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Second Revision No. 1005-NFPA 13-2020 [Section No. 6.10.1]

6.10.1 Approval of Underground Piping.

[**24:**10.10.1]

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~~A.6.10.1~~

~~See~~ ~~Figure A.6.10.1~~ ~~.~~

~~Figure A.6.10.1 Sample of Contractor's Material and Test Certificate for Underground Piping. [24:Figure A.10.10.1]~~

Contractor's Material and Test Certificate for Underground Piping

PROCEDURE

Upon completion of work, inspection and tests shall be made by the contractor's representative and witnessed by an owner's representative. All defects shall be corrected and system left in service before contractor's personnel finally leave the job.

A certificate shall be filled out and signed by both representatives. Copies shall be prepared for approving authorities, owners, and contractor. It is understood the owner's representative's signature in no way prejudices any claim against contractor for faulty material, poor workmanship, or failure to comply with approving authority's requirements or local ordinances.

Property name | Date

Property address

Plans
- Accepted by approving authorities (names)
- Address
- Installation conforms to accepted plans ☐ Yes ☐ No
- Equipment used is approved ☐ Yes ☐ No
  If no, state deviations

Instructions
- Has person in charge of fire equipment been instructed as to location of control valves and care and maintenance of this new equipment? ☐ Yes ☐ No
  If no, explain
- Have copies of appropriate instructions and care and maintenance charts been provided to the owner or owner's representative? ☐ Yes ☐ No
  If no, explain

Location
- Supplies buildings

Underground pipes and joints
- Pipe types and class | Type joint
- Pipe conforms to _____ standard ☐ Yes ☐ No
  Fittings conform to _____ standard ☐ Yes ☐ No
  If no, explain
- Joints needing anchorage clamped, strapped, or blocked in accordance with _____ standard ☐ Yes ☐ No
  If no, explain

Test description

Flushing: Flow the required rate until water is verified to be clear of debris at outlets such as hydrants and blow-offs. Flush at one of the flow rates as specified in 6.10.2.1.3.

Hydrostatic: All piping and attached appurtenances subjected to system working pressure shall be hydrostatically tested at 200 psi (13.8 bar) or 50 psi (3.4 bar) in excess of the system working pressure, whichever is greater, and shall maintain that pressure ±5 psi (0.34 bar) for 2 hours.

Hydrostatic Testing Allowance: Where additional water is added to the system to maintain the test pressures required by 6.10.2.2.1, the amount of water shall be measured and shall not exceed the limits of the following equation (for metric equation, see 6.10.2.2.6):

$$L = \frac{SD\sqrt{P}}{148{,}000}$$

L = testing allowance (makeup water), in gallons per hour (lph)
S = length of pipe tested, in feet (m)
D = nominal diameter of the pipe, in inches (mm)
P = average test pressure during the hydrostatic test, in pounds per square inch (gauge) (bar)

Flushing tests
- New underground piping flushed according to _____ standard by (company) ☐ Yes ☐ No
  If no, explain
- How flushing flow was obtained: ☐ Public water ☐ Tank or reservoir ☐ Fire pump | Through what type opening: ☐ Hydrant butt ☐ Open pipe
- Lead-ins flushed according to _____ standard by (company) ☐ Yes ☐ No
  If no, explain
- How flushing flow was obtained: ☐ Public water ☐ Tank or reservoir ☐ Fire pump | Through what type opening: ☐ Y connection to flange and spigot ☐ Open pipe

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Hydrostatic test
- All new underground piping hydrostatically tested at _____ psi (bar) for _____ hours | Joints covered ☐ Yes ☐ No

Leakage test
- Total amount of leakage measured _____ gallons (liters) _____ hours
- Allowable leakage _____ gallons (liters) _____ hours

Forward flow test of backflow preventer
- Forward flow test performed in accordance with 6.10.2.5.2: ☐ Yes ☐ No

Hydrants
- Number installed | Type and make | All operate satisfactorily ☐ Yes ☐ No

Control valves
- Water control valves left wide open ☐ Yes ☐ No
  If no, state reason
- Hose threads of fire department connections and hydrants interchangeable with those of fire department answering alarm ☐ Yes ☐ No

Remarks
- Date left in service

Signatures
- Name of installing contractor
- Tests witnessed by
- For property owner (signed) | Title | Date
- For installing contractor (signed) | Title | Date

Additional explanation and notes

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6.10.1.1

The installing contractor shall be responsible for the following:

(1) Notifying the AHJ and the owner's representative of the time and date testing is to be performed

(2) Performing all required acceptance tests

(3) Completing and signing a contractor's material and test certificate(s) ~~documenting all required test criteria~~ shown in Figure 6.10.1.1

[**24:** 10.10.1.1]

Figure 6.10.1.1 Sample of Contractor's Material and Test Certificate for Underground Piping. [24:Figure 10.10.1.1]

Contractor's Material and Test Certificate for Underground Piping

PROCEDURE
Upon completion of work, inspection and tests shall be made by the contractor's representative and witnessed by an owner's representative. All defects shall be corrected and system left in service before contractor's personnel finally leave the job.

A certificate shall be filled out and signed by both representatives. Copies shall be prepared for approving authorities, owners, and contractor. It is understood the owner's representative's signature in no way prejudices any claim against contractor for faulty material, poor workmanship, or failure to comply with approving authority's requirements or local ordinances.

Property name | Date

Property address

Plans
Accepted by approving authorities (names)
Address
Installation conforms to accepted plans ❑ Yes ❑ No
Equipment used is approved ❑ Yes ❑ No
If no, state deviations

Instructions
Has person in charge of fire equipment been instructed as to location of control valves and care and maintenance of this new equipment? ❑ Yes ❑ No
If no, explain

Have copies of appropriate instructions and care and maintenance charts been provided to the owner or owner's representative? ❑ Yes ❑ No
If no, explain

Location
Supplies buildings

Underground pipes and joints
Pipe types and class | Type joint
Pipe conforms to _____ standard ❑ Yes ❑ No
Fittings conform to _____ standard ❑ Yes ❑ No
If no, explain

Joints needing anchorage clamped, strapped, or blocked in ❑ Yes ❑ No
accordance with _____ standard
If no, explain

Test description
Flushing: Flow the required rate until water is verified to be clear of debris at outlets such as hydrants and blow-offs. Flush at one of the flow rates as specified in 6.10.2.1.3.
Hydrostatic: All piping and attached appurtenances subjected to system working pressure shall be hydrostatically tested at 200 psi (13.8 bar) or 50 psi (3.4 bar) in excess of the system working pressure, whichever is greater, and shall maintain that pressure ±5 psi (0.34 bar) for 2 hours.
Hydrostatic Testing Allowance: Where additional water is added to the system to maintain the test pressures required by 6.10.2.2.1, the amount of water shall be measured and shall not exceed the limits of the following equation (for metric equation, see 6.10.2.2.6):

$$L = \frac{SD\sqrt{P}}{148{,}000}$$

L = testing allowance (makeup water), in gallons per hour (lph)
S = length of pipe tested, in feet (m)
D = nominal diameter of the pipe, in inches (mm)
P = average test pressure during the hydrostatic test, in pounds per square inch (gauge) (bar)

Flushing tests
New underground piping flushed according to ❑ Yes ❑ No
_____ standard by (company)
If no, explain

How flushing flow was obtained: ❑ Public water ❑ Tank or reservoir ❑ Fire pump
Through what type opening: ❑ Hydrant butt ❑ Open pipe

Lead-ins flushed according to _____ standard by (company) ❑ Yes ❑ No
If no, explain

How flushing flow was obtained: ❑ Public water ❑ Tank or reservoir ❑ Fire pump
Through what type opening: ❑ Y connection to flange and spigot ❑ Open pipe

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Hydrostatic test
All new underground piping hydrostatically tested at _____ psi (bar) for _____ hours | Joints covered ❑ Yes ❑ No

Leakage test
Total amount of leakage measured
_____ gallons (liters) _____ hours
Allowable leakage
_____ gallons (liters) _____ hours

Forward flow test of backflow preventer
Forward flow test performed in accordance with 6.10.2.5.2: ❑ Yes ❑ No

Hydrants
Number installed | Type and make | All operate satisfactorily ❑ Yes ❑ No

Control valves
Water control valves left wide open ❑ Yes ❑ No
If no, state reason

Hose threads of fire department connections and hydrants interchangeable with those of fire department answering alarm ❑ Yes ❑ No

Remarks
Date left in service

Signatures
Name of installing contractor
Tests witnessed by
For property owner (signed) | Title | Date
For installing contractor (signed) | Title | Date

Additional explanation and notes

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6.10.1.2

Alternate forms or electronic records providing at minimum the required information found in Figure 6.10.1.1 shall be permitted. [**24:** 10.10.1.2]

Supplemental Information

File Name	Description	Approved
NFPA_13_Chapter_6_-_6_10_1.docx	NFPA_13_Chapter_6_-_6_10_1. For staff use	

Submitter Information Verification

Committee: AUT-PRI

Submittal Date: Thu Jun 25 19:35:19 EDT 2020

Committee Statement

Committee Statement: A Contractors material certificate is considered the birth certificate of the system and should be retained by the owner for the life of the system. Standard forms provide a level of assurance that the required tests are performed and documented.

Response Message: SR-1005-NFPA 13-2020

Second Revision No. 1006-NFPA 13-2020 [New Section after 6.10.2.1.3.1]

6.10.2.1.3.2

Suction piping supplying fire pump(s) shall be flushed prior to connecting to the fire pump(s) based on the requirements of NFPA 20 . [**24:** 10.10.2.1.3.2]

Submitter Information Verification

Committee: AUT-PRI

Submittal Date: Thu Jun 25 19:42:39 EDT 2020

Committee Statement

Committee Statement: A pointer referring users to NFPA 20 where fire pumps are installed is a better option than adding a new section with flow values differing from existing requirements of NFPA 24.

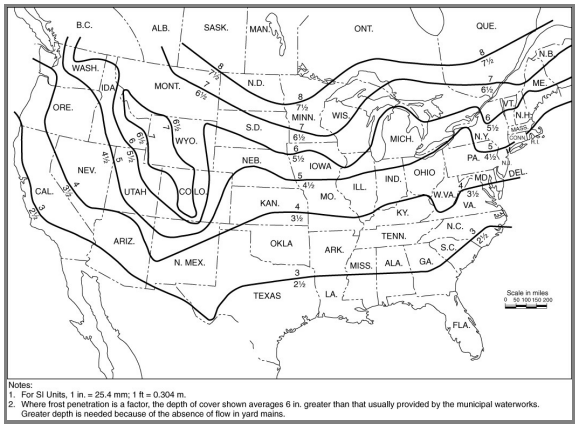
Response Message: SR-1006-NFPA 13-2020

Second Revision No. 1013-NFPA 13-2020 [Section No. A.6.4.2]

A.6.4.2

As there is normally no circulation of water in private fire service mains, they require greater depth of covering than do public mains. Greater depth is required in a loose gravelly soil (or in rock) than in compact soil containing large quantities of clay. The recommended depth of cover above the top of underground yard mains is shown in Figure A.6.4.2.

Figure A.6.4.2 Recommended Depth of Cover (in feet) Above Top of Underground Yard Mains. [24:Figure ~~A.10.4.2(a)~~ A.10.4.2]



In determining the need to protect aboveground piping from freezing, the lowest mean temperature should be considered ~~as shown in Figure A.6.4.2(b)~~ . [**24:**A.10.4.2]

~~**Figure A.6.4.2(b) Isothermal Lines — Lowest One-Day Mean Temperature (°F). [24:Figure A.10.4.2(b)]**~~

Submitter Information Verification

Committee: AUT-PRI
Submittal Date: Tue Jun 30 09:54:05 EDT 2020

Committee Statement

Committee Statement: Revised to align with action taken in NFPA 24 during the First Draft.
Response Message: SR-1013-NFPA 13-2020