



## Fire Prevention Bureau Inspection Check List

### Underground Fire Service Main: Visual Inspection

- Approved plans, manufacturers' installation instructions and product information shall be available on site for use by the inspector. (OBC 107.7)
- The contractor performing the work must be licensed by the State of Ohio and registered in the City of Sandusky as an approved contractor.
- **ALL** individuals installing underground fire service piping must be licensed by the State of Ohio.
  - EXCEPTION: EXCAVATION AND EARTH MOVING EQUIPMENT OPERATORS ARE NOT REQUIRED TO BE CERTIFIED IN THIS CATEGORY PROVIDED THE WORK THEY PERFORM MEETS THE REQUIREMENTS OF NFPA 22 AND NFPA 24. WORK MUST BE CONDUCTED UNDER THE DIRECT SUPERVISION AND ACTIVE DIRECTION OF AN INDIVIDUAL CERTIFIED IN THIS CATEGORY WHO REMAINS ON SITE WHILE WORK IS PERFORMED.
- Where work has stopped, open ends of pipe, valves, hydrants and fittings shall be covered or plugged to prevent foreign material from entering. (NFPA 13 & 24 10.8.4)
- Underground fire service piping shall be provided with thrust blocking in accordance with City of Sandusky Construction Standards: Reaction Backing and Standard Hydrant Detail. (Sandusky Sewer & Water Excavation Contractor's Packet & NFPA 13, NFPA 24 10.6.1)
- Backfill shall contain no ash, cinders, refuse, organic material or other corrosive material. (NFPA 13 & NFPA 24 10.9.2)
- Backfill shall contain no rocks. (NFPA13 & NFPA 24 10.9.3)
- Backfill shall contain no frozen earth. (NFPA 13 & NFPA 24 10.9.4)

### Underground Fire Service Main Inspection: Hydro Test

- Approved plans, manufacturers' installation instructions and product information shall be available on site for use by the inspector. (OBC 107.7)
- The contractor performing the work must be licensed by the State of Ohio and registered in the City of Sandusky as an approved contractor.
- **ALL** individuals installing underground fire service piping must be licensed by the State of Ohio.
  - EXCEPTION: EXCAVATION AND EARTH MOVING EQUIPMENT OPERATORS ARE NOT REQUIRED TO BE CERTIFIED IN THIS CATEGORY PROVIDED THE WORK THEY PERFORM MEETS THE REQUIREMENTS OF NFPA 22 AND NFPA 24. WORK MUST BE CONDUCTED UNDER THE DIRECT SUPERVISION AND ACTIVE DIRECTION OF AN INDIVIDUAL CERTIFIED IN THIS CATEGORY WHO REMAINS ON SITE WHILE WORK IS PERFORMED
- Contact the City of Sandusky Water Department and coordinate the chlorine test. The hydro test cannot be conducted until **after** negative bacteria results and approval from the water department.
- All piping and attached appurtenances subjected to the system working pressure shall be hydraulically tested at 200 psi or 50 psi above working pressure, whichever is greater, and shall maintain that pressure (within 5%) for a minimum of 2 hours. (NFPA 13 & NFPA 24 10.10.2.2.1)
- Pressure loss shall be determined by a drop in gauge pressure or by visual leakage. (NFPA 13 & NFPA 24 10.10.2.2.2)
- When additional water is added to maintain system pressure, the amount of water added shall be measured and shall not exceed the established limits in (NFPA 13 Table 10.10.2.2.4)

**Underground Fire Service Main Inspection: Flush**

- Approved plans, manufacturers’ installation instructions and product information shall be available on site for use by the inspector. (OBC 107.7)
- The contractor performing the work must be licensed by the State of Ohio and registered in the City of Sandusky as an approved contractor.
- **ALL** individuals installing underground fire service piping must be licensed by the State of Ohio.
  - EXCEPTION: EXCAVATION AND EARTH MOVING EQUIPMENT OPERATORS ARE NOT REQUIRED TO BE CERTIFIED IN THIS CATEGORY PROVIDED THE WORK THEY PERFORM MEETS THE REQUIREMENTS OF NFPA 22 AND NFPA 24. WORK MUST BE CONDUCTED UNDER THE DIRECT SUPERVISION AND ACTIVE DIRECTION OF AN INDIVIDUAL CERTIFIED IN THIS CATEGORY WHO REMAINS ON SITE WHILE WORK IS PERFORMED
- Contact the City of Sandusky Water Department and coordinate the chlorine test. The hydro test cannot be conducted until after negative bacteria results and approval from the water department.
- Work completed should match approved site utility plans. (OBC 108.5)
- Underground flushing procedure is as follows: (NFPA 13 Table 10.10.2.1.3)

**Table 10.10.2.1.3 Flow Required to Produce a Velocity of 10 ft/sec (3 m/sec) in Pipes**

Pipe Size		Flow Rate	
in.	mm	gpm	L/min
2	50	100	379
2 <sup>1</sup> / <sub>2</sub>	65	150	568
3	75	220	833
4	100	390	1,500
5	125	610	2,300
6	150	880	3,350

**Table 10.10.2.1.3 Flow Required to Produce a Velocity of 10 ft/sec (3 m/sec) in Pipes**

Pipe Size		Flow Rate	
in.	mm	gpm	L/min
8	200	1,560	5,900
10	250	2,440	9,250
12	300	3,520	13,300

- Hose(s) for flushing must be adequately sized. (NFPA 13/24 10.10.2.1)
- Hose(s) for flushing must be adequately anchored. (NFPA 13/24 10.10.2.1) Water main valves to be fully opened for flush, if inadequate flow is evident during the flush, it may be necessary to verify all valves are open. (NFPA 13/24 10.10.2.1)
- Water should appear to flow smoothly without evidence of possible obstructions. Check burlap bags for stones, rocks or other material. (NFPA 13/24 10.10.2.1.2)
- Flushing operation shall continue until water flow is clear and verified to be free of debris. (NFPA 13/24 10.10.2.1.2)
- The minimum rate of flow shall be in accordance with Table 10.10.2.1.3 (NFPA 13/24 10.10.2.1.3)
- If the flow rates established in Table 10.10.2.1.3 are not attainable, the maximum flow available to the system shall be acceptable. (NFPA 13 10.10.2.1.3.1)