

Office of the State Fire Marshal
NOTES FOR UNDERGROUND PIPING FOR PRIVATE HYDRANTS & SPRINKLERS

PLACE THE FOLLOWING NOTES, VERBATIM, ON THE PLAN:

1. Prior to installation, all plans and specifications shall be approved by the Office of the State Fire Marshal(OSFM)
2. Inspections are required: 1) prior to pouring thrust blocks, 2) for hydrostatic testing, and 3) for flush. Schedule all inspections 72 hours in advance. Call the local Deputy State Fire Marshal for inspection scheduling.
3. Installation, inspection, and testing shall conform to the current OSFM adopted NFPA 13 and NFPA 24 with California Amendments.
4. Private fire hydrants shall be of an approved type with a minimum of one 2 ½" and one 4" outlet. The 4" outlet shall face the fire department access road. All outlets shall be provided with National Standard Threads (NST).
5. Fire hydrant supply piping shall be a minimum of 6" in diameter. The lowest operating nut shall be a minimum of 18" above grade and the hydrant flange shall be a minimum of 2" above grade.
6. Fire hydrants shall be a minimum of 40 feet from all structures. A keyed gate valve shall be provided for each hydrant in an accessible location within 20 feet of hydrants. Valves shall not be located in parking stalls.
7. All pipe shall be approved for use in fire service systems, complying with the current OSFM adopted NFPA 24.
8. All buried fittings shall be of an approved type with joints and pressure class ratings compatible with the pipe used.
9. All ferrous pipe and fittings shall be protected with a loose 8-mil polyethylene tube. The ends of the tube and any splices made for "T"s or other piping components shall be sealed with 2" tape, approved for underground use. All bolted joints shall be cleaned and thoroughly coated with asphalt or other corrosion retarding material after assembly and prior to poly-tube installation.
10. A 12" bed of clean fill sand shall be provided below and above the pipe (total 24").
11. All bolts used for underground connections shall be stainless steel and tightness of bolted joints shall be verified by bolt torque or by the method described in the listing information or the manufacturer's installation instructions.
12. A minimum of 30" of cover, from finish grade to the top of the pipe, shall be provided. When surface loads are expected, a minimum of 36" cover shall be provided.
13. Thrust blocks, or other approved method of thrust restraint, shall be provided wherever pipe changes direction. (All tees, plugs, camps, bends, reducers, valves, and hydrant branches shall be restrained against movement in accordance with the current OSFM adopted NFPA 24.)
14. The trench shall be excavated for thrust blocks and inspected *prior* to pour. All corrosion protection shall be in place. Thrust blocks shall be placed between undisturbed earth and the fitting to be restrained. Thrust block shall be capable of resisting the calculated thrust force. Thrust blocks shall be placed so that the joints are accessible for repair.
15. A hydrostatic test (200 psi for two hours or 50 psi over maximum static pressure, whichever is greater) shall be witnessed by a Deputy State Fire Marshal. The trench shall be back-filled between the joints to prevent movement of the pipe.
16. The system shall be thoroughly flushed before connection is made to overhead piping. Flow shall be through a minimum of a 4" hose or pipe unless otherwise approved by the Deputy State Fire Marshal. A Deputy State Fire Marshal shall witness the flush.
17. Private hydrants, sprinkler control valves, detector check assemblies, post indicating valves and fire department connections shall be painted OSHA red.
18. All control valves shall be locked in the open position. Valves shall be monitored in accordance with the current OSFM adopted NFPA 24.
19. Hydrants shall be protected from mechanical damage. The means of protection shall not interfere with connection to or operation of hydrants.
20. Subject to additional requirements not reflected in this list, per the the most current Office of State Fire Marshal adopted CBC, CFC, and NFPA 24 with California Amendments.

STANDARD CURRENT AS OF: 01/01/2025

APPROVED BY: FPCP

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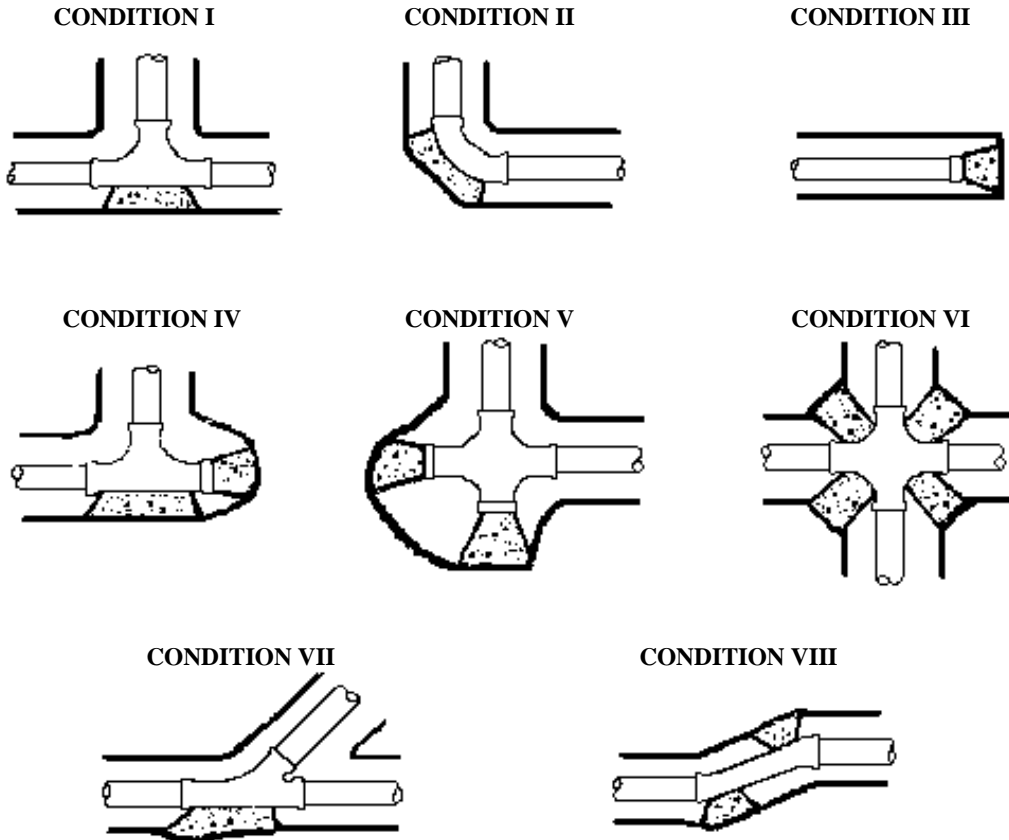
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Office of the State Fire Marshal

NOTES FOR THRUST BLOCK RESTRAINTS

PLACE THE FOLLOWING NOTES, VERBATIM, ON THE PLAN:



THRUST BLOCK BEARING AREA IN SQUARE FEET

Pipe Size	CONDITION							
	I	II	III	IV	V	VI	VII	VIII
<6"	2.0	2.9	2.0	2@ 2.0	2@ 2.0	4@ 1.6	2.0	2@ 1.6
6"	4.3	4.0	4.3	2@ 4.3	2@ 4.3	4@ 3.3	4.3	2@ 3.3
8"	7.4	10.6	7.4	2@ 7.4	2@ 7.4	4@ 5.7	7.4	2@ 5.7
10"	12.1	17.1	12.1	2@ 12.1	2@ 12.1	4@ 9.3	12.1	2@ 9.3
12"	17.2	24.1	17.2	2@ 17.2	2@ 17.2	4@ 13.2	17.2	2@ 13.2

NOTES

1. Thrust block areas based on 225 PSI and 2,000 PSF soil pressure with 2 ½ feet of cover minimum.
2. Thrust block bearing faces shall be placed against undisturbed soil, approved compacted backfill, or Class 100-E-100 slurry.
3. Thrust blocks shall be Class 560-C-3250 concrete, unless specified otherwise.
4. To facilitate future removal of thrust blocks and line extension use cardboard separators between blocks, if needed.
5. After installation, rods, nuts, bolts, washers, clamps, and other restraining devices shall be cleaned and thoroughly coated with a bituminous or other acceptable corrosion-retarding material.

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