



**SACRAMENTO FIRE DEPARTMENT  
FIRE PREVENTION DIVISION  
FIRE DEPARTMENT DEVELOPMENT SERVICES UNIT**

**Underground Plan Review Submittal Requirements**

In order to submit plans for review of the underground the submittal needs to have the following included:

- 1) An application identifying the entire scope of work
- 2) Three complete sets of plans, drawn to scale
- 3) Three complete sets of material cut sheets
- 4) Installation work shall be done by fully experienced and responsible contractors. Contractors shall be appropriately licensed in the State of California to install fire service mains and their appurtenances. (General Engineering Contractor, C-16, C-35, C-36) CFC 2007, Chapter 45, Section 4501 – NFPA 24 amend section 4.2.1
- 5) Proof of contractor license
- 6) Working plans shall be drawn to an indicated scale on sheets of uniform size, and shall include the following items that pertain to the design of the system:
  - Name of owner
  - Location, including street address
  - Point of compass
  - A graphic representation of the scale used on all plans
  - Name and address of contractor
  - Size and location of all water supplies
  - Size and location of standpipe risers, hose outlets, hand hose, monitor nozzles, and related equipment
  - The following items that pertain to private fire service mains:
    - Size
    - Length
    - Location
    - Weight
    - Material
    - Point of connection to city main
    - Sizes, types, and locations of valves, valve indicators, regulators, meters, and valve pits
    - Depth at which the top of the pipe is laid below grade
    - Method of restraint



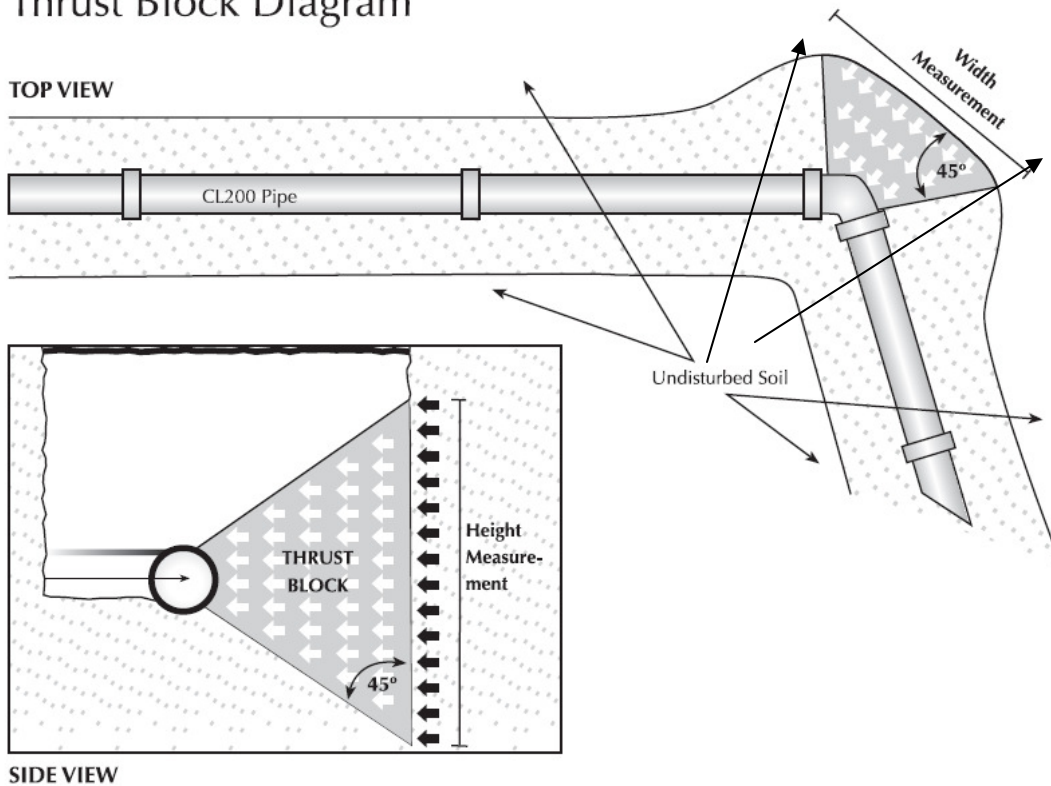
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- The following items that pertain to hydrants:
  - Size and location, including size and number of outlets and whether outlets are to be equipped with independent gate valves
  - Whether hose houses and equipment are to be provided and by whom,
  - Static and residual hydrants used in flow
  - Method of restraint
  
- 7) The working plans submittal shall include the manufacturer's installation instructions for all listed equipment, including descriptions, applications, and limitations for any devices, piping, or fittings.
  
- 8) If using thrust blocks as a method of restraint, a soil compaction report describing the horizontal bearing strength in accordance with NFPA 24, table A.10.8.2 (b) will be required to verify that thrust blocks are adequately sized. Provide all calculations for all thrust block sizing relating to their soil compaction report.
  
- 9) Provide information and cut sheets for tracer wire that will be installed.
  
- 10) If a FDC is required, show location, type, and type of support.
  
- 11) All underground services shall be designed in accordance with NFPA 24.



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## Thrust Block Diagram



## Notes

1. Underground fire service utilities shall be AWWA C-900 Class 200 pipe
2. Pipe joints shall be exposed at the time of hydrostatic test
3. Hydrostatic test shall be 200 psi for 2 hours
4. Tracer wire and tape are required and shall be in accordance with AWWA
5. Thrust blocks shall be Class 560-C-32.50 concrete, unless specified otherwise
6. For thrust block dimensions, see thrust block calculation detail.
7. Pipe shall be buried a minimum of 3 feet
8. Pipe shall be sleeved per NFPA for penetrating foundations
9. Provide an underground pipe certification at the time of the underground final