CHAPTER 16

FIRE HYDRANTS
16. Fire Hydrants

16.1. Introduction and Usage

The purpose of installing freeway fire hydrant markers/signs is to reduce the time required for emergency responders to locate a water source (hydrant) to facilitate clearing of an incident. The purpose of installing supplemental fire hydrants in areas such as interchanges and high incident locations is to reduce the time required for emergency responders to provide water to an incident scene. These reductions in time will result in shorter incident durations and help restore the highway to normal operating conditions more quickly. Freeway fire hydrant considerations include two important aspects: 1) the marking of existing fire hydrant locations on the freeway and 2) installing additional fire hydrants on the freeway in high incident locations or areas of deficiency.

Two markers will typically be used to identify the location of each hydrant, one will be located adjacent to the freeway shoulder and the other one will be located on a fence or sound wall generally in front of the hydrant. The marker adjacent to the freeway shoulder may be a permanent fire hydrant marker or reflector attached to a concrete barrier or sound wall, while the marker on the fence or sound wall will be a reflective sign. The installation of hydrant markings and signs requires coordination with local fire departments.

Installation of supplemental fire hydrants should be considered when performing major roadway or interchange reconstruction. They should also be considered for installation at high incident locations. The installation of supplemental fire hydrants requires close coordination with local fire and water departments.

16.2. Design Process

Fire Hydrant Marking

The following steps should be followed for clear and consistent fire hydrant marking throughout the freeway system:

- Inventory existing freeway fire hydrants
- Coordinate with local fire department
- Determine the freeway fire hydrant marker type required for the location
- Determine the location of the freeway fire hydrant marker
- Install the freeway fire hydrant marker

Additional Fire Hydrant Installation

The following steps should be followed in order to incorporate the installation of additional fire hydrants in the scope of work for larger freeway construction / rehabilitation projects:

- Determine need for additional freeway fire hydrants
- Coordinate with local fire and water departments
- Consider the design and installation of freeway fire hydrants during the scoping phase of freeway construction and rehabilitation projects
• **Design and installation** of freeway fire hydrants

Each of these steps is detailed further in subsequent sections of this chapter.

### 16.3. **Inventory of Existing Freeway Fire Hydrants**

Maps showing the locations of existing fire hydrants may be obtained through coordination with local fire or water departments. Existing fire hydrants within 500 feet of the centerline of the freeway should be included in the inventory. The inventory should consist of the following at each fire hydrant location:

- Photograph the area between the fire hydrant and the freeway to help determine the proper location of new fire hydrant markers;
- Identify type and condition of sign, if any, that is currently marking the location of the fire hydrant;
- Identify type of obstructions, if any, including trees, bushes, and other signs;
- Determine if a fire hose can pass through the fence or sound wall; and,
- Recommend marker type(s).

### 16.4. **Freeway Fire Hydrant Marker Type**

The type of freeway fire hydrant marker used is based on its location. In general, freeway fire hydrant markers should be located adjacent to the freeway shoulder and attached to the fence or sound wall in front of the fire hydrant.

There are two types of freeway fire hydrant markers that may be installed adjacent to the freeway. One is similar to a permanent stake/delineator in the ground with a reflective color stripe and fire hydrant symbol. The other type involves the placement of a color reflector on a concrete barrier or sound wall in locations where a permanent stake may not be appropriate.

Fire hydrant markers or signs that are currently attached to the fence or sound wall in front of the fire hydrant are green in color with a white hydrant symbol above the approximate address of the fire hydrant location (Standard Sign Plate D9-54). Dimensions of this sign are 18” x 24”. New or replacement signs of this type should be consistent with the design already in use on the freeway system.

### 16.5. **Freeway Fire Hydrant Marker Location**

A standard location for each type of freeway fire hydrant marker should be used. In general, the permanent fire hydrant markers will be located adjacent to the freeway in a perpendicular line from the fire hydrant. The distance from the edge of pavement to the marker may be based on the slope and location of obstructions in the immediate area. The color reflectors may be located on a concrete barrier or sound wall in locations where a permanent stake may not be appropriate. These markers should also be located in a perpendicular line from the fire hydrant. The fire hydrant signs will be attached to the fence or sound wall directly in front of the fire hydrant. Guidelines for the exact location of freeway fire hydrant markers are presently being developed.
By installing the freeway fire hydrant markers at these locations, responding agencies will be able to quickly locate the fire hydrants closest to the freeway incident and use them to clear the incident safely and effectively. For instance, responding agencies may locate the permanent stake or reflector from the freeway and follow a perpendicular line of sight from the marker to the sign located on the fence or sound wall. Once at the sign, the fire hydrant should be in direct view.

16.6. Additional Freeway Fire Hydrant Locations

A list of additional freeway fire hydrant locations will be developed based on meetings with appropriate fire department personnel and the areas of deficiency evident through the fire hydrant inventory. These locations may include, but are not limited to, interchanges and high incident locations.

During the scoping phase of freeway construction / rehabilitation projects the installation of additional freeway fire hydrants should be considered based on the list described in the previous section.