Madison Township Fire Department
Fire Prevention Bureau
4567 Firehouse Lane
Groveport, Ohio 43125

Lt. Richard S. Stelzer – Fire Prevention Officer
Business Tel: (614) 837-7883 Fax: (614) 836-0716

FIRE PROTECTION REQUIREMENTS FOR NEW CONSTRUCTION

The Madison Township Fire Department, being the Fire Authority Having Jurisdiction (AHJ), has established the following Fire Protection requirements, to aid developers and architects planning new construction within its jurisdictional boundaries (Madison Township, Groveport, Obetz, and Canal Winchester). Some items may not be required depending on the type of occupancy, use group classification, and overall size of the structure, facility, or subdivision being constructed. **Please incorporate the following fire protection requirements of the Madison Township Fire Department as a part of your overall plan development process.**

FIRE DEPARTMENT ACCESS:

1. **Fire Department Access Roads** shall be of all-weather construction, a minimum of 30 feet in width for Commercial/Industrial Development, and a minimum of 26 feet in width for Planned Subdivision Development (Unobstructed Islands in entrances, Cul- de-Sacs, etc., shall not be included in the calculation for street widths). **(See IFC Appendix "D")**

   Overhead clearance shall be a minimum of 13 feet, 6 inches. The Outside Turning Radius shall be a minimum of 50 feet. **(See Attachment #: 1). (IFC 503.2.1 Fire Department Access)**

2. **Fire Lane locations** shall be determined by the Fire AHJ, shall be a minimum of 25 feet wide, and shall be properly signed and striped. **(See Attachment #: 2, 2A, 2B). (IFC Chapter 5)**

3. A **Knox Rapid Entry System key box** shall be installed in a location determined by the Fire AHJ, approximately 5 feet above finished grade. Applications are available only through the Madison Township Fire Prevention Bureau. **(See Attachment #: 3). (IFC 506.1)**

4. **Street names** shall be submitted for review by the Fire AHJ prior to final approval. **(IFC Chapter 5)**

FIRE HYDRANTS/FIRE PROTECTION WATER MAINS:

1. All **public and private fire service mains and appurtenances** shall be installed, inspected, tested, and approved in accordance with NFPA 24, and **shall be 8 inches minimum in diameter**, including subdivisons. **The Fire AHJ shall inspect all public and private fire service mains prior to final filling of the pipe trench. Hydrostatic testing and flushing of all public and private fire service mains shall be in accordance with NFPA 24, and shall be witnessed by the Fire AHJ and any other responsible AHJ's (Water Departments, Building Officials, etc.)**.

Looped Fire Protection Mains with Post-Indicator Valve (PIV) sectioning are preferable when at all possible. **(IFC Chapter 5, Chapter 9)**

2. **Spacing between Fire Hydrants** shall not exceed 350 feet. The minimum distance to the building that a fire hydrant can be located is 40 feet. **(IFC Chapter 5)**

3. **All Fire Hydrants shall have a 5-inch "Stortz" fitting** with blind cap/lanyard attached to the steamer nozzle, plus two additional 2 ½ inch side discharge nozzles equipped with National Standard Hose Thread. Hydrant operating nuts shall be a tapered square. The Fire AHJ shall determine fire hydrant color. **(See Attachment #: 4)**

   (F-501.6 Threads: All threads provided for fire department connections to sprinkler systems, standpipe systems, yard hydrants or any other fire hose connection shall be compatible with the connections utilized by the local fire department.)

4. **Fire Hydrants** shall be located a minimum of 2 feet behind the curb to protect the hydrant from vehicle traffic. In areas where additional protection of the fire hydrants is necessary or the 2-foot curb distance cannot be achieved, **bollard protection** shall be required (As determined by the Fire AHJ). Steel bollards filled with concrete shall be installed, at a minimum of 3 feet from the hydrant and in a manner so as not to obstruct the clear space in front of the hydrant outlets. Fences, trees, shrubs, walls, or any other objects shall not obstruct hydrants. **(See Attachment #: 5) (IFC Chapter 3, Chapter 5)**

5. On **Private Fire Service Mains**, paved areas 10 feet to either side of the fire hydrant, and the area in front of the fire hydrant shall be properly signed and striped in the same manner required for Fire Lanes**. (IFC Chapter 5)**

FIRE DEPARTMENT CONNECTION:

1. **Provide a 5-inch "Stortz" fitting with a 30-degree down angle for the Fire Department Connection**. The supply piping from the Fire Department Connection to the sprinkler/standpipe system shall be 5" minimum in diameter. The top of the fitting shall be a minimum of 24 inches and a maximum 36 inches above the finished grade. All fire department connections shall be required to pass a hydrostatic test (200 # for 2 hours) as is required for the sprinkler system. (F-501.6 Threads: All threads provided for fire department connections to sprinkler systems, standpipe systems, yard hydrants or any other fire hose connection shall be compatible with the connections utilized by the local fire department).

2. The **Fire Department Connection (FDC)** shall be located within 50 feet of a fire hydrant. Remotely located Fire Department Connections shall be required by the Fire AHJ.

3. The **Fire Department Connection** shall be appropriately labeled with a metal sign with raised letters at least 1" (25mm) in size and shall be permanently mounted on all fire department connections serving fire sprinklers, standpipes, or fire pump connections. (NFPA 25, OFC F-518.4). Fire Department Connection piping above the finished grade level shall be painted Bright Red. **(See Attachment #: 6).**

4. The **Fire Department Connection (FDC)** shall be located a minimum of 5 feet behind the curb to protect the FDC from vehicle traffic. In areas where additional protection of the FDC is necessary or the 5-foot curb distance cannot be achieved, **bollard protection** shall be required (As determined by the Fire AHJ). Steel bollards filled with concrete shall be installed, at a minimum of

4 feet from the FDC and in a manner so as not to obstruct the clear space in front of the FDC inlet. Fences, trees, shrubs, walls, or any other objects shall not obstruct Fire Department Connections. **(See Attachment #: 7).**

5. **Locking 5" Stortz Fire Department Connection Caps** shall be required on all new and existing Fire Department Connections for water-based fire protection systems where the responding fire department carries appropriate key wrenches for removal. (See Attachment #:

6. **Paved areas** 10 feet to either side of the FDC, and the area in front of the FDC shall be properly signed and striped in the same manner required for Fire Lanes.

FIRE STANDPIPE SYSTEMS:

1. **Standpipe systems shall comply with all the requirements of NFPA 14 for a Class III Standpipe System, Exception No. 2. (2 ½" hose connections equipped with a 2 ½" to 1 ½" reducer and a cap attached with a chain)**, including minimum flow rates and residual pressure requirements. Supply piping for the standpipe system and hose connections shall be a minimum of 2 ½" in diameter. Fire Hose/Fire Hose Rack installations shall not be installed for use by building occupants per the Fire AHJ. **(See Exception No. 2).**

   3-3.3 Class III Systems.
   A Class III standpipe system shall provide 11/2-in. (38.1-mm) hose stations to supply water for use by building occupants and 21/2-in. (63.5-mm) hose connections to supply a larger volume of water for use by fire departments and those trained in handling heavy fire streams.

   Exception No. 2: Where the building is protected throughout by an approved automatic sprinkler system, hose stations for use by the building occupants shall not be required, subject to the approval of the authority having jurisdiction (Fire AHJ), provided that each hose connection is 2 ½" (63.5 mm) and is equipped with a 2 ½" to 1 ½" (63.5-mm 38.2-mm) reducer and a cap attached with a chain. **(See Attachment #: 8, 8A).**

2. In single-story buildings, an adequate number of Class III standpipes (As described above under Exception No. 2), shall be installed to allow any point in the building to be reached by a 100-foot length of hose and a 25-foot water stream. Standpipe connections shall be required at all designated Exit Locations.

3. In multi-story buildings, Class III standpipes (As described above under Exception No. 2), shall be installed in all stairwells, with 2 ½" hose connections provided at each floor landing. Additionally, an adequate number of Class III standpipes (As described above under Exception No. 2), shall be installed to allow any point in the building to be reached by a 100-foot length of hose and a 25-foot water stream.

4. Thread type for the 2 ½" hose connections and 2 ½" to 1 ½" (63.5-mm 38.2-mm) reducer and a cap attached with a chain shall be National Standard Hose Thread.

5. A shut-off valve shall be provided at each hose connection location.

FIRE SPRINKLER SYSTEMS:

1. **All Fire Sprinkler Systems shall be installed in accordance with NFPA 13.**

2. Exterior indicating valves; **Post Indicator Valves (PIV's) and/or Wall Post Indicator Valves (WPIV's)** shall be installed on all sprinkler riser assemblies. Interior OS&Y Valves shall not be used in lieu of WPIVs. **The Fire Department (AHJ) shall be able to shut-off individual sprinkler risers from the exterior of the building without requiring entry into the fire building.** All sprinkler control valves shall be supervised with electronic tamper devices connected to the fire protection supervisory system and to a central station alarm monitoring service.

3. **Post-Indicator Valves (PIV) Wrenches shall be secured with frangible locks**. Exterior Wall Post-Indicator Valves (WPIV) shall also be chained and locked in the OPEN Position with frangible locks.
   (See Attachment #: 9).

4. All exterior WPIV and PIVS shall be labeled as to usage and what the valve controls. **(See Attachment #: 10, 10A).**

   (OFC F-501.5 Signs): All signs required to identify fire protection equipment and equipment locations shall be constructed of durable materials, permanently installed and readily visible. Letters and numbers shall contrast with the sign background and have an appropriate width-to-height ratio to permit the sign to be read easily.

5. **All Fire Sprinkler Systems shall be required to have the Inspector's Test Locations installed for the hydraulically most remote point in the system.**

ROOF HYDRANTS:

1. Roof Hydrants shall be installed at the request of the Fire AHJ.

2. Roof Hydrants shall be located within 20 feet of the roof access scuttle, hatch, or doorway.

3. Roof hydrants shall be equipped with a double 2 ½" NST valved hose connection. Water supply piping to the Roof hydrants shall be a minimum of 3" in diameter. The Roof Hydrant shall also be equipped with an exterior Post–Indicator Valve (PIV) or Wall Post-Indicator Valve (WPIV) to allow for Fire Department Operation. This valve shall be located in the immediate area of the Roof Hydrant. A drain valve shall also be installed past the PIV or WPIV to allow draining of the unheated portion of the standpipe once the roof hydrant valve has been closed**. (See Attachment #: 11).**

4. Roof Hydrant flow requirements shall be included in the calculations for the Fire Sprinkler System/Standpipe System.

5. The Fire Department (AHJ) shall be able to shut-off the Roof Hydrant risers from the exterior of the building without requiring entry into the fire building. All sprinkler control valves, including the main valve for the Roof Hydrant (PIVS, WPIVS) shall be supervised with tamper devices connected to the fire protection supervisory system and to a central station alarm monitoring service. **(See Attachment #: 12, 12A, 12B).**

6. **(OFC F-501.5 Signs): All signs required to identify fire protection equipment and equipment locations shall be constructed of durable materials, permanently installed and readily visible. Letters and numbers shall contrast with the sign background and have an appropriate width-to-height ratio to permit the sign to be read easily.**

ROOF ACCESS LADDERS / ROOF HATCH MARKINGS:

1. Interior-mounted Roof Access Ladders shall be Ship-Style Ladders with handrails. **(See Attachment #: 13).**

2. Exterior mounted Roof Access Ladders shall require prior approval of the Fire AHJ.

3. **Emergency Lighting** shall be provided for illumination of the Roof Access Ladder.

4. **Roof Hatches exteriors shall be marked with reflective striping so as to make them highly visible under poor light or smoke conditions. The interior side of the hatch shall also be labeled. Roof hatches shall be a minimum of 36" x 42" in size to facilitate Firefighters in full protective gear.**

5. **(OFC F-501.5 Signs): All signs required to identify fire protection equipment and equipment locations shall be constructed of durable materials, permanently installed and readily visible. Letters and numbers shall contrast with the sign background and have an appropriate width-to-height ratio to permit the sign to be read easily.**

FIRE ALARM SYSTEMS:

1. Fire Alarm Systems shall require prior review and approval by the Fire AHJ.

2. Fire Alarm System installations and testing shall comply with all requirements in accordance with NFPA 72.

PROPANE CYLINDER/TANK STORAGE:

1. Propane (LPG) and LNG cylinder storage shall comply with all requirements under NFPA 58/59, and shall require prior review and approval by the Fire AHJ.

2. All Propane cylinders and tanks shall be properly secured at all times, stored outside, protected from vehicular traffic, and properly labeled. **(See Attachment #14, 14A)**

   (FM-3601.1 Scope: The provisions of this chapter and NFPA 58 and 59 listed in rule 1301:7-7-44 of the Administrative Code shall apply to the equipment, processes and operations for the storage, use, handling, installation and maintenance of liquefied petroleum gas in addition to the requirements of rule 1301:7-7-23 of the Administrative Code).

DRY FIRE HYDRANT SYSTEMS:

1. Dry Hydrant systems shall require prior review and approval by the Fire Authority having Jurisdiction (AHJ).

2. Dry Hydrant systems shall comply with all the requirements of NFPA 1142.
   (See Attachment #15, 15A)

If you have any questions concerning the above listed Fire Protection requirements please contact me at your earliest convenience.

Yours in Public Safety,

Lt. Richard S. Stelzer, C.F.S.I., C.F.E.I.
Madison Township Fire Department
Fire Prevention Bureau