Builder until Project completion, everyone is responsible for providing a safe working environment. All participants on this Project must comply with occupational safety and health standards established by federal and state laws. These laws require all employers to provide a safe place of employment that is reasonably free of danger to life or health and to maintain a written Injury and Illness Prevention Program (IIPP).

3.1.1 Design-Builder

Design-Builder is solely and completely responsible for safety conditions on site until project completion. Safety practices are not limited to normal business hours or other time constraints. All Design-Builder employees and subcontractors at all tiers must comply with the Safety Plan and all regulatory-required elements of Design-Builder's Cal-OSHA IIPP.

Design-Builder must develop, implement, and maintain a comprehensive task-specific written HSP in accordance with the specific requirements in the Contract.

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3.1.2 RCTC

RCTC will, through the PCM Consultant, develop and implement a PSP that will encompass the safety requirements for all entities working on the Project.

Project and Construction Management

The PCM will designate a PCM Safety Manager who is responsible for implementation and execution of the PCM's approved PSP.

The PCM Safety Manager has the following responsibilities:

- Oversee and monitor adherence to the PSP
- Attend monthly safety coordination meetings at the site with RCTC, Design-Builder, and Caltrans, as needed.
- Conduct periodic safety audits of Design-Builder's operations.

3.1.3 Caltrans

Caltrans ensures that RCTC and Design-Builder implement the approved HSP and work zone safety and mobility policies, including compliance with Cal-OSHA, for the Project.

3.1.4 FHWA

FHWA may participate in periodic safety and security inspections and audits conducted either by RCTC or by Caltrans and conducts independent safety and security inspections and audits, as necessary.

3.2 SAFETY COMMITTEES

Design-Builder will establish two Project-related safety committees:

- The Project Safety Committee includes senior managers from Design-Builder, RCTC, CMT, and Caltrans. This Committee meets monthly for the Project duration. The Project Safety Committee will review the Project Work and safety record and make recommendations regarding safety processes.
- The Office Safety Committee meets monthly to review office safety and emergency guidelines and make recommendations to the Project senior management regarding these guidelines.

3.3 RCTC PROJECT SAFETY PROGRAM

The PCM Construction Manager develops and implements a PSP that encompasses the safety requirements for all entities working on the Project. The PSP ensures the safety of all Project

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employees, Design-Builder, visitors, and others involved in the Project. The PSP indicates that while visiting or working at the site, the Design-Builder's HSP has priority and must be followed.

The PCM Safety Manager establishes Project safety guidelines for minimum safe practices; identifies the required regulations, codes, and standards; and develops and maintains the PSP process.

RCTC's Toll Project Manager supervises and approves the development of the PSP. The PCM Deputy Project Manager ensures overall implementation of the PSP; however, Design-Builder is solely and completely responsible for safety conditions on the site until Project completion. All safety conditions for the field must be documented in the Design-Builder's HSP.

3.4 DESIGN-BUILDER HEALTH AND SAFETY PLAN

In accordance with the Contract requirements, Design-Builder submitted to RCTC for review and approval a comprehensive HSP as Section 5 of its Project Management Plan. Per the HSP, Design-Builder and its subcontractors must follow Design-Builder's HSP and "the project safety requirements, Code of Safe Practices, and Cal-OSHA regulations." The Injury and Illness Prevention Program (IIPP) is included as Part X of the HSP.

The REs and Assistant REs ensure overall implementation of the Design-Builder's HSP for the Design-Builder's daily activities. The Lead Inspectors and Inspectors verify implementation of the Design-Builder's HSP on the Project.

3.5 PROJECT MEETINGS – SAFETY TOPIC

All Project meetings must include a discussion of safety issues, and safety reminders are given.

3.5.1 Safety Meetings

Design-Builder conducts field safety meetings and training sessions with its personnel, PCM, RCTC, and Caltrans to ensure that all involved personnel are acquainted with the Work and risks. Safety meetings are held daily and weekly to maintain a focus on safety. Several types of recurring meetings are required during the field or construction phase of the Project.

3.5.2 Pre-Activity Meetings

The Assistant REs, Lead Inspectors, and Inspectors attend Design-Builder's pre-activity meetings at the worksite. The meetings review execution plans and site safety issues, requirements, and concerns. They present an opportunity to explain the approach to managing safety on high-risk tasks.

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3.5.3 Weekly Status Meetings

The PCM Construction Manager and REs attend the weekly status meetings. During these meetings, Design-Builder discusses its plans for upcoming Work and associated risks and control measures. All Work activities to be performed, especially any new Work starting, are discussed during these meetings.

3.5.4 Monthly Progress Meetings

The PCM Construction Manager gathers monthly statistics on safety performance and reports them to the PCM Deputy Project Manager. The PCM Construction Manager also reports Project safety statistics to Caltrans and FHWA at the MPMs. When appropriate, action items are discussed in response to safety topics.

3.6 SAFETY INSPECTIONS AND AUDITS

Project safety inspections and audits focus on recognizing safe and unsafe acts and/or field conditions.

3.6.1 Safety Inspection

The Lead Inspectors and Inspectors monitor Design-Builder activities daily, and they review Design-Builder's Work for unsafe acts and/or field conditions.

The REs and Assistant REs perform oversight inspections periodically to confirm that Design-Builder is following its HSP.

3.6.2 PCM Safety Audits

PCM safety audits are conducted by the PCM Deputy Project Manager, PCM Construction Manager, and/or PCM Safety Manager. The PCM safety audits are conducted randomly and as deemed necessary.

3.6.3 RCTC Safety Audits

The RCTC Toll Project Manager, RCTC Construction Coordinator, and/or Design-Builder Coordinator perform safety audits at least annually. Caltrans and FHWA may attend the RCTC audits or inspections and may conduct independent audits or inspections at their discretion. Inspections are generally less formal than audits.

3.6.4 Cal-OSHA External Audits

External audits performed by Cal-OSHA inspection involve the following:

1. Opening conference

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2. Walk-through inspection
3. Closing conference

Opening Conference

The Cal-OSHA Inspector asks for the highest level of management onsite. Introductions are made, and the Inspector states the reason for and purpose of the inspection. At this time, the Inspector asks questions about the Design-Builder, such as the size of the organization, number of employees onsite, addresses and phone numbers, and other information. The Inspector may also ask about Design-Builder's IIPP. The basis for the program is Design-Builder's HSP and RCTC's PSP. The Inspector asks the Project Team permission to conduct a walk-through inspection of the site, and the Project Team is invited to accompany the Inspector.

Walk-Through Inspection

The Cal-OSHA Inspector tours the site, observing the Work in progress, the condition of the site, and the work practices employed. Employees may be interviewed concerning the training they have received, work procedures, and protective equipment they are using. The Inspector may take photographs and measurements during the inspection. If this is a post-accident investigation, witnesses will be identified and interviewed by Cal-OSHA Inspectors. Witness contact information, such as name, address, and telephone number, may be requested by Cal-OSHA Inspectors. Violations that are observed by Cal-OSHA Inspectors could become a citation during the closing conference.

Closing Conference

After the walk-through inspection has been completed, the Inspector meets with management, supervisors, and employee representatives to discuss the violations and any proposed citations. Citations may be based on the Inspector's observations and on statements made by managers, supervisors, and employees. This conference may be held immediately after the walk-through inspection, or it may be deferred. Although this conference is usually conducted in person, it can be conducted by telephone.

3.7 NONCOMPLIANCE WITH SAFETY PROGRAM

All CMT personnel have the authority to stop any activity that presents, or is perceived to present, an imminent danger. If any conditions or activities present a danger that could result in serious injury, death, or extensive property damage, the affected portion of the Work is stopped immediately and is not allowed to resume until the practices or conditions are corrected to the satisfaction of authorized representatives of the Design-Builder and Construction Manager. Work cannot resume until the NCR is signed and cleared. See Chapter 4, Section 4.17.

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If the Project or any portion thereof is stopped or shut down by any outside agency because of an unsafe condition, all cost or delays for such stoppage or shutdown are Design-Builder's sole responsibility.

3.8 CONSTRUCTION INCIDENTS

3.8.1 Incident Reporting

Design-Builder's Project Safety Manager measures and reports all incidents (e.g., accidents, injuries, near misses, and property damage) as part of the ongoing process of enhancing Project safety performance.

As required by the policies specified in Design-Builder's HSP, all incidents must be reported to the RCTC Toll Project Manager through the Design-Builder Construction Manager within 4 hours of the initial incident. The same applies if an incident results in a lost workday, fatality, injury of a private citizen, property loss or damage in excess of $50,000, or a catastrophe (as defined in the Cal-OSHA State Plan).

Lead Inspectors and Inspectors must immediately report all reportable and major incidents to the REs. The REs must report the incident to the Construction Manager and Caltrans within 24 hours. In addition, the incident must be reported to Caltrans. Reportable and major incidents are described below:

- Accidents resulting in serious injury to a Design-Builder employee.
- Accidents involving death or serious injury to a state or consultant employee or resulting in the death of a Design-Builder employee.
- Accidents involving serious damage to equipment owned by Caltrans, by a consultant, or by Design-Builder.
- Accidents resulting in the serious injury or death of a member of the public within the construction zone, or influenced in any manner by construction-related activities, conditions, equipment, or personnel.
- All catastrophic accidents or accidents receiving wide media coverage.
- Accidents with no injuries but with a high potential for being fatal or disabling, such as falsework or guying system failures, overturned cranes, high-voltage power line contacts, trench excavation or shoring failures, gas or fuel line fires or explosions, hazardous utility breaks, and collisions with structures under construction or their supporting falsework that caused displacement of a major member.

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3.8.2 Incident Investigation

Design-Builder's Project Manager and Safety Manager must conduct an onsite investigation immediately after notification of an incident and must prepare an incident investigation report to be submitted to the PCM Construction Manager.

If deemed necessary by the PCM Construction Manager, an investigation will also be performed by the REs.

For all accidents occurring in construction zones, the Assistants REs will take sufficient photographs or videotapes to document the conditions that existed at the time of the accident, including all signage and traffic control features that may have been in effect at the time of the accident.

Depending the nature and severity of the incident, the Project Safety Manager may require additional documentation. Requirements for additional information will be evaluated on an incident-by-incident basis.

3.8.3 Major Construction Incidents

The RCTC Toll Project Manager activates a construction incident response team when warranted by the sensitivity and severity of a major construction incident. The team enables the RE to focus on restoring the transportation system, the Project, or both. The team may also advise the RE on technical matters.

Major construction incidents are unusual or extraordinary construction occurrences that may not be classified as accidents. Examples of these incidents include the following:

- A disaster that results in major damage to a state facility or Project Work.
- A situation that results in evacuation of the Project, the immediate area, or both.
- Any other events that affect the state facility or Project Work and that may generate media coverage.
- An encounter with previously unknown hazardous waste on a construction Project.
- A hazardous spill on a roadway within construction Project limits.
- Any incident causing major traffic delays.
- Unanticipated damage to historic buildings.

Personnel responding to major incidents in construction zones must take the following steps:

- Take appropriate action without jeopardizing public or employee safety.

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- Provide timely and accurate information to management to document the extent of the incident and identify major issues and current actions.
- Restore the transportation facility to full operation as quickly as possible in the event of a closure or restriction using Design-Builder's or Caltrans maintenance forces, whichever is adequate and available.
- Minimize or mitigate the effect of unusual or extraordinary occurrences on the public or the Project.

For more detailed information on the procedures to follow for hazardous waste encounters or hazardous spills, refer to the *Caltrans Construction Manual,* Section 7-106, "Environmental Hazards and Safety Procedures." Design-Builder must have a contingency plan for reopening closed traffic lanes. Refer to the *Caltrans Construction Manual,* Section 3-704B, "Contingency Plans for Reopening Lane Closures," for more detailed information on contingency plans and reopening lane closures.

3.8.4 Reporting Procedures

Immediately report all reportable accidents and major incidents to the district TMC, the district dispatch center, or, when TMC or the center is closed, the Caltrans Highway Information Center. Use Caltrans Form CEM-0603, "Major Construction Incident Notification," provided in Appendix E.

E-mail an initial report to Major_Incident_Reports@dot.ca.gov. The Office of Safety and Health in the Caltrans Division of Administrative Services and the Caltrans Division of Construction check this e-mail box. Also, copies of the report need to be sent to the Caltrans District Construction Safety Coordinator and Caltrans District Manager.

If e-mail is unavailable, fax the form to the numbers at the top of the form, the Caltrans District Construction Safety Coordinator, and Caltrans District management.

When necessary, Caltrans Form CEM-0603 may also be used to e-mail or fax an updated report providing supplementary information.

3.8.5 Guidelines

Personnel who respond to major incidents in construction zones must do the following:

- Take appropriate action without jeopardizing public or employee safety.
- Document all incident details, paying special attention to traffic controls set up and the Design-Builder's activity at the time of the incident. Take pictures of the jobsite

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near the incident location and file them with the incident details in the "Safety" Project file.

- Provide timely and accurate information to management to document the extent of the incident and to identify major issues and current actions.
- In the event of a closure or restriction, restore the transportation facility to full operation as quickly as possible.
- Mitigate the effect on the public or the Project caused by unusual or extraordinary occurrences.

The PCM Construction Manager must activate a construction incident response team when warranted by the sensitivity and severity of a major incident. The Team's principal purpose is to provide incident information to RCTC managers and board, Caltrans managers, and the media. The Team enables the REs to focus on restoring the transportation system, the Project, or both. The Team may also advise the REs on technical matters. The PCM Construction Manager heads the Team, which will also include the following members:

- The PCM Public Outreach Manager and RCTC Community Relations Manager
- Design-Builder, PCM, and Caltrans technical personnel from other functional areas such as safety, traffic, structures, design, or environmental

Report hazardous material encounters and hazardous spills as outlined in Section 7.5. For more information on procedures to follow in the event of hazardous material encounters or hazardous spills, refer to the Caltrans Construction Manual Section 7-106, "Environmental Hazards and Safety Procedures."

As described in Caltrans Construction Manual Section 2-214D, "Construction Contingency Plan," the Design-Builder must have a contingency plan for reopening closed traffic lanes.

3.9 SAFETY TRAINING AND ORIENTATION

All employees assigned to the Project site receive a comprehensive orientation that focuses on health and safety hazards specific to the site. Design-Builder's Project Manager must ensure that an orientation program is in place to provide necessary information to all employees before they enter any working area of the site, even for a brief visit. A Design-Builder Project supervisor familiar with the potential hazards on a project escorts visitors to the Project sites.

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3.9.1 Training

Design-Builder safety training is also provided to the CMT. The Lead Inspectors and Assistant REs usually ensure that all RCTC, PCM, and Caltrans personnel have the proper training when a new Work operation is started.

At a minimum, each Project participant must follow his/her employer's guidelines for training. Caltrans personnel follow the Caltrans guidelines for safety training for specific Work activities. RCTC personnel follow their agency training guidelines, and PCM and their subconsultants follow the PCM guidelines.

Railroad Training

All Project personnel working in and around the BNSF railroad ROW are required to complete the rail safety courses at the following link:

- https://www.e-railsafe.com/ev/servlet/hr.utilities.HRInfo

Training from BNSF, Union Pacific, Conrail, CN, Canadian Pacific, and CSX are included.

3.9.2 Orientation

The REs and Assistant REs verify that all new or transferred RCTC, PCM, and Caltrans employees beginning a Work assignment at a new site or location have received a local safety program orientation. The safety orientation is conducted by Design-Builder's Safety Manager. The orientation will review Design-Builder's HSP, RCTC's PSP, and the Project Work.

3.10 SAFETY REPORTING AND DOCUMENTATION

As a part of their monthly reporting responsibilities, the REs provide a summary of Design-Builder's Project safety performance.

The PCM Safety Manager verifies the Project safety records and maintains copies of all safety audit-related documentation, including internal audit reports, and records of all corrective and preventive actions.

The Structures and Roadway OEs are responsible for the control and storage of their specific safety records.

Examples of construction safety records are as follows:

- RE, Assistant RE and the Lead Inspectors (supervisors) daily reports (Form ACM-0348) with specific notations on safety.

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- CMT daily reports
- Record of mandatory safety meeting minutes
- Project correspondence
- Project photographs
- Traffic control plans and records
- Weekly audit findings and corrective actions
- Monthly audit findings and corrective actions
- Accident and near-miss reports
- Safety performance and incident statistics
- Any other documentation pertinent to the Project

3.11 REFERENCES

3.11.1 Caltrans Safety Manual

The Caltrans Safety Manual is the official Caltrans IIPP. The Caltrans Safety Manual lists mandatory safety policies and procedures, provides a centralized reference to operational safety advisories, and standardizes procedures for reporting employee occupational injuries, vehicular accidents, and claims against Caltrans.

3.11.2 Caltrans Construction Code of Safe Practices

The Caltrans Construction Code of Safe Practices (COSP), along with the Caltrans Safety Manual, defines standard safety practices for employees and consultants involved with inspecting construction activities and operations. Subcontractors follow the Design-Builder's IIPP and COSP. If a subcontractor's IIPP and COSP are more stringent, the subcontractor must follow its own IIPP and COSP.

3.11.3 Federal Highway Administration Requirements and Standard Specifications

FHWA requirements and the Standard Specifications establish compliance with safety regulations as a Contract requirement. Compliance with all safety regulations and Contract specifications is enforced through the use of administrative procedures.

3.11.4 Design-Builder Health and Safety Plan

Design-Builder develops, implements, and maintains a comprehensive task-specific written HSP in accordance with the specific requirements in the Contract. The HSP includes the policies, plans, training programs, Project controls, incident response plans, and enforcement for the health and safety of personnel involved in and the public affected by the Project during the term of the Contract.

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The HSP describes the means to monitor and enforce the safety, health, and environmental requirements, as well as the procedures for monitoring and evaluating the safety practices of employees and subcontractors at all tiers.

Per the HSP, Design-Builder and its subcontractors must follow this HSP and "the project safety requirements, Code of Safe Practices, and Cal-OSHA regulations." The Injury and Illness Prevention Program (IIPP) is Part X of the HSP.

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Chapter 4: Materials and Workmanship Independent Quality Assurance

The materials and workmanship IQA ensures that Design-Builder delivers quality construction materials and that workmanship on the Project follows the Contract requirements. This chapter describes the processes and procedures necessary for the CMT to accept the materials and workmanship of the Project.

Materials and workmanship IQA for the Project during construction includes the following objectives:

- Describe the roles and responsibilities of the various entities involved, i.e., Design-Builder, RCTC, Caltrans, and FHWA.
- Ensure that Design-Builder quality personnel and its laboratories have the appropriate certifications.
- Provide a clear process to furnish materials coordination and describe Design-Builder's materials storage responsibilities.
- Describe preplanning activities to verify that Design-Builder prepares detailed inspection instructions and quality processes.
- Describe the various activities to be performed under IQA to verify that the materials and workmanship comply with all Contract and quality requirements.
- Describe the nonconformance process to be used when product does not comply with the Contract and quality requirements.
- Identify relevant manuals and other references that must be consulted to gain a comprehensive understanding of the quality requirements.

4.1 ENTITIES' RESPONSIBILITIES

QC and QA on traditional Caltrans design-bid-build projects have long been addressed by Caltrans' development manuals and processes, primarily the Caltrans Construction and Project Development Procedures manuals. These documents outline the well-established design-bid-build quality processes whereby Caltrans performs all inspection, sampling, and testing. With some limited exceptions, Caltrans has performed the sampling and testing, requiring little need for verification sampling and testing. On a design-build project, however, quality roles and responsibilities vary from the traditional approach.

As part of RCTC's IQA role, all Design-Builder's processes and procedures, materials, and each part or detail of the Work is subject to inspection, sampling, and testing by RCTC and Caltrans. The CMT, described in Chapter 2, is part of the overall RCTC Project organization that consists of RCTC, with Bechtel support, the PCM Consultant (Parsons and subconsultants), Caltrans, and FHWA. A distinctive feature of the CMT is the integration of Caltrans staff directly into the CMT structure.

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The CMT perform verification sampling, testing, and inspections to validate the quality of the materials and the workmanship. The CMT audits Design-Builder's QC/QA activities and performs the necessary acceptance activities to evaluate the degree of compliance with Contract requirements and make progress payments. Wherever Work is performed under the Contract, the CMT must have safe access to conduct audits, inspections, and tests to verify compliance with Contract specifications. Access includes onsite and offsite Work areas and other Work areas, including yards and shops of Design-Builder's subcontractors and suppliers. Local agencies and utility companies must have access to the Work performed on their facilities.

Audits, inspections, and tests conducted by the CMT and Caltrans and other authorized third parties do not in any way relieve Design-Builder of the responsibility to conduct the required inspections and tests to ensure compliance to all Contract requirements.

RCTC Project staff, the PCM Consultant, and Caltrans are co-located with Design-Builder to provide better communication, timely coordination of activities, and quicker dispute resolution. To eliminate the inefficient IQA duplication on this locally sponsored Project, the PCM and Caltrans efforts have been integrated. The resultant benefit is first-line owner verification testing without the need to provide an additional layer of verification testing over the RCTC-performed IQA effort.

Table 4-1 illustrates the responsibilities of the various entities.

4.1.1 Design-Builder

Design-Builder performs the QC and QA for construction of the Project and is required to develop a CQMP to be approved by RCTC.

The QC functions are performed at the production level; all construction personnel are considered members of the QC staff. All personnel must be qualified for the Work and must be approved by RCTC. QC inspection for various Work elements is often performed by the QC foremen and superintendents and/or any other competent individual to conduct such QC. QC documentation consists of quality records of construction workmanship, materials quality records, Design-Builder's inspection reports, proposed remedial actions, and corrective actions. Design-Builder-performed QC may be used and considered in the final acceptance decision by Caltrans.

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Table 4-1 – Construction Quality Responsibilities

Quality Function	*Project Party*	*Definition*
Quality Control (QC)	Design-Builder (Production Level)	The operational processes, practices, and activities performed by Design-Builder at the production level to ensure that the product meets the Contract quality requirements. The purpose of QC is to measure quality characteristics and inspection activities at a time when action can be taken.
Quality Assurance (QA)	Design-Builder (Independent Staff)	A process performed independently from Design-Builder's production forces for the purpose of determining conformance of the Work by examining the QC data or provided objective evidence, or independent inspection, sampling, and testing to verify Design-Builder's QC sampling and testing. QA provides the confidence that Design-Builder is fulfilling established Project requirements and expectations and that the quality plan is being implemented by Design-Builder. QA includes all required sampling and testing required by the Contract and the Caltrans Construction Manual.
Independent Quality Assurance (IQA)	RCTC	IQA performed by RCTC to verify Design-Builder's QC and QA compliance and confirm that the quality characteristics of the products and workmanship incorporated into the Project meet the Contract requirements for acceptance and payment.
	Caltrans	IQA includes inspection and verification sampling and testing performed by qualified personnel employed by RCTC and/or Caltrans. It includes all factors that constitute the determination that a product meets the requirements specified in the Contract, e.g., verification sampling, testing, and inspection, and may include results of Design-Builder's QA sampling and testing. Caltrans is responsible for making the final product acceptance determination.
Oversight	Caltrans	Oversight is performed by Caltrans to ensure that RCTC meets Caltrans and FHWA's Contract administration, IQA, and Project' s acceptance requirements. Federal legislation allows FHWA to delegate to Caltrans FHWA's review and oversight for certain activities on federally aided projects. This delegation is defined in the Stewardship and High-Profile Project agreements.
Oversight and Audit	FHWA	Oversight and audits are performed to ensure that approved quality plans and procedures are being implemented, and to ensure conformance with federal requirements.

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The QA functions are required to be performed by staff independent from Design-Builder's production personnel; these personnel report to Design-Builder's executive committee (or similar group) to maintain the required independence. All products of the Design-Builder's QA program may be considered by Caltrans in its acceptance decision.

4.1.2 RCTC

RCTC provides agency oversight of the PCM to ensure that the Project goals, objectives, and PCM Contract provisions are met. The RCTC Toll Project Manager is the person authorized by RCTC to approve payments and changes in the Contract. RCTC personnel also support the CMT as needed.

Project and Construction Management

RCTC, through the PCM, manages the construction of the Project. The PCM, together with Caltrans, provide the Project IQA. This program includes review of workmanship and verification sampling, testing, and inspection of Design-Builder's QA program, which will become a key component of Caltrans' acceptance process. The PCM is also directly responsible for the Contract administration process, which is discussed in Chapter 6 of this DBCM.

4.1.3 Caltrans

Caltrans has the following defined and distinct construction roles:

- Construction IQA
- Materials sampling and testing
- Independent assurance sampling and testing (IAST)
- Construction oversight

Construction IQA

Construction IQA includes construction inspection. As part of IQA, Inspectors have the right to review the Work, process, and procedures at any time to verify that the Work is being performed in accordance with Design-Builder's CQMP and the Contract Documents.

Materials Sampling and Testing

Caltrans provides source and material inspection, as well as certification of laboratories, plants, and testing personnel as required by Caltrans policies and FHWA. Caltrans participates as described below:

- Caltrans SRL performs onsite materials verification testing (compaction), batch plant certification, and IAST. The frequency of this testing will meet or exceed the minimum

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frequency agreed upon with Design-Builder, as shown in the frequency guide of its CQMP.

- Caltrans SRL will approve the RE's concurrence of the HMA and PCC mix design.
- METS conducts specialized offsite source and fabrication inspection, witnesses the specialty testing, and gives expert advice on materials and manufactured products.
- METS verifies that offsite materials meet the Project specifications and tags them to indicate their acceptability. It may perform testing of its own, or it may verify the offsite supplier's testing. METS forwards the results to the REs. METS also reviews and approves precast, welding, and painting QC plans for items fabricated offsite.

Independent Assurance Sampling and Testing:

IAST is a Caltrans certifying body and performs IAST sampling and testing. The purpose for its IAST testing is to ensure that the process is working. There is an IAST guide and IAST requirements from FHWA imposed on state highway agencies such as Caltrans.

Construction Oversight

Construction oversight is performed by Caltrans to ensure that RCTC complies with state and federal requirements. Federal legislation allows FHWA to delegate to Caltrans FHWA's review and oversight for certain activities on federally aided projects. Such delegation has occurred and is defined in the Stewardship and High-Profile Project agreements.

4.1.4 FHWA

FHWA participates in the Project in an oversight and audit role as defined in the Stewardship and High-Profile Project agreements. FHWA participates in the Project status meetings, periodically participates in quality audits performed either by the PCM or Caltrans, and conducts independent quality audits and inspections throughout the life of the Project.

The FHWA POM is responsible for Project construction reviews, safety audits, and change order approvals as specified in the executed HPPA. In addition, the POM may use oversight specialists to assist in reviews and audits.

4.2 DESIGN-BUILDER QC/QA PERSONNEL AND LABORATORY APPROVAL

Design-Builder develops a list of the independent testing laboratory personnel, as well as the personnel performing field and laboratory tests, and maintains the list on ConstructWare. The list accounts for all laboratory and field testing technicians by proper name, current Caltrans certifications, and expiration dates. Caltrans and the CMT OE must verify that this list is properly maintained and must verify that the requisite certifications are kept current. Design-

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Builder also maintains the proper laboratory equipment and testing certifications for verification by Caltrans and RCTC.

4.2.1 Design-Builder's Quality Personnel Approval

The REs review resumes of Design-Builder's proposed quality personnel to determine if each candidate has adequate qualifications and the knowledge and experience to perform QC/QA activities for all trades to ensure Contract compliance. Design-Builder's QC/QA personnel inspect the Work performed by Design-Builder's own forces and the Work performed by subcontractors. The REs reserve the right to approve/reject any quality personnel through the review of resume, observation of an individual's performance, interview, or any determination of a lack of independence from the persons performing the Work.

Prior to Design-Builder performing any QC and/or QA inspection, current QC/QA personnel certificates for all staff performing field testing and sampling are submitted to the REs and posted on ConstructWare.

Design-Builder must maintain a list of construction testers and samplers that indicates the test certifications that each person currently holds and the certification expiration date. The construction QC testers and samplers test and sample only those materials for which they are certified to sample and test.

Approval for all staff proposed to perform construction quality inspection is obtained from the REs at least 30 days prior to ground-disturbing construction activities. After construction has started, new staff may be submitted to the RE for approval. The RE has 5 days to respond in writing. New staff are added to the QC plan roster, such as the Welding Quality Control Plan (WQCP) or the Precast Quality Control Plan (PCQCP), and submitted as a revision to the RE.

Continued acceptance or approval of quality personnel is subject to the CMT's continued satisfaction of the individual's performance of activities as required by Contract and Caltrans guidelines.

If a concern arises regarding the competence of any certified individual, this concern must be documented in writing by the PCM Construction Manager and submitted to Design-Builder's Project Manager and Construction QAM. Design-Builder must investigate the concern. If the investigation substantiates the concern, Design-Builder must implement corrective action, including potential reassignment or removal of the individual.

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4.2.2 Control of Measuring and Testing Equipment

All Design-Builder laboratories that perform quality testing included in the acceptance decision must be audited/authorized by Caltrans as outlined in Title 23 Code of Federal Regulations (CFR) Part 637.209.

Caltrans verifies independent testing labs' equipment and laboratory technician's testing procedures, techniques, and other items pertinent to testing for compliance with the Contract.

The Assistant REs check that Design-Builder and subcontractors only use an audited/authorized facility from the latest Caltrans Authorized Facility List. RCTC has the right to check independent testing laboratories' equipment and laboratory technician's testing procedures, techniques, calibration requirements, and other items pertinent to testing for compliance with the Contract and relevant standards and law.

Tools, gages, instruments, and other measuring and testing devices used in activities affecting quality, including software, must be monitored and listed by Design-Builder and must include a status by individual item. The list must be provided to the REs for review and distribution to Caltrans and RCTC. Control elements must include the following:

- Calibration standards shall be traceable to the National Institute of Standards and Technology (NIST).
- Measuring and test equipment must be uniquely identified (e.g., equipment type, identification number, location).
- The next calibration due date must be clearly indicated on individual measuring and test equipment items.
- Calibration intervals must be identified, documented, and periodically reviewed for effectiveness.
- Handling, cleaning, shipping, preservation, and storage of measuring and test equipment must ensure that the accuracy and fitness for use is maintained and prevent damage or deterioration.
- Measuring and test equipment must be adjusted and recalibrated at specified periods to maintain accuracy within required limits and in accordance with applicable specifications.
- Developed software must be verified and documented.
- Measuring and test equipment calibration records must be maintained and available for review by RCTC and Caltrans.

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Measuring and test equipment found to be out of tolerance, damaged, or lost during use must be documented on an NCR by Caltrans and reported to the RE. Work inspected or tested with out-of-tolerance or damaged equipment cannot be accepted until the nonconformance is resolved and all characteristics previously inspected have been corrected and verified.

4.3 FURNISHED MATERIALS COORDINATION

4.3.1 Caltrans

Roadway and/or Structure RE submit written requests to Caltrans for SFM identified in the Project plans and specifications a minimum of 180 days in advance of the need for such materials. The Roadway and/or Structure RE coordinates the delivery of the SFMs with Design-Builder. The payment process to Caltrans for SFMs is described in Chapter 6 of this DBCM.

A list of the anticipated Caltrans-furnished materials is provided in Contract TP Attachment 1-3. Caltrans-furnished materials for the Project include the following:

- Controller Cabinet
- Controller 170E Master
- Controller 2070L
- Switch Pack Model 200
- Vehicle Detection Model 222
- Isolator Model 242
- RR Isolator Model 252
- Modem Harness C2P
- Modem 400 (Internal) for 170 Master
- Modem 6A (Internal) for 2070
- Model 7A Communication Card City Controller
- Battery Backup (Cabinet)
- Battery Backup System (Electronics)

4.3.2 Systems Integrator

Systems Integrator furnishes materials that are installed by Design-Builder. These materials must comply with the material inspection and testing by METS described in Section 4.15. The Systems Integrator-furnished materials must be available for Design-Builder's pickup 42 days after the Design-Builder's notification of request for equipment and no earlier than April 14, 2015. The Systems Integrator-furnished materials will be available for pickup at Systems Integrator's facility located within a 25-mile radius of the Project.

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The PCM System Installation RE and the Roadway and/or Structure RE are responsible to provide coordination and guarantee a smooth transfer of the furnished materials between Systems Integrator and Design-Builder.

Contract TP Section 19.2.2 identifies the following equipment to be supplied to Design-Builder by Systems Integrator and through RCTC:

- ETTM changeable message signs (CMSs)
- ETTM CMS message verification camera National Electrical Manufacturer's Association (NEMA) 4R cabinets
- ETTM Closed-Circuit Television (CCTV) camera NEMA 4R cabinets
- Tolling Zone camera NEMA 4R cabinets
- Type 334 cabinets

The Roadway and/or Structure RE ensures that Design-Builder provides notification to Systems Integrator and the Systems Installation RE at least 42 days prior to installation of this equipment.

4.4 HANDLING, SHIPPING, STORAGE, AND PRESERVATION

The Assistant REs are responsible for verifying the proper handling of hardware and materials to prevent damage or deterioration.

Design-Builder must store hardware and materials in designated controlled areas, such as stock rooms, designated hold areas, or segregated areas, to facilitate accountability and to prevent damage, deterioration, and theft. In accordance with Contract Appendix 13, Item 48, Design-Builder must preassemble all cabinets included in the ETTM infrastructure Work in a controlled environment and must provide warehouse space for these items at the 903 East Third Street yards.

Design-Builder must define methods for authorizing receipt and dispatching hardware and materials.

4.5 CONSTRUCTION WORK PLANS

Following approval of the Design Documents, Design-Builder prepares CWPs for individual Work elements, including any Work elements requested by the RE.

CWPs are information packages that describe individual elements of the Work in detail. These packages are prepared by the responsible superintendent and the field engineer assigned to the Work. The CWPs are for the use of the craft file personnel, but they also can be used by the Inspectors to verify the Work.

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The CWPs are presented and discussed at the readiness review meetings, and they are reviewed and agreed upon by the respective RE and Assistant RE. During review of the CWP, the testing requirements for that particular Work are identified by Design-Builder and agreed to by the respective RE and Assistant RE.

The CWP components are discussed in detail in Design-Builder's CQMP. Key components include Work overview; safety concerns; submittals required (records); responsible persons; dates and times; inspection types, frequencies, and critical activity points (Inspection Testing Plan); and required plans and specifications.

Following concurrence on the CWP, the CWP is issued to the field. A CWP issued to the field is identified by the special mark on the cover page. The special mark is controlled by each Design-Builder Segment Manager. This special mark is determined by Design-Builder's Construction QAM.

4.6 CRITICAL ACTIVITY POINTS OR HOLD POINTS

Critical activity points are hold points at which proper inspection, testing, and verification are performed before proceeding to the next activity or next stage of that particular item of Work or when a material is first used on the Project. Critical activity points must be established and executed prior to starting, or before proceeding to, the next stage or activity of that particular construction activity. Critical activity points are scheduled by Design-Builder in accordance with the Contract and/or Caltrans standards.

Critical activity CWP are compiled by Design-Builder and include information for the Inspector(s) to be able to perform and document the Work as acceptable before the Work continues.

Critical activity points are verified, witnessed, and signed off by the respective Lead Inspector or delegate. The critical activity points are included on the inspection checklists. Inspector(s) perform the verification inspection and acceptance of the critical Work before the Work continues. Design-Builder's QA personnel lead and also approve the critical Work prior to Caltrans' acceptance.

After Design-Builder has determined that the Work complies with the Contract Documents, the proper inspection and testing has been performed, and the required documentation has been completed, Design-Builder signs the required testing and/or inspection forms and signs off on the critical activity point. The Lead Inspector(s) or delegate signs the forms, noting that they verified Design-Builder's compliance with the critical activities requirements.

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The critical activity points must be formally accepted by the Design-Builder's Construction QAM, the respective RE, and applicable governmental entities, utility owners, and BNSF.

4.7 PRE-ACTIVITY MEETINGS

The REs must ensure that the Design-Builder's Construction QAM schedules, conducts and documents (by attendance sheet and meeting minutes) pre-activity meetings prior to major operations. If similar work is subsequently performed, only one pre-activity meeting is usually required.

Assigned CMT personnel must attend these meetings. Design-Builder must notify the respective RE at least 1 week before the start of the operation that would require a pre-activity meeting.

The purpose of the pre-activity meeting is to:

- Conduct prerequisite planning of activities.
- Review required submittals.
- Discuss specific Work to be accomplished.
- Review CWPs.
- Assess construction risks.
- Define safe working methods.
- Identify necessary sampling, testing, and inspections required before and during the Work.
- Identify QC/QA personnel responsible for testing and inspection.
- Review anticipated schedule.

At the request of the REs, a METS representative will participate in all precast, pre-welding, and pre-paint meetings as set forth in Caltrans Standard Specifications Sections 11-2.04B, 11- 3.02, and 59-2.01C(3) to recommend approval of the QC plans.

4.8 PLANNING ACTIVITIES

The CMT verifies that Design-Builder prepares detailed inspection instructions that identify the prerequisite requirements such as approved submittals, material certifications, verification of personnel certifications for special processes, equipment calibration verification, availability of applicable inspection instructions and checklists, and the number of Inspectors required.

Design-Builder's inspection instructions are prepared and approved by individuals with appropriate knowledge and expertise and must be reviewed and accepted by Design-Builder's Construction QAM before the related Work starts.

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4.9 SUBMITALS REVIEW AND APPROVAL

The Roadway and Structure REs coordinate, review, and provide the appropriate approvals of the Design-Builder submittals. Caltrans oversees this process to ensure that it is done correctly.

4.9.1 QC/QA Plans of Source Inspection Materials

METS reviews any fabricator QC plans that involve source inspections. METS provides recommendations to the respective RE for rejections or approvals. The ultimate responsibility for Contract approvals/rejections remains with the RE.

Design-Builder will QA the fabrication plans and copy Caltrans Construction Managers for concurrence.

4.9.2 Hot Mix Asphalt and Portland Cement Concrete Mix Designs

Design-Builder's proposed mix designs must be submitted to the Roadway and/or Structure RE together with Caltrans Form CEM-3101DB, "Notice of Materials to be Used." The Roadway and/or Structure RE or designee forwards a copy of the proposed mix design to the SRL for an acceptability review. The Design-Builder's Engineer of Record is responsible for the HMA and PCC mix designs approvals. The Roadway and/or Structure RE or designee must review and concur with the HMA and PCC mix designs. Caltrans will approve the RE's concurrence of the HMA and PCC mix design.

4.9.3 Structural Submittals

Temporary Structural Work Submittals

Temporary structural work submittals, such as falsework, shoring, guying, excavation, and slope stabilization, use the following review process:

1. Design-Builder's QA Design Engineer independently reviews and approves the submittals.
2. The Structure RE then reviews the approved plans and provides concurrence or denial.
3. After the Structure RE concurs with Design-Builder's approval, the plans are then submitted to the Caltrans Structure Construction Manager for review and concurrence.
4. After the Caltrans Structure Construction Manager concurs with the approved plans, the Structure RE notifies Design-Builder of the approvals/concurrences.

Shop Drawing Submittals for Permanent Structural Work

The review process for the shop drawing submittals requires RCTC and Caltrans concurrence.

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Submittal, Review, and Approval Process

The procedure for the submittal, review, approval, and distribution of working drawings is illustrated in the attached Design-Build Structural Working Drawing Flow Chart (Figure 4-1). Below is a brief description of the key steps involved in the process.

Submittal

1. The working drawing submittal process begins with the Design-Builder's submittal to RCTC's Document Control Manager.
2. RCTC's Document Control Manager logs in the submittals and distributes them to the appropriate functional units for concurrent reviews.
3. Additional submittal sets are needed when other entities are involved in the review and/or approval process, such as for railroad structures.

Reviews

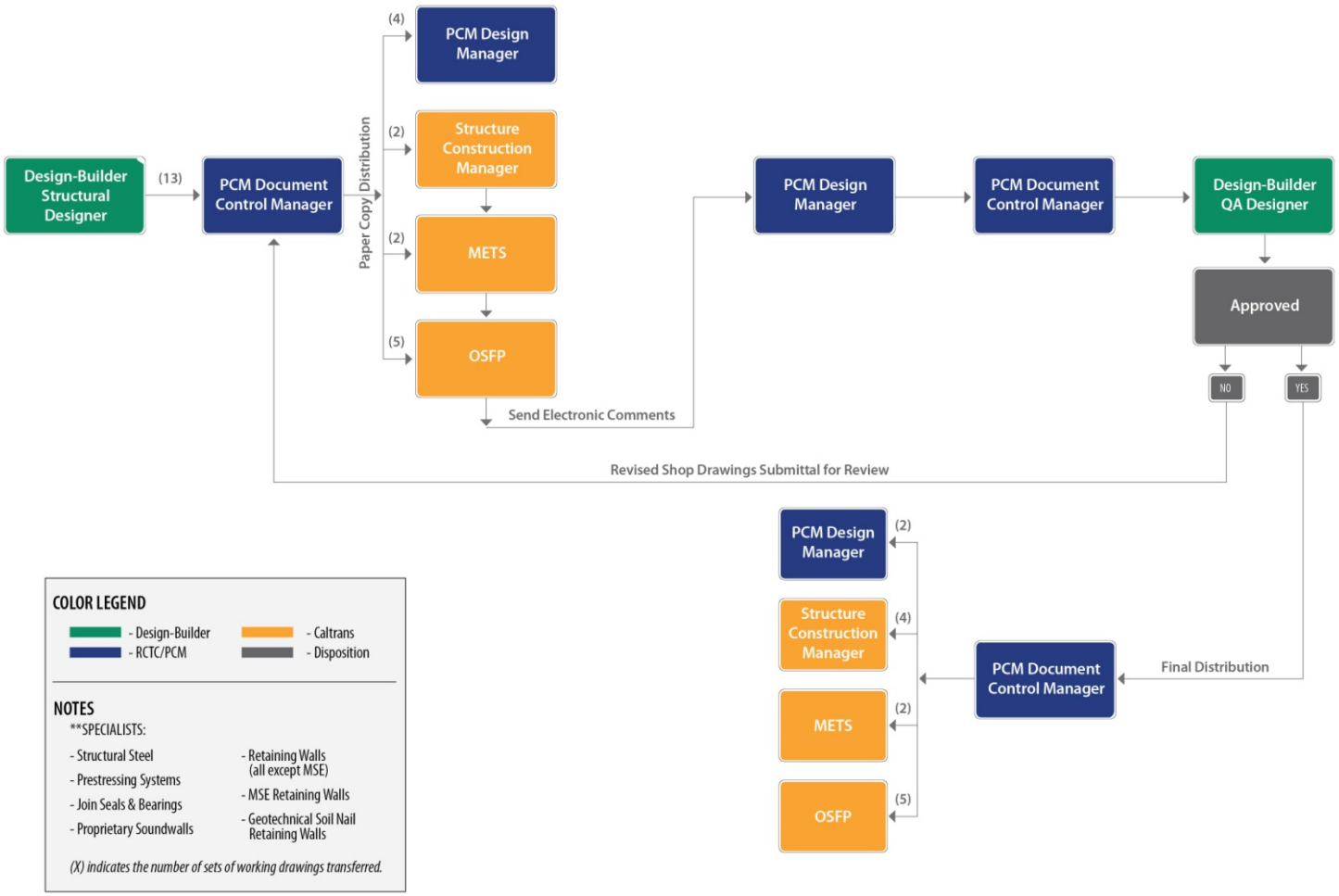
1. Reviews are performed by each Caltrans responsible party according to its internal procedures.
2. The Caltrans Office of Special Funded Projects (OSFP) Structure Liaison collects, interprets, and consolidates review comments from the individual Caltrans oversight functional units and submits them to the PCM Design Manager.
3. The PCM Design Manager or her/his designee incorporates Caltrans' comments and submits them to RCTC's Document Control Manager for transmittal to the Design-Builder's QA Designer.
4. The Design-Builder's QA Designer generates final review comments, stamps the drawings, and returns them to the RCTC's Document Control Manager.
5. The Design-Builder's QA Designer must stamp the appropriate number of drawing sets with "Approved," "Approved with Minor Corrections," or "Returned for Correction."
6. By the next day, the Design-Builder's QA Designers must return the stamped drawings to the RCTC's Document Control Manager.
7. RCTC's Document Control Manager transmits the stamped submittals to the Design-Builder by next day.

Resubmittals

When drawings are stamped with "Return for Corrections," the Design-Builder must prepare revised working drawings and resubmit them to the RCTC's Document Control Manager for distribution and review as outlined in the Design-Build Structural Working Drawing Flow Chart (Figure 4-1).

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Figure 4-1 – Design-Build Structural Working Drawing Flow Chart



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Approval

1. The resubmittal and review of working drawings continues until the Design-Builder's QA Designer approves the drawings.
2. Approved drawings must be stamped by the Design-Builder's QA Designer or "Approved with Minor Corrections."
3. The Design-Builder returns the proper number of stamped sets to the RCTC's Document Control Manager for distribution (see *Reviews* above).

4.9.4 Other Shop Drawings

Shop drawings that do not require Caltrans approval are reviewed and approved by the Design-Builder's Design Engineer of Record. The Structure RE and PCM Structures Engineer review them and provide comments to Design-Builder. These comments are coordinated by the PCM Structures Engineer and transmitted to Design-Builder following document control procedures.

4.10 DESIGN-BUILDER SCHEDULING AND NOTICE

Each week, Design-Builder must notify the REs of planned construction activities, including fabrication, for the following 2 weeks to allow the REs to schedule its resources.

Design-Builder delivers this information at the weekly coordination meeting, where related discussion occurs. For activities (e.g., fabrication) occurring out of the immediate Project area (i.e., 100 miles beyond the Project limits), Design-Builder must give the Roadway RE at least 21 calendar days of notice of planned Work.

4.11 SURVEYING

Design-Builder is also responsible for all surveys necessary for the Work, including the precision, accuracy, and comprehensiveness of all surveys and mapping.

All surveying must conform to applicable governmental approvals and rules, including the Professional Land Surveying Practices Act and the General Rules of Procedures and Practices of the California Board of Professional Land Surveying.

Caltrans may perform document reviews and audits at its discretion on all surveying performed by Design-Builder.

4.12 CONSTRUCTION QUALITY CONTROL TESTING AND SAMPLING

Design-Builder is responsible for QC and QA on the Project. Contractually, QA is performed in accordance with the Caltrans Construction Manual. RCTC, through the PCM and Caltrans, performs IQA to ensure that the materials and workmanship incorporated in the Work meet the contractual requirements. The IQA process is based primarily on verification of the Design-

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Builder's QC and QA processes. This verification process, along with Design-Builder's QA and QC products, form the basis for RCTC and Caltrans' acceptance of the Project.

Quality Assurance Procedures for Construction (23 CFR 637) Subpart B, defines verification sampling and testing as "Sampling and testing performed to validate the quality of the product." The Caltrans IQA Inspectors are responsible for conducting IQA verification sampling and testing to provide an assessment of product quality that is completely independent of the Design-Builder's QC or QA process. As required in 23 CFR 637, "The verification testing shall be performed on samples that are taken independently of the quality control samples." Splits of Design-Builder QC or QA samples cannot be used for verification. At all times, Design-Builder must allow CMT personnel free access to materials to be inspected, sampled, or tested.

IQA sampling and testing must follow the Contract requirements.

4.12.1 Materials Control Schedule

The Design-Builder Contract requirements for sampling and testing materials are outlined in the MCS included in Appendix C.

The MCS provides the minimum Construction quality assurance testing (QAT) to be performed by Design-Builder for commonly used test methods. The Inspectors, METS, and SRL perform contract acceptance testing (CAT) and IAST, which are collectively designated as the CMT Verification Testing on the MCS.

The Lead Inspectors verify that Design-Builder complies with the MCS related to their QC and QA testing requirements, and that the MCS Coordinator performs the following duties:

- Ensure that all requirements of the MCS are met.
- Evaluate and resolve all test result and test tolerance issues.
- Ensure that proper sampling processes and procedures are used by all quality staff.
- Ensure that all quality inspection critical activity points occur as depicted in the MCS.
- Review and track all quality training requirements.
- Schedule IQA reviews for the Project.
- Ensure that the materials certification for the Project is completed and that all issues are properly addressed.
- Ensure proper completion of all sample cards and ensure that all necessary tests are completed on the sampled materials.
- Coordinate the MCS requirements with all suppliers and subcontractors.
- Submit all samples taken by Design-Builder's quality staff to the materials control.

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- Schedule Caltrans SRL for testing.
- Complete the materials certification for the Project to ensure that the MCS requirements are being met and, if shortcomings are found, that the Inspection and Testing Plan can be improved.

4.12.2 Material Testing

Design-Builder Quality Assurance Testing

Design-Builder's QA testing and frequencies must be consistent with the Caltrans Construction Manual and the approved QC Plan. Testing methods are determined by Caltrans from one of the websites of nationally known testing standards (listed below) at the CMT's discretion, and the frequency of testing is agreed upon and approved by RCTC and Caltrans after presentation by Design-Builder. Design-Builder's minimum frequency for QA inspection of construction activities and items for roadway and structures is defined in Appendix D, Inspection Frequency Checklist. Updates to the inspection frequency checklist are provided by Design-Builder during Project execution.

Design-Builder's Construction QA Inspection and Testing Plan (ITP) include the incoming, in-process, and final inspections and tests to be undertaken. The ITP also defines the activity to be tested/inspected, the frequency of test/inspection, the test/inspection procedure or reference standard, and the required testing reference.

Design-Builder records the reports of each test on the form prescribed for that test. If Design-Builder determines that materials are noncompliant, it rejects those materials . All tests that do not pass specified requirements are added to a log of failed tests, which is used to ensure that the Work is reconciled through engineering calculations or by corrective action and a passing test.

Design-Builder uses an electronic database system to document and track material testing and field site inspection results. Design-Builder posts the results of the material and site inspection in ConstructWare. Design-Builder's populated electronic database is provided to the REs at least every 2 weeks. The REs must monitor the efforts undertaken to resolve all nonconforming tests.

The Inspectors periodically audit the sampling and testing results. The audit and subsequent feedback to Design-Builder's Construction QAM are intended to assess the adequacy of Design-Builder's QA, including frequency of testing.

Websites of Nationally Known Testing Standards

- American Society for Testing and Materials (ASTM): http://www.astm.org/cgi-bin/SoftCart.exe/index.shtml?E+mystore

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- American Association of State Highway and Transportation Officials (AASHTO): https://www.transportation.org/publication/bookstore.nsf/Home?openForm
- National Institute of Standards and Technology (NIST): http://www.nist.gov/
- California Test Methods: http://www.dot.ca.gov/hq/esc/ctms

CMT Verification Sampling and Testing

Verification sampling and testing may be performed at a lower frequency than Design-Builder's testing, particularly on this projects because QA data are included in the acceptance determination. Verification testing must be consistent with FHWA requirements.

Frequencies of 1 or 2 verification tests for every 10 or more tests are commonly used. It may be necessary to adjust the frequency of verification testing to reflect the estimated number of tests for each item of Work. It is important to undertake verification testing immediately upon first use of a particular mix design. Rates of verification testing may also differ based on the risks involved. For example, verification testing may be more frequent for structural concrete than for embankment materials. Caltrans determines the required frequency of the verification testing to be performed by the Inspectors during development of the MCS.

4.13 STATISTICAL ANALYSIS AND EVALUATION

The Caltrans verification test results are compared with the Design-Builder's QA tests results to determine if there is a statistically significant variance (outside allowable tolerances) in the test results. Significant statistical variances are evaluated to determine if corrective action is required.

Materials with test results with statistically significant variance are forwarded to the Independent Referee Laboratory for determination. Materials that are mutually agreed to be in noncompliance, or are determined by the Referee Laboratory to be out of compliance with the specifications, are assigned a failing test result and an NCR is issued. These materials are tracked separately until the noncompliance is satisfactorily resolved.

All failing test results must be included in the comparisons between Design-Builder's QA test results and Caltrans verification test results unless material has already been rejected and removed or reworked by Design-Builder based on the failing test data. In such instances, the test result representing the rejected lots of material can be excluded from comparison.

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4.14 CALTRANS SOUTHERN REGIONAL LAB

SRL performs onsite materials verification testing and batch plant inspection.

4.14.1 Batch Plant Inspection

SRL performs batch plant IQA inspection of materials (HMA and PCC) to be incorporated in the Work. Design-Builder assigns the QA batch inspection personnel and coordinates with the Roadway and/or Structure RE to communicate the batch plant production schedules. The Roadway and/or Structure RE or designee provides batch plant production schedules to the SRL. The results of the plant inspections are used to determine the acceptance of the material being placed.

4.14.2 Onsite Materials Testing

Onsite materials testing is performed both systematically and randomly to ensure that Design-Builder is performing QA tests under the appropriate guidelines. The process is shown in Figure 4-2 and is described below:

1. The Roadway and/or Structure RE or designee coordinates the onsite material testing with SRL.
2. Depending on the material or type of testing, either:
   - The Inspector collects the samples from the Project side and sends them to SRL, or
   - The SRL tester collects the samples from the side.
3. SRL performs the test and forward the results to the Roadway and/or Structure RE.

4.15 MATERIALS ENGINEERING AND TESTING SERVICES

METS conducts specialized laboratory and field testing and fabrication site (source) inspection, provides inspections, and gives expert advice on issues involving materials and manufactured products.

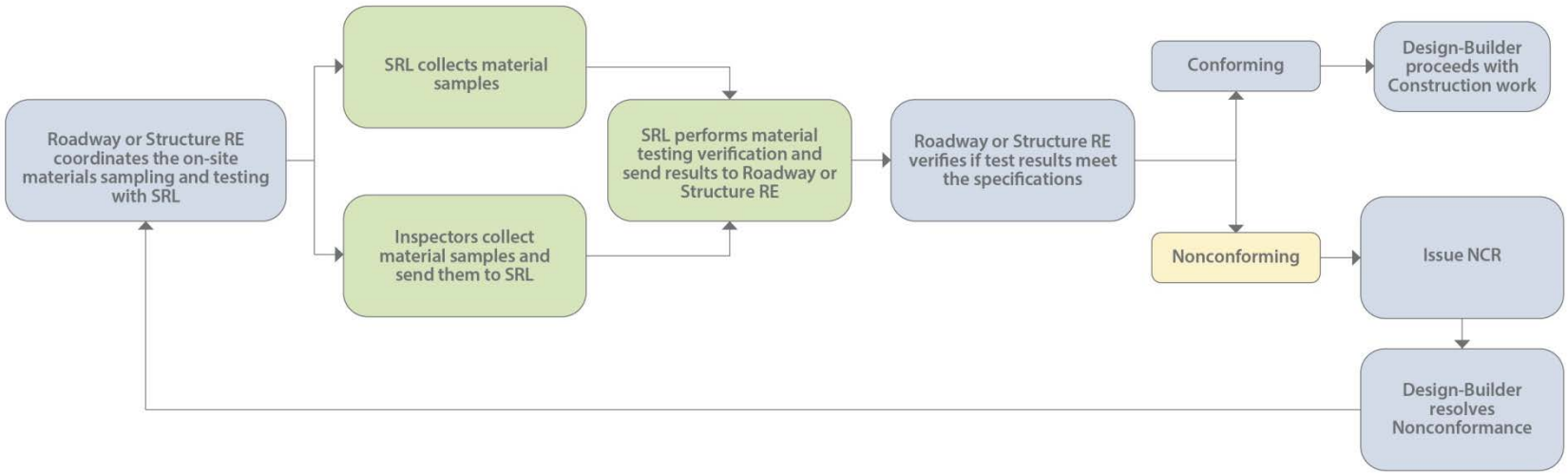
4.15.1 Fabrication Site Inspection

Design-Builder is required to perform QC/QA at fabrication sites on the offsite fabrications. Design-Builder submits a schedule to notify METS and the Structure RE of offsite fabrication to be performed and its location. The Design-Builder coordinates with METS to witness fabrication of the Work required.

Design-Builder submits a CEM-3101DB “Notice of Materials to be Used” to notify METS that a fabricator will be supplying work. METS then coordinates a meeting with the Design-Builder, fabricator, RE, and METS. During the meeting, the process is discussed and the responsibilities of the various parties are presented.

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Figure 4-2 – Onsite Material Sampling and Testing Process with SRL



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At a fabrication facility, METS inspects both the materials and the fabrication process. This is often done for welding shops that fabricate structural steel, prefabricated concrete facilities, and sign structure fabricators. Many of these facilities are also audited periodically and must maintain a satisfactory audit status in order to perform Caltrans work.

Design-Builder is required to perform the Work using fabricators that have successfully passed METS audits for the following special processes: structural precast concrete, welding for overhead sign structures/steel poles, lighting and signal structures, and steel pipe piling.

4.15.2 Offsite Material Testing – Source Inspection

Design-Builder is responsible for QC/QA acceptance tests for all material delivered to the site as required by the Caltrans Construction Manual and the Contract.

Source inspection is typically conducted for material verification purposes. For bolts, as an example, METS visits the manufacturer and verifies that the bolts meet the material requirements of the contract (by reviewing mill certificates, test reports, etc.), then selects samples for testing by Caltrans. If the results of the testing by Caltrans are acceptable, the material (bolts in this case) can be used in the work.

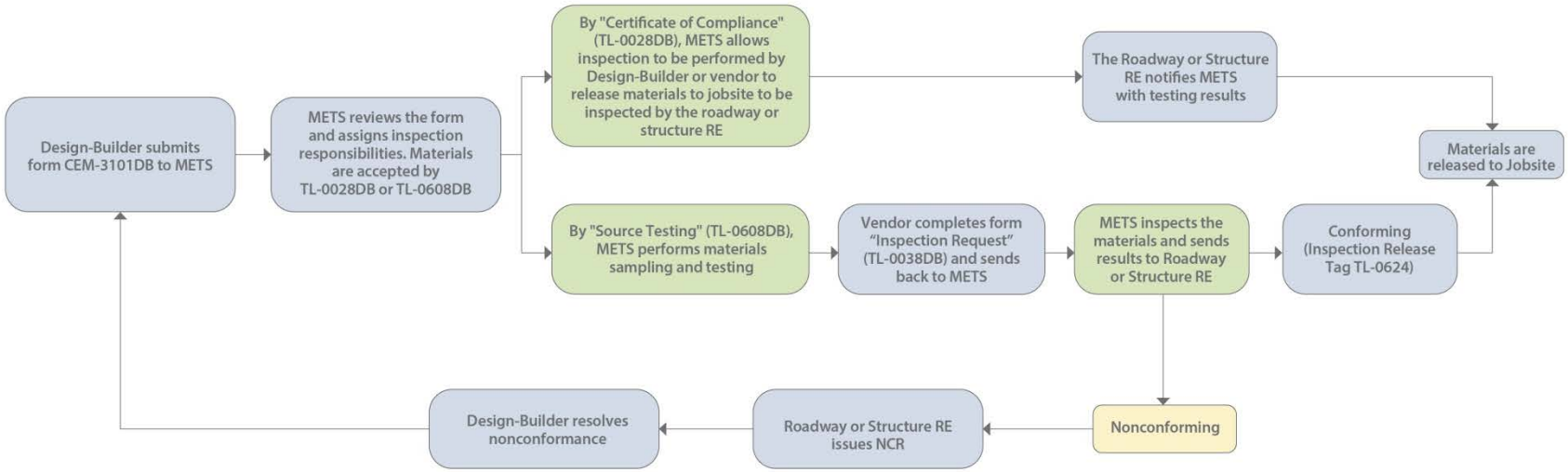
As part of the preconstruction meeting, the Structure RE establishes a protocol for Design-Builder communicating with METS for offsite material testing. The process is shown in Figure 4-3 and described below:

1. Design-Builder is required to furnish to METS and copy the Roadway and/or Structure RE a list of Design-Builder's sources of materials and the locations at which those materials will be available for inspection. The list is submitted on the "Caltrans Form CEM-3101DB "Notice of Materials to be Used.
2. METS reviews the form and assigns inspection responsibilities to varying units. Materials may be accepted:
    - By Certificate of Compliance (TL-0028DB), or
    - By Source Testing (TL-0608DB).

3. If materials are to be accepted by a Certificate of Compliance, METS forwards the Form TL-0028DB, "Notice of Materials to be Inspected," to Design-Builder and the RE.
4. If material cannot be accepted by a Certificate of Compliance, METS replies to the RE, Design-Builder, and vendor using Caltrans Form TL-0608DB "Notice of Materials to be Furnished," along with a TL-0038DB "Inspection Request" form to be completed by the vendor, setting the date and place of inspection.

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Figure 4-3 – Offsite Material Process with METS



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5. METS requires sufficient time to allow inspection and testing of materials to be furnished from the listed sources in advance of their use. METS performs the verification IQA acceptance tests and forwards the results to the Structure RE. The Roadway or Structure RE notifies Design-Builder of the results.
   a. If the offsite materials do not pass the inspection, the nonconformance process described in Section 4.17 will be followed, and the inspection process with METS will start again.
   b. If the offsite materials pass, METS tags the material "Inspection Release Tag TL-0624," which is delivered to the site, and completes Caltrans Form TL-0029DB "Report of Inspection of Material" and sends it to the Structure RE.
6. Design-Builder's Field Inspectors pick up the tags, record them in a log, and scan them into ConstructWare.
7. The Inspectors verify that the records are properly maintained and that there is traceability between the tags and the product installed on the Project.

4.16 VISUAL INSPECTION

The Inspector's role is to observe and to:

- Verify that Design-Builder has developed complete CWP, including all drawings, specifications, critical hold points, MOT, and safety reviews (traffic and safety responsibilities are further described in Chapters 3 and 5, respectively).
- Verify that Work is being performed in accordance with the approved Design-Builder's CQMP. The Inspectors may impose additional inspection and test points to verify material compliance.
- Verify that Design-Builder is complying with the guidelines for material acceptance. The Inspectors are responsible for recommending acceptance or rejection of partial or all onsite materials.
- Perform independent quality verification testing as required by Section 4.12.
- Perform oversight of Design-Builder's QC/QA activities to ensure compliance with the Design-Builder's CQMP.
- Verify compliance with the Contract and the approved Design Documents.
- Verify that controls for inspection and testing are in place, with related checklists and CWP referenced that include acceptance/rejection criteria.
- Verify that acceptable Work practices and quality workmanship are employed in the field.
- Check that permits are valid.
- Attend critical activity point inspections.

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In addition, governmental entities, utility owners, BNSF, or their respective representatives have the right to inspect the Work.

4.16.1 Initial Inspection

The initial inspection is performed on the first portion of completed Work as described by the CWP. The Inspectors participate in the initial inspection of this first portion of Work to identify any concerns. By completing this initial inspection, the CWP can be modified to improve the quality of the Work early in the construction schedule.

4.16.2 Routine Inspections

To ensure adequate workmanship, the Inspectors verify that Design-Builder is following the QA process, and they perform routine visual inspections at the Inspector's discretion. Visual inspection includes inspection of the component materials at the time of placement or installation, as well as the workmanship and quality of the finished product. The Inspectors have the right to review the Work, process, and procedures at any time to determine that the Work is being performed in accordance with the Design-Builder CQMP and the Contract.

4.16.3 Post Construction (Pre-Final)

The REs and designees monitor the development of Design-Builder's punchlist for the Project. The REs or designees review Design-Builder's punchlist documentation prior to the final acceptance walk-through to confirm that all punchlist activities have been performed and verify corrections through field observations. Any discrepancies noted through the verification by the CMT may result in a greater amount of physical verification of punchlist items. Any increase in frequency or percentage of verification is made at the RE's and Caltrans' discretion.

Design-Builder's quality records (e.g., inspection and test records, checklists, material test reports, and other quality-related documents) are maintained within the ConstructWare document system. Oversized documents that cannot be scanned can be kept at the Project office and made available to the CMT upon request. At completion of this inspection, all nonconformances will be resolved.

4.16.4 Final Inspection

REs and/or designees direct the final inspection of the completed Work and review the associated as-built documents, certifications, and other documentation.

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4.17 NONCONFORMANCE

4.17.1 Areas of Nonconformance

The CMT, under its IQA responsibilities, identifies Design Documents, construction drawings, manufactured or imported materials or products, and installations that include workmanship and materials and/or any other construction activities that do not conform to Project requirements.

Each NCR is documented by the respective OE and evaluated by the respective RE. The nonconforming Design Document, material, product, or construction activity is marked, tagged, or otherwise identified to prevent its unintended use. The identified product or activity cannot be used/released until the nonconformance is resolved. When the nonconformance is corrected, additional tests, inspections, audits, and/or monitoring is performed by the Inspectors, METS, or SRL to verify that the nonconformance condition is eliminated or otherwise resolved.

4.17.2 Nonconformance Process

All items, whether material, equipment, or hardware, including construction and testing, that do not conform to the Contract must be documented on an NCR, segregated and controlled until the nonconforming condition(s) is analyzed, dispositioned, corrected, and the corrective action verified. The nonconformance process is shown in Figure 4-4 and described below.

Write and Process

If any member of the Design-Builder or CMT discovers a nonconformance within any of the quality process or workmanship areas, that member writes and processes an NCR (NCR TL-15). The nonconformance items are also indicated in the CMT daily reports.

The issuance of a nonconformance by Design-Builder will not prevent the CMT from preparing and documenting the same or similar nonconformance. IQA Inspectors must submit NCRs to their respective Lead Inspectors for their review and assessment.

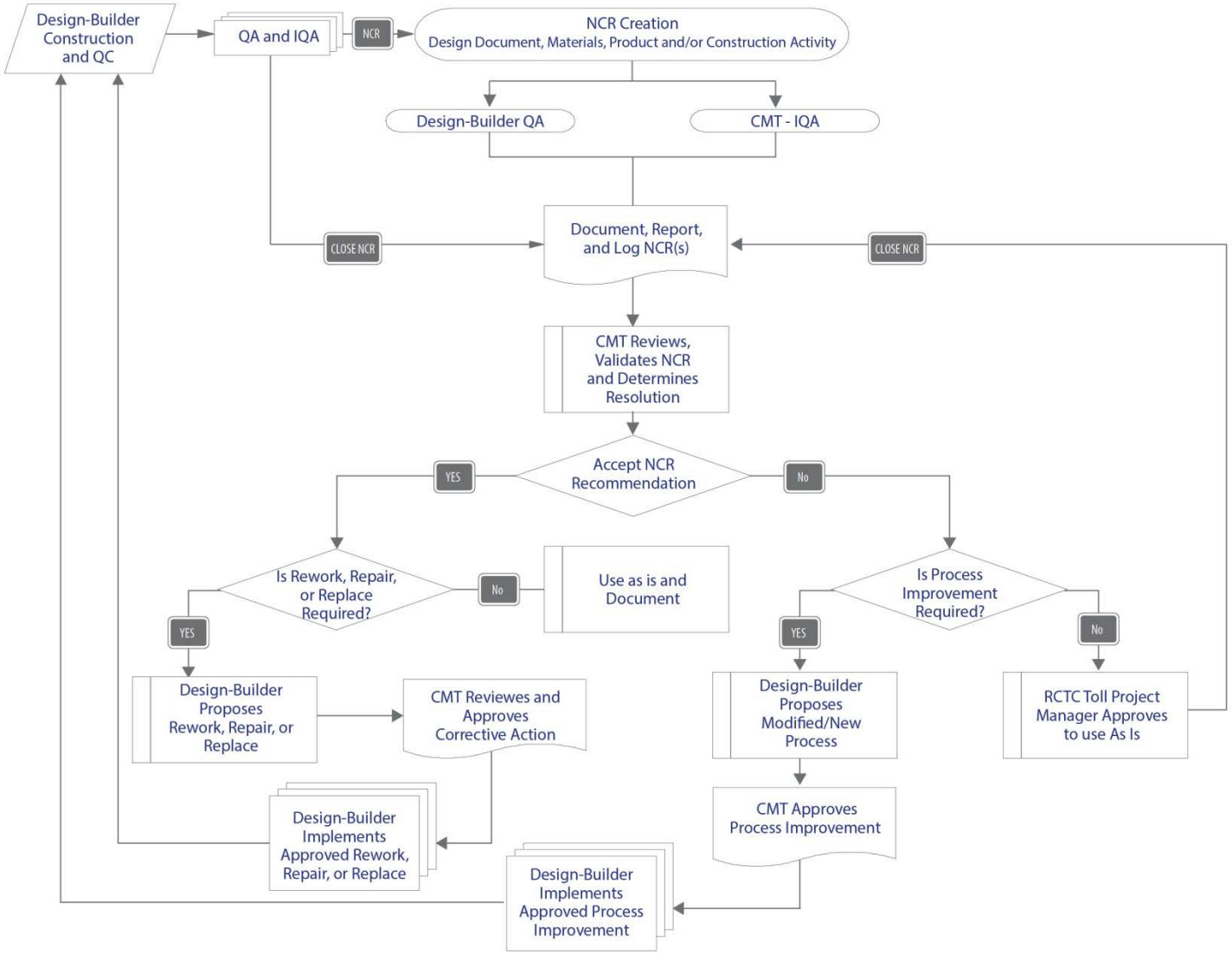
NCR Log

Either the Roadway or Structure OE is responsible for logging CMT-issued NCRs in their respective NCR log. The log includes the status of CMT-issued NCRs, which are updated and posted in ConstructWare and distributed by the OEs. CMT-issued NCRs are transmitted to Design-Builder to be included in the Project NCR log, which is posted in ConstructWare. Design-Builder is responsible for maintaining the Project NCR log.

Records associated with NCRs are maintained by Design-Builder, posted on ConstructWare, and made available to RCTC or Caltrans upon request.

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Figure 4-4 – Nonconformance Process



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The Design-Builder's Construction QAM is responsible for maintaining Design-Builder's NCR Log and for agreeing to the resolution of all NCRs.

NCR Acceptance

Design-Builder's Construction QAM reviews and signs off on all NCRs issued. The Roadway or Structure RE and Caltrans Construction Managers must also agree to the NCR recommendation. Nonconforming work rejected by the CMT Team must be removed and replaced. If RCTC agrees to accept nonconforming work, which is subject to Caltrans written consent, Design-Builder reimburses RCTC for the value of the nonconforming work not fully corrected as described in the Fit For Purpose section below.

Design-Builder's Engineer of Record is responsible for approving the resolution of NCRs affecting the Project design. Resolved design NCRs require a new RFC to be issued or an RFI approved by Design-Builder's RE. All RFIs accepted by Design-Builder's RE must be included in the final As-Built Drawings. All other NCR resolutions are approved by Design-Builder's QM before they are transmitted for the respective RE acceptance.

Design-Builder's Engineer of Record is responsible for approving the resolution of NCRs affecting the Project design. Resolved design NCRs require a new RFC to be issued or an RFI approved by Design-Builder's RE. All RFIs accepted by Design-Builder's RE must be included in the final As-Built Drawings. All other NCR resolutions are approved by Design-Builder's QM before they are transmitted for the respective RE acceptance.

Nonconforming Disposition and Corrective Action

Nonconforming hardware and materials must be reviewed by qualified individuals authorized by the CMT to determine the appropriate disposition and corrective action. Design-Builder has 10 days to determine the appropriate disposition or correct action. Disposition of nonconforming items and materials includes:

1. Rework, Repair, or Replacement
2. Rework, Repair, or Replacement Verification
3. Fit for Purpose
4. Nonconformance Continue

a) Rework, Repair, or Replacement

If an NCR cannot be satisfactorily resolved without rework, repair, or replacement, the associated nonconforming work is rejected by the REs and removed and replaced to conform to the requirements of the Contract. This removal and replacement is done at Design-Builder's cost and without any adjustment to the Contract Price or time extension or any other relief.

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Design-Builder promptly takes all action necessary to prevent the future occurrence of similar deficiencies. The fact that the CMT may not have discovered the nonconforming work does not constitute acceptance of such nonconforming work.

b) Rework, Repair, or Replacement Verification

Inspectors, METS, or SRL verifies correction of all NCRs. Each issuing entity (i.e., Inspector, METS, or SLR) verifies correction of the NCR that it has issued. If Design-Builder fails to correct nonconforming work within 10 days of receipt of notice from the RE requesting correction, or if nonconforming work cannot be corrected within 10 days, and Design-Builder fails to (1) provide to the CMT a schedule for correcting any nonconforming work acceptable to the CMT within that 10-day period, (2) commence such corrective Work within that 10-day period, and (3) thereafter diligently prosecute the correction in accordance with the approved schedule to completion, then repair and accept dispositions are approved by the respective RE before the affected Work proceeds.

The RE may cause the nonconforming work to be remedied or removed and replaced. RCTC may also deduct the cost of doing so (plus an administrative charge equal to 10 percent of the cost) from any moneys due or to become due to Design-Builder and/or obtain reimbursement from Design-Builder for the cost (plus an administrative charge equal to 10 percent of the cost).

c) Fit for Purpose

If the RCTC Toll Project Manager agrees (subject to Caltrans' prior written consent) to accept nonconforming work without requiring it to be fully corrected, RCTC is entitled to reimbursement of the portion of the Contract price in an amount equal to the greater of:

1. The amount deemed appropriate by RCTC and Caltrans to provide compensation for future revenue impacts and maintenance and/or other costs relating to the nonconforming work; or
2. 100 percent of Design-Builder's cost savings associated with its failure to perform the Work in accordance with Contract requirements.

Alternatively, RCTC may deduct the amount of such costs and expenses from any sums owed by RCTC to Design-Builder pursuant to the Contract specifications. Contractually, RCTC and Caltrans each have sole discretion regarding acceptance or rejection of nonconforming work and the amount payable in connection with the Work. Payment, reimbursement, or deduction of the amounts owed to RCTC must be a condition precedent to the acceptance of the applicable nonconforming work.

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Office of Structural Materials Practices and Procedures (OSMPP) Manual, Section 1.19, Blue Tag Materials Release Procedures, should be followed for nonconforming material for which an engineering analysis has determined that the material(s) will be suitable for its intended purpose.

d) Nonconformance Continue

If trends continue in nonconformance, Design-Builder's Construction QAM develops a corrective action plan and/or process changes to eliminate future nonconformance, a schedule for implementation, required training, and a follow-up review after the new procedure is in place. Procedures to correct repeating nonconformances must be as noted in Design-Builder's CQMP and as required in the Contract Documents.

4.17.3 Stop Work

A stop work notice may be issued by RCTC Toll Project Manager or delegate if the stop work complies with the Contract guidelines. If there is evidence that the CQMP or implementing procedures are not being followed, or if the materials and workmanship are not meeting the Contract requirements, the RCTC Toll Project Manager or delegate may, at its sole discretion, stop Work until appropriate rework and repair and quality procedures have been established and implemented. In addition, the CMT retains authority to stop Work wholly or in part if Design-Builder fails to:

1. Correct conditions that are unsafe for Project personnel or the general public.
2. Correct unacceptable design or construction practices.

4.18 PROJECT QUALITY DOCUMENTS

The CMT has access to Design-Builder's quality records (i.e., Certificates of Compliance, checklists, equipment calibration test reports, inspection and test plan and records, lab test reports/results, material test reports, NCRs, personnel qualifications, resumes, and approvals) at all times via ConstructWare and any other tool or system (Infoworks) the Project may use and implement throughout the lifetime of the Project.

4.19 REFERENCES

Except as otherwise specified in the Contract Documents or otherwise directed by RCTC, the documents described in the following subsections contain elements that may not apply to a design-build project. As applicable for a design-build project, the following documents and references will be used.

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4.19.1 Design-Builder's Construction Quality Management Plan

The Design-Builders' CQMP describes the overall policies, program, organizational responsibilities, procedures, and means of ensuring that all disciplines, aspects, and elements of the Work comply with the requirements of the Contract and that all materials incorporated into the Work perform satisfactorily for the purpose intended. It describes the processes, procedures, inspections, and tests to be performed on construction materials and workmanship to ensure the overall quality of the constructed Project. The Design-Builders' CQMP also documents the procedures to be implemented by the Design-Builder to document, track, and correct nonconforming work.

4.19.2 Caltrans Construction Manual

This Construction Manual establishes policies and procedures for personnel engaged in Contract administration. It also describes the sampling and testing methods, as well as frequencies normally required for QA.

4.19.3 Caltrans Independent Assurance Manual

This manual discusses the objectives for the Caltrans Independent Assurance (IA) Program and the program's components (i.e., staff certification, tester qualification, laboratory accreditation, annual reporting, and dispute resolution). An overview and the procedures and reporting requirements for each program component are described in the individual sections.

This Caltrans Independent Assurance Manual contains the guidelines established by Caltrans, and agreed to by FHWA, for IA on roadway construction projects. This manual is presented in two sections:

- Section 1 describes the Caltrans IA Program, including the federal regulations pertaining to QA and IA, and roles and responsibilities of the Division of Construction, METS, districts, testers, and laboratories.
- Section 2 describes the five components of the IA Program: IA staff certification, tester qualification, laboratory accreditation, annual reporting, and dispute resolution. An overview, the procedures, and reporting requirements for each program component are described in individual subsections.

4.19.4 Caltrans Oversight Engineer Field Guidelines

Caltrans Oversight Engineer Field Guidelines provide a convenient source of information on policy and procedure, and they should be used as a resource for Caltrans employees who provide oversight on projects administered by others on the existing or future SHS.

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4.19.5 Caltrans Construction Manual Supplemental for Local Agency Resident Engineers

This supplement establishes which sections of the Construction Manual apply to local agency and private entity projects.

4.19.6 Local Agency Structure Representative Guideline

The Local Agency Structure Representative Guideline is also available to assist local agencies and private entities if the project includes structures and the Bridge Construction Records and Procedures Manual applies.

4.19.7 FHWA Construction Monitoring Program

The Construction Monitoring Program (CMP) assesses the responsible agency's procedures and controls on construction of federal and federal-aid projects to assure that projects are completed in reasonably close conformance to the plans, specifications, and estimates (PS&E) to evaluate the quality of construction and to promote appropriate improvements in construction quality.

4.19.8 FHWA Construction Quality Assurance for Design-Build Highway Projects

The purpose of the FHWA Construction Quality Assurance for Design-Build Highway Projects is to help to clarify the roles, responsibilities, and activities related to construction QA on design-build projects. The specific topics discussed include QA, QC, and acceptance.

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Chapter 5: Traffic Management Verification

TM verification monitors Design-Builder's operations for conformance with the safety of highway workers and the traveling public; minimize traffic delays resulting from lane restrictions and closures in Work zones; and maintain mobility along the corridor.

TM verification for the Project during construction includes the following objectives:

- Clearly define roles and responsibilities of the Project participants and establish minimum requirements.
- Ensure a well-planned public notification, information, and awareness campaign that gains public support and allows motorists to adjust their travel patterns and seek alternative travel modes.
- Ensure that Design-Builder implements a comprehensive and responsive incident management plan as an effective tool to rapidly remove elements of an incident and mitigate potential congestion.
- Encourage the use of innovative construction staging strategies in reducing congestion in construction Work zones.

To achieve these objectives, an effective planning and implementation approach must be implemented by Design-Builder, with the appropriate IQA and oversight performed by the agencies. The following section defines the roles and responsibilities for an effective approach to TM.

5.1 ENTITIES' ROLES AND RESPONSIBILITIES

5.1.1 Design-Builder

Design-Builder prepares the TMP and all required MOT plans as required in Contract TP Section 18. The TMP and MOT plans are prepared in compliance with Contract requirements, including Caltrans design criteria, standards, and local agency requirements. Design-Builder has the following responsibilities:

- Implement traffic control procedures and ensure the quality operation of traffic controls.
- Providing additional FSP coverage within the limits of Work when the width of the mainline shoulder on SR-91 or I-15 is less than 8 feet when or Work requires FSP services beyond the hours provided by RCTC.
- Provide and coordinate COZEEP services for MOT traffic operations.
- Coordinate with all enforcement agencies, primarily the City of Corona Police Department, and any other agency that is affected by the construction of the Project.

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- Provide one or more certified traffic control supervisors to supervise the implementation, inspection, and maintenance of all traffic control plans.
- Notify RCTC and Caltrans of any incidents on the Project in accordance with the Caltrans Construction Manual.

Design-Builder provides Traffic Control Supervisors. The Traffic Control Supervisors requirements are as follows:

- Traffic Control Supervisors must be available 24 hour per day throughout the duration of the Project, must participate in all changes in the MOT setup, and must perform daily Project reviews to verify that MOT devices are correctly placed and that traffic is safely and efficiently moving through the Project.
- Traffic Control Supervisors must be available on the site within 45 minutes of notification of an emergency situation and must be prepared to positively respond to the need to repair the Work zone traffic control or to provide alternate traffic arrangements.
- Traffic Control Supervisors must have sufficient authority and resources to immediately correct any deficiencies discovered or to demobilize any construction operation that results in excessive delays to traffic or creates an unsafe condition.

5.1.2 RCTC

RCTC is the Project sponsor and is the responsible agency for the Contract administration and management of the Project.

Project and Construction Management

The PCM Traffic MOT/Lead reviews and approves Design-Builder's TMP and MOT plans. The TMP and MOT plans include the following RCTC responsibilities:

- The Assistant REs supervise the field activities to ensure compliance and communications regarding current and planned construction activities, including traffic detours and road closures for the Project.
- COZEEP services are requested by Design-Builder. Other police agencies, primarily the City of Corona Police Department, may be called on to provide similar services for portions of the Project not currently on the SHS.
- Coordinate with all enforcement agencies.
- Provide FSP for the SR-91 corridor in specially marked tow trucks. FSP normal service hours provided by RCTC are 5:30 to 8:30 a.m. and 3 to 7 p.m. Monday through

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Thursday; and 5:30 to 8:30 a.m. and 1 to 7 p.m. on Friday. All FSP services are supervised by CHP.

5.1.3 Caltrans

The Caltrans Traffic Manager reviews and approves the TMP and all MOT plans prepared by Design-Builder. The TMP and MOT plans include the following Caltrans responsibilities:

- Caltrans Traffic Manager oversees the Project's TM efforts, verifies implementation of the TMP, and assists with the resolution of coordination issues regarding construction notifications on Caltrans' jurisdictional highways with the TMC.
- The Inspectors monitor Design-Builder's daily traffic maintenance activities and report to the Assistant RE any noncompliance with the MOT plans.
- The Inspectors observe the traffic control procedures to verify that Design-Builder's traffic control complies with traffic control plans.
- The Caltrans Traffic Manager conducts early coordination meetings to discuss closures and confirm plan requirements for closures.

5.1.4 FHWA

FHWA will perform Project reviews and audits to ensure compliance with federal requirements.

5.2 TRANSPORTATION MANAGEMENT PLAN

A TMP is a program of activities for minimizing or alleviating Work-related traffic delays by effectively applying traditional traffic-handling practices and innovatively combining various strategies.

Design-Builder is responsible for TMP compliance and implementation. The CMT monitors and evaluates TMP activities during the course of construction.

The Roadway and Structure RE and designees may suspend all or part of Design-Builder's operations in accordance with Contract Section 14.2 for failure to implement and comply with TMP elements, or failure to correct unsafe traffic conditions within 24 hours after such notification is given in writing to Design-Builder. If Design-Builder does not promptly take appropriate action to bring the items into compliance or to correct unsafe traffic conditions, RCTC may proceed with corrective action and deduct the costs from the moneys owed to Design-Builder.

5.2.1 TMP Requirements

The TMP addresses the following main components.

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TMP Strategy

- Approach for coordination of the TMP with the Public Outreach Plan
- Motorist information
- Approach for implementation of the Incident Management
- Approach for implementation of the COZEEP
- Approach for implementation of the FSP
- Construction strategies
- Demand management
- Alternate routes
- Contingency plans

Stage Construction Plans

- Develop and include Project stage construction concept and approach
- Provide all lane closure charts required for the Work
- Identify applicable local agency requirements

Traffic Analysis

The TMP is consistent with the traffic analyses in the approved PA&ED, including SR-91 CIP Work Zone Mainline Analysis, SR-91 CIP Preliminary Constructability Analysis, and SR-91 CIP Ramp Closure Study.

Stakeholder Coordination

Methods to address coordination of the Work include the following:

- Construction by local agencies and utility owners
- OCTA
- Public transit routes
- School bus routes and walking routes
- Emergency services routes
- Parking
- Maintenance of local access to residences and businesses
- CHP and local police for additional services, as needed

5.3 MAINTENANCE OF TRAFFIC

Design-Builder must perform all Work necessary to meet the requirements associated with the approved TMP. This Work includes providing safe and efficient movement of people, goods, and services around the Project while minimizing impacts to residents, commuters, and

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businesses. MOT installations are verified by the CMT to ensure that they are installed in accordance with the approved MOT plans.

Design-Builder performs MOT during the preconstruction, construction, and/or post-construction phases. Preconstruction meetings are conducted with QA and IQA Inspectors and CHP, if necessary, to put the plan in place and set up the closure. MOT is required on the day Work begins on the Project. All traffic control devices must be continually and adequately monitored and maintained by Design-Builder to ensure proper placement and the safe, efficient flow of all construction traffic into and out of the Project. MOT must be maintained until the Work is complete.

5.3.1 Temporary Closures

Temporary closures must be approved for a full or partial closure of any traffic lane for any duration and in any portion of the Project (other than Express Lane closures), including main lanes, ramps, direct connectors, frontage roads, and cross roads. All closures, including OCTA SR-91 Express Lane closures, are required to follow the guidelines in the Contract.

All temporary closure(s) requests, design, and implementation, including COZEEP requirements, must follow Caltrans Manual on Uniform Traffic Control Devices (MUTCD) Section 6, "Temporary Traffic Control," and the California Vehicle Code.

The lane closure process is shown in Figure 5-1.

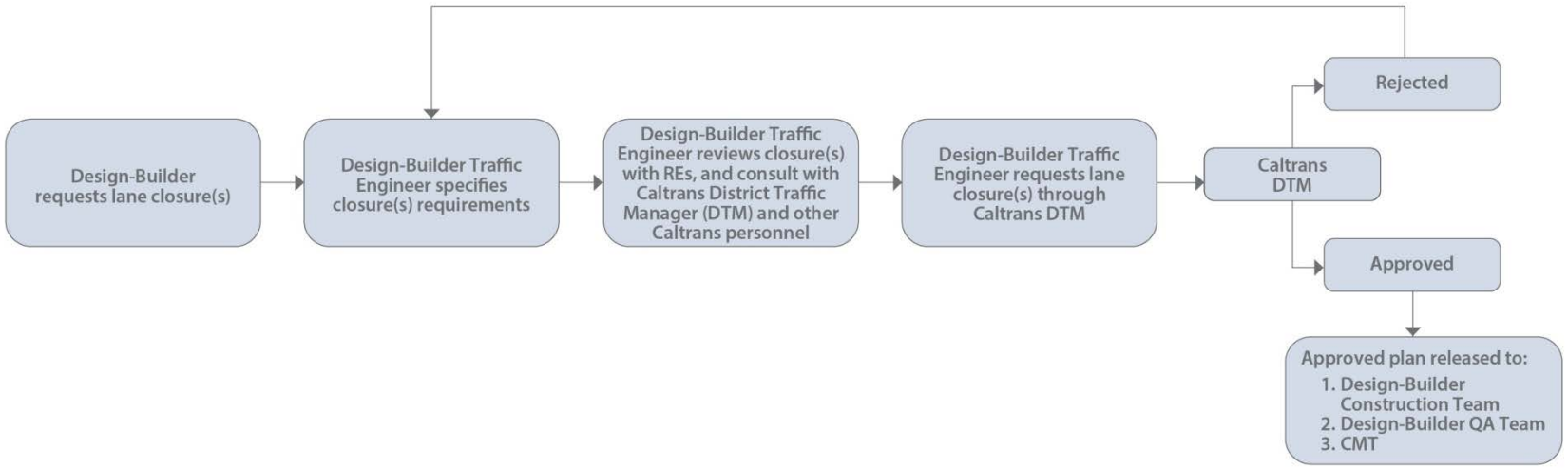
Lane closures are approved by the Roadway RE working with the Caltrans District's TMC, City of Corona, and CHP. OCTA closures are approved by the Roadway RE, OCTA, and CHP. Design-Builder initiates lane closures by sending a request to the TMC. The TMC then sends a notification to the Roadway RE for approval.

The Roadway RE informs the PCM Public Outreach Manager of all closures and any other Project activity or incident that may affect the public.

The Inspectors must monitor Design-Builder's QA Team and verify that it is following adequate processes to ensure that the closures comply with the details shown on the approved plans, the Contract requirements, the provisions in Caltrans *Standard Specifications* Section 12, "Construction Area Traffic Control Devices," the provisions under "Maintaining Traffic." and "Construction Area Signs," and the Contract TPs.

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Figure 5-1 – Lane Closures, Request, Approval, and Installation Procedure



DTM = District Traffic Manager

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5.3.2 Access

The Inspectors and Design-Builder verifies that, at a minimum, Design-Builder is providing the following:

- Access for emergency vehicles and buses to all residences and businesses at all times.
- Access to existing properties during construction at all times.
- Temporary access where needed to maintain access to properties.

The Design-Builder QA Team is responsible for TMP compliance and implementation.

5.3.3 MOT Coordination Meetings

The Roadway RE ensures that Design-Builder is scheduling biweekly MOT coordination meetings with RCTC, the City, CHP, Caltrans, and other Project stakeholders to address TMP strategies, construction staging, traffic analysis plans, and Project disruptions to public and commercial services, as well as to the traveling public.

The Roadway RE and Design-Builder determine the stakeholder attendees for the meeting.

5.4 INCIDENT MANAGEMENT

The Design-Builder incident management strategies include how Design-Builder will perform traffic operations and conduct public outreach and involvement during an incident. The Roadway and/or Structure RE verifies that Design-Builder is complying with the Caltrans protocol requirements for incident management.

If an incident occurs within or directly adjacent to the Project, onsite employees immediately report it to the fire and/or police department, as appropriate, and then to the Roadway and Structure RE. An RE must also report the incidents to the PCM Public Outreach Manager. The PCM Public Outreach Manager and/or RCTC Public Outreach Manager releases Information about the incident to the public.

The Roadway and/or Structure REs must follow procedures outlined in the Caltrans Construction Manual and Section 5.4.3 below. The Roadway and/or Structure REs must document and report these incidents and collect police or any other governmental agencies' reports for the incident.

In a major catastrophe (e.g., earthquake, fire, street collapse, or utility break), Design-Builder, with the assistance of the CMT, lends assistance with personnel, material, and equipment as requested and available.

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Construction Incidents are covered in the Section 3.8.3 of this DBCM.

5.4.1 Unplanned Closures

Inspectors, Lead Inspectors, and/or Assistants RE report to the REs any situation that requires unplanned closures of traffic lanes or the highway. The Roadway RE notifies the district dispatch center or the TMC of the closures as soon as possible. The Roadway RE must provide accurate information to allow the TMC to notify CHP, the media, and the public of possible delays.

5.5 CONSTRUCTION ZONE ENHANCED ENFORCEMENT PROGRAM

Design-Builder is responsible for scheduling COZEEP services with CHP in accordance with the approved TMP. The Assistant RE ensure that Design-Builder coordinates with CHP when COZEEP is required and provides all information in conformance with the Caltrans Construction Manual, including the criteria set forth in Sections 2-215A (6) through 2-215A (9), to RCTC.

COZEEP is an enhancement tool for construction zones and is not intended as a replacement for other temporary traffic control (TTC) measures. The presence of CHP does not relieve Design-Builder of the responsibility to provide public safety.

The Roadway and/or Structures OE collects copies of the COZEEP forms from the Inspectors and assists with review of the COZEEP invoices sent by CHP. After the Roadway and/or Structures OE has confirmed the COZEEP service with Design-Builder, RCTC processes the invoice. RCTC invoices Design-Builder for payment of the approved COZEEP services. Design-Builder is responsible for reimbursing RCTC for all costs associated with CHP services.

5.6 FREEWAY SERVICE PATROL

The type of FSP service to be provided entails assigning tow vehicle(s) to patrol the construction zone, removing stalled vehicles to designated drop locations, and normal FSP-related duties, which include removing vehicles and debris that block the roadway.

RCTC provides FSP for the SR-91 corridor in specially marked tow trucks. FSP normal service hours provided by RCTC are weekdays except holidays, from 5:30 to 8:30 a.m. and 3 to 7 p.m. Monday through Friday. Friday afternoon service begins early and runs from 1 to 7 p.m.

Design-Builder is required to provide additional FSP coverage within the limits of Work when the width of the mainline shoulder on SR-91 or I-15 is less than 8 feet or when Work requires FSP services beyond the hours provided by RCTC.

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The Roadway Assistant RE is responsible to ensure that Design-Builder is providing FSP when required and coordinating with CHP to provide FSP supervision. The Inspectors or any other Project member in the field notify FSP when there is a stalled car in the Project area.

5.7 LOCAL AGENCIES' REQUIREMENTS

When detouring traffic onto arterial and local streets, traffic operational improvements may be required to mitigate the impacts and increase capacity at local intersections. The Roadway RE must ensure that Design-Builder complies with the Contract requirements in TP Section 18.35.5.

Design-Builder furnishes all necessary Design Documents and obtains all necessary permits for temporary realignments of existing local roadways and access roads affected by Project construction.

Design-Builder coordinates with the local agencies' MOT operations. The Assistant REs and the Inspector ensure that Design-Builder's MOT is installed in accordance with local agency requirements.

5.7.1 OCTA SR-91 Express Lanes

The Roadway RE verifies that Design-Builder's Work affecting the OCTA SR-91 Express Lanes services is coordinated with OCTA and in accordance with the Contract and the RCTC/OCTA Cooperative Agreement. Inspectors verify that the Design-Builder MOT plans are installed and maintained as described in the approved MOT plans.

OCTA has developed criteria for allowing windows during which closures are permitted (the "Closure Criteria") on the OCTA SR-91 Express Lanes, as shown in Table 5-1. Further details on these criteria are provided in TP Section 18.3.3.1. Consistent with the closure criteria, unless otherwise approved by OCTA, no closures are permitted at times other than those listed in Table 5-1.

Table 5-1 – OCTA Approved Closure Periods

Direction / Period	*Hours During which Closures Permitted*
Eastbound Weekday (Sunday from 11 p.m. to Friday at 5 a.m.)	11 p.m. to 5 a.m.
Eastbound Weekend (Friday from 11 p.m. to Sunday at 5 a.m.)	11 p.m. to 5 a.m.
Westbound Weekday (Sunday from 9 p.m. to Friday at 4 a.m.)	9 p.m. to 4 a.m.
Westbound Weekend (Friday at 11 p.m. to Sunday at 5 a.m.)	10 p.m. to 5 a.m.

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The Roadway Assistant RE ensures that Design-Builder:

- Provides OCTA with no less than 72 hours' advance written notice.
- Provides at least 7 days' advance written notice of any anticipated closures ("Notice of Closures") of any lane closures, detours, operations, or other construction activities related to the Project in either Orange County or Riverside County.

The Inspectors provides the Roadway OE the CMT daily inspection reports (Form ACM -0345) with the closure information. The Roadway OE maintains CMT daily inspection reports validating the duration of any closures.

5.7.2 City of Corona

The Roadway Assistant RE verifies that Design-Builder is complying with the Contract and City's guidelines for MOT. Inspectors verify that Design-Builder's MOT plans are installed and maintained as described in the approved MOT plans.

Contract TP Section 18.3.5.3 applies for all street closures in Corona. Within Corona, Grand Avenue and Main Street cannot be closed at the same time.

The Roadway Assistant RE verifies that Design-Builder:

- Coordinates and receives City approval of all their MOT plans within Corona.
- Completes and submits a City's Street Closure Application Form. Five working days are required to review, process, and approve or reject the application.
- Installs notification signs at the limits of each closure a minimum of 72 hours before each closing. The notification signs must include the closure dates and opening dates.
- Notifies the City of Corona Public Works Department 48 hours before the actual closing and on the day of the reopening.

5.7.3 County of Riverside Traffic Closures

The Roadway Assistant RE verifies that Design-Builder is complying with the Contract and County guidelines for MOT. Inspectors verify that the Design-Builder MOT plans are installed and maintained as described in the approved MOT plans.

Contract TP Section 18.3.5.4 covers County closure requirements. No lane closures on County facilities are allowed between 7 and 9 a.m. or 3 and 6:30 p.m., unless otherwise authorized by RCTC and the County. Design-Builder submits MOT plans to the County for approval.

The Roadway Assistant RE verifies that Design-Builder:

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- Provides at least a 15-day notification to the County prior to any full or partial closure of any streets within the County's jurisdiction exceeding 1 day in duration.
- Provides at least 48 hours' notice for short-term closures less than 1 day in duration .

5.8 DESIGN-BUILDER DELIVERABLES

Table 5-2 reflects a nonexclusive list of Design-Builder deliverables identified in the Contract TPs and is not intended to be an all-inclusive or exhaustive listing of deliverables. Design-Builder is responsible to determine and submit all deliverables as required by the Contract Documents, Project standards, governmental approvals, and governmental entities.

Table 5-2 – List of Design-Builder Deliverables

Transportation Management Plan	*Contract TP Section*	*Reviewers*	*Approval by*
Transportation Management Plan	18.3.1	RCTC/Caltrans D-8	RCTC/Caltrans D-8
Express Lane Closure Notices of Closure	18.3.3.1	RCTC, CMT/OCTA	RCTC, CMT/OCTA
Complete Roadway Closure Request	18.3.3.2	RCTC, Caltrans D-8, and Caltrans HQ	RCTC, Caltrans D-8, and Caltrans HQ
Notice of Change in Clearance or Bridge Weight Rating	18.3.3.6	RCTC/Caltrans D-8	RCTC/Caltrans D-8

Design-Builder must provide the Roadway and/or Structure RE with all correspondence and meeting minutes regarding MOT issues.

Design-Builder prepares bound reports and Project documentation in hard copy and electronic format, organized by design topic, and delivers reports to the Roadway and/or Structure RE before Final Acceptance.

5.9 REFERENCES

- Contract Documents
- Caltrans Standard Specifications
- Caltrans TMP Guidelines
- California MUTCD
- Caltrans Work Area Traffic Control Handbook

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- Caltrans Design Quality Management Plan (DQMP)
- Caltrans Plans Preparation Manual
- Caltrans CADD User Manual
- Code of Federal Regulations
- California Vehicle Code
- City of Corona MOT Guidelines
- County of Riverside MOT Guidelines
- RCTC/OCTA Cooperative Agreement

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Chapter 6: Contract Administration

The Contract administration framework ensures that contractual agreements are being met and avoids unnecessary claims and disputes that would lead to higher Project costs.

Contract administration includes the following objectives:

- Keep track and verify accuracy of Project's progress, status, and other issues with Design-Builder through construction meetings and progress reports.
- Keep accurate and complete records of the Work to demonstrate compliance with all federal, state, and local laws, regulations, rules, and mandates applicable to RCTC and the Project.
- Process progress payments according to RCTC, state, and federal regulations.
- Clearly communicate the construction change order and claim resolution processes.
- Develop a Project closeout procedure with Design-Builder considering that Caltrans retains the right to accept all Work for non-toll project facilities within the SHS ROW, except local roads delegated to local agencies for maintenance.

6.1 ENTITIES' RESPONSIBILITIES

6.1.1 RCTC

RCTC is the agency responsible for Contract administration of the Project; it has established the overall contract management processes. The Contract management and administration processes must follow all local, state, and federal contracting laws and regulations, and agency procurement policies, including the following:

- RCTC Procurement Policies Manual
- California Public Contract Code
- 23 CFR 636, Design-Build Contracting
- AB 2098, State-Provided Design-Build Authority

Project and Construction Management

The PCM supports the PCM Contracts Manager in managing the Contract, including Contract administration, review and monitoring of invoices, progress and earned-value reports, schedule performance, claims avoidance, claims management, and design and construction reviews.

The Roadway and Structure OEs maintain accurate records of the Work. They will identify any changes to the design-build scope of Work and support the contract administration team in evaluating, processing, and negotiating change orders in compliance with Contract requirements.

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The REs notify the PCM Contracts Manager of any major construction incidents.

6.1.2 Caltrans

Caltrans provides oversight of the Contracts management process. Caltrans verifies that Design-Builder's documentation complies with the Contract and the QC Plan.

Caltrans also has an oversight role in RCTC's Contract administration process. Caltrans performs this function through its oversight and audit roles on the Project, including oversight of expenditure of funds, labor compliance, filing system, payments to Design-Builder, claims administration, change management, and other Contract administration Work.

6.1.3 FHWA

FHWA may perform Contract audits to ensure proper administration of the Project, including adherence to Project Contract requirements, payment to Design-Builder, claims administration, and change management.

6.2 CONSTRUCTION MEETINGS

6.2.1 Preconstruction Meeting

To facilitate a smooth transition from the design phase to the construction and delivery phases, the PCM Construction Manager must conduct a Preconstruction Meeting to review the Contract, Project protocols and procedures, construction details, approved baseline schedule, and the Project's quality management expectations and CMT roles. Refer to Contract Appendix 8-1.03, Preconstruction Meeting, and Contract Appendix 6-2.02, Material Source during the Preconstruction Phase. Contract Section 8-1.03 Preconstruction Meeting, requires discussion of the following topics and related documents:

- Safety
- Design-Builder's representation
- Partnering
- QC
- Material inspection
- Materials on hand
- Measurements
- Equipment
- Weight limitations
- Traffic control
- Schedule
- Work restrictions
- Water pollution control
- Claim resolution
- Subcontracting
- DBE
- Labor compliance and equal employment opportunity
- Surveying
- Utility Work
- Action submittals

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At a time and location determined by the PCM Construction Manager, representatives from Caltrans, the CMT, Design-Builder, and any another necessary individuals attend the preconstruction meeting. The PCM Construction Manager develops and coordinates a procedure that outlines the actions required to prepare for and to conduct the preconstruction meeting. The PCM Construction Manager is responsible for preparing the meeting agenda, guiding the Project through the preconstruction meeting process, and managing the preconstruction meeting minutes.

6.2.2 Weekly Status Meetings

The PCM Construction Manager, REs, and OEs participate in Design-Builder's weekly status meetings. At these meetings, Design-Builder's completion of recent Work and upcoming Work schedule is discussed, including upcoming critical activity points. These contractually mandated critical activity points are identified in Design-Builder's CQMP to ensure that the proper inspection, testing, and verification is performed before proceeding to the next activity or the next stage of that particular item of Work. The critical activity points must be formally accepted by the REs, Caltrans, and any applicable third party.

The PCM Construction Manager schedules the weekly status meetings and develops the agenda and meeting notes.

6.2.3 Monthly Progress Meetings

On or about the 25th day of each month, Design-Builder must deliver to the respective RE a package of submittals that includes all materials, reports, schedules, certifications, and other submittals identified in Contract TP Section 2.5.3 and Section 4.3.3, along with a draft invoice. During the MPMs, the REs ascertain the progress of the Work and verify the quantities for any unit priced Work. The CMT's MPR is used to verify and validate Design-Builder's progress and other required reports, certifications, and submittals.

Each MPM must be attended by Design-Builder representatives, PCM Deputy Project Manager, PCM Construction Manager, REs, and RCTC Toll Project Manager, and it may also be attended by Caltrans. In this meeting, Design-Builder and REs review the draft invoice and draft invoice certificate reflecting the value of Work completed as of the date of the progress meeting (based on completed and approved deliverables for Work, on quantities and unit prices for unit priced Work, on time and materials for time and materials Work and, for all other Work, based on the percentage completion of Project schedule activities and the values distributed to such activities).

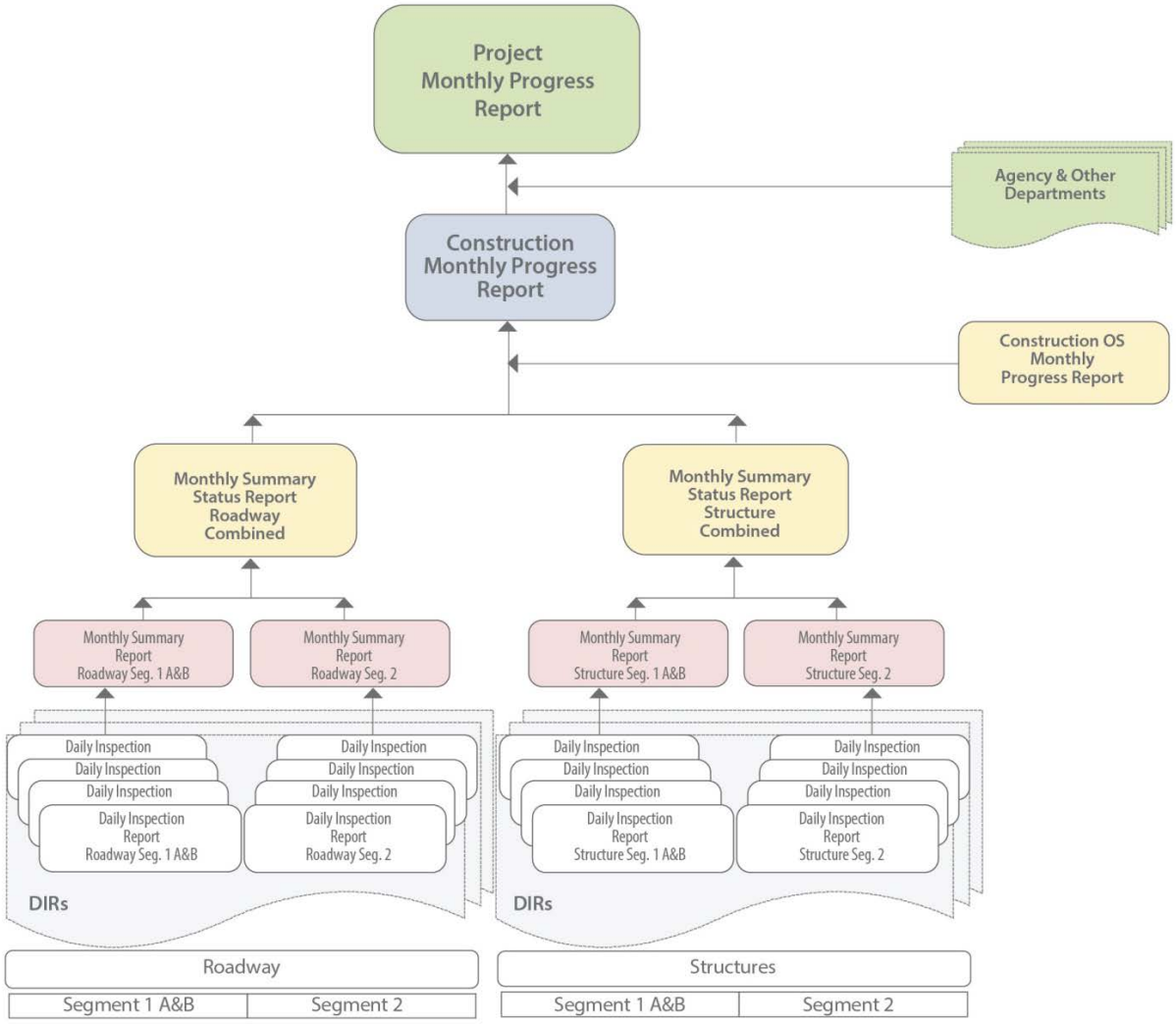
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The PCM Deputy Project Manager schedules the MPMs, develops the agenda, and takes meeting notes.

6.3 REPORTS

Along with Design-Builder's required reports, the CMT generates CMT daily inspection reports found in Appendix E, Construction Management Forms. During the MPMs, the CMT uses these reports to verify the accuracy of the Project's progress, status and other issues with Design-Builder. The development process for the CMT reports is described in the following subsections and illustrated in Figure 6-1.

Figure 6-1 – Monthly Reporting



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For report issues to determine compliance with the labor provisions a different report will be issued, see Chapter 8.

6.3.1 CMT Daily Reports

The Project will use forms included in Appendix E, Construction Management Forms; these forms are similar to the Caltrans reporting forms. However, the Caltrans forms have been modified to reflect RCTC and Design-Builder's delivery system for the Project. These Project forms document Design-Builder's compliance with the QC Plan and the Contract.

CMT Daily Inspection Reports (Form ACM-0345)

The CMT daily inspection reports are prepared by the Inspectors and reviewed by the Lead Inspectors and Assistant REs, and filed by the OEs.

The Inspectors must keep agency IQA daily inspection reports to record Work in progress. These reports document in general what type of Work was conducted by Design-Builder during the day and IQA-related information pertinent to the assigned operations, such as sampling, testing, testing results, visual inspections of the Work, and review of Design-Builder Contractor's QC and QA records.

IQA daily inspection reports document Design-Builder's compliance with the QC/QA Plan and the Contract. The CMT daily inspection reports record (as needed) general safety, environmental, and construction activities for roadway, structural, and other Work to verify Design-Builder Work performed. Inspectors audit the Design-Builder's files to ensure that Design-Builder daily inspection reports are complete and thorough.

The narrative portion of the CMT daily inspection reports includes a description of Design-Builder's operation and the approximate location where the Work was performed. Photographs are taken of the Work activities on a regular basis and are included with the daily inspection report, as applicable.

CMT Supervisors Daily Reports (Form ACM-0348)

The CMT supervisors daily reports are prepared by the REs, Assistant REs, and the Lead Inspectors. The CMT supervisors daily reports are reviewed by the Construction Manager and filed by the OEs.

The CMT supervisors daily reports are summarized in the CMT daily inspection reports; as needed, they record the general safety, environmental, labor, and construction activities for roadway, structural, and other Work to verify Design-Builder Work performed. The CMT daily inspection report records any unusual activities witnessed by the Inspectors.

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6.3.2 Design-Builder Daily Inspection Reports

The Inspectors should verify that Design-Builder completes the Design Builder daily inspection reports correctly and in compliance with all Caltrans reporting requirements. Design-Builder daily inspection reports must comply with the requirements of the Caltrans Construction Manual.

Inspectors verify that Design-Builder daily inspection reports contain a detailed description of the Project operations, labor and equipment force, traffic control, safety, and other pertinent information. Inspectors also verify that Design-Builder's daily inspection reports contain clear and detailed information of the actual Work, including specific locations, and measurement of the Work performed. The detail for the Design-Builder daily inspection report, as directed by the PCM Project Control Manager, should be sufficient to permit a review of Design-Builder's costs of the Work in a manner similar to force account. Equipment should be identified sufficiently to determine the applicable rental rates and operator's minimum wage. In some cases, it may be desirable to record the dates of arrival or departure of equipment, as well as idle time for breakdown or other reasons.

The narrative portion of the Design-Builder daily inspection reports must include a description of the operation and location where the Work was performed. Photographs should be taken of Design-Builder's Work activities on a regular basis and included with the Design-Builder daily inspection report.

6.3.3 Monthly Progress Report

Monthly Summary Status Reports

The compiled-per-discipline daily inspection reports. Monthly Summary Status Reports are the primary reference for the PCM Construction Manager to generate the Construction MPR.

Construction Monthly Progress Report

A report that compiles all the monthly summary status report. The PCM Construction Manager develops the Construction MPR and the PCM Deputy Project Manager reviews, comments on, and finalizes the Construction MPR. The PCM Project Manager reviews and confirms the Construction MPR and uses it in his/her Project MPR.

6.4 MAINTENANCE REVIEWS

Maintenance-type reviews take place during the design phase to minimize comments or additional requests from the Caltrans maintenance group during construction. Caltrans design oversight includes Caltrans Maintenance Division staff in the design review process.

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The Roadway RE must keep the Caltrans Maintenance Superintendents and Supervisors informed of the start of Work and job progress. Before the start of construction, the Roadway RE must send a copy of Caltrans Form CEM-101, "Resident Engineer's Report of Assignment," to the Caltrans Maintenance Region Manager.

The Roadway RE must give the Maintenance Superintendents and Supervisors the opportunity to review the Contract with the Roadway RE and to conduct a joint field review of the jobsite within the first 2 weeks of the start of construction. The intent of this field review is to accomplish the following:

- Discuss the scope of the Project.
- Coordinate contingency planning for TM.
- Discuss Caltrans' maintenance responsibility.
- Discuss complex construction activities that could affect adjacent maintenance operations.
- Discuss features requiring special attention.
- Discuss manufacturers' warranties and service instructions.
- Schedule regular reviews. When the Contract Work is 50 percent complete, schedule at least one review, unless both construction and maintenance representatives agree that the review is unnecessary.

When the Project nears 90 percent completion, invite the Maintenance Superintendent, supervisor, or both, for a final field review of the Project. Ensure that this review includes identifying all items necessary to comply with the construction NPDES permit, SWPPP, and Caltrans Construction Manual Subsection 7, "Stabilization."

The Roadway RE works closely with the Caltrans District maintenance personnel to make minor field adjustments to the Project. The RCTC Toll Project Manager must approve any amendments to the Contract plans or specifications that significantly affect Project cost, scope, or schedule.

When the Work nears completion and just before Contract acceptance, the Roadway RE must notify the Caltrans Maintenance Superintendent or supervisor to facilitate the transfer of maintenance and responsibility from Design-Builder to Caltrans.

6.5 DOCUMENT CONTROL

The PCM Document Control Manager is responsible for keeping accurate and complete records of the Work.

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Document controls are implemented to ensure that documents are updated, distributed, and filed so that only the latest approved documents are used on the Project and are maintained for future reference. Document controls also provide a standardized means of preserving Project history in a logical and retrievable file system. The Project documentation system is structured to address RCTC's typical contractual requirements and the specific requirements of the Contract Documents, including provisions for records retention in accordance with state and federal requirements.

The PCM Document Control Manager must comply with document management policies and procedures to store and catalog all Project-related documents.

6.5.1 Submittals

All submittals must be logged into the Project submittal log by PCM Document Control staff under the PCM Document Control Manager. The Project submittal log is used to manage and track all submittals by the Contract Documents, including those of subcontractors and suppliers. The Design-Builder develops a submittal schedule and submits it to RCTC for approval. No Work is allowed to begin without a submittal being approved by RCTC and Caltrans.

6.5.2 Construction Management Forms

Appendix E includes a list of forms used administering and maintaining records for the construction phase of the Project. The PCM Document Control Manager will develop a document nomenclature protocol that is similar to the Caltrans system and a uniform filing system category.

6.5.3 Design-Builder Quality Records

Design-Builder must make provisions for identifying all types of quality records as evidence that all activities comply with the requirements of the Contract Documents and Design-Builder's CQMP. The quality records must be turned over to Caltrans and RCTC upon request.

6.5.4 Caltrans Project Records Audit

Assigned Caltrans OS staff may periodically conduct an audit to ensure that the Project is keeping accurate and complete records of the Work.

6.6 INVOICING AND COST

The PCM Construction Manager supports the PCM Project Controls Manager in the administration of the Project invoicing and costs. The PCM Construction Manager and REs assist

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in the review of Design-Builder's invoice, including an evaluation of percent complete. The RCTC Toll Project Manager reviews and approves all Design-Builder invoices.

Design-Builder invoices monthly; payment is based on progress determined from the approved updated, cost-loaded Project schedule. Payment may be withheld until the cost-loaded schedule is updated and reapproved by RCTC.

6.6.1 Design-Builder Progress Reporting

Using the Contract-required reporting, Design-Builder prepares and sends to the PCM Construction Manager a schedule-based cost table. This table shows a comparison of actual costs to date with the latest planned costs to date from the approved cost-loaded schedule and a comparison of current forecasted cost at completion with the approved budget. Line items include all significant cost centers with a breakdown sufficient to track meaningful changes in costs. The table also shows forecast costs to complete each task. From the MPRs, the Project Control Manager derives cost data that is formatted to provide cost reporting.

6.6.2 Furnish Materials Payments to Caltrans

Caltrans provides SFMs requested by RCTC in accordance with the executed Cooperative Agreement (Caltrans Agreement 08-1468). The RE submits the SFM request through the Caltrans Roadway Manager using Caltrans form. After the SFMs are delivered to the designated state facility, the Roadway RE makes the necessary arrangements with Design-Builder to take delivery and transport them to the jobsite. Chapter 4 defines the coordination process.

The Caltrans Project Manager ensures that an invoice is submitted to RCTC for the cost of the SFM in accordance with the terms of Agreement 08-1468.

6.7 CHANGE ORDERS

The CCO process between RCTC and Design-Builder is detailed in the Contract Documents and establishes a framework for the timely response to commercial and technical aspects of a contractual change while ensuring adherence to organization safeguards and accountability. The PCM Construction Manager and REs support the PCM Contracts Manager in the CCO process.

CCOs are issued for changes to any part of the original Contract. The reasons for change orders are specifically defined in the Contract and generally include the following categories:

- To change the Contract Documents.
- To describe the Work and method of payment for Work stipulated in the Contract to be paid as extra Work.

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- To authorize an increase in extra Work funds necessary to complete a previously authorized change.
- To implement a VECP or a construction evaluated research proposal.
- To resolve disputes or potential claims before the proposed final estimate or exceptions (claims) after the proposed final estimate, and to pay for Contract claim determinations.
- To initiate a change order.

Due to the nature of a design-build project, the prerequisites for a change order are generally more restrictive than they are for a traditional design-bid-build project. The Contract Documents specifically set forth the conditions that must be met for a change order to be warranted and outlines specific CCO initiation procedures, including notification requirements and change description information.

A change order can be initiated by either RCTC or Design-Builder. The initiator of the CCOs describes the scope of the change. Design-Builder is responsible for identifying any schedule impacts resulting from the change and for providing a detailed cost analysis and estimate. The change information may also include an analysis of the change order's potential impact on safety, quality, performance, personnel, and traffic operations.

6.7.1 FHWA Change-Order Requirements

Federal regulation 23 CFR 635, "Construction and Maintenance," and specifically Section 635.120, "Changes and Extra Work," and Section 635.121, "Contract Time and Contract Time Extensions," contain criteria for change order approvals. All major changes to federal-aid construction contracts — both participating and nonparticipating — require formal approval from the FHWA Division office.

CCOs, as defined by the Caltrans Construction Manual Section 5-308 and the CFR, require approval by FHWA.

Major Contract Change Orders

Major CCOs require approval by FHWA **before** the effective date of the change to preserve the eligibility for federal aid funding. FHWA defines the criteria for defining a major change. Those criteria include, but are not specifically limited to, the following:

- Full oversight projects.
- CCO that would increase the cost by more than $200,000.
- CCO that would increase the cost of anticipated supplemental Work item listed in the detail estimate by more than $200,000.

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- Supplemental CCOs above the $200,000 threshold.
- Changes in specifications (except lane requirements and hours of Work charts).
- Changes in method of payment.
- Changes in material processing.
- Changes in type or quantity of materials furnished (except minor building materials).
- Changes in proprietary or sole source materials for which specific or blanket approval has not been previously given.
- Waivers to the Buy America requirements, above the minimal amount that is allowed in *Construction Manual* Section 3-605, "Certificates of Compliance," and the Project special provisions.
- Cost reduction proposal.
- Experimental CWP.
- Changes to federal environmental requirements such as:
  - Environmental mitigation
  - Permit conditions
  - Agreements with federal resource agencies
- Changes to, or requiring of, mandatory disposal or borrow sites, Public Interest Finding and National Environmental Policy Act (NEPA) clearance may be needed.
- Expansion of Project limits beyond the limits set in the environmental document.
- Form of payment (not just a CCO) to a Design-Builder resulting from a claim, board of review, exception to proposed final estimate, district director determination, or arbitration.
- Supplemental CCOs to all of the above.
- Change resulting in a Contract time extension of 20 or more working days; in addition, if time is extended by more than 20 percent of the original number of Contract working days, then include that change and each subsequent CCO to extend time.
- 5-308A (2) FHWA approval requirements.

Minor Contract Change Orders

CCOs other than those listed above are considered minor. Although approval may be granted retroactively, minor CCOs require written and signed FHWA approval. These approvals occur during FHWA construction reviews or with final approval of the Project by FHWA.

6.7.2 Contract Change Orders Process

The CCO process is described in Figure 6-2. All CCO requests are evaluated with respect to the Contract requirements and the overall Project cost and schedule baselines. CCO requests are evaluated for cost and schedule impacts, as well as impacts to other Project elements and

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potential alternatives. Development of an independent cost estimate and evaluation of the Design Builders detailed schedule analysis (as applicable) is an integral part of the CCO evaluation.

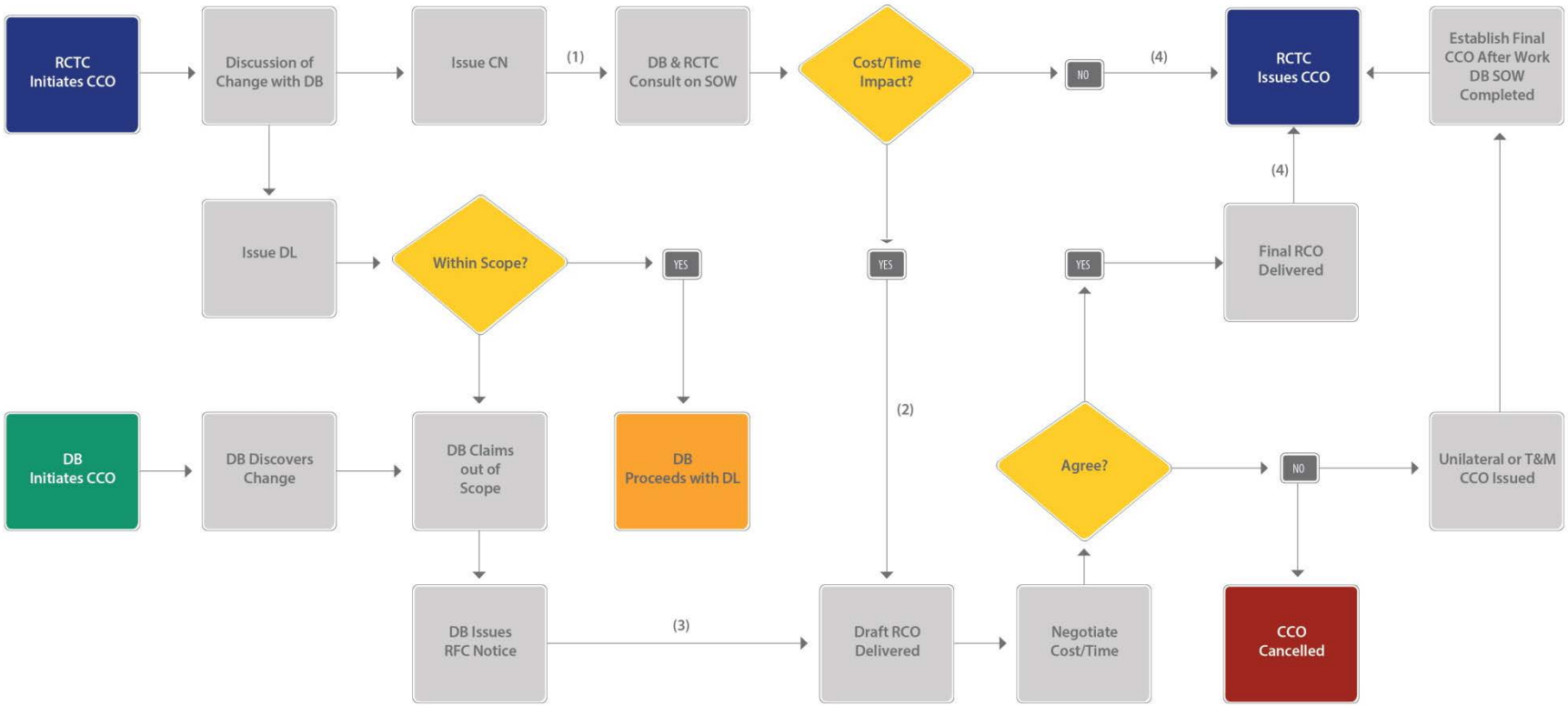
A Contract change order package is assembled as the Contract change order is negotiated and agreed upon. The documentation package is reviewed for completeness before execution of the Contract change order. The documentation file consists of the following information:

- Change summary, including a narrative describing why the change was made
- Technical documents, such as drawings, sketches, and design change notices
- Change notices (if applicable)
- Design-Builder's Request for Change Order (RCO)
- RCTC cost analysis or independent cost estimate (ICE)
- Schedule analysis (when a time impact is asserted by the Design-Builder in a Time Impact Analysis)
- Correspondence
- Record of negotiation
- Time sheets, invoices, or other supporting documentation, if appropriate

Negotiations with the Design-Builder are described in a CCO memorandum of negotiations, which includes sufficient documentation to explain what the change does, why it is necessary, and that the process complies with Contract requirements. The memorandum must be sufficiently complete enable a person unfamiliar with the details of the Project to review the CCO and determine justification for the Work, the reasonableness of the compensation, and the time extension provisions, if applicable. The memorandum of negotiations is intended for internal use only; it is not sent to Design-Builder..

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Figure 6-2 – Contract Change Order Flow Chart



DEFINITIONS

CCO - Contract Change Order
CN - Change Notice
DL - Directive Letter
RCO - Request for Change Order
RFC - Request for Change
SOW - Scope of Work
T&M- Time and Material

NOTES

(1) DB and RCTC consult on SOW within 7 days DB receipt of CN
(2) RCTC to request RCO within 5 business days of SOW Consult.
(3) DB delivers RCO within 20 days after delivery of RFC Notice
(4) Agency approval process implemented

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The PCM Contracts Manager is responsible for maintaining a CCO log. Each CCO is sequentially numbered and entered in a CCO log, which tracks pertinent CCO process information, including the number, title, description, date of execution, and final cost and schedule impacts. The log is updated regularly and submitted with the monthly project status report to Caltrans and FHWA.

To the extent possible, RCTC follows the Caltrans Construction Manual with regard to the CCO supporting documentation. Project-specific CCO procedures have been developed in collaboration with Caltrans and FHWA, and regular biweekly meetings are conducted to discuss and inform the project participants of the potential change issues and status of pending change orders.

The PCM Contracts Manager is responsible for obtaining the proper CCO approvals. Caltrans reviews and concur with Major CCOs, in accordance with the Design-Build Cooperative Agreement and the HPPA Project Responsibility List, prior to or concurrent with FHWA's review. Caltrans also reviews and approves nonmajor CCOs. As required to maintain CCO eligibility for federal funding participation, RCTC obtains appropriate FHWA and Caltrans approvals before any CCO Work is performed.

6.8 ISSUE RESOLUTION LADDER

An Issue Resolution Process is developed by the PCM Deputy Project Manager with collaboration from Design-Builder, RCTC, and Caltrans' Managers and Directors. Figure 6-3 describes the Issue Resolution Ladder.

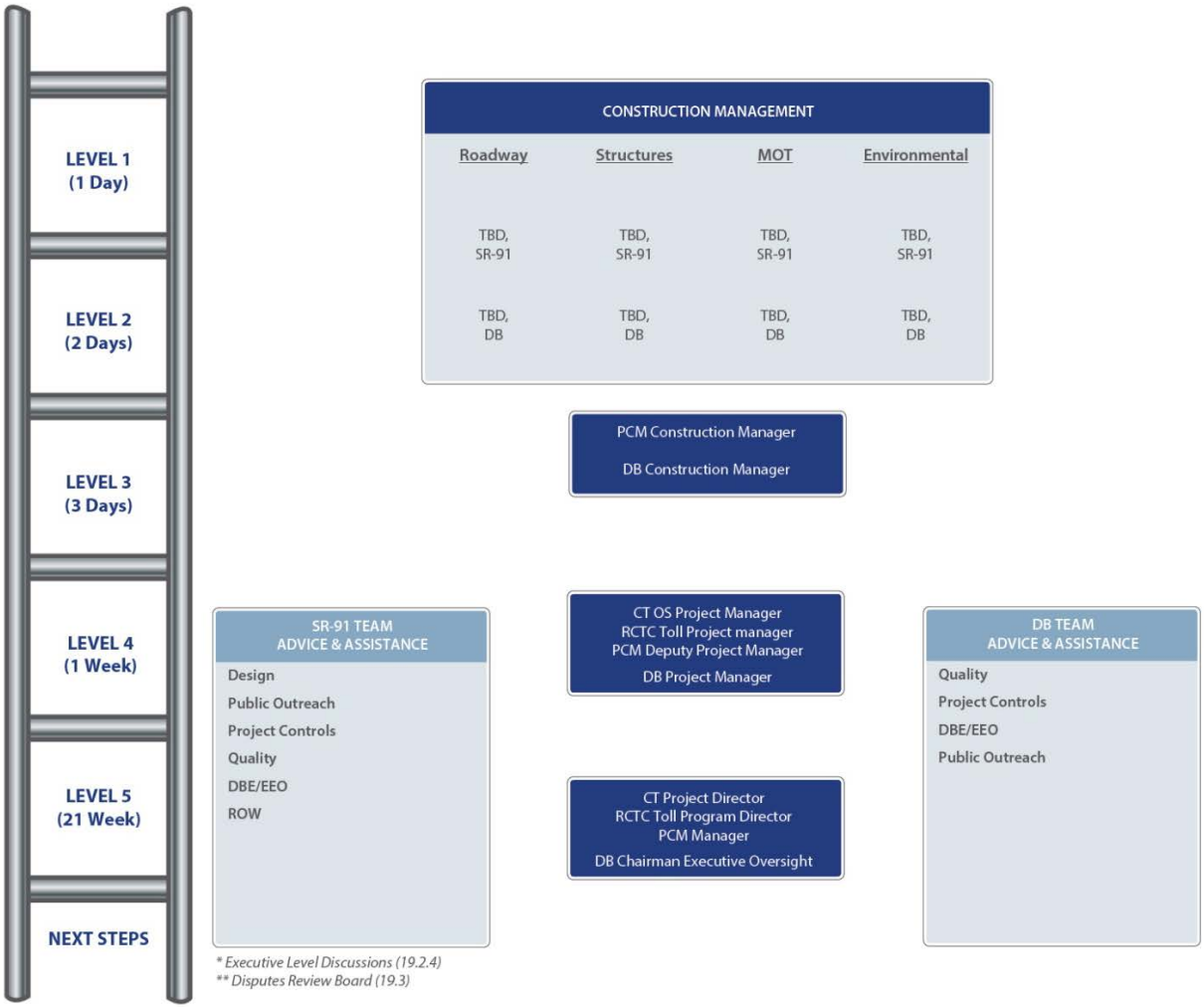
6.9 CLAIMS MANAGEMENT

The PCM Construction Manager and REs support the PCM Contracts Manager in all claims disputes. Claims management procedures, as specified in the Contract, include activities and documentation to ensure that Contract disputes are addressed and resolved in a timely and consistent manner. This section briefly defines the claims review and management process to be followed in cases of disputes between RCTC and Design-Builder.

If Design-Builder objects to any decision, action, order, or position of RCTC (including any rejection or modification of a proposed change order by RCTC), Design-Builder files a written request for dispute resolution with the PCM Contracts Manager.

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Figure 6-3 – Issue Resolution Ladder



RCTC/PCM may initiate the dispute resolution process at any time by filing with the Disputes Review Board (DRB) (Disputes Board; discussed below) and delivering to Design-Builder a written request for dispute resolution.

Design-Builder must include the following information in the written request for dispute resolution :

- Description of the issues in the dispute
- Stated position of the requester
- Dollar amount of the dispute
- Duration of critical path and completion deadline impact or interference involved in the dispute

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Design-Builder is responsible for the timely submittal of the written request for dispute resolution. The submittal must be followed with a timely submittal of the full and final documentation of a potential claim, including details of quantities and costs.

The Contract Documents currently include the following escalation ladder in the dispute resolution process:

1. **Request for Dispute Resolution:** RCTC or Design-Builder files a written request for dispute resolution as discussed above.
2. **Project Level Negotiation:** RCTC's Toll Project Manager and Design-Builder's Project Manager attempt to resolve the dispute.
3. **Decision:** RCTC issues a decision to Design-Builder.
4. **Request for Executive-Level Negotiation:** If RCTC denies Design-Builder's objection, then Design-Builder may file a written request for executive-level negotiation.
5. **Executive-Level Negotiation:** RCTC's Toll Program Director and/or Executive Director and Design-Builder's Chief Executive Officer attempt to resolve the dispute.
6. **Final Decision:** RCTC issues a final decision to the Design-Build Team.
7. **Resolution of Disputes Exceeding $375,000 by the Disputes Board:** RCTC has included in the Design-Build Contract Documents a process for establishing and using a Disputes Board to assist in resolving all disputes that cannot be resolved at the Project-level senior executive level. Issues with a value above $375,000 are then resolved by the DRB. The DRB consists of one member selected by RCTC, one member selected by Design-Builder, and the third member selected by the two other members. Design-Builder may submit a "Complaint" to the DRB if denied any claim by RCTC after executive-level negotiation, as described in the escalation ladder, Figure 6-3. RCTC may submit a dispute to the Disputes Board at any time. Concurrently with service of the complaint upon the other Party, the Party submitting the dispute also delivers a copy of the complaint to counsel for the other Party. The complaint includes a declaration executed by the Party submitting the dispute in the proper form included in Appendix E.
8. **Disputes Board Recommendation:** The Disputes Board issues a recommendation with regard to the dispute.
9. **Appeal:** Either party may appeal the recommendation back to the Disputes Board or to judicial reference or arbitration.
10. **Arbitration of Disputes Involving $375,000 or Less:** Disputes that involve $375,000 or less and that are not resolved in a final RCTC decision can be submitted by Design-Builder to arbitration in accordance with the State Arbitration Act.

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The PCM Contracts Manager includes the status of all significant claims in each Project Status Report for discussion at the monthly Project Status Meeting.

The intent of the disputes resolution process at the decision, final decision, and Disputes Board recommendation is that the recommendations are nonbinding: the dispute can be escalated to the next level as specified in the Contract. After the specified period, if the disputes are not escalated to the next level, the recommendations are final and binding. To maintain federal funding participation, Contract claims are approved in accordance with 23 CFR 635.

The PCM Contracts Manager must promptly process any required change order or amendment to the Contract Documents based on the following:

1. An agreed-upon resolution between RCTC and Design-Builder;
2. A binding Recommendation of the Disputes Board; or
3. A final judgment or award in Design-Builder's favor from arbitration or judicial review.

6.10 PROJECT RECORDS/CLOSEOUT

The PCM Construction Manager develops a Project closeout procedure with Design-Builder. Caltrans retains the right to accept all Work for the Project. The Caltrans policies and procedures for closing out projects and specific Project components are detailed in various Caltrans manuals and guidance. The Project follows the Caltrans guidelines for Project closeout and complies with the requirements of the Design-Build Cooperative Agreement between RCTC and Caltrans.

Design-Builder develops a project-specific closeout plan in compliance with the federal-aid Project requirements. The closeout plan must comply with the requirements of the Caltrans Local Assistance Procedures Manual (LAPM).

Contract closeout includes resources from RCTC, Caltrans, the PCM, and Design-Builder. The resources that are required to complete all Project closeout activities are identified in the Project Closeout Plan, which is part of the DBCM prepared by Design-Builder. All parties will collaborate to implement, comply with, and complete the closeout requirements and activities.

Final Construction Project Records / Closeouts

The PCM Construction Manager is responsible for all construction Project records consisting of all material in the construction files, whether in the field office, the Corona office, or Design-Builder's office.

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The Caltrans Construction Manual contains guidelines for the disposition of construction Project records. Guidelines allowing public access to the Project construction records include the following:

- As-built plans
- Structure records
- Construction Project records
- Project history file

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Chapter 7: Environmental Monitoring

7.1 AGENCY QUALITY MANAGEMENT PLAN

Environmental monitoring ensures that the Project complies with all applicable environmental regulations, regulatory permit conditions, and Project environmental commitments made in National Environmental Policy Act (NEPA) and California Environmental Quality Act (CEQA) approved documents.

Environmental monitoring for the Project during construction includes the following objectives:

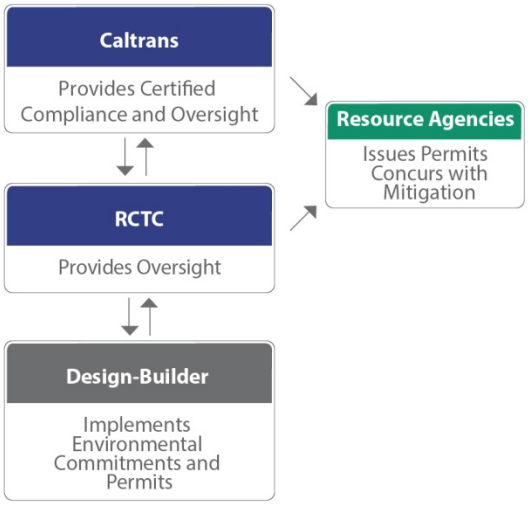
- Provide close coordination between Caltrans, RCTC, and other entities as appropriate and as related to delegation of responsibility in mitigation and documentation.
- Provide a comprehensive delineation of personnel roles and responsibilities for each entity involved in Project delivery and environmental management.
- Provide enough information to the CMT to clearly understand the Project environmental requirements, impacts, and mitigation from approval of the Final Environmental Impact Report (EIR)/Environmental Impact Statement (EIS) and Record of Decision (ROD).
- Inform the CMT about the tracking of measures that must be implemented to ensure that construction activities do not pollute waters of the state.
- Establish clear guidelines for handling and dealing with hazardous materials, hazardous waste, and hazardous spills on construction projects.
- Provide a comprehensive delineation of processes for review and approval of periodic reporting requirements and Project changes.
- Establish clear guidelines for filing Project documents relating to environmental monitoring, stormwater management, and environmental hazards and safety procedures.
- Provide access to an array of useful tools and references for compliance with the Environmental Monitoring Program.

7.2 ENTITIES' RESPONSIBILITIES

To ensure successful completion of the environmental compliance requirements and mitigation, Caltrans, RCTC, and Design-Builder work closely together with defined roles and responsibilities. The environmental relationships of the Project Team are depicted in Figure 7-1. Respective Project Team roles and responsibilities are described below.

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Figure 7-1 – Environmental Relationships



7.2.1 Caltrans and RCTC

Caltrans and RCTC oversee the implementation of environmental commitments, monitoring of Project-specific mitigation, and delegation of environmental responsibilities to Design-Builder.

Caltrans and RCTC collaborate to ensure that the Project complies with NEPA, CEQA, and other environmental regulations. Each agency has specific responsibilities with environmental documentation and permitting, which are summarized below.

Caltrans

Caltrans has the following responsibilities:

- Provides Certificate of environmental compliance after all environmental commitments have been completed. Caltrans works with RCTC to provide oversight for compliance with environmental commitments and implementation of compensatory mitigation.
- Direct consultation with the U.S. Fish and Wildlife Service (USFWS), State Historic Preservation Officer (SHPO), and affected Native American Tribes.
- Conducting field inspections of the Project area to ensure that environmental commitments and NPDES requirements are being fully implemented.

Caltrans is responsible for consultation and coordination with the SHPO, USFWS, and National Park Service (NPS). Caltrans is included as a participant when RCTC coordinates with other resource agencies.

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RCTC

RCTC is responsible for acquiring and complying with the necessary environmental permits and approvals and oversight of the PCM Consultant.

Project and Construction Management

RCTC, through the PCM, has the following responsibilities:

- Support RCTC in acquiring all necessary environmental permits.
- Oversee the inclusion and implementation of mitigation measures and environmental permit conditions as the Project progresses through final design and construction.
- Obtain approvals for any permit modifications from resource agencies.
- Obtain approvals of environmental revalidations/reevaluations from Caltrans.
- Secure any offsite mitigation necessary for the Project.
- Complete any environmental commitments that cannot be fulfilled by Design-Builder.
- Ensure that the ECR is being updated regularly and monthly monitoring reports are submitted to Caltrans.
- Conduct field inspections of the Project area to ensure that environmental commitments are being fully implemented.

RCTC will have direct coordination with resource agencies such as USACE, California Department of Fish and Wildlife (CDFW), the Santa Ana Regional Water Quality Control Board (SARWQCB), and the California Department of Parks and Recreation (DPR). RCTC is responsible to ensure that the ECR is properly implemented throughout the life of the Project.

7.2.2 Design-Builder

Design-Builder has the following responsibilities:

- Implement and comply with all environmental commitments and requirements assigned to Design-Builder included in the Project ROD, Final EIR/EIS, ECR, and conditions included in the permits.
- Update and certify the ECR when the environmental commitments are completed.
- Coordinate with Caltrans, RCTC, and resource agencies to discuss potential environmental issues and facilitate agency requirements, and prepare documentation to disclose all environmental-related discussions with resource agencies.
- Assemble a team of environmental staff with the required certification and experience to perform the environmental functions necessary to address the Project's commitments.

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- Designate an Environmental Compliance Manager (ECM) to oversee daily environmental activities, facilitate resource agency requirements and environmental commitments, and supervise environmental personnel.
- Document compliance with each mitigation measure and environmental commitment as it relates to Project construction.
- Prepare weekly monitoring reports and include them in the monthly environmental monitoring report submitted to RCTC for review.
- Incorporate environmental commitments and permit conditions into the final design plans before the Project goes into construction.
- Conduct its own field monitoring of environmental commitments, including preconstruction surveys, verifying that environmentally sensitive areas (ESAs) are properly delineated, controlling construction noise and dust, and revegetating disturbed areas.
- Assist in preparing Project-specific documentation to facilitate coordination with the resource agencies.
- Prepare and implement an SWPPP. Responsible for complying with NPDES requirements.

7.3 ENVIRONMENTAL REQUIREMENTS

7.3.1 Environmental Commitments Record

Under NEPA and CEQA, the Project is required to comply with all applicable environmental laws and to implement mitigation measures to reduce or eliminate adverse environmental impacts associated with the Project. RCTC and Caltrans have established a complete set of environmental commitments in compliance with federal and state environmental regulations. The Final EIR/EIS prepared for the Project has outlined the required avoidance, minimization, and mitigation measures to address any permanent and temporary damage to the social and natural environmental resources caused by the Project.

To ensure compliance with the ECR commitments, Design-Builder documents compliance with each mitigation measure and environmental commitment as it relates to Project construction. The Roadway RE is responsible to ensure the that ECR is signed and dated when the environmental commitments are completed.

Design-Builder prepares weekly monitoring reports and includes them in the monthly environmental monitoring report submitted to the Roadway RE and PCM Environmental Manager for review. Environmental monitoring reports must include the following information:

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- Summary of environmental commitments completed and in progress
- Name of Environmental Monitoring Inspector
- Date of monitoring
- Weather conditions
- Location
- Resources addressed
- Locations and nature of occurrence
- Locations and nature of violations, if any
- Recommended remedial actions
- Updated Project ECR matrix

The Roadway RE and PCM Environmental Manager review and validate the environmental monitoring reports before signing off and closing out each compliance action. Upon Project completion, a final monitoring and report plan is prepared, documenting the closure or concurrence of nonclosure for all compliance actions. The final plan also requires approval by the Roadway RE, RCTC Toll Project Manager, PCM Environmental Manager, and Caltrans OS Environmental Coordinator.

The ECR is a living document that is updated by the Roadway RE and Design-Builder as the Project progresses through final design and construction. The RCTC Toll Project Manager, PCM Environmental Manager, and Caltrans OS Environmental Coordinator environmentally certify the Project when all commitments in the ECR are satisfied.

7.3.2 Environmental Permits

RCTC's Environmental Manager and the Caltrans OS Environmental Coordinator monitor Design-Builder's implementation of all conditions associated with the required environmental commitments stated in the environmental document and permit conditions for the Project.

The Caltrans OS Environmental Coordinator will have acquired approvals with USFWS, NPS, SHPO, and DPR upon completion of the environmental document. The PCM Environmental Manager, in coordination with RCTC, Caltrans, and Design-Builder, is responsible for obtaining other environmental permits, including the 404, 401, and 1602 permits. Design-Builder is responsible for providing information to support the PCM Environmental Manager in acquiring these permits and implementing permit conditions applicable to the Project area.

The permits and approvals identified in the Project's environmental document are identified in Table 7-1. The responsible parties identified in the table indicate to what entity the permits are issued.

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Table 7-1 – Permits and Approvals

Agency	*Permit/Approval*	*Status/ Anticipated Approval Date*	*Responsible Party*
Western Riverside County Resource Conservation Agency (WRC-RCA)	Multiple Species Habitat Conservation Plan (MSHCP) Consistency Determination / Joint Project Review Project	Approved April 4, 2011	RCTC
SHPO	Section 106 Consultation for Historical Resources for No Adverse Effect	Completed October 19, 2011	Caltrans
USFWS	Section 7 Consultation for Threatened and Endangered Species	Approved November 30, 2011	Caltrans
DPR	Approval for use of Section 4(f) property within Chino Hills State Park	Approved March 26, 2012	Caltrans
CDFW	1602 Streambed Alteration Agreement	Approved July 22, 2013	RCTC
USACE	Section 408/Outgrant Permit	Anticipated August 30, 2015	RCTC/ Caltrans
SARWQCB	Section 401 Water Quality Certification	Anticipated July 1, 2015	RCTC
DPR	Right-of-Entry Permit-Construction	Anticipated July 14, 2015	RCTC
USACE	Section 404 Nationwide Permit	Anticipated September 30, 2015	RCTC
State Water Resources Control Board (SWRCB)	Section 402 NPDES (Construction Activity)	Prior to construction	RCTC
SWRCB	Section 402 NPDES (Department Statewide Permit)	Prior to construction	RCTC
SWRCB	Section 402 NPDES (Groundwater De-watering)	Prior to construction	RCTC
Orange County Flood Control District	Coordination and approval of any Project-related changes to existing flood control facilities	Prior to construction	RCTC
Riverside County Flood Control and Water Conservation District	Coordination and approval of any Project-related changes to existing flood control facilities	Prior to construction	Design-Builder

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For all environmental permits, the following items must be completed:

- Reports of preconstruction surveys
- Monitoring reports of Work near sensitive environmental areas
- Before and after photos of the Project site, as appropriate
- Post-construction reports of the disposition of ESAs
- Tracking of Project impacts to jurisdictional areas

This documentation is prepared by Design-Builder and reviewed by the Roadway RE, RCTC Toll Project Manager, PCM Environmental Manager, and RCTC Environmental Compliance Coordinator prior to submittal to the resource agencies.

7.3.3 Environmental Management Plan

To ensure that the commitments in the ECR and permit requirements are addressed, Design-Builder, with assistance from the Roadway RE and Caltrans Environmental Coordinator, develops an Environmental Management Plan (EMP) outlining in detail how to address the Project's environmental commitments as stated in the ECR. The EMP documents the requirements stated in the ECR. The EMP ensures that the environmental monitoring staff has the necessary information to provide constant surveillance of key Design-Builder construction schedules and activities that may affect the environment.

Design-Builder submits an EMP to PCM Environmental Manager and Caltrans Environmental Coordinator for approval. The EMP describes Design-Builder's approach based on the Project's ECR for minimizing environmental impacts and implementing permit conditions. Design-Builder is responsible to proactively support PCM Environmental Manager and Caltrans Environmental Coordinator in their coordination with resource agencies to ensure that the EMP adequately addresses the Project's ECR, as well as resource agency issues and concerns in implementing the mitigation measures.

Design-Builder includes the development and schedule of the environmental protection training program in the EMP. The program includes an overview of the environmental commitments and how to implement the measures during construction. The schedule must include training sessions at key times, such as prior to construction in ESAs or construction timing restrictions to protect threatened and endangered species, to inform and update workers on specific restrictions, conditions, concerns, or requirements.

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7.3.4 Noncompliance and Violation Procedures

All Project Team members must ensure all mitigation measures and environmental commitments are met for the duration of the Project. If the Project does not comply with or violates the environmental requirements identified in the ECR, the following steps are taken:

- Design-Builder notifies the PCM Environmental Manager within 24 hours of acknowledging the potential noncompliance or violation.
- PCM Environmental Manager and RCTC Toll Project Manager determine the plan of action for complying or accepting noncompliance.
- All affected parties document and approve the plan of action. Affected parties include Design-Builder, RCTC Toll Project Manager, PCM Environmental Manager, Caltrans' Environmental Coordinator, and resource agencies, if appropriate.
- If required, Design-Builder or Roadway RE implements alternative mitigation measures or environmental commitment.
- The Office Engineers document how a noncompliance or a violation was resolved.

7.3.5 Environmental Revalidation/Reevaluation

If Project changes caused by Design-Builder require an environmental revalidation/ reevaluation, Design-Builder is responsible for preparing the appropriate technical information. The RCTC Toll Project Manager, along with the PCM Environmental Manager, uses the technical information to obtain approvals for the revalidation/reevaluation from the Caltrans Environmental Coordinator. If the Project requires a permit modification, Design-Builder must provide the technical information for use by the Caltrans OS Environmental Coordinator and PCM Environmental Manager to coordinate with, and obtain approvals from, the resource agencies.

7.3.6 Post-construction Environmental Performance

As part of the environmental commitments, the PCM Environmental Manager and Caltrans Environmental Coordinator ensure that the following activities are completed after the end of Project construction:

- Monitor and document the following:
  - Performance of restoration or rehabilitation of disturbed native and endangered species habitats within the Project area, including coastal sage scrub, chaparral, and riparian habitats.
  - Operation of permanent stormwater facilities, including bioswales, media filters, and detention and retention basins.
  - Performance of highway planting.

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- Spread of invasive plant species.
- Functionality of affected wildlife crossings.
- Integrity of historical or cultural resources that may have been temporarily disturbed.

- Ensure the proper removal, disposal, and documentation of hazardous waste.
- Implement compensatory offsite mitigation, including restoration, enhancement, or creation of native habitats.

Design-Builder is responsible for the post-construction environmental performance of the above-mentioned items for the period identified in the Contract. The RCTC Environmental Compliance Coordinator is responsible for the performance of compensatory offsite mitigation and any activities that follow the end of the Contract period. Reporting of the post-construction environmental performance is included in the Final Monitoring Report.

7.3.7 Certification of Environmental Compliance

A CEC is prepared at the end of the Project to document the mitigation monitoring and reporting program required under CEQA for every construction project unless no mitigation measures were identified or undertaken. This requirement is shown in the *Guide to Caltrans Capital Work Breakdown Structure,* Section 270.50. The basic purpose of the CEC is to certify that the mitigation measures were implemented in accordance with the Contract.

The Roadway RE is responsible for ensuring that the CEC is prepared and distributed. The CEC lists all mitigation measures for the Project and includes a discussion of:

- The effectiveness of the constructed mitigation measures.
- Whether the mitigation measures were met and, if not, what measures were implemented.
- How well the Contract specifications satisfied all environmental commitments and concerns.
- Additional mitigation measures required as a result of Project changes, along with the outcomes.

The ECR can serve as the basis for the CEC documentation. The CEC must be signed by all responsible parties, including the environmental-construction liaison, Caltrans Environmental Coordinator, Caltrans Project Manager, and Roadway RE. The CEC must be sent to the State Office of Planning and Research for review and filing. Copies of the CEC must be provided to all of the district or regional organizational units responsible for the Project, including Divisions of Environmental, Design, Project Management, and Construction. The CEC is discussed fully at

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the Project closeout meeting. It identifies the lessons learned on the Project and areas in environmental compliance that may need improvement.

7.4 STORMWATER MANAGEMENT

To ensure the control of pollutants in discharges of stormwater runoff, the Project is subject to federal law under the Clean Water Act and state law under the Water Code. The regulations require an NPDES permit issued by the SWRCB. The specifications require Design-Builder to conform to the permit's requirements.

Design-Builder must prepare an SWPPP in accordance with *Standard Specifications* Section 7-1.01G, "*Water Pollution*"; *Caltrans Storm Water Quality Handbooks;* and the Contract's special provisions. These documents describe the measures Design-Builder must implement to ensure that construction activities do not pollute waters of the state. The Roadway RE must approve all such preventive measures, and Design-Builder's forces must implement and maintain these measures.

Successfully protecting the state's water resources (i.e., rivers, lakes, and streams) from Project impacts is critical to the success of the Project. These waters must be protected from chemical pollutants and sediment in stormwater runoff. Chemical pollutants include petroleum products, paint residues, and curing compounds. The Caltrans Division of Environmental Analysis, in conjunction with the Caltrans Division of Construction, has organized a task force (known as the "stormwater task force") consisting of construction environmental specialists. This task force visits the Project, reviews Design-Builder's SWPPP, and acts as technical advisors to the Roadway RE.

7.4.1 Design-Builder's Inspections

The special provisions for water pollution control require Design-Builder to regularly inspect the construction site for proper implementation, performance, and maintenance of Best Management Practices (BMPs) identified in the SWPPP. Design-Builder must follow the site inspection procedure specified in the SWPPP manual. Trained personnel must conduct the site inspections, using the site inspection checklist, a copy of which must be provided to the Roadway RE.

Design-Builder must notify the Roadway RE whenever the SWPPP and/or BMPs may not reduce or have not reduced the discharge of sediment or other pollutants into a waterway. Design-Builder must follow the verbal notification with a written report. Design-Builder's report must conform to the provisions of the *Caltrans Plans Preparation Manual* Section 600.2, "Discharge Reporting."

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If the situation constitutes noncompliance with the permit, the Roadway RE must conduct a verification inspection, and if a noncompliance condition exists, he/she must report it to the Construction Stormwater Coordinator. The Construction Stormwater Coordinator report the noncompliance to the SARWQCB. The Roadway RE must require Design-Builder to amend the SWPPP, if necessary, to implement additional BMPs.

7.4.2 Amendment Review and Processing

During construction, conditions may occur that affect the Design-Builder's ability to implement the SWPPP as initially approved or the approved SWPPP's ability 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 or municipal storm drain systems. These changes could include construction staging or scheduling changes, staging area modifications, unanticipated offsite drainage impacts, and failures of BMPs. Design-Builder must amend the SWPPP if the effectiveness of either of its plans is diminished by any such changed condition. The SWPPP must also be amended if the BMPs are ineffective or if conditions have changed significantly enough to warrant an amendment.

Upon the Roadway RE's approval, Design-Builder must incorporate all SWPPP amendments into the onsite documents. Design-Builder must prepare SWPPP amendments in the format prescribed in the *Caltrans Plans Preparation Manual* Section 2.2, Section 200, "SWPPP Amendments." In addition, SWPPP amendments must be entered into an amendment log, as shown in the *Caltrans Plans Preparation Manual* Section 200.2, "Amendment Log."

The Roadway RE must review Design-Builder's proposed SWPPP amendment for completeness and conformance with the revised conditions, and give written approval to Design-Builder if the amendments are acceptable.

7.5 ENVIRONMENTAL HAZARDS AND SAFETY PROCEDURES

This section contains guidelines for handling and dealing with hazardous materials, hazardous waste, and hazardous spills on construction projects.

7.5.1 Hazardous Materials

Many hazardous materials are used in the construction of highway facilities. Employees must take appropriate precautions and use protective clothing and equipment to minimize their exposure.

Some special permits are required for dealing with hazardous materials during construction. Demolishing a bridge—whether new, old, or temporary—requires an asbestos survey and a permit from the local air quality management district. Reusing soils contaminated with aerially

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deposited lead (ADL) at concentrations exceeding regulatory thresholds is generally prohibited by state hazardous waste laws and regulations. For low levels of lead contamination, Caltrans has a variance issued by the DTSC, which exempts Caltrans from certain hazardous waste regulations and allows reuse of soils provided that specific requirements are met. This variance is not automatic. To invoke the variance, you must notify DTSC at least 5 days before starting construction of the Project.

The SARWQCB must also be notified at least 5 days before starting construction of the Project. For guidance regarding special permit and variance requirements and procedures, contact the District Environmental-Construction Liaison or District Environmental Unit.

During final design and before any ground-disturbing activities, Design-Builder works with the REs on the following:

- The RE informs Design-Builder of the presence and location of hazardous materials in freeway structures.

During the construction phases of the Project, Design-Builder works with the REs on the following:

- Design-Builder submits MSDSs and obtains permission from the Roadway RE before bringing any hazardous material onto the jobsite. For instruction, guidelines, and requirements for handling hazardous materials to ensure employee safety, refer to the *Caltrans Safety Manual* Chapter 16, "Hazardous Materials Communication Program."
- The RE requires Design-Builder to test all soils imported onsite as fill. Design-Builder is required to use only clean soils as imported fill onsite.

7.5.2 Hazardous Waste

During final design and before any ground-disturbance activities, Design-Builder works with the Roadway RE on the following:

- The RE requires Design-Builder to conduct site investigations for any new release sites that are within the Project ROW.
- The RE requires Design-Builder to conduct site investigations in compliance with applicable federal, state, and local regulations and in accordance with ASTM Standard E 1527-05.
- If contaminants are determined to be present during the site investigations, the RE may require Design-Builder to prepare and implement recommendations in one or

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more of the following specialized reports: Remedial Actions Options Report, Sensitive Receptor Survey, Human Health/Ecological Risk Assessment, and/or Quarterly Monitoring Report.

- The RE requires Design-Builder to conduct the following:
    - ADL study for soil if excavation will exceed 3 feet below ground surface (bgs) in unpaved locations adjacent to the state ROW between Gypsum Canyon Road and Magnolia Avenue, or 5 feet bgs in unpaved locations in areas where there would be fiber-optic signage along eastbound SR-91 from east of the Weir Canyon Road undercrossing to east of the Gypsum Canyon Road undercrossing.
    - Predemolition asbestos, lead-based paint (LBP), polychlorinated biphenyl (PCB), and/or mercury surveys of any buildings that will be renovated or demolished.
    - The RE requires Design-Builder to conduct inspections for potential PCBs in utility pole-mounted transformers to be relocated or removed as part of the Project.
- The RE requires Design-Builder to consider leaking transformers a PCB hazard unless tested and confirmed otherwise, and to handle them accordingly.
- The RE requires Design-Builder to sample soil adjacent to the BNSF railroad tracks that are disturbed during construction for the presence of petroleum hydrocarbons, metals, solvents, and other potential contaminants (e.g., polynuclear aromatic hydrocarbons [PAHs], kerosene, asbestos-containing materials [ACMs], chlorinated hydrocarbons, pesticides, and herbicides). This testing determines whether the soils require special handling and disposal during construction.
- The RE informs Design-Builder of the presence and location of all hazardous materials in freeway structures.
- During final design and before any ground disturbance, the RE requires Design-Builder to test all wooden utility poles, railroad ties, and other treated wood waste material to be removed and disposed of as part of the Project for wood treatments/preservatives. The RE also requires Design-Builder to test soils surrounding railroad ties for wood treatments/preservatives.
- Before construction starts, the RE requires Design-Builder to perform the following tasks:
    - Prepare a site-specific HSP by a certified industrial hygienist.
    - Prepare a soils and groundwater contaminant management plan, which includes procedures for contaminant monitoring and identification, as well as temporary storage, handling, treatment, and disposal of hazardous waste and materials in accordance with applicable federal, state, and local regulations and requirements.

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- Prepare a Construction Contingency Plan (CCP) in accordance with the Caltrans' Unknown Hazards Procedures for Construction.
- Dispose of all treated wood waste as required by the California Code of Regulations (CCR), Section 67386.6(a)(2)(B)(3) Alternative Management Standards for Wood Treated Waste. In addition, the RE requires Design-Builder to require any personnel who come in contact with treated wood waste or contaminated soils to follow all applicable requirements under CCR Section 67386.6(a)(2)(B)(3) and to be trained in the identification, disposal, and safe handling of treated wood waste and contaminated soils.

- Design-Builder identifies hazardous waste training needs.

Design-Builder provides field personnel with procedures and other information so that personnel may safely deal with known and unknown waste. During the construction phases of the Project, Design-Builder works with the REs on the following:

- The RE requires Design-Builder to protect construction workers from exposure to lead dust when disturbing LBP during bridge renovation or demolition activities.
- If soils within the Project disturbance limits along SR-91 are removed offsite, the RE will require Design-Builder to treat the soils as state hazardous waste and to dispose of those soils at an appropriate state-certified landfill facility.
- Prior to any disturbance associated with renovation or demolition of bridges, the RE informs Design-Builder of the presence of LBPs in bridge structures. The RE requires Design-Builder to protect construction workers from exposure to lead dust when disturbing LBP during bridge renovation or demolition activities.
- Prior to any disturbance associated with renovation or demolition of bridges, the RE requires Design-Builder to perform the following tasks:
  - Have a licensed asbestos Contractor remove and dispose of asbestos-containing railing brace pads from bridge structures.
  - Have a licensed asbestos Contractor remove and dispose of asbestos-containing railing brace pads from these structures.
  - Have a licensed asbestos abatement Contractor remove and dispose of asbestos-containing railing brace pads. If abated, the RE requires Design-Builder to remove nonfriable ACMs in accordance with Category II asbestos abatement procedures as defined in Federal Occupational Safety and Health Administration (OSHA) 29 CFR 1926.1101.

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- If mechanical means are used for abatement of ACMs, the RE requires Design-Builder to convert these nonfriable materials into a friable state during removal activities and manage these materials under Class I asbestos abatement procedures.
- Prior to disturbance of freeway structures, the RE requires Design-Builder to test any areas that have not been previously tested, and remove and dispose of any materials from these structures that exceed California Health and Safety Code criteria for hazardous waste at an appropriate state-certified landfill facility.
- Prior to any dewatering activities, the RE requires Design-Builder to conduct additional coordination with the Riverside County Department of Environmental Health when groundwater dewatering will occur near contaminated soils or contaminated groundwater sites.
- During construction, the RE requires that Design-Builder perform the following tasks:
    - Test, remove, and dispose of any yellow traffic striping and pavement marking materials in accordance with the Caltrans Construction Manual, Chapter 7, Section 106.
    - Remove and dispose of any materials from structures that exceed California Health and Safety Code criteria for hazardous waste at an appropriate state-certified landfill facility.
    - Dispose of all soils exceeding the criteria for state or federal hazardous waste at an appropriate state-certified landfill facility.
    - Implement the requirements in the HSP.
    - Implement the soils and groundwater Contaminant Management Plan.
    - Implement the CCP during all construction activities.
    - Cease Work immediately if an unexpected release of hazardous substances is found in reportable quantities. If an unexpected release of hazardous substances is found in reportable quantities, the RE requires Design-Builder to notify the National Response Center by calling 1-800-424-8802.
    - Dispose of all treated wood waste as required by CCR Section 67386.6(a)(2)(B)(3) Alternative Management Standards for Wood Treated Waste. In addition, the RE requires Design-Builder to require any personnel who come in contact with treated wood waste or contaminated soils to follow all applicable requirements under CCR Section 67386.6(a)(2)(B)(3) and be trained in the proper identification, disposal, and safe handling of treated wood waste and contaminated soils.

- The RE requires Design-Builder to perform cleanup of unexpected releases under the appropriate federal, state, or local agency oversight.

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- The RE requires Design-Builder to notify Underground Service Alert (USA) at least 2 days prior to excavation by calling 811 to require that all utility owners within the Project disturbance limits identify the locations of underground transmission lines and facilities.
- The RE requires Design-Builder to submit the fees to the South Coast Air Quality Management District (SCAQMD) at least 10 days before proceeding with any demolition or renovation of a structure (refer to SCAQMD Rule 1403). The RE requires Design-Builder to adhere to the requirements of SCAQMD Rule 1403 during renovation and demolition activities.
- Design-Builder ensures proper notifications if unidentified waste is found during construction.

All construction Project employees must follow safe practices and minimize their exposure when dealing with hazardous wastes. To minimize potential risks during Project construction, all construction personnel must follow the general procedures below:

- After unknown and potentially hazardous wastes (including underground tanks) are discovered, cease construction Work in that area.
- Secure the vicinity of the find by cordoning off the area with barriers and fences, and evacuate the vicinity if the Roadway RE deems such an action necessary.
- 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. This prohibition includes activities such as the following:
  - Touching, smelling, or ingesting suspected materials.
  - Climbing into trenches or enclosed areas where contamination is suspected.
  - Reaching, looking, or placing a foreign object (e.g., 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.
- 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 that no exposure danger exists. (The designated exclusion zones are delineated in the consultant-prepared Hazardous Waste Site Safety Plans.)

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7.5.3 Removal of Yellow Traffic Stripe and Pavement Markings

Follow the procedures below when assessing, removing, and disposing of yellow traffic stripe and pavement marking materials on all projects.

Construction Contract Review

The Roadway RE must review the construction Contract to determine whether yellow traffic stripe and pavement marking material must be removed. If so, the Roadway RE must also determine whether special handling as a hazardous waste is specified. The Project may proceed as planned if one of the following situations exists:

- All yellow traffic stripe and pavement marking material to be removed has been previously assessed and found to be free of lead.
- Yellow traffic stripe or pavement marking material to be removed has been tested and found to contain lead, and its removal and disposal as a regulated or 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 Roadway RE must consult with the District Hazardous Waste Coordinator and have lead testing performed.

Testing and Removal Requirements

If identified in the special provisions, the Roadway RE may order Design-Builder to test the striping and marking materials for lead. This testing is paid for as extra Work. Depending on the result of testing, proceed as follows:

- *Nonregulated Levels of Lead Found:* If no lead is detected by the initial testing or is detected at levels less than 350 parts per million (ppm) total lead and less than 5 ppm soluble, no additional testing or collection of residues is required. Design-Builder can dispose of the residue in the same manner as any other construction debris.
- *Nonhazardous Regulated Levels of Lead Found:* If lead levels detected by testing are less than 5 ppm soluble and less than 1,000 ppm total but are more than 350 ppm total, an employee safety and health plan is not required. However, measures to suppress dust and follow good personal hygiene are still required. All residue resulting from yellow traffic stripe and pavement marking removal, including any removal agent, must be collected and stored in sealed drums. The material must be retested and disposed of appropriately as set forth in “Retesting and Disposal,” later in this section.
- *Hazardous Levels of Lead Found:* If the lead levels detected by this initial testing are greater than 1,000 ppm total lead or greater than 5 ppm soluble lead, treat removal as

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lead abatement Work. Even when not contemplated in the Contract, the abatement of lead contained in striping by the construction Design-Builder is allowable under Health and Safety Code Section 25914.2 and the Business and Professions Code Section 7058.79d. Design-Builder must test the striping material when directed but may refuse to do the abatement Work if it was not included in the original Contract. If Design-Builder refuses the lead abatement Work, one of the construction hazardous waste emergency Design-Builders will perform the Work. Proceed as follows when lead abatement is required.

- *Training:* Design-Builder responsible for lead abatement must provide a safety training program that meets the requirements of the *Caltrans Construction Safety Orders* Section 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 Abatement Program:* Work practices and worker health and safety must conform to the *Construction Safety Orders* Section 1532.1, "Lead." As required in Section 1532.1, Subsection (e)(2), "Compliance Program," Design-Builder must submit the written compliance programs to the engineer before starting to remove yellow traffic stripes and pavement markings and at such times when revisions to the programs are required. An industrial hygienist certified by the American Board of Industrial Hygiene must prepare the compliance programs. A competent person who is capable of taking corrective action must monitor the programs. Copies of all inspection reports made in accordance with Section 1532.1 are to be given to the Roadway RE.
- *Storage of Residue:* Design-Builder must store the residue from traffic stripe and pavement marking removal as follows:
  - While waiting for any test results required by the disposal factory, store the collected residue in properly labeled containers approved for the transport of hazardous waste by the U.S. Department of Transportation (DOT).
  - Cover and handle the containers in such a manner that no spillage will occur.
  - Enclose the stored containers with the temporary fencing at a location within the Project limits approved by the Roadway RE. Fencing must not be plastic.
  - Begin disposing of the contained residue no more than 90 days after accumulating 100 kilograms of residue.

- *Retesting and Disposal:* Before disposal, retest the residue collected in the containers. 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, dispose of the stored material as follows:

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- Design-Builder can dispose of the stored material in the same manner as any other construction debris when the stored material's lead content is detected at levels less than 350 ppm and less than 5 ppm soluble.
- Design-Builder must take the stored residue to a Class I disposal site or a specially permitted Class II disposal site when its lead content is detected at levels greater than 350 ppm but less than 1,000 ppm total lead and less than 5 ppm soluble; however, in this case, the stored residue does not require hazardous waste manifesting or handling by a registered hauler. In the Project files, retain the records of the testing and the amounts of residue tested and disposed.
- Treat the stored residue as hazardous waste when its lead content is detected at levels greater than 1,000 ppm total lead or greater than 5 ppm soluble. Keep records in accordance with current requirements for hazardous waste handling and disposal, and file them in the Project files. The abatement Design-Builder must dispose of all residues resulting from yellow traffic stripe and pavement marking removal at an approved Class I disposal facility in accordance with the requirements of the disposal facility operator. A transporter currently registered with DTSC using correct manifesting procedures must haul the yellow traffic stripe and pavement marking residue.
- Unless the lead removal Work was already contemplated in the construction Contract, pay as extra Work performed for testing, additional removal costs, retesting, and additional disposal.

7.5.4 Aerially Deposited Lead

In areas where ADL has affected the soils, the Contract specifications set forth the required procedures for worker protection, handling, and reuse or disposal. Reuse of ADL soils with lead concentrations exceeding regulatory thresholds is allowed when the DTSC variance requirements are met and the variance is invoked through notification of DTSC and the SARWQCB.

The Roadway RE must verify that the Roadway RE's file or the materials information handout includes a copy of the Project variance submittal sent to DTSC. If the DTSC submittal is not with the file or the materials information handout, the Roadway RE must contact the Project Engineer to determine if the submittal was sent to DTSC. If the submittal was not sent to DTSC, the Roadway RE must contact the District Environmental-Construction Liaison or Hazardous Waste Coordinator for assistance in preparing and sending the submittal, which must be received by DTSC at least 5 days before the start of construction.

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7.5.5 Hazardous Spills

Each district has a Hazardous Material Manager and other personnel trained in handling highway spills. When an unknown substance is deposited or spilled from a vehicle on a roadway caused by the traveling public, contact the District Hazardous Material Manager for assistance in containment, identification, and cleanup within the Caltrans ROW. For instructions on reporting hazardous highway spills, see the Section 3.8.3 of this DBCM. If Design-Builder spills hazardous materials, Design-Builder must comply with applicable laws and regulations, as well as cleanup and disposal.

If an unidentified spill is expanding and threatening adjacent sensitive areas, begin containment immediately if it can be done without personal exposure. Conventional methods for containment include interception with dikes or ditches at sufficient distance downstream to avoid contact with the material. Prevent employees, workers, or the public from being exposed to any unknown spilled material. Refer to the Construction Hazards Procedures in Figure 7-2 for guidelines for proper procedures for responding to construction hazards.

7.5.6 Solid Waste Disposal and Recycling Reporting

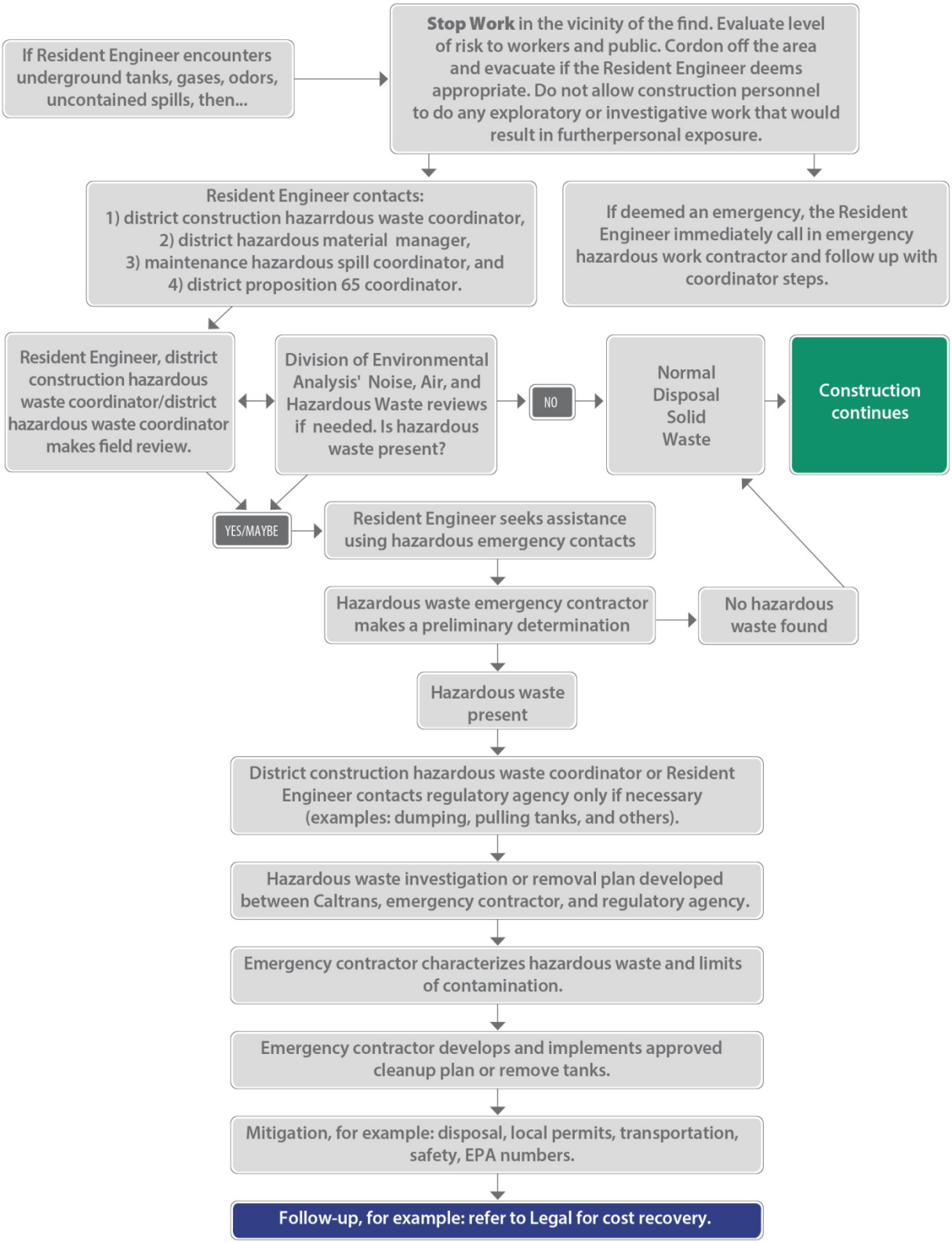
Contracts containing special provisions for solid waste disposal and recycling reports require Design-Builder to chronicle landfill disposal and material recycling activity performed through the duration of the Contract. Design-Builder reports this information annually via the Division of Construction's Caltrans Form CEM-4401, "Solid Waste Disposal and Recycling Report." The Roadway RE must ensure that the form is given to Design-Builder and checked as received during the preconstruction conference. The requirements of the form are explained and reiterated during the preconference and other meetings.

At a minimum, Caltrans Form CEM-4401 must include the following information:

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

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Figure 7-2 – Construction Hazards Procedures



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Design-Builder submits the annual report for ongoing Contracts to the Roadway RE by the 15th day of January, 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 Design-Builder in good order before the Contract can be finalized. To be acceptable, Clatrans Form CEM-4401 must be completely filled out and signed by Design-Builder. The Roadway RE must review all reports submitted by Design-Builder for accuracy and compare the total amount of materials taken to and diverted from landfills from the solid waste disposal and recycling reports with the approximate amount of Work requiring the removal of materials. Before signing each report, the Roadway RE must resolve any discrepancies in material type or amount with Design-Builder. A deduction of $10,000 for noncompliance will be made for missing reports or for each report submitted by Design-Builder that is either delinquent, inaccurate, or incomplete.

The Roadway RE must submit the approved Caltrans Form CEM-4401 to the District Recycling Coordinator and a copy each to the District Construction Office and the Statewide Recycle Coordinator in the Division of Design 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/ab75/coordinators.htm.

7.6 PROJECT FILES

7.6.1 Environmental Monitoring

Project files for environmental monitoring include, but are not limited to:

- Implementation schedules for soil stabilization and sediment control for disturbed soil areas.
- Schedule for implementation of the environmental protection training program listed in the EMP.
- Reports of preconstruction surveys.
- Monitoring reports of Work near ESAs.
- Annual certification of compliance as specified. Sign, date, and file this certification in the Project records.
- Post-construction environmental performance, which is included in the Final Monitoring Report.
- Documentation showing compliance with each mitigation measure and environmental commitment as it relates to Project construction.
- Weekly monitoring reports from Design-Builder and Inspectors.

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- Post-construction reports of the ESAs.
- A final Monitoring and Report Plan is prepared, documenting closure or concurrence of nonclosure for all compliance actions.
- Reporting of the post-construction environmental performance is included in the Final Monitoring Report.
- Copies of all CECs.

7.6.2 Stormwater Management

The Roadway RE must keep copies of all documents related to stormwater pollution prevention. Guidelines for maintenance of Project files and documentation can be found in the *Caltrans Construction Manual* Category 20, "Water Pollution Control Plan or Storm Water Pollution Prevention Plan." Retain all required documents for at least 3 years after Contract completion. These documents include the following:

- SWPPP and all amendments.
- Daily reports and photographs related to the prevention of stormwater pollution.
- Design-Builder's site-inspection checklists.
- Design-Builder's reports of discharge.
- All correspondence related to stormwater pollution prevention, including notices of noncompliance, resolutions of noncompliance, and implementation of noncompliance resolutions.
- Inspection reports from the stormwater compliance task force.
- Inspection reports from the Roadway RE and Assistant RE.
- Copies of the certifications required by the specifications.
- Caltrans Form CEM-2003, "Notification of Completion of Construction."
- All SWPPP amendments.
- Upon Roadway RE's approval, Design-Builder must incorporate all SWPPP amendments into the onsite documents. Design-Builder must prepare SWPPP amendments in the format prescribed in the *Caltrans Plans Preparation Manual* Section 2.2, Section 200, "SWPPP Amendments." In addition, SWPPP amendments must be entered into an amendment log, as shown in the *Caltrans Plans Preparation Manual* Section 200.2, "Amendment Log."

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7.6.3 Environmental Hazards and Safety Procedures

Design-Builder and Roadway RE must keep the following documentation regarding environmental hazards and safety procedures :

- Complete Project records with regard to hazardous waste Work.
- MSDSs from Design-Builder.
- Materials information handouts, including copies of any Project variance submittals sent to DTSC. If the DTSC submittal is not with the file or the materials information handout, the Roadway RE must contact the Project Engineer to determine if the submittal was sent to the DTSC.
- Annual Solid Waste Disposal and Recycling Reports.

7.7 REFERENCES

- *Caltrans Construction Manual*
- *Caltrans Construction Safety Orders*
- *Caltrans Division of Construction Forms*
- *Caltrans Plans Preparation Manual*
- *Caltrans Plans Preparation Manual*
- *Caltrans Safety Manual*
- *Caltrans Standard Environmental Reference* (www.dot.ca.gov/SER/index.htm)
- *Caltrans Storm Water Quality Handbooks*
- *Environmental Regulations and Guidance*
- *Guide to Caltrans Capital Work Breakdown Structure*

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Chapter 8: Employment Practices Verification

Employment practices verification ensures Design-Builder compliance with federal, state, and local labor, employment, and civil rights-related laws, regulations, rules, and mandates applicable to the Project, specifically including the DBE program, nondiscrimination/EEO, prevailing wage, and labor compliance requirements.

Employment practices verification for the Project during construction includes the following objectives:

- Monitor Design-Builder's labor compliance program, policies, and implementation.
- Support the DIR CMU in its role performing primary labor compliance oversight.
- Develop and employ practices to check Design-Builder's compliance with labor laws, such as reviewing certified payroll record processes and conducting employee interviews.
- Monitor Design-Builder's DBE Performance Plan requirements and implementation.
- Monitor Design-Builder's reporting activities for EEO compliance.

8.1 ENTITIES' RESPONSIBILITIES

8.1.1 Design-Builder

FHWA Form 1273, which specifies EEO requirements for federal-aid construction contracts, is included with the Contract. Design-Builder implements EEO activities in compliance with the requirements of FHWA Form 1273, including submittal of annual reports to FHWA.

Design-Builder also implements a DBE Program Performance Plan in accordance with Contract requirements. Design-Builder's DBE Program Administrator leads the DBE program performance plan implementation and coordinates with the PCM DBE-Labor Compliance Officer. Design-Builder submits monthly reports of DBE program activities, including ongoing good faith efforts, DBE commitments, and DBE attainments to the PCM DBE-Labor Compliance Officer.

8.1.2 RCTC

RCTC Procurement Manager provides oversight and support of the PCM DBE-Labor Compliance Officer. RCTC Procurement Manager also communicates with RCTC Community Relations Manager to ensure that public outreach activities include disadvantaged communities.

Project and Construction Management

PCM DBE-Labor Compliance Officer is based in the co-located Project office in Corona. PCM DBE-Labor Compliance Officer provides oversight and documents Design-Builder compliance

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with EEO requirements. PCM DBE-Labor Compliance Officer is also responsible for oversight of Design-Builder's DBE program-related activities.

At the Project field level, the REs and Assistant REs are responsible for assisting the PCM DBE-Labor Compliance Officer in enforcing the labor requirements stated in the Contract. REs and Assistants REs must have an adequate working knowledge of the Contract labor requirements.

PCM DBE-Labor Compliance Officer support personnel provide oversight over Design-Builder's and its subcontractors' compliance with labor laws and payment of prevailing wages, including periodic and random onsite employee interviews, and spot reviews of prevailing wage records.

Early surveillance and detection of labor compliance violations are preferable to conducting belated investigations and implementing formal enforcement actions. The REs, along with the Project PCM DBE-Labor Compliance Officer, are responsible for bringing labor compliance issues to the attention of Design-Builder immediately upon detection. If the issue is not resolved timely, the RCTC Toll Project Manager may recommend withholding funds. If Design-Builder provides evidence of full compliance and restitution, the PCM DBE-Labor Compliance Officer promptly authorizes the return of withheld funds to Design-Builder.

When Design-Builder knowingly violates labor law or refuses to comply with the Contract labor requirements, the PCM DBE-Labor Compliance Officer may consider these actions willful in nature. Willful violations include fraud, wage kickback schemes, or falsification of certified payrolls, fringe benefit statements, evidentiary source documents, and daily extra Work bills. These violations require that the PCM DBE-Labor Compliance Officer conduct an investigation and report its findings to the RCTC Toll Project Manager, DIR CMU, and other DIR departments.

8.1.3 Caltrans

Caltrans supports the Project as technical advisor and provides oversight to RCTC on DBE program matters.

At its discretion in its oversight role, Caltrans conducts formal compliance reviews of Design-Builder and subcontractors subject to EEO requirements. The Caltrans Labor Compliance Oversight Unit may conduct periodic audits of Design-Builder's labor compliance records.

At the Project field level, the Lead Inspectors and Inspectors are responsible for assisting the REs and the PCM DBE-Labor Compliance Officer in spot-checking the labor requirements stated in the Contract, if requested by the PCM Labor Compliance Team.

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Lead Inspectors and Inspectors must have an adequate working knowledge of the Contract labor requirements. The Inspectors may conduct random onsite employee interviews.

8.1.4 Department of Industrial Relations

The DIR's CMU primary role is to perform labor compliance enforcement and oversight. The DIR provides labor compliance monitoring services for the Project and is based at a DIR facility.

In addition to DIR CMU activities, the DIR CMU may conduct Project site visits and onsite employee interviews to verify proper payment of prevailing wages and fringe benefits, and to ensure that covered employees are provided with adequate notification of applicable prevailing wage rates and applicable training.

8.1.5 FHWA

FHWA is responsible for oversight of RCTC's and Design-Builder's compliance with EEO-related requirements other than Executive Order (EO) 11246.

The Office of Federal Contract Compliance Programs (OFCCP) is responsible for providing compliance oversight with the requirements of EO 11246.

FHWA oversees RCTC DBE program activities. FHWA is based out of its Sacramento office and monitors RCTC's overall DBE Project goal and its Contract-specific DBE goal for the Project, and it may perform audits of RCTC's DBE program.

8.2 LABOR COMPLIANCE

The California Labor Code, 29 CFR 5, and regulations of FHWA, the CCR, and the U.S. Department of Labor provide the basis for Contract administration protocol and the statutory authority to enforce labor compliance Contract provisions.

State and federal laws require contractors working on public works contracts to pay prevailing wages to their employees. Prevailing wages are predetermined hourly rates for each craft that are set by both the California DIR and the U.S. Department of Labor. In addition, these laws set guidelines for the following:

- Overtime
- Length or shifts of workday
- Substantiation of wages
- Fringe benefits paid

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The Federal-aid Highway Acts of 1956 and 1968 provide an active program to ensure that laborers and mechanics employed on federal-aid projects are paid at wage rates generally prevailing for the same type of Work on similar construction in the immediate locality. The federal wage rate determinations are included in the Contract.

The California Labor Code provides that the California DIR determine and publish the general prevailing wage rates and that those rates be referenced in the Contract.

The California Labor Code requires Design-Builder and its subcontractors to maintain and retain certified payroll records and submit those records to the DIR. Design-Builder must also submit certified payroll records to the PCM DBE Labor Compliance Officer through ConstructWare (Design-Builder's document management web-based software).

The DIR CMU is responsible for ensuring that Design-Builder complies with the payment of prevailing wages and benefits, and it may also audit payroll records.

Design-Builder is required to submit certified payroll records and related supporting documents to the Project Contract Management Team representatives to verify compliance.

8.2.1 Interviews with Design-Builder and subcontractors' Personnel

Authorized DIR CMU, PCM DBE-Labor Compliance Officer support personnel, and/or the Inspectors may perform periodic and random onsite interviews of Design-Builder's employees, including subcontractors' employees, during working hours. A variety of crafts and trades are interviewed. The number of interviews taken constitutes a reasonable representative sample of workers employed on the Project at the discretion of the REs. In its oversight role, Caltrans may also perform independent interviews at its discretion.

The employee interviews are recorded on Caltrans Form CEM-2504, "Employee Interview: Labor Compliance/EEO" or Caltrans Form CEM-2504 (Spanish), "Entrevista de Empleado: Labor Compliance/EEO," if applicable.

The employee interviews are used to validate information shown on the certified payroll records. The employee is asked questions regarding wage rates, hours of Work, and type of Work performed. During the interviews, employees are assured that their statements, whether oral or written, are confidential. Employees are interviewed individually and away from supervisory personnel and other Design-Builder and subcontractors' staff to provide privacy and confidentiality. Employee identities are not disclosed to the employer without the employee's consent.

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When an interview indicates a reporting deficiency, such as a lack of knowledge of classification or rate of pay, or labor violation such as nonpayment of overtime, support personnel are responsible for notifying the PCM DBE-Labor Compliance Officer, which in turn notifies the RCTC Toll Project Manager. If reporting deficiencies continue, the PCM DBE-Labor Compliance Officer may contact the DIR CMU. If necessary, the PCM DBE-Labor Compliance Officer recommends conducting an investigation on the information provided.

In the case of a small Subcontractor having two or three employees on the Project for several months, do not continue taking interviews once a reasonable sample of the Subcontractor's staff has been interviewed. The PCM DBE-Labor Compliance Officer contacts the DIR CMU with concerns whether the subcontractor is fully complying with the labor requirements. The DIR CMU may conduct its own independent interviews of this subcontractor.

8.3 EQUAL EMPLOYMENT OPPORTUNITY

The Federal-Aid Highway Act of 1968 (23 United States Code [USC] 140(a)) and the implementing regulations of 23 CFR 230, require that RCTC, as a direct recipient of federal financial assistance, ensure that employment in connection with federal highway construction projects is provided without regard to race, color, creed, national origin, or sex. RCTC is also required to include notification of a federal-aid Contractor's EEO responsibilities in the Contract specifications.

The PCM DBE-Labor Compliance Officer monitors Design-Builder's compliance with apprenticeship, skill improvement, or other upgrading programs that provide equal opportunity for training and employment without regard to race, color, creed, national origin, or sex. FHWA Form 1273 "Required Contract Provisions for Federal-Aid Construction Contracts" is a standard form containing the required Contract provisions and proposal notices; this form must be physically inserted in each of RCTC's federal-aid highway construction Contracts and subcontracts, at any tier, of $10,000 or more.

EEO requirements apply to all federal-aid construction contracts and all related subcontracts of $10,000 or more. Design-Builder is subject to the Department of Transportation (DOT) EEO and nondiscrimination requirements pursuant to 23 USC 140(a) and its implementing regulations. In addition, Design-Builder is subject to the U.S. Department of Labor's federal-aid contract requirements that include women and minority recruitment goals and the adherence to specific EEO and affirmative action standards pursuant to 41 CFR 60.

Design-Builder and each of its subcontractor's contract values that exceed $10,000 must prepare FHWA Form PR-1391 and submit it to the PCM DBE-Labor Compliance Officer. The

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reporting period for FHWA Form PR-1391 is only for federal-aid construction contracts that are active during the last pay period in July. If the Contract is completed prior to the last pay period in July, or the construction Contract does not begin until August, then no PR-1391 report is required. The PCM DBE-Labor Compliance Officer ensures that Design-Builder and subcontractors complete the form accurately and timely, and countersigns and submits PR-1391 to FHWA by August 30 of each year.

8.3.1 Equal Employment Opportunity Compliance Monitoring

The PCM DBE-Labor Compliance Officer documents Design-Builder's compliance with the EEO requirements according to FHWA Form 1273. PCM DBE-Labor Compliance Officer, along with Caltrans Oversight Inspectors, conducts formal compliance reviews of Design-Builder and subcontractors subject to EEO requirements. These reviews occur during the peak employment period for Design-Builder's Work. The review consists of a desk audit and an onsite review that examines Design-Builder's personnel policies; EEO practices; workforce composition, such as job classification, race, and gender; and documentation of the Contractor's efforts to recruit women and minorities in all aspects of employment. RCTC uses an EEO contractor compliance review model based on 23 CFR Part 230, Subparts A and D.

Only the Department of Labor has the authority to determine compliance with EO 11246 and its implementing regulations. RCTC does not possess independent authority to determine compliance with EO 11246, 41 CFR 60, or the minority and female goals established by the OFCCP. If RCTC becomes aware of any possible violations of EO 11246 or 41 CFR 60, PCM DBE-Labor Compliance Officer must notify the OFCCP and cooperate with OFCCP personnel on reviews or audits of Design-Builder and its subcontractors, as needed.

8.4 DISADVANTAGED BUSINESS ENTERPRISE

RCTC, under guidance and direction from FHWA's Office of Civil Rights, has established a DBE Program approach for the Project in accordance with regulations of DOT, 49 CFR 26. RCTC receives federal financial assistance from DOT and FHWA and, as a condition of receiving this assistance, RCTC and its Design-Builder signed an assurance that it will comply with 49 CFR 26. RCTC's DBE Program includes a race-conscious component.

RCTC has approved the Design-Builder DBE Program Performance Plan and monitors Design-Builder's compliance with that Plan. The approved DBE Program Performance Plan may be revised as necessary during Contract performance. All revisions to the DBE Performance Plan must be approved in writing by the RCTC Procurement Manager.

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Design-Builder submits monthly reports of DBE program activities, including ongoing good faith efforts, DBE commitments, and DBE attainments, to the PCM DBE-Labor Compliance Officer. The PCM DBE-Labor Compliance Officer monitors Design-Builder's compliance with the approved DBE Program Performance Plan, which includes quarterly meetings, DBE outreach and communication activities, and additional reporting and data recording requirements. The PCM DBE-Labor Compliance Officer submits regular reports, including the monthly DBE utilization report, to RCTC on DBE attainments for the Project.

The RCTC Procurement Manager submits the semiannual uniform report to Caltrans and FHWA on DBE attainments for the Project.

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Chapter 9: Tolled Express Lanes Responsibilities

This section defines the roles and responsibilities for all components related to construction of the tolled express lanes. The tolled express lanes design and construction will be accomplished by two parties:

- Design-Builder, which will design, furnish, and install the required infrastructure for the tolled express lanes, including conduits, foundations, poles, gantries, toll utility buildings, etc.
- Toll Systems Integrator, which will provide the design, toll and TM equipment, factory testing, installation, integration, systems testing and acceptance, training, and warranty.

Tolled express lanes responsibilities for the Project during construction include the following objectives:

- Provide a comprehensive delineation of roles and responsibilities for each entity involved with construction and construction management of the tolled express lanes.
- Provide information to achieve proper coordination among Caltrans, RCTC, Design-Builder, Systems Integrator, OCTA, and other entities involved with implementation of the Program.
- Provide a summary and sources of information to clearly understand the Toll Systems Infrastructure oversight and compliance.
- Comply with federal and state requirements by means of submittals, reviews, and approvals.

9.1 ENTITIES' RESPONSIBILITIES

9.1.1 Design-Builder

Design-Builder designs, furnishes, and installs the required civil infrastructure to support implementation of the Electronic Toll Collection (ETC), Vehicle Enforcement System (VES), and TM systems. Design-Builder's Work will include design and construction of the toll portal sites and the toll utility buildings (TUBs), including toll portal gantry; camera and sign foundations; site electrical service connections; and conduit system for the fiber-optics communication network. This Work is planned as part of the design-build Contract and is generally implemented using off-the-shelf components. Design-Builder is not required to provide any system integration efforts. Design-Builder coordinates its schedule for construction of the civil components with the Toll Systems Integrator, Cofiroute USA, which installs and tests toll systems equipment and software.

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9.1.2 Toll Systems Integrator

Cofiroute USA will complete the system design developed during the Project development phase under a PCM Contract and act as the Toll Systems Integrator.

Systems Integrator conducts all Work necessary to meet the requirements for implementation of the ETTM system. The scope of Work includes design, factory, commissioning, operations, and Final Acceptance testing; installation; integration; training; and warranty. The Toll Systems Integrator installs the toll roadside equipment within the TUBs and the toll portal gantry, the tolled express lanes safety cameras, CMSs, back office software (Revenue and Account Management System [RAMS]), and any necessary upgrades to the data center, operations, and Customer Service Center (CSC) facilities.

Systems Integrator also provides interim maintenance and final systems acceptance testing of the ETTM system.

9.1.3 RCTC

RCTC is ultimately responsible for management of the tolled express lanes, including toll design, construction, integration Work, violations enforcement, customer service, associated traffic and incident management, and operations and maintenance.

RCTC implements the Project's ETTM system, which includes the ETC, RAMS, VES, and TM of the tolled express lanes.

Only the RCTC Toll Project Manager is authorized to perform the following tasks:

- Direct or suspend the performance of Systems Integrator's Work.
- Approve deviations from any Contract requirements.
- Approve changes in or deviations from the approved Design Documents or performance by Systems Integrator of extra Work or changed Work.
- Waive any Contract requirements or provisions.
- Approve change orders, VECPs, or Contract amendments. Contract amendments also require approval of the Director and/or Commission before proceeding.

Project and Construction Management

The PCM Consultant provides implementation oversight for the Project duration. The PCM Consultant assists RCTC in implementing the Project by providing Project definition, coordinating Contract and construction activities, and monitoring system acceptance testing.

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The PCM has entered into a subcontract with Cofiroute USA for its assistance in design of the toll facilities, support during the procurement process, and assistance in developing business rules, policies, and procedures. Systems Integrator's point of contact with the PCM during construction is the PCM System Installation RE.

RCTC, through the PCM oversight, provides the actual approval/acceptance of the ETTM system.

9.1.4 Caltrans

Caltrans reviews, comments on, and approves the toll-related civil infrastructure within the state ROW as described in Chapter 4.

Caltrans also provides oversight and approval of all specified electronic interfaces with its TMC and Intelligent Transportation System (ITS).

9.1.5 FHWA

FHWA provides oversight for all critical toll infrastructure and system design activities associated with design, testing, integration, and acceptance of the tolled express lanes. FHWA approved the Systems Engineering Review Form (SERF) and Concept of Operations (ConOps) and will review and approve the validation test reports, while reviewing and providing comments on the remainder of the Systems Engineering Management Plan (SEMP).

9.1.6 OCTA

OCTA reviews and provides comments on system design, construction, installation, and integration activities for any Work connecting to, or integrating with, any existing system owned and operated by OCTA.

9.2 SYSTEMS INSTALLATION AND INTEGRATION CONTRACT

The SIIC provides a clear and concise understanding of the requirements to all parties to ensure successful implementation of the new Project ETC system with full compatibility with the existing system in Orange County.

The installation and integration requirements also ensure compliance with all applicable agreements, design specifications, and Contract requirements. A clear understanding of the roles, responsibilities, key tolling components, processes, and requirements that will be employed is essential to ensure successful startup of the facility.

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9.3 TOLL EXPRESS LANES CIVIL INFRASTRUCTURE INSPECTION

Inspection of all toll express lanes civil infrastructure Work performed by Design-Builder must follow all guidelines in Chapter 4, IQA.

RCTC and the PCM Consultant participate in Design-Builder's ETTM infrastructure milestone inspection to confirm that all physical, functional, construction, and installation requirements have been completed. As necessary, a punchlist will be developed, and Design-Builder will complete all necessary punchlist items.

Systems Integrator participates in Design-Builder's Second Notice of ETTM infrastructure turnover inspection to confirm that all physical, functional, construction, and installation requirements have been completed.

Systems Integrator, in conjunction with the Systems Installation RE and the Roadway Assistant RE, identify and develop the punchlist related to completion of any Work for the ETTM infrastructure.

Systems Integrator provides acceptance of the ETTM infrastructure Work, including punchlist items, as a condition to the ETTM infrastructure turnover. Upon acceptance, the ETTM facilities will be released to Systems Integrator for its installation and integration Work.

Design-Builder completes all Work related to the ETTM infrastructure as set forth in Contract TP Section 19 and secures the written certificate of ETTM infrastructure turnover from RCTC and Systems Integrator (collectively, "ETTM Infrastructure Turnover") no later than 270 days prior to the Substantial Completion Deadline.

9.3.1 Subsystems

Systems Integrator is responsible for implementation of the subsystems (i.e., toll subsystem, camera subsystem, CMS sign subsystem, and communications subsystem) delivered as part of the scope of this DBCM. The ETTM system operates at the same level of performance as OCTA's ETTM system.

Systems must be able to accurately identify and count all vehicles passing through the toll zone, at all levels of traffic, up to a maximum traffic volume of 2,500 vehicles per lane per hour and 5,000 vehicles per direction per hour. Traffic volumes on the adjacent freeway lanes must not affect the system's accuracy. The overall system performance is predicated on at least 80 percent of vehicles being equipped with the tag in the correct position when passing through the toll area.

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Systems Integrator must guarantee that, at all times during the warranty period, the system will operate in accordance with the specifications outlined in this DBCM and must maintain a minimum measured accuracy rate as defined hereafter.

9.4 TOLL SYSTEMS INTEGRATION AND INSTALLATION QA/QC

Systems Integrator has the primary responsibility for establishing and maintaining a QC and QA program for the Work that will be approved by RCTC, including all Work and products of subcontractors, fabricators, suppliers, subconsultants, and vendors both onsite and offsite. The QC program must make certain that design, procurement, shipping, handling, fabrication, installation, cleaning, inspection, construction, testing, storage, examination, repair, maintenance, and required modifications of all materials, equipment, and elements of the Work comply with the requirements of the Contract Documents. It must also ensure that all materials, equipment, and other elements of the Work perform satisfactorily for the purpose intended. The PCM System Installation RE ensures that Systems Integrator is complying with its QC program and the SIIC.

Systems Integrator and its management bears the ultimate responsibility for ensuring that goals and objectives are met in accordance with quality policy and Contract terms and should be kept abreast of Project status by frequent reports and internal audits from its Manager of QA. Systems Integrator has the primary responsibility for the QA/QC aspects of the Work, including all Work and products of subcontractors, fabricators, suppliers, subconsultants, and vendors both onsite and offsite.

The Systems Integrator Project Manager is responsible for implementation of the QC system and quality procedures at the Project level supported by management staff involved in equipment manufacture, subcontractors, and senior technical staff.

Systems Integrator must provide the Project schedule to the System Installation RE to enable RCTC to evaluate Work progress, determine payment, evaluate the cost of schedule recovery, and make SIIC time adjustments.

Systems Integrator is solely responsible for planning and executing the Work. RCTC's acceptance of a Project schedule does not:

- Imply approval of any particular construction methods or relieve Systems Integrator's responsibility to provide sufficient materials, equipment, and labor to guarantee completion of the Project in accordance with the Contract; and
- Attest to the validity of assumptions, activities, relationships, sequences, resource allocations, or any other aspect of the baseline schedule.

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Failure to include any element of Work required by the SIIC in the Project schedule does not relieve Systems Integrator of responsibility to perform such Work.

9.5 SYSTEM INTEGRATOR SUBMITTALS

Systems Integrator is also responsible for preparing and submitting the following documents to the System Installation RE:

- Baseline schedule
- Monthly Project Schedule and Narratives (MPRs)
- Four-Week Installation Detail Schedule (Four-Week Look Ahead)
- Recovery Schedules, as needed

The Systems Installation RE coordinates the review of the above documents with the PCM Schedule Manager.

9.6 CONFIGURATION MANAGEMENT PLAN

Systems Integrator must establish and implement configuration control policies and procedures related to the hardware and software for all furnished ETTM equipment and systems. Systems Integrator must develop a Configuration Management Plan that contains the required policies and procedures for tracking and archiving changes made during the design, manufacturing, testing, and installation phases of the Work in accordance with the SIIC requirements. As-built drawings and final submittals must incorporate the latest changes as reflected by the configuration management process.

9.7 SYSTEM INTEGRATOR COORDINATION

Systems Integrator must coordinate its Work with all adjacent design and construction efforts. Systems Integrator must coordinate the Work and monitor such adjacent Work, whether performed by Design-Builder, Caltrans or another governmental agency, community groups, landowners, utility owners, utility owner's consultants, resource agencies, environmental groups, or any other organization. Systems Integrator must be aware of the impact all such Work may have on the Project and must account for all such Work in the design and installation plans. Systems Integrator is responsible for reviewing plans for adjacent Work and providing RCTC with written comments on adjacent Work that could result in impacts on the Project.

9.7.1 Network Connection to Caltrans District 8 Inland Empire TMC

The ETTM fiber optic communication network must provide connections to the Caltrans District 8 Inland Empire TMC. Two fiber-optic strands are used to provide transmission video and data signals from the Traffic Operations Center (TOC) to the TMC. The PCM System

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Installation RE verifies that Systems Integrator coordinates with Caltrans the cable splice points for connecting to the Caltrans fiber-optic network.

9.8 FURNISH MATERIALS TO DESIGN-BUILDER

Systems Integrator furnishes materials to be installed by Design-Builder. These materials must comply with the material inspection and testing by METS described in Chapter 4. The Systems Integrator-furnished materials are to be available for Design-Builder's pickup 42 days after the Contractor's notification of request for equipment and no earlier than April 14, 2015. The Systems Integrator-furnished materials are to be available for pick up at the Systems Integrator's facility located within a 25-mile radius of the Project.

The PCM System Installation RE and the Roadway RE are responsible to provide coordination and guarantee a smooth transfer of the furnished materials between Systems Integrator and Design-Builder.

Contract TP Section 19.2.2 identifies the equipment that will be supplied to Design-Builder by Systems Integrator, and it is also outlined in Chapter 4.

The Roadway RE ensures that Design-Builder provides notification to Systems Integrator and the Systems Installation RE at least 42 day prior to installation for this equipment.

9.9 NONCONFORMANCE WITH SIIC

Nonconforming Work must follow the process from Article 10.2 of the SIIC summarized below.

9.9.1 Rejection of Nonconforming Work

Any work (or portion thereof) that RCTC determines does not conform to the requirements of the Contract, governmental approvals, applicable law, and/or the standard of care established in the Systems Integration and Installation Contract (SIIC) ("Nonconforming Work") must be, as applicable, redone and/or removed and replaced so that it conforms to such requirements, at Systems Integrator's sole cost and expense, and without a time extension. Systems Integrator must promptly take all action necessary to prevent similar deficiencies from occurring in the future.

The fact that RCTC may not have discovered the Nonconforming Work will not constitute an acceptance of such nonconforming work, *provided* that no order to remove and replace pursuant to this Section 10.2(a) in any way negates, impairs the effect of, or constitutes a rescission of any Certificate theretofore issued by RCTC under SIIC Article 17; *provided further*, that if identification and correction of any nonconforming work occurs after substantial completion, Systems Integrator is liable to RCTC for any losses related to such corrective Work.

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If Systems Integrator fails to correct any nonconforming work within 10 days of receipt of notice from RCTC requesting correction, or if such nonconforming work cannot be corrected within such 10-day period and Systems Integrator fails, within that 10-day period, to: (1) Provide RCTC a schedule for correcting any such Nonconforming Work acceptable to RCTC; (2) Commence such corrective Work; and (3) thereafter diligently prosecute such correction in accordance with such approved schedule to completion, then RCTC may cause that work to be remedied or removed and replaced and may deduct the cost of doing so from any monies due or to become due to Systems Integrator and/or obtain reimbursement from Systems Integrator for such cost.

If Systems Integrator disputes RCTC's determination that any Work (or portion thereof) is nonconforming work, Systems Integrator must nevertheless timely comply with the requirements of this paragraph, and may, before beginning the corrective Work, submit such dispute for resolution pursuant to SIIC Article 33. If Systems Integrator prevails in such a dispute, then any delay in the critical path for the Work described in this paragraph is considered to be caused by RCTC, and Systems Integrator is entitled to a change order (described in Section 6.7 of this DBCM) for the cost of such efforts and recovery of any delay to the critical path that resulted from such a dispute.

9.9.2 Agreement to Accept Nonconforming Work

If RCTC agrees to accept any nonconforming work without requiring it to be fully corrected, RCTC is entitled to reimbursement of a portion of the applicable price of such Work in an amount equal to the greatest of:

- The amount reasonably determined by RCTC as appropriate to provide compensation to RCTC for impacts such as future maintenance and/or other costs relating to the nonconforming work;
- The price of such Work under this Agreement; or
- 100 percent of Systems Integrator's cost savings associated with its failure to perform the nonconforming work in accordance with the requirements of the Contract Documents as reasonably determined by RCTC.

Such reimbursement is payable to RCTC within 10 days after Systems Integrator's receipt of an invoice. Alternatively, RCTC may deduct the amount of such costs and expenses from any sums owed by RCTC to Systems Integrator pursuant to this Agreement. Systems Integrator acknowledges and agrees that RCTC has sole discretion regarding acceptance or rejection of nonconforming work and determines, in good faith, the amount payable in connection therewith. If Systems Integrator disputes such RCTC determination, the dispute must be

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submitted to RCTC in writing within 20 days of the determination and resolved pursuant to SIIC Article 33.

OSMPP manual, Section 1.19, Blue Tag Materials Release Procedures, should be followed for nonconforming material for which an engineering analysis has determined that the material(s) will be suitable for it is intended purpose.

9.10 FINAL ACCEPTANCE TESTING

Conducting the final acceptance test is a matter of reviewing all transactions over the test period and reviewing each and every misread of a valid transaction. Chargeability is determined, and pass/fail will be developed based on accuracy and availability. Caltrans and FHWA will receive test reports.

When a vehicle is passing through the toll zone, the ETTM system collects data and images and transfers this information to the back-office/RAMS (via the toll zone computer [TZC] for transponder ID and via the VES image server for the vehicles images). Five cases are identified:

1. The ETTM system gives a transponder ID and a “correct” image.
2. No transponder ID, but the ETTM system gives a “correct” image.
3. No “correct” image, but the ETTM system gives a transponder ID.
4. No image at all, no transponder ID.
5. Image and/or transponder ID are present but cannot be used due to insufficient quality.

The measured accuracy rate is calculated for any toll period (i.e., day, week, month, year) for a lane, a direction, or for the system as a whole, in accordance with the following formula:

$$\frac{\sum_{1}^{3} Case}{Numberofvehicles}$$

To accept the ETTM system during the final acceptance testing period, the measured accuracy rate must be better than 98.00 percent for 2 consecutive months and an accuracy rate of at least 99.00 percent for 2 consecutive weeks. If this performance level is not maintained, the testing period is extended and the warranty period is extended accordingly.

The ETTM system must be completely operational 24 hours per day, 7 days per week, and must be designed for 99.96 percent availability measured on a monthly basis and averaged for each 12-month period.

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Mean time between failures (MTBF) and mean time to repair (MTTR) values for each subsystem are specified in the design review phase of the Project.

Measurement of the system availability during the warranty period is based on a computed value from the total online operational time to the total cumulative time, 24 hours per day, 7 days per week, for the same period. Equipment taken offline for other than preventive maintenance and affecting toll operations is considered offline for the nonoperational duration and reduces the online time by the corresponding amount.

If the test fails, testing continues another month until the accuracy and availability achieves the stated performance goal.

9.11 TRAINING

Systems Integrator trains and certifies the tolled express lanes Operator's staff in the operation and maintenance of the new ETTM system and equipment, which includes testing the staff to demonstrate competency. Systems Integrator also provides all training materials and documentation, such as manuals and videos, if applicable. Wherever possible, production equipment (i.e., actual operational equipment) is used to conduct training sessions to ensure instructional fidelity with the operational system.

Development of the training program, including the review and approval cycles for supporting program documentation, is part of the Project schedule and will be completed prior to the start of system transition. System transition is defined as the pre-operations period in which responsibility for complete system operations transitions from Systems Integrator to the tolled express lanes Operator at the opening date.

The training program must include classroom training (if applicable, depending on operation section) given by Systems Integrator's staff and, where necessary, field and maintenance shop training. Training courses will consist of formal and on-the-job training. No training courses will be conducted unless a formal training plan has been approved by RCTC.

Demonstration/performance courses are the preferred method of formal training. All materials and course plans become the property of RCTC upon Project completion to be used in support of an ongoing training program throughout the life of the system.

Systems Integrator must provide training programs for the following tolled express lanes Operator's staff. The agencies may have a combined total of up to four personnel (two OCTA and two RCTC) attend a training class.

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- Finance and Accounting
- ETTM Toll System
- TM Operations
- ETTM Communications Network
- Maintenance Support
- Customer Service and Violation Processing

Refer to TP Section 13.3.2 for more detailed information pertaining to training of staff.

Systems Integrator submits a training plan to the System Installation RE for approval. The plan defines the specific training needed to qualify personnel in the operation, maintenance, and administration of the new tolled express lanes system and equipment. Systems Integrator also submits all training programs and courses necessary to train the tolled express lanes Operator's personnel for review and approval by RCTC.

The training plan describes the management roles and responsibilities of all Systems Integrator's personnel assigned to manage and monitor the training programs, and the methods to be employed to establish effective communications to resolve training problems and notifications.

The training plan includes with the description of the courses, an outline of the course delivery method, the course literature to be used (e.g., workbooks, handouts, sample tests), and vendor manuals to be used for training. The instructor outlines to be used are furnished for each subject of instruction. The outlines include the general sequence of instruction, the materials and equipment to be used, the time required, and the objectives to be accomplished.

Systems Integrator provides training materials as appropriate for each training requirement. Course outlines for all training participants and supporting user guides are provided. For the maintenance support training, equipment manufacturer's maintenance manuals are used as guidance wherever available.

Systems Integrator conducts the training at the tolled express lanes facilities.

The training described above will be scheduled to ensure that sufficient staff is trained and deemed qualified to operate and maintain the system no later than 30 calendar days before opening day. This ensures that the tolled express lanes Operator's staff is able to operate the new system from a position of knowledge. It also contributes to the goal of a seamless transition for the SR-91 Express Lanes patrons.

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9.12 SYSTEM INTEGRATOR LOG OF ACTION ITEMS

Systems Integrator must maintain a log of all identified action items. These action items must be identified at design review meetings, monthly progress review meetings, and through correspondence. All action items must have a responsible party assigned. No action item can be assigned to RCTC or the PCM without their knowledge and concurrence. Each action item in the log must contain the following information:

- Item Number
- Description
- Requesting Party
- Assigned Party
- Status (e.g., open/closed/in progress/deferred)
- Date Opened
- Date Closed
- Progress Notes

9.13 REFERENCES

Information from this chapter can also be found in the Contract TPs. TPs provide certain information relating to and preliminary requirements applicable to the design, supply, installation, integration, and maintenance services in connection with RCTC's operation of the Project. These services consist of the design, development, integration, installation, and implementation of the ETTM system. The interpretation of the TPs is provided in the Systems Integration and Installation Contract.

- *Contract (TP) for Toll System Integration and Implementation on State Route 91*
- *SIIC*
- *SEMP*
- *SERF*

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Chapter 10: Public Relations Protocol

The Project Public Relations Program establishes and maintains the trust, support, and confidence of the news media and public throughout the life of the Project. The public relations protocol ensures that the information presented is accurate, clear, relevant, and timely. Following the proper protocol will reduce rumors and speculation that can occur if unauthorized people deliver Project information; therefore, it is very important for the CMT to be familiar with public relations protocols and tools.

The public relations protocol for the Project during construction includes the following objectives:

- Inform the CMT of the existence of RCTC's POP and Design-Builder's POP and provide brief descriptions of their content.
- Provide guidance to the CMT at the Project site when confronted with various scenarios involving the public or the media.
- Minimize inconveniences to motorists, residents, businesses, and the public by relaying accurate, clear, relevant, and timely Project information to the PCM Public Outreach Manager.
- Understand the public relations tools developed for the Project.

An effective Project Public Relations Program builds trust, support, and confidence among news media and the public; positively positions RCTC and the Project in the community; reduces inconveniences to affected stakeholders; establishes a system for efficient dissemination of information and receipt of feedback; and removes team inefficiencies that result from having to correct rumors and speculation.

10.1 ENTITIES' RESPONSIBILITIES

10.1.1 Design-Builder

Design-Builder creates its separate POP to further define internal procedures and deadlines for specified tasks that will:

- Assist RCTC, Caltrans, and the PCM in their implementation of the public outreach strategy.
- Provide timely information regarding the Project to RCTC, Caltrans, and the PCM to ensure that public outreach goals are achieved.

Design-Builder is responsible for staffing the Project helpline with a live representative to respond to construction calls and maintaining a Public Inquiry Log with each caller's name,

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address, telephone number, e-mail address, inquiry, response, date and time of call, and any further action required.

10.1.2 RCTC

The RCTC Community Relations Manager educates and informs media representatives and elected officials about the Project benefits, schedule, ongoing construction activity, milestones, funding, commitment to safety, and other items of interest. RCTC will be proactive in its media outreach efforts and respond to inquiries in a timely manner. The RCTC Community Relations Manager also oversees the PCM public relations Work.

Project and Construction Management

RCTC, thorough the PCM, manages the overall POP to provide public awareness during construction to help mitigate the impacts of closures and detours; provide public information about toll roads and initial toll facility operation; and disseminate information about the Project features and benefits to the stakeholders, public, media, and elected officials.

PCM has developed a POP for the Project to serve as a blueprint for communications related to the Project.

10.1.3 Caltrans

Caltrans' Public Information Officer forwards community inquiries and questions about the Project to the Communications Team following the established protocols from the Project Outreach Plan as outlined in this chapter.

Caltrans provides public affairs support for Project communications activities; participates in Project Communications Team meetings to promote flow of information and cross communication between RCTC, the PCM Team, Design-Builder Project Information Manager, and Caltrans; and participates in public meetings, speaking engagements, neighborhood meetings, business support meetings, stakeholder advisory committee meetings, and other public events, as available.

10.1.4 FHWA

FHWA provides oversight and shares experiences and lessons learned from major projects throughout the United States.

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10.2 DESIGN-BUILDER PUBLIC OUTREACH PLAN

Design-Builder's POP must be approved by the RCTC Toll Project Manager with acceptance by the PCM Public Outreach Manager. Design-Builder's POP must include the following key elements:

- Coordination with RCTC, Caltrans, local agencies, and PCM to provide information about current and planned Work activities
- Media relations protocols
- Establishment and operations of a Project helpline
- Crisis communications strategy
- Construction activities notices
- Construction alerts
- Staffing of farmers' market booths
- Support for business/community presentations
- Staffing of "Saturday Morning Coffee Stops" neighborhood kiosks
- Social media development and maintenance
- Economic benefits video and monthly 91-second videos
- Maintenance of photo log and video log
- Development of mobile website
- Integration with Riverside County disaster preparedness plans
- Business support plan
- Public complaints and claims mitigation

10.3 RCTC PUBLIC OUTREACH PLAN

The POP was developed by the PCM Public Outreach Manager and approved by RCTC. The POP supports public outreach and participation in the Project by agencies, organizations, elected officials, residents, business operators, commuters, emergency responders, and other stakeholders. The POP includes goals, issues, strategies, and communication protocol for communicating with the media, the public, and other stakeholders. The goal of the POP is to provide meaningful opportunities for notification and involvement during the design-build phase of this Project.

The POP identifies:

- Members of the project public outreach management team
- Communication process
- Target audiences

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- Outreach strategies and opportunities for public feedback
- RCTC and Design-Builder responsibilities for carrying out the public outreach activities
- Methods to evaluate the public outreach approach

10.4 PROJECT UPDATES

The PCM Public Outreach Manager or designee attends weekly construction progress meetings. A follow-up public outreach meeting will be held to review construction activities and related outreach, as well as other issues and upcoming events. In all cases, efforts are employed to leverage existing City, County, and Caltrans resources to communicate information about the Project to all interested parties.

Responsibilities

- The PCM Public Outreach Manager is the point of contact between Design-Builder, RCTC, and Caltrans.
- The PCM Public Outreach Manager or designee attends weekly construction progress meetings and a follow-up public outreach meeting to review construction activities.
- The Construction Manager and/or REs inform the PCM Public Outreach Manager of any Project activity or incident that may affect the public.
- The PCM Public Outreach Manager provides a Project update to all interested parties.

10.4.1 Stakeholder Database

An initial stakeholder database has been developed and will be maintained for the duration of the Project.

The database includes the target audiences identified in the POP. Every effort will be made to keep the database current through entries following inquiries, public meetings, mailings, community events, or other outreach activities.

The database will be created using Microsoft Access, which allows easy categorization, sorting, and report generation.

Responsibilities

- The PCM Public Outreach Manager is responsible for maintaining the stakeholders database.

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10.4.2 Website

A dedicated website, sr91project.info, includes the following sections:

- Project Benefits
- Project Segments with Maps
- Design-Build Schedule
- Construction Alerts
- News and Frequently Asked Questions
- Community and Business Support
- Tolled Express Lanes
- Library and Related Links
- Commuting and Ridesharing
- Property Owners and Tenants
- Doing Business with RCTC
- Contact Us/Feedback

The website will be updated regularly with new collateral materials, messaging, construction alerts, videos, safety messages, and other updates. Feedback received through the website is acknowledged within 1 business day, and an appropriate response is developed for RCTC approval. Inquiries/responses are added to the public inquiry log and added to the key issues matrix, if necessary. Website analytics are reviewed quarterly to monitor growth, frequently accessed pages, and proper positioning to reach viewers. A mobile site will be considered for use with tablets and cell phones. The website will be included in all printed and electronic materials for the Project.

Responsibilities

- PCM Public Outreach Manager is responsible for maintaining the content for website material, except as noted below.
- Design-Builder Project Information Manager is responsible for posting construction alerts, safety tips, and 91-second Project videos to site.
- PCM Public Outreach Manager is responsible for retrieving website feedback, and drafting and sending responses.
- Design-Builder Project Information Manager is responsible for adding website feedback/responses to the public inquiry log.

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10.5 GOVERNMENT RELATIONS

To support RCTC's efforts to promote confidence and trust in the Project among elected officials, the Outreach Team provides assistance with government relations.

The Outreach Team ensures that all Project Team members understand RCTC's governmental relations protocol. Inquiries received by any member of the Project Team from elected officials are referred immediately to RCTC staff. All communications with elected officials are made only by RCTC, unless otherwise agreed to in writing by RCTC. In no event may consultant team members make any statements about the Project to elected officials, unless otherwise authorized in writing by RCTC. The Design-Builder must immediately refer any elected official contact to RCTC; it may not allow elected officials within the Work area unless accompanied by an RCTC representative.

10.6 PROJECT HELPLINE/INQUIRIES PROTOCOL

A telephone helpline, (877) 770-9191, has been in place since 2010 and will continue for the duration of the Project. The helpline functions in two ways:

- Callers with construction-related questions and concerns can speak to a representative during normal business hours; the helpline is manned "live" from 8 a.m. to 5 p.m. and is transferred to a cell phone after business hours.
- Callers with nonconstruction-related questions and concerns can leave a message in the helpline mailbox; calls will be returned by the next business day.

Design-Builder maintains a public inquiry log with each caller's name, address, telephone number, e-mail address, inquiry, response, date and time of call, and any further action required. The log is presented during construction progress meetings to advise the Team of recurring questions/concerns. Information is also used to revise Project messaging as needed. Contact information is added to the stakeholder database. The helpline is included in all printed and electronic materials for the Project.

If members of the public enter construction sites or field offices or approach construction personnel with Project inquiries, crews are directed to give to the public wallet-sized cards imprinted with Project contact information. Cards are provided to construction team members upon commencement of construction activity.

Deliverables

- Design-Builder staffs the helpline with live representatives to respond to construction-related calls.

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- PCM Public Outreach Manager is responsible for the support staff that continues to respond to helpline messages not related to Design-Builder issues.
- Design-Builder Project Information Manager is responsible for preparing the weekly public inquiry log and is present during the construction progress meeting.
- PCM Public Outreach Manager distributes the Project contact cards to all Project personnel who may be in contact with the public.

10.6.1 Inquiry or Response Log

The inquiry or response log is regularly posted to the Project's electronic file-sharing site and is sent to Project Team members.

New contacts are forwarded for inclusion in the Project database. Inquiries are received via the Project website, toll-free helpline, and referrals from Project Team members, the City, and Caltrans. The PCM Public Outreach Manager confers with RCTC regarding appropriate responses to public inquiries.

Responsibilities

- Design-Builder Project Information Manager is responsible for preparing the weekly public inquiry log and is present during the construction progress meeting.
- The CMT is responsible to forward all types of inquiries to the PCM Public Outreach Manager.
- The PCM Public Outreach Manager confers with RCTC regarding appropriate responses to public inquiries. He/she responds and forwards the response to the Design-Builder Project Information Manager to log.

10.7 KEY ISSUES MATRIX

A wide range of public questions and comments will be submitted during the Project via the website, helpline, public meetings, community presentations, and calls to RCTC and partner agencies. From these questions and comments, a key issues matrix will be maintained to track and monitor trends.

In all instances, questions and comments are forwarded to the PCM Public Outreach Manager for preparation of approved responses, unless otherwise discussed. The PCM Public Outreach Manager establishes protocols with local agencies to ensure that questions and comments are routed appropriately. The matrix will include responses to questions and comments and will guide future responses for consistency.

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The matrix is sorted according to each key issue, updated regularly, and disseminated to the Project Team on a monthly basis. In addition, the matrix can be sorted to reflect the source of the questions/comments.

Responsibilities:

- The PCM Public Outreach Manager establishes protocols with partner agencies to ensure that all Project questions and comments are routed appropriately.
- The Design-Builder Project Information Manager forwards all Project questions and comments to the PCM Public Outreach Manager.
- The PCM Public Outreach Manager develops/maintains the key issues matrix of questions, comments, and responses.
- The PCM Public Outreach Manager distributes the key issues matrix monthly to the Project Team.

10.8 NEWS MEDIA RELATIONS

One of the Project goals is to establish and maintain the trust, support, and confidence of the news media throughout the Project. The RCTC Community Relations Manager educates and informs media representatives about the Project benefits, schedule, ongoing construction activity, milestones, funding, commitment to safety, and other items of interest. The RCTC Community Relations Manager is proactive in his/her media outreach efforts and responds to inquiries in a timely manner.

The Outreach Team (PCM Public Outreach Manager and his/her Team, and Design-Builder Project Information Manager and his/her Team) ensures that all Project Team members understand RCTC's media relations protocol. Media inquiries received by any member of the Project Team are referred immediately to the RCTC Community Relations Manager.

All communication with news media, including print, broadcast, or online, relating to the Project or Design-Builder Contract is made only by RCTC, unless otherwise agreed to in writing by RCTC. In no event may Consultant Team members make any public statements about the Project to any media representative, including television, radio, newspaper, magazine, or Internet websites, unless otherwise authorized in writing by RCTC. Design-Builder must immediately refer any media contact to the RCTC Community Relations Manager and may not allow members of the media within the Work area unless accompanied by an RCTC representative.

In the case of construction accidents, Design-Builder and the CMT are prohibited from giving any information to the news media. In such an event, RCTC spokespersons manage all media inquiries.

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Design-Builder and the CMT must only provide information related to construction accidents if requested by governing entities. Design-Builder is not allowed to use RCTC's name or photographs of the Project in any professional publication, magazine, trade paper, newspaper, Internet website, seminar, community presentation, or other medium without first receiving RCTC's written consent.

Responsibilities

- The Outreach Team provides media relations protocol to notify all Team members that RCTC is the sole media spokesperson for the Project, unless otherwise designated.
- Design-Builder Project Information Manager is responsible for providing construction alerts to designated news media representatives.
- PCM Public Outreach Manager tracks Project news coverage, posts it to the website, and provides it to Team members.

10.9 CRISIS COMMUNICATION PLAN

Although RCTC does not expect a crisis to occur during the Project, a Crisis Communication Plan will be developed and executed in the event of a crisis or major incident. The plan will outline the procedures and course of action to be followed when responding to a crisis or emergency related to the Project. The Crisis Communication Plan will be developed, and members of the Team will be briefed and provided with copies. The Plan will include the following elements:

- Designated staff to respond to the crisis.
- Types of potential emergencies.
- Approaches to addressing potential emergencies.
- Cause of specific disruptions, whether construction-related or not.
- Actions being taken to alleviate the problem.
- Impact to the public and notification procedures.
- Anticipated duration of the disruption.
- Development of the plan in consultation with RCTC, Caltrans, and emergency responders.
- Integration with the POP and appropriate media/governmental outreach protocols.
- Integration with County disaster preparedness efforts, in case of natural disaster, including a major flood or earthquake.

Responsibilities

- Design-Builder Public Information Manager drafts the Crisis Communication Plan.
- PCM Public Outreach Manager reviews the plan draft and provides input.

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- Design-Builder Public Information Manager briefs the Project Team and provides copies of the plan.
- RCTC Toll Project Manager executes the plan as needed.
- Design-Builder Public Information Manager reviews the plan annually for updates.

10.10 CONSTRUCTION MITIGATION/PUBLIC CLAIMS FOR DAMAGE

Building a project of this size will significantly affect motorists, residents, and businesses and will generate the unavoidable byproducts of construction (i.e., pests, dust, property damage, and noise). The Outreach Team will employ measures to mitigate the effects of construction on the community, using a response plan that addresses issues in a timely manner.

All complaints related to the above issues are documented in a log and provided to Design-Builder. The log shows all complaints, dates and times of the incident, contact information (i.e., name, address, telephone, and e-mail address of complainant), language spoken, name of the respondent, proposed mitigation, whether the claim will be forwarded to Design-Builder's insurance carrier, and any additional notes. Claims or complaints received by RCTC or Caltrans are forwarded to Design-Builder for resolution in a timely manner and the outcome of each complaint is documented.

If Design-Builder, according to its assessment based on information presented by the complainant, determines that neither Design-Builder nor any Design-Builder-related entity is responsible for the damage, the Outreach Team must notify the complainant of this position as soon as possible via certified mail. Design-Builder must maintain and log a copy of all correspondence related to the claim and forward all documentation (i.e., a copy of log and claim) to RCTC on a monthly basis.

If the damage is to stationary property, such as a fence of an adjacent property or a parked vehicle, Design-Builder must take immediate action to compensate the owner or repair the damage without undue delay, irrespective of the value of the damage.

As necessary, the Team responds to needs to temporarily relocate residents due to construction impacts. An evaluation process will be developed to determine eligibility for temporary relocation assistance, and a system will be established to place residents in local hotels if no other construction mitigation efforts are successful.

Responsibilities

- Design-Builder Project Information Manager develops the process for responding to public complaints and claims for damage.

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- Design-Builder Project Information Manager maintains log of complaints and claims for damage; coordinates with insurance carrier to submit claims; arranges for repairs to stationary property; and maintains documentation.
- PCM Public Outreach Manager develops a system for temporary relocation support for residents.

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Chapter 11: Coordination with Stakeholders

Proper coordination with stakeholders, including utilities and railroads, leads to many tangible benefits, e.g., keeping Project construction costs in line and on schedule, and promoting collaborations that make the process move more smoothly and efficiently for all. Most of the Project coordination is Design-Builder's responsibility; however, the CMT is responsible to ensure that Design-Builder is properly coordinating with all stakeholders.

Coordination with stakeholders for the Project during construction includes the following objectives:

- Understand stakeholders' involvement and responsibilities on the Project.
- Initiate coordination efforts and establish lines of communication before construction begins.
- Have knowledge of and enforce Design-Builder compliance with all Contract requirements and cooperative agreements.
- Establish and follow a consistent process for management and execution of construction activities while working with stakeholders.

11.1 ENTITIES' RESPONSIBILITIES

11.1.1 Design-Builder

Design-Builder must coordinate with utility owners, BNSF, local agencies, owners of property adjoining the Project, and the respective contractors as described in the Contract Documents.

Design-Builder must fully cooperate with, and must be solely responsible for coordinating with other Contractors and projects. It must schedule and sequence the Work as reasonably necessary to accommodate the Work of such other contractors and projects. If other separate contracts are awarded, or separate projects are performed by RCTC, OCTA, the City, Transportation Corridor Agencies (TCA), Caltrans, BNSF, or utility owners that affect the Work, Design-Builder must conduct its Work without interfering with or hindering the progress or completion of the Work being performed by other contractors, entities, or agencies.

11.1.2 RCTC

RCTC provides oversight of the PCM to ensure that the Project Contract provisions are met. The RCTC Toll Project Manager is authorized to approve payments and changes in the Contract. RCTC personnel also support the CMT as needed.

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Project and Construction Management

PCM, on behalf of RCTC, manages construction of the Project. The PCM Construction Manager is responsible for ensuring that Design-Builder is properly coordinating with utility owners, BNSF, local agencies, and owners of property adjoining the Project during construction.

The PCM Managers are also responsible for providing support for stakeholder coordination within their areas of expertise to secure their involvement, approvals, and cooperation.

11.1.3 Caltrans

Construction oversight is performed by Caltrans to ensure that Design-Builder and the CMT, led by RCTC, comply with all state and federal requirements.

Caltrans also oversees activities related to utility relocations on its ROW.

11.2 UTILITY RELOCATOINS

The existing utilities within the Project include municipal water and sewer, natural gas, electricity, and telecommunications. The required utility relocations are performed by Design-Builder and the private utility owner, and they are generally divided into two categories: wet and dry. Relocations of the wet utilities are included in the scope of Work to be completed by Design-Builder; the dry utilities are relocated by the private utility owners:

- **Public Utilities (Wet):** Local water and sanitary sewer lines are owned and maintained by separate utility owners. Storm drainage facilities adjacent to the freeway are the responsibility of the Corona Department of Public Works. Design-Builder relocates all wet utility conflicts, including water, sanitary, and storm drainage facilities, as part of the Project scope. The one exception is a City-owned water well that is in conflict with the proposed improvements. The Corona Department of Public Works will relocate that well under a separate agreement with RCTC.
- **Private Utilities (Dry):** There are five private Utility Owners along the corridor, resulting in 106 identified conflicts. The relocation, design, and construction will be performed by the private utilities; design and construction coordination is the responsibility of Design-Builder.

Caltrans will provide a Utility Coordinator to oversee RCTC activities and ensure conformance with all required federal and state requirements and applicable Caltrans guidelines.

Caltrans must issue encroachment permits for utility improvements that lie within the SHS ROW by individual utility owner, not by individual relocation. Existing corridor utility service expenses, including water and electrical, must remain the responsibility of Caltrans, whereas

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RCTC is responsible for utility service expenses when modifying existing utilities. RCTC will not use existing Caltrans sources for any temporary connection, unless otherwise approved by Caltrans.

Design-Builder will not relocate or cause relocations for the convenience of Design-Builder's operations without written approval from the utility owner and RCTC. Design-Builder is solely responsible for the full cost of such Work.

Design-Builder must immediately notify the PCM Utilities and Railroad Manager, the Roadway RE, and the utility owner in writing regarding any noncompliance that it finds, including inconsistency with the approved utility plans, defects in construction, or incompatibility with the Project.

During construction, the PCM Utilities and Railroad Manager works closely with Design-Builder to monitor the utility owners' relocation construction schedule, to proactively identify any schedule or cost impacts, and to ensure that utility relocation and construction occurs as scheduled.

Design-Builder is responsible for reviewing and coordinating the utility owner's final design and construction plans to ensure that the plans are consistent with Design-Builder's Project phasing and schedule.

Design-Builder must consider the location of utilities and the potential impact of relocations in developing and finalizing the design of the Project, with the goal of minimizing relocations to the extent practical and allowable pursuant to the Contract Documents.

Design-Builder is responsible for coordinating with USA of Southern California (Dig Alert) to provide software and training for Design-Builder to order its own call tickets to locate utilities in the field. This software and training is provided at Design-Builder's own cost.

Design-Builder must notify all affected utility owners 2 days (not including the actual day of notice) before beginning excavation or digging operations. Design-Builder orders the locations of Dig Alert registered lines marked by member companies. All other underground facilities must be located by contacting the respective utility owner, including Caltrans, for its facilities. Service lines must also be located before beginning excavation or grading.

Design-Builder must give 72-hour advance notice to Southern California Edison (SCE) before the time when Design-Builder is scheduled to begin Work adjacent to overhead power lines.

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Design-Builder will accomplish its assigned Work on each Utility Owner's facilities in accordance with the plans and specifications designed by the utility owner and accepted by RCTC and Design-Builder.

Each utility owner, through its representative, has the right to inspect the construction performed on its utilities by Design-Builder. During and upon completion of construction, Caltrans may inspect Work items as they pertain to the Project, but it is not responsible for inspecting construction, relocation, or modification of Owner's facilities. Design-Builder is responsible for coordinating the inspections.

Design-Builder must submit to the Roadway and Structure OE, and copy the PCM Utilities and Railroad Manager, the construction inspection approval letter indicating utility owner inspection and acceptance of each utility relocation.

The utility owner's construction Work requires the utility owner to submit as-built details for inclusion in Design-Builder's final Project as-builts. Design-Builder and the PCM Utilities and Railroad Manager review the as-built details to ensure their accuracy.

For detailed guidelines on utility relocation and coordination, refer to the following tools and references:

- California Safety and Health (S&H) Codes
- Caltrans freeway master Contracts
- Caltrans LAPM
- Caltrans Project Development Procedures Manual, Chapter 17
- Caltrans ROW Manual, Chapter 13

11.3 BURLINGTON NORTHERN SANTA FE RAILROAD

BNSF is the owner of active railroad tracks used by freight and commuter trains. The same railroad tracks cross the Project at four separate locations. BNSF is responsible for reviewing and approving the Design-Builder-prepared plans that encroach or cross railroad ROW. The approved plans are the basis for the railroad construction and maintenance agreements to be executed among RCTC, Caltrans, and BNSF.

The PCM Utilities and Railroad Manager coordinates with any railroads involved and CPUC to obtain the necessary approvals. Copies of all permits obtained for the Project must be submitted to Caltrans.

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Design-Builder must perform railroad coordination Work in accordance with the relevant requirements of the Project Standards, BNSF Guidelines, executed BNSF Construction & Maintenance Agreements, and CPUC authorization.

BNSF grants a temporary construction license to construct the improvements at each crossing location within the BNSF ROW. BNSF provides flagging services necessary for the safety of BNSF's property and the operation of its trains during construction of the Project within BNSF ROW. BNSF provides a Contract Project Coordinator to serve as the BNSF Project Manager.

Design-Builder is responsible for identifying and coordinating with BNSF for railroad flagging operations and paying for costs of flagging. Design-Builder is responsible for maintenance of railroad facilities within the Project site until it is relieved of liability.

11.4 RIVERSIDE COUNTY FLOOD CONTROL & WATER CONSERVATION DISTRICT

RCFC&WCD has existing maintenance roads along the side of the Arlington Channel and the Temescal Wash Channel. RCFC&WCD requires a 15-foot-wide by 25-foot-tall permanent clearance envelope centered on RCTC RFP Number 12-31-113-00.

Design-Builder is required to obtain the proper permits from and coordinate with RCFC&WCD.

Design-Builder is also required to coordinate with RCFC&WCD for the Inland Valley Brineline Project.

11.5 ORANGE COUNTY TRANSPORTATION AUTHORITY

OCTA is the owner of the existing SR-91 Express Lanes along the SR-91 Corridor in Orange County. Its roles and responsibilities are detailed in the OCTA/RCTC Cooperative Agreement (ORCA) executed on December 16, 2011.

OCTA has review and approval rights on any improvements influencing its SR-91 Express Lanes. The agreement allows plans to be deemed approved if OCTA fails to provide comments within the specified period. The RCTC Toll Program Director interfaces directly with the OCTA Express Lanes General Manager on any Project-related issues.

The Roadway RE is responsible for ensuring that Design-Builder is maintaining operations of toll enforcement zones and CMS during construction activities. The Roadway RE must also ensure that Design-Builder replaces any lane delineators removed or relocated with delineators of the same type and manufacturer. Work associated with all SR-91 Express Lanes must comply with any relevant requirements stated in the ORCA's Appendix 3, Approvals.

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OCTA agrees to provide reasonable cooperation with RCTC during any Project construction and designated qualified staff for participation in all calls concerning the Project.

The Roadway RE must ensure that Design-Builder notifies OCTA before relocating any of OCTA's related CMSs during Project construction.

The Roadway RE must provide advance notice to OCTA and must obtain OCTA's prior approval (which cannot be unreasonably withheld) of any plans for relocation of OCTA equipment and/or facilities, including installation and maintenance of temporary signage when deemed necessary by OCTA.

11.6 CITY OF CORONA

Corona is the sole city that the Project transects. Its roles and responsibilities are outlined in the RCTC/City of Corona Cooperative Agreement executed on November 9, 2011. To meet the Project schedule objectives, the City has delegated in-process design reviews and construction IQA inspection responsibilities to RCTC. The City retains final design and construction approval for all Work within its jurisdiction. The City has designated a Project Manager who will be the direct contact for Project-related issues with the RCTC Toll Project Manager.

The Roadway RE ensures that Design-Builder obtains the City of Corona encroachment permit before construction starts in the City ROW. The City must timely process a single encroachment permit, to be updated annually, and any subsequently required amendments, for the Contractor to cover the Contractor's Work on the Project within the City's jurisdiction. The encroachment permit must be processed in no more than 3 working days after a completed permit application is properly submitted by Design-Builder in accordance with standard City requirements. The City must waive any and all charges and fees related to plan review and inspections for the Project. The only charges to Design-Builder are those deducted from the annual deposit, as detailed in the Cooperative Agreement, Section 5.4. The City must provide a monthly statement to the RCTC Toll Project Manager and Design-Builder for all charges deducted against the annual deposit.

The City must have the appropriate representatives regularly attend meetings of Design-Builder's task forces including (but not limited to) those formed for public information, TM and detours, local street construction, and related construction Work affecting the City and City facilities. At such meetings, the City must provide related to Project Work in the City.

The City must waive any street trenching restrictions/moratoriums currently in place within the City's jurisdiction and within the Project limits.

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To avoid Project delays, the City must timely execute any necessary agreements or amendments to agreements with Caltrans, including (but not limited to) freeway and maintenance agreements related to the Project Work or any Project facilities within the City's jurisdiction.

If encroachment could interfere with the Project or the Project construction, the City will not allow that encroachment within its jurisdiction without first coordinating with Design-Builder and RCTC. The City must install, maintain, operate, and repair its facilities in a manner that avoids or minimizes, to the extent possible and reasonable, any impact to the Project.

11.7 COUNTY OF RIVERSIDE

The Project lies almost exclusively within the City of Corona, other than a portion of a frontage road and portions of Serfas Club Drive in which it intersects the County of Riverside. The County's roles and responsibilities are outlined in the RCTC/County of Riverside Cooperative Agreement executed on June 5, 2012. To meet the Project schedule objectives, the County has delegated in-process design reviews and construction IQA inspection to RCTC.

The County retains final design and construction approval for all Work within its jurisdiction. The County has designated a Project Manager who is the direct contact with the RCTC Toll Project Manager on Project-related issues.

The Roadway RE ensures that Design-Builder obtains the County of Riverside encroachment permit before construction starts in the County ROW. The County must timely process the required encroachment permits to cover Design-Builder's Work on the Project within the County ROW. Encroachment permits must be processed in no more than 5 working days after receipt of a complete encroachment permit application from Design-Builder. The County must not issue any encroachment permits to any other Contractors if the proposed Work thereunder could delay or impact the Project, without first coordinating the permits with Design-Builder and RCTC. All required encroachment permits to be issued by the County must be issued in the name of RCTC.

The County must have appropriate representatives regularly attend meetings of the Contractor's task forces formed for public information, TM and detours, local street construction, and related construction Work affecting the County ROW, and it must provide input at such meetings related to Project Work that may impact County residents.

The County must waive any street trenching restrictions/moratoriums currently in place within the County limits with respect to the Project Work.

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The County must not allow any encroachment within the County's ROW if such encroachment may interfere with the Project or the Project construction, without first coordinating that encroachment with the Design-Builder and RCTC.

The County must install, maintain, operate, and repair its facilities in a manner that avoids or minimizes, to the extent possible and reasonable, any impact to the Project.

11.8 ENFORCING AGENCIES

CHP participates in the Project through the COZEEP and supervision of the FSP. Other police agencies, primarily the City of Corona Police Department, may be called on to provide similar services for portions of the Project not currently on the SHS.

11.9 PROPERTY OWNERS

11.9.1 Easements

The Roadway RE must ensure that Design-Builder complies with all conditions of the permanent easements and TCE acquired by RCTC. Copies of the legal descriptions and plats of the permanent easements and TCEs acquired by RCTC are set forth in Contract TP Attachment 9-2 (Property Commitments).

Design-Builder should provide written notice to the Roadway RE 30 days before the start of any construction-related activities within any easement area.

The date shown in Contract TP Attachment 9-1 (ROW Availability) for a TCE included as an RCTC-provided property is the earliest date that the TCE is available for use by Design-Builder. Design-Builder determines the actual date it needs each TCE based on its approved Project schedule. Design-Builder must provide a written notice to RCTC 30 days before the date it needs the TCE. The duration for that TCE as set forth in Contract TP Attachment 9-1 (ROW Availability) must commence on the date needed as indicated in Design-Builder's written notice.

Design-Builder must prepare a written notice for any Work in a TCE area included as part of RCTC-provided property that is beyond the expiration of the duration reflected in TP Attachment 9-1 (ROW Availability). Sixty days before beginning any Work within TCE areas, Design-Builder submits a TCE area Work request for review and approval by the Roadway RE and/or PCM ROW Manager.

The PCM ROW Manager subsequently notifies the respective owners and tenants of the Project's proposed activities. Design-Builder may extend (if the original executed TCE allows for such an extension) or hold over the TCE duration per the terms and conditions of the original

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executed TCE agreement. All costs associated with the TCE hold-over period are at the sole cost and expense of Design-Builder.

The Inspectors verify that Design-Builder restores all affected improvements within TCE areas included as part of RCTC-provided property to the same condition as provided by the TCE.

11.9.2 Right-of-Entry

Design-Builder should submit to the Roadway RE the right-of-entry request required for field surveys, geotechnical studies, utility potholing, and visual inspections of all parcels within the Planned ROW limits, including the costs of acquiring and complying with the conditions of any such rights-of-entry as included in the Contract price. The right-of-entry request must include the following information:

- Assessor's Parcel Number assigned to the requested parcel(s)
- Analysis regarding the need and proposed use for such right-of-entry
- Duration of need for parcel if for temporary use
- Proposed date of need
- Plan to restore property to original condition
- Determination of value
- Any additional information as requested by RCTC

Before presenting the right-of-entry request to a parcel owner, Design-Builder should submit written right-of-entry requests for review and approval by the Roadway RE and PCM ROW Manager.

11.10 REGULATORY AND PERMITTING AGENCIES

Regulatory and permitting agencies issue the required permits and specify the permit conditions. Each permitting agency has a role in addressing failures to comply with permit conditions. To facilitate regular and easy communication throughout the Project duration, the RCTC Environmental Compliance Coordinator identifies a contact at each agency for each permit. Specific details regarding regulatory permitting are detailed in Chapter 7.

11.11 ANTICIPATED EXISTING/FUTURE PROJECTS

The Roadway RE must ensure that Design-Builder is confirming and updating the existing/future projects list with all impacted governmental entities when Work is planned within the applicable governmental entity's jurisdiction.

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Design-Builder must furnish an updated existing/future projects list to the Roadway RE quarterly and must actively and aggressively pursue and implement measures to facilitate the overall construction of the Project in conjunction with any other adjacent projects.

Work by other contractors on the following projects may be in progress adjacent to or within the site during progress of the Work. The anticipated existing/future projects below are nonexclusive, and may be incomplete:

- City of Corona
- Auto Center Drive Grade Separation
- Foothill Parkway Westerly Extension
- Green River Road Widening: SR-91 to Palisades Road
- I-15/Cajalco Road Interchange (Start Design)
- Main Street Strom Drain between 8th Street and 11th Street
- Storm Drain Line 52 in East Grand Boulevard and Joy Street
- East Grand Boulevard Storm Drain
- Traffic Signal at East Sixth Street and El Camino Road
- Traffic Signal and Widening at Rimpau and California
- Traffic Signal at Lincoln Avenue and Parkridge
- Smith Avenue Pavement Rehabilitation
- Magnolia Avenue Median Landscaping
- Masters Drive Reclaimed Waterline
- Ontario Avenue Waterline from Lincoln to Buena Vista
- Ontario Waterline from Kellogg to Fullerton
- Ontario Waterline from Buena Vista to Taylor
- Hummingbird Street Pressure-Reducing Station
- Stagecoach Park Reclaimed Waterline
- City Park Reclaimed Waterline
- Smith Avenue Waterline Replacement Project
- Butterfield Park Reclaimed Waterline
- Santa Ana River Trail
- County of Riverside
- Magnolia Avenue Grade Separation
- SR-91 Improvements, Adams to University
- RCTC
- I-15 Corridor Improvement Project
- SR-71/SR-91 Interchange Improvements

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- OCTA/TCA
- SR-241/SR-91 Direct Connectors
- Orange County Public Works
- SARI Mainline
- Riverside County Flood Control District
- Inland Valley Brineline Project
- Caltrans
- SR-91 Eastbound Lane Addition: SR-241 to SR-55
- USACE
- Santa Ana River Mainstream Lower Santa Ana River Channel Reach 9 – Phase IIA
- Santa Ana River Mainstream Lower Santa Ana River Channel Reach 9 – Phase IIB
- Santa Ana River Flood Control Project Auxiliary Dike and Floodwall Project

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APPENDICES

A. High Profile Project Agreement (HPPA, includes Project Responsibility List; June 18, 2013)

B. California Assembly Bill (AB) 2098

C. Design-Builder Materials Control Schedule (MCS)

D. Design-Builder Inspection Frequency Checklist

E. Construction Management Forms

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Appendix A

High Profile Project Agreement

(HPPA, includes Project Responsibility List;
June 18, 2013)

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BECHTEL INFRASTRUCTURE CORPORATION

FEDERAL HIGHWAY ADMINISTRATION
High Profile Project Oversight Agreement for
State Route 91 Corridor Improvement Project
Fed Project No. (Pending) / EA 08-0F540
06/18/13

This High Profile Project Oversight Agreement (HPPA) supersedes the HPPA executed on 06/04/12.

Background:

On October 14, 2010, a new Federal Highway Administration (FHWA) and California Department of Transportation (Caltrans) Joint Stewardship and Oversight (Stewardship/Oversight) Agreement was signed. Under the new Stewardship/Oversight Agreement, the FHWA and Caltrans will utilize a risk-based approach to project –level management that no longer uses the $1,000,000 threshold to determine FHWA stewardship and oversight. This risk-based approach to project oversight will be conducted in two steps: 1) selecting the projects that traditionally pose a risk to the health of the Federal-aid Highway Program (High Profile Projects) and 2) within the High Profile projects, further delegating approval authorities in activities that pose a low risk to the individual projects.

This Project has been designated a Major Project and a High Profile Project by the FHWA due to the Project cost exceeding $500 million, innovative financing through toll revenue, and the use of a federal Transportation Infrastructure Finance and Innovation Act (TIFIA) loan. This agreement outlines the roles, responsibilities, and requirements of FHWA, Caltrans, and RCTC as it relates to oversight and risk management on the Project. FHWA will provide oversight to ensure the Project has a systematic plan in place to address and respond to Project risk throughout the life of the Project.

Oversight responsibilities in this High Profiled Project Agreement is partly based upon the "Final Project Management Plan" (PMP) submitted by the Riverside County Transportation Commission on September 18, 2012. This PMP communicates and demonstrates a full understanding of the scope and requirements of the Project, and the means and methods under which the Project will be effectively managed to accomplish the stated goals. FHWA will use this PMP as a guide to ensure implementation of the project, approach and processes regarding decisions, communications, management, execution, and overall Project control and risk management are. This PMP also defines the roles, responsibilities, and mechanisms for control of safety, budget, scope, schedule, and quality.

A Project Responsibility List (Attachment A) has been developed to define which approval actions are to be handled by FHWA or Caltrans/Local Agency. Other areas of Federal involvement and/or approval actions for this project are summarized in this agreement.

Project Description:

The State Route 91 Corridor Project (Project) will extend the existing OCTA SR-91 Express Lanes to the east by eight miles to Interstate 15 in Riverside County. The proposed Project will also include improvements to I-15 in Riverside County between the Ontario Avenue interchange and SR-91 and direct connectors from SR-91 to the south I-15 that would connect with potential

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future High-Occupancy Vehicle (HOV) or Express Lanes on I-15. The Project is sponsored by the Riverside County Transportation Commission (Local Agency), in cooperation with Caltrans.

Parties to the Agreement:

This Agreement is between the Federal Highway Administration, California Division Office ("FHWA"), Caltrans District 8 ("Caltrans") and the Riverside County Transportation Commission ("RCTC", or "Local Agency).

Agency Roles and Responsibilities:

The individual and joint agency roles and responsibilities for FHWA and Caltrans have been outlined in the Joint Stewardship and Oversight Agreement, 2007. The role of RCTC is local Metropolitan Planning Organization (MPO) and lead project sponsor, responsible for working in partnership with FHWA and Caltrans to environmentally clear the Project; procure a design-build contractor; secure project financing; design and construct; and operate and maintain the tolled express lane facility.

Project Personnel:

1.) FHWA Project Personnel and Resources for Oversight

An FHWA Project Oversight Manager (POM) has been assigned for the oversight of this project. **The designated POM is Tay Dam**. The POM will be responsible for all project actions and approvals required under this agreement, with the guidance of the FHWA Division Office management and the assistance of other FHWA personnel. Division Office specialists will be available for project reviews and technical assistance in order to provide expeditious reviews and approvals of project actions. Oversight will be conducted through project inspections, review of project data and various other means. The United States Department of Transportation (US DOT) Office of Inspector General may also perform audits of project costs and other financial data as required.

The POM has delegated certain approval responsibilities, as follows:

Responsibilities	Designee
• ITS ("Technology") Project Elements	Jesse Glazer
• Sufficiency and Validation Review of Design Quality Process	Jeff Holm
• DBE Related Matters	Lance Yakota

These designations may be revised as needed, with prompt notification to Caltrans POC. **These designees have "final" approval authority within their areas of responsibility.** To achieve efficient interactions between the parties, communications clearly related to one of the topics listed above may be addressed directly to the designated individual. Contacts about other matters shall be addressed to the POM.

2.) Caltrans Project Personnel and Resources

In accordance with Deputy Directive DD-23-R1, **Caltrans has designated Jesus Galvan** as the Primary Point of Contact (POC) with FHWA, with overall responsibility for the Project under the Stewardship and Oversight Agreement. The POC has delegated certain responsibilities, as follows:

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Responsibility and/or Title	Designee
• Oversight Project Manager	Daniel Ciacchella
• FHWA-Caltrans Liaison	Anthony Ng

3.) Riverside County Transportation Commission (RCTC)

• Project Manager	David Thomas

Designations for Caltrans and RCTC may be revised as needed, with prompt notification to the FHWA POM.

Reporting Requirements:

The FHWA POM will be responsible for providing periodic updates of the costs and schedules of the project to FHWA Headquarters and the US DOT – Office of the Secretary. Briefings will also be provided to assist various agencies with tracking information. Caltrans/RCTC will provide quarterly updates at a minimum (using all available information) with respect to project cost and scheduling to assist with this task. Along with the quarterly updates, the FHWA POM will attend regular meetings to discuss the project's progress including any unforeseen circumstances.

Project specific requirements:

If the Project is approved, Caltrans and RCTC will implement the project using the design/build method of project delivery, in accordance with 23 CFR Part 636. Oversight activities specific to this proposed project are detailed below and in the Project Responsibilities List in Attachment A.

FHWA, Caltrans, and RCTC will meet annually to conduct a Project Review and implement the principles of Risk Management, including assessing risk, prioritizing risk events and statements, and implementing response strategies to effectively manage risk. The approval actions to be taken by FHWA, as indicated in Attachment A, will be re-assessed during the Project Review and may be delegated to Caltrans at a later time at FHWA's discretion.

Planning:

The Project is included in a conforming Transportation Improvement Plan.

Cost Estimate Review:

A Cost Estimate Review (CER) has been performed by RCTC in accordance with the guidelines of the FHWA Office of Innovative Project Delivery. The CER was approved by Caltrans and FHWA on March 23, 2012.

Environment:

In accordance with the SAFETEA-LU Section 6005 Memorandum of Understanding between FHWA and Caltrans dated June 29, 2007, the environmental review, consultation, and any other actions required in accordance with applicable Federal laws for this project is being, or has been carried out by Caltrans under its assumption of responsibility pursuant to 23 U.S.C. 327.

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The environmental documentation for this project is an Environmental Impact Study and Environmental Impact Report (EIS/EIR). NEPA project approval has been delegated to Caltrans as part of the NEPA Assignment Pilot Program. The Record of Decision was published in the federal register on November 2, 2012.

Design:

FHWA has assigned a Project Oversight Manager (POM) from the CalSouth office in Los Angeles. The POM will provide or facilitate all FHWA Project actions and approvals, with oversight from the FHWA Division office management and assistance of other FHWA personnel as required. The POM will be responsible for oversight of the local agency-administered project and will provide approvals as listed on the Project Responsibility List, Attachment A.

Caltrans will perform design reviews consistent with its responsibility to ensure the local administered project complies with federal requirements, ensure the documentation is complete and of sufficient detail to meet its Project oversight responsibilities. Caltrans will also participate in the regularly scheduled reviews of the reported information so that any deficiencies or questionable data can quickly and completely be resolved.

FHWA will participate in the regularly scheduled Project reviews so it is fully aware of the complete status of the Project, and therefore be in a position to take appropriate action, if necessary. FHWA will review the Project management controls implemented by Caltrans and RCTC to ensure appropriate and adequate controls are being implemented to manage the Project effectively. FHWA will perform oversight through Project inspections, review of Project data, and various other means, including Quality audits and independent testing as it deems necessary and as required and specific for FHWA oversight functions required in the TIFIA loan. FHWA may also participate in quality audits conducted by RCTC or Caltrans.

FHWA Approval of new or modified access and design exceptions related to FHWA's 13 controlling criteria was received on January 9, 2013.

Right of Way:

Right of way activities will be accomplished pursuant federal statues including, but not limited to, 1) Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 as amended, "The Uniform Act"; 2) 23 CFR 710, Right-of-Way and Real Estate; and 3) 49 CFR 24, Uniform Relocation Assistance and Real Property Acquisition for Federal and Federally-Assisted Programs.

Construction:

The FHWA POM will be responsible for full FHWA construction oversight. This oversight would include routine inspections throughout the life of the project. FHWA approval for Major Contract change orders is required, and it will be implemented per the Caltrans Construction Manual Procedure 5-308B *(1) Federal Highway Administration Involvement Requirements – Major Contract Change Orders*.

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Project Management Plan:

A draft Project Management Plan (PMP) was submitted by RCTC to Caltrans for review, and subsequently to FHWA more than 60 days prior to the adoption of the NEPA decision document (ROD). The final PMP was approved by the FHWA California Division, in concurrence with the FHWA Headquarters Major Projects Team on October 15, 2012. Updates to the PMP will be completed and submitted on a regular basis if significant changes occur to the project cost and/or schedule. The PMP has been developed in accordance with the guidelines of the FHWA Office of Innovative Project Delivery.

Financial Plan:

The Initial Finance Plan was submitted by RCTC to FHWA on August 31, 2012, prior to award of the project. Updates to the initial Finance Plan will be provided by RCTC to the FHWA Division Office, the FHWA Major Projects Team, and the FHWA Transportation Infrastructure Finance Act (TIFIA) Joint Program Office by the annual submission date established in the Initial Finance Plan for each subsequent year until all construction is completed. The CER will be developed in accordance with the guidelines of the FHWA Office of Innovative Project Delivery.

Tay Dam
FHWA Project Oversight Manager

Jesus Galvan
91-CIP Project Director
District 8
California Department of
Transportation

Michael Blomquist
Toll Program Director
Riverside County Transportation
Commission (Local Agency)

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ATTACHMENT A

PROJECT RESPONSIBILITIES LIST

Overview

The Project Responsibility List identifies the responsible agency for project level actions. It is organized by columns listed as High Profile and Delegated Projects. Within each column, activities are listed and the appropriate Approval Authority (FHWA or Caltrans) is identified. The FHWA will maintain approval authority for activities that cannot be delegated and activities that may pose a risk to individual projects. The activities with highlighted ( ) cells under the High Profile projects column, which show FHWA, may be delegated to Caltrans if the particular activity is of low risk to the project or the FAHP.

APPROVAL ACTION	Approval Authority High Profile Projects
ADMINISTRATION	
Financial Management	
All Vouchers (progress payments and final)	FHWA
Federal-aid Project Agreement and Modification—Preliminary Engineering through Construction [23 CFR 630.110]	FHWA
Funding Eligibility Determinations	FHWA
Obligate funds	FHWA
Section 1.9 Waiver [23 CFR Section 1.9]	FHWA
PROJECT DEVELOPMENT	
ROW	
Accept ROW certificate 3 as a condition of PS&E approval [23 CFR 635.309(c)(3)]	FHWA
Accept ROW certificates 1 and 2 as a condition of PS&E approval [23 CFR 635.309(c)(1)&(2)]	FHWA
Air space agreements / Non-highway use and occupancy not on the Interstate [23 CFR 710.405]	Caltrans
Air space agreements / Non-highway use and occupancy on the Interstate [23 CFR 710.405]	FHWA
Control of Access [23 CFR 620.203(h)]	FHWA
Functional Replacement [23 CFR 710.509]	FHWA
Junkyard Control [23 CFR 751.25]	FHWA
Outdoor Advertising Sign Removal Projects [23 CFR 750.307]	FHWA
Protective Buying and Hardship Acquisition [23 CFR 710.307, 503]	FHWA
Public Interest Finding (PIF) - Disposal of federally funded ROW [23 CFR 710.403, 409]	FHWA
Railroad Agreement [23 CFR 646.216 (3)(d)]	Caltrans

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Relinquishment of a Highway Facility for continued highway purposes [23 CFR 620.201, 202, 203]	FHWA
Request for Credits for Early Acquisition of ROW [23 CFR 710.501]	FHWA
Request for Direct Federal Acquisition [23 CFR 710.603]	FHWA
Request for Federal Land Transfer [23 CFR 710.601]	FHWA
Request for Waivers [49 CFR 24.204(b)]	FHWA
Utility Agreement [23 CFR 645.113, 119]	Caltrans
Utility Relocation [23 CFR 645 subparts A and B]	FHWA + Caltrans
Withholding of Payments [23 CFR 710.203(c), 23 CFR 1.36]	FHWA
Environment	
Categorical Exclusion (CE) [23 CFR771.117 (c) and (d): SAFETEA-LU 6004; 23 CFR 771.117 all other CEs: SAFETEA-LU 6005]	Caltrans (1)
Certification of Public Hearing [23 CFR 771.111(h)(2)(vi)]	Caltrans
Draft Environmental Impact Statement (DEIS) [23 CFR 771.123; 23 CFR 771.123 (e); SAFETEA-LU 6005]	Caltrans (1)
Environmental Assessment (EA) Availability to the Public [23 CFR 771.1199(c); SAFETEA-LU 6005]	Caltrans (1)
Final Environmental Impact Statement (FEIS) [23 CFR 771.125; 23 CFR 771.125(c); SAFETEA-LU 6005]	Caltrans (1)
FEIS Legal Sufficiency [23 CFR 771.125(b); SAFETEA-LU 6005]	Caltrans (1)
Finding of No Significant Impact [23 CFR 771.121; SAFETEA-LU 6005]	Caltrans (1)
Noise Abatement [23 CFR 772]	Caltrans
Project-Level Transportation Conformity for CE processed under SAFETEA-LU 6004 MOU [40 CFR 93]	Caltrans (1)
Project-Level Transportation Conformity for CE, EA and Environmental Impact Statement (EIS) processed under SAFETEA-LU 6005 MOU [40 CFR 93]	FHWA
Record of Decision [23 CFR 771.127; SAFETEA-LU 6005]	Caltrans (1)
Re-evaluation on Approved Environmental Documents [23 CFR 771.129; SAFETEA-LU 6004 & 6005]	Caltrans (1)
Section 4(f) *De Minimis* Determination [SAFETEA-LU 6004, 6005 & 6009, 49 USC 303]	Caltrans (1)
Section 4(f) Individual [23 CFR 771.135; SAFETEA-LU 6004 & 6005]	Caltrans (1)
Section 4(f) Programmatic [23 CFR 771.135; SAFETEA-LU 6004 & 6005]	Caltrans (1)
Supplemental EIS [23 CFR 771.130; SAFETEA-LU 6005]	Caltrans (1)
Preliminary Design	
Consultant Selection [23CFR 172.5]	FHWA
Financial Plans for projects from $100M to $499M [SAFETEA-LU 1904]	Caltrans
High Risk ITS Project Development [23 CFR 940.11]	FHWA

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Major Projects and TIFIA Loan Projects - Project Management Plan and Financial Plan Approval [SAFETEA-LU 1904]	FHWA
Low Risk ITS Project Development [23 CFR 940.11]	Caltrans
New/Modified Interstate Access Determination of Engineering and Operations Acceptability [Feb 1998 Federal Register, Vol#28 - (minor access changes delegated to Caltrans, see letter dated September 15, 1994]	FHWA (Caltrans)
PIF – Airspace Clearance FAA [CFR 620.104]	FHWA
PIF - Use of Negotiated Consultant Contracts [23 CFR 172.5(3)]	FHWA
Request for Qualifications [23 CFR 636] Design Build, Public Private Partnerships Statement of Qualification	FHWA (5)
Detailed Design	
Approve preliminary plans for major and unusual structures	FHWA
Design Exceptions, non-Interstate (all other projects) [23 CFR 625.3]	Caltrans
Design Exceptions on the Interstate (13 controlling Criteria) [23 CFR 625.3]	FHWA
Experimental Features (Pilot and Demo) aka CEWP, design/sequencing	FHWA
New/Modified Interstate Access Control Change - Final Approval [Feb 1998 Federal Register, Vol#28]	FHWA
PIF – Statewide and project specific use of proprietary products and processes [23 CFR 635.411]. If statewide, FHWA approval.	FHWA
PIF and Cost Justification Letter - Statewide and Project Specific - Concur in use of publicly furnished materials and expenses [23 CFR 635.407]. If statewide, FHWA approval.	FHWA
ROW encroachments - Use and occupancy of acquired ROW [23 CFR 710.401, HDM 504.8]	FHWA
Value Engineering [23 CFR 627, SAFETEA-LU 1904]	Caltrans
PS&E and Advertising	
Authorize advertising for bids [23 CFR 635.112]	FHWA
Approval of Final Request for Proposal [23 CFR 636] Design Build and Public Private Partnerships	FHWA
Authorize utility or railroad force account work [23 CFR 645.113 & 646.216]	FHWA
Bid Analysis (Engineer Estimates)	FHWA
Consultant Agreements [23 CFR 172.7 - 172.9]	FHWA
Contingencies greater than 5% and Supplemental Work Items greater than 10% (Project Delivery Directive Memo from Rick Land 10/14/2009)	FHWA
Exempt bridge from Coast Guard permit requirements [23 CFR 650.805]	FHWA
Hiring of consultant to serve in a "management" role [23 CFR 172.9(d)]	FHWA
Noise - Reasonable and Feasible Determination for PS&E approval [23 CFR 772.11(g)]	Caltrans (1)

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PIF - Advertising period less than three weeks [23 CFR 635.112]	FHWA
PIF - Use of contracting method other than competitive bidding [23 CFR 635.104 & 204]	FHWA
PIF - Use of Force Account [23 CFR 635.204, 205]	FHWA
PIF - Use of Mandatory Borrow/Disposal Sites [23 CFR 635.407]	FHWA
PIF - Use of Publicly Owned Equipment [23 CFR 635.106]	FHWA
RFP Approval (23 CFR 635.112) and Concurrence in Award (23 CFR 625.114)	FHWA
Supplemental Work Item Justification	FHWA
Utility and railroad agreements [23 CFR 645.113 & 646.216]	Caltrans
Warranties [23 CFR 635.413]	FHWA
Construction	
Addenda during advertising period [23 CFR 635.112(c)]	FHWA
Buy America Waiver [23 CFR 635.410, ISTEA Sec. 1041(a) & 1048(a), 41 CFR 10 (a-d)] Submit to HQ if >$50K.	FHWA
Concur in award of contract [23 CFR 635.114]	FHWA
Concur in rejection of all bids [23 CFR 635.114]	FHWA
Concur in settlement of contract claims [23 CFR 635.124; C&M Manual, Chapter 2]	FHWA
Concur in termination of contracts [23 CFR 635.125]	FHWA
Construction engineering by local agency [23 CFR 635.105]	FHWA
Contract time extensions [23 CFR 635.120 & 121]	FHWA
Final inspection/acceptance of completed work [23 USC 114(a)]	FHWA + Caltrans
Incentive/Disincentive Amount Justification [23 CFR 635.127]	FHWA
Innovative Contracting Requirements [SEP 14 & 15]	FHWA
Liquidated Damages (rates subject to FHWA approval) [23 CFR 635.127]	FHWA
Major changes and extra work [23 CFR 635.120]	FHWA + Caltrans
Materials Certification Acceptance [23 CFR 637.207]	Caltrans
Minor changes and extra work [23 CFR 635.120]	FHWA
Subcontracting Requirements [23 CFR 635.116(b)]	Caltrans
Research	
Experimental Features [FAPG Ch. 6, Sect G 6042.4]	FHWA
Emergency Relief	
ER Damage Assessments and Reports on the SHS [23 CFR 668, 23 USC 120 and 125]	FHWA
ER Damage Assessments and Reports off the SHS [23 CFR 668; 23 USC 120 and 125; ER Q&A, Question #5 Revised DAF and #8 Coordination with Other Agencies]	FHWA/ Caltrans

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(1) Caltrans has assumed responsibility for these items under the Section 6004 and 6005 MOUs. The FHWA will reassume responsibility should any of the applicable agreements be terminated or expire. Additionally, the FHWA remains responsible for several projects that have been excluded from the assumption of NEPA responsibilities by Caltrans.
(2) Activity is delegated to the local agency off SHS.
(3) Caltrans approval for State Highways System and local agency approval for off-State Highways System
(4) Subject to the FHWA's Random Sampling Verification Process.
(5) FHWA reviews and comments

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Appendix B

California Assembly Bill (AB) 2098

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BILL NUMBER: AB 2098 CHAPTERED
BILL TEXT

CHAPTER 250
FILED WITH SECRETARY OF STATE SEPTEMBER 24, 2010
APPROVED BY GOVERNOR SEPTEMBER 23, 2010
PASSED THE SENATE AUGUST 30, 2010
PASSED THE ASSEMBLY AUGUST 27, 2010
AMENDED IN ASSEMBLY AUGUST 20, 2010
AMENDED IN ASSEMBLY JUNE 23, 2010
AMENDED IN ASSEMBLY APRIL 21, 2010
AMENDED IN ASSEMBLY MARCH 23, 2010

INTRODUCED BY Assembly Members Miller, Jeffries, and Bonnie Lowenthal
(Principal coauthors: Assembly Members Garrick and John A. Perez)
(Principal coauthors: Senators Correa, Dutton, Emmerson, Hollingsworth, and Huff)
(Coauthors: Assembly Members Adams, Anderson, Arambula, Bass, Bill Berryhill, Tom Berryhill, Bradford, Buchanan, Charles Calderon, Carter, Conway, Cook, Coto, Davis, Fletcher, Fong, Fuller, Gaines, Galgiani, Gilmore, Hagman, Hall, Hill, Knight, Logue, Ma, Mendoza, Nestande, Niello, Nielsen, Norby, V. Manuel Perez, Portantino, Silva, Smyth, Solorio, Audra Strickland, Torlakson, Torres, Tran, and Villines)
(Coauthor: Senator Ducheny)

FEBRUARY 18, 2010

An act to amend Section 6802 of the Public Contract Code, relating to public contracts, and declaring the urgency thereof, to take effect immediately.

LEGISLATIVE COUNSEL'S DIGEST

AB 2098, Miller. Riverside County Transportation Commission: transportation projects: contracts.

Existing law, until January 1, 2014, allows certain state and local transportation entities, if authorized by the California Transportation Commission, to use a design-build process for contracting on transportation projects, as specified.

This bill would authorize the Riverside County Transportation Commission, if authorized by the commission, to utilize this design-build procurement process for the State Route 91 Corridor Improvements Project on the state highway system. The bill would make the Department of Transportation responsible for the performance of construction inspection services for the project, as specified, and would require the commission to report on the progress of the project and related matters to specified legislative committees.

This bill would declare that it is to take effect immediately as an urgency statute.

THE PEOPLE OF THE STATE OF CALIFORNIA DO ENACT AS FOLLOWS:

SECTION 1. Section 6802 of the Public Contract Code is amended to

Withdrawn Beverage Bankruptcy

read:

6802. (a) Subject to the limitations of this chapter, a local transportation entity, if authorized by the commission, may utilize the design-build method of procurement for up to five projects that may be for local street or road, bridge, tunnel, or public transit projects within the jurisdiction of the entity.

(b) Subject to the limitations of this chapter, the department, if authorized by the commission, may utilize the design-build method of procurement for up to 10 state highway, bridge, or tunnel projects.

(c) (1) In addition to the projects authorized pursuant to subdivisions (a) and (b), and subject to the limitations of this chapter, the Riverside County Transportation Commission, if authorized by the commission, may utilize design-build procurement for the State Route 91 Corridor Improvements Project on the state highway system.

(2) Notwithstanding any other provision of this chapter, the department shall be the agency responsible for the performance of construction inspection services for the project authorized pursuant to this subdivision. Construction inspection services for the project authorized pursuant to this subdivision include, but are not limited to, surveying, testing the materials, verification testing, monitoring of environmental compliance, quality control inspection, and quality assurance audits. The construction inspection duties and responsibilities shall include a direct reporting relationship between the inspectors and senior department engineers responsible for all inspectors and construction inspection services. The senior department engineer responsible for construction inspection services shall be responsible for the acceptance or rejection of the work.

(3) Notwithstanding any other provision of law, for the project authorized pursuant to this subdivision the department shall retain the authority to stop the contractor's operation wholly or in part and take appropriate action when public safety is jeopardized. The department shall ensure that public safety and convenience is maintained whenever work is performed under an encroachment permit within the state highway right-of-way, including, but not limited to, work performed that includes lane closures, signing, work performed at night, detours, dust control, temporary pavement quality, crash cushions, temporary railings, pavement transitions, falsework, shoring, and delineation. The department shall regularly inspect the job sites for safety compliance and any possible deficiencies. If any deficiency is observed, a written notice shall be sent to the resident engineer to correct the deficiency. Once the deficiency is corrected, a written notice describing the resolution of the deficiency shall be sent to the department and documented.

(4) The department may use department employees or consultants to perform the services described in this subdivision, consistent with Article XXII of the California Constitution. Department resources necessary for the performance of those services, including personnel requirements, shall be included in the department's capital outlay support program for workload purposes in the annual Budget Act.

(5) Not later than the first day of July that occurs two years after a design-build contract is awarded, and each July 1 thereafter until the project is completed, the Riverside County Transportation Commission shall submit a report on the progress of the project and compliance with this section to the legislative policy committees having jurisdiction over transportation matters.

SEC. 2. This act is an urgency statute necessary for the immediate preservation of the public peace, health, or safety within the meaning of Article IV of the Constitution and shall go into immediate effect. The facts constituting the necessity are:

Wayback Machine Archive

In order to provide improved motorist safety, reduced traffic congestion, and increased traffic mobility on the state's highways at the earliest possible time, and the associated economic benefits, it is necessary for this act to take effect immediately.

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Appendix C

Design-Builder Materials Control Schedule (MCS)

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Volume 3 | Appendix B Materials Control Schedule

Materials Control Schedule

This Materials Control Schedule (MCS) outlines the roles and responsibilities for sampling and testing of materials. Some items are covered by Standard Special Provisions and may not be shown on the MCS. For more information regarding contract requirements for sampling and testing, please reference Standard Specifications and the Quality Program (QP), including but not limited to the Construction Quality Inspection and Testing Plan (Volume IV).

The MCS covers sampling and testing that will be performed by all parties, Atkinson/Walsh, RCTC and Caltrans, to ensure that all work conforms to the contract requirements. This sampling and testing serves the purpose of assuring and verifying that all materials, equipment and elements of the work will perform satisfactorily in service and meet the requirements of the contract documents.

The MCS defines the minimum Construction Quality Assurance Testing (QAT) to be performed by Atkinson/Walsh for commonly used test methods. RCTC and Caltrans will perform Contract Acceptance Testing (CAT) and Independent Assurance Sampling and Testing (IAST) for the project as shown below in the MCS.

Quality Control is the act of planning, examining, witnessing, inspecting, checking, testing, and when necessary, revision of the in progress or completed work to determine conformity with contract documents. Atkinson/Walsh is responsible for providing all Quality Control, including but not limited to necessary Construction Quality Control Testing (QCT), in accordance with Section 6-3, "Control of Material - Testing" of Standard Specifications.

Quality Assurance is the total effort of development, documentation, implementation of policies, definition of roles and responsibilities and procedures to achieve and verify quality in accordance with contract documents. Atkinson/Walsh is responsible for providing all Quality Assurance in accordance with the requirements of the Quality Program (QP), including but not limited to the Construction Quality Inspection and Testing Plan and Quality Organization. Atkinson/Walsh is responsible for performing Quality Assurance Testing (QAT) in accordance with the MCS. Atkinson/Walsh's sampling and testing program for the project shall, as a minimum, consist of Chapter 6 (Sampling and Testing) of the Caltrans Construction Manual and the MCS. The minimum required frequencies of QAT to be performed by Atkinson/Walsh shall be that identified as "Acceptance Testing" in Table 6 of Chapter 6-1 in the Caltrans Construction Manual. The testing rates listed in the MCS are the minimum rates for passing tests only based on quantity of material incorporated into the project. Testing is intended to be performed throughout the production phase and during incorporation of the materials into the project.

Atkinson/Walsh shall ensure that the QCT and QAT equipment and personnel and testing laboratories are completely independent from each other. QCT staff can work directly for Atkinson/Walsh; however, both QAT staff and all inspection staff shall work under the direction of the Atkinson/Walsh Quality Manager and be independent from production staff or production influence.

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Contract Acceptance Testing (CAT) will be performed by RCTC and Caltrans in accordance with the MCS (20 percent of the number of Atkinson/Walsh's QAT or as determined necessary by the RCTC and Caltrans). RCTC and Caltrans will also perform IAST and source inspection as outlined in the Caltrans Construction Manual. The IAST tests are intended to be split samples run by both IAST and QCT/QAT in order to validate the QCT/QAT sampling and testing processes and procedures on the project.

The Caltrans Construction Manual (Sept 2007 edition) is posted in Constructware under File Management \ File Director \ QA, of which Chapter 6-1 (Sampling Types and Frequencies), Chapter 6-2 (Acceptance of Materials and Sampling Methods), and Chapter 6-3 (Field Tests), of the Construction Manual is made part of the QP as described above.

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RESPONSIBLE PARTIES FOR MATERIAL SAMPLING AND TESTING

CA Test #	Title of Test Method	Standard Specifications Reference	Construction Manual Reference (Page #)	A/W QAT[1]	Caltrans CAT[2]	Caltrans IAST[3]
105	Calculations Pertaining to Gradings and Specific Gravities	27-1.02 ,28-1.02, 37-2.02C, 39-2.02	6-1.16, 6-1.18, 6- 1.20, 6-1.24	100%	20%	100%
109	Method Testing of Material Production Plants	9-1.01(2X), 37-2.04 (2X), 39-3.03B	6-2.4 (3X), 6-3.6, 6-3.7 (3X)	100%	---	100%
110	Calibration of Compaction Test Equipment		6-3.3	100%	20%	100%
115	Calibration of Pressure Type Air Meters		6-3.2	100%	20%	100%
121	Use of Nuclear Gauges		6-3.6	100%	20%	100%
125	Sampling Highway Materials and Products Used in the Roadway Structural Sections	90-2.01(2X)	6-1.10, 6-1.13, 6-1.15, 6-1.17, 6-1.20, 6-1.21, 6-1.23, 6-1.25, 6-2.6 (2X), 6-2.7,6-2.10, 6-2.11	100%	20%	100%
202	Sieve Analysis of Fine and Coarse Aggregate	27-1.02, 28-1.02, 37-2.02C, 39-2.02	6-1.9, 6-1.11, 6-1.14, 6-1.15, 6-1.16, 6-1.17, 6-1.18, 6-1.20, 6-1.21 (2X), 6-1.22 (2X), 6-1.24(4X),6-1.25, 6-3.2, 6-3.3 (3X)	100%	20%	100%
205	Determining Percentage of Crushed Particles	37-1.02,	6-1.16, 6-1.121,6-1.22, 6-1.24	100%	20%	100%

1 The minimum required percentage of QAT tests to be performed by Atkinson/Walsh shall be at the frequencies specified for "Acceptance Testing" in Table 6 of Chapter 6 of the Construction Manual

2 frequencies at 20% of QAT, or as determined necessary by Caltrans

3 frequencies as shown in Caltrans' Independent Assurance Manual and/or as determined necessary by Caltrans

Notes: Atkinson/Walsh is responsible for all Quality Control Testing as described in Section 6 of the Standard Specifications. Atkinson/Walsh will perform Quality Assurance and QAT in accordance with the requirements of the Quality Program, including but not limited to Quality Organization and the Material Control Schedule.

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CA Test #	Title of Test Method	Standard Specifications Reference	Construction Manual Reference (Page #)	A/W QAT[1]	Caltrans CAT[2]	Caltrans IAST[3]
206	Specific Gravity and Absorption of Coarse Aggregate		6-1.9, 6-1.10, 6-1.11, 6-1.13, 6-1.14, 6-1.15, 6-1.16, 6-1.25 (2X)	100%	20%	100%
207	Specific Gravity and Absorption of Fine Aggregate		6-1.9, 6-1.10, 6-1.11, 6-1.13, 6-1.14, 6-1.15	100%	20%	100%
208	Apparent Specific Gravity of Fine Aggregates		6-1.16	100%	20%	100%
211	Abrasion of Coarse Aggregate by Use of the Los Angeles Rattler Machine		6-1.8, 6-1.11, 6-1.13, 6-1.14, 6-1.16, 6-1.21 (2X), 6-1.22, 6-1.24	100%	20%	100%
213	Organic Impurities in Concrete Sand		6-1.8, 6-1.10, 6-1.13, 6-1.11, 6-1.14	100%	20%	100%
214	Soundness of Aggregates by Use of Sodium Sulfate	90-2.02	6-1.9, 6-1.11, 6-1.14, 6-1.15	100%	20%	100%
216	Relative Compaction of Untreated and Treated Soils and Aggregates	24-1.07, 26-1.06	6-1.20, 6-1.22 (2X). 6-1.23 (4X),6-1.25	100%	20%	100%
217	Sand Equivalent	90-2.02B	6-1.8, 6-1.11,6-1.14, 6-1.16, 6-1.18, 6-1.20, 6-1.22 (2X), 6-1.24 (2X), 6-1.25	100%	20%	100%
223	Surface Moisture in Concrete Aggregates by the Displacement Method (Field Method)		6-1.9, 6-1.11, 6-1.14	100%	20%	100%

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3 frequencies as shown in Caltrans' Independent Assurance Manual and/or as determined necessary by Caltrans

Notes: Atkinson/Walsh is responsible for all Quality Control Testing as described in Section 6 of the Standard Specifications. Atkinson/Walsh will perform Quality Assurance and QAT in accordance with the requirements of the Quality Program, including but not limited to Quality Organization and the Material Control Schedule.

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CA Test #	Title of Test Method	Standard Specifications Reference	Construction Manual Reference (Page #)	A/W QAT[1]	Caltrans CAT[2]	Caltrans IAST[3]
226	Determination of Moisture Content by Oven Drying	9-1.01, 20-2.07, 24-1.07 (2X), 26-1.06,27-1.04B, 27-1.05A, 95-1.04	6-1.9, 6-1.11, 6-1.14, 6-1.22	100%	20%	100%
227	Evaluating Cleanness of Coarse Aggregate	90-2.02A	6-1.8, 6-1.11, 6-1.14, 6-1.21 (2X), 6-1.22, 6-1.24	100%	20%	100%
229	Durability Index	90-2.02	6-1.8, 6-1.11, 6-1.14, 6-1.22, 6-1.24 (2X), 6-1.25	100%	20%	100%
231	Relative Compaction of Untreated/Treated Soils and Aggregates (Area Concept Utilizing Nuclear Gauges)	24-1.07	6-1.20, 6-1.22 (2X), 6-1.23 (4X),6-3.6 (2X), 6-1.25	100%	20%	100%
301	Resistance "R" Value of Treated and Untreated Bases, Subbases and Basement Soils (Stabilometer)		6-1.20, 6-1.22(2X), 6-1.23	100%	20%	100%
302	Method of Test for Film Stripping		6-1.16, 6-1.21, 6-1.24 (2X)	100%	20%	100%
303	CKE		6-1.16	100%	20%	100%
305	Swell of Bituminous Mixtures		6-1.17	100%	20%	100%
307	Moisture Vapor Susceptibility of Bituminous Mixtures		6-1.17	100%	20%	100%
310	Determination of Asphalt and Moisture Contents of Bituminous Mixtures by Hot Solvent Extraction	29-1.04A, 37-2.04, 39-3.02	6-1.17 (2X), 6-1.21	100%	20%	100%

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2 frequencies at 20% of QAT, or as determined necessary by Caltrans

3 frequencies as shown in Caltrans' Independent Assurance Manual and/or as determined necessary by Caltrans

Notes: Atkinson/Walsh is responsible for all Quality Control Testing as described in Section 6 of the Standard Specifications. Atkinson/Walsh will perform Quality Assurance and QAT in accordance with the requirements of the Quality Program, including but not limited to Quality Organization and the Material Control Schedule.

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CA Test #	Title of Test Method	Standard Specifications Reference	Construction Manual Reference (Page #)	A/W QAT[1]	Caltrans CAT[2]	Caltrans IAST[3]
312	Designing and Testing Classes "A" and "B" Cement Treated Bases (Test method is currently inactive - refer to contact for further information)	27-1.02, 27-1.04B, 27-1.05A, 27-1.07	6-1.20, 6-3.3	100%	20%	100%
338	Determination of Cement or Lime Content in Treated Aggregate by the Titration Method	27-1.04B, 27-1.05A	6-1.20, 6-1.23, 6-3.3	100%	20%	100%
339	Field Test for the Determination of Distributor Spread Rate	37-1.05	6-1.24	100%	20%	100%
362	Determining Asphalt Content in Bituminous Mixtures by Vacuum Extraction		6-1.17, 6-1.21	100%	20%	100%
366	Stabilometer Value		6-1.17	100%	20%	100%
367	Recommending Optimum Bitumen Content (OBC)	39-2.01, 39-2.02, 39-3.03	6-1.17 (2X)	100%	20%	100%
370	Determining Moisture Content of Asphalt Mixtures or Mineral Aggregate Using Microwave Ovens	39-3.02	6-1.17	100%	20%	100%
373	Unconfined Compressive Strength of Lime Treated Soils and Aggregates	24-1.03	6-1.23	100%	20%	100%

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CA Test #	Title of Test Method	Standard Specifications Reference	Construction Manual Reference (Page #)	A/W QAT[1]	Caltrans CAT[2]	Caltrans IAST[3]
375	Determining the In-Place Density and Relative Compaction of AC Pavement		6-1.17 (2X)	100%	20%	100%
379	Determining Asphalt Content of Bituminous Mixtures (Troxler Nuclear Gauge Model 3241)	29-1.04A, 39-3.04	6-1.17	100%	20%	100%
405	Chemical Analysis of Water		6-1.9, 6-1.12, 6-1.15, 6-1.18, 6-1.20, 6-1.21	100%	20%	100%
417	Soils and Waters for Sulfate Content	83-2.02D(I), 90-2.03 (2X), 90-2.03	6-1.9, 6-1.12, 6-1.15, 6-1.18, 6-1.20, 6-1.21	100%	20%	100%
422	Testing Soils and Waters for Chloride Content	90-2.03 (2X)	6-1.9, 6-1.12, 6-1.15, 6-1.18, 6-1.20, 6-1.21	100%	20%	100%
471	Chlorides, Sulfates in water		6-1.18	100%	20%	100%
504	Determining Air Content of Freshly Mixed Concrete by the Pressure Method	90-4.06, 90-4.07	6-1.10, 6-1.12, 6-1.15, 6-1.19, 6-3.2, 6-3.4	100%	20%	100%
515	Relative Mortar Strength of Portland Cement Concrete Sand		6-1.8, 6-1.11, 6-1.14	100%	20%	100%
518	Unit Weight of Fresh Concrete	90-1.01 (2X), 90-11.0	6-1.10, 6-1.12, 6-1.13, 6-1.15, 6-3.4	100%	20%	100%
521	Compressive Strength of Molded Concrete Cylinders	90-9.01		100%	20%	100%

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CA Test #	Title of Test Method	Standard Specifications Reference	Construction Manual Reference (Page #)	A/W QAT[1]	Caltrans CAT[2]	Caltrans IAST[3]
523	Flexural Strength of Concrete (Using Simple Beam with Center-Point Loading)	90-8.03	6-1.10	100%	20%	100%
524	Method of Test For Flexural Strength of Rapid Set Concrete			100%	20%	100%
526	Operation of California Profilograph and Evaluation of Profiles	40-1.10 (2X)	6-3.3	100%	20%	100%
528	Freeze-Thaw Resistance of Aggregates in Air-Entrained Concrete (Powers Procedure)		6-1.9, 6-1.10, 6-1.11, 6-1.13, 6-1.14, 6-1.15	100%	20%	100%
529	Proportions of Coarse Aggregate in Fresh Concrete	90-6.01	6-1.10, 6-1.12	100%	20%	100%
531	Determining Length of Drilled Concrete Cores	40-1.135	6-1.10	100%	20%	100%
533	Test for Ball Penetration in Fresh Portland Cement Concrete	63-1.02, 90-6.01,90-6.06	6-1.10, 6-1.12, 6-1.15, 6-1.19, 6-3.4	100%	20%	100%
540	Making, Handling, and Storing Concrete Compressive Test Specimens in the Field	90-9.01 (4X)	6-1.15, 6-3.4(2X), 6-3.6 (2X)	100%	20%	100%
541	Flow of Grout Mixtures (Flow Cone Method)	41-1.02, 50-1.09	6-1.13	100%	20%	100%
548	Evaluation of Aggregate for Lean Concrete Base (LCB	28-1.02	6-1.18	100%	20%	100%

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Notes: Atkinson/Walsh is responsible for all Quality Control Testing as described in Section 6 of the Standard Specifications. Atkinson/Walsh will perform Quality Assurance and QAT in accordance with the requirements of the Quality Program, including but not limited to Quality Organization and the Material Control Schedule.

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Appendix D

Design-Builder Inspection Frequency Checklist

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CQP-002: Atkinson/Walsh QA Inspection Frequency Checklist

PURPOSE AND SCOPE

The purpose of this procedure is to define the minimum frequency for quality assurance inspection of construction activities and items.

RESPONSIBILITY

The CQAM is responsible for ensuring that properly trained certified inspectors & technicians are assigned to perform required observations, testing and documentation of dust control operations. The Lead Inspector or selected representative will be onsite during dust control operations.

The quality assurance tests shall be performed under the appropriate guidelines. Tests will be performed by, or under the supervision of the inspector.

CQAM is responsible for random spot checks and quality audits associated with dust control operations and tests in accordance with appropriate guidelines.

Test records and daily diaries shall be submitted to the Caltrans by 0900 hours the next business day.

References

The following documents coordinate with this procedure. The latest edition of the referenced document applies.

Construction Policy Bulletin (CPB)

Construction Program Directives (CPD)

Caltrans Special Provisions

Caltrans Standard Specifications

California Test Methods

Caltrans Construction Manual

Inspection Checklist

SWPPP Manual

OSMPP Manual

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Definitions

For the purpose of this document, the terms and definitions given in the QMP Introduction apply.

Procedure

CONSTRUCTION ITEMS – QA

C = CONTINOUS INSPECTION - continuous or full time inspection; one person or more assigned to one operation;

I = INTERMITTENT INSPECTION - as often as necessary to assure contract requirements are met; one person assigned to two-three operations

B = BENCHMARK INSPECTION - benchmark or milestone inspection; inspection or review at the completion of predetermined stages of work as agreed with the contractor, no work can proceed until approved by Caltrans

Work Item Description	C	I	B
Structural Section			
AC Paving	X		
Tack Coat		X	
Treated Permeable Base	X		
Lean Concrete Base	X		
Grade & Form Check & Oil		X	
PCC Paving (Form or Slip)	X		
Permeable Blanket		X	
Chip Seal		X	
Slurry Seal		X	
Aggregate Base		X	
Check Grades		X	
Subgrade Preparation		X	
Slab Replacement	X		
Ramp Termini Replacement or New	X		
Dowels			X
Tie Bars			X
Profilograph			X
Highway Items			
Clear & Grubb			X
Misc. Demolition & Removal		X	
Roadway Excavation		X	
Imported Borrow & Backfill		X	
Check Subgrade		X	
Finishing Roadway		X	

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Work Item Description	C	I	B
Concrete Items			
Median Barrier grade & Form		X	
Median Barrier Pour or Slip	X		
Median Barrier Rebar			X
CIP Concrete Pipe	X		
Drainage Structures Form			X
Drainage Structures Pour	X		
Form Curb & Gutter & Sidewalk			X
Pour Curb & Gutter & Sidewalk	X		
Drainage Items			
Culverts/Pipes Trench & Excavation		X	
Culverts/Pipes Installation			X
Culverts/Pipes Backfill		X	
Edge Drains Installation			X
Edge Drains Test	X		
Down Drains			X
Misc. Drainage Facilities			X
Traffic Items			
Traffic Control, etc.	X		
Place K-Rail & Crash Cushion		X	
Striping (Paint & Thermo)		X	
Pavement Markers		X	
Striping, Marking, Markers Removal		X	
Roadside Sign Installation			X
Traffic Signal & Lighting			
Trench & Excavation			X
Conduit & Pull Boxes Installation		X	
Foundations Pour	X		
Foundations Form, Rebar & Strip		X	
Signal & Light Pole Installation	X		
Loop Detector Installation	X		
Conductor Installation			X
Functional Test			X
Temporary Installation		X	
AWIS		X	

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Work Item Description	C	I	B
TMS & Communications System			
Trench & Excavation		X	
Backfill & Paving	X		
Camera Assembly		X	
CMS Assembly		X	
Communication Cable	X		
Communication Equipment			X
Splicing & Connection	X		
System Testing		X	
Miscellaneous Items			
Cold Plane		X	
Grind & Groove Pavement		X	
Place AC Dike & Misc. AC		X	
PRF Installation		X	
Geo Grids Installation		X	
Irrigation Trench, Install & Backfill		X	
Irrigation Pressure Test	X		
Construction Area Signs			X
Remove, Salvage, Relocate, Modify Existing Fac.		X	
Install MBGR		X	
SWPPP/WPCP BMP Implementation		X	
Chain Link Fences			X
Extra Work		X	
Miscellaneous Items - Continued			
GSRD Installation		X	
Project Wide Routine Safety Review			X

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STRUCTURES CONSTRUCTION ITEMS – QA

The "Inspection Priority Chart" below is a listing of construction items normally encountered on structure construction contracts. The items are matched with both a recommended type of activity and a priority.

The type of activity and explanation of each are as follows:

Bench Mark (B): Inspect up to 20% of the time work is in progress. Operation can proceed without inspection until complete, or until a predetermined bench mark has been achieved, either final or a clear milestone. The structure representative must work closely with Atkinson to ensure success of bench mark inspections. Atkinson must anticipate when a milestone is going to be reached, and notify the structure representative in a timely manner for inspection, before beginning work on subsequent stages.

Intermittent Inspection (I): Inspect 30-70% of the time work is in progress with assistant(s) assigned to two or three operations simultaneously.

Continuous Inspection (C): Inspect 80-100% of the time work is in progress with assistant(s) assigned only to one operation.

The types of activity are listed from left to right in an order reflecting manpower availability. For example, bench mark indicates a minimum level of job staffing and inspection or review can only be maintained at predetermined stages of work. Whereas proceeding to the far right, continuous represents the maximum level where adequate manpower is available to inspect more items on a full time basis.

Intermittent and continuous activities have priorities, increasing from left to right. The intent being that the structure representative can use this chart to determine the priorities of each day's activities and make appropriate staff assignments to best cover the work.

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Structures Construction Items – QA Priorities (1 high 5 Low)									
	Bench Mark	Intermittent					Continuous		
Priorities (1 high 5 Low)		5	4	3	2	1	3	2	1
Structure Excavation	B								
Pile Footings		I							
Spread Footings		I							
Pier Shafts	B								
Driven Piles (Bridge)									
Steel									C
Precast Concrete									C
CIDH Piles (Bridge)									
Drilling						I			
Rebar/Pre-pour				I					
Pour								C	
Wet Pour									C
Footings									
Rebar/Pre-pour		I							
Pour									C
Columns									
Guying System	B								
Rebar/Pre-pour				I					
Pour									C
Abutments									
Forms		I							
Rebar/Pre-pour				I					
Pour									C
Structure Backfill									
Material	B								
Placement & Compaction					I				
Stem & Soffit									
Form Design	B								
Falsework Inspection				I					
Falsework Erection/ Removal over/near Roadway							C		
Form Construction		I							
Form Dimensions			I						
Clean Out	B								
Rebar				I					
Bracing & Ties		I							
Layout & Lost Deck Dowels						I			
Strip & Cure			I						
Pour									C
Barrier Rail (Bridge)									
Profile Grades	B								
Rebar/Pre-pour				I					
Pour							C		
Barrier Rail (Median)				I					

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Structures Construction Items – QA Priorities (1 high 5 Low)									
	Bench Mark	Intermittent					Continuous		
Priorities (1 high 5 Low)		5	4	3	2	1	3	2	1
Prestressing									
Hardware & Ducts				I					
Strands									C
Stress & Grout									C
Deck Construction	B								
Overhang Construction				I					
Overhand Line & Grade					I				
Lost Deck Grade						I			
Lost Deck Construction			I						
Rebar				I					
Finish Machine Setup							C		
Clean Up		I							
Pour									C
Cure		I							
Profilograph	B								
Structural Steel									
Erect & Weld & Bolt						I			
Joint Seals									
Saw Cut		I							
Place Seal				I					
Paint									
Acquire As Builts	B								
Steam Clean				I					
Spot or Full Blast				I					
Paint				I					
Paint Quantities	B								
Buildings									
Submittals	B								
Construction (varies)						I			
Sound Walls									
Piles/Foundations						I			
Barriers						I			
Block						I			
Grouting							C		
Pump Plants									
Shop Plans	B								
Construction				I					
Miscellaneous									
Emergency Work									C
MSE Walls									
Panel Installation			I						
Backfill			I						

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RECORDS

1. Include in the Atkinson/Walsh Daily Inspection Report
    a. Instruction and/or significant discussions with contractor or subcontractor
    b. Hours worked by personnel and equipment
    c. Data for Force Account payment
2. Retain/File – Weight slips, dilution records
3. Test records and daily diaries shall be submitted to Caltrans by 0900 hours the next business day or by 0900 hours the following day for night operations.

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Appendix E

Construction Management Forms

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SR-91 Corridor Improvement Project

Construction Management Forms

CAT #	Category	Form Title	RCTC Form Number
1	Oversight	To be developed at a later time - Place Holder	AOM-0102
		To be developed at a later time - Place Holder	AOM-0104
		To be developed at a later time - Place Holder	AOM-0105
2	Safety	Project Safety Program Statement	ASM-0261
		Project Safety Plan Acknowledgement	ASM-0262
		Construction Safety Report	ASM-0265
		Tool Box Meeting (To be developed at a later time) - Place Holder	ASM-0266
3	Construction	Materials Release Summary	ACM-0342
		CMT Daily Inspection Report	ACM-0345
		CMT Supervisors Daily Reports	ACM-0348
4	Quality	Notice of Material to be Used	AQM-0341/CEM3101
		CMT - IQA Hot Mix Asphalt Verification	AQM-0435
		CMT - IQA Test Result Summary	AQM-0437
		CMT - IQA Relative compaction summary	AQM-0438
		Request for assignment of insp., samplers & testers	AQM-0439
		QA/QC Inspector Affidavit of Proficiency	AQM-0440
		Hot Mix Asphalt Inspection and Testing Summary	AQM-0442
		Material Inspected and Released on Job	AQM-0443
		Final Materials Certification	AQM-0444
		Non Conformance Report	AQM-0555
5	Traffic Control	Cozeep Daily Report	ATC-2101
		Cozeep/Mazeep Task Order	ATC-2102
		Cozeep/Mazeep Cancellation Form	ATC-2103
		Traffic Field Review Checklist	ATC-2104
6	Contract Administration	Relief From Maintenance	CA-0501
		Weekly Statement of Working Days	CA-0701
		Contract Acceptance	CA-6301
		To be developed at a later time - Place Holder	CA-6303

NOTE: THE AGENCY (CONSTRUCTION MANAGEMENT TEAM), MAY DEVELOP NEW, MODIFY AND/OR UPDATE EXISTING, ADD OR CANCEL ANY OF THE PROJECT's FORMS AS DEEMED NECESSARY FOR THE PROJECT

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RIVERSIDE COUNTY TRANSPORTATION COMMISSION

PROJECT SAFETY PROGRAM STATEMENT

ASM-261 (SR-91CIP 11/2013)

SR-91 Corridor Improvement Project
EA-08-0F540
08-Riv-91-00.0/14.0
08-Riv-15-34.0/46.0
12-Ora-R14.0/R18.91
From SR-241 to Pierce Str. on SR-91, and From
Hidden Valley to Ontario on I-15
RFP Number: 12-31-113-00

1. CODE OF SAFE PRACTICES *(Mark the sections of the C.O.S.P. which apply to this project)*

☐ GENERAL SAFETY	☐ TRAFFIC CONTROL SYSTEMS	☐ OTHER SPECIAL CONSIDERATIONS
☐ EQUIPMENT	☐ EXCAVATIONS	☐ ELECTRICAL
☐ ELEVATED WORK AREAS	☐ NIGHT WORK	☐ FIELD TESTING
☐ HAZARDOUS MATERIALS	☐ FACILITIES	☐ CONFINED / ENCLOSED SPACE
☐ VEHICLE OPERATIONS	☐ PROJECT SPECIFIC REQUIREMENTS	☐ MATERIAL PLANT SITES

2. *PROJECT SAFETY COORDINATOR IS:*

3. OTHER SAFETY TOPICS:

RESIDENT ENGINEER'S SIGNATURE	DATE
CONSTRUCTION ENGINEER'S SIGNATURE	DATE
CONSTRUCTION SAFETY COORDINATOR'S SIGNATURE	DATE

4. EMPLOYEE'S ACKNOWLEDGMENT - *(Each employee shall acknowledge reading the C.O.S.P. by their signature)*

I HAVE READ THE APPLICABLE CODE OF SAFE PRACTICES

SIGNATURE	DATE	SIGNATURE	DATE

USE AN ATTACHED SHEET FOR ADDITIONAL SIGNATURES

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SR-91 CORRIDOR IMPROVEMENT PROJECT

SR-91 CIP PROJECT SAFETY PLAN ACKNOWLEDGEMENT

I the undersigned,…… acknowledge receipt, review, and understanding of the Project Safety Plan for the SR-91 Corridor Improvement Project.

_____
Signature

_____
Date

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RIVERSIDE COUNTY TRANSPORTATION COMMISSION

CONSTRUCTION SAFETY REPORT

ASM-265 (SR-91CIP 11/2013)

SR-91 Corridor Improvement Project
EA-08-0F540
08-Riv-91-00.0/14.0
08-Riv-15-34.0/46.0
12-Ora-R14.0/R18.91
From SR-241 to Pierce Str. on SR-91, and From Hidden Valley to Ontario on I-15
RFP Number: 12-31-113-00

1. TYPE OF REPORT

☐ PROJECT SAFETY REVIEW ☐ *PUBLIC SAFETY* ☐ *CT EMPLOYEE SAFETY*	☐ CONTRACT ADMINISTRATION	☐ TAILGATE SAFETY MEETING

NAME	TITLE	DATE
NAME	TITLE	DATE
NAME	TITLE	DATE

2. DISCUSSION *(List Inspection Findings or Safety Topics Discussed)*

3. ACTIONS TAKEN *(List Corrective Actions or Recommendations)*

4. SUPERVISOR'S COMMENTS *(List comments, instructions, etc.)*

5. SIGNATURES OF EMPLOYEES PRESENT *(Use attached sheet for additional signatures)*

SIGNATURE	SIGNATURE	SIGNATURE
SIGNATURE	SIGNATURE	SIGNATURE
SIGNATURE	SIGNATURE	SIGNATURE
SIGNATURE OF 1st LINE SUPERVISOR		DATE
SIGNATURE OF 2nd LINE SUPERVISOR		DATE
SIGNATURE OF SAFETY OFFICER		DATE

ORIGINAL - RCTC PROJECT OFFICE CC - FILE CC - BULLETIN BOARD

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RIVERSIDE COUNTY TRANSPORTATION COMMISSION

MATERIALS RELEASE SUMMARY

CEM-4101 (NEW 6/1994) ACM-342 (SR-91CIP 11/2013)

SR-91 Corridor Improvement Project
EA-08-0F540 RFP Number: 12-31-113-00
08-Riv-91-00.0/14.0 08-Riv-15-34.0/46.0
12-Ora-R14.0/R18.91
From SR-241 to Pierce Str. on SR-91, and
From Hidden Valley to Ontario on I-15







MATERIAL:			CONTRACT ITEM NO.
SOURCE OF MATERIAL (SUPPLIER):	DATE CEM-3101 SUBMITTED	MR-0608 (FURNISHED)	MR-0029 (SAMPLED)

MATERIAL RELEASED BY DNTM&R (MR-0029) QUANTITIES DETERMINED FROM LAB RELEASES				MATERIAL RECEIVED ON PROJECT QUANTITIES DETERMINED BY ACTUAL COUNT, WEIGHTS, BILLS OF LADING, ETC.				CROSS INDEX WHERE RELEASE IS FILED BY ITEM NUMBER	REMARKS
DATE OF RELEASE	QUANTITY RELEASED	ACCUMULATED QUANTITY TO DATE	LOT NUMBERS	DATE RECEIVED	QUANTITY	ACCUMULATED QUANTITY TO DATE	LOT NUMBERS		

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RIVERSIDE COUNTY TRANSPORTATION COMMISSION

IQA INSPECTION DAILY REPORT

ACM-345 (SR-91CIP 11/2013)

SR-91 Corridor Improvement Project
EA-08-0F540
08-Riv-91-00.0/14.0
08-Riv-15-34.0/46.0
12-Ora-R14.0/R18.91
From SR-241 to Pierce Str. on SR-91, and From Hidden Valley to Ontario on I-15
RFP Number: 12-31-113-00

Report No. _____
Date _____
S ☐ M ☐ T ☐ W ☐ T ☐ F ☐ S ☐
Shift Hours Start _____ Stop _____
Intermittent Inspection: ☐ Yes ☐ No
Construction Type: ☐ Roadway ☐ Structure ☐ Other

INSPECTION DAILY _____ REPORT

Location and Description of Operation(s): _____

Construction Work:

Design-Builder: _____

Sub-Contractor(s): _____

Traffic Controller(s): _____ TCS: ☐ Yes ☐ No /FSP: ☐ Yes ☐ No/COZEEP: ☐ Yes ☐ No

MATERIALS: _____

WEATHER

Temperature

MAX. _____

MIN.

Sampling & Testing Required: ☐ Yes ☐ No **Specify:**

Critical-Activity Point Ispection: ☐ Yes ☐ No **Specify:**

Outstanding Issues: ☐ Yes ☐ No **Specify:**

Non-Conformance Reports: ☐ Yes ☐ No **Specify:** **Photos/Videos:** ☐ Yes ☐ No

INSPECTOR'S NOTES:

Continue on Page # ( )

PRINT NAME	SIGNATURE	TITLE

FOR COMPLETE DETAILS OF D-B OPERATIONS, VERIFY AND REFER TO DB'S QA/QC INSPECRORS DAILY REPORTS

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RIVERSIDE COUNTY TRANSPORTATION COMMISSION

IQA INSPECTION DAILY REPORT

ACM-345 (SR-91CIP 11/2013)

SR-91 Corridor Improvement Project
EA-08-0F540
08-Riv-91-00.0/14.0
08-Riv-15-34.0/46.0
12-Ora-R14.0/R18.91
From SR-241 to Pierce Str. on SR-91, and From Hidden Valley to Ontario on I-15
RFP Number: 12-31-113-00

Report No. _____

Page # _____

INSPECTOR'S NOTES Continue:

ACTIVITY % COMPLETE (ESTIMATE):

No.	ACTIVITY ID	TYPE	Activity Name	% Complete	REMARKS
1				0.0%	
2				0.0%	
3				0.0%	
4				0.0%	
5				0.0%	
6				0.0%	
7				0.0%	
8				0.0%	

Continue on Page # ( )

PRINT NAME	SIGNATURE	TITLE

FOR COMPLETE DETAILS OF D-B OPERATIONS, VERIFY AND REFER TO DB'S QA/QC INSPECRORS DAILY REPORTS

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RIVERSIDE COUNTY TRANSPORTATION COMMISSION

CONSTRUCTION MANAGEMENT TEAM (CMT)
DAILY REPORT

ACM-348 (SR-91CIP 11/2013)

○ SR. RESIDENT ENGINEER'S DAILY REPORT

○ ASST. RESIDENT ENGINEER'S DAILY REPORT

○ LEAD INSPECTOR'S DAILY REPORT

SR-91 Corridor Improvement Project
EA-08-0F540
08-Riv-91-00.0/14.0
08-Riv-15-34.0/46.0
12-Ora-R14.0/R18.91
From SR-241 to Pierce Str. on SR-91, and From
Hidden Valley to Ontario on I-15
RFP Number: 12-31-113-00

REPORT NUMBER	WORK HOURS	START	STOP	DATE	☐ S ☐ M ☐ T ☐ W ☐ T ☐ F ☐ S
WEATHER				TEMPERATURE	MIN MAX

MEETINGS AND ACTION ITEMS:

COORDINATION:

FIELD'S WORK: DAYTIME:

NIGHT TIME:

TRAFFIC SAFETY & CLOSURES:

COZEEP/MAZEEP:

AWJV SUPERVISION AND QA INSPECTION:

SAFETY & HEALTH:

ISSUES/ INCIDENTS:

OTHER:

CALTRANS IQA:

CONTROLLING OPERATION:

PRINT NAME	SIGNATURE	TITLE

VERIFY IQA, QA AND QC INSPECTORS DAILY REPORTS FOR COMPLETE OPERATIONS AND VALIDATE CONTENTS

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STATE OF CALIFORNIA • DEPARTMENT OF TRANSPORTATION

NOTICE OF MATERIALS TO BE USED

CEM-3101 (REV 05/2006) CT# 7541-3511-1 AQM-341

SR-91 Corridor Improvement Project
EA-08-0F540 RFP Number: 12-31-113-00
08-Riv-91-00.0/14.0 08-Riv-15-34.0/46.0
12-Ora-R14.0/R18.91
From SR-241 to Pierce Str. on SR-91, and From Hidden Valley to Ontario on I-15

To (Resident Engineer): _____ Date: _____

You are hereby notified that materials required for use under Contract Number (1) _____

Dist. _____ Co. _____ Rte. _____ P.M. _____

will be obtained from the following sources:

Contract Bid Item Number (2)	Item Code (3)	Contract Item Description (4)	Item Component (5)	Item Sub-Component (5)	Manufacturer/Provider Name(s) and Address(es) (6)

It is requested that you arrange for sampling, testing and inspection of materials prior to delivery in accordance with Section 6 of the *Standard Specifications*. It is understood that source inspection does not relieve the prime contractor of the full responsibility for incorporating into the work, materials that comply in all respects with the contract plans and specifications. Nor does it preclude the subsequent rejection of materials found to be unsuitable.

Yours Truly,

Contractor		
Address		
Business Phone	Business Fax	E-Mail Address

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

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NOTICE OF MATERIALS TO BE USED
INSTRUCTIONS TO CONTRACTOR

Section 6 of the *Standard Specifications* states that the contractor shall furnish the resident engineer a list of the contractor's sources of materials and the locations at which those materials will be available for inspection. The list shall be submitted on a state-furnished form and shall be furnished to the resident engineer in sufficient time to permit inspecting and testing of materials to be furnished from the listed sources in advance of their use.

In order to avoid delay in approval of materials, the Department of Transportation must receive, in a timely manner, your faxed Form CEM-3101, "Notice of Materials to Be Used." When filing your Form CEM-3101, please comply with the following as closely as possible:

The contract number and job limits should be the same as they appear on the special provisions.

The column headed "Contract Bid Item Number" refers to the sequential item number of the corntract.

The column headed "Item Code" refers to the number for which the material is to be used. It is a six-digit number.

The column headed "Contract Item Description" refers to an item description of the material as described in the special provisions.

The columns headed "Item Component" and "Item Sub-Component" refer to the specific description of material to be used, not necessarily the name of the contract item.

For Example:

Contract Bid Item Number (2)	Item Code (3)	Contract Item Description (4)	Item Component (5)	Item Sub-Component (5)
01	520101	Bar reinforcing steel	Coupler (service splice)	Service splice, CJP welded

The column headed "Manufacturer/Provider" refers to the manifacturer/fabricator of the item and the supplier/vendor of the item. List the name and address of the manufacturer/fabricator. Also, list the name and address where inspection will occur, if different from the manufacturer/fabricator.

Form CEM-3101, "Notice of Materials to Be Used," must be faxed to (916) 227-7084, Attn: Materials Administrator or postal mail to: Material Engineering & Testing Services, 5900 Folsom Blvd., Sacramento, CA 95819.

If the sources of all materials are not known at the beginning of a contract, report those known. Supplemental "Notice of Materials to Be Used" should be submitted for the others as soon as possible thereafter. Do not delay submitting the original notice until all information is known. All changes in kinds and sources of materials to be used should be reported on supplemental "Notices of Materials to Be Used" immediately. Retain your copy and mail all other copies to the resident engineer.

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

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RIVERSIDE COUNTY TRANSPORTATION COMMISSION

CMT / IQA HOT MIX ASPHALT VERIFICATION

AQM-435 (SR-91CIP 11/2013)

HOT MIX ASPHALT PRODUCER NAME AND ADDRESS	HMA TYPE	DATE
	PRODUCER MIX IDENTIFICATION NUMBER	

The information provided in this form must be in accordance with Section 39, "Hot Mix Asphalt," of the Caltrans *Standard Specifications,* and the California Test Method indicated. For information concerning this form, contact the METS Office of Flexible Pavement Materials at (916) 227-7322.

COMBINED AGGREGATE GRADATION

Split Sample	Virgin Aggregate Gradation % of blend ____	RAP Aggregate Gradation (after CT 382)	RAP Gradation Correlation Factor [1]	Corrected RAP Gradation % of blend ____	Combined Aggregate Gradation [2]	Meet specifications?	
						Yes	No
Sieve Size	% Passing						
2"							
1½"							
1"							
¾"							
½"							
⅜"							
No. 4							
No. 8							
No. 16							
No. 30							
No. 50							
No. 100							
No. 200							

1 The correlation factor for each sieve is determined by taking the average RAP gradation of three ASTM D 2172 samples minus the average RAP gradation of three CT 382 samples (see form CEM-3512) determined for each ignition oven to be used for acceptance testing.

2 When determining the combined virgin and RAP aggregate gradation, burn off the RAP sample in accordance with CT 382. Perform a sieve analysis on recovered aggregate in accordance with CT 202, Appendix A. Add the correlation factor established for the ignition oven. Mathematically combine the virgin and corrected RAP aggregate gradations at the correct proportions to obtain the combined gradation.

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HMA TYPE	PRODUCER NAME	PRODUCER MIX IDENTIFICATION NUMBER	DATE

AGGREGATE QUALITY *

Quality Characteristic/Property	Test Method	Test Result	Meet specifications?	
			Yes	No
Crushed particles, coarse aggregate One fractured face (%)	CT 205			
Crushed particles, coarse aggregate Two fractured faces (%)	CT 205			
Crushed particles, fine aggregate (passing no. 4 sieve and retained on no. 8 sieve) One fractured face (%)	CT 205			
Los Angeles Rattler, loss at 100 rev. (%)	CT 211			
Los Angeles Rattler, loss at 500 rev. (%)	CT 211			
Sand equivalent	CT 217			
Fine aggregate angularity (%)	AASHTO T 304 (Method A)			
Flat and elongated particles (% by mass at 3:1)	ASTM D 4791			
Flat and elongated particles (% by mass at 5:1)	ASTM D 4791			
Plasticity index	CT 204			
Sodium sulfate soundness	CT 214			
Cleanness value	CT 227			
Fine aggregate durability index	CT 229			
Coarse aggregate durability index	CT 229			
K_c factor (not mandatory until further notice)	CT 303			
K_f factor (not mandatory until further notice)	CT 303			
Bulk specific gravity (oven dry) of coarse aggregate	CT 206		N/A	
Absorption of coarse aggregate	CT 206		N/A	
Bulk specific gravity (SSD) of fine aggregate	CT 207		N/A	
Bulk specific gravity (oven dry) of fine aggregate	LP-2		N/A	
Absorption of fine aggregate	CT 207		N/A	
Apparent specific gravity of supplemental fines	CT 208/LP-2		N/A	
Bulk specific gravity of the aggregate blend	LP-2		N/A	

*Aggregate must comply with the quality specifications before lime treatment. Lime treated aggregate will not be tested.

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HMA TYPE	PRODUCER NAME	PRODUCER MIX IDENTIFICATION NUMBER	DATE

CRUMB RUBBER MODIFIER *

Quality Characteristic	Test Method	Test Result	Specification Limits	Meet specifications?	
				Yes	No
Scrap tire CRM gradation (% passing no. 8 sieve)	LP-10		100		
High natural CRM gradation (% passing no. 10 sieve)	LP-10		100		
Wire in CRM (% max.)	LP-10		0.01		
Fabric in CRM (% max.)	LP-10		0.05		
CRM particle length (inch max.)	—		3/16		
CRM specific gravity	CT 208		1.1 - 1.2		
Natural rubber content in high natural CRM (%)	ASTM D 297		40.0 - 48.0		

*May be provided with certificate of compliance with testing performed by an AASHTO certified laboratory.

HOT MIX ASPHALT

Quality Characteristic	Test Method	Test Result				Meet specifications?	
						Yes	No
Asphalt binder content (%)	CT 379/CT 382						
Briquette bulk specific gravity	CT 308 (Method A)				*Average*	N/A	
Maximum specific gravity	CT 309					N/A	
Air voids content (design value ± 2%)	CT 308 (A) and CT 309				*Average*		
Voids in mineral aggregate (%)	LP-2				*Average*		
Effective specific gravity of RAP aggregate	LP-2					N/A	
Voids filled with asphalt (%)[1]	LP-3				*Average*		
Dust proportion[1]	LP-4						
Effective specific gravity of aggregate	LP-4					N/A	
Stabilometer value	CT 366				*Average*		
Modified stabilometer value	CT 366				*Average*		
Surface abrasion (%)	CT 360				*Average*		
Tensile strength ratio (TSR) untreated[2,3]	CT 371					N/A	
Tensile strength ratio (TSR) treated[2,3]	CT 371					N/A	

[1] Report only if the adjustment for asphalt binder content TV ≤ 0.3% from OBC.

[2] Report only. Do not delay acceptance waiting for test results.

[3] Attach Figure 1 from CT 371.

Notes:

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HMA TYPE	PRODUCER NAME	PRODUCER MIX IDENTIFICATION NUMBER	DATE

JOB MIX FORMULA

Sieve Size		Job Mix Formula Target Value from CEM-3512 [1]	Adjusted Target Value (before verification) [2]	Adjusted Target Value (after failed verification) [2]	Project Specification Limits (TV ± Tolerance)
% Passing	2"				
	1½"				
	1"				
	¾"				
	½"				
	⅜"				
	No. 4				
	No. 8				
	No. 16				
	No. 30				
	No. 50				
	No. 100				
	No. 200				
RAP Percentage					
Antistrip Percentage					
Asphalt Binder Percentage					

[1] Job mix formula target values include combined aggregate gradation, RAP percentage, antistrip percentage, and asphalt binder content (%) at design air voids.

[2] Job mix formula adjustments may include a change in the asphalt binder content target value up to ± 0.6 percent, but do not adjust the target value for asphalt rubber binder for RHMA G below 7.0 percent. Job mix formula adjustments may also include a change in the aggregate gradation target values within the target value limits specified in the aggregate gradation tables.

Justification for adjusting target values

VERIFICATION

Accepted by (print name and sign)	Title	Date
Failed verification by (print name and sign)	Title	Date

Note which target values were verified

Date contractor was notified about accepted or failed verification

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RIVERSIDE COUNTY TRANSPORTATION COMMISSION

CMT-IQA TEST RESULT SUMMARY

AQM-437 (SR-91CIP 11/2013)

MINIMUM FREQUENCY

SR-91 Corridor Improvement Project
EA-08-0F540
08-Riv-91-00.0/14.0 08-Riv-15-34.0/46.0
12-Ora-R14.0/R18.91
From SR-241 to Pierce Str. on SR-91, and From Hidden Valley to Ontario on I-15
RFP Number: 12-31-113-00

INDEX
37.

MATERIAL

DATE STAMPLED	TEST NUMBER	SAMPLE LOCATION	TEST RESULTS				PRODUCTION QUANTITY REPRESENTED	REMARKS*

CEM3701

For individuals with sensory disabilities, this document is available in alternate formats.

* REFERENCE FAILING TEST CORRECTIVE ACTION

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RIVERSIDE COUNTY TRANSPORTATION COMMISSION

CMT-IQA RELATIVE COMPACTION SUMMARY

AQM-438 (SR-91CIP 11/2013)

SR-91 Corridor Improvement Project
EA-08-0F540 RFP Number: 12-31-113-00
08-Riv-91-00.0/14.0 08-Riv-15-34.0/46.0
12-Ora-R14.0/R18.91
From SR-241 to Pierce Str. on SR-91, and From Hidden Valley to Ontario on I-15

INDEX
37.

MATERIAL

TEST NO.	DATE	STATION	LOCATION	ELEVATION		MOISTURE		RELATIVE COMPACTION	STRUCTURAL DEPTH	REMARKS*
				BELOW FINISH GRADE	BELOW FINISH GRADE	FIELD	OPTIMUM			

* REFERENCE FAILING TEST CORRECTIVE ACTION

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RIVERSIDE COUNTY TRANSPORTATION COMMISSION

REQUEST for ASSIGNMENT of INSPECTORS, SAMPLERS, and TESTERS

AQM-439 (SR-91CIP 11/2013)

Contractor Name, Address, and Phone Number:	Contract Number/Co/Rte/PM:
	Project Information/Name:

Instructions: Check appropriate boxes for Plant or Placement, Sampler or Tester, and appropriate boxes for additional documents attached such as CEM-3802, "Quality Control Inspector Affidavit of Proficiency" or Form TL-0111, "Certificate of Proficiency."

Name _____

Employer _____

Inspector Plant ☐ Placement ☐ QC Inspector Affidavit of Proficiency (CEM-3802) ☐

Sampler ☐ Tester ☐ Certificate of Proficiency (TL-0111) # _____ ☐

Name _____

Employer _____

Inspector Plant ☐ Placement ☐ QC Inspector Affidavit of Proficiency (CEM-3802) ☐

Sampler ☐ Tester ☐ Certificate of Proficiency (TL-0111) # _____ ☐

Name _____

Employer _____

Inspector Plant ☐ Placement ☐ QC Inspector Affidavit of Proficiency (CEM-3802) ☐

Sampler ☐ Tester ☐ Certificate of Proficiency (TL-0111) # _____ ☐

Name _____

Employer _____

Inspector Plant ☐ Placement ☐ QC Inspector Affidavit of Proficiency (CEM-3802) ☐

Sampler ☐ Tester ☐ Certificate of Proficiency (TL-0111) # _____ ☐

Name _____

Employer _____

Inspector Plant ☐ Placement ☐ QC Inspector Affidavit of Proficiency (CEM-3802) ☐

Sampler ☐ Tester ☐ Certificate of Proficiency (TL-0111) # _____ ☐

Name _____

Employer _____

Inspector Plant ☐ Placement ☐ QC Inspector Affidavit of Proficiency (CEM-3802) ☐

Sampler ☐ Tester ☐ Certificate of Proficiency (TL-0111) # _____ ☐

Quality Control Manager: _____ Date: _____

(Signature)

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RIVERSIDE COUNTY TRANSPORTATION COMMISSION

QUALITY ASSURANCE/CONTROL INSPECTOR AFFIDAVIT of PROFICIENCY

AQM-440 (SR-91CIP 11/2013)

DESIGN-BUILD CONTRACTOR NAME, ADDRESS, AND PHONE NUMBER	CONTRACT NUMBER/CO/RTE/PM
	PROJECT INFORMATION/NAME

Instructions: This form is used for all quality control inspection personnel, plant, and placement.

In accordance with the requirements of the *Quality Control Manual for Hot Mix Asphalt,* submitted for your approval is the following Hot Mix Asphalt (HMA) inspector.

Name _____

Employer _____

Summary of HMA related construction inspection experience and training. Be specific. (attach full resume)

I have reviewed this inspector's qualifications and am satisfied that this inspector meets or exceeds the requirements for this contract. This inspector is fully aware of the required duties and responsibilities.

Quality Control Manager: _____ Date: _____
(Signature)

Quality Assurance Manager: _____ Date: _____
(Signature)

RCTC's Sr. Resident Engineer: _____ Date: _____
(Signature)

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RIVERSIDE COUNTY TRANSPORTATION COMMISSION

CMT-IQA HOT MIX ASPHALT INSPECTION AND TESTING SUMMARY

AQM-442 (SR-91CIP 11/2013)

D-B CONTRACTOR NAME, ADDRESS, AND PHONE NUMBER	DATE
	CONTRACT NUMBER/CO/RTE/PM
	PRODUCER MIX IDENTIFICATION NUMBER
	HMA TYPE

This form must be submitted with daily inspection and testing reports attached. All attached forms must have inspector's or tester's signature and quality control manager's initials. Use additional sheet as necessary.

The following documents are attached to this Hot Mix Asphalt inspection and testing summary:

- ☐ CEM-3501 Hot Mix Asphalt (HMA) Production Report
- ☐ CEM-3502 Hot Mix Asphalt (HMA) Placement Report
- ☐ CEM-3803 Daily Summary of Quality Control Testing (with attached test forms)
  - ☐ CT 379 or CT 382
  - ☐ CT 202
  - ☐ Density (includes CT 308 and CT 309)
  - ☐ CT 217
  - ☐ CT 266 or CT 370
  - ☐ CT _____
  - ☐ CT _____
  - ☐ CT _____

Explanation of deviations from the specifications or regular practices

I certify that the information contained in this record is accurate, and that information, tests, or calculations documented here comply with the contract specifications and the standards set forth in the testing procedures. Exceptions to this certification are documented as part of this record.

CMT / IQA Quality Verifier's Signature	Date
RCTC Resident Engineer's Signature	Date

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MATERIAL INSPECTED AND RELEASED ON JOB

CEM-4102 AQM-443 (SR-91CIP 11/2013)

SR-91 Corridor Improvement Project
EA-08-0F540
08-Riv-91-00.0/14.0
08-Riv-15-34.0/46.0
12-Ora-R14.0/R18.91
From SR-241 to Pierce Str. on SR-91, and From Hidden Valley to Ontario on I-15
RFP Number: 12-31-113-00
RIVERSIDE COUNTY TRANSPORTATION COMMISSION

MATERIAL	ITEM NUMBER
SUPPLIER	
DATE OF INSPECTION	QUANTITY INSPECTED (#/ UNIT)

BASIS FOR ACCEPTANCE - (INITIAL EACH CATEGORY)

	1. CERTIFICATION OF COMPLIANCE (ATTACHED)
	2. TEST RESULTS FROM MANUFACTURE (ATTACHED)
	3. CERTIFICATE OF BUY AMERICA, AS APPLICABLE
	4. VISUAL INSPECTION FOR OVERALL QUALITY, WORKMANSHIP, VERIFICATION OF MARKINGS
	5. OTHER (EXPLAIN)

REMARKS:

INSPECTED BY:	RESIDENT ENGINEER SIGNATURE

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FINAL MATERIALS CERTIFICATION

CEM-6302 (NEW 7/2009) AQM-444 (SR-91CIP 11/2013)

RIVERSIDE COUNTY TRANSPORTATION COMMISSION

CONTRACT NUMBER	COUNTY, ROUTE, POST MILES	FEDERAL NUMBER

CONTRACTOR NAME AND BUSINESS ADDRESS

MATERIALS CERTIFICATION

This is to certify that the results of the tests on acceptance samples show that both the materials used in the construction work and the construction operations controlled by sampling conform to the approved plans and specifications.

☐ No exceptions to the plans and specifications were found.

☐ Exceptions to the plans and specifications are explained below (or on attached sheet).

RESIDENT ENGINEER SIGNATURE	DATE

DISTRIBUTION: **Original** - Resident Engineer File **Copies** - District Construction and FHWA

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SR-91 Corridor Improvement Project
EA-08-0F540 - RFP Number: 12-31-113-00

NON-CONFORMANCE REPORT

Activity ID: **DATE:** **NCR #: A**

TO: **FROM:** **NCR LOG #:**

Location of Material/Item:

Description Of Discrepancy:

Date Reply Due: NCR Issue/Recommend needs design PE stamp ☐ Yes ☐ No

Other Information:

Signature for Approval **Agency Sr. RE Name:** _____

Signed on: _____

The Corrective Action (Taken) (To Be Taken) On Is:

Signature of Respondent: Date:

COMMENTS:

DQAM Signature (if required): _____ **Date:**

Date Corrective Action Completed: _____ **Date:**

Approved As Corrected: _____ **Date:**

CQAM Signature: _____ **Date:**

RCTC Construction/Quality Manager: _____ **Date:**

Distribution List: Agency Project Manager
D-B Project Manager
RCTC Construction Manager
RCTC Design Manager
RCTC Quality Manager

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STATE OF CALIFORNIA • DEPARTMENT OF TRANSPORTATION
Riverside County Transportation Commission
SR-91 Corridor Improvement Project

COZEEP DAILY REPORT

ATC-2101 (SR-91CIP 11/2013)
CEM-2101

SR-91 Corridor Improvement Project
EA-08-0F540
08-Riv-91-00.0/14.0
08-Riv-15-34.0/46.0
12-Ora-R14.0/R18.91
From SR-241 to Pierce Str. on SR-91, and From Hidden Valley to Ontario on I-15

DATE

DAILY REPORT NUMBER * DISTRICT EA 4

SPECIAL DESIGNATION - **COZEEP**
Object Code: **042**

PROJECT LOCATION/DESCRIPTION

COUNTY	ROUTE	POST MILE

DESCRIPTION OF WORK

OFFICER/SERGEANT/VEHICLE INFORMATION

CHP DIVISION/AREA CODE _____

CHP SPECIAL PROJECT CODE _____

CHP

(Please Print)	1	2	3	4
MEMBER NAME				
ID NUMBER				
CHP Office				
RANK				
VEHICLE NUMBER				
ENDING TIME**				
STARTING TIME				
TOTAL TIME**				
ENDING MILEAGE**				
STARTING MILEAGE				
TOTAL MILEAGE				
INITIALS (end of shift)				

CMT INFORMATION

NAME AND TITLE *(print)*	CT OS MANAGER NAME (*print*)	COST CENTER
SIGNATURE (End of Shift)	PHONE	FIELD OFFICE

* Use District Expenditure Authorization (EA) as the Daily Report Number.
** These figures are estimates and may be increased or decreased in accordance with the terms of the contract.

Original - CHP Officer 1st copy - Resident Engineer 2nd copy - District COZEEP Coordinator

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STATE OF CALIFORNIA • DEPARTMENT OF TRANSPORTATION
RIVERSIDE COUNTRY TRANSPORTATION COMMISSION

COZEEP/MAZEEP TASK ORDER

ATC-2102 (SR-91CIP 11/2013) - CEM-2102 (REV 10/2003)

EA-08-0F540

08-Riv-91-00.0/14.0 08-Riv-15-34.0/46.0
12-Ora-R14.0/R18.91

From SR-241 to Pierce Str. on SR-91, From Hidden Valley to Ontario on I-15

DIST/EA	DATE OF REQUEST	CONTRACT NUMBER

This task order is entered into pursuant to the provisions of the Interagency Agreement No. _____ for the period of July 1, _____ to June 30, _____ , between Caltrans and the California Highway Patrol (CHP).

1. Project Description and Location (include the county, route, and post mile)

2. Type of Services Required

3. Date(s) and time(s) services are to be provided

Reporting Date _____	Reporting Date _____	Reporting Date _____
Reporting Time _____	Reporting Time _____	Reporting Time _____
*Completion Time _____	*Completion Time _____	*Completion Time _____
Reporting Date _____	Reporting Date _____	Reporting Date _____
Reporting Time _____	Reporting Time _____	Reporting Time _____
*Completion Time _____	*Completion Time _____	*Completion Time _____

* Estimated

4. Project Officials

Caltrans Project Supervisor	CHP Coordinator (completed by CHP)
Name _____	Name _____
Title _____	Title _____
Telephone No. _____	Telephone No. _____
Facsimile No. _____	Facsimile No. _____

5. Reporting

Caltrans and CHP agree that all reporting for this job shall be accomplished through the standard COZEEP/MAZEEP Daily Report Form. Revisions, other versions, or additional forms shall not be used.

Approvals

Caltrans	California Highway Patrol
By _____	By _____
(Name and Title)	(Name, ID # and Title)

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STATE OF CALIFORNIA • DEPARTMENT OF TRANSPORTATION
RIVERSIDE COUNTY TRANSPORTATION COMMISSION

COZEEP/MAZEEP CANCELLATION FORM

ATC-2103 (SR-91CIP 11/2013) - CEM-2103 (NEW 10/2003)

EA-08-0F540
08-Riv-91-00.0/14.0
08-Riv-15-34.0/46.0
12-Ora-R14.0/R18.91

From SR-241 to Pierce Str. on SR-91, and From Hidden Valley to Ontario on I-15

FIRST CANCELLATION

Resident Engineer's Name	Phone Number:
Project EA	Scheduled Work Date and Time
Cancellation Notice Issued By (name of Caltrans Employee)	Signature:

Officer's Name	Officer's ID	When Notified	No Charge	$50	4 Hours

Person Receiving Notification (Print Name/ID#):	Signature
Date and Time Notification RECEIVED BY CHP	

SECOND CANCELLATION

Resident Engineer's Name	Phone Number:
Project EA	Scheduled Work Date and Time
Cancellation Notice Issued By (name of Caltrans Employee)	Signature:

Officer's Name	Officer's ID	When Notified	No Charge	$50	4 Hours

Person Receiving Notification (Print Name/ID#):	Signature
Date and Time Notification RECEIVED BY CHP	

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RIVERSIDE COUNTY TRANSPORTATION COMMISSION

TRAFFIC FIELD REVIEW CHECK LIST

ATC-2104 (SR-91CIP 02/2014)

SR-91 Corridor Improvement Project

EA-08-0F540
08-Riv-91-00.0/14.0
08-Riv-15-34.0/46.0
12-Ora-R14.0/R18.91
From SR-241 to Pierce Str. On SR-91
From Hidden Valley to Ontario on I-15
RFP Number: 12-31-113-00

TRAFFIC REPORT NO.	**DATE** ☐S ☐M ☐T ☐W ☐T ☐F ☐S
SHIFT HOUR: START STOP	**ITEMS**
WEATHER **TEMPERATURE** MIN. MAX.	**LOCATION**

Blank = Not Applicable or Checked **NC**= Needs Correction **Check Mark** = Meets standards or task completed

TRAFFIC CONTROL

Temporary Lane Closure - Installation:

1) Called in closure **(10-97) @:** _____ ☐
(Provide approval number)
2) Checked Warning Signs: spacing, & visibility ☐
3) Checked CMS location, visibility, & message ☐
CMS intensity adjusted for daytime closures
4) Checked taper length of closure ☐
# of cones counted in the taper:_____.
5) Checked tangent length (more than one lane closed) ☐
# of cones counted in the tangent:_____.

Temporary Lane Closure - Maintenance:

6) Checked that Contractor maintained closures ☐
7) Periodically checked lane closure. ☐
Note time(s) closure was reviewed:_____ . ☐
8) Checked deteour: signs, flow, & conflicts ☐
9) Checked if COZEEP in effective location. ☐
10) Checked work area lighting: glare, visibility, location ☐
11) Checked construction vehicle(s) ingress/egress. ☐

Temporary Lane Closure - Opening:

12) Checked work area is clear & ready ☐
to be opened to traffic.
13) Called in the opening of the closure **(10-98)** ☐
Note time lane(s) were opened to traffic:_____.

TRAFFIC ITEMS - INSTALLATION

Construction Area Signs:

1) Checked condition, location, & reflectivity ☐

Striping (Temporary & Permanent):

2) Checked spread rate & reflectivity ☐

Pavement Markers:

3) Checked type, spacing, & adhesion ☐

Temporary Barrier Rail (Type K):

4) Checked condition, alignment, & reflector install ☐
Taper angle points @ 10:1 Min
Offset unprotected ends 15' Min from TW
Condition of rail prior to installation per Std Spec
Place "P" or "R" Markers appropriately

Crash Cushions:

5) Checked type, condition, & correct installation ☐

Plastic Traffic Drums:

6) Checked spacing, condition, & distance from TW ☐

TRAFFIC ITEMS - MAINTENANCE:

7) Checked K- Rail for traffic damage & deflection ☐
graffiti, reflectors, & debri build-up
8) Checked striping for fading & effectiveness ☐
9) Checked for missing reflective markers ☐
10) Checked crash cushions for damage ☐
11) Checked barricade condition & effectiveness ☐
12) Checked highway lighting & signaling ☐
13) Checked all prior to weekend or holiday ☐

NOTE: Please follow the above Traffic Control inspection check list guidance, and please add as deemed necessary and/or needed:

COMMENTS

SIGNATURE	**TITLE**

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RIVERSIDE COUNTY TRANSPORTATION COMMISSION

RELIEF FROM MAINTENANCE

CA-0501 (SR-91CIP 11/2013)

CONTRACT NUMBER	COUNTY, ROUTE, BRIDGE OR POST MILES, OR POST KILOMETERS	FEDERAL NO.

DESIGN-BUILD CONTRACTOR NAME AND BUSINESS ADDRESS

DESCRIPTION

BY LETTER(S) DATED _____ , THE D-B CONTRACTOR HAS REQUESTED RELIEF FROM MAINTAINING THE FOLLOWING COMPLETED PORTIONS OF THE PROJECT:

RELIEF FROM MAINTENANCE AND RESPONSIBILITY AS INDICATED ABOVE IS RECOMMENDED.

_____
Signature, RESIDENT ENGINEER

RELIEF FROM MAINTENANCE AND RESPONSIBILITY GRANTED IN ACCORDANCE WITH THE ABOVE RECOMMENDATION

_____
Signature, RCTC PROJECT MANAGER _____

_____
Signature, CALTRANS PROJECT MANAGER _____

_____
Signature, DEPUTY DISTRICT Director, Dist. _____

_____
Date

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RIVERSIDE COUNTY TRANSPORTATION COMMISSION

WEEKLY STATEMENT OF WORKING DAYS

CA-701 (SR-91CIP 11/2013)

SR-91 Corridor Improvement Project
EA-08-0F540 RFP Number: 12-31-113-00
08-Riv-91-00.0/14.0 08-Riv-15-34.0/46.0
12-Ora-R14.0/R18.91
From SR-241 to Pierce Str. on SR-91, and From Hidden Valley to Ontario on I-15

SR-91 CIP is a Design-Build Contract, See Contract Volume-II, Section 4.

REPORT NUMBER

DESIGN-BUILD CONTRACTOR

WEEK ENDING (month, day, year)

Date	Day	Weather, Weather Conditions, or Other Conditions[1]	Working Day	Nonworking Day	Working Day No Work Done on Controlling Operation[2]
	Sunday				
	Monday				
	Tuesday				
	Wednesday				
	Thursday				
	Friday				
	Saturday				
Days this week					
Days previously reported					
Total days to date					

Time Extensions	CCO Numbers[3]	Days Approved
Days this report		
Days previously reported		
Total days to date		

Computation of Extended Date for Completion	Number of Days	Numbered Day[5]	Date
1. First working day			
2. Working days specified in contract			
3. COMPUTED DATE FOR COMPLETION (line 1 + line 2 - 1)			
4. Days contract suspended to date			
5. Total time extension days approved to date			
6. Total Nonworking days to date[4]			
7. Subtotal **(line 4 + line 5 + line 6)**			
8. EXTENDED DATE FOR COMPLETION **(line 3 + line 7)**			
9. Revised working days for contract **(line 2 + line 5)**			
10. Total working days to date			
11. WORKING DAYS REMAINING **(line 9 - line 10)**			

CONTROLLING OPERATION(S)

REMARKS

The contractor will be allowed fifteen (15) days in which to protest in writing the correctness of the statement; otherwise, the statement shall be deemed to have been accepted by the contractor as correct.

NOTE: ***Footnote Instructions to resident engineer are on reverse side.***

RESIDENT ENGINEER SIGNATURE

DATE

Distribution: Original -- Contractor; Copies -- RCTC Resident Engineer

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RIVERSIDE COUNTY TRANSPORTATION COMMISSION

WEEKLY STATEMENT OF WORKING DAYS

CA-701 (SR-91CIP 11/2013)

FOOTNOTE INSTRUCTIONS TO RESIDENT ENGINEER

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

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

3 List numbers of change orders providing for time extensions.

4 Do not include nonworking days which occur after expiration of the **Extended Date of Completion**. On contracts that are overtime, the total under Working Days shall not be greater than the total of **Revised Working Days (line 9)**. After approved total of working days has been reached, continue recording working and nonworking days but do not add into the totals. Make a statement under **Remarks** that working and nonworking **days** are shown for record only since the contract time has elapsed.

If an extension of time is subsequently approved, determine the new **Extended Date** by taking into account all nonworking ***days*** that are reachable.

5 From the calendar issued by the Division of Construction with working days numbered for convenience in computations.

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RIVERSIDE COUNTY TRANSPORTATION COMMISSION

CONTRACT ACCEPTANCE

CA-6301 (SR-91CIP 11/2013)

SR-91 Corridor Improvement Project
EA-08-0F540
08-Riv-91-00.0/14.0 08-Riv-15-34.0/46.0
12-Ora-R14.0/R18.91
From SR-241 to Pierce Str. on SR-91, and From Hidden Valley to Ontario on I-15
RFP Number: 12-31-113-00

CONTRACT NUMBER	COUNTY, ROUTE, BRIDGE, POST MILES	FEDERAL NO.

CONTRACTOR NAME AND BUSINESS ADDRESS

CONTRACT DESCRIPTION AND DELIVERY

DESCRIPTION	QUANTITY DELIVERED	UNITS
New Construction		Centerline Miles
		Lane Miles
		Structures
Reconstruction		Lane Miles
		Structures
New HOV		Lane Miles
Operations		Lane Miles
Rehabilitation		Lane Miles
Preservation		Lane Miles
Roadside: New Highway Planting		Acres
Soundwall		Linear Miles

CONTRACT WORK WAS SATISFACTORLY COMPLETED _____
Date

CONTRACT ACCEPTANCE IS RECOMMENDED - in accordance with Section 7-1.17, "Acceptance of Contract," of the *Standard Specifications*.

_____
Signature, Resident Engineer

CONTRACT IS ACCEPTED IN ACCORDANCE WITH ABOVE RECOMMENDATION

_____
Date

_____
Signature, Project Director
for RCTC

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