

Fire Prevention Bureau INFORMATION PACKAGE

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Submittal Process

For all Fire Protection Submittals please provide the following:

1. A completed Fire Alarm/Suppression Permit Application describing scope of work.
2. Please make sure that you include your email address and work evaluation on the application.
3. A copy of your State of Illinois Fire Sprinkler Contracting License/Fire Alarm License.
4. A copy of your Electrical License from a municipality that has an electrical commission.
5. For Fire Alarm Systems, include a list and the number of devices used.
6. Three complete set of plans, one set of cut sheets and one set of calculations.
7. Permit fees will be assessed at the end of the plan review process. DO NOT send a payment with the plan submission.

All fire department plan review will be completed by Evanston Fire Department. Plans shall be submitted to the following location:

EVANSTON FIRE DEPARTMENT
FIRE PREVENTION BUREAU
909 LAKE STREET
EVANSTON, IL 60201

Current Codes Adopted by the City of Evanston

- 2012 International Fire Code (IFC)
- 2012 NFPA Life Safety Code 101
- 2012 International Building Code (IBC)
- 2012 International Residential Code for One and Two family Dwellings (IRC)
- 2012 International Plumbing Code
- 2012 International Mechanical Code
- 2012 International Fuel Gas Code
- 2011 National Electric Code (NFPA 70)
- 2012 International Property Maintenance Code (IPMC)
- 2012 International Energy Conservation Code

Standards Referenced by the City of Evanston

- 2010 NFPA 13 Installation of Sprinkler Systems
- 2010 NFPA 72 National Fire Alarm and Signaling Code
- Refer to adopted codes for additional referenced standards

Additional State of Illinois codes enforced by the City of Evanston

- State of Illinois Plumbing Code
- State of Illinois Accessibility Code

Evanston Fire & Life Safety Services Fire Extinguisher Sign Requirements

In most cases, installation of extinguisher sign at 6'-7' above the floor would be acceptable.
In locations where storage, etc. would block the sign, it shall be installed higher.



Various suppliers of these signs include:

Brooks Equipment 1-800-826-3473 – Part # RP-3D-FE

Grainger 1-800-356-0783- Part # 5TB46

Sign One (Evanston) 1-847-869-7446

Fire Extinguisher Companies

Check Yellow Pages / Internet

CHAPTER 4 - FIRE PREVENTION REGULATIONS

4-4-1: ADOPTION:

- (A) Pursuant to the authority granted by 65 ILCS 5/1-2-4, and pursuant to its home rule powers, the City of Evanston hereby adopts by reference the *2012 International Fire Code* and *2012 National Fire Protection Association 101, Life Safety Code*, which shall be used together with the below stated additions and amendments as criteria for the control and regulation of conditions which would constitute fire hazards to persons or property within the city or which would interfere with fire suppression forces, excepting therefrom the sections which are modified or deleted in Section 2 of this Chapter.
- (B) Any reference in the *2012 International Fire Code* or the *2012 National Fire Protection Association 101, Life Safety Code* to "Administrative Authority" or "Fire Official" shall mean the Fire Chief of the City of Evanston or his/her designee. Any reference to "municipality" shall mean the City of Evanston.
- (C) In the event that any provision of the *2012 International Fire Code* or the *2012 National Fire Protection Association 101, Life Safety Code* adopted hereby is in conflict with any provision(s) of the City Code, the more/most stringent shall control.

4-4-2: AMENDMENTS:

(A) 2012 International Fire Code:

The 2012 International Fire Code adopted hereby shall read as follows with respect to the indicated Sections.

101.1: Title: These regulations shall be known as the Fire Code of the City of Evanston, hereinafter referred to as "this Code."

108.1: Appeals: Any person, firm or corporation affected by any decision, interpretation or order of the Fire Official made under any provision of these Codes or the standards adopted herein, may appeal such decision, interpretation, or order to the Fire Chief by filing a written notice of such intent to the office of the Fire Chief within fifteen (15) days after the day the decision, interpretation, or order was served. For purposes of this Section, a decision, interpretation, or order is served upon delivery, in the case of personal delivery, and in the case of mailing, five (5) days after deposit in the U.S. mail with first-class postage prepaid. The Fire Chief, or his/her designee, shall convene a hearing upon such appeal within ten (10) days of receipt thereof and may, when no immediate hazard exists, continue such hearing from time to time for cause. The Fire Chief shall establish reasonable rules for such hearings and shall make a record of proceedings. The rules shall be on file with the Fire Chief's office. The decision of the Fire Chief shall be deemed final as to the order or interpretation appealed from. The decision shall be in writing and shall be issued within two (2) business days of its rendering. Where there are practical difficulties in the implementation of the strict

provisions of these Codes, the Fire Chief may modify such provision provided that such modification shall effect substantial conformance with the provisions hereof, provide for the public safety.

A person is "affected" for the purposes of an appeal pursuant to this Section when the person has a material or definitive interest in the decision, interpretation, or order of the official. An application for appeal shall be based on a claim that the true intent of a Code adopted by the City or the rules legally adopted thereunder, have been incorrectly interpreted, or the provision of these Codes are adequately satisfied by other means.

307.4.3 Fire Pit Regulations: The use of fire pits will be allowed provided the following regulations are complied with:

- 1) For clarity, a fire pit includes a permanent below ground fire pit, a permanent grade level outdoor fireplace or a portable outdoor fireplace, all intended to contain and control outdoor wood fires.
- 2) Portable fire pits, constructed of steel, brick, or masonry, shall be used in accordance with the manufacturers specifications and safety guidelines and must be placed upon a non-combustible surface.
- 3) Only natural seasoned firewood or commercial logs may be burned.
- 4) The fires in fire pits shall be kept manageable.
- 5) The use of the fire pit must be attended and supervised by a competent adult property owner until the fire has been completely extinguished. A legal resident/tenant of a property may use a fire pit in accordance to this ordinance as long as the property owner or assigned management company grants written permission to the legal resident/tenant. The use of the fire pit must be attended and supervised by the legal resident/tenant until the fire has been completely extinguished.
- 6) A portable ten pound (10 lb.) ABC type fire extinguisher or other approved extinguishing equipment, such as a garden hose, bucket of sand, or dirt, must be readily available.
- 7) The use of a fire pit which creates a hazardous or objectionable condition shall be prohibited. The code official is authorized to order the extinguishment of a fire in a fire pit creating a hazardous or objectionable condition.
- 8) The use of the fire pit shall not be located within ten feet (10') of a structure or any combustible material. In no case shall the appliance be located directly under overhead combustible construction.
- 9) The use of the fire pit shall not cause any building fire alarm system to activate.
- 10) Guidelines when using fire pit shall include common sense, respect for neighbors and neighborhoods.

308.1.4: Open-Flame Cooking Grills: Barbecue grills shall not be used on any stairs or porches that serve as a means of egress. The use of barbecues will be allowed on balconies or at ground level provided the following regulations are complied with:

- 1) The use of a cooking grill which creates or adds to a hazardous or objectionable situation shall be prohibited.

- 2) Read the owner's manual for safety guidelines.
- 3) The use of the barbecue shall not cause the building's fire alarm system to activate.
- 4) A portable fire extinguisher shall be located in close proximity to the barbecue, but not affixed to the grill. The fire extinguisher shall be at least a 10 pound ABC type extinguisher.
- 5) Extreme caution shall be exercised when lighting the barbecue to prevent flames from elevating to an excessive height.
- 6) Hot ashes or cinders shall be deposited into noncombustible receptacles free of all combustible material and away from combustible construction.

404.3.1 Fire evacuation plans. Fire evacuation plans shall include the following:

- 1) Emergency egress or escape routes and whether evacuation of the building is to be completed or, where approved, by selected floors or area only.
- 2) Procedures for employees who must remain to operate critical equipment before evacuating.
- 3) Procedures for assisted rescue persons unable to use the general means of egress unassisted.
- 4) Procedures for accounting for employees and occupants after evacuation has been completed.
- 5) Identification and assignment of personnel responsibilities for rescue or emergency medical aid.
- 6) The preferred and any alternative means of notifying occupants of a fire or emergency.
- 7) The preferred and any alternative means of reporting fires and other emergencies to the Fire Department or designated emergency response organization.
- 8) Identification and assignment of personnel who can be contacted for further information or explanation of duties under the plan.
- 9) A description of the emergency voice/alarm communication system alert tone and preprogrammed voice messages, where provided.
- 10) Procedures that address each hazard that threatens the facility.

408.9.1: Emergency guide: Fire safety evacuation plans in accordance with Section 404.3.1 shall be provided to each living unit on an annual basis. Living units include apartments, condominiums, dormitories, hotels, and any other type of residential or commercial living unit.

505.1.1: Address on Rear and Side Doors: Signage with the address, including the name of the street and business name or building name, shall be installed at all other entrance and exit doors. The sign shall be installed at a height of approximately five feet (5') above the standing surface. The sign shall be installed immediately to the side of the door so it is visible with the door in the open or closed position. All other installation locations shall be approved by the Fire Official.

505.3: Truss Construction Signage: Identification signage as designated by the Fire Official shall be installed on all structures in which the roof is of a truss construction

design. The signage shall be approved by the Fire Official and installed so that it is visible from the street for the Fire Department use.

508.1.1.1: Fire Command Center: All fire command centers shall be equipped with a five (5)-button combination keypad for entry into the room or other entry device approved by the Fire Official.

509.3: Room Identification: Signage shall be placed at all doors identifying the room. The signage shall be installed at a height of approximately five feet (5') above the standing surface. The signage shall be installed immediately to the side of the door so it is visible with the door in the open or closed position.

604.2.18.1: Manual Transfer: Standby power shall be manually transferable to all elevators in each bank. This transfer switch shall be located in the fire command room or location designated by the Fire Official.

605.7.1: Electrical Equipment: The Fire Official may require remote power disconnects for specialized electrical equipment such as solar panels, wind turbines, etc.

901.7.7: Systems Out of Service: Any required fire protection/detection system placed out of service for more than six (6) hours in a day and/or for a cumulative total of twenty (20) hours a week shall require the approval of the Fire Official or his designee. Any fire protection/detection system placed out of service for periods equal to or greater than those stated without the approval of the Fire Official, will be subject to the following fines:

- First warning: No charge
- Second warning: \$200.00
- Third warning: \$300.00
- Fourth and subsequent warnings: \$500.00

903.2: Where Required: Approved automatic sprinkler systems shall be installed in all new buildings and structures with a Group I or R area. Approved automatic sprinkler systems shall be installed in all new buildings and structures with any other occupancy classification that exceeds 5,000 square feet in area. The building area shall be defined in accordance with Section 202 and include each story.

903.3.1: Standards: Sprinkler systems shall be designed and installed in accordance with Section 903.3.1.1, Section 903.3.1.2, or Section 903.3.1.3 and other chapters of this Code, as applicable. A minimum of five (5) psi safety factor in the fire protection system hydraulic calculations shall be provided for all systems, except in one- and two-family dwellings. The system demand shall be five (5) psi below the seasonal low-water test supply. Sprinklers shall be required in all clothes closets, linen closets, pantries, and bathrooms, regardless of size, except in one- and two-family dwellings.

903.3.7.1: Number of Fire Department Connections: The Fire Official shall determine the number of Fire Department connections appropriate for the building.

903.3.7.2: Access to Fire Department Connections: Any Fire Department connection located behind or within landscaping or vegetation shall have a concrete path from the sidewalk or closest public way to the connection. A concrete pad shall also be provided at the Fire Department connection.

903.3.7.3: Type of Fire & Life-Safety Services Department Connections: The type of Fire & Life-Safety Services Department connection shall be approved by the Fire Official. No single two and one-half inch (2½") Fire & Life-Safety Services Department connection is permitted. Fire & Life-Safety Services Department connections shall be installed between twenty-four inches (24") and forty-two inches (42") above the standing surface.

903.3.7.4: Fire & Life-Safety Services Department Connection Locator: Provide a white strobe light above all Fire & Life-Safety Services Department connections to flash upon activation of the fire alarm system. All strobes shall be installed at a height that will make it visible from the street. **Exception:** Existing systems, unless the system is altered, modified, or upgraded.

903.4.3: Sprinkler Control Valves: Approved supervised indicating control valves shall be provided at the point of connection to the riser on each floor in all buildings. Control valves shall also be provided for each individual unit (commercial, residential, or business) where the units share a common water supply and have individual entrances.

905.3.1: Required Locations. Class I standpipe systems shall be installed throughout buildings where the floor level of the highest story is located more than thirty feet (30', 9.144 m) above the lowest level of the Fire Department vehicle access, or where the floor level of the lowest story is located more than thirty feet (30', 9.144 m) below the highest level of Fire Department vehicle access.

Class I standpipe systems shall be installed throughout buildings where the floor level of the highest story is less than thirty feet (30', 9.144 m) above the lowest level of the Fire Department vehicle access, but the length of hose laid by the Fire Department is greater than one hundred fifty feet (150') from the point of the Fire Department vehicle's access to the furthest point in the building.

905.4.3: Standpipe Hose Connections: All standpipe hose connections shall include a two and one-half inch to one and one-half inch (2½" to 1½") reducer with a cap attached to a chain. The hose connections shall be installed on a forty-five degree (45°) angle towards the floor level unless otherwise approved by the Fire Official.

906.3 Size and distribution. The size and distribution of portable fire extinguishers shall be in accordance with Section 906.3.1 through 906.3.4. In new structures or occupancies, the minimum size fire extinguishers installed shall be 4A:60B:C (Ten Pound).

906.6.1: Fire Extinguisher Signage: Projection style signage shall be installed above each extinguisher to identify the location. The sign shall be installed at a height of approximately six to seven feet (6' to 7') above the standing surface where the extinguisher is mounted. Style of that sign must be approved by the Fire Official.

907.4.4: Smoke Detectors, Where Required: Smoke detectors, installed as part of an approved automatic fire alarm system, shall be installed at the top of all interior stairways and elevator shafts unless otherwise directed by the Fire Official.

907.5.2.2: Emergency Voice/Alarm Communication System: Emergency voice/alarm communication systems required by this Code shall be designed and installed in accordance with NFPA 72. The operation of any automatic fire detector, sprinkler waterflow device or manual fire alarm box shall automatically sound an alert tone followed by voice instructions giving approved information and directions for a general or staged evacuation in accordance with the building's fire safety and evacuation plans required by Section 404. In high-rise buildings, the system shall operate on a minimum of the alarming floor, two floors above, and the floor below. Speakers shall be provided throughout the building by paging zones. At a minimum, paging zones shall be provided as follows:

- 1) Elevator groups.
- 2) Exit stairways.
- 3) Each floor.
- 4) Areas of refuge as defined in Chapter 2.

Exception: In Group I-1 and I-2 occupancies, the alarm shall sound in a constantly attended area and a general occupant notification shall be broadcast over the overhead page.

914.3.1.2: Water supply to required fire pumps: Required fire pumps for high-rise buildings shall be supplied by connections to at least two (2) water supplies. The two (2) connections shall be made to the same main and valved in such that an interruption can be isolated so that the water supply will continue without interruption through at least one (1) of the connections. Each connection and the supply piping between the connection and the pumps shall be sized to supply the flow and pressure required for the pumps to operate and be provided with its own backflow prevention device. **Exceptions:** Any water supply arrangement that is approved by the Fire Official and Utilities Department.

1011.3: Illumination: Exit signs shall be internally illuminated. **Exception:** Tactile signs required by Section 1011.4 need not be provided with illumination.

1022.8: Exit Discharge Identification: An interior exit stairway and ramp shall not continue below its level of exit discharge unless an approved barrier is provided at the level of exit discharge to prevent persons from unintentionally continuing into levels below. Directional exit signs shall be provided as specified in Section 1011. The top of the approved barrier shall not be less than thirty-six inches (36") from the finished floor

of the landing. The barrier shall be self-closing. The only approved method of holding the barrier in the open position shall be a magnetic 'hold open' connected to the building fire alarm system. The barrier shall be a contrasting color from the colors in the immediate area.

1022.9: Stairwell Signage: A sign shall be provided at each floor landing in an interior exit stairway and ramp connecting more than two (2) stories designating the floor level, the terminus of the top and bottom of the interior exit stairway and ramp and the identification of the stair or ramp. The signage shall also state the story of, and the direction to, the exit discharge and the availability of roof access from the interior exit stairway and ramp for the Fire Department. The sign shall be located five (5) feet above the floor landing in a position that is readily visible when the doors are in the open and closed positions. In addition to the stairway identification sign, a floor-level sign in raised characters and Braille complying with ICC A117.1 shall be located at each floor-level landing adjacent to the door leading from the interior exit stairway and ramp into the corridor to identify the floor level.

1103.7.5.2 Group R-1 boarding and rooming houses manual fire alarm system. A manual fire alarm system that activates the occupant notification system in accordance with Section 907.6 shall be installed in existing Group R-1 boarding and rooming houses. **Exceptions:** Buildings less than two (2) stories in height where all sleeping units, attics, and crawl spaces are separated by one (1)-hour fire-resistance-rated construction and each sleeping unit has direct access to a public way, egress court or yard. Buildings equipped with an approved automatic sprinkler system that is monitored in accordance with Section 903.4.1.

1103.7.6: Group R-2: Existing Group R-2 Occupancies with more than three (3) stories or with more than eleven (11) units shall have a fire alarm system installed in accordance with NFPA 72. These systems shall include both manual and automatic initiating devices.

5601.1.3: Fireworks and Explosives: The possession, manufacture, storage, sale, handling and use of fireworks and explosives are prohibited except as approved by the Fire Official.

5601.2.1 - 5601.2.4: Delete

5602.1: The following terms are defined in Chapter 2:

5602.1: Fireworks: Fireworks include any combustible or explosive composition, and any substance and combination of substances and articles prepared for the purpose of producing a visible or an audible effect by combustion, explosion, deflagration or detonation. Fireworks shall include blank cartridges, toy pistols, toy cannons, toy canes and toy guns in which explosives are utilized; balloons requiring fire underneath to propel the balloon; firecrackers, torpedoes, skyrockets, Roman candles, sparklers and other devices of similar construction; any device containing any explosive or flammable compound; and any tablets and other devices containing any explosive substance.

The term "fireworks" shall not include automobile flares or paper caps containing not more than an average of 0.25 grain (16 mg) of explosive content per cap, and toy pistols, toy canes, toy guns, and other devices utilizing such caps. The sale and utilization of types of explosive devices

5608.2 Permit application. Prior to issuing permits for a fireworks display, plans for the display, inspections of the display site, and demonstrations of the display operations shall be approved. All requests for permits must be made at least fifteen (15) days in advance of the event unless otherwise approved by the Fire Official. A plan establishing procedures to follow and actions to be taken in the event that a shell fails to ignite in, or discharge from, a mortar so fails to function over the fallout area or other malfunctions shall be provided to the Fire Official.

(B) 2012 National Fire Protection Association 101, Life Safety Code:

7.3.3.1 Egress capacity for approved components of means of egress shall be based on the 2012 International Building Code.

9.8: Carbon Monoxide (CO) Detection and Warning Equipment: Delete (see City Code Title 9, Chapter 15).

24.3.4.2: Carbon Monoxide and Carbon Monoxide Detection Systems: Delete.

26.3.4.6: Carbon Monoxide Alarms and Carbon Monoxide Detection Systems: Delete.

30.3.4.6: Carbon Monoxide Alarms and Carbon Monoxide Detection Systems: Delete.

Chapter 43: Delete in its entirety and replace with the following:

43.2.2.4 Rehabilitation Work Area. That portion of a building affected by any renovation, modification, or reconstruction work as initially intended by the owner, and indicated as such in the permit, but excluding other portions of the building where incidental work entailed by the intended work must be performed, and excluding portions of the building where work not initially intended by the owner is specifically required.

43.6.4.1 In a building with rehabilitation work areas involving over 50 percent of the aggregate building area, automatic sprinkler and detection, alarm, and communications systems shall be provided throughout the building with the requirements of other sections of this Code applicable to new construction for the occupancy. **Exception:** One- and Two-Family Dwellings.

43.7.2.1 Where a change of occupancy classification occurs, automatic sprinkler and detection, alarm, and communications systems shall be provided throughout the building with the requirements of other sections of this Code applicable to new construction for the occupancy created by the change.

4-4-3: AUTOMATIC SPRINKLER SYSTEMS:

Automatic sprinkler systems shall be installed as required by this Section, which is hereby in addition to Section 903 of the International Fire Code.

(A) Definitions:

- AUTOMATIC SPRINKLER SYSTEMS:** An engineered system to automatically detect and contain or suppress a fire through fixed piping and nozzles. The system shall be designed in accordance with the fire protection system requirements of the 2012 International Building Code, 2012 International Fire Code and referenced NFPA standards as adopted by the City, and good fire protection practices. The City must approve in writing all systems prior to their installation.
- DORMITORIES:** A space in a structure associated with or serving an educational institution, the primary use of which is group sleeping accommodations provided in one room, or in a series of closely associated rooms, for persons not members of the same family group including structures used for dormitories, sororities, fraternities and similar uses, but excluding rooming and lodging houses.
- FULLY SPRINKLERED:** A sprinkler system that provides protection to the entire structure.
- HOSPITAL:** A structure under the I - 2 use group as defined by the 2012 International Fire Code.
- IBC:** 2012 International Building Code, as adopted by the City.
- ICC:** International Code Council (which publishes the adopted International Building and Fire Codes).
- IFC:** 2012 International Fire Code, as adopted by the City.
- NFPA:** National Fire Protection Association edition as adopted by the City.
- NFPA 13:** National Fire Protection Association standard 13. Provides the minimum requirements for the design and installation of automatic fire sprinkler systems.
- NONOWNER OCCUPIED ROOMING/LODGING HOUSE:** A rooming/lodging house which the owner of the property does not occupy as his/her primary residence.

NURSING HOME FACILITY:	Any facility that is licensed or subject to licensure under Title 8, Chapter 12 of this Code regulating long term care facilities or under similar provisions in Illinois law.
RETROFIT:	To install in, within, or on an existing structure.
ROOMING/LODGING HOUSE:	Any facility that is licensed or subject to licensure under title 5, Chapter 2 of this Code regulating lodging establishments.
STRUCTURE:	That which is built or constructed.

(B) **Systems Provided In Structures:** Automatic sprinkler systems shall be provided in the following structures:

- Dormitories
- Hospitals
- Nonowner occupied rooming/lodging houses
- Nursing homes

(C) **System Requirements:** Any structure required to be retrofitted with a sprinkler system under this Chapter shall have such a system designed and installed in accordance with the fire protection system requirements of the 2012 International Building Code, 2012 International Fire Code and referenced NFPA standards as adopted by this Code.

(D) **Penalties:** Failure to comply with the installation provisions of this Section and any extensions thereof approved in writing by the Fire Chief or his/her designee shall subject the violator to a penalty of \$500.00 per month. The City may, in addition to monetary penalties, avail itself of any legal or equitable remedy provided for by law.

Occupancies for which a City license is required are not eligible to obtain or retain said license if they fail to comply with this Section, subject to any extension approved in writing by the Fire Chief or his/her designee.

4-4-4: PENALTIES:

Except for the penalties specifically relating to automatic sprinkler installation set forth in Section 3 of this Chapter, any person found to have violated any provision of the 2012 International Fire Code or the 2012 National Fire Protection Association 101, Life Safety Code as adopted by the City, or who shall fail to comply with any of the requirements thereof, or who shall erect, construct, alter or repair a building or structure in violation of any approved plan or direction of the Fire Official or of any permit or certificate issued by the Fire Official or his/her designee, shall be guilty of an offense, punishable as follows:

(A) 1. The fine for a first violation is one hundred fifty dollars (\$150.00).

2. The fine for a second violation is four hundred dollars (\$400.00).
 3. The fine for a third or subsequent violation is seven hundred fifty dollars (\$750.00).
- (B) Each day a provision of this Chapter is found to have been violated constitutes a separate violation subject to the fine schedule set forth in Subsection (A) of this Section.
- (C) The fines provided for herein shall not be construed as limiting the power of a court of competent jurisdiction or an administrative hearing officer to impose other penalties and remedies as provided for by applicable legislation.

4-4-5: SIGNAL BOOSTING:

- (A) **Emergency Responder Radio Coverage in Buildings:** All buildings shall have approved radio coverage for emergency responders within the building, based upon the existing coverage levels of the public safety communication systems of the City of Evanston at the exterior of the building. This Section shall not require improvement of the existing public safety communication system. Existing buildings that do not have approved radio coverage for emergency responders within the building shall be equipped with such coverage according to one of the following:
1. Wherever existing wired communication system cannot be repaired or is being replaced.
 2. Within a time frame established by the Fire Official.
- (B) **Radio Signal Strength:** A building shall be considered to have acceptable emergency responder radio coverage when signal strength measurements in ninety-five percent (95%) of all areas on each floor of the building meet the following requirements:
1. A minimum signal strength of -95 dBm.
 2. A minimum signal strength of -100 dBm received at the closest City of Evanston Radio Communications site.
 3. The frequency range which must be supported shall be 151-159 MHz and 450-476 MHz.

When measuring the performance of a bi-directional amplifier, signal strength measurements shall be based on one (1) input signal adequate to obtain a maximum continuous operating output level.

- (C) **Amplification Systems Allowed:** Buildings and structures that do not support the required level of radio coverage shall be equipped with either a radiating

cable system or an internal multiple antenna system, with or without FCC type accepted bi-directional required MHz amplifiers, as needed. If any part of the installed system or systems contains an electrically-powered component, the system shall be capable of operating on an independent battery and/or generator system for a period of at least twelve (12) hours without external power input. The battery system shall automatically charge in the presence of an external power input. If used, bi-directional amplifiers shall include filters to reduce adjacent frequency interference to at least 35 dB below the COE P/S band. The filters shall be tuned to 154 MHz and to 470 MHz so that they will be 35 dB below the COE P/S frequencies of 154 MHz and 470 MHz respectively. Other settings may be used provided they do not attenuate the COE- P/S frequencies and are not more than one (1) MHz from the COE-P/S frequencies.

(D) Testing Procedures:

1. **Acceptance Test Procedure:** When an in-building radio system is required, and upon completion of installation, it shall be the building owner's responsibility to have the radio system tested to ensure that two-way coverage on each floor of the building is a minimum of ninety-five percent (95%). Each floor of the building shall be divided into a grid of approximately twenty (20) equal areas. No more than one (1) such area shall be allowed to fail the test. In the event that two (2) or more of the areas fail the test, in order to be more statistically accurate, the floor may be divided into forty (40) equal areas. In such event, no more than two (2) nonadjacent areas will be allowed to fail the test. If, after the forty (40)-area test, the system continues to fail, the building owner shall have the system altered to meet the ninety-five percent (95%) coverage requirement. The test shall be conducted using a Motorola HT1250, or equivalent, portable radio, talking through the City of Evanston Radio Communications System (COE-911) as specified by the authority having jurisdiction. A spot located approximately in the center of a grid area shall be selected for the test, then the radio shall be keyed to verify two-way communications to and from the outside of the building through the City of Evanston 911 center. Once the spot has been selected, prospecting for a better spot within the grid area shall not be permitted.

The building owner shall keep the gain values of all amplifiers and the test measurement results on file so that the measurements may be verified each year during annual tests. In the event that the measurement results are lost, the building owner shall repeat the acceptance test to reestablish the gain values.

2. **Annual Tests:** When an in-building radio system is required, the building owner shall test, at once every twelve (12) months, all active components of the system, including, but not limited to, amplifiers, power supplies and backup batteries. Amplifiers shall be tested to ensure that the gain is the same as it was upon initial installation and acceptance. Backup batteries

and power supplies shall be tested under load for a period of one (1) hour to verify that, they will properly operate during an actual power outage. If, within the one (1) hour test period, the battery exhibits symptoms of failure in the opinion of the testing technician, the test shall be extended for additional one (1) hour periods until the testing technician confirms the integrity of the battery. All other active components shall be checked to determine that they are operating within the manufacturer's specifications for the intended purpose.

3. **Five Year Tests:** In addition to the annual test, the building owner shall perform a radio coverage test at least once every five (5) years to ensure that the radio system continues to meet the requirements of the original acceptance test. The procedure set forth above shall apply to such tests.
 4. **Qualifications of Testing Personnel:** All tests shall be conducted, documented and signed by a person in possession of a current FCC license, or a current technician certification issued by the Associated Public-Safety Communications Officials International (APCO) or the Personal Communications Industry Association (PCIA). All test records shall be retained on the inspected premises by the building owner and a copy submitted to the Fire Official.
- (D) **Field Testing:** Police and fire personnel, after providing reasonable notice to the owner or his representative, shall have the right to enter onto the property to conduct field testing to be certain that the required level of radio coverage is present.
- (E) **Maintenance:** The public radio coverage system shall be maintained operational at all times.

4-4-6: SEVERABILITY:

It is the intention of the City Council that the provisions of this Chapter and the Code adopted hereby are severable and the invalidity of any Section or any portion of any such Section of either of them shall not affect any other Section.

Knox Boxes

It is a City of Evanston requirement that an Emergency Key Box be installed at this location as per City Ordinance 112-0-96.

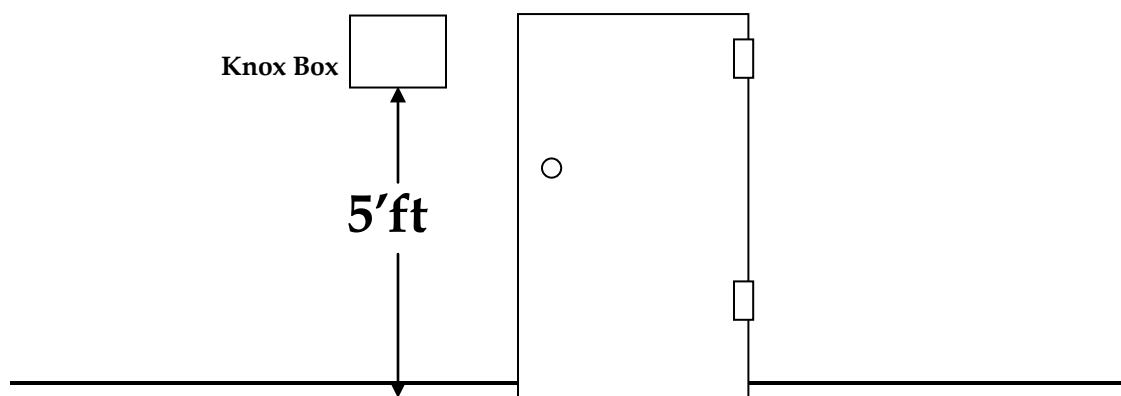
506.1: Key boxes: When a property is protected by an automatic fire detection system and/or automatic suppression system or where access to or within a structure or an area is restricted because of secured openings or where immediate access is necessary for life-saving or firefighting purposes, the Fire Official is authorized to require a key box to be installed in an approved location. The key box shall be of an approved type and shall contain keys to gain necessary access as required by the Fire Official.

The Key box shall be a type approved by the Fire Official (i.e. Knox Box).

This shall not apply to any individual residential unit.

Contents and Key Box: The key box shall contain:

- a) Keys to locked points of ingress, whether on the interior or exterior of the building.
- b) Keys to locked mechanical equipment rooms, electrical rooms.
- c) Keys to all common areas and any other area as directed by the Fire Official.
- d) Keys shall be labeled as to their function.



When locks in the building are changed or keys need to be added to the Knox Box, you must contact the Fire Department, and have the key(s) put into the Knox Box. Please contact an inspector at 847-448-4311.

Fire Extinguishers

- The placement and distribution of fire extinguishers must fully comply with NFPA 10, *Standard for Portable Fire Extinguishers*. □
- All fire extinguishers shall be securely mounted to the wall or structural member of the building. The top of the fire extinguisher shall not exceed five feet (5') in height above the finished floor and the bottom of the extinguisher shall be a minimum of two feet (2') above the finished floor.
- All new fire extinguishers shall be a minimum 10 lb. 4A60BC type. Every fire extinguisher shall be installed in a location visible to occupants and the general public and must be easily accessible.

Fire Lanes

- All fire lanes shall be a minimum of twenty feet (20') in width, and thirteen feet and six inches (13'6") in height.
- Fire lanes shall be provided for all buildings when any part of the building is set back more than one hundred fifty feet (150') from a public road or for buildings which exceed thirty feet (30') in height and set back over fifty feet (50') from a public road, private road or access road.
- Every fire lane shall be posted as such with a sufficient quantity of signs as deemed appropriate by the Fire Official. The Fire Official may also require painting and striping of the fire lane when deemed as necessary. The cost of the signs, markings and installation shall be the responsibility of the property owner.
- Fire apparatus access roads shall be designed and maintained to support the imposed loads of fire apparatus and shall be surfaced so as to provide all-weather driving capabilities.
- The required turning radius of a fire apparatus access road shall be determined by the Fire Official. The turning radius for Evanston Aerial Truck 23 (E5636) shall be used as a guideline unless otherwise notified. See the following page for more information.

Evanston Fire & Life-Safety Services
 Vehicle Turning Radii Information
 For the Design of Fire Lanes
 And Building Access Points



Evanston Aerial Truck 23 (E5636)

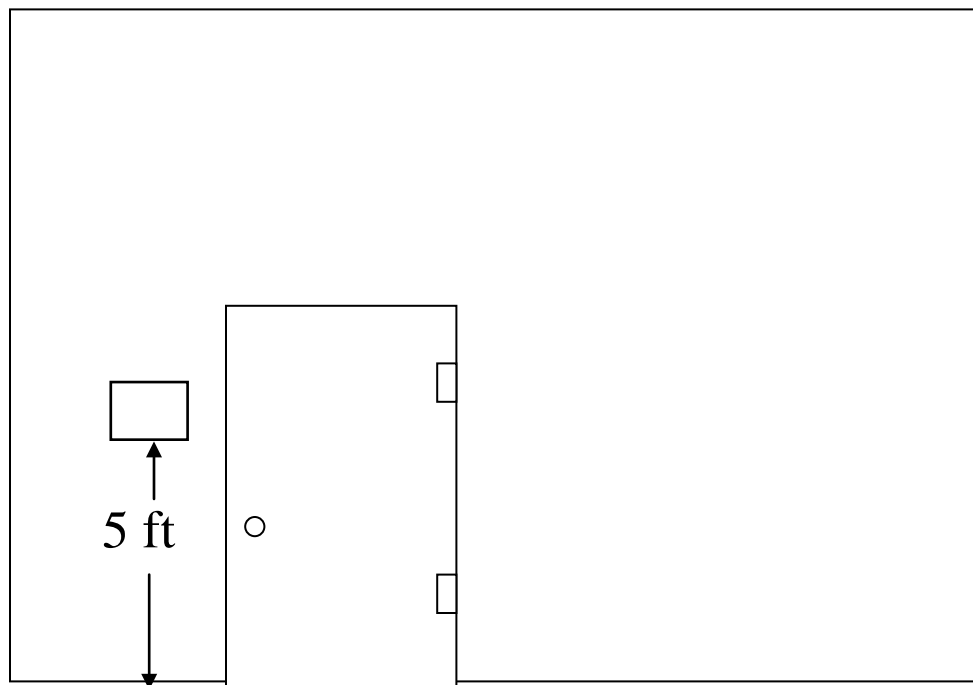
Measurement	Design Criteria
Inside Turn	32' 06"
Curb to Curb	47' 02"
Wall to Wall	50' 00"

Vehicle Dimensions	Design Criteria
Length: Single Chassis	39' 6"
Length – Tiller Steer	21' 4" Cab 46' 8" Trailer 60' 6" Combined
Ladder Tip OH	2' 5"
Height	11' 9"
Width w/o Mirrors	8' 10"
Width w/Mirrors	9' 7"
Weight – Tiller	75,000 lbs. 8 wheels 3 axles
Weight – Engine	47,000 lbs. 6 wheels 2 axles

Address Information

Address shall be applied to the front entrance area. Numbers shall be at least 4" in height and in contrasting colors to be easily and distinctly read from the street. (See IFC section 505.1)

Signage with address and name of business shall be installed at all other entrance / exit doors. The sign shall be installed at a height of approximately 5 feet above the standing surface. The sign shall be installed immediately to the side of the door so it's visible with the door in the open or closed position.

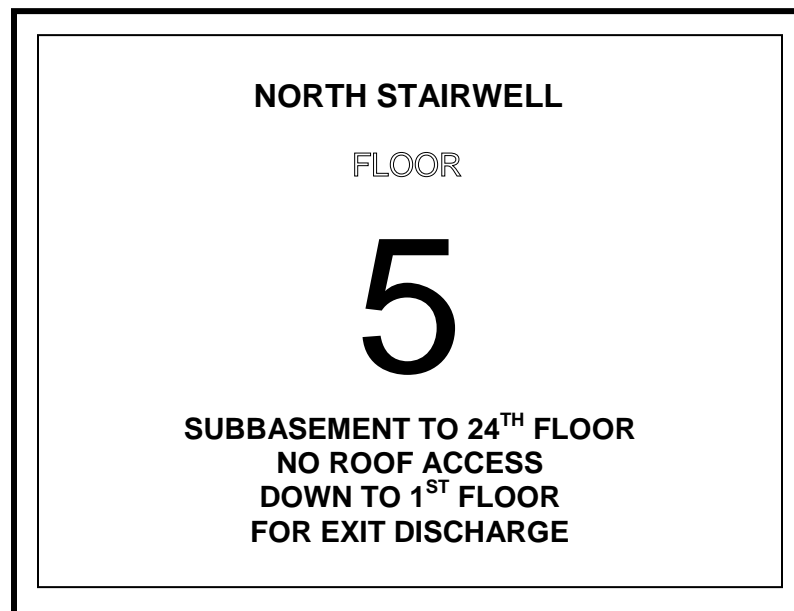


1234 =4in.

Street Name =2in.

Stairwell Markings

- All existing stairways serving two (2) or more stories and/or mezzanine levels shall be provided with signage within the stair enclosure at each floor landing and at the entrance door to each stair enclosure. It shall indicate each story or level, the terminus of the top and bottom of the stair enclosure, identification of the stair and roof access or no roof access.
- All interior stair signage shall be visible when the door is in the open or closed position, and shall be permanently attached to the structure. The sign structure shall have letter dimensioning no less than four (4) inches in height with contrasting colors to the background.



SAMPLE ONLY

WEST STAIRWELL

FLOOR

3

OF TEN FLOORS

EXIT

AT GROUND FLOOR

NO

Roof Access

Interior Signage Information

Signage shall be placed at all doors, identifying the rooms intended use. The signage shall be installed at a height of approximately 5 feet above the standing surface. The signage shall be installed immediately to the side of the door so it is visible with the door in the open or closed position.

