

Osceola County Department of Fire Rescue and Emergency Medical Services



Life Safety Management
2586 Partin Settlement Rd. Kissimmee, FL 34744
Phone: 407-742-7000 Fax: 407-742-6714



New Construction Checklist

UNDERGROUND FIRE MAINS

- Osceola County Emergency Services requires Underground fire mains to meet all applicable criteria set forth by NFPA 24, 1995 Edition, Standard for the Installation of Private Fire Service Mains and Their Appurtenances.
- Plans shall be drawn to scale and include all essential details set forth by NFPA 24.
- Fire department connections shall meet all the criteria set forth by NFPA 24.
- Every building provided with a sprinkler system, standpipe system or other system providing water for fire extinguishment shall be equipped with a FDC. Osceola County Emergency Services does not allow multiple buildings to be served by a single FDC. Each building shall be provided with it's own FDC.
- Osceola County Emergency Services requires a FDC be located at least 40 feet from the building it is serving. The Fire Official must approve (Exceptions to this requirement in writing).
- A FDC shall be located as close as possible to fire hydrant. Said fire hydrant shall be no closer than 10 feet. Said fire hydrant shall be no further than 100 feet when the FDC is supplying a sprinkler system and a standpipe system or combination system. Said fire hydrants are to be located on the same side of roadways and driveways as the FDC so as not to obstruct access to other incoming units.
- There shall be no shutoff valve in the FDC, unless allowed by code.
- Osceola County Emergency Services requires that FDC check valves be located at least 1 foot below finish grade. Note an additional check valve is required on underground fire mains supplying multiple buildings to prevent the fire department from pressurizing the rest of the complex and or fire hydrants.
- Osceola County Emergency Services requires the FDC be provided with a ball drip valve below finish grade and that the valve be surrounded by pea gravel. The pea gravel is to be protected by plastic prior to back filling.
- Osceola County Emergency Services requires full accessibility to the FDC. Nothing shall be located within 7.5 feet of the FDC in all compass directions and a path at least 15 feet wide shall be maintained from the FDC out to the roadway. No landscaping is allowed within this area except for mulch and or sod.
- Osceola County Emergency Services requires that each FDC be identified as to the building it serves. (Each building shall be provided with it's own FDC).
- Osceola County Emergency Services requires that wherever the FDC is not visible to the approaching fire apparatus a sign be placed on the street side of the building to indicate the location of the FDC. Such sign shall have the letters FDC at least 6 inches high and words in letters at least 2 inches high or an arrow to indicate the location. A pictographic sign not less than 12 inches square with a FDC symbol conforming to NFPA 170 is also deemed acceptable.



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- Osceola County Emergency Services does not allow roadway valves to be installed in underground fire mains located on the discharge side of a fire pump, unless they are Post Indicator Valves.
- Every connection from the private fire main to a building shall be provided with a listed post-indicating valve (PIV).
- Each PIV shall be located at least 40 feet from buildings unless approved in writing by the Fire Official.
- Each PIV shall be set so that the top of the post will be no greater than 36 inches above final grade.
- Each PIV shall be protected against mechanical damage where needed.
- Osceola County Emergency Services requires all indicating valves controlling water supply to automatic sprinklers systems be provided w/tamper switches monitored by a fire alarm control panel.
- Hydrants shall comply with all applicable criteria set forth by NFPA 24.
- Hydrants shall be located at least 40 feet from the buildings protected.
- The center of a hydrant hose outlet shall not be less than 18 inches above final grade.
- Fire hydrants shall meet criteria for spacing and location set forth by Osceola County Emergency Services. Fire hydrant layout shall comply with the following tables:

**TABLE A
Fire Hydrant Layout Table**

NFF Range	Required Portion	Within:	Remainder
500 - 1000 GPM	100%	500 ft.	(Not required)
1001 - 2000 GPM	50%	300 ft.	1000 ft.
2001 - 4000 GPM	50%	250 ft.	1000 ft.
> 4000 GPM	50%	250 ft.	500 ft.

**TABLE B
Fire Hydrant Credit Table**

Travel Distance	Flow Credit
0 - 300 ft.	1000 GPM/hydrant
301 - 600 ft.	670 GPM/hydrant
601 - 1000 ft.	250 GPM (one only)

- Pipe and fittings used in fire mains shall comply with all applicable criteria set forth by NFPA 24.
- Osceola County Emergency Services requires all exposed piping to be provided with freeze protection.



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- Steel pipe and fittings shall be coated and wrapped.
- The depth of cover for underground fire mains shall comply with all applicable criteria set forth by NFPA 24.
- Minimum depth of cover below a building footer is 12" to top of pipe.
- At a minimum, the depth of cover shall be at least 30 inches from the top of the pipe to final grade.
- Depth of cover for pipe buried beneath driveways shall be at least 36 inches to final grade.
- Depth of cover for pipe buried beneath train tracks shall be at least 48 inches to final grade.
- Pipe shall not be run under buildings.
- Pipe shall not be used for the grounding of electrical services.
- Restraint of fire mains shall comply with all applicable criteria set forth by NFPA 24.
- All tees, plugs, caps, bends, and hydrant branches shall be restrained.
- Rods, nuts, washers, couplings, and other restraining devices shall be cleaned and thoroughly coated with bituminous or other acceptable corrosion-retarding material.
- Flushing of pipe shall comply with all the applicable criteria set forth by NFPA 24.
- Flow rates for flushing shall not be less than the water demand of the system design or not less than a velocity of 10 feet per second whichever is greater.
- Flow rates necessary to produce a velocity of 10 feet per second shall meet NFPA 24 Table 9-1.1.
- Testing of fire mains shall comply with all applicable criteria set forth by NFPA 24 Chapter 9.
- Hydrostatic test pressures for fire mains not located on the discharge side of a fire pump shall be not less than 200 PSI for 2 hours or at 50psi greater than the maximum static pressure when the static pressure is in excess of 150 PSI.
- Hydrostatic test pressures for fire mains located on the discharge side of a fire pump shall be static pressure + fire pump churn pressure + 50 PSI.
- The authority having jurisdiction shall witness hydrostatic tests.

