



**CUPERTINO**

**DEPARTMENT OF PUBLIC WORKS  
STEEL PLATE REQUIREMENTS FOR EXCAVATIONS  
IN THE PUBLIC RIGHT OF WAY**

When an excavation in the public right of way cannot be properly backfilled and permanently paved within a workday, steel plate bridging with a non-skid surface and trench shoring may be required to preserve traffic flow and to ensure public safety. All trenches on Foothill Blvd, Stevens Creek Blvd, De Anza Blvd, Wolfe Road and Homestead Rd shall be covered with steel plates until permanent pavement is installed, unless the City Engineer approves in writing an alternative method of temporary surface restoration. In such areas, the following conditions shall apply:

1. Steel plates used for bridging must extend a minimum of 12-inches 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.

Steel plate bridging and shoring shall be installed using Method 1 (as described below), unless the City Engineer approves in writing the use of Method 2:

METHOD 1 - For speeds of 35 mph or more: The steel plate shall be recessed by cold milling the pavement to a depth equal to the thickness of the plate and to the width and length equal to the dimensions of the plate.

METHOD 2 – For speeds less than 35 mph and with the written approval of the City Engineer: Steel plate bridging may be placed on the asphalt surface without cold milling the existing pavement. Bridging shall be secured against displacement by using adjustable cleats, shims or other devices. 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 2-inch into the pavement. Subsequent plates are to be butted to each other. Fine graded asphalt concrete shall be compacted to feather the edges of the plate. The asphalt shall have a maximum slope of 8% with a minimum 12-inch taper to cover all of the edges of the steel plates. When steel plates are removed, any 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 encroachment permit, steel plate bridging should not exceed 5 consecutive working days in any given week. Steel plates will not be left over a weekend without approval by the City Engineer or the Public Works Inspector. If

permission is granted, the plates must be checked a minimum of two (2) times a day to ensure stability.

Backfilling of excavations shall be covered with a minimum 3-inch layer of temporary cold asphalt concrete to create a smooth driving surface. The contractor will be responsible for checking the temporary driving surface daily to ensure the surface remains smooth. Any settling or cavitation of the temporary asphalt surface shall be corrected immediately. If the contractor fails to keep the temporary surface in a safe and clean manner, the City may require that trench plates be used to cover the trench.

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

TRENCH WIDTH	MINIMUM PLATE THICKNESS
1.0 feet	1/2 inch
1.5 feet	3/4 inch
2.0 feet	7/8 inch
3.9 feet	1 inch
4.0 feet	1-1/4 inch

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 designed for H20-44 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 a standard test plate 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 the City of Cupertino Traffic Engineer.

RESPONSIBILITY

Contractor is responsible for all temporary excavation surfaces in the public right of way, including the maintenance of cold asphalt concrete, steel plates and shoring.



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