SONOMA COUNTY PUBLIC INFRASTRUCTURE

www.sonomacounty.ca.gov/spi

NOTICE TO BIDDERS
AND
SPECIAL PROVISIONS

FOR CONSTRUCTION OF

GEYSERS ROAD BRIDGE OVER FRASIER CREEK REPLACEMENT PROJECT

PM 29.42

COUNTY PROJECT NO. C11005
FEDERAL PROJECT NO. BRLO-5920(129)
FOR USE IN CONNECTION WITH CALTRANS STANDARD SPECIFICATIONS DATED 2023, STANDARD PLANS DATED 2023, CURRENT GENERAL PREVAILING WAGE RATES AND LABOR SURCHARGE AND EQUIPMENT RENTAL RATES.

BID OPENING DATE: 2:00 P.M., April 1, 2025

ADDENDUM NO. 0 1 2 3 4 5

March 2025

SPECIAL NOTICE

THIS SHEET IS FOR INFORMATION PURPOSES AND SHALL NOT BE CONSIDERED A PART OF THIS CONTRACT.

Bidder's attention is directed to the following items:

- Access to the construction site is limited due to storm damage along Geysers Road. It is recommended to route all project-related travel north on Geysers Road off of Highway 128.
- A mandatory pre-bid meeting will be held March 18, 2025 at 1:00 PM, at the bridge site. Each bidder must attend the meeting. The bidder's representative must be a company officer, project superintendent, or project estimator. For a joint venture, one of the parties must attend the mandatory pre-bid meeting. The County will not accept a bid from a bidder who does not attend the meeting. A sign-in sheet will be used to identify the attendees. Each bidder must include the name and title of the company representative attending the meeting.
- Construction to be completed in 170 working days in one (1) season.

Bidder's attention is directed to Section 2, "Bidding," regarding the additional information the County requires in completing the listing of subcontractors and the County's reliance on that information in determining whether the bid is responsive.

Bidder's attention is directed to Section 3, "Contract Award and Execution," of these Special Provisions and "Guaranty" of the Bidder's Book.

Bidder's attention is directed to the following environmental timing constraints in Section 14, "Environmental Stewardship":

- Biologist approvals/ resume shall be submitted to the US Department of Army Corps and NMFS for approval a minimum 45 days prior to construction and California Department of Fish and Wildlife (CDFW) for approval a minimum 30 days prior to construction.
- A biologist is required to survey for active nesting prior to vegetation work (tree removal and clearing and grubbing)
- Contractor's biologist's Foothill Yellow legged Frog survey methodology shall be submitted to CDFW 30 days prior to construction.
- Preconstruction biological surveys shall be completed and the results to be submitted to CDFW a minimum 5 days prior to construction.
- A dewatering plan and aquatic species capture, and relocation plans shall be submitted to NMFS 60 days prior to construction and CDFW 30 days prior to construction.
- Cofferdams may not be installed before June 15th.
- Environmental training sessions for biology and for Cultural Resources shall be provided for personal prior to ground disturbing activities.
- There is potential to encounter cultural resources and Tribal Cultural Resources (including the traditional importance of resources such as cultural landscapes, significant waterways, and ethnobotanical plants*)*

- An Archaeological Monitoring Area (AMA) and an Environmentally Sensitive Area (ESA) exist for this project.

GEYSERS ROAD BRIDGE OVER FRASIER CREEK REPLACEMENT PROJECT

PM 29.42

County Project C11005

FEDERAL PROJECT NO. BRLO5920(129)

The special provisions contained herein have been prepared by or under the direction of the following registered person(s) per the Professional Engineers Act § 6735 of the California Business and Professional Code).

ROADWAY

Justina L. Conklin
REGISTERED CIVIL ENGINEER

STRUCTURES

Cameron J. Pinkerton
REGISTERED CIVIL ENGINEER

COUNTY OF SONOMA

Chet Jamgochian
REGISTERED CIVIL ENGINEER

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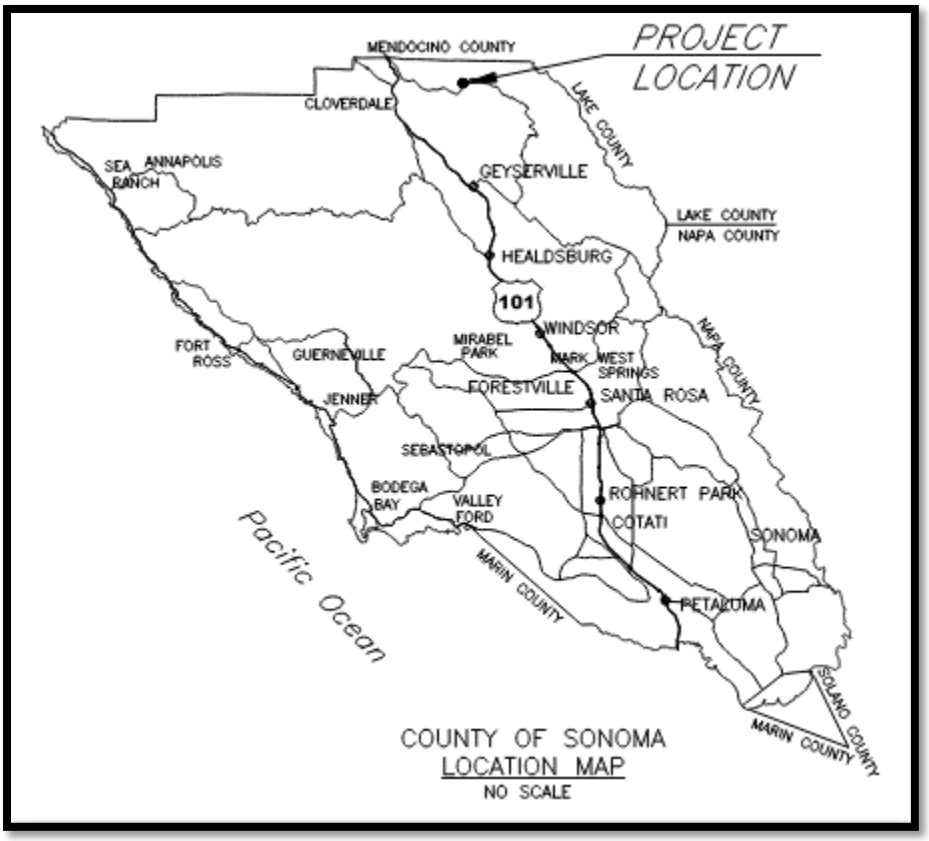

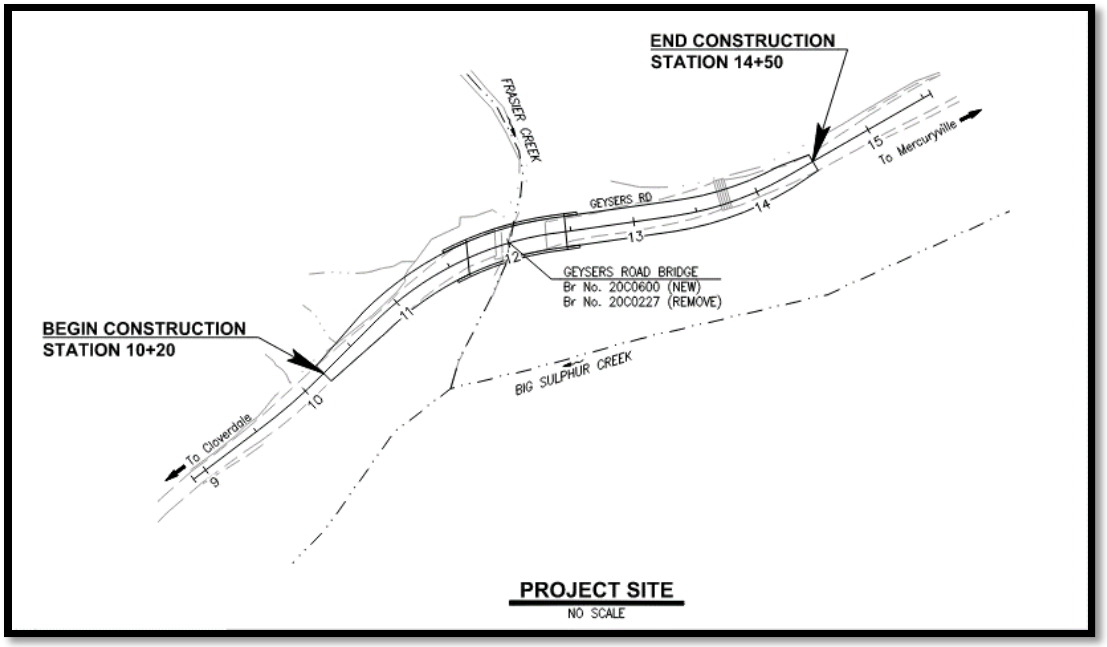

STANDARD PLANS LIST

The standard plan sheets applicable to this Contract include those listed below.

	ABBREVIATIONS, LINES, SYMBOLS, AND LEGEND
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RSP A20B	**Pavement Markers and Traffic Lines - Typical Details**
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A62A	**Excavation and Backfill - Miscellaneous Details**
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A62F	**Excavation and Backfill - Metal and Plastic Culverts**
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A74	**Survey Monuments**
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RSP A77L2	**Midwest Guardrail System - Standard Railing Section (Steel Post with Notched Wood or Notched Recycled Plastic Block)**
RSP A77M1	**Midwest Guardrail System - Standard Hardware**
RSP A77N1	**Midwest Guardrail System - Wood Post and Wood Block Details**
RSP A77N2	**Midwest Guardrail System - Steel Post and Notched Wood Block Details**

A77N3	**Midwest Guardrail System - Typical Line Post Embedment and Hinge Point Offset Details**
RSP A77N4	**Midwest Guardrail System - Typical Railing Delineation and Dike Positioning Details**
	MIDWEST GUARDRAIL SYSTEM - TYPICAL LAYOUTS FOR STRUCTURES
RSP A77Q1	**Midwest Guardrail System - Typical Layouts for Structure Approach**
RSP A77Q5	**Midwest Guardrail System - Typical Layouts for Structure Departure**
	MIDWEST GUARDRAIL SYSTEM - END ANCHORAGE AND RAIL TENSIONING ASSEMBLY
RSP A77S1	**Midwest Guardrail System - End Anchor Assembly (Type SFT - M)**
A77S3	**Metal Railing Anchor Cable and Anchor Plate Details**
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RSP A79A3	**Transition Railing (Type AGT) Details**
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D72F	**CIP Drainage Inlet Notes**
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D73F	**Precast Drainage Inlet Notes**
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COMMUNICATION AND SPRINKLER CONTROL CONDUITS (BRIDGE)

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CANCELED STANDARD PLANS LIST

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

Plan No.	Date Canceled	Plan No.	Date Canceled	Plan No.	Date Canceled
A77U1	01-22-24				
A77U2	01-22-24				
A77U3A	01-22-24				
A77U3B	01-22-24				
A77U4	01-22-24				
A77U5	01-22-24				
A77V1	01-22-24				
A77V2	01-22-24				
A78A	01-22-24				
A78B	01-22-24				
A78C1	01-22-24				
A78C2	01-22-24				
A78D1	01-22-24				
A78D2	01-22-24				
A78E1	01-22-24				
A78E2	01-22-24				
A78E3	01-22-24				
A78F1	01-22-24				
A78F2	01-22-24				
A78GA	01-22-24				
A78GB	01-22-24				
A78H	01-22-24				
A78J	01-22-24				
A78K	01-22-24				

SONOMA COUNTY PUBLIC INFRASTRUCTURE

NOTICE TO BIDDERS

CONTRACT NO. C11005
FEDERAL PROJECT NO. BRLO5920(129)

Sealed bids for the work shown on the plans entitled:

SONOMA COUNTY PUBLIC INFRASTRUCTURE
CONSTRUCTION PLANS FOR:

GEYSERS ROAD OVER FRASIER CREEK BRIDGE REPLACEMENT PROJECT

Contract No. C11005
Federal Project No. BRLO5920(129)

Sonoma County Public Infrastructure is soliciting bids for the **Geysers Road Over Frasier Creek Bridge Replacement Project**. The County requests that bidders submit their bids in a sealed envelope to Sonoma County Public Infrastructure's office located at 400 Aviation Boulevard, Suite 100, Santa Rosa, California, on April 1, 2025, by 2:00 p.m., as determined by the clock displayed on the lobby's monitor. Bidders shall submit the entire bid book and all other required documents for the bid submission enclosed in a sealed envelope to Sonoma County Public Infrastructure's office. The Bid Opening will be conducted in person. Virtual attendance with Microsoft Teams will also be available. The County will open all Bids promptly following the deadline for receiving Bids and initially evaluate them for responsiveness, and determine an Apparent Low Bidder as specified herein. The Director of Sonoma County Public Infrastructure will review the bids to consider awarding the project within 1 to 60 days of the bid opening.

Bid forms for this work are included in a separate book entitled:

SONOMA COUNTY PUBLIC INFRASTRUCTURE
BID BOOK FOR:

GEYSERS ROAD OVER FRASIER CREEK BRIDGE REPLACEMENT PROJECT

Contract No. C11005
Federal Project No. BRLO5920(129)

General Work Description:

Project Description: Sonoma County Public Infrastructure proposes to construct a new two-lane Geysers Road Bridge (Bridge No. 20C0600) over Frasier Creek in Sonoma County, California, with a bridge that meets current American Association of State Highway and Transportation Officials (AASHTO) requirements. The existing one lane bridge (Bridge No. 20C0227) is to be removed.

The proposed project would also widen the roadway approaches approximately 146 feet and 204 feet (ft) on the west and east ends of the bridge, respectively, to conform to the bridge width and profile. After construction, both the bridge and roadway approaches would contain two 11-ft lanes (one in each direction) and two 1-ft shoulders. Temporary and permanent bridge construction, bridge removal, road construction, roadway grading, retaining walls, bio-infiltration ditches, drainage improvements, RSP placement, and channel revegetation are included as part of the proposed project.

Project Location: The project site is located on Geysers Road over Frasier Creek at PM 29.42.

Mandatory Pre-Bid Meeting Date/Location: The mandatory pre-bid meeting will be held March 18, 2025, at 1:00 PM, at the bridge site. Each bidder must attend the meeting. The bidder's representative must be a company officer, project superintendent, or project estimator. For a joint venture, one of the parties must attend the mandatory pre-bid meeting. The County will not accept a bid from a bidder who does not attend the meeting. A sign-in sheet will be used to identify the attendees. Each bidder must include the name and title of the company representative attending the meeting.

General Information:

Engineer's Estimate Range: **$6,500,000 – 7,000,000.**

Working Days: **170.**

Plant Establishment Duration: **1 year**

This shall include any and all alternates, should alternate award occur.

DBE Contract goal: **21%**.

For the Federal training program, the number of trainees or apprentices is 4.

Bids are required for the entire work described herein.

THIS PROJECT IS SUBJECT TO THE "BUY AMERICA" PROVISIONS OF THE SURFACE TRANSPORTATION ASSISTANCE ACT OF 1982 AS AMENDED BY THE INTERMODAL SURFACE TRANSPORTATION EFFICIENCY ACT OF 1991.

At the time the contract is awarded the Contractor shall possess a Class A license with a hazardous substance removal certificate, or have a subcontractor listed who holds a hazardous substance certificate to perform such hazardous substance removal work. The Contractor shall possess a Class A license at the time of bid submittal.

REGISTRATION PURSUANT TO LABOR CODE SECTION 1725.5 REQUIRED. As of March 1, 2015, all Contractors submitting a bid proposal for this project, and any Subcontractors listed therein, must be currently registered and qualified to perform public work pursuant to Labor Code section 1725.5. County requires proof of current registration by contractor and all listed subcontractors as a condition to bid on this project, subject only to the allowances of Labor Code section 1771.1.

This contract is subject to state contract nondiscrimination and compliance requirements pursuant to Government Code, Section 12990.

Plans, specifications, supplemental materials, and bid forms for bidding this project may be reviewed by logging into the Supplier Portal at any time prior to 2:00 P.M. on the date of the bid opening.

Bidders must obtain Bidding Documents, at no charge, by registering at Sonoma County's Supplier Portal, the County's online procurement system:

(*https://esupplier.sonomacounty.ca.gov/psp/FNPRD/SUPPLIER/ERP/h/?tab=DEFAULT*).

Bidders must submit one (1) hard copy of the signed bid before the deadline. Hard copy bids must be enclosed in a sealed envelope and clearly marked "**GEYSERS ROAD OVER FRASIER CREEK BRIDGE REPLACEMENT PROJECT".** The official time for submission will be determined by the clock displayed on the lobby's monitor.

Bids shall be submitted to:

Sonoma County Public Infrastructure
400 Aviation Blvd Ste 100
Santa Rosa CA 95403

To ensure a smooth submission process if delivering in person:

1. Arrive early to allow time for check-in and any unforeseen delays.
2. Confirm that your bid package is complete and properly sealed before submission.
3. Hand-deliver the bid to the front counter staff, who will provide confirmation of receipt.

Late submissions, regardless of the reason, will not be considered. We appreciate your cooperation and adherence to these guidelines to maintain a fair and transparent bidding process.

Inquiries or questions based on alleged patent ambiguity of the plans, specifications or estimate must be communicated as a bidder inquiry prior to bid opening. Any such inquiries or questions, submitted after bid opening, will not be treated as a bid protest.

Technical questions should be emailed with "**2025 Frasier Bridge (C11005)**" in the subject line, to Chet Jamgochian at *spi-bid-inquiries@sonoma-county.org* at Sonoma County Public Infrastructure. Only questions received no later than March 25, 2025, will receive a response.

Addenda, if necessary, will post on the County's Supplier Portal as appropriate on or before March 27, 2025. Email notices will be sent out to plan holders upon posting of each addendum.

The Bid Opening will be held in person at Sonoma County Public Infrastructure's office located at 400 Aviation Boulevard, Suite 100, Santa Rosa, CA 95403. The County will open all Bids promptly following the deadline for receiving Bids. The Bid Opening may also be attended online via Microsoft Teams. To attend virtually with Microsoft Teams, please copy and paste this weblink into your internet browser window:

https://teams.microsoft.com/l/meetup-join/19%3ameeting_NWYzMTM3MWMtZjU1Ny00MDVmLTk5Y2QtMDM1YTk2YzNlNjJj%40thread.v2/0?context=%7b%22Tid%22%3a%22ecfd017d-15bb-494b-9072-cb313101730c%22%2c%22Oid%22%3a%22fb5725f5-893f-4c65-9412-2339fcbf00dc%22%7d

The meeting ID is 258 948 563 879

The meeting passcode is: oq9bc68L

To join by phone please call +1 707-582-0058,,840570417#

Phone Conference ID: 840 570 417#

The successful bidder shall furnish both a performance bond for the full amount of the contract and a payment bond in accordance with California Civil Code Section 3247, as set forth in the Instructions to Bidders.

The County of Sonoma affirms that in any contract entered into pursuant to this advertisement, disadvantaged business enterprises will be afforded full opportunity to submit bids in response to this invitation and will not be discriminated against on the grounds of race, color, sex, national origin or other prohibited basis in consideration for an award.

Liquidated damages in the amount of $6,700 will be assessed for each and every calendar days delay in finishing the work in excess of the number of working days prescribed in the contract.

This project is subject to compliance monitoring and enforcement by the Department of Industrial Relations. The successful Bidder must comply with all prevailing wage laws applicable to the Project, and related requirements contained in the Contract Documents.

Pursuant to Section 1773 of the Labor Code, the general prevailing wage rates in the county, or counties, in which the work is to be done have been determined by the Director of the California Department of Industrial Relations. These wages are set forth in the General Prevailing Wage Rates for this project, available from the California Department of Industrial Relations' Internet web site at:

https://www.dir.ca.gov/OPRL/DPreWageDetermination.htm

The Federal minimum wage rates for this project as predetermined by the United States Secretary of Labor are available at the website below:

https://wdolhome.sam.gov/

If there is a difference between the minimum wage rates predetermined by the Secretary of Labor and 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 pay not less than the higher wage rate. The Department will 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 pay not less than the Federal minimum wage rate, which most closely approximates the duties of the employees in question.

The Contractor must post the applicable prevailing wage rates at the Project Site, in addition to all other job site notices prescribed by regulation.

The U.S. Department of Transportation (DOT) provides a toll-free "hotline" service to report bid rigging activities. Bid rigging activities can be reported Mondays through Fridays, between 8:00 a.m. and 5:00 p.m., Eastern Time, Telephone No. 1-800-424-9071. Anyone with knowledge of possible bid rigging, bidder collusion, or other fraudulent activities should use the "hotline" to report these activities. The "hotline" is part of the DOT's continuing effort to identify and investigate highway construction contract fraud and abuse and is operated under the direction of the DOT Inspector General. All information will be treated confidentially and caller anonymity will be respected.

The Board of Supervisors of Sonoma County reserves the right to reject any or all bids and to waive any defect or irregularity in bidding.

COPY OF BID ITEM LIST

Geysers Road Over Frasier Creek bridge Replacement (C11005)
(NOT TO BE USED FOR BIDDING PURPOSES)

No.	F	Code	Bid Item Description	Unit	Quantity
1		080050	PROGRESS SCHEDULE (CRITICAL PATH METHOD)	LS	1
2		090100	TIME RELATED OVERHEAD	WDAY	170
3		090200	DISPUTE RESOLUTION ADVISOR ON-SITE MEETING	EA	6
4		090207	HOURLY OFF-SITE DISPUTE RESOLUTION ADVISOR RELATED TASKS	HR	60
5		100100	DEVELOP WATER SUPPLY	LS	1
6		120090	CONSTRUCTION AREA SIGNS	LS	1
7		120100	TRAFFIC CONTROL SYSTEM	LS	1
8		120102A	FLAGGING	FA	46000
9		120120	TYPE III BARRICADE	EA	4
10		120149	TEMPORARY PAVEMENT MARKING (PAINT)	SQFT	20
11		120182	PORTABLE DELINEATOR	EA	120
12		120206	PORTABLE SIGNAL SYSTEMS (EA)	EA	2
13		120320	TEMPORARY BARRIER SYSTEM	LF	280
14		128651	PORTABLE CHANGEABLE MESSAGE SIGN	EA	2
15		129105	TEMPORARY CRASH CUSHION TL-2	EA	4
16		130100	JOB SITE MANAGEMENT	LS	1
17		130301	STORMWATER POLLUTION PREVENTION PLAN	LS	1
18		130310	RAIN EVENT ACTION PLAN	EA	22
19		130320	STORM WATER SAMPLING AND ANALYSIS DAY	EA	14

No.	F	Code	Bid Item Description	Unit	Quantity
20		130330	STORM WATER ANNUAL REPORT	EA	2
21		130620	TEMPORARY DRAINAGE INLET PROTECTION	EA	2
22		130640	TEMPORARY FIBER ROLL	LF	940
23		130680	TEMPORARY SILT FENCE	LF	340
24		130710	TEMPORARY CONSTRUCTION ENTRANCE	EA	1
25		130730	STREET SWEEPING	LS	1
26		130900	TEMPORARY CONCRETE WASHOUT	LS	1
27		131103	WATER QUALITY SAMPLING AND ANALYSIS DAY	EA	122
28		131104	WATER QUALITY MONITORING REPORT	EA	5
29		131105	WATER QUALITY ANNUAL REPORT	EA	2
30		131201	TEMPORARY CREEK DIVERSION SYSTEMS	LS	1
31		141120	TREATED WOOD WASTE	LB	6440
32		146002	CONTRACTOR-SUPPLIED BIOLOGIST (LS)	WDAY	170
33		146007	INVASIVE SPECIES CONTROL	LS	1
34		160110	TEMPORARY HIGH-VISIBILITY FENCE	LF	490
35	F	160240A	TEMPORARY ROCK SLOPE PROTECTION (20 LB, CLASS I, METHOD B)	CY	1
36		160260A	TEMPORARY ROCK SLOPE PROTECTION FABRIC (CLASS 8)	SQYD	3
37		170103	CLEARING AND GRUBBING (LS)	LS	1
38		170110A	REMOVE TREE	EA	11
39		190101	ROADWAY EXCAVATION	CY	2000
40	F	192020	STRUCTURE EXCAVATION (TYPE D)	CY	457

No.	F	Code	Bid Item Description	Unit	Quantity
41	F	192032	STRUCTURE EXCAVATION (ROCK SLOPE PROTECTION)	CY	551
42	F	193003	STRUCTURE BACKFILL (BRIDGE)	CY	55
43	F	193013	STRUCTURE BACKFILL (RETAINING WALL)	CY	191
44		198400A	BIORETENTION SOIL MEDIA	CY	70
45		202006	SOIL AMENDMENT	CY	1
46		202045	PLANT TUBE	EA	37
47		204008	PLANT (GROUP H)	EA	37
48		204010	PLANT (GROUP O)	EA	8
49		204013	PLANT (GROUP M)	EA	29
50		204099	PLANT ESTABLISHMENT WORK	LS	1
51		205035	WOOD MULCH	CY	3
52		205051	FOLIAGE PROTECTOR	EA	37
53		206300	TEMPORARY IRRIGATION SYSTEM	LS	1
54		210270	ROLLED EROSION CONTROL PRODUCT (NETTING)	SQFT	10400
55		210300	HYDROMULCH	SQFT	340
56		210360	COMPOST SOCK	LF	740
57		210430	HYDROSEED	SQFT	10800
58		210610	COMPOST (CY)	CY	70
59		260203	CLASS 2 AGGREGATE BASE (CY)	CY	460
60		390102A	ASPHALT CONCRETE (TYPE A, 1/2" MAX, PG 64-16)	TON	290
61		394078A	PLACE ASPHALT CONCRETE DIKE (TYPE F)	LF	21

No.	F	Code	Bid Item Description	Unit	Quantity
62		397005	TACK COAT	TON	1.1
63		398300	REMOVE BASE AND SURFACING	CY	180
64		480401A	TEMPORARY BRIDGE	LS	1
65		480600	TEMPORARY SHORING	LS	1
66		480700A	TEMPORARY RETAINING WALL	LS	1
67		490607	48" CAST-IN-DRILLED-HOLE CONCRETE PILING	LF	211
68		499010	24" CAST-IN-DRILLED-HOLE CONCRETE PILING (RETAINING WALL)	LF	248
69	F	510053	STRUCTURAL CONCRETE, BRIDGE	CY	215
70	F	510054	STRUCTURAL CONCRETE, BRIDGE (POLYMER FIBER)	CY	61
71	F	510060	STRUCTURAL CONCRETE, RETAINING WALL	CY	59
72		510094	STRUCTURAL CONCRETE, DRAINAGE INLET	CY	2.2
73		519100	JOINT SEAL (MR 2")	LF	60
74	F	520102	BAR REINFORCING STEEL (BRIDGE)	LB	125750
75	F	520103	BAR REINFORCING STEEL (RETAINING WALL)	LB	9941
76	F	520115	BAR REINFORCING STEEL (GALVANIZED)	LB	172
77	F	520120	HEADED BAR REINFORCEMENT	EA	72
78		600097	BRIDGE REMOVAL	LS	1
79		610403	18" TEMPORARY CULVERT	LF	29
80		665017	18" CORRUGATED STEEL PIPE (.079" THICK)	LF	60
81		665018	18" CORRUGATED STEEL PIPE (.109" THICK)	LF	80
82		681132	GEOCOMPOSITE DRAIN	SQFT	944

No.	F	Code	Bid Item Description	Unit	Quantity
83		681501	FURNISH AND INSTALL DRAIN PIPE (HORIZONTAL DRAIN)	LF	410
84		681502	DRILL HOLE (HORIZONTAL DRAIN)	LF	400
85	F	682042	CLASS 2 PERMEABLE MATERIAL (BLANKET)	CY	30
86		692307	18" ANCHOR ASSEMBLY	EA	3
87		700638	36" CORRUGATED STEEL PIPE INLET (.079" THICK)	LF	2.7
88		700643A	36" TEMPORARY CORRUGATED STEEL PIPE INLET (.079" THICK)	LF	4.4
89		702614	18" CORRUGATED STEEL PIPE ENERGY DISSIPATOR (.064" THICK)	EA	2
90		703450	WELDED STEEL PIPE CASING (BRIDGE)	LF	80
91		710135	REMOVE CULVERT (LF)	LF	19
92	F	720110A	GRAVEL FILTER	CY	84
93		722020	GABION	CY	11
94	F	723060	ROCK SLOPE PROTECTION (300 LB, CLASS IV, METHOD B) (CY)	CY	467
95	F	723095	ROCK SLOPE PROTECTION (20 LB, CLASS I, METHOD B) (CY)	CY	17
96		729011	ROCK SLOPE PROTECTION FABRIC (CLASS 8)	SQYD	110
97	F	750001	MISCELLANEOUS IRON AND STEEL	LB	655
98		750006A	TEMPORARY STEEL COVER	EA	1
99		750036A	REMOVE CATTLE GUARD	EA	1
100	F	750501	MISCELLANEOUS METAL (BRIDGE)	LBS	106
101	F	750505	BRIDGE DECK DRAINAGE SYSTEM	LB	1109
102		780210	SURVEY MONUMENT (TYPE A)	EA	1
103		800001	FENCE (BW, MP)	LF	380

No.	F	Code	Bid Item Description	Unit	Quantity
104		803030	REMOVE FENCE (TYPE BW)	LF	340
105		803100	RECONSTRUCT FENCE	LF	38
106		810190	GUARD RAILING DELINEATOR	EA	8
107		820134	OBJECT MARKER (TYPE P)	EA	4
108		820151	OBJECT MARKER (TYPE L-1)	EA	1
109		820610	RELOCATE ROADSIDE SIGN	EA	1
110		832006	MIDWEST GUARDRAIL SYSTEM (STEEL POST)	LF	80
111	F	833094	TUBULAR BICYCLE RAILING	LF	238
112		839544A	TRANSITION RAILING (TYPE AGT)	EA	4
113		839576	END CAP (TYPE A)	EA	2
114		839581	END ANCHOR ASSEMBLY (TYPE SFT-M)	EA	2
115		839586A	ALTERNATIVE IN-LINE TERMINAL SYSTEM (TL-2)	EA	2
116	F	839740A	CALIFORNIA ST-75 BRIDGE RAIL	LF	266
117		839752	REMOVE GUARDRAIL	LF	250
118		840504A	4" THERMOPLASTIC TRAFFIC STRIPE	LF	1280
119		850111	PAVEMENT MARKER (RETROREFLECTIVE)	EA	16
120		999990	MOBILIZATION	LS	1
121		999998	GUARANTEE	LS	1

When an item of work is designated as (F) in the Engineer's Estimate, the estimate quantity shall be the final pay quantity. When an item of work is designated as (P) in the Engineer's Estimate, then that item is subject to partial payment as materials furnished but not incorporated in the work. When an item of work is designated as (S) in the Engineer's Estimate, then that item is a Specialty Item, as defined in Section 5 "Control of Work" of these Special Provisions.

SONOMA COUNTY PUBLIC INFRASTRUCTURE
SANTA ROSA, CALIFORNIA

https://sonomacounty.ca.gov/

SPECIAL PROVISIONS

FOR CONSTRUCTION OF
GEYSERS ROAD BRIDGE OVER FRASIER CREEK
REPLACEMENT PROJECT

FEDERAL PROJECT NO. BRLO5920(129)

COUNTY PROJECT No. C11005

ORGANIZATION

Special provisions 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*.

Each special provision begins with a revision clause that describes or introduces a revision to the *Standard Specifications* as revised by any revised standard specification.

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

Add to section 1-1.01 after paragraph 8:

Bid Items and Applicable Sections

Item code	Item description	Applicable section
090200	DISPUTE RESOLUTION ADVISOR ON-SITE MEETING	5
090207	HOURLY OFF-SITE DISPUTE-RESOLUTION-ADVISOR-RELATED TASKS	5
999990	MOBILIZATION	9
999998	GUARANTEE	5

Add the following definitions to section 1-1.07B:

Board of Supervisors: The governing body of the County of Sonoma.

Caltrans: California Department of Transportation

Contract Execution: is defined as signature by the Chairperson of the County Board of Supervisors.

County: The County of Sonoma, a political subdivision of the State of California.

Driving:

1. Means operating a motor vehicle on a roadway, including while temporarily stationary because of traffic, a traffic light, stop sign, or otherwise.

2. It does not include being in your vehicle (with or without the motor running) in a location off the roadway where it is safe and legal to remain stationary.

Final Acceptance: The formal acceptance by the Sonoma County Public Infrastructure Director of an entire contract which has been completed in all respects in accordance with the plans and specifications and any modifications thereof previously approved.

Text messaging: means reading from or entering data into any handheld or other electronic device, including for the purpose of short message service texting, e-mailing, instant messaging, obtaining navigational information, or engaging in any other form of electronic data retrieval or electronic data communication.

Modify the following definitions in section 1-1.07B with:

Authorized Laboratory: Independent testing laboratory authorized by the Engineer to test materials and work involved in the contract (1) not employed or compensated by any subcontractor or subcontractor's affiliate providing other services for the Contract and (2) authorized by Agency.

Business day: Day on the calendar except a Saturday, Sunday and a holiday.

Working day: Time measure unit for work progress. A working day is any 24-consecutive-hour period except:

2.1. Saturday, Sunday and a 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. Traffic maintenance 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.

Agency: Sonoma County Public Infrastructure.

Holiday: When a designated legal holiday falls on a Sunday, the following Monday will be a designated legal holiday. When a designated legal holiday falls on a Saturday, the preceding Friday will be a designated legal holiday.

Holiday	Date Observed
New Year's Day	January 1st
Birthday of Martin Luther King Jr.	3rd Monday in January
Lincoln's Birthday	February 12th
Washington's Birthday	3rd Monday in February
Cesar Chavez Day	March 31st
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
Day after Thanksgiving	Day after Thanksgiving
Christmas Day	December 25th

Add to table in section 1-1.11 with:

Web Sites, Addresses, and Telephone Numbers

Reference or agency or department unit	Web site	Address	Telephone no.
Sonoma County Public Infrastructure	*www.sonomacounty.ca.gov/spi*	Sonoma County Public Infrastructure 400 Aviation Boulevard, Suite 100 - Santa Rosa, CA 94503	(707) 565-2550

Replace section 1-1.12 with:

Make checks and bonds payable to County of Sonoma.

2 BIDDING

Replace section 2-1.06 with:

2-1.06A General

Caltrans Standard Specifications and Standard Plans are available from the Caltrans website.

All project and bidding documents must be obtained by registering at The County of Sonoma's Supplier Portal:

https://esupplier.sonomacounty.ca.gov/psp/FNPRD/SUPPLIER/ERP/h/?tab=DEFAULT

The Special Provisions book includes the Notice to Bidders. The Bid Book contains all forms necessary to submit a responsive bid and all bids shall be made using these forms. There is no charge to download forms from the Supplier Portal.

2-1.06B Supplemental Project Information

The Department makes the following supplemental project information available:

Supplemental Project Information

Means	Description
Included in the *Information Handout*	1. Frasier IS/MND 2. Frasier Environmental Commitment Record 3. Bridge Design Hydraulic Study Report, dated January 2025 4. Foundation Report a. Final Foundation Report, Dated January 22, 2025 b. Final Calculation Package, Dated January 22, 2025 c. Final Log of Test Borings and DCP Logs, Dated January 22, 2025 5. Permits: a. NMFS-Biological Opinion and Incidental Take Permit, November 2021 b. CDFW – Streambed Alteration Agreement, December 2024 c. North Coast Regional Water Control Board Permit, September 2024 d. USACOE 404 Permit, September 2024 e. ESA Action and Monitoring Plan, September 2022 6. R/W Purchase Agreements a. Denise Hale – APN 117-220-015 7. Bat Management Plan 8. Archaeological Monitoring Exhibit 9. Frasier Revegetation and Monitoring Plan 10. Temporary Dewatering Concept Exhibit 11. Finding of No Adverse Effect Non-Standard Conditions
Available as specified in the *Standard Specifications*	
Included with the project plans	- Log of test borings

2-1.06C Miscellaneous

The Department will not consider for award any bid submitted by any contractor and will not consent to subletting any portion of the contract to any subcontractor, of a foreign country during any period in which such foreign country is listed against U.S. firms in construction procurements for public works projects. **Replace section 2-1.11 with:**

2-1.11 IN-USE OFF-ROAD DIESEL-FUELED VEHICLE LIST

Section 2-1.11 applies to non-informal-bid contracts.

Complete and submit the In-Use Off-Road Diesel-Fueled Vehicle List form under section 2-1.33.

On the In-Use Off-Road Diesel-Fueled Vehicle List form, list each fleet used by you or your subcontractor to perform work and is subject to 13 CCR § 2449 et seq. Submit a copy of a valid Certificate of Reported Compliance (13 CCR § 2449, subdivision (n)) for each fleet listed on the form within 10 days of bid opening. Failure to list a fleet used by you or your subcontractor to perform work on the In-Use Off-Road Diesel-Fueled Vehicle List form may result in a nonresponsive bid. Failure to submit the Certificate of Reported Compliance for a fleet listed on the In-Use Off-Road Diesel-Fueled Vehicle List form may result in a nonresponsive bid.

Replace Section 2-1.12 with:

2-1.12 DISADVANTAGED BUSINESS ENTERPRISES (DBE) [Exhibit 12-G]

The contractor, subrecipient or subcontractor shall take necessary and reasonable steps to ensure that DBEs have opportunity to participate in the contract (49 CFR 26). To ensure equal participation of DBEs provided in 49CFR 26.5, the Agency shows a contract goal for DBEs. The prime contractor shall make work available to DBEs and select work parts consistent with available DBE subcontractors and suppliers.

The prime contractor shall meet the DBE goal shown elsewhere in these special provisions or demonstrate that they made adequate Good Faith Efforts (GFE) to meet this goal. An adequate GFE means that the bidder must show that it took all necessary and reasonable steps to achieve a DBE goal that, by their scope, intensity, and appropriateness to the objective, could reasonably be expected to meet the DBE goal.

If the DBE goal is not met, the contractor needs to complete and submit the DBE GFE documentation as described in Local Assistance Procedures Manual (LAPM) Chapter 9, Section 9.8 within 5 (five) days of bid opening.

It is the prime contractor's responsibility to verify that the DBE firm is certified as a DBE on the date of bid opening by using the California Unified Certification Program (CUCP) database and possesses the most specific available North American Industry Classification System (NAICS) codes and Work Code applicable to the type of work the firm will perform on the contract. Additionally, the prime contractor is responsible to document this verification by printing out the CUCP data for each DBE firm. A list of DBEs certified by the CUCP can be found at: https://dot.ca.gov/programs/civil-rights/dbe-search.

DBE participation will only count toward the California Department of Transportation's federally mandated statewide overall DBE goal if the DBE performs a commercially useful function under 49 CFR 26.55.

Credit for materials or supplies the prime contractor purchases from DBEs counts towards the goal in the following manner:

- 100 percent counts if the materials or supplies are obtained from a DBE manufacturer.
- 60 percent counts if the materials or supplies are obtained from a DBE regular dealer.
- Only fees, commissions, and charges for assistance in the procurement and delivery of materials or supplies count if obtained from a DBE that is neither a manufacturer nor regular dealer. 49 CFR26.55 defines "manufacturer" and "regular dealer."

The prime contractor receives credit towards the goal if they employ a DBE trucking company that performs a commercially useful function as defined in 49 CFR 26.55(d) as follows:

- The DBE must be responsible for the management and supervision of the entire trucking operation for which it is responsible on a particular contract, and there cannot be a contrived arrangement for the purpose of meeting DBE goals.
- The DBE must itself own and operate at least one fully licensed, insured, and operational truck used on the contract.
- The DBE receives credit for the total value of the transportation services it provides on the Contract using trucks it owns, insures, and operates using drivers it employs.
- The DBE may lease trucks from another DBE firm, including an owner-operator who is certified as a DBE. The DBE who leases trucks from another DBE receives credit for the total value of the transportation services the lessee DBE provides on the Contract.
- The DBE may also lease trucks from a non-DBE firm, including from an owner-operator. The DBE that leases trucks equipped with drivers from a non-DBE is entitled to credit for the total value of transportation services provided by non-DBE leased trucks equipped with drivers not to exceed the value of transportation services on the contract provided by DBE-owned trucks or leased trucks with DBE employee drivers. Additional participation by non-DBE owned trucks equipped with drivers receives credit only for the fee or commission it receives as a result of the lease arrangement.
- The DBE may lease trucks without drivers from a non-DBE truck leasing company. If the DBE leases trucks from a non-DBE truck leasing company and uses its own employees as drivers, it is entitled to credit for the total value of these hauling services.

A lease must indicate that the DBE has exclusive use of and control over the truck. This does not preclude the leased truck from working for others during the term of the lease with the consent of the DBE, so long as the lease gives the DBE absolute priority for use of the leased truck. Leased trucks must display the name and identification number of the DBE.

Nondiscrimination Statement

The contractor, subrecipient or subcontractor will never exclude any person from participation in, deny any person the benefits of, or otherwise discriminate against anyone in connection with the award and performance of any contract covered by 49 CFR 26 on the basis of race, color, sex, or

national origin. In administering the Local Agency components of the DBE Program Plan, the contractor, subrecipient or subcontractor will not, directly, or through contractual or other arrangements, use criteria or methods of administration that have the effect of defeating or substantially impairing accomplishment of the objectives of the DBE Program Plan with respect to individuals of a particular race, color, sex, or national origin.

Contract Assurance

Under 49 CFR 26.13(b):

The contractor, subrecipient 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 26 in the award and administration of federal-aid 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 recipient deems appropriate, which may include, but is not limited to:

1. Withholding monthly progress payments;
2. Assessing sanctions;
3. Liquidated damages; and/or
4. Disqualifying the contractor from future bidding as non-responsible.

DBE Commitment Submittal

Submit the Exhibit 15-G *Construction Contract DBE Commitment*, included in the Bid book. If the form is not submitted with the bid, remove the form from the Bid book before submitting your bid.

If the DBE Commitment form is not submitted with the bid, all bidders must complete and submit Exhibit 15-G to the Agency. The DBE Commitment form must be received by the Agency within four (4) working days of bid opening.

Submit written confirmation from each DBE stating that it is participating in the contract. Include confirmation with the DBE Commitment form. A copy of a DBE's quote will serve as written confirmation that the DBE is participating in the contract.

If you do not submit the DBE Commitment form within the specified time, the Agency will find your bid nonresponsive.

Delete section 2-1.18.

Delete section 2-1.27.

Replace Section 2-1.32 with:

2-1.32 BID PRICE FOR FLAGGING

The cost set forth by the Agency in the bid form for the Flagging Item shall be the cost used by all bidders for the purpose of comparison of bids. The bidder shall not alter the cost set forth. The cost shown represents 50% of anticipated Flagging costs, the Agency pays 50% of Flagging costs.

Replace section 2-1.33A with:

Complete the forms in the Bid Book.

Use the forms provided by the Agency, except as otherwise specified for a bidder's bond.

Fax or deliver to the Engineer only the documents specified for later submittal.
Fax is (707) 526-2620. Email is *spi-bid-inquiries@sonoma-county.org*.

Failure to submit the forms and information as specified may result in a nonresponsive bid.

If an agent other than the authorized corporate officer or a partnership member signs the bid, file a Power of Attorney with the Agency either before opening bids or with the bid. Otherwise, the bid may be nonresponsive.

Replace section 2-1.33B with:

2-1.33B Bid Form Submittal Schedule

2.1.33B(1) General

The Bid book includes forms specific to the Contract. The deadlines for the submittal of the forms vary depending on the requirements of each Contract. Determine the requirements of the Contract and submit the forms based on the applicable schedule specified in section 2-1.33B.

Unless noted in section 2-1.33B(2) or 2-1.33B(3) all forms in the bid book must be completed and submitted at time of bid, on the day of bid opening. This includes the completed list of subcontractors.

2-1.33B(2) Federal-Aid Contracts

2-1.33B(2)(a) General

Section 2-1.33B(2) applies to a federal-aid contract.

2-1.33B(2)(b) Contracts with a DBE Goal

2-1.33B(2)(b)(i) General

Section 2-1.33B(2)(b) applies if a DBE Goal is shown on the Notice to Bidders.

2-1.33B(2)(b)(ii) DBE Form Submittal Schedule [Exhibit 12-G]

If the DBE Commitment forms, including the Good Faith Effort (Exhibit 15-H) information is not submitted at the time of bid, it must be emailed to the Engineer (Chet Jamgochian at chet.jamgochian@sonoma-county.org) within 4 working days after bid opening.

Submittal of good faith efforts documentation within the specified time protects your eligibility for award of the contract in the event the Agency finds that the DBE goal has not been met.

Good faith efforts documentation must include the following information and supporting documents, as necessary:

1. Items of work you have made available to DBE firms. Identify those items of work you might otherwise perform with your own forces and those items that have been broken down into economically feasible units to facilitate DBE participation. For each item listed, show the dollar value and percentage of the total contract. It is your responsibility to demonstrate that sufficient work to meet the goal was made available to DBE firms.
2. Names of certified DBEs and dates on which they were solicited to bid on the project. Include the items of work offered. Describe the methods used for following up initial solicitations to determine with certainty if the DBEs were interested, and the dates of the follow-up. Attach supporting documents such as copies of letters, memos, facsimiles sent, telephone logs, telephone billing statements, and other evidence of solicitation. You are reminded to solicit certified DBEs through all reasonable and available means and provide sufficient time to allow DBEs to respond.
3. Name of selected firm and its status as a DBE for each item of work made available. Include name, address, and telephone number of each DBE that provided a quote and their price quote. If the firm selected for the item is not a DBE, provide the reasons for the selection.
4. Name and date of each publication in which you requested DBE participation for the project. Attach copies of the published advertisements.
5. Names of agencies and dates on which they were contacted to provide assistance in contacting, recruiting, and using DBE firms. If the agencies were contacted in writing, provide copies of supporting documents.
6. List of efforts made to provide interested DBEs with adequate information about the plans, specifications, and requirements of the contract to assist them in responding to a solicitation. If you have provided information, identify the name of the DBE assisted, the nature of the information provided, and date of contact. Provide copies of supporting documents, as appropriate.
7. List of efforts made to assist interested DBEs in obtaining bonding, lines of credit, insurance, necessary equipment, supplies, and materials, excluding supplies and equipment that the DBE subcontractor purchases or leases from the prime contractor or its affiliate. If such assistance is provided by you, identify the name of the DBE assisted, nature of the assistance offered, and date assistance was provided. Provide copies of supporting documents, as appropriate.
8. Any additional data to support demonstration of good faith efforts.

The Agency may consider DBE commitments from other bidders when determining whether the low bidder made good faith efforts to meet or exceed the DBE goal.

Exhibit 15-G - Construction Contract DBE Commitment **[Exhibit 12-G]**

Complete and sign Exhibit 15-G *Construction Contract DBE Commitment* included in the contract documents regardless of whether DBE participation is reported.

Provide written confirmation from each DBE that the DBE is participating in the Contract. A copy of a DBE's quote serves as written confirmation. If a DBE is participating as a joint venture partner, please submit a copy of the joint venture agreement.

2-1.33B(3)(b) Contracts with a DVBE Goal

2-1.33B(3)(b)(i) General

Section 2-1.33B(3)(b) applies if a DVBE Goal is shown on the Notice to Bidders.

2-1.33B(3)(b)(ii) Bid Form Submittal If the DVBE Commitment forms, including the Good Faith Effort information, are not submitted at the time of bid they must be emailed to (Chet Jamgochian at *chet.jamgochian@sonoma-county.org)* within 4 working days after bid opening.

Submittal of good faith efforts documentation within the specified time protects your eligibility for award of the contract in the event the Agency finds that the DVBE goal has not been met.

Replace section 2-1.34 with:

2-1.34 BIDDER'S SECURITY

Submit one of the following forms of bidder's security equal to at least 10% of the bid:

1. Cashier's check

2. Certified check

3. Signed bidder's bond by an admitted surety insurer

Submit cashier's check, certified check or bidder's bond with your bid.

If using a bidder's bond, you must use the form in the Bid Book. The bid security shall be made payable to the County of Sonoma.

Delete the 2nd paragraph in section 2-1.40.

Replace section 2-1.43 with:

2-1.43 BID OPENING [Exhibit 12-G]

The Agency publicly opens and reads bids at the time and place shown on the *Notice to Bidders.*

Replace section 2-1.47 with:

The Department may grant bid relief under Public Contract Code § 5100 et seq. Submit any request for bid relief to Chet Jamgochian at *chet.jamgochian@sonoma-county.org*.

Replace Section 2-1.50 with:

2-1.50 BID RIGGING [Exhibit 12-G]

The U.S. Department of Transportation (DOT) provides a toll-free hotline to report bid rigging activities. Use the hotline to report bid rigging, bidder collusion, and other fraudulent activities. The hotline number is (800) 424-9071. The service is available 24 hours 7 days a week and is confidential and anonymous. The hotline is part of the DOT's effort to identify and investigate highway construction contract fraud and abuse and is operated under the direction of the DOT Inspector General.

3 CONTRACT AWARD AND EXECUTION

Replace section 3-1.02B with:

The Agency breaks a tied bid with a coin toss.

Replace section 3-1.04 with:

3-1.04 CONTRACT AWARD [Exhibit 12-G]

If the Agency awards the contract, the award is made to the lowest responsive and responsible bidder.

Add as section 3-1.04A:

3-1.04A: BID PROTEST

Any bid protest must be submitted in writing to *spi-bid-inquiries@sonoma-county.org*, before 5:00pm Pacific Daylight Time (UTC-7) as determined by NIST at *https://www.time.gov/*, on the fifth business day following posting of the Notice of Intent to Award the Contract at the office of the Sonoma County Board of Supervisors.

The initial protest document must contain a complete statement of the basis for the protest. The protest must refer to the specific portion of the document that forms the basis for the protest. The protest must include the name, address and phone number of the person representing the protesting party.

The party filing the protest must concurrently transmit a copy of the initial protest document and any attached documentation to all other parties with a direct financial interest that may be adversely affected by the outcome of the protest. Such parties shall include all other bidders who appear to have a reasonable prospect of receiving an award depending upon the outcome of the protest.

The procedure and time limits set forth in this paragraph are mandatory and are bidder's sole and exclusive remedy in the event of bid protest. Bidder's failure to comply with these procedures shall constitute a waiver of any right to further pursue the bid protest, including filing a Government Code Claim or legal proceedings. A bidder may not rely on a protest submitted by another bidder, but must timely pursue its own protest.

Replace the 2nd item in the list in section 3-1.05 with:

2. Performance bond to guarantee the faithful performance of the Contract. This bond must be equal to at least 100% of the total bid.

Replace the 2nd paragraph in section 3-1.05 with:

Contractor shall use the forms in the Bid Book.

Replace Section 3-1.06 with:

3-1.06 CONTRACTOR LICENSE [Exhibit 12-G]

The Contractor must be properly licensed as a contractor from contract award through Contract acceptance (Public Contract Code § 10164).

Replace section 3-1.07 with:

Refer to section 7-1.06 for insurance requirements

Delete section 3-1.08.

Delete section 3-1.11.

Replace section 3-1.18 with:

3-1.18 CONTRACT EXECUTION

The successful bidder must sign the Contract.

Deliver to the Engineer:

1. Signed Contract, including the attached form FHWA-1273
2. Contract bonds
3. Documents identified in section 7-1.06 Insurance
4. For a federal-aid contract, *Caltrans Bidder - DBE Information* form

The Engineer must receive these documents within 10 business days, not including Saturdays, Sundays, or legal holidays, after the bidder receives the contract for execution.

The bidder's security may be forfeited for failure to execute the contract within the time specified (Pub Cont Code §§ 10181, 10182, and 10183).

4 SCOPE OF WORK

Add to section 4-1.05B:

Significant Changes in the Character of Work [Exhibit 12-G]

1. The engineer reserves the right to make, in writing, at any time during the work, such changes in quantities and such alterations in the work as are necessary to satisfactorily complete the project. Such changes in quantities and alterations shall not invalidate the contract nor release the surety, and the contractor agrees to perform the work as altered.
2. If the alterations or changes in quantities significantly change the character of the work under the contract, whether such alterations or changes are in themselves significant changes to the character of the work or by affecting other work cause such other work to become significantly different in character, an adjustment, excluding anticipated profit, will be made to the contract. The basis for the adjustment shall be agreed upon prior to the performance of the work. If a basis cannot be agreed upon, then an adjustment will be made either for or against the contractor in such amount as the engineer may determine to be fair and equitable.
3. If the alterations or changes in quantities do not significantly change the character of the work to be performed under the contract, the altered work will be paid for as provided elsewhere in the contract.
4. The term "significant change" shall be construed to apply only to the following circumstances:
    - When the character of the work as altered differs materially in kind or nature from that involved or included in the original proposed construction; or
    - When a major item of work, as defined elsewhere in the contract, is increased in excess of 125 percent or decreased below 75 percent of the original contract quantity. Any allowance for an increase in quantity shall apply only to that portion in excess of 125 percent of original contract item quantity, or in case of a decrease below 75 percent, to the actual amount of work performed

Replace section 4-1.06B with:

4-1.06B DIFFERING SITE CONDITIONS [Exhibit 12-G]

1. During the progress of the work, if subsurface or latent physical conditions are encountered at the site differing materially from those indicated in the contract or if unknown physical conditions of an unusual nature, differing materially from those ordinarily encountered and generally recognized as inherent in the work provided for in the contract, are encountered at the site, the party discovering such conditions shall promptly notify the other party in writing of the specific differing conditions before the site is disturbed and before the affected work is performed.
2. Upon written notification, the engineer will investigate the conditions, and if it is determined that the conditions materially differ and cause an increase or decrease in the cost or time required for the performance of any work under the contract, an adjustment, excluding anticipated profits, will be made and the contract modified in writing accordingly. The engineer will notify the contractor of the determination whether or not an adjustment of the contract is warranted.

3. No contract adjustment which results in a benefit to the contractor will be allowed unless the contractor has provided the required written notice.
4. No contract adjustment will be allowed under this clause for any effects caused on unchanged work. (This provision may be omitted by the Local Agency, at their option.)

Add to section 4-1.06C:

In addition to the above, this contract is subject to Public Contract Code, Section 7104(c):

"That in the event that a dispute arises between the public entity and the contractor whether the conditions materially differ, or involve hazardous waste, or cause a decrease or increase in the contractor's cost of, or time required for, performance of any part of the work, the contractor shall not be excused from any scheduled completion date provided for by the contract, but shall proceed with all work to be performed under the contract. The contractor shall retain any and all rights provided either by contract or by law which pertain to the resolution of disputes and protests between the contracting parties."

Delete section 4-1.07D.

Replace the 2nd paragraph of Section 4-1.13 with:

Do not remove warning, regulatory, or guide signs until directed by the Engineer.

5 CONTROL OF WORK

Replace the fifth paragraph of section 5-1.13A with:

Where an entire item is subcontracted, the value of work subcontracted will be based on the contract item bid price. When a portion of an item is subcontracted, the value of work subcontracted will be based on the estimated percentage of the contract item bid price, determined from information submitted by you, subject to approval by the Engineer.

Replace the ninth paragraph of section 5-1.13A with:

Submit copies of all subcontracts prior to start of work.

Add to section 5-1.13A.

The Contractor shall maintain records showing the name and business address of each first-tier subcontractor.

Upon completion of the contract, a summary of these records shall be certified correct by the Contractor or the Contractor's authorized representative, and shall be furnished to the Engineer.

Replace section 5-1.13B(1) with:

5-1.13B(1) DBE Commitment and Utilization [Exhibit 12-G]

The Agency's DBE program must include a monitoring and enforcement mechanism to ensure that DBE commitments reconcile to DBE utilization.

The bidder shall complete and sign Exhibit 15-G Construction Contract DBE Commitment included in the contract documents regardless of whether DBE participation is reported. The bidder shall provide written confirmation from each DBE that the DBE is participating in the Contract. LAPM Exhibit 9-I: DBE Confirmation or equivalent form and DBE's quote must be submitted. The written confirmation must be submitted no later than 4pm on the 5th day after bid opening. If a DBE is participating as a joint venture partner, the bidder shall submit a copy of the joint venture agreement.

If the DBE Commitment form, Exhibit 15-G, is not submitted with the bid, it must be completed and submitted by all bidders to the Agency within five (5) days of bid opening. If the bidder does not submit the DBE Commitment form within the specified time, the Agency will find the bidder's bid nonresponsive.

The prime contractor shall use each DBE subcontractor as listed on Exhibit 15-G: Construction Contract DBE Commitment unless they receive written authorization for a termination or replacement from the Agency.

The Agency shall request the prime contractor to:

1. Notify the Resident Engineer or Inspector of any changes to its anticipated DBE participation

2. Provide this notification before starting the affected work
3. Maintain records including:
    - Name and business address of each 1st-tier subcontractor
    - Name and business address of each DBE subcontractor, DBE vendor, and DBE trucking company, regardless of tier
    - Date of payment and total amount paid to each DBE (see Exhibit 9-F Monthly Disadvantaged Business Enterprise Payment)

If the prime contractor is a DBE contractor, they shall include the date of work performed by their own forces and the corresponding value of the work.

Before the 15th of each month, the prime contractor shall submit a Monthly DBE Trucking Verification (LAPM Exhibit 16-Z1) form.

If a DBE is decertified before completing its work, the DBE must notify the prime contractor in writing of the decertification date. If a business becomes a certified DBE before completing its work, the business must notify the prime contractor in writing of the certification date. The prime contractor shall submit the notifications. Upon work completion, the prime contractor shall complete a Disadvantaged Business Enterprises (DBE) Certification Status Change, Exhibit 17-O, form and submit the form within 30 days of contract acceptance.

Upon work completion, the prime contractor shall complete Exhibit 17-F Final Report – Utilization of Disadvantaged Business Enterprises (DBE), First-Tier Subcontractors and submit it within 90 days of contract acceptance. The Agency will withhold $10,000 until the form is submitted. The Agency releases the withhold upon submission of the completed form.

Running Tally of Attainments

Exhibit 9-F is no longer required. Instead, by the 15th of the month following the month of any payment(s), the prime contractor must now submit Exhibit 9-P to the Local Agency administering the contract. If the Contractor does not make any payments to subcontractors, supplier(s) and/or manufacturers they must report “no payments were made to subs this month” and write this visibly and legibly on Exhibit 9-P.

Commercially Useful Function

DBEs must perform a commercially useful function (CUF) under 49 CFR 26.55 when performing work or supplying materials listed on the DBE Commitment form. The DBE value of work will only count toward the DBE commitment if the DBE performs a CUF. A DBE performs a CUF when it is responsible for execution of the work on the contract and is carrying out its responsibilities by actually performing, managing, and supervising the work involved. If a DBE does not perform or exercise responsibility for at least 30% of the total cost of its contract with its own work force, or the DBE subcontracts a greater portion of the work of a contract than would be expected on the basis of normal industry practice for the type of work involved, it will be presumed that the DBE is not performing a CUF. Additionally, the DBE must also be responsible, with respect to materials and supplies used on the contract, for negotiating price, determining quality and quantity, ordering the material and installing (where applicable), and paying for the material itself.

The Contractor must perform CUF evaluation for each DBE company working on a federal-aid contract, with or without a DBE goal. Perform a CUF evaluation at the beginning of the DBE's work, and continue to monitor the performance of CUF for the duration of the project.

The Contractor must provide written notification to the Agency at least 15 days in advance of each DBE's initial performance of work or supplying materials for the Contract. The notification must include the DBE's name, work the DBE will perform on the contract, and the location, date, and time of where their work will take place.

Within 10 (ten) days of a DBE initially performing work or supplying materials on the contract, the Contractor shall submit to the LPA the initial evaluation and validation of DBE performance of a CUF using the LAPM 9-J: Disadvantaged Business Enterprise Commercially Useful Function Evaluation. Include the following information with the submittal:

- Subcontract agreement with the DBE
- Purchase orders
- Bills of lading
- Invoices
- Proof of payment

The Contractor must monitor all DBE's performance of CUF by conducting quarterly evaluations and validations throughout their duration of work on the contract using the LAPM 9-J: DBE Commercially Useful Function Evaluation. The Contractor must submit to the Agency these quarterly evaluations and validations by the 5th of the month for the previous three (3) months of work.

The Contractor must notify the Agency immediately if the Contractor believes the DBE may not be performing a CUF.

The Agency will verify DBEs performance of CUF by reviewing the initial and quarterly submissions of LAPM 9-J: DBE Commercially Useful Function Evaluation, submitted supporting information, field observations, and through any additional Agency evaluations. The Agency must evaluate DBEs and their CUF performance throughout the duration of a Contract. The AGENCY will provide written notice to Contractor and DBE at least two (2) business days prior to any evaluation. The Contractor and DBE must participate in the evaluation. Upon completing the evaluation, the Agency must share the evaluation results with the Contractor and DBE. An evaluation could include items that must be remedied upon receipt. If the Agency determines the DBE is not performing a CUF the Contractor must suspend performance of the noncompliant work.

The Contractor and DBEs must submit any additional CUF related records and documents within five (5) business days of Agency's request such as:

- Proof of ownership or lease and rental agreements for equipment
- Tax records
- Employee rosters

- Certified payroll records
- Inventory rosters

Failure to submit required DBE Commercially Useful Function Evaluation forms or requested records and documents can result in withholding of payment for the value of work completed by the DBE.

If the Contractor and/or the Agency determine that a listed DBE is not performing a CUF in performance of their DBE committed work, immediately suspend performance of the noncompliant portion of the work. The Agency may deny payment for the noncompliant portion of the work. The Agency will ask the Contractor to submit a corrective action plan (CAP) to the Agency within five (5) days of the noncompliant CUF determination. The CAP must identify how the Contractor will correct the noncompliance findings for the remaining portion of the DBE's work. The Agency has five (5) days to review the CAP in conjunction with the prime contractor's review. The Contractor must implement the CAP within five (5) days of the Agency 's approval. The Agency will then authorize the prior noncompliant portion of work for the DBE's committed work.

If corrective actions cannot be accomplished to ensure the DBE performs a CUF on the Contract, then the Contractor may have good cause to request termination of the DBE.

Use of Joint Checks

A joint check may be used between the Contractor or lower-tier subcontractor and a DBE subcontractor purchasing materials from a material supplier if the contractor obtains prior approval from the LPA for the proposed use of joint check upon submittal of the LAPM 9-K: DLA Disadvantaged Business Enterprises (DBE) Joint Check Agreement Request form.

To use a joint check, the following conditions must be met:

- All parties, including the Contractor, must agree to the use of a joint check
- Entity issuing the joint check acts solely to guarantee payment
- DBE must release the check to the material supplier
- LPA must authorize the request before implementation
- Any party to the agreement must provide requested documentation within 10 days of the LPA's request for the documentation
- Agreement to use a joint check must be short-term, not to exceed 1 year, allowing sufficient time needed to establish or increase a credit line with the material supplier

A request for a joint check agreement may be initiated by any party.

If a joint check is used, the DBE remains responsible for all elements of 49 CFR 26.55(c)(1).

Failure to comply with the above requirements disqualifies DBE participation and results in no credit and no payment to the Contractor for DBE participation.

A joint check may not be used between the Contractor or subcontractor and a DBE regular dealer, bulk material supplier, manufacturer, wholesaler, broker, trucker, packager, manufacturer's representative, or other persons who arrange or expedite transactions.

Replace Section 5-1.13B(2) with:

5-1.13B(2) Termination and Replacement of DBE Subcontractors [Exhibit 12-G]

The prime contractor shall utilize the specific DBEs listed to perform the work and supply the materials for which each is listed unless the contractor obtains the Agency's written consent. The prime contractor shall not terminate or replace a listed DBE for convenience and perform the work with their own forces or obtain materials from other sources without prior written authorization from the Agency. Unless the Agency's prior written consent is provided, the contractor shall not be entitled to any payment for work or material unless it is performed or supplied by the listed DBE on the Exhibit 15-G Construction Contract DBE Commitment form, included in the Bid.

Termination of DBE Subcontractors

After a contract with a specified DBE goal has been executed, termination of a DBE may be allowed for the following, but not limited to, justifiable reasons with prior written authorization from the Agency:

1. Listed DBE fails or refuses to execute a written contract based on plans and specifications for the project.
2. The Local Agency stipulated that a bond is a condition of executing the subcontract and the listed DBE fails to meet the Local Agency's bond requirements.
3. Work requires a contractor's license and listed DBE does not have a valid license under Contractors License Law, or is not properly registered with the California Department of Industrial Relations as a public works contractor.
4. Listed DBE fails or refuses to perform the work or furnish the listed materials (failing or refusing to perform is not an allowable reason to remove a DBE if the failure or refusal is a result of bad faith or discrimination).
5. Listed DBE's work is unsatisfactory and not in compliance with the contract.
6. Listed DBE is ineligible to work on the project because of suspension or debarment.
7. Listed DBE becomes bankrupt, or insolvent, or exhibits credit unworthiness.
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. The Agency determines other documented good cause.

To terminate a DBE or to terminate a portion of a DBE's work, the contractor must use the following procedures:

1. Send a written notice to the DBE of Contractor's intent to use other forces or material sources and include one or more justifiable reasons listed above. Simultaneously send a copy of this written notice to the Agency. The written notice to the DBE must request they provide any response within five (5) business days to both the Contractor and the Agency by either acknowledging their agreement or documenting their reasoning as to why the use of other forces or sources of materials should not occur.
2. If the DBE does not respond within 5 business days, Contractor may move forward with the request as if the DBE had agreed to Contractor's written notice.
3. Submit Contractor's DBE termination request by written letter to the Agency and include:
    - One or more above listed justifiable reasons along with supporting documentation.
    - Contractor's written notice to the DBE regarding the request, including proof of transmission and tracking documentation of Contractor's written notice
    - The DBE's response to Contractor's written notice, if received. If a written response was not provided, provide a statement to that effect.

The Agency shall respond in writing to Contractor's DBE termination request within 5 business days.

Replacement of DBE Subcontractors

After receiving the Agency's written authorization of DBE termination request, the Contractor must obtain the Agency's written agreement for DBE replacement. The Contractor must find or demonstrate GFEs to find qualified DBE replacement firms to perform the work to the extent needed to meet the DBE commitment.

The following procedures shall be followed to request authorization to replace a DBE firm:

1. Submit a request to replace a DBE with other forces or material sources in writing to the Agency which must include:
    a Description of remaining uncommitted work items made available for replacement DBE solicitation and participation.
    b The proposed DBE replacement firm's business information, the work they have agreed to perform, and the following:
        - Quote for bid item work and description of work to be performed
        - Proposed subcontract agreement and written confirmation of agreement to perform on the Contract
        - Revised Subcontracting Request form
        - Revised Exhibit 15-G: Construction Contract DBE Commitment
2. If Contractor has not identified a DBE replacement firm, submit documentation of the Contractor's GFEs to use DBE replacement firms within 7 days of Agency's authorization to terminate the DBE. The Contractor may request the Agency's approval to extend this submittal period to a total of 14 days. Submit documentation of actions taken to find a DBE replacement firm, such as:

a Search results of certified DBEs available to perform the original DBE work identified and/or other work the Contractor had intended to self-perform, to the extent needed to meet the DBE commitment

b Solicitations of DBEs for performance of work identified

c Correspondence with interested DBEs that may have included contract details and requirements

d Negotiation efforts with DBEs that reflect why an agreement was not reached

e If a DBE's quote was rejected, provide Contractor's reasoning for the rejection, such as why the DBE was unqualified for the work, or why the price quote was unreasonable or excessive

f Copies of each DBE's and non-DBE's price quotes for work identified, as the Agency may contact the firms to verify solicitation efforts and determine if the DBE quotes are substantially higher

g Additional documentation that supports the GFE

The Agency shall respond in writing to the Contractor's DBE replacement request within five (5) business days. The Contractor must submit a revised Subcontracting Request form if the replacement plan is authorized by the Agency.

Add to the end of 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

Project	Location	Type of work
2019 FEMA Storm Damage Repair	Sonoma-Geysers Rd-24.18	Storm Damage Repair
2019 FEMA Storm Damage Repair	Sonoma-Geysers Rd-29.77	Storm Damage Repair
2019 FEMA Storm Damage Repair	Sonoma-Geysers Rd-33.20	Storm Damage Repair
2019 FEMA Storm Damage Repair	Sonoma-Geysers Rd-33.25	Storm Damage Repair
2019 FEMA Storm Damage Repair	Sonoma-Geysers Rd-33.80	Storm Damage Repair
2019 FEMA Storm Damage Repair	Sonoma-Geysers Rd-33.95	Storm Damage Repair

2019 FEMA Storm Damage Repair	Sonoma-Geysers Rd-34.09	Storm Damage Repair
2019 FEMA Storm Damage Repair	Sonoma-Geysers Rd-34.66	Storm Damage Repair
2019 FEMA Storm Damage Repair	Sonoma-Geysers Rd-35.58	Storm Damage Repair

Add to section 5-1.20B(1) with:

PLACS are contained in the Supplemental Information noted in Section 2-1.06B.

Add to section 5-1.20B(4) with:

The County has obtained additional areas for use by the contractor as shown in the R/W purchase agreements contained in the Supplemental Information noted in Section 2-1.06B.

Replace paragraph 6 of section 5-1.23A with:

If the last day for submitting a document falls on a Saturday, Sunday, or a holiday, it may be submitted on the next business day with the same effect as if it had been submitted on the day specified.

Add at the end of section 5-1.23B(1) to include:

Action Submittals include:

1. Progress Schedule (Baseline)
2. Striping Reference Plans
3. California ST-75 Railing
4. SWPPP/WPCP
5. Traffic Control Plans
6. Temporary Bridge
7. Mix Designs

Replace section 5-1.27E with:

Maintain separate records for change order work costs.

Submit change order bills to the Engineer.

Replace the 2nd paragraph of section 5-1.32 with:

If areas are available for the exclusive use of the Contractor, they are designated on the plans. Use of the Contractor's work areas and other County-owned property shall be at the Contractor's own

risk, and the County shall not be held liable for damage to or loss of materials or equipment located within these areas.

Contractor shall include Areas of Contractor Use in their stormwater documents.

The Contractor shall secure, at the Contractor's own expense, areas required for plant sites, storage of equipment or materials or for other purposes, if sufficient area is not available to the Contractor within the contract limits, or at the sites designated on the plans outside the contract limits.

Local material sites used by the Contractor shall be graded so that, at the time of final inspection of the contract, the sites will drain and will blend in with the surrounding terrain.

Add between the 2nd and 3rd paragraphs of section 5-1.32:

Where County-owned areas have been designated for Contractor's use beneath bridge structures, comply with the following:

1. Do not store any of the following beneath structures:
   - 1.1. Explosives or explosive materials
   - 1.2. Flammable or combustible materials
   - 1.3. Incompatible materials, such as chlorine and ammonia, or batteries and fuels, in the same secondary containment facility
2. Material storage may not encroach on any of the following:
   - 2.1. Within 20 feet of any bridge support
   - 2.2. Within 10 feet of any exposed footing or pile cap
   - 2.3. Within a 6-foot minimum clear zone height from the bottom of superstructure to top of material storage
3. Maintain 12-foot minimum width pathways beneath each hinge, bent cap and bridge span allowing manlift vehicle access.
4. Do not obstruct drainage systems.

Add to the end of section 5-1.32:

Personal vehicles of your employees must not be parked on the traveled way or shoulders, including sections closed to traffic.

Add to section 5-1.32A:

5-1.32A Borrow, Disposal and Material Sites:

The operation of a borrow or disposal site used by the Contractor to produce or dispose of material for this project shall comply with the requirements in the Standard Specifications and these Special Provisions. Provisions for water pollution, air pollution, and sound control that apply within the limits of the contract shall apply to borrow or disposal sites utilized by the Contractor.

Temporary haul roads shall be surfaced or watered and otherwise maintained so that no dust nuisance is created, in conformance with the provisions in Section 14-9.03, "Air Monitoring," of

the Standard Specifications. Operations at the site shall be confined to as small an area as is practicable. Vegetation, desert crust, and other natural features outside the operating area shall be protected from damage by the Contractor's operations.

If the Contractor obtains the necessary permits for borrow, disposal or material sites from the city or County having jurisdiction or from the appropriate pollution control boards and such permits contain requirements which conflict with the requirements in the second, third and fourth paragraphs of this section, the requirements of the permits shall govern over the conflicting requirements of this section.

Full compensation for complying with the requirements for borrow, disposal, and material sites in this section shall be considered as included in the prices paid for the contract items of work which require the use of the sites and no additional compensation will be allowed therefore.

Add to Section 5-1.34:

5-1.34 UNSATISFACTORY PROGRESS:

If the number of working days charged to the contract exceeds 75 percent of the working days in the current time of completion and the percent working days elapsed exceeds the percent work completed by more than 15 percentage points, the Department will withhold 10 percent of the amount due on the current monthly estimate.

The percent working days elapsed will be determined from the number of working days charged to the contract divided by the number of contract working days in the current time of completion, expressed as a percentage. The number of contract working days in the current time of completion shall consist of the original contract working days increased or decreased by time adjustments approved by the Engineer.

The percent work completed will be determined by the Engineer from the sum of payments made to date plus the amount due on the current monthly estimate, divided by the current total estimated value of the work, expressed as a percentage.

When the percent of working days elapsed minus the percent of work completed is less than or equal to 15 percentage points, the funds withheld shall be returned to the Contractor with the next monthly progress payment.

Funds kept or withheld from payment, due to the failure of the Contractor to comply with the provisions of the contract, will not be subject to the requirements of Public Contract Code 7107 or to the payment of interest pursuant to Public Contract Code Section 10261.5.

Replace section 5-1.43A with;

5-1.43A General

Minimize or mitigate the impacts of work or events for which you will make a potential claim.

For disputes arising under and by virtue of the contract, including an act or failure to act by the Engineer, the Contract shall provide a signed, written initial Notice of Potential Claim to the

Engineer within 5 days from the date the dispute first arises. The initial Notice of Potential Claim shall provide the nature and circumstances involved in the dispute, which will remain consistent through the dispute. The Contractor shall assign an exclusive identification number for each dispute, determined by chronological sequencing, based on the date of the dispute. The exclusive identification number shall be used on all corresponding documents relating to the dispute, including:

1. Initial Potential Claim Record form
2. Supplemental Potential Claim Record form
3. Full and Final Potential Claim Record form

6 CONTROL OF MATERIALS

Replace section 6-1.03B with:

6-1.03B Submittals

6-1.03B(1) General

Not Used

6-1.03B(2) Work Plan

For local material, such as rock, gravel, earth, structure backfill, pervious backfill, imported borrow, and culvert bedding, obtained from a (1) noncommercial source, or (2) source not regulated under California jurisdiction, submit a local material plan for each material at least 60 days before placing the material. The local material plan must include:

1. Certification signed by you and an engineer who is registered as a civil engineer in the State or a professional geologist licensed as a professional geologist by the State stating:

   > I am aware local material from a noncommercial source or a source not regulated under CA jurisdiction must be sampled and analyzed for pH and lead and may require sampling and analysis under section 6-1.03B(3) for other constituents of concern based on the land use history. I am aware that local material sources must not contain ADL at concentrations greater than 80 mg/kg total lead or equal to or greater than 5 mg/L soluble lead as determined by the Waste Extraction Test (WET) Procedures, 22 CA Code of Regs § 66261.24(a)(2) App II. I am aware that a maximum quantity of material may be excavated at the site based on the minimum number of samples taken before excavating at the site under section 6-1.03B(3).

2. Land use history of the local material location and surrounding property
3. Sampling protocol
4. Number of samples per volume of local material
5. QA and QC requirements and procedures
6. Qualifications of sampling personnel
7. Stockpile history
8. Name and address of the analytical laboratory that will perform the chemical analyses
9. Analyses that will be performed for lead and pH
10. Other analyses that will be performed for possible hazardous constituents based on:
    - 10.1. Source property history
    - 10.2. Land use adjacent to source property
    - 10.3. Constituents of concern in the ground water basin where the job site is located

The plan must be sealed and signed by an engineer who is registered as a civil engineer in the State or a professional geologist licensed as a professional geologist by the State.

If the plan requires revisions, the Engineer provides comments. Submit a revised plan within 7 days of receiving comments. Allow 7 days for the review.

6-1.03B(3) Analytical Test Results

At least 15 days before placing local material, submit analytical test results for each local material obtained from a noncommercial source or a source not regulated under CA jurisdiction. The analytical test results must include:

1. Certification signed by an engineer who is registered as a civil engineer in the State or a professional geologist licensed as a professional geologist by the State stating:

   The analytical testing described in the local material plan has been performed. I performed a statistical analysis of the test results of the analytical testing described in the local material plan using the US EPA's ProUCL software with the applicable 95 percent upper confidence limit. I certify that the material from the local material source is suitable for unrestricted use at the job site and the material has met the following criteria:

   1. Has a pH above 5.0.
   2. Does not contain soluble lead in concentrations equal to or greater than 5 mg/L as determined by the Waste Extraction Test (WET) Procedures, 22 CA Code of Regs § 66261.24(a)(2) App II.
   3. Does not contain lead in concentrations above 80 mg/kg total lead.
   4. Is not contaminated with the other constituents of concern identified in the local material plan in average concentration (95 percent upper confidence limit) in excess of these constituents' respective San Francisco Bay RWQCB commercial/industrial environmental screening levels ESLs, except for arsenic.
   5. Does not exceed the maximum allowed concentration limit table listed in Section 6-1.03B(4).

2. Chain of custody of samples.
3. Analytical results no older than 1 year.
4. Statistical analysis of the data using US EPA’s ProUCL software with a 95 percent upper confidence limit.
5. Comparison of sample results and 95 percent upper confidence limits to hazardous waste concentration thresholds and the applicable San Francisco Bay RWQCB environmental screening levels (ESLs) given in direct exposure human health risk levels (Table S-1), commercial/industrial: Shallow soil exposure, under Summary of Soil ESLs tables (2019 Rev 2). The Summary of Soil ESLs tables (2019 Rev 2) can be obtained by sending an email to ESLs.ESLs@waterboards.ca.gov with "Request for ESL Documents" in the subject line.

6-1.03B(4) Sample and Analysis

Sample and analyze local material from a (1) noncommercial source or (2) a source not regulated under CA jurisdiction:

1. Before bringing the local material to the job site
2. As described in the local material plan
3. Under US EPA Test Methods for Evaluating Solid Waste, Physical/Chemical Methods (SW-846)

The sample collection must be designed to generate a data set representative of the entire volume of proposed local material.

Before excavating at (1) a noncommercial material source or (2) a source not regulated under CA jurisdiction, collect the minimum number of samples, and perform the minimum number of analytical tests for the corresponding maximum volume of local material as shown in the following table:

Minimum Number of Samples and Analytical Tests for Local Material

Maximum volume of imported borrow (cu yd)	Minimum number of samples and analytical tests
< 5,000	8
5,000–10,000	12 for the first 5,000 cu yd plus 1 for each additional 1,000 cu yd or portion thereof
10,000–20,000	17 for the first 10,000 cu yd plus 1 for each additional 2,500 cu yd or portion thereof
20,000-40,000	21 for the first 20,000 cu yd plus 1 for each additional 5,000 cu yd or portion thereof
40,000–80,000	25 for the first 40,000 cu yd plus 1 for each additional 10,000 cu yd or portion thereof
> 80,000	29 for the first 80,000 cu yd plus 1 for each additional 20,000 cu yd or portion thereof

Do not collect composite samples or mix individual samples to form a composite sample.

Statistically analyze the samples' laboratory results using the US EPA's ProUCL software to define 95 percent upper confidence limit for the various contaminants of concern. All chemical analysis must be performed by a laboratory certified by the SWRCB's Environmental Laboratory Accreditation Program (ELAP).

The analytical test results must demonstrate that the local material:

1. Is not a hazardous waste
2. Has a pH above 5.0
3. Has an average total lead concentration, based upon the 95 percent upper confidence limit, at or below 80 mg/kg
4. Is not contaminated with local material plan-identified constituents of concern at average concentrations (95 percent upper confidence limits) in excess of their respective commercial/industrial San Francisco Bay RWQCB environmental screening levels ESLs, except for arsenic.
5. Does not contain any of the following compounds, chemicals, or elements at an estimated average concentration (95 percent upper confidence limit) above the maximum allowed concentration defined in the following table:

Compound/Chemical	Maximum allowed concentration (mg/kg)
Arsenic	11
Barium	1500
Benzene	1
Beryllium	10
Cadmium	10
Chromium (total)	1000
Cobalt	100
Diesel	150
Ethylbenzene	10
Gasoline	500
Mercury	10
Motor oil	500
Nickel	150
Selenium	10
Toluene	10
Trichloroethene	1
Vanadium	200
Xylenes	10
Zinc	600

6-1.03C Local Material Management

Do not place local material until authorized.

If the Engineer determines the appearance, odor, or texture of any delivered local material suggests possible contamination, sample and analyze the material. The sampling and analysis is change order work unless (1) hazardous waste is discovered or (2) the analytical test results indicate the material does not comply with section 6-1.03B(3).

Dispose of noncompliant local material at an appropriately permitted CA Class I, CA Class II or CA Class III facility. You are the generator of noncompliant local materials.

Replace section 6-1.04 with:

6-1.04 BUY AMERICA [Exhibit 12G]

6-1.04A General

Buy America requirements do not apply to the following:

1. Tools and construction equipment used in performing the work
2. Temporary work that is not incorporated into the finished project

6-1.04B Crumb Rubber (Pub Res Code § 42703(d))

Furnish crumb rubber with a certificate of compliance. Crumb rubber must be:

1. Produced in the United States
2. Derived from waste tires taken from vehicles owned and operated in the United States

6-1.04C Steel and Iron Materials

Steel and iron materials must be melted and manufactured in the United States except:

1. Foreign pig iron and processed, pelletized, and reduced iron ore may be used in the domestic production of the steel and iron materials
2. If the total combined cost of the materials produced outside the United States does not exceed the greater of 0.1 percent of the total bid or $2,500, the material may be used if authorized

Furnish steel and iron materials to be incorporated into the work with certificates of compliance and certified mill test reports. Mill test reports must indicate where the steel and iron were melted and manufactured.

All melting and manufacturing processes for these materials, including an application of a coating, must occur in the United States. Coating includes all processes that protect or enhance the value of the material to which the coating is applied.

6-1.04D Manufactured Products

Iron and steel used in precast concrete manufactured products must meet the requirements of section 6-1.04C regardless of the amount used.

Iron and steel used in other manufactured products must meet the requirements of section 6-1.04C if the weight of steel and iron components constitute 90 percent or more of the total weight of the manufactured product.

6-1.04E Construction Materials

Buy America requirements apply to the following construction materials that are or consist primarily of:

1. Non-ferrous metals
2. Plastic and polymer-based products such as:
   2.1. Polyvinylchloride
   2.2. Composite building materials
3. Glass
4. Fiber optic cable including drop cable
5. Optical fiber
6. Lumber
7. Engineered wood
8. Drywall

All manufacturing processes for these materials as defined in 2 CFR 184.6 must occur in the United States.

Where one or more of these construction materials have been combined by a manufacturer with other materials through a manufacturing process, Buy America requirements do not apply unless otherwise specified.

Furnish construction materials to be incorporated into the work with certificates of compliance with each project delivery. Manufacturer's certificate of compliance must identify where the construction material was manufactured and attest specifically to compliance with its 2 CFR 184.6 standard.

Minor additions of articles, materials, supplies, or binding agents to these construction materials do not change the categorization of the construction material.

Add after the first paragraph of section 6-2.01A:

[Exhibit 12-G]

The County uses a Quality Assurance Program (QAP) to ensure a material is produced to comply with the Contract. You may examine the records and reports of tests the County performs if they are available at the job site.

Schedule work to allow time for QAP.

7 LEGAL RELATIONS AND RESPONSIBILITY TO THE PUBLIC

Add to section 7-1.02K(3):

Submit originally signed Fringe Benefit Statements at the beginning of covered work and whenever benefits are changed.

Delete the 6th through 10th paragraphs of section 7-1.02K(3) regarding electronic submission.

Add to section 7-1.02K02K(6)(a):

Text Messaging While Driving. In accordance with Executive Order 13513, Federal Leadership on Reducing Text Messaging While Driving, and Department of Transportation Order 3902.10, Text Messaging While Driving, text messaging while driving is prohibited in the performance of any duties included in this agreement for both consultant and any sub-consultants hired for performance of duties under this Agreement. Contractor shall include a provision prohibiting texting while driving in all sub-contractor agreements entered into related to the performance of its obligations under this Agreement.

Add to the end of section 7-1.02M(2):

Obtain the emergency phone numbers of the California Department of Forestry and Fire Protection unit headquarters, United States Forest Service ranger district office, and U.S. Department of Interior Bureau of Land Management field offices. Submit these phone numbers to the Engineer before the start of job site activities. Post the agencies names and emergency phone numbers at a prominent place at the job site.

Hydrocarbon-fueled engines, both stationary and mobile, must be equipped with spark arresters pursuant to Pub Res Code § 4442 except for either of the following:

1. Motor trucks, truck tractors, buses, or passenger vehicles, if equipped with a muffler as defined in the Vehicle Code
2. Equipment powered by turbocharged engines if:
   2.1 Exhausted gases pass through the rotating turbine wheel
   2.2 There is no exhaust bypass to the atmosphere
   2.3 The turbocharger is in effective mechanical condition

Each toilet must have a metal ashtray at least 6 inches in diameter by 8 inches deep, half-filled with sand, and within easy reach of anyone accessing the facility.

Locate flammable materials at least 50 feet away from equipment service, parking, and gas or oil storage areas. Each small mobile or stationary engine site must be cleared of flammable material for a radius of at least 15 feet from the engine.

Furnish the following fire tools:

1. 1 shovel and 1 fully charged fire extinguisher UL rated at 4B:C or more on each truck, personnel vehicle, tractor, grader, or other heavy equipment.
2. 1 shovel and one 5-gallon water-filled backpack fire pump for each welder.

3. 1 shovel or 1 chemical pressurized fire extinguisher, fully charged, for each gasoline-powered tool, including chain saws, soil augers, and rock drills. The fire tools must always be within 25 feet from the point of operation of the power tool. Each fire extinguisher must be of the type and size required by the California Department of Forestry and Fire Protection.

Each shovel must be size O or larger and at least 46 inches long.

Furnish a pickup truck and operator that will be available for fire control during working hours.

The pickup truck and operator must patrol the area of construction for at least 1/2 hour after job site activities have ended.

Cal Fire, USFS, and BLM have established the following adjective class ratings for 5 levels of fire danger for use in public information releases and fire protection signing: "low," "moderate," "high," "very high," "extreme." Obtain the fire danger rating daily for the project area from the nearest Cal Fire unit headquarters, USFS ranger district office, or BLM field office. Monitor the National Weather Service daily forecasts for "fire weather watches" and "red flag warnings" covering the project's locations.

If the fire danger rating is "very high" or a "fire weather watch" is issued, then:

1. Falling of dead trees or snags must be discontinued.
2. No open burning is permitted and fires must be extinguished.
3. Welding must be discontinued except in an enclosed building or within an area cleared of flammable material for a radius of 25 feet.
4. Blasting must be discontinued.
5. Smoking is allowed only in automobiles and cabs of trucks equipped with an ashtray or in cleared areas immediately surrounded by a fire break unless prohibited by other authority.
6. Vehicular travel is restricted to cleared areas except in case of emergency.

If the fire danger rating is "extreme" or a "red flag warning" is issued, take the precautions specified for a "very high" fire danger rating or a "fire weather watch" issuance, except:

1. Smoking is only allowed in automobiles and cabs of trucks equipped with an ashtray.
2. Work of a nature that could start a fire requires that properly equipped fire guards be assigned to such operation for the duration of the work.

The Engineer may suspend work wholly or in part due to hazardous fire conditions. If the controlling activity is suspended due to hazardous fire conditions, the associated days are considered adverse weather-related conditions and working days will not be assessed. If field and weather conditions become such that the work is suspended, section 7-1.02M(2) will not be enforced for the period of the suspension.

Replace the table "Temporary Tapers" in section 7-1.03 with:

Minimum temporary asphalt concrete taper length at conforms for asphalt concrete overlays is 5 feet length for each 1 inch depth of overlay (e.g., 15 feet length for 3 inch depth overlay).

Delete the 24th paragraph of section 7-1.04.

Replace section 7-1.06 with:

7-1.06 INSURANCE

The Contractor shall obtain insurance acceptable to County in a company or companies acceptable to the County. The required documentation of such insurance shall be furnished to the County at the time the Contractor returns the executed contract. The proper insurance shall be provided within eight (8) days, not including Saturdays, Sundays and legal holidays, after the bidder has received notice that the contract has been awarded and prior to the county executing the contract and issuing a notice to proceed. The Contractor shall not commence Work, nor allow its employees, subcontractors or anyone to commence Work until all insurance required hereunder has been submitted and approved and a notice to proceed has been issued. Any requirement for insurance to be maintained after completion of the Work shall survive this Contract.

County reserves the right to review any and all of the required insurance policies and/or endorsements, but has no obligation to do so. Failure to demand evidence of full compliance with the insurance requirements set forth in this Contract or failure to identify any insurance deficiency shall not relieve Contractor from, nor be construed or deemed a waiver of, its obligation to maintain the required insurance at all times during the performance of this Contract.

With respect to performance of work under this contract, Contractor shall maintain and shall require all of its subcontractors to maintain insurance as described below:

Contractor Required Insurance

1. Workers Compensation Insurance & Employers Liability Insurance

a. Workers Compensation insurance with statutory limits as required by the Labor Code of the State of California.
b. Employers Liability with minimum limits of $1,000,000 per Accident; $1,000,000 Disease per employee; $1,000,000 Disease per policy.
c. The policy shall be endorsed to include a written waiver of the insurer's right to subrogate against County.
d. *Required Evidence of Insurance:*
   i. Subrogation waiver endorsement; and
   ii. Certificate of Insurance.

If injury occurs to any employee of Contractor, Subcontractor or sub-subcontractor for which the employee, or the employee's dependents in the event of employee's death, is entitled to compensation from County under provisions of the Workers Compensation Insurance and Safety Act, as amended, or for which compensation is claimed from County, County may retain out of sums due , the amount sufficient to cover such compensation, as fixed by the Act, as amended, until such compensation is paid, or until it is determined that no compensation is due. If County is

compelled to pay compensation, County may, in its discretion, either deduct and retain from the sums due the amount so paid, or require to reimburse County.

2. General Liability Insurance

a. Commercial General Liability Insurance on a standard occurrence form, no less broad than Insurance Services Office (ISO) form CG 00 01.

b. Minimum Limits:

i. Projects under $5,000,000: $2,000,000 per Occurrence; $4,000,000 General Aggregate; $4,000,000 Products/Completed Operations Aggregate. The General Aggregate shall apply separately to each Project. The required limits may be provided by a combination of General Liability Insurance and Commercial Excess or Commercial Umbrella Liability Insurance. If Contractor maintains higher limits than the specified minimum limits, County requires and shall be entitled to coverage for the higher limits maintained by Contractor.

ii. Projects from $5,000,000 - $9,999,999: $5,000,000 per Occurrence; $5,000,000 General Aggregate; $5,000,000 Products/Completed Operations Aggregate. The General Aggregate shall apply separately to each Project. The required limits may be provided by a combination of General Liability Insurance and Commercial Excess or Commercial Umbrella Liability Insurance. If Contractor maintains higher limits than the specified minimum limits, County requires and shall be entitled to coverage for the higher limits maintained by Contractor.

iii. Projects $10,000,000 and Over: Minimum Limits: $10,000,000 per Occurrence; $10,000,000 General Aggregate; $10,000,000 Products/Completed Operations Aggregate. The General Aggregate shall apply separately to each Project. The required limits may be provided by a combination of General Liability Insurance and Commercial Excess or Commercial Umbrella Liability Insurance. If Contractor maintains higher limits than the specified minimum limits, County requires and shall be entitled to coverage for the higher limits maintained by Contractor.

c. Any deductible or self-insured retention shall be shown on the Certificate of Insurance. If the deductible or self-insured retention exceeds $25,000 it must be approved in advance by County. Contractor is responsible for any deductible or self-insured retention and shall fund it upon County's written request, regardless of whether Contractor has a claim against the insurance or is named as a party in any action involving the County.

d. Insurance shall be maintained for the entire period of the Work plus one (1) year from the completion of the Work.

e. The insurance provided to the additional insureds shall be primary to, and non-contributory with, any insurance or self-insurance program maintained by them.

f. The policy definition of "insured contract" shall include assumptions of liability arising out of both ongoing operations and the products-completed operations hazard (broad form contractual liability coverage including the "f" definition of insured contract in ISO form CG 00 01, or equivalent).

g. The policy shall not exclude injury or damage caused by, or resulting from, explosion, collapse and/or underground hazards.
h. The policy shall not contain a Contractors' Warranty or other similar language which eliminates or restricts coverage because of a subcontractor's failure to carry specific insurance or to supply evidence of such insurance.
i. The policy shall be endorsed to include a written waiver of the insurer's right to subrogate against all persons or entities that are, or are required to be, additional insureds.
j. The policy shall cover inter-insured suits between County and Contractor and include a "separation of insureds" or "severability" clause which treats each insured separately.
k. *Required Evidence of Insurance:*
    i. Additional insured endorsements or policy language granting additional insured status;
    ii. Endorsement or policy language indicating that coverage is primary and non-contributory; and
    iii. Certificate of Insurance.

3. Automobile Liability Insurance

a. Minimum Limit: $2,000,000 combined single limit per accident. The required limit may be satisfied by a combination of Automobile Liability Insurance and either Commercial Excess or Commercial Umbrella Liability Insurance.
b. Insurance shall coverall owned, hired and non-owned vehicles.
c. The County of Sonoma, its Board of Supervisors, and their employees, representatives, consultants, and agents shall be defined as insureds under the policy or shall be endorsed as additional insureds.
d. *Required Evidence of Insurance:*
    i. Endorsement or policy language indicating that County, its Board of Supervisors, and their employees, representatives, consultants, and agents are insureds; and
    ii. Certificate of Insurance.

4. Contractors Pollution Liability Insurance

a. Minimum Limits:
    i. <u>Projects not near or over a body of water:</u> $1,000,000 per pollution Incident; $1,000,000 Aggregate. If Contractor maintains higher limits than the specified minimum limits, County requires and shall be entitled to coverage for the higher limits maintained by Contractor.
    ii. <u>Projects near or over a body of water:</u> $2,000,000 per pollution Incident; $2,000,000 Aggregate. If Contractor maintains higher limits than the specified minimum limits, County requires and shall be entitled to coverage for the higher limits maintained by Contractor.
b. The insurance shall cover:

i. bodily injury, sickness, disease, sustained by any person, including death;
ii. property damage, including physical injury to or destruction of tangible property including the resulting loss of use thereof;
iii. cleanup costs, and the loss of use of tangible property that has not been physically injured or destroyed including diminution of value and natural resources damages;
iv. defense costs, including costs, charges, and expenses incurred in the investigation, adjustment, or defense of claims; and
v. liability assumed by Contractor under a written contract or agreement.

c. Any deductible or self-insured retention shall be shown on the Certificate of Insurance. If the deductible or self-insured retention exceeds $25,000 it must be approved in advance by County. Contractor is responsible for any deductible or self-insured retention and shall fund it upon County's written request, regardless of whether Contractor has a claim against the insurance or is named as a party in any action involving the County.
d. If the insurance is on a Claims-Made basis, the retroactive date shall be no later than the commencement of Work.
e. Insurance shall be maintained for the entire period of the Work plus the additional periods as specified below:
i. Projects not near or over a body of water: one (1) year after Final Completion and acceptance of the final payment for the Work.
ii. Projects near or over a body of water: Two (2) years after Final Completion and acceptance of the final payment for the Work.

d. If the insurance is on a Claims-Made basis, the continuation coverage may be provided by: (a) renewal of the existing policy; (b) an extended reporting period endorsement; or (c) replacement insurance with a retroactive date no later than the commencement of the Work.
e. The County of Sonoma, its officers, agent and employees, shall be endorsed as additional insureds for liability arising out of operations by or on behalf of the Contractor in the performance of the Work.
f. The insurance provided to the additional insureds shall be primary to, and non-contributory with, any insurance or self-insurance program maintained by them.
g. The policy shall cover inter-insured suits between the Contractor and the additional insureds and include a "separation of insureds" or "severability" clause which treats each insured separately.
h. *Required Evidence of Insurance:*
i. Additional insured endorsement or policy language granting additional insured status;
ii. Endorsement or policy language indicating that coverage is primary and non-contributory; and
iii. Certificate of Insurance including an indication of the coverage basis: occurrence or claims-made. If claims-made, the Certificate shall show the policy retroactive date.

5. Professional Liability/Errors and Omissions Insurance

a. Minimum Limit: $1,000,000 per claim or per occurrence.
b. Consultant shall disclose any deductible or self-insured retention in excess of $25,000.
c. If the insurance is on a Claims-Made basis, the retroactive date shall be no later than the commencement of the work.
d. Insurance applicable to the work performed under the Contract shall be continued for two (2) years after completion of the work. Such continuation insurance may be provided by one of the following: (1) renewal of the existing policy; (2) an extended reporting period endorsement; or (3) replacement insurance with a retroactive date no later than the commencement of the work under this Contract.
e. Required Evidence of Insurance: Certificate of Insurance.

6. Increase of Minimum Limits

Required minimum amounts of insurance may be increased should conditions of Work, in opinion of County, warrant such increase. Contractor shall increase required insurance amounts upon direction by County.

7. Standards for Insurance Companies

Insurers, other than the California State Compensation Insurance Fund, shall have an A.M. Best's rating of at least A:VII.

8. Documentation

a. The Certificate of Insurance shall include the following reference: C11005, Geysers Road Bridge over Frasier Creek.
b. Contractor agrees to maintain current Evidence of Insurance on file with County for the required period of insurance. Any requirement to maintain insurance after Final Completion of the Work, including providing Certificates evidencing required coverage(s), shall survive the Contract.
c. Required Evidence of Insurance shall be submitted to Jackie Porter, Public Infrastructure, 400 Aviation Blvd, Suite 100 | Santa Rosa, CA 95403.
d. Required Evidence of Insurance shall be submitted for any renewal or replacement of a policy that already exists, at least ten (10) days before expiration or other termination of the existing policy.
e. Contractor shall provide immediate written notice if: (1) any of the required insurance policies is terminated; (2) the limits of any of the required policies are reduced; or (3) the deductible or self-insured retention is increased.
f. Upon written request, certified copies of required insurance policies must be provided within thirty (30) days.

9. Policy Obligations

Contractor's indemnity and other obligations shall not be limited by the foregoing insurance requirements.

10. Material Breach

If Contractor fails to maintain Insurance which is required pursuant to the Contract Documents, it shall be deemed a material breach. County, at its sole option, may terminate the Contract for default and obtain damages from Contractor resulting from said breach. Alternatively, County may purchase the required Insurance, and without further notice to Contractor, County may deduct from sums due to Contractor any premium costs advanced by County for such insurance. These remedies shall be in addition to any other remedies available to County under the Contract Documents or Law.

Subcontractors – Required Insurance

With respect to their portion of the work, subcontractors of all tiers shall maintain the same insurance required to be maintained by contractor with limits as follows:

1. Minimum General Liability Limits: $1,000,000 per Occurrence; $2,000,000 General Aggregate; $2,000,000 Products/Completed Operations Aggregate. The General Aggregate shall apply separately to each Project. The required limits may be provided by a combination of General Liability Insurance and Commercial Excess or Commercial Umbrella Liability Insurance. If Subcontractor maintains higher limits than the specified minimum limits, County requires and shall be entitled to coverage for the higher limits maintained by Subcontractor.
2. Minimum Automobile Liability Limit: $1,000,000 combined single limit per accident.
3. Minimum Employers Liability Limits: $1,000,000 per Accident; $1,000,000 Disease per employee; $1,000,000 Disease per policy.
4. Professional Liability Insurance
    a. Minimum Limit: $1,000,000 per claim or per occurrence.
    b. Consultant shall disclose to contractor any deductible or self-insured retention in excess of $25,000.
    c. If the insurance is on a Claims-Made basis, the retroactive date shall be no later than the commencement of the work.
    d. Insurance applicable to the work performed under the Contract shall be continued for two (2) years after completion of the work. Such continuation coverage may be provided by one of the following: (1) renewal of the existing policy; (2) an extended reporting period endorsement; or (3) replacement insurance with a retroactive date no later than the commencement of the work under this Contract.

Required Evidence of Insurance: Certificate of Insurance.

Replace Section 7-1.11C with:

7-1.11C Female and Minority Goals [Exhibit 12-G]

To comply with Section II, "Nondiscrimination," of "Required Contract Provisions Federal-Aid Construction Contracts," the following are for female and minority utilization goals for Federal-aid construction contracts and subcontracts that exceed $10,000:

The nationwide goal for female utilization is 6.9 percent.

The goals for minority utilization [45 Fed Reg 65984 (10/3/1980)] are as follows:

MINORITY UTILIZATION GOALS

5		Goal (Percent)
174	Redding CA: Non-SMSA (Standard Metropolitan Statistical Area) Counties: CA Lassen; CA Modoc; CA Plumas; CA Shasta; CA Siskiyou; CA Tehama	6.8
175	Eureka, CA Non-SMSA Counties: CA Del Norte; CA Humboldt; CA Trinity	6.6
176	San Francisco-Oakland-San Jose, CA: SMSA Counties: 7120 Salinas-Seaside-Monterey, CA CA Monterey 7360 San Francisco-Oakland CA Alameda; CA Contra Costa; CA Marin; CA San Francisco; CA San Mateo 7400 San Jose, CA CA Santa Clara, CA 7485 Santa Cruz, CA CA Santa Cruz 7500 Santa Rosa CA Sonoma 8720 Vallejo-Fairfield-Napa, CA CA Napa; CA Solano Non-SMSA Counties: CA Lake; CA Mendocino; CA San Benito	28.9 25.6 19.6 14.9 9.1 17.1 23.2
177	Sacramento, CA: SMSA Counties: 6920 Sacramento, CA CA Placer; CA Sacramento; CA Yolo Non-SMSA Counties CA Butte; CA Colusa; CA El Dorado; CA Glenn; CA Nevada; CA Sierra; CA Sutter; CA Yuba	16.1 14.3
178	Stockton-Modesto, CA: SMSA Counties: 5170 Modesto, CA CA Stanislaus 8120 Stockton, CA CA San Joaquin Non-SMSA Counties CA Alpine; CA Amador; CA Calaveras; CA Mariposa; CA Merced; CA Tuolumne	12.3 24.3 19.8

5		Goal (Percent)
179	Fresno-Bakersfield, CA SMSA Counties: 0680 Bakersfield, CA CA Kern 2840 Fresno, CA	 19.1 26.1
	CA Fresno Non-SMSA Counties: CA Kings; CA Madera; CA Tulare	23.6
180	Los Angeles, CA: SMSA Counties: 0360 Anaheim-Santa Ana-Garden Grove, CA CA Orange 4480 Los Angeles-Long Beach, CA CA Los Angeles 6000 Oxnard-Simi Valley-Ventura, CA CA Ventura 6780 Riverside-San Bernardino-Ontario, CA CA Riverside; CA San Bernardino 7480 Santa Barbara-Santa Maria-Lompoc, CA CA Santa Barbara Non-SMSA Counties CA Inyo; CA Mono; CA San Luis Obispo	 11.9 28.3 21.5 19.0 19.7 24.6
181	San Diego, CA: SMSA Counties 7320 San Diego, CA CA San Diego Non-SMSA Counties CA Imperial	 16.9 18.2

For the last full week in July during which work is performed under the contract, you and each non material-supplier subcontractor with a subcontract of $10,000 or more must complete Form FHWA PR-1391 (Appendix C to 23 CFR 230). Submit the forms by August 15.

Replace Section 7-1.11D with:

7-1.11D Federal Trainee Program [Exhibit 12-G]

For the Federal training program, the number of trainees or apprentices is 4.

This section applies if a number of trainees or apprentices is shown on the Notice to Bidders.

As part of your equal opportunity affirmative action program, provide on-the-job training to develop full journeymen in the types of trades or job classifications involved.

You have primary responsibility for meeting this training requirement.

If you subcontract a contract part, determine how many trainees or apprentices are to be trained by the subcontractor. Include these training requirements in your subcontract.

Where feasible, 25 percent of apprentices or trainees in each occupation must be in their 1st year of apprenticeship or training.

Distribute the number of apprentices or trainees among the work classifications on the basis of your needs and the availability of journeymen in the various classifications within a reasonable recruitment area.

Before starting work, submit to the County of Sonoma:

1. Number of apprentices or trainees to be trained for each classification
2. Training program to be used
3. Training starting date for each classification

Obtain the County of Sonoma's approval for this submitted information before you start work. The County of Sonoma credits you for each apprentice or trainee you employ on the work who is currently enrolled or becomes enrolled in an approved program.

The primary objective of this section is to train and upgrade minorities and women toward journeymen status. Make every effort to enroll minority and women apprentices or trainees, such as conducting systematic and direct recruitment through public and private sources likely to yield minority and women apprentices or trainees, to the extent they are available within a reasonable recruitment area. Show that you have made the efforts. In making these efforts, do not discriminate against any applicant for training.

The prime contractor shall not employ as an apprentice or trainee an employee:

1. In any classification in which the employee has successfully completed a training course leading to journeyman status or in which the employee has been employed as a journeyman
2. Who is not registered in a program approved by the US Department of Labor, Bureau of Apprenticeship and Training

The prime contractor shall ask the employee if the employee has successfully completed a training course leading to journeyman status or has been employed as a journeyman. Your records must show the employee's answers to the questions.

In your training program, establish the minimum length and training type for each classification. The County of Sonoma and FHWA approves a program if one of the following is met:

1. It is calculated to:
    - Meet your equal employment opportunity responsibilities

- Qualify the average apprentice or trainee for journeyman status in the classification involved by the end of the training period

2. It is registered with the U.S. Department of Labor, Bureau of Apprenticeship and Training, and it is administered in a way consistent with the equal employment responsibilities of Federal-aid highway construction contracts

The prime contractor shall obtain the State's approval for your training program before you start work involving the classification covered by the program.

The prime contractor shall provide training in the construction crafts, not in clerk-typist or secretarial-type positions. Training is allowed in lower level management positions such as office engineers, estimators, and timekeepers if the training is oriented toward construction applications. Training is allowed in the laborer classification if significant and meaningful training is provided and approved by the division office. Off-site training is allowed if the training is an integral part of an approved training program and does not make up a significant part of the overall training.

The County of Sonoma reimburses the prime contractor 80 cents per hour of training given an employee on this contract under an approved training program:

1. For on-site training
2. For off-site training if the apprentice or trainee is currently employed on a Federal-aid project and you do at least one of the following:
   - Contribute to the cost of the training
   - Provide the instruction to the apprentice or trainee
   - Pay the apprentice's or trainee's wages during the off-site training period
3. If the prime contractor complies with this section.

Each apprentice or trainee must:

1. Begin training on the project as soon as feasible after the start of work involving the apprentice's or trainee's skill.
2. Remain on the project as long as training opportunities exist in the apprentice's or trainee's work classification or until the apprentice or trainee has completed the training program.

Furnish the apprentice or trainee a:

1. Copy of the training plan approved by the U.S. Department of Labor or a training plan for trainees approved by both Caltrans and FHWA.
2. Certification showing the type and length of training satisfactorily completed.

Maintain records and submit reports documenting contractor's performance under this section.

Add as section 7-1.11E:

7-1.11E Title VI Assurances [Exhibit 12-G]

During the performance of this agreement, the contractor, for itself, its assignees and successors in interest (hereinafter collectively referred to as contractor) agrees as follows:

1. Compliance with Regulations: contractor shall comply with the regulations relative to nondiscrimination in federally assisted programs of the Department of Transportation, Title 49, Code of Federal Regulations, Part 21, as they may be amended from time to time, (hereinafter referred to as the regulations), which are herein incorporated by reference and made a part of this agreement.
2. Nondiscrimination: contractor, with regard to the work performed by it during the agreement, shall not discriminate on the grounds of race, color, sex, national origin, religion, age, or disability in the selection and retention of sub-applicants, including procurements of materials and leases of equipment. CONTRACTOR shall not participate either directly or indirectly in the discrimination prohibited by Section 21.5 of the Regulations, including employment practices when the agreement covers a program set forth in Appendix B of the Regulations.
3. Solicitations for Sub-agreements, Including Procurements of Materials and Equipment: In all solicitations either by competitive bidding or negotiation made by contractor for work to be performed under a Sub- agreement, including procurements of materials or leases of equipment, each potential sub-applicant or supplier shall be notified by contractor of the contractor's obligations under this Agreement and the Regulations relative to nondiscrimination on the grounds of race, color, or national origin.
4. Information and Reports: contractor shall provide all information and reports required by the Regulations, or directives issued pursuant thereto, and shall permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by the California Department of Transportation or FHWA to be pertinent to ascertain compliance with such Regulations or directives. Where any information required of contractor is in the exclusive possession of another who fails or refuses to furnish this information, contractor shall so certify to the California Department of Transportation or the FHWA as appropriate, and shall set forth what efforts contractor has made to obtain the information.
5. Sanctions for Noncompliance: In the event of contractor's noncompliance with the nondiscrimination provisions of this agreement, the California Department of Transportation shall impose such agreement sanctions as it or the FHWA may determine to be appropriate, including, but not limited to:
    - Withholding of payments to contractor under the Agreement within a reasonable period of time, not to exceed 90 days; and/or
    - Cancellation, termination or suspension of the Agreement, in whole or in part
6. Incorporation of Provisions: contractor shall include the provisions of paragraphs (1) through (6) in every sub-agreement, including procurements of materials and leases of equipment, unless exempt by the Regulations, or directives issued pursuant thereto.

Contractor shall take such action with respect to any sub-agreement or procurement as the California Department of Transportation or FHWA may direct as a means of enforcing such provisions including sanctions for noncompliance, provided, however, that, in the event contractor becomes involved in, or is threatened with, litigation with a sub-applicant or supplier as a result of such direction, contractor may request the California Department of Transportation enter into such litigation to protect the interests of the State, and, in addition, CONTRACTOR may request the United States to enter into such litigation to protect the interests of the United States.

During the performance of this contract, the contractor, for itself, its assignees, and successors in interest (hereinafter referred to as the "contractor") agrees to comply with the following non-discrimination statutes and authorities, including, but not limited to:

Pertinent Non-Discrimination Authorities:

- Title VI of the Civil Rights Act of 1964 (42 U.S.C. § 2000d et seq., 78 stat. 252), prohibits discrimination on the basis of race, color, national origin); and 49 CFR Part 21.
- The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, (42 U.S.C. § 4601), (prohibits unfair treatment of persons displaced or whose property has been acquired because of Federal or Federal-aid programs and projects);
- Federal-Aid Highway Act of 1973, (23 U.S.C. § 324 et seq.), prohibits discrimination on the basis of sex;
- Section 504 of the Rehabilitation Act of 1973, (29 U.S.C. § 794 et seq.), as amended, (prohibits discrimination on the basis of disability); and 49 CR Part 27;
- The Age Discrimination Act of 1975, as amended, (42 U.S.C. § 6101 et seq.), prohibits discrimination on the basis of age);
- Airport and Airway Improvement Act of 1982, (49 U.S.C. § 471, Section 47123), as amended, (prohibits discrimination based on race, creed, color, national origin, or sex);
- The Civil Rights Restoration Act of 1987, (PL 100-209), (Broadened the scope, coverage and applicability of Title VI of the Civil Rights Act of 1964, The Age Discrimination Act of 1975 and Section 504 of the Rehabilitation Act of 1973, by expanding the definition of the terms "programs or activities" to include all of the programs or activities of the Federal-aid recipients, sub-recipients and contractors, whether such programs or activities are Federally funded or not);
- Titles II and III of the Americans with Disabilities Act, which prohibit discrimination of the basis of disability in the operation of public entities, public and private transportation systems, places of public accommodation, and certain testing entities (42 U.S.C. §§ 12131 – 12189) as implemented by Department of Transportation regulations 49 C.F.R. parts 37 and 38;
- The Federal Aviation Administration's Non-discrimination statute (49 U.S.C. § 47123) (prohibits discrimination on the basis of race, color, national origin, and sex);
- Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, which ensures discrimination against minority populations by discouraging programs, policies, and activities with disproportionately high and adverse human health or environmental effects on minority and low-income populations;
- Executive Order 13166, Improving Access to Services for Persons with Limited English Proficiency, and resulting agency guidance, national origin discrimination includes discrimination because of limited English proficiency (LEP). To ensure compliance with Title VI, you must take reasonable steps to ensure that LEP persons have meaningful access to your programs (70 Fed. Reg. at 74087 to 74100);
- Title IX of the Education Amendments of 1972, as amended, which prohibits you from discriminating because of sex in education programs or activities (20 U.S.C. 1681 et seq).

Add as section 7-1.11F:

7-1.11F Use of United States-Flag Vessels (Cargo Preference Act) [Exhibit 12-G]

The contractor agrees:

1. To utilize privately owned United States-flag commercial vessels to ship at least 50 percent of the gross tonnage (computed separately for dry bulk carries, dry cargo liners, and tankers) involved, whenever shipping any equipment, material, or commodities pursuant to this contract, to the extent such vessels are available at fair and reasonable rates for United States-flag commercial vessels.
2. To Furnish within 20 days following the date of loading for shipments originating within the United State or within 30 working days following the date of loading for shipments originating outside the United States, a legible copy of a rated "on-board" commercial ocean bill-of-lading in English for each shipment of cargo described in paragraph (1) of this section to both the Contracting Officer (through the prime contractor in the case of subcontractor bills-of-lading) and to the Division of National Cargo, Office of Market Development, Maritime Administration, Washington, DC 20590.
3. To insert the substance of the provisions of this clause in all subcontracts issued pursuant to this contract.

Add as section 7-1.11G:

7-1.11G Prohibition of certain telecommunications and video surveillance equipment and services [Exhibit 12-G]

In response to significant national security concerns, the agency shall check the prohibited vendor list before making any telecommunications and video surveillance purchase because recipients and subrecipients of federal funds are prohibited from obligating or expending loan or grant funds to:

- Procure or obtain;
- Extend or renew a contract to procure or obtain; or
- Enter into a contract (or extend or renew a contract) to procure or obtain equipment, services, or systems that uses covered telecommunications equipment or services as a substantial or essential component of any system, or as critical technology as part of any system.

The prohibited vendors (and their subsidiaries or affiliates) are:

- Huawei Technologies Company;
- ZTE Corporation;
- Hytera Communications Corporation;
- Hangzhou Hikvision Digital Technology Company;
- Dahua Technology Company; and
- Subsidiaries or affiliates of the above-mentioned companies.

In implementing the prohibition, the agency administering loan, grant, or subsidy programs shall prioritize available funding and technical support to assist affected businesses, institutions and organizations as is reasonably necessary for those affected entities to transition from covered

communications equipment and services, to procure replacement equipment and services, and to ensure that communications service to users and customers is sustained.

8 PROSECUTION AND PROGRESS

Replace section 8-1.03 with:

8-1.03 Pre-Construction Conference

Prior to the issuance of the Notice to Proceed, a pre-construction conference will be held at the Construction Office of the Sonoma County Public Infrastructure, 400 Aviation Blvd, Suite 100, Santa Rosa, CA 95403, for the purpose of discussing with the Contractor the scope of work, Contract drawings Specifications, existing conditions, materials to be ordered, equipment to be used, and all essential matters pertaining to the prosecution of and the satisfactory completion of the project as required. The Contractor's representative at this conference shall include all major superintendents for the work and may include major subcontractors.

Replace the 1st and 2nd paragraphs of section 8-1.04B with:

[Exhibit 12-G]

The Contractor shall begin work within 15 calendar days after the issuance of the Notice to Proceed.

Insert as the first paragraph of 8-1.05

[Exhibit 12-G]

This work shall be diligently prosecuted to completion before the number of WORKING DAYS stated in the Notice to Bidders, beginning on the fifteenth calendar day after the date shown on the Notice to Proceed.

Add to section 8-1.06:

Suspensions of Work Ordered by the Engineer [Exhibit 12-G]

1. If the performance of all or any portion of the work is suspended or delayed by the engineer in writing for an unreasonable period of time (not originally anticipated, customary, or inherent to the construction industry) and the contractor believes that additional compensation and/or contract time is due as a result of such suspension or delay, the contractor shall submit to the engineer in writing a request for adjustment within 7 calendar days of receipt of the notice to resume work. The request shall set forth the reasons and support for such adjustment.
2. Upon receipt, the engineer will evaluate the contractor's request. If the engineer agrees that the cost and/or time required for the performance of the contract has increased as a result of such suspension and the suspension was caused by conditions beyond the control of and not the fault of the contractor, its suppliers, or subcontractors at any approved tier, and not caused by weather, the engineer will make an adjustment (excluding profit) and modify the contract in writing accordingly. The contractor will be notified of the engineer's determination whether or not an adjustment of the contract is warranted.
3. No contract adjustment will be allowed unless the contractor has submitted the request for adjustment within the time prescribed.

4. No contract adjustment will be allowed under this clause to the extent that performance would have been suspended or delayed by any other cause, or for which an adjustment is provided or excluded under any other term or condition of this contract.

9 PAYMENT

Add to section 9-1.01:

All payments will be made in accordance with County of Sonoma Board of Supervisors' Resolution No. 62627, dated December 19, 1978.

The Board of Supervisors' approved form, "Escrow Agreement for Security Deposits in lieu of Retention" is available from the Sonoma County Public Infrastructure.

Replace "6 percent" in the first sentence of the 13th paragraph of section 9-1.03 with:

7 percent

Replace "6 percent" in the first sentence of the 14th paragraph of section 9-1.03 with:

7 percent

Replace the final paragraph of section 9-1.03 with:

PROMPT PROGRESS PAYMENT [EXHIBIT 12-G]:

In accordance with California Business and Professions Code section 7108.5, the prime contractor or subcontractor shall pay to any subcontractor, not later than seven days after receipt of each progress payment, unless otherwise agreed to in writing, the respective amounts allowed the contractor on account of the work performed by the subcontractors, to the extent of each subcontractor's interest therein. In the event that there is a good faith dispute over all or any portion of the amount due on a progress payment from the prime contractor or subcontractor to a subcontractor, the prime contractor or subcontractor may withhold no more than 150 percent of the disputed amount. Any violation of this requirement shall constitute a cause for disciplinary action and shall subject the licensee to a penalty, payable to the subcontractor, of 2 percent of the amount due per month for every month that payment is not made.

In any action for the collection of funds wrongfully withheld, the prevailing party shall be entitled to his or her attorney's fees and costs. The sanctions authorized under this requirement shall be separate from, and in addition to, all other remedies, either civil, administrative, or criminal. This clause applies to both DBE and non-DBE subcontractors.

PROMPT PAYMENT OF FUNDS WITHHELD TO SUBCONTRACTORS [EXHIBIT 12-G]:

The Agency shall hold retainage from the prime contractor and shall make prompt and regular incremental acceptances of portions, as determined by the Agency of the contract work and pay retainage to the prime contractor based on these acceptances. The prime contractor or subcontractor shall return all monies withheld in retention from all subcontractors within seven (7) days after receiving payment for work satisfactorily completed and accepted including incremental acceptances of portions of the contract work by the Agency. Any delay or postponement of payment may take place only for good cause and with the Agency's prior written approval. Any violation of these provisions shall subject the violating prime contractor or

subcontractor to the penalties, sanctions, and other remedies specified in Section 7108.5 of the California Business and Professions Code and Section 10262 of the California Public Contract Code. This requirement shall not be construed to limit or impair any contractual, administrative or judicial remedies otherwise available to the contractor or subcontractor in the event of a dispute involving late payment or nonpayment by the contractor; deficient subcontractor performance and/or noncompliance by a subcontractor. This clause applies to both DBE and non-DBE subcontractors.

VIOLATION OF PROMPT PAYMENT [EXHIBIT 12-G]:

Any violation of these provisions of Prompt Progress Payment and Prompt Payment of Withheld Funds to Subcontractors shall subject the violating prime contractor or subcontractor to the penalties, sanctions and other remedies specified therein. These requirements shall not be construed to limit or impair any contractual, administrative, or judicial remedies otherwise available to the prime contractor or subcontractor in the event of a dispute involving late payment or nonpayment by the prime contractor, deficient subcontract performance, or noncompliance by a subcontractor.

Add to the end of section 9-1.03

Submit Subcontractor Payment Declaration Form on a monthly basis.

Add to the end of section 9-1.04D(2)

4. Only equipment directly used in performance of the Force Account work will be paid, this does not include vehicles used solely to transport personnel to the location of the Force Account work.

Replace section 9-1.07 with:

Payment adjustments for price index fluctuations do not apply to this contract.

Replace the 1st paragraph of section 9-1.11D with:

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 report.

Add to the end of section 9-1.16A

Prompt Payment from the Agency to Contractors [Exhibit 12-G]

The Contractor must submit Caltrans Local Assistance Procedures Manual Exhibit 9-P to the County by the 15th of the month following the month of any payment(s). If the Contractor does not make any payments to subcontractors, supplier(s) and/or manufacturers they must report “no payments were made to subs this month” and write this visibly and legibly on Exhibit 9-P.

Add to section 9-1.16B:

A schedule of values is required for the following Bid Items:

Item #	Caltrans Ref#	Item Name
6	120090	CONSTRUCTION AREA SIGNS
7	120100	TRAFFIC CONTROL SYSTEM
28	131201	TEMPORARY CREEK DIVERSION SYSTEMS
31	146002	CONTRACTOR SUPPLIED BIOLOGIST (LS)
34	170103	CLEARING AND GRUBBING (LS)

Replace the second paragraph of section 9-1.16E(4) with:

Stop Notice information may be obtained from the County Auditor, 585 Fiscal Drive, Room 101F, Santa Rosa 95403, Telephone (707) 565-2631.

Replace section 9-1.16F with:

The Agency retains 5 percent of the estimated value of the work completed and 5 percent of the value of materials so estimated to have been furnished and delivered and unused or furnished and stored as aforesaid as part security for the fulfillment of the contract by the Contractor, except that at any time after 20 percent of the work has been completed, if the Engineer finds that satisfactory progress is being made, the Agency may reduce the total amount being retained from payment pursuant to the above requirements to 3 percent of the total estimated value of the work and materials and may also reduce the amount retained from any of the remaining partial payments to 3 percent of the estimated value of the work and materials.

In addition, on any partial payment made after 95 percent of the work has been completed, the Agency may reduce the amount withheld from payment pursuant to the requirements of this Section 9-1.16, to such lesser amount as the Agency determines is adequate security for the fulfillment of the balance of the work and other requirements of the contract, but in no event will that amount be reduced to less than 125 percent of the estimated value of the work yet to be completed as determined by the Engineer.

PROMPT PAYMENT OF FUNDS WITHHELD TO SUBCONTRACTORS [Exhibit 12-G

Federal regulation (49 CFR 26.29) requires the following method be used in federal-aid contracts to ensure prompt and full payment of any retainage kept by the prime contractor or subcontractor to a subcontractor.

The Agency holds retainage from the prime contractor and makes prompt and regular incremental acceptances of portions, as determined by the agency of the contract work and pay retainage to the prime contractor based on these acceptances. The prime contractor or subcontractor returns all monies withheld in retention from all subcontractors within 30 days administrative, or judicial remedies otherwise available to the contractor or subcontractor in the event of: after receiving payment for work satisfactorily completed and accepted including incremental acceptances of

portions of the contract work by the agency. Any delay or postponement of payment may take place only for good cause and with the agency's prior written approval. Any violation of these provisions subjects the violating prime contractor to the penalties, sanctions, and other remedies specified in Section 7108.5 of the California Business and Professions Code. This requirement shall not be construed to limit or impair any contractual, a dispute involving late payment or nonpayment by the contractor; deficient subcontractor performance and/or noncompliance by a subcontractor. This clause applies to both DBE and non-DBE subcontractors.

Replace section 9-1.17D(3) with:

Failure to allow timely access to the supporting data for a claim when requested waives the claim.

The Agency's costs in reviewing or auditing a claim not supported by the Contractor's accounting or other records are damages incurred by the State within the meaning of the California False Claims Act.

If the Engineer determines that a claim requires additional analysis, upon the written consent of the Contractor, the Engineer schedules a board of review meeting in compliance with section 5-1.43E(2) or 5-1.17E(3), as applicable. Meet with the board of review and make a presentation supporting the claim.

After the Engineer or review board finishes reviewing the claim, the Agency makes the final determination of claims and provides it to you within 45 days of receipt of the claim, or within 45 days of receipt of the recommendation from the board of review, and shall provide a written statement identifying what portion of the claim is disputed and what portion is undisputed.

If the Agency needs approval from the Board of Supervisors to provide the Contractor a written statement identifying the disputed portion and the undisputed portion of the claim, and the Board of Supervisors does not meet within the 45 days or within the mutually agreed to extension of time following receipt of a claim sent by registered mail or certified mail, return receipt requested, the Agency shall have up to three days following the next duly publicly noticed meeting of the governing body after the Board of Supervisors, or extension, expires to provide the Contractor a written statement identifying the disputed portion and the undisputed portion.

Failure by the Agency to respond to a claim from Contractor within the time periods described in this section or to otherwise meet the time requirements of this section shall result in the claim being deemed rejected in its entirety. A claim that is denied by reason of the Agency's failure to have responded to a claim, or its failure to otherwise meet the time requirements of this section, shall not constitute an adverse finding with regard to the merits of the claim or the responsibility or qualifications of the claimant.

The Engineer provides you a final estimate and the Agency pays the amount due within 60 days. The final estimate is conclusive as to the amount of work completed and the amount payable except as specified in sections 5-1.27, 5-1.47, and 9-1.21.

If the Contractor disputes the Agency's written response, or if the Agency fails to respond to a claim issued pursuant to this section within the time prescribed, the Contractor may demand in writing an informal conference to meet and confer for settlement of the issues in dispute. Upon receipt of a demand in writing sent by registered mail or certified mail, return receipt requested,

the Agency shall schedule a meet and confer conference within 30 days for settlement of the dispute.

Within 10 business days following the conclusion of the meet and confer conference, if the claim or any portion of the claim remains in dispute, the Agency shall provide the Contractor a written statement identifying the portion of the claim that remains in dispute and the portion that is undisputed. Any payment due on an undisputed portion of the claim shall be processed and made within 60 days after the Agency issues its written statement. Any disputed portion of the claim, as identified by the Contractor in writing, shall be submitted to nonbinding mediation, with the Agency and the Contractor sharing the associated costs equally. The Agency and Contractor shall mutually agree to a mediator within 10 business days after the disputed portion of the claim has been identified in writing. If the parties cannot agree upon a mediator, each party shall select a mediator and those mediators shall select a qualified neutral third party to mediate with regard to the disputed portion of the claim. Each party shall bear the fees and costs charged by its respective mediator in connection with the selection of the neutral mediator. If mediation is unsuccessful, the parts of the claim remaining in dispute shall be subject to applicable procedures outside this section.

If a subcontractor or a lower tier subcontractor lacks legal standing to assert a claim against the Agency because privity of contract does not exist, the Contractor may present to the Agency a claim on behalf of a subcontractor or lower tier subcontractor. A subcontractor may request in writing, either on his or her own behalf or on behalf of a lower tier subcontractor, that the Contractor present a claim for work which was performed by the subcontractor or by a lower tier subcontractor on behalf of the subcontractor. The subcontractor requesting that the claim be presented to the Agency shall furnish reasonable documentation to support the claim. Within 45 days of receipt of this written request, the Contractor shall notify the subcontractor in writing as to whether the Contractor presented the claim to the Agency and, if the Contractor did not present the claim, provide the subcontractor with a statement of the reasons for not having done so.

Your failure to comply with the claim procedures is a bar to arbitration under Pub Cont Code § 10240.2.

DIVISION II GENERAL CONSTRUCTION

10 GENERAL

Amend section 10-1.02D to include the following:

The reference plan for existing striping and markings shall be approved by the Engineer prior to the elimination of the existing delineations.

You may work within Frasier Creek, Big Sulphur Creek, and drainage channels only from June 15 to October 15 of any year, unless you negotiate extension(s) with the resource agencies.

Replace paragraph 5 of section 10-1.06 with:

The contractor is responsible for developing construction water for use on this project. The Agency does not own or maintain any water facilities.

12 TEMPORARY TRAFFIC CONTROL

Replace section 12-1.04 with:

Flagging is paid for under the bid item for flagging.

The Agency pays for 50% of the actual cost of flagging, on a Force Account basis.

The cost listed under the Flagging contract bid item is 50% of the total estimated cost of flagging.

Payment for flagging only includes the periods when traffic controls have been implemented and flaggers are actively directing traffic. Flagging and traffic control setup or breakdown and light-towers are paid for under the Traffic Control System bid item.

Furnishing and operating Pilot Cars if ordered by the plans or Engineer is paid for at 100% of cost. Pilot cars and drivers are paid under the Flagging bid item, as Force Account work per section 9-1.04.

Add to section 12-3.11B(5)(b):

Provide two construction project funding identification signs as shown in the plans.

Replace section 12-3.11D with :

Construction Area Signs are defined as stationary, mounted, work site perimeter signs as shown on the Construction Area Sign plans. Payment is made under the Construction Area Signs bid item.

Payment for Construction Project Funding Identification Signs is made under the bid item Construction Area Signs.

Payment for Portable Signs is made under the bid item for Traffic Control Systems.

Replace section 12-3.20 with:

12-3.20 TEMPORARY BARRIER SYSTEMS

12-3.20A General

12-3.20A(1) Summary

Section 12-3.20 includes specifications for placing, maintaining, repairing, and removing temporary barrier systems.

Temporary barrier system consists of:

1. New or undamaged used interconnected barrier segments

2. Segment connection hardware
3. Stakes and anchor bolts

12-3.20A(2) Definitions

clear area width: Minimum width throughout the length of the barrier system that must be maintained clear of obstructions, objects, and work resources during non-working hours. The width is measured perpendicular from the non-traffic side toe.

set back distance: Space measured between the closest toe of temporary barrier and the edge of traveled way for each direction of traffic.

12-3.20A(3) Submittals

Submit as informational submittal for each type of temporary barrier system:

1. Certificate of compliance.
2. Manufacturer's installation instructions except for temporary concrete barriers with loop and pin and temporary concrete barriers with cross bolt.
3. Manufacturer's QC test results and daily production log, through the Data Interchange for Materials Engineering (DIME) website. QC test results must include the concrete mix design number, barrier stamped ID, and must be submitted within 3 business days of QC test completion.

Submit test reports for cross bolts that certify compliance with the applicable ASTM requirements. The test reports must be from a laboratory that is accredited to International Standards Organization/International Electrotechnical Commission 17025 by the American Association for Laboratory Accreditation (A2LA) or the ANSI-ASQ National Accreditation Board.

Submit a signed manufacturer's replacement evaluation report within 10 days of damage to a temporary steel barrier system.

12-3.20A(4) Quality Assurance

12-3.20A(4)(a) General

Temporary barrier systems must comply with MASH Test Level 3 except for Type K temporary railing.

Except for temporary concrete barriers with loop and pin and temporary concrete barriers with cross bolt, temporary barrier systems must:

1. Be on the Authorized Materials List for highway safety features
2. Comply with the manufacturer's drawings shown on the Department’s Division of Safety Programs website and the manufacturer's installation instructions

If a discrepancy exists, governing ranking in descending order is:

1. These specifications

2. Manufacturer's drawings
3. Manufacturer's installation instructions

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

Temporary concrete barrier segments must:

1. Comply with the requirements for tier 3 precast concrete in section 90-4
2. Be fabricated at a plant on the Authorized Facility Audit List

Concrete must be sampled and tested at the minimum frequencies shown in the following table.

Concrete QC Tests

Quality characteristic	Test method	Minimum testing frequency
Compressive strength	ASTM C172/C172M, ASTM C31/C31M, and ASTM C39/C39M	Once per 300 cu yd of concrete cast, or every day of casting, whichever is more frequent
Slump	ASTM C143/C143M	
Temperature at time of mixing	ASTM C1064/C1064M	
Density	ASTM C138	Once per 600 cu yd of concrete cast or every 7 days of batching, whichever is more frequent
Air content	ASTM C231/C231M or ASTM C173/C173M	If concrete is air entrained, once for each set of cylinders, and when conditions warrant

A daily production log of PC activities must be maintained under section 90-4.01C(4).

12-3.20A(4)(b) Quality Control

Replace damaged temporary concrete barrier segments with exposed reinforcing steel or concrete spalls 1-1/2 inches in depth and 4 inches in width or greater.

Replace damaged temporary steel barrier segments with permanent bends, tearing, or buckling as described in the signed manufacturer's replacement evaluation report.

Realign temporary barrier system within 2 days of impact or displacement when displaced more than 3 inches except when the temporary barrier system is displaced into a traveled lane realign immediately.

12-3.20B Materials

12-3.20B(1) General

Temporary barrier segment must:

1. Be a minimum 31-1/2 inches in height

2. Have at least two lifting holes
3. Be designed to be used with temporary traffic screen when required

Temporary barrier segment may have your name or logo on each barrier segment. The name or logo must be no more than 4 inches in height and must be located no more than 12 inches above the bottom of the barrier segment.

12-3.20B(2) Temporary Concrete Barriers

12-3.20B(2)(a) General

Temporary concrete barrier segment must:

1. Be precast concrete with a minimum 4,000-psi compressive strength.
2 Have reinforcement steel that complies with section 52.
3. Have a finished surface that complies with section 51-1.03F(2).
4. Include the manufacturer's name, lot number, and month and year of manufacture stamped on the top of each barrier segment except for Type K temporary railing. The stamped information must be:
   4.1. No more than 6 inches in height.
   4.2. From 3/16 to 1/4 inch in depth.
   4.3. Centered on the top width of the barrier segment.
5. Use one of the following segment connections:
   5.1. Loop and pin
   5.2. "J" hook
   5.3. Cross bolt
6. Comply with the tolerances shown in the following table:

Precast Barrier Tolerances

Quality Characteristic	Tolerance(±)
Length (in)	1
Insert Placement (in)	1/2
Horizontal Alignment (in)	1/8 per 10 feet of length
Deviation of Ends (in):	
Horizontal Skew	1/4
Vertical Batter	1/8 per foot of depth

Reinforcement steel must:

1. Comply with ASTM A615 or ASTM A706, Grade 60
2. Be galvanized under section 52-3, when required

Combinations of reinforcing steel and welded wire reinforcement are allowed. Welded wire reinforcement must comply with ASTM A1064.

Stake must:

1. Comply with ASTM A36/A36M-14 or ASTM A529-14, Grade 50

2. Be 1-1/2-inch-diameter-by-48-inch-long
3. Have a plate 1/2-by-3-1/2-by-3-1/2-inch welded 2 inches down from the upper end using a 1/4-inch fillet weld under AWS D1.1 or D1.4

Anchor bolt must:

1. Be a threaded rod, 1-1/8-inch-diameter-by-10-1/2-inch-long
2. Comply with ASTM A307
3. Include a nut complying with ASTM A563
4. Include a plate washer:
   4.1. 1/2-by-3-1/2-by3-1/2-inch with a 1-1/4-inch diameter hole in the center
   4.2. Complying with ASTM A36/A36M
   4.3. Galvanized post fabrication under section 75-1.02B

Epoxy adhesive must have a bond strength of minimum 1,650 psi, except for temporary concrete barrier with "J" Hook.

12-3.20B(2)(b) Temporary Concrete Barriers with Cross Bolt

Cross bolt hardware includes:

1. Cross bolt
2. Nut complying with ASTM A563
3. Hardened washer complying with ASTM F436, Type 1
4. Plate washer complying with ASTM A36/A36M and galvanized post fabrication under section 75-1.02B

Cross bolt must:

1. Be a 7/8-inch bolt or threaded rod and comply with one of the following:
   1.1. HS threaded rod ASTM A193, Grade B7
   1.2. HS threaded rod ASTM A449, Type 1
   1.3. HS nonheaded anchor bolt ASTM F1554, Grade 105, Class 2A
2. Have a permanent grade symbol and manufacturer's identifier

12-3.20B(2)(c) Temporary Concrete Barriers with Loop and Pin

12-3.20B(2)(c)(i) General

Steel bar loop must comply with ASTM A36/A36M.

Connecting bolt must comply with ASTM A307, be 1-1/4-inch in diameter, and a minimum 26-inch length. A round bar of the same diameter and length may be substituted for the connecting bolt. The round bar must:

1. Comply with ASTM A36/A36M
2. Have a 3-inch-diameter, 3/8-inch-thick plate welded on the upper end using a 3/16-inch fillet weld

12-3.20B(2)(c)(ii) Type K Temporary Railings

Anchor bolt must:

1. Be a threaded rod, 1-inch-diameter-by-15-1/2-inch-long
2. Comply with ASTM A307
3. Include a nut complying with ASTM A563
4. Include a plate washer:
    4.1. 3/8-by-2-1/2-by-3-inch with a 1-1/8-inch diameter hole in the center
    4.2. Complying with ASTM A36/A36M
    4.3. Galvanized post fabrication under section 75-1.02B

12-3.20B(2)(d) Temporary Concrete Barriers with "J" Hook

"J" hook must:

1. Comply with ASTM A36/A36M
2. Be 3/8-inch-thick steel plate
3. Be a minimum 18 inches in height

Anchor hardware must include:

1. Anchor bolt insert 1-inch diameter, 6-inch long
2. Hex head bolt 1-inch diameter with a minimum length of 11 inches plus thickness of asphalt overlay
3. Plate washer 3/8-inch by 3-inch by 3-inch
4. Retainer ring

12-3.20B(3) Temporary Steel Barriers

Temporary steel barrier segment must:

1. Be galvanized steel.
2. Have a joint connection.
3. Include permanent identification information with no more than 6 inches in height and 12 inches in length and centered on the top width of the segment. The identification information must include:
    3.1. Manufacturer's name.
    3.2. Serial number.
    3.3. Lot number.
    3.4. Month and year of manufacture.

19-foot temporary steel barrier segment must be filled to a depth of 11-13/16 inches with concrete ballast.

12-3.20C Construction

12-3.20C(1) General

Clean temporary barrier segments at time of installation and at least every 6 months thereafter.

Install temporary barrier systems based on the requirements shown in the following table:

Minimum Clear Area Width

Barriers	Configuration	Height differentials 3 feet or less (ft)	Height differentials greater than 3 ft up to 8 feet (ft)	Edge of deck or height differentials greater than 8 feet (ft)	Fixed objects, falsework members, or temporary supports[a] (ft)
10-foot, 20-foot & 30-foot temporary concrete barriers with cross bolt	Freestanding	1	2	5	5
12.5-foot temporary concrete barriers with "J" hook	Freestanding	3	4	8	7
	3 stakes per segment traffic side	1	1	2	3
	2 anchor bolts per segment traffic side	1	1	2	3
20-foot temporary concrete barriers with "J" hook	Freestanding	3	4	8	7
	4 stakes per segment traffic side	1	1	2	3
	3 anchor bolts per segment traffic side	1	1	2	3
50-foot temporary steel barriers	Staked or anchored at both ends only	6	7	9	10
	Staked or anchored every 250 feet	5	6	8	9
	Staked or anchored every 33 feet	1	1	3	4
19-foot temporary steel barriers	Freestanding	4	5	7	8
20-foot Type K temporary railings	Freestanding	2	3	8	7
	2 stakes or 2 anchor bolts per segment traffic side	1	1	3	4
	4 stakes or 4 anchor bolts per segment	N/A	N/A	3	3

[a]The minimum clear area width to a falsework or temporary support footing can be 2 feet less than the clear area width shown. Measure clear area width to the footing edge closest to traffic.

Stake temporary barrier systems when placed on an asphalt concrete surface.

Anchor temporary barrier systems when placed on a concrete surface. For bridge decks, confirm the anchor will not penetrate closer than 1-1/2 inches from the bottom of the deck before placement. When temporary barrier is not shown, request the Engineer to verify the bridge deck thickness.

For installations on concrete surfaces, drill holes and bond threaded rods or dowels under section 51-1.03E(5). Do not drill the top of supporting beams or girders, bridge expansion joints, or drains.

Install stakes and anchor bolts so the heads do not project above the top of the temporary barrier pocket profile.

In addition to the temporary barrier minimum length required, for the approach zone before the protected area, place a minimum:

1. 60 feet temporary barrier on facilities with a posted speed of 45 mph or less
2. 100 feet temporary barrier on facilities with a posted speed greater than 45 mph

Offset the approach end of temporary barrier systems a minimum of 15 feet from the edge of an open traffic lane, use the offset rate shown in the following table:

Temporary Barrier System Offset Rate

Posted speed (mph)	Rate[a]
0 to 45	10:1
46 to 60	15:1
61 to 70	20:1

[a]Rate is longitudinally to transversely with respect to the edge of the traveled way

If a 15-foot minimum offset cannot be achieved, offset temporary barrier systems the maximum distance available and install an authorized temporary crash cushion system at each barrier approach end.

Install a reflector on the top or face of barrier segments placed within 10 feet of a traffic lane. Space reflectors at approximately 20-foot intervals. Apply adhesive for mounting the reflector under the reflector manufacturer's instructions.

Install a Type P marker panel complying with section 82 at:

1. Each end of a temporary barrier system placed adjacent to a two-lane, two-way highway
2. The end facing traffic for a temporary barrier system installed adjacent to a one-way roadbed

3. The end of the skew nearest the traveled way when a temporary barrier system is placed on a skew

Maintain a minimum height of 31-1/2 inches above surface for temporary barrier systems. For paving activities adjacent to temporary barriers, do not pave within 2 feet of the barrier segments unless authorized. For paving under the temporary barrier, remove and reset the barrier.

Remove temporary barrier systems when no longer required for the work. Remove stakes and anchor bolts so that minimal damage is done to surface.

After removing the temporary barrier systems:

1. Restore the area to its previous condition or construct it to its planned condition if temporary excavation or embankment was used to accommodate the temporary barrier.
2. Remove all threaded rods or dowels to a depth of at least 1 inch below the top of a concrete surface. Fill the resulting holes with mortar under section 51-1 except cure the mortar by the water method or by the curing compound method using curing compound no. 6.
3. Repair a damaged asphalt surface by providing a clean, smooth edge around the damaged area. Repair any heaving caused by stake removal to provide a uniform surface. Remove loose debris and use compressed air to clean out the stake hole. Comply with manufacturer's requirements except fill the stake hole with grout to existing pavement elevation under section 51-1.

If the Engineer orders a lateral move of a temporary barrier system and repositioning is not shown, the lateral move is change order work except for work area access, clear area width compliance, or because of your means and methods to perform the work.

12-3.20C(2) Temporary Concrete Barriers

12-3.20C(2)(a) General

Before placing temporary barrier systems on the job site and after each described relocation, paint the exposed surfaces of the segments with white paint complying with specifications for acrylic emulsion paint for exterior masonry.

Place and maintain the abutting ends of segments in alignment without substantial offset from each other.

Install temporary barrier systems with the last segment extending a minimum of 60 feet past the length of the protected area.

Stake or anchor a minimum 20 feet of barrier at each end of temporary barrier systems. For:

1. Temporary concrete barriers with "J" hook, place a minimum of 6 stakes or anchors at each end, 3 on each side.
2. Temporary concrete barriers with cross bolt, place a minimum of 6 stakes or anchors at each end, 3 on each side.
3. Type K temporary railings, place 4 stakes or anchors at each end, 2 on each side.

Maintain a minimum 1-foot set back distance for temporary barrier systems placed between two-way traffic.

12-3.20C(2)(b) Temporary Concrete Barriers with Cross Bolt

Install a minimum 210 feet of temporary concrete barrier with cross bolt.

Place temporary barrier systems on a concrete or asphalt concrete surface.

Do not stake or anchor temporary barrier systems, except for 20 feet at each end.

Intermix segments of different lengths within a temporary barrier system when necessary.

For temporary barrier systems placed on a curved layout, maintain the minimum curve radius shown in the following table:

Minimum Curve Radius

Segment length (ft)	Curve radius (ft)
10	125
20	265
30	400

12-3.20C(2)(c) Temporary Concrete Barriers with Loop and Pin

12-3.20C(2)(c)(i) General

Not Used

12-3.20C(2)(c)(ii) Type K Temporary Railings

Do not install Type K temporary railings on projects advertised after December 31, 2026.

Install a minimum 160 feet of Type K temporary railing.

Excavate and backfill under section 19-3.

Do not compact earth fill placed behind Type K temporary railings in a curved layout.

Place temporary barrier systems on a firm, stable surface. Grade the area to provide a uniform bearing surface throughout the entire length of the system.

Anchor or stake the first and last segment and every other segment with four stakes as shown, when placed between two-way traffic.

12-3.20C(2)(d) Temporary Concrete Barriers with "J" Hook

Install a minimum 200 feet of temporary concrete barrier with "J" hook.

Place temporary barrier systems on a concrete or asphalt concrete surface. The asphalt concrete surface must have a minimum 2 inches of asphalt concrete over 6 inches of compacted subbase.

When temporary barrier systems are placed between two-way traffic, install on each side as shown:

1. 2 anchors or stakes for 12.5-foot segments
2. 3 anchors or stakes for 20-foot segments

12-3.20C(3) Temporary Steel Barriers

12-3.20C(3)(a) General

Install temporary barrier systems under manufacturer's instructions.

Maintain a minimum 2-foot set back distance on both sides of temporary barrier systems placed between two-way traffic.

12-3.20C(3)(b) 50-Foot Temporary Steel Barriers

Use 50-foot temporary steel barriers with or without rubber pads.

Install a minimum 250 feet of 50-foot temporary steel barrier. The last segment must extend a minimum 25 feet past the length of the protected area.

Place temporary barrier systems on a concrete or asphalt concrete surface. Do not place systems on a dirt surface.

Anchor or stake the first and last segment of temporary barrier systems.

Maintain a minimum radius of 800 feet for segments placed on a curved layout. For tighter curves down to a 250-foot radius, contact the manufacturer before installation and provide manufacturer's written recommendation for the installation.

12-3.20C(3)(c) 19-Foot Temporary Steel Barriers

Install a minimum 323 feet of 19-foot temporary steel barrier.

Stake the first and last segment of temporary barrier systems.

Maintain a minimum radius of 262 feet for segments placed on a curved layout.

12-3.20D Payment

The payment quantity for temporary barrier systems is the length measured along the top of the barrier segments.

Replace section 12-3.22 with:

12-3.22 TEMPORARY CRASH CUSHIONS

12-3.22A General

12-3.22A(1) Summary

Section 12-3.22 includes specifications for installing, repairing, replacing, maintaining, and removing temporary crash cushions.

12-3.22A(2) Definitions

Not Used

12-3.22A(3) Submittals

At least 10 days before installation, submit as informational submittal for each temporary crash cushion model:

1. Certificate of compliance
2. Two copies of the following:
   2.1. Manufacturer's installation and maintenance manual
   2.2 Department approved manufacturer's drawings from the Department's Division of Safety Programs website
3. Record of training provided by manufacturer for each person installing the temporary crash cushion

12-3.22A(4) Quality Assurance

12-3.22A(4)(a) General

Not Used

12-3.22A(4)(b) Quality Control

Temporary crash cushion must be installed under the manufacturer's instructions by personnel trained by the manufacturer.

Keep a copy of the manufacturer's drawings, and installation and maintenance manual for each temporary crash cushion model at the job site during installation.

12-3.22B Materials

12-3.22B(1) General

Temporary crash cushion must:

1. Be on the Authorized Materials List for highway safety features
2. Comply with MASH:

2.1. Test Level 3 (TL-3) for a posted speed limit 45 mph or greater
2.2. Test Level 2 (TL-2) for a posted speed limit less than 45 mph

Water-filled temporary crash cushion must:

1. Include all components required for attachment to temporary barrier or protected obstacle
2. Comply with the manufacturer's drawings shown on the Department's Division of Safety Programs website

Each sand-filled temporary crash cushion module must be:

1. Colored standard yellow with a black lid
2. Free from structural flaws and objectionable surface defects

Sand for filling module must:

1. Be commercial quality, washed concrete sand
2. Contain no more than 5 percent water under California Test 226
3. Be clean when placed in the module

12-3.22B(2) Temporary Crash Cushions TL-3

Temporary crash cushion TL-3 must:

1. Comply with MASH TL-3
2. Be one of the following:
   2.1. Water-filled temporary crash cushion gating, non-redirective system
   2.2. Sand-filled temporary crash cushion module array

12-3.22B(3) Temporary Crash Cushions TL-2

Temporary crash cushion TL-2 must:

1. Comply with MASH TL-2
2. Be one of the following:
   2.1. Water-filled temporary crash cushion gating, non-redirective system
   2.2. Sand-filled temporary crash cushion module array

12-3.22C Construction

12-3.22C(1) General

When activities expose traffic to fixed obstacles, protect traffic from the obstacles with temporary crash cushions.

You may use NCHRP Report 350 compliant temporary crash cushions before December 31, 2026.

Install temporary crash cushions under the manufacturer's instructions before:

1. Starting activities requiring the crash cushions.
2. Opening to traffic lanes adjacent to the protected obstacles.

Temporary crash cushions must not impede the flow of traffic or encroach on the traveled way.

Attach a Type R or Type P marker panel to the front of temporary crash cushions if the closest point to the traveled way is within 12 feet of the traveled way. Fasten marker panels firmly to crash cushions with commercial quality hardware or by other authorized methods.

Maintain temporary crash cushions in place at each location, including when work is not in progress. Keep the area behind the temporary crash cushions clear of obstructions.

Repair damaged temporary crash cushions immediately. Remove and replace temporary crash cushions damaged beyond repair. Repair and replacement of temporary crash cushions damaged by traffic is change order work.

12-3.22C(2) Water-Filled Temporary Crash Cushions

Place temporary crash cushions and a minimum 20 feet of temporary barrier at a parallel 2-foot offset from edge of traveled way.

Install temporary crash cushions adjacent to a:

1. Barrier at an offset distance 1 to 2 feet or 7 feet or greater from the barrier
2. Dike or curb at an offset distance 0 to 4 feet or 7-1/2 feet or greater from the dike or curb

12-3.22C(3) Sand-Filled Temporary Crash Cushions

Do not use sand-filled temporary crash cushions for permanent installations.

Use the same type of sand-filled modules for each array. Fill each sand-filled module with sand under the manufacturer's instructions.

Securely fasten the top edge of a seal to the wall of the sand-filled module with a continuous strip of heavy-duty tape, when a seal is required.

You may place sand-filled temporary crash cushion modules on movable pallets or frames complying with the dimensions shown. The pallets or frames must provide a full-bearing base beneath the modules. Do not move the modules and supporting pallets or frames by sliding or skidding along the pavement or bridge deck.

Attach a Type R marker panel such that the top of the panel is 1 inch below the module lid. Attach a Type P marker panel such that the bottom of the panel rests upon the roadway surface or pallet surface when used.

You may remove sand-filled modules during the work shift for access to the work area if the exposed fixed obstacle is 15 feet or more from the nearest lane carrying traffic. Reset the modules before the end of the work shift.

A lateral move of a temporary crash cushion module is change order work if ordered and the repositioning is not shown.

Remove sand-filled temporary crash cushion modules, including sand, pallets or frames, and marker panels, at Contract acceptance.

12-3.22D Payment

The payment quantity does not include:

1. Temporary crash cushions placed for public safety
2. Modules placed in excess of the number described

Add to the beginning of section 12-3.32C:

PCMS to be installed and operable 5 working days in advance of beginning work.

Place PCMSs at the locations directed by the Engineer.

Add to section 12-3.33A(3):

Submit the timing parameters for each portable signal system at least 7 days prior to its use.

Delete the 3rd paragraph of section 12-3.33C.

Replace the table in section 12-4.02A(2) with:

Holiday	**Date Observed**
New Year's Day	January 1st
Martin Luther King JR. Day	3rd Monday in January
Lincoln's Birthday	February 12th
President's Day	3rd Monday in February
Cesar Chavez Day	March 31st
Memorial Day	Last Monday in May
Independence Day	July 4th
Labor Day	1st Monday in September
Veteran's Day	November 11th
Thanksgiving Day	4th Thursday in November

Friday After Thanksgiving	4th Friday in November
Christmas Day	December 25th

Replace the last sentence of section 12-4.02A(2) with:

If a designated holiday falls on a Saturday, the preceding Friday is a designated holiday.

Add to section 12-4.02A(3)(a)

Submit a Traffic Control Plan prior to beginning work. Work may not proceed without a TCP approved by the Engineer.

Delete section 12-4.02A(3)(b)

Add between the 1st and 2nd paragraphs of section 12-4.02A(3)(c):

Submit a contingency plan for each of the following activities:

1. Activity requiring a complete roadway closure
2. Roadway excavations encroaching on the traveled way not protected by Type K railing
3. Asphalt concrete paving
4. Bridge work
5 Placement of bar reinforcing steel or structural members
6. Bridge removal
7. Striping

Add to section 12-4.02C(1)

On weekdays, the Contractor will restrict their hours of work to the period between one-half hour after sunrise and one-half hour before sunset, but in no case will work begin before 7:00 am and end after 7:00 pm. On weekends and holidays, the Contractor will restrict his hours of work to the period between 9:00 am and 7:00 pm. The Contractor will request of the Engineer at least 48 hours in advance of the Contractor's intent to work on weekends or holidays.

Lane closures will be limited to the hours of 8:00 am to 5:00 pm exclusive of the roads where night work for paving is involved.

The maximum length of a single stationary lane closure will be 1 mile.

Not more than one separate stationary lane closure will be allowed in each direction of travel at one time on the same road.

Keep the full width of the traveled way open to traffic when no active construction activities are occurring in the traveled way or within 6 feet of the traveled way and on:

1. Friday after 3:00 p.m.
2. Saturday
3. Sunday
4. Designated holidays

Replace section 12-4.02C(2) with:

12-4.02C(2) Lane Closure System

Not used

Replace section 12-4.02C(3)(a) with:

12-4.02C(3)(a) General

Maintaining traffic will conform to the provisions in Sections 7-1.03, "Public Convenience," Section 7-1.04, "Public Safety," and Section 12, "Temporary Traffic Control," of the Standard Specifications and these special provisions.

Work that interferes with public traffic will be limited to the hours when lane closures are allowed, except for work required under Sections 7-1.03, "Public Convenience," and Section 7-1.04, "Public Safety."

Closures will conform to the provisions in "Traffic Control System for Lane Closure" of these special provisions.

12-4.02C(3)(a)(i) Definitions

Closure is defined as the closure of a traffic lane or lanes, including shoulder, ramp or connector lanes, within a single traffic control system.

12-4.02C(3)(a)(ii) Construction

The full width of the traveled way will be open for use by public traffic as shown in the table "Lane Closure Restriction for Designated Legal Holidays and Special Days" included in this section, "Maintaining Traffic."

The full width of the traveled way will be open for use by public traffic when construction operations are not actively in progress.

Under one-way reversing traffic control operations, public traffic may be stopped in one direction for periods not to exceed 30 minutes. After each stoppage, all accumulated traffic for that direction will pass through the work zone before another stoppage is made.

The Contractor will make every effort to minimize closure of access to all parcels during project construction.

The Contractor will provide for passage of emergency vehicles through the project site at all times.

Local emergency services will be notified prior to construction to inform them that traffic delays may occur, and also of the proposed construction schedule. The Contractor will provide for passage of emergency vehicles through project site at all times.

Personal vehicles of the Contractor's employees will not be parked within the right of way.

When leaving a work area and entering a roadway carrying public traffic, the Contractor's equipment, whether empty or loaded, will in all cases yield to public traffic.

When work vehicles or equipment are parked within 6 feet of a traffic lane to perform active construction, the shoulder area will be closed with fluorescent orange traffic cones or portable delineators placed 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. A minimum of 9 traffic cones or portable delineators will be used for the taper. A W20-1 (ROAD WORK AHEAD) or W21-5b (RIGHT/LEFT SHOULDER CLOSED AHEAD) or C24(CA) (SHOULDER WORK AHEAD) sign will be mounted on a crashworthy portable sign support with flags. The sign will be placed where designated by the Engineer. The sign will be a minimum of 48" x 48" in size. The Contractor will immediately restore to the original position and location a traffic cone or delineator that is displaced or overturned, during the progress of work.

A minimum of one paved traffic lane, not less than 10 feet wide, will be open for use by public traffic at all times.

12-4.02C(3)(a)(iii) Payment

Full compensation for furnishing, erecting, maintaining, and removing and disposing of the W20-1, W21-5b, and C24(CA)signs will be considered as included in the contract lump sum price paid for Traffic Control System and no additional compensation will be allowed therefore.

Replace section 12-4.02C(3)(d) with:

12-4.02C(3)(d) County Road Closure Requirements

You may close a lane using a one-way-reversing traffic-control lane closure on Geysers Road as shown on chart no. 1.

Replace section 12-4.02C(3)(m) with:

12-4.02C(3)(m) County Road Closure Hour Charts and County Road Lane Requirement Charts

Comply with the requirements for a County Road Lane Closure shown in the following chart:

Chart No. 1

Location: Geysers Road	Direction: East/ West	

Closure limits:250’ west and east of the existing bridge

Hour	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Mon–Thu	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
Fri	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
Sat	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
Sun	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

Legend:

R	Provide at least 1 through traffic lane not less than 10 feet in width for use by both directions of travel. (Reversing Control)

REMARKS: The portable signal system maximum closure length is 2,500 feet.

Replace section 12-4.02C(7)(b) with:

When lane closures are made for work periods only, at the end of each work period, all components of the traffic control system, except portable delineators placed along open trenches or excavation adjacent to the traveled way, will be removed from the traveled way and shoulder. If the Contractor so elects, the components may be stored at selected central locations designated by the Engineer within the limits of the highway right of way.

One-way traffic will be controlled through the project in conformance with the plan entitled "Traffic Control System for Lane Closure on Two Lane Conventional Highways" and these special provisions.

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

When flaggers are required, all flaggers will have cellular phone and radio contact with personnel in the work area.

Utilizing a pilot car will be at the option of the Contractor. If the Contractor elects to use a pilot car, the cones shown along the centerline on the plan need not be placed. The pilot car will have radio contact with personnel in the work area. The maximum speed of the pilot car through the traffic control zone will be 25 miles per hour.

Add to the end of section 12-4.02C(9)(c)(ii)(A):

Do not use additional flaggers or advance flaggers when a portable signal system is in operation.

Replace section 12-4.02D with:

Traffic Control Systems will be paid per the bid item for Traffic Control Systems.

13 WATER POLLUTION CONTROL

Add to the end of section 13-3.01A:

This project's risk level is 2.

Add between the 4th and 5th paragraphs of section 13-3.01C(2)(a):

The following RWQCBs will review the authorized SWPPP:

1. North Coast Regional Water Quality Control Board

Replace section 13-3.01D(2) with:

13-3.01D(2) Regulatory Requirements

Discharges of stormwater from the job site must comply with the permit issued by the North Coast RWQCB for National Pollutant Discharge Elimination System (NPDES) Permit, Permit No. WDID No. 1B24083WNSO. The North Coast RWQCB permit governs stormwater and nonstormwater discharges resulting from construction activities at the job site. The North Coast RWQCB permit is included as Supplemental Project Information.

Add to end of section 13-4.03E(4)

Refueling of construction equipment and vehicles may not occur within 175 feet of any water body, or anywhere that spilled fuel could drain to a water body. Tarps or similar material shall be placed underneath the construction equipment and vehicles, when refueling, to capture incidental spillage of fuels.

Add to end of section 13-4.03E(5)

Hazardous Materials. Debris, soil, silt, bark, slash, sawdust, rubbish, creosote treated wood, raw cement/concrete or washings thereof, asphalt, paint or other coating material, oil or other petroleum products, or any other substances which could be hazardous to aquatic life, wildlife, or riparian habitat resulting from the project related activities shall be prevented from contaminating the soil and/or entering the Waters of the State.

Replace the last paragraph of section 13-10.03A with:

Place gravel-filled bags behind Type K temporary railing if used within a shoulder area except you may place the bags without the railing under the following conditions:

1. Where the projected temporary or permanent edge of traveled way will be 4 feet or more from the nearest gravel-filled bag(s).

Replace section 13-12 with:

13-12 TEMPORARY CREEK DIVERSION SYSTEMS

13-12.01 GENERAL

13-12.01A Summary

Section 13-12 includes specifications for constructing, maintaining, reconstructing, and removing temporary creek diversion system (TCDS), and restoring creek bed to original condition. The temporary diversion system is used to divert upstream water flows to allow construction in a dry or dewatered location.

13-12.01B Definitions

Not Used

13-12.01C Submittals

13-12.01C(1) General

Submit a certificate of compliance for:

1. Pipe Material
2. Gravel Gradations
3. Minor Coffer Dam Materials
4. Plastic Sheeting

13-12.01C(2) Temporary Creek Diversion System Plan

Within 20 days of Contract approval, submit 3 copies of the Temporary Creek Diversion System Plan (TCDSP). The TCDSP must include:

1. Installation and removal process, including equipment, platforms for equipment, and access locations.
2. Anticipated flow rates.
3. Calculations supporting the sizing of piping, channels, pumps, or other conveyance by using FHWA HY-8 or other equivalent method. Calculate the discharge water flow rate and velocity anticipated where it discharges on any erodible surface, so its conveyance does not cause erosion within the project or at the discharge to the water body. Temporary culverts attached to banks, walls, or other locations must be designed to hold the full weight of the culvert at capacity and restrain the culvert for any expected hydraulic forces.
4. Plans showing locations of diversion, including layouts, cross sections, and elevations.
5. Materials proposed for use, including SDS if applicable.
6. Operation and maintenance procedures for the TCDS.
7. Restoration plans showing before and after conditions, including photos of existing conditions for areas disturbed during the installation, operation, and removal of the TCDS.
8. Monitoring and reporting plan to ensure applicable water quality objectives are met. This includes schedule of work including Temporary BMP implementation as part of the

Construction Site BMP strategy, and SWPPP or WPCP as applicable. Use with section 13-3.01A.

9. Details of the pumping system, if used, including power source, debris handling, fish screens, and monitoring requirements.
10 The TCDS design must demonstrate how it will comply with section 13-12.03A, water tightness, and prevent seepage.
11. Contingency plan to remove workers, equipment, materials, fuels, and any other work items that will cause pollution or violation of PLACs during a rain event out of the flow area. Develop the contingency plan for when a 12-inch freeboard cannot be maintained and overtopping of the coffer dams may occur.
12. Fish passage plan, following the Caltrans Fish Passage Design for Road Crossings, CA Department of Fish and Wildlife (CDFW), CA Salmonid Stream Habitat Restoration Manual, and National Marine Fisheries Service (NMFS), Guidelines for Salmonid Passage at Stream Crossings, as required by the applicable PLACs.

If revisions are required, the Engineer notifies you of the date when the review stopped and provides comments. Submit a revised TCDSP within 15 days of receiving the comments. The Department's review resumes when a complete TCDSP has been resubmitted.

Submit an electronic copy on a read-only CD, DVD, or other Engineer-authorized data storage device and 4 printed copies of the authorized TCDSP.

If the RWQCB or other regulatory agency requires review of the authorized TCDSP, the Engineer submits it to the RWQCB for review and comment. If the Engineer orders changes to the TCDSP based on the RWQCB's comments, submit a revised TCDSP within 10 days.

All submittals which include plans, specifications, and calculations must be sealed and signed by a civil engineer registered in the State.

13-12.01D Quality Assurance

Not Used

13-12.02 MATERIALS

13-12.02A General

Not Used

13-12.02B Gravel

Gravel must:

1. Be river run gravel obtained from a river or creek bed with gradation of 100 percent passing a 3/4 inch sieve and 0 percent passing a 3/8 inch sieve
2. Be clean, hard, sound, durable, uniform in quality, and free of any detrimental quantity of soft, thin, elongated or laminated pieces, disintegrated material, organic matter, or other deleterious substances
3. Be composed entirely of particles that have no more than 1 fractured face
4. Have a cleanliness value of at least 85, as determined by California Test 227

13-12.02C Impermeable Plastic Membrane

Impermeable plastic membrane must be:

1. Single ply, commercial quality, polyethylene with a minimum thickness of 10 mils complying with ASTM D2103. You must use stronger plastic membrane if required as part of design to resist hydraulic forces.
2. Free of holes, punctures, tears or other defects that compromise the impermeability of the material.
3. Suitable for use as an impermeable membrane.
4. Resistant to UV light, retaining a minimum grab breaking load of 70 percent after 500 hours under ASTM D4355.

13-12.02D Gravel-Filled Bags

Gravel-filled bags must comply with section 13-5.02G.

The 2nd paragraph of section 13-5.02G does not apply.

13-12.02E Plastic Pipes

Plastic pipe must comply with section 61-3.01 and 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 under section 61-2.01.
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
5. For temporary pipes not reused on the project you may use the following materials:
    5.1. PVC closed-profile wall pipe must comply with ASTM F1803
    5.2. PVC solid wall pipe must comply with ASTM D3034, ASTM F679, AWWA C900, AWWA C905, or ASTM D2241 and cell class 12454 defined by ASTM D1784
    5.3. HDPE solid wall pipe must comply with AASHTO M 326 and ASTM F714
    5.4. Polyethylene large-diameter-profile wall sewer and drain pipe must comply with ASTM F894

13-12.02F Rock

Rock layer must comply with the table titled Rock Gradation for 7-inch-thick Layer in section 72-4.02.

13-12.02G Pumping System

Pumping system must:

1. Comply with section 74-2.02B
2. Be equipped with secondary containment
3. Be free of fuel and oil leaks

4. Meet intake screen regulatory requirements

13-12.02H Seepage Pumping System

If seepage occurs in the dewatered work area, the water must be removed by sump pumps as part of the TCDS.

Seepage pumping system must:

1. Comply with section 74-2.02B
2. Ensure discharge water conform with PLACs or is treated on site
3. Be free of fuel and oil leaks

13-12.02I Discharge Water Energy Dissipation and Erosion Control

Not Used

13-12.03 CONSTRUCTION

13-12.03A General

Construction, use and removal of the TCDS is restricted to the time period from June 15 to October 15. If the work cannot be completed during the initial restricted time period ending October 15, remove TCDS, restore the creek to original flow condition, and reconstruct the TCDS after June 15 of the following year. No work is allowed within the stream except during the restricted time period.

Do not use motorized equipment or vehicles in areas of flowing or standing water for the construction or removal of the TCDS in compliance with section 13-4.03.

Remove vegetation to ground level and clear away debris.

Place temporary or permanent fill as allowed by PLACs.

Place rock at outlet of diversion pipe under section 72-4.03, except motorized vehicles and equipment must not be used in areas of flowing or standing water.

Do not construct or reconstruct TCDS if the 72-hour forecasts predict a 50 percent or greater chance of rain in the project area.

Stop all work and remove all material and equipment from the creek between upstream and downstream cofferdams if the 72-hour forecasts predict a 50 percent or greater chance of rain in the project area and the predicted rainfall is estimated to produce a flow rate exceeding the design capacity of the TCDS.

If the required freeboard cannot be maintained and overtopping may occur, implement contingency plan to remove all workers, equipment, and potential sources of pollution from the dry working area of the creek bed.

The TCDS must be constructed within the temporary impact footprint as described in the environmental commitments.

Lap and join joints between the edges of impermeable plastic membrane with commercial-quality waterproof tape with minimum 4-inch lapping at the edges.

Seal openings or penetrations through the impermeable plastic membrane with commercial quality waterproof tape.

The TCDS must be watertight to keep the work area dry for construction and prevent the creation of pollutants. Maintain all portions of the TCDS and fix leaks as soon as they are discovered.

Contact water agencies that discharge to the construction area to ensure that unexpected water is not discharged during construction which could compromise the TCDS.

13-12.03B Maintenance

Maintain the TCDS to provide a minimum freeboard of 12 inches between the water surface and the impermeable top of the cofferdams.

Do not discharge runoff from existing or proposed drainage systems into the dry work area between the cofferdams. Runoff from these systems may be connected to the diversion pipe or conveyed by pipes downstream of the cofferdam.

Prevent leaks in the TCDS. Provide seepage pumps as necessary and keep the work area dry to prevent the creation of sediment-laden water.

Repair holes, rips and voids in the impermeable plastic membrane with commercial-quality waterproof tape. Replace impermeable plastic membrane when patches or repairs compromise the impermeability of the material.

Repair TCDS within 24 hours after the damage occurs.

Prevent debris from entering the TCDS and receiving water.

Remove and immediately replace gravel, gravel-filled bags, impermeable plastic membrane, or plastic pipes contaminated by construction activities.

Remove sediment deposits and debris from the TCDS as needed. If removed sediment is deposited within project limits, it must be stabilized and not subject to erosion by wind or water, under sections 19-1.01 and 19-2.03 B.

13-12.03C Removal

When no longer required, remove all components of TCDS. Return the creek bed and banks to the original condition.

Do not excavate the native creek material. Backfill ground disturbance, including holes and depressions caused by the installation and removal of the TCDS with gravel. Maintain the original line and grade of the creek bed.

13-12.04 PAYMENT

Not Used

14 ENVIRONMENTAL STEWARDSHIP

Add to the end of section 14-1.02:

An ESA exists on this project.

Before starting job site activities, install temporary high-visibility fence to protect the ESA and mark its boundaries. The County-supplied Archaeologist shall be present when the ESA is installed.

The County-supplied Archaeologist shall be present when the temporary high-visibility fence is installed.

The County supplied Archaeologist, Native American Monitor, and Local Agency Engineer will conduct a preconstruction training with construction contractors, informing them of the ESA requirements.

The ESAs will be periodically reviewed by a County-supplied Archaeologist during the Contract.

All responsible parties shall perform a field review of ESA locations at least 1 calendar week prior to construction activities.

Replace RESERVED in section 14-1.03 with:

You must:

1. Coordinate training schedules with the Contractor-Supplied biologist who will conduct environmental awareness training for all construction crews before project implementation.

2. In addition to the mitigation measures specifically noted in these special provisions, Conform to the mitigation requirements included in the project environmental documents and permits. These documents are provided as Supplemental Project Information as stated in Section 2 BIDDING of these special provisions.

3. Unless otherwise authorized in writing by CDFW, terminate all project activities covered under agreement with CDFW 60 minutes before sunset and do not resume until 60 minutes after sunrise, such times being as shown on the on-line clock maintained by the National Institute of Standards and Technology, found at *https://time.gov*.

4. Notify the Engineer and CDFW in writing via email, at least 5 calendar days prior to project initiation and within 5 calendar days of project completion.

Add to the end of the first paragraph in section 14-2.03B:

An Archaeological Monitoring Area within the project limits is shown in the Archaeological Monitoring Exhibit in the Supplemental Project Information.

The County supplied archaeologist and Native American Monitor will monitor construction activities within the Archaeological Monitoring Area and will ensure the ESA fencing remains in place.

Replace Reserved in section 14-4 with:

14-4.01 General

Prior to the initiation of construction for the project, coordinate Tribal Cultural Resources sensitivity training schedules with the County-supplied Archaeologist and a representative from the Cloverdale Rancheria of Pomo Indians who will conduct tribal resource training.

Native American monitoring will occur during ground disturbing activities, as determined through consultation among the County and interested Native American Tribes prior to construction. The County-supplied Archaeologist and/or Tribal representative will spot monitor construction activities within the archeological monitoring area and ensure that the ESA is not being violated.

Stop all work and notify County-supplied Archaeologist and/or Tribal representative in the event that previously unidentified cultural resources are discovered.

The County-supplied Archaeologist will review any proposed project changes to ensure changes are consistent with the ESA action plan. The Local Agency will submit any proposed project changes to the Office of Local Assistance for review and approval.

In addition to the mitigation measures specifically noted in these special provisions, conform to the mitigation requirements included in the project environmental documents and permits. These documents are provided as Supplemental Project Information as stated in Section 2 BIDDING of these special provisions.

Add to the 1st paragraph of section 14-6.03A:

This project is within or near habitat for the regulated species shown in the following table:

Regulated Species

Foothill Yellow-Legged Frog
Red-Bellied Newt
Western Pond Turtle
Pallid Bat
Western Red Bat
Central California Coast Steelhead
California giant salamander
Townsend’s big-eared bat

This project includes the sensitive habitats shown in the following table:

Sensitive Habitats

Creek/stream
Riparian
Upland vegetation within the temporary construction easement and right of way
Wetland areas

Add to section 14-6.03A:

Use the protocols for the corresponding regulated species shown in the following table:

Regulated species name	Protocol
1. Foothill yellow-legged frogs 2. Red bellied newts 3. Western Pond Turtle 4. Pallid Bat 5. Western Red Bat 6. Central California Coast Steelhead 7. California giant salamander 8. Townsend's big-eared bat	Verify no wildlife is present near equipment prior to operation. Notify the Contractor Supplied Biologist 45 days in advance of any construction activities Notify engineer and construction staff when environmental awareness training sessions are scheduled. Immediately notify the Contractor Supplied Biologist if any wildlife is observed on site. Notify Contractor Supplied Biologist of work that will need to be monitored including but not limited to exclusion installation and work within designated buffer zones, any vegetation removal, re-vegetation, and dewatering activities.. Prior to nesting season begins, exclusionary measures such as netting and visual deterrents will be installed and will be routinely inspected and kept in good repair until construction is complete and the exclusion devices are removed. A Qualified Biologist shall provide a foothill yellow-legged frog (FYLF) survey methodology for CDFW review and written approval at least 30 days prior to conducting project activities, unless otherwise approved in writing by CDFW. Project activities shall not begin until FYLF surveys have been completed using a methodology approved in writing by CDFW. The design for temporary in-channel culverts shall be passable to fish as required under Fish and Game Code section 5901. When any dam or other artificial obstruction is being constructed, maintained, or placed in operation, Contractor must allow sufficient water at all times to pass downstream to maintain aquatic life below the dam pursuant to Fish and Game Code section 5937.

Monitor regulated species according to the schedule shown in the following table:

Monitoring type	Schedule
Biologist inspection for wildlife	Daily
Tree inspection for nests	Prior to tree removal
Inspection for nests in vegetation	Prior to vegetation removal
Exclusionary measures for birds (Netting, etc.)	Daily (Feb 1 to Aug 31)
Exclusionary measures for bats (Netting, etc.)	Daily (March 1 to April 15)

Replace the 2nd paragraph of section 14-6.03B with:

The Department anticipates nesting or attempted nesting by migratory and nongame birds from February 1st to August 31st .

Add between the 2nd and 3rd paragraphs of section 14-6.03B:

Do not perform tree removal, shrub removal, or vegetation trimming during nesting or attempted nesting unless authorized by the Engineer in conjunction with the Contractor-supplied biologist.

Add to section 14-6.03C:

Regulated fish are anticipated adjacent to bridge no.20C0600. Implement the following protection measures:

1. Install exclusionary material, a cofferdam, or a combination of both
2. Provide a Contractor-supplied biologist to relocate the fish if relocation is necessary

Relocate the regulated fish as soon as possible to a location with suitable habitat downstream and outside of the work area, as determined by the Contractor-supplied biologist.

Regulated fish can only be handled by qualified fish biologist. Handle regulated fish to minimize stress by:

1. Keeping the fish in water to the maximum extent possible during relocation
2. Keeping the fish in cool, shaded, and aerated water while in captivity
3. Protecting the fish from excessive noise, handling, temperature variation, jostling, or overcrowding while in captivity
4. Removing the fish from water only when releasing them
5. Segregating young-of-year salmonids into separate containers from older salmonids and other aquatic predators

Exclusion material will be determined by the Contractor-supplied biologist.

Exclude fish from the work area in the following sequence:

1. Install exclusion materials and remove as many fish as possible.
2. Install a cofferdam or water bypass.

3. Gradually dewater the work area.
4. Remove the remaining fish using one or a combination of seining, baited minnow traps, and dip net and hand removal.

Maintain exclusion material and cofferdams such that regulated fish are prevented from entering the work area.

The pump screen's approach velocity will be determined by the Contractor-supplied biologist.

Replace the list in the 2nd paragraph of section 14-6.03D(1) with:

1. Prior to construction, conduct a bird survey to ensure that the project Authority is in compliance with the Migratory Bird Treaty Act (MBTA)
2. Clear work area prior to vegetation removal
3. Monitor regulated species within the project area.
4. Ensure that construction activities do not result in the take of regulated species.
5. Ensure that construction activities comply with PLAC's.
6. Immediately notify the Engineer of any take of regulated species or violation of a biological resource PLAC.
7. Conduct environmental training to construction and maintenance personnel to describe regulated species, habitat, and ESA sensitive areas.
8. Identify, verify, and oversee the placement and installation of brightly colored fencing to protect sensitive habitat.
9. During ground disturbing activities, monitor for reptiles, amphibians, and other small wildlife and relocate in a safe place outside of exclusionary fencing
10. Be on site during dewatering or river diversions and assist the Construction Contractor on the implementation, placement, and removal, of the dewatering and diversion devices.
11. Construction equipment used within the creek channel will be checked each day prior to work within the creek channel (top of bank to top of bank) and, if necessary, action will be taken to prevent fluid leaks. If leaks occur during work in the channel (top of bank to top of bank), Caltrans, the County of Sonoma or their contractor will contain the spill and remove the affected sediment.
12. In areas where concrete is used, a dry work area must be maintained to prevent conveyance of runoff from curing concrete to the surface waters of the adjacent stream at all times. Water that inadvertently contacts uncured concrete must not be discharged into surface waters.
13. Once construction is completed, all Project-introduced material (pipe, cofferdam, etc.) must be removed. Excess materials will be disposed of at an appropriate disposal site. All cofferdams, pumps, pipes and other diversion materials will be removed from the stream upon work completion and no later than October 15.

Add to section 14-6.03D(1):

A Contractor-supplied biologist who performs specialized activities must have demonstrated field experience working with the regulated species or performing the specialized task.

No later than 45 days prior to project activities covered by this Agreement, the Permittee shall submit to CDFW, for review and approval, the qualifications for the biologist(s) that shall oversee the implementation of the conditions in this Agreement and conduct surveys or monitoring work

using the Biologist Resume Form, (found at https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=202869), or another format containing the same information. Project activities covered by this Agreement may not commence unless CDFW has approved the proposed biologist(s) in writing. At a minimum the CDFW approved biologist(s) shall have a minimum of five years of academic training and professional experience in biological sciences and related resource management activities with a minimum of two years conducting surveys for each species that may be present within the project area.

The Contractor-supplied biologist must have expertise in the areas of steelhead biology, including handling, collecting, and relocating habitat relationships; and biological monitoring.

The biologist must have experience that complies with the requirements shown in the following table:

Specialized activity/species	Requirements
Foothill Yellow-legged Frog	Must be an approved CDFW biologist to handle any activities with this species.
Red Bellied Newt	Must be an approved CDFW biologist to handle any activities with this species.
Western Pond Turtle	Must be an approved CDFW biologist to handle any activities with this species.
Pallid Bat	Must be an approved CDFW biologist to handle any activities with this species.
Western Red Bat	Must be an approved CDFW biologist to handle any activities with this species.
Steelhead	Must be an approved NMFS/Caltrans biologist to handle any activities with this species
California giant salamander	Must be an approved NMFS/Caltrans biologist to handle any activities with this species
Townsend's big-eared bat	Must be an approved NMFS/Caltrans biologist to handle any activities with this species

Within 30 days before starting job site activities, submit protocols for species protection surveys. Use protocols required in the PLACs.

Survey the job site for regulated species and submit a preconstruction survey report within 3 days before starting work.

The preconstruction survey report must include one of the following:

1. Detailed observations and locations where regulated species were observed
2. Statement that no regulated species were observed
3. Relevant Photos
4. GPS Location and mapping of covered area
5. Datapoints of any significant observations.
6. Field datasheets
7. Names of surveyors
8. Dates of surveys

9. Any other pertinent data found from the surveys

Submit an initial monitoring report as an informational submittal within 12 hours after starting ground-disturbing activities.

Submit monitoring reports according to the following schedule:

Monitoring type	Report schedule
Dewatering and Diversion Structures	Prior, Weekly, and After Construction
Bat Species	Prior, Weekly, and After Construction
Special Status Species	Prior, Weekly, and After Construction
Reptiles and Small Wildlife	Prior, Weekly, and After Construction

Submit a biological resource incident report within 24 hours of the incident.

The incident report must include:

1. Description of any take of regulated species or any violation of a biological resource PLAC
2. Species name and number taken
3. Details of required notifications with contact information
4. Corrective actions proposed or taken
5. Disposition of taken species

Submit a final monitoring report no later than 20 days after completion of the project. If the report requires revisions, the Department provides comments. Submit a revised report within 7 days of receiving comments. The final monitoring report must be a cumulative report including:

1. Start and end dates of construction
2. Project impacts on the regulated species
3. Species protection measures and implementation details
4. Incidental take details, including species name, number taken, people contacted, contact information, and disposition of taken species
5. Assessment of the effectiveness of the species protection measures in mitigating project impacts
6. Recommendations for improving species protection measures

Replace section 14-6.05 with:

14-6.05 INVASIVE SPECIES CONTROL

Section 14-6.05 includes specifications for preventing the introduction and spread of invasive species to and from the job site.

Comply with section 13-4.03E(3).

At least 2 business days before using vehicles and equipment on the job site, submit a signed statement that the vehicles and equipment have been cleaned of soil, seeds, vegetative matter, and other such debris that may introduce or spread invasive species. The statement must include:

1. List of the vehicles and equipment with identifying numbers
2. Date of cleaning for each vehicle and piece of equipment
3. Description of the cleaning process
4. Measures to be taken to ensure the vehicles and equipment remain clean until operation at the job site
5. Verification that the equipment has not been operated in waters known to be infested by aquatic invasive species

Update the list of vehicles and equipment as needed.

Clean the following vehicles and equipment before operation at the job site:

1. Excavators
2. Loaders
3. Graders
4. Haul trucks
5. Water trucks
6. Cranes
7. Tractors
8. Trailers
9. Dump trucks
10. Waders

This project includes the sensitive areas shown in the following table:

Sensitive Habitat

Big Sulphur Creek
Frasier Creek
Wetland Areas

Do not clean vehicles, equipment, or tools at locations near sensitive habitat or waterways at the job site. Clean vehicles and equipment every time before it enters or leaves a sensitive habitat. Within 50 feet, implement the following protection measures:

1. Before entering or exiting, pressure wash your vehicles and equipment:
    1.1. At a temperature of 140 degrees F
    1.2. With a minimum nozzle pressure of 2,500 psi
    1.3. With a minimum fan tip angle of 45 degrees
2. Thoroughly scrub personal work equipment and tools, such as boots, waders, hand tools, and any other equipment used in water at the job site, using a stiff-bristled brush to remove any organisms. Decontaminate the equipment by one of the following methods:
    2.1. Immerse the equipment in water at a temperature of 140 degrees F for at least 5 minutes. If necessary, weigh down the equipment to keep it immersed in the water.
    2.2. Freeze the equipment to a temperature of 32 degrees F or colder for at least 8 hours.
    2.3. Thoroughly dry the equipment in a weed-free area for at least 48 hours.
3. Clean personal work equipment, and tools over drip pans or containment mats at the job site. Collect and contain the wastewater. Dispose of the wastewater at a waste management facility.

Replace RESERVED in section 14-6.06 with:

14-6.06 Bat Protection

All work shall comply with the effective avoidance and minimization measures in the Bat Monitoring and Monitoring Plan (supplemental information item #10).

Bats must not be disturbed by any Project related activities without specific notice to and consultation with CDFW. Construction work shall not start on the bridge, or within 50-feet of the bridge, if bats are found nesting/roosting within the bridge structure. If bats are documented using the bridge, a qualified biologist must conduct weekly surveys at the bridge until the bats have left the area for the fall/winter season.

Replace the 2nd paragraph of section 14-8.02 with:

The following activities may exceed this noise restriction during the hours and on the days shown in the following table:

Noise Restriction Exceptions

Activity	Hours		Days	
	From	To	From	Through
Service traffic-control facilities	7:00 pm	7:00 am	Monday	Saturday
Service construction equipment	7:00 pm	7:00 am	Monday	Saturday
Service traffic-control facilities	12:00 am	11:59 pm	Sunday	Sunday
Service construction equipment	12:00 am	11:59 pm	Sunday	Sunday

Replace section 14-11.14 with:

14-11.14 TREATED WOOD WASTE

14-11.14A General

Section 14-11.14 applies if treated wood waste is shown on the Bid Item List.

Section 14-11.14 includes specifications for handling, storing, transporting, and disposing of treated wood waste. Manage treated wood waste under Health & Safety Code §25230 et seq.

Wood removed from guardrails and roadside signs is treated wood waste.

14-11.14B Submittals

Within 5 business days of disposing of treated wood waste, submit as an informational submittal a copy of each completed shipping record and weight receipt.

14-11.14C Training

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

1. Requirements of 8 CA Code of Regs

2. Procedures for identifying and segregating treated wood waste
3. Safe handling practices
4. Requirements of Health & Safety Code §25230 et seq
5. Proper disposal methods

Maintain training records for 3 years after contract acceptance.

14-11.14D Storage of Treated Wood Waste

Store treated wood waste at the jobsite until transport to the CA permitted disposal site.

Until disposal, store treated wood waste using the following methods:

1. Raise the waste on blocks above a foreseeable run-on elevation and protect it from precipitation for no more than 90 days.
2. Place the waste on a containment surface or pad protected from run-on and precipitation for no more than 180 days.
3. Place the waste in water-resistant containers designed for shipping or solid waste collection for no more than 1 year.
4. Place the waste in a storage building as defined in Health & Safety Code §25230 et seq.

Prevent unauthorized access to treated wood waste using a secure enclosure such as a locked chain-link-fenced area or a lockable shipping container located within the job site.

Resize and segregate treated wood waste at a location where debris including sawdust and chips can be contained. Collect and manage the debris as treated wood waste.

Identify treated wood waste and accumulation areas using water-resistant labels that comply with Health & Safety Code §25230 et seq. Labels must include:

1. The words TREATED WOOD WASTE Do not burn or scavenge
2. The words Caltrans District and the district number
3. The words Construction Contract and the contract number
4. District office address
5. Engineer's name, address, and telephone number
6. Contractor's contact name, address, and telephone number
7. Date placed in storage

14-11.14E Transport and Disposal of Treated Wood Waste

Dispose of treated wood waste 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 stored in a storage building as defined in Health & Safety Code §25230 et seq

Before transporting treated wood waste, obtain agreement from the receiving facility that it will accept the waste. Protect shipments of the waste from loss and exposure to precipitation. For projects generating 10,000 lb or more of treated wood waste, request a generator's EPA Identification Number from the Engineer at least 5 business days before the 1st shipment. Each shipment must be accompanied by a shipping record such as a bill of lading or invoice that includes:

1. The words Caltrans District and the district number
2. The words Construction Contract and the contract number
3. District office address
4. Engineer's name, address, and telephone number
5. Contractor's name, contact person, and telephone number
6. Receiving facility's name and address
7. Description of the waste (e.g., treated wood waste with preservative type if known or unknown/mixture)
8. Project location
9. Estimated weight or volume of the shipment
10. Date accumulation begins
11. Date of transport
12. Name of transporter
13. Date of receipt by the treated wood waste facility
14. Weight of shipment measured by the receiving facility
15. Generator's US EPA Identification Number for projects generating 10,000 lb or more of treated wood waste

The shipping record must be 8-1/2 by 11 inches and a 4-part carbon or carbonless form to provide copies for the Engineer, transporter, and treated wood waste facility.

Transport treated wood waste directly to the CA permitted disposal site after leaving the jobsite. Do not mix treated wood waste from the job site with waste from any other generator.

Dispose of treated wood waste at one of the following:

1. An approved California disposal site operating under a RWQCB permit that includes acceptance of treated wood waste
2. California disposal site operating under a DTSC permit that includes acceptance of treated wood waste

16 TEMPORARY FACILITIES

Add section 16-2.06 with:

16-2.06 TEMPORARY ROCK SLOPE PROTECTION

16-2.06A GENERAL

Section 16-2.06 includes specifications for temporary rock slope protection and rock slope protection fabric.

16-2.06B MATERIALS

Comply with Section 70-2.

16-2.06C CONSTRUCTION

Install temporary rock slope protection and rock slope protection fabric.

When no longer required, remove temporary rock slope protection and rock slope protection fabric.

16-2.06D PAYMENT

Not Used.

DIVISION III EARTHWORK AND LANDSCAPE

17 GENERAL

Add to section 17-2.01:

Demolish and remove existing facilities or improvements remaining either wholly or partially on the job site including sheds, stables, buildings, foundations, and slabs above ground.

Do not sell or give away materials from improvements to the general public at the job site. You may sell materials to duly licensed contractors and material vendors provided that you remove the materials from the job site.

19 EARTHWORK

Add to the end of section 19-1.01A:

Earthwork activities include finishing the roadway. Finishing the roadway must comply with section 22.

Replace section 19-3.03A with:

19-3.03A General

Where shown, remove material below the bottom of retaining wall footings. Replace the material with Class 2 AB and compact it as specified for structure backfill in section 19-3.03E. The relative compaction must be at least 95 percent.

Add to the beginning of section 19-3.03B(1):

For footings at locations with structure excavation (Type D), ground or surface water is expected to be encountered but seal course concrete is not needed.

Add to section 19-3.04:

Class 2 aggregate base placed below footings is paid for as structure backfill.

Pervious backfill material placed within the limits of payment for bridges is paid for as structure backfill (bridge). Pervious backfill material placed within the limits of payment for retaining walls is paid for as structure backfill (retaining wall).

Replace Section 19-12 RESERVED with:

19-12 BIORETENTION SOIL MEDIA (BSM)

19-12.01 GENERAL

19-12.01A Summary

This item includes the work involved with placing bioretention soil media where shown in the project plans.

19-12.01B Submittals

The applicant must submit to the municipality for approval:

A. A sample of mixed bioretention soil.
B. Certification from the soil supplier or an accredited laboratory that the Bioretention Soil meets the requirements of this guideline specification.
C. Grain size analysis results of the fine sand component performed in accordance with ASTM D 422, Standard Test Method for Particle Size Analysis of Soils.

D. Quality analysis results for compost performed in accordance with Seal of Testing Assurance (STA) standards, as specified in Section 1.4.
E. Organic content test results of mixed Bioretention Soil. Organic content test shall be performed in accordance with by Testing Methods for the Examination of Compost and Composting (TMECC) 05.07A, "Loss-On- Ignition Organic Matter Method".
F. Grain size analysis results of compost component performed in accordance with ASTM D 422, Standard Test Method for Particle Size Analysis of Soils.
G. A description of the equipment and methods used to mix the sand and compost to produce Bioretention Soil.
H. Provide the following information about the testing laboratory(ies) name of laboratory(ies) including
    1) contact person(s)
    2) address(es)
    3) phone contact(s)
    4) e-mail address(es)
    5) qualifications of laboratory(ies), and personnel including date of current certification by STA, ASTM, or approved equal

19-12.02 MATERIALS

19-12.02A General

Bioretention soil shall achieve a long-term, in-place infiltration rate of at least 5 inches per hour.

Bioretention soil shall also support vigorous plant growth.

Bioretention Soil shall be a mixture of fine sand, and compost, measured on a volume basis:

60%-70% Sand

30%-40% Compost

19-12.02B Sand for Bioretention

Sand shall be free of wood, waste, coating such as clay, stone dust, carbonate, etc., or any other deleterious material. All aggregate passing the No. 200 sieve size shall be non-plastic.

19-2.02C Sand for Bioretention Soil Texture

Sand for Bioretention Soils shall be analyzed by an accredited lab using #200, #100, #40, #30, #16.

#8, #4, and 3/8 inch sieves (ASTM D 422 or as approved by municipality), and meet the following gradation:

Sieve Size	Percent Passing (by weight)	
	Min	Max
3/8 inch	100	100
No. 4	90	100

No. 8	70	100
No. 16	40	95
No. 30	15	70
No. 40	5	55
No. 100	0	15
No. 200	0	5

Note: all sands complying with ASTM C33 for fine aggregate comply with the above gradation requirements.

19-12.02D Compost Material

Compost shall be a well decomposed, stable, weed free organic matter source derived from waste materials including yard debris, wood wastes or other organic materials not including manure or biosolids meeting the standards developed by the US Composting Council (USCC). The product shall be certified through the USCC Seal of Testing Assurance (STA) Program (a compost testing and information disclosure program).

Before delivery of the soil, the supplier shall submit a copy of lab analysis performed by a laboratory that is enrolled in the US Composting Council's Compost Analysis Proficiency (CAP) program and using approved Test Methods for the Evaluation of Composting and Compost (TMECC). The lab report shall verify:

1) Feedstock Materials shall be specified and include one or more of the following: landscape/yard trimmings, grass clippings, food scraps, and agricultural crop residues.
2) Organic Matter Content: 35% - 75% by dry wt.
3) Carbon and Nitrogen Ratio: C:N < 25:1 and C:N >15:1
4) Maturity/Stability: shall have a dark brown color and a soil- like odor. Compost exhibiting a sour or putrid smell, containing recognizable grass or leaves, or is hot (120F) upon delivery or rewetting is not acceptable. In addition any one of the following is required to indicate stability:
    a. Oxygen Test < 1.3 O2 /unit TS /hr
    b. Specific oxy. Test < 1.5 O2 / unit BVS /
    c. Respiration test < 8 C / unit VS / day
    d. Dewar test < 20 Temp. rise (°C) e.
    e. Solvita® > 5 Index value
5) Toxicity: any one of the following measures is sufficient to indicate non-toxicity.
    f. NH4- : NO3-N < 3
    g. Ammonium < 500 ppm, dry basis
    h. Seed Germination > 80 % of control
    i. Plant Trials > 80% of control
    j. e. Solvita® > 5 Index value
6) Nutrient Content: provide analysis detailing nutrient content including N-P-K, Ca, Na, Mg, S, and B.
    k. Total Nitrogen content 0.9% or above preferred.
    l. Boron: Total shall be <80 ppm; Soluble shall be <2.5 ppm

7) Salinity: Must be reported; < 6.0 mmhos/cm
8) pH shall be between 6.5 and 8. May vary with plant species.

19-12.02E Compost for Bioretention Soil Texture

Compost for Bioretention Soils shall be analyzed by an accredited lab using #200,1/4 inch, 1/2 inch, and 1 inch sieves (ASTM D 422 or as approved by municipality), and meet the following gradation:

Sieve Size	Percent Passing (by weight)	
	Min	Max
1 inch	99	100
1/2 inch	90	100
1/4 inch	40	90
No. 200	2	10

C. Bulk density: shall be between 500 and 1100 dry lbs/cubic yard

D. Moisture Content shall be between 30% - 55% of dry solids.

E. Inerts: compost shall be relatively free of inert ingredients, including glass, plastic and paper, < 1 % by weight or volume.

F. Weed seed/pathogen destruction: provide proof of process to further reduce pathogens (PFRP). For example, turned windrows must reach min. 55C for 15 days with at least 5 turnings during that period.

G. Select Pathogens: Salmonella <3 MPN/4grams of TS, or Coliform Bacteria <10000 MPN/gram.

H. Trace Contaminants Metals (Lead, Mercury, Etc.) Product must meet US EPA, 40 CFR 503 regulations.

I. Compost Testing

The compost supplier will test all compost products within 120 calendar days prior to application. Samples will be taken using the STA sample collection protocol. (The sample collection protocol can be obtained from the U.S. Composting Council, 4250 Veterans Memorial Highway, Suite 275, Holbrook, NY 11741 Phone: 631-737- 4931, www.compostingcouncil.org). The sample shall be sent to an independent STA Program approved lab. The compost supplier will pay for the test.

19-12.02F Verification of Alternative Bioretention Soil Mixes

Bioretention soils not meeting the above criteria may be evaluated on a case by case basis. Alternative bioretention soil must meet the following specification: “Soils for bioretention facilities must be sufficiently permeable to infiltrate runoff at a minimum rate of 5 inches per hour during the life of the facility, and must provide sufficient retention of moisture and nutrients to support healthy vegetation.”

The following guidance is offered to assist municipalities with verifying that alternative soil mixes meet the specification:

19-12.02F(1) General Requirements

Bioretention soil shall achieve a long-term, in-place infiltration rate of at least 5 inches per hour. Bioretention soil shall also support vigorous plant growth.

19-12.02F(2)Submittals

The applicant must submit to the municipality for approval:

A. A sample of mixed bioretention soil.
B. Certification from the soil supplier or an accredited laboratory that the Bioretention Soil meets the requirements of this guideline specification.
C. Certification from an accredited geotechnical testing laboratory that the Bioretention Soil has an infiltration rate between 5 and 12 inches per hour as tested according to Section 1.2.
D. Organic content test results of mixed Bioretention Soil. Organic content test shall be performed in accordance with by Testing Methods for the Examination of Compost and Composting (TMECC) 05.07A, "Loss-On-Ignition Organic Matter Method".
E. Grain size analysis results of mixed bioretention soil performed in accordance with ASTM D 422, Standard Test Method for Particle Size Analysis of Soils.
F. A description of the equipment and methods used to mix the sand and compost to produce Bioretention Soil.
G. Provide the following information about the testing laboratory(ies) name of laboratory(ies) including
    1) contact person(s)
    2) address(es)
    3) phone contact(s)

19-12.03 CONSTRUCTION

Not Used

19-12.04 PAYMENT

The payment quantity for Bioretention Soil Media (CY) also includes the work associated with installing the Moisture Barrier per the project plans.

Replace section 19-13 with:

19-13 TEMPORARY EMBANKMENT

19-13.01 GENERAL

Section 19-12 includes specifications for constructing temporary embankment to allow for a temporary detour access road.

Temporary embankment construction includes:

1. Preparing areas to receive temporary embankment material.
2. Placing and compacting temporary embankment.
3. Removing temporary embankment.

19-13.02 MATERIALS

Use material from excavations or from local or imported borrow.

19-13.03 CONSTRUCTION

19-13.03A General

Compact temporary embankment under section 19-5.

19-13.03B Placing and Compacting

Placing and compacting temporary embankment must comply with section 19-6.03C.

19-13.04 PAYMENT

Not Used.

20 LANDSCAPE

Replace the 1st through 5th paragraphs of section 20-1.02C with:

Do not use pesticides.

Delete the 4th paragraph of section 20-1.03A.

Replace *You may reduce* in the 1st sentence of the 5th paragraph of section 20-1.03A with:

Reduce

Replace section 20-2.14 with:

20-2.14 TEMPORARY IRRIGATION SYSTEMS

20-2.14A General

20-2.14A(1) Summary

Section 20-2.14 includes specifications for installing and removing temporary irrigation systems and transporting and applying water for irrigation.

Water is not available at the job site. Make arrangements for furnishing and transporting water to the job site.

20-2.14A(2) Definitions

Not Used

20-2.14A(3) Submittals

At least 30 days before installation, submit plans, drawings, manufacturer's data sheets and specifications for approval. Submittal must show the location, equipment, materials and methods used for constructing and anchoring the temporary irrigation system. Allow 15 days for the Engineer's review and approval.

Submit a seasonal watering plan and schedule for approval at least 10 days before use of the temporary irrigation system. Allow 5 days for the Engineer's review and approval.

20-2.14A(4) Quality Assurance

Not Used

20-2.14B Materials

Irrigation components and pipe must comply with section 20-2.

Irrigation supply line installed on grade must be UV resistant.

Remote control valves for drip assemblies must be a reinforced polypropylene plastic ball valve able to withstand a working pressure of 150 psi. Pressure regulator must be inline type with an adjustable pressure setting.

20-2.14C Construction

Install the temporary irrigation system as shown on the authorized drawings and apply water. The system must not interfere with traffic or other construction activity.

If not shown, anchor all equipment to the ground surface every 10 feet and at pipe joints and sprinkler locations. Use a commercially available pipe anchor system.

Remove temporary irrigation system no more than 10 days before contract acceptance. If authorized, temporary irrigation system may remain in place.

20-2.14D Payment

The Department does not pay for the relocation of temporary irrigation system during work progress.

Add to section 20-3.01B(3)(a):

Soil amendment must be 50% native soil, 50% compost.

Replace the 3rd paragraph of section 20-3.01B(9) with:

Support stakes must be 2-inch nominal diameter or 2-by-2 inch nominal size wood stakes a minimum of 5 feet long. Wood stakes must be straight.

Add to section 20-3.01B:

20-3.01B(12) Plant Tubes

Plant tubes must be a circular column that is fabricated from one of the following:

1. Spirally wound or convolute recycled paperboard tube that is laminated with adhesive and have a minimum thickness of 0.25-inch
2. Kraft paper must have a minimum weight of 60 lb

Add to section 20-3.01B:

20-3.01B(13) Pin Flags and Flagging Tape

Pin flags and flagging tape must be of high color-contrast. Pin flags must be at least 2.5 by 3.5-inch, made of 4 mil vinyl with a 16-gauge steel wire staff with a minimum length of 15-inches.

Flagging tape must be a minimum of 1-inch wide.

Add to the 1st paragraph of section 20-3.01C(1):

Apply root stimulant to:

1. Cuttings

Add to section 20-3.01C:

20-3.01C(6) Plant Tubes

Store plant tubes as recommended by the manufacturer.

Plant tubes must not be damaged or crushed such that the tube can no longer be filled completely and limit the plants establishment and growth. Cover plant tube opening so no rocks or debris enter until the plant tube is filled. Cut filter fabric to accommodate insertion of tube to depth.

Fill plant tube with a uniform mixture of 2-parts fine compost in compliance with 21-2.02K and 3-parts embankment material by volume. Remove rocks and clumps greater than 1-inch from embankment material. Imported topsoil may be used in lieu of embankment material when approved.

Place mixture in 1-foot lifts and tamp until plant tube is filled. Cover with biodegradable mesh after filling.

Use compost sock for filling. Use a sock that is equal to the inside-diameter and length of the tube. Compost sock must comply with section 21-2.02Q.

Mark plant tube locations after installation with a high color-contrast pin flags or flagging tape.

Add to section 20-3.02C(3)(d)(i):

Plant during the planting period shown in the following table:

Plant type	Planting period
Liner	Oct – Dec
Cutting	Oct – Dec
Seed	Oct - Dec

Add to section 20-4.01A:

This project has a Type 2 plant establishment period.

Replace the 1st paragraph of section 20-4.01C(1) with:

Submit the following seasonal watering schedules for use during the plant establishment period:

1. March through May
2. June through August
3. September through October
4. November through February

Submit the first season's watering schedule within 10 days after the start of the plant establishment period. Submit subsequent watering schedules at least 5 business days before start of the next seasonal period. Remote irrigation control system watering schedule must use the remote irrigation control system software program.

Add to the beginning of the 1st paragraph of section 20-4.03A:

Maintain a neat and presentable job site during plant establishment including areas not visible to the public.

Replace the 3rd paragraph of section 20-4.03A with:

Do not remove foliage protectors.

Add below the 3rd paragraph of section 20-4.03A with:

Till existing weed cloth into soil surrounding plant. Reform plant basin. Basin shall be free of weeds, and rock above two inches. Replace weed cloth and mulch.

Replace the 1st paragraph of section 20-4.03B with:

You are not required to trim or mow turf, sod or biofiltration swale or strip areas.

Add to the end of section 20-5.03A(3)(c):

Weed cloth shall be biodegradable made from 100% paper mulch. Weed cloth shall be OMRI listed.

Immediately before placing weed cloth, the surfaces to receive week cloth must be free of loose or extraneous material and sharp objects that may damage the weed cloth during installation.

Align weed cloth in a wrinkle-free manner.

Cover weed cloth with mulch. Extend mulch six inches (6”) beyond the limits of the weed cloth. Do not staple or stake week cloth to prevent tearing.

21 EROSION CONTROL

Replace section 21-2.02K with:

21-2.02K Compost

Compost must be derived from one or a combination of the following types of materials:

1. Green material consisting of chipped, shredded, or ground vegetation or clean, processed, recycled wood products
2. Biosolids
3. Manure
4. Mixed food waste

Compost must not be derived from mixed municipal solid waste and must not contain paint, petroleum products, pesticides, or other chemical residues harmful to plant or animal life. Metal concentrations in compost must not exceed the maximum listed under 14 CA Code of Regs § 17868.2.

Process compost materials under 14 CA Code of Regs § 17868.3.

The particle size must comply with the requirements shown in the following table:

Compost Gradation

Quality characteristic	Test method[a]	Requirement	
		Min	Max
Gradation Fine:(dry weight % passing)			
1-inch sieve	TMECC 02.02-B	100	--
3/8-inch sieve		95	--
Gradation Medium:(dry weight % passing)			
2-inch sieve	TMECC 02.02-B	95	--
3/8-inch sieve		40	55
Gradation Coarse:(dry weight % passing)			
3-inch sieve	TMECC 02.02-B	95	--
3/8-inch sieve		25	35

[a]TMECC refers to *Test Methods for the Examination of Composting and Compost*, published by the United States Department of Agriculture and the United States Compost Council (USCC).

The quality characteristics of compost must have the values shown in the following table:

Compost

Quality characteristic	Test method[a]	Requirement	
		Fine	Medium/Coarse
pH	TMECC 04.11-A	6.0–8.0	6.0-8.0
Soluble salts (dS/m)	TMECC 04.10-A	0–10	0-10
Moisture content (% wet weight)	TMECC 03.09-A	25–60	25-60
Organic matter content (% dry weight)	TMECC 05.07-A	30–70	30-100
Maturity (seed emergence) (% relative to positive control)	TMECC 05.05-A	80 or above	80 or above
Maturity (seedling vigor) (% relative to positive control)	TMECC 05.05-A	80 or above	80 or above
Stability (mg CO_2-C/g OM per day)	TMECC 05.08-B	5 or below	8 or below
Pathogen Salmonella (most probable number per 4 grams dry weight basis)	TMECC 07.01-B	< 3	< 3
Pathogen Fecal coliform (most probable number per gram dry weight basis)	TMECC 07.01-B	< 1,000	< 1,000
Physical contaminants (% dry weight) Plastic, glass, and metal	TMECC 02.02-C	combined total: < 0.5	combined total: < 1.0
Film plastic (% dry weight)	TMECC 02.02-C	Combined total: < 0.1	Combined total: < 0.1

[a] TMECC refers to *Test Methods for the Examination of Composting and Compost*, published by the United States Department of Agriculture and the United States Compost Council (USCC).

Replace section 21-2.02Q with:

21-2.02Q Compost Socks

Compost sock must have a functional longevity of 1 year. Compost sock must be a 5-, 8- or 12-inch-diameter mesh tube filled with compost. Mesh tubing must be clean, evenly woven, and free of encrusted concrete or other contaminating materials, cuts, tears, and broken, missing or thinning yarns. Compost sock may be a prefilled mesh tube or be filled at the job site.

Mesh tubing must be composed of a natural biodegradable product, such as cotton, jute, sisal, burlap, wood-based yarn, or coir.

The compost used to fill the mesh tubing must comply with the requirements shown in the following table:

Compost

Quality characteristic	Test method[a]	Requirement
pH	TMECC 04.11-A	5.5–8.5
Soluble salts (dS/m)	TMECC 04.10-A	0–10

Moisture content (% wet weight)	TMECC 03.09-A	0–70
Organic matter content (% dry weight)	TMECC 05.07-A	30–100
Stability (mg CO_2-C/g OM per day)	TMECC 05.08-B	8 or below
Pathogen Salmonella (most probable number per 4 grams dry weight basis)	TMECC 07.01-B	< 3
Pathogen Fecal coliform (most probable number per gram dry weight basis)	TMECC 07.01-B	< 1,000
Physical contaminants (% dry weight) Plastic, glass, and metal	TMECC 02.02-C	combined total: < 1.0
Film plastic (% dry weight)	TMECC 02.02-C	Combined total: < 0.1

[a] TMECC refers to *Test Methods for the Examination of Composting and Compost*, published by the United States Department of Agriculture and the United States Compost Council (USCC).

The particle size of the compost must comply with the requirements shown in the following table:

Compost Gradation

Quality characteristic	Test method[a]	Requirement	
		Min	Max
Gradation (dry weight % passing) 3-inch sieve 3/8-inch sieve	TMECC 02.02-B	 95 10	 -- 40

[a]TMECC refers to *Test Methods for the Examination of Composting and Compost*, published by the United States Department of Agriculture and the United States Compost Council (USCC).

DIVISION V. SURFACINGS AND PAVEMENTS

Replace section 39 with:

39 ASPHALT CONCRETE

39-1 GENERAL

39-1.01 DESCRIPTION

This work shall consist of furnishing and mixing aggregate and asphalt binder at a central mixing plant, spreading and compacting the mixture and furnishing and placing pavement reinforcing fabric, all as specified in these special provisions.

Asphalt concrete will be Type A as shown on the plans and will conform to the provisions in these Special Provisions. The Caltrans Standard Specifications for section 39 of any year do not apply.

39-2 MATERIALS

39-2.01 ASPHALTS

Asphalt binder will be PG 64-16 with ½-inch maximum grading and conforming to the provisions in Section 92, "Asphalts," of the Standard Specifications.

Asphalt binder for all lower lifts of asphalt concrete and replace asphalt concrete surfacing will be PG 70-10 with 3/4-inch maximum aggregate grading.

The amount of asphalt binder to be mixed with the aggregate may be adjusted by the Engineer at the time of paving. Different asphalt binder content may be specified for each lift and each location.

Liquid anti-stripping agent (LAS) will be added to the asphalt binder at a rate of 0.5% by weight of asphalt binder. The LAS will be AD-here LOF 65-00 or equivalent, and will be stored, measured, and blended with the asphalt binder in accordance with the anti-stripping agent manufacturer's recommended practice. The LAS can be added at the asphalt plant or at the refinery. When added at the asphalt plant, the equipment will indicate and record the amount of LAS added. If added at the refinery, the shipping ticket from the refinery will certify the type and amount of LAS added. Equivalency of the LAS may be determined by demonstrating to the satisfaction of the Engineer that the asphalt concrete job mix achieves a Tensile Strength Ratio (TSR) minimum of 70.

Liquid asphalt for prime coat shall conform to the provisions in Section 93 "Liquid Asphalts," and shall be of the grade designated by the contract item or specified in the special provisions.

Asphaltic emulsion for paint binder (tack coat) shall conform to the provisions in Section 94, "Asphaltic Emulsions," for the rapid-setting or slow-setting type and grade selected by the Engineer.

39-2.02 AGGREGATE

The aggregate for all types of asphalt concrete will achieve a minimum Durability Index of 35 for contract compliance. The aggregate will not be treated with lime, cement or other chemical material before the Durability Index test is performed.

Aggregates shall be clean and free from decomposed materials, organic material and other deleterious substances. Coarse aggregate is material retained on the No. 4 sieve; fine aggregate is material passing the No. 4 sieve; and supplemental fine aggregate is added fine material passing the No. 30 sieve, including, but not limited to, cement and stored fines from dust collectors.

The combined aggregate, prior to the addition of asphalt binder, shall conform to the requirements of this section. Conformance with the grading requirements will be determined by California Test 202, modified by California Test 105 when there is a difference in specific gravity of 0.2 or more between the coarse and fine portions of the aggregate or between blends of different aggregates.

In the tables below, the symbol "X" is the gradation which the Contractor proposes to furnish for the specific sieve. The proposed gradation shall meet the gradation shown in the table under "Limits of Proposed Gradation." Changes from one mix design to another shall not be made during the progress of the work unless permitted by the Engineer. However, changes in proportions to conform to the approved mix design shall not be considered changes in mix design.

AGGREGATE GRADING REQUIREMENTS
Types A and B Asphalt Concrete
Percentage Passing

3/4 inch Maximum, Medium

Sieve Sizes	Limits of Proposed Gradation	Operating Range	Contract Compliance
1"	—	100	100
3/4"	—	95-100	90-100
3/8"	—	65-80	60-85
No. 4	49-54	X±5	X±8
No. 8	36-40	X±5	X±8
No. 30	18-21	X±5	X±8
No. 200	—	3-8	0-11

1/2 inch Maximum, Coarse

Sieve Sizes	Limits of Proposed Gradation	Operating Range	Contract Compliance
3/4"	—	100	100
1/2"	—	95-100	89-100
3/8"	—	75-90	70-95
No. 4	55-61	X±5	X±8
No. 8	40-45	X±5	X±8

Sieve Sizes	Limits of Proposed Gradation	Operating Range	Contract Compliance
No. 30	20-25	X±5	X±8
No. 200	—	3-7	0-10

1/2 inch Maximum, Medium

Sieve Sizes	Limits of Proposed Gradation	Operating Range	Contract Compliance
3/4"	—	100	100
1/2"	—	95-100	89-100
3/8"	—	80-95	75-100
No. 4	59-66	X±5	X±8
No. 8	43-49	X±5	X±8
No. 30	22-27	X±5	X±8
No. 200	—	3-8	0-11

3/8 inch Maximum

Sieve Sizes	Limits of Proposed Gradation	Operating Range	Contract Compliance
1/2"	—	100	100
3/8"	—	95-100	95-100
No. 4	73-77	X±6	X±10
No. 8	58-63	X±6	X±10
No. 30	29-34	X±6	X±10
No. 200	—	3-10	0-14

The combined aggregate shall conform to the following quality requirements prior to the addition of the asphalt:

Tests	California Test	Asphalt Concrete Type		Open Graded Asphalt Concrete	Asphalt Concrete Base Type	
		A	B		A	B
Percentage of Crushed Particles:	205					
Coarse Aggregate (Min.)		90%	25%	90%	90%	25%
Fine Aggregate Passing No. 4, Retained on No. 8 (Min.)		70%	20%	90%	70%	20%
Los Angeles Rattler:	211					
Loss at 100 Rev. (Max.)		10%	—	10%	10%	—
Loss at 500 Rev. (Max.)		45%	50%	40%	45%	50%
Sand Equivalent:	217					

Tests	California Test	Asphalt Concrete Type		Open Graded Asphalt Concrete	Asphalt Concrete Base Type	
		A	B		A	B
Contract Compliance (Min.)		47	42	—	47	42
Operating Range (Min.)		50	45	—	50	45
Film Stripping (Max.)[a]	302	—	—	25%	—	—
K_c Factor (Max.)	303	1.7	1.7	—	1.7	1.7
K_f Factor (Max.)	303	1.7	1.7	—	1.7	1.7

a After mixing with asphalt binder

If the results of either or both the aggregate grading and Sand Equivalent tests do not meet the requirements specified for "Operating Range" but meet the "Contract Compliance" requirements, placement of the asphalt concrete or asphalt concrete base may be continued for the remainder of that day. However, another day's work may not be started until tests, or other information, indicate to the satisfaction of the Engineer that the next material to be used in the work will comply with the requirements specified for "Operating Range."

If the results of either or both the aggregate grading and Sand Equivalent tests do not meet the requirements specified for "Contract Compliance," the asphalt concrete or asphalt concrete base which is represented by these tests shall be removed. However, if requested by the Contractor and approved by the Engineer, the asphalt concrete or asphalt concrete base may remain in place and the Contractor shall pay to the County $5.00 per ton for the asphalt concrete or asphalt concrete base represented by these tests and left in place. The Agency may deduct this amount from any moneys due, or that may become due, the Contractor under the contract. If both the aggregate grading and Sand Equivalent do not conform to the "Contract Compliance" requirements, only one adjustment shall apply.

No single grading or Sand Equivalent test shall represent more than one day's paving.

The combined aggregate will also conform to the following quality requirements when mixed with an amount of asphalt determined to give 4 percent air voids by the job mix formula in accordance with the section entitled "Job Mix Formula" of these Special Provisions.

Tests	California Test	Asphalt Concrete Type		Asphalt Concrete Base Type	
		A	B	A	B
Swell (Max.) (inch)	305	0.03	0.03	0.03	0.03
Moisture Vapor Susceptibility (Min.)	307	30	25	30	25
Stabilometer Value (Min.):					
(3/8" & No. 4 Max. AC)	366	30	30	—	—
All Others	366	37*	35	37*	35

Tests	California Test	Asphalt Concrete Type		Asphalt Concrete Base Type	
		A	B	A	B
Air Voids	366/ 367	4 ± 1.5	4 ± 1.5	-	-

*For any lot with a Stabilometer Value of 35 or 36, Asphalt Concrete (Type A) or Asphalt Concrete Base (Type A), may be remain in place at Engineer's discretion, and the Contractor shall pay to the County $40 per ton of Asphalt Concrete placed, but in no circumstance will any lot with a Stabilometer Value less than 35 remain in place.

39-2.03 RECLAIMED ASPHALT PAVEMENT

For AC mixtures using RAP, the maximum allowed binder replacement is 25 percent. The binder replacement is calculated as a percentage of the approved JMF target asphalt binder content.

For RAP substitution of 15 percent or less, the grade of the virgin binder must be PG 64-16 for all surface courses and PG 70-10 for all lower lifts and replace asphalt concrete surfacing.

For RAP substitution greater than 15 percent and not exceeding 25 percent use the following criteria:

- The grade of the virgin binder must be the specified grade of asphalt binder as stated above with the upper and lower temperature classification reduced by 6 degrees C.

39-2.04 JOB MIX FORMULA

The Contractor will submit in writing a satisfactory job mix formula for each mixture to the Engineer a minimum of five (5) working days before producing asphalt concrete. The job mix formula will be in effect until a change is approved in writing by the Engineer.

The job mix formula will be prepared at the Contractor's expense by a materials testing laboratory approved by the Engineer, and will be designed in accordance with ASTM Test Methods D1560 and D1561, Hveem Method; D2041, Rice's Method; and D1188, "Bulk Specific Gravity of Compacted Bitumen Mixtures, Using Paraffin-Coated Specimens." The asphalt content will be calculated on the percentage basis by weight of dry aggregate. The voids in the mineral aggregate will be computed based upon ASTM Bulk Specific Gravities; minimum values will be as follows:

1/2 inch Max. grading	13%
3/4 inch Max. grading	12%

The job mix formula for each mixture will establish a single percentage of aggregate passing each required sieve size. If the aggregate is separated into 2 or more sizes, the proposed gradation will consist of gradations for individual sizes, and the proposed proportions of individual sizes, combined mathematically to indicate one proposed gradation. Such gradation will meet the applicable grading requirements shown in Section 39-2.02, "Aggregate." The gradation established for the job mix formula will produce a smooth curve within the moving average limits

designated and will not vary from the low limit on one sieve to the high limit on the adjacent sieves, or vice versa.

The job mix formula for each mixture will be designed with sufficient samples to demonstrate the performance of the mixture having a minimum stabilometer value of 37 at 4 percent air voids, as determined with ASTM Test Methods D2041 and D1188 or D2726.

All individual aggregate cold feed materials, prior to the addition of asphalt binder, will have a durability of at least 35 as determined by California Test 229.

Upon prior approval of the Engineer, the Contractor may submit, in writing, a job mix formula based on data from actual plant production or recent mix designs from previous jobs using the same mixture.

Regardless of the source, the job mix formula must establish to the satisfaction of the Engineer that it conforms to all the requirements of this Section. The Engineer reserves the right to verify the job mix formula with testing personnel prior to placement of any material.

The Engineer will specify the percentage of asphalt binder to be used in asphalt concrete and asphalt concrete base using the "Job Mix Formula" data submitted. The specified percentage of asphalt binder chosen will provide a minimum stabilometer value required, air voids in the lab compacted samples will be allowed to vary a maximum of two percent (2%) below to two percent (2%) above the air voids provided in the "Job Mix Formula" for the specified percentage of asphalt binder.

Air voids variation exceeding the above will be cause to reject the job mix formula, unless otherwise permitted by the Engineer, the paving operation will cease until a new job mix formula is approved.

After the job mix formula is approved, a trial plant mix will be made to verify compliance of the plant with the job mix formula requirements. Should the trial plant mix fail to conform to these requirements during the trial run or during actual production, production of asphalt concrete will stop until such compliance is reestablished or until a new job mix formula is approved.

A new job mix formula will be submitted for approval prior to use of the mixture when there is a change in the character or source of the materials composing the mix, when unsatisfactory results or other conditions make it necessary.

39-3 STORING, PROPORTIONING AND MIXING MATERIALS

39-3.01 STORAGE

Aggregate shall be stored so that separately sized aggregates will not be intermingled, and asphalt binder shall be stored so that different grades of asphalt will not be intermingled. Any aggregate which has been intermingled with another size of aggregate shall be removed and replaced with aggregate of specified grading. As used in this specification, "cold storage" is the storing of aggregates prior to their having been processed in a drier, and "hot storage" is the storing of aggregates after their having been processed in a drier. "Hot-feed control" and "cold-feed control" indicate the location of measuring devices or controls.

When the Contractor adds supplemental fine aggregate, each supplemental fine aggregate used shall be stored separately and kept thoroughly dry.

The measurement and storage requirements of this Section 39-3, shall not apply to the dust collected in skimmers and expansion chambers (knock-out boxes) or to the dust collected in centrifugal (cyclone) collectors. Dust from these collectors may be returned to the aggregate without being measured or stored separately, provided the dust is returned uniformly at a point in advance of the sampling device in batch-mixing plants or is returned at or before mixing in continuous mixing plants.

Aggregate and asphalt binder shall also be stored in conformance with the following:

39-3.01A COLD STORAGE

When aggregate contains material of which at least 20 percent will pass the

No. 8 sieve, the material shall be fed from storage by means of a mechanical feeder.

Before being fed to the drier, aggregate shall be separated into sizes and stored as follows:

39-3.01A(1) COLD STORAGE FOR PLANTS UTILIZING HOT-FEED CONTROL

Aggregate for asphalt concrete base shall be separated into 4 or more sizes and stored separately. Aggregate for Type A or Type B asphalt concrete of the 3/4-inch and 1/2-inch maximum sizes shall be separated into 3 or more sizes and stored separately.

Aggregate for Type A or Type B asphalt concrete of the 3/8-inch maximum size and the No. 4 maximum size, and aggregate for Open Graded asphalt concrete need not be separated into sizes and stored separately.

39-3.01A(2) COLD STORAGE FOR PLANTS UTILIZING COLD-FEED CONTROL

When the Contractor elects to use a plant equipped with cold-feed control, aggregate for asphalt concrete base shall be separated into 4 or more sizes. Aggregate for asphalt concrete of the 3/4-inch and 1/2-inch maximum sizes shall be separated into 3 or more sizes. Aggregate for asphalt concrete of the 3/8-inch maximum size and aggregate for Open Graded asphalt concrete shall be separated into 2 or more sizes. Aggregate for asphalt concrete of No. 4 maximum size need not be separated.

After the aggregate is separated, each size shall be stored separately.

39-3.01B HOT STORAGE

Aggregate for asphalt concrete and asphalt concrete base to be mixed in batch mixing plants, after being dried, shall be stored in accordance with the following:

Aggregates for asphalt concrete base shall be separated into 4 or more sizes. Aggregates for asphalt concrete of 3/4-inch and 1/2-inch maximum sizes shall be separated into 3 or more sizes. Aggregate for asphalt concrete of 3/8-inch maximum size and aggregate for Open Graded asphalt

concrete shall be separated into 2 or more sizes. Aggregate for asphalt concrete of No. 4 maximum size need not be separated.

After the aggregate is separated, each size shall be stored in a separate bin and shall be recombined in conformance with the provisions in Section 39-3.03, "Proportioning," to conform to the gradings specified in Section 39-2, "Materials."

Storage bins shall be provided with chutes to prevent overflow into adjacent bins.

39-3.01C ASPHALT BINDER STORAGE

Asphalt to be used as a binder for asphalt concrete shall be stored in tanks accurately calibrated in uniform intervals of 100 gallon intervals and maintained to this accuracy. The storage tanks shall be accessible for measuring the volume of asphalt at any time.

The Contractor shall provide a suitable sampling device in asphalt feed lines connecting plant storage tanks to the asphalt weighing system or spray bar. The sampling device shall consist of a valve with a nominal diameter between 1/2 inch or 3/4 inch valve constructed in a manner that a one-quart sample may be withdrawn slowly at any time during plant operations. The valve shall be maintained in good condition, and if the valve fails to function properly, the valve shall be replaced. The sampling device shall be readily accessible and in an area free of dangerous obstructions and shall be between 24 inches and 30 inches above the platform. A drainage receptacle shall be provided for flushing the device prior to sampling.

The discharge end of the asphalt binder circulating pipe shall be maintained below the surface of the asphalt binder in the storage tank to prevent discharging hot asphalt binder into open air.

A temperature-sensing device shall be installed in the asphalt feed line. The device shall measure the temperature of the asphalt and shall be accurate to 10° F.

The indicator shall be located and maintained at the point where the proportioning operations are controlled. When a recording type indicator is used, the recording type indicator shall be maintained in working condition and shall be serviced as required.

39-3.02 DRYING

Aggregate shall be fed directly to a drier-drum mixer or to a drier at a uniform rate.

Drying shall continue for a sufficient time and at a sufficiently high temperature that, at the time of spreading, the moisture content of the completed mixture shall not exceed one percent. Moisture content will be determined by California Test 310 or 370.

The drier or drier-drum mixer shall be provided with a device which senses the temperature of the material leaving the drier or the drier-drum mixer. The temperature-sensing device shall be accurate to the nearest 10° F, and shall be installed in such a manner that changes of 10° F in temperature of the material will be shown within one minute. The indicator shall be located and maintained at the point where the proportioning operations are controlled. When a recording type indicator is used, the recording type indicator shall be maintained in working condition and shall be serviced as required.

The burner used for heating the aggregate shall achieve complete combustion of the fuel.

39-3.03 PROPORTIONING

Before producing asphalt concrete or asphalt concrete base, the Contractor shall submit in writing to the Engineer the gradation of the aggregate for each mix which he proposes to furnish. If the aggregate is separated into 2 or more sizes, the proposed gradation shall consist of gradations for individual sizes, and the proposed proportions of individual sizes, combined mathematically to indicate one proposed gradation. The gradation shall meet the applicable grading requirements shown in Section 39-2.02, "Aggregate," and shall show the percentage passing each of the specified sieve sizes.

39-3.03A PROPORTIONING FOR BATCH MIXING

When the Contractor elects to use batch mixing equipment, each aggregate storage bin shall be equipped with a suitable, safe sampling device which will provide a sample, representative of actual production, of the aggregate discharged into the weighhopper or volumetric proportioning bin. When the samples are taken from a location above ground level, a means shall be provided for lowering the aggregate samples to the ground.

The fine material collected in dust control systems, other than centrifugal collectors or knock-out boxes, shall be proportioned as provided for supplemental fine aggregate in this Section 39-3.03A.

When supplemental fine aggregate is used, it shall be proportioned by weight as provided in "Weight Proportioning" of Section 39-3.03A(1), "Manual Proportioning." A suitable, safe sampling device shall be installed in each feed line or surge tank preceding the weighhopper. The delivery point of samples shall be safe and convenient.

Aggregate and asphalt shall be proportioned by weight or by volume as follows:

39-3.03A(1) MANUAL PROPORTIONING

An automatic plant shall not be operated manually unless the automatic circuitry is disconnected to the extent that the automatic circuitry cannot be activated by the mere operation of a switch, circuit breaker or some other similar routine procedure.

When manual proportioning is used in the production of asphalt concrete or asphalt concrete base, proportioning shall conform to the following:

WEIGHT PROPORTIONING

The zero tolerance for aggregate scales shall be 0.5-percent of the total batch weight of the aggregate. The zero tolerance for separate scales for weighing supplemental fine aggregate or asphalt binder shall be 0.05-percent of the total batch weight of the aggregate.

The indicated weight of material drawn from storage for any draft of material shall not vary from the preselected scale setting by more than the following percentages of the total batch weight of the aggregate:

(1) Aggregate shall be within one percent, except that when supplemental fine aggregate is used and is weighed cumulatively with the aggregate, the draft of aggregate drawn immediately before the supplemental fine aggregate shall be within 0.5-percent.

(2) Supplemental fine aggregate shall be within 0.5-percent.

(3) Asphalt binder shall be within 0.1-percent.

The asphalt binder shall be measured by a tank scale.

VOLUMETRIC PROPORTIONING

Each size of aggregate, except supplemental fine aggregate, shall be proportioned in a separate bin that is adjustable in size. Each bin shall have a gate or other device so designed that the bin shall be completely filled and struck off in measuring the volume of aggregate to be used in the mix. Means shall be provided for calibrating the weight of material in each measuring bin at any time. The plant shall be operated in such a manner that the material in each aggregate bin is within 2 percent of the weight preselected for the type of mixture being produced.

Asphalt binder shall be proportioned by a meter or an adjustable calibrated tank. When meters are used, the asphalt lines leading to asphalt meters shall be full-circulating or shall be regulated so that, during plant stoppages, the temperature of the asphalt does not change more than 15° F from the temperature maintained while the plant is in full operation. Asphalt binder shall be proportioned to within 2 percent of the weight preselected for the mixture being produced.

39-3.03A(2) AUTOMATIC PROPORTIONING

When automatic batch mixing is required by the special provisions or when the Contractor elects to use an automatic batching system, the proportioning devices shall be automatic to the extent that the only manual operation required for proportioning all materials for one batch shall be a single operation of a switch or starter.

WEIGHT PROPORTIONING

Automatic proportioning devices shall be of a type in which materials discharged from the several bins are controlled by gates or by mechanical conveyors. The batching devices shall be so interlocked that no new batch may be started until all weighhoppers are empty, the scales are at zero, and the discharge gates are closed. The means of withdrawal from the bins and of discharge from the weigh box shall be interlocked so that not more than one bin can discharge onto any given scale at one time, and that the weigh box cannot be tripped until the required quantity from each of the bins has been deposited therein. In addition, automatic proportioning devices shall be interlocked so that the weighing cycle will be interrupted whenever the amount of material drawn from any storage varies from the preselected amount by more than the tolerances specified in Section 39-3.03A(1), "Manual Proportioning." Whenever the weighing cycle is interrupted, that specific batch shall not be used in the work unless it can be manually adjusted to meet the specified tolerances based on the total weight of the batch. When partial batches are batched automatically, the interlock tolerances, except the zero tolerance, shall apply to the total weight of the aggregate in the partial batch.

Automatic proportioning devices shall be operated so that all weight increments required for a batch are preset on the controls at the same time. Controls shall be designed so that these settings may be changed without delay, and the order of discharge from the several bins can be changed as directed by the Engineer.

Automatic proportioning controls shall be equipped with means for inspection of the interlock tolerance settings, and instructions for doing so shall be immediately available at the point of operation.

In order to check the accuracy of proportioning during plant operation, the Contractor shall provide means to check the weight of various proportioned amounts on a separate scale located at the plant.

VOLUMETRIC PROPORTIONING

Asphalt binder shall be proportioned by an adjustable calibrated tank.

Automatic volumetric proportioning devices shall be of a type which will not allow the bins to discharge into the mixer unless the mixer is empty and the mixer discharge gate is closed and will not operate unless the aggregate bins and asphalt binder tank are full.

The automatic proportioning device shall operate in such a manner that the material in each aggregate bin and the asphalt binder tank is within 2 percent of the preselected weight.

In order to check the accuracy of proportioning during plant operation, the Contractor shall provide means to check the weight of various proportioned amounts on a separate scale located at the plant.

39-3.03B PROPORTIONING FOR CONTINUOUS MIXING

The asphalt meter shall automatically compensate for changes in asphalt temperature, unless the meter is of the weight flow, Coriolis Effect, type. The system shall be capable of varying the rate of delivery of binder proportionate with the delivery of aggregate. During any day's run, the temperature of asphalt binder shall not vary more than 50° F. The meter and lines shall be heated and insulated. The storage for binder shall be equipped with a device for automatic plant cut-off when the level of binder is lowered sufficiently to expose the pump suction line.

When supplemental fine aggregate is used, it shall be proportioned by weight by a method that uniformly feeds the material within 2 percent of the required amount. Supplemental fine aggregate shall be discharged from the proportioning device directly into the mixer.

The supplemental fine aggregate proportioning system shall function with such accuracy that, when operated at between 30 percent and 100 percent of maximum operating capacity, the average difference between the indicated weight of material delivered and the actual weight delivered will not exceed one percent of the actual weight for three 15-minute runs. For any of 3 individual 15-minute runs, the indicated weight of material delivered shall not vary from the actual weight delivered by more than 2 percent of the actual weight.

The fine material collected in all dust control systems may be returned to the aggregate production stream without proportioning if returned at a rate commensurate with overall plant production, and if returned at or before the mixer. Any return rate of less than 100 percent of the collection rate shall be metered as specified above for supplemental fine aggregate.

The asphalt feeder, each of the aggregate feeders, the supplemental fine aggregate feeder, if used, and the combined aggregate feeder, shall be equipped with devices by which the rate of feed can be determined while the plant is in full operation.

The combined aggregate shall be weighed using a belt scale. The belt scale shall be of such accuracy that, when the plant is operating between 30 percent and 100 percent of belt capacity, the average difference between the indicated weight of material delivered and the actual weight delivered will not exceed one percent of the actual weight for three 3-minute runs. For any of the 3 individual 3-minute runs, the indicated weight of material delivered shall not vary from the actual weight delivered by more than 2 percent of the actual weight.

The actual weight of material delivered for proportioning device calibrations shall be determined by a vehicle scale. 14-The vehicle scale shall be located at the plant and shall be sealed within 24 hours of checking the plant's proportioning devices. The plant shall be equipped so that this accuracy check can be made prior to the first operation for a project and at any other time as directed by the Engineer.

The belt scale for the combined aggregate, the proportioning devices for supplemental fine aggregate, if used, and the asphalt proportioning meter shall be interlocked so that the rates of feed of the aggregates and asphalt will be adjusted automatically (at all production rates and production rate changes) to maintain the bitumen ratio (pounds of asphalt per 100 pounds of dry aggregate including supplemental fine aggregate, if used) designated by the Engineer. The plant shall not be operated unless this automatic system is operating and in good working condition.

Asphalt meters and aggregate belt scales used for proportioning aggregates and asphalt shall be equipped with rate-of-flow indicators to show the rates of delivery of asphalt and aggregate, and resettable totalizers so that the total amounts of asphalt and aggregate introduced into the mixture can be determined. Rate-of-flow indicators and totalizers for like materials shall be accurate within one percent when compared directly. The asphalt cement totalizer shall not register when the asphalt metering system is not delivering material to the mixer.

The bin or bins containing the fine aggregate and supplemental fine aggregate, if used, shall be equipped with vibrating units or other equipment which will prevent any hang-up of material while the plant is operating. Each belt feeder shall be equipped with a device to monitor the depth of aggregate between the troughing rollers. The device for monitoring depth of aggregate shall automatically shut down the plant whenever the depth of aggregate is less than 70 percent of the target depth. To avoid erroneous shutdown by normal fluctuation, a delay between sensing less than 70 percent flow and shutdown of the plant will be permitted, as determined by the Engineer, at the time of the initial California Test 109. A second device shall be located either in the stream of aggregate beyond the belt or where it will monitor movement of the belt by detecting revolutions of the tail pulley on the belt feeder. The device for monitoring no flow or belt movement, as the case may be, shall stop the plant automatically and immediately when there is

no flow. The plant shall not be operated unless both low-flow and no-flow devices are in good working condition and functioning.

The Contractor shall determine the moisture content of the aggregate at least once during each 2 hours of production and shall adjust the moisture control equipment accordingly.

For continuous pugmill mixing plants an aggregate sampling device which will provide a 60-pound to 80-pound sample of the combined aggregate while the plant is in full operation shall be provided in advance of the point where the aggregate enters the mixer.

For drier-drum mixing plants an aggregate sampling device which will provide a 60-pound to 80-pound sample of the combined aggregate while the plant is in full operation shall be provided in advance of the point where the aggregate enters the drier-drum mixer.

When the samples are taken from a location above ground level, a means shall be provided for lowering the aggregate samples to the ground.

When supplemental fine aggregate is used, a suitable, safe sampling device shall be installed in each feed line or surge tank preceding the proportioning device for the supplemental fine aggregate.

39-3.04 MIXING

Aggregate, supplemental fine aggregate and asphalt binder shall be mixed in a batch mixer, continuous mixing pugmill mixer or continuous mixing drier-drum mixer. The asphalt content of the asphalt mixture will be determined by extraction tests in conformance with the requirements in California Test 310 or 362, or will be determined in conformance with the requirements in California Test 379. The bitumen ratio (pounds of asphalt per 100 pounds of dry aggregate including supplemental fine aggregate if used) shall not vary by more than 0.5-pound of asphalt above or 0.5-pound of asphalt below the amount designated by the Engineer. Compliance with this requirement, except for Open Graded asphalt concrete, will be determined by testing samples taken from the mat behind the paver before initial or breakdown compaction of the mat.

The charge in a batch mixer, or the rate of feed to a continuous mixer, shall not exceed that which will permit complete mixing of all of the material. Dead areas in the mixer, in which the material does not move or is not sufficiently agitated, shall be corrected by a reduction in the volume of material or by other adjustments.

Asphalt binder shall be at a temperature of not less than 250° F nor more than

375° F when added to the aggregate.

The temperature of the aggregate before adding the binder, except for Open Graded mixes, shall be not more than 325° F. The temperature of the aggregate for Open Graded mixtures shall be not more than 275° F.

The Contractor will be allowed to use two or more asphalt concrete plants provided the following conditions are met:

1. The Contractor will give the Engineer one working day notice prior to using two or more plants.
2. The lab density, hereinafter specified, will be the highest of the separate densities obtained that day for asphalt mixtures from each of the plants.
3. If asphalt concrete that does not meet these specifications cannot be identified in the field, asphalt concrete placed for that entire day will be rejected.
4. Asphalt concrete arriving on the project from separate plants will not vary more than 10 degrees Fahrenheit in temperature.

39-3.04A BATCH MIXING

When asphalt concrete or asphalt concrete base is produced by batch mixing, the mixer shall be equipped with a sufficient number of paddles of a type and arrangement to produce a properly mixed batch.

The binder shall be introduced uniformly into the mixer along the center of the mixer parallel to the mixer shafts, or by pressure spraying. When a pan is used, the pan shall be equipped with movable vanes in order that the flow of binder may be directed across the width of the pan, as desired. The vanes shall be equipped with a means for quick adjustment, and a positive lock to prevent shifting.

The mixer platform shall be of ample size to provide safe and convenient access to the mixer and other equipment. The mixer housing and weighbox housing shall be provided with gates of ample size to permit ready sampling of the discharge of aggregate from each of the plant bins and from each feed line or surge tank of supplemental fine aggregate, if used. The Contractor shall provide a sampling device capable of delivering a representative sample of sufficient size to permit the required tests.

The mixer shall be equipped with a timing device which will indicate by a definite audible or visual signal the expiration of the mixing period. The device shall measure the time of mixing within 2 seconds.

The time of mixing a batch shall begin on the charging stroke of the weighhopper dumping mechanism and shall end when discharge is started. Mixing shall continue until a homogeneous mixture of uniformly distributed and properly coated aggregates of unchanging appearance is produced. The time of mixing shall be not less than 30 seconds.

When automatic proportioning or automatic batch mixing is required by the special provisions or when the Contractor elects to use an automatic batching system, an interval timer shall control the time of mixing. The interval timer shall be interlocked so that the mixer cannot be discharged until all of the materials have been mixed for the full time specified.

Temperature of the completed mixture shall not exceed 325° F at discharge.

39-3.04B CONTINUOUS MIXING

Continuous mixing plants shall utilize pugmill or drier-drum mixers.

When asphalt concrete or asphalt concrete base is produced by pugmill mixing, the mixer shall be equipped with paddles of a type and arrangement to provide sufficient mixing action and movement to the mixture to produce properly mixed asphalt concrete or asphalt concrete base. The combined aggregate shall be fed directly from the drier to the mixer at a uniform and controlled rate.

Mixing shall continue until a homogeneous mixture of thoroughly and uniformly coated aggregates of unchanging appearance is produced at discharge from the mixer.

Temperature of the completed mixture shall not exceed 325° F at discharge from the mixer.

The mixer shall discharge into a storage silo with a capacity of not less than that specified in Section 39-3.05, "Asphalt Concrete and Asphalt Concrete Base Storage." The Contractor shall provide a means of diverting the flow of asphalt concrete or asphalt concrete base away from the silo to prevent incompletely mixed portions of the mixture from entering the silo.

39-3.05 ASPHALT CONCRETE AND ASPHALT CONCRETE BASE STORAGE

When asphalt concrete or asphalt concrete base is stored, the asphalt concrete or asphalt concrete base shall be stored only in silos. Asphalt concrete or asphalt concrete base shall not be stockpiled. The minimum quantity of asphalt concrete or asphalt concrete base in any one silo during mixing shall be 20 tons except for the period immediately following a shutdown of the plant of 2 hours or more. A means shall be provided to indicate that storage in each silo is being maintained as required.

Storage silos shall be equipped with a surge-batcher sized to hold a minimum of 2 tons of material. A surge-batcher consists of equipment placed at the top of the storage silo which catches the continuous delivery of the completed mix and changes it to individual batch delivery and prevents the segregation of product ingredients as the completed mix is placed into storage. The surge-batcher shall be center loading and shall be thermally insulated or heated or thermally insulated and heated to prevent material buildup. Rotary chutes shall not be used as surge-batchers.

The surge-batcher shall be independent and distinct from conveyors or chutes used to collect or direct the completed mixture being discharged into storage silos and shall be the last device to handle the material before it enters the silo. Multiple storage silos shall be served by an individual surge-batcher for each silo. Material handling shall be free of oblique movement between the highest elevation (conveyor outfall) and subsequent placement in the silo. Discharge gates on surge-batchers shall be automatic in operation and shall discharge only after a minimum of 2 tons of material has been collected and shall close before the last collected material leaves the device. Discharge gate design shall prevent the deflection of material during the opening and closing operation.

Open Graded asphalt concrete stored in excess of 2 hours, and any other asphalt concrete or asphalt concrete base stored in excess of 18 hours, shall not be used in the work.

Asphalt concrete or asphalt concrete base with hardened lumps in the mixture shall not be used. Any storage facility which contained the material with the hardened lumps shall not be used for further storage until the cause of the lumps is corrected.

39-3.06 ASPHALT CONCRETE PLANTS

Any plants, including commercial plants, that produce asphalt concrete or asphalt concrete base that is subject to these specifications shall conform to the provisions in Section 14-9.02, "Air Pollution Control," and shall be equipped with a wet-tube dust washer or equal and other devices which will reduce the dust emission to the degree that adjacent property is not damaged. The washer and other equipment shall function efficiently at all times when the plant is in operation.

During production, petroleum products such as diesel fuel and kerosene shall not be used as a release agent on belts, conveyors, hoppers or hauling equipment.

Plants shall be equipped with an inspection dock so constructed that an inspector standing on the dock can inspect the completed mix and take samples, as necessary, from the hauling vehicle before the vehicle leaves the plant site. This inspection dock shall allow the vehicle to pull alongside and shall meet all applicable safety requirements of the California Division of Occupational Safety and Health. Drivers shall be instructed to stop at the dock whenever an inspector is on the dock and to remain there until directed to leave by the inspector.

39-4. SUBGRADE, PRIME COAT, PAINT BINDER (TACK COAT), AND PAVEMENT REINFORCING FABRIC

39-4.01 SUBGRADE

Immediately prior to applying prime coat or paint binder (tack coat), or immediately prior to placing the asphalt concrete or asphalt concrete base when a prime coat or paint binder (tack coat) is not required, the subgrade to receive asphalt concrete or asphalt concrete base shall conform to the compaction requirement and elevation tolerances specified for the material involved and shall be free of loose or extraneous material. If the asphalt concrete or asphalt concrete base is to be placed on an existing base or pavement which was not constructed as part of the contract, the Contractor shall clean the surface by sweeping, flushing or other means to remove all loose particles of paving, all dirt and all other extraneous material immediately before applying the prime coat or paint binder (tack coat).

39-4.02 PRIME COAT AND PAINT BINDER (TACK COAT)

A prime coat of liquid asphalt shall be applied to the areas to be surfaced when there is a contract item for the work or when the work is required by the special provisions.

The area to which paint binder (tack coat) has been applied will be closed to public traffic. Care will be taken to avoid tracking binder material onto existing pavement surfaces beyond the limits of construction.

Prime coat shall be applied only to those areas designated by the Engineer.

Prime coat shall be applied at the approximate total rate of 0.25-gallon per square yard of surface covered. The exact rate and number of applications will be determined by the Engineer.

A paint binder (tack coat) of asphaltic emulsion shall be furnished and applied in conformance with the provisions in Section 94, "Asphaltic Emulsions," and shall be applied to all vertical surfaces of existing pavement, curbs, gutters and construction joints in the surfacing against which additional material is to be placed, to a pavement to be surfaced and to other surfaces designated in the special provisions.

Paint binder (tack coat) shall be applied in one application at a rate of from 0.02-gallon to 0.10-gallon per square yard of surface covered. The exact rate of application will be determined by the Engineer.

Before placing a layer of Open Graded asphalt concrete on any other type of asphalt concrete or on an existing bituminous pavement, paint binder (tack coat) shall be applied in one application at a rate of from 0.05-gallon to 0.10-gallon per square yard of surface covered. The exact rate of application will be determined by the Engineer.

At the Contractor's option, paving asphalt may be used for paint binder (tack coat) instead of asphaltic emulsion. If paving asphalt is used, the grade to be used and the rate of application will be determined by the Engineer. The paving asphalt shall be applied at a temperature of not less than 285° F nor more than 350° F.

Prime coat or paint binder (tack coat) shall be applied only so far in advance of placing the surfacing as may be permitted by the Engineer. When asphaltic emulsion is used as a paint binder (tack coat), asphalt concrete shall not be placed until the asphaltic emulsion has cured.

Immediately in advance of placing asphalt concrete or asphalt concrete base, additional prime coat or paint binder (tack coat) shall be applied as directed by the Engineer to areas where the prime coat or paint binder (tack coat) has been damaged, and loose or extraneous material shall be removed, and no additional compensation will be allowed therefor.

39-4.03 PAVEMENT REINFORCING FABRIC

Pavement reinforcing fabric shall be placed on existing pavement to be surfaced or between layers of asphalt concrete when the work is shown on the plans or specified in the special provisions, or ordered by the Engineer.

Before placing the pavement reinforcing fabric, a binder of paving asphalt shall be applied to the surface to receive the pavement reinforcing fabric at an approximate rate of 0.25-gallon per square yard of surface covered. The exact rate will be determined by the Engineer. The binder shall be applied to a width equal to the width of the fabric mat plus 3 inches on each side.

Before applying binder, large cracks, spalls and chuckholes in existing pavement shall be repaired as directed by the Engineer, and the repair work will be paid for as extra work as provided in Section 4-1.05.

The fabric shall be aligned and placed with no wrinkles that lap. The test for lapping shall be made by gathering together the fabric in a wrinkle. If the height of the doubled portion of extra

fabric is 1/2 inch or more, the fabric shall be cut to remove the wrinkle, then lapped in the direction of paving. Lap in excess of 2 inches shall be removed.

Pavement reinforcing fabric shall not be placed in areas of conform tapers where the thickness of the overlying asphalt concrete is 0.10-foot or less.

If manual laydown methods are used, the fabric shall be unrolled, aligned, and placed in increments of approximately 30 feet.

Adjacent borders of the fabric shall be lapped 2 inches to 4 inches. The preceding roll shall lap 2 inches to 4 inches over the following roll in the direction of paving at ends of rolls or at any break. At fabric overlays, both the binder and the fabric shall overlap the previously placed fabric by the same amount.

Seating of the fabric with rolling equipment after placing will be permitted. Turning of the paving machine and other vehicles shall be gradual and kept to a minimum to avoid damage.

A small quantity of asphalt concrete, to be determined by the Engineer, may be spread over the fabric immediately in advance of placing asphalt concrete surfacing in order to prevent fabric from being picked up by construction equipment.

Public traffic shall not be allowed on the bare reinforcing fabric, except that public cross traffic shall be allowed to cross the fabric, under traffic control, after the Contractor has placed a small quantity of asphalt concrete over the fabric.

Care shall be taken to avoid tracking binder material onto the pavement reinforcing fabric or distorting the fabric during seating of the fabric with rolling equipment. If necessary, exposed binder material shall be covered lightly with sand.

39-5 SPREADING EQUIPMENT

Asphalt pavers will be self-propelled mechanical spreading and finishing equipment provided with a screed or strike off assembly capable of distributing the material to not less than the full width of a traffic lane, or a traffic lane together with its adjoining shoulder. Screed action will include any cutting, crowding or other practical action which is effective on the mixture without tearing, shoving or gouging, and which produces a surface texture of uniform appearance. The screed will be adjustable to the required section and thickness. The paver will be provided with either a full width roller or tamper or other suitable compacting devices. Pavers that leave ridges, indentations, or other marks in the surface that cannot be eliminated by rolling or prevented by adjustment in operation will not be used.

Unless otherwise provided in the Special Provisions or directed by the Engineer, all asphalt concrete pavers will be equipped with a mobile grade reference system capable of averaging the existing grade or pavement profile over a minimum 30 feet distance or by a non-contacting laser or sonar type ski with at least four referencing stations mounted on the paver at a minimum length of 24 feet will be used. Equipment, which in the judgment of the Engineer, does not perform satisfactorily will be disallowed. The automatic screed controls will be used for all paving unless otherwise directed by the Engineer.

When paving contiguously with previously placed mats, the end of the screed adjacent to the previously placed mat will be controlled by a sensor that responds to the grade of the previously placed mat and will reproduce the grade in the new mat within a 0.01 foot tolerance. The end of the screed farthest from the previously placed mat will be controlled in the same manner as when placing the initial mat.

Should the methods and equipment furnished by the Contractor fail to produce a layer of asphalt concrete conforming to the requirements, including straightedge tolerance, of the subsection entitled "Compacting" of this section of these Special Provisions, the paving operations will be discontinued and the Contractor will modify his equipment or furnish substitute equipment.

Should the automatic screed controls fail to operate properly during the day's work, the Contractor may use manual control of the spreading equipment for the remainder of that day, however, the equipment will be corrected or replaced with alternative automatically controlled equipment conforming to the requirements in this section before starting another day's work.

The Contractor will schedule his paving operations such that each layer of asphalt concrete is placed on all contiguous lanes of the traveled way each work shift. At the end of each work shift, the distance between the ends of the layers of asphalt concrete on adjacent lanes will not be greater than 10 feet nor less than 5 feet. Additional asphalt concrete will be placed along the transverse edge at the end of each lane and along the exposed longitudinal edges between adjacent lanes, hand raked, and compacted to form temporary conforms. Kraft paper, or other approved bond breaker, may be placed under the conform tapers to facilitate the removal of the taper when paving operations resume.

Before placing successive lifts of asphalt concrete on any other type of asphalt concrete or on an existing bituminous pavement, paint binder (tack coat) will be applied in one application at a rate of from 0.08 to 0.10 gallon per square yard of surface covered. The exact rate of application will be determined by the Engineer.

Full compensation for furnishing, placing and maintaining the paint binder (tack coat) will be considered as included in the contract price paid per ton of asphalt binder and no separate payment will be made therefore.

39-6 SPREADING AND COMPACTING

39-6.01 GENERAL REQUIREMENTS

Placing material in a windrow, then picking it up and placing it in the asphalt paver with loading equipment, will be permitted provided:

1. The asphalt paver is of such design that the material will fall into a hopper which has a movable bottom conveyor to feed the screed.
2. The loader (pick-up machine) is constructed and operated so that substantially all of the material deposited on the roadbed is picked up and deposited in the paving machine.
3. The windrow is deposited only so far in advance of the paver to provide for continuous operation of the paver and not so far as to allow the temperature of the asphalt concrete in the windrow to fall below 260° F.

Asphalt concrete shall be placed only when the atmospheric and surface temperature is above 50° F.

Asphalt concrete and asphalt concrete base shall not be placed when rain is imminent or standing water is present on the intended surface to be paved.

Do not allow traffic on new AC pavement until its mid-depth temperature is below 160° F.

The Contractor will have a backup paver and rollers that meet the specifications of the primary equipment, on site, in the event of breakdown of the primary equipment.

Equipment which does not perform satisfactorily in the opinion of the Engineer will be disallowed and removed from the site of the work.

When the total compacted thickness of asphalt concrete is shown on the plans to be less than 0.25 foot, asphalt concrete will be spread and compacted in one layer. All other asphalt concrete will be spread and compacted in layers. The top layer of asphalt concrete will be not more than 0.25 foot nor less than 0.15 foot in compacted thickness. The next lower layer will not be more than 0.40 foot nor less than 0.15 foot in compacted thickness unless the total thickness is shown on the plans to be less than 0.30 foot, and any lower layers will be not less than 0.15 foot nor more than 0.40 foot in compacted thickness. Deviations from these lift thickness requirements may be permitted by the Engineer.

A layer shall not be placed over a layer which exceeds 0.25 foot in compacted thickness until the temperature of the layer which exceeds 0.25 foot in compacted thickness is less than 160° F at mid depth.

Asphalt concrete and asphalt concrete base to be placed on shoulders, and other areas off the traveled way having a width of 5 feet or more, shall be spread in the same manner as specified above. When the shoulders and other areas are less than 5 feet in width, the material may be deposited and spread in one or more layers by any mechanical means that will produce a uniform smoothness and texture. Unless otherwise shown on the plans, asphalt mixtures shall not be handled, spread or windrowed in a manner that will stain the finished surface of any pavement or other improvements.

The completed mixture shall be deposited on the roadbed at a uniform quantity per linear foot, as necessary to provide the required compacted thickness without resorting to spotting, picking-up or otherwise shifting the mixture.

Segregation shall be avoided, and the surfacing shall be free from pockets of coarse or fine material. Asphalt concrete or asphalt concrete base containing hardened lumps shall not be used.

Longitudinal joints in the top layer shall correspond with the edges of proposed traffic lanes.

Unless otherwise allowed or directed by the Engineer or otherwise provided in these Special Provisions, paving will be performed in the following order:

1. Asphalt concrete base, if any, will be placed.

2. The base course of asphalt concrete, if any, will be placed.
3. The top layer of asphalt concrete will be placed.

Where asphalt concrete base or a base course of asphalt concrete is used, all intersecting roads, driveways and ditches will be paved before commencement of placing the top layer of asphalt concrete.

At locations shown on the plans, specified in the special provisions or as directed by the Engineer, the asphalt concrete shall be tapered or feathered to conform to existing surfacing or to other highway and non-highway facilities.

At locations where the asphalt concrete or asphalt concrete base is to be placed over areas inaccessible to spreading and rolling equipment, the asphalt concrete or asphalt concrete base shall be spread by any means to obtain the specified results and shall be compacted thoroughly to the required lines, grades and cross sections by means of pneumatic tampers, or by other methods that will produce the same degree of compaction as pneumatic tampers.

TAPERED NOTCHED WEDGE

Where shown in the plans with an AC thickness greater than 0.15 foot construct a 1-foot wide tapered notch wedge joint as a longitudinal joint between all adjacent lanes. The tapered notched wedge is not applicable where you cannot maintain a minimum 10 foot traveled way for 1 lane traffic control, per Section 12-4.02C(3)(a). A vertical notch of 0.75 inch maximum must be placed at the top and bottom of the tapered wedge.

The tapered notch wedge must keep 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 95 percent compaction. See 2018 Caltrans Standard Plan P70 for additional details regarding tapered notched wedge.

TAPERED EDGE

Where shown in the plans with an AC thickness greater than 0.15 foot construct a tapered edge on the pavements edge. Construct the tapered edge in conformance with 2018 Caltrans Standard Plans P74 and P75.

39-6.02 SPREADING

All layers, except as otherwise provided in Section 39-6.01, “General Requirements,” and in this Section 39-6.02, shall be spread with an asphalt paver. Asphalt pavers shall be operated in such a manner as to ensure continuous and uniform movement of the paver.

In advance of spreading asphalt concrete over an existing base, surfacing or bridge deck, if there is a contract item for asphalt concrete (leveling) or if ordered by the Engineer, asphalt concrete shall be spread by any mechanical means that will produce a uniform smoothness and texture. Asphalt concrete (leveling) shall include, but is not limited to, the filling and leveling of irregularities and ruts. Asphalt concrete used to change the cross slope or profile of an existing surface shall not be considered as asphalt concrete (leveling).

When directed by the Engineer, paint binder (tack coat) shall be applied to any layer in advance of spreading the next layer.

Before placing the top layer adjacent to cold transverse construction joints, the joints shall be trimmed to a vertical face and to a neat line. Transverse joints shall be tested with a 12-foot straightedge and shall be cut back as required to conform to the provisions in Section 39-6.03, "Compacting," for surface smoothness. Connections to existing surfacing shall be feathered to conform to the provisions for smoothness. Longitudinal joints shall be trimmed to a vertical face and to a neat line if the edges of the previously laid surfacing are, in the opinion of the Engineer, in such condition that the quality of the completed joint will be affected.

39-6.03 COMPACTING

39-6.03A GENERAL REQUIREMENTS

After the bituminous mixture has been spread, struck off, and surface irregularities adjusted, it will be thoroughly and uniformly compacted by rolling. Rolling will be performed in such a manner that cracking, shoving or displacement will be avoided.

The completed surfacing will be thoroughly compacted, smooth, and free from ruts, humps, depressions, or irregularities. Any ridges, indentations or other objectionable marks left in the surface of the asphalt concrete by blading or other equipment will be eliminated by rolling or other means. The use of any equipment that leaves ridges, indentations, or other objectionable marks in the asphalt concrete will be discontinued, and acceptable equipment will be furnished by the Contractor.

When a straightedge 12 feet is laid on the finished surface and parallel with the center line, the surface will not vary more than 0.01 foot from the lower edge of the straightedge. The transverse slope of the finished surface will be uniform to a degree such that no depressions greater than 0.02 foot are present when tested with a straightedge 12 foot laid in a direction transverse to the center line and extending from edge to edge of a 12-foot traffic lane.

If the finished surface of the asphalt concrete does not meet the specified surface tolerances, it will be brought within tolerance by either (1) abrasive grinding (with fog seal coat on the areas which have been ground), (2) removal and replacement, or (3) placing an overlay of asphalt concrete. The method will be selected by the Engineer. The corrective work will be at the Contractor's expense.

If abrasive grinding is used to bring the finished surface to specified surface tolerances, additional grinding will be performed as necessary to extend the area ground in each lateral direction so that the lateral limits of grinding are at a constant offset from, and parallel to the nearest lane line or

pavement edge, and in each longitudinal direction so that the grinding begins and ends at lines normal to the pavement centerline, within any ground area. All ground areas will be neat rectangular areas of uniform surface appearance. Abrasive grinding will conform to the requirements in Section 39-7.04, "Cold Planning Asphalt Concrete Pavement," of these Special Provisions.

39-6.03B COMPACTING COURSES LESS THAN 0.15 FOOT THICK

A pass will be one movement of a roller in either direction. A coverage will be as many passes as are necessary to cover the entire width being paved. Overlap between passes during any coverage, made to ensure compaction without displacement of material in accordance with good rolling practice, will be considered to be part of the coverage being made and not part of a subsequent coverage. Each coverage will be completed before subsequent coverages are started.

Rolling will commence at the lower edge and will progress toward the highest portion, except that if directed by the Engineer, rolling will commence at the center and will progress outwards.

Initial or breakdown compaction will consist of 3 coverages of a layer of asphalt mixture and will be performed with a 2-axle or 3-axle tandem or a 3-wheel roller weighing not less than 12 tons and having rolling wheels with a diameter of 40 inches or more. Fewer coverages than specified above may be ordered by the Engineer if necessary to prevent damage to the layer being compacted.

The initial or breakdown compaction will be followed immediately by additional rolling consisting of 3 coverages with a pneumatic tired roller. Coverages with a pneumatic-tired roller will start when the temperature of the mixture is as high as practicable, preferably above 180°F, and will be completed while the temperature of the mixture is at or above 150°F.

Each layer of asphalt concrete and asphalt concrete base will be compacted additionally without delay by a final rolling consisting of not less than one coverage with a steel-tired roller weighing not less than 8 tons. Except as otherwise provided for low rates of production, a separate finish roller will be required.

Rolling will be performed so that cracking, shoving or displacement will be avoided.

Provided it is demonstrated to the satisfaction of the Engineer that one roller can perform the work, the required minimum rolling equipment specified above may be reduced to one 2-axle tandem roller, weighing at least 8 tons, for each paver under any of the following conditions:

1. When asphalt concrete is placed at a rate of 50 tons, or less, per hour at any location.
2. When asphalt concrete is placed at a rate of 100 tons, or less, per hour and at the locations or under the conditions as follows:

    2.1. Placed on miscellaneous areas in accordance with the provisions in Section 39-7.01, "Miscellaneous Areas."

    2.2. When the width to be placed is less than 8 feet.

    2.3. When the total thickness to be placed is less than 0.1 foot.

3. When the total amount of asphalt concrete included in the contract is 1,000 tons, or less.
4. When rolling equipment is reduced as provide in this Section F(2) the rolling requirements may be reduced to a least 3 complete coverages with said tandem roller.

Alternative compacting equipment, approved by the Engineer in accordance with California Test 113, may be used for the initial or breakdown compaction if operated according to the procedures and under the conditions designated in the approval. Such allowance of alternative compacting equipment for breakdown and finish compaction does not waive the requirement for using pneumatic-tired rollers. A vibratory roller may be used as the finish roller provided that it meets the requirements for a finish roller and is operated with the vibratory unit turned off.

During rolling operations and when ordered by the Engineer, the asphalt concrete will be cooled by applying water. No layer will be cooled with water unless so ordered or permitted by the Engineer.

39-6.03C COURSES 0.15 FOOT THICK OR MORE

The Contractor will cover the loads of asphalt concrete with tarpaulins. The Tarpaulins will completely cover the exposed asphalt concrete until the asphalt concrete has been completely transferred into the asphalt concrete paver hopper or deposited on the roadbed.

The Contractor will use a minimum of three rollers with separate operators: two for breakdown, and one for finish work.

Breakdown compaction will be completed before the temperature in the mat drops below 250°F.

Asphalt concrete will be compacted to an average density of not less than 95.5 percent of the average density of specimens of the asphalt concrete mixture compacted in the laboratory.

Average in-place density will be determined by nuclear gauge in conformance with ASTM Test Method D2950. Laboratory specimens will be compacted in conformance with California Test 304.

Nuclear gauge tests for determining average in-place density will be taken at the locations determined by the Engineer and which represent lots of 500 tons or less of mix. A minimum of five (5) randomly selected locations within the lot will be tested.

The extent of each lot will be determined by the Engineer. In determining the limits of each lot consideration will be given to such factors as productions rate, location (main line, shoulders, etc.), lift thickness and differences in the asphalt concrete mix.

Any lot of asphalt concrete or asphalt concrete base that does not meet the specified density will be removed and replaced by the Contractor at no cost to the County, except that, if requested in writing by the Contractor, a lot with an average density of 93.0 percent or greater may be accepted on the basis of a reduced payment.

Average Density (Percent)	Percent Reduction	Average Density (Percent)	Percent Reduction
95.5	0.0	94.2	39.0
95.4	3.0	94.1	42.0
95.3	6.0	94.0	45.0
95.2	9.0	93.9	48.0
95.1	12.0	93.8	51.0
95.0	15.0	93.7	54.0
94.9	18.0	93.6	57.0
94.8	21.0	93.5	60.0
94.7	24.0	93.4	63.0
94.6	27.0	93.3	66.0
94.5	30.0	93.2	69.0
94.4	33.0	93.1	72.0
94.3	36.0	93.0	75.0

The field density of asphalt mixtures, for the purpose of deduction, will be determined from a minimum of three drilled specimens per lot.

The field density will be the average of the required drilled specimens.

The laboratory density, for the purpose of deduction, will be the average density for all asphalt concrete samples taken for the project that represent the same grading, type and oil content as the material in question.

The amount of asphalt mixture involved will be computed from the field density and the volume of asphalt mixture. The volume of the mixture will be computed from the average thickness of the drilled specimens and the measured area of the asphalt mixture.

The limits of the asphalt mixture in question will be defined by the Engineer.

39-7 MISCELLANEOUS

39-7.01 MISCELLANEOUS AREAS

Surfacing of miscellaneous areas, such as median areas (exclusive of inside shoulders), island areas, sidewalks, dikes, gutters, gutter flares, ditches, overside drains, aprons at the ends of drainage structures and other areas outside the traveled way which are designated on the plans as miscellaneous areas to be paved with asphalt concrete, shall conform to these specifications.

The combined aggregate grading for asphalt concrete placed on miscellaneous areas shall conform to that specified for the asphalt concrete placed on the traveled way, unless otherwise directed by the Engineer. The amount of asphalt binder used in the asphalt concrete placed in dikes, gutters, gutter flares, overside drains and aprons at the ends of drainage structures, unless otherwise directed by the Engineer, shall be increased one percent by weight of the aggregate over the amount of asphalt binder used in the asphalt concrete placed on the traveled way.

The asphalt concrete placed in miscellaneous areas may be spread in one layer. The material shall be compacted to the required lines, grades and cross section.

Dikes shall be shaped and compacted with an extrusion machine or other equipment capable of shaping and compacting the material to the required cross section.

39-8 MEASUREMENT AND PAYMENT

39-8.01 MEASUREMENT

Asphalt concrete and asphalt concrete base will be measured by weight. The quantity to be paid for will be the combined weight of the mixture for the various types of asphalt concrete or asphalt concrete base, whichever is designated in the Engineer's Estimate.

Quantities of paving asphalt, liquid asphalt and asphaltic emulsion to be paid for as contract items of work will be determined in accordance with the methods provided in Sections 92, "Asphalts," or 94, "Asphaltic Emulsions," as the case may be.

When recorded batch weights are printed automatically, these weights may be used for determining pay quantities providing the following requirements are complied with:

A. Total aggregate and supplemental fine aggregate weight per batch shall be printed. When supplemental fine aggregate is weighed cumulatively with the aggregate, the total batch weight of aggregate shall include the supplemental fine aggregate.

B. Total bitumen weight per batch shall be printed.

C. Zero-tolerance weight shall be printed prior to weighing the first batch and after weighing the last batch of each truckload.

D. Time, date, mix number, load number and truck identification shall be correlated with load slip.

E. A copy of the recorded batch weights shall be certified by a licensed weighmaster and submitted to the Engineer.

When there is a contract item to place asphalt concrete dikes by the linear foot, the quantity to be paid for will be the length in feet measured along the completed dike. When there is a contract item to place asphalt concrete (miscellaneous area), the quantity to be paid for will be the area in square yards of the asphalt concrete compacted in place. In addition to the quantities for placing asphalt concrete measured on a linear foot or square yard basis, the asphalt concrete to be placed will also be measured for payment.

Pavement reinforcing fabric will be measured and paid for by the square yard for the actual pavement area covered.

39-8.02 PAYMENT

The contract price paid per ton for Asphalt Concrete will include full compensation for furnishing all labor, materials, tools, equipment and incidentals, and for doing all the work involved in placing the Asphalt Concrete, complete in place as shown on the plans, as specified in these Special Provisions, and as directed by the Engineer.

Asphalt concrete placed in the work, unless otherwise specified, will be paid for at the contract price per ton for asphalt concrete or asphalt concrete base of the types designated in the Engineer's Estimate.

When there is a contract item for asphalt concrete (leveling), quantities of asphalt concrete placed for leveling will be paid for at the contract price per ton for asphalt concrete (leveling). When there is no contract item for asphalt concrete (leveling), and leveling is ordered by the Engineer, asphalt concrete so used will be paid for as extra work as provided in Section 4-1.05.

When there is a contract item for place asphalt concrete dike by the linear foot, quantities of dikes will be paid for at the contract price per ton for asphalt concrete and also at the contract price per linear foot for place asphalt concrete dike. Full compensation for any necessary excavation, backfill and preparation of the area shall be considered as included in the contract price paid per linear foot for place asphalt concrete dike and no additional compensation will be allowed therefor.

Quantities of asphalt concrete placed in miscellaneous areas designated in the special provisions or tabulated on the plans to be included in the contract item of place asphalt concrete (miscellaneous area), will be paid for at the contract price per ton for asphalt concrete and also at the contract price per square yard for place asphalt concrete (miscellaneous area). Full compensation for any necessary excavation, backfill and preparation of the area shall be considered as included in the contract price paid per square yard for place asphalt concrete (miscellaneous area) and no additional compensation will be allowed therefor.

When there is no item for place asphalt concrete dike by the linear foot or for place asphalt concrete (miscellaneous area) by the square yard and the work is shown on the plans, full compensation therefor, including any necessary excavation, backfill, and preparation of the area, shall be considered as included in the contract price paid for the asphalt concrete.

Quantities of pavement reinforcing fabric placed and paving asphalt applied as a binder for the pavement reinforcing fabric will be paid for at the contract price per square yard for pavement reinforcing fabric and per ton for paving asphalt (binder-pavement reinforcing fabric). Full compensation for furnishing and spreading sand to cover exposed binder material, if necessary, shall be considered as included in the contract price paid per ton for paving asphalt (binder-pavement reinforcing fabric) and no separate payment will be made therefor.

Small quantities of asphalt concrete placed on pavement reinforcing fabric to prevent the fabric from being displaced by construction equipment or to allow traffic to cross over the fabric, shall be considered as part of the layer of asphalt concrete to be placed over the fabric and will be measured and paid for by the ton as asphalt concrete.

When there is a contract item for liquid asphalt (prime coat), the quantity of prime coat will be paid for at the contract price per ton for the designated grade of liquid asphalt (prime coat). When there is no contract item for liquid asphalt (prime coat) and the special provisions require the application of prime coat, full compensation for furnishing and applying prime coat shall be considered as included in the contract price paid per ton for the asphalt concrete, and no separate payment will be made therefor.

When there is a contract item for asphaltic emulsion (paint binder), the quantity of asphaltic emulsion or paving asphalt used as paint binder (tack coat) will be paid for at the contract price per ton for asphaltic emulsion (paint binder). When there is no contract item for asphaltic emulsion (paint binder), full compensation for furnishing and applying paint binder (tack coat) shall be considered as included in the contract price paid per ton for the asphalt concrete, and no separate payment will be made therefor.

Fog seal coat will be paid for as provided in Section 37-1, "Seal Coats."

No adjustment of compensation will be made for any increase or decrease in the quantities of paint binder (tack coat) or fog seal coat required, regardless of the reason for the increase or decrease.

The above contract prices and payments shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in constructing asphalt concrete and asphalt concrete base, complete in place, as shown on the plans and as specified in these special provisions, and as directed by the Engineer.

DIVISION VI STRUCTURES

48 TEMPORARY STRUCTURES

Add the following to section 48-1.01A:

Design, erect, maintain, and remove a temporary bridge with temporary abutments and a temporary retaining wall that are safe and adequate in providing the necessary support for the imposed traffic loads at the locations shown on the plans.

Design temporary bridge and temporary retaining wall according the requirements of the AASHTO publication entitled "Guide Design Specifications for Bridge Temporary Works, 2nd edition, 2017" and the General Notes on the Index to Plans sheet of the plans.

Temporary bridge design must provide for a 55' minimum width clear opening across Frasier Creek. Temporary bridge design must provide for a maximum bridge depth of 5 feet, measured from profile grade to the bottom of the lowest member. Temporary bridge design must accommodate the profile grade shown on the plans.

Temporary retaining wall design must accommodate the alignment layout shown on the plans.

Construct temporary bridge and temporary retaining wall according the requirements of the AASHTO publication entitled "Construction Handbook for Bridge Temporary Works, 2nd edition, 2017."

You are responsible for securing resource agency approval of your proposed temporary bridge and temporary retaining wall and obtaining approval from the Engineer.

Temporary bridge is also considered falsework, and the provisions of section 48-2 apply.

Add the following to section 48-1.01B:

temporary bridge: a temporary structure to carry traffic over Frasier Creek with an anticipated in-service life of 2 years or less, to be located as shown on the plans. Temporary bridge you design may be a prefabricated modular steel truss or a different type. Temporary bridge includes temporary abutments and retention of fill at the ends of the bridge.

temporary retaining wall: a temporary earth retaining structure you design to support the hillside at the northwest approach to the temporary bridge over Frasier Creek with an anticipated in-service life of 2 years or less, to be located as shown on the plans. Temporary retaining wall you design may be sheet piling or a different type.

Add the following to section 48-1.01C(1):

6. Temporary bridge design, construction, and removal
7. Temporary retaining wall design, construction, and removal.

Replace items number 4 and 5 in section 48-1.01D(2) with:

4. Be present during temporary bridge and temporary retaining wall construction and removal.
5. Prepare, seal, and sign a temporary-structure inspection report during temporary bridge and temporary retaining wall construction and removal.

Replace Not Used in section 48-1.02 with:

Earthwork must comply with section 19-3.

If piling is used it must comply with section 49

If concrete is used it must comply with section 51

If reinforcement is used it must comply with section 52

If steel is used it must comply with section 55.

If wood, timber, or lumber are used they must comply with section 57.

Add the following to the end of section 48-1.04:

Temporary bridge and temporary retaining wall will each be paid by contract lump sum prices as described following:

When the temporary bridge is opened for traffic, as approved by the Engineer, fifty percent of the temporary bridge lump sum amount will be paid to the Contractor. Maintaining the bridge for use will be paid in monthly installments. Each monthly installment shall be equal to twenty percent of the temporary bridge lump sum amount divided by the number of months the temporary bridge will be used as shown on the Contractor's approved Progress Schedule. The remaining thirty percent of the temporary bridge lumps sum amount will be paid after the temporary bridge has been removed and the site cleaned up as directed by the Engineer.

When the temporary retaining wall is completed such that traffic can pass by it, as approved by the Engineer, fifty percent of the temporary retaining wall lump sum amount will be paid to the Contractor. Maintaining the retaining wall for use will be paid in monthly installments. Each monthly installment shall be equal to twenty percent of the temporary retaining wall lump sum amount divided by the number of months the temporary retaining wall will be used as shown on the Contractor's approved Progress Schedule. The remaining thirty percent of the temporary retaining wall lump sum amount will be paid after the temporary retaining wall has been removed and the site cleaned up as directed by the Engineer.

Replace Reserved in section 48-7 with:

48-7 TEMPORARY PREFABRICATED MODULAR STEEL TRUSS BRIDGE

48-7.01 GENERAL

48-7.01A Summary

Section 48-7 includes specifications for a temporary prefabricated modular steel truss bridge, including temporary abutments, should that be the chosen type of temporary bridge.

48-7.01B Definitions

48-7.01C Submittals

48-7.01C(1) General

The manufacturer of the temporary bridge must submit a certificate of compliance certifying that the components and fabrication of the temporary bridge comply with the Contract.

48-7.01C(2) Shop Drawings

Submit shop drawings with design calculations for the temporary bridge. Notify the Engineer of the submittal. Include the submittal date and contents in the notification. Allow 60 days for the Department's review. Submit 6 copies of shop drawings and 2 copies of design calculations for the initial review. After review, submit 6 copies for final authorization and use during construction.

Shop drawings and calculations must be sealed and signed by the engineer for the temporary bridge manufacturer, who is registered as a civil or structural engineer.

The shop drawings must include:

1. Layout drawing of the entire structure, including verification of dimensions, elevations, and alignment
2. Member dimensions and location
3. Match-marking diagrams
4. Connection details of the temporary bridge members
5. Identification of tension members and fracture critical members
6. Temporary abutment layout, materials, and dimensions
7. Temporary abutment cross-section and datum information
8. Connection details of the temporary bridge to the temporary abutments
9. Connection details of the bridge rail to the temporary bridge
10. Connection details of the bridge rail to the Type K temporary railing

The design calculations must include:

1. Descriptions and values of all loads, including limit states and criteria specified
2. Stresses and deflections in load carrying members

3. Assumed soil bearing values and design stresses for temporary abutments and retaining walls, including anticipated settlement
4. Calculations for the bridge rail satisfying AASHTO LRFD Bridge Design Specifications, Section 13
5. Independently checked design calculations prepared by an engineer who is registered as a civil engineer in the State of California.

48-7.01C(3) Quality Control Plan

Submit a QC plan for the temporary bridge. The QC plan must include:

1. Copy of fabricator certification complying with section 48-7.01D(1)
2. Manufacturer's pre-service inspection procedures to identify the materials inspected and the methods used to verify the materials meet specified requirements
3. Crash test report for the bridge rail
4. Manufacturer's in-service operation and maintenance plan for the temporary bridge. Include:
    4.1. Inspection intervals and periodic inspection criteria with procedures for the maintenance
    4.2. Checklist to be used for in-service inspection at intervals
    4.3. Methods of reporting on the condition of the bridge
5. Contingency plan for correcting problems if you or the Engineer identify a deficiency.

48-7.01C(4) Erection and Removal Plan

Submit an erection and removal plan for the temporary bridge.

The erection and removal plan must include:

1. Details of erection and removal activities, including an assembly plan and schedule for the work
2. Methods and sequences of erection and removal, including equipment
3. Details for the stability of temporary bridge during all stages of erection and removal activities
4. Name of the temporary bridge manufacturer's representative that will be present during erection and removal activities
5. Provisions for complying with current Cal/OSHA requirements
6. Details for restoring the temporary bridge site to original condition

48-7.01C(5) Material Submittals

48-7.01C(5)(a) Temporary Bridge Members

Submit your request to incorporate temporary bridge members with the Notice of Materials to Be Used. Allow 20 days for review and inspection.

Submit a welding report for temporary bridge members with welds. The report must show visual inspection complies with the Contract and the supporting documentation must:

1. Itemize the acceptance criteria used
2. Include tracking and identifying documents for welds on the members
3. Be authorized before erecting the members

48-7.01C(5)(b) Used Lumber and Timber

Submit your request for used timber, if included in the work, with the *Notice of Materials to Be Used* form. Provide the location of the used timber on the form. The request must include the submittals under section 57-2. Allow 20 days for review and inspection.

48-7.01D Quality Assurance

48-7.01D(1) General

The manufacturer of the temporary prefabricated modular steel truss bridge must be certified under the AISC Certification program in at least one category as a Certified Bridge Fabricator or under ISO 9001 for the fabrication of structural steel products.

48-7.01D(2) Quality Control

48-7.01D(2)(a) General

A qualified representative of the temporary bridge manufacturer must be present during erection and removal.

48-7.01D(2)(b) Temporary Bridge Members

The Engineer may select samples for testing of temporary bridge members. Testing of samples must be performed by an authorized laboratory under the applicable ASTM.

The temporary bridge manufacturer must visually inspect temporary bridge members for inadequate members, including signs of distress or indication of previous inelastic deformation.

48-7.01D(2)(c) Welding and Visual Inspection

Welding must comply with AWS D1.5.

If temporary bridge member welds were made before contract award, perform visual inspection to verify the structural integrity of the welds, including adequate size, condition, and quality.

48-7.01D(2)(d) Bridge Rail

You must use a bridge rail that has been successfully crash tested under *NCHRP Report 350* or utilize a minor modification of a successfully tested rail.

48-7.01D(3) Department Acceptance

Not Used

48-7.02 MATERIALS

48-7.02A General

Section 6-1.04C does not apply to temporary bridges; steel and iron materials may be melted and manufactured outside of the United States.

48-7.02B Design Criteria

48-7.02B(1) General

The temporary bridge and abutments must comply with *AASHTO LRFD Bridge Design Specifications with California Amendments* for the following limit states:

Limit state	Requirement
Strength I	HL-93 plus an additional minimum 300 lb/lf lateral force as a permanent load with a factor of 1.0 that is applied at the top of chord panel points of each side truss
Strength III	Wind load
Fatigue	AASHTO-LRFD BDS, Article 3.6.1.4 fatigue truck with consideration for anticipated service life, truck traffic data, and past service life of temporary bridge members
Extreme Event I	See Acceleration Response Spectrum on the plans
Service I vehicular live load deflection limit	Side truss span length/1000

The estimated service duration for the temporary bridge is 10 months. The design speed limit of the temporary bridge is 25 MPH.

48-7.02B(2) Temporary Abutments

Design temporary abutments with foundations to carry the loads imposed without exceeding the estimated soil bearing values, anticipated settlements or piling loads. You must determine soil bearing values and pile deflections.

Mechanically connect the temporary bridge to its abutments. Mechanical connections must be capable of resisting the lateral design forces while allowing anticipated expansion and contraction. Friction forces developed between the bridge and the abutments (1) are not considered an effective mechanical connection and (2) must not be used to reduce lateral forces.

Due to anticipated landslide movement at the abutment 1 location, connection of the temporary bridge to temporary abutment 1 must accommodate movement shown in the following table:

Service Duration (months)	Longitudinal and transverse movement (inches)
0-12	1
12-24	2
Over 24	3

48-7.02B(3) Bridge Rail

Bridge rail must be designed for TL-2 loading and must have sufficient distance to the main truss members to account for the rail system's designed deflection. Do not attach the rail posts to main truss members.

The connection between bridge rail and Type K temporary railing must be designed for TL-2 loading.

48-7.02B(4) Stability Criteria

48-7.02B(4)(a) General

Prefabricated temporary bridges must comply with one of the stability criteria listed in section 48-7.02B(4).

48-7.02B(4)(b) K-factor Procedure

Consider the top chord a column with elastic lateral supports at the panel points. The compression resistance must be in accordance with AASHTO LRFD Bridge Design Specifications with California Amendments, with the effective length factor, K, obtained from the following table:

Values of 1/K for Various Values of CL/Pc and n

	n=4	n=6	n=8	n=10	n=12	n=14	n=16
1/K	CL/Pc						
1.000	3.686	3.616	3.660	3.714	3.754	3.785	3.809
0.980		3.284	2.944	2.806	2.711	2.771	2.774
0.960		3.000	2.665	2.542	2.456	2.454	2.479
0.950			2.595				
0.940		2.754		2.303	2.252	2.254	2.282
0.920		2.643		2.146	2.094	2.101	2.121
0.900	3.352	2.593	2.263	2.045	1.951	1.968	1.981
0.850		2.460	2.013	1.794	1.709	1.681	1.694
0.800	2.961	2.313	1.889	1.629	1.480	1.456	1.465
0.750		2.147	1.750	1.501	1.344	1.273	1.262

0.700	2.448	1.955	1.595	1.359	1.200	1.111	1.088
0.650		1.739	1.442	1.236	1.087	0.988	0.940
0.600	2.035	1.639	1.338	1.133	0.985	0.878	0.808
0.550		1.517	1.211	1.007	0.860	0.768	0.708
0.500	1.750	1.362	1.047	0.847	0.750	0.668	0.600

where:

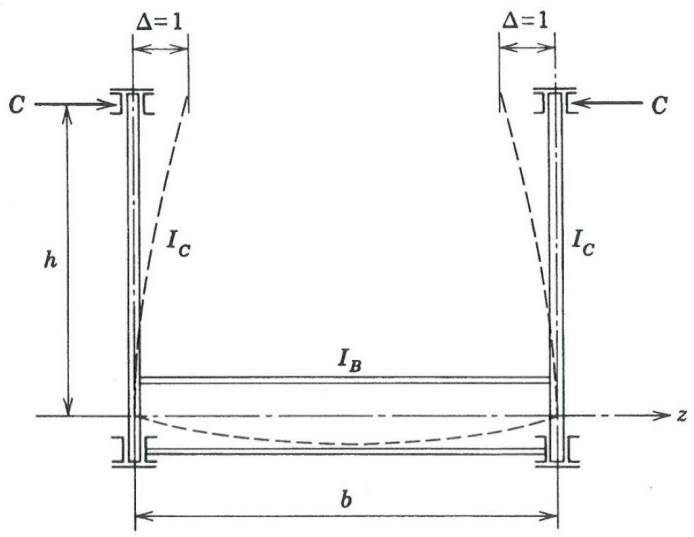
C = lateral stiffness of the U-frame composed of truss verticals and the floor beam (kip/in.)

L = length of the chord between panel points (in.)

Pc = desired critical buckling load (kip) of the truss chord member in one side of the bridge; equal to

1.33 times the factored compressive load

n = number of truss panels in the vertical plan of the bridge along its span length



Estimate the lateral stiffness of the U frame, C, using the following equation:

$$C = \frac{E}{h2\,[(h / 3Ic)+(b / 2Ib)]}$$

where:

Δ = lateral inward deflection of top chords due to lateral load C being applied externally at both top chords of the U frame simultaneously. For applied load C, Δ = 1 in.
h = height of truss from center lines of top chord member to center lines of floor beam (in).
b = spacing between center lines of trusses (in).
Ic = equivalent moment of inertia of truss verticals of 1 panel point in one side of the bridge (in4).
Ib = moment of inertia of the floor beams (in4).

E = modulus of elasticity of the truss material (ksi).

48-7.02B(4)(c) Second-Order Analysis Procedure

Evaluate the stability of the top chords of the truss using a second-order numerical analysis procedure. Include the following aspects in the model:

1. A lateral out-of-plumbness of h/500 in the transverse direction, where h is the truss height.
2. Initial out-of-straightness of length/1000, both between panel points and across the entire length of the compression chord.
3. Effects of the stiffness of vertical to floorbeam connections.

48-7.02C Materials

48-7.02C(1) General

Not used.

48-7.02C(2) Structural Steel

Structural steel must comply with section 55 except painting the steel is not required.

Steel fastener components must (1) be new and (2) comply with section 55-1.02D(1).

Temporary bridge members must:

1. Comply with section 55 or other recognized material standard
2. Be free of repair welds, splices, rust, and scaling
3. Have no holes except as shown on the shop drawings
4. Be undamaged and straight
5. Have no post-fabrication heating nor treatment

48-7.02C(3) Used Lumber and Timber

As an alternative to furnishing new lumber or timber members, you may submit a request to furnish used members.

Used timber must:

1. Have no splices, splits, or checks
2. Have no holes except as shown on the shop drawings
3. Be undamaged and straight
4. Have no post-fabrication modification except for shortening

48-7.02D Delivery, Storage, and Handling

Deliver, store, and handle the temporary bridge (1) under the manufacturer's written instructions and (2) such that you prevent damage.

48-7.03 CONSTRUCTION

48-7.03A General

Not Used

48-7.03B Erection

Erect the temporary bridge complying with the manufacturer's installation instructions.

48-7.03C Removal

Remove the temporary bridge complying with the manufacturer's instructions when it is no longer needed.

Remove the temporary abutments and restore the temporary bridge site to its original condition.

48-7.03D Maintenance Inspection

A qualified representative of the prefabricated steel bridge manufacturer must perform periodic maintenance inspections complying with the intervals described in the authorized operation and maintenance plan. The representative must report on the condition of the bridge and installation, including any deficiencies or condition that may impact the performance of the bridge. Immediately report deficiencies to the Engineer. Corrective actions, including timeline of activities, must be authorized before corrective work begins.

Within the first month in service, verify bolts are adequately tensioned by performing the tensioning procedure used during erection under the manufacturer's instructions. When the tensioning verification is complete, paint a line across each bolt and nut. Check bolts and nuts at a minimum of every 3 months that the temporary bridge is in service. Bolts or nuts that have moved off of the original paint line must be tensioned to the initial value.

48-7.04 PAYMENT

Not Used

Replace Reserved in section 48-8 with:

48-8 TEMPORARY BRIDGE (OTHER THAN PREFABRICATED MODULAR STEEL TRUSS BRIDGE)

48-8.01 GENERAL

48-8.01A Summary

Section 48-8 includes specifications for a temporary bridge not of the type specified in section 48-7, including temporary abutments.

48-8.01B Definitions

Not used.

48-8.01C Submittals

48-8.01C(1) General

Not used.

48-8.01C(2) Shop Drawings

Submit shop drawings with design calculations for the temporary bridge. Notify the Engineer of the submittal. Include the submittal date and contents in the notification. Allow 60 days for the Department's review. Submit 6 copies of shop drawings and 2 copies of design calculations for the initial review. After review, submit 6 copies for final authorization and use during construction.

Shop drawings and calculations must be sealed and signed by your temporary-structure engineer who is registered as a civil or structural engineer.

The shop drawings must include:

1. Layout drawing of the entire structure, including verification of dimensions, elevations, and alignment
2. Member dimensions and location
3. Match-marking diagrams
4. Connection details of the temporary bridge members
5. Identification of tension members and fracture critical members
6. Temporary abutment layout, materials, and dimensions
7. Temporary abutment cross-section and datum information
8. Connection details of the temporary bridge to the temporary abutments
9. Connection details of the bridge rail to the temporary bridge
10. Connection details of the bridge rail to the Type K temporary railing

The design calculations must include:

1. Descriptions and values of all loads, including limit states and criteria specified
2. Stresses and deflections in load carrying members
3. Assumed soil bearing values and design stresses for temporary abutments, including anticipated settlement.
4. Calculations for the bridge rail satisfying AASHTO LRFD Bridge Design Specifications, Section 13
5. Independently checked design calculations prepared by an engineer who is registered as a civil engineer in the State of California.

48-8.01C(3) Quality Control Plan

Submit a QC plan for the temporary bridge. The QC plan must include:

1. Copy of material certifications complying with section 48-8.01D(1)
2. Your pre-service inspection procedures to identify the materials inspected and the methods used to verify the materials meet specified requirements

3. Crash test report for the bridge rail
4. Your in-service operation and maintenance plan for the temporary bridge. Include:
   4.1. Inspection intervals and periodic inspection criteria with procedures for the maintenance
   4.2. Checklist to be used for in-service inspection at intervals
   4.3. Methods of reporting on the condition of the bridge
5. Contingency plan for correcting problems if you or the Engineer identify a deficiency.

48-8.01C(4) Erection and Removal Plan

Submit an erection and removal plan for the temporary bridge.

The erection and removal plan must include:

1. Details of erection and removal activities, including an assembly plan and schedule for the work
2. Methods and sequences of erection and removal, including equipment
3. Details for the stability of temporary bridge during all stages of erection and removal activities
4. Name of your temporary-structure engineer that will be present during erection and removal activities
5. Provisions for complying with current Cal/OSHA requirements
6. Details for restoring the temporary bridge site to original condition

48-8.01C(5) Material Submittals

48-8.01C(5)(a) Temporary Bridge Members

Submit your request to incorporate temporary bridge members with the *Notice of Materials to Be Used*

form. Allow 20 days for review and inspection.

Submit a welding report for temporary bridge members with welds. The report must show visual inspection complies with the Contract and the supporting documentation must:

1. Itemize the acceptance criteria used
2. Include tracking and identifying documents for welds on the members
3. Be authorized before erecting the members

48-8.01C(5)(b) Used Lumber and Timber

Submit your request for used timber, if included in the work, with the *Notice of Materials to Be Used* form. Provide the location of the used timber on the form. The request must include the submittals under section 57-2. Allow 20 days for review and inspection.

48-8.01D Quality Assurance

48-8.01D(1) General

The manufacturer of any prefabricated steel components must be certified under the AISC Certification program in at least one category as a Certified Bridge Fabricator or under ISO 9001 for the fabrication of structural steel products.

48-8.01D(2) Quality Control

48-8.01D(2)(a) General

Your temporary-structure engineer must be present during erection and removal.

48-8.01D(2)(b) Temporary Bridge Members

The Engineer may select samples for testing of temporary bridge members. Testing of samples must be performed by an authorized laboratory under the applicable ASTM.

The temporary-structure engineer must visually inspect temporary bridge members for inadequate members, including signs of distress or indication of previous inelastic deformation.

48-8.01D(2)(c) Welding and Visual Inspection

Welding must comply with AWS D1.5.

If temporary bridge member welds were made before contract award, perform visual inspection to verify the structural integrity of the welds, including adequate size, condition, and quality.

48-8.01D(2)(d) Bridge Rail

You must use a bridge rail that has been successfully crash tested under *NCHRP Report 350* or utilize a minor modification of a successfully tested rail.

48-8.01D(3) Department Acceptance

Not Used

48-8.02 MATERIALS

48-8.02A General

Section 6-1.04C does not apply to temporary bridges; steel and iron materials may be melted and manufactured outside of the United States.

48-8.02B Design Criteria

48-8.02B(1) General

The temporary bridge and abutments must comply with *AASHTO LRFD Bridge Design Specifications with California Amendments* for the following limit states:

Limit state	Requirement
Strength I	HL-93 plus an additional minimum 300 lb/lf lateral force as a permanent load with a factor of 1.0 that is applied at the top of chord panel points of each side truss
Strength III	Wind load
Fatigue	*AASHTO-LRFD BDS*, Article 3.6.1.4 fatigue truck with consideration for anticipated service life, truck traffic data, and past service life of temporary bridge members
Extreme Event I	See Acceleration Response Spectrum
Service I vehicular live load deflection limit	Side truss span length/1000

The estimated service duration for the temporary bridge is 10 months. The design speed limit of the temporary bridge is 25 MPH.

48-8.02B(2) Temporary Abutments

Design temporary abutments with foundations to carry the loads imposed without exceeding the estimated soil bearing values, anticipated settlements or piling loads. You must determine soil bearing values and pile deflections.

Mechanically connect the temporary bridge to its abutments. Mechanical connections must be capable of resisting the lateral design forces while allowing anticipated expansion and contraction. Friction forces developed between the bridge and the abutments (1) are not considered an effective mechanical connection and (2) must not be used to reduce lateral forces.

Due to anticipated landslide movement at the abutment 1 location, connection of the temporary bridge to temporary abutment 1 must accommodate movement shown in the following table:

Service Duration (months)	Longitudinal and transverse movement (inches)
0-12	1
12-24	2
Over 24	3

48-8.02B(3) Bridge Rail

Bridge rail must be designed for TL-2 loading and must have sufficient distance to the main truss members to account for the rail system's designed deflection. Do not attach the rail posts to main truss members.

The connection between bridge rail and Type K temporary railing must be designed for TL-2 loading.

48-8.02B(4) Stability Criteria

48-8.02B(4)(a) General

Prefabricated temporary bridges must comply with applicable stability criteria

48-8.02C Materials

48-8.02C(1) General

Not used.

48-8.02C(2) Structural Steel

Structural steel must comply with section 55 except painting the steel is not required.

Steel fastener components must (1) be new and (2) comply with section 55-1.02D(1).

Temporary bridge members must:

1. Comply with section 55 or other recognized material standard
2. Be free of repair welds, splices, rust, and scaling
3. Have no holes except as shown on the shop drawings
4. Be undamaged and straight
5. Have no post-fabrication heating nor treatment

48-8.02C(3) Used Lumber and Timber

As an alternative to furnishing new lumber or timber members, you may submit a request to furnish used members.

Used timber must:

1. Have no splices, splits, or checks
2. Have no holes except as shown on the shop drawings
3. Be undamaged and straight
4. Have no post-fabrication modification except for shortening

48-8.02D Delivery, Storage, and Handling

Deliver, store, and handle the temporary bridge materials within the area for contractors use and such that you prevent damage.

48-8.03 CONSTRUCTION

48-8.03A General

Not Used

48-8.03B Erection

Not used.

48-8.03C Removal

Remove the temporary bridge when it is no longer needed.

Remove the temporary abutments and restore the temporary bridge site to its original condition.

48-8.03D Maintenance Inspection

Your temporary-structures engineer must perform periodic maintenance inspections complying with the intervals described in the authorized operation and maintenance plan. The engineer must report on the condition of the bridge and installation, including any deficiencies or condition that may impact the performance of the bridge. Immediately report deficiencies to the Engineer. Corrective actions, including timeline of activities, must be authorized before corrective work begins.

48-8.04 PAYMENT

Not Used

Replace Reserved in section 48-9 with:

48-9 TEMPORARY RETAINING WALL

48-9.01 GENERAL

48-9.01A Summary

Section 48-9 includes specifications for temporary retaining walls.

You must design, construct, and maintain a temporary retaining wall(s) that is safe and adequate in providing access for vehicular traffic and the necessary support for the imposed earth loads at the location shown on the plans.

Earthwork must comply with section 19-3.

Retaining wall must comply with sections 46 and 47 as appropriate to your design.

48-9.01B Definitions

Not used.

48-9.01C Submittals

48-9.01C(1) General

Not used.

48-9.01C(2) Shop Drawings

Submit shop drawings with design calculations for the temporary retaining wall. Notify the Engineer of the submittal. Include the submittal date and contents in the notification. Allow 60 days for the Department's review. Submit 6 copies of shop drawings and 2 copies of design calculations for the initial review. After review, submit 6 copies for final authorization and use during construction.

Shop drawings and calculations must be sealed and signed by your temporary-structure engineer who is registered as a civil or structural engineer.

The shop drawings must include:

1. Layout drawing of the entire structure, including verification of dimensions, elevations, and alignment
2. Member dimensions and location
3. Match-marking diagrams
4. Connection details of the temporary retaining wall members
5. Identification of tension members and fracture critical members
6. Temporary retaining wall layout, materials, and dimensions
7. Temporary retaining wall cross-section and datum information
8. Connection details of the temporary retaining wall

The design calculations must include:

1. Descriptions and values of all loads, including limit states and criteria specified
2. Stresses and deflections in load carrying members
3. Assumed soil bearing values and design stresses for temporary retaining walls, including anticipated settlement
4. Independently checked design calculations prepared by an engineer who is registered as a civil engineer in the State of California.

48-9.01C(3) Quality Control Plan

Submit a QC plan for the temporary retaining wall. The QC plan must include:

1. Copy of fabricator certification complying with section 48-9.01D(1)
2. Your temporary-structure engineer's pre-service inspection procedures to identify the materials inspected and the methods used to verify the materials meet specified requirements
3. Your temporary-structure engineer's in-service operation and maintenance plan for the temporary retaining wall. Include:

3.1. Inspection intervals and periodic inspection criteria with procedures for the maintenance
3.2. Checklist to be used for in-service inspection at intervals
3.3. Methods of reporting on the condition of the retaining wall
4. Contingency plan for correcting problems if you or the Engineer identify a deficiency.

48-9.01C(4) Construction Plan

Submit a construction plan for the temporary retaining wall.

The plan must include:

1. Details of erection and removal activities, including an assembly plan and schedule for the work
2. Methods and sequences of erection and removal, including equipment
3. Details for the stability of temporary retaining wall during all stages of construction activities
4. Name of your temporary-structure engineer that will be present during construction activities
5. Provisions for complying with current Cal/OSHA requirements
6. Details for restoring the temporary retaining wall site to original condition

48-9.01C(5) Material Submittals

48-9.01C(5)(a) Temporary Retaining Wall Members

Submit your request to incorporate temporary retaining wall members with the *Notice of Materials to Be Used* form. Allow 20 days for review and inspection.

Submit a welding report for temporary retaining wall members with welds. The report must show visual inspection complies with the Contract and the supporting documentation must:

1. Itemize the acceptance criteria used
2. Include tracking and identifying documents for welds on the members
3. Be authorized before erecting the members

48-9.01C(5)(b) Used Lumber and Timber

Submit your request for used timber, if included in the work, with the *Notice of Materials to Be Used* form. Provide the location of the used timber on the form. The request must include the submittals under section 57-2. Allow 20 days for review and inspection.

48-9.01D Quality Assurance

48-9.01D(1) General

The manufacturer of any prefabricated steel components must be certified under the AISC Certification program in at least one category as a Certified Bridge Fabricator or under ISO 9001 for the fabrication of structural steel products.

48-9.01D(2) Quality Control

48-9.01D(2)(a) General

Your temporary-structure engineer must be present during construction.

48-9.01D(2)(b) Temporary Retaining Wall Members

The Engineer may select samples for testing of temporary retaining wall members. Testing of samples must be performed by an authorized laboratory under the applicable ASTM.

Your temporary-structure engineer must visually inspect temporary retaining wall members for inadequate members, including signs of distress or indication of previous inelastic deformation.

48-9.01D(2)(c) Welding and Visual Inspection

Welding must comply with AWS D1.5.

If temporary retaining wall member welds were made before contract award, perform visual inspection to verify the structural integrity of the welds, including adequate size, condition, and quality.

48-9.01D(2)(d) Protective Barrier

Place a protective traffic barrier in front of the temporary retaining wall as shown on the plans.

48-9.01D(3) Department Acceptance

Not Used

48-9.02 MATERIALS

48-9.02A General

Section 6-1.04C does not apply to temporary retaining walls; steel and iron materials may be melted and manufactured outside of the United States.

48-9.02B Design Criteria

48-9.02B(1) General

The temporary retaining walls must comply with *AASHTO LRFD Bridge Design Specifications with California Amendments* for the following limit states:

Limit state	Requirement
Service I	Q = 1.00DC + 1.00EV+1.00EH + 1.00LS

Strength I	Q = **α**DC + **β**EV + 1.50EH + 1.75LS Q = 1.25DC + 1.35EV+0.90EH + 1.75LS
Extreme I	Q = 1.00DC + 1.00EV+1.00EH + 1.00 EQD + 1.00EQE
Extreme II	Q = 1.00DC + 1.00EV+1.00EH + 1.00CT

Where:

Q: Force Effects
α: 1.25 or 0.90, Whichever Controls Design
β: 1.35 or 1.00, Whichever Controls Design
DC: Dead Load of Structure Components
EH: Horizontal Earth Pressure
EV: Vertical Earth Pressure
LS: Live Load Surcharge
EQE: Seismic Earth Pressure
EQD: Soil and Structural and Nonstructural Components Inertia
CT: Vehicular Collision Force

The estimated service duration for the temporary retaining wall is 10 months.

48-9.02B(2) Temporary Retaining Walls

Design temporary retaining walls with foundations to carry the loads imposed without exceeding the estimated soil bearing values, anticipated settlements or piling loads. You must determine soil bearing values and pile deflections.

Due to anticipated landslide movement at the retaining wall location, the design must accommodate movement shown in the following table:

Service Duration (months)	Longitudinal and transverse movement (inches)
0-12	1
12-24	2
Over 24	3

48-9.02C Materials

48-9.02C(1) General

Not used.

48-9.02C(2) Structural Steel

Structural steel must comply with section 55 except painting the steel is not required.

Steel fastener components must (1) be new and (2) comply with section 55-1.02D(1).

Temporary retaining wall members must:

1. Comply with section 55 or other recognized material standard
2. Be free of repair welds, splices, rust, and scaling
3. Have no holes except as shown on the shop drawings
4. Be undamaged and straight
5. Have no post-fabrication heating nor treatment

48-9.02C(3) Used Lumber and Timber

As an alternative to furnishing new lumber or timber members, you may submit a request to furnish used members.

Used timber must:

1. Have no splices, splits, or checks
2. Have no holes except as shown on the shop drawings
3. Be undamaged and straight
4. Have no post-fabrication modification except for shortening

48-9.02D Delivery, Storage, and Handling

Deliver, store, and handle the temporary retaining wall materials within the area for contractors use and such that you prevent damage.

48-9.03 CONSTRUCTION

48-9.03A General

Not Used

48-9.03B Erection

Erect the temporary retaining wall components complying with the manufacturer's installation instructions as applicable.

48-9.03C Removal

Remove the temporary retaining wall, complying with the manufacturer's instructions if applicable, when it is no longer needed.

Remove the temporary retaining wall and restore the temporary retaining wall site to its original condition.

48-9.03D Maintenance Inspection

Your temporary-structure engineer must perform periodic maintenance inspections complying with the intervals described in the authorized operation and maintenance plan. The engineer must

report on the condition of the retaining wall and installation, including any deficiencies or condition that may impact the performance of the retaining wall. Immediately report deficiencies to the Engineer. Corrective actions, including timeline of activities, must be authorized before corrective work begins.

48-9.04 PAYMENT

Not Used

49 PILING

Add to section 49-1.03:

Expect difficult pile installation due to the conditions shown in the following table:

Pile location		Conditions
Bridge no.	Support location	
20C0600	Abutment 1 & Retaining Wall No. 11	Caving soils consisting of loose to medium dense clayey gravel and soft sandy lean clay. Presence of coarse gravels and cobbles. Transitions from soil to rock materials. Alternating layers of moderately weathered/hard sandstone and moderately soft/intensely fractured shale.
20C0600	Abutment 2	Caving soils consisting of loose to medium dense clayey gravel and soft sandy lean clay. Presence of coarse gravels and cobbles. Transitions from soil to rock materials. Alternating layers of moderately weathered/hard sandstone and moderately soft/intensely fractured shale.

Replace section 49-3.02A(3)(a) with:

49-3.02A(3)(a) General

Submit as an informational submittal the proposed drilling equipment operational capacities or descriptions for:

1. Downward force in lb
2. Torque in ft-lb
3. Rotational speed in rpm
4. Rate of penetration in ft/hr
5. Number and type of drilling cutters or drilling teeth on drilling tool

Add to section 49-3.02A(3):

49-3.02A(3)(l) Experience Qualifications

At least 15 days before the start of CIDH concrete pile construction, submit as an informational submittal the following experience qualifications in compliance with section 49-3.02A(4)(f):

1. List of CIDH concrete pile installations performed by the drilling contractor. The submittal must include:

1.1. Project description
1.2. Name and phone number of the owner
1.3. CIDH pile plans
1.4. Log of test borings
1.5. Estimated dates of major CIDH pile installation activities
1.6. CIDH pile acceptance testing reports

2. List of on-site foremen and drill rig operators who will perform the CIDH concrete pile work and a summary of each individual's experience. The submittal must include:
   2.1. Detailed summary of each individual's experience in CIDH pile excavation operations and placement of assembled reinforcing cages and concrete.
   2.2. Experience from at least 3 relevant projects, including:
      2.2.1. Project Description
      2.2.2. Date of work
      2.2.3. Actual work performed
      2.2.4. Name and phone number of a reference person for each project
   2.3. Proof of on-site foremen and drill rig operators experience qualifications

Add to section 49-3.02A(4):

49-3.02A(4)(f) Experience Qualifications

The drilling contractor must have successfully constructed at least 3 separate foundation projects in the last 5 years. The foundation projects must:

1. Have CIDH piles of similar or larger diameter and depth, and installed under similar substructure conditions to this contract
2. Demonstrate experience with drilling fluids and successful construction of CIDH piles under the wet conditions

Each on-site foremen and drill rig operator must have 2 years of experience installing CIDH concrete piles on at least 3 projects. The CIDH pile foundations must be of similar or larger diameter and depth, and installed under similar subsurface conditions to this contract.

On-site foremen experience must be supervising construction of CIDH concrete pile foundations. Indirect supervision of on-site CIDH concrete pile construction operations is not acceptable.

Drill rig operator experience must be in construction of CIDH concrete pile foundations.

Add to section 49-3.02B(6)(c):

The synthetic slurry must be one of the materials shown in the following table:

Material	Manufacturer
SlurryPro CDP	KB INTERNATIONAL LLC 735 BOARD ST STE 209 CHATTANOOGA TN 37402 (423) 266-6964
Super Mud	PDS CO INC 105 W SHARP ST EL DORADO AR 71731 (870) 863-5707
Shore Pac GCV	CETCO CONSTRUCTION DRILLING PRODUCTS 2870 FORBS AVE HOFFMAN ESTATES IL 60192 (800) 527-9948
Terragel or Novagel Polymer	GEO-TECH SERVICES LLC 220 N. ZAPATA HWY STE 11A-449A LAREDO TX 78043 (210) 259-6386
BIG FOOT	MATRIX CONSTRUCTION PRODUCTS 50 S MAIN ST STE 200 NAPERVILLE IL 60540 (877) 591-3137
POLY-BORE	BAROID INDUSTRIAL DRILLING PRODUCTS 3000 N SAM HOUSTON PKWY EAST HOUSTON TX 77032 (877) 379-7412

Use synthetic slurries in compliance with the manufacturer's instructions. Synthetic slurries shown in the above table may not be appropriate for a given job site.

Synthetic slurries must comply with the Department's requirements for synthetic slurries to be included in the above table. The requirements are available from:

Offices of Structure Design
P.O. Box 168041
MS# 9-4/11G
Sacramento, CA 95816-8041

SlurryPro CDP synthetic slurry must comply with the requirements shown in the following table:

SlurryPro CDP

Quality characteristic	Test method	Requirement
Density: During drilling (pcf) Before final cleaning and immediately before placing concrete (pcf)	Mud weight (density), API RP 13B-1, section 5	 ≤ 67.0[a] ≤ 64.0[a]
Viscosity: During drilling (sec/qt) Before final cleaning and immediately before placing concrete (sec/qt)	Marsh funnel and cup, API RP 13B-1, section 7.2	 50–120 ≤ 70
pH	Glass electrode pH meter or pH paper	6.0–11.5
Sand content, percent by volume: Before final cleaning and immediately before placing concrete (%)	Sand, API RP 13B-1, section 10	 ≤ 1.0

NOTE: Slurry temperature must be at least 40 °F when tested.
[a]If authorized, you may use slurry in a salt water environment. The allowable density of slurry in a salt water environment may be increased by 2 pcf.

Super Mud synthetic slurry must comply with the requirements shown in the following table:

Super Mud

Quality characteristic	Test method	Requirement
Density: During drilling (pcf) Before final cleaning and immediately before placing concrete (pcf)	Mud weight (density), API RP 13B-1, section 5	 ≤ 64.0[a] ≤ 64.0[a]
Viscosity: During drilling (sec/qt) Before final cleaning and immediately before placing concrete (sec/qt)	Marsh funnel and cup, API RP 13B-1, section 7.2	 32–60 ≤ 60
pH	Glass electrode pH meter or pH paper	8.0–10.0
Sand content, percent by volume: Before final cleaning and immediately before placing concrete (%)	Sand, API RP 13B-1, section 10	 ≤ 1.0

NOTE: Slurry temperature must be at least 40 °F when tested.
[a]If authorized, you may use slurry in a salt water environment. The allowable density of slurry in a salt water environment may be increased by 2 pcf.

Shore Pac GCV synthetic slurry must comply with the requirements shown in the following table:

Shore Pac GCV

Quality characteristic	Test method	Requirement
Density: During drilling (pcf) Before final cleaning and immediately before placing concrete (pcf)	Mud weight (density), API RP 13B-1, section 5	 ≤ 64.0[a] ≤ 64.0[a]
Viscosity: During drilling (sec/qt) Before final cleaning and immediately before placing concrete (sec/qt)	Marsh funnel and cup, API RP 13B-1, section 7.2	 33–74 ≤ 57
pH	Glass electrode pH meter or pH paper	8.0–11.0
Sand content, percent by volume: Before final cleaning and immediately before placing concrete (%)	Sand, API RP 13B-1, section 10	 ≤ 1.0

NOTE: Slurry temperature must be at least 40 °F when tested.
[a]If authorized, you may use slurry in a salt water environment. The allowable density of slurry in a salt water environment may be increased by 2 pcf.

Terragel or Novagel Polymer synthetic slurry must comply with the requirements shown in the following table:

Terragel or Novagel Polymer

Quality characteristic	Test method	Requirement
Density: During drilling (pcf) Before final cleaning and immediately before placing concrete (pcf)	Mud weight (density), API RP 13B-1, section 5	 ≤ 67.0[a] ≤ 64.0[a]
Viscosity: During drilling (sec/qt) Before final cleaning and immediately before placing concrete (sec/qt)	Marsh funnel and cup, API RP 13B-1, section 7.2	 45–104 ≤ 104
pH	Glass electrode pH meter or pH paper	6.0–11.5
Sand content, percent by volume: Before final cleaning and immediately before placing concrete (%)	Sand, API RP 13B-1, section 10	 ≤ 1.0

NOTE: Slurry temperature must be at least 40 °F when tested.
[a]If authorized, you may use slurry in a salt water environment. The allowable density of slurry in a salt water environment may be increased by 2 pcf.

BIG-FOOT synthetic slurry must comply with the requirements shown in the following table:

BIG-FOOT

Quality characteristic	Test method	Requirement
Density: During drilling (pcf) Before final cleaning and immediately before placing concrete (pcf)	Mud weight (density), API RP 13B-1, section 5	 ≤ 64.0[a] ≤ 64.0[a]
Viscosity: During drilling (sec/qt) Before final cleaning and immediately before placing concrete (sec/qt)	Marsh funnel and cup, API RP 13B-1, section 7.2	 30–125 55-114
pH	Glass electrode pH meter or pH paper	8.5–10.5
Sand content, percent by volume: Before final cleaning and immediately before placing concrete (%)	Sand, API RP 13B-1, section 10	 ≤ 1.0

NOTE: Slurry temperature must be at least 40 °F when tested.
[a]If authorized, you may use slurry in a salt water environment. The allowable density of slurry in a salt water environment may be increased by 2 pcf.

POLY-BORE synthetic slurry must comply with the requirements shown in the following table:

POLY-BORE

Quality characteristic	Test method	Requirement
Density: During drilling (pcf) Before final cleaning and immediately before placing concrete (pcf)	Mud weight (density), API RP 13B-1, section 5	 62.8-65.8[a] 62.8-64.0[a]
Viscosity: During drilling (sec/qt) Before final cleaning and immediately before placing concrete (sec/qt)	Marsh funnel and cup, API RP 13B-1, section 7.2	 50–80 50-80
pH	Glass electrode pH meter or pH paper	7.0–10.0
Sand content, percent by volume: Before final cleaning and immediately before placing concrete (%)	Sand, API RP 13B-1, section 10	 ≤ 1.0

NOTE: Slurry temperature must be at least 40 °F when tested.
[a]If authorized, you may use slurry in a salt water environment. The allowable density of slurry in a salt water environment may be increased by 2 pcf.

Replace section 49-3.02B(6)(d) with:

49-3.02B(6)(d) Water Slurry

You may use water as slurry if a casing is used for the entire length of the drilled hole.

Water slurry must comply with the requirements shown in the following table:

Water Slurry Requirements

Quality characteristic	Test method	Requirement
Density: Before final cleaning and immediately before placing concrete (pcf)	Mud weight (density), API RP 13B-1, section 5	63.5[a]
Sand content: Before final cleaning and immediately before placing concrete (%)	Sand, API RP 13B-1, section 10	≤ 0.5

[a]If authorized, you may use salt water slurry. The allowable density of the slurry may be increased by 2 pcf.

Add to section 49-3.02C(1):

If the piling center-to-center spacing is less than 4 pile diameters, do not drill holes or drive casing for an adjacent pile until 24 hours have elapsed after concrete placement in the preceding pile and your prequalification test results for the concrete mix design show that the concrete will attain at least 1800 psi compressive strength at the time of drilling or driving.

Drilling equipment must be equipped with instrumentation to accurately measure the downward force in pounds. The instrumentation dial or display must be clearly visible for reading during operation.

51 CONCRETE STRUCTURES

Replace section 51-1.03A with:

51-1.03A General

Vertical, horizontal, radial, or normal dimensions shown on the typical section are for zero percent cross slope. You may construct superelevated concrete box girder structures with the typical section rotated around the profile grade line in superelevation areas that have the following characteristics:

1. Straight, uninterrupted cross slope between edges of deck
2. A single profile grade line

For portions of superstructures rotated about the profile grade:

1. Horizontal distances between the profile grade line and the edges of deck must be as shown
2. Girder widths and slab thicknesses must be as shown
3. Girder stems must remain vertical

Replace the first paragraph in section 51-1.03E(1) with:

Where shown, emboss the year built and paint the structure name, bridge number, and other bridge identification information. Painting concrete must comply with section 78-4.03C(3).

60 EXISTING STRUCTURES

Add to section 60-2.01A:

Remove the following structures or portions of structures:

Bridge no./Structure name	Description of work
20C0227/Geysers Road Bridge	Remove entire bridge

DIVISION VII DRAINAGE FACILITIES

68 SUBSURFACE DRAINS

Replace section 68-5 with:

68-5 PERMEABLE MATERIAL BLANKET

68-5.01 GENERAL

Section 68-5 includes specifications for installing permeable material blankets.

68-5.02 MATERIALS

Permeable material for permeable material blanket must be Class 2 and must comply with section 68-2 except for payment.

Filter fabric must comply with section 96-1.02B.

68-5.03 CONSTRUCTION

Place filter fabric as follows:

1. Ensure the subgrade complies with the compaction and elevation tolerance specified for the material involved before placing the filter fabric on the subgrade.
2. Handle and place filter fabric under the manufacturer's instructions.
3. Align and place the fabric without wrinkles.
4. Overlap or stitch adjacent borders of the fabric from 12 to 18 inches. The preceding roll must overlap the following roll in the direction the permeable material is being spread or must be stitched. If the fabric is joined by stitching, the fabric must be stitched with yarn of a contrasting color. The size and composition of the yarn must be as recommended by the fabric's manufacturer. There must be 5 to 7 stitches per inch of seam.
5. Cover the fabric with the planned thickness of permeable material or aggregate subbase material as shown within 24 hours after the filter fabric has been placed.
6. Maintain at least 6 inches of the material between the fabric and your equipment during spreading and compaction of the permeable material and aggregate subbase. Where embankment material is to be placed on the filter fabric, maintain at least 18 inches of embankment material between the fabric and your equipment. Do not operate or drive equipment or vehicles directly on the filter fabric.

68-5.04 PAYMENT

Not Used

DIVISION VIII MISCELLANEOUS CONSTRUCTION

72 SLOPE PROTECTION

Replace section 72-7 with:

72-7 GRAVEL FILTER

72-7.01 GENERAL

The gravel filter is associated with streambank rock slope protection (RSP) revetments and used as a buffer between native base soil and RSP to reduce base soil migration and promote free passage of subsurface drainage.

Gravel filter includes its placement on streambank subgrade as shown.

72-7.02 MATERIALS

The gravel filter will consist of hard, durable, clean and washed, gravel, cobble, crushed stone, crushed rock, or any combination of these free from organic material, clay balls, or other deleterious substances.

The aggregate used in the gravel filter must have a durability index not less than 40 and must contain at least 90 percent crushed particles when tested under California Test 205.

The percentage composition by weight of gravel filter in place must comply with the grading requirements shown in the following table:

Gravel Filter Grading Requirements

Sieve Size	Percent (%) Passing
6”	95-100
4”	65-95
3”	30-65
2”	20-35
1 ½”	10-25
1”	0-10

72-7.03 CONSTRUCTION

Deliver uniform mixture of gravel filter to the site. Spread uniform mixture in layers and shape to thickness and limits shown using suitable equipment.

Local surface irregularities of the gravel filter aggregate must not vary from the planned slope by more than 2 inches as measured at right angles to the slope.

72-7.04 PAYMENT

The quantity of gravel filter is based on the dimensions shown.

75 MISCELLANEOUS METAL

Replace section 75-1.02C with:

75-1.02C TEMPORARY STEEL COVER

75-1.02C(1) GENERAL

Section 75-1.02D includes specifications for temporary rock slope protection and rock s.

75-1.02C(2) MATERIALS

Steel cover must be commercial quality steel.

75-1.02C(3) CONSTRUCTION

Install temporary steel cover on temporary pipe inlet.

When no longer required, remove all components of the temporary steel cover.

75-1.02C(4) PAYMENT

Not Used.

Add to the list in the 2nd paragraph of section 75-3.01A:

6. Access opening covers
7. Hanger assemblies

Add to the end of section 75-3.01A:

Bridge deck drainage system consists of:

1. Deck drains, Type D-2
2. NPS steel pipe and fittings from deck drains to drainage inlet east of bridge

DIVISION IX TRAFFIC CONTROL DEVICES

83 RAILINGS AND BARRIERS

Replace the first paragraph in section 83-1.03D with:

Where shown, emboss the year built and paint the structure name, bridge number, and other bridge identification information. Painting concrete must comply with section 78-4.03C(3).

Replace item 1 in the list in the 2nd paragraph of section 83-2.02C(1)(a) with:

1. Steel line posts.

Replace item 2 in the list in the 2nd paragraph of section 83-2.02C(1)(a) with:

2. Wood blocks for line posts.

Add to section 83-2.02C(1)(a):

The exposed bolt threads on guardrail beyond the nut that are more than 0.5 inch must be cut off.

Replace section 83-2.02D with:

83-2.02D Payment

Except for midwest guardrail systems located within the pay limits of (1) a terminal system, (2) a transition railing, (3) an end anchor assembly, (4) a buried post end anchor, or (5) a railing tensioning assembly, the payment quantity for midwest guardrail system is the length measured along the face of the rail element from end post to end post of the completed railing. The point of measurement at the end post is the center of the bolt attaching the rail element to the end post. If midwest guardrail system is connected to a structure, barrier, wall, or abutment, the point of measurement is the midpoint between the 2 bolts attaching the rail element to the structure, barrier, wall, or abutment.

Replace section 83-2.04B with:

83-2.04B Alternative In-line Terminal Systems

83-2.04B(1) General

83-2.04B(1)(a) Summary

Section 83-2.04B includes specifications for constructing alternative in-line terminal systems.

83-2.04B(1)(b) Definitions

Not Used

83-2.04B(1)(c) Submittals

Submit a certificate of compliance for alternative in-line terminal systems.

83-2.04B(1)(d) Quality Assurance

For each model of alternative in-line terminal system being installed, obtain the manufacturer's check list for the assembly and installation of the alternative in-line terminal systems from the manufacturer's representative or distributor. Notify the Engineer of the alternative in-line terminal systems to be installed at each location before starting installation activities. Complete, sign, and date the check list for each installed in-line terminal system and submit a copy of the completed and signed check list for each installed location, and include the following:

1. Contract number
2. Name of installation Contractor
3. Flare offset used in layout
4. Date of installation
5. Location on the project by post mile, and by station if stationing shown on plans
6. Name and signature of individual completing the checklist.

The Engineer signs and dates the completed check lists, verifying the in-line terminal system at each location was assembled and installed under the manufacturer's instructions and as described.

Use personnel trained by the manufacturer to install in-line terminal systems. A record of training provided by the manufacturer may be requested by the Engineer at any time.

83-2.04B(2) Materials

Alternative in-line terminal systems must be the following or a Department-authorized equal:

1. MAX-Tension Guardrail Terminal System TL-2 is a tangent, redirective, non-gating guardrail end terminal meeting MASH TL-2 requirements and manufactured by Barrier Systems, Inc. The terminal length is 30'-1/2", can be flared for an offset of 0 to 2 feet at the head and can be obtained from the distributor:

Address	Telephone no.
AWP SAFETY 130 GROBRIC COURT FAIRFIELD CA 94534	(408) 859-8998

2. SoftStop terminal system is a tangent, redirective and gating end terminal meeting MASH TL-2 requirements and manufactured by Valtir, LLC. The terminal length is 38'-3 1/2", can be flared for an offset of 0 to 1 foot at the head and can be obtained from the manufacturer at:

Address	Telephone no.
TRAFFIC MANAGEMENT, INC 5410 EASTGATE MALL SAN DIEGO, CA 92121	(888) 722-6775 (760) 421-4112

83-2.04B(3) Construction

Identify each terminal system by painting the type of terminal system in 2-inch-high, neat, black letters and figures on the backside of the rail element between system posts number 4 and 5. Paint must be metallic acrylic resin type spray paint. Before applying terminal system identification, the surface to receive terminal system identification must be free of all dirt, grease, oil, salt, or other contaminants by washing the surface with detergent or other suitable cleaner. Rinse thoroughly with fresh water and allow to fully dry.

Install Type MAX-Tension terminal system under the manufacturer's installation instructions. Use 8-inch plastic or composite blocks. Install W6x8.5 or W6x9 at post positions after Post 1. Backfill the space around the posts with selected earth that is free of rock. The posts must be, at your option, driven with or without pilot holes, or placed in drilled holes. Space around the posts 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.

Install Type SoftStop terminal system under the manufacturer's installation instructions. For Type SoftStop terminal system, use W6 x 8.5 steel yielding terminal posts for Posts 1 and 2 and standard W6 x 8.5 steel posts for the other posts. Drive all posts or place them in drilled holes. Backfill the space around the posts with selected earth that is free of rock. Moisten and thoroughly compact each layer. For the terminal with a system length of 50'-9 1/2" or system length of 38'-3 1/2", all blocks must be plastic and must be 8inches deep.

83-2.04B(4) Payment

Not used.

Add to the end of section 83-2.05D:

Payment for the concrete curb underneath the California bridge rail is incidental to the payment for California bridge rail.

DIVISION XI MATERIALS

96 GEOSYNTHETICS

Add to section 96-1.02B:

Filter fabric for geocomposite must be Class A.