



ANN ARBOR TOWNSHIP FIRE DEPARTMENT SITE PLAN REVIEW GUIDELINES 2023

**Pursuant to International Fire Code and NFPA Safety Code as adapted
by Ann Arbor Charter Township**

CHAPTER 13

FIRE PROTECTION AND PREVENTION

13.01 Accessibility:

- a) Site plans shall provide more than one point of access to the site. Access points must be approved by the Fire Chief.
- b) Emergency access routes must be capable of handling the weight of fire apparatus, must be at least 20-feet wide in setup areas and a minimum of 15-feet wide for ingress/egress. The surface shall be approved gravel, asphalt, cement, or pavers. Grass pavers or similar surfaces are not allowed. All Emergency access routes must be approved by the Fire Chief or designee.
- c) Emergency only access roads must be clearly marked by signage stating, "Emergency Access Only" at entrance points and "Fire Lane, No Parking, No Standing," every 75-feet along the road as designated by the Fire Chief or his designee. Entrance points must discourage non-emergency traffic while not impeding emergency apparatus.
- d) Emergency access roads are preferred to encircle the structure(s). Dead end emergency access roads, depending on length, must provide a cul-de-sac or hammer head type turn-a-round approved by the Fire Chief or designee. In certain circumstances based primarily on length and access, a turn-a-round may not be required as determined by the Fire Chief or designee.
- e) Ingress/egress gates, barricades or obstructions must provide approved fire department "Knox Boxes/Knox Locks" for entry.
- f) Minimum clear width of a fire lane shall be 20-feet. The minimum clear height of a fire lane shall be 13.5-feet, including canopies, bridges, etc.

13.02 Alarm Systems:

- a) Alarm systems must be installed in all buildings according to NFPA 72.

13.03 Annunciator Panels:

- a)** The Annunciator Panel for the alarm/suppression systems must be located just inside of the main entrance and visible from the main entrance as well. Zone locations with legends must be available to be placed inside of the Knox Box.

13.04 Dry or Wet Hydrants:

- a)** Hydrant placement shall be measured as “hose laying distance” from fire apparatus. Hose laying distance is the distance the fire apparatus travels along approved access routes between hydrants or from hydrant to structure.
- b)** Fire Hydrant minimum requirements shall be located, so that all sides of buildings and structures will be within 300-feet of a hydrant and generally not closer than 50-feet. Measurements shall be made along the practical location of laying the fire hose.
- c)** In single-family residential areas consisting of five (5) or more homes, an adequate water supply must be considered and recommended by the AHJ and approved by the Township Board as recommended by the Planning Commission.
- d)** Dry hydrants shall be at least 3-feet, but no further than 6-feet from the back of the curb or road edge. Height of hook-up point shall be 24- to 30-inches.
- e)** Hydrant location shall be determined by the Fire Chief, Township Engineer and Utilities Director. Hydrants should not be located in the collapse zone of a building.
- f)** Hydrants shall be protected by curbs, guard posts, guard rail, or other acceptable methods if determined to be in a hazardous location.
- g)** Additional hydrants may be required depending on the type of hazard or use to protect the structure and/or contents.
- h)** Hydrants must meet Ann Arbor Charter Township Fire and Utility Department specifications. A “5-inch Storz” steamer with two (2) 2½-inch connections is required.
- i)** Site plans shall note water sources including all dimensions of ponds, rivers, accessibility, and a minimum of 2-feet below the 50-year drought level, as determined by a registered Engineer.
- j)** Completion of dry hydrants, underground water storage tanks or static water supplies must be in compliance with Ann Arbor Township Fire Department installation guidelines. Additional information can be found on the Township Website.

- k) Hydrants shall not be blocked by obstructions.
- l) Dry hydrants should be marked with a department-approved sign identifying the location of a dry hydrant. A sample sign can be found on the Township website.

13.05 Fire Department Connections:

- a) Fire Department Connections (FDC) shall be 5-inch Storz and shall be located and be visible from the street or in a location approved by the Fire Department.
- b) Fire Department Connections shall be located so that firefighters and fire apparatus can have immediate access. Obstructions such as fences, bushes, trees, walls, electrical transformers, dumpsters, vehicles, gas meters, or other similar objects shall not be permitted for new or existing installations. There shall be 15-feet of clearance around FDC's.
- c) Fire Department Connections (FDC) are to be identified by an FDC sign located directly inline and above an FDC approximately 10-feet off the ground. Buildings with multiple FDC's, that have separate sprinkler suppression system zones, must have a strobe/horn warning device or water gong located above the FDC. The strobe/horn or water gong are to only activate when water is flowing through the suppression system that would be supplied by the FDC with the strobe/horn or gong that is activated. The FDC sign shall be a sign with a white background with red reflective letters spelling FDC with a red arrow pointing towards the FDC. The red reflective letters are to be not less than 12-inches tall.
- d) Fire hydrants and/or water supplies are important, especially when sprinklers and standpipe systems are installed. There shall be a designated fire hydrant for each FDC. The distance between the hydrant or water supply and the FDC will need the approval of the fire department. The distance from the hydrant and the FDC shall not exceed 50-feet.

13.05 Fire Pumps:

- a) Fire pumps for High Rise and other large buildings shall be supplied by dual feed lines.

13.06 Knox Box/Locks:

- a) The Knox Box must be located and visible while standing outside the main entrance of the building. All site-specific information must be available for fire department use. The Knox Box content includes "As Built Prints". "Knox Locks" may be used to secure access gates when approved by the Fire Chief or his designee.

b) Knox Box contents:

- Fire department Site Plans including “As Built” current prints (see “Site Plans” later in this Chapter).
- At least two (2) complete sets of access keys, fobs, cards, etc. Additional sets may be required by the Fire Department.
- Emergency contact information
- Elevator & Firefighter Keys
- Liquid run off information
- Hazardous materials information
- Firefighter Right-Know
- Tunnel, hatchway, confined space information
- Stairwell locations
- Shelter locations
- Company Emergency Action Plans

13.07 Multiple Story Buildings:

- a)** Multiple Story Buildings (over three (3) stories) with atriums shall have beam detectors at the third level.

13.08 Radio Coverage in Building:

- a)** In some large buildings, radio communications are inadequate due to the construction materials or design of the building. Therefore, on new buildings or major renovations, radio repeaters/amplifiers may be required to the extent feasible given current technology.

13.09 Roof Ladders/Stairs:

- a)** May be required for uneven roof elevations greater than 24-inches to accommodate Fire Department operations during an emergency.

13.10 Signage:

- a)** Location of “Fire Lane, No Parking, No Standing,” or “Emergency Access Only,” or “Authorized _____ Parking Only,” type signs shall be designated by the Fire Chief or his designee and the Zoning Official in accordance with applicable ordinances. They shall be spaced 75 feet apart.
- b)** Water Storage tanks and Fire department draft connections shall have a sign approved by the Fire Department. A sample sign can be found on the Township Website.
- c)** Fire department road/parking type signage shall be 12-inch by 18-inch and meet the adopted International Fire Code and National Fire Protection Association Life Safety Codes.

- d)** Curb, asphalt, or cement painting (red or yellow paint) may be required in fire lanes or authorized parking areas.
- e)** Fire Department Connections shall be marked with signage approved by the Fire Chief or his designee.
- f)** Red signs with white lettering shall be installed on fire suppression access doors for suppression systems, ventilation, etc. (3/4-inch letters minimum)
- g)** Signage on mechanical, electrical, elevator, roof access, HVAC rooms (signage to match with equipment on roof), etc. is required.
- h)** Exit routing signs shall be placed throughout the building and approved by the Fire Chief and Building Official.
- i)** Location signage shall be placed throughout the building to assist with ingress/egress ("You are here" type signage).

13.11 Standpipes:

- a)** Standpipe hose connections are required in buildings with extensive corridors or long travel distances. These hose connections are required in single-story buildings as well as in multi-story buildings. Single-story hose connections shall be located towards the center of the building as to accommodate shorter hose lays for firefighting. Multi-story buildings shall have hose connections located in stairwells to accommodate shorter hose lays in upper levels of buildings. The hose connections shall be 2½-inch NST diameter with 2½-inch to 1½-inch reducer and cap provided. The Fire Chief/Marshal or designee shall determine exact location and number of standpipe hose connections.

13.12 Site Plans:

- a)** Fire protection plans shall be on a separate sheet(s) for all site plans, and must show an overall exterior footprint of the building and grounds that include: roads, parking areas, ingress/egress (building and property), hydrants, water mains, post indicator valves (PIVs), Fire Department connections, gas, electric, hazardous storage, water supplies, storm and sanitary sewers, etc. The site plan shall show the fire apparatus turning template maneuvering the site. Any special site limitations such as apparatus weight, height, etc. shall be noted on the plan. In addition to these requirements, final site plans shall show interior layouts that include ingress/egress, fire suppression equipment, mechanical rooms, electrical rooms, roof access, attic access, hazardous material rooms, Annunciator panels, Knox Box, elevators, standpipes, hose outlets, inspector test valves, etc.

13.13 Sprinkler Systems:

- a)** All buildings must have fire suppression systems installed according to NFPA 13.

13.14 Parking Structures (above or below grade):

- a)** A vertical clearance of 8-feet shall be maintained throughout the structure, including drive in angles at entrances and exits. This is required to allow accessibility of small style emergency apparatus. Adequate ventilation (with emergency on/off power) is required especially in below grade or enclosed structures. Stairways leading out of the parking structures to the outside are required for emergency egress.