Sacramento Metropolitan Fire District
Community Risk Reduction Division

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KURT P. HENKE
Fire Chief

SACRAMENTO METROPOLITAN FIRE DISTRICT					
FIRE PREVENTION STANDARD					
STANDARD TITLE:	**Installation of Private Fire Service Mains**				
STANDARD NUMBER:	9	EFFECTIVE DATE:	04/01/07	REVISION DATE:	07/02/12

1. Underground piping shall be installed in accordance with NFPA 24, *Standard for the Installation of Private Fire Service Mains and Their Appurtenances* and the approved plans prepared by a civil engineer or piping installation contractor. The underground fire service installation contractor shall submit for review and approval a schematic drawing showing the part for part installation arrangement of the underground piping and appurtenances and a parts list with listing information for all parts prior to installation. A trench cross sectional detail shall be included on the plans.

2. Plastic piping approved for underground installations shall be PVC, C900, Class 150 or greater, and be listed for such use.

3. All runs of non-metallic water pipe shall have a No. 10 gauge solid soft drawn copper locator wire taped on top of the pipe to facilitate locating the pipe at a later date. The wire shall be stubbed up inside each valve box. Continuity test shall be conducted on each splice at all locations.

4. Galvanized pipe is not approved for underground supply piping.

5. Non-metallic pipe shall not be used within five feet of a building.

6. Above grade valves for controlling the water supply for on-site fire hydrants and automatic fire sprinkler systems shall be electrically supervised.

7. All piping shall be laid in a six inch bed of sand or natural gravel not over one inch in diameter and have a twelve inch fill of sand or natural gravel not over one inch in diameter. See detail, page 3.

8. A strand of 3" wide non-detectable blue tape marked "Water" shall be placed 12 inches above all piping.

9. All sections of ductile iron pipe or ductile iron fittings shall be encased in either 8-mil linear low density (LLD) or 4-mil high-density, cross-laminated (HDCL) polyethylene sheets or tubes in accordance with American Water Works Association Standard C105/A21.5-05, *Polyethylene Encasement for Ductile-Iron Pipe Systems.* Any fasteners shall be made of low-alloy steel.

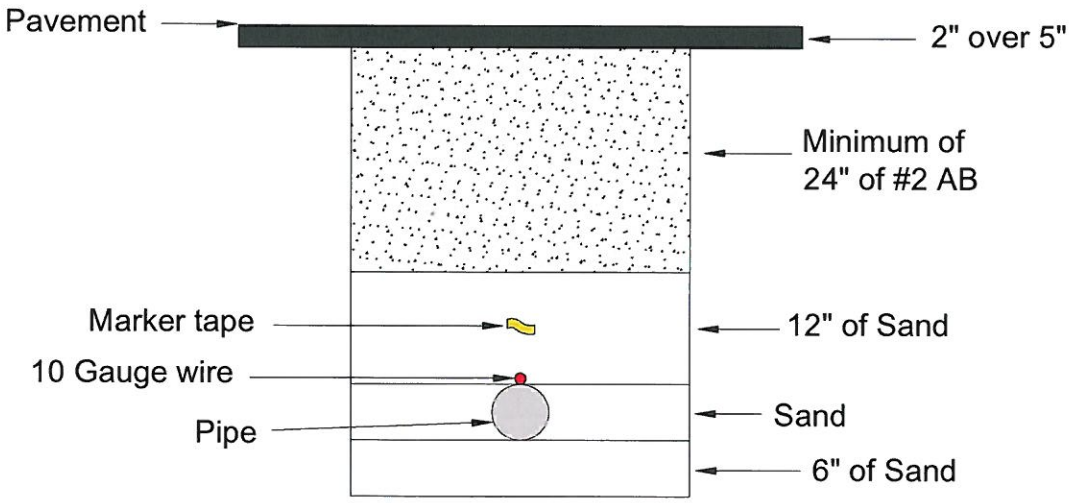
10. Concrete thrust blocks or other approved retaining, shall be installed at all locations where piping changes direction.

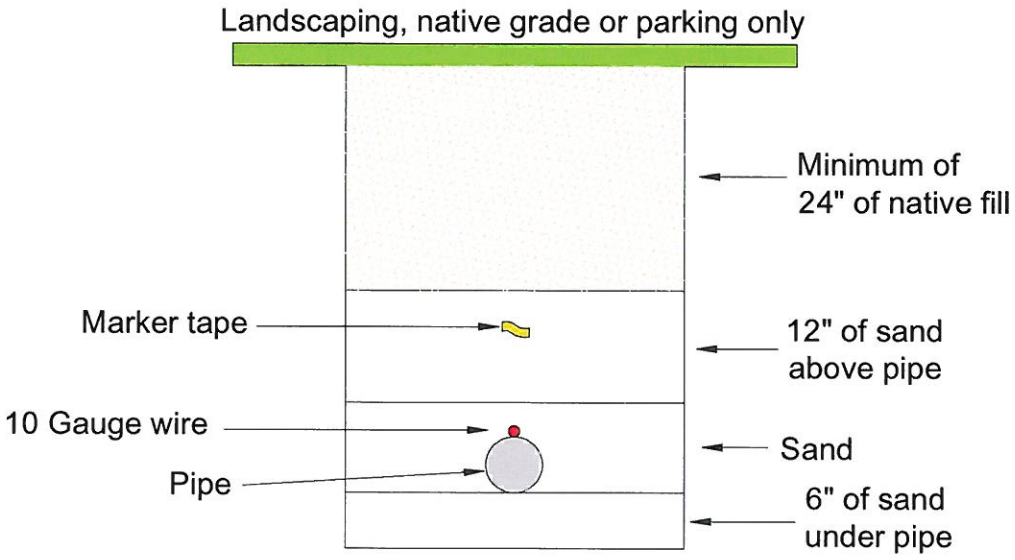
11. A 200-PSI hydrostatic pressure test shall be performed on all installed piping and appurtenances for a period of two hours. The piping shall be center-loaded during pressure testing with all joints, fittings and appurtenances uncovered. Failure to comply with this section will result in a test failure and the uncovering of the piping for a visual inspection and retesting.

12. A fire sprinkler underground supply piping flush, using a full pipe diameter discharge, shall be conducted and witnessed by the Fire District prior to connection to the above ground fire sprinkler system. The fire department connection piping shall also be flushed if connected to the fire sprinkler supply piping below grade. Piping shall be flushed until all foreign objects have been discharged and the water is clear.

13. A fire hydrant flush, using the 4-½ inch "steamer" outlet, shall be conducted at all hydrants and witnessed by the Fire District. Piping shall be flushed until all foreign objects have been discharged and the water is clear.

Ray Iverson, AC/Fire Marshal


Pavement
2" over 5"
Minimum of
24" of #2 AB
Marker tape
12" of Sand
10 Gauge wire
Pipe
Sand
6" of Sand


Landscaping, native grade or parking only
Minimum of
24" of native fill
Marker tape
12" of sand
above pipe
10 Gauge wire
Pipe
Sand
6" of sand
under pipe