

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

OFFICE ENGINEER

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January 4, 2013

08-SBd-40-PM R85.2

08-0N5904

Project ID 0800000533

Addendum No. 1

Dear Contractor:

This addendum is being issued to the contract for CONSTRUCTION ON STATE HIGHWAY IN SAN BERNARDINO COUNTY NEAR ESSEX AT VAN WINKLE WASH BRIDGE.

Submit bids for this work with the understanding and full consideration of this addendum. The revisions declared in this addendum are an essential part of the contract.

Bids for this work will be opened on January 17, 2013.

This addendum is being issued to revise the Project Plans, the Notice to Bidders and Special Provisions, the Bid book, the Federal Minimum Wages with Modification Number 0 dated 01/04/2013, and the Information Handout.

Project Plan Sheets 3, 4, 5, 6, 38, 40, 42, 44, 49 and 50 are revised. Copies of the revised sheets are attached for substitution for the like-numbered sheets.

Project Plan Sheets 11A, 50A and 50B are added. Copies of the added sheets are attached for addition to the project plans.

Project Plan Sheets 54 and 55 are deleted.

In the Notice to Bidders and Special Provisions, in the "STANDARD PLANS LIST," the following Standard Plans are deleted:

"RSP P74, RSP P75, and T11."

In the Notice to Bidders, the thirteenth and fourteenth paragraphs are added as follows:

"Do not include plant establishment working days in your bid."

"Complete the plant establishment work within 250 working days."

In the Special Provisions, Section 2, "BIDDING," subsection 2-1.06B is revised as attached.

In the Special Provisions, Section 5, "CONTROL OF WORK," subsection 5-1.09A is added as attached.

In the Special Provisions, Section 11, "QUALITY CONTROL AND ASSURANCE," subsection 11-4 is added as attached.

In the Special Provisions, Section 14, "ENVIRONMENTAL STEWARDSHIP," subsection 14-9.02A is added as attached.

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In the Special Provisions, Section 14, "ENVIRONMENTAL STEWARDSHIP," subsection 14-11.11 is added as attached.

In the Special Provisions, Section 39, "HOT MIX ASPHALT," subsections 39-1.18, 39-1.19 and 39-1.20 are deleted.

In the Special Provisions, Section 39, "HOT MIX ASPHALT," subsection 39-1.23 is revised as attached.

In the Special Provisions, Section 90, "CONCRETE," subsection 90-2.02B is added as attached.

In the Bid book, in the "Bid Item List," Items 36, 40, 42, 45, 48, 49, 73 and 76 are revised, Items 87, 88, 89, 90, 91 and 92 are added and Item 86 is deleted as attached.

To Bid book holders:

Replace pages 4, 5, 6 and 7 of the "Bid Item List" in the Bid book with the attached revised pages 4, 5, 6 and 7 of the Bid Item List. The revised Bid Item List is to be used in the bid.

Attached is a copy of the Information Handout "Asbestos Containing Materials and Lead-Based Paint Survey Report."

Inquiries or questions in regard to this addendum must be communicated as a bidder inquiry and must be made as noted in the Notice to Bidders section of the Notice to Bidders and Special Provisions.

Indicate receipt of this addendum by filling in the number of this addendum in the space provided on the signature page of the Bid book.

Submit bids in the Bid book you now possess. Holders who have already mailed their book will be contacted to arrange for the return of their book.

Inform subcontractors and suppliers as necessary.

This addendum, attachments and the modified wage rates are available for the Contractors' download on the Web site:

http://www.dot.ca.gov/hq/esc/oe/project_ads_addenda/08/08-0N5904

If you are not a Bid book holder, but request a book to bid on this project, you must comply with the requirements of this letter before submitting your bid.

Sincerely,



REBECCA D. HARNAGEL
Chief, Office of Plans, Specifications & Estimates
Office Engineer
Division of Engineering Services

Attachments

Add to section 2-1.06B:

The Department makes the following supplemental project information available:

Supplemental Project Information

Means	Description
Included in <i>Information Handout</i>	1. California Department of Fish and Game Streambed Alteration Agreement (1602) 2. Regional Water Quality Control Board Certification (401) 3. Army Corps of Engineers Jurisdictional Determination Memo 4. Foundation Report for Van Winkle Wash Bridge, dated December 27, 2011 5. Foundation Review for Van Winkle Wash Bridge, dated March 7, 2012 6. Updated Final Hydraulic Report for Van Winkle Wash Bridge, dated March 30, 2012 7. Asbestos Containing Materials and Lead-Based Paint Survey Report
Available as specified in the <i>Standard Specifications</i>	Cross sections Bridge as-built drawings

Add to section 5-1.09A:

The Department encourages the project team to exhaust the use of partnering in dispute resolution before engagement of an objective third party.

For certain disputes, a facilitated partnering session or facilitated dispute resolution session may be appropriate and effective in clarifying issues and resolving all or part of a dispute.

To afford the project team enough time to plan and hold the session, a maximum of 20 days may be added to the DRB referral time following the Engineer's response to a *Supplemental Potential Claim Record*.

To allow this additional referral time, the project team must document its agreement and intention in the dispute resolution plan of the partnering charter. The team may further document agreement of any associated criteria to be met for use of the additional referral time.

If the session is not held, the DRB referral time remains in effect as specified in section 5-1.43.

11 QUALITY CONTROL AND ASSURANCE

Replace section 11-4 with:

11-4 CAST-IN-PLACE STRUCTURAL CONCRETE MATERIALS

11-4.01 GENERAL

11-4.01A General

Section 11-4 applies to CIP structural concrete members constructed under sections 49 or 51 except for those members constructed of minor concrete.

Quality control and assurance for CIP structural concrete materials includes:

1. Your QC program
2. Acceptance of the concrete by the Engineer using the Department's test results and verified QC test results

11-4.01B Definitions

lot: quantity represented by the specified minimum QC testing frequency.

11-4.02 QUALITY CONTROL

11-4.02A General

Develop, implement, and maintain a QC program that includes inspection, sampling, and testing of structural concrete materials.

For each ASTM test method specified in this section, the materials must comply with the requirements specified for the comparable test in section 90 unless otherwise specified.

11-4.02B Quality Control Manager

Assign a QC manager. The QC manager must have one of the following qualifications:

1. Civil engineer license in the State of California
2. ACI Concrete Laboratory Testing Technician, Level 1 certification
3. NICET Level II concrete certification
4. ICC Reinforced Concrete Special Inspector certification
5. ASQ Certified Quality Manager

During concrete placement, the QC manager must be at the plant or job site within 3 hours of receiving notification from the Engineer.

11-4.02C Testing and Inspection Personnel

QC laboratory testing personnel must have an ACI Concrete Laboratory Testing Technician, Level 1 certification or an ACI Aggregate Testing Technician, Level 2 certification, whichever certification includes the test being performed.

QC field testing personnel and field and plant inspection personnel must have an ACI Concrete Field Testing Technician, Grade I certification.

11-4.02D Testing Laboratories

Each QC testing laboratory must be an authorized laboratory and have a current accreditation from the AASHTO Accreditation Program for the tests performed.

11-4.02E Concrete Plants

Each concrete plant must:

1. Have a current certification for ready mixed concrete production facilities from the National Ready Mixed Concrete Association. Plant Certification Checklist and supporting documentation must be available for review by the Engineer upon request.
2. Be tested and authorized under California Test 109.

11-4.02F Quality Control Meeting

Before submitting the QC plan, hold a meeting to discuss the requirements for structural concrete QC. The meeting attendees must include the Engineer, the QC manager, and at least 1 representative from each concrete plant.

11-4.02G Submittals

11-4.02G(1) Quality Control Plan

The QC plan must detail the methods used in your QC program to ensure the quality of the work and to provide the controls necessary to produce concrete that complies with the Contract. The QC plan must include the following:

1. Names and documentation of certification or accreditation of the concrete plants and testing laboratories to be used
2. Names, qualifications, and documentation of certifications for the QC manager and all QC testing and inspection personnel to be used
3. Organization chart showing QC personnel and their assigned QC responsibilities
4. Example forms, including forms for certificates of compliance, hard copy test result submittals, and inspection reports
5. Methods and frequencies for performing all QC procedures, including inspections and material testing
6. Procedures to control quality characteristics, including standard procedures to address properties outside of the specified operating range or limits and example reports to document nonconformances and corrective actions taken
7. Procedures for verifying:
 - 7.1. Materials are properly stored during concrete batching operations
 - 7.2. Batch plants have the ability to maintain the concrete consistency during periods of extreme heat and low temperature ranges
 - 7.3. Admixture dispensers deliver the correct dosages within the accuracy requirements specified
 - 7.4. Delivery trucks have a valid NRMCA certification card
8. Procedures for verifying that the weighmaster certificate for each load of concrete shows:
 - 8.1. Concrete as batched complies with the authorized concrete mix design weights
 - 8.2. Moisture corrections are being accurately applied to the aggregates
 - 8.3. Cement and supplementary cementitious materials are from authorized sources
 - 8.4. Any hold back mix water
 - 8.5. Weighmaster signature
9. Procedures for visually inspecting the concrete during discharge operations

Submit 3 copies of the QC plan for review.

Submit an amended QC plan or an addendum to the QC plan if there are any changes to:

1. Concrete plants
2. Testing laboratories
3. Plant certification or laboratory accreditation status
4. Tester or inspector qualification status
5. QC personnel
6. Procedures and equipment

Allow the Department 5 days to review an amended QC plan or an addendum to the QC plan.

Submit 4 copies of each authorized QC plan and make 1 copy available at each location where work is performed.

11-4.02G(2) Concrete Mix Design

In addition to the mix design submittal requirements specified in section 90, submit with your mix design the results from the tests specified in section 11-4.02H and the results from the tests shown in the following table:

Characteristic	ASTM Test Method
Specific gravity and absorption of aggregates	C127 and C128
Durability index for fine aggregate	D3744/D 3744M
Soundness	C88 (use sodium sulfate)
Loss after 500 revolutions	C131
Organic impurities	C40/C 40M
Chloride concentration of water for washing aggregates and mixing concrete	D512 or C114 ^a
Sulfate concentration of water for washing aggregates and mixing concrete	D516 or C114 ^a
Impurities in water for washing aggregates and mixing concrete	C191 or C266 C109/C109M

^aTo adapt the test methods in ASTM C 114 to testing water, use a water sample instead of the cement solution specified and adjust the test procedure accordingly.

The test results must be dated within 1 year of submission of the concrete mix design.

Each mix design must be prequalified under section 90-1.01D(5)(b).

11-4.02G(3) Test Results

Submit QC test results within 1 business day of completing each test.

Within 3 business days of completing each QC test, submit the test results electronically at the following Web site:

<http://www.dot.ca.gov/hq/esc/Translab/DIME/>

A unique test sample identification number must be given to each sample in compliance with the instructions provided at the website above.

Include the following with the test results:

1. Contract number
2. Mix design number
3. Test sample identification number
4. Date and time of test
5. Batch plant
6. Batch number
7. Bridge number and description of element
8. Test results
9. Any supporting data and calculations
10. Name, certification number, and signature of the QC tester

11-4.02G(4) Inspection Reports

Document each inspection performed by a QC inspector in an inspection report that includes:

1. Contract number
2. Mix design number
3. Date and time of inspection
4. Plant location
5. Concrete placement location
6. Batch number
7. Reviewed copies of weighmaster certificates
8. Description of the inspection performed
9. Name, certification number, and signature of the QC inspector

Include the inspection reports in the concrete materials QC summary report.

11-4.02G(5) Concrete Materials Quality Control Summary Report

During concrete production, submit a concrete materials QC summary report at least once a month. The report must include:

1. Inspection reports
2. Test results
3. Documentation of the following:
 - 3.1. QC manager has evaluated all test results
 - 3.2. Problems or deficiencies discovered and the corrective actions taken
 - 3.3. Any testing of repair work performed
 - 3.4. List and explanation of deviations from the specifications or regular practices
4. Certificate of compliance signed by the QC manager. The certificate must state that the information contained in the report is accurate and the materials comply with the Contract.

11-4.02H Quality Control Procedures

Perform all sampling, testing, and inspecting required to control the process and to demonstrate compliance with the Contract and the authorized QC plan.

Provide a QC field inspector at the concrete delivery point while placement activities are in progress. Provide a testing laboratory and testing personnel for QC testing.

Provide the Department unrestricted access to the QC activities.

For each mix design, perform sampling and testing in compliance with the following two tables:

Aggregate QC Tests

Quality Characteristic	ASTM Test Method	Minimum Testing Frequency
Aggregate gradation	C136	Once per each day of pour
Sand equivalent	D2419	Once per each day of pour
Percent fines under 75 microns ^a	C117	Once per each day of pour
Moisture content of fine aggregate ^b	C566	1–2 times per each day of pour, depending on conditions

^aPercent fines under 75 microns test replaces the cleanness test in section 90-1.02C with requirements of 1.5 percent maximum for "Operating Range" and 2.0 percent maximum for "Contract Compliance." The 5th paragraph of section 90-1.02C(2) does not apply.

^bMoisture content must be within half a percent of the value shown on the weighmaster certificate.

Concrete QC Tests

Quality Characteristic	ASTM Test Method	Minimum Testing Frequency
Slump ^a	C143/C143M	Once per 100 CY or each day of pour, whichever is more frequent, and whenever the consistency is in question
Uniformity	C143/C143M and C685/C685M, section A1.10	Whenever the uniformity of the concrete is in question or when requested by the Engineer
Air content, (freeze-thaw area)	C231/C231M or C173/C173M ^b	If concrete is air entrained, once per 30 CY or each day of pour, whichever is more frequent
Air content	C231/C231M or C173/C173M ^b	If concrete is air entrained, once per 100 CY or each day of pour, whichever is more frequent
Temperature	C1064/C1064M	Once per 100 CY or each day of pour, whichever is more frequent
Density	C 138	Once per 100 CY or each day of pour, whichever is more frequent
Compressive strength ^{c,d,e}	C172/C172M, C31/C31M, and C39/C39M	Once per 100 CY or each day of pour, whichever is more frequent

^aThe requirements in section 90-1.02G(6) apply, except slump testing must be used. The slump must be from 1 to 4 inches nominal range and 6 inches maximum value for elements that are 12 inches thick or less and from 1 to 3 inches nominal range and 5 inches maximum value for elements that are over 12 inches thick.

^bASTM C173/C173M must be used for lightweight concrete.

^cCylinders must be 6 by 12 inches.

^dMark each cylinder with the Contract number; the date and time of sampling; and the weighmaster certificate number.

^eAt a minimum, test for compressive strength at the maximum time allowed. You may need additional test samples to facilitate your schedule.

For at least 3 years after final acceptance, retain for review the records generated as part of QC including inspection, sampling, and testing.

11-4.03 DEPARTMENT ACCEPTANCE

11-4.03A General

The Department accepts structural concrete based on the following:

1. Verified QC test results
2. Department's test results

11-4.03B Verification Sampling And Testing

11-4.03B(1) General

The Department performs verification testing of the QC tests for the following quality characteristics:

1. Slump
2. Air content
3. Compressive strength

The ratio of verification testing frequency to the minimum QC testing frequency is 1:3.

11-4.03B(2) Verification

The Department performs verification testing by taking a separate sample from the same load of concrete that you take a sample from for the QC test. The Department determines which load of concrete to be used for verification testing.

The Department uses the same test methods for verification testing as those specified for QC testing.

The Department compares the QC test result and the Department's test result. For the QC test result to be verified, the difference between the 2 results must not exceed the values shown in the following table:

Quality Characteristic	ASTM Test Method	Difference
Slump	C 143/C 143M	1 inch
Air content	C 231/C 231M or C 173/C 173M	32 percent of the average of the 2 test results
Compressive strength ^a	C 172/C 172M, C 31/C 31M, and C 39/C 39M	14 percent of the average of the 2 test results

^aThe Department performs verification tests at the maximum time allowed.

If the QC test result is verified, the Department uses the QC test results for acceptance of the lots represented by the Department's test.

If the difference between the QC and the Department's test results exceeds the value shown in the above table, the Engineer initiates the dispute resolution procedure.

The Department's test results will be made available to you after you submit the QC test results.

11-4.03B(3) Dispute Resolution

If the difference between the QC and Department's test results exceeds the values shown in the table in section 11-4.03B(2), you and the Engineer must investigate the sampling method, test procedure, equipment condition, equipment calibration, and other factors to determine the cause of the difference.

Until the cause of the difference has been resolved, the Department's test results are used for acceptance of the concrete.

11-4.03C Acceptance

If any of the QC plastic concrete test results fail to comply with the specified requirements, reject the load of concrete and notify the Engineer. Repeat the QC plastic concrete tests on each subsequent load until the test results comply with the specified requirements. If 3 consecutive loads fail to comply with the specified requirements, suspend the placement of concrete at the completion of the current pour until tests or other information indicate that the next material to be used in the work will comply with the requirements. Revise concrete operations as necessary to bring the concrete into compliance and increase the frequency of QC testing. The revisions must be authorized before resuming production. After production resumes, you must receive authorization from the Engineer before returning to the frequency that is approved in the QC plan.

Hardened concrete will be accepted or rejected under section 90.

Deductions are determined under section 90.

Add to section 14-9.02A

Notify the Air Pollution Control District (APCD) or Air Quality Management District (AQMD) identified below as required by the National Emission Standards for Hazardous Air Pollutants (NESHAP) at 40 CFR Part 61, Subpart M, and California Health and Safety Code section 39658(b)(1). Notification must take place no less than 14 days before starting demolition or renovation activities as defined in the NESHAP regulations. Notification forms and other information are available from:

www.mdaqmd.ca.gov

Forms and information may also be obtained from the air district's web site at: <http://www.aqmd.gov>.

Mail or otherwise deliver the original notification form with any necessary attachments to:

MOJAVE DESERT AIR QUALITY MANAGEMENT DISTRICT
14306 Park Ave.
Victorville, CA 92392-2383
Phone: 760-245-1661
FAX: 760-245-2022

Notify other local permit agencies and utility companies before starting any demolition activities. Submit a copy of the notification form and attachments as an informational submittal before starting demolition or renovation activities.

Replace section 14-11.11 with:

14-11.11 SAMPLING AND REMOVAL OF ASBESTOS CONTAINING MATERIALS

14-11.11A General

14-11.11A(1) Summary

Section 14-11.50 includes specifications for inspection for asbestos-containing material (ACM), sample collection and analysis of suspected ACM, regulatory notification, ACM removal, and ACM disposal.

14-11.11A(2) Definitions

asbestos: Includes chrysotile, amosite, crocidolite, tremolite, anthrophyllite, actinolite and any of these minerals that has been chemically treated and/or altered.

asbestos-containing material (ACM): Any building material, including asbestos cement pipe containing commercial asbestos in an amount greater than 1% by weight, area, or count.

certified asbestos consultant (CAC): An asbestos consultant certified by the Division of Occupational Safety and Health under 8 Code of Regulations, Sections 341.15 and 1529.

certified industrial hygienist: A person certified in the practice of industrial hygiene by the American Board of Industrial Hygiene.

friable ACM: Any material containing more than 1 percent (%) asbestos by area that hand pressure can crumble, pulverize or reduce to powder when dry".

non-friable ACM: Asbestos fibers are tightly bound into the matrix of the material and should not become an airborne hazard as long as the material remains intact and undamaged, and is not sawed, sanded, drilled or otherwise abraded during removal (Asbestos Hazard Emergency Response Act (AHERA)).

14-11.11A(3) Asbestos Survey

Asbestos was detected at 85% to 90% Chrysotile in Leveling Rail Shims located on both left and right bridges. All other suspected areas do not have ACM. Portions of the survey report are included in the "Information Handout." The complete report entitled "Asbestos Containing Materials and Lead-Based Paint Survey Report, August 2011" is available at the Department of Transportation, Construction Office, located at 464 W 4th Street, San Bernardino, CA

14-11.11A(4) Submittals

14-11.11(4)a Asbestos Sampling and Analysis Report

14-11.11A(4)b Air Quality Management District (AQMD) or Air Pollution Control District (APCD) Notification of Demolition

Provide a copy of the required notification form and attachments to the Engineer before submittal to the AQMD or APCD. Submit a NESHAP Notification under section 14-9.02.

14-11.11A(4)c Asbestos Compliance Plan

Prepare an Asbestos Compliance Plan (ACP) to prevent or minimize exposure to asbestos. The ACP must be signed by an American Board-certified industrial hygienist before submission to the Engineer for review and acceptance. Submit the ACP to the Engineer at least 15 business days before beginning work in areas containing or suspected to contain asbestos. The ACP must comply with section 7-1.01A, "Labor Code Requirements" of the Standard Specifications and contain as a minimum:

1. Identification of key personnel for the project
2. Scope of Work and equipment that will be used
3. Job hazard analysis for work assignments
4. Summary of risk assessment
5. Personal protective equipment

6. Delineation of work zones on-site
7. Decontamination procedures
8. General safe work practices
9. Security measures
10. Emergency response plans
11. Worker training

14-11.11A(4)d Removal Work Plan

Prepare a work plan for the removal, storage, transportation and disposal of ACM. Removal and management of ACM must be performed by a contractor registered under section 6501.5 of the Labor Code and certified under section 7058.6 of the Business and Professions Code.

Asbestos removal procedures include:

1. Installing asbestos warning signs at perimeters of abatement work areas.
2. Wetting asbestos materials with sprayers.
3. Containing large volumes of asbestos materials in disposal bins for temporary storage until removed from the site.
4. Providing manifests for disposal upon completion for the Engineer to sign.
5. Providing transporters registered to transport hazardous waste in the state of California under the Health and Safety Code Ch 6.5, Div 20 and 22 Code of Regs, Div 4.5.
6. Disposing of asbestos materials at a permitted disposal facility.
7. Working in accordance with federal, state, and local requirements for asbestos work.

14-11.11A(5) Quality Control and Assurance

14-11.11A(5)a Qualifications

The person in charge of asbestos inspection and abatement planning must be a certified asbestos consultant.

The person in charge of asbestos removal must be registered under Labor Code § 6501.5 and certified under Bus & Prof Code § 7058.6.

14-11.11A(5)b Regulatory Requirements

Codes, which govern removal and disposal of materials containing asbestos include:

1. California Health and Safety Code, Division 20, Chapter 6.5, Hazardous Waste Control.
2. California Code of Regulations, Title 8, General Industry Safety Order 5208 Asbestos.
3. California Code of Regulations, Title 8, Sections 1529 and 341
4. California Code of Regulations, Title 22, Division 4.5
5. Occupational Safety and Health Administration, Part 26 (amended), of Title 29 of the Code of Federal Regulations.
6. Code of Federal Regulations (CFR), Title 40, Part 61, subpart M.

Notify the APCD or the AQMD of changes to removal or demolition plans, including discovery of ACM during demolition, within 2 business days of the change. Notify the Division of Occupational Safety and Health under 8 CA Code of Regs § 341.9.

14-11.11A(5)c Training, Equipment and Medical Surveillance

Before starting work in areas containing or suspected to contain asbestos, personnel who have no prior training or are not current in their training status, including State personnel in the work area, must complete a safety training program that meets the requirements of 8 CA Code of Regs § 1529. Provide a written certification of completion of safety training for trained personnel before starting work in areas containing or suspected to contain asbestos.

Provide training, personal protective equipment, and medical surveillance required by the Asbestos Compliance Plan to 3 State personnel.

14-11.11B Materials

Not used

14-11.11C Construction

14-11.11C(1) Asbestos Inspection (Bridge Removal)

Complete an inspection to determine if ACM or suspected ACM is present within the structure at least 30 days before starting bridge removal. Submit the name of the laboratory that will perform the asbestos analysis and copy of the ELAP certification with fields of testing before beginning any sampling or analysis.

14-11.11C(2) Suspected ACM discovered during demolition or excavation

If suspected ACM is discovered during demolition, the portion of the work that involves the suspected ACM must be performed by or under the direction of licensed and certified personnel. Test the suspected ACM in compliance with USEPA Asbestos/NESHAP Regulated Asbestos Containing Materials Guidance.

14-11.11C(3) Removal

Comply with 8 CA Code of Regs § 1529 and § 341. Remove friable ACM using the wetting method. Remove and handle all non-friable ACM to prevent breakage. Non-friable ACM such as asbestos cement pipe must be disposed of to a landfill facility permitted to accept ACM. The removal of ACM encased in concrete or other similar structural material is not required before demolition, but must be adequately wetted whenever exposed during demolition. Prevent visible emissions from all ACM removal activities.

Mark all regulated work areas with the following or equivalent warning:

**DANGER
ASBESTOS
CANCER AND LUNG DISEASE HAZARD
AUTHORIZED PERSONNEL ONLY**

14-11.11C(4) Packaging

Comply with 22 CA Code of Regs, Div 4.5, Chapter 12, Article 3 requirements for packaging and labeling removed ACM. Place removed ACM in approved containers (double ply, 0.06-inch minimum thickness, plastic bags) with caution labels affixed to bags. Caution labels must have conspicuous, legible lettering, that spells out the following or equivalent warning:

**DANGER
CONTAINS ASBESTOS FIBERS
AVOID CREATING DUST
CANCER AND LUNG DISEASE HAZARD**

The removed materials containing asbestos may be placed directly into a covered, lockable roll off or drop box that has the same caution label affixed on all sides.

14-11.11C(5) Transportation

All haulers of friable ACM must have current registration with the State Department of Toxic Substances Control (DTSC) for transporting hazardous waste and must have a U.S. Environmental Protection Agency Identification Number (U.S. EPA I.D. Number). All vehicles used to transport hazardous waste material must carry a valid registration during transport.

14-11.11C(6) Disposal

Dispose of friable and non-friable waste containing asbestos at a disposal facility permitted to accept the waste and that meets all the requirements specified by federal, state and local regulations. Notify the proper authorities at the disposal site in advance of delivery of ACM. Provide a copy of all waste shipment records to the Engineer within 35 days after shipment.

The Engineer obtains the required EPA generator identification numbers, and will sign the hazardous waste manifests for disposal of friable asbestos containing material. Request a generator identification number from the Engineer at least 5 days before the first shipment.

14-11.11D Payment

Removal work plans and reports, notifications to regulatory agencies and permits, removal, transportation and disposal of ACM that is shown is included in the payment for the bid items involved.

Replace section 39-1.23 with:

39-1.23 HOT MIX ASPHALT TYPE C

39-1.23A General

39-1.23A(1) Summary

Except if specified for Type C, the specifications for HMA Type A apply to HMA Type C.

Produce and place HMA Type C under the Standard construction process.

39-1.23A(2) Submittals

Not used.

39-1.23A(3) Quality Control and Assurance

For the mix design, determine the OBC at 5.0 percent air void content.

Determine the proposed JMF for HMA Type C from a mix design that has the values for the quality characteristics shown in the following table:

HMA Type C Mix Design Requirements

Quality characteristic	Test method	Value	
Design air void content (%)		4.0	5.0
Air void content (%) ^a	California Test 367	4.0	5.0
Voids in mineral aggregate (% min) ^b	California Test 367		
1/2" grading		14.0	15.0
3/4" grading		13.0	14.0
1" grading			
with NMAS = 1"		12.0	13.0
with NMAS = 3/4"		13.0	14.0
Voids filled with asphalt (%)	California Test 367		
1/2" grading		65.0–75.0	60.0–70.0
3/4" grading		65.0–75.0	60.0–70.0
1" grading		65.0–75.0	60.0–70.0
Dust proportion ^c (P200/Pbe)	California Test 367	0.6–1.2	0.6–1.2
Stabilometer value (min) ^d	California Test 366	37 ^e (Modified) 35 ^f	37 ^e (Modified) 35 ^f

^a Calculate the air void content of each specimen using California Test 309 and 367. Modify California Test 367, Paragraph C5, to use the exact air void content specified in the selection of OBC.

^b Minimum voids in the mineral aggregate (VMA) is dependent upon the nominal maximum aggregate size (NMAS) of JMF. NMAS is defined as 1 sieve size larger than the 1st sieve to retain more than 10 percent.

^c Asphalt content based on total weight of mix.

^d California Test 304, Part 2C.12.

^e Comply with California Test 366: 150 tamps at 500 psi tamping pressure and 230 °F compaction temperature; cool specimens to 140 °F; apply 12,600 lb leveling load; and perform stabilometer test at 140 °F.

^f Modify California Test 366: 150 tamps at 500 psi tamping pressure and 230 °F compaction temperature; cool specimens to 140 °F; apply additional 500 tamps at 500 psi; apply 12,600 lb leveling load; and perform stabilometer test at 140 °F.

Take 3 density cores for every 250 tons of HMA Type C from random locations designated by the Engineer.

With the minimum quality control testing for the specified construction process, perform sampling and testing at the specified minimum frequency for the quality characteristics shown in the following table:

HMA Type C Minimum Quality Control

Quality characteristic	Test method	Minimum sampling and testing frequency	Requirement	
Asphalt binder content (%)	California Test 379 or 382	1 per 750 tons and any remaining part	JMF ± 0.30	
Stabilometer Value(min) a, b	California Test 366	1 per 4,000 tons or 1 per 2 business days, whichever is more	37 ^c (Modified) 35 ^d	
Air void content (%) ^{a, e}	California Test 367		Design ± 2	
Percent of crushed particles ^f Coarse aggregate (% min) Two fractured faces Fine aggregate (Passing No. 4 sieve and retained on No. 8 sieve) (% min) One fractured face	California Test 205	1 per 5,000 tons or 1 per 5 business days, whichever is more	95	
			90	
Fine aggregate angularity (% min) ^{f, g}	California Test 234		45	
Los Angeles Rattler [†] Loss at 100 rev. (% max) Loss at 500 rev. (% max)	California Test 211	As necessary and designated in the QC plan. At least once per project	12	
			40	
Flat and elongated particles ^f (% max by weight @ 5:1)	California Test 235		10	
Design air void content			4.0	5.0
Field compaction (% of max. theoretical density) ^{h, i, j}	California Test 375	1 per 750 tons or any single location, whichever is less	92–97	91–96
Voids in mineral aggregate (% min) 1/2" gradation 3/4" gradation 1" gradation ^k with NMAS = 1" with NMAS = 3/4"	California Test 367	1 per 4,000 tons or 1 per 2 business days, whichever is more	14.0	15.0
			13.0	14.0
Voids filled with asphalt (%) 1/2" gradation 3/4" gradation 1" gradation	California Test 367		12.0	13.0
			13.0	14.0
			65.0–	60.0–
			75.0	70.0
			65.0–	60.0–
			75.0	70.0
			65.0–	60.0–
			75.0	70.0
Dust proportion ^l (P200/Pbe)	California Test 367	1 per 4,000 tons or 1 per 2 business days, whichever is more (Report Only)	0.6–1.2	0.6–1.2

- ^a Report the average of 3 tests from a single split sample.
- ^b If the stability range is more than 8 points, prepare and test new briquettes.
- ^c Comply with California Test 366: 150 tamps at 500 psi tamping pressure and 230 °F compaction temperature; cool specimens to 140 °F; apply 12,600 lb leveling load; and perform stabilometer test at 140 °F.
- ^d Modify California Test 366: 150 tamps at 500 psi tamping pressure and 230 °F compaction temperature; cool specimens to 140 °F; apply additional 500 tamps at 500 psi tamping pressure and 140 °F compaction temperature; apply 12,600 lb leveling load; and perform stabilometer test at 140 °F.
- ^e Determine the bulk specific gravity of each lab-compacted briquette under California Test 308, Method A. Determine theoretical maximum specific gravity under California Test 309. Calculate the air void content of each specimen using California Test 309 and 367. Modify California Test 367, Paragraph C5, to use the design air void content specified.
- ^f Aggregate must comply with the quality specifications before it is treated with lime. During lime treatment except for dry lime on damp aggregate treatment at continuous mixing plants, sample coarse and fine aggregate from individual stockpiles. Combine aggregate in the JMF proportions. Prepare and test 3 samples from a single split sample for aggregate quality at the frequency specified during lime treatment and report test results as the average of the 3 tests.
- ^g The Engineer waives this specification if HMA contains 10 percent or less of nonmanufactured sand by weight of total aggregate. Manufactured sand is fine aggregate produced by crushing rock or gravel.
- ^h Determine field compaction for any of the following conditions:
1. 1/2-inch aggregate grading is used and the specified total paved thickness is at least 0.15 foot.
 2. 3/4-inch or 1-inch aggregate grading is used and the specified total paved thickness is at least 0.20 foot.
- ⁱ To determine field compaction use:
1. In-place density measurements using the method specified in your QC plan.
 2. California Test 309 to determine the maximum theoretical density at the frequency specified in California Test 375, Part 5C.
- ^j For Standard construction process, take and average 3 cores per 250 tons of HMA placed.
- ^k Minimum VMA dependent upon NMAS of JMF. NMAS is defined as 1 sieve size larger than the 1st sieve to retain more than 10 percent.
- ^l Asphalt content based on total weight of mix.

With the acceptance testing for the specified construction process, the Engineer samples and tests the quality characteristics for the values shown in the following table:

HMA Type C Acceptance

Quality characteristic	Test method	Value	
Asphalt binder content (%)	California Test 379 or 382	JMF ± 0.30	
Stabilometer Value (min) ^{a, b}	California Test 366	37 ^c (Modified) 35 ^d	
Air void content (%) ^{a, e}	California Test 367	Design ± 2	
Percent of crushed particles ^f Coarse aggregate (% min) Two fractured faces	California Test 205	95	
Fine aggregate (Passing No. 4 sieve and retained on No. 8 sieve) (% min) One fractured face		90	
Fine aggregate angularity (% min) ^{f, g}	California Test 234	45	
Los Angeles Rattler ^f Loss at 100 rev. (% max) Loss at 500 rev. (% max)	California Test 211	12	
		40	
Flat and elongated particles ^f (% max by weight @ 5:1)	California Test 235	10	
	Design air void content	4.0	5.0
Field compaction (% of max. theoretical density) ^{h, i, j}	California Test 375	92-97	91-96
Voids in mineral aggregate (% min) 1/2" gradation 3/4" gradation 1" gradation ^k with NMA = 1" with NMA = 3/4"	California Test 367	14.0	15.0
		13.0	14.0
		12.0	13.0
		13.0	14.0
Voids filled with asphalt (%) 1/2" gradation 3/4" gradation 1" gradation	California Test 367	65.0-75.0	60.0-70.0
		65.0-75.0	60.0-70.0
		65.0-75.0	60.0-70.0
Dust proportion ^l (P200/Pbe)	California Test 367	0.6-1.2 Report Only	

^a The Engineer reports the average of 3 tests from a single split sample.

^b If the stability range is more than 8 points, the Engineer prepares and tests new briquettes.

^c The Engineer follows California Test 366: 150 tamps at 500 psi tamping pressure and 230 °F compaction temperature; cool specimens to 140 °F; apply 12,600 lb leveling load; and perform stabilometer test at 140 °F.

^d Modify California Test 366: 150 tamps at 500 psi tamping pressure and 230 °F compaction temperature; cool specimens to 140 °F; apply additional 500 tamps at 500 psi tamping pressure and 140 °F compaction temperature; apply 12,600 lb leveling load; and perform stabilometer test at 140 °F.

^e The Engineer determines the bulk specific gravity of each lab-compacted briquette under California Test 308, Method A. The Engineer determines theoretical maximum specific gravity under California Test 309. The Engineer calculates the air void content of each specimen using California Test 309 and 367. The Engineer modifies California Test 367, Paragraph C5, to use the design air void content specified.

^f Aggregate must comply with the quality specifications before it is treated with lime. During lime treatment, except for dry lime on damp aggregate treatment at continuous mixing plants; the Engineer samples coarse and fine aggregate from individual stockpiles, combines aggregate in the JMF proportions, and prepares and tests 3 samples from a single split sample for aggregate quality at the frequency specified during lime treatment and report test results as the average of the 3 tests.

^g The Engineer waives this specification if HMA contains 10 percent or less of nonmanufactured sand by weight of total aggregate. Manufactured sand is fine aggregate produced by crushing rock or gravel.

^h The Engineer determines field compaction for any of the following conditions:

1. 1/2-inch aggregate grading is used and the specified total paved thickness is at least 0.15 foot.
2. 3/4-inch or 1-inch aggregate grading is used and the specified total paved thickness is at least 0.20 foot.

ⁱ To determine field compaction, the Engineer uses:

1. California Test 308, Method A, to determine in-place density of each density core.
2. California Test 309 to determine the maximum theoretical density at the frequency specified in California Test 375, Part 5C.

^j For Standard construction process, take and average 3 cores per 250 tons of HMA placed.

^k Minimum VMA dependent upon NMAS of JMF. NMAS is defined as 1 sieve size larger than the 1st sieve to retain more than 10 percent.

^l Asphalt content based on total weight of mix.

The Engineer tests the 3 density cores you take from each 250 tons of HMA production. The Engineer determines the percent of maximum theoretical density for each density core by determining the density core's density and dividing by the maximum theoretical density. The Engineer determines the percent of maximum theoretical density for each 250 tons of HMA production by determining the average of the 3 density cores.

The Department determines the percent of maximum theoretical density from density cores taken from the final layer measured the full depth of the total paved HMA thickness if any of the following applies:

1. 1/2-inch aggregate grading is used and the specified total paved thickness is at least 0.15 foot and any layer is less than 0.15.
2. 3/4-inch or 1-inch aggregate grading is specified and used and the specified total paved thickness is at least 0.20 foot and any layer is less than 0.20 foot.

For each 250 tons of HMA production, the Engineer determines a deduction for percent of maximum theoretical density using the factors for each average of 3 density cores shown in the following table:

Reduced Payment Factors for Percent of Maximum Theoretical Density

HMA Type C percent of maximum theoretical density using the average of 3 cores	Reduced payment factor	HMA Type C percent of maximum theoretical density using the average of 3 cores	Reduced payment factor
91.0	0.0000	96.0	0.0000
90.9	0.0125	96.1	0.0125
90.8	0.0250	96.2	0.0250
90.7	0.0375	96.3	0.0375
90.6	0.0500	96.4	0.0500
90.5	0.0625	96.5	0.0625
90.4	0.0750	96.6	0.0750
90.3	0.0875	96.7	0.0875
90.2	0.1000	96.8	0.1000
90.1	0.1125	96.9	0.1125
90.0	0.1250	97.0	0.1250
89.9	0.1375	97.1	0.1375
89.8	0.1500	97.2	0.1500
89.7	0.1625	97.3	0.1625
89.6	0.1750	97.4	0.1750
89.5	0.1875	97.5	0.1875
89.4	0.2000	97.6	0.2000
89.3	0.2125	97.7	0.2125
89.2	0.2250	97.8	0.2250
89.1	0.2375	97.9	0.2375
89.0	0.2500	98.0	0.2500
< 89.0	Remove and replace	> 98.0	Remove and replace

39-1.23B Materials

Asphalt binder used in HMA Type C must be PG 64-28 PM.

Aggregate used in HMA Type C must comply with the 1-inch HMA Type C gradation.

Choose a sieve size target value (TV) within each target value limit shown in the following table:

**Aggregate Gradation
(Percentage Passing)
HMA Type C**

1-inch HMA Type C

Sieve sizes	Target value limits	Allowable tolerance
1"	100	--
3/4"	88-93	TV ± 5
1/2"	72-85	TV ± 6
3/8"	55-70	TV ± 6
No. 4	35-52	TV ± 7
No. 8	22-40	TV ± 5
No. 30	8-24	TV ± 4
No. 50	5-18	TV ± 4
No. 200	3.0-7.0	TV ± 2

3/4-inch HMA Type C

Sieve sizes	Target value limits	Allowable tolerance
1"	100	--
3/4"	90–95	TV ± 5
1/2"	60–75	TV ± 6
No. 4	35–52	TV ± 7
No. 8	22–36	TV ± 5
No. 30	8–18	TV ± 4
No. 200	3.0–7.0	TV ± 2

1/2-inch HMA Type C

Sieve sizes	Target value limits	Allowable tolerance
3/4"	100	--
1/2"	90–98	TV ± 6
3/8"	64–84	TV ± 6
No. 4	42–57	TV ± 7
No. 8	29–39	TV ± 5
No. 30	13–19	TV ± 4
No. 200	3.0–7.0	TV ± 2

Before the addition of asphalt binder and lime treatment, aggregate for HMA Type C must have the values for the quality characteristics shown in the following table:

HMA Type C Aggregate Quality

Quality characteristic	Test method	Value
Percent of crushed particles Coarse aggregate (% min) Two fractured faces	California Test 205	95
Fine aggregate (Passing No. 4 sieve and retained on No. 8 sieve.) (% min) One fractured face		
Los Angeles Rattler (% max) Loss at 100 rev. Loss at 500 rev.	California Test 211	12
		40
Sand equivalent ^a (min)	California Test 217	47
Fine aggregate angularity ^b (% min)	California Test 234	45
Flat and elongated particles (% max by weight @ 5:1)	California Test 235	10

^a Reported value must be the average of 3 tests from a single sample.

^b The Engineer waives this specification if HMA contains 10 percent or less of nonmanufactured sand by weight of total aggregate. Manufactured sand is fine aggregate produced by crushing rock and gravel.

If lime treatment is required, sample coarse and fine aggregate from individual stockpiles during lime treatment except for dry lime on damp aggregate at continuous mixing plants. Combine aggregate in the JMF proportions.

39-1.23C Construction

The 15th and 16th paragraphs of section 39-1.11 do not apply to HMA Type C.

Pave HMA Type C in maximum 0.45-foot-thick compacted layers.

Add to section 90-2.02B:

You may use rice hull ash as an SCM. Rice hull ash must comply with AASHTO M 321 and the chemical and physical requirements shown in the following tables:

Chemical property	Requirement (percent)
Silicon dioxide (SiO ₂) ^a	90 min
Loss on ignition	5.0 max
Total alkalis as Na ₂ O equivalent	3.0 max

Physical property	Requirement
Particle size distribution	
Less than 45 microns	95 percent
Less than 10 microns	50 percent
Strength activity index with portland cement ^b	
7 days	95 percent (min percent of control)
28 days	110 percent (min percent of control)
Expansion at 16 days when testing project materials under ASTM C 1567 ^c	0.10 percent max
Surface area when testing by nitrogen adsorption under ASTM D 5604	40.0 m ² /g min

^aSiO₂ in crystalline form must not exceed 1.0 percent.

^bWhen tested under AASHTO M 307 for strength activity testing of silica fume.

^cIn the test mix, Type II or V portland cement must be replaced with at least 12 percent rice hull ash by weight.

For the purpose of calculating the equations for the cementitious material specifications, consider rice hull ash to be represented by the variable *UF*.

For the purpose of calculating the equations for the cementitious material specifications, consider rice hull ash to be represented by the variable *UF*.

BID ITEM LIST
08-0N5904

Item No.	Item Code	Item Description	Unit of Measure	Estimated Quantity	Unit Price	Item Total
21	146002	CONTRACTOR SUPPLIED BIOLOGIST (LS)	LS	LUMP SUM	LUMP SUM	
22	150630	REMOVE MARKER	EA	8		
23	150662	REMOVE METAL BEAM GUARD RAILING	LF	700		
24	150668	REMOVE FLARED END SECTION	EA	16		
25	150711	REMOVE PAINTED TRAFFIC STRIPE	LF	56,900		
26	150712	REMOVE PAINTED PAVEMENT MARKING	SQFT	510		
27	150714	REMOVE THERMOPLASTIC TRAFFIC STRIPE	LF	11,800		
28	150722	REMOVE PAVEMENT MARKER	EA	3,270		
29	150812	REMOVE PIPE (LF)	LF	2,590		
30	024577	REMOVE ROCK SLOPE PROTECTION	CY	20		
31	024578	REMOVE CONCRETE ROCK SLOPE PROTECTION	CY	1,680		
32	151224	REMOVE DELINEATOR	EA	38		
33	151270	SALVAGE METAL BRIDGE RAILING	LF	1,104		
34	151536	RECONSTRUCT FENCE (TYPE BW)	LF	620		
35	151537	RECONSTRUCT FENCE (TYPE WM)	LF	420		
36	153103	COLD PLANE ASPHALT CONCRETE PAVEMENT	SQYD	11,600		
37	153121	REMOVE CONCRETE (CY)	CY	150		
38	157550	BRIDGE REMOVAL	LS	LUMP SUM	LUMP SUM	
39	170101	DEVELOP WATER SUPPLY	LS	LUMP SUM	LUMP SUM	
40	190101	ROADWAY EXCAVATION	CY	11,200		

BID ITEM LIST
08-0N5904

Item No.	Item Code	Item Description	Unit of Measure	Estimated Quantity	Unit Price	Item Total
41	190110	LEAD COMPLIANCE PLAN	LS	LUMP SUM	LUMP SUM	
42	190185	SHOULDER BACKING	TON	870		
43 (F)	192003	STRUCTURE EXCAVATION (BRIDGE)	CY	1,812		
44 (F)	193003	STRUCTURE BACKFILL (BRIDGE)	CY	1,408		
45	198010	IMPORTED BORROW (CY)	CY	9,480		
46	203028	EROSION CONTROL (BONDED FIBER MATRIX) (ACRE)	ACRE	22		
47	250201	CLASS 2 AGGREGATE SUBBASE	CY	1,120		
48	390129	HOT MIX ASPHALT (TYPE C)	TON	4,000		
49	390132	HOT MIX ASPHALT (TYPE A)	TON	7,410		
50	394053	SHOULDER RUMBLE STRIP (HMA,GROUND-IN INDENTATIONS)	STA	21		
51	394077	PLACE HOT MIX ASPHALT DIKE (TYPE F)	LF	81		
52	397005	TACK COAT	TON	11		
53	405034	CONCRETE PAVEMENT TRANSITION PANEL	CY	72		
54	490603	24" CAST-IN-DRILLED-HOLE CONCRETE PILING	LF	960		
55 (F)	510051	STRUCTURAL CONCRETE, BRIDGE FOOTING	CY	294		
56 (F)	510053	STRUCTURAL CONCRETE, BRIDGE	CY	1,262		
57 (F)	510086	STRUCTURAL CONCRETE, APPROACH SLAB (TYPE N)	CY	191		
58 (F)	510526	MINOR CONCRETE (BACKFILL)	CY	145		
59	512278	FURNISH PRECAST PRESTRESSED CONCRETE BULB-TEE GIRDER (90'-100')	EA	12		
60	512291	FURNISH PRECAST PRESTRESSED CONCRETE BULB-TEE GIRDER (70'-80')	EA	24		

BID ITEM LIST
08-0N5904

Item No.	Item Code	Item Description	Unit of Measure	Estimated Quantity	Unit Price	Item Total
61 (F)	512500	ERECT PRECAST PRESTRESSED CONCRETE GIRDER	EA	36		
62	519091	JOINT SEAL (MR 1 1/2")	LF	202		
63 (F)	520102	BAR REINFORCING STEEL (BRIDGE)	LB	232,047		
64 (F)	520110	BAR REINFORCING STEEL (EPOXY COATED) (BRIDGE)	LB	282,293		
65 (F)	520120	HEADED BAR REINFORCEMENT	EA	576		
66	620100	18" ALTERNATIVE PIPE CULVERT	LF	570		
67	620140	24" ALTERNATIVE PIPE CULVERT	LF	2,030		
68	705311	18" ALTERNATIVE FLARED END SECTION	EA	4		
69	705315	24" ALTERNATIVE FLARED END SECTION	EA	12		
70 (F)	721015	ROCK SLOPE PROTECTION (LIGHT, METHOD B) (CY)	CY	20		
71 (F)	721621	CONCRETED-ROCK SLOPE PROTECTION (1/2 T, METHOD B) (CY)	CY	1,680		
72	729011	ROCK SLOPE PROTECTION FABRIC (CLASS 8)	SQYD	1,660		
73	024579	WELDED WIRE MESH TEMPORARY FENCE	LF	8,020		
74	820107	DELINEATOR (CLASS 1)	EA	38		
75	820134	OBJECT MARKER (TYPE P)	EA	8		
76	832003	METAL BEAM GUARD RAILING (WOOD POST)	LF	830		
77	839541	TRANSITION RAILING (TYPE WB)	EA	4		
78	839585	ALTERNATIVE FLARED TERMINAL SYSTEM	EA	4		
79 (F)	839725	CONCRETE BARRIER (TYPE 736)	LF	1,129		
80	840504	4" THERMOPLASTIC TRAFFIC STRIPE	LF	18,800		

