Fire Protection Underground

Specification Drawings

Links to the most frequently requested specification drawings for underground sprinkler and hydrant installations are provided below in PDF. To view PDF documents, use Adobe Reader. A link to a free download of Adobe Reader is under External Links below.

- Detector Check Meter Assembly Detail
- Fire Hydrant Detail
- Fire Hydrant - Location Detail
- Fire Hydrant - Spacing Detail
- Fire Protection Systems Standards - Detail 1
- Fire Protection Systems Standards - Detail 2
- Fire Sprinkler Line - with PIV Detail
- Thrust Box Detail
- Valve Box Detail

Sprinkler and Hydrant Frequently Asked Questions

- Question - How do I obtain water-flow information?

    - Answer - Please fax your request to Fire Prevention. Include a street address and a cross street. If we have recent information, we will fax it back to you. If we do not have any information, you must pay the fee for a flow test. It typically takes a few days to arrange for a test with your water service provider.

- Question - Any requirement for a "cushion" when submitting hydraulic calculations for sprinkler design?

    - Answer - The water flow information form we send includes a paragraph discussing a maximum residual design pressure of 45.0. If we send you a test result with a 60 psi static pressure and 2000 gpm flowing with a residual pressure of 50 psi, you may not exceed 45.0 psi for the residual pressure requirement for the sprinkler system design. This is our cushion. The reason for this is based on the guarantee from both the City of Stockton Municipal Utilities District and California Water Service Company. They guarantee to make available pressures of 45.0 on a year around basis. Also, calculations must include all of the valves and fittings including the tee connection at the public main.

- Question - I will be building some model homes. What are the fire department requirements?

    - Answer -

    - A fire hydrant within 600 feet capable of flowing 1500 gpm at 20 psi.

- An all-weather surface within 200 feet from the rear-most portion of each model home: The 200 feet is measured as the hose "crawls" around the structure and not through the structure. All-weather surface is 6 inches of road base and 2 inches of asphalt. We do not accept gravel roads or lime treated soils; when the engine pumps into the 2 1/2 inch hose, some water is wasted near the engine. If fire-fighting conditions change, we cannot risk the possibility that the engine cannot get out.

- Also California Fire Code requirements for a 20 ft. wide road and a turnaround. We suggest you contact the Fire Marshal and discuss your proposal with him.

• Question - What size underground main does the fire department want?

- Answer - You need to engineer your design by determining the fire flow requirements and sprinkler requirements for your buildings and size the underground main accordingly. Some guidelines:

  - We require mains supplying hydrants and sprinkler systems with a diameter of at least 8 inches; however, 12-inch diameter is the largest we would expect to find on a project.

  - Hydrant-only systems can have a minimum diameter of 6 inches, but you may not be able to meet the fire flow requirements with this smaller main size.

  - If you undersize the underground, you may be forcing the sprinkler contractor to

  "supersize" the sprinkler design. This is particularly true when the building has a high ceiling. The 45.0 psi we discuss above will only go so far.

• Question - Where do I get the National Fire Protection Standard 24 (NFPA 24) test form to fill out?

- Answer - We have this form available in PDF format: Contractor's Material and Test Certificate for Private Fire Service Mains. Please print, fill out, and bring it with you for the hydrostatic test and inspection.

If you have questions regarding any of these requirements or if you are ready for an inspection, please contact the Fire Prevention Division.