



CITY of CALABASAS

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*Approved By:*

Robert Yalda - Public Works Director

## **“UTILITY TRENCH STEEL PLATE REQUIREMENTS”**

When backfilling operations of an excavation in the traveled way, whether transverse or longitudinal, cannot be properly completed within a workday, steel plate bridging with a non-skid surface and shoring may be required to preserve traffic flow. In such areas, the following conditions shall apply:

1. Steel plates used for bridging must extend a minimum of 300 mm (12") beyond the edges of the trench.
2. Steel plate bridging shall be installed to operate with minimum noise.
3. The trench shall be adequately shored to support the bridging and traffic loads.
4. Temporary paving with cold asphalt concrete shall be used to feather the edges of the plates, if plate installation by Method 2 (as described below) is used.
5. Bridging shall be secured against displacement by using adjustable cleats, shims or other devices.

As required by Caltrans, steel plate bridging and shoring shall be installed using either Method 1 or 2 as follows:

METHOD 1 - For speeds more than 70 Km/hr (45 mph): The pavement shall be cold planed to a depth equal to the thickness of the plate and to a width and length equal to the dimensions of the plate.

METHOD 2 - For speeds 70 Km/hr (45 mph or less): Approach plate(s) and ending plate (if longitudinal placement) shall be attached to the roadway by a minimum of two dowels pre-drilled into the corners of the plate and drilled 50 mm (2") into the pavement. Subsequent plates are butted to each other. Fine graded asphalt concrete shall be compacted to form ramps, maximum slope 8.5% with a minimum 300 mm (12") taper to cover all edges of the steel plates. When steel plates are removed, the dowel holes in the pavement shall be backfilled with either graded fines of asphalt concrete mix, concrete slurry or an equivalent slurry satisfactory to the City Public Works Inspector.

Unless specifically noted in the provisions of the permit, steel plate bridging should not exceed four (4) consecutive working days in any given week. Steel plates will not be left over a weekend without

approval by the City Engineer or Public Works Inspector. If permission is granted, the plates must be check a minimum of two (2) times a day to insure stability.

Backfilling of excavations shall be covered with a minimum 75 mm (3") temporary layer of cold asphalt concrete to create a smooth ride.

There will be a \$100 per day penalty for each day or part of a day that plates remain over the excavation beyond the approved length of time. A \$1,000 cash bond will be required to cover this requirement prior to issuance of an encroachment permit.

The following table shows the required minimal thickness of steel plate bridging required for a given trench width:

TRENCH WIDTH		MINIMUM PLATE THICKNESS
0.3m	(1.0 foot)	13mm (1/2 inch)
0.45m	(1.5 feet)	19mm (3/4 inch)
0.6m	(2.0 feet)	22mm (7/8 inch)
0.9m	(3.9 feet)	25mm (1 inch)
1.2m	(4.0 feet)	32mm (1-1/4 inches)

NOTE: For spans greater than 4 feet, a structural design shall be prepared by a Registered Civil Engineer and approved by the City Engineer.

Steel plate bridging shall be steel plate designed for HS20-44 truck loading per Caltrans Bridge Design Specification Manual. The permittee shall maintain a non-skid surface on the steel plate having a minimum coefficient of friction equivalent to 0.35 as determined by California Test Method 342. If a different test method is used, the permittee may utilize standard test plates with known coefficients of friction available from each Caltrans District Materials Engineer to correlate skid resistance results to California Test Method 342.

A rough road sign (W33) with black lettering on an orange background shall be used in advance of steel plate bridging. This is to be used along with a traffic control plan approved by a City of Calabasas Traffic Engineer.

The contractor shall be responsible for the maintenance of the steel plates, shoring and asphalt concrete ramps.