F - EXPRESSWAYS AND LIMITED ACCESS FACILITIES

F-1 Application of Standards

Serious problems of traffic control occur under the special conditions encountered where traffic must be moved through or around maintenance or construction operations on high-speed, high volume facilities. Although the general principles outlined in the previous sections of this Manual are applicable to all types of highway facilities, special consideration must be given to high-speed and limited access-type of highways to accommodate traffic in a safe and efficient manner and for adequate protection of work forces. The density of traffic on these facilities requires that traffic control procedures be implemented, for example, to permit critical merging maneuvers to occur well in advance of work areas and in a manner which creates minimum turbulence in the traffic stream. These situations may require a much higher type of device than specified for normal rural or urban street use. The same important basic considerations of uniformity and standardization of general principles apply, however, for all facilities.

F-2 Signs

The messages of most of the standard warning signs described previously are applicable; however, signs larger than 48"x 48" may be desirable for additional emphasis. For large signs, a rectangular shape may be justified with approval of the Department. Movable signs mounted on trucks or trailers with specially constructed lighting units provide a means of giving additional advance warning to motorists. Requirements may exist for placing advance signs at 1/2, 1, or even 2 miles from the work site to inform traffic of possible delays.

A complete series of warning signs is generally required on both sides of the roadway for lane closures or where other restrictions to traffic flow may be encountered.

F-3 Barricades and Channelization

The direction of freeway type traffic through or around work sites requires the use of prominently positioned drums and delineation devices for establishing tapers for lane closures or other situations where traffic must divert from its normal path. The success or failure of a lane closure will often depend upon the ability of traffic in a closed lane to merge with the adjacent lane. In practice, this merge does not usually take place until the taper drums, cones or other devices are encountered. For this reason, the taper length must be sufficiently long to give drivers every opportunity to find an acceptable gap in the adjacent lane before having to slow down or stop and impede other traffic. Under relatively normal conditions of speed and volume, where adequate warning of a lane obstruction has been provided, the taper rate described should be sufficient. However, this length should be adjusted as required by traffic operations.

F-4 Lighting Devices

The need for adequate lighting devices is essential on high-speed facilities to maintain safe traffic flow. Flashing lights should be added to all advance warning signs. The complete illumination of night work areas should be considered.

F-5 Flags

Two(2) each flags;
size - flag - 24 inch x 24 inch
standard - three(3) foot
flag color - red or orange
When Specified they shall be placed above each warning sign in Work Zone.
Open mesh flags will not be acceptable.

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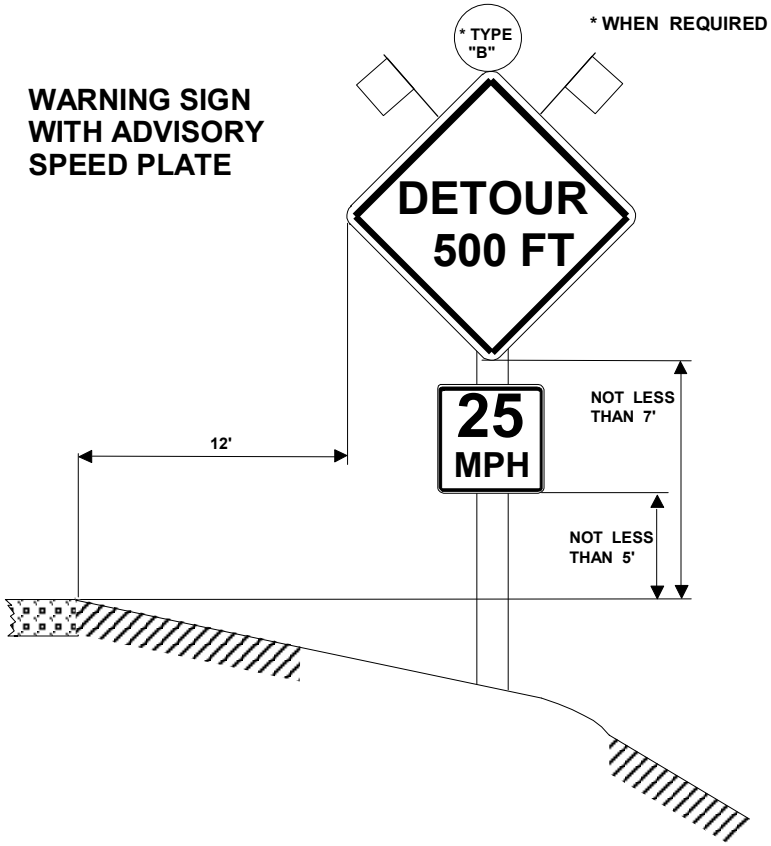
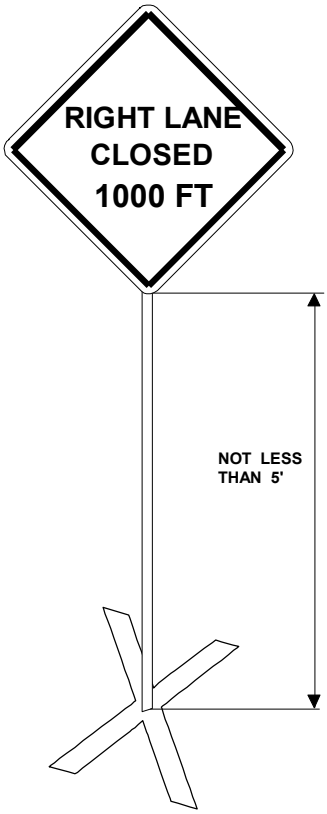
WARNING SIGN WITH ADVISORY SPEED PLATE





ROADSIDE SIGN