

The SC6-3(CA) or SC6-4(CA) signs shall be installed at least 7 days before closing the connector or ramp, but not more than 14 days before the connector or ramp closure. The Contractor shall notify the Engineer at least 2 business days before installing the SC6-3(CA) or SC6-4(CA) signs. The SC6-3(CA) or SC6-4(CA) signs shall be stationary mounted at locations shown on the plans and as directed by the Engineer.

Accurate information shall be maintained on the SC6-3(CA) or SC6-4(CA) signs. The SC6-3(CA) or SC6-4(CA) signs, when no longer required, shall be immediately covered or removed.

When work vehicles or equipment are parked on the shoulder within 1.8 m of a traffic lane, the shoulder area shall be closed as shown on the plans.

If minor deviations from the lane requirement charts are required, a written request shall be submitted to the Engineer at least 15 days before the proposed date of the closure. The Engineer may approve the deviations if there is no significant increase in the cost to the County and if the work can be expedited and better serve the public traffic.

When complete freeway, expressway or conventional highway closure is required, only one detour for each direction of travel will be allowed for the following operations: Bridge Removal.

Designated legal holidays are: January 1st, the third Monday in February, the last Monday in May, July 4th, the first Monday in September, November 11th, Thanksgiving Day, and December 25th. When a designated legal holiday falls on a Sunday, the following Monday shall be a designated legal holiday. When November 11th falls on a Saturday, the preceding Friday shall be a designated legal holiday.

Full compensation for furnishing, erecting, maintaining, and removing and disposing of the C43(CA), SC6-3(CA), SC6-4(CA), W20-1, W21-5b, and C24(CA) signs shall be considered as included in the contract lump sum price paid for Construction Area Signs and no additional compensation will be allowed therefor.

Lane Closure Restriction for Designated Legal Holidays and Special Days										
Thu	Fri	Sat	Sun	Mon	Tues	Wed	Thu	Fri	Sat	Sun
x	H xx	xx	xx							
	SD xx									
x	xx	H xx	xx							
		SD xx								
	x	xx	H xx	xx						
			SD xx							
	x	xx	xx	H xx						
	x	xx	xx	SD xx						
				x	H xx					
				x	SD xx					
					x	H xx				
						SD xx				
						x	H xx	xx		xx
							SD xx			

Legends:

	Refer to lane closure charts
x	The full width of the traveled way shall be open for use by public traffic after ____.
xx	The full width of the traveled way shall be open for use by public traffic.
H	Designated Legal Holiday
SD	Special Day

Pedestrian access facilities shall be provided through construction areas within the right of way as shown on the plans and as specified herein. Pedestrian walkways shall be surfaced with hot mix asphalt, Portland cement concrete or timber. The surface shall be skid resistant and free of irregularities. Hand railings shall be provided on each side of pedestrian walkways as necessary to protect pedestrian traffic from hazards due to construction operations or adjacent vehicular traffic. Protective overhead covering shall be provided as necessary to insure protection from falling objects and drip from overhead structures.

In addition to the required openings through falsework, pedestrian facilities shall be provided during pile driving, footing, wall, and other bridge construction operations. At least one walkway shall be available at all times. If the Contractor's operations require the closure of one walkway, then another walkway shall be provided nearby, off the traveled roadway.

Railings shall be constructed of wood, S4S, and shall be painted white. Railings and walkways shall be maintained in good condition. Walkways shall be kept clear of obstructions.

Full compensation for providing pedestrian facilities shall be considered as included in the prices paid for the various contract items of work involved and no additional compensation will be allowed therefor.

Chart No. 1 EA#: 08-455701 Freeway/Expressway Lane Requirements																												
County: Riv					Route/Direction: 10/EB										PM: 32.6/35.2													
Closure Limits:																												
FROM HOUR TO HOUR		24	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
Mondays through Thursdays		1	1	1	1	1																			2	1	1	
Fridays		1	1	1	1	1																				2	2	
Saturdays		1	1	1	1	1	1																			1	1	
Sundays		1	1	1	1	1	1	1																		2	1	1
Legend:																												
1		Provide at least one through freeway lane open in direction of travel																										
2		Provide at least two adjacent through freeway lanes open in direction of travel																										
		Work permitted within project right of way where shoulder or lane closure is not required.																										
REMARKS: Maximum of 4 nights closure shall be allowed (to place and remove k-rail).If directed by Traffic Operations include a remark regarding a reference to the "Lane Closure Restriction for Designated Legal Holidays and Special Days" table as follows: "See Lane Closure Restriction for Designated Legal Holidays and Special Days table in Maintain Traffic of these Special Provisions for additional closure restrictions."																												

Chart No. 2																											
EA#: 08-455701																											
Freeway/Expressway Lane Requirements																											
County: Riv							Route/Direction: 10/WB							PM: 32.6/35.2													
Closure Limits:																											
FROM HOUR TO HOUR		24	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
Mondays through Thursdays		1	1	1	1	1																			1	1	1
Fridays		1	1	1	1	1																				1	1
Saturdays		1	1	1	1	1	1																				1
Sundays		1	1	1	1	1	1	1																	2	2	1
Legend:																											
1		Provide at least one through freeway lane open in direction of travel																									
2		Provide at least two adjacent through freeway lanes open in direction of travel																									
		Work permitted within project right of way where shoulder or lane closure is not required.																									
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Chart No. 3																											
EA#: 08-455701																											
Complete Freeway/Expressway Closure Hours																											
County: Riv							Route/Direction: 10/EB							PM: 33.129													
Closure Limits:																											
FROM HOUR TO HOUR		24	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
Mondays through Thursdays		C	C	C	C	C																					
Fridays			C	C	C	C																					
Saturdays		C	C	C	C	C																					
Sundays		C	C	C	C	C	C	C	C																		
Legend:																											
C		Freeway or expressway may be closed completely.																									
		No complete freeway or expressway closure is permitted.																									
REMARKS: A total of 5 nights of full closure shall take place. If directed by Traffic Operations include a remark regarding a reference to the "Lane Closure Restriction for Designated Legal Holidays and Special Days" table as follows: "See Lane Closure Restriction for Designated Legal Holidays and Special Days table in Maintain Traffic of these Special Provisions for additional closure restrictions."																											

Chart No. 4 EA#: 08-455701 Complete Freeway/Expressway Closure Hours																									
County: Riv					Route/Direction: 10/WB										PM: 33.129										
Closure Limits:																									
FROM HOUR TO HOUR	24	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Mondays	C	C	C	C	C																				
Tuesdays through Thursdays	C	C	C	C	C																				
Fridays	C	C	C	C	C																				
Saturdays	C	C	C	C	C	C																			
Sundays	C	C	C	C	C	C	C																		
Legend:																									
<input type="checkbox"/> C Freeway or expressway may be closed completely.																									
<input type="checkbox"/> No complete freeway or expressway closure is permitted.																									
REMARKS: A total of 5 nights of full closure shall take place. If directed by Traffic Operations include a remark regarding a reference to the "Lane Closure Restriction for Designated Legal Holidays and Special Days" table as follows: "See Lane Closure Restriction for Designated Legal Holidays and Special Days table in Maintain Traffic of these Special Provisions for additional closure restrictions."																									

Chart No. 5 EA#: 08-455701 Complete Ramp Closure Hours																										
County: Riv					Route/Direction: 10/WB										PM: 32.9											
Closure Limits: Indian Ave (PM 32.884)																										
FROM HOUR TO HOUR	24	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
Mondays through Thursdays	C	C	C	C	C																			C	C	C
Fridays	C	C	C	C	C																			C	C	
Saturdays	C	C	C	C	C	C																		C	C	
Sundays	C	C	C	C	C	C	C																	C	C	C
Legend:																										
<input type="checkbox"/> C Ramp may be closed completely.																										
<input type="checkbox"/> Work permitted within project right of way where shoulder or lane closure is not required.																										
REMARKS: If directed by Traffic Operations include a remark regarding a reference to the "Lane Closure Restriction for Designated Legal Holidays and Special Days" table as follows: "See Lane Closure Restriction for Designated Legal Holidays and Special Days table in Maintain Traffic of these Special Provisions for additional closure restrictions."																										

Chart No. 6 EA#: 08-455701 Complete Ramp Closure Hours																											
County: Riv					Route/Direction: 10/WB										PM: 33.4												
Closure Limits: Indian Ave (PM 33.351)																											
FROM HOUR TO HOUR	24	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
Mondays through Thursdays	C	C	C	C	C																			C	C	C	
Fridays	C	C	C	C	C																				C	C	
Saturdays	C	C	C	C	C	C																				C	
Sundays	C	C	C	C	C	C	C																		C	C	C
Legend: <input type="checkbox"/> C Ramp may be closed completely. <input type="checkbox"/> Work permitted within project right of way where shoulder or lane closure is not required.																											
REMARKS: If directed by Traffic Operations include a remark regarding a reference to the "Lane Closure Restriction for Designated Legal Holidays and Special Days" table as follows: "See Lane Closure Restriction for Designated Legal Holidays and Special Days table in Maintain Traffic of these Special Provisions for additional closure restrictions."																											

Precast concrete members shall not be cast within the right of way of Route 10.

Erection of girders over Route 10 shall be undertaken one span at a time. During girder erection, public traffic in the lanes over which girders are being placed shall be detoured or stopped as specified in this section, "Maintaining Traffic".

Erection and removal of falsework at locations where falsework openings are required shall be undertaken one location at a time. During falsework erection and removal, public traffic in the lanes over which falsework is being erected or removed shall be detoured or stopped as specified in this section, "Maintaining Traffic". Falsework erection shall include adjustments or removal of components that contribute to the horizontal stability of the falsework system. Falsework removal shall include lowering falsework, blowing sand from sand jacks, turning screws on screw jacks, and removing wedges.

The Contractor shall have necessary materials and equipment on the site to erect or remove the girders and falsework in any one span before detouring or stopping public traffic.

10-1.47 CLOSURE REQUIREMENTS AND CONDITIONS:

Closures shall conform to the provisions in "Maintaining Traffic" of these Special Provisions and these Special Provisions.

CLOSURE SCHEDULE

By noon Monday, the Contractor shall submit a written schedule of planned closures for the following week period, defined as Sunday noon through the following Sunday noon. Closures involving work (temporary barrier placement and paving operations) that will reduce horizontal clearances, traveled way inclusive of shoulders, to 2 lanes or less shall be submitted not less than 25 days and not more than 125 days before the anticipated start of operation. Closures involving work (pavement overlay, overhead sign installation, falsework and girder erection) that will reduce the vertical clearances available to the public, shall be submitted not less than 25 days and not more than 125 days before the anticipated start of operation.

The Closure Schedule shall show the locations and times of the proposed closures. The Closure Schedule request forms furnished by the Engineer shall be used. Closure Schedules submitted to the Engineer with incomplete or inaccurate information will be rejected and returned for correction and re-submittal. The Contractor will be notified of disapproved closures or closures that require coordination with other parties as a condition of approval.

Closure Schedule amendments, including adding additional closures, shall be submitted by noon to the Engineer, in writing, at least 3 business days in advance of a planned closure. Approval of Closure Schedule amendments will be at the discretion of the Engineer.

The Engineer shall be notified of cancelled closures 2 business days before the date of closure.

Closures that are cancelled due to unsuitable weather may be rescheduled at the discretion of the Engineer.

CONTINGENCY PLAN

A detailed contingency plan shall be prepared for reopening closures to public traffic. If required by "Beginning of Work, Time of Completion and Liquidated Damages" of these Special Provisions, the contingency plan shall be submitted to the Engineer before work at the job site begins. Otherwise, the contingency plan shall be submitted to the Engineer within one business day of the Engineer's request.

LATE REOPENING OF CLOSURES

If a closure is not reopened to public traffic by the specified time, work shall be suspended in conformance with the provisions in Section 8-1.05, "Temporary Suspension of Work" of the Standard Specifications. No further closures are to be made until the Engineer has accepted a work plan, submitted by the Contractor, that will insure that future closures

will be reopened to public traffic at the specified time. The Engineer will have 2 business days to accept or reject the Contractor's proposed work plan. The Contractor will not be entitled to compensation for the suspension of work resulting from the late reopening of closures.

For each 10-minute interval, or fraction thereof past the time specified to reopen the closure, the Department will deduct \$7,100 per interval from moneys due or that may become due to the Contractor under the contract.

COMPENSATION

The Engineer shall be notified of delays in the Contractor's operations due to the following conditions, and if, in the opinion of the Engineer, the Contractor's controlling operation is delayed or interfered with by reason of those conditions, and the Contractor's loss due to that delay could not have been avoided by rescheduling the affected closure or by judicious handling of forces, equipment and plant, the delay will be considered a right of way delay and will be compensated in conformance with the provisions in Section 8-1.09, "Right of Way Delays" of the Standard Specifications:

- A. The Contractor's proposed Closure Schedule is denied and his planned closures are within the time frame allowed for closures in "Maintaining Traffic" of these Special Provisions, except that the Contractor will not be entitled to compensation for amendments to the Closure Schedule that are not approved.
- B. The Contractor is denied a confirmed closure.

Should the Engineer direct the Contractor to remove a closure before the time designated in the approved Closure Schedule, delay to the Contractor's schedule due to removal of the closure will be considered a right of way delay and compensation for the delay will be determined in conformance with the provisions in Section 8-1.09, "Right of Way Delays" of the Standard Specifications.

10-1.48 TRAFFIC CONTROL SYSTEM FOR LANE CLOSURE:

A traffic control system shall consist of closing traffic lanes and ramps in conformance with the details shown on the plans, the provisions in Section 12, "Construction Area Traffic Control Devices" of the Standard Specifications, the provisions under "Maintaining Traffic" and "Construction Area Signs" of these Special Provisions, and these Special Provisions.

The provisions in this section will not relieve the Contractor of responsibility for providing additional devices or taking measures as may be necessary to comply with the provisions in Section 7-1.09, "Public Safety" of the Standard Specifications.

During traffic stripe operations and pavement marker placement operations using bituminous adhesive, traffic shall be controlled, at the option of the Contractor, with either stationary or moving lane closures. During other operations, traffic shall be controlled with stationary lane closures. Attention is directed to the provisions in Section 84-1.04,

"Protection From Damage" and Section 85-1.06, "Placement" of the Standard Specifications.

If components in the traffic control system are displaced or cease to operate or function as specified, from any cause, during the progress of the work, the Contractor shall immediately repair the components to the original condition or replace the components and shall restore the components to the original location.

STATIONARY LANE CLOSURE

When lane and ramp closures are made for work periods only, at the end of each work period, components of the traffic control system, except portable delineators placed along open trenches or excavation adjacent to the traveled way, shall 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.

Each vehicle used to place, maintain and remove components of a traffic control system on multilane highways shall be equipped with a Type II flashing arrow sign which shall be in operation when the vehicle is being used for placing, maintaining or removing the components. Vehicles equipped with Type II flashing arrow sign not involved in placing, maintaining or removing the components when operated within a stationary type lane closure shall only display the caution display mode. The sign shall be controllable by the operator of the vehicle while the vehicle is in motion. The flashing arrow sign shown on the plans shall not be used on the vehicles which are doing the placing, maintaining and removing of components of a traffic control system and shall be in place before a lane closure requiring the sign's use is completed.

The 500-m section of a lane closure, shown along lane lines between the 300-m lane closure tapers on the plans entitled "Traffic Control System for Lane Closures on Freeways and Expressways" and "Traffic Control System for Lane and Complete Closures on Freeways and Expressways" shall not be used.

The traffic cones shown to be placed transversely across closed traffic lanes and shoulders on the plans entitled "Traffic Control System for Lane Closures on Freeways and Expressways" and "Traffic Control System for Lane and Complete Closures on Freeways and Expressways" shall not be placed.

MOVING LANE CLOSURE

Flashing arrow signs used in moving lane closures shall be truck-mounted. Changeable message signs used in moving lane closure operations shall conform to the provisions in Section 12-3.12, "Portable Changeable Message Signs" of the Standard Specifications, except the signs shall be truck-mounted and the full operation height of the bottom of the sign may be less than 2.1 m above the ground, but should be as high as practicable.

Truck-mounted attenuators (TMA) for use in moving lane closures shall be any of the following approved models, or equal:

- A. Hexfoam TMA Series 3000, Alpha 1000 TMA Series 1000, and Alpha 2001 TMA Series 2001, manufactured by Energy Absorption Systems, Inc., 35 East Wacker Drive, Suite 1100, Chicago, IL 60601:
 - 1. Northern California: Traffic Control Service, Inc., 8585 Thys Court, Sacramento, CA 95828, telephone (800) 884-8274, FAX (916) 387-9734.
 - 2. Southern California: Traffic Control Service, Inc., 1818 E. Orangethorpe, Fullerton, CA 92831-5324, telephone (800) 222-8274, FAX (714) 526-9501.
- B. Cal T-001 Model 2 or Model 3, manufacturer and distributor: Hexcel Corporation, 11711 Dublin Boulevard, P.O. Box 2312, Dublin, CA 94568, telephone (925) 551-4900.
- C. Renco Rengard Model Nos. CAM 8-815 and RAM 8-815, manufacturer and distributor: Renco Inc., 1582 Pflugerville Loop Road, P.O. Box 730, Pflugerville, TX 78660-0730, telephone (800) 654-8182.

Each TMA shall be individually identified with the manufacturer's name, address, TMA model number, and a specific serial number. The names and numbers shall each be a minimum 13 mm high and located on the left (street) side at the lower front corner. The TMA shall have a message next to the name and model number in 13 mm high letters which states; "The bottom of this TMA shall be 3000 mm \pm 250mm above the ground at all points for proper impact performance". Any TMA which is damaged or appears to be in poor condition shall not be used unless recertified by the manufacturer. The Engineer shall be the sole judge as to whether used TMAs supplied under this contract need recertification. Each unit shall be certified by the manufacturer to meet the requirements for TMA in conformance with the standards established by the Transportation Laboratory. Approvals for new TMA designs proposed as equal to the above approved models shall be in conformance with the procedures (including crash testing) established by the Transportation Laboratory. For information regarding submittal of new designs for evaluation contact: Transportation Laboratory, 5900 Folsom Boulevard, Sacramento, California 95819.

New TMAs proposed as equal to approved TMAs or approved TMAs determined by the Engineer to need recertification shall not be used until approved or recertified by the Transportation Laboratory.

PAYMENT

Full compensation, except as otherwise provided herein, for conforming to the requirements of this article shall be paid for on a lump sum basis for Traffic Control System and shall include full compensation for furnishing all labor, materials (including signs), tools, equipment, and incidentals, and for doing all the work involved in placing, removing, storing, maintaining, moving to new locations, replacing and disposing of the components of the traffic control system shown on the plans, as specified in the Standard Specifications and these Special Provisions, and as directed by the Engineer.

The adjustment provisions in Section 4-1.03, "Changes" of the Standard Specifications shall not apply to the item of traffic control system. Adjustments in compensation for traffic control system will be made only for increased or decreased traffic control system required by changes ordered by the Engineer and will be made on the basis of the cost of the increased or decreased traffic control necessary. The adjustment will be made on a force account basis as provided in Section 9-1.03, "Force Account Payment" of the Standard Specifications for increased work and estimated on the same basis in the case of decreased work.

Traffic control system required by work which is classed as extra work, as provided in Section 4-1.03D of the Standard Specifications, will be paid for as a part of the extra work.

10-1.49 TRAFFIC CONTROL SYSTEM FOR RAMP CLOSURES:

At the times and locations specified under "Maintaining Traffic" of these Special Provisions, ramps shall be closed in conformance with the details shown on the plans, the provisions in Section 12, "Construction Area Traffic Control Devices" of the Standard Specifications, and these Special Provisions.

The provisions in this section will not relieve the Contractor of the responsibility to provide additional devices or take measures as may be necessary to comply with the provisions in Section 7-1.09, "Public Safety" of the Standard Specifications.

If components used for closing a ramp are displaced or cease to operate or function as specified, from any cause, during the progress of the work, the Contractor shall immediately repair the components to the original condition or replace the components and shall restore the components to the original location.

When ramp closures are made for work periods only, at the end of each work period, components used for the ramp closure, except portable delineators placed along open trenches or excavation adjacent to the traveled way, shall 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.

RAMP CLOSED signs [SC6-3(CA)] shall be used to inform motorists of the temporary closing of a freeway or expressway entrance or exit ramp for not more than one day.

RAMP CLOSED signs [SC6-4(CA)] shall be used to inform motorists of the temporary closing of a freeway or expressway entrance or exit ramp for more than one day.

The SC6-3(CA) or SC6-4(CA) signs shall be installed at least 7 calendar days prior to closing the ramp, but not more than 14 days in advance of the ramp closure. The Contractor shall notify the Engineer not less than 2 calendar days prior to installing the SC6-3(CA) or SC6-4(CA) signs. The SC6-3(CA) or SC6-4(CA) signs shall be stationary mounted at locations shown on the plans and shall remain in place and visible to motorists during ramp closures.

The Contractor shall be responsible for maintaining accurate and timely information on the SC6-3(CA) or SC6-4(CA) signs. The SC6-3(CA) or SC6-4(CA) signs, when no longer required or when the information becomes outdated, shall be immediately covered or removed, or the sign message shall be updated.

Full compensation for providing the ramp closures shown on the plans, including furnishing, installing, maintaining, covering, and removing SC6-3(CA) and SC6-4(CA) signs, shall be considered as included in the contract prices paid for the various items of work involved and no separate payment will be made therefor.

10-1.50 TEMPORARY PAVEMENT DELINEATION:

Temporary pavement delineation shall be furnished, placed, maintained, and removed in conformance with the provisions in Section 12-3.01, "General" of the Standard Specifications and these Special Provisions. Nothing in these Special Provisions shall be construed as reducing the minimum standards specified in the California MUTCD or as relieving the Contractor from the responsibilities specified in Section 7-1.09, "Public Safety" of the Standard Specifications.

GENERAL

When the work causes obliteration of pavement delineation, temporary or permanent pavement delineation shall be in place before opening the traveled way to public traffic. Lane line or centerline pavement delineation shall be provided for traveled ways open to public traffic. On multilane roadways (freeways and expressways), edgeline delineation shall be provided for traveled ways open to public traffic.

The Contractor shall perform the work necessary to establish the alignment of temporary pavement delineation, including required lines or markers. Surfaces to receive application of paint or removable traffic tape temporary pavement delineation shall be dry and free of dirt and loose material. Temporary pavement delineation shall not be applied over existing pavement delineation or other temporary pavement delineation. Temporary pavement delineation shall be maintained until superseded or replaced with a new pattern of temporary pavement delineation or permanent pavement delineation, or as determined by the Engineer.

Temporary pavement markers, including underlying adhesive, and removable traffic tape that conflicts with a new traffic pattern or that is applied to the final layer of surfacing or existing pavement to remain in place shall be removed when no longer required for the direction of public traffic, as determined by the Engineer.

Temporary pavement delineation shall be used on or adjacent to lanes open to public traffic for a maximum of 14 days. Before the end of the 14 days, the permanent pavement delineation shall be placed. If the permanent pavement delineation is not placed within the 14 days, additional temporary pavement delineation shall be provided by the Contractor at no additional cost to the Department. The additional temporary pavement delineation to be provided shall be equivalent to the pattern specified for the permanent pavement delineation for the area, as determined by the Engineer.

Painted traffic stripe used for temporary delineation shall conform to "Paint Traffic Stripe and Pavement Marking" of these Special Provisions, except for payment. The number of coats shall be 2 coats. The quantity of painted traffic stripe used for temporary delineation will not be included in the quantities of paint traffic stripe to be paid for.

TEMPORARY LANELINE AND CENTERLINE DELINEATION

When lanelines or centerlines are obliterated, the minimum laneline and centerline delineation to be provided shall be temporary pavement markers placed at longitudinal intervals of not more than 7.3 m. The temporary pavement markers shall be the same color as the laneline or centerline the markers replace. Temporary pavement markers shall be, at the option of the Contractor, one of the temporary pavement markers listed for short term day/night use (14 days or less) or long term day/night use (6 months or less) in "Prequalified and Tested Signing and Delineation Materials" of these Special Provisions. Temporary pavement markers shall be placed in conformance with the manufacturer's instructions and shall be cemented to the surfacing with the adhesive recommended by the manufacturer, except epoxy adhesive shall not be used to place pavement markers in areas where removal of the markers will be required.

Temporary laneline or centerline delineation consisting entirely of temporary pavement markers listed for short term day/night use (14 days or less), shall be placed on longitudinal intervals of not more than 7.3 m and shall be used for a maximum of 14 days on lanes opened to public traffic. Before the end of the 14 days the permanent pavement delineation shall be placed. If the permanent pavement delineation is not placed within the 14 days, the Contractor shall replace the temporary pavement markers and provide additional temporary pavement delineation and shall bear the cost thereof. The additional temporary pavement delineation to be provided shall be equivalent to the pattern specified for the permanent pavement delineation for the area, as determined by the Engineer.

Full compensation for furnishing, placing, maintaining, and removing temporary pavement markers used for temporary laneline and centerline delineation and for providing equivalent patterns of permanent traffic lines for these areas when required shall be considered as included in the contract price paid for the items of work that obliterated the laneline and centerline pavement delineation and no separate payment will be made therefor.

TEMPORARY EDGELINE DELINEATION

When edgelines are obliterated on multilane roadways (freeways and expressways), the edgeline delineation to be provided for that area adjacent to lanes open to public traffic shall consist of, at the option of the Contractor, either solid 100-mm wide traffic stripe tape of the same color as the stripe it replaces, traffic cones, portable delineators or channelizers placed at longitudinal intervals not to exceed 30 m. Where removal of the 100-mm wide traffic stripe will not be required, painted traffic stripe may be used.

Temporary removable construction grade striping and pavement marking tape shall be as listed in "Prequalified and Tested Signing and Delineation Materials" of these Special Provisions. Temporary removable construction grade striping and pavement marking tape when used shall be applied in conformance with the manufacturer's recommendations.

The lateral offset for traffic cones, portable delineators or channelizers used for temporary edgeline delineation shall be determined by the Engineer. If traffic cones or portable delineators are used as temporary pavement delineation for edgelines, the Contractor shall provide personnel to remain at the project site to maintain the cones or delineators during hours of the day that the cones or delineators are in use.

Channelizers used for temporary edgeline delineation shall be the surface mounted type and shall be orange in color. Channelizer bases shall be cemented to the pavement in the same manner provided for cementing pavement markers to pavement in "Pavement Markers" of these Special Provisions, except epoxy adhesive shall not be used to place channelizers on the top layer of pavement. Channelizers shall be, at the Contractor's option, one of the surface mount types (900-mm) listed in "Prequalified and Tested Signing and Delineation Materials" of these Special Provisions.

Temporary edgeline delineation shall be removed when no longer required for the direction of public traffic, as determined by the Engineer.

TEMPORARY TRAFFIC STRIPE AND PAVEMENT MARKING (PAINT)

Temporary traffic stripe and pavement markings consisting of painted pavement marking shall be applied and maintained at the locations shown on the plans. The painted temporary traffic stripes and pavement markings shall be complete in place at the location shown before opening the traveled way to public traffic. Removal of painted temporary traffic stripes and pavement markings will not be required.

Temporary painted traffic stripes and pavement markings shall conform to the provisions in "Paint Traffic Stripe and Pavement Marking" of these Special Provisions, except for payment. At the option of the Contractor, either one or 2 coats shall be applied regardless whether on new or existing pavement.

At the Contractor's option, temporary removable pavement marking tape or permanent pavement marking tape listed in "Prequalified and Tested Signing and Delineation Materials" of these Special Provisions may be used instead of painted temporary traffic stripes and pavement markings. When pavement marking tape is used, regardless of which type of tape is placed, the tape will be measured and paid for by the square meter as Temporary Pavement Marking (Paint).

MEASUREMENT AND PAYMENT

Temporary traffic stripe and temporary pavement marking shown on the plans will be measured and paid for in the same manner specified for paint traffic stripe and paint pavement marking in Section 84-3.06, "Measurement" and Section 84-3.07, "Payment" of the Standard Specifications.

Temporary pavement markers shown on the plans will be measured and paid for by the unit in the same manner specified for retroreflective pavement markers in Section 85-1.08, "Measurement" and Section 85-1.09, "Payment" of the Standard Specifications.

Full compensation for furnishing, placing, maintaining, and removing the temporary pavement markers (including underlying adhesive, layout (dribble) lines to establish alignment of temporary pavement markers or used for temporary laneline and centerline delineation for those areas where temporary laneline and centerline delineation is not shown on the plans and for providing equivalent patterns of permanent traffic lines for those areas when required, shall be considered as included in the contract prices paid for the items of work that obliterated the laneline and centerline pavement delineation and no separate payment will be made therefor.

10-1.51 BARRICADE:

Barricades shall be furnished, placed and maintained at the locations shown on the plans, specified in the Standard Specifications or in these Special Provisions or where designated by the Engineer. Barricades shall conform to the provisions in Section 12, "Construction Area Traffic Control Devices" of the Standard Specifications and these Special Provisions.

Attention is directed to "Prequalified and Tested Signing and Delineation Materials" of these Special Provisions regarding retroreflective sheeting for barricades.

Construction area sign and marker panels conforming to the provisions in Section 12-3.06, "Construction Area Signs" of the Standard Specifications shall be installed on barricades in a manner determined by the Engineer at the locations shown on the plans.

Sign panels for construction area signs and marker panels installed on barricades shall conform to the provisions in Section 12-3.06A, "Stationary Mounted Signs" of the Standard Specifications.

Full compensation for furnishing, installing, maintaining, and removing construction area signs and marker panels on barricades shall be considered as included in the contract unit price paid for the type of barricade involved and no separate payment will be made therefor.

Barricades shown on the plans as part of a traffic control system will be paid for as provided in "Traffic Control System for Lane Closure" of these Special Provisions and will not be included in the count for payment of barricades.

10-1.52 PORTABLE CHANGEABLE MESSAGE SIGN:

Portable changeable message signs shall be furnished, placed, operated, and maintained at those locations shown on the approved Detour Plans or where designated by the Engineer in conformance with the provisions in Section 12, "Construction Area Traffic Control Devices" of the Standard Specifications and these Special Provisions. Full compensation for the provisions, installation, operation and maintenance of these portable changeable message signs will be considered as included in the contract price for Traffic Control System and no additional compensation will be allowed therefor.

Portable changeable message signs that are in addition to those shown on the approved Traffic Control Plans shall be furnished, placed, operated and maintained as directed by the Engineer. Full compensation for the provisions, installation, operation and maintenance of these portable changeable message signs shall be paid at the contract price each for Portable Changeable Message Sign and no additional compensation will be allowed therefor.

A portable changeable message sign shall be placed in advance of the first warning sign for each stationary lane closure.

A portable changeable message sign shall be placed before and during ramp and connector closures.

A portable changeable message sign shall be placed during speed zone reductions. When used in conjunction with a lane closure, use one portable changeable message sign, with both the speed zone reduction and the lane closure messages.

The contract paid for as each for Portable Changeable Message Signs and shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals and for doing all the work involved in furnishing, placing, operating, maintaining repairing, transporting from location to location and removing portable changeable message signs, complete in place as specified in the Standard Specifications and these Special Provisions, as shown in the plans and as directed by the Engineer.

10-1.53 TEMPORARY RAILING:

Temporary railing (Type K) shall be placed as shown on the plans, as specified in the Standard Specifications or these Special Provisions or where ordered by the Engineer and shall conform to the provisions in Section 12, "Construction Area Traffic Control Devices" of the Standard Specifications and these Special Provisions.

Temporary railing (Type K) shall be secured in place before starting work for which the temporary railing is required.

Reflectors on temporary railing (Type K) shall conform to the provisions in "Prequalified and Tested Signing and Delineation Materials" of these Special Provisions.

Temporary railing (Type K) placed in conformance with the provisions in "Public Safety" of these Special Provisions will be neither measured nor paid for

PAYMENT

The contract unit bid price paid per meter for Temporary railing (Type K) shall include full compensation all labor, tools, materials, equipment, and incidentals, and for doing all the work involved including the pinning of K-rail at locations as directed by the Engineer and no additional compensation will be allowed therefor.

10-1.54 TRAFFIC PLASTIC DRUMS:

GENERAL

Summary

Work includes placing traffic plastic drums and shall comply with:

- A. Section 12, "Construction Area Traffic Control Devices" of the Standard Specifications.
- B. Section 6F.62, "Drums" of the California Manual On Uniform Traffic Control Devices.
- C. Traffic plastic drum manufacturer's recommendations for weight and ballast.

Definitions

Orange-Colored: Orange-colored may be either orange, red-orange, fluorescent orange or fluorescent red-orange in color.

Submittals

Upon request, submit a Certificate of Compliance for Traffic Plastic Drum under Section 6-1.07, "Certificates of Compliance" of the Standard Specifications.

Quality Control and Assurance

White and orange-colored retroreflective stripes must be a brand of retroreflective sheeting listed on the Department's "Prequalified and Tested Signing and Delineation Materials" of these Special Provisions. White and orange-colored stripe may be either Type III, Type IV, Type VI, Type VII, Type VIII, or Type IX retroreflective sheeting. Use the same type and brand of retroreflective sheeting for all traffic plastic drums.

MATERIALS

Traffic plastic drum must:

- A. Be orange-colored low-density polyethylene.
- B. Be flexible and collapsible upon vehicle impact.
- C. Have a weighted-base to maintain an upright position and prevent displacement under passing traffic.

Weighted-base must be:

- A. Detachable.
- B. Shaped to prevent rolling upon impact.
- C. 70-mm maximum outside diameter.
- D. 100-mm maximum height above the ground surface.

CONSTRUCTION

Place a traffic plastic drum on only one side of the traveled way, in a straight line on a tangent alignment, and in a true arc on a curved alignment.

Use only one type of traffic plastic drum on the job site. Do not intermix traffic plastic drums, portable delineators, tubular markers, traffic cones, and Type I and Type II barricades on the same alignment.

Do not use sandbags or comparable ballast.

Traffic plastic drum must be a minimum of 900-mm in height above the traveled way.

Immediately restore a displaced traffic plastic drum to its original location and upright position.

Upon completion of work, traffic plastic drums become your property and must be removed from the job site.

MEASUREMENT AND PAYMENT

Traffic plastic drum is measured by the unit from actual count designated on the plans or ordered by the Engineer.

After initial placement of traffic plastic drums, and if ordered by the Engineer, traffic plastic drums must be moved from location to location, the cost thereof will be paid for as extra work as specified in Section 4-1.03D, "Extra Work" of the Standard Specifications.

The contract unit price paid for Traffic Plastic Drum includes full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in placing and maintaining traffic plastic drums, complete in place, as shown on the plans, as specified in the Standard Specifications and these Special Provisions, and as directed by the Engineer.

10-1.55 TEMPORARY CRASH CUSHION MODULE:

This work shall consist of furnishing, installing, and maintaining sand filled temporary crash cushion modules in groupings or arrays at each location shown on the plans, as specified in these Special Provisions or where designated by the Engineer. The grouping or array of sand filled modules shall form a complete sand filled temporary crash cushion in conformance with the details shown on the plans and these Special Provisions.

Attention is directed to "Public Safety" and "Temporary Railing" of these Special Provisions.

Temporary crash cushions shall be secured in place prior to commencing work for which the temporary crash cushions are required.

Whenever the work or the Contractor's operations establishes a fixed obstacle, the exposed fixed obstacle shall be protected with a sand filled temporary crash cushion. The sand filled temporary crash cushion shall be in place prior to opening the lanes adjacent to the fixed obstacle to public traffic.

Sand filled temporary crash cushions shall be maintained in place at each location, including times when work is not actively in progress. Sand filled temporary crash cushions may be removed during a work period for access to the work provided that the exposed fixed obstacle is 4.6 m or more from a lane carrying public traffic and the temporary crash cushion is reset to protect the obstacle prior to the end of the work period in which the fixed obstacle was exposed. When no longer required, as determined by the Engineer, sand filled temporary crash cushions shall be removed from the site of the work. At the Contractor's option, the modules for use in sand filled temporary crash cushions shall be either Energite III Inertial Modules, Fitch Inertial Modules or Traffix Sand Barrels manufactured after March 31, 1997, or equal:

- A. Energite III and Fitch Inertial Modules, manufactured by Energy Absorption Systems, Inc., 35 East Wacker Drive, Suite 1100, Chicago, IL 60601:
 - 1. Northern California: Traffic Control Service, Inc., 8585 Thys Court, Sacramento, CA 95828, telephone (800) 884-8274, FAX (916) 387-9734.
 - 2. Southern California: Traffic Control Service, Inc., 1818 E. Orangethorpe, Fullerton, CA 92831-5324, telephone (800) 222-8274, FAX (714) 526-9501.

- B. Traffix Sand Barrels, manufactured by Traffix Devices, Inc., 220 Calle Pintoresco, San Clemente, CA 92672, telephone (949) 361-5663, FAX (949) 361-9205:
 - 1. Northern California: United Rentals, Inc., 1533 Berger Drive, San Jose, CA 95112, telephone (408) 287-4303, FAX (408) 287-1929.
 - 2. Southern California: Statewide Safety & Sign, Inc., P.O. Box 1440, Pismo Beach, CA 93448, telephone (800) 559-7080, FAX (805) 929-5786.

Modules contained in each temporary crash cushion shall be of the same type at each location. The color of the modules shall be the standard yellow color, as furnished by the vendor, with black lids. The modules shall exhibit good workmanship free from structural flaws and objectionable surface defects. The modules need not be new. Good used undamaged modules conforming to color and quality of the types specified herein may be utilized. If used Fitch modules requiring a seal are furnished, the top edge of the seal shall be securely fastened to the wall of the module by a continuous strip of heavy duty tape.

Modules shall be filled with sand in conformance with the manufacturer's directions, and to the sand capacity in kilograms for each module shown on the plans. Sand for filling the modules shall be clean washed concrete sand of commercial quality. At the time of placing in the modules, the sand shall contain not more than 7 percent water as determined by California Test 226.

Modules damaged due to the Contractor's operations shall be repaired immediately by the Contractor at the Contractor's expense. Modules damaged beyond repair, as determined by the Engineer, due to the Contractor's operations shall be removed and replaced by the Contractor at the Contractor's expense.

Temporary crash cushion modules may be placed on movable pallets or frames. Comply with dimensions shown on the plans. The pallets or frames shall provide a full bearing base beneath the modules. The modules and supporting pallets or frames shall not be moved by sliding or skidding along the pavement or bridge deck.

A Type R or P marker panel shall be attached to the front of the crash cushion as shown on the plans, when the closest point of the crash cushion array is within 3.6 m of the traveled way. The marker panel, when required, shall be firmly fastened to the crash cushion with commercial quality hardware or by other methods determined by the Engineer.

At the completion of the project, temporary crash cushion modules, sand filling, pallets or frames, and marker panels shall become the property of the Contractor and shall be removed from the site of the work. Temporary crash cushion modules shall not be installed in the permanent work.

Temporary crash cushion modules will be measured by the unit as determined from the actual count of modules used in the work or ordered by the Engineer at each location. Temporary crash cushion modules placed in conformance with the provisions in "Public Safety" of these Special Provisions and modules placed in excess of the number specified or shown will not be measured nor paid for.

Repairing modules damaged by public traffic will be paid for as extra work as provided in Section 4-1.03D of the Standard Specifications. Modules damaged beyond repair by public traffic, when ordered by the Engineer, shall be removed and replaced immediately by the Contractor. Modules replaced due to damage by public traffic will be measured and paid for as temporary crash cushion module.

If the Engineer orders a lateral move of the sand filled temporary crash cushions and the repositioning is not shown on the plans, moving the sand filled temporary crash cushion will be paid for as extra work as provided in Section 4-1.03D of the Standard Specifications and these temporary crash cushion modules will not be counted for payment in the new position.

The contract unit price paid for Temporary Crash Cushion Module shall include full compensation for furnishing all labor, materials (including sand, pallets or frames and marker panels), tools, equipment, and incidentals, and for doing all the work involved in furnishing, installing, maintaining, moving, and resetting during a work period for access to the work, and removing from the site of the work when no longer required (including those damaged by public traffic) sand filled temporary crash cushion modules, complete in place, as shown on the plans, as specified in the Standard Specifications and these Special Provisions, and as directed by the Engineer.

10-1.56 REMOVE YELLOW TRAFFIC STRIPE AND PAVEMENT MARKING (HAZARDOUS WASTE):

GENERAL

Summary

This work includes removing existing yellow thermoplastic and yellow painted traffic stripe and pavement marking at the locations shown on the plans. The residue from the removal of this material is a hazardous waste.

Residue from removal of yellow thermoplastic and yellow painted traffic stripe and pavement marking contains lead chromate. The average lead concentration is greater than or equal to 1000 mg/kg total lead or 5 mg/l soluble lead. When applied to the roadway, the yellow thermoplastic and yellow painted traffic stripe and pavement marking contained as much as 2.6 percent lead. Residue produced from the removal of this yellow thermoplastic and yellow painted traffic stripe and pavement marking contains heavy metals in concentrations that exceed thresholds established by the Health and Safety Code and 22 CA Code of Regs. For bidding purposes, assume that the residue is not regulated under the Federal Resource Conservation and Recovery Act (RCRA), 42 USC § 6901 et seq.. Yellow thermoplastic and yellow paint may produce toxic fumes when heated.

Submittals

Lead Compliance Plan: Submit a lead compliance plan under Section 7-1.07, "Lead Compliance Plan" of the Standard Specifications.

Work Plan: Submit a work plan for the removal, containment, storage, and disposal of yellow thermoplastic and yellow painted traffic stripe and pavement marking for acceptance not less than 15 days prior to the start of the removal operations. The work plan must include:

- A. Objective of the operation.
- B. Removal equipment.
- C. Type of hazardous waste storage containers.
- D. Container storage location and how it will be secured.
- E. Hazardous waste sampling protocol and QA/QC requirements and procedures.
- F. Qualifications of sampling personnel.
- G. Analytical lab that will perform the analyses.
- H. Certification documentation of the hazardous waste hauler that will transport the hazardous waste.
- I. Disposal site that will accept the hazardous waste residue.

The Engineer will review the work plan within 5 business days of receipt.

Do not perform work that generates hazardous waste residue until the work plan has been accepted by the Engineer. The Engineer's review and acceptance does not waive any contract requirements and does not relieve the Contractor from complying with Federal, State, and local laws, regulations, and requirements.

Correct any rejected work plan and resubmit a corrected work plan within 5 business days of notification by the Engineer; at which time a new review period of 5 business days will begin.

Analytical Test Results: Submit analytical test results of the residue from removal of yellow thermoplastic and yellow painted traffic stripe and pavement marking, including chain of custody documentation, for review and acceptance before:

- A. Requesting the Engineer's signature on the waste profile requested by the disposal facility.
- B. Requesting the Engineer obtain an EPA ID no. for disposal.
- C. Removing the residue from the site.

United States Environmental Protection Agency Identification Number Request: Submit a request for the U.S. EPA ID no. when the Engineer accepts analytical test results documenting that residue from removal of yellow thermoplastic and yellow painted traffic stripe and pavement marking is a hazardous waste.

Disposal Documentation: Submit receiving landfill documentation of proper disposal within 5 business days of residue transport from the project.

CONSTRUCTION

Where grinding or other approved methods are used to remove yellow thermoplastic and yellow painted traffic stripe and pavement marking that will produce a hazardous waste residue, the removed residue, including dust, must be contained and collected immediately. Use a HEPA filter-equipped vacuum attachment operated concurrently with the removal operations or other equally effective approved methods for collection of the residue.

Store hazardous waste residue in labeled and covered containers. Labels must comply with the provisions of 22 CA Code of Regs §§66262.31 and 66262.32. Mark labels with:

- A. Date the hazardous waste is generated.
- B. The words "Hazardous Waste".
- C. Composition and physical state of the hazardous waste (for example, asphalt grindings with thermoplastic or paint).
- D. The word "Toxic".
- E. Name, address, and telephone no. of the Engineer.
- F. Contract No.
- G. Contractor or subcontractor name.

Use metal containers approved by the U.S. Department of Transportation for the transportation and temporary storage of the removed residue. Handle the containers such that no spillage occurs. Store containers in a secured enclosure. Acceptable secure enclosures include a locked chain link fenced area or a lockable shipping container located within the project limits until disposal as approved.

Make necessary arrangements to test the yellow thermoplastic and yellow paint hazardous waste residue as required by the disposal facility and these special provisions. Testing must include, at a minimum:

- A. Total lead by EPA Method 6010C.
- B. Total chromium by US EPA Method 7000 series.
- C. Soluble lead by California Waste Extraction Test.
- D. Soluble chromium by California Waste Extraction Test.
- E. Soluble lead by Toxicity Characteristic Leaching Procedure.
- F. Soluble chromium by Toxicity Characteristic Leaching Procedure.

From the 1st 220 gallons of hazardous waste or portion thereof if less than 220 gallons of hazardous waste are produced, a minimum of 4 randomly selected samples must be taken and analyzed individually. Samples must not be composited. From each additional 880 gallons of hazardous waste or portion thereof if less than 880 gallons are produced, a minimum of 1 additional random sample must be taken and analyzed. Use chain of custody procedures consistent with Chapter 9 of U.S. EPA Test Methods for Evaluating Solid Waste, Physical/Chemical Methods (SW-846) while transporting samples from the project to the laboratory. Each sample must be homogenized before analysis by the laboratory performing the analyses. A sample aliquot sufficient to cover the amount necessary for the total and the soluble analyses must then be taken. This aliquot must be homogenized a 2nd time and the total and soluble analyses run on this aliquot. The homogenization process must not include grinding of the samples. Submit the name and location of the disposal facility that will be accepting the hazardous waste and the analytical laboratory along with the testing requirements not less than 5 business days before the start of removal of yellow thermoplastic and yellow painted traffic stripe and pavement marking. The analytical laboratory must be certified by the CA Department of Public Health Environmental Laboratory Accreditation Program for all analyses to be performed.

After the Engineer accepts the analytical test results, dispose of yellow thermoplastic and yellow paint hazardous waste residue at a Class 1 disposal facility located in CA under the requirements of the disposal facility operator within 90 days after accumulating 220 pounds of residue and dust.

If less than 220 pounds of hazardous waste residue and dust is generated in total, it must be disposed of within 90 days after the start of accumulation of the residue and dust.

Use a hazardous waste manifest and a transporter registered with the CA Department of Toxic Substance Control. The Engineer will obtain the U.S. EPA ID No. and will sign all manifests as the generator within 2 business days of receiving and accepting the analytical test results and receiving your request for the U.S. EPA ID No.

If analytical test results demonstrate that the residue is a non-hazardous waste and the Engineer agrees, dispose of the residue at an appropriately permitted Class II or Class III facility under Section 7-1.13, "Disposal of Material Outside the Highway Right of Way" of the Standard Specifications.

MEASUREMENT AND PAYMENT

If analytical test results demonstrate that the residue is a non-hazardous waste and the Engineer agrees to disposal at a non-hazardous waste disposal facility, no cost adjustment will be made.

The contract price paid per meter for Remove Yellow Traffic Stripe And squard meter Pavement Marking (Hazardous Waste) shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all of the work involved in removal, containment, storage, and disposal, as shown on the plans, as specified in the Standard Specifications and these Special Provisions, and as directed by the Engineer.

10-1.57 TREATED WOOD WASTE:

GENERAL

Summary

This work includes handling, storing, transporting, and disposing of treated wood waste.

Wood removed from metal beam guard railing, thrie beam barrier, and roadside signs are treated with one or more of the following:

- A. Creosote.
- B. Pentachlorophenol.
- C. Copper azole.
- D. Copper boron azole.
- E. Chromated copper arsenate.
- F. Ammoniacal copper zinc arsenate.
- G. Copper naphthenate.
- H. Alkaline copper quaternary.

Manage treated wood waste under Title 22 CA Code of Regulations, Division 4.5, Chapter 34.

Submittals

For disposal of treated wood waste submit a copy of each completed shipping record and weight receipt to the Engineer within 5 business days of disposal.

CONSTRUCTION

Provide training to personnel who handle treated wood waste or may come in contact with treated wood waste that includes:

- A. All applicable requirements of Title 8 CA Code of Regulations.
- B. Procedures for identifying and segregating treated wood waste.
- C. Safe handling practices.

- D. Requirements of Title 22 CA Code of Regulations, Division 4.5, Chapter 34.
- E. Proper disposal methods.

Store treated wood waste before disposal using any of the following methods:

- A. Elevate on blocks above a reasonably foreseeable run-on elevation and protect from precipitation.
- B. Place in water-resistant containers designed for shipping or solid waste collection.
- C. Place on a containment surface protected from run-on and precipitation.

Prevent unauthorized access to treated wood waste using a secured enclosure such as a locked chain link fenced area or a lockable shipping container located within the project limits.

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

Provide water-resistant labels, that comply with Title 22 CA Code of Regulations, Division 4.5, Chapter 34, § 67386.5., to clearly mark and identify treated wood waste and accumulation areas. Labels must include:

- A. Caltrans, District number, Construction, contract number.
- B. District office address.
- C. Engineer's name, address, and telephone number.
- D. Contractor's contact name and telephone number.

Before transporting treated wood waste, obtain agreement from the receiving facility that the treated wood waste will be accepted. Protect shipments of treated wood waste from loss and exposure to precipitation. Request a generator identification number from the Engineer at least 5 business days before the first shipment. Each shipment must be accompanied by a shipping record such as a manifest or bill of lading that includes:

- A. Caltrans with district number.
- B. Construction contract number.
- C. District office address.
- D. Engineer name, address, and telephone number.
- E. Contractor contact name and telephone number.
- F. Receiving facility name and address.
- G. Waste description: Treated wood waste (preservative type if known or unknown/mixture).
- H. Project location.
- I. Estimated quantity of shipment by weight or volume.
- J. Date of transport.
- J. Date of receipt by the receiving treated wood waste facility.
- K. Weight of shipment as measured by the receiving treated wood waste facility.
- L. Generator identification number.

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

Dispose of treated wood waste in an approved treated wood waste facility. A list of currently approved treated wood waste facilities may be viewed at:

http://www.dtsc.ca.gov/HazardousWaste/upload/TWW_Confirmed_Landfill_List.pdf

Dispose of treated wood waste within:

- A. 90 days of generation if stored on blocks.
- B. 90 days of filling a container if containerized.
- C. 180 days of generation if stored on a containment surface.

MEASUREMENT AND PAYMENT

Full compensation for handling, storing, transporting, and disposing treated wood waste, including personnel training, shall be considered as included in the contract prices paid for the treated wood involved and no additional compensation will be allowed therefor.

10-1.58 EXISTING HIGHWAY FACILITIES:

The work performed in connection with various existing highway facilities shall conform to the provisions in Section 15, "Existing Highway Facilities" of the Standard Specifications and these Special Provisions.

Except as otherwise provided for damaged materials in Section 15-2.04, "Salvage" of the Standard Specifications, the materials to be salvaged shall remain the property of the County, and shall be cleaned, packaged, bundled, tagged, and hauled to the District Regional Recycle Center at 570 Magnolia Avenue, Beaumont, CA 92223 and stockpiled.

The Contractor shall notify the Engineer and the District Regional Recycle Coordinator, telephone (909) 383-4463 a minimum of 48 hours prior to hauling salvaged material to the Recycle Center.

EXISTING PAINT SYSTEMS

The existing paint systems on Bridge Number 56-0392 consist of a lead based paint system. Any work that disturbs the existing paint system will expose workers to health hazards and will (1) produce debris containing heavy metal in amounts that exceed the thresholds established in Titles 8 and 22 of the California Code of Regulations or (2) produce toxic fumes when heated. All debris produced when the existing paint system is disturbed shall be contained.

Debris Containment and Collection Program

Prior to starting work, the Contractor shall submit a debris containment and collection program to the Engineer in conformance with the provisions in Section 5-1.02, "Plans and Working Drawings" of the Standard Specifications, for debris produced when the existing paint system is disturbed. The program shall identify materials, equipment, and methods to be used when the existing paint system is disturbed and shall include working drawings of containment systems, loads applied to the bridge by containment structures, and provisions for ventilation and air movement for visibility and worker safety.

If the measures being taken by the Contractor are inadequate to provide for the containment and collection of debris produced when the existing paint system is disturbed, the Engineer will direct the Contractor to revise the operations and the debris containment and collection program. The directions will be in writing and will specify the items of work for which the Contractor's debris containment and collection program is inadequate. No further work shall be performed on the items until the debris containment and collection program is adequate and, if required, a revised program has been approved for the containment and collection of debris produced when the existing paint system is disturbed.

The Engineer will notify the Contractor of the approval or rejection of the submitted or revised debris containment and collection program within 2 weeks of submittal of the Contractor's program or revised program.

The County will not be liable to the Contractor for failure to approve all or any portion of an originally submitted or revised debris containment and collection program, nor for delays to the work due to the Contractor's failure to submit an acceptable program.

Full compensation for the debris containment and collection program shall be considered as included in the contract price paid for the item of work causing the existing paint system to be disturbed, and no additional compensation will be allowed therefor.

Safety and Health Provisions

Attention is directed to Section 7-1.06, "Safety and Health Provisions," of the Standard Specifications. Work practices and worker health and safety shall conform to the California Code of Regulations, Title 8, Construction Safety Orders, including Section 1532.1, "Lead".

The Contractor shall furnish the Engineer a written Code of Safe Practices and shall implement an Injury and Illness Prevention Program and a Hazard Communication Program in conformance with the requirements of Construction Safety Orders, Sections 1509 and 1510.

Prior to starting work that disturbs the existing paint system, and when revisions to the program are required by Section 1532.1, "Lead", the Contractor shall submit the compliance programs required in subsection (e)(2), "Compliance Program" of Section 1532.1, "Lead" of the Construction Safety Orders to the Engineer in conformance with the provisions in Section 5-1.02, "Plans and Working Drawings" of the Standard

Specifications. The compliance programs shall include the data specified in subsections (e)(2)(B) and (e)(2)(C) of Section 1532.1, "Lead". Approval of the compliance programs by the Engineer will not be required. The compliance programs shall be reviewed and signed by a Certified Industrial Hygienist (CIH) who is certified in comprehensive practice by the American Board of Industrial Hygiene (ABIH). Copies of all air monitoring or jobsite inspection reports made by or under the direction of the CIH in conformance with Section 1532.1, "Lead" shall be furnished to the Engineer within 10 days after the date of monitoring or inspection.

Full compensation for furnishing the Engineer with the submittals and for implementing the programs required by this safety and health section shall be considered as included in the contract price paid for the item of work causing the existing paint system to be disturbed, and no additional compensation will be allowed therefor.

Debris Handling

Debris produced when the existing paint system is disturbed shall not be temporarily stored on the ground. Debris accumulated inside the containment system shall be removed before the end of each work shift. Debris shall be stored in approved, leakproof containers and shall be handled in such a manner that no spillage will occur.

Disposal of debris produced when the existing paint system is disturbed shall be performed in conformance with all applicable Federal, State, and Local hazardous waste laws. Laws that govern this work include:

- A. Health and Safety Code, Division 20, Chapter 6.5 (California Hazardous Waste Control Act).
- B. Title 22; California Code of Regulations, Division 4.5, (Environmental Health Standards for the Management of Hazardous Waste).
- C. Title 8, California Code of Regulations.

Except as otherwise provided herein, debris produced when the existing paint system is disturbed shall be disposed of by the Contractor at an approved Class 1 disposal facility in conformance with the requirements of the disposal facility operator. The debris shall be hauled by a transporter currently registered with the California Department of Toxic Substances Control using correct manifesting procedures and vehicles displaying current certification of compliance. The Contractor shall make all arrangements with the operator of the disposal facility and perform any testing of the debris required by the operator.

At the option of the Contractor, the debris produced when the existing paint system is disturbed may be disposed of by the Contractor at a facility equipped to recycle the debris, subject to the following requirements:

- A. Copper slag abrasive blended by the supplier with a calcium silicate compound shall be used for blast cleaning.

- B. The debris produced when the existing paint system is disturbed shall be tested by the Contractor to confirm that the solubility of the heavy metals is below regulatory limits and that the debris may be transported to the recycling facility as a non-hazardous waste.
- C. The Contractor shall make all arrangements with the operator of the recycling facility and perform any testing of the debris produced when the existing paint system is disturbed that is required by the operator.

Full compensation for debris handling and disposal shall be considered as included in the contract price paid for the item of work causing the existing paint system to be disturbed, and no additional compensation will be allowed therefor.

EARTH MATERIAL CONTAINING LEAD

General

This work includes handling earth material containing lead under the Standard Specifications and these Special Provisions.

Submittals

Submit a lead compliance plan under Section 7-1.07, "Lead Compliance Plan" of the Standard Specifications.

Project Conditions

Lead is present in earth material within the project limits at average concentrations below 1,000 mg/kg total lead and below 5 mg/l soluble lead. Earth material within the project limits:

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

Lead is typically found within the top 2 feet of material in unpaved areas of the highway. Reuse all excavated earth material within the project limits.

Construction

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

- A. Cal/OSHA.
- B. CA Regional Water Quality Control Board, Region 7 – Colorado River Basin.
- C. CA Department of Toxic Substances Control.

Measurement and Payment

Full compensation for handling earth material containing lead shall be considered as included in the contract unit price paid for the earthwork involved, and no additional compensation will be allowed therefor.

REMOVE METAL BEAM GUARD RAILING

Existing metal beam guard railing, where shown on the plans to be removed, shall be removed and disposed of.

Existing concrete anchors or steel foundation tubes shall be completely removed and disposed of. Full compensation for removing concrete anchors shall be considered as included in the contract price paid per meter for Remove Metal Beam Guard Railing and no separate payment will be made therefor.

Full compensation for removing cable anchor assemblies, terminal anchor assemblies or steel foundation tubes shall be considered as included in the contract price paid per meter for Remove Metal Beam Guard Railing and no separate payment will be made therefor.

REMOVE SIGN STRUCTURE

Existing sign structures, where shown on the plans to be removed, shall be removed and disposed of.

Overhead sign structure removal shall consist of removing posts, frames, portions of foundations, sign panels, walkways with safety railings, and sign lighting electrical equipment.

A sign structure shall not be removed until the structure is no longer required for the direction of public traffic.

Concrete foundations may be abandoned in place, except that the top portion, including anchor bolts, reinforcing steel, and conduits shall be removed to a depth of not less than 1 m below the adjacent finished grade. The resulting holes shall be backfilled and compacted with material equivalent to the surrounding material.

Electrical wiring shall be removed to the nearest pull box. Fuses within spliced connections in the pull box shall be removed and disposed of.

Electrical equipment, where shown on the plans, shall be salvaged.

Full compensation, except as otherwise provided herein, for conforming to the requirements of this article shall be considered as included in the contract unit bid price paid per each for Remove Sign Structure and no additional compensation will be allowed therefor.

REMOVE PAVEMENT MARKER

Existing pavement markers, including underlying adhesive, when no longer required for traffic lane delineation as determined by the Engineer, shall be removed and disposed of.

Full compensation for removing and disposing of pavement markers and underlying adhesive shall be considered as included in the contract price paid per tonne for Hot Mix Asphalt (Type A or C) and no separate payment will be made therefor.

RESIDUE CONTAINING HIGH LEAD CONCENTRATION PAINTS

Residue from grinding existing pavement, including any bituminous or polymer seals, is a non-hazardous waste containing lead in average concentrations less than 1000 mg/kg total lead and 5 mg/L soluble lead. This residue does not contain heavy metals in concentrations that exceed thresholds established by the Health and Safety Code and 22 CA Code of Regs and is not regulated under the Federal Resource Conservation and Recovery Act (RCRA), 42 USC § 6901 et seq.

Submit a lead compliance plan under Section 7-1.07, "Lead Compliance Plan" of the Standard Specifications.

REMOVE DRAINAGE FACILITY

Existing box culverts, pipe culverts, inlets, headwalls and endwalls, where any portion of these structures is within one meter of the grading plane in excavation areas, or within 0.3-m of original ground in embankment areas, or where shown on the plans to be removed, shall be completely removed and disposed of.

Frames and grates shall be removed and salvaged as shown on the plans. Salvaged materials shall be delivered to the County maintenance Yard as directed by the Engineer.

Full compensation, except as otherwise provided herein, for conforming to the requirements of these articles shall be considered as included in the contract lump sum price paid for such items and no additional compensation will be allowed therefor.

REMOVE ROADSIDE SIGN

Existing roadside signs, at those locations shown on the plans to be removed, shall be removed and disposed of.

Sign panels shown on the plans shall be salvaged. Salvaged materials shall be delivered to the County maintenance Yard as directed by the Engineer.

Existing roadside signs shall not be removed until replacement signs have been installed or until the existing signs are no longer required for the direction of public traffic, unless otherwise directed by the Engineer.

Full compensation, except as otherwise provided herein, for conforming to the requirements of this article shall be considered as included in the contract unit price paid for Remove Roadside Sign and no separate payment will be made therefor.

COLD PLANE ASPHALT CONCRETE PAVEMENT

Existing asphalt concrete pavement shall be cold planed at the locations and to the dimensions shown on the plans or as directed by the Engineer.

Planing asphalt concrete pavement shall be performed by the cold planing method. Planing of the asphalt concrete pavement shall not be done by the heater planing method.

Cold planing machines shall be equipped with a cutter head not less than 750-mm in width and shall be operated so that no fumes or smoke will be produced. The cold planing machine shall plane the pavement without requiring the use of a heating device to soften the pavement during or prior to the planing operation.

The depth, width, and shape of the cut shall be as shown on the plans or as designated by the Engineer. The final cut shall result in a uniform surface conforming to the plans. The outside lines of the planed area shall be neat and uniform. Planing asphalt concrete pavement operations shall be performed without damage to the surfacing to remain in place.

Planed widths of pavement shall be continuous except for intersections at cross streets where the planing shall be carried around the corners and through the conform lines. Following planing operations, a drop-off of more than 45 mm will not be allowed between adjacent lanes open to public traffic.

Where transverse joints are planed in the pavement at conform lines no drop-off shall remain between the existing pavement and the planed area when the pavement is opened to public traffic. If Hot Mix Asphalt (HMA) has not been placed to the level of existing pavement before the pavement is to be opened to public traffic a temporary HMA taper shall be constructed. HMA for temporary tapers shall be placed to the level of the existing pavement and tapered on a slope of 1:30 (Vertical: Horizontal) or flatter to the level of the planed area.

HMA for temporary tapers shall be the same quality as the HMA used elsewhere on the project. HMA for tapers shall be compacted by any method that will produce a smooth riding surface. Temporary HMA tapers shall be completely removed, including the removal of loose material from the underlying surface, before placing the permanent surfacing. The removed material shall be disposed of outside the highway right of way in conformance with the provisions in Section 7-1.13, "Disposal of Material Outside the Highway Right of Way" of the Standard Specifications.

The material planed from the roadway surface, including material deposited in existing gutters or on the adjacent traveled way, shall be disposed of in conformance with the provisions in Section 7-1.13, "Disposal of Material Outside the Highway Right of Way" of the Standard Specifications. Removal operations of cold planed material shall be

concurrent with planing operations and follow within 15 m of the planer, unless otherwise directed by the Engineer.

Cold plane asphalt concrete pavement will be measured by the square meter. The quantity to be paid for will be the actual area of surface cold planed irrespective of the number of passes required to obtain the depth shown on the plans.

The contract price paid per square meter for Cold Plane Asphalt Concrete Pavement shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in cold planing asphalt concrete surfacing and disposing of planed material, including furnishing the HMA for and constructing, maintaining, removing, and disposing of temporary HMA tapers, as specified in the Standard Specifications and these Special Provisions and as directed by the Engineer.

BRIDGE REMOVAL

Removing bridges or portions of bridges shall conform to the provisions in Section 15-4, "Bridge Removal" of the Standard Specifications and these Special Provisions.

The bridge structure to be removed is the existing Indian Avenue Overcrossing at I-10 (Bridge No. 56-0392). The structure is a four span steel composite girder bridge with reinforced concrete abutments and bents founded on spread footings. The existing paint system on the steel girders consists of lead based paint.

Removed materials that are not to be salvaged or used in the reconstruction shall become the property of the Contractor and shall be disposed of in conformance with the provisions in Section 7-1.13, "Disposal of Material Outside the Highway Right of Way" of the Standard Specifications.

The Contractor shall submit a complete bridge removal plan to the Engineer for each bridge listed above, detailing procedures, sequences, and all features required to perform the removal in a safe and controlled manner.

The bridge removal plan shall include, but not be limited to the following:

- A. The removal sequence, including staging of removal operations.
- B. Equipment locations on the structure during removal operations.
- C. Temporary support shoring or temporary bracing.
- D. Locations where work is to be performed over traffic.
- E. Details, locations, and types of protective covers to be used.
- F. Measures to assure that people, property, utilities, and improvements will not be endangered.
- G. Details and measures for preventing material, equipment, and debris from falling onto public traffic.

When protective covers are required for removal of portions of a bridge, or when superstructure removal works on bridges are involved, the Contractor shall submit working drawings, with design calculations, to the Engineer for the proposed bridge removal plan, and the bridge removal plan shall be prepared and signed by an Engineer

who is registered as a Civil Engineer in the State of California. The design calculations shall be adequate to demonstrate the stability of the structure during all stages of the removal operations. Calculations shall be provided for each stage of bridge removal and shall include dead and live load values assumed in the design of protective covers. At a minimum, a stage will be considered to be removal of the deck, the soffit, or the girders, in any span; or walls, bent caps, or columns at support locations.

Temporary support shoring, temporary bracing, and protective covers, as required, shall be designed and constructed in conformance with the provisions in Section 51-1.06, "Falsework" of the Standard Specifications and these Special Provisions.

The assumed horizontal load to be resisted by the temporary support shoring and temporary bracing, for removal operations only, shall be the sum of the actual horizontal loads due to equipment, construction sequence or other causes, and an allowance for wind, but in no case shall the assumed horizontal load to be resisted in any direction be less than 5 percent of the total dead load of the structure to be removed.

The bridge removal plan shall conform to the provisions in Section 5-1.02, "Plans and Working Drawings" of the Standard Specifications. The number of sets of drawings, design calculations, and the time for reviewing bridge removal plans shall be the same as specified for falsework working drawings in Section 51-1.06A, "Falsework Design and Drawings" of the Standard Specifications.

The following additional requirements apply to the removal of bridges or portions of bridges that are over or adjacent to roadways that may be closed to public traffic for only brief periods of time:

- A. The closure of roadways to public traffic shall conform to the provisions in "Maintaining Traffic" of these Special Provisions.
- B. Prior to closing a roadway to traffic to accommodate bridge removal operations, the Contractor shall have all necessary workers, materials, and equipment at the site as needed to proceed with the removal work in an expeditious manner. While the roadway is closed to public traffic, work shall be pursued promptly and without interruption until the roadway is reopened to public traffic.
- C. Bridge removal operations shall be performed during periods of time that the roadway is closed to public traffic except as specified herein for preliminary work.
- D. Preliminary work shall be limited to operations that will not reduce the structural strength or stability of the bridge, or any element thereof, to a level that in the judgment of the Engineer would constitute a hazard to the public. This preliminary work shall also be limited to operations that cannot cause debris or any other material to fall onto the roadway. Protective covers may be used to perform preliminary work such as chipping or cutting the superstructure into segments, provided the covers are of sufficient strength to support all loads and are sufficiently tight to prevent dust and fine material from sifting down onto the traveled way. Protective covers shall extend at least 1.2 m beyond the limit of the work underway.

Bottom slabs of box girders may be considered to be protective covers for preliminary work performed on the top slab inside the limits of the exterior girders.

- E. Temporary support shoring and temporary bracing shall be used in conjunction with preliminary work when necessary to insure the stability of the bridge.
- F. Temporary support shoring, temporary bracing, and protective covers shall not encroach closer than 2.4 m horizontally from the edge or 4.6 m vertically above any traffic lane or shoulder that is open to public traffic.
- G. During periods when the roadway is closed to public traffic, debris from bridge removal operations may be allowed to fall directly onto the lower roadway provided adequate protection is furnished for all highway facilities. The minimum protection for paved areas shall be a 0.6-m thick earthen pad or a 25-mm thick steel plate placed over the area where debris can fall. Prior to reopening the roadway to public traffic, all debris, protective pads, and devices shall be removed and the roadway swept clean with wet power sweepers or equivalent methods.
- H. The removal operations shall be conducted in such a manner that the portion of the structure not yet removed remains in a stable condition at all times. For girder bridges, each girder shall be completely removed within a span before the removal of the adjacent girder is begun. For slab type bridges, removal operations within a span shall be performed along a front that roughly parallels the primary reinforcing steel.

For bridge removal that requires the Contractor's Registered Engineer to prepare and sign the bridge removal plan, the Contractor's Registered Engineer shall be present at all times when bridge removal operations are in progress. The Contractor's Registered Engineer shall inspect the bridge removal operation and report in writing on a daily basis the progress of the operation and the status of the remaining structure. A copy of the daily report shall be available at the site of the work at all times. Should an unplanned event occur or the bridge operation deviate from the approved bridge removal plan, the Contractor's Registered Engineer shall submit immediately to the Engineer for approval, the procedure of operation proposed to correct or remedy the occurrence.

10-1.59 REMOVAL OF ASBESTOS CONTAINING MATERIALS – BRIDGES AND NON-BUILDING STRUCTURES:

Asbestos containing materials (ACM), as defined in section 1529, "Asbestos" of the Construction Safety Orders, Title 8, of the California Code of Regulations [are/suspected] to be present in the structure proposed for demolition or renovation.

In compliance with Standard Specifications Section 7-1.01F, the Contractor must notify the South Coast Air Quality Management District (AQMD) as required by the National Emission Standards for Hazardous Air Pollutants (NESHAP) 40 CFR Part 61, Subpart M, California Health and Safety Code section 39658(b)(1), and the California Air Resources Board regulations. Provide a copy of the notification form and attachments to the Engineer prior to submittal. Notification must take place a minimum of 10 working days

prior to starting demolition or renovation activities. Notify other local permitting agencies and utility companies prior to demolition or alteration.

Friable ACM is defined under the Asbestos Hazard Emergency Response Act (AHERA) as "any material containing more than 1 percent (%) asbestos by area that hand pressure can crumble, pulverize or reduce to powder when dry". The term non- friable implies that the asbestos fibers are tightly bound into the matrix of the material and should not become an airborne hazard as long as the material remains intact and undamaged, and is not sawed, sanded, drilled or otherwise abraded during removal.

Codes, which govern removal and disposal of materials containing asbestos include, but are not limited to, the following:

- A. California Health and Safety Code, Division 20, Chapter 6.5, Hazardous Waste Control.
- B. California Code of Regulations, Title 8, General Industry Safety Order 5208 Asbestos.
- C. California Code of Regulations, Title 8, Sections 1529 and 341
- D. California Code of Regulations, Title 22, Division 4.5
- E. Occupational Safety and Health Administration, Part 26 (amended), of Title 29 of the Code of Federal Regulations.
- F. Code of Federal Regulations (CFR), Title 40, Part 61, subpart M.

ASBESTOS SAMPLING AND ANALYSIS WORKPLAN

At least fifteen (15) days prior to beginning any sampling for suspected ACM, submit a written, project specific Asbestos Sampling and Analysis Workplan that establishes the procedures used to comply with requirements for asbestos abatement, including sampling and testing of suspected ACM, containment, transportation and disposal of ACM. No sampling and analysis work will proceed until the plan is authorized by the Engineer. If the plan is unacceptable, it will be returned within ten (10) working days of the submittal to the Contractor for revision. The Engineer must have five (5) working days to review and authorize or reject the revised plan from the date the revised plan is received from the Contractor. The Contractor, must be a Certified Asbestos Consultant (CAC) and AHERA (Asbestos Hazard Emergency Response Act) -trained to perform an asbestos survey prior to any removal activity. The plan must be prepared, signed and stamped by a CAC.

ACM sampling methods shall meet USEPA, SW846, "Test Methods for Evaluating Solid Waste," Volume II: Field Manual, Physical/Chemical, Chapter Nine Section 9.1. Use a laboratory certified by the California Department of Public Health, Environmental Laboratory Accreditation Program for analysis of ACM samples. Samples shall be analyzed for asbestos according to Analytical Method 600/R-93-116 specified in 40 Code of Federal Regulations (CFR) Part 763 Subpart F, Appendix A (Polarized Light Microscopy).

A minimum of one sample shall be taken per suspected ACM location. For pipes and other linear components of suspected ACM, collect one sample per 5 feet of exposed material. Sample any exposed ACM on the existing structure. ACM encased in concrete will be sampled when exposed during demolition.

Transport samples under the chain of custody to the laboratory within 24 hours of collection. Run analytical laboratory tests on a 48-hour turn-around. Send by facsimile, or hand deliver to the Engineer, laboratory results as soon as they are available. Supply a summary report of sampling protocols, photographs of the structures and of the locations where samples were taken, chain of custody, analysis and laboratory data sheets, to the Engineer within 15 days of completion of sampling.

SUBMITTALS

Submit a draft sampling and analysis report to the Engineer within 15 days of completion of sampling and analysis. The Engineer will review the survey report and provide comments to the Contractor within 7 working days. If, in the opinion of the Engineer, completion of work is delayed or interfered with by reason of the Engineer's delay in completing the review, the Contractor will be compensated for any resulting loss, and an extension of time will be granted in accordance with Section 8-1.07, "Right of Ways Delays" of the Standard Specifications. Make any requested edits and submit four copies of the final report to the Engineer within five (5) days.

Submit an Asbestos Compliance Plan (ACP). ACP must comply with section 7-1.01A, "Asbestos Compliance Plan" of the Standard Specifications.

ASBESTOS COMPLIANCE PLAN

Prepare an Asbestos Compliance Plan (ACP) to prevent or minimize exposure to asbestos. Attention is directed to Title 8, California Code of Regulations, Construction Safety Orders, Section 5192 (b) and Section 1529, "Asbestos", Occupational Safety and Health Guidance Manual published by the National Institute of Occupational Safety and Health (NIOSH) and the USEPA for elements of the ACP. The ACP must contain as a minimum but not be limited to: identification of key personnel for the project, job hazard analysis for work assignments, summary of risk assessment, personal protective equipment, delineation of work zones on-site, decontamination procedures, general safe work practices, security measures, emergency response plans and worker training. The ACP must be authorized in writing by an industrial hygienist certified in the practice of industrial hygiene by the American Board of Industrial Hygiene before submission to the Engineer for review and acceptance. Submit the ACP to the Engineer at least 15 days prior to beginning work in areas containing or suspected to contain asbestos.

TRAINING

Prior to performing work in areas containing or suspected to contain asbestos, personnel who have no prior training or are not current in their training status, including County personnel, must complete a safety training program provided by the Contractor, which meets the requirement of Title 8, California Code of Regulations, Section 1529. Provide a

written certification of completion of safety training to the Engineer for trained personnel prior to performing work in areas containing or suspected to contain asbestos.

EQUIPMENT AND MEDICAL SURVEILLANCE

Provide personnel protective equipment, training, and medical surveillance required by the Contractor's Asbestos Compliance Plan to County personnel. The number of State personnel will be 3.

REMOVAL

Prepare a work plan for the removal, storage, transportation and disposal of ACM. Removal and management of ACM will be performed by a contractor registered pursuant to Section 6501.5 of the Labor Code and certified pursuant to Section 7058.6 of the Business and Professions Code. Asbestos removal must conform to Cal/OSHA requirements in Title 8 Sections 1529 and 341. For bridges built before 1980, where ACM is suspected, but cannot be sampled before demolition, a CAC must be present during demolition in case unforeseen ACM is encountered. Remove all friable material in a manner that conforms to OSHA work practice requirements. Remove and handle all non-friable ACM to prevent breakage. Non-friable ACM such as asbestos cement pipe must be disposed of to a landfill facility permitted to take ACM. The removal of ACM encased in concrete or other similar structural material is not required prior to demolition, but such material must be adequately wetted whenever exposed during demolition. Packaging, storage, transporting, and disposing of ACM, must conform to Title 22, Division 4.5, Chapters 11, 12 and 13 of the California Code of Regulations. No visible dust must be generated when handling, removing, transporting, and disposing of ACM.

Asbestos removal procedures include, but are not limited to:

- A. Installing asbestos warning signs at perimeters of abatement work areas.
- B. Wetting asbestos materials with sprayers.
- C. Containing large volumes of asbestos materials in disposal bins for temporary storage until removed from the site.
- D. Providing manifests for the Engineer to sign for disposal of friable ACM waste or a waste shipment record for disposal of non-friable ACM waste.
- E. Providing transporters registered to transport hazardous waste in the State of California in accordance with the provisions of Chapter 6.5, Division 20 of the Health and Safety Code and Title 22 of the California Code of Regulations, Division 4.5.
- F. Disposing of asbestos materials at a permitted disposal facility, which accepts such materials.
- G. Working in accordance with Federal, State, and Local requirements for asbestos work.

Mark all vehicles used to transport ACM as specified below, or an equivalent warning:

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

Handling

Comply with CCR Title 22, Division 4.5, Chapter 12, Article 3 requirements for the packaging and labeling of removed ACM, and place such removed material in approved plastic containers (double ply plastic bags) with caution labels affixed to bags. Such caution labels must have conspicuous, legible lettering, which spells out the following, or equivalent warning:

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

At the option of the Contractor, the removed materials containing asbestos may be placed directly into a covered roll off or drop box, which shall have the same caution label, affixed on all sides.

Transporting

Haulers of friable asbestos containing material will have current registration with the State Department of Toxic Substances Control (DTSC), and must have a U.S. Environmental Protection Agency Identification Number (U.S. EPA I.D. Number). A valid registration issued by DTSC is required for all vehicles used to transport hazardous waste material. Non-friable ACM is not hazardous waste and can be transported with a waste shipment record (WSR) or comparable shipping document.

Disposal

The Contractor will be required to obtain the required EPA generator identification numbers, and will sign the hazardous waste manifests for disposal of friable asbestos containing material. The Contractor must dispose of friable and non-friable waste containing asbestos at a disposal facility permitted to accept such material and that meets all the requirements specified by Federal, State, and Local regulations. Notify the proper authorities at the disposal site in advance of delivery of asbestos containing material to the disposal site. Conduct additional sampling deemed necessary by the owner of the disposal facility for acceptance of the material at the Contractor's expense.

MEASUREMENT AND PAYMENT

The contract lump sum price paid for Asbestos Compliance Plan includes full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all the work involved in preparing the Asbestos Compliance Plan, including paying the Certified Industrial Hygienist, and for providing personal protective equipment, training and medical surveillance, as specified in the Standard Specifications and these Special Provisions, and as directed by the Engineer.

Preparation of a Sampling and Analysis Work Plan, and an Asbestos Removal Work Plan, identifying and determining the extent of asbestos prior to and during demolition or alteration work, including sampling and testing, removal, transportation and disposal of this material including to obtain the required EPA generator identification numbers shall be included in the lump sum price bid for Asbestos Compliance Plan and no additional compensation will be allowed therefor.

10-1.60 CLEARING AND GRUBBING:

Clearing and grubbing shall conform to the provisions in Section 16, "Clearing and Grubbing" of the Standard Specifications and these Special Provisions.

Vegetation shall be cleared and grubbed only within the excavation and embankment slope lines.

Payment – Full compensation, except as otherwise provided herein, for conforming to the requirements of this article shall be paid for on a lump sum basis and no additional compensation will be allowed therefor.

10-1.61 DEVELOP WATER SUPPLY:

Developing a water supply and applying watering shall conform to the provisions in Section 17, "Watering" of the Standard Specifications and these Special Provisions.

Attention is directed to "Beginning of Work, Time of Completion and Liquidated Damages" of these Special Provisions regarding availability of water.

Payment – Full compensation, except as otherwise provided herein, for conforming to the requirements of this article including the developing water supply and furnishing watering equipment shall be paid for on a lump sum basis and no additional compensation will be allowed therefor.

10-1.62 EARTHWORK:

Earthwork shall conform to the provisions in Section 19, "Earthwork" of the Standard Specifications and these Special Provisions.

Where a portion of the existing surfacing is to be removed, the outline of the area to be removed shall be cut on a neat line with a power-driven saw to a minimum depth of 50-mm before removing the surfacing. Full compensation for cutting the existing surfacing including the removal of base and surface material shall be considered as included in the contract price paid per cubic meter for Roadway Excavation and no additional compensation will be allowed therefor.

The portion of imported borrow placed within 1.5 m of the finished grade shall have a Resistance (R-Value) of not less than 50.

Reinforcement or metal attached to reinforced concrete rubble placed in embankments shall not protrude above the grading plane. Prior to placement within 0.6 m below the grading plane of embankments, reinforcement or metal shall be trimmed to no greater than 20-mm from the face of reinforced concrete rubble. Full compensation for trimming reinforcement or metal shall be considered as included in the contract prices paid per cubic meter for the types of excavation shown in the Engineer's estimate, or the contract prices paid for furnishing and placing imported borrow or embankment material, as the case may be, and no additional compensation will be allowed therefor.

Imported borrow shall be mineral material including rock, sand, gravel, or earth. The Contractor shall not use man-made refuse in imported borrow including:

- A. Portland cement concrete.
- B. Asphalt concrete.
- C. Hot mix asphalt.
- D. Material planed from roadway surfaces.
- E. Residue from grooving or grinding operations.
- F. Metal.
- G. Rubber.
- H. Mixed debris.
- I. Rubble.

Imported borrow will be measured and paid for by the cubic meter and the quantity to be paid for will be computed in the following manner:

- A. The total quantity of embankment will be computed in conformance with the provisions for roadway excavation in Section 19-2.08, "Measurement" of the Standard Specifications, on the basis of the planned or authorized cross section for embankments as shown on the plans and the measured ground surface.
- B. The Contractor, at the Contractor's option, may compact the ground surface on which embankment is to be constructed before placing any embankment thereon. If the compaction results in an average subsidence exceeding 75-mm, the ground surface will be measured after completion of the compaction. The Engineer shall be

allowed the time necessary to complete the measurement of an area before placement of embankment is started in that area.

- C. The quantities of roadway excavation, structure excavation and ditch excavation, which have been used in the embankment, will be adjusted by multiplying by a grading factor to be determined in the field by the Engineer. No further adjustment will be made in the event that the grading factor determined by the Engineer does not equal the actual grading factor.
- D. Full compensation for surplus embankment material, including the transportation of, placement of and removal of material, which is placed as a settlement or surcharge embankment, including material added or removed to conform to the finished slope lines shown on the plans, shall be considered as included in the contract price paid for Imported Borrow and no additional compensation will be allowed. Full compensation for the volumes of embankment attributed to the changes in lines and grades from settlement shall be considered as included in the contract price paid for Imported Borrow and no additional compensation will be allowed.

If the Contractor elects to use the "Weep Hole and Geocomposite Drain" alternative where permitted on the plans, the geocomposite drain shall conform to the details shown on the plans and the following:

- A. Attention is directed to "Engineering Fabrics" under "Materials" of these Special Provisions.
- B. A Certificate of Compliance conforming to the provisions in Section 6-1.07, "Certificates of Compliance" of the Standard Specifications shall be furnished for the geocomposite drain certifying that the drain produces the required flow rate and complies with these Special Provisions. The Certificate of Compliance shall be accompanied by a flow capability graph for the geocomposite drain showing flow rates for externally applied pressures and hydraulic gradients. The flow capability graph shall be stamped with the verification of an independent testing laboratory.
- C. Filter fabric for the geocomposite drain shall conform to the provisions for fabric for underdrains in Section 88, "Engineering Fabrics" of the Standard Specifications.
- D. The manufactured core shall be either a preformed grid of embossed plastic, a mat of random shapes of plastic fibers, a drainage net consisting of a uniform pattern of polymeric strands forming 2 sets of continuous flow channels, or a system of plastic pillars and interconnections forming a semirigid mat.
- E. The core material and filter fabric shall be capable of maintaining the drainage void for the entire height of geocomposite drain. Filter fabric shall be integrally bonded to the side of the core material with the drainage void. Core material manufactured from impermeable plastic sheeting having non-connecting corrugations shall be placed with the corrugations approximately perpendicular to the drainage collection system.

- F. The geocomposite drain shall be installed with the drainage void and the filter fabric facing the embankment. The fabric facing the embankment side shall overlap a minimum of 75-mm at all joints and wrap around the exterior edges a minimum of 75-mm beyond the exterior edge. If additional fabric is needed to provide overlap at joints and wrap-around at edges, the added fabric shall overlap the fabric on the geocomposite drain at least 150-mm and be attached thereto.
- G. Should the fabric on the geocomposite drain be torn or punctured, the damaged section shall be replaced completely or repaired by placing a piece of fabric that is large enough to cover the damaged area and provide a minimum 150-mm overlap.
- H. Plastic pipe shall conform to the provisions for edge drain pipe and edge drain outlets in Section 68-3, "Edge Drains" of the Standard Specifications.
- I. Treated permeable base to be placed around the slotted plastic pipe at the bottom of the geocomposite drain shall be cement treated permeable base conforming to the provisions for cement treated permeable base in Section 29, "Treated Permeable Bases" of the Standard Specifications and these Special Provisions.
- J. The treated permeable base shall be enclosed with a high density polyethylene sheet or PVC geomembrane, not less than 250 μm thick, which is bonded with a suitable adhesive to the concrete and geocomposite drain. Surfaces to receive the polyethylene sheet shall be cleaned before applying the adhesive. The treated permeable base shall be compacted with a vibrating shoe type compactor.

If structure excavation or structure backfill for bridges is not otherwise designated by type and payment for the structure excavation or structure backfill has not otherwise been provided for in the Standard Specifications or these Special Provisions, the structure excavation or structure backfill will be measured and paid for as Structure Excavation (Bridge) or Structure Backfill (Bridge), respectively.

10-1.63 TEMPORARY SHORING:

Attention is directed to temporary shoring that may be required for stage construction at various locations, including but not limited to, ramps, approach roadway and bridge abutments.

Full compensation for temporary shoring for stage construction shall be considered as included in the contract prices paid for the various items of work involved and no additional compensation will be allowed.

10-1.64 MOVE-IN/MOVE-OUT (EROSION CONTROL):

Move-in/move-out (erosion control) shall include moving onto the project when an area is ready to receive erosion control as determined by the Engineer, setting up all required personnel and equipment for the application of erosion control materials and moving out all personnel and equipment when erosion control in that area is completed.

When areas are ready to receive applications of erosion control (Type D), as determined by the Engineer, the Contractor shall begin erosion control work in that area within 5 working days of the Engineer's notification to perform the erosion control work.

Attention is directed to the requirements of Fiber Rolls and Temporary Hydraulic Mulch (Polymer Stabilized Fiber Matrix) for erosion control purposes, and erosion control (Type D) elsewhere in these Special Provisions.

Quantities of move-in/move-out (erosion control) will be determined as units from actual count as determined by the Engineer. For measurement purposes, a move-in followed by a move-out will be considered as one unit.

The contract unit price paid for Move-In/Move-Out (Erosion Control) shall include full compensation for furnishing all labor, materials (excluding erosion control materials), tools, equipment, and incidentals and for doing all the work involved in moving in and removing from the project all personnel and equipment necessary for application of erosion control (Type D), as shown on the plans, as specified in the Standard Specifications and these Special Provisions, and as directed by the Engineer.

No adjustment of compensation will be made for any increase or decrease in the quantities of move-in/move-out (erosion control) required, regardless of the reason for the increase or decrease. The provisions in Section 4-1.03B, "Increased or Decreased Quantities" of the Standard Specifications shall not apply to the item of move-in/move-out (erosion control).

10-1.65 EROSION CONTROL (TYPE D):

Erosion control (Type D) includes applying erosion control materials to embankment and excavation slopes and other areas disturbed by construction activities. Erosion control (Type D) must comply with Section 20-3, "Erosion Control" of the Standard Specifications and these Special Provisions.

Apply erosion control (Type D) when an area is ready to receive erosion control as determined by the Engineer and under "Move-in/Move-out (Erosion Control)" of these Special Provisions.

Before applying erosion control materials, prepare soil surface under Section 19-2.05, "Slopes" of the Standard Specifications, except that rills and gullies exceeding 50 mm in depth or width must be leveled. Remove vegetative growth, temporary erosion control materials, and other debris from areas to receive erosion control.