



# City of Madison Fire Department

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## Equivalency Guide for Code Deficient Fire Apparatus Access

All new public buildings and places of employment must be provided with approved fire apparatus access as required by the International Fire Code (IFC) Section 503. The City of Madison Fire Prevention Code MGO 34.503, also has regulations for fire access. The City of Madison Fire Department (MFD) expects the design professional will produce construction documents that propose fire lanes in accordance with the applicable codes.

Where a proposed new construction project cannot provide fire apparatus access in compliance with the codes, an alternative design scheme must be developed to provide for an equivalency with the codes; this alternative design scheme must be acceptable to the MFD. The design professional and property owner must consider site constraints, the class of construction, the type of occupancy and the use of the premises when considering options for providing acceptable equivalent protection. One, or a combination, of the options listed below may be considered for providing an equivalent level of fire safety; based on the hazard, all of the applicable issues, and the level of the deficiency upon the premises. Where an item listed below is required by the code for the project, that item may not be used for providing equivalency.

The design professional and property owner may suggest other alternative design schemes for providing equivalent protection. This document serves only as a guide and does not commit the MFD to any alternative designs. The MFD may suggest or require other safety improvements in addition to the items included in this guide.

The following lists of options are choices for the design professional and property owner:

### Buildings Up To and Including Four Stories

1. Where fire sprinklers are not required in the building, consider upgrading to provide fire sprinklers per NFPA 13, or NFPA 13R as applicable, including balconies in R occupancies.
2. Where an NFPA 13R fire sprinkler system is required by code, consider upgrading to provide fire sprinklers per NFPA 13 throughout the building, including balconies in R occupancies.
3. Consider upgrading to ESFR sprinklers in high-piled combustible storage areas.
4. Provide a Class I Manual-wet Standpipe System in all stair enclosures.
5. As applicable; provide a complete monitored smoke detection system in all occupiable areas; or consider providing smoke detection throughout the means of egress system, storage rooms and other common use areas.
6. Provide a fire-resistance-rated stair enclosure allowing firefighter access from the fire lane to the roof.
7. Where aerial apparatus access is required; consider locating 26-foot wide fire lanes on two or more sides of the building that accumulatively exceed one entire side, with no side providing less than 50% of the required length.

### Buildings Between Five Stories and High-rise

1. Provide a Fire Command Center per the IFC.
2. Consider providing fire sprinklers per NFPA 13 throughout the building, including balconies in R occupancies.
3. Provide pressurized fire-resistance-rated stair enclosures.
4. Provide a Class I Automatic-wet Standpipe System in all stair enclosures.
5. As applicable; provide a complete monitored smoke detection system in all occupiable areas; or consider providing smoke detection throughout the means of egress system, storage rooms and other common use areas.
6. Consider providing an emergency voice/alarm communication system throughout the building.

7. Provide a smoke control system on each floor.
8. Provide areas of refuge assistance, with a fire-resistance-rated vestibule at the entrance to the stair enclosure.
9. Provide a standby power generator.
10. Provide an elevator with standby power.
11. Provide required MFD radio re-broadcast system.
12. Consider locating 26-foot wide fire lanes on two or more sides of the building that accumulatively exceed one entire side, with no side providing less than 50% of the required length.

### High-rise Buildings

1. Provide a mechanical smoke control system on each floor.
2. As applicable; provide a complete monitored smoke detection system in all occupiable areas; or consider providing smoke detection throughout the means of egress system, storage rooms and other common use areas.
3. Provide fire sprinklers on balconies in R occupancies.
4. Provide areas of refuge assistance, with a fire-resistance-rated vestibule at the entrance to stair enclosure.
5. Consider locating 26-foot wide fire lanes on two or more sides of the building that accumulatively exceed one entire side, with no side providing less than 50% of the required length.

Where a building is over 30-ft in height aerial apparatus access is required; you may consider a performance based design concept that demonstrates equivalency with site plans showing alternate fire lane locations and section view details showing the ladder truck reaching the building from different locations.

All final site plans for new public buildings and places of employment located within the City of Madison must receive MFD approval prior to construction.

### **City Approval Process**

The property owner has two choices for obtaining City approval of construction documents that are not in compliance with the codes for fire apparatus access; it is the property owners' choice, either one process or the other, they do not need to use both. Those choices are listed as follows:

1. Informal Process

Where an alternate design scheme is necessary for a project, that design scheme must be documented by the property owner in the form of a letter, and the letter must be submitted to the MFD Fire Protection Engineer (FPE) for approval. In the letter, the property owner must identify the known deficiencies in detail, state why they cannot comply with the code, and list a detailed description of all features they are proposing to provide for equivalency. If upon review the letter is acceptable to the MFD, the letter will be stamped approved and signed by the FPE. A copy of the approved letter will be returned to the property owner, a copy will be faxed to the Supervisor of the Building Inspection Unit for their records, and a copy will be retained by the MFD in the permanent street file. The property owner must include a copy of the approved letter with the site plans submittal to the zoning office prior to receiving a City permit.

2. Formal Process

The property owner may submit an application for a Petition for Variance to the City Board of Building Code, Fire Code and Licensing Appeals. The formal process is facilitated by the Supervisor of the Building Inspection Unit (BI), contact BI for variance submittal information. The completed City Board approved variance must be included as part of the site plans submittal to the zoning office prior to receiving a City permit.