



**STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION**

**NOTICE TO BIDDERS
AND
SPECIAL PROVISIONS**

**FOR CONSTRUCTION ON STATE HIGHWAY IN EL DORADO COUNTY ABOUT
8.3 MILES NORTH OF SOUTH LAKE TAHOE FROM 0.1 MILE NORTH OF
EAGLE FALLS SIDEHILL VIADUCT No. 5 TO MEEKS CREEK BRIDGE**

In District 03 On Route 89

Under

Bid book dated March 18, 2013

Standard Specifications dated 2010

Project plans approved December 17, 2012

Standard Plans dated 2010

Identified by

Contract No. 03-1A8444

03-ED-89-18.0/24.9

Project ID 0300000225

Federal-Aid Project

ACSTP-P089(105)

Electronic Advertising Contract

Bids open Tuesday, May 7, 2013

Dated March 18, 2013

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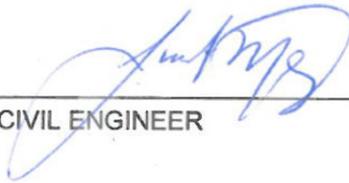
SPECIAL NOTICES

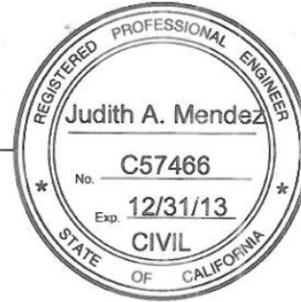
- For federal-aid projects, the Department is modifying its DBE program.

CONTRACT NO. 03-1A8444

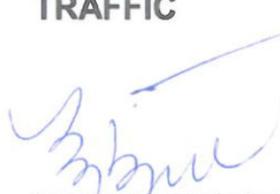
The special provisions contained herein have been prepared by or under the direction of the following Registered Persons.

HIGHWAYS


REGISTERED CIVIL ENGINEER



TRAFFIC


REGISTERED CIVIL ENGINEER

10-1-2012
DATE



LANDSCAPE


LICENSED LANDSCAPE ARCHITECT



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STANDARD PLANS LIST

The standard plan sheets applicable to this Contract include those listed below. The applicable revised standard plans (RSPs) listed below are included in the project plans.

A10A	Abbreviations (Sheet 1 of 2)
A10B	Abbreviations (Sheet 2 of 2)
A10C	Lines and Symbols (Sheet 1 of 3)
A10D	Lines and Symbols (Sheet 2 of 3)
A10E	Lines and Symbols (Sheet 3 of 3)
A20A	Pavement Markers and Traffic Lines, Typical Details
A20B	Pavement Markers and Traffic Lines, Typical Details
A20C	Pavement Markers and Traffic Lines, Typical Details
A20D	Pavement Markers and Traffic Lines, Typical Details
A24D	Pavement Markings - Words
RSP A24E	Pavement Markings - Words, Limit and Yield Lines
A62A	Excavation and Backfill - Miscellaneous Details
A62F	Excavation and Backfill - Metal and Plastic Culverts
A73A	Object Markers
A73B	Markers
A73C	Delineators, Channelizers and Barricades
A77A1	Metal Beam Guard Railing - Standard Railing Section (Wood Post with Wood Block)
A77A2	Metal Beam Guard Railing - Standard Railing Section (Steel Post with Notched Wood or Notched Recycled Plastic Block)
A77B1	Metal Beam Guard Railing - Standard Hardware
A77C1	Metal Beam Guard Railing - Wood Post and Wood Block Details
A77C2	Metal Beam Guard Railing - Steel Post and Notched Wood Block Details
A77C3	Metal Beam Guard Railing - Typical Line Post Embedment and Hinge Point Offset Details
A77C4	Metal Beam Guard Railing - Typical Railing Delineation and Dike Positioning Details
A77E1	Metal Beam Guard Railing - Typical Layouts for Embankments
A77E4	Metal Beam Guard Railing - Typical Layouts for Embankments
A77G3	Metal Beam Guard Railing - Typical Layouts for Roadside Fixed Objects
A77H1	Metal Railing - End Anchor Assembly (Type SFT)
A77I2	Metal Beam Guard Railing - Buried Post End Anchor
A86	Barbed Wire and Wire Mesh Fences

A86A	Barbed Wire and Wire Mesh Fence Detail on Sharp Break in Grade
A86B	Barbed Wire and Wire Mesh Fence Details
A86C	Barbed Wire and Wire Mesh Fence Details at Ditch Crossing
RSP A86D	Barbed Wire and Wire Mesh Fence - Miscellaneous Details
A87A	Curbs and Driveways
A87B	Hot Mix Asphalt Dikes
RSP P74	Pavement Edge Treatments
RSP P75	Pavement Edge Treatments - Overlays
RSP P76	Pavement Edge Treatments - New Construction
D71	Drainage Inlet Markers
RSP D73	Drainage Inlets
D74A	Drainage Inlets
D74C	Drainage Inlet Details
D75A	Steel Pipe Inlets
D75B	Concrete Pipe Inlets
D75C	Pipe Inlets - Ladder and Trash Rack Details
RSP D77B	Bicycle Traversable Grate Details
D78A	Gutter Depressions
D87A	Corrugated Metal Pipe Downdrain Details
D89	Pipe Culvert Headwalls - Straight and "L"
D94A	Metal and Plastic Flared End Sections
D94B	Concrete Flared End Sections
D97A	Corrugated Metal Pipe Coupling Details No. 1 - Annular Coupling Band Bar and Strap and Angle Connections
D97C	Corrugated Metal Pipe Coupling Details No. 3 - Helical and Universal Couplers
D97D	Corrugated Metal Pipe Coupling Details No. 4 - Hugger Coupling Bands
D97E	Corrugated Metal Pipe Coupling Details No. 5 - Standard Joint
D97G	Corrugated Metal Pipe Coupling Details No. 7 - Downdrain
D102	Underdrains
H1	Landscape and Erosion Control - Abbreviations
H51	Erosion Control Details - Fiber Roll and Compost Sock
H52	Rolled Erosion Control Product
T1A	Temporary Crash Cushion, Sand Filled (Unidirectional)
T1B	Temporary Crash Cushion, Sand Filled (Bidirectional)
T2	Temporary Crash Cushion, Sand Filled (Shoulder Installations)

T3A	Temporary Railing (Type K)
T3B	Temporary Railing (Type K)
T54	Temporary Water Pollution Control Details (Temporary Erosion Control Blanket)
T56	Temporary Water Pollution Control Details (Temporary Fiber Roll)
T57	Temporary Water Pollution Control Details (Temporary Check Dam)
T58	Temporary Water Pollution Control Details (Temporary Construction Entrance)
T59	Temporary Water Pollution Control Details (Temporary Concrete Washout Facility)
T61	Temporary Water Pollution Control Details (Temporary Drainage Inlet Protection)
T62	Temporary Water Pollution Control Details (Temporary Drainage Inlet Protection)
T63	Temporary Water Pollution Control Details (Temporary Drainage Inlet Protection)
T64	Temporary Water Pollution Control Details (Temporary Drainage Inlet Protection)
B7-11	Utility Details
RS1	Roadside Signs, Typical Installation Details No. 1
RS2	Roadside Signs - Wood Post, Typical Installation Details No. 2
RS4	Roadside Signs, Typical Installation Details No. 4
S93	Framing Details for Framed Single Sheet Aluminum Signs, Rectangular Shape
S94	Roadside Framed Single Sheet Aluminum Signs, Rectangular Shape
S95	Roadside Single Sheet Aluminum Signs, Diamond Shape
ES-1A	Electrical Systems (Legend, Notes and Abbreviations)
ES-1B	Electrical Systems (Legend, Notes and Abbreviations)
ES-1C	Electrical Systems (Legend, Notes and Abbreviations)
ES-5A	Electrical Systems (Detectors)
ES-5B	Electrical Systems (Detectors)
ES-5D	Electrical Systems (Curb Termination and Handhole)
RSP ES-8A	Electrical Systems (Pull Box)
RSP ES-8B	Electrical Systems (Traffic Rated Pull Box)

CANCELED STANDARD PLANS LIST

The standard plan sheets listed below are canceled and not applicable to this contract.

B3-1	Canceled on April 20, 2012
B3-2	Canceled on April 20, 2012
B3-3	Canceled on April 20, 2012
B3-4	Canceled on April 20, 2012
B3-7	Canceled on April 20, 2012
B3-8	Canceled on April 20, 2012
ES-8	Canceled on January 20, 2012
ES-10	Canceled on July 20, 2012

NOTICE TO BIDDERS

Bids open Tuesday, May 7, 2013

Dated March 18, 2013

General work description: HMA overlay and widen rdwy with HMA over CI 2 AB, const sand vaults.

The Department will receive sealed bids for CONSTRUCTION ON STATE HIGHWAY IN EL DORADO COUNTY ABOUT 8.3 MILES NORTH OF SOUTH LAKE TAHOE FROM 0.1 MILE NORTH OF EAGLE FALLS SIDEHILL VIADUCT No. 5 TO MEEKS CREEK BRIDGE.

District-County-Route-Post Mile: 03-ED-89-18.0/24.9

Contract No. 03-1A8444

The Contractor must have either a Class A license or one of the following Class C licenses: C-12.

The DBE Contract goal is 5 percent.

Federal-aid project no.:

ACSTP-P089(105)

For the Federal training program, the number of trainees or apprentices is 3.

Bids must be on a unit price basis.

Complete the work within 250 working days.

The estimated cost of the project is \$9,600,000.

No prebid meeting is scheduled for this project.

The Department will receive bids until 2:00 p.m. on the bid open date at 1727 30th Street, Bidders' Exchange, MS 26, Sacramento, CA 95816. Bids received after this time will not be accepted. Department staff will direct the bidders to the bid opening.

The Department will open and publicly read the bids at the above location immediately after the specified closing time.

District office addresses are provided in the *Standard Specifications*.

Present bidders' inquiries to the Department and view the Department's responses at:

http://www.dot.ca.gov/hq/esc/oe/project_status/bid_inq.html

Questions about alleged patent ambiguity of the plans, specifications, or estimate must be asked before bid opening. After bid opening, the Department does not consider these questions as bid protests.

Submit your bid with bidder's security equal to at least 10 percent of the bid.

Prevailing wages are required on this Contract. The Director of the California Department of Industrial Relations determines the general prevailing wage rates. Obtain the wage rates at the DIR Web site, <http://www.dir.ca.gov>, or from the Department's Labor Compliance Office of the district in which the work is located.

The federal minimum wage rates for this Contract as determined by the United States Secretary of Labor are available at <http://www.dot.ca.gov/hq/esc/oe/federal-wages>.

If the minimum wage rates as determined by the United States Secretary of Labor differs from the general prevailing wage rates determined by the Director of the California Department of Industrial Relations for

similar classifications of labor, the Contractor and subcontractors must not pay less than the higher wage rate. The Department does not accept lower State wage rates not specifically included in the federal minimum wage determinations. This includes helper, or other classifications based on hours of experience, or any other classification not appearing in the federal wage determinations. Where federal wage determinations do not contain the State wage rate determination otherwise available for use by the Contractor and subcontractors, the Contractor and subcontractors must not pay less than the federal minimum wage rate that most closely approximates the duties of the employees in question.

The Department has made available Notices of Suspension and Proposed Debarment from the Federal Highway Administration. For a copy of the notices, go to http://www.dot.ca.gov/hq/esc/oe/contractor_info. Additional information is provided in the Excluded Parties List System at <https://www.epls.gov>.

Department of Transportation

WAT

COPY OF BID ITEM LIST

Item No.	Item Code	Item Description	Unit of Measure	Estimated Quantity
1	070030	LEAD COMPLIANCE PLAN	LS	LUMP SUM
2	080050	PROGRESS SCHEDULE (CRITICAL PATH METHOD)	LS	LUMP SUM
3	090100	TIME-RELATED OVERHEAD (WDAY)	WDAY	250
4	120090	CONSTRUCTION AREA SIGNS	LS	LUMP SUM
5	120100	TRAFFIC CONTROL SYSTEM	LS	LUMP SUM
6	128651	PORTABLE CHANGEABLE MESSAGE SIGN (EA)	EA	3
7	130100	JOB SITE MANAGEMENT	LS	LUMP SUM
8	130300	PREPARE STORM WATER POLLUTION PREVENTION PLAN	LS	LUMP SUM
9	130310	RAIN EVENT ACTION PLAN	EA	70
10	130320	STORM WATER SAMPLING AND ANALYSIS DAY	EA	45
11	130330	STORM WATER ANNUAL REPORT	EA	4
12	130500	TEMPORARY EROSION CONTROL BLANKET	SQYD	9,860
13	130505	MOVE-IN/MOVE-OUT (TEMPORARY EROSION CONTROL)	EA	12
14	130530	TEMPORARY HYDRAULIC MULCH (BONDED FIBER MATRIX)	SQYD	15,400
15	130560	TEMPORARY SOIL BINDER	SQYD	11,600
16	130610	TEMPORARY CHECK DAM	LF	1,990
17	130620	TEMPORARY DRAINAGE INLET PROTECTION	EA	99
18	130640	TEMPORARY FIBER ROLL	LF	9,300
19	130650	TEMPORARY GRAVEL BAG BERM	LF	1,380
20	130680	TEMPORARY SILT FENCE	LF	19,100

Item No.	Item Code	Item Description	Unit of Measure	Estimated Quantity
21	130710	TEMPORARY CONSTRUCTION ENTRANCE	EA	26
22	130730	STREET SWEEPING	LS	LUMP SUM
23	130800	TEMPORARY ACTIVE TREATMENT SYSTEM	LS	LUMP SUM
24	025207	TEMPORARY CLEAR WATER DIVERSION SYSTEM	LS	LUMP SUM
25	130900	TEMPORARY CONCRETE WASHOUT	LS	LUMP SUM
26	141000	TEMPORARY FENCE (TYPE ESA)	LF	21,700
27	141120	TREATED WOOD WASTE	LB	39,300
28	150204	ABANDON CULVERT (LF)	LF	170
29	150221	ABANDON INLET	EA	19
30	150605	REMOVE FENCE	LF	100
31	150662	REMOVE METAL BEAM GUARD RAILING	LF	2,480
32	150742	REMOVE ROADSIDE SIGN	EA	71
33	150771	REMOVE ASPHALT CONCRETE DIKE	LF	4,100
34	025208	REMOVE GRATE (DEBRIS RACK)	EA	1
35	150809	REMOVE CULVERT (LF)	LF	1,680
36	150814	REMOVE DOWNDRAIN (EA)	EA	1
37	150820	REMOVE INLET	EA	42
38	150821	REMOVE HEADWALL	EA	2
39	152266	RESET FRAME AND GRATE	EA	1
40	152320	RESET ROADSIDE SIGN	EA	15

Item No.	Item Code	Item Description	Unit of Measure	Estimated Quantity
41	152439	ADJUST FRAME AND GRATE TO GRADE	EA	1
42	152440	ADJUST MANHOLE TO GRADE	EA	2
43	152473	ADJUST UNDERDRAIN RISER	EA	6
44	152475	ADJUST SEWER MANHOLE	EA	47
45	153103	COLD PLANE ASPHALT CONCRETE PAVEMENT	SQYD	3,480
46	155213	CLEANING, INSPECTING, AND PREPARING CULVERT (LF)	LF	220
47	155232	SAND BACKFILL	CY	17
48	155314	18" CURED-IN-PLACE PIPELINER	LF	120
49	155319	36" CURED-IN-PLACE PIPELINER	LF	97
50	160102	CLEARING AND GRUBBING (LS)	LS	LUMP SUM
51	190101	ROADWAY EXCAVATION	CY	6,990
52	190185	SHOULDER BACKING	TON	2,070
53 (F)	192001	STRUCTURE EXCAVATION	CY	158.7
54 (F)	193001	STRUCTURE BACKFILL	CY	43.2
55 (F)	193006	STRUCTURE BACKFILL (SLURRY CEMENT)	CY	5.4
56	025209	BRUSH BOX	LF	110
57	203070	ROCK STAIN	SQFT	176,000
58	204017	PLANT (GROUP W)	EA	140
59	210010	MOVE-IN/MOVE-OUT (EROSION CONTROL)	EA	6
60	210270	ROLLED EROSION CONTROL PRODUCT (NETTING)	SQFT	28,400

Item No.	Item Code	Item Description	Unit of Measure	Estimated Quantity
61	210300	HYDROMULCH	SQFT	206,000
62	210350	FIBER ROLLS	LF	3,190
63	210420	STRAW	SQFT	190,000
64	210430	HYDROSEED	SQFT	206,000
65	210600	COMPOST	SQFT	82,100
66	210630	INCORPORATE MATERIALS	SQFT	82,100
67	260203	CLASS 2 AGGREGATE BASE (CY)	CY	4,160
68	374207	CRACK TREATMENT	LNMI	14
69	390010	PREPAVING PROFILOGRAPH	LS	LUMP SUM
70	390020	PREPAVING GRINDING DAY	EA	3
71	390095	REPLACE ASPHALT CONCRETE SURFACING	CY	990
72	390131	HOT MIX ASPHALT	TON	19,600
73	390136	MINOR HOT MIX ASPHALT	TON	33
74	394060	DATA CORE	LS	LUMP SUM
75	394074	PLACE HOT MIX ASPHALT DIKE (TYPE C)	LF	40
76	394076	PLACE HOT MIX ASPHALT DIKE (TYPE E)	LF	160
77	394090	PLACE HOT MIX ASPHALT (MISCELLANEOUS AREA)	SQYD	120
78	397005	TACK COAT	TON	39
79	025210	INSTALL PRECAST SAND VAULT	EA	2
80 (F)	510502	MINOR CONCRETE (MINOR STRUCTURE)	CY	113.8

Item No.	Item Code	Item Description	Unit of Measure	Estimated Quantity
81	025211.	FURNISH PRECAST SAND VAULT	EA	2
82	560248	FURNISH SINGLE SHEET ALUMINUM SIGN (0.063"-UNFRAMED)	SQFT	770
83	560249	FURNISH SINGLE SHEET ALUMINUM SIGN (0.080"-UNFRAMED)	SQFT	67
84	560251	FURNISH SINGLE SHEET ALUMINUM SIGN (0.063"-FRAMED)	SQFT	60
85	566011	ROADSIDE SIGN - ONE POST	EA	71
86	566012	ROADSIDE SIGN - TWO POST	EA	5
87	025212	STAIN GALVANIZED SURFACES	LS	LUMP SUM
88 (F)	620800	CONCRETE BACKFILL (PIPE TRENCH)	CY	12
89	641101	12" PLASTIC PIPE	LF	15
90	641107	18" PLASTIC PIPE	LF	14
91	641113	24" PLASTIC PIPE	LF	130
92	665012	12" CORRUGATED STEEL PIPE (.079" THICK)	LF	200
93	665018	18" CORRUGATED STEEL PIPE (.109" THICK)	LF	1,650
94	665025	24" CORRUGATED STEEL PIPE (.138" THICK)	LF	420
95	665039	36" CORRUGATED STEEL PIPE (.168" THICK)	LF	4
96	025213	CLASS 4 PERMEABLE MATERIAL (CY)	CY	560
97	700617	DRAINAGE INLET MARKER	EA	66
98	700641	36" CORRUGATED STEEL PIPE INLET (.168" THICK)	LF	260
99	705307	12" ALTERNATIVE FLARED END SECTION	EA	6
100	705311	18" ALTERNATIVE FLARED END SECTION	EA	35

Item No.	Item Code	Item Description	Unit of Measure	Estimated Quantity
101	705315	24" ALTERNATIVE FLARED END SECTION	EA	11
102	707117	36" PRECAST CONCRETE PIPE INLET	LF	74
103 (F)	720121	ROCK SLOPE PROTECTION (1/2 T, METHOD A) (CY)	CY	10.3
104 (F)	721013	ROCK SLOPE PROTECTION (1/4 T, METHOD B) (CY)	CY	132.5
105 (F)	721017	ROCK SLOPE PROTECTION (FACING, METHOD B) (CY)	CY	723
106 (F)	721019	ROCK SLOPE PROTECTION (NO. 3, METHOD B) (CY)	CY	634.6
107	729011	ROCK SLOPE PROTECTION FABRIC (CLASS 8)	SQYD	3,980
108	025214	FILTER FABRIC	SQYD	1,540
109	730020	MINOR CONCRETE (CURB) (CY)	CY	980
110	731502	MINOR CONCRETE (MISCELLANEOUS CONSTRUCTION)	CY	65
111 (F)	750001	MISCELLANEOUS IRON AND STEEL	LB	30,349
112	800001	FENCE (TYPE BW, METAL POST)	LF	100
113	025215	FENCE (SPLIT RAIL)	LF	300
114	820108	DELINEATOR (CLASS 2)	EA	400
115	025216	HIGHWAY POST MARKER	EA	12
116	820151	OBJECT MARKER (TYPE L-1)	EA	6
117	832003	METAL BEAM GUARD RAILING (WOOD POST)	LF	1,770
118	832012	METAL BEAM GUARD RAILING (7' WOOD POST)	LF	540
119	832014	METAL BEAM GUARD RAILING (8' POST)	LF	100
120	839581	END ANCHOR ASSEMBLY (TYPE SFT)	EA	6

Item No.	Item Code	Item Description	Unit of Measure	Estimated Quantity
121	839584	ALTERNATIVE IN-LINE TERMINAL SYSTEM	EA	4
122	839585	ALTERNATIVE FLARED TERMINAL SYSTEM	EA	3
123	025217	THERMOPLASTIC PAVEMENT MARKING (RECESSED)	SQFT	410
124	025218	4" THERMOPLASTIC TRAFFIC STRIPE (RECESSED, BROKEN 12-3)	LF	2,480
125	840545	4" THERMOPLASTIC TRAFFIC STRIPE (RECESSED, BROKEN 36-12)	LF	1,660
126	840581	4" THERMOPLASTIC TRAFFIC STRIPE (RECESSED)	LF	136,000
127	840661	TWO-COMPONENT PAINT PAVEMENT MARKING	SQFT	310
128	860890	MODIFY TRAFFIC MONITORING STATION (COUNT)	LS	LUMP SUM
129	999990	MOBILIZATION	LS	LUMP SUM

SPECIAL PROVISIONS

DIVISION I GENERAL PROVISIONS 1 GENERAL

Add to section 1-1.01:

Bid Items and Applicable Sections

Item code	Item description	Applicable section
025207	TEMPORARY CLEAR WATER DIVERSION SYSTEM	13
025208	REMOVE GRATE (DEBRIS RACK)	15
025209	BRUSH BOX	20
025210	INSTALL PRECAST SAND VAULT	51
025211.	FURNISH PRECAST SAND VAULT	51
025212	STAIN GALVANIZED SURFACES	59
025213	CLASS 4 PERMEABLE MATERIAL (CY)	68
025214	FILTER FABRIC	72
025215	FENCE (SPLIT RAIL)	80
025216	HIGHWAY POST MARKER	82
025217	THERMOPLASTIC PAVEMENT MARKING (RECESSED)	84
025218	4" THERMOPLASTIC TRAFFIC STRIPE (RECESSED, BROKEN 12-3)	84

AA

2 BIDDING

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>	1-1 U.S. Army Corps of Engineers permit 1-2 California Department of Fish and Game Streambed Alteration Agreement 1-3 California Regional Water Quality Control Board Certification, Lahontan Region 1-4 Tahoe Regional Planning Agency Permit 2-1 Rte 89 Widening and EC project 2-2 Geotechnical Design Report 2-3 Geotechnical Design Report add. #1 2-4 Preliminary Geotechnical Report 2-5 Field Work Report Environmental Improvement project 2-6 Rte 89 EIP Environmental Study 3-1 Aerially Deposited Lead Site Investigation Report 4-1 NEPA-CEQA document -Water Quality Improvement Project 5-1 Natina Desert Varnish Solution - Revised Estimate
Available as specified in the <i>Standard Specifications</i>	Cross sections

AA

Add to section 5-1.20A:

During the progress of the work under this Contract, work under the following contracts may be in progress at or near the job site of this Contract:

Coincident or Adjacent Contracts

Contract no.	County–Route–Post Mile	City	Type of work
03-1A7324	ED-50-73.7/75.4	South Lake Tahoe	Storm water quality improvements
03-0E8104	ED-89-0.0/8.6	In and near Meyers from Alpine County line to Route 50	Plant establishment and protection
03-1A8424	ED-89-8.6/13.8	In and near South Lake Tahoe from Route 50 to Cascade Road	Storm water quality improvements
03-1A8434	ED-89-13.8/18.0	Near South Lake Tahoe from Cascade Road to North of Eagle Falls Sidehill Viaduct	Storm water quality improvements
03-1A8454	ED-89-24.9/27.2	Near Tahoma from Meeks Creek Bridge to Wilson Avenue	Storm water quality improvements

AA

7 LEGAL RELATIONS AND RESPONSIBILITY TO THE PUBLIC

Replace section 7-1.02K(6)(j)(iii) with:

7-1.02K(6)(j)(iii) Earth Material Containing Lead

Section 7-1.02K(6)(j)(iii) includes specifications for handling, removing, and disposing of earth material containing lead.

Submit a lead compliance plan.

Lead is present in earth material on the job site. The average lead concentrations are below 1,000 mg/kg total lead and below 5 mg/L soluble lead. Earth material on the job site:

- 1. Is not a hazardous waste
- 2. Does not require disposal at a permitted landfill or solid waste disposal facility

Lead has been detected in earth material to a depth of 3 feet in unpaved areas of the highway. Levels of lead found on the job site range from 5.1 to 57 mg/kg total lead with an average concentration of 7.8 mg/kg total lead as analyzed by EPA test method 6010 or EPA test method 7000 series and based upon a 95 percent upper confidence limit.

Handle earth material containing lead under all applicable laws, rules, and regulations, including those of the following agencies:

- 1. Cal/OSHA
- 2. CA RWQCB, Region 5 — Central Valley
- 3. CA Department of Toxic Substances Control

If earth material is disposed of:

- 1. Disclose the lead concentration of the earth material to the receiving property owner when obtaining authorization for disposal on the property
- 2. Obtain the receiving property owner's acknowledgment of lead concentration disclosure in the written authorization for disposal
- 3. You are responsible for any additional sampling and analysis required by the receiving property owner

If you choose to dispose of earth material at a commercial landfill:

- 1. Transport it to a Class III or Class II landfill appropriately permitted to receive the material
- 2. You are responsible for identifying the appropriately permitted landfill to receive the earth material and for all associated trucking and disposal costs, including any additional sampling and analysis required by the receiving landfill

AA

8 PROSECUTION AND PROGRESS

Replace "Reserved" in section 8-1.04C with:

Section 8-1.04B does not apply.

Start job site activities within 85 days after receiving notice that the Contract has been approved by the Attorney General or the attorney appointed and authorized to represent the Department.

Do not start job site activities until the Department authorizes or accepts your submittal for:

1. CPM baseline schedule
2. WPCP or SWPPP, whichever applies
3. Notification of DRA or DRB nominee and disclosure statement

You may enter the job site only to measure controlling field dimensions and locating utilities.

Do not start other job site activities until all the submittals from the above list are authorized or accepted and the following information is received by the Engineer:

1. *Notice of Materials To Be Used.*
2. Contingency plan for reopening closures to public traffic.
3. Written statement from the vendor that the order for the sign panels has been received and accepted by the vendor. The statement must show the dates that the materials will be shipped.
4. Written statement from the vendor that the order for electrical material has been received and accepted by the vendor. The statement must show the dates that the materials will be shipped.

You may start job site activities before the 85th day after Contract approval if you:

1. Obtain specified authorization or acceptance for each submittal before the 85th day
2. Receive authorization to start

Submit a notice 72 hours before starting job site activities. If the project has more than 1 location of work, submit a separate notice for each location.

AA

9 PAYMENT

Add to section 9-1.16C:

The following items are eligible for progress payment even if they are not incorporated into the work:

1. Precast concrete sand vaults and traps
2. Miscellaneous iron and steel
3. Culvert pipe
4. Metal sign structures
5. Filter fabric
6. Miscellaneous drainage facilities
7. Rock slope protection fabric
8. Fences and gates
9. Railings
10. Barriers (except concrete barriers)

AA

DIVISION II GENERAL CONSTRUCTION

10 GENERAL

Add to section 10-1.02 of the RSS for section 10-1:

Do not place the uppermost layer of new pavement until all underlying conduits and loop detectors are installed.

AA

12 TEMPORARY TRAFFIC CONTROL

Replace section 12-2 with:

12-2 CONSTRUCTION PROJECT FUNDING SIGNS

12-2.01 GENERAL

Section 12-2 includes specifications for installing construction project funding signs.

Details for construction project funding signs are shown.

Construction project funding signs must comply with the details shown on the Department's Traffic Operations Web site.

Keep construction project funding signs clean and in good repair at all times.

12-2.02 MATERIALS

Construction project funding signs must be wood post signs complying with section 56-4.

Sign panels for construction project funding signs must be framed, single sheet aluminum panels complying with section 56-2.

The background on construction project funding signs must be Type II retroreflective sheeting on the Authorized Material List for signing and delineation materials.

The legend must be retroreflective, except for nonreflective black letters and numerals. The colors blue and orange must comply with PR Color no. 3 and no. 6, respectively, as specified in the Federal Highway Administration's *Color Tolerance Chart*.

The legend for the type of project on construction project funding signs must read as follows:

Highway Repair

The legend for the types of funding on construction project funding signs must read as follows and in the following order:

STATE HIGHWAY FUNDS

The Engineer will provide the year of completion for the legend on construction project funding signs. Furnish and install a sign overlay for the year of completion within 10 working days of notification.

The size of the legend on construction project funding signs must be as described. Do not add any additional information unless authorized.

12-2.03 CONSTRUCTION

Install 2 Type 2 construction project funding signs at the locations designated by the Engineer before starting major work activities visible to highway users.

When authorized, remove and dispose of construction project funding signs upon completion of the project.

12-2.04 PAYMENT

Not Used

Add to section 12-3.12C:

Start displaying the message on the portable changeable message sign 15 minutes before closing the lane.

Place the portable changeable message sign in advance of the 1st warning sign for each:

1. Stationary lane closure
2. Shoulder closure

Add to section 12-4.01:

1. Existing pedestrian and bicycle access facilities must be maintained through the construction areas at all locations in the Lake Tahoe Basin. Pedestrian walkways and bicycle lanes surface must remain skid resistant and free of irregularities.
2. The existing trail and walkways must be available to pedestrian and bicycle traffic at all times. If the Contractor's operations require the closure of the existing trail or walkway, then another walkway or bicycle lane must be provided nearby.
3. When in conflict with contract work, the Contractor must close pedestrian access facilities with signs and barricades. Closed walkways must have additional signs and barricades to direct pedestrians to the opposite side of the roadway, or to an alternate walkway. Closures of pedestrian and bicycle access facilities must conform to the provisions of "Closure Requirements and Conditions".

Payment for transporting bicyclists and pedestrian traffic through the work zone is included in the payment for traffic control system.

Add to section 12-4.02A:

Designated holidays are as shown in the following table:

Designated Holidays

Holiday	Date observed
New Year's Day	January 1st
Washington's Birthday	3rd Monday in February
Memorial Day	Last Monday in May
Independence Day	July 4th
Labor Day	1st Monday in September
Veterans Day	November 11th
Thanksgiving Day	4th Thursday in November
Christmas Day	December 25th

If a designated holiday falls on a Sunday, the following Monday is a designated holiday. If November 11th falls on a Saturday, the preceding Friday is a designated holiday.

On SR 89 under a 1-way reversing traffic control operation, traffic may be stopped in 1 direction for periods not to exceed 10 minutes. After each stoppage, all accumulated traffic for that direction must pass through the work zone before another stoppage is made. Delays to public traffic must not exceed a total of 20 minutes.

The maximum length of a single stationary lane closure is 1.0 mile.

On SR 89, not more than 1 stationary lane closures will be allowed in each direction of travel at one time. Cross streets and driveways must remain open at all times, "unless described otherwise". When 2 driveways access the same property, only one driveway can be closed at a time. Closures of cross streets and driveways must conform to the provisions of "Closure Requirements and Conditions". You must notify business owners and residents, a minimum of 72 hours prior to beginning any construction adjacent to a property.

Personal vehicles of your employees must not be parked within the right-of-way.

On SR 89, if work vehicles or equipment are parked within 6 feet of a traffic lane, close the shoulder area with fluorescent orange traffic cones or portable delineators. Place the cones or delineators on a taper in advance of the parked vehicles or equipment and along the edge of the pavement at 25-foot intervals to a point not less than 25 feet past the last vehicle or piece of equipment. Use at least 9 cones or delineators for the taper. Use a W20-1, "Road Work Ahead," W21-5b, "Right/Left Shoulder Closed Ahead," or C24(CA), "Shoulder Work Ahead," sign mounted on a crashworthy, portable sign support with flags. The sign must be placed as ordered by the Engineer and at least 48 by 48 inches in size. If a cone or delineator is displaced or overturned, immediately restore the device to its original position or location.

On SR 89, a minimum of 1 paved traffic lane not less than 11 feet wide must be open for use by traffic.

Replace "Reserved" in section 12-4.04 with:

Lane Closure Restriction for Designated Holidays and Special Days										
Thu	Fri	Sat	Sun	Mon	Tues	Wed	Thu	Fri	Sat	Sun
x	H xx	xx	xx							
	SD xx									
x	xx	H xx	xx							
		SD xx								
	x	xx	H xx	xx						
			SD xx							
	x	xx	xx	H xx	xxx					
	x	xx	xx	SD xx	xxx					
				x	H xx					
				x	SD xx					
					x	H xx				
						SD xx				
						x	H xx	xx	xx	xx
							SD xx			
Legend:										
	Refer to lane requirement charts									
x	The full width of the traveled way must be open for use by traffic after 1100 hours.									
xx	The full width of the traveled way must be open for use by traffic.									
xxx	The full width of the traveled way must be open for use by traffic until 2000 hours.									
H	Designated holiday									
SD	Special day									

Replace "Reserved" in section 12-4.05F with:

Chart no. 1 Conventional Highway Lane Requirements																												
County: El Dorado	Route/Direction: SR 89 NB/SB										PM:18.0 / 24.9																	
Closure limits: PM 18.0 / 24.9																												
From hour to hour	24	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
Mondays through Thursdays	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R		
Fridays	R	R	R	R	R	R	R	R	R	R	R	R																
Saturdays	R	R	R	R	R	R	R	R	R	R																		
Sundays	R	R	R	R	R	R	R	R	R	R															R	R	R	R
<p>Legend:</p> <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width: 5%; border: 1px solid black; text-align: center;">R</td> <td>Provide at least 1 through traffic lane, not less than 11 feet in width, for use by both directions of travel (Reversing Control)</td> </tr> <tr> <td style="border: 1px solid black; width: 5%;"></td> <td>Work allowed within the highway where shoulder or lane closure is not required</td> </tr> </table>																									R	Provide at least 1 through traffic lane, not less than 11 feet in width, for use by both directions of travel (Reversing Control)		Work allowed within the highway where shoulder or lane closure is not required
R	Provide at least 1 through traffic lane, not less than 11 feet in width, for use by both directions of travel (Reversing Control)																											
	Work allowed within the highway where shoulder or lane closure is not required																											
<p>REMARKS:</p> <ol style="list-style-type: none"> 1. Within the closure limits, SR 89 is a 2-way, 2-lane Conventional highway. 2. This chart is for work during the off-peak season between Labor Day and Memorial Day. 																												

Replace "Reserved" in section 12-4.05F with:

Chart no. 2 Conventional Highway Lane Requirements																										
County: El Dorado	Route/Direction: SR 89 NB/SB												PM:18.0 / 24.9													
Closure limits: PM 18.0 / 24.9																										
From hour to hour	24	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
Mondays through Wednesdays	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
Thursdays	R	R	R	R	R	R	R	R	R	R	R											R	R	R	R	
Fridays	R	R	R	R	R	R	R	R	R	R	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Saturdays	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Sundays	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

Legend:

R	Provide at least 1 through traffic lane, not less than 11 feet in width, for use by both directions of travel (Reversing Control)
N	No work allowed
	Work allowed within the highway where shoulder or lane closure is not required

REMARKS:

1. Within the closure limits, SR 89 is a 2-way, 2-lane Conventional highway.
2. This chart is for work during the peak season between Labor Day and Memorial Day.

Replace section 12-5 with:

12-5 TRAFFIC CONTROL SYSTEM FOR LANE CLOSURE

12-5.01 GENERAL

Section 12-5 includes specifications for closing traffic lanes with stationary lane closures on 2-lane, 2-way highways. The traffic control system for a lane closure must comply with the details shown.

Traffic control system includes signs.

12-5.02 MATERIALS

Not Used

12-5.03 CONSTRUCTION

Whenever components of the traffic control system are displaced or cease to operate or function as specified from any cause, immediately repair the components to the original condition or replace the components and restore the components to the original location.

For a stationary lane closure made only for the work period, remove the components of the traffic control system from the traveled way and shoulder, except for portable delineators placed along open trenches or excavation adjacent to the traveled way at the end of each work period. You may store the components at selected central locations designated by the Engineer within the limits of the highway.

Additional advance flaggers are required.

Each vehicle used to place, maintain, and remove components of the traffic control system and each flagger must have cellular phone and radio contact with personnel in the work area."

You may use a pilot car to control traffic. If a pilot car is used for traffic control, the cones shown along the centerline need not be placed. The pilot car must have radio and cellular phone contact with personnel in the work area. Operate the pilot car through the traffic control zone at a speed not greater than 25 miles per hour.

12-5.04 PAYMENT

Traffic control system for lane closure is paid for as traffic control system. Flagging costs are paid for as specified in section 12-1.03.

The requirements in section 4-1.05 for payment adjustment do not apply to traffic control system. Adjustments in compensation for traffic control system will be made for an increase or decrease in traffic control work if ordered and will be made on the basis of the cost of the necessary increased or decreased traffic control. The adjustment will be made on a force account basis for increased work and estimated on the same basis in the case of decreased work.

A traffic control system required by change order work is paid for as a part of the change order work.

Replace section 12-8 with:

12-8 TEMPORARY PAVEMENT DELINEATION

12-8.01 GENERAL

Section 12-8 includes specifications for placing, applying, maintaining, and removing temporary pavement delineation.

Painted traffic stripe used for temporary delineation must comply with section 84-3. Apply 1 or 2 coats.

Temporary signing for no-passing zones must comply with section 12-3.06.

12-8.02 MATERIALS

12-8.02A General

Not Used

12-8.02B Temporary Lane Line and Centerline Delineation

Temporary pavement markers must be the same color as the lane line or centerline markers being replaced. Temporary pavement markers must be one of the temporary pavement markers on the Authorized Material List for short-term day or night use, 14 days or less, or long-term day or night use, 180 days or less.

12-8.02C Temporary Edge Line Delineation

Temporary, removable, construction-grade striping and pavement marking tape must be one of the types on the Authorized Material List. Apply temporary, removable, construction-grade striping and pavement marking tape under the manufacturer's instructions.

12-8.03 CONSTRUCTION

12-8.03A General

Whenever work activities obliterate pavement delineation, place temporary or permanent pavement delineation before opening the traveled way to traffic. Place lane line and centerline pavement delineation for traveled ways open to traffic. On multilane roadways, freeways, and expressways, place edge line delineation for traveled ways open to traffic.

Establish the alignment for temporary pavement delineation, including required lines or markers. Surfaces to receive an application of paint or removable traffic tape must be dry and free of dirt and loose material. Do not apply temporary pavement delineation over existing pavement delineation or other temporary pavement delineation. Maintain temporary pavement delineation until it is superseded or you replace it with a new striping detail of temporary pavement delineation or permanent pavement delineation.

Place temporary pavement delineation on or adjacent to lanes open to traffic for a maximum of 14 days. Before the end of the 14 days, place the permanent pavement delineation. If the permanent pavement delineation is not placed within the 14 days, replace the temporary pavement markers with additional

temporary pavement delineation equivalent to the striping detail specified for the permanent pavement delineation for the area. The Department does not pay for the additional temporary pavement delineation.

When the Engineer determines the temporary pavement delineation is no longer required for the direction of traffic, remove the markers, underlying adhesive, and removable traffic tape from the final layer of surfacing and from the existing pavement to remain in place. Remove temporary pavement delineation that conflicts with any subsequent or new traffic pattern for the area.

12-8.03B Temporary Lane Line and Centerline Delineation

Whenever lane lines or centerlines are obliterated, the minimum lane line and centerline delineation must consist of temporary pavement markers placed longitudinally at intervals not exceeding 24 feet. The temporary pavement markers must be temporary pavement markers on the Authorized Material List for short-term day or night use, 14 days or less, or long-term day or night use, 180 days or less. Place temporary pavement markers under the manufacturer's instructions. Cement the markers to the surfacing with the adhesive recommended by the manufacturer, except do not use epoxy adhesive to place pavement markers in areas where removal of the markers will be required.

For temporary lane line or centerline delineation consisting entirely of temporary pavement markers, place the markers longitudinally at intervals not exceeding 24 feet.

Where no-passing centerline pavement delineation is obliterated, install the following temporary no-passing zone signs before opening lanes to traffic. Install a W20-1, "Road Work Ahead," sign from 1,000 feet to 2,000 feet in advance of a no-passing zone. Install a R4-1, "Do Not Pass," sign at the beginning of a no-passing zone and at 2,000-foot intervals within the no-passing zone. For continuous zones longer than 2 miles, install a W7-3a or W71(CA), "Next ___ Miles," sign beneath the W20-1 sign. Install a R4-2, "Pass With Care," sign at the end of the no-passing zone. The Engineer determines the exact location of temporary no-passing zone signs. Maintain the temporary no-passing zone signs in place until you place the permanent no-passing centerline pavement delineation. Remove the temporary no-passing zone signs when the Engineer determines they are no longer required for the direction of traffic.

12-8.03C Temporary Edge Line Delineation

Whenever edge lines are obliterated on multilane roadways, freeways, and expressways, place edge line delineation for that area adjacent to lanes open to traffic consisting of (1) solid, 4-inch wide traffic stripe tape of the same color as the stripe being replaced, (2) traffic cones, (3) portable delineators or channelizers placed longitudinally at intervals not exceeding 100 feet. You may apply temporary painted traffic stripe where removal of the 4-inch wide traffic stripe will not be required.

The Engineer determines the lateral offset for traffic cones, portable delineators, and channelizers used for temporary edge line delineation. If traffic cones or portable delineators are used for temporary pavement delineation for edge lines, maintain the cones or delineators during hours of the day when the cones or delineators are being used for temporary edge line delineation.

Channelizers used for temporary edge line delineation must be an orange surface-mounted type. Cement channelizer bases to the pavement as specified in section 85 for cementing pavement markers to pavement except do not use epoxy adhesive to place channelizers on the top layer of the pavement. Channelizers must be one of the 36-inch, surface-mounted types on the Authorized Material List.

Remove the temporary edge line delineation when the Engineer determines it is no longer required for the direction of traffic.

12-8.04 PAYMENT

Not Used

13 WATER POLLUTION CONTROL

Replace the fourth paragraph of section 13-3.01A:

This project includes construction activities that will result in land disturbance within the Lake Tahoe Hydrologic Unit. Comply with the Lake Tahoe regional general permit issued by the Lahontan Regional Water Quality Control Board for *Board Order No. R6T-2011-0019, National Pollutant Discharge Elimination System General Permit No. CAG616002 for Discharges of Storm Water Runoff Associated with Construction Activity Involving Land Disturbance in the Lake Tahoe Hydrologic Unit – El Dorado, Placer, and Alpine Counties*. The Lake Tahoe regional general permit governs stormwater and nonstormwater discharges resulting from construction activities in the Lake Tahoe Hydrologic Unit. The Lake Tahoe regional general permit may be viewed at the Web site for the State Water Resources Control Board, Storm Water Program, Lahontan Region General Permits.

Replace 2nd paragraph of section 13-8.01A with:

Design, installation, operation, and monitoring of an ATS and monitoring of the treated effluent must comply with Attachment E of *NPDES Permit for Storm Water Discharges Associated with Construction Activity in the Lake Tahoe Hydrologic Unit, Counties of Alpine, El Dorado, and Placer (Order No. R6T-2011-0019, NPDES No. CAG616002)*.

Replace 1st paragraph of section 13-8.01B(4) with:

Whenever an NEL is exceeded notify the Engineer and submit a NEL violation report within 2 hours. The report must include:

Replace 2nd paragraph of section 13-8.02A with:

Design and implement an ATS to capture and treat a volume equal to the runoff from a 20-year, 1-hour storm which is equal to 1-inch of rainfall in a 1-hour period.

Replace 2nd paragraph item 9 of section 13-8.01B(2) with:

- 9. Operation and maintenance manual for all equipment

Replace 1st paragraph of section 13-8.01B(4) with:

Whenever an NEL is exceeded notify the Engineer immediately and submit a NEL violation report within 2 hours. The report must include:

- 1. Field sampling results and inspections, including:
 - 1.1. Parameters, analytical methods, reporting units, and detection limits (Analytical results that are less than the method detection limits shall be reported as "less than the method detection limits)
 - 1.2. Date, location, time of sampling, visual observations, and measurements
 - 1.3. Quantity of precipitation of the storm event
- 2. Description of current on site BMPs and proposed corrective actions taken to manage NEL exceedance

Replace section 13-8.01B(5) with:

Sampling and Reporting Quality Assurance/ Quality Check (QA/QC) Plan

A project-specific QA/QC Plan shall be developed for each project. The QA/QC Plan shall include at a minimum:

- 1. Calibration – Calibration methods and frequencies for all system and field instruments shall be specified.
- 2. Method Detection Limits (MDLs) – The methods for determining MDLs shall be specified for each residual coagulant measurement method. Acceptable minimum MDLs for each method, specific to individual coagulants, shall be specified.

3. Laboratory Duplicates – Requirements for monthly laboratory duplicates for residual coagulant analysis shall be specified.

Personnel Training

1. Operators shall have training specific to using an ATS and liquid coagulants for storm water discharges in California.
2. The training shall be in the form of a formal class with a certificate and requirements for testing and certificate renewal.
3. Training shall include a minimum of eight hours classroom and 32 hours field training. The course shall cover the following topics:
 - a. Coagulation Basics –Chemistry and physical processes
 - b. ATS System Design and Operating Principles
 - c. ATS Control Systems
 - d. Coagulant Selection – Jar testing, dose determination, etc.
 - e. Aquatic Safety/Toxicity of Coagulants, proper handling and safety
 - f. Monitoring, Sampling, and Analysis
 - g. Reporting and Recordkeeping
 - h. Emergency Response

If the ATS is discharging treated effluent, submit a daily inspection report within 24 hours.

Submit records of delivery and removal of ATS components.

Add after paragraph 3 section 13-8.03A with:

Sediment shall be removed from the storage or treatment cells as necessary to ensure that the cells maintain their required water storage (i.e., volume) capability.

Handling and disposal of all solids generated during ATS operations shall be done in accordance with all local, state, and federal laws and regulations.

Add after the 6th paragraph to section 13-8.03B:

If operating ATS in Batch Treatment mode, the discharger shall perform toxicity testing in accordance with the following:

1. The discharger shall initiate acute toxicity testing on effluent samples representing effluent from each batch prior to discharge (This requirement only requires that the test be initiated prior to discharge.). All bioassays shall be sent to a laboratory certified by the Department of Public Health Environmental Laboratory Accreditation Program (ELAP). The required field of testing number for Whole Effluent Toxicity (WET) testing is E113 (http://www.dhs.ca.gov/ps/ls/elap/pdf/FOT_Desc.pdf).
2. Acute toxicity tests shall be conducted with the following species and protocols. The methods to be used in the acute toxicity testing shall be those outlined for a 96 hour acute test in “Methods for Measuring the Acute Toxicity of Effluents and Receiving Water to Freshwater and Marine Organisms, USEPA-841-R-02-012” for Fathead minnow, *Pimephales promelas* (fathead minnow). Acute toxicity for *Oncorhynchus mykiss* (Rainbow Trout) may be used as a substitute for testing fathead minnows.
3. All toxicity tests shall meet quality assurance criteria and test acceptability criteria in the most recent versions of the EPA test method for WET testing.

Replace section 13-11 with:

13-11 TEMPORARY CLEAR WATER DIVERSION SYSTEM

13-11.01 GENERAL

13-11.01 Summary

This work includes constructing, monitoring, maintaining, and removing temporary clear water diversion system. Temporary clear water diversion system collects and conveys stream water around the work area.

13-11.02 SUBMITTAL

The SWPPP must describe a temporary clear water diversion system plan (Diversion Plan.). The Diversion Plan must include:

1. Title sheet,
2. Table of contents,
3. Anticipated flow rates,
4. Operation and system maintenance procedures,
5. Field-recorded data and visual inspection example logs, and
6. Working drawings of the temporary clear water diversion operations showing:
 - 6.1. Section and plan views of the diversion systems,
 - 6.2. Location of sampling points for water quality measurements as required by regulatory agencies,
 - 6.3. Flow path and placement of pipes, hoses, pumps, and other equipment used to convey water, and
 - 6.4. Location and construction details at point of return of stream flows to the natural channel and energy dissipater components.
 - 6.5. Sampling plan per Section 600 of the Preparation Manual.
7. Certificates of Compliance as specified in Section 6-3.05E, "Certificates of Compliance" of the Standard Specifications for:
 - 7.1. Gravel-filled bag fabric
 - 7.2. Impermeable plastic sheet
 - 7.3. Pump intake screen
8. Description of the waste discharge from the temporary clear water diversion operations showing:
 - 8.1. Location and construction details of discharge area or outfall
 - 8.2. Name of receiving water
 - 8.3. Discharge method
 - 8.4. Field-recorded data and visual inspection of planned effluent
 - 8.5. Control measure used and maintained for pollution control.
 - 8.6. Parameters to be monitored for discharges to surface waters including turbidity, total nitrogen, and total phosphorous

13-11.03 MATERIALS

13-11.03A Gravel-filled Bags

Gravel-filled bags must:

1. Be made from gravel-filled bag fabric
2. Have inside dimensions between 24 inches to 32 inches in length, and between 16 inches and 20 inches in width
3. Have the opening bound to retain the gravel. The opening must be sewn with yarn, bound with wire, or secured with a closure device.
4. Weigh between 30 pounds and 50 pounds when filled with gravel

Gravel Filled Bag Fabric

Property	ASTM Designation	Specification
Grab breaking load 1-inch grip, lb, min. in each direction	D 4632	205
Apparent elongation percent, min., in each direction	D 4632	50
Water Flow Rate max. average roll value, gallons per minute/square foot	D 4491	80-150
Permittivity 1/sec., min.	D 4491	1.2
Apparent opening size max. average roll value, U.S. Standard sieve size	D 4751	40-80
Ultraviolet Degradation percent of original unexposed grab breaking load 500 hr, minimum	D 4595	70

Gravel for gravel-filled bags must be:

1. Rounded river rock between 3/8 inch and 3/4 inch in diameter
2. Washed and free of adhered soil material prior to arrival on the job site with a cleanliness value of 85 or higher (California Test No. 227).

The Contractor may use permeable material from on-site sources such as river run gravel to fill gravel bags if approved by the Engineer. Permeable material must:

1. Comply with Section 68-2.02F, "Permeable Material" of the Standard Specifications

13-11.03B Gravel for Channel

Gravel used in channel must be:

1. Washed and free of adhered soil material , uncrushed natural river rock with a cleanliness value of 85 or higher (California Test No. 227)
2. Graded with at least 98% passing a 3-inch screen, 60-80% passing a two (2) inch screen, and 0-5% passing a half (1/2) inch screen (% by dry wt) or approved by California Department of Fish and Game
3. Completely free of oils or any other petroleum based material, clay, debris, and other types of organic matter

You may stockpile gravel, but do not mix with earthen material.

13-11.03C Impermeable Plastic Sheet

Impermeable plastic sheet must be:

1. Single ply
2. New polyethylene sheeting with a minimum of 10 mils thick, free of defects that compromise the impermeability

13-11.03D Pipe

Pipe must:

1. Be clean, uncoated, in good condition free of rust, paint oil dirt or other residues that could potentially contribute to water pollution.
2. Be adequately supported for planned loads.
3. Use watertight joints.
4. Be made of a material or combination of materials that are suitable for clean water and which do not contain banned, hazardous or unlawful substances.

13-11.03E Pumping System

Pumping system must:

1. Be equipped with second containment
2. Be free of fuel and oil leaks
3. Meet intake screen regulatory requirements.

13-11.04 CONSTRUCTION

Construct the diversion system according to the approved Diversion Plan.

Use of the temporary clear water diversion system is restricted to the period from July 15 to October 15. If the work requires more than one restricted period, remove the temporary clear water diversion system by the conclusion of the restricted period and reposition during the following restricted period at the Contractor's expense.

Install impermeable plastic sheet with minimal seams. Where seams occur, lap and seal with commercial quality waterproof tape. Seal joints between the impermeable plastic sheet and the flexible plastic pipe with commercial quality waterproof tape.

Re-contour streambed and bank to pre-project conditions. Backfill and repair ground disturbance, including holes and depressions, caused by the installation and removal of the temporary clear water diversion system. Use permeable materials comparable to the native material.

13-11.05 MAINTENANCE

Prevent leaks in the temporary clear water diversion system.

Repair holes, rips, and voids in the impermeable plastic sheet by taping or replace the impermeable plastic sheet.

Repair or replace temporary clear water diversion system on the same day when the damage occurs.

Remove sediment deposits and debris from temporary clear water diversion system as needed.

Water sampling and analysis will be paid for as extra work as provided in Section 4-1.05, "Change and Extra Work," of the Standard Specifications. No payment will be made for the preparation, collection, analysis, and reporting of storm water samples where appropriate water pollution control practices are not implemented.

Replace the 4th paragraph of section 13-1.01A with:

Do not start job site activities until the SWPPP is authorized.

Add the definitions for CSMRP and TRPA and replace Normal Working Hours and Qualifying Rain Event in section 13-1.01B with:

CSMRP: Construction Site Monitoring and Reporting Program

normal working hours: Hours you normally work on the project, during daylight hours, 7 days a week.

qualified rain event: A qualified rain event is a storm that produces any runoff to specified runoff control points that discharge to municipal separate storm sewer systems, surface waters, or tributaries to surface waters that does not exceed the compliance storm event of a 20-year, 1-hour storm, which is equal to an intensity of 1 inch of rainfall in a 1-hour period. Separate storm events must be separated by at least 48 hours of quiescence resulting in less than 0.10 of an inch of rain. Qualified rain events must produce runoff resulting in a discharge off the project boundaries.

TRPA: Tahoe Regional Planning Agency

Delete the sixth paragraph in section 13-1.01B:

Replace the 4th, 5th, and 6th paragraph of section 13-3.01A with:

Discharges of stormwater from the project must comply with NPDES General Permit *for Discharges of Storm Water Runoff Associated with Construction Activity Involving Land Disturbance in the Lake Tahoe Hydrologic Unit – El Dorado, Placer, and Alpine Counties, (Board Order No. R6T-2011-0019, Updated Waste Discharge Requirements and NPDES No. CAG616002)* referred to herein as “Permit”.

Whenever a qualifying rain event produces runoff, sampling and analysis work must comply with the project’s CSMRP.

A storm water annual report must cover the preceding period from October 16th to October 15th.

Replace section 13-3.01B(2)(a) with:

Within 15 days of Contract approval, submit 3 copies of your SWPPP for review. The Engineer provides comments and specifies the date when the review stopped if revisions are required. Change and resubmit a revised SWPPP within 15 days of receiving the Engineer’s comments. The Department’s review resumes when a complete SWPPP has been resubmitted.

When the Engineer authorizes the SWPPP, submit an electronic copy and 4 printed copies of the authorized SWPPP.

If the RWQCB requires review of the authorized SWPPP, the Engineer submits the authorized SWPPP to the RWQCB for its review and comment. If the Engineer requests changes to the SWPPP based on the RWQCB’s comments, amend the SWPPP within 10 days.

The SWPPP must comply with the Department’s *Storm Water Pollution Prevention Plan (SWPPP) and Water Pollution Control Plan (WPCP) Preparation Manual*. Include the following in the SWPPP:

1. Description of the work involved in the installation, maintenance, repair, and removal of temporary and permanent water pollution control practices.
2. Maps showing:
 - 2.1. Locations of disturbed soil areas
 - 2.2. Water bodies and conveyances
 - 2.3. Locations and types of water pollution control practices that will be used for each Contractor-support facility:
 - 2.4. Locations and types of temporary water pollution control practices that will be used in the work for each construction phase
 - 2.5. Locations and types of water pollution control practices that will be installed permanently under the Contract
 - 2.6. Pollutant sampling locations
 - 2.7. Locations planned for storage and use of potential nonvisible pollutants
 - 2.8. Receiving water sampling locations
3. CSMRP
4. Copy of permits obtained by the Department, including Fish & Game permits, US Army Corps of Engineers permits, RWQCB 401 certifications, aerially deposited lead variance from the Department of Toxic Substance Control, aerially deposited lead variance notification, and RWQCB waste discharge requirements for aerially deposited lead reuse.

Include the following items in the SWPPP:

1. Schedule

2. CSMRP
3. REAP
4. Adherence to effluent standards for NALs and NELs

The SWPPP schedule must show when:

1. Work activities will be performed that could cause the discharge of pollutants into stormwater
2. Water pollution control practices associated with each construction phase will be implemented
3. Soil stabilization and sediment control practices for disturbed soil areas will be implemented

Amend and resubmit the SWPPP:

1. Annually before July 15th
2. Whenever:
 - 2.1. Changes in work activities could affect the discharge of pollutants
 - 2.2. Water pollution control practices are added by change order work
 - 2.3. Water pollution control practices are added at your discretion
 - 2.4. Changes in the quantity of disturbed soil are substantial
 - 2.5. Objectives for reducing or eliminating pollutants in stormwater discharges have not been achieved
 - 2.6. You receive a written notice of a permit violation for the project from the RWQCB or any other regulatory agency

Allow the same review time for amendments to the SWPPP as for the original SWPPP.

Replace section 13-3.01B(2)(b) with:

13-3.01B(2)(b) Construction Site Monitoring and Reporting Program (CSMRP)

The QSD must prepare a CSMRP as part of the SWPPP. The CSMRP must be developed before starting work and be revised to reflect current construction activities as necessary.

Include the following items in the CSMRP:

1. Purpose
2. Visual Monitoring (Inspections)
 - 2.1. Visual monitoring procedures
3. Water Quality Sampling and Analysis
 - 3.1. Visual monitoring procedures
 - 3.2. SAP for nonvisible pollutants
 - 3.3. SAP for nonstormwater discharges
 - 3.4. SAP for monitoring required by RWQCB
 - 3.5. SAP for pH and turbidity
 - 3.6. SAP for temporary active treatment systems
4. Watershed Monitoring Option
5. Quality Assurance and Quality Control
6. Reporting Requirements and Records Retention
7. Non-Compliance Reporting
8. Annual Report
9. Final Report

Replace the 1st paragraph of section 13-3.01B(2)(c) with:

The SAP must comply with the Department's *Construction Site Monitoring Program (CSMP) Guidance Manual* and Monitoring and Reporting Program of the Permit

For the Monitoring and Reporting Program of the Permit, go to:

http://www.waterboards.ca.gov/lahontan/water_issues/available_documents/misc/tahoe_gcp.pdf

Replace the last paragraph in section 13-3.01B(2)(c) with:

Include procedure for collecting and analyzing at least 3 samples for each day of each qualifying rain event. Describe the collection of effluent samples at all locations where the storm water is discharged off-site.

Replace item 2 in the 1st paragraph in section 13-3.01B(5) with:

2. Nonstormwater discharges as follows:
 - 2.1. At the end of each work day during active construction
 - 2.2. Monthly during inactive periods such as winter shutdown

Delete section 13-3.01B(6)(b)

Replace section 13-3.01B(6)(c) with:

Whenever an NAL, NEL or both are exceeded, notify the Engineer and submit a NEL violation report within 2 hours. The report must include:

1. Field sampling results and inspections, including:
 - 1.1. Analytical methods, reporting units, and detection limits
 - 1.2. Date, location, time of sampling, visual observation and measurements
 - 1.3. Quantity of precipitation from the storm event
2. Description of BMPs and corrective actions taken to manage the exceedance

Replace section 13-3.01B(7) with:

Submit a REAP whenever the National Weather Service is predicting a storm event in the form of rainfall with at least a 30 percent probability in the project area within 72 hours.

The WPC Manager must submit a REAP at least 24 hours before a predicted storm event for construction occurring:

1. Between May 1 and October
2. During periods when construction activity is conducted under a variance to the land disturbance prohibition of the Permit

The REAP must include:

1. Site location
2. Contact information including 24-hour emergency phone numbers for:
 - 2.1. WPC manager
 - 2.2. Erosion and sediment control providers or subcontractors
 - 2.3. Stormwater sampling providers or subcontractors
3. Storm information
4. Description of:
 - 4.1. Construction phase, including active and inactive areas
 - 4.2. Active work areas and activities
 - 4.3. Subcontractors and trades on the job site
 - 4.4. Prestorm activities including:
 - 4.4.1. Responsibilities of the WPC manager
 - 4.4.2. Responsibilities of the crew and crew size
 - 4.4.3. Stabilization for active and inactive disturbed soil areas
 - 4.4.4. Stockpile management
 - 4.4.5. Corrective actions taken for deficiencies identified during prestorm visual inspections
 - 4.5. Activities to be performed during storm events, including:
 - 4.5.1. Responsibilities of the WPC manager
 - 4.5.2. Responsibilities of the crew and crew size
 - 4.5.3. BMPs for maintenance and repair
5. Flood contingency measures

Replace the 1st paragraph of section 13-3.01B(8) with:

Submit the storm water annual report before October 31st if construction occurs from October 16th through October 15th or within 15 days after Contract acceptance if construction ends before October 15th. Submit 2 copies of the report. Allow 10 days for the Engineer's review. The Engineer provides comments and specifies the date when the review stopped if revisions are required.

Replace section 13-3.01C(1) with:

Assign trained personnel to collect water quality samples. Document the personnel and training in the SAP.

Samples taken by assigned field personnel must comply with the equipment manufacturer's instructions for collection, analytical methods, and equipment calibration.

Samples taken for laboratory analysis must comply with water quality sampling procedures and be analyzed by a State-certified laboratory under 40 CFR part 136, *Guidelines Establishing Test Procedures for the Analysis of Pollutants*.

Whenever downstream samples show increased levels of pollutants, assess water pollution control practices, site conditions, and surrounding influences to determine the probable cause for the increase.

Obtain samples of pH and turbidity as shown in the following table:

Parameter	Test method	Detection limit (min)	Unit
Turbidity	Field test with calibrated portable instrument	1	NTU
pH	Field test with calibrated portable instrument	0.2	pH units

Obtain samples of pH and turbidity from representative and accessible locations upstream of the discharge point and downstream of the discharge point.

For multiple discharge points, obtain samples from a single upstream and a single downstream location.

Replace section 13-3.01C(2) with:

NALs must comply with the values shown in the following table:

Numeric Action Levels

Parameter	Test method	Detection limit (min)	Unit	Value
pH	Field test with calibrated portable instrument	0.2	pH	Lower NAL = 6.0 Upper NAL = 9.0

The daily average sampling results must not exceed the NAL for pH.

Replace section 13-3.01C(3) with:

NELs comply with the values shown in the following table:

Numeric Effluent Limits

Parameter	Test method	Detection limit (min)	Unit	Value
Turbidity	Field test with calibrated portable instrument	1	NTU	20 NTU max

The storm event daily average for storms up to the 20-year, 1-hour storm must not exceed the NEL for turbidity.

Construction equipment known to be in an infested noxious and or invasive weed area must be cleaned with water above 120 degrees Fahrenheit.

Staging areas must be in weed free areas.

14-6.10D Payment

NOT USED

Replace section 14-11.09 with:

14-11.09 TREATED WOOD WASTE

14-11.09A General

14-11.09A(1) Summary

Section 14-11.09 includes specifications for handling, storing, transporting, and disposing of treated wood waste (TWW).

Wood removed from metal beam guard railing and roadside sign is TWW. Manage TWW under 22 CA Code of Regs, Div. 4.5, Chp. 34.

14-11.09A(2) Submittals

For disposal of TWW, submit as an informational submittal a copy of each completed shipping record and weight receipt within 5 business days.

14-11.09B Materials

Not Used

14-11.09C Construction

14-11.09C(1) General

14-11.09C(2) Training

Provide training to personnel who handle TWW or may come in contact with TWW. Training must include:

1. All applicable requirements of 8 CA Code of Regs
2. Procedures for identifying and segregating TWW
3. Safe handling practices
4. Requirements of 22 CA Code of Regs, Div. 4.5, Chp. 34
5. Proper disposal methods

Maintain records of personnel training for 3 years.

14-11.09C(3) Storage

Store TWW before disposal using the following methods:

1. Elevate on blocks above a foreseeable run-on elevation and protect from precipitation for no more than 90 days.
2. Place on a containment surface or pad protected from run-on and precipitation for no more than 180 days.
3. Place in water-resistant containers designed for shipping or solid waste collection for no more than 1 year.
4. Place in a storage building as defined in 22 CA Code of Regs, Div. 4.5, Chp. 34, § 67386.6(a)(2)(C).

Prevent unauthorized access to TWW using a secured enclosure such as a locked chain link fenced area or a lockable shipping container located within the job site.

Resize and segregate TWW at a location where debris from the operation including sawdust and chips can be contained. Collect and manage the debris as TWW.

Provide water-resistant labels that comply with 22 CA Code of Regs, Div. 4.5, Chp. 34, §67386.5, to clearly mark and identify TWW and accumulation areas. Labels must include:

1. Caltrans, District number, Construction, Construction Contract number
2. District office address
3. Engineer's name, address, and telephone number
4. Contractor's contact name, address and telephone number
5. Date placed in storage

14-11.09C(4) Transporting and Disposal

Before transporting TWW, obtain an agreement from the receiving facility that the TWW will be accepted. Protect shipments of TWW from loss and exposure to precipitation. For projects with 10,000 pounds or more of TWW, request a US EPA Generator Identification Number from the Engineer at least 5 business days before the first shipment. Each shipment must be accompanied by a shipping record such as a bill of lading or invoice that includes:

1. Caltrans with district number
2. Construction Contract number
3. District office address
4. Engineer's name, address, and telephone number
5. Contractor's contact name and telephone number
6. Receiving facility name and address
7. Waste description: Treated Wood Waste with preservative type if known or unknown/mixture
8. Project location
9. Estimated quantity of shipment by weight or volume
10. Date of transport
11. Date of receipt by the receiving TWW facility
12. Weight of shipment as measured by the receiving TWW facility
13. For projects with 10,000 pounds or more of TWW include the USA EPA Generator Identification Number.

The shipping record must be at least a 4-part carbon or carbonless 8 1/2 by 11-inch form to allow retention of copies by the Engineer, transporter, and disposal facility.

Dispose of TWW at an approved TWW facility. A list of currently approved TWW facilities is available at:

<http://www.dtsc.ca.gov/HazardousWaste/upload/lanfillapr11pdated1.pdf>

Dispose of TWW within:

1. 90 days of generation if stored on blocks
2. 180 days of generation if stored on a containment surface or pad
3. 1 year of generation if stored in a water-resistant container, or within 90 days after the container is full, whichever is shorter
4. 1 year of generation if storing in a storage building as defined in 22 CA Code of Regs, Div. 4.5, Chp. 34, § 67386.6(a)(2)(C)

14-11.09D Payment

Not Used

AA

15 EXISTING FACILITIES

Replace section 15-1.03B with:

15-1.03B Residue Containing Lead from Paint and Thermoplastic

Residue from grinding or cold planing contains lead from paint and thermoplastic. The average lead concentrations are less than 1,000 mg/kg total lead and 5 mg/L soluble lead. This residue:

1. Is a nonhazardous waste
2. Does not contain heavy metals in concentrations that exceed thresholds established by the Health and Safety Code and 22 CA Code of Regs
3. Is not regulated under the Federal Resource Conservation and Recovery Act (RCRA), 42 USC § 6901 et seq.

Submit a lead compliance plan under section 7-1.02K(6)(j)(ii).

Payment for a lead compliance plan is not included in the payment for existing facilities work.

Payment for handling, removal, and disposal of grinding or cold planing residue that is a nonhazardous waste is included in the payment for the type of removal work involved.

Replace section 15-2.02B(3) with:

15-2.02B(3) Cold Planing Asphalt Concrete Pavement

15-2.02B(3)(a) General

Schedule cold planing activities so that not more than 24 hours elapses between the time the pavement is cold planed and the HMA is placed.

15-2.02B(3)(b) Materials

Use the same quality of HMA for temporary tapers that is used for the HMA overlay or comply with the specifications for minor HMA in section 39.

15-2.02B(3)(c) Construction

15-2.02B(3)(c)(i) General

Do not use a heating device to soften the pavement.

The cold planing machine must be:

1. Equipped with a cutter head width that matches the planing width. If the cutter head width is wider than the cold plane area shown, submit to the Engineer a request for using a wider cutter head. Do not cold plane unless the Engineer approves your request.
2. Equipped with automatic controls for the longitudinal grade and transverse slope of the cutter head and:
 - 2.1. If a ski device is used, it must be at least 30 feet long, rigid, and a 1-piece unit. The entire length must be used in activating the sensor.
 - 2.2. If referencing from existing pavement, the cold planing machine must be controlled by a self-contained grade reference system. The system must be used at or near the centerline of the roadway. On the adjacent pass with the cold planing machine, a joint-matching shoe may be used.
3. Equipped to effectively control dust generated by the planing operation
4. Operated so that no fumes or smoke is produced.

Replace broken, missing, or worn machine teeth.

15-2.02B(3)(c)(ii) Grade Control and Surface Smoothness

Furnish, install, and maintain grade and transverse slope references.

The depth, length, width, and shape of the cut must be as shown or as ordered. The final cut must result in a neat and uniform surface. Do not damage the remaining surface.

The completed surface of the planed asphalt concrete pavement must not vary more than 0.02 foot when measured with a 12-foot straightedge parallel with the centerline. With the straightedge at right angles to the centerline, the transverse slope of the planed surface must not vary more than 0.03 foot.

Where lanes are open to traffic, the drop-off of between adjacent lanes must not be more than 0.15 foot.

15-2.02B(3)(c)(iii) Temporary HMA Tapers

If a drop-off between the existing pavement and the planed area at transverse joints cannot be avoided before opening to traffic, construct a temporary HMA taper. The HMA temporary taper must be:

1. Placed to the level of the existing pavement and tapered on a slope of 30:1 (horizontal:vertical) or flatter to the level of the planed area
2. Compacted by any method that will produce a smooth riding surface

Completely remove temporary tapers before placing permanent surfacing.

15-2.02B(3)(c)(iv) Remove Planed Material

Remove cold planed material concurrent with planing activities so that removal does not lag more than 50 feet behind the planer.

15-2.02B(3)(d) Payment

Payment for removal of pavement markers, thermoplastic traffic stripe, painted traffic stripe, and pavement marking within the area of cold planing is included in the payment for cold plane asphalt concrete pavement of the types shown in the Bid Item List.

Replace section 15-2.02F with:

15-2.02F Remove Asphalt Concrete Dikes

Before removing the dike, cut the outside edge of the asphalt concrete on a neat line and to a minimum depth of 0.17 foot.

You may dispose of the dike by burial in an embankment in the same manner as specified for burying concrete in an embankment in section 15-3.01.

Replace section 15-2.02M with:

15-2.02M Remove Delineators, Object Markers and Highway Post Markers

Remove existing delineators, object markers and highway post markers.

Payment for removal and disposal of existing delineators, object markers and highway post markers is included in the payment for delineator (Class 2), object marker (Type L-1) or highway post marker.

Replace section 15-2.05C with:

15-2.05C Abandon Culverts and Pipelines

15-2.05C(1) General

Abandon culverts or pipelines by removing portions of the culverts or pipelines, filling the inside, and backfilling the depressions and trenches to grade. As an alternative to abandoning a culvert or pipeline, you may remove the culvert or pipeline, dispose of it, and backfill.

Notify the Engineer before abandoning a culvert or pipeline.

15-2.05C(2) Materials

Openings into existing structures that are to remain in place must be plugged with minor concrete under section 90.

15-2.05C(3) Construction

Wherever culverts or pipelines intersect side slopes, remove them to a depth of at least 3 feet. Measure the depth normal to the plane of the finished side slope. Abandon the remaining portion of the culvert or pipeline.

Culverts or pipelines that are 12 inches or more in diameter must be completely filled by authorized methods. Backfill with sand that is clean, free draining, and free from roots and other deleterious substances. As an alternative to sand, you may backfill with one of the following:

1. Controlled low-strength material under section 19-3.02F
2. Slurry cement backfill under section 19-3.02D

Ends of culverts and pipelines must be securely closed by a 6-inch-thick, tight-fitting plug or wall of commercial-quality concrete.

15-2.05C(4) Payment

If backfilling inside the culvert or pipeline is required, payment for backfilling inside the culvert or pipeline is paid for as sand backfill. Payment for backfilling outside the culvert or pipeline is included in the payment for abandon culvert or abandon pipeline.

Replace section 15-2.05D with:

15-2.05D Abandon Inlets

Abandon pipe inlets and concrete drainage inlets as shown.

The top portion of the inlets must be removed to a depth of 2 feet below finished grade.

Replace the 1st and 2nd paragraphs in section 15-6.01C(1) with:

Comply with the following work sequence and notify the Engineer before you start each of the following steps:

1. Control and divert stream flow
2. Clean and prepare culvert
3. Inspect and evaluate culvert
4. Repair culvert
5. Rehabilitate culvert
6. Restoring openings
7. Perform postrehabilitation inspection

Before starting culvert work, control and divert stream flow. Maintain control and diversion until the postrehabilitation inspection report is authorized.

Keep the culvert clean and free of debris until the postrehabilitation report is authorized.

Replace section 15-6.02 with:

15-6.02 FILL CULVERT VOIDS

15-6.02A General

Section 15-6.02 includes specifications for filling voids below and around a culvert that have been found during cleaning and inspection.

Wherever pipeliners are shown, fill voids before installing pipeliners.

Wherever there are voids in the materials below the invert of the culvert and these voids are greater than 3 inches deep, fill the voids with slurry cement backfill.

Wherever there are voids in the materials around the culvert and these voids are greater than 6 inches deep, fill the voids with grout.

If grout is used to fill voids:

1. Submit a grouting plan under section 15-6.01A(3)(d)
2. Schedule and conduct a grouting meeting under section 15-6.01A(4)(c)

15-6.02B Materials

Slurry cement backfill must comply with section 15-6.01B(1).

Grout for filling voids must comply with section 15-6.01B(2).

15-6.02C Construction

After receipt of the inspection and evaluation report, the Engineer may order additional void-detection work including probing and hammer sounding. Additional void-detection work is change order work.

Prevent the flow of cementitious material and water from construction activities into waterways and drainage facilities.

If voids are found, install grout ports as ordered. Install valves, or removable plugs at grout ports. Probe at each grout port location. The probe must be at least 4 feet long, fit through the grout ports, and be rigid enough to sense probe refusal. Extend grout ports through the invert paving using steel pipes or suitable packers. Grout ports must be watertight. If authorized, you may screw grout ports in place or attach them by other methods. Do not weld grout ports to galvanized surfaces.

Pump grout into voids until it appears that all water and air has been ejected. Plug grout ports or close port valves as soon as you stop pumping the grout.

The maximum injection pressure at the nozzle must not exceed 5 psi for fluid, unsanded grout mix.

Monitor the culvert for deformation and cracks. If cracking occurs in a concrete culvert or lining, reduce the grout injection pressure. If deformation of the existing structure exceeds 1/2 inch at any location, reduce the injection pressure.

Repair any permanent deformations or cracks resulting from your grouting work. The Department does not pay for these repairs.

15-6.02D Payment

Filling voids below the invert of the culvert with slurry cement backfill is paid for as change order work.

Filling voids around the culvert with grout is paid for as change order work.

Record the quantity of slurry cement backfill that is installed and submit this quantity. The Department does not pay for slurry cement backfill that leaks through to the inside of the culvert. The Department does not pay for slurry cement backfill that is wasted, disposed of, or remaining on hand after completion of the work.

Record the quantity of grout that is installed and submit this quantity. The Department does not pay for grout that leaks through to the inside of the culvert. The Department does not pay for grout material that is wasted, disposed of, or remaining on hand after completion of the work.

Replace section 15-6.11 with:

15-6.11 CURED-IN-PLACE PIPELINERS

15-6.11A General

16-6.11A(1) Summary

Section 15-6.11 includes specifications for lining an existing culvert by either pulling or inverting a thermosetting, resin-impregnated, flexible, fabric tube and curing the tube in place.

For all types of resin and installation methods, capture and dispose of any process water and wastewater resulting from the installation and flushing of the cured-in-place pipeliner (CIPP).

15-6.11A(2) Definitions

segment: Continuous run of CIPP installed from one end of a culvert to the other end.

15-6.11A(3) Submittals

Submit a work plan for installing the CIPP. The installation plan must include:

1. Resin sample. Submit a minimum of 4 oz of unreacted liquid resin to METS, attention Chemical Laboratory.
2. Summary sheet for each culvert. Identify the summary sheet by the structure number shown for the corresponding culvert. Summary sheets must include:
 - 2.1. Calculated minimum thickness of liner

- 2.2. Manufacturer's recommendations for:
 - 2.2.1. Minimum pressure to hold the tube tight against the culvert
 - 2.2.2. Maximum allowable pressures to ensure no damage to the tube nor to the culvert
 - 2.2.3. Postcure temperature
 - 2.2.4. Cure pressures including the minimum cold, maximum heated, and maximum cold pressures
 - 2.2.5. Cure time including accommodations for the effects of the anticipated heat sink conditions and variation over the length of the culvert
- 2.3. Resin trade name
- 2.4. Expected maximum exothermic temperature
- 2.5. Method of liner insertion such as air inversion, water inversion, or pulled-in-place
- 2.6. Proposed cure method such as water or hot steam
- 2.7. Proposed length, access and termination points for each segment
3. Manufacturer's information for:
 - 3.1. Resin, resin enhancer, and bond enhancer identification and typical properties including:
 - 3.1.1. Identification of supplier
 - 3.1.2. Resin test results
 - 3.1.3. Pipeliner and resin manufacturer's certification that the resin and catalyst system meets requirements of each site where CIPP will be placed and is compatible with the intended installation method, service conditions and existing culvert material including bituminous coatings
 - 3.1.4. Certificates of compliance for CIPP in compliance with ASTM D 5813, ASTM F 1216, or ASTM F 1743
 - 3.2. Resin enhancer data including:
 - 3.2.1. Size range in microns
 - 3.2.2. Amount used in the formulated resin
 - 3.2.3. Bond-enhancing coating material
 - 3.2.4. Certification from the resin manufacturer or formulator that bond enhancer is compatible with the resin system
 - 3.2.5. Certification from the bond enhancer manufacturer that the material is suitable for use in aqueous environments
 - 3.3. Fabric tube description including:
 - 3.3.1. Identification of supplier
 - 3.3.2. Types of impermeable membranes and relative juxtaposition such as inner layer, outer layer, or both
 - 3.3.3. Maximum pulling force that will not damage fabric tube for pulled-in-place installations
 - 3.4. Installation procedure for both insertion and resin curing
 - 3.5. Sealing materials such as quick-set epoxy mortar, high viscosity epoxy, or hydrophilic vulcanized expansive rubber strip
 - 3.6. Preliner description, preliner splicing recommendations, and identification of the supplier
 - 3.7. Description of nontoxic lubricant for inversion installation. Lubricant must not (1) have any detrimental effects on the fabric tube, resin, or boiler and pump system, (2) support the growth of bacteria, and (3) adversely affect the fluid to be transported.
4. Record of annual calibration for pressure and temperature equipment performed by an independent testing agency including:
 - 4.1. Standards traceable to the National Institute of Standards and Technology
 - 4.2. Formal reporting procedure, including published test forms
 - 4.3. Sample of a temperature and pressure log to be used for monitoring the resin curing process. Logs must have temperatures for resin, water, or steam and pressure noted at 5-minute intervals. Logs must identify the date, fabric tube thickness, and drainage system number shown for the corresponding culvert.
5. Test results from an independent testing agency for 10,000-hour, 50-year flexural creep modulus test under ASTM D 2990. If authorized 10,000-hour tests are not available, for all formula calculations, use a minimum 75 percent reduction (25 percent retention) of the flexural modulus of elasticity for all formula calculations. Determine the flexural modulus of elasticity under ASTM F 1216.
6. Certification on manufacturer's letterhead indicating you are approved by the fabric tube and resin manufacturer to perform CIPP installation work.

7. Material safety data sheets for all hazardous chemicals that will be used on the job site including resin, catalyst, cleaners, and repair agents. Identify the proposed use for each hazardous chemical and where it will be used in the work.
8. CIPP design calculations for each culvert location. Include the drainage system number shown for the corresponding culvert and the liner thickness. Design parameters include:
 - 8.1. CIPP classification. Unless otherwise shown, classification must be Type II (partially deteriorated) under ASTM D 5813 and ASTM F 1216, Appendix X1.1.1
 - 8.2. CIPP must be designed under ASTM F 1216, Appendix X1.2.1
 - 8.3. Ovality must be assumed at 5 percent
 - 8.4. If not described otherwise, assume the groundwater level is at 1/2 the culvert depth
 - 8.5. Assume no bonding to the culvert wall

Within 21 days of completing the resin curing at a given culvert location, submit the test results from an independent testing agency. Allow 3 business days for the Department's review. The report must be signed by an engineer who represents the independent testing agency and is registered as a Civil Engineer in the State. The report must include:

1. Infrared spectrographic chemical fingerprint. Run and compare the infrared spectrographic chemical fingerprint of the field sample with the accepted fingerprint from the pre-installation informational submittal. Verify that the field-sample resin system is the same as the authorized resin system.
2. Flexural strength and flexural modulus test results for field samples
3. Thickness measurements for the liner using prepared core samples
4. Description of the defects in the tested samples in terms of the affect on CIPP performance

15-6.11A(4) Quality Control and Assurance

Use an authorized laboratory. The laboratory must have facilities and staff capable of performing tests including (1) tests under ASTM D 790 and (2) the infrared spectrographic chemical fingerprint. Obtain the specified samples and transport them to the authorized laboratory or have the laboratory staff sample and transport the samples.

Mark each sample with the date, contract number, drainage system number of the corresponding culvert, and location where the sample was taken.

For each CIPP segment, test one 4-ounce sample of catalyzed resin and submit the following additional 4-ounce catalyzed resin samples to METS, attention Chemical Laboratory:

1. Sample from the 1st segment
2. One sample randomly selected by the Engineer from the next 5 segments. If less than 5 segments remain, sample from one of the remaining segments.

Make cured flat plate samples from the identical materials (tube, resin and catalyst) to be used for the CIPP. Identify each sample by date, contract number, drainage system number of the corresponding culvert, thickness, name of resin, and name of catalyst. The samples must be 6 by 16 inches in size: Comply with the following sampling procedures:

1. Place 3 aluminum-plate clamped molds, each containing a flat plate sample, inside the downtube when heated circulated water is used, and in the silencer when steam is used during the resin curing period
2. Seal each flat plate sample in heavy-duty plastic envelope inside the mold
3. Remove the 3 cured flat plate samples after draining all of the moisture from the cured CIPP

Test the flat plate samples for flexural properties under ASTM D 790, ASTM D 5813, ASTM F 1216, or ASTM F 1743. Verify that physical properties of the field samples comply with the minimum initial test values under ASTM F 1216, Table 1, and as supplemented in Table 1 for polyester, vinylester, and epoxy resins. The flexural strength must be at least 4,500 psi. The flexural modulus must be at least 250,000 psi.

Take core samples in the presence of the Engineer. Comply with the following core sample requirements:

1. Take 2 samples. Take the samples at least 10 feet from each end of the culvert or termination point and at a location near the top of the culvert. Samples must be at least 2 inches in diameter. Take the

samples from the top of the culvert unless a minimum wall thickness is specified in section 15-6.11B(1). If a minimum wall thickness is specified in section 15-6.11B(1), take the samples as near as possible to the bottom of the culvert.

2. If human entry is used, samples may be cored internally. Repair cored holes under section 15-6.11C(5). Patch cored holes in the culvert with cement mortar under section 65-1.02F.
3. As an alternative, you may core samples from the top section of a CIPP that has been inverted using the same type of preliner through a pipe temporarily connected to the culvert. Take the cores 12 inches from the temporary joint. The pipe temporarily jointed to the culvert must be:
 - 3.1 Same diameter as the culvert
 - 3.2 Made of the same material as the culvert
 - 3.3 At least 10 feet long
 - 3.4 Placed at the end of the culvert and held in place by a suitable heat sink, such as sandbags or earth, that is at least 6 inches thick.
4. If culvert material is corrugated metal, obtain samples at the corrugation crests. Prepare the core samples by separating the CIPP material from the culvert material. Remove the film from the inner line or preliner. Measure the thickness of the liner at 3 spots on each sample. If the culvert material is corrugated metal, measure the thickness at 3 spots that are along a line corresponding to the corrugation crests. Calculate the thickness as an average of at least 6 measurements.

CIPP will be rejected if:

1. Actual temperature and curing schedule do not comply with those shown in the authorized work plan
2. Pressure deviates more than 1 psi from the required pressure
3. At any time during installation you violate the manufacturer's required minimum cool-down time or cool-down rate
4. There are defects including:
 - 4.1. Concentrated ridges, including folds and wrinkles exceeding 8 percent of the CIPP diameter
 - 4.2. Dry spots
 - 4.3. Lifts
 - 4.4. Holes
 - 4.5. Tears
 - 4.6. Soft spots
 - 4.7. Blisters or bubbles
 - 4.8. Delaminations
 - 4.9. Gaps in the length of the CIPP
 - 4.10. Gaps or a loose fit between the exterior of the CIPP and the culvert
5. Test results indicate one of the following:
 - 5.1 2 of the 3 flat plate samples do not have the specified modulus of elasticity
 - 5.2 2 of the 3 flat plate samples do not have the specified flexural strength
 - 5.3 2 of the 3 flat plate samples do not have either the specified modulus of elasticity or the specified flexural strength
6. The liner thickness is less than the greater of either one of the following:
 - 6.1. Specified thickness
 - 6.2. Calculated minimum thickness shown in your authorized work plan
7. Materials and installation methods are not those shown in your authorized installation plan
8. Defects are excessive or unrepairable
9. CIPP is not continuous or does not fit tightly for the full length of the culvert

15-6.11B Materials

15-6.11B(1) General

CIPP must comply with ASTM D 5813.

The fabric tube must consist of 1 or more layers of flexible, needled, polyester-fiber felt, an equivalent nonwoven material, or a combination of nonwoven and woven materials including reinforcing fibers and fabrics capable of carrying the resin. The fabric tube must:

1. Withstand installation pressures and curing temperatures
2. Be compatible with the resin system used and be capable of stretching to fit irregular pipe sections and negotiate bends

3. Have staggered longitudinal and circumferential joints between multiple layers of fabric so as not to overlap
4. Be fabricated to a size so that when installed it fits tightly in the internal circumference and length of the culvert
5. Have an impermeable, plastic, inner liner or outer liner film for resin control. The liner must remain a permanent part of the system and an integral part of the fabric tube by bonding or fusing to the fabric tube.
6. Have a plastic coating with opacity that does not interfere with visual inspection

15-6.11B(2) Inversion Fabric Tube and Preliner Tube

Upon delivery, the outside layer of the fabric tube must be plastic coated with a material that is compatible with the resin system. Make allowance for circumferential stretching during inversion. Use a preliner tube sized to fit the culvert. The preliner tube must be composed of 3-ply laminate sheet combining two layers of polyethylene film and high-strength-nylon cord grid formed into a tube. The tube must be (1) sized to fit the culvert and (2) continuous for the entire length of the culvert.

15-6.11B(3) Pulled-In-Place Fabric Tube

The outside layer of fabric tube must have an impermeable plastic coating to contain the resin during and after fabric tube impregnation. Make allowance for circumferential and longitudinal stretching during installation. The minimum tensile strength of the fabric tube or reinforced fiber material in the longitudinal and transverse directions must be 750 psi when tested under ASTM D 5034 and ASTM D 5035.

15-6.11B(4) Resin System

Resin must be compatible with the installation process. Resin must be capable of curing in the presence and absence of water. The initiation temperature for curing must be less than 180 degrees F. Resin must be one of the following:

1. Chemically resistant isophthalic-based polyester resin
2. Vinyl ester thermosetting resin and catalyst system
3. Epoxy resin and hardener

Thixotropic agents that do not interfere with visual inspection may be added for viscosity control. Resins may contain pigments, dyes, or colors that do not interfere with visual inspection of the resin-impregnated liner or its required properties. Resin must not contain fillers except those required for viscosity control, fire retardance, air release, and extension of pot life.

The resin system must be manufactured by a company selected by the fabric tube manufacturer. Resin must be one the following types of corrosion-resistant resin systems:

1. Polyester resin that:
 - 1.1. Is created by condensation reactions between isophthalic/terathalic acid, maleic anhydride, and a glycol. Polymeric product is characterized by reactive unsaturation located along the molecular chain. This resin is compounded with a reactive styrene monomer and reacted together with initiators/promoters to produce cross-linked copolymer matrices.
 - 1.2. Contains only branched glycols, including propylene glycol and neopentyle glycol. PET/isophthalic polyester must not be used. Polyesters may be either virgin isophthalic acid or virgin teraphthalic acid but not a combination of both.
2. Vinyl ester resin. This resin is created from the products of reactions of epoxy resins with methacrylic acid and characterized by reactive unsaturation located in the terminal position of the molecular chain. It is compounded with a reactive styrene monomer and reacted together with initiators or promoters to produce cross-linked copolymer matrices.
3. Epoxy resin that:
 - 3.1. Is created by the reaction of epichlorohydrin and Bisphenol-A, Bispehnol-F, or Novalac to yield a diglycidyl ether or triglycidyl ether. It has terminal epoxy rings as the reactive sites.
 - 3.2. Must be composed of a diglycidyl ether of Bisphen-A (DGEbPA) or Bisphenol-F (DGEbPF) resin solution, or a mixture of both, and a curing agent compatible with the saturation and cure methods for cured-in-place pipeliner. The curing agent may be a catalytic type, an addition-curing agent type, or a mixture of both, as specified and proportioned under the manufacturer's formulation. The epoxy resin system must be free of volatile organic compounds, be insensitive to ultra-violet light rays, and have low odor. It must comply with Title 8 of CA Code of Reg,

subchapter 7, and have a flash point classification as a combustible liquid at 100 degrees F or higher. Sampling and testing must comply with section 95-1.

Resin enhancer may be used. The maximum amount of enhancer allowed is 30 lbs of enhancer per 100 lbs resin. Submit data to certify that the resin enhancer does not exceed the maximum amount. Enhancer material must be made in a batch method and attested to by the manufacturer.

If using aluminum trihydride or fiberglass-reinforced felt, use a suitable bond-enhancing compound, such as silane or an equivalent, to increase the bond between the resin and other material.

15-16.11C Construction

15-6.11C(1) General

For each culvert location and for each drainage system, notify the Engineer 2 business days before starting resin impregnation.

Obtain authorization before starting the installation of any pipeliner segment. The Engineer may require the submittal of all test results for 1 segment before allowing installation of another segment.

Before starting resin impregnation, inspect the entire fabric tube for defects. The fabric tube must be either (1) vacuum-impregnated with resin (wet-out) under controlled conditions or (2) impregnated with resin and run through a set of rollers separated by a space and calibrated under controlled conditions to ensure proper distribution of resin. The volume of resin must be enough to fully saturate the voids in the fabric tube material, including all resin-absorbing material of the calibration hose if applicable. Attach to the impregnated fabric tube certification of:

1. Date
2. Type of resin
3. Resin manufacturer, trade name and lot number
4. Resin calculation
5. Volume of resin used

The impregnated fabric tube must be stored in an area where the temperature is controlled to 70 degrees F or less.

If the CIPP contains styrene, comply with the following:

1. Before installing the liner, place an impermeable plastic sheet 20 linear feet immediately upstream and downstream of the culvert. The impermeable plastic sheet must be either (1) at least 10 mil thick or (2) the same material as required for the preliner tube.
2. Capture any spillage of raw resin during installation.
3. If using pulled-in-place installation, install a semi-rigid, plastic slip sheet over the interior portions of the culvert that (1) could tear the outer film or (2) have a significant void.
4. Promptly repair all pinholes and tears in the plastic film or preliner. If these defective areas cannot be repaired, promptly replace the impermeable plastic film or preliner before proceeding with liner installation.
5. Remove and properly dispose of all waste materials.

15-6.11C(2) Inversion Installation

CIPP installation by inversion must comply with ASTM F 1216.

Install each preliner tube in the presence of the Engineer. The preliner tube must control resin loss and liner thickness and prevent blocked laterals. For long segments, several sections of preliner tube may be spliced together in compliance with the preliner manufacturer's instructions for forming a tube of adequate length.

If you fail to install the required preliner tube over the entire segment, you must remove the CIPP from the culvert.

Turn the fabric tube's end inside out and attach it to a platform ring or standpipe. Adjust the pressure of water or steam to cause the impregnated fabric tube to invert end to end and to hold tight against the culvert wall.

During inversion, maintain a pressure between the required minimum and maximum pressures. If at any time during the installation you violate the manufacturer's required minimum and maximum pressures, you must remove the tube from the culvert.

Use a lubricant during inversion to reduce friction. Lubricant must be poured into the inversion water in the down tube or applied directly to the tube. Lubricant must:

1. Be nontoxic
2. Not have any detrimental effect on tube, resin, and boiler and pump system
3. Not support the growth of bacteria
4. Not adversely affect the fluid to be transported

15-6.11C(3) Pulled-in-Place Installation

CIPP installation by pulling-in-place must comply with ASTM F 1743.

Winch the fabric tube into position using the manufacturer's instructions. Adjust the pressure of water, air, or steam to cause the calibration hose to invert the tube end to end and hold tight against the culvert wall.

15-6.11C(4) Resin Curing

15-6.11C(4)(a) General

Start resin curing by using either heat or pressure and complete the cure with a cool-down period.

15-6.11C(4)(b) Heat

After installing the CIPP, use a suitable heat source that is either hot water, steam, or steam with air. The delivery system must be capable of providing the required amount of heat uniformly throughout the section to completely cure the resin. Monitor the temperature throughout the curing process by:

1. Installing gages to measure the temperature of the incoming and outgoing heat source
2. Placing remote sensing devices at both ends between the impregnated tube and the culvert invert to monitor the outside temperature of the CIPP
3. Recording the temperature from each remote sensing device on a continuous tape from a strip-chart recorder. The tape readings must represent the temperature from start to completion of the resin-curing process and draining the CIPP.
4. Recording temperature every 5 minutes

Submit the tape and log of recorded temperatures within 48 hours after completing the resin-curing process.

Initial curing is complete when the remote sensing devices achieve the manufacturer's required curing temperatures for either resin, catalyst, or both. The curing temperature and schedule must comply with the submitted data and cool-down period.

15-6.11C(4)(c) Pressure

Start the resin-curing process after you complete dimpling of the culvert openings. Maintain the required pressure until the resin-curing process is complete. Monitor the pressure throughout the curing process and record the pressure every 5 minutes.

Submit the recorded pressure within 48 hours after completing the resin-curing process

15-6.11C(4)(d) Cool Down

Before relieving pressure, cool the hardened CIPP to below 100 degrees F. Cool per the manufacturer's instructions. The cool-down rate must not exceed 15 to 20 degrees F/hour.

You may add cool water to the water column while maintaining circulation as the water is drained from a small hole at the opposite end of the CIPP. Maintain constant water-column height until cool-down is completed. Do not let a vacuum develop during the release of the water column.

15-6.11C(5) Repairs

As an alternative to replacing a rejected CIPP, you may request authorization to repair the CIPP. Submit a work plan for repairs and include adequate information to describe the repair work such as specified for an installation plan. If the repair plan is not authorized, replace the CIPP.

**DIVISION III GRADING
16 CLEARING AND GRUBBING**

Replace the 4th paragraph in section 16-1.03A with:

Clear and grub vegetation only within the excavation and embankment slope lines.

AA

20 LANDSCAPE

Replace "Reserved" in section 20-7.02D(1)(d) with:

Organic fertilizer must be one of the following and comply with the requirements of the following table:

Organic Fertilizer

Product	Guaranteed chemical analysis (N-P-K) (%)	Company
Biosol Mix®	7-2-3	Rocky Mountain Bio-Products Denver, CO
Fertil-Fibers™	6-4-1	Quattro Environmental, Inc. Coronado, CA
Sustane®	5-2-4	Sustane Natural Fertilizer, Inc. Cannon Falls, MN
Or equal ^a	(N) 5 to 7 (P) 1 to 5 (K) 1 to 10	--

^aOr equal must be pelleted or granular and be within the ranges shown for N-P-K. The cumulative (N) release rate must be no more than 70 percent the first 70 days after incubation (86 degrees F) with 100 percent at 350 days or more.

Add to section 20-13.02B:

The stain must be one of the following or equal:

Product	Manufacturer
Rock Stain	Arizona Rain Sprinkling Company Phoenix, AZ
Permeon	Soil-Tech Las Vegas, NV
Natina	Natina Products Coachella, CA

Add to section 20-13.03B:

Stain to produce a brownish earth tone color that will blend the stained surfaces with the surrounding earth colors. The spectrum of brown earth tone colors must be such that the alteration of the color and further color development can be accomplished after the initial stain application.

Replace the 1st sentence in the 1st paragraph in section 20-14.02B with:

Take cuttings from areas shown or designated by the Engineer.

Replace item 2 in the list in the 2nd paragraph in section 20-14.02B with:

36 to 40 inches in length

Replace the 5th paragraph in section 20-14.02B with:

A cutting must be:

1. Soaked for 10 days in water prior to planting.
2. Soaked in a manner such that at least 50 percent of the cutting is submerged.
3. Soaked in a location that is shaded at all times.
4. Not be allowed to dry out.

Replace the paragraph in section 20-14.02C with:

Packet fertilizer is not required.

Replace "Reserved" in section 20-14.02D with:

Root stimulant is not required.

Replace the 2nd paragraph in section 20-14.03B with:

A cutting must be:

1. Planted immediately after soaking.
2. Should not be exposed to sun and air for more than 3 hours prior to planting.
3. Should be covered with plastic or moist burlap while waiting to be planted.

Add to section 20-14.03B:

A cutting must not be planted before September 1st and after September 15th Plant in soil that is moist to a depth of at least 8 inches unless otherwise authorized.

Replace section 20-14.03C with:

20-14.03C Maintain Planted Willow Cuttings

Planted willow cuttings must be maintained from the time the cuttings are planted to the end of the construction season of the year the cuttings were planted.

Add section 20-16:

20-16 BRUSH BOX

20-16.01 GENERAL

20-16.01A Summary

Section 20-16 includes specifications for constructing brush boxes.

20-16.02 MATERIALS

20-16.02A Fasteners

Wood stakes must be untreated fir, redwood, cedar, or pine and cut from sound timber. The ends must be pointed for driving into the ground. Stakes must be 3 by 2 by 36 inches in size.

Metal posts must comply with ASTM A 702 except packaging of posts is not required. Each post must be Class B steel.

Each metal post must have:

1. Length of at least 7 feet
2. Weight of at least 3.1 lb/ft

Baling wire must be at least 12-gage steel.

20-16.02A Brush Fill

Brush for brush fill shall be a mixture of live and dead vegetation collected from areas designated by the Engineer.

20-16.03 CONSTRUCTION

Before constructing brush boxes, remove trash.

Minor cutting and clearing of debris and existing vegetation can be performed. Large debris may require removal to install brush box at the head cut location.

Install brush boxes as follows:

1. Drive wood stakes to an initial depth of 6 inches and metal posts an initial depth of 18 inches.
2. Install baling wire on the exposed sides of the all brush boxes.
3. Place brush fill to the height of the notch on the wood stake within the stream bank and cross channel locations. At the head cut location, place brush fill to the height of notch on the wood stake at the lower end of the brush box, and to a height of 1 to 2 inches above the top of the head cut on the upper end. Place brush fill so heavier material is near the top of the box. At location where two brush boxes intersect, alternate brush fill so the two boxes are well integrated. Compress vegetation during brush fill installation.
4. Install baling wire on top of the brush boxes as shown.
5. Tighten the brush box down by driving wood stakes and metal posts in a pattern similar to the baling wire installation. Drive wood stakes and metal posts 2 inches per cycle. Cycle through pattern until all stakes have been driven down an additional 6 inches.

20-16.04 PAYMENT

Brush boxes are measured along the centerline of the box, parallel to ground surface.

Add to section 39-1.03B:

For the mix design of HMA Type A produced under the QC/QA construction process, determine the plasticity index of the aggregate blend under California Test 204. Choose an antistripping treatment and use the corresponding laboratory procedure for the mix design based on the antistripping treatments shown in the following table:

Antistripping treatment	Laboratory procedure
Plasticity index from 4 to 10 ^a	
Dry hydrated lime with marination	LP-6
Lime slurry with marination	LP-7
Plasticity index less than 4	
Liquid	LP-5
Dry hydrated lime without marination	LP-6
Dry hydrated lime with marination	LP-6
Lime slurry with marination	LP-7

^a If the plasticity index is greater than 10, do not use that aggregate blend.

For the mix design of HMA Type A produced under the QC/QA construction process, determine the tensile strength ratio under California Test 371 on untreated HMA. If the tensile strength ratio is less than 70:

1. Choose from the antistripping treatments specified based on the plasticity index
2. Test treated HMA under California Test 371
3. Treat to a minimum tensile strength ratio of 70

Add to section 39-1.11:

If you perform half-width paving, at the end of each day's work the distance between the ends of the adjacent surfaced lanes must not be greater than can be completed in the following day of normal paving.

Before opening a lane to traffic, pave shoulders and median borders adjacent to the lane.

Place HMA on adjacent traveled way lanes so that at the end of each work shift the distance between the ends of HMA layers on adjacent lanes is from 5 to 10 feet. Place additional HMA along the transverse edge at each lane's end and along the exposed longitudinal edges between adjacent lanes. Hand rake and compact the additional HMA to form temporary conforms. You may place Kraft paper or another authorized bond breaker under the conform tapers to facilitate the taper removal when paving operations resume.

If widening existing pavement, construct new pavement structure on both sides of the existing pavement to match the elevation of the existing pavement's edge for the project's entire length before placing HMA over the existing pavement.

Place shoulder conform tapers concurrently with the adjacent lane's paving.

Replace section 39-1.12E of the RSS for section 39-1.12 with:

39-1.12E Prepaving Must-Grinds

Section 39-1.12E applies to existing asphalt concrete areas receiving an HMA overlay of less than 0.25 foot.

Prepaving profilograph includes taking profiles of the existing pavement, determining must-grinds, and submitting profilograms.

Prepaving grinding day includes correcting must-grinds and taking profiles of the corrected areas and submitting profilograms.

Before starting paving operations, determine must-grinds on the existing pavement under California Test 526. Take 2 profiles within each traffic lane, 3 feet from and parallel with the edge of each lane. Profile the pavement in the Engineer's presence.

Submit profilograms and locations of must-grinds.

Notify the Engineer of those must-grinds that cannot be corrected by prepaving grinding. The Engineer responds to your notification within 5 business days.

For those must-grinds that cannot be corrected by grinding, the Engineer may order you to either (1) not correct the must-grinds or (2) correct must-grinds by a different method and take profiles of the corrected areas with a profilograph.

Corrective work not performed by prepaving grinding, including taking profiles of the corrected areas and associated traffic control, is change order work.

Correct prepaving must-grinds that you predict will cause the top layer of HMA to be noncompliant with the smoothness specifications. After correcting prepaving must-grinds, take profiles of the corrected area and submit profilograms.

Dispose of grinding residue.

Pave within 7 days of correcting areas.

The HMA pavement top layer must comply with section 39-1.12. The 2nd paragraph of section 39-1.12A and the 3rd paragraph of section 39-1.12C do not apply regardless of the type of HMA used.

If ordered not to correct prepaving must-grinds, the smoothness specifications do not apply to the top layer of HMA placed in those areas.

Smoothness correction of the top layer of HMA must leave at least 75 percent of the specified HMA thickness. If ordered, core the pavement at the locations determined by the Engineer. Coring, including traffic control, is change order work. Remove and replace deficient pavement areas where the overlay thickness is less than 75 percent of the thickness specified as determined by the Engineer.

Replace the 2nd through 4th paragraphs of section 39-1.15C with:

Spread with a self-propelled spreader. After spreading, minor HMA must be ready for compacting without further shaping.

Compact with a vibratory roller providing a minimum of 7,000 lb centrifugal force. With the vibrator on, compact at least 3 complete coverages over each layer, overlapping to prevent displacement. The speed of the vibratory roller in miles per hour must not exceed the vibrations per minute divided by 1,000. If the layer thickness is less than 0.08 foot, turn the vibrator off. Complete the 1st coverage before the mixture's temperature drops below 250 degrees F.

The finished surface must be:

1. Textured uniformly
2. Compacted firmly
3. Without depressions, humps, and irregularities
4. In compliance with the straightedge specifications for smoothness

Replace section 39-1.17 with:

39-1.17 DATA CORES

39-1.17A General

39-1.17A(1) Summary

This work includes taking data cores and submitting the information.

Three business days before starting coring, submit proposed methods and materials for backfilling data core holes.

39-1.17A(2) Submittals

Submit the following to the Engineer and to Coring@dot.ca.gov:

1. Summary of data cores taken
2. Photograph of each data core

For each data core, the summary must include:

1. Project identification number
2. Date cored
3. Core identification number
4. Type of materials recovered
5. Type and approximate thickness of unstabilized material not recovered
6. Total core thickness
7. Thickness of each individual material to within:
 - 7.1 1/2 inch for recovered material
 - 7.2 1.0 inch for unstabilized material
8. Location including:
 - 8.1. County
 - 8.2. Route
 - 8.3. Post mile
 - 8.4. Lane number
 - 8.5. Lane direction
 - 8.6. Station

Each data core digital photograph must include a ruler laid next to the data core. Each photograph must include:

1. Core
2. Project identification number
3. Core identification number
4. Date cored
5. County
6. Route
7. Post mile
8. Lane number
9. Lane direction

39-1.17B Materials

Not Used

39-1.17C Construction

Take data cores that include the completed HMA pavement, underlying base, and subbase material. Protect data cores and surrounding pavement from damage.

Take 4- or 6-inch-diameter data cores:

1. At the beginning, end, and every 1/2 mile within the paving limits of each route on the project
2. After all paving is complete
3. From the center of the specified lane

On a 2-lane roadway, take data cores from either lane. On a 4-lane roadway, take data cores from each direction in the outermost lane. On a roadway with more than 4 lanes, take data cores from the median lane and the outermost lane in each direction.

Each core must include the stabilized materials encountered. You may choose not to recover unstabilized material, but you must identify the material. Unstabilized material includes:

1. Granular material
2. Crumbled or cracked stabilized material
3. Sandy or clayey soil

After submitting the data core summary and photograph, dispose of cores.

Replace section 39-1.18 with:

39-1.18 HOT MIX ASPHALT AGGREGATE LIME TREATMENT—DRY LIME METHOD

39-1.18A General

39-1.18A(1) Summary

Treat HMA aggregate with lime using the dry lime method either with marination or without.

Treat aggregate for HMA Type A with dry lime.

39-1.18A(2) Submittals

Determine the exact lime proportions for fine and coarse virgin aggregate and submit them as part of the proposed JMF.

If marination is required, submit the averaged aggregate quality test results within 24 hours of sampling.

Submit a treatment data log from the dry lime and aggregate proportioning device in the following order:

1. Treatment date
2. Time of day the data is captured
3. Aggregate size being treated
4. HMA type and mix aggregate size
5. Wet aggregate flow rate collected directly from the aggregate weigh belt
6. Aggregate moisture content, expressed as a percent of the dry aggregate weight
7. Flow rate of dry aggregate calculated from the flow rate of wet aggregate
8. Dry lime flow rate
9. Lime ratio from the accepted JMF for each aggregate size being treated
10. Lime ratio from the accepted JMF for the combined aggregate
11. Actual lime ratio calculated from the aggregate weigh belt output, the aggregate moisture input, and the dry lime meter output, expressed as a percent of the dry aggregate weight
12. Calculated difference between the authorized lime ratio and the actual lime ratio

Each day during lime treatment, submit the treatment data log on electronic media in tab delimited format on a removable CD-ROM storage disk. Each continuous treatment data set must be a separate record using a line feed carriage return to present the specified data on 1 line. The reported data must include data titles at least once per report.

39-1.18A(3) Quality Control and Assurance

If marination is required, the QC plan must include aggregate quality control sampling and testing during lime treatment. Sample and test in compliance with minimum frequencies shown in the following table:

Aggregate Quality Control During Lime Treatment

Quality characteristic	Test method	Minimum sampling and testing frequency
Sand equivalent	California Test 217	Once per 1,000 tons of aggregate treated with lime
Percent of crushed particles	California Test 205	As necessary and as designated in the QC plan
Los Angeles Rattler	California Test 211	
Fine aggregate angularity	California Test 234	
Flat and elongated particles	California Test 235	

Note: During lime treatment, sample coarse and fine aggregate from individual stockpiles. Combine aggregate in the JMF proportions. Run tests for aggregate quality in triplicate and report test results as the average of 3 tests.

For any of the following, the Engineer orders proportioning operations stopped if you:

1. Do not submit the treatment data log
2. Do not submit the aggregate quality control data for marinated aggregate
3. Submit incomplete, untimely, or incorrectly formatted data
4. Do not take corrective actions
5. Take late or unsuccessful corrective actions
6. Do not stop treatment when proportioning tolerances are exceeded
7. Use malfunctioning or failed proportioning devices

If you stop treatment, notify the Engineer of any corrective actions taken and conduct a successful 20-minute test run before resuming treatment.

39-1.18B Materials

High-calcium hydrated lime and water must comply with section 24-2.02.

Before virgin aggregate is treated, it must comply with the aggregate quality specifications. Do not test treated aggregate for quality control except for gradation. The Department does not test treated aggregate for acceptance except for gradation.

The Engineer determines the combined aggregate gradation during HMA production after you have treated the aggregate.

Treated aggregate must not have lime balls or clods.

39-1.18C Construction

39-1.18C(1) General

Notify the Engineer at least 24 hours before the start of aggregate treatment.

Do not treat RAP.

Marinate aggregate if the plasticity index determined under California Test 204 is from 4 to 10.

If marination is required:

1. Treat and marinate coarse and fine aggregates separately.
2. Treat the aggregate and stockpile for marination only once.
3. Treat the aggregate separate from HMA production.

The lime ratio is the pounds of dry hydrated lime per 100 lb of dry virgin aggregate expressed as a percentage. Water content of slurry or untreated aggregate must not affect the lime ratio.

Aggregate gradations must have the lime ratio ranges shown in the following table:

Aggregate gradation	Lime ratio percent
Coarse	0.4–1.0
Fine	1.5–2.0
Combined	0.8–1.5

The lime ratio for fine and coarse aggregate must be within ± 0.2 percent of the lime ratio in the accepted JMF. The lime ratio must be within ± 0.2 percent of the authorized lime ratio when you combine the individual aggregate sizes in the JMF proportions.

Proportion dry lime by weight with a continuous operation.

The device controlling dry lime and aggregate proportioning must produce a treatment data log. The log consists of a series of data sets captured at 10-minute intervals throughout daily treatment. The data must be a treatment activity register and not a summation. The material represented by a data set is the quantity produced 5 minutes before and 5 minutes after the capture time. For the duration of the Contract, collected data must be stored by the controller.

If 3 consecutive sets of recorded treatment data indicate deviation more than 0.2 percent above or below the lime ratio in the accepted JMF, stop treatment.

If a set of recorded treatment data indicates a deviation of more than 0.4 percent above or below the lime ratio in the accepted JMF, stop treatment and do not use the material represented by that set of data in HMA.

If 20 percent or more of the total daily treatment indicates deviation of more than 0.2 percent above or below the lime ratio in the accepted JMF, stop treatment and do not use the day's treated aggregate in HMA.

If you stop treatment for noncompliance, you must implement corrective action and successfully treat aggregate for a 20-minute period. Notify the Engineer before beginning the 20-minute treatment period.

If you use a batch-type proportioning operation for HMA production, control proportioning in compliance with the specifications for continuous mixing plants. Use a separate dry lime aggregate treatment operation from HMA batching operations including:

1. Pugmill mixer
2. Controller
3. Weigh belt for the lime
4. Weigh belt for the aggregate

If using a continuous mixing operation for HMA without lime marinated aggregates, use a controller that measures the blended aggregate weight after any additional water is added to the mixture. The controller must determine the quantity of lime added to the aggregate from the aggregate weigh belt input in connection with the manually input total aggregate moisture, the manually input target lime content, and the lime proportioning system output. Use a continuous aggregate weigh belt and pugmill mixer for the lime treatment operation in addition to the weigh belt for the aggregate proportioning to asphalt binder in the HMA plant. If you use a water meter for moisture control for lime treatment, the meter must comply with California Test 109.

At the time of mixing dry lime with aggregate, the aggregate moisture content must ensure complete lime coating. The aggregate moisture content must not cause aggregate to be lost between the point of weighing the combined aggregate continuous stream and the dryer. Add water for mixing and coating aggregate to the aggregate before dry lime addition. Immediately before mixing lime with aggregate, water must not visibly separate from aggregate.

The HMA plant must be equipped with a bag-house dust system. Material collected in the dust system must be returned to the mix.

39-1.18C(2) Mixing Dry Lime and Aggregate

Mix aggregate, water, and dry lime with a continuous pugmill mixer with twin shafts. Immediately before mixing lime with aggregate, water must not visibly separate from the aggregate. Store dry lime in a uniform and free-flowing condition. Introduce dry lime to the pugmill in a continuous operation. The introduction must occur after the aggregate cold feed and before the point of proportioning across a weigh belt and the aggregate dryer. Prevent loss of dry lime.

If marination is required, marinate treated aggregate in stockpiles from 24 hours to 60 days before using in HMA. Do not use aggregate marinated more than 60 days.

The pugmill must be equipped with paddles arranged to provide sufficient mixing action and mixture movement. The pugmill must produce a homogeneous mixture of uniformly coated aggregates at mixer discharge.

If the aggregate treatment operation is stopped longer than 1 hour, clean the equipment of partially treated aggregate and lime.

Aggregate must be completely treated before introduction into the mixing drum.

39-1.18D Payment

Payment for dry lime treating the aggregate, including marination, is included in payment for the HMA involved.

Replace section 39-1.19 with:

39-1.19 HOT MIX ASPHALT AGGREGATE LIME TREATMENT—SLURRY METHOD

39-1.19A General

39-1.19A(1) Summary

Treat HMA aggregate with lime using the slurry method and place it in stockpiles to marinate.

Treat aggregate for HMA Type A with lime slurry.

39-1.19A(2) Submittals

Determine the exact lime proportions for fine and coarse virgin aggregate and submit them as part of the proposed JMF.

Submit the averaged aggregate quality test results to the Engineer within 24 hours of sampling.

Submit a treatment data log from the slurry proportioning device in the following order:

1. Treatment date
2. Time of day the data is captured
3. Aggregate size being treated
4. Wet aggregate flow rate collected directly from the aggregate weigh belt
5. Moisture content of the aggregate just before treatment, expressed as a percent of the dry aggregate weight
6. Dry aggregate flow rate calculated from the wet aggregate flow rate
7. Lime slurry flow rate measured by the slurry meter
8. Dry lime flow rate calculated from the slurry meter output
9. Authorized lime ratio for each aggregate size being treated
10. Actual lime ratio calculated from the aggregate weigh belt and the slurry meter output, expressed as a percent of the dry aggregate weight
11. Calculated difference between the authorized lime ratio and the actual lime ratio
12. Dry lime and water proportions at the slurry treatment time

Every day during lime treatment, submit the treatment data log on electronic media in tab delimited format on a removable CD-ROM storage disk. Each continuous treatment data set must be a separate record using a line feed carriage return to present the specified data on 1 line. The reported data must include data titles at least once per report.

39-1.19A(3) Quality Control and Assurance

The QC plan must include aggregate quality control sampling and testing during aggregate lime treatment. Sample and test in compliance with frequencies in the following table:

Aggregate Quality Control During Lime Treatment

Quality characteristic	Test method	Minimum sampling and testing frequency
Sand equivalent	California Test 217	Once per 1,000 tons of aggregate treated with lime
Percent of crushed particles	California Test 205	As necessary and as designated in the QC plan
Los Angeles Rattler	California Test 211	
Fine aggregate angularity	California Test 234	
Flat and elongated particles	California Test 235	

Note: During lime treatment, sample coarse and fine aggregate from individual stockpiles. Combine aggregate in the JMF proportions. Run tests for aggregate quality in triplicate and report test results as the average of 3 tests.

For any of the following, the Engineer orders proportioning operations stopped if you:

1. Do not submit the treatment data log
2. Do not submit the aggregate quality control data
3. Submit incomplete, untimely, or incorrectly formatted data
4. Do not take corrective actions
5. Take late or unsuccessful corrective actions
6. Do not stop treatment when proportioning tolerances are exceeded
7. Use malfunctioning or failed proportioning devices

If you stop treatment, notify the Engineer of any corrective actions taken and conduct a successful 20-minute test run before resuming treatment.

For the aggregate to be treated, determine the moisture content at least once during each 2 hours of treatment. Calculate moisture content under California Test 226 or 370 and report it as a percent of dry aggregate weight. Use the moisture content calculations as a set point for the proportioning process controller.

39-1.19B Materials

High-calcium hydrated lime and water must comply with section 24-2.02.

Before virgin aggregate is treated, it must comply with the aggregate quality specifications. Do not test treated aggregate for quality control except for gradation. The Engineer does not test treated aggregate for acceptance except for gradation.

The Engineer determines the combined aggregate gradation during HMA production after you have treated the aggregate. If RAP is used, the Engineer determines combined aggregate gradations containing RAP under Laboratory Procedure LP-9.

Treated aggregate must not have lime balls or clods.

39-1.19C Construction

39-1.19C(1) General

Notify the Engineer at least 24 hours before the start of aggregate treatment.

Treat aggregate separate from HMA production.

Do not treat RAP.

Add lime to the aggregate as slurry consisting of mixed dry lime and water at a ratio of 1 part lime to from 2 to 3 parts water by weight. The slurry must completely coat the aggregate.

Lime treat and marinate coarse and fine aggregates separately.

Immediately before mixing lime slurry with the aggregate, water must not visibly separate from the aggregate.

Treat the aggregate and stockpile for marination only once.

The lime ratio is the pounds of dry hydrated lime per 100 lb of dry virgin aggregate expressed as a percentage. Water content of slurry or untreated aggregate must not affect the lime ratio.

The following aggregate gradations must have the lime ratio ranges shown in the following table:

Aggregate gradation	Lime ratio percent
Coarse	0.4–1.0
Fine	1.5–2.0
Combined virgin aggregate	0.8–1.5

The lime ratio for fine and coarse aggregate must be within ± 0.2 percent of the lime ratio in the accepted JMF. The lime ratio must be within ± 0.2 percent of the authorized lime ratio when you combine the individual aggregate sizes in the JMF proportions. The lime ratio must be determined before the addition of RAP.

If 3 consecutive sets of recorded treatment data indicate deviation more than 0.2 percent above or below the lime ratio in the accepted JMF, stop treatment.

If a set of recorded treatment data indicates a deviation of more than 0.4 percent above or below the lime ratio in the accepted JMF, stop treatment and do not use the material represented by that set of data in HMA.

If 20 percent or more of the total daily treatment indicates deviation of more than 0.2 percent above or below the lime ratio in the accepted JMF, stop treatment and do not use the day's total treatment in HMA.

If you stop treatment for noncompliance, you must implement corrective action and successfully treat aggregate for a 20-minute period. Notify the Engineer before beginning the 20-minute treatment period.

39-1.19C(2) Lime Slurry Proportioning

Proportion lime and water with a continuous or batch operation.

The device controlling slurry proportioning must produce a treatment data log. The log consists of a series of data sets captured at 10-minute intervals throughout daily treatment. The data must be a treatment activity register and not a summation. The material represented by the data set is the quantity produced 5 minutes before and 5 minutes after the capture time. For the Contract's duration, collected data must be stored by the controller.

39-1.19C(3) Proportioning and Mixing Lime Slurry Treated Aggregate

Treat HMA aggregate by proportioning lime slurry and aggregate by weight in a continuous operation.

Marinate treated aggregate in stockpiles from 24 hours to 60 days before using in HMA. Do not use aggregate marinated longer than 60 days.

39-1.19D Payment

Payment for treating aggregates with lime slurry is included in payment for the HMA involved.

Replace section 39-1.21 with:

39-1.21 REPLACE ASPHALT CONCRETE SURFACING

39-1.21A General

Remove existing asphalt concrete surfacing and underlying base and replace with HMA. The Engineer determines the exact limits of replaced asphalt concrete surfacing.

39-1.21B Materials

HMA for replace asphalt concrete surfacing must be Type A.

Asphalt binder for the HMA must be PG 64-28.

The aggregate for the HMA must comply with the 3/4-inch grading.

39-1.21C Construction

Place replacement HMA under section 39-3.

Replace asphalt concrete in a lane before the lane is specified to be opened to traffic under section 12-4.

Before removing asphalt concrete, outline the replacement area and cut neat lines with a saw or grind to full depth of the existing asphalt concrete. Do not damage asphalt concrete and base remaining in place.

Dispose of removed material.

If the base is excavated beyond the specified plane, replace it with HMA. The Department does not pay for this HMA.

39-1.21D Payment

Replace asphalt concrete surfacing is measured based on the specified dimensions and any adjustments ordered.

You may request authorization to leave rejected replacement HMA in place. If authorized, you must accept a reduction in the payment for the rejected replacement HMA.

Replace section 39-1.30 with:

39-1.30 EDGE TREATMENT, HOT MIX ASPHALT PAVEMENT

39-1.30A General

Section 39-1.30 includes specifications for constructing the edges of HMA pavement as shown.

39-1.30B Materials

For the safety edge, use the same type of HMA used for the adjacent lane or shoulder.

39-1.30C Construction

The edge of roadway where the safety edge treatment is to be placed must have a solid base, free of debris such as loose material, grass, weeds, or mud. Grade areas to receive the safety edge as required.

The safety edge treatment must be placed monolithic with the adjacent lane or shoulder and shaped and compacted with a device attached to the paver.

The device must be capable of shaping and compacting HMA to the required cross section as shown. Compaction must be by constraining the HMA to reduce the cross sectional area by 10 to 15 percent. The device must produce a uniform surface texture without tearing, shoving, or gouging and must not leave marks such as ridges and indentations. The device must be capable of transition to cross roads, driveways, and obstructions.

For safety edge treatment, the angle of the slope must not deviate by more than ± 5 degrees from the angle shown. Measure the angle from the plane of the adjacent finished pavement surface.

Structure excavation and structure backfill must comply with section 19-3. Structure backfill may not be replaced with sand slurry around or adjacent sand vaults. Permeable material blanket must be installed under the sand vault prior to placing the structure backfill.

Precast Sand Vault tops will be cast in place structural concrete as shown.

Welding of stainless steel must comply with AWS D1.6. Electrodes for welding stainless steel must be Type E316L or ER316L filler metal for welds. After completion of the weld operation, stainless steel must be smooth and free from waves.

Weld preparation and cleaning must be performed with stainless steel brushes and non-ferrous abrasives. Equipment used in the fabrication of carbon steel must not be used.

51-8.01A Definitions

Encapsulated float : An encased flotation material.

Hatch: Access openings.

51-8.01A(3) Submittals

Shop drawings for precast sand vaults must include the construction method, dimensions, reinforcement including splice type and location, openings, inserts and connections between precast segments.

Shop drawings for floating drain must include the attachment details for wire mesh polyvinylchloride pipe, encapsulated float, hose and chain..

Shop drawings for louvered panels must include the dimensions for each panel.

Allow for 30 days for the Department's review.

51-8.01A(4) Quality Control and Assurance

Submit a certificate of compliance for each louver screen.

51-8.02 MATERIALS

51-8.02A General

Bar reinforcement steel must comply with section 52.

Metal frames, covers, grates, and other miscellaneous iron and steel must comply with section 75-1.02.

Class 4 permeable material must comply with section 68-2.02F(5).

Filter fabric must be Class D and must comply with section 88-1.02B.

Class 5 permeable material must comply with section 68-2.02F(6).

All metal within precast portion of sand vaults must be new and manufactured of Type 316 stainless steel, except ladders, which may be hot-dipped galvanized.

Fasteners, resin capsules, mechanical expansion anchor bolts, and CIP anchor bolts shall be Type 316 stainless steel and must comply with section 75.

Surface finish must comply with section 51-1.03F(3).

Flap gates must be Waterman SSF-41; Golden Harvest, Inc., GH-39P Stainless Steel Circular Discharge Flap Gate; Fontaine Industries, Series 60 Stainless Steel (316) Circular Flap Gate; Plasti-fab, Inc., Neoprene Circular Flap Gate, or equal. Cracking pressure required to open the 18" flap gate inside the sand vault must be no more than 0.5 psi.

51-8.02B Floating drain

Flotation material must be extruded polystyrene, expanded polystyrene, or a copolymer of polyethylene and polystyrene.

The encasement must be a solid polyethylene or a polyurethane type coating, both of which must be watertight and have a minimum thickness of 0.06 inches.

Flotation material shall have a minimum density of 1.5 lbs./cu. ft., be of consistent quality throughout the float beads must be firmly fused together, without voids inside the encasement.

Float must be secured to PVC pipe and wire mesh screen with a bonding agent compatible with the material to be bonded or other mechanical method which does not puncture the encapsulated float

Other encasement or floatation materials, or floatation devices of similar dimensions, watertightness and buoyancy may be substituted with approval of the Engineer.

Hose must comply with section 20-3.02G

PVC pipe must be schedule 40.

51-8.02C Louver Screens

Stainless steel for louvered screens must comply with ASTM A 240/ A 240M, Type 316, with a #2B finish.

Finished screens must be descaled by immersion in a nitric/hydrofluoric acid bath, rinsed, and air dried to achieve passivation.

Intake openings for louvered screens and slots must be free of jagged edges, irregularities, or other defects.

Installation of screen, supports, and other ancillary features must comply with section 55 and section 75.

51-8.02D Hatches

Access hatches must be installed in accordance with the manufacturer's instructions.

Hatches must be watertight and drains, if present, must be placed at the lowest corner of the hatch and drain to the inlet chamber.

All areas of galvanized hatches that will be visible when closed will be stained and must comply with section Stain Galvanized Surfaces.

Exposed fasteners must be tamper proof

Access hatches must be factory fabricated, spring assist hatches that provide smooth, controlled operation of the lid while opening and closing the hatch. Hatches must have a hold open arm and hold down latch that can be operated from below when hatch is closed. Access hatches shall be either Type 1 or Type 2 as shown on the plans and one of the types listed, or equal, as authorized by the Engineer:

Type 1:

1. The BILCO Company. Type HLC
2. U.S.F. Fabrication, Inc. Model DT-AHS or ALH
3. Neenah Foundry Company. Series R-3498, R-6662, or R-6663
4. East Jordan Iron Works, Inc. Series 8090

Type 2:

1. The BILCO Company. Type JAL-H20
2. U.S.F. Fabrication, Inc. Model AHS
3. East Jordan Iron Works, Inc. Series AHS

51-8.02E Concrete

PCC must comply with section 90.

59 PAINTING

Add to section 59:

59-11 STAINING GALVANIZED SURFACES

59-11.01 GENERAL

59-11.01A Summary

Section 59-11 includes specifications for staining all visible galvanized surfaces of markers, sign posts, barb wire fence, metal beam guard railing, terminal system, end anchor assembly including all hardware used in the construction.

59-11.01B Submittals

Submit the following:

1. Product data including the manufacturer's product sheet and the instructions for application of the stain 30 days before starting staining activities
2. Certificate of compliance for the stain at least 7 days before starting staining activities

59-11.01C Quality Control and Assurance

59-11.01C(1) Test Sample

For test samples, stain 1 metal beam guardrail element and 1 galvanized steel fence post. Notify the Engineer not less than 5 days before staining the test samples. If ordered, prepare additional test samples. Additional test samples are change order work.

Prepare and stain the test section with the same materials, tools, equipment, and methods used in staining the final galvanized surfaces. The stain must be allowed to cure for at least 14 days before the Engineer's inspection.

Obtain authorization of the test sample before staining surfaces. Use the authorized test sample as the standard for comparison in determining acceptability of staining.

59-11.02 MATERIALS

Stain must be Natina Steel manufactured by Natina Desert Varnish Solutions.

The quoted lump sum price by Natina Desert Varnish Solutions for the staining of galvanized steel surfaces is \$19,598.84 as described in the supplemental project information handout "Natina Desert Varnish Solution- Revised Estimate."

Stain galvanized steel surfaces at:

Natina Desert Varnish Solutions
1577 First Street
Coachella, CA 92236
(877) 762-8462

The lump sum price is good until November 1, 2013.

59-11.03 CONSTRUCTION

59-11.03A Preparation

Before applying stain:

1. Materials to be treated must be identified and authorized.
2. Remove oils, dirt and other contaminants from surfaces to be treated.
3. Dry all surfaces to be treated.

59-11.03B Application

After areas to be stained have been identified, prepared, and test sample authorized, stain by dipping all galvanized materials under the manufacturer's instructions to achieve a color consistent with, or as close as possible to, the authorized test sample color.

- a. 30 NTU or less for jobs within the Tahoe Hydrologic Unit
- b. 200 NTU or less for jobs outside of the Tahoe Hydrologic Unit

You must capture and dispose of the wash water. Dispose of wash water outside of the state right of way.

Add to section 68-2.02F:

68-2.02F(6) Class 5 Permeable Material

Class 5 permeable material for use in sand vaults must consist of hard, durable, clean sand, and must be free from organic material, clay balls, or other deleterious substances.

The percentage composition by weight of Class 5 permeable material in place must comply with the grading requirements shown in the following table:

**Class 5 Permeable Material
Grading Requirements**

Sieve sizes	Percentage passing
3/8"	100
No. 4	95-100
No. 8	80-100
No. 16	45-85
No. 30	15-60
No. 50	3-15
No. 100	0-4
No. 200	0

Standard ASTM	Range
6913	
Effective Particle size (ES)=(D ₁₀)	0.0098"-0.0197"
Uniformity Coefficient U _c = (D ₆₀ /D ₁₀)	< 4

Class 5 permeable material must have a durability index of not less than 40.

At least 5 days before placing Class 5 permeable material, submit a certificate of compliance for gradation of the material.

No more than 5 days after placing Class 5 permeable material, submit:

- 1. At least one ASTM D 6913 test on the permeable material at an authorized location.
- 2. Verification that the placed permeable material complies with the grading requirements

Prior to placement, wash Class 5 permeable material:

- 1. To remove silt and clay particles.
- 2. With potable water equal to at least four times the volume of the material to be placed.

After placement, wash Class 5 permeable material:

- 1. With potable water.
- 2. Until the discharged water has a turbidity reading of:
 - a. 30 NTU or less for jobs within the Tahoe Hydrologic Unit

DIVISION IX TRAFFIC CONTROL FACILITIES
82 MARKERS AND DELINEATORS

Delete the 2nd paragraph of section 82-1.04.

AA

83 RAILINGS AND BARRIERS

Replace item 1 in the 7th paragraph of section 83-1.02B with:

- 1. Wood

Replace item 2 in the 7th paragraph of section 83-1.02B with:

- 2. Wood

Replace section 83-1.02C(2) with:

83-1.02C(2) Alternative In-Line Terminal System

Alternative in-line terminal system must be furnished and installed as shown on the plans and under these special provisions.

The allowable alternatives for an in-line terminal system must consist of one of the following or a Department-authorized equal.

- 1. TYPE SKT TERMINAL SYSTEM - Type SKT terminal system must be a SKT 350 sequential kinking terminal manufactured by Road Systems, Inc., located in Big Spring, Texas, and must include items detailed for Type SKT terminal system shown on the plans. The SKT 350 sequential kinking terminal can be obtained from the distributor, Universal Industrial Sales, P.O. Box 699, Pleasant Grove, UT 84062, telephone (801) 785-0505 or from the distributor, Gregory Highway Products, 4100 13th Street, S.W., Canton, OH 44708, telephone (330) 477-4800.
- 2. TYPE ET TERMINAL SYSTEM - Type ET terminal system must be an ET-2000 PLUS (4-tube system) extruder terminal as manufactured by Trinity Highway Products, LLC, and must include items detailed for Type ET terminal system shown on the plans. The ET-2000 PLUS (4-tube system) extruder terminal can be obtained from the manufacturer, Trinity Highway Products, LLC, P.O. Box 99, Centerville, UT 84012, telephone (800) 772-7976.

Submit a certificate of compliance for terminal systems.

Terminal systems must be installed under the manufacturer's installation instructions and these specifications. Each terminal system installed must be identified by painting the type of terminal system in neat black letters and figures 2 inches high on the backside of the rail element between system posts numbers 4 and 5.

For Type ET terminal system, the steel foundation tubes with soil plates attached must be, at the Contractor's option, either driven, with or without pilot holes, or placed in drilled holes. Space around the steel foundation tubes must be backfilled with selected earth, free of rock, placed in layers approximately 4 inches thick and each layer must be moistened and thoroughly compacted. The wood terminal posts must be inserted into the steel foundation tubes by hand and must not be driven. Before the wood terminal posts are inserted, the inside surfaces of the steel foundation tubes to receive the wood posts must be coated with a grease that will not melt or run at a temperature of 149 degrees F or less. The edges of the wood terminal posts may be slightly rounded to facilitate insertion of the post into the steel foundation tubes.

For Type SKT terminal system, the soil tubes must be, at the Contractor's option, driven with or without pilot holes, or placed in drilled holes. Space around the steel foundation tubes must be backfilled with

selected earth, free of rock, placed in layers approximately 4 inches thick and each layer must be moistened and thoroughly compacted. Wood posts must be inserted into the steel foundation tubes by hand. Before the wood terminal posts are inserted, the inside surfaces of the steel foundation tubes to receive the wood posts must be coated with a grease that will not melt or run at a temperature of 149 degrees F or less. The edges of the wood posts may be slightly rounded to facilitate insertion of the post into the steel foundation tubes.

After installing the terminal system, dispose of surplus excavated material in a uniform manner along the adjacent roadway where designated by the Engineer.

Replace section 83-1.02C(3) with:

83-1.02C(3) Alternative Flared Terminal System

Alternative flared terminal system must be furnished and installed as shown on the plans and under these special provisions.

The allowable alternatives for a flared terminal system must consist of one of the following or a Department-authorized equal.

1. TYPE FLEAT TERMINAL SYSTEM - Type FLEAT terminal system must be a Flared Energy Absorbing Terminal 350 manufactured by Road Systems, Inc., located in Big Spring, Texas, and must include items detailed for Type FLEAT terminal system shown on the plans. The Flared Energy Absorbing Terminal 350 can be obtained from the distributor, Universal Industrial Sales, P.O. Box 699, Pleasant Grove, UT 84062, telephone (801) 785-0505 or from the distributor, Gregory Industries, Inc., 4100 13th Street, S.W., Canton, OH 44708, telephone (330) 477-4800.
2. TYPE SRT TERMINAL SYSTEM - Type SRT terminal system must be an SRT-350 Slotted Rail Terminal (8-post system) as manufactured by Trinity Highway Products, LLC, and must include items detailed for Type SRT terminal system shown on the plans. The SRT-350 Slotted Rail Terminal (8-post system) can be obtained from the manufacturer, Trinity Highway Products, LLC, P.O. Box 99, Centerville, UT 84012, telephone (800) 772-7976.

Submit a certificate of compliance for terminal systems.

Terminal systems must be installed under the manufacturer's installation instructions and these specifications. Each terminal system installed must be identified by painting the type of terminal system in neat black letters and figures 2 inches high on the backside of the rail element between system posts numbers 4 and 5.

For Type SRT terminal system, the steel foundation tubes with soil plates attached must be, at the Contractor's option, either driven, with or without pilot holes, or placed in drilled holes. Space around the steel foundation tubes must be backfilled with selected earth, free of rock, placed in layers approximately 4 inches thick and each layer must be moistened and thoroughly compacted. The wood terminal posts must be inserted into the steel foundation tubes by hand and must not be driven. Before the wood terminal posts are inserted, the inside surfaces of the steel foundation tubes to receive the wood posts must be coated with a grease that will not melt or run at a temperature of 149 degrees F or less. The edges of the wood terminal posts may be slightly rounded to facilitate insertion of the post into the steel foundation tubes.

For Type FLEAT terminal system, the soil tubes must be, at the Contractor's option, driven with or without pilot holes, or placed in drilled holes. Space around the steel foundation tubes must be backfilled with selected earth, free of rock, placed in layers approximately 4 inches thick and each layer must be moistened and thoroughly compacted. Wood posts must be inserted into the steel foundation tubes by hand. Before the wood terminal posts are inserted, the inside surfaces of the steel foundation tubes to receive the wood posts must be coated with a grease that will not melt or run at a temperature of 149 degrees F or less. The edges of the wood posts may be slightly rounded to facilitate insertion of the post into the steel foundation tubes.

After installing the terminal system, dispose of surplus excavated material in a uniform manner along the adjacent roadway where designated by the Engineer.

AA

84 TRAFFIC STRIPES AND PAVEMENT MARKINGS

Replace section 84-4 with:

84-4 TWO-COMPONENT PAINT TRAFFIC STRIPES AND PAVEMENT MARKINGS

84-4.01 GENERAL

84-4.01A Summary

Section 84-4 includes specifications for applying two-component paint for traffic stripes and pavement markings.

Two-component paint for traffic stripes and pavement markings must consist of 1 coat of paint and 2 applications of retroreflective glass beads of 2 gradations.

84-4.01B Submittals

Submit a certificate of compliance for the two-component paint and glass beads. The certificate must specify the name, batch number, and product manufacturing date.

84-4.01C Quality Control and Assurance

Before starting permanent application of two-component paint, apply a test stripe of the two-component paint on roofing felt or other suitable material in the presence of the Engineer. The test section must be at least 50 feet in length.

84-4.02 MATERIALS

Fast curing epoxy traffic paint for two-component paint must be listed on the Authorized Material List.

Large gradation glass beads must be listed on the Authorized Material List.

Small gradation glass beads must comply with AASHTO M247, Type 1.

Coat both gradations of glass beads with an adhesion-promoting and water-repellant coating as recommended by the paint manufacturer.

You may use alternative types of glass beads recommended by the paint manufacturer if authorized.

84-4.03 CONSTRUCTION

Do not apply two-component traffic paint for stripes and pavement markings until authorized.

Apply the two-component paint for traffic stripes and pavement markings only to clean, completely dry surfaces when the pavement surface temperature is above 39 degrees F and the atmospheric temperature is above 36 degrees F.

During application of two-component paint, the temperature of the two-component paint must comply with the paint manufacturer's instructions.

Apply two-component paint for traffic stripes and pavement markings at a minimum thickness of 0.020 ± 0.002 inch and at a minimum application rate of 80 sqft/gal.

During the application of two-component paint and glass beads, the striping machine must not travel faster than 10 mph.

Apply two-component paint and glass beads in 1 pass. First apply two-component paint; followed by the large gradation glass beads; followed by the small gradation glass beads. Apply the glass beads with 2 separate applicator guns.

Distribute the glass beads uniformly on traffic stripes and pavement markings.

You may apply the glass beads by hand methods on pavement markings.

**REVISED STANDARD SPECIFICATIONS
APPLICABLE TO THE 2010 EDITION
OF THE STANDARD SPECIFICATIONS**

REVISED STANDARD SPECIFICATIONS DATED 02-22-13

Revised standard specifications are under headings that correspond with the main-section headings of the *Standard Specifications*. A main-section heading is a heading shown in the table of contents of the *Standard Specifications*. A date under a main-section heading is the date of the latest revision to the section.

Each revision to the *Standard Specifications* begins with a revision clause that describes a revision to the *Standard Specifications* or introduces a revision to the *Standard Specifications*. For a revision clause that describes a revision, the date on the right above the clause is the publication date of the revision. For a revision clause that introduces a revision, the date on the right above a revised term, phrase, clause, paragraph, or section is the publication date of the revised term, phrase, clause, paragraph, or section. For a multiple-paragraph or multiple-section revision, the date on the right above a paragraph or section is the publication date of the paragraphs or sections that follow.

Any paragraph added or deleted by a revision clause does not change the paragraph numbering of the *Standard Specifications* for any other reference to a paragraph of the *Standard Specifications*.

DIVISION I GENERAL PROVISIONS

1 GENERAL

10-19-12

Replace "current" in the 2nd paragraph of section 1-1.05 with:

most recent

04-20-12

Add to the 4th paragraph of section 1-1.05:

04-20-12

Any reference directly to a revised standard specification section is for convenience only. Lack of a direct reference to a revised standard specification section does not indicate a revised standard specification for the section does not exist.

Add to the 1st table in section 1-1.06:

10-19-12

TRO	time-related overhead
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06-20-12

Delete the abbreviation and its meaning for *UDBE* in the 1st table of section 1-1.06.

10-19-12

Delete "Contract completion date" and its definition in section 1-1.07B.

10-19-12

Delete "critical delay" and its definition in section 1-1.07B.

Replace "day" and its definition in section 1-1.07B with:

10-19-12

day: 24 consecutive hours running from midnight to midnight; calendar day.

1. **business day:** Day on the calendar except a Saturday and a holiday.
2. **working day:** Time measure unit for work progress. A working day is any 24-consecutive-hour period except:
 - 2.1. Saturday and holiday.
 - 2.2. Day during which you cannot perform work on the controlling activity for at least 50 percent of the scheduled work shift with at least 50 percent of the scheduled labor and equipment due to any of the following:
 - 2.2.1. Adverse weather-related conditions.
 - 2.2.2. Maintaining traffic under the Contract.
 - 2.2.3. Suspension of a controlling activity that you and the Engineer agree benefits both parties.
 - 2.2.4. Unanticipated event not caused by either party such as:
 - 2.2.4.1. Act of God.
 - 2.2.4.2. Act of a public enemy.
 - 2.2.4.3. Epidemic.
 - 2.2.4.4. Fire.
 - 2.2.4.5. Flood.
 - 2.2.4.6. Governor-declared state of emergency.
 - 2.2.4.7. Landslide.
 - 2.2.4.8. Quarantine restriction.
 - 2.2.5. Issue involving a third party, including:
 - 2.2.5.1. Industry or area-wide labor strike.
 - 2.2.5.2. Material shortage.
 - 2.2.5.3. Freight embargo.
 - 2.2.5.4. Jurisdictional requirement of a law enforcement agency.
 - 2.2.5.5. Workforce labor dispute of a utility or nonhighway facility owner resulting in a nonhighway facility rearrangement not described and not solely for the Contractor's convenience. Rearrangement of a nonhighway facility includes installation, relocation, alteration, or removal of the facility.
 - 2.3. Day during a concurrent delay.
3. **original working days:**
 - 3.1. Working days to complete the work shown on the *Notice to Bidders* for a non-cost plus time based bid.
 - 3.2. Working days bid to complete the work for a cost plus time based bid.

Where working days is specified without the modifier "original" in the context of the number of working days to complete the work, interpret the number as the number of original working days as adjusted by any time adjustment.

Replace "Contract" in the definition of "early completion time" in section 1-1.07B with:

10-19-12

work

Replace "excusable delay" and its definition in section 1-1.07B with:

10-19-12

delay: Event that extends the completion of an activity.

1. **excusable delay:** Delay caused by the Department and not reasonably foreseeable when the work began such as:
 - 1.1. Change in the work
 - 1.2. Department action that is not part of the Contract

- 1.3. Presence of an underground utility main not described in the Contract or in a location substantially different from that specified
- 1.4. Described facility rearrangement not rearranged as described, by the utility owner by the date specified, unless the rearrangement is solely for the Contractor's convenience
- 1.5. Department's failure to obtain timely access to the right-of-way
- 1.6. Department's failure to review a submittal or provide notification in the time specified
- 2. **critical delay:** Excusable delay that extends the scheduled completion date
- 3. **concurrent delay:** Occurrence of at least 2 of the following events in the same period of time, either partially or entirely:
 - 3.1. Critical delay
 - 3.2. Delay to a controlling activity caused by you
 - 3.3. Non-working day

Replace "project" in the definition of "scheduled completion date" in section 1-1.07B with:

work

10-19-12

Add to section 1-1.07B:

Contract time: Number of original working days as adjusted by any time adjustment.

10-19-12

Disadvantaged Business Enterprise: Disadvantaged Business Enterprise as defined in 49 CFR 26.5.

06-20-12

Replace "PO BOX 911" in the District 3 mailing address in the table in section 1-1.08 with:

703 B ST

04-20-12

Add to the table in section 1-1.11:

Office Engineer–All Projects Currently Advertised	http://www.dot.ca.gov/hq/esc/oe/weekly_ads/all_advertised.php	--	--
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01-20-12

AA

2 BIDDING

10-19-12

Replace the 3rd paragraph of section 2-1.06B with:

If an *Information Handout* or cross sections are available:

01-20-12

- 1. You may view them at the Contract Plans and Special Provisions link at the Office Engineer–All Projects Currently Advertised Web site
- 2. For an informal-bid contract, you may obtain them at the Bidders' Exchange street address

01-20-12
Add a paragraph break between the 1st and 2nd sentences of the 5th paragraph of section 2-1.06B.

Add between "and" and "are" in item 2 in the list in the 7th paragraph of section 2-1.06B:

they 04-20-12

06-20-12
Delete "Underutilized" in "Underutilized Disadvantaged Business Enterprises" in the heading of section 2-1.12B.

06-20-12
Delete *U* in *UDBE* at each occurrence in section 2-1.12B.

Replace the 2nd paragraph of section 2-1.12B(1) with:

06-20-12
To ensure equal participation of DBEs provided in 49 CFR 26.5, the Department shows a goal for DBEs.

06-20-12
Delete the 3rd paragraph of section 2-1.12B(1):

Replace the 7th paragraph of section 2-1.12B(1) with:

06-20-12
All DBE participation will count toward the Department's federally-mandated statewide overall DBE goal.

Replace "offered" at the end of the 2nd sentence of item 7 in the list of 2nd paragraph of section 2-1.12B(3) with:

provided 06-20-12

01-20-12
Delete the 2nd paragraph of section 2-1.33A.

Replace the 3rd paragraph of section 2-1.33A with:

01-20-12
Except for each subcontracted bid item number and corresponding percentage and proof of each required SSPC QP certification, do not fax submittals.

Add to section 2-1.33C:

10-19-12
On the *Subcontractor List*, you must either submit each subcontracted bid item number and corresponding percentage with your bid or fax these numbers and percentages to (916) 227-6282 within 24 hours after bid opening. Failure to do so results in a nonresponsive bid.

Add to the list in the 4th paragraph of section 5-1.09A:

9. Considering discussing with and involving all stakeholders in evaluating potential VECsPs

10-19-12

Add to the end of item 1.1 in the list in the 7th paragraph of section 5-1.09A:

, including VECsPs

10-19-12

Replace the 1st paragraph of section 5-1.09C with:

For a contract with a total bid over \$10 million and 100 or more working days, training in partnering skills development is required.

10-19-12

Delete the 2nd paragraph of section 5-1.09C.

10-19-12

Replace "at least 2 representatives" in the 5th paragraph of section 5-1.09C with:

field supervisory personnel

10-19-12

Replace the 1st and 2nd sentences in the 7th paragraph of section 5-1.13B(1) with:

If a DBE is decertified before completing its work, the DBE must notify you in writing of the decertification date. If a business becomes a certified DBE before completing its work, the business must notify you in writing of the certification date.

06-20-12

Replace "90" in the last sentence of the 7th paragraph of section 5-1.13B(1) with:

30

06-20-12

Replace "Underutilized" in "Underutilized Disadvantaged Business Enterprises" in the heading of section 5-1.13B(2) with:

Performance of

06-20-12

Delete *U* in *UDBE* at each occurrence in section 5-1.13B(2).

06-20-12

Replace the 3rd paragraph of section 5-1.13B(2) with:

Do not terminate or substitute a listed DBE for convenience and perform the work with your own forces or obtain materials from other sources without authorization from the Department.

06-20-12

Replace item 6 in the list in the 4th paragraph of section 5-1.13B(2) with:

6. Listed DBE is ineligible to work on the project because of suspension or debarment.

06-20-12

Add to the list in the 4th paragraph of section 5-1.13B(2):

8. Listed DBE voluntarily withdraws with written notice from the Contract.
9. Listed DBE is ineligible to receive credit for the type of work required.
10. Listed DBE owner dies or becomes disabled resulting in the inability to perform the work on the Contract.
11. Department determines other documented good cause.

06-20-12

Add between the 4th and 5th paragraphs of section 5-1.13B(2):

Notify the original DBE of your intent to use other forces or material sources and provide the reasons. Provide the DBE with 5 days to respond to your notice and advise you and the Department of the reasons why the use of other forces or sources of materials should not occur. Your request to use other forces or material sources must include:

07-20-12

1. 1 or more of the reasons listed in the preceding paragraph
2. Notices from you to the DBE regarding the request
3. Notices from the DBE to you regarding the request

Add between "terminated" and ", you" in the 5th paragraph of section 5-1.13B(2):

or substituted

07-20-12

Replace "Contract" in item 1 in the list in the 5th paragraph of section 5-1.13C with:

work

10-19-12

Replace "Reserved" in section 5-1.20C with:

If the Contract includes an agreement with a railroad company, the Department makes the provisions of the agreement available in the *Information Handout* in the document titled "Railroad Relations and Insurance Requirements." Comply with the requirements in the document.

10-19-12

Add between the 2nd and 3rd paragraphs of section 5-1.23A:

Submit action and informational submittals to the Engineer.

10-19-12

Add to section 5-1.36C:

If the Contract does not include an agreement with a railroad company, do not allow personnel or equipment on railroad property.

07-20-12

Prevent material, equipment, and debris from falling onto railroad property.

Add between the 1st and 2nd paragraphs of section 5-1.37A:

10-19-12

Do not remove any padlock used to secure a portion of the work until the Engineer is present to replace it. Notify the Engineer at least 3 days before removing the lock.

Replace the 1st sentence of the 1st paragraph of section 5-1.39C(2) with:

10-19-12

Section 5-1.39C(2) applies if a plant establishment period of 3 years or more is shown on the *Notice to Bidders*.

Replace "working days" in the 1st paragraph of section 5-1.43E(1)(a) with:

10-19-12

original working days

^^

7 LEGAL RELATIONS AND RESPONSIBILITY TO THE PUBLIC

07-27-12

Replace "20 days" in the 14th paragraph of section 7-1.04 with:

09-16-11

25 days

Replace "90 days" in the 14th paragraph of section 7-1.04 with:

09-16-11

125 days

Add between the 18th and 19th paragraphs of section 7-1.04:

09-16-11

Temporary facilities that could be a hazard to public safety if improperly designed must comply with design requirements described in the Contract for those facilities or, if none are described, with standard design criteria or codes appropriate for the facility involved. Submit shop drawings and design calculations for the temporary facilities and show the standard design criteria or codes used. Shop drawings and supplemental calculations must be sealed and signed by an engineer who is registered as a civil engineer in the State.

Replace the 2nd paragraph of section 7-1.11A with:

07-27-12

A copy of form FHWA-1273 is included in section 7-1.11B. The training and promotion section of section II refers to training provisions as if they were included in the special provisions. The Department specifies the provisions in section 7-1.11D of the *Standard Specifications*. If a number of trainees or apprentices is required, the Department shows the number on the *Notice to Bidders*. Interpret each FHWA-1273 clause shown in the following table as having the same meaning as the corresponding Department clause:

FHWA-1273 Nondiscrimination Clauses

FHWA-1273 section	FHWA-1273 clause	Department clause
Training and Promotion	In the event a special provision for training is provided under this contract, this subparagraph will be superseded as indicated in the special provision.	If section 7-1.11D applies, section 7-1.11D supersedes this subparagraph.
Records and Reports	If on-the-job training is being required by special provision, the contractor will be required to collect and report training data.	If the Contract requires on-the-job training, collect and report training data.

Replace the form in section 7-1.11B with:

07-20-12

**REQUIRED CONTRACT PROVISIONS
FEDERAL-AID CONSTRUCTION CONTRACTS**

- I. General
- II. Nondiscrimination
- III. Nonsegregated Facilities
- IV. Davis-Bacon and Related Act Provisions
- V. Contract Work Hours and Safety Standards Act Provisions
- VI. Subletting or Assigning the Contract
- VII. Safety: Accident Prevention
- VIII. False Statements Concerning Highway Projects
- IX. Implementation of Clean Air Act and Federal Water Pollution Control Act
- X. Compliance with Governmentwide Suspension and Debarment Requirements
- XI. Certification Regarding Use of Contract Funds for Lobbying

3. A breach of any of the stipulations contained in these Required Contract Provisions may be sufficient grounds for withholding of progress payments, withholding of final payment, termination of the contract, suspension / debarment or any other action determined to be appropriate by the contracting agency and FHWA.

4. Selection of Labor: During the performance of this contract, the contractor shall not use convict labor for any purpose within the limits of a construction project on a Federal-aid highway unless it is labor performed by convicts who are on parole, supervised release, or probation. The term Federal-aid highway does not include roadways functionally classified as local roads or rural minor collectors.

ATTACHMENTS

A. Employment and Materials Preference for Appalachian Development Highway System or Appalachian Local Access Road Contracts (included in Appalachian contracts only)

II. NONDISCRIMINATION

The provisions of this section related to 23 CFR Part 230 are applicable to all Federal-aid construction contracts and to all related construction subcontracts of \$10,000 or more. The provisions of 23 CFR Part 230 are not applicable to material supply, engineering, or architectural service contracts.

I. GENERAL

1. Form FHWA-1273 must be physically incorporated in each construction contract funded under Title 23 (excluding emergency contracts solely intended for debris removal). The contractor (or subcontractor) must insert this form in each subcontract and further require its inclusion in all lower tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services).

In addition, the contractor and all subcontractors must comply with the following policies: Executive Order 11246, 41 CFR 60, 29 CFR 1625-1627, Title 23 USC Section 140, the Rehabilitation Act of 1973, as amended (29 USC 794), Title VI of the Civil Rights Act of 1964, as amended, and related regulations including 49 CFR Parts 21, 26 and 27; and 23 CFR Parts 200, 230, and 633.

The applicable requirements of Form FHWA-1273 are incorporated by reference for work done under any purchase order, rental agreement or agreement for other services. The prime contractor shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

The contractor and all subcontractors must comply with: the requirements of the Equal Opportunity Clause in 41 CFR 60-1.4(b) and, for all construction contracts exceeding \$10,000, the Standard Federal Equal Employment Opportunity Construction Contract Specifications in 41 CFR 60-4.3.

Form FHWA-1273 must be included in all Federal-aid design-build contracts, in all subcontracts and in lower tier subcontracts (excluding subcontracts for design services, purchase orders, rental agreements and other agreements for supplies or services). The design-builder shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

Note: The U.S. Department of Labor has exclusive authority to determine compliance with Executive Order 11246 and the policies of the Secretary of Labor including 41 CFR 60, and 29 CFR 1625-1627. The contracting agency and the FHWA have the authority and the responsibility to ensure compliance with Title 23 USC Section 140, the Rehabilitation Act of 1973, as amended (29 USC 794), and Title VI of the Civil Rights Act of 1964, as amended, and related regulations including 49 CFR Parts 21, 26 and 27; and 23 CFR Parts 200, 230, and 633.

Contracting agencies may reference Form FHWA-1273 in bid proposal or request for proposal documents, however, the Form FHWA-1273 must be physically incorporated (not referenced) in all contracts, subcontracts and lower-tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services related to a construction contract).

The following provision is adopted from 23 CFR 230, Appendix A, with appropriate revisions to conform to the U.S. Department of Labor (US DOL) and FHWA requirements.

2. Subject to the applicability criteria noted in the following sections, these contract provisions shall apply to all work performed on the contract by the contractor's own organization and with the assistance of workers under the contractor's immediate superintendence and to all work performed on the contract by piecework, station work, or by subcontract.

1. Equal Employment Opportunity: Equal employment opportunity (EEO) requirements not to discriminate and to take affirmative action to assure equal opportunity as set forth under laws, executive orders, rules, regulations (28 CFR 35, 29 CFR 1630, 29 CFR 1625-1627, 41 CFR 60 and 49 CFR 27) and orders of the Secretary of Labor as modified by the provisions prescribed herein, and imposed pursuant to 23 U.S.C. 140 shall constitute the EEO and specific affirmative action standards for the contractor's project activities under

this contract. The provisions of the Americans with Disabilities Act of 1990 (42 U.S.C. 12101 et seq.) set forth under 28 CFR 35 and 29 CFR 1630 are incorporated by reference in this contract. In the execution of this contract, the contractor agrees to comply with the following minimum specific requirement activities of EEO:

a. The contractor will work with the contracting agency and the Federal Government to ensure that it has made every good faith effort to provide equal opportunity with respect to all of its terms and conditions of employment and in their review of activities under the contract.

b. The contractor will accept as its operating policy the following statement:

"It is the policy of this Company to assure that applicants are employed, and that employees are treated during employment, without regard to their race, religion, sex, color, national origin, age or disability. Such action shall include: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship, pre-apprenticeship, and/or on-the-job training."

2. EEO Officer: The contractor will designate and make known to the contracting officers an EEO Officer who will have the responsibility for and must be capable of effectively administering and promoting an active EEO program and who must be assigned adequate authority and responsibility to do so.

3. Dissemination of Policy: All members of the contractor's staff who are authorized to hire, supervise, promote, and discharge employees, or who recommend such action, or who are substantially involved in such action, will be made fully cognizant of, and will implement, the contractor's EEO policy and contractual responsibilities to provide EEO in each grade and classification of employment. To ensure that the above agreement will be met, the following actions will be taken as a minimum:

a. Periodic meetings of supervisory and personnel office employees will be conducted before the start of work and then not less often than once every six months, at which time the contractor's EEO policy and its implementation will be reviewed and explained. The meetings will be conducted by the EEO Officer.

b. All new supervisory or personnel office employees will be given a thorough indoctrination by the EEO Officer, covering all major aspects of the contractor's EEO obligations within thirty days following their reporting for duty with the contractor.

c. All personnel who are engaged in direct recruitment for the project will be instructed by the EEO Officer in the contractor's procedures for locating and hiring minorities and women.

d. Notices and posters setting forth the contractor's EEO policy will be placed in areas readily accessible to employees, applicants for employment and potential employees.

e. The contractor's EEO policy and the procedures to implement such policy will be brought to the attention of employees by means of meetings, employee handbooks, or other appropriate means.

4. Recruitment: When advertising for employees, the contractor will include in all advertisements for employees the notation: "An Equal Opportunity Employer." All such advertisements will be placed in publications having a large circulation among minorities and women in the area from which the project work force would normally be derived.

a. The contractor will, unless precluded by a valid bargaining agreement, conduct systematic and direct recruitment through public and private employee referral sources likely to yield qualified minorities and women. To meet this requirement, the contractor will identify sources of potential minority group employees, and establish with such identified sources procedures whereby minority and women applicants may be referred to the contractor for employment consideration.

b. In the event the contractor has a valid bargaining agreement providing for exclusive hiring hall referrals, the contractor is expected to observe the provisions of that agreement to the extent that the system meets the contractor's compliance with EEO contract provisions. Where implementation of such an agreement has the effect of discriminating against minorities or women, or obligates the contractor to do the same, such implementation violates Federal nondiscrimination provisions.

c. The contractor will encourage its present employees to refer minorities and women as applicants for employment. Information and procedures with regard to referring such applicants will be discussed with employees.

5. Personnel Actions: Wages, working conditions, and employee benefits shall be established and administered, and personnel actions of every type, including hiring, upgrading, promotion, transfer, demotion, layoff, and termination, shall be taken without regard to race, color, religion, sex, national origin, age or disability. The following procedures shall be followed:

a. The contractor will conduct periodic inspections of project sites to insure that working conditions and employee facilities do not indicate discriminatory treatment of project site personnel.

b. The contractor will periodically evaluate the spread of wages paid within each classification to determine any evidence of discriminatory wage practices.

c. The contractor will periodically review selected personnel actions in depth to determine whether there is evidence of discrimination. Where evidence is found, the contractor will promptly take corrective action. If the review indicates that the discrimination may extend beyond the actions reviewed, such corrective action shall include all affected persons.

d. The contractor will promptly investigate all complaints of alleged discrimination made to the contractor in connection with its obligations under this contract, will attempt to resolve such complaints, and will take appropriate corrective action within a reasonable time. If the investigation indicates that the discrimination may affect persons other than the complainant, such corrective action shall include such other persons. Upon completion of each investigation, the contractor will inform every complainant of all of their avenues of appeal.

6. Training and Promotion:

a. The contractor will assist in locating, qualifying, and increasing the skills of minorities and women who are

applicants for employment or current employees. Such efforts should be aimed at developing full journey level status employees in the type of trade or job classification involved.

b. Consistent with the contractor's work force requirements and as permissible under Federal and State regulations, the contractor shall make full use of training programs, i.e., apprenticeship, and on-the-job training programs for the geographical area of contract performance. In the event a special provision for training is provided under this contract, this subparagraph will be superseded as indicated in the special provision. The contracting agency may reserve training positions for persons who receive welfare assistance in accordance with 23 U.S.C. 140(a).

c. The contractor will advise employees and applicants for employment of available training programs and entrance requirements for each.

d. The contractor will periodically review the training and promotion potential of employees who are minorities and women and will encourage eligible employees to apply for such training and promotion.

7. Unions: If the contractor relies in whole or in part upon unions as a source of employees, the contractor will use good faith efforts to obtain the cooperation of such unions to increase opportunities for minorities and women. Actions by the contractor, either directly or through a contractor's association acting as agent, will include the procedures set forth below:

a. The contractor will use good faith efforts to develop, in cooperation with the unions, joint training programs aimed toward qualifying more minorities and women for membership in the unions and increasing the skills of minorities and women so that they may qualify for higher paying employment.

b. The contractor will use good faith efforts to incorporate an EEO clause into each union agreement to the end that such union will be contractually bound to refer applicants without regard to their race, color, religion, sex, national origin, age or disability.

c. The contractor is to obtain information as to the referral practices and policies of the labor union except that to the extent such information is within the exclusive possession of the labor union and such labor union refuses to furnish such information to the contractor, the contractor shall so certify to the contracting agency and shall set forth what efforts have been made to obtain such information.

d. In the event the union is unable to provide the contractor with a reasonable flow of referrals within the time limit set forth in the collective bargaining agreement, the contractor will, through independent recruitment efforts, fill the employment vacancies without regard to race, color, religion, sex, national origin, age or disability; making full efforts to obtain qualified and/or qualifiable minorities and women. The failure of a union to provide sufficient referrals (even though it is obligated to provide exclusive referrals under the terms of a collective bargaining agreement) does not relieve the contractor from the requirements of this paragraph. In the event the union referral practice prevents the contractor from meeting the obligations pursuant to Executive Order 11246, as amended, and these special provisions, such contractor shall immediately notify the contracting agency.

8. Reasonable Accommodation for Applicants / Employees with Disabilities: The contractor must be familiar

with the requirements for and comply with the Americans with Disabilities Act and all rules and regulations established there under. Employers must provide reasonable accommodation in all employment activities unless to do so would cause an undue hardship.

9. Selection of Subcontractors, Procurement of Materials and Leasing of Equipment: The contractor shall not discriminate on the grounds of race, color, religion, sex, national origin, age or disability in the selection and retention of subcontractors, including procurement of materials and leases of equipment. The contractor shall take all necessary and reasonable steps to ensure nondiscrimination in the administration of this contract.

a. The contractor shall notify all potential subcontractors and suppliers and lessors of their EEO obligations under this contract.

b. The contractor will use good faith efforts to ensure subcontractor compliance with their EEO obligations.

10. Assurance Required by 49 CFR 26.13(b):

a. The requirements of 49 CFR Part 26 and the State DOT's U.S. DOT-approved DBE program are incorporated by reference.

b. The contractor or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of DOT-assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the contracting agency deems appropriate.

11. Records and Reports: The contractor shall keep such records as necessary to document compliance with the EEO requirements. Such records shall be retained for a period of three years following the date of the final payment to the contractor for all contract work and shall be available at reasonable times and places for inspection by authorized representatives of the contracting agency and the FHWA.

a. The records kept by the contractor shall document the following:

(1) The number and work hours of minority and non-minority group members and women employed in each work classification on the project;

(2) The progress and efforts being made in cooperation with unions, when applicable, to increase employment opportunities for minorities and women; and

(3) The progress and efforts being made in locating, hiring, training, qualifying, and upgrading minorities and women;

b. The contractors and subcontractors will submit an annual report to the contracting agency each July for the duration of the project, indicating the number of minority, women, and non-minority group employees currently engaged in each work classification required by the contract work. This information is to be reported on [Form FHWA-1391](#). The staffing data should represent the project work force on board in all or any part of the last payroll period preceding the end of July. If on-the-job training is being required by special provision, the contractor

will be required to collect and report training data. The employment data should reflect the work force on board during all or any part of the last payroll period preceding the end of July.

III. NONSEGREGATED FACILITIES

This provision is applicable to all Federal-aid construction contracts and to all related construction subcontracts of \$10,000 or more.

The contractor must ensure that facilities provided for employees are provided in such a manner that segregation on the basis of race, color, religion, sex, or national origin cannot result. The contractor may neither require such segregated use by written or oral policies nor tolerate such use by employee custom. The contractor's obligation extends further to ensure that its employees are not assigned to perform their services at any location, under the contractor's control, where the facilities are segregated. The term "facilities" includes waiting rooms, work areas, restaurants and other eating areas, time clocks, restrooms, washrooms, locker rooms, and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing provided for employees. The contractor shall provide separate or single-user restrooms and necessary dressing or sleeping areas to assure privacy between sexes.

IV. DAVIS-BACON AND RELATED ACT PROVISIONS

This section is applicable to all Federal-aid construction projects exceeding \$2,000 and to all related subcontracts and lower-tier subcontracts (regardless of subcontract size). The requirements apply to all projects located within the right-of-way of a roadway that is functionally classified as Federal-aid highway. This excludes roadways functionally classified as local roads or rural minor collectors, which are exempt. Contracting agencies may elect to apply these requirements to other projects.

The following provisions are from the U.S. Department of Labor regulations in 29 CFR 5.5 "Contract provisions and related matters" with minor revisions to conform to the FHWA-1273 format and FHWA program requirements.

1. Minimum wages

a. All laborers and mechanics employed or working upon the site of the work, will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics.

Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions

of paragraph 1.d. of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided, That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under paragraph 1.b. of this section) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

b.(1) The contracting officer shall require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The contracting officer shall approve an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

(i) The work to be performed by the classification requested is not performed by a classification in the wage determination; and

(ii) The classification is utilized in the area by the construction industry; and

(iii) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(2) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, DC 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(3) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Wage and Hour Administrator for determination. The Wage and Hour Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or

will notify the contracting officer within the 30-day period that additional time is necessary.

(4) The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs 1.b.(2) or 1.b.(3) of this section, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

c. Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

d. If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program. Provided, That the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

2. Withholding

The contracting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor under this contract, or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work, all or part of the wages required by the contract, the contracting agency may, after written notice to the contractor, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

3. Payrolls and basic records

a. Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-

Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

b. (1) The contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to the contracting agency. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i), except that full social security numbers and home addresses shall not be included on weekly transmittals. Instead the payrolls shall only need to include an individually identifying number for each employee (e.g., the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division Web site at <http://www.dol.gov/esa/whd/forms/wh347instr.htm> or its successor site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to the contracting agency for transmission to the State DOT, the FHWA or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to the contracting agency..

(2) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

(i) That the payroll for the payroll period contains the information required to be provided under §5.5 (a)(3)(ii) of Regulations, 29 CFR part 5, the appropriate information is being maintained under §5.5 (a)(3)(i) of Regulations, 29 CFR part 5, and that such information is correct and complete;

(ii) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in Regulations, 29 CFR part 3;

(iii) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(3) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph 3.b.(2) of this section.

(4) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under section 1001 of title 18 and section 231 of title 31 of the United States Code.

c. The contractor or subcontractor shall make the records required under paragraph 3.a. of this section available for inspection, copying, or transcription by authorized representatives of the contracting agency, the State DOT, the FHWA, or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the FHWA may, after written notice to the contractor, the contracting agency or the State DOT, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

4. Apprentices and trainees

a. Apprentices (programs of the USDOL).

Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice.

The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed.

Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly

rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination.

In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

b. Trainees (programs of the USDOL).

Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration.

The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration.

Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed.

In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

c. Equal employment opportunity. The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR part 30.

d. Apprentices and Trainees (programs of the U.S. DOT).

Apprentices and trainees working under apprenticeship and skill training programs which have been certified by the Secretary of Transportation as promoting EEO in connection with Federal-aid highway construction programs are not subject to the requirements of paragraph 4 of this Section IV. The straight time hourly wage rates for apprentices and trainees under such programs will be established by the particular programs. The ratio of apprentices and trainees to journeymen shall not be greater than permitted by the terms of the particular program.

5. Compliance with Copeland Act requirements. The contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract.

6. Subcontracts. The contractor or subcontractor shall insert Form FHWA-1273 in any subcontracts and also require the subcontractors to include Form FHWA-1273 in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR 5.5.

7. Contract termination; debarment. A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

8. Compliance with Davis-Bacon and Related Act requirements. All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract.

9. Disputes concerning labor standards. Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

10. Certification of eligibility.

a. By entering into this contract, the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

b. No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

c. The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

V. CONTRACT WORK HOURS AND SAFETY STANDARDS ACT

The following clauses apply to any Federal-aid construction contract in an amount in excess of \$100,000 and subject to the overtime provisions of the Contract Work Hours and Safety Standards Act. These clauses shall be inserted in addition to the clauses required by 29 CFR 5.5(a) or 29 CFR 4.6. As used in this paragraph, the terms laborers and mechanics include watchmen and guards.

1. Overtime requirements. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

2. Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in paragraph (1.) of this section, the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (1.) of this section, in the sum of \$10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (1.) of this section.

3. Withholding for unpaid wages and liquidated damages. The FHWA or the contracting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (2.) of this section.

4. Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraph (1.) through (4.) of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (1.) through (4.) of this section.

VI. SUBLETTING OR ASSIGNING THE CONTRACT

This provision is applicable to all Federal-aid construction contracts on the National Highway System.

1. The contractor shall perform with its own organization contract work amounting to not less than 30 percent (or a greater percentage if specified elsewhere in the contract) of the total original contract price, excluding any specialty items designated by the contracting agency. Specialty items may be performed by subcontract and the amount of any such specialty items performed may be deducted from the total original contract price before computing the amount of work required to be performed by the contractor's own organization (23 CFR 635.116).

a. The term "perform work with its own organization" refers to workers employed or leased by the prime contractor, and equipment owned or rented by the prime contractor, with or without operators. Such term does not include employees or equipment of a subcontractor or lower tier subcontractor, agents of the prime contractor, or any other assignees. The term may include payments for the costs of hiring leased employees from an employee leasing firm meeting all relevant Federal and State regulatory requirements. Leased employees may only be included in this term if the prime contractor meets all of the following conditions:

(1) the prime contractor maintains control over the supervision of the day-to-day activities of the leased employees;

(2) the prime contractor remains responsible for the quality of the work of the leased employees;

(3) the prime contractor retains all power to accept or exclude individual employees from work on the project; and

(4) the prime contractor remains ultimately responsible for the payment of predetermined minimum wages, the submission of payrolls, statements of compliance and all other Federal regulatory requirements.

b. "Specialty Items" shall be construed to be limited to work that requires highly specialized knowledge, abilities, or equipment not ordinarily available in the type of contracting organizations qualified and expected to bid or propose on the contract as a whole and in general are to be limited to minor components of the overall contract.

2. The contract amount upon which the requirements set forth in paragraph (1) of Section VI is computed includes the cost of material and manufactured products which are to be purchased or produced by the contractor under the contract provisions.

3. The contractor shall furnish (a) a competent superintendent or supervisor who is employed by the firm, has full authority to direct performance of the work in accordance with the contract requirements, and is in charge of all construction operations (regardless of who performs the work) and (b) such other of its own organizational resources (supervision, management, and engineering services) as the contracting officer determines is necessary to assure the performance of the contract.

4. No portion of the contract shall be sublet, assigned or otherwise disposed of except with the written consent of the contracting officer, or authorized representative, and such consent when given shall not be construed to relieve the contractor of any responsibility for the fulfillment of the contract. Written consent will be given only after the contracting agency has assured that each subcontract is

evidenced in writing and that it contains all pertinent provisions and requirements of the prime contract.

5. The 30% self-performance requirement of paragraph (1) is not applicable to design-build contracts; however, contracting agencies may establish their own self-performance requirements.

VII. SAFETY: ACCIDENT PREVENTION

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

1. In the performance of this contract the contractor shall comply with all applicable Federal, State, and local laws governing safety, health, and sanitation (23 CFR 635). The contractor shall provide all safeguards, safety devices and protective equipment and take any other needed actions as it determines, or as the contracting officer may determine, to be reasonably necessary to protect the life and health of employees on the job and the safety of the public and to protect property in connection with the performance of the work covered by the contract.

2. It is a condition of this contract, and shall be made a condition of each subcontract, which the contractor enters into pursuant to this contract, that the contractor and any subcontractor shall not permit any employee, in performance of the contract, to work in surroundings or under conditions which are unsanitary, hazardous or dangerous to his/her health or safety, as determined under construction safety and health standards (29 CFR 1926) promulgated by the Secretary of Labor, in accordance with Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 3704).

3. Pursuant to 29 CFR 1926.3, it is a condition of this contract that the Secretary of Labor or authorized representative thereof, shall have right of entry to any site of contract performance to inspect or investigate the matter of compliance with the construction safety and health standards and to carry out the duties of the Secretary under Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C.3704).

VIII. FALSE STATEMENTS CONCERNING HIGHWAY PROJECTS

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

In order to assure high quality and durable construction in conformity with approved plans and specifications and a high degree of reliability on statements and representations made by engineers, contractors, suppliers, and workers on Federal-aid highway projects, it is essential that all persons concerned with the project perform their functions as carefully, thoroughly, and honestly as possible. Willful falsification, distortion, or misrepresentation with respect to any facts related to the project is a violation of Federal law. To prevent any misunderstanding regarding the seriousness of these and similar acts, Form FHWA-1022 shall be posted on each Federal-aid highway project (23 CFR 635) in one or more places where it is readily available to all persons concerned with the project:

18 U.S.C. 1020 reads as follows:

"Whoever, being an officer, agent, or employee of the United States, or of any State or Territory, or whoever, whether a person, association, firm, or corporation, knowingly makes any false statement, false representation, or false report as to the character, quality, quantity, or cost of the material used or to be used, or the quantity or quality of the work performed or to be performed, or the cost thereof in connection with the submission of plans, maps, specifications, contracts, or costs of construction on any highway or related project submitted for approval to the Secretary of Transportation; or

Whoever knowingly makes any false statement, false representation, false report or false claim with respect to the character, quality, quantity, or cost of any work performed or to be performed, or materials furnished or to be furnished, in connection with the construction of any highway or related project approved by the Secretary of Transportation; or

Whoever knowingly makes any false statement or false representation as to material fact in any statement, certificate, or report submitted pursuant to provisions of the Federal-aid Roads Act approved July 1, 1916, (39 Stat. 355), as amended and supplemented;

Shall be fined under this title or imprisoned not more than 5 years or both."

IX. IMPLEMENTATION OF CLEAN AIR ACT AND FEDERAL WATER POLLUTION CONTROL ACT

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

By submission of this bid/proposal or the execution of this contract, or subcontract, as appropriate, the bidder, proposer, Federal-aid construction contractor, or subcontractor, as appropriate, will be deemed to have stipulated as follows:

1. That any person who is or will be utilized in the performance of this contract is not prohibited from receiving an award due to a violation of Section 508 of the Clean Water Act or Section 306 of the Clean Air Act.
2. That the contractor agrees to include or cause to be included the requirements of paragraph (1) of this Section X in every subcontract, and further agrees to take such action as the contracting agency may direct as a means of enforcing such requirements.

X. CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION

This provision is applicable to all Federal-aid construction contracts, design-build contracts, subcontracts, lower-tier subcontracts, purchase orders, lease agreements, consultant contracts or any other covered transaction requiring FHWA approval or that is estimated to cost \$25,000 or more – as defined in 2 CFR Parts 180 and 1200.

1. Instructions for Certification – First Tier Participants:

- a. By signing and submitting this proposal, the prospective first tier participant is providing the certification set out below.
- b. The inability of a person to provide the certification set out below will not necessarily result in denial of participation in this

covered transaction. The prospective first tier participant shall submit an explanation of why it cannot provide the certification set out below. The certification or explanation will be considered in connection with the department or agency's determination whether to enter into this transaction. However, failure of the prospective first tier participant to furnish a certification or an explanation shall disqualify such a person from participation in this transaction.

c. The certification in this clause is a material representation of fact upon which reliance was placed when the contracting agency determined to enter into this transaction. If it is later determined that the prospective participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the contracting agency may terminate this transaction for cause of default.

d. The prospective first tier participant shall provide immediate written notice to the contracting agency to whom this proposal is submitted if any time the prospective first tier participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.

e. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180 and 1200. "First Tier Covered Transactions" refers to any covered transaction between a grantee or subgrantee of Federal funds and a participant (such as the prime or general contract). "Lower Tier Covered Transactions" refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). "First Tier Participant" refers to the participant who has entered into a covered transaction with a grantee or subgrantee of Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

f. The prospective first tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency entering into this transaction.

g. The prospective first tier participant further agrees by submitting this proposal that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transactions," provided by the department or contracting agency, entering into this covered transaction, without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the \$25,000 threshold.

h. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the Excluded Parties List System website (<https://www.epls.gov/>), which is compiled by the General Services Administration.

i. Nothing contained in the foregoing shall be construed to require the establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of the prospective participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

j. Except for transactions authorized under paragraph (f) of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause or default.

2. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion – First Tier Participants:

a. The prospective first tier participant certifies to the best of its knowledge and belief, that it and its principals:

(1) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency;

(2) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;

(3) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (a)(2) of this certification; and

(4) Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default.

b. Where the prospective participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

2. Instructions for Certification - Lower Tier Participants:

(Applicable to all subcontracts, purchase orders and other lower tier transactions requiring prior FHWA approval or estimated to cost \$25,000 or more - 2 CFR Parts 180 and 1200)

a. By signing and submitting this proposal, the prospective lower tier is providing the certification set out below.

b. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department, or agency with which

this transaction originated may pursue available remedies, including suspension and/or debarment.

c. The prospective lower tier participant shall provide immediate written notice to the person to which this proposal is submitted if at any time the prospective lower tier participant learns that its certification was erroneous by reason of changed circumstances.

d. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180 and 1200. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations. "First Tier Covered Transactions" refers to any covered transaction between a grantee or subgrantee of Federal funds and a participant (such as the prime or general contract). "Lower Tier Covered Transactions" refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). "First Tier Participant" refers to the participant who has entered into a covered transaction with a grantee or subgrantee of Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers to any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

e. The prospective lower tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency with which this transaction originated.

f. The prospective lower tier participant further agrees by submitting this proposal that it will include this clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the \$25,000 threshold.

g. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the Excluded Parties List System website (<https://www.epls.gov/>), which is compiled by the General Services Administration.

h. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

i. Except for transactions authorized under paragraph e of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the

department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion--Lower Tier Participants:

1. The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency.

2. Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

XI. CERTIFICATION REGARDING USE OF CONTRACT FUNDS FOR LOBBYING

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts which exceed \$100,000 (49 CFR 20).

1. The prospective participant certifies, by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:

a. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

b. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

2. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31 U.S.C. 1352. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

3. The prospective participant also agrees by submitting its bid or proposal that the participant shall require that the language of this certification be included in all lower tier subcontracts, which exceed \$100,000 and that all such recipients shall certify and disclose accordingly.

Replace "Contract" in the 3rd paragraph of section 8-1.02D(2) with:

10-19-12

work

Replace "Contract" in item 9 in the list in the 4th paragraph of section 8-1.02D(4) with:

10-19-12

work

Replace "Contract completion" in the 4th paragraph of section 8-1.02D(6) with:

10-19-12

work completion

Replace "Contract working days" in the 4th paragraph of section 8-1.02D(6) with:

10-19-12

original working days

Delete items 1.3 and 1.4 in the list in the 1st paragraph of section 8-1.02D(10).

04-20-12

Replace the last paragraph of section 8-1.04B with:

10-19-12

The Department does not adjust time for starting before receiving notice of Contract approval.

Replace the 1st paragraph of section 8-1.05 with:

10-19-12

Contract time starts on the last day specified to start job site activities in section 8-1.04 or on the day you start job site activities, whichever occurs first.

Replace the 2nd paragraph of section 8-1.05 with:

10-19-12

Complete the work within the Contract time.

Delete "unless the Contract is suspended for reasons unrelated to your performance" in the 4th paragraph of section 8-1.05.

10-19-12

Replace the headings and paragraphs in section 8-1.06 with:

10-19-12

The Engineer may suspend work wholly or in part due to conditions unsuitable for work progress. Provide for public safety and a smooth and unobstructed passageway through the work zone during the suspension as specified under sections 7-1.03 and 7-1.04. Providing the passageway is force account work. The Department makes a time adjustment for the suspension due to a critical delay.

The Engineer may suspend work wholly or in part due to your failure to (1) fulfill the Engineer's orders, (2) fulfill a Contract part, or (3) perform weather-dependent work when conditions are favorable so that weather-related unsuitable conditions are avoided or do not occur. The Department may provide for a

Cost	Percent markup
Labor	30
Materials	10
Equipment rental	10

Delete ", Huntington Beach," in the 3rd paragraph of section 9-1.07A.

04-20-12

Replace the formula in section 9-1.07B(2) with:

04-20-12

$$Qh = HMATT \times Xa$$

Replace "weight of dry aggregate" in the definition of the variable *Xa* in section 9-1.07B(2) with:

04-20-12

total weight of HMA

Replace the formula in section 9-1.07B(3) with:

04-20-12

$$Qrh = RHMATT \times 0.80 \times Xarb$$

Replace "weight of dry aggregate" in the definition of the variable *Xarb* in section 9-1.07B(3) with:

04-20-12

total weight of rubberized HMA

Replace the heading of section 9-1.07B(4) with:

04-20-12

Hot Mix Asphalt with Modified Asphalt Binder

Add between "in" and "modified" in the introductory clause of section 9-1.07B(4):

04-20-12

HMA with

Replace the formula in section 9-1.07B(4) with:

04-20-12

$$Qmh = MHMATT \times [(100 - Xam) / 100] \times Xmab$$

Replace "weight of dry aggregate" in the definition of the variable *Xmab* in section 9-1.07B(4) with:

04-20-12

total weight of HMA

Replace the formula in section 9-1.07B(5) with:

04-20-12

$$Qrap = HMATT \times Xaa$$

Replace "weight of dry aggregate" in the definitions of the variables *Xaa* and *Xta* in section 9-1.07B(5) with:

04-20-12

total weight of HMA

Add after the variable definitions in section 9-1.07B(9):

04-20-12

The quantity of extender oil is included in the quantity of asphalt.

Replace the headings and paragraphs in section 9-1.11 with:

10-19-12

9-1.11A General

Section 9-1.11 applies if a bid item for time-related overhead is included in the Contract. If a bid item for time-related overhead is included, you must exclude the time-related overhead from every other bid item price.

9-1.11B Payment Quantity

The TRO quantity does not include the number of working days to complete plant establishment work.

For a contract with a TRO lump sum quantity on the Bid Item List, the Department pays you based on the following conversions:

1. LS unit of measure is replaced with WDAY
2. Lump sum quantity is replaced with the number of working days bid
3. Lump sum unit price is replaced with the item total divided by the number of working days bid

9-1.11C Payment Inclusions

Payment for the TRO bid item includes payment for time-related field- and home-office overhead for the time required to complete the work.

The field office overhead includes time-related expenses associated with the normal and recurring construction activities not directly attributed to the work, including:

1. Salaries, benefits, and equipment costs of:
 - 1.1. Project managers
 - 1.2. General superintendents
 - 1.3. Field office managers
 - 1.4. Field office staff assigned to the project
2. Rent
3. Utilities
4. Maintenance
5. Security
6. Supplies
7. Office equipment costs for the project's field office

The home-office overhead includes the fixed general and administrative expenses for operating your business, including:

1. General administration
2. Insurance
3. Personnel and subcontract administration
4. Purchasing
5. Accounting
6. Project engineering and estimating

Payment for the TRO bid item does not include payment for:

1. The home-office overhead expenses specifically related to:
 - 1.1. Your other contracts or other businesses
 - 1.2. Equipment coordination
 - 1.3. Material deliveries
 - 1.4. Consultant and legal fees
2. Non-time-related costs and expenses such as mobilization, licenses, permits, and other charges incurred once during the Contract
3. Additional overhead involved in incentive/disincentive provisions to satisfy an internal milestone or multiple calendar requirements
4. Additional overhead involved in performing additional work that is not a controlling activity
5. Overhead costs incurred by your subcontractors of any tier or suppliers

9-1.11D Payment Schedule

For progress payments, the total work completed for the TRO bid item is the number of working days shown for the pay period on the *Weekly Statement of Working Days*.

For progress payments, the Department pays a unit price equal to the lesser of the following amounts:

1. Price per working day as bid or as converted under section 9-1.11B.
2. 20 percent of the total bid divided by the number of original working days

For a contract without plant establishment work, the Department pays you the balance due of the TRO item total as specified in section 9-1.17B.

For a contract with plant establishment work, the Department pays you the balance due of the TRO item total in the 1st progress payment after all non-plant establishment work is completed.

9-1.11E Payment Adjustments

The 3rd paragraph of section 9-1.17C does not apply.

The Department does not adjust the unit price for an increase or decrease in the TRO quantity except as specified in section 9-1.11E.

Section 9-1.17D(2)(b) does not apply except as specified for the audit report below.

If the TRO bid item quantity exceeds 149 percent of the quantity shown on the Bid Item List or as converted under section 9-1.11B, the Engineer may adjust or you may request an adjustment of the unit price for the excess quantity. For the adjustment, submit an audit report within 60 days of the Engineer's request. The report must be prepared as specified for an audit report for an overhead claim in section 9-1.17D(2)(b).

Within 20 days of the Engineer's request, make your financial records available for an audit by the State for the purpose of verifying the actual rate of TRO described in your audit. The actual rate of TRO described is subject to the Engineer's authorization.

The Department pays the authorized actual rate for TRO in excess of 149 percent of the quantity shown on the Bid Item List or as converted under section 9-1.11B.

The Department pays for 1/2 the cost of the report; the Contractor pays for the other 1/2. The cost is determined under section 9-1.05.

Delete "revised Contract" in item 1 of the 1st paragraph of section 9-1.16E(2).

10-19-12

Replace "2014" in the 1st paragraph of section 9-1.16F with:

10-19-12

2020

AA

12 TEMPORARY TRAFFIC CONTROL

10-19-12

Replace the 1st paragraph of section 12-3.01A(4) with:

10-19-12

Category 2 temporary traffic control devices must be on FHWA's list of acceptable, crashworthy Category 2 hardware for work zones. This list is available on FHWA's Safety Program Web site.

Replace "project" in the 4th paragraph of section 12-3.02C with:

10-19-12

work

Replace "project" in the 3rd paragraph of section 12-3.07C with:

10-19-12

work

Add between the 7th and 8th paragraphs of section 12-4.03:

10-19-12

The contingency plan must identify the operations, equipment, processes, and materials that may fail and delay a reopening of a closure to traffic. List the additional or alternate equipment, materials, or workers necessary to ensure continuing operations and on-time opening of closures whenever a problem occurs. If the additional or alternate equipment, materials, or workers are not on site, specify their location, the method for mobilizing these items, and the required time to complete mobilization.

Based on the Engineer's review, additional materials, equipment, workers, or time to complete operations from that specified in the contingency plan may be required.

Provide a general time-scaled logic diagram displaying the major activities and sequence of planned operations that comply with the requirements of section 12-4.03. For each operation, identify the critical event when the contingency plan will be activated.

Submit any revisions to the contingency plan for an operation at least 3 business days before starting that operation. Do not close any lanes until the contingency plan has been authorized.

The 5th paragraph of section 5-1.23B(1) does not apply to reviewing contingency plans.

Replace section 12-7 with:

09-16-11

12-7 RESERVED

AA

13 WATER POLLUTION CONTROL

10-19-12

Add to section 13-1.01A:

01-20-12

Comply with the Department's general permit issued by the State Water Resources Control Board for *Order No. 99-06-DWQ, NPDES No. CAS000003, National Pollutant Discharge Elimination System (NPDES) Permit, Statewide Storm Water Permit and Waste Discharge Requirements (WDRs) for the*

State of California, Department of Transportation (Caltrans). The Department's general permit governs stormwater and nonstormwater discharges from the Department's properties, facilities, and activities. The Department's general permit may be viewed at the Web site for the State Water Resources Control Board, Storm Water Program, Caltrans General Permit.

Add to the list in the 1st paragraph of section 13-1.01D(3)(b):

3. Have completed SWRCB approved QSD training and passed the QSD exam

10-21-11

Add to the list in the 2nd paragraph of section 13-1.01D(3)(b):

3. Have completed SWRCB approved QSP training and passed the QSP exam

10-21-11

Replace "working days" at each occurrence in section 13-3.04 with.

original working days

10-19-12

Replace the paragraph in section 13-4.04 with:

Not Used

04-20-12

Delete "or stockpile" in the 3rd paragraph of section 13-5.02F.

10-19-12

Replace section 13-5.03F with:

13-5.03F Reserved

04-20-12

Delete "or stockpile" in item 1 in the list in the 1st paragraph of section 13-5.03K.

10-19-12

Delete the 3rd paragraph of section 13-5.03K.

10-19-12

Replace the 2nd sentence in the 1st paragraph of section 13-9.01A with:

You may use any of the following systems for temporary concrete washout:

10-19-12

1. Temporary concrete washout facility
2. Portable temporary concrete washout
3. Temporary concrete washout bin

Replace the 2nd paragraph of section 13-9.01B with:

Retain and submit an informational submittal for records of disposed concrete waste.

10-19-12

DIVISION III GRADING
19 EARTHWORK

01-18-13

Replace the 2nd paragraph of section 19-3.01A(2)(b) with:

For cofferdams on or affecting railroad property, allow 85 days for review.

07-01-11

Add to the list in the 1st paragraph of section 19-3.01A(2)(d):

9. Provisions for discontinuous rows of soil nails

01-20-12

Add to section 19-3.01A(3)(b):

For soil nail walls, wall zones are specified in the special provisions.

01-20-12

For ground anchor walls, a wall zone is the entire wall unless otherwise specified in the special provisions.

Delete the 2nd sentence in the 4th paragraph of section 19-3.01A(3)(b).

01-20-12

Replace "90" in the paragraph of section 19-3.02G with:

90-1

01-18-13

Replace the 1st paragraph of section 19-3.03E(3) with:

Compact structure backfill behind lagging of soldier pile walls by hand tamping, mechanical compaction, or other authorized means.

01-20-12

Replace the 2nd paragraph of section 19-3.03F with:

Do not backfill over or place material over slurry cement backfill until 4 hours after placement. When concrete sand is used as aggregate and the in-place material is free draining, you may start backfilling as soon as the surface water is gone.

01-20-12

Add between the 2nd and 3rd paragraphs of section 19-3.03K:

Before you excavate for the installation of ground anchors in a wall zone:

01-20-12

1. Complete stability testing
2. Obtain authorization of test data

Replace section 30 with:

04-20-12

30 RECLAIMED PAVEMENTS

04-20-12

30-1 GENERAL

30-1.01 GENERAL

Section 30 includes specifications for reclaiming the pavement section and constructing a base.

30-2 FULL DEPTH RECLAIMED—FOAMED ASPHALT

Reserved

30-3–30-6 RESERVED

AA

DIVISION V SURFACINGS AND PAVEMENTS

37 BITUMINOUS SEALS

01-18-13

Replace section 37-1.01 with:

01-18-13

37-1.01 GENERAL

37-1.01A Summary

Section 37-1 includes general specifications for applying bituminous seals.

37-1.01B Definitions

Reserved

37-1.01C Submittals

Reserved

37-1.01D Quality Control and Assurance

37-1.01D(1) General

Reserved

37-1.01D(2) Prepaving Conference

For seal coats and micro-surfacing, schedule a prepaving conference at a mutually agreed upon time and place to meet with the Engineer.

Prepaving conference attendees must sign an attendance sheet provided by the Engineer. The prepaving conference must be attended by your:

1. Project superintendent
2. Paving construction foreman
3. Traffic control foreman

Be prepared to discuss:

1. Quality control
2. Acceptance testing
3. Placement
4. Training on placement methods
5. Checklist of items for proper placement
6. Unique issues specific to the project, including:
 - 6.1. Weather
 - 6.2. Alignment and geometrics

Replace the paragraphs in section 39-1.02F with:

02-22-13

39-1.02F(1) General

You may produce HMA Type A or B using RAP. HMA produced using RAP must comply with the specifications for HMA, except aggregate quality specifications do not apply to RAP. You may substitute RAP at a substitution rate not exceeding 25 percent of the aggregate blend. Do not use RAP in OGFC and RHMA-G.

Assign the substitution rate of RAP aggregate for virgin aggregate with the JMF submittal. The JMF must include the percent of RAP used.

Provide enough space for meeting RAP handling requirements at your facility. Provide a clean, graded, well-drained area for stockpiles. Prevent material contamination and segregation.

If RAP is from multiple sources, blend the RAP thoroughly and completely. RAP stockpiles must be homogeneous.

Isolate the processed RAP stockpiles from other materials. Store processed RAP in conical or longitudinal stockpiles. Processed RAP must not be agglomerated or be allowed to congeal in large stockpiles.

AASHTO T 324 (Modified) is AASHTO T 324, "Hamburg Wheel-Track Testing of Compacted Hot Mix Asphalt (HMA)," with the following parameters:

1. Target air voids must equal 7 ± 1 percent
2. Number of test specimens must be 4
3. Test specimen must be a 6-inch gyratory compacted specimen
4. Test temperature must be set at 140 ± 2 degrees F
5. Measurements for impression must be taken at every 100 passes
6. Inflection point defined as the number of wheel passes at the intersection of the creep slope and the stripping slope
7. Testing shut off must be set at 25,000 passes

39-1.02F(2) Substitution Rate of 15 Percent or Less

For a RAP substitution rate of 15 percent or less, you may stockpile RAP during the entire project.

39-1.02F(3) Substitution Rate Greater than 15 Percent

For a RAP substitution rate greater than 15 percent, fractionate RAP into 2 sizes, a coarse fraction RAP retained on 1/4-inch screen and a fine fraction RAP passing 1/4-inch screen.

Sample and test processed RAP at a minimum frequency of 1 sample per 1000 tons with a minimum of 6 samples for each processed RAP stockpile. The asphalt binder content and specific gravity must meet the processed RAP quality characteristics. If a processed RAP stockpile is augmented, sample and test processed RAP quality characteristics at a minimum frequency of 1 sample per 500 tons of augmented RAP.

The processed RAP asphalt binder content must be within ± 2.0 percent of the average processed RAP stockpile asphalt binder content when tested under ASTM D 2172, Method B. If a new processed RAP stockpile is required, the average binder content of the new processed RAP stockpile must be within ± 2.0 percent of the average binder content of the original processed RAP stockpile.

The maximum specific gravity for processed RAP must be within ± 0.06 when tested under California Test 309 of the average maximum specific gravity reported on page 4 of your *Contractor Hot Mix Asphalt Design Data* form.

Replace "less than 10 percent" in note "b" in the table in the 5th paragraph of section 39-1.02E with:

10 percent or less

01-20-12

Replace items 7 and 8 in the 5th paragraph of section 39-1.03A with:

02-22-13

7. Substitution rate by more than 5 percent if your assigned RAP substitution rate is 15 percent or less
8. Substitution rate by more than 3 percent if your assigned RAP substitution rate is greater than 15 percent
9. Average binder content by more than 2 percent from the average binder content of the original processed RAP stockpile used in the mix design
10. Maximum specific gravity of processed RAP by more than ± 0.060 from the average maximum specific gravity of processed RAP reported on page 4 of your *Contractor Hot Mix Asphalt Design Data* form
11. Any material in the JMF

Replace the 1st paragraph of section 39-1.03B with:

02-22-13

Perform a mix design that produces HMA with the values for the quality characteristics shown in the following table:

HMA Mix Design Requirements

Quality characteristic	Test method	HMA type		
		A	B	RHMA-G
Air void content (%)	California Test 367	4.0	4.0	Section 39-1.03B
Voids in mineral aggregate (% min.) No. 4 grading 3/8" grading 1/2" grading 3/4" grading	California Test 367	17.0	17.0	--
		15.0	15.0	--
		14.0	14.0	18.0–23.0
		13.0	13.0	18.0–23.0
Voids filled with asphalt (%) No. 4 grading 3/8" grading 1/2" grading 3/4" grading	California Test 367	65.0–75.0	65.0–75.0	Note a
		65.0–75.0	65.0–75.0	
		65.0–75.0	65.0–75.0	
		65.0–75.0	65.0–75.0	
Dust proportion No. 4 and 3/8" gradings 1/2" and 3/4" gradings	California Test 367	0.6–1.2	0.6–1.2	Note a
		0.6–1.2	0.6–1.2	
Stabilometer value (min.) No. 4 and 3/8" gradings 1/2" and 3/4" gradings	California Test 366	30	30	--
		37	35	23

^a Report this value in the JMF submittal.

For RAP substitution rate greater than 15 percent, the mix design must comply with the additional quality characteristics shown in the following table:

**Additional HMA Mix Design Requirements
for RAP Substitution Rate Greater Than 15 Percent**

Quality characteristic	Test method	HMA type		
		A	B	RHMA-G
Hamburg wheel track (minimum number of passes at 0.5 inch average rut depth)	AASHTO T 324 (Modified) ^a			
PG-58		10,000	10,000	--
PG-64		15,000	15,000	
PG-70		20,000	20,000	
PG-76 or higher		25,000	25,000	
Hamburg wheel track (inflection point minimum number of passes) ^f	AASHTO T 324 (Modified) ^a			
PG-58		10,000	10,000	--
PG-64		10,000	10,000	
PG-70		12,500	12,500	
PG-76 or higher		15000	15000	
Moisture susceptibility (minimum dry strength, psi)	California Test 371 ^a	120	120	--
Moisture susceptibility (tensile strength ration, %)	California Test 371 ^a	70	70	--

^aTest plant produced HMA.

For HMA with RAP, the maximum binder replacement must be 25.0 percent of OBC for surface course and 40.0 percent of OBC for lower courses.

For HMA with a binder replacement less than or equal to 25 percent of OBC, you may request that the PG asphalt binder grade with upper and lower temperature classifications be reduced by 6 degrees C from the specified grade.

For HMA with a binder replacement greater than 25 percent but less than or equal to 40 percent of OBC, you must use a PG asphalt binder grade with upper and lower temperature classifications reduced by 6 degrees C from the specified grade.

Replace item 4 in the list in the 1st paragraph of section 39-1.03C with:

4. JMF renewal on a *Caltrans Job Mix Formula Renewal* form, if applicable

01-20-12

Add after the last paragraph of section 39-1.03C:

For RAP substitution rate greater than 15 percent, submit with the JMF submittal:

1. California Test 371 tensile strength ratio and minimum dry strength test results
2. AASHTO T 324 (Modified) test results

02-22-13

For RAP substitution rate greater than 15 percent, submit California Test 371 and AASHTO T 324 (Modified) test results to the Engineer and to:

Moisture_Tests@dot.ca.gov

Replace the 2nd paragraph of section 39-1.03E with:

04-20-12

Use the OBC specified on your *Contractor Hot Mix Asphalt Design Data* form. No adjustments to asphalt binder content are allowed. Based on your testing and production experience, you may submit an adjusted aggregate gradation TV on a *Contractor Job Mix Formula Proposal* form before verification testing. Aggregate gradation TV must be within the TV limits specified in the aggregate gradation tables.

Add between the 3rd and 4th paragraphs of section 39-1.03E:

04-20-12

Asphalt binder set point for HMA must be the OBC specified on your *Contractor Hot Mix Asphalt Design Data* form. When RAP is used, asphalt binder set point for HMA must be:

$$\text{Asphalt Binder Set Point} = \frac{\frac{BC_{OBC}}{\left(1 - \frac{BC_{OBC}}{100}\right)} - R_{RAP} \left[\frac{BC_{RAP}}{\left(1 - \frac{BC_{RAP}}{100}\right)} \right]}{100 + \frac{BC_{OBC}}{\left(1 - \frac{BC_{OBC}}{100}\right)}}$$

Where:

BC_{OBC} = optimum asphalt binder content, percent based on total weight of mix

R_{RAP} = RAP ratio by weight of aggregate

BC_{RAP} = asphalt binder content of RAP, percent based on total weight of RAP mix

Replace item 4 in the list in the 8th paragraph of section 39-1.03E with:

04-20-12

4. HMA quality specified in the table titled "HMA Mix Design Requirements" except:
 - 4.1. Air void content, design value ± 2.0 percent
 - 4.2. Voids filled with asphalt, report only
 - 4.3. Dust proportion, report only

Replace the 12th paragraph of section 39-1.03E with:

04-20-12

If tests on plant-produced samples do not verify the JMF, the Engineer notifies you and you must submit a new JMF or submit an adjusted JMF based on your testing. JMF adjustments may include a change in aggregate gradation TV within the TV limits specified in the aggregate gradation tables.

Replace the 14th paragraph of section 39-1.03E with:

01-20-12

A verified JMF is valid for 12 months.

Replace the last sentence in the 15th paragraph of section 39-1.03E with:

01-20-12

This deduction does not apply to verifications initiated by the Engineer or JMF renewal.

Replace the 16th paragraph of section 39-1.03E with:

02-22-13

Except for RAP substitution rate greater than 15 percent, for any HMA produced under the QC/QA process the Department does not use California Test 371 test results for verification.

Add between the 1st and 2nd paragraphs of section 39-1.03F:

04-20-12

Target asphalt binder content on your Contractor *Job Mix Formula Proposal* form and the OBC specified on your *Contractor Hot Mix Asphalt Design Data* form must be the same.

Delete the 4th paragraph of section 39-1.03F.

01-20-12

Replace items 3 and 5 in the list in the 6th paragraph of section 39-1.03F with:

01-20-12

3. Engineer verifies each proposed JMF renewal within 20 days of receiving verification samples.
5. For each HMA type and aggregate gradation specified, the Engineer verifies at the Department's expense 1 proposed JMF renewal within a 12-month period.

Add between the 6th and 7th paragraphs of section 39-1.03F:

01-20-12

The most recent aggregate quality test results within the past 12 months may be used for verification of JMF renewal or the Engineer may perform aggregate quality tests for verification of JMF renewal.

Replace section 39-1.03G with:

04-20-12

39-1.03G Job Mix Formula Modification

For an accepted JMF, you may change asphalt binder source one time during production.

Submit your modified JMF request a minimum of 3 business days before production. Each modified JMF submittal must consist of:

1. Proposed modified JMF on *Contractor Job Mix Formula Proposal* form
2. Mix design records on *Contractor Hot Mix Asphalt Design Data* form for the accepted JMF to be modified
3. JMF verification on *Hot Mix Asphalt Verification* form for the accepted JMF to be modified
4. Quality characteristics test results for the modified JMF as specified in section 39-1.03B. Perform tests at the mix design OBC as shown on the *Contractor Asphalt Mix Design Data* form
5. If required, California Test 371 test results for the modified JMF.

With an accepted modified JMF submittal, the Engineer verifies each modified JMF within 5 business days of receiving all verification samples. If California Test 371 is required, the Engineer tests for California Test 371 within 10 days of receiving verification samples.

The Engineer verifies the modified JMF after the modified JMF HMA is placed on the project and verification samples are taken within the first 750 tons following sampling requirements in section 39-1.03E, "Job Mix Formula Verification." The Engineer tests verification samples for compliance with:

1. Stability as shown in the table titled "HMA Mix Design Requirements"
2. Air void content at design value ± 2.0 percent
3. Voids in mineral aggregate as shown in the table titled "HMA Mix Design Requirements"
4. Voids filled with asphalt, report only

5. Dust proportion, report only

If the modified JMF is verified, the Engineer revises your *Hot Mix Asphalt Verification* form to include the new asphalt binder source. Your revised form will have the same expiration date as the original form.

If a modified JMF is not verified, stop production and any HMA placed using the modified JMF is rejected.

The Engineer deducts \$2,000 from payments for each modified JMF verification. The Engineer deducts an additional \$2,000 for each modified JMF verification that requires California Test 371.

Add to section 39-1.03:

01-20-12

39-1.03H Job Mix Formula Acceptance

You may start HMA production if:

1. The Engineer's review of the JMF shows compliance with the specifications.
2. The Department has verified the JMF within 12 months before HMA production.
3. The Engineer accepts the verified JMF.

Replace "3 days" in the 1st paragraph of section 39-1.04A with:

01-20-12

3 business days

Replace the 2nd sentence in the 2nd paragraph of section 39-1.04A with:

01-20-12

During production, take samples under California Test 125. You may sample HMA from:

Replace the 2nd paragraph of section 39-1.04E with:

02-22-13

For RAP substitution rate of 15 percent or less, sample RAP once daily.

For RAP substitution rate of greater than 15percent, sample processed RAP twice daily.

Perform QC testing for processed RAP aggregate gradation under California Test 367, appendix B, and submit the results with the combined aggregate gradation.

Replace "5 days" in the 1st paragraph of section 39-1.06 with:

01-20-12

5 business days

Replace the 3rd paragraph of section 39-1.08A with:

04-20-12

During production, you may adjust hot or cold feed proportion controls for virgin aggregate and RAP.

Add to section 39-1.08A:

04-20-12

During production, asphalt binder set point for HMA Type A, HMA Type B, HMA Type C, and RHMA-G must be the OBC shown in *Contractor Hot Mix Asphalt Design Data* form. For OGFC, asphalt binder set

point must be the OBC shown on *Caltrans Hot Mix Asphalt Verification* form. If RAP is used, asphalt binder set point for HMA must be calculated as specified in section 39-1.03E.

02-22-13

For RAP substitution rate of 15 percent or less, you may adjust the RAP by ± 5 percent.

For RAP substitution greater than 15, you may adjust the RAP by ± 3 percent.

04-20-12

You must request adjustments to the plant asphalt binder set point based on new RAP stockpiles average asphalt binder content. Do not adjust the HMA plant asphalt binder set point until authorized.

Replace the 3rd paragraph of section 39-1.08B with:

09-16-11

Asphalt rubber binder must be from 375 to 425 degrees F when mixed with aggregate.

Replace section 39-1.11 with:

01-18-13

39-1.11 CONSTRUCTION

39-1.11A General

Do not place HMA on wet pavement or a frozen surface.

You may deposit HMA in a windrow and load it in the paver if:

1. Paver is equipped with a hopper that automatically feeds the screed
2. Loading equipment can pick up the windrowed material and deposit it in the paver hopper without damaging base material
3. Activities for deposit, pickup, loading, and paving are continuous
4. HMA temperature in the windrow does not fall below 260 degrees F

You may place HMA in 1 or more layers on areas less than 5 feet wide and outside the traveled way, including shoulders. You may use mechanical equipment other than a paver for these areas. The equipment must produce uniform smoothness and texture.

HMA handled, spread, or windrowed must not stain the finished surface of any improvement, including pavement.

Do not use petroleum products such as kerosene or diesel fuel to release HMA from trucks, spreaders, or compactors.

HMA must be free of:

1. Segregation
2. Coarse or fine aggregate pockets
3. Hardened lumps

39-1.11B Longitudinal Joints

39-1.11B(1) General

Longitudinal joints in the top layer must match specified lane edges. Alternate the longitudinal joint offsets in the lower layers at least 0.5 foot from each side of the specified lane edges. You may request other longitudinal joint placement patterns.

A vertical longitudinal joint of more than 0.15 ft is not allowed at any time between adjacent lanes open to traffic.

For HMA thickness of 0.15 ft or less, the distance between the ends of the adjacent surfaced lanes at the end of each day's work must not be greater than can be completed in the following day of normal paving.

For HMA thickness greater than 0.15 ft, you must place HMA on adjacent traveled way lanes so that at the end of each work shift the distance between the ends of HMA layers on adjacent lanes is from 5 to 10 feet. Place additional HMA along the transverse edge at each lane's end and along the exposed longitudinal edges between adjacent lanes. Hand rake and compact the additional HMA to form temporary conforms. You may place Kraft paper or another authorized bond breaker under the conform tapers to facilitate the taper removal when paving operations resume.

39-1.11B(2) Tapered Notched Wedge

For divided highways with an HMA lift thickness greater than 0.15 foot, you may construct a 1-foot wide tapered notched wedge joint as a longitudinal joint between adjacent lanes open to traffic. A vertical notch of 0.75 inch maximum must be placed at the top and bottom of the tapered wedge.

The tapered notched wedge must retain its shape while exposed to traffic. Pave the adjacent lane within 1 day.

Construct the tapered portion of the tapered notched wedge with an authorized strike-off device. The strike-off device must provide a uniform slope and must not restrict the main screed of the paver.

You may use a device attached to the screed to construct longitudinal joints that will form a tapered notched wedge in a single pass. The tapered notched wedge must be compacted to a minimum of 91 percent compaction.

Perform QC testing on the completed tapered notch wedge joint as follows:

1. Perform field compaction tests at the rate of 1 test for each 750-foot section along the joint. Select random locations for testing within each 750-foot section.
2. Perform field compaction tests at the centerline of the joint, 6 inches from the upper vertical notch, after the adjacent lane is placed and before opening the pavement to traffic.
3. Determine maximum density test results.
4. Determine percent compaction of the longitudinal joint as the ratio of the average of the field compaction values and the maximum density test results.

For HMA under QC/QA construction process, the additional quality control compaction results associated with the tapered notch wedge will not be included in the computation of any quality factor and process control.

For acceptance of the completed tapered notch wedge joint, take two 4- or 6-inch diameter cores 6 inches from the upper vertical notch of the completed longitudinal joint for every 3,000 feet at locations designated by the Engineer. Take cores after the adjacent lane is placed and before opening the pavement to traffic. Cores must be taken in the presence of the Engineer and must be marked to identify the test sites. Submit the cores. One core will be used for determination of the field density and 1 core will be used for dispute resolution. The Engineer determines:

1. Field compaction by measuring the bulk specific gravity of the cores under California Test 308, Method A
2. Percent compaction as the ratio of the average of the bulk specific gravity of the core for each day's production to the maximum density test value

For HMA under QC/QA construction process, the additional quality assurance testing by the Engineer to determine field compaction associated with the tapered notch wedge will not be included in the Engineer's verification testing and in the computation of any quality factor and process control.

Determine percent compaction values each day the joint is completed and submit values within 24 hours of testing. If the percent compaction of 1 day's production is less than 91 percent, that day's notched wedge joint is rejected. Discontinue placement of the tapered notched wedge and notify the Engineer of changes you will make to your construction process in order to meet the specifications.

For HMA under QC/QA construction process, quantities of HMA placed in the completed longitudinal joint will have a quality factor QF_{QC5} of 1.0.

39-1.11C Widening Existing Pavement

If widening existing pavement, construct new pavement structure to match the elevation of the existing pavement's edge before placing HMA over the existing pavement.

39-1.11D Shoulders, Medians, and Other Road Connections

Until the adjoining through lane's top layer has been paved, do not pave the top layer of:

1. Shoulders
2. Tapers
3. Transitions
4. Road connections
5. Driveways
6. Curve widenings
7. Chain control lanes
8. Turnouts
9. Turn pockets

If the number of lanes changes, pave each through lane's top layer before paving a tapering lane's top layer. Simultaneous to paving a through lane's top layer, you may pave an adjoining area's top layer, including shoulders. Do not operate spreading equipment on any area's top layer until completing final compaction.

39-1.11E Leveling

If leveling with HMA is specified, fill and level irregularities and ruts with HMA before spreading HMA over the base, existing surfaces, or bridge decks. You may use mechanical equipment other than a paver for these areas. The equipment must produce uniform smoothness and texture. HMA used to change an existing surface's cross slope or profile is not paid for as HMA (leveling).

If placing HMA against the edge of existing pavement, sawcut or grind the pavement straight and vertical along the joint and remove extraneous material.

39-1.11F Compaction

Rolling must leave the completed surface compacted and smooth without tearing, cracking, or shoving. Complete finish rolling activities before the pavement surface temperature is:

1. Below 150 degrees F for HMA with unmodified binder
2. Below 140 degrees F for HMA with modified binder
3. Below 200 degrees F for RHMA-G

If a vibratory roller is used as a finish roller, turn the vibrator off.

Do not use a pneumatic-tired roller to compact RHMA-G.

For Standard and QC/QA construction processes, if 3/4-inch aggregate grading is specified, you may use a 1/2-inch aggregate grading if the specified total paved thickness is at least 0.15 foot and less than 0.20 foot thick.

Spread and compact HMA under sections 39-3.03 and 39-3.04 if any of the following applies:

1. Specified paved thickness is less than 0.15 foot.
2. Specified paved thickness is less than 0.20 foot and 3/4-inch aggregate grading is specified and used.
3. You spread and compact at:
 - 3.1. Asphalt concrete surfacing replacement areas
 - 3.2. Leveling courses
 - 3.3. Areas for which the Engineer determines conventional compaction and compaction measurement methods are impeded

Do not open new HMA pavement to public traffic until its mid-depth temperature is below 160 degrees F.

If you request and if authorized, you may cool HMA Type A and Type B with water when rolling activities are complete. Apply water under section 17-3.

Spread sand at a rate from 1 to 2 lb/sq yd on new RHMA-G, RHMA-O, and RHMA-O-HB pavement when finish rolling is complete. Sand must be free of clay or organic matter. Sand must comply with section 90-1.02C(4)(c). Keep traffic off the pavement until spreading sand is complete.

Replace the 5th and 6th paragraphs of section 39-1.12C with:

07-20-12

On tangents and horizontal curves with a centerline radius of curvature 2,000 feet or more, the PI_0 must be at most 2.5 inches per 0.1-mile section.

On horizontal curves with a centerline radius of curvature between 1,000 feet and 2,000 feet including pavement within the superelevation transitions, the PI_0 must be at most 5 inches per 0.1-mile section.

Add to section 39-1.12:

01-20-12

39-1.12E Reserved

Add to section 39-1.14:

01-20-12

Prepare the area to receive HMA for miscellaneous areas and dikes, including any excavation and backfill as needed.

Replace "6.8" in item 3 in the list in the 4th paragraph of section 39-1.14 with:

04-20-12

6.4

Replace "6.0" in item 3 in the list in the 4th paragraph of section 39-1.14 with:

04-20-12

5.7

Replace "6.8" in the 1st paragraph of section 39-1.15B with:

04-20-12

6.4

Replace "6.0" in the 1st paragraph of section 39-1.15B with:

04-20-12

5.7

Replace the 1st paragraph of section 39-2.02B with:

02-22-13

Perform sampling and testing at the specified frequency for the quality characteristics shown in the following table:

Minimum Quality Control—Standard Construction Process

Quality characteristic	Test method	Minimum sampling and testing frequency	HMA type			
			A	B	RHMA-G	OGFC
Aggregate gradation ^a	California Test 202	1 per 750 tons and any remaining part at the end of the project	JMF ± Tolerance ^b			
Sand equivalent (min) ^c	California Test 217		47	42	47	--
Asphalt binder content (%)	California Test 379 or 382		JMF±0.40	JMF±0.40	JMF ± 0.40	JMF ± 0.40
HMA moisture content (% max)	California Test 226 or 370	1 per 2,500 tons but not less than 1 per paving day	1.0	1.0	1.0	1.0
Field compaction (% max. theoretical density) ^{d,e}	QC plan	2 per business day (min.)	91–97	91–97	91–97	--
Stabilometer value (min) ^c No. 4 and 3/8" gradings 1/2" and 3/4" gradings	California Test 366	1 per 4,000 tons or 2 per 5 business days, whichever is greater	30	30	--	--
			37	35	23	--
Air void content (%) ^{c,f}	California Test 367		4 ± 2	4 ± 2	TV ± 2	--
Aggregate moisture content at continuous mixing plants and RAP moisture content at continuous mixing plants and batch mixing plants ^g	California Test 226 or 370	2 per day during production	--	--	--	--
Percent of crushed particles coarse aggregate (% min) One fractured face Two fractured faces Fine aggregate (% min) (Passing no. 4 sieve and retained on no. 8 sieve.) One fractured face	California Test 205	As designated in the QC plan. At least once per project	90	25	--	90
			75	--	90	75
Los Angeles Rattler (% max) Loss at 100 rev.	California Test 211		70	20	70	90
			12	--	12	12

Loss at 500 rev.			45	50	40	40
Flat and elongated particles (% max by weight @ 5:1)	California Test 235		Report only	Report only	Report only	Report only
Fine aggregate angularity (% min) ^h	California Test 234		45	45	45	--
Voids filled with asphalt (%) ⁱ No. 4 grading 3/8" grading 1/2" grading 3/4" grading	California Test 367		65.0–75.0 65.0–75.0 65.0–75.0 65.0–75.0	65.0–75.0 65.0–75.0 65.0–75.0 65.0–75.0	Report only	--
Voids in mineral aggregate (% min) ⁱ No. 4 grading 3/8" grading 1/2" grading 3/4" grading	California Test 367		17.0 15.0 14.0 13.0	17.0 15.0 14.0 13.0	-- -- 18.0–23.0 18.0–23.0	--
Dust proportion ^l No. 4 and 3/8" gradings 1/2" and 3/4" gradings	California Test 367		0.6-1.2 0.6–1.2	0.6-1.2 0.6–1.2	Report only	--
Hamburg wheel track (minimum number of passes at 0.5 inch average rut depth) ^j PG-58 PG-64 PG-70 PG-76 or higher	AASHTO T 324 (Modified)	1 per 10,000 tons or 1 per project whichever is more	10,000 15,000 20,000 25,000	10,000 15,000 20,000 25,000	--	--
Hamburg wheel track (inflection point minimum number of passes) ^j PG-58 PG-64 PG-70 PG-76 or higher	AASHTO T 324 (Modified)	1 per 10,000 tons or 1 per project whichever is more	10,000 10,000 12,500 15000	10,000 10,000 12,500 15000	--	--
Moisture susceptibility (minimum dry strength, psi) ^j	California Test 371	For RAP ≥15% 1 per 10,000 tons or 1 per project whichever is greater	120	120	--	--
Moisture susceptibility (tensile strength ratio, %) ^j	California Test 371	For RAP ≥15% 1 per 10,000 tons or 1	70	70	--	--

		per project whichever is greater				
Smoothness	Section 39-1.12	--	12-foot straight- edge, must grind, and PI ₀			
Asphalt rubber binder viscosity @ 375 °F, centipoises	Section 39-1.02D	Section 39-1.04C	--	--	1,500– 4,000	1,500– 4,000
Asphalt modifier	Section 39-1.02D	Section 39-1.04C	--	--	Section 39-1.02D	Section 39-1.02D
CRM	Section 39-1.02D	Section 39-1.04C	--	--	Section 39-1.02D	Section 39-1.02D

^a Determine combined aggregate gradation containing RAP under California Test 367.

^b The tolerances must comply with the allowable tolerances in section 39-1.02E.

^c Report the average of 3 tests from a single split sample.

^d Determine field compaction for any of the following conditions:

1. 1/2-inch, 3/8-inch, or no. 4 aggregate grading is used and the specified total paved thickness is at least 0.15 foot.
2. 3/4-inch aggregate grading is used and the specified total paved thickness is at least 0.20 foot.

^e 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.

^f Determine the bulk specific gravity of each lab-compacted briquette under California Test 308, Method A, and theoretical maximum specific gravity under California Test 309.

^g For adjusting the plant controller at the HMA plant.

^h 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.

ⁱ Report only.

^j Applies to RAP substitution rate greater than 15 percent.

Replace the 1st paragraph of section 39-2.03A with:

02-22-13

The Department samples for acceptance testing and tests for the quality characteristics shown in the following table:

HMA Acceptance—Standard Construction Process

Quality characteristic				Test method	HMA type			
					A	B	RHMA-G	OGFC
Aggregate gradation ^a				California Test 202	JMF ± tolerance ^c			
Sieve	3/4"	1/2"	3/8"					
1/2"	X ^b							
3/8"		X						
No. 4			X					
No. 8	X	X	X					
No. 200	X	X	X					
Sand equivalent (min) ^d				California Test 217	47	42	47	--
Asphalt binder content (%)				California Test 379 or 382	JMF±0.40	JMF±0.40	JMF ± 0.40	JMF ± 0.40
HMA moisture content (% max)				California Test 226 or 370	1.0	1.0	1.0	1.0
Field compaction (% max. theoretical density) ^{e, f}				California Test 375	91–97	91–97	91–97	--
Stabilometer value (min) ^d				California Test 366	30	30	--	--
No. 4 and 3/8" gradings								
1/2" and 3/4" gradings					37	35	23	--
Air void content (%) ^{d, g}				California Test 367	4 ± 2	4 ± 2	TV ± 2	--
Percent of crushed particles				California Test 205	90	25	--	90
Coarse aggregate (% min)								
One fractured face								
Two fractured faces								
Fine aggregate (% min)								
(Passing no. 4 sieve and retained on no. 8 sieve.)								
One fractured face				70	20	70	90	
Los Angeles Rattler (% max)				California Test 211	12	--	12	12
Loss at 100 rev.								
Loss at 500 rev.					45	50	40	40
Fine aggregate angularity (% min) ^h				California Test 234	45	45	45	--
Flat and elongated particles (% max by weight @ 5:1)				California Test 235	Report only	Report only	Report only	Report only
Voids filled with asphalt (%) ⁱ				California Test 367	65.0–75.0	65.0–75.0	Report only	--
No. 4 grading								
3/8" grading								
1/2" grading								
3/4" grading								
Voids in mineral aggregate (% min) ⁱ				California Test 367	17.0	17.0	--	--
No. 4 grading								
3/8" grading								
1/2" grading								
3/4" grading								
Dust proportion ⁱ				California			Report only	--

No. 4 and 3/8" gradings 1/2" and 3/4" gradings	Test 367	0.6-1.2 0.6-1.2	0.6-1.2 0.6-1.2		
Hamburg wheel track (minimum number of passes at 0.5 inch average rut depth) ^j PG-58 PG-64 PG-70 PG-76 or higher	AASHTO T 324 (Modified)	10,000 15,000 20,000 25,000	10,000 15,000 20,000 25,000	--	--
Hamburg wheel track (inflection point minimum number of passes) ^j PG-58 PG-64 PG-70 PG-76 or higher	AASHTO T 324 (Modified)	10,000 10,000 12,500 15000	10,000 10,000 12,500 15000	--	--
Moisture susceptibility (minimum dry strength, psi) ^j	California Test 371	120	120	--	--
Moisture susceptibility (tensile strength ration, %) ^j	California Test 371	70	70	--	--
Smoothness	Section 39-1.12	12-foot straight- edge, must grind, and PI ₀	12-foot straight- edge, must grind, and PI ₀	12-foot straight- edge, must grind, and PI ₀	12-foot straight- edge and must grind
Asphalt binder	Various	Section 92	Section 92	Section 92	Section 92
Asphalt rubber binder	Various	--	--	Section 92- 1.01D(2) and section 39-1.02D	Section 92-1.01D(2) and section 39-1.02D
Asphalt modifier	Various	--	--	Section 39-1.02D	Section 39-1.02D
CRM	Various	--	--	Section 39-1.02D	Section 39-1.02D

^a The Engineer determines combined aggregate gradations containing RAP under California Test 367.

^b "X" denotes the sieves the Engineer tests for the specified aggregate gradation.

^c The tolerances must comply with the allowable tolerances in section 39-1.02E.

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

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

1. 1/2-inch, 3/8-inch, or no. 4 aggregate grading is used and the specified total paved thickness is at least 0.15 foot.
2. 3/4-inch aggregate grading is used and the specified total paved thickness is at least 0.20 foot.

^f 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.

^g The Engineer determines the bulk specific gravity of each lab-compacted briquette under California Test 308, Method A, and theoretical maximum specific gravity under California Test 309.

^h 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.

ⁱ Report only.

^j Applies to RAP substitution rate greater than 15 percent.

Replace the 5th paragraph of section 39-2.03A with:

01-20-12

The Engineer 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, 3/8-inch, or no. 4 aggregate grading is used and the specified total paved thickness is at least 0.15 foot and any layer is less than 0.15 foot.
2. 3/4-inch aggregate grading is used and the specified total paved thickness is at least 0.2 foot and any layer is less than 0.20 foot.

Replace the 1st paragraph of section 39-3.02A with:

02-22-13

The Department samples for acceptance testing and tests for the quality characteristics shown in the following table:

HMA Acceptance—Method Construction Process

Quality characteristic	Test method	HMA type			
		A	B	RHMA-G	OGFC
Aggregate gradation ^a	California Test 202	JMF ± tolerance ^b	JMF ± tolerance ^b	JMF ± tolerance ^b	JMF ± tolerance ^b
Sand equivalent (min) ^c	California Test 217	47	42	47	--
Asphalt binder content (%)	California Test 379 or 382	JMF±0.40	JMF±0.40	JMF ± 0.40	JMF ± 0.40
HMA moisture content (% max)	California Test 226 or 370	1.0	1.0	1.0	1.0
Stabilometer value (min) ^c No. 4 and 3/8" gradings 1/2" and 3/4" gradings	California Test 366	30 37	30 35	-- 23	-- --
Percent of crushed particles Coarse aggregate (% min) One fractured face Two fractured faces Fine aggregate (% min) (Passing no. 4 sieve and retained on no. 8 sieve.) One fractured face	California Test 205	90 75 70	25 -- 20	-- 90 70	90 75 90
Los Angeles Rattler (% max) Loss at 100 rev. Loss at 500 rev.	California Test 211	12 45	-- 50	12 40	12 40
Air void content (%) ^{c, d}	California Test 367	4 ± 2	4 ± 2	TV ± 2	--
Fine aggregate angularity (% min) ^e	California Test 234	45	45	45	--
Flat and elongated particles (% max by weight @ 5:1)	California Test 235	Report only	Report only	Report only	Report only
Voids filled with asphalt (%) ^f No. 4 grading 3/8" grading 1/2" grading 3/4" grading	California Test 367	65.0–75.0 65.0–75.0 65.0–75.0 65.0–75.0	65.0–75.0 65.0–75.0 65.0–75.0 65.0–75.0	Report only	--
Voids in mineral aggregate (% min) ^f No. 4 grading 3/8" grading 1/2" grading 3/4" grading	California Test 367	17.0 15.0 14.0 13.0	17.0 15.0 14.0 13.0	-- -- 18.0–23.0 18.0–23.0	--
Dust proportion ^g No. 4 and 3/8" gradings 1/2" and 3/4" gradings	California Test 367	0.6–1.2 0.6–1.2	0.6–1.2 0.6–1.2	Report only	--
Hamburg wheel track (minimum number of passes at 0.5 inch average rut depth) ^g PG-58 PG-64	AASHTO T 324 (Modified)	10,000 15,000	10,000 15,000	--	--

PG-70 PG-76 or higher		20,000 25,000	20,000 25,000		
Hamburg wheel track (inflection point minimum number of passes) ^g	AASHTO T 324 (Modified)			--	--
PG-58		10,000	10,000		
PG-64		10,000	10,000		
PG-70		12,500	12,500		
PG-76 or higher		15000	15000		
Moisture susceptibility (minimum dry strength, psi) ^g	California Test 371	120	120	--	--
Moisture susceptibility (tensile strength ration, %) ^g	California Test 371	70	70	--	--
Smoothness	Section 39-1.12	12-foot straight- edge and must-grind	12-foot straight- edge and must-grind	12-foot straight- edge and must-grind	12-foot straight- edge and must-grind
Asphalt binder	Various	Section 92	Section 92	Section 92	Section 92
Asphalt rubber binder	Various	--	--	Section 92- 1.01D(2) and section 39-1.02D	Section 92- 1.01D(2) and section 39-1.02D
Asphalt modifier	Various	--	--	Section 39-1.02D	Section 39-1.02D
CRM	Various	--	--	Section 39-1.02D	Section 39-1.02D

^a The Engineer determines combined aggregate gradations containing RAP under California Test 367.

^b The tolerances must comply with the allowable tolerances in section 39-1.02E.

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

^d The Engineer determines the bulk specific gravity of each lab-compacted briquette under California Test 308, Method A, and theoretical maximum specific gravity under California Test 309.

^e 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.

^f Report only.

^g Applies to RAP substitution rate greater than 15 percent.

Replace "280 degrees F" in item 2 in the list in the 6th paragraph of section 39-3.04 with:

285 degrees F

01-20-12

Replace "5,000" in the 5th paragraph of section 39-4.02C with:

10,000

02-22-13

Replace the 7th paragraph of section 39-4.02C with:

Except for RAP substitution rate of greater than 15 percent, the Department does not use results from California Test 371 to determine specification compliance.

02-22-13

Replace the 8th paragraph of section 39-4.02C with:

02-22-13

Comply with the values for the HMA quality characteristics and minimum random sampling and testing for quality control shown in the following table:

Minimum Quality Control—QC/QA Construction Process

Quality characteristic	Test method	Minimum sampling and testing frequency	HMA Type			Location of sampling	Maximum reporting time allowance
			A	B	RHMA-G		
Aggregate gradation ^a	California Test 202	1 per 750 tons	JMF ± tolerance ^b	JMF ± tolerance ^b	JMF ± tolerance ^b	California Test 125	24 hours
Asphalt binder content (%)	California Test 379 or 382		JMF±0.40	JMF±0.40	JMF ±0.40	Loose mix behind paver See California Test 125	
Field compaction (% max. theoretical density) ^{c,d}	QC plan		92–96	92–96	91–96	QC plan	
Aggregate moisture content at continuous mixing plants and RAP moisture content at continuous mixing plants and batch mixing plants ^e	California Test 226 or 370	2 per day during production	--	--	--	Stock-piles or cold feed belts	--
Sand equivalent (min) ^f	California Test 217	1 per 750 tons	47	42	47	California Test 125	24 hours
HMA moisture content (% max)	California Test 226 or 370	1 per 2,500 tons but not less than 1 per paving day	1.0	1.0	1.0	Loose Mix Behind Paver See California Test 125	24 hours
Stabilometer value (min) ^f	California Test 366	1 per 4,000 tons or 2 per 5 business days, whichever is greater	30	30	--		48 hours
No. 4 and 3/8" gradings 1/2" and 3/4" gradings			37	35	23		
Air void content (%) ^{f,g}	California Test 367		4 ± 2	4 ± 2	TV ± 2		

Percent of crushed particles coarse aggregate (% min.): One fractured face Two fractured faces	California Test 205	As designated in QC plan. At least once per project.	90	25	--	California Test 125	48 hours
			75	--	90		
Fine aggregate (% min) (Passing no. 4 sieve and retained on no. 8 sieve): One fractured face			70	20	70		
Los Angeles Rattler (% max): Loss at 100 rev. Loss at 500 rev.	California Test 211		12	--	12	California Test 125	
			45	50	40		
Fine aggregate angularity (% min) ^h	California Test 234		45	45	45	California Test 125	
Flat and elongated particle (% max by weight @ 5:1)	California Test 235		Report only	Report only	Report only	California Test 125	
Voids filled with asphalt (%) ⁱ No. 4 grading 3/8" grading 1/2" grading 3/4" grading	California Test 367				Report only		
			65.0–75.0	65.0–75.0			
		65.0–75.0	65.0–75.0				
		65.0–75.0	65.0–75.0				
		65.0–75.0	65.0–75.0				
Voids in mineral aggregate (% min.) ⁱ No. 4 grading 3/8" grading 1/2" grading 3/4" grading	California Test 367						
		17.0	17.0	--			
		15.0	15.0	--			
		14.0	14.0	18.0–23.0			
		13.0	13.0	18.0–23.0			

Dust proportion ⁱ	California Test 367						
No. 4 and 3/8" gradings			0.6–1.2	0.6–1.2	Report only		
1/2" and 3/4" gradings			0.6–1.2	0.6–1.2			
Hamburg wheel track (minimum number of passes at 0.5 inch average rut depth) ^j	AASHTO T 324 (Modified)	1 per 10,000 tons or 1 per project whichever is greater			--	--	
PG-58			10,000	10,000			
PG-64			15,000	15,000			
PG-70			20,000	20,000			
PG-76 or higher			25,000	25,000			
Hamburg wheel track (inflection point minimum number of passes) ^j	AASHTO T 324 (Modified)	1 per 10,000 tons or 1 per project whichever is greater			--	--	
PG-58			10,000	10,000			
PG-64			10,000	10,000			
PG-70			12,500	12,500			
PG-76 or higher			15000	15000			
Moisture susceptibility (minimum dry strength, psi) ^j	California Test 371	1 per 10,000 tons or 1 per project whichever is greater	120	120	--	--	
Moisture susceptibility (tensile strength ratio, %) ^j	California Test 371	1 per 10,000 tons or 1 per project whichever is greater	70	70	70	--	
Smoothness	Section 39-1.12	--	12-foot straight-edge, must-grind, and Pl ₀	12-foot straight-edge, must-grind, and Pl ₀	12-foot straight-edge, must-grind, and Pl ₀	--	
Asphalt rubber binder viscosity @ 375 °F, centipoises	Section 39-1.02D	--	--	--	1,500–4,000	Section 39-1.02D	24 hours
CRM	Section 39-1.02D	--	--	--	Section 39-1.02D	Section 39-1.02D	48 hours

- ^a Determine combined aggregate gradation containing RAP under California Test 367.
- ^b The tolerances must comply with the allowable tolerances in section 39-1.02E.
- ^c Determines field compaction for any of the following conditions:
 1. 1/2-inch, 3/8-inch, or no. 4 aggregate grading is used and the specified total paved thickness is at least 0.15 foot.
 2. 3/4-inch aggregate grading is used and the specified total paved thickness is at least 0.20 foot.
- ^d 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.
- ^e For adjusting the plant controller at the HMA plant.
- ^f Report the average of 3 tests from a single split sample.
- ^g Determine the bulk specific gravity of each lab-compacted briquette under California Test 308, Method A, and theoretical maximum specific gravity under California Test 309.
- ^h 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.
- ⁱ Report only.
- ^j Applies to RAP substitution rate greater than 15 percent.

Replace the 1st sentence in the 1st paragraph of section 39-4.03B(2) with:

01-20-12

For aggregate gradation and asphalt binder content, the minimum ratio of verification testing frequency to quality control testing frequency is 1:5.

Replace the 2nd "and" in the 7th paragraph of section 39-4.03B(2) with:

01-20-12

or

Replace the 1st paragraph of section 39-4.04A with:

02-22-13

The Engineer samples for acceptance testing and tests for the following quality characteristics:

HMA Acceptance—QC/QA Construction Process

Index (i)	Quality characteristic				Weight -ing factor (w)	Test method	HMA type		
							A	B	RHMA-G
		Aggregate gradation ^a				California Test 202	JMF ± Tolerance ^c		
	Sieve	3/4"	1/2"	3/8"					
1	1/2"	X ^b	--	--	0.05				
1	3/8"	--	X	--	0.05				
1	No. 4	--	--	X	0.05				
2	No. 8	X	X	X	0.10				
3	No. 200	X	X	X	0.15				
4	Asphalt binder content (%)				0.30	California Test 379 or 382	JMF±0.40	JMF±0.40	JMF ± 0.40
5	Field compaction (% max. theoretical density) ^{d, e}				0.40	California Test 375	92–96	92–96	91–96
	Sand equivalent (min) ^f					California Test 217	47	42	47
	Stabilometer value (min) ^f No. 4 and 3/8" gradings 1/2" and 3/4" gradings					California Test 366	30 37	30 35	-- 23
	Air void content (%) ^{f, g}					California Test 367	4 ± 2	4 ± 2	TV ± 2
	Percent of crushed particles coarse aggregate (% min) One fractured face Two fractured faces Fine aggregate (% min) (Passing no. 4 sieve and retained on No. 8 sieve.) One fractured face					California Test 205	90 75 70	25 -- 20	-- 90 70
	HMA moisture content (% max)					California Test 226 or 370	1.0	1.0	1.0
	Los Angeles Rattler (% max) Loss at 100 rev. Loss at 500 rev.					California Test 211	12 45	-- 50	12 40
	Fine aggregate angularity (% min) ^h					California Test 234	45	45	45
	Flat and elongated particle (% max by weight @ 5:1)					California Test 235	Report only	Report only	Report only
	Voids in mineral aggregate (% min) ⁱ No. 4 grading 3/8" grading 1/2" grading 3/4" grading					California Test 367	17.0 15.0 14.0 13.0	17.0 15.0 14.0 13.0	-- -- 18.0–23.0 18.0–23.0

	Voids filled with asphalt (%) ⁱ No. 4 grading 3/8" grading 1/2" grading 3/4" grading		California Test 367	65.0–75.0 65.0–75.0 65.0–75.0 65.0–75.0	65.0–75.0 65.0–75.0 65.0–75.0 65.0–75.0	Report only
	Dust proportion ¹ No. 4 and 3/8" gradings 1/2" and 3/4" gradings		California Test 367	0.6–1.2 0.6–1.2	0.6–1.2 0.6–1.2	Report only
	Hamburg Wheel Tracker (minimum number of passes at 0.5 inch average rut depth) ^j PG-58 PG-64 PG-70 PG-76 or higher		AASHTO T 324 (Modified)	10,000 15,000 20,000 25,000	10,000 15,000 20,000 25,000	--
	Hamburg Wheel Tracker (inflection point minimum number of passes) ^j PG-58 PG-64 PG-70 PG-76 or higher		AASHTO T 324 (Modified)	10,000 15,000 20,000 25,000	10,000 15,000 20,000 25,000	--
	Moisture susceptibility (minimum dry strength, psi) ^j		California Test 371	120	120	--
	Moisture susceptibility (tensile strength ratio %) ^j		California Test 371	70	70	70
	Smoothness		Section 39-1.12	12-foot straight- edge, must grind, and PI ₀	12-foot straight- edge, must grind, and PI ₀	12-foot straight- edge, must grind, and PI ₀
	Asphalt binder		Various	Section 92	Section 92	Section 92
	Asphalt rubber binder		Various	--	--	Section 92-1.01D(2) and section 39-1.02D
	Asphalt modifier		Various	--	--	Section 39-1.02D
	CRM		Various	--	--	Section 39-1.02D

- ^a The Engineer determines combined aggregate gradations containing RAP under California Test 367.
- ^b "X" denotes the sieves the Engineer tests for the specified aggregate gradation.
- ^c The tolerances must comply with the allowable tolerances in section 39-1.02E.
- ^d The Engineer determines field compaction for any of the following conditions:
 1. 1/2-inch, 3/8-inch, or no. 4 aggregate grading is used and the specified total paved thickness is at least 0.15 foot and less than 0.20 foot.
 2. 3/4-inch aggregate grading is used and the specified total paved thickness is at least 0.20 foot.
- ^e 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.
- ^f The Engineer reports the average of 3 tests from a single split sample.
- ^g The Engineer determines the bulk specific gravity of each lab-compacted briquette under California Test 308, Method A, and theoretical maximum specific gravity under California Test 309.
- ^h 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.
- ⁱ Report only.
- ^j Applies to RAP substitution rate greater than 15 percent.

Replace the 3rd paragraph of section 39-4.04A with:

01-20-12

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, 3/8-inch, or no. 4 aggregate grading is used and the specified total paved thickness is at least 0.15 foot and any layer is less than 0.15 foot.
2. 3/4-inch aggregate grading is used and the specified total paved thickness is at least 0.20 and any layer is less than 0.20 foot.

AA

40 CONCRETE PAVEMENT

01-20-12

Replace section 40-1.01C(4) with:

01-20-12

40-1.01C(4) Authorized Laboratory

Submit for authorization the name of the laboratory you propose to use for testing the drilled core specimens for air content.

Replace the paragraph in section 40-1.01C(8) with:

01-20-12

Submit a plan for protecting concrete pavement during the initial 72 hours after paving when the forecasted minimum ambient temperature is below 40 degrees F.

01-20-12

Delete "determined under California Test 559" in section 40-1.01C(9).

Replace the 2nd and 3rd paragraphs in section 40-1.01D(4) with:

01-20-12

The QC plan must include details of corrective action to be taken if any process is out of control. As a minimum, a process is out of control if any of the following occurs:

1. For fine and coarse aggregate gradation, 2 consecutive running averages of 4 tests are outside the specification limits
2. For individual penetration or air content measurements:
 - 2.1. One point falls outside the suspension limit line
 - 2.2. Two points in a row fall outside the action limit line

Stop production and take corrective action for out of control processes or the Engineer rejects subsequent material.

Replace the 1st paragraph in section 40-1.01D(5) with:

01-20-12

Determine the minimum cementitious materials content. Use your value for minimum cementitious material content for MC in equation 1 and equation 2 of section 90-1.02B(3).

Replace the 1st sentence of the 3rd paragraph of section 40-1.01D(9) with:

01-20-12

Use a California profilograph to determine the concrete pavement profile.

Replace the title of the table in section 40-1.01D(13)(a) with:

01-20-12

Concrete Pavement Acceptance Testing

Replace the 2nd and 3rd paragraphs in section 40-1.01D(13)(a) with:

01-20-12

Pavement smoothness may be accepted based on the Department's testing. A single test represents no more than 0.1 mile.

Acceptance of modulus of rupture, thickness, dowel bar and tie bar placement, coefficient of friction, smoothness, and air content, does not constitute final concrete pavement acceptance.

Delete item 4 in the list in the 2nd paragraph in section 40-1.01D(13)(c)(2).

01-20-12

Replace items 1 and 2 in the list in the 2nd paragraph in 40-1.01D(13)(d) with:

01-20-12

1. For tangents and horizontal curves having a centerline radius of curvature 2,000 feet or more, the PI_0 must be at most 2-1/2 inches per 0.1-mile section.
2. For horizontal curves having a centerline radius of curvature from 1,000 to 2,000 feet including concrete pavement within the superelevation transitions of those curves, the PI_0 must be at most 5 inches per 0.1-mile section.

Replace the 1st and 2nd variables in the equation in section 40-1.01D(13)(f) with:

01-20-12

n_c = Number of your quality control tests (minimum of 6 required)

n_v = Number of verification tests (minimum of 2 required)

Replace "Your approved third party independent testing laboratory" in the 4th paragraph of section 40-1.01D(13)(f) with:

01-20-12

The authorized laboratory

Replace item 2 in the list in the 2nd paragraph of section 40-1.01D(13)(g):

01-20-12

2. One test for every 4,000 square yards of concrete pavement with tie bars or remaining fraction of that area. Each tie bar test consists of 2 cores with 1 on each tie-bar-end to expose both ends and allow measurement.

Replace section 40-1.01D(13)(h) with:

01-20-12

40-1.01D(13)(h) Bar Reinforcement

Bar reinforcement is accepted based on inspection before concrete placement.

Replace the paragraph in section 40-1.02B(2) with:

01-20-12

PCC for concrete pavement must comply with section 90-1 except as otherwise specified.

Replace the paragraphs in section 40-1.02D with:

01-20-12

Bar reinforcement must be deformed bars.

If the project is not shown to be in high desert or any mountain climate region, bar reinforcement must comply with section 52.

If the project is shown to be in high desert or any mountain climate regions, bar reinforcement must be one of the following:

1. Epoxy-coated bar reinforcement under section 52-2.03B except bars must comply with either ASTM A 706/A 706M; ASTM A 996/A 996M; or ASTM A 615/A 615M, Grade 40 or 60. Bars must be handled under ASTM D 3963/D 3963M and section 52-2.02C.
2. Low carbon, chromium steel bar complying with ASTM A 1035/A 1035M

Replace the paragraphs in section 40-1.02E with:

01-20-12

Tie bars must be deformed bars.

If the project is not shown to be in high desert or any mountain climate region, tie bars must be one of the following:

1. Epoxy-coated bar reinforcement. Bars must comply with either section 52-2.02B or 52-2.03B except bars must comply with either ASTM A 706/A 706M; ASTM A 996/A 996M; or ASTM A 615/A 615M, Grade 40 or 60.
2. Stainless-steel bars. Bars must be descaled, pickled, polished, and solid stainless-steel bars under ASTM A 955/A 955M, Grade 60, UNS Designation S31603 or S31803.
3. Low carbon, chromium-steel bars under ASTM A 1035/A 1035M.

If the project is shown to be in high desert or any mountain climate region, tie bars must be one of the following:

1. Epoxy-coated bar reinforcement. Bars must comply with section 52-2.03B except bars must comply with either ASTM A 706/A 706M; ASTM A 996/A 996M; or ASTM A 615/A 615M, Grade 40 or 60.
2. Stainless-steel bars. Bars must be descaled, pickled, polished, and solid stainless-steel bars under ASTM A 955/A 955M, Grade 60, UNS Designation S31603 or S31803.

Fabricate, sample, and handle epoxy-coated tie bars under ASTM D 3963/D 3963M, section 52-2.02C, or section 52-2.03C.

Do not bend tie bars.

Replace the 1st, 2nd, and 3rd paragraphs in section 40-1.02F with:

Dowel bars must be plain bars. Fabricate, sample, and handle epoxy-coated dowel bars under ASTM D 3963/D 3963M and section 52-2.03C except each sample must be 18 inches long.

01-20-12

If the project is not shown to be in high desert or any mountain climate region, dowel bars must be one of the following:

1. Epoxy-coated bars. Bars must comply with ASTM A 615/A 615M, Grade 40 or 60. Epoxy coating must comply with either section 52-2.02B or 52-2.03B.
2. Stainless-steel bars. Bars must be descaled, pickled, polished, and solid stainless-steel bars under ASTM A 955/A 955M, Grade 60, UNS Designation S31603 or S31803.
3. Low carbon, chromium-steel bars under ASTM A 1035/A 1035M.

If the project is shown to be in high desert or any mountain climate region, dowel bars must be one of the following:

1. Epoxy-coated bars. Bars must comply with ASTM A 615/A 615M, Grade 40 or 60. Epoxy coating must comply with section 52-2.03B.
2. Stainless-steel bars. Bars must be descaled, pickled, polished, and solid stainless-steel bars under ASTM A 955/A 955M, Grade 60, UNS Designation S31603 or S31803.

Replace the paragraphs in section 40-1.02G with:

For dowel and tie bar baskets, wire must comply with ASTM A 82/A 82M and be welded under ASTM A 185/A 185M, Section 7.4. The minimum wire-size no. is W10. Use either U-frame or A-frame shaped assemblies.

01-20-12

If the project is not shown to be in high desert or any mountain climate region. Baskets may be epoxy-coated, and the epoxy coating must comply with either section 52-2.02B or 52-2.03B.

If the project is shown to be in high desert or any mountain climate region, wire for dowel bar and tie bar baskets must be one of the following:

1. Epoxy-coated wire complying with section 52-2.03B
2. Stainless-steel wire. Wire must be descaled, pickled, and polished solid stainless-steel. Wire must comply with (1) the chemical requirements in ASTM A 276/A 276M, UNS Designation S31603 or S31803 and (2) the tension requirements in ASTM A 1022/ A 1022M.

Handle epoxy-coated tie bar and dowel bar baskets under ASTM D 3963/D 3963M and either section 52-2.02B or 52-2.03B.

Fasteners must be driven fasteners under ASTM F 1667. Fasteners on lean concrete base or HMA must have a minimum shank diameter of 3/16 inch and a minimum shank length of 2-1/2 inches. For asphalt

treated permeable base or cement treated permeable base, the shank diameter must be at least 3/16 inch and the shank length must be at least 5 inches.

Fasteners, clips, and washers must have a minimum 0.2-mil thick zinc coating applied by either electroplating or galvanizing.

Replace the 1st paragraph in section 40-1.02H with:

01-20-12

Chemical adhesive for drilling and bonding dowels and tie bars must be on the Authorized Material List. The Authorized Material List indicates the appropriate chemical adhesive system for the concrete temperature and installation conditions.

Replace section 40-1.02I(2) with:

01-20-12

40-1.02I(2) Silicone Joint Sealant

Silicone joint sealant must be on the Authorized Material List.

Replace the last sentence in section 40-1.02I(4) with:

01-20-12

Show evidence that the seals are compressed from 30 to 50 percent for the joint width at time of installation.

Replace the paragraph in section 40-1.02L with:

01-20-12

Water for core drilling may be obtained from a potable water source, or submit proof that it does not contain:

1. More than 1,000 parts per million of chlorides as Cl
2. More than 1,300 parts per million of sulfates as SO_4
3. Impurities that cause pavement discoloration or surface etching

Replace the paragraph in section 40-1.03B with:

01-20-12

Before placing concrete pavement, develop enough water supply for the work under section 17.

Replace the last paragraph in section 40-1.03D(1) with:

01-20-12

Removal of grinding residue must comply with section 42-1.03B.

Replace the 1st and 2nd paragraphs in section 40-1.03E(6)(c) with:

01-20-12

Install preformed compressions seals in isolation joints if specified in the special provisions.

Install longitudinal seals before transverse seals. Longitudinal seals must be continuous except splicing is allowed at intersections with transverse seals. Transverse seals must be continuous for the entire transverse length of concrete pavement except splices are allowed for widenings and staged construction. With a sharp instrument, cut across the longitudinal seal at the intersection with transverse

construction joints. If the longitudinal seal does not relax enough to properly install the transverse seal, trim the longitudinal seal to form a tight seal between the 2 joints.

If splicing is authorized, splicing must comply with the manufacturer's written instructions.

Replace the 12th and 13th paragraphs in section 40-1.03G with:

01-20-12

Construct additional test strips if you:

1. Propose different paving equipment including:
 - 1.1. Paver
 - 1.2. Dowel bar inserter
 - 1.3. Tie bar inserter
 - 1.4. Tining
 - 1.5. Curing equipment
2. Change concrete mix proportions

You may request authorization to eliminate the test strip if you use paving equipment and personnel from a Department project (1) for the same type of pavement and (2) completed within the past 12 months. Submit supporting documents and previous project information with your request.

Replace the 1st paragraph in section 40-1.03I with:

01-20-12

Place tie bars in compliance with the tolerances shown in the following table:

Tie Bar Tolerance	
Dimension	Tolerance
Horizontal and vertical skew	10 degrees maximum
Longitudinal translation	± 2 inch maximum
Horizontal offset (embedment)	± 2 inch maximum
Vertical depth	1. Not less than 1/2 inch below the saw cut depth of joints 2. When measured at any point along the bar, not less than 2 inches clear of the pavement's surface and bottom

Replace item 4 in the list in the 2nd paragraph in section 40-1.03I with:

01-20-12

4. Use tie bar baskets. Anchor baskets at least 200 feet in advance of pavement placement activity. If you request a waiver, describe the construction limitations or restricted access preventing the advanced anchoring. After the baskets are anchored and before paving, demonstrate the tie bars do not move from their specified depth and alignment during paving. Use fasteners to anchor tie bar baskets.

Replace "The maximum distance below the depth shown must be 0.05 foot." in the table in section 40-1.03J with:

01-20-12

The maximum distance below the depth shown must be 5/8 inch.

Replace sections 40-1.03L and 40-1.03M with:

01-20-12

40-1.03L Finishing

40-1.03L(1) General

Reserved

40-1.03L(2) Preliminary Finishing

40-1.03L(2)(a) General

Preliminary finishing must produce a smooth and true-to-grade finish. After preliminary finishing, mark each day's paving with a stamp. The stamp must be authorized before paving starts. The stamp must be approximately 1 by 2 feet in size. The stamp must form a uniform mark from 1/8 to 1/4 inch deep. Locate the mark 20 ± 5 feet from the transverse construction joint formed at each day's start of paving and 1 ± 0.25 foot from the pavement's outside edge. The stamp mark must show the month, day, and year of placement and the station of the transverse construction joint. Orient the stamp mark so it can be read from the pavement's outside edge.

Do not apply more water to the pavement surface than can evaporate before float finishing and texturing are completed.

40-1.03L(2)(b) Stationary Side Form Finishing

If stationary side form construction is used, give the pavement a preliminary finish by the machine float method or the hand method.

If using the machine float method:

1. Use self-propelled machine floats.
2. Determine the number of machine floats required to perform the work at a rate equal to the pavement delivery rate. If the time from paving to machine float finishing exceeds 30 minutes, stop pavement delivery. When machine floats are in proper position, you may resume pavement delivery and paving.
3. Run machine floats on side forms or adjacent pavement lanes. If running on adjacent pavement, protect the adjacent pavement surface under section 40-1.03P. Floats must be hardwood, steel, or steel-shod wood. Floats must be equipped with devices that adjust the underside to a true flat surface.

If using the hand method, finish pavement smooth and true to grade with manually operated floats or powered finishing machines.

40-1.03L(2)(c) Slip-Form Finishing

If slip-form construction is used, the slip-form paver must give the pavement a preliminary finish. You may supplement the slip-form paver with machine floats.

Before the pavement hardens, correct pavement edge slump in excess of 0.02 foot exclusive of edge rounding.

40-1.03L(3) Final Finishing

After completing preliminary finishing, round the edges of the initial paving widths to a 0.04-foot radius. Round transverse and longitudinal construction joints to a 0.02-foot radius.

Before curing, texture the pavement. Perform initial texturing with a burlap drag or broom device that produces striations parallel to the centerline. Perform final texturing with a steel-tined device that produces grooves parallel with the centerline.

Construct longitudinal grooves with a self-propelled machine designed specifically for grooving and texturing pavement. The machine must have tracks to maintain constant speed, provide traction, and maintain accurate tracking along the pavement surface. The machine must have a single row of rectangular spring steel tines. The tines must be from 3/32 to 1/8 inch wide, on 3/4-inch centers, and must have enough length, thickness, and resilience to form grooves approximately 3/16 inch deep. The machine must have horizontal and vertical controls. The machine must apply constant down pressure on the pavement surface during texturing. The machines must not cause ravels.

Construct grooves over the entire pavement width in a single pass except do not construct grooves 3 inches from the pavement edges and longitudinal joints. Final texture must be uniform and smooth. Use a guide to properly align the grooves. Grooves must be parallel and aligned to the pavement edge across the pavement width. Grooves must be from 1/8 to 3/16 inch deep after the pavement has hardened.

For irregular areas and areas inaccessible to the grooving machine, you may hand-construct grooves under section 40-1.03L(2) using the hand method. Hand-constructed grooves must comply with the specifications for machine-constructed grooves.

Initial and final texturing must produce a coefficient of friction of at least 0.30 when tested under California Test 342. Notify the Engineer when the pavement is scheduled to be opened to traffic to allow at least 25 days for the Department to schedule testing for coefficient of friction. Notify the Engineer when the pavement is ready for testing which is the latter of:

1. Seven days after paving
2. When the pavement has attained a modulus of rupture of 550 psi

The Department tests for coefficient of friction within 7 days of receiving notification that the pavement is ready for testing.

Do not open the pavement to traffic unless the coefficient of friction is at least 0.30.

40-1.03M Reserved

Replace the 4th paragraph of 40-1.03P with:

01-20-12

Construct crossings for traffic convenience. If authorized, you may use RSC for crossings. Do not open crossings until the Department determines that the pavement's modulus of rupture is at least 550 psi under California Test 523 or California Test 524.

Replace the 1st paragraph of section 40-6.01A with:

01-20-12

Section 40-6 includes specifications for applying a high molecular weight methacrylate resin system to pavement surface cracks that do not extend the full slab depth.

Replace the 4th paragraph of section 40-6.01C(2) with:

01-20-12

If the project is in an urban area adjacent to a school or residence, the public safety plan must also include an airborne emissions monitoring plan prepared by a CIH certified in comprehensive practice by the American Board of Industrial Hygiene. Submit a copy of the CIH's certification. The CIH must monitor the emissions at a minimum of 4 points including the mixing point, the application point, and the point of nearest public contact. At work completion, submit a report by the industrial hygienist with results of the airborne emissions monitoring plan.

Delete the 1st sentence of the 2nd paragraph in section 40-6.02B.

01-20-12

Replace item 4 in the list in the last paragraph in section 40-6.03A with:

01-20-12

4. Coefficient of friction is at least 0.30 under California Test 342

Add to section 49-1.03:

04-20-12

Dispose of drill cuttings under section 19-2.03B.

Replace the 2nd paragraph of section 49-2.01D with:

01-20-12

Furnish piling is measured along the longest side of the pile from the specified tip elevation shown to the plane of pile cutoff.

Replace the 3rd and 4th paragraphs of section 49-2.04B(2) with:

10-19-12

Piles in a corrosive environment must be steam or water cured under section 90-4.03.

If piles in a corrosive environment are steam cured, either:

1. Keep the piles continuously wet for at least 3 days. The 3 days includes the holding and steam curing periods.
2. Apply curing compound under section 90-1.03B(3) after steam curing.

Add to section 49-3.01A:

01-20-12

Concrete must comply with section 51.

Replace the 1st paragraph of section 49-3.01C with:

01-20-12

Except for CIDH concrete piles constructed under slurry, construct CIP concrete piles such that the excavation methods and the concrete placement procedures provide for placing the concrete against undisturbed material in a dry or dewatered hole.

Replace "Reserved" in section 49-3.02A(2) with:

01-20-12

dry hole:

1. Except for CIDH concrete piles specified as end bearing, a drilled hole that:
 - 1.1. Accumulates no more than 12 inches of water in the bottom of the drilled hole during a period of 1 hour without any pumping from the hole during the hour.
 - 1.2. Has no more than 3 inches of water in the bottom of the drilled hole immediately before placing concrete.
2. For CIDH concrete piles specified as end bearing, a drilled hole free of water without the use of pumps.

Replace "Reserved" in section 49-3.02A(3)(a) with:

01-20-12

If plastic spacers are proposed for use, submit the manufacturer's data and a sample of the plastic spacer. Allow 10 days for review.

Replace item 5 in the list in the 1st paragraph of section 49-3.02A(3)(b) with:

10-19-12

5. Methods and equipment for determining:
 - 5.1. Depth of concrete
 - 5.2. Theoretical volume of concrete to be placed, including the effects on volume if casings are withdrawn
 - 5.3. Actual volume of concrete placed

Add to the list in the 1st paragraph of section 49-3.02A(3)(b):

01-18-13

8. Drilling sequence and concrete placement plan.

Replace item 2 in the list in the 1st paragraph of section 49-3.02A(3)(g) with:

01-20-12

2. Be sealed and signed by an engineer who is registered as a civil engineer in the State. This requirement is waived for either of the following conditions:
 - 2.1. The proposed mitigation will be performed under the current Department-published version of *ADSC Standard Mitigation Plan 'A' - Basic Repair* without exception or modification.
 - 2.2. The Engineer determines that the rejected pile does not require mitigation due to structural, geotechnical, or corrosion concerns, and you elect to repair the pile using the current Department-published version of *ADSC Standard Mitigation Plan 'B' - Grouting Repair* without exception or modification.

Replace item 1 in the list in the 1st paragraph of section 49-3.02A(4)(d)(ii) with:

01-20-12

1. Inspection pipes must be schedule 40 PVC pipe complying with ASTM D 1785 with a nominal pipe size of 2 inches. Watertight PVC couplers complying with ASTM D 2466 are allowed to facilitate pipe lengths in excess of those commercially available. Log the location of the inspection pipe couplers with respect to the plane of pile cutoff.

Add to section 49-3.02A(4)(d)(iv):

01-20-12

If the Engineer determines it is not feasible to use one of ADSC's standard mitigation plans to mitigate the pile, schedule a meeting and meet with the Engineer before submitting a nonstandard mitigation plan.

The meeting attendees must include your representatives and the Engineer's representatives involved in the pile mitigation. The purpose of the meeting is to discuss the type of pile mitigation acceptable to the Department.

Provide the meeting facility. The Engineer conducts the meeting.

Replace the 1st paragraph of section 49-3.02B(5) with:

01-20-12

Grout used to backfill casings must comply with section 50-1.02C, except:

1. Grout must consist of cementitious material and water, and may contain an admixture if authorized. Cementitious material must comply with section 90-1.02B, except SCMs are not required. The minimum cementitious material content of the grout must not be less than 845 lb/cu yd of grout.
2. Aggregate must be used to extend the grout as follows:

- 2.3. Mechanically calibrate the gages with a dead weight tester or other authorized means before calibration of the jacking equipment by METS
- 2.4. Provide enough labor, equipment, and material to (1) install and support the jacking and calibration equipment and (2) remove the equipment after the calibration is complete
- 2.5. Plot the calibration results
- 3. Each jack used to tension prestressing steel permanently anchored at less than 25 percent of its specified minimum ultimate tensile strength must be calibrated by an authorized laboratory within 6 months of use and after each repair.

Replace "diameter" in item 9 in the list in the 1st paragraph of section 50-1.02D with:

cross-sectional area

04-20-12

Add to section 50-1.02:

09-16-11

50-1.02G Sheathing

Sheathing for debonding prestressing strand must:

- 1. Be split or un-split flexible polymer plastic tubing
- 2. Have a minimum wall thickness of 0.025 inch
- 3. Have an inside diameter exceeding the maximum outside diameter of the strand by 0.025 to 0.14 inch

Split sheathing must overlap at least 3/8 inch.

Waterproofing tape used to seal the ends of the sheathing must be flexible adhesive tape.

The sheathing and waterproof tape must not react with the concrete, coating, or steel.

Add to section 50-1.03B(1):

01-20-12

After seating, the maximum tensile stress in the prestressing steel must not exceed 75 percent of the minimum ultimate tensile strength shown.

Add to section 50-1.03B(2):

09-16-11

50-1.03B(2)(e) Debonding Prestressing Strands

Where shown, debond prestressing strands by encasing the strands in plastic sheathing along the entire length shown and sealing the ends of the sheathing with waterproof tape.

Distribute the debonded strands symmetrically about the vertical centerline of the girder. The debonded lengths of pairs of strands must be equal.

Do not terminate debonding at any one cross section of the member for more than 40 percent of the debonded strands or 4 strands, whichever is greater.

Thoroughly seal the ends with waterproof tape to prevent the intrusion of water or cement paste before placing the concrete.

AA

51 CONCRETE STRUCTURES

10-19-12

Replace the paragraphs of section 51-1.01A with:

10-19-12

Section 51-1 includes general specifications for constructing concrete structures.

Earthwork for the following concrete structures must comply with section 19-3:

1. Sound wall footings
2. Sound wall pile caps
3. Culverts
4. Barrier slabs
5. Junction structures
6. Minor structures
7. Pipe culvert headwalls, endwalls, and wingwalls for a pipe with a diameter of 5 feet or greater

Falsework must comply with section 48-2.

Joints must comply with section 51-2.

Elastomeric bearing pads must comply with section 51-3.

Reinforcement for the following concrete structures must comply with section 52:

1. Sound wall footings
2. Sound wall pile caps
3. Barrier slabs
4. Junction structures
5. Minor structures
6. PC concrete members

You may use RSC for a concrete structure only where the specifications allow the use of RSC.

Add to section 51-1.03C(2)(c)(i):

04-20-12

Permanent steel deck forms are only allowed where shown or if specified as an option in the special provisions.

Replace the 3rd paragraph of section 51-1.03C(2)(c)(ii) with:

04-20-12

Compute the physical design properties under AISI's *North American Specification for the Design of Cold-Formed Steel Structural Members*.

Replace the 8th paragraph of section 51-1.03D(1) with:

10-19-12

Except for concrete placed as pipe culvert headwalls and endwalls, slope paving and aprons, and concrete placed under water, consolidate concrete using high-frequency internal vibrators within 15 minutes of placing concrete in the forms. Do not attach vibrators to or hold them against forms or reinforcing steel. Do not displace reinforcement, ducts, or prestressing steel during vibrating.

Add to section 51-1.03E(5):

08-05-11

Drill the holes without damaging the adjacent concrete. If reinforcement is encountered during drilling before the specified depth is attained, notify the Engineer. Unless coring through the reinforcement is authorized, drill a new hole adjacent to the rejected hole to the depth shown.

Replace "Reserved" in section 51-1.03F(5)(b) with:

04-20-12

51-1.03F(5)(b)(i) General

Except for bridge widenings, texture the bridge deck surfaces longitudinally by grinding and grooving or by longitudinal tining.

10-19-12

For bridge widenings, texture the deck surface longitudinally by longitudinal tining.

04-20-12

In freeze-thaw areas, do not texture PCC surfaces of bridge decks.

51-1.03F(5)(b)(ii) Grinding and Grooving

When texturing the deck surface by grinding and grooving, place a 1/4 inch of sacrificial concrete cover on the bridge deck above the finished grade shown. Place items to be embedded in the concrete based on the final profile grade elevations shown. Construct joint seals after completing the grinding and grooving.

Before grinding and grooving, deck surfaces must comply with the smoothness and deck crack treatment requirements.

Grind and groove the deck surface as follows:

1. Grind the surface to within 18 inches of the toe of the barrier under section 42-3. Grinding must not reduce the concrete cover on reinforcing steel to less than 1-3/4 inches.
2. Groove the ground surfaces longitudinally under section 42-2. The grooves must be parallel to the centerline.

51-1.03F(5)(b)(iii) Longitudinal Tining

When texturing the deck surface by longitudinal tining, perform initial texturing with a burlap drag or broom device that produces striations parallel to the centerline. Perform final texturing with spring steel tines that produce grooves parallel with the centerline.

The tines must:

1. Be rectangular in cross section
2. Be from 3/32 to 1/8 inch wide on 3/4-inch centers
3. Have enough length, thickness, and resilience to form grooves approximately 3/16 inch deep

Construct grooves to within 6 inches of the layout line of the concrete barrier toe. Grooves must be from 1/8 to 3/16 inch deep and 3/16 inch wide after concrete has hardened.

For irregular areas and areas inaccessible to the grooving machine, you may hand construct grooves. Hand-constructed grooves must comply with the specifications for machine-constructed grooves.

Tining must not cause tearing of the deck surface or visible separation of coarse aggregate at the surface.

Replace the paragraphs of section 51-1.04 with:

10-19-12

If concrete involved in bridge work is not designated by type and is not otherwise paid for under a separate bid item, the concrete is paid for as structural concrete, bridge.

The payment quantity for structural concrete includes the volume in the concrete occupied by bar reinforcing steel, structural steel, prestressing steel materials, and piling.

The payment quantity for seal course concrete is the actual volume of seal course concrete placed except the payment quantity must not exceed the volume of concrete contained between vertical planes 1 foot outside the neat lines of the seal course shown. The Department does not adjust the unit price for an increase or decrease in the seal course concrete quantity.

Structural concrete for pier columns is measured as follows:

1. Horizontal limits are vertical planes at the neat lines of the pier column shown.
2. Bottom limit is the bottom of the foundation excavation in the completed work.
3. Upper limit is the top of the pier column concrete shown.

The payment quantity for drill and bond dowel is determined from the number and depths of the holes shown.

Replace "SSPC-QP 3" in the 1st paragraph of section 51-2.02A(2) with:

AISC-420-10/SSPC-QP 3

10-19-12

Replace the 2nd and 3rd paragraphs of section 51-2.02B(3)(b) with:

Concrete saws for cutting grooves in the concrete must have diamond blades with a minimum thickness of 3/16 inch. Cut both sides of the groove simultaneously for a minimum 1st pass depth of 2 inches. The completed groove must have:

1. Top width within 1/8 inch of the width shown or ordered
2. Bottom width not varying from the top width by more than 1/16 inch for each 2 inches of depth
3. Uniform width and depth

Cutting grooves in existing decks includes cutting any conflicting reinforcing steel.

Replace the 2nd paragraph of section 51-2.02E(1)(e) with:

Except for components in contact with the tires, the design loading must be the AASHTO LRFD Bridge Design Specifications Design Truck with 100 percent dynamic load allowance. Each component in contact with the tires must support a minimum of 80 percent of the AASHTO LRFD Bridge Design Specifications Design Truck with 100 percent dynamic load allowance. The tire contact area must be 10 inches measured normal to the longitudinal assembly axis by 20 inches wide. The assembly must provide a smooth-riding joint without slapping of components or tire rumble.

Add between the 1st and 2nd paragraphs of section 51-4.01A:

Prestressing concrete members must comply with section 50.

10-19-12

Delete the 2nd paragraph of section 51-4.01A.

04-20-12

Replace the 3rd paragraph of section 51-4.01C(2) with:

04-20-12

For segmental or spliced-girder construction, shop drawings must include the following additional information:

1. Details showing construction joints or closure joints
2. Arrangement of bar reinforcing steel, prestressing tendons, and pressure-grouting pipe
3. Materials and methods for making closures
4. Construction joint keys and surface treatment
5. Other requested information

For segmental girder construction, shop drawings must include concrete form and casting details.

Delete the 1st and 2nd paragraphs of section 51-4.02A.

10-19-12

Replace the 3rd paragraph of section 51-4.02B(2) with:

04-20-12

For segmental or spliced-girder construction, materials for construction joints or closure joints at exterior girders must match the color and texture of the adjoining concrete.

Add to section 51-4.02B(2):

04-20-12

At spliced-girder closure joints:

1. If shear keys are not shown, the vertical surfaces of the girder segment ends must be given a coarse texture as specified for the top surface of PC members.
2. Post-tensioning ducts must extend out of the vertical surface of the girder segment closure end sufficiently to facilitate splicing of the duct.

For spliced girders, pretension strand extending from the closure end of the girder segment to be embedded in the closure joint must be free of mortar, oil, dirt, excessive mill scale and scabby rust, and other coatings that would destroy or reduce the bond.

Add to section 51-4.03B:

04-20-12

The specifications for prestressing force distribution and sequencing of stressing in the post-tensioning activity in 50-1.03B(2)(a) do not apply if post-tensioning of spliced girders before starting deck construction is described. The composite deck-girder structure must be post-tensioned in a subsequent stage.

Temporary spliced-girder supports must comply with the specifications for falsework in section 48-2.

Before post-tensioning of spliced girders, remove the forms at CIP concrete closures and intermediate diaphragms to allow inspection for concrete consolidation.

Add between the 1st and 2nd paragraphs of section 51-7.01A:

10-19-12

Minor structures include:

1. Pipe culvert headwalls and endwalls for a pipe with a diameter less than 5 feet
2. Drainage inlets
3. Other structures described as minor structures

Delete the 4th paragraph of section 51-7.01A.

10-19-12

Replace the 1st and 2nd paragraphs of section 51-7.01B with:

10-19-12

Concrete must comply with the specifications for minor concrete.

Add to section 51:

10-19-12

51-8-51-15 RESERVED

^^

52 REINFORCEMENT

01-18-13

Add to section 52-1.01A:

07-20-12

Splicing of bar reinforcement must comply with section 52-6.

Replace the 1st and 2nd paragraphs of section 52-1.02B with:

10-19-12

Reinforcing bars must be deformed bars complying with ASTM A 706/A 706M, Grade 60, except you may use:

- 1. Deformed bars complying with ASTM A 615/A 615M, Grade 60, in:
 - 1.1. Junction structures
 - 1.2. Sign and signal foundations
 - 1.3. Minor structures
 - 1.4. Concrete crib members
 - 1.5. Mechanically-stabilized-embankment concrete panels
 - 1.6. Masonry block sound walls
- 2. Deformed or plain bars complying with ASTM A 615/A 615M, Grade 40 or 60, in:
 - 2.1. Slope and channel paving
 - 2.2. Concrete barriers Type 50 and 60
- 3. Plain bars for spiral or hoop reinforcement in structures and concrete piles

Add to the list in the 3rd paragraph of section 52-1.02B:

04-20-12

- 9. Shear reinforcement stirrups in PC girders

Replace the 6th paragraph of section 52-6.01D(4)(a) with:

01-18-13

Before performing service splice or ultimate butt splice testing, perform total slip testing on the service splice or ultimate butt splice test samples under section 52-6.01D(4)(b).

AA

57 WOOD AND PLASTIC LUMBER STRUCTURES

10-19-12

Replace "51-2.01C(3)" in the 1st paragraph of section 57-2.01C(3)(a) with:

10-19-12

57-2.01C(3)

AA

58 SOUND WALLS

10-19-12

Delete the 3rd paragraph of section 58-1.01.

10-19-12

Replace the 1st paragraph of section 58-2.01D(5)(a) with:

08-05-11

You must employ a special inspector and an authorized laboratory to perform Level 1 inspections and structural tests of masonry to verify the masonry construction complies with section 1704, "Special Inspections," and section 2105, "Quality Assurance," of the 2007 CBC.

Delete the 1st paragraph of section 58-2.02F.

10-19-12

AA

59 PAINTING

10-19-12

Replace "SSPC-SP 10" at each occurrence in section 59 with:

10-19-12

SSPC-SP 10/NACE no. 2

Replace "SSPC-SP 6" at each occurrence in section 59 with:

10-19-12

SSPC-SP 6/NACE no. 3

Replace "SSPC-CS 23.00" at each occurrence in section 59 with:

10-19-12

SSPC-CS 23.00/AWS C 2.23M/NACE no. 12

Replace "SSPC-QP 3 or AISC SPE, Certification P-1 Enclosed" in item 3 in the list in the 1st paragraph of section 59-2.01D(1) with:

10-19-12

AISC-420-10/SSPC-QP 3 (Enclosed Shop)

Replace the paragraphs in section 59-2.03A with:

10-19-12

Clean and paint all exposed structural steel and other metal surfaces.

You must provide enclosures for cleaning and painting structural steel. Cleaning and painting of new structural steel must be performed in an Enclosed Shop as defined in AISC-420-10/SSPC-QP 3. Maintain atmospheric conditions inside enclosures within specified limits.

Except for blast cleaning within closed buildings, perform blast cleaning and painting during daylight hours.

Add to section 59-2.03C:

10-19-12

59-2.03C(3) Moisture-Cured Polyurethane Coating

Reserved

Replace item 1 in the list in the 2nd paragraph of section 59-2.03C(1) with:

10-19-12

1. Apply a stripe coat of undercoat paint on all edges, corners, seams, crevices, interior angles, junctions of joining members, weld lines, and similar surface irregularities. The stripe coat must completely hide the surface being covered. If spot blast cleaning portions of the bridge, apply the stripe coat of undercoat paint before each undercoat and follow with the undercoat as soon as practical. If removing all existing paint from the bridge, apply the undercoat first as soon as practical and follow with the stripe coat of undercoat paint for each undercoat.

Add to section 59-2.03C(2)(a):

10-19-12

Coatings for new structural steel must comply with the requirements shown in the following table:

Zinc Coating System for New Structural Steel

Description	Coating	Dry film thickness (mils)
All surfaces:		
Undercoat	Inorganic zinc primer, AASHTO M 300 Type I or II	4–8
Finish coat ^a	Exterior grade latex, 2 coats	2 minimum each coat, 4–8 total
Total thickness, all coats		8–14

^aIf no finish coats are described, a final coat of inorganic zinc primer is required

Coatings for existing structural steel must comply with the requirements shown in the following table:

Replace section 78 with:

07-20-12

78 INCIDENTAL CONSTRUCTION

07-20-12

78-1 GENERAL

Section 78 includes specifications for incidental bid items that are not closely associated with other sections.

78-2-78-50 RESERVED

AA

80 FENCES

10-19-12

Add to section 80-2.02D:

10-19-12

Vertical stays must:

- 1. Comply with ASTM A641
- 2. Be 12-1/2 gage
- 3. Have a Class 3 zinc coating

Replace item 1 in the list in section 80-2.02E with:

10-19-12

Comply with ASTM A 116, Type Z, Grade 60, Class 1

Add after "galvanized wire" in the 1st paragraph of section 80-2.02F:

10-19-12

complying with ASTM A 641

Replace the 3rd and 4th paragraphs of section 80-2.02F with:

10-19-12

Each staple used to fasten barbed wire and wire mesh fabric to wood posts must:

- 1. Comply with ASTM F 1667
- 2. Be at least 1-3/4 inches long
- 3. Be manufactured from 9-gage galvanized wire

Wire ties used to fasten barbed wire and wire mesh to metal posts must be at least 11-gage galvanized wire complying with ASTM F 626. Clips and hog rings used for metal posts must be at least 9-gage galvanized wire complying with ASTM F 626.

Replace the 8th through 14th paragraphs of section 80-2.03 with:

10-19-12

Attach the wire mesh and barbed wire to each post.

Securely fasten tension wires to wood posts. Make a single or double loop around each post at each attachment point and staple the wire to the post. Use wire ties, hog rings, or wire clips to fasten the wires to the metal posts.

You may use a larger standard size pull box than that shown on the plans or specified.

A pull box in ground or sidewalk area must be installed as follows:

1. Embed bottom of the pull box in crushed rock.
2. Place a layer of roofing paper on the crushed rock.
3. Place grout over the layer of roofing paper. Grout must be 0.50 to 1 inch thick and sloped toward the drain hole.
4. Make a 1-inch drain hole in the center of the pull box through the grout and roofing paper.
5. Place grout between the pull box and the pull box extension, and around conduits.

The top of the pull box must be flush with the surrounding grade or the top of an adjacent curb, except in unpaved areas where the pull box is not immediately adjacent to and protected by a concrete foundation, pole, or other protective construction. Place the pull box 1-1/4 inches above the surrounding grade. Where practical, place a pull box shown in the vicinity of curbs or adjacent to a standard on the side of the foundation facing away from traffic. If a pull box is installed in a sidewalk area, adjust the depth of the pull box so that the top of the pull box is flush with the sidewalk.

Reconstruct the sump of an existing pull box if disturbed by your activities. Remove old grout and replace with new if the sump was grouted.

86-2.06B Non-Traffic-Rated Pull Boxes

Reserved

86-2.06C Traffic Pull Boxes

Traffic pull box and cover must comply with ASTM C857, "Standard Practice for Minimum Structural Design Loading for Underground Precast Concrete Utility Structures," for HS20-44 loading. You must be able to place the load anywhere on the box and cover for 1 minute without causing cracks or permanent deformations.

Frame must be anchored to the box with 1/4 by 2-1/4 inch concrete anchors. Four concrete anchors must be included for No. 3-1/2(T) pull box; one placed in each corner. Six concrete anchors must be included for No. 5(T) and No. 6(T) pull boxes; one placed in each corner and one near the middle of each of the longer sides.

Nuts must be zinc-plated carbon steel, vibration resistant, and have a wedge ramp at the root of the thread.

After installation of traffic pull box, install the steel cover and keep it bolted down when your activities are not in progress at the pull box. When the steel cover is placed for the final time, the cover and Z bar frame must be cleaned of debris and tightened securely.

Steel cover must be countersunk approximately 1/4 inch to accommodate the bolt head. When tightened, the bolt head must not exceed more than 1/8 inch above the top of the cover.

Concrete placed around and under traffic pull boxes must be minor concrete.

Replace "project" in the 3rd paragraph of section 86-2.11A with:

work

10-19-12

Replace "Contract" in item 2 in the list in the 11th paragraph of section 86-2.11A with:

work

10-19-12

AA

88 GEOSYNTHETICS

01-18-13

Replace the row for hydraulic bursting strength in the table in the 2nd paragraph of section 88-1.02B with:

10-19-12

Puncture strength, lb min	ASTM D 6241	310
Trapezoid tearing strength, lb min	ASTM D 4533	56

Replace the 3rd paragraph in section 88-1.02C with:

10-19-12

Geocomposite wall drain must be from 0.25 to 2 inches thick.

Replace the value for permittivity of woven fabric in the table in the 1st paragraph of section 88-1.02E with:

01-20-12

0.05

Replace the value for apparent size opening of nonwoven fabric in the table in the 1st paragraph of section 88-1.02E with:

01-20-12

0.012

Replace the table in the 1st paragraph of section 88-1.02G with:

01-20-12

Sediment Filter Bag

Property	Test	Values	
		Woven	Nonwoven
Grab breaking load, lb, 1-inch grip min, in each direction	ASTM D 4632	200	250
Apparent elongation, percent min, in each direction	ASTM D 4632	10	50
Water flow rate, gal per minute/sq ft min and max average roll value	ASTM D 4491	100-200	75-200
Permittivity, sec ⁻¹ min	ASTM D 4491	1.0	1.0
Apparent opening size, inches max average roll value	ASTM D 4751	0.023	0.012
Ultraviolet resistance, % min retained grab breaking load, 500 hr.	ASTM D 4355	70	70

Replace the table in the 1st paragraph of section 88-1.02H with:

01-20-12

Temporary Cover

Property	Test	Values	
		Woven	Nonwoven
Grab breaking load, lb, 1-inch grip min, in each direction	ASTM D 4632	200	200
Apparent elongation, percent min, in each direction	ASTM D 4632	15	50
Water flow rate, gal per minute/sq ft min and max average roll value	ASTM D 4491	4-10	80-120
Permittivity, sec ⁻¹ min	ASTM D 4491	0.05	1.0
Apparent opening size, inches max average roll value	ASTM D 4751	0.023	0.012
Ultraviolet resistance, % min retained grab breaking load, 500 hr.	ASTM D 4355	70	70

Replace section 88-1.02P with:

01-18-13

88-1.02P Biaxial Geogrid

Geosynthetics used for biaxial geogrid must be a punched and drawn polypropylene material formed into an integrally formed biaxial grid. When tested under the referenced test methods, properties of biaxial geogrid must have the values shown in the following table:

Biaxial Geogrid

Property	Test	Value
Aperture size, inch ^a min and max	Calipered	0.8-1.3 x 1.0-1.6
Rib thickness, inch min	Calipered	0.04
Junction thickness, inch min	Calipered	0.150
Tensile strength, 2% strain, lb/ft ^a min	ASTM D 6637	410 x 620
Tensile strength at ultimate, lb/ft ^a min	ASTM D 6637	1,310 x 1,970
Ultraviolet resistance, percent min retained tensile strength, 500 hours	ASTM D 4355	100
Junction strength, lb/ft ^a min	ASTM D 7737	1,220 x 1,830
Overall flexural rigidity, mg-cm min	ASTM D 7748	750,000
Torsional rigidity at 20 cm-kg, mm-kg/deg ^b min	GRI:GG9	0.65

^aMachine direction x cross direction

^bGeosynthetic Research Institute, Test Method GG9, *Torsional Behavior of Bidirectional Geogrids When Subjected to In-Plane Rotation*

AA

DIVISION X MATERIALS
90 CONCRETE

08-05-11

Replace the 3rd paragraph of section 90-1.01C(7) with:

08-05-11

Submit weighmaster certificates in printed form or, if authorized, in electronic media. Present electronic media in a tab-delimited format on a CD or DVD. Captured data for the ingredients represented by each batch must be line feed carriage return and one line separate record with sufficient fields for the specified data.

Replace the 3rd paragraph of section 90-3.01C(5) with:

08-05-11

Production data must be input by hand into a pre-printed form or captured and printed by the proportioning device. Present electronic media containing recorded production data in a tab-delimited format on a CD or DVD. Each capture of production data must be followed by a line feed carriage return with sufficient fields for the specified data.

AA

91 PAINT

10-19-12

Add to section 91-2:

10-19-12

91-2.03 MOISTURE-CURED POLYURETHANE COATING

Reserved

Replace "saint" in the 1st paragraph of section 91-4.05 with:

10-19-12

paint

AA

92 ASPHALTS

01-20-12

Replace the row for dynamic shear for original binder in the table in the 1st paragraph of section 92-1.02B with:

01-20-12

Dynamic shear, Test temperature at 10 rad/s, °C min G*/sin(delta), kPa max G*/sin(delta), kPa	T 315	58	64	64	64	70
		1.00	1.00	1.00	1.00	1.00
		2.00	2.00	2.00	2.00	2.00