

**DEPARTMENT OF TRANSPORTATION**  
DIVISION OF ENGINEERING SERVICES  
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Be energy efficient!*

June 22, 2009

03-Nev-80-5.6  
03-4A2404  
ACHSIMG-0804(189)E

Addendum No. 1

Dear Contractor:

This addendum is being issued to the contract for CONSTRUCTION ON STATE HIGHWAY IN NEVADA COUNTY ABOUT 12.4 MILES WEST OF TRUCKEE AT DONNER SUMMIT SAFETY ROADSIDE REST AREA.

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 Wednesday, July 1, 2009.

This addendum is being issued to revise the Project Plans, the Notice to Bidders and Special Provisions, and the Federal Minimum Wages with Modification Number 29 dated June 12, 2009.

Project Plan Sheets 74, 89, 91, 92, 93, 95, 96, 97, 99, 100, 102, 103, 104, 105, 106, 107, 109, 110, 111, 112, 113, 114, 115, and 116 are revised. Half-sized copies of the revised sheets are attached for substitution for the like-numbered sheets.

Project Plan Sheets 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, and 183 are revised as follows:

California State Fire Marshal Approval Stamp is added as attached.

In the Special Provisions, Section 10-1, "GENERAL," subsection 10-1.105, "COOPERATION," is added as attached.

In the Special Provisions, Section 12-1, "GENERAL REQUIREMENTS," subsection 12-1.02, "ABBREVIATIONS," is revised as attached.

In the Special Provisions, Section 12-4, "MASONRY," subsection 12-4.01, "CONCRETE MASONRY UNITS," is replaced with "REINFORCED CONCRETE MASONRY" as attached.

In the Special Provisions, Section 12-10, "SPECIALTIES," subsection 12-10.10, "TOILET ROOM ACCESSORIES," the first paragraph under "PART 2 - PRODUCTS," is revised as follows:

"Toilet Tissue Dispenser: Toilet tissue dispenser shall be dual jumbo roll, surface mounted, stainless steel with satin finish. Dispenser shall be capable to hold and utilize 9 inches diameter jumbo rolls with a core diameter of 3 inches. One dispenser per toilet stall."

Addendum No. 1  
Page 2  
June 22, 2009

03-Nev-80-5.6  
03-4A2404  
ACHSIMG-0804(189)E

To Bid book holders:

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 office is sending this addendum by GSO overnight mail to Bid book holders to ensure that each receives it. A copy of this addendum and the modified wage rates are available for the Contractors' use on the Web site:

**[http://www.dot.ca.gov/hq/esc/oe/weekly\\_ads/addenda.php](http://www.dot.ca.gov/hq/esc/oe/weekly_ads/addenda.php)**

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,

ORIGINAL SIGNED BY

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

Attachments

CALIFORNIA STATE FIRE MARSHAL

APPROVED

Approval of this plan does not authorize or approve any omission or deviation from applicable regulations. Final approval is subject to field inspection. One set of approved plans shall be available on the project site at all times.

Reviewed by:

  
BILL ROBERTSON

Approval date: 06-12-09

CSFM# 01-29-11-0003

**10-1.105 COOPERATION**

It is anticipated that work by another contractor may be in progress adjacent to or within the limits of this project during progress of the work on this contract. The following table lists contracts anticipated to be in progress during this contract.

Contract No.	Co-Rte-PM	Location	Type of Work
03-0A6314	Nev-80-R9.2/15.1	Near Truckee	PCC overlay, drainage and ramp rehabilitation
03-0A6324	Nev-80-R2.5/R5.6	Near Truckee	PCC overlay, drainage rehabilitation, bridge replacement, and stormwater improvements
03-0A6334	Nev-80-R5.2/R11.2, 13.3	Near Truckee	PCC pavement, HMA surfacing, and drainage rehabilitation

Comply with Section 7-1.14, "Cooperation," of the Standard Specifications.

## 12-1.02 ABBREVIATIONS

Section 1-1.02, "Abbreviations," of the Standard Specifications is amended by adding the following:

AAMA	American Architectural Manufacturers' Association
ACI	American Concrete Institute
AGA	American Gas Association
AITC	American Institute of Timber Construction
AMCA	Air Movement and Control Association
APA	American Plywood Association
ARI	American Refrigeration Institute
ASHRAE	American Society of Heating, Refrigeration and Air Conditioning Engineers
CBC	California Building Code (2007 Edition)
CEC	California Electrical Code (2007 Edition)
CMC	California Mechanical Code (2007 Edition)
CPC	California Plumbing Code (2007 Edition)
CS	Commercial Standards (US Department of Commerce)
ESO	Electrical Safety Orders
FGMA	Flat Glass Marketing Association
FM	Factory Mutual
FS	Federal Specification
ICC	International Code Council
NAAMM	National Association of Architectural Metal Manufacturers
NBFU	National Board Fire Underwriters
NEC	National Electrical Code
NFPA	National Fire Protection Association or National Forests Products Association
PEI	Porcelain Enamel Institute
PS	Product Standard (US Department of Commerce)
RIS	Redwood Inspection Service
SCPI	Structural Clay Products Institute
SMACNA	Sheet Metal and Air Conditioning Contractors' National Association
SSPC	Steel Structures Paint Council
TCA	Tile Council of America
TPI	Truss Plate Institute
IBC	International Building Code (2006 Edition)
WCLIB	West Coast Lumber Inspection Bureau (stamped WCLB)
WCLB	Grade stamp for WCLIB
WIC	Woodwork Institute of California
WWPA	Western Wood Products' Association

## **12-4.01 REINFORCED CONCRETE MASONRY**

### **PART 1 - GENERAL**

#### **SUMMARY**

Scope: This work shall consist of constructing reinforced concrete masonry structures in accordance with the details shown on the plans and these special provisions.

Related Work:

Water repellent coating shall be applied in accordance with the requirements specified under "Water Repellent Coating" in Section 12-7, "Thermal and Moisture Protection," of these special provisions.

#### **PERFORMANCE REQUIREMENTS**

Masonry Compressive Strength: Provide masonry that develops the compressive strength (f<sub>m</sub>) at 28 days, as shown on the plans.

Prior to construction determine the net-area compressive strength of unit masonry under "Quality Control and Assurance." During construction determine the net-area compressive strength of unit masonry under "Field Quality Control."

#### **SUBMITTALS**

Product Data: Manufacturer's descriptive data for each type of masonry unit, accessory, and other manufactured products shall be submitted for approval.

Samples: Two samples of masonry units of each color and architectural finish shall be submitted for approval.

Working Drawings:

Submit calculations and working drawings for temporary supports of masonry lintels. Design and construct temporary supports to provide the necessary rigidity and to support loads which will be applied. Working drawings and design calculations shall be stamped and signed by an engineer who is registered as a Civil or Structural Engineer in the State of California. The expiration date of the registration shall be shown.

Qualification Data: Submit qualification data for testing laboratory.

#### **QUALITY CONTROL AND ASSURANCE**

Masonry Preconstruction Testing Service:

The Contractor shall employ and pay all costs for the services of a testing laboratory acceptable to the Engineer and experienced in performing preconstruction masonry tests. The testing laboratory shall comply with the requirements of ASTM Designation: E 329.

Preconstruction tests shall be performed under either Section 2105.2.2.1, "Unit strength method," or Section 2105.2.2.2, "Prism test method" of the CBC.

Test results shall be reported in writing to the Engineer and the Contractor on the same day the tests are made. No work shall be performed prior to the compressive strength of masonry being considered satisfactory.

#### Single Source Responsibility:

Exposed masonry units of uniform color and texture shall be obtained from one manufacturer for each different product required for each continuous surface or visually related surfaces.

Mortar ingredients of uniform quality, including color for exposed masonry, shall be obtained from one manufacturer for each cementitious component and from one source and producer for each aggregate.

Certificates of Compliance: Certificate of Compliance shall be furnished for masonry units, aggregate for grout, and ready-mixed grout in accordance with the requirements specified in Section 6-1.07, "Certificates of Compliance," of the Standard Specifications.

#### **DELIVERY, HANDLING AND STORAGE**

Delivery: Masonry materials shall be delivered to the project in an undamaged condition.

Storage and Handling: Masonry units shall be stored and handled in order to prevent deterioration or damage due to moisture, temperature changes, contamination, corrosion or other causes.

#### **PART 2 - PRODUCTS**

##### **CONCRETE MASONRY UNITS**

###### Concrete Masonry Units:

Concrete masonry units shall be nominal size, color and architectural finish as shown on plans; hollow load bearing, light weight or medium weight, conforming to ASTM Designation: C 90; open ended masonry units.

Special shapes shall be provided where required for lintels, corners, jambs, sash, control joints, headers, bonding and other special conditions.

##### **MORTAR AND GROUT MATERIALS**

###### Cement:

Cement for mortar shall be Type II, low alkali portland cement conforming to ASTM Designation: C 150.

Cement for grout shall be Type II portland cement conforming to ASTM Designation: C 150 with maximum 25 percent Class N, F, or C mineral admixture conforming to ASTM Designation: C 618 except that the loss on ignition shall not exceed 4 percent; or Type IP(MS) blended hydraulic cement conforming to ASTM Designation: C 595.

###### Aggregate:

Aggregate for mortar shall conform to ASTM Designation: C 144, except not more than 10 percent shall pass the No. 100 sieve.

Aggregate for grout shall conform to ASTM Designation: C 404, except 100 percent of the coarse aggregate shall pass the 3/8-inch sieve. Soundness loss shall not exceed 10 percent as determined by California Test 214.

Coloring for Mortar: Coloring for mortar shall be chemically inert, fade resistant mineral oxide or synthetic type.

Lime: Lime shall conform to ASTM Designation: C 207, Type S.

Premixed Mortar: A premixed packaged blend containing only cement, lime, and sand, with or without color, that requires only water to prepare for use as masonry mortar, may be furnished. Packages of premix shall bear the manufacturer's name, brand, contents, weight, and color identification.

Ready-Mixed Grout: Ready-mixed grout shall conform to ASTM Designation: C 94, except aggregate shall be as specified herein for aggregate for grout. The minimum compressive strength shall be 2,500 psi at 28 days when tested in accordance with ASTM Designation: C 39. Admixtures, if used, shall conform to ASTM Designation: C 494, Types A, E or F and shall not contain chlorides.

## **REINFORCEMENT, TIES AND ANCHORING DEVICES**

Bar Reinforcement: Bar reinforcement shall conform to ASTM Designation: A 615/A 615 M, Grade 60, or ASTM Designation: A 706/A 706 M.

Anchor Bolts and Anchor Rods, Nuts and Washers: Anchor bolts and anchor rods shall conform to ASTM Designation: F 1554. Anchor bolts and anchor rods shall be Grade 36 unless otherwise shown on the plans. Nuts shall conform to ASTM A 563. Washers shall conform to ASTM F 436.

Anchors, Ties, Angles, and Metal Lath: Anchors, ties, angles, and metal lath shall be commercial quality, and shall be galvanized.

Nonshrink Grout: Conform to ASTM C 1107, color to match the mortar.

## **PROPORTIONING MORTAR AND GROUT**

Mortar shall be proportioned by loose volume and shall have one part cement, 1/4 to 1/2 part of hydrated lime, and 2 1/4 to 3 parts aggregate. Mortar shall be tinted with coloring to match the masonry units.

Premixed Mortar: Packages of premixed mortar shall have proportions of one part cement, 1/4 to 1/2 part of hydrated lime, and 2 1/4 to 3 parts aggregate.

Grout shall be proportioned by loose volume and shall have one part cement, not more than 1/10 part hydrated lime, 2 1/4 to 3 parts sand aggregate, and one to 2 parts pea gravel aggregate.

Aggregate shall be measured in a damp, loose condition.

Grout shall be mixed with sufficient water to produce a mix consistency suitable for pumping without segregation. Slump shall be 8 to 11 inches.

## **PART 3 - EXECUTION**

### **CONSTRUCTION**

Masonry units shall be laid in running bond, except as otherwise shown on the plans.

Surfaces of metal, glass, wood, completed masonry, and other such materials exposed to view shall be protected from spillage, splatters and other deposits of cementitious materials from masonry construction. All such deposits shall be removed without damage to the materials or exposed surfaces.

Construction shall comply with Section 2104, "Construction," of the CBC. Tolerances specified in Section 2104 shall be in effect unless otherwise shown on the plans.

Where fresh masonry joins concrete or masonry, the contact surfaces of existing material shall be roughened, cleaned and lightly wetted. The roughened surface shall be no smoother than a wood troweled surface. Cleaning shall remove laitance, curing compounds, debris, dirt and any substance which decreases bond to the fresh masonry.

Masonry shall not be erected when the ambient air temperature is below 40 °F.

Surfaces of masonry erected when the ambient air temperature exceeds 100 °F. shall be kept moist with water for a period of not less than 24 hours. Water shall be uniformly applied with a fog spray at the intervals required to keep the surfaces moist but not to exceed 3 hours unless otherwise approved by the Engineer.

All anchors, bolts, dowels, reglets and other miscellaneous items to be cast into the wall, shall be firmly secured in place before grout is poured.

#### Laying Masonry Units:

Concrete masonry units shall be laid dry.

During laying of units all cells shall be kept dry in inclement weather by suitably covering incomplete walls. Wooden boards and planks shall not be used as covering materials. The covering shall extend down each side of masonry walls approximately 2 feet.

Chases shall be kept free from debris and mortar.

Bond beam units with an opening at each cross web shall be used at all horizontal reinforcing bars.

Where masonry unit cutting is necessary, all cuts shall be made with a masonry saw to neat and true lines. Blocks with excessive cracking or chipping of the finished surfaces exposed to view will not be acceptable.

Provide openings to inset outlet boxes, access control keypads, intrusion detection sensors, and similar components in masonry, with concealed wiring.

Lintels: Masonry lintels shall be as shown on the plans. Lintels shall be formed using U-shaped lintel units with reinforcing bars placed as shown on the plans. Formed-in-place lintels shall be temporarily supported for a minimum of 15 days after the wall has been completed.

#### Bar Reinforcement:

Bar reinforcement shall be accurately positioned as shown on the plans and securely held in position with either wire ties or spacing devices near the ends of bars and at intervals not exceeding 192 bar diameters. Wire shall be 16-gage or heavier. Wooden, aluminum, or plastic spacing devices shall not be used. Tolerances for the placement of vertical reinforcement in walls and flexural elements shall be  $\pm \frac{1}{2}$  inch. Tolerance for longitudinal reinforcement in walls shall be  $\pm 2$  inches.

The minimum spacing for splices in vertical reinforcement for masonry walls shall be 4 feet plus lap.

Bar reinforcement shall not be placed in the plane of mortar joints.

#### Mortar:

Mortar joints shall be approximately 3/8 inch thick. Units shall be laid with all head and bed joints filled solidly with mortar for the full width of masonry unit shell. Head joints shall be shoved tight. Exposed joints shall be concave, tooled smooth, unless otherwise shown on the plans.

Mortar that has been mixed more than one hour shall not be retempered.

Mortar placed in joints shall preserve the unobstructed vertical continuity of the grout. Any overhanging mortar projecting more than ½ inch, or other obstruction or debris shall be removed from the inside of such cells.

## **GROUTING**

All cells shall be filled solidly with grout. All grout in the cells shall be consolidated at the time of placement by vibrating and reconsolidated after excess moisture has been absorbed but before plasticity is lost.

Cleanouts shall be provided for all grout pours over 5 feet in height and shall have a maximum spacing of 32 inches. Cleanouts shall be provided in the bottom course at every cell containing vertical reinforcement and shall be a minimum of 3 inches square. After cell inspection, the cleanouts shall be sealed before filling with grout.

Masonry units shall be placed full height of the grout pour. Grout shall be placed in a continuous pour in grout lifts. Grout lifts shall not exceed 5 feet. The interruption between placing successive grout lifts shall be not more than one hour. If the interruption is more than one hour, another grout pour shall be used.

Between grout pours, a horizontal construction joint shall be formed by stopping the grout a minimum of 1½ inches below the top of the last course, except if the joint is at a bond beam, it shall be ½ inch below the top of the bond beam unit, or at the top of the wall.

## **CLEANING AND PROTECTING MASONRY**

Splashes, stains or spots on the faces of the masonry exposed to view shall be removed.

Completed masonry shall be protected from freezing for a period of at least 5 days.

## **FIELD QUALITY CONTROL**

The Contractor shall employ, at his own expense, a special inspector and testing laboratory to perform structural tests and inspections of masonry to verify that the construction conforms to the CBC in accordance with the requirements in Section 1704, "Special Inspections," and Section 2105, "Quality Assurance," of the CBC. The Contractor shall submit a written Field Quality Control Plan that identifies the inspector, the lab, and the procedures used. The Field Quality Control Plan shall conform to these specifications and the CBC. The Contractor's Field Quality Control Plan shall be submitted to the Engineer for approval. The Engineer shall have three weeks to approve the plan.

The Contractor shall designate in the Field Quality Control Plan a Masonry Quality Control Manager (MQCM). The MQCM shall be responsible directly to the Contractor for the quality of masonry, including materials and workmanship, performed by the Contractor and all subcontractors.

The MQCM shall be the sole individual responsible to the Contractor for submitting, receiving, and approving all correspondence, required submittals, and reports to and from the Engineer.

The MQCM shall not be employed or compensated by any subcontractor, or by other persons or entities hired by subcontractors, who will provide other services or materials for the project. The MQCM may be an employee of the Contractor.

Masonry special inspection personnel or testing firms to be used in the work shall not be employed or compensated by any subcontractor, or by other persons or entities hired by subcontractors, who will provide other services or materials for the project, except for the following conditions:

Special Inspector: The special inspector shall be, as a minimum, an ICC certified Special Masonry Inspector. The special masonry inspector shall perform the inspections required under Table 1704.5.1, "Level 1 Special Inspection," of the CBC. The special inspector shall prepare a "Daily Field Report" providing information regarding the specific operations witnessed, including placing of masonry units and bar reinforcing, grouting, fabrication of test specimens, and other observations of importance to the work. A "Daily Field Report" is required for each day that the Special Inspector is on the jobsite. A copy of these reports shall be delivered to the Engineer on the day following the preparation. The special inspector shall submit a final signed report to the Engineer and the Contractor stating whether the work requiring special inspection was, to the best of the inspector's knowledge, in conformance with the approved plans, specifications, and the applicable workmanship provisions of these specifications and the CBC.

Testing:

The testing laboratory shall comply with the requirements of ASTM Designation: E 329. Test results shall be reported in writing to the Engineer and the Contractor on the same day the tests are made. Testing shall be done in accordance with Section 2105.2, "Acceptance relative to strength requirements," of the CBC. The Contractor shall determine  $f'm$  by either Section 2105.2.2.1, "Unit strength method," or Section 2105.2.2.2, "Prism test method." One set of tests shall be done for each 5,000 square feet of wall area, but not less than one test per project.

Any work not meeting the requirements of Section 2105 of the CBC shall be redone and retested. Sampling, inspecting, reworking and retesting of material will be done at the Contractor's expense.