

DEPARTMENT OF TRANSPORTATION

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February 15, 1995

Holders of the Transportation Permit Manual

Subject: Revisions to Chapter 5

Chapter 5 has been revised to include changes in the following areas:

- Section 502.2 is revised to include limitations to the San Francisco/Oakland Bay Bridge and the Los Angeles Curfew area is changed to include the less restrictive curfew hours for truck cranes;
- Section 502.3 is revised to include a notice that Headquarters permits will provide an annual publication for holiday restrictions;
- Section 502.4 is revised to include the 3 a.m. Early Morning Move;
- Section 502.5 is renumbered and was previously Section 502.4;
- Section 502.6 is renumbered and was previously Section 502.5 and is updated to include various sections of the California Vehicle Code relevant to Pilot Cars;
- Section 502.7 is renumbered and was previously Section 502.6;
- Section 502.8 is renumbered and was previously Section 502.7;
- Section 502.9 Warning Signs is added;
- Section 502.10 is renumbered and was previously Section 502.8.

Please discard the old Chapter 5 and insert the new Chapter 5.

Sincerely,

A handwritten signature in black ink, appearing to read "Bob Martin".

BOB MARTIN, Chief
Transportation Permit Branch

CHAPTER V

ROUTING AND SAFETY REQUIREMENTS

5 0 0 GENERAL

This chapter covers the route clearances and other safety considerations that need to be reviewed during the course of issuing transportation permits. It works in conjunction with Chapter III, Section 304, "Rating Classification" for vehicles identification and Chapter II, Vertical Height Limitations for Route Clearances. It explains the use of the "Permit Engineer's List" published by Structures Maintenance.

Safety considerations also include highway alignment, traffic volumes curfew restrictions, holiday restrictions, hours of movement, pilot car requirements, and weather restrictions among others.

5 0 1 BRIDGE WEIGHT LIST

The Permit Engineer's List was designed to identify restrictions for both dimension and weight on bridges and over crossings within the California State highway system.

It primarily shows routes with an ascending post mile. This is the movement from south to north routing or west to east routing. It does not include vertical clearances under street signs, pedestrian crossings, overhead cables, falseworks, or other types of vertical impairments. Written route surveys are required for all overheight loads exceeding 17'6" - See Chapter IV, Section 407.2.

It is the Permit Engineer's responsibility to identify impaired vertical clearances at overcrossing or weight limitations on bridges or structures along the route. When either impairment is indicated the Permit Engineer shall terminate the State route at a convenient point where the route may be continued on a city/county route or with an appropriate detour.

Generally speaking, routes should be the shortest, most direct route with the least amount of exposure to the general motoring public. Legal weight permits that include extralegal width up to 12-feet wide may include circuitous routing for the delivery of more than one load. All other permits will normally route the trucker by the shortest, most direct route to the destination. However, this routing shall not impose a hardship on the transporter by limiting his routes simply for the delivery of the load or vehicle. When requested, it shall allow the transporter to a place of secure storage or repairs. This includes a reasonably longer route to stay in a company yard overnight or on a weekend.

Table 1 and 2 explain the bridge list and keys to coded information. Table 3 lists all highways and directions for ascending postmile order. Four highways are listed with opposite direction.

Caution should be exercised when reviewing routes for vertical clearances. When reviewing a route with ascending postmile numbers, which is south to north or west to east movement, the "VC-RT" vertical

clearances shall be used. When reviewing a route with descending post mile numbers, which is north to south movement or east to west movement, use the vertical clearances shown under "VC-LT".

Five routes, 71, 153, 282, 580, and 780 are opposite in direction but they are shown in the bridge list with ascending postmile numbers. Again, caution shall be exercised when reviewing application for moves on these highways.

Column 11 shows the rating of each structure as it relates to the vehicle shown on the permit application. These ratings are for full bonus loading and any axle configurations of a lesser weight is acceptable. Conditional ratings are shown in the far right column.

Conditional ratings shall not be requested by the District Permit Engineer except through application to Headquarters Permits. Conditional ratings shall not be requested unless it is in the interest of uniform application to all transporters.

When existing bridges are being strengthened or newly constructed bridges are completed, permit ratings should not be assumed, it can take up to nine months for the permit rating to be distributed. If there is no practical route around the structure and there is a high permit demand for the use of the structure, District Permit Engineers shall route their request to expedite the issuance of the final permit rating through the Headquarters permit office.

The first letter is for a vehicle combination routed as a five axle configuration; the second letter is for seven axle configuration; the third letter is for a nine axle configuration; the fourth letter is for a eleven axle configuration and the fifth letter is for a thirteen axle configuration. Refer to Chapter III, Section 304 for complete Rating Classification.

The Permit Engineers list is updated, printed as a complete package and distributed every two years. Individual bridge review ratings are updated, processed and disseminated throughout the year. These updatings are sent out as completed and shall be incorporated into the master listing at each district permit office until a complete reprinting of the Engineers List is distributed.

V-3

REFERENCE COLUMN										
1	2	3	4	5	6	7	8	9	10	11
STRUCTURES MAINTENANCE SYSTEM-PERMIT ENGINEERS LIST										
CO	LOCATION	DI	BRIDGE	NAME OR DESCR.	STR. TYPE	LENGTH	WIDTH	VC-LT	VC-RT	PERM R
ORA	1	RO0013	12	JCT RTE 5						PPPPP
ORA	1	RO0013	12	55-0510	RTE 5 1 SEP	CB	175	165.0	16'09"	
ORA	1	RO0013	12	55-0620F	CAMINO LA RA U	CBC	163	24.0		PPPPP
ORA	1	RO0020	12	55-0511S	CONN UC	CB-TUG	51	274.0		PPPPP
ORA	1	RO0040	12	55-0239	CAMINO CAPIS U	CBC	221	83.0		PPPPP
ORA	1	RO0078	12	55-0545	DOHENY PK UC	CB	164	98.0		PPPPP
ORA	1	RO0080	12	55-0007	SERRA UP	SGT	80		14'11" 14'11"	
ORA	1	RO0085	12	55-0546S	SERRA OH	QBC	177	24.0		PPPPP
ORA	1	RO0086	12	55-0546	SERRA OH	QBC	179	70.0		PPPPP
ORA	1	RO0097	12	55-0547	SAN JAUN CR	QBC	508	72.0		PPPPP

**501.1 - TABLE 1
STRUCTURES MAINTENANCE SYSTEM
PERMIT ENGINEER'S LIST**

501.2 - TABLE 2
BRIDGE LIST ITEMS AND KEYS TO CODED INFORMATION

COLUMN 1. COUNTY NUMBERS

1-00	DN.	15-00	COL.	29-00	S.J.	44-00	MON.
2-00	SIS.	16-00	YUB.	30-00	CAL.	45-00	KIN.
3-00	MOD.	17-00	NEV.	31-00	ALP.	46-00	TUL.
4-00	HUM.	18-00	SUT.	32-00	TUO.	47-00	MNO.
5-00	TRI.	19-00	PLA.	33-00	ALA.	48-00	INY.
6-00	SHA.	20-00	SON.	34-00	S. F.	49-00	S.L.O.
7-00	LAS.	21-00	NAP.	35-00	S. M.	50-00	KER.
8-00	TEH.	22-00	YOL.	36-00	S. CR.	51-00	S. B.
9-00	PLU.	23-00	SOL.	37-00	S. CL.	52-00	VEN.
10-00	MEN.	24-00	SAC.	38-00	STA.	53-00	L. A.
11-00	GLE.	25-00	E. D.	39-00	MER.	54-00	S. BD.
12-00	BUT.	26-00	AMA.	40-00	MPA.	55-00	ORA.
13-00	SIE.	27-00	MRN.	41-00	MAD.	56-00	RIV.
14-00	LAK.	28-00	C. C.	42-00	FRE.	57-00	S. D.
				43-00	S. BT	58-00	IMP.

COLUMN 2. STATE HIGHWAY ROUTE

COLUMN 3. POST MILE (TO 1/100 MILE)

PREFIXES OF R, M, AND N REFER TO REALIGNED ROUTES. C REFERS TO COMMERCIAL ROUTING. L REFERS TO SECTION PARALLELING ANOTHER ROUTE (NON-ADD).

COLUMN 4. DISTRICT

COLUMN 5. BRIDGE NUMBER: SUFFIX, WHEN USED, IS CODED AS FOLLOWS:

- J. OUTER OUTER LEFT
- K. LEFT OUTER HIGHWAY STRUCTURE
- L. LEFT STRUCTURE OR LEFT INNER STRUCTURE
- C. CENTER STRUCTURE
- R. RIGHT STRUCTURE OR RIGHT INNER STRUCTURE
- S. RIGHT OUTER HIGHWAY STRUCTURE
- T. OUTER OUTER RIGHT
- Y. STRUCTURE OR GRADE XING ON STATE-OWNED AND MAINTAINED CONNECTIONS NOT ON MAIN HIGHWAY (MAY BE CLOSED)
- W. DRAINAGE PUMPING PLANT
- M. BURIED HAZARD OR MISCELLANEOUS STRUCTURE
- Z. ACCESS TO PRIVATE PROPERTY OR CLOSED W/NO ACCESS
- E. CONNECTOR STRUCTURE
- F. CONNECTOR STRUCTURE
- G. CONNECTOR STRUCTURE
- H. CONNECTOR STRUCTURE

COLUMN 6. NAME OR DESCRIPTION

NAME OR DESCRIPTION - MAY CONTAIN MISCELLANEOUS INFORMATION, ADDITIONAL MISCELLANEOUS INFORMATION

MAY BE FOUND ON THE SAME LINE UNDER THE HEADING
"STRUCTURE TYPE OR PUC NUMBER OR PUMP DATA".)

COLUMN 7. STRUCTURE TYPE OR PUMP DATA

STRUCTURE TYPE - THREE TYPES MAY BE SHOWN FOR MULTIPLE-
TYPE STRUCTURES. SPACINGS ARE 3-COLUMN, 3-COLUMN, AND
3-COLUMN.

CODING 1ST 2 COLUMNS OF ALL 3 TYPES

LS - LOG STRINGER
TS - TIMBER STRINGER
TT - TIMBER TRUSS
TA - TIMBER ARCH
SP - STEEL PIPE GIRDER
SS - STEEL STRINGER (ROLLED SECTIONS)
SG - STEEL PLATE GIRDER
TB - TIMBER SLAB (LAMINATED)
SB - STEEL BOX GIRDER
ST - STEEL TRUSS
SA - STEEL ARCH
CS - CONCRETE SLAB
PS - PRECAST CONCRETE SLAB
PB - PRECAST CONCRETE BOX GIRDER
CA - CONCRETE ARCH
CB - CONCRETE BOX GIRDER
CC - CONCRETE BOX CULVERT
CG - CONCRETE GIRDER
CP - CONCRETE PIPE
CU - CONCRETE ARCH CULVERT
PG - PRECAST CONCRETE GIRDERS
QB - CAST IN PLACE PRESTRESSED BOX GIRDER
QG - CAST IN PLACE PRESTRESSED GIRDER (NOT BOX)
QS - CAST IN PLACE PRESTRESSED SLAB
QX - PRECAST PRESTRESSED BOX GIRDER
QI - PRECAST PRESTRESSED "I" GIRDER
QJ - PRECAST PRESTRESSED DOUBLE "T" GIRDER
QK - PRECAST PRESTRESSED "T" GIRDER
QT - PRECAST PRESTRESSED INVERTED "T" GIRDER
QU - PRECAST PRESTRESSED INVERTED "U" GIRDER
QW - PRECAST PRESTRESSED INVERTED "W" GIRDER
QA - PRECAST PRESTRESSED SLAB
SU - SUSPENSION
MP - CMP OR MULTI PLATE
TU - TUNNEL
MA - MASONRY ARCH
CT - COMBINATION TRUSS (STEEL AND TIMBER)
TW - TIMBER RETAINING WALL
CW - COMBINATION TRUSS (STEEL AND TIMBER)
SW - STEEL RETAINING WALL
CD - CONCRETE DAM
ED - EARTH DAM
SLS - SEAL SLAB

FER - FERRY BOAT

THIRD COLUMN IS CODED, WHERE IT APPLIES, AS FOLLOWS:

A - WELDED
J - WELDED CONTINUOUS
T - THROUGH
L - THROUGH CONTINUOUS
D - DECK
H - DECK CONTINUOUS
P - PONY
O - OPEN SPANDREL
F - EARTH FILL
B - BOX (BOX GIRDER)
C - CONTINUOUS
E - CONTINUOUS WITH STD. CANTILEVERED ENDS (NO ABUTS.)
W - SIDEWALK
K - PIER OR TOWER SPAN
I - CONTINUOUS OVER INCLINED BENTS
Q - PRESTRESSED (USE OTHER CODING IF POSSIBLE)
S - STAYED
R - ORTHOTROPIC
X - VERTICAL LIFT
Y - BASCULE
Z - ROTARY OR SWING

COLUMN 8. TOTAL BRIDGE LENGTH (FEET)

COLUMN 9. BRIDGE WIDTH (FEET)

COLUMN 10. VERTICAL CLEARANCE (FEET AND INCHES)

WHERE ** IS SHOWN THE CLEARANCE GIVEN IS NOT NECESSARILY MINIMUM BUT REPRESENTS A PORTION OF 1 OR MORE TRAFFIC LANES WHERE THE CLEARANCE VARIES GREATLY.

COLUMN 11. FIVE COLUMNS CONSECUTIVELY SHOWING PERMIT CAPACITY FOR 5, 7, 9, 11, AND 13 AXLE VEHICLES.

CODE: P - PURPLE PERMIT CAPACITY
G - GREEN PERMIT CAPACITY
O - ORANGE PERMIT CAPACITY
X - NO PERMIT CAPACITY
NB - NO BONUS

502 SAFETY REQUIREMENTS

Permit loads can only be allowed if the highway system can safely accommodate them and the safety of the traveling public is assured. Public safety is facilitated by specifying travel conditions on the permitted vehicle/load.

502.1 VERTICAL CLEARANCE TOLERANCE

Any vehicle/load must allow for a minimum of a three-inch clearance between the highest point of the vehicular load and any overhead structure. The minimum vertical clearance under the structure shall be

that minimum point across the traveled way between the edge of pavement on the left side and the edge of pavement on the right side.

502.2 CURFEW AREAS AND RESTRICTIONS

The Department of Transportation restricts the movement of the routine movement of permit vehicles and/or loads in excess of 10'-0" in width within specified morning and afternoon peak traffic demand periods in designated metropolitan areas. These conditions may not be appropriate for the movement of a variance load escorted by the CHP where specific traffic conditions have been reviewed and the time frame has been determined as safe for the size and weight of the load. The restricted areas shown in the Curfew Maps and the effective hours are:

- San Diego and Vicinity. No movement within the restricted area will be allowed between 7:00 a.m. to 9:00 a.m. and 4:00 p.m. to 6:00 p.m., Monday through Friday.
- Sacramento and Vicinity: No movement within the restricted area will be allowed between 7:00 a.m. to 9:00 a.m. and 4:00 p.m. to 6:00 p.m., Monday through Friday.
- San Francisco and Vicinity: No movement within the restricted area will be allowed between 7:00 a.m. to 9:00 a.m. and 4:00 p.m. to 6:00 p.m., Monday through Friday.

Additionally, the limiting restrictions for the San Francisco/Oakland Bay Bridge are:

- a. All loads entering the SFOBB from Oakland/Berkeley shall use toll lane number 17;
- b. No permit movement is allowed during rainy or foggy conditions;
- c. No permit movement is allowed from 0630 to 0900 hours and from 1530 to 1830 hours;
- d. Vehicles and/or loads exceeding 12'-0" are limited to movement Monday through Friday from 1000 to 1300 hours;
- e. All vehicles and/or loads exceeding legal height and traveling westbound shall:

Contact the CHP at 1-707-548-5550 to arrange for escort across the SFOBB;

Use the center three lanes when passing through the Yerbo Buena Tunnel;

- Los Angeles and Vicinity: No movement within the restricted area will be allowed between 6:00 a.m. to 9:00 a.m. and 3:00 p.m. to 6:00 p.m., Monday through Friday. All Truck Cranes including Truck Cranes in excess of 10'0" in width may also move between 6:00 a.m. to 7:00 a.m. and 3:00 p.m. to 4:00 p.m. in the Los Angeles curfew area.

502.3 DAYS AND HOURS PERMIT LOADS MAY MOVE

Permit loads are restricted from movement on the following legal holidays: New Year's Day, Memorial Day (last Monday in May), Independence Day, Labor Day, Thanksgiving weekend and Christmas. Headquarters will publish a one page attachment listing the specific hours of restrictions for each holiday. This attachment will list hours of restriction for piloted vehicles/loads and non-piloted vehicles/loads.

Night or weekend moving of extralegal loads and/or vehicles will only be permitted when specifically stated on the face of the permit. Single trip permits may be issued for continuous night and weekend travel under the following conditions:

A pilot car is not required.

Maximum green weight classification

- Vehicle combination does not exceed a loaded two-vehicle combination rated as a five-axle vehicle.

Extralegal width does not exceed lane width.

- Weekend days are authorized if the detour is limited to the use of the off and on ramps of the detoured structure and the vehicle/load does not leave the State right-of-way.

- Night time moves are not authorized whenever detours are required.

- Permits for overheight loads may be issued from origin to destination provided the location of the detour is of sufficient distance from the origin that the move will reach the detour during daylight hours.

- The extralegal size does not create a safety hazard to the traveling public.

- Traffic volumes and/or highway geometrics are compatible safe permit movement.

- Extralegal loads and/or vehicles whose movement originates or terminates in a city or county that requires night and/or weekend movement.

Motor vehicles used to move extralegal loads on nights and/or weekends shall meet the following requirements:

- Performance shall be comparable with motor vehicle moving loads.

Shall have the ability to maintain normal highway speeds.

Shall avoid undue interference with other traffic

- If the front overhang of a load exceeds 25'0" when measured from the front bumper or, if there is no front bumper, from the front of the front tires. (CVC 35406 A)

- If the boom or mast of a crane, drill rig or other fixed load vehicle exceeds 25'0" when measured from the front bumper or, if there is no front bumper, from the front of the front tire.

All truck cranes, regardless of the inspection date, and only those drill rigs and other fixed-load vehicles that have been inspected on or before Oct. 1, 1990 and have a current inspection report on file may exceed legal front overhang, but not to exceed a maximum of 30'0" measured from the front of the front tire.

- If the rear load projection exceeds 25'0" when measured from the last means of support to the end of the load.

- If the rear-boom overhang of any truck crane exceeds 30'0" when measured from the centerline of the last axle of the boom support vehicle to the last hard metal.

- If the unsupported rear-boom overhang of truck crane exceeds 30'0" when measured from the last means of support to the last hard metal.

- If load width exceeds lane width and, if because of length and/or width, the load and/or vehicle will encroach into adjacent lanes. This assessment will be based on an analysis of the lane width and/or alignment of the roadway. The assessment will be based on the classification of highway.

It shall be the responsibility of the permittee to assure that the pilot-car operators are briefed as to their duties prior to movement. Failure of the pilot car operator to comply with the term of the permit or these regulations will be considered a violation of the term of the permit. It is the responsibility of the pilot-car operator to assure that the pilot car is properly equipped as required by the California Vehicle Code

502.6 PILOT CAR SIZE AND EQUIPMENT

Pilot car size and equipment may be found in the California Vehicle Code Sections:

CVC 472	CVC 24003	CVC 25270
CVC 27904	CVC 27904.5	CVC 28100
CVC 28101	CVC 28102	CVC 28103
CVC 35252(a),(b)&(c)		CVC 35784(e)&(f)

502.7 PILOT CAR LOCATION AND RESPONSIBILITY

502.7.1 Pilot Car Location.

Pilot cars shall:

- Precede the load on two or three-lane conventional highways and follow on four or more lane conventional highways and divided

highways. When two pilot cars are required, one shall precede and one shall follow;

- Remain to the right of the centerline except when prevented by the physical limitation of the highway;
- Maintain adequate interval between load and the pilot car to allow passing by other traffic;
- Accompany the permitted load through all operational California Highway Patrol scale facilities;

50 Pilot Car Responsibility.

A pilot car shall not:

- Stop traffic for the convenience of the permitted vehicle or load;
Tow another vehicle while being used as a pilot car;
- Display the STOP/SLOW sign paddle out of the window;
- Escort more than one load at a time unless specifically allowed by the permit.

502.7.3 Flaggers.

Under normal permit conditions, flaggers shall not be used to stop or control traffic. When necessary to post a flagger in order to warn and direct traffic, the flagging shall be done in accordance with Title 8, Section 1598 and 1599 of the California Division of Occupational Safety and Health Construction Safety Orders and Caltrans "Manual of Traffic Controls". Flaggers shall be not less than 18 years of age.

502.8 WEATHER RESTRICTIONS

Movement of extralegal vehicles and/or loads will be restricted during inclement weather when visibility is restricted to less than 1,000 feet and/or when hazardous conditions exist due to ice and snow.

These extraordinary conditions may materialize at any time and at any undisclosed location along the route during certain times of the year.

Transporters shall consider all of the prevailing conditions for the area he is routed through before making a decision to move from a safe location. It may be appropriate to wait 3 or 4 hours before moving in areas of the state that have fog problems.

If it is doubtful whether or not the route will remain clear and safe to the next safe haven, it would be appropriate to postpone the move until another day, even though the transporter may be in mid-route.

502.9 WARNING SIGNS

All loads and/or vehicles being moved on State highways which exceed 8'-6" in width, 80'-0" in length, or more than 10'-0" of overhang shall display appropriate warning signs.

Signs shall be posted on front and rear and shall read "LONG LOAD" or "OVERSIZE". The "LONG LOAD" sign shall be used whenever overall length exceeds 100 feet. The "OVERSIZE" sign shall be used for shorter lengths and other oversize features. The more definitive signs reading "WIDE LOAD", "LONG LOAD", "OVERSIZE LOAD", "EXCESSIVE FRONT OVERHANG" or "EXCESSIVE REAR OVERHANG" may be substituted for the "OVERSIZE" sign when appropriate. The "LONG LOAD" sign shall have preference when length exceeds 100-feet and other oversize features exist. The lettering shall be a 10-inch minimum height with a 1-5/8-inch minimum brush stroke, and a minimum 1-inch margin all around. All signs shall be black letters on a yellow background, mounted at least 18 inches above the road surface front and rear. Signs shall be neat, clean, legible, mounted securely and visible from straight ahead or behind and to 45-degree either side thereof.

502.10 HORIZONTAL CLEARANCES

Some lane widths have been reduced below the standard lane width by restriping. In order to ensure safety and unnecessary obstructions of traffic, the Permit engineer shall consider these clearances when issuing transportation permits.