

2015

FIRE CODE

2015 International Fire Code Update



Coal City Fire District

35 S. DeWitt Place Coal City, IL 60416
815-634-4700

Table of Contents

SECTION 109 VIOLATIONS..... 3

SECTION 111 STOP WORK ORDER 3

SECTION 202 GENERAL DEFINITIONS 3

SECTION 307 OPEN BURNING, RECREATIONAL FIRES & PORTABLE OUTDOOR FIRE PLACES..... 4

SECTION 310 SMOKING.....4

SECTION 505 PREMISES IDENTIFICATION 4

SECTION 506 KEY BOXES 4

SECTION 507 FIRE PROTECTION WATER SUPPLIES 5

SECTION 607 ELEVATOR OPERATION, MAINTENANCE AND FIRE SERVICE KEYS ... 6

SECTION 901 FIRE PROTECTION SYSTEMS – GENERAL..... 6

SECTION 902 TOTAL AREA..... 7

SECTION 903 AUTOMATIC SPRINKLER SYSTEMS 7

SECTION 905 STANDPIPE SYSTEMS 11

SECTION 906 PORTABLE FIRE EXTINGUISHERS 11

SECTION 907 FIRE ALARM AND DETECTION SYSTEMS..... 11

SECTION 912 FIRE DEPARTMENT CONNECTIONS 15

SECTION 913 FIRE PUMPS 16

SECTION 1011 EXIT SIGNS 16

APPENDIX A FIRE ALARM PLAN SUBMITTAL CHECKLIST 17

APPENDIX B SPRINKLER SYSTEM PLAN SUBMITTAL CHECKLIST..... 20

APPENDIX C TURNING PERFORMANCE ANALYSIS 23

APPENDIX D FIRE APPARATUS ACCESS ROADS 25

ATTACHMENT A REFERENCED CODES AND STANDARDS..... 26

ATTACHMENT B FEES 27

VIOLATIONS

109.5 is added to read as follows:

109.5 VIOLATION PENALTIES. Persons who shall violate a provision of this code or shall fail to comply with any of the requirements thereof or who shall erect, install, alter, repair or do work in violation of the approved construction documents or directive of the code official, or of a permit or certificate used under provisions of this code, shall be guilty of an ordinance violation, punishable by a fine of not less than fifty (\$50.00) Dollars nor more than one (\$1,000.00) thousand dollars, plus all legal fees and all costs caused by enforcement. Such fees and costs shall include, but not limited to, staff costs of inspection or re-inspection, legal fees, and staff cost of enforcement. Each day that a violation continues after due notice has been served shall be deemed a separate offense.

STOP WORK ORDER

111.4 is amended to read as follows:

111.4 FAILURE TO COMPLY. Any person who shall continue any work after having been served with a stop work order, except such work as that person is directed to perform to remove a violation or unsafe condition, shall be liable to a fine of not less than fifty (\$50.00) dollars or more than one (\$1,000.00) thousand dollars.

SECTION 202 GENERAL DEFINITIONS

Certificate of Use and Occupancy is added to read as follows:

CERTIFICATE OF USE AND OCCUPANCY. The certificate issued by the Code Official which, permits the use of a building or tenant space in accordance with the approved plans and specifications and which certifies compliance with the provisions of law for the use and occupancy of the building or tenant space in its several parts together with any special stipulations or conditions of the building permit.

Change of Occupancy is amended to read as follows:

CHANGE OF OCCUPANCY. The change in purpose for which a building or part thereof is used or intended to be used including a change in tenants or tenant space.

Change of Use is added to read as follows:

CHANGE OF USE. An alteration by change of use in a building or tenant space heretofore existing to a new use group which imposes other special provisions of law governing building construction, equipment or means of egress.

SECTION 307
OPEN BURNING, RECREATIONAL FIRES & PORTABLE OUTDOOR FIRE PLACES

307.1.1 is amended to read as follows:

307.1.1 PROHIBITED OPEN BURNING. Open burning of rubbish is prohibited.
Open burning that is offensive or objectionable because of smoke or odor emissions or when atmospheric conditions or local circumstances make such fires hazardous shall be prohibited.

SECTION 310
SMOKING

310.1 is amended to read as follows:

310.1 GENERAL. The smoking or carrying of a lighted pipe, cigar, cigarette or any other type of smoking paraphernalia or material is prohibited as defined by the Smoke Free Illinois Act 410 ILCS 82, Public Act 095-0017 and shall be enforceable by the code official.

SECTION 505
PREMISES IDENTIFICATION

505.1 is amended to read as follows:

505.1 ADDRESS IDENTIFICATION. New and existing buildings and tenant spaces shall have approved address numbers, building numbers or approved building identification placed in a position that is plainly legible and visible from the street or road fronting the property. These numbers shall contrast with their background. Address numbers on glass shall be white exterior mount. Where required by the fire code official, address numbers shall be provided in additional approved locations to facilitate emergency response. Address numbers shall be Arabic numerals or alphabet letters. Exterior numbers shall be a minimum of 4 inches high with a minimum stroke width of .5 inches. Interior tenant spaces shall be a minimum 4-inch high numbers. Where access is by means of a private road and the building cannot be viewed from the public way, a monument, pole or other sign or means shall be used to identify the structure. Address numbers shall be maintained.

SECTION 506
KEY BOXES

506.2.1 is added to read as follows:

506.2.1 TYPE OF KEY BOX. The type of key box approved for use by the Coal City Fire Protection District is the Knox Box brand key vault/rapid entry system. The Coal City Fire

Protection District shall be in complete control of key box and rapid entry system authorization and operation. The Coal City Fire Protection District shall not be required to purchase or sell any key box or rapid entry system products. The size of the required Knox box will be based upon the number of keys to be secured in the box and will be at the discretion of the Fire Prevention Code Official.

506.2.2 is added to read as follows:

506.2.2 LOCATION AND NUMBER: The installation location of the Knox box shall be approved by the Fire Code Official. The Knox box shall be mounted no higher than five feet above the finished floor. All “Knox Boxes” shall be supervised in the trouble mode of the fire alarm system. The Code Official shall determine the total number of Knox Boxes required.

SECTION 507 FIRE PROTECTION WATER SUPPLIES

507.5.1 is amended to read as follows:

507.5.1 WHERE REQUIRED. Fire hydrants shall be located along a fire apparatus access road so that no portion of a building or facility will be more than 300 feet from any hydrant. At least two hydrants shall be located within 300 feet of each building. Additional hydrants and mains shall be provided where required by the code official.

507.5.1.1 is amended to read as follows:

507.5.1.1 HYDRANT FOR SPRINKLER & STANDPIPE SYSTEMS. Buildings equipped with a sprinkler or standpipe system shall be installed in accordance with section 905 shall have a fire hydrant within 100 feet (30 m) of the fire department connections.

507.5.7 is added to read as follows:

507.5.7 FIRE HYDRANT INSTALLATION. Fire hydrants shall be installed so that:

1. Access: Access to fire hydrants shall be by any approved roadway as specified by this code.
2. Distance to Roadways: Hydrants shall be located approximately ten (10) feet from all weather roadways.
3. Pumper Outlet Direction: Each hydrant shall have the pumper (steamer) connection facing the primary roadway and shall be accessible so that a connection can be made between the hydrant and the apparatus located in the street with twenty (20) feet of suction hose.
4. Hydrant Outlet Location: Fire hydrant outlets shall be a minimum of eighteen (18) inches and no more than thirty-six (36) inches above the finished grade.

5. Hydrant Type: Fire hydrants used in conjunction with water supplies shall be of a type acceptable to the Coal City Fire Protection District.

**SECTION 607
ELEVATOR OPERATION, MAINTENANCE AND FIRE SERVICE KEYS**

607.1.1 is added to read as follows:

607.1.1 AUTOMATIC ELEVATORS FOR FIRE DEPARTMENT USE. Where elevators are provided in buildings, at least one elevator shall provide for fire department emergency access to all floors. The elevator car shall be of such a size and arrangement to accommodate a 24-inch by 84-inch (610 mm by 1930 mm) ambulance stretcher in the horizontal, open position and shall be identified by the international symbol for emergency medical services (star of life). The symbol shall not be less than 3 inches (76mm) high and shall be placed inside on both sides of the hoistway door frame.

607.1.1.2 is added to read as follows:

607.1.1.2 ELEVATOR PHONE. All required emergency elevator phones shall directly dial the number as directed by the fire code official via the phone number designated by the code official.

**SECTION 901
FIRE PROTECTION SYSTEMS – GENERAL**

901.2.2 is added to read as follows:

901.2.2 FIRE ALARM INSTALLERS. The Illinois Department of Financial and Professional Regulation (IDFPR) has the following requirements for alarm system installers:

1. Private alarm contractor's license, issued by (IDFPR), is required for an individual to be able to install, repair or modify fire alarm systems.
2. It is important to note the requirements allow an exemption from obtaining a "Private Alarm Contractor's License if the fire alarm system work is performed by a "Licensed Electrical Contractor".

SECTION 902 TOTAL AREA

Total Area is added to read as follows:

902. TOTAL AREA. For purposes of calculating total square feet and fire areas, the total floor area includes mezzanines and basements contained within the surrounding exterior walls of the building on all floors and levels, which are added together. The area included within the surrounding exterior walls of a building including roof overhangs, extensions, and all enclosed extensions, which are also added to the calculation. Areas of a building not provided with surrounding walls shall be included within the building area if such areas are included within the horizontal projection of the roof or floor above. Interior walls, including fire walls, and party walls, shall not be considered as walls which divide a structure into two or more separate buildings, but a structure containing such interior walls shall be considered as one building for the purpose of this section.

SECTION 903 AUTOMATIC SPRINKLER SYSTEMS

903.2.1.1 is amended to read as follows:

903.2.1.1 GROUP A-1: An automatic sprinkler system shall be provided throughout all Group A-1 occupancies.

903.2.1.3 is amended to read as follows:

903.2.1.3 GROUP A-3: An automatic sprinkler system shall be provided throughout all Group A-3 occupancies.

903.2.1.4 is amended to read as follows:

903.2.1.4 GROUP A-4: An automatic sprinkler system shall be provided throughout all Group A-4 occupancies.

903.2.4 is amended to read as follows:

903.2.4 GROUP F-1: An automatic sprinkler system shall be provided throughout all Group F-1 occupancies. Provide all spec warehouse buildings with a ceiling roof height of 25 feet or greater to be protected with an ESFR fire sprinkler system or a hydraulically calculated system for a class IV commodities with rack storage calculated to the greatest storage height. A group F-1 occupancy used for wood working operations, the manufacture of upholstered furniture or mattresses exceeds 2,500 square feet.

903.2.5 is amended to read as follows:

903.2.5 GROUP H: An automatic sprinkler system shall be installed in all Group H occupancies.

903.2.6 is amended to read as follows:

903.2.6 GROUP I: An automatic sprinkler system shall be installed in all Group I occupancies, INCLUDING ALL: Group homes, half-way houses, residential board and care facilities, congregate care facilities, assisted living facilities, alcohol and drug centers and social rehabilitation facilities, regardless of the number of persons occupying such buildings.

903.2.9 is amended to read as follows:

903.2.9 GROUP S-1: An automatic sprinkler system shall be installed in all Group S-1 occupancies. Provide all spec warehouse buildings with a ceiling roof height of 25 feet or greater to be protected with an ESFR fire sprinkler system or a hydraulically calculated system for a class IV commodities with rack storage calculated to the greatest storage height. A group S-1 occupancy used for the storage of upholstered furniture or mattresses exceeds 2,500 square feet.

903.3.1.3.1 Is added to read as follows:

903.3.1.3.1 GROUP 13D: A manual or automatic sprinkler system shall not be required in Group 13D single family or duplex (Side by Side) occupancies' provided the total area is less than 12,000 square feet.

903.2.9.2 is amended to read as follows:

903.2.9.2 BULK STORAGE OF TIRES. An automatic sprinkler system shall be installed in all buildings where Bulk Storage of Tires buildings

903.2.10 is amended to read as follows:

903.2.10 GROUP S-2. An automatic sprinkler system shall be provided throughout all buildings classified as an enclosed parking garage. Where the enclosed parking garage is located beneath other groups.

903.3.5 is amended to read as follows:

903.3.5 WATER SUPPLIES. Water supplies for automatic sprinkler systems shall comply with this section and the standards referenced in Section 903.3.1. Hydrant water flow data used for the design of any sprinkler system shall be less than 1 year old. The potable water supply shall be protected against backflow in accordance with the requirements of this section and the *International Plumbing code and the Illinois Plumbing Code*.

903.3.5.2 is added to read as follows:

903.3.5.2 SAFETY FACTOR. Hydraulically calculated sprinkler systems shall maintain a minimum of 10% or five (5) pounds per square inch safety factor (whichever is greater) between the seasonal low water supply and the total sprinkler demand. The total sprinkler demand shall include the sprinkler demand and the hose stream demand.

903.4.1 is amended to read as follows:

903.4.1 MONITORING. Alarm, supervisory and trouble signals shall be distinctly different and shall be monitored by an approved listed central station providing full central station service in accordance with NFPA 72.

903.4.2.1 is added to read as follows:

903.4.2.1 INSPECTORS TEST. Fire sprinkler system inspectors test valves shall be accessible at all times and be located no more than 5 feet above the finished floor. On multiple riser systems test valves shall be marked as to which riser and area it tests.

903.4.3 is amended to read as follows:

903.4.3 FLOOR CONTROL VALVES. Approved supervised indicating control valves shall be provided at the point of connection to the riser on each floor of a multi story building.

903.7 is added to read as follows:

903.7 FIRE PUMP TEST HEADER. A OS&Y control valve is required on all fire pump test headers. All test headers shall be located outside the building.

903.8 is added to read as follows:

903.8 OUTSIDE ACCESS DOOR: Provide an outside access door to the sprinkler riser valve room and fire pump room.

903.9 is added to read as follows:

903.9 SEPERATION: Provide a minimum 1 hour separation of the sprinkler valve room and or fire pump room.

903.10 is added to read as follows:

903.10 WAREHOUSE STORAGE: In all warehouse storage areas where storage exceeds 12' high, provide inside 2 ½" fire hose valves with 1 ½" reducer to a 1 ½" connection. Locate the valves at each door entrance to the warehouses and/or storage area. Provide additional 2 ½" fire hose valves so that no portion of the warehouse and/or storage area is more than 120' maximum travel distance to a fire hose valve. Show the location of all obstructions and/or racks on the drawing.

The fire hose valves system piping shall be:

- 1) A separate riser piping system.
- 2) The 2 ½" valves shall be supplied by a minimum 4" with 2 ½" drops to each valve.
- 3) Where system pressures exceed 100 psi provide Potter reduced pressure field adjustable type valves.
- 4) System shall be designed to 500 GPM minimum.

**SECTION 905
STANDPIPE SYSTEMS**

905.3.1.1 is added to read as follows:

905.3.1.1 BUILDING AREA. Class I standpipe systems shall be installed in all buildings two stories or greater and or where any portion of the building's interior area is more than 150 feet of travel, vertically, and horizontally, from the main entrance of the building of fire department vehicle access.

**SECTION 906
PORTABLE FIRE EXTINGUISHERS**

906.3 is amended to read as follows:

906.3 SIZE AND DISTRIBUTION. The minimum size fire extinguisher for use in all new and existing occupancy groups shall be 4A40BC. All other applications shall be in accordance with the provisions of NFPA 10.

906.5.1 is added to read as follows:

906.5.1 Fire extinguishers shall be located within 5 feet of each exit door. All other areas shall have fire extinguishers installed in accordance with NFPA 10.

**SECTION 907
FIRE ALARM AND DETECTION SYSTEMS**

907.1.4 is added to read as follows:

907.1.4 FIRE ALARM PANELS: All fire alarm control panels shall be listed by Underwriters Laboratories and/or Approved by NFPA for use with remote station monitoring. All panels shall have single button silence and reset functions. All fire alarm control panels shall have outputs for: supervisory, water flow, and direct connect reverse polarity connections.

907.2 is amended to read as follows:

907.2 WHERE REQUIRED IN NEW BUILDINGS. An approved manual, automatic or manual and automatic Addressable Fire Alarm System installed in accordance with the provisions of this code and NFPA 72 shall be provided in new buildings and structures in accordance with Section 907.2.1 through 907.2.23 and provide occupant notification in accordance with section 907.5, unless other requirements are provided by another section of this code. Where automatic sprinkler protection installed in accordance with Section 903.2 is provided and connected to the building fire alarm system, automatic heat detection required by this section shall not be required. Fire Alarm Panels shall have single button silence and reset functions. A remote full function annunciator panel shall be required by the Fire Prevention Code Official if the main fire alarm panel is not located by the front entrance of the occupancy/structure.

907.2.1 is amended to read as follows:

907.2.1 GROUP A. A automatic and manual fire alarm system shall be installed in all Group A occupancies in accordance with NFPA 72.

907.2.2 is amended to read as follows:

907.2.2 GROUP B. A automatic and manual fire alarm system shall be installed in all Group B occupancies in accordance with NFPA 72.

907.2.3 is amended to read as follows:

907.2.3 GROUP E. A automatic and manual fire alarm system shall be installed in all Group E occupancies in accordance with NFPA 72.

907.2.4 is amended to read as follows:

907.2.4 GROUP F. A automatic and manual fire alarm system shall be installed in all Group F occupancies in accordance with NFPA 72.

907.2.5 is amended to read as follows:

907.2.5 GROUP H. A automatic and manual fire alarm system shall be installed in all Group H occupancies in accordance with NFPA 72.

907.2.6 is amended to read as follows:

907.2.6 GROUP I. A automatic and manual fire alarm system shall be installed in all Group I occupancies in accordance with NFPA 72.

907.2.6.2 is amended to read as follows:

907.2.6.2 GROUP I-2. A automatic and manual fire alarm system shall be installed in all Group I-2 occupancies in accordance with NFPA 72.

907.2.6.3 is amended to read as follows:

907.2.6.3 GROUP I-3. A automatic and manual fire alarm system shall be installed in Group I-3 occupancies in accordance with NFPA 72.

907.2.7 is amended to read as follows:

907.2.7 GROUP M. A automatic and manual fire alarm system shall be installed in Group M occupancies in accordance with NFPA 72.

907.2.8 is amended to read as follows:

907.2.8 GROUP R-1. A automatic and manual fire alarm system shall be installed in Group R-1 occupancies in accordance with NFPA 72.

907.2.9 is amended to read as follows:

907.2.9 GROUP R-2. An automatic and manual fire alarm system shall be installed in Group R-2 occupancies in accordance with NFPA 72.

907.2.10 is amended to read as follows:

907.2.10 GROUP R-4. An automatic and manual fire alarm system shall be installed in Group R-4 occupancies in accordance with NFPA 72.

907.2.11.2.1 is added to read as follows:

907.2.11.2.1 GROUP S. A automatic and manual fire alarm system shall be installed in Group S occupancies in accordance with NFPA 72.

907.6.2 is amended to read as follows:

907.6.2 POWER SUPPLY. The primary and secondary power supply for the fire alarm shall be provided in accordance with NFPA 72. The secondary supply (Battery) shall be equipped with a 60hr for remote station and 24hr for central station with 5 minutes of alarm.

907.6.3 is amended to read as follows:

907.6.3 ZONES. Each floor shall be zoned separately and a zone shall not exceed 10,000 square feet. The length of any zone shall not exceed 200 feet in any direction; a zoning indicator panel and the associated controls shall be provided in an approved location. The visual zone indication shall lock in until the system is reset and shall not be cancelled by the operation of a public alarm - silencing switch. A separate zone by floor shall be provided for the following types of alarm initiating devices where provided:

- A. Detection devices.
- B. Sprinkler water-flow alarms.
- C. Manual fire alarm boxes.
- D. Each tenant space in multi-tenant occupancies, and
- E. Other approved type of automatic fire detection devices or suppression systems.

907.6.5 is amended to read as follows:

907.6.5 MONITORING. All automatic and manual fire alarm systems shall be monitored by an approved listed central station providing full central station service in accordance with NFPA 72.

907.3.1 is amended to read as follows:

907.3.1 DUCT SMOKE DETECTORS. Duct smoke detectors shall be connected to the building's fire alarm control panel when a fire alarm system is provided. Activation of a duct smoke detector shall initiate a visible and audible fire signal and shut down the individual units. Duct smoke detectors shall not be used as a substitute for required open area detection. Duct smoke detectors shall be required in all air handling units greater than 2000 CFM.

All test switches shall be labeled and installed in a proximate area near the Fire Alarm panel or as determined by the Fire Prevention Code Official. All duct detectors should be labeled in correlation with the HVAC units and clearly marked on the inside ceiling, visible from the floor. All rooftop units will be visibly marked from the roof/scuttle access point.

907.10 is added to read as follows:

907.10 FIRE ALARM SYSTEMS FOR CENTRAL STATION SERVICE. All existing fire alarms which transmit their signals to a central station monitoring service shall meet requirements for central station service as listed in NFPA 72

**SECTION 912
FIRE DEPARTMENT CONNECTIONS**

912.1.1 is added to read as follows:

912.1.1 FIRE DEPARTMENT CONNECTIONS. The location of the fire department connection shall be approved by the fire prevention code official. The fire department connection shall consist of one five inch Storz coupling with a 30 degree elbow mounted between 18 inches and 42 inches above the finished floor.

912.2 is amended to read as follows:

912.2 LOCATION. With respect to hydrants, driveways, buildings and landscaping, fire department connections shall be so located that fire apparatus and hose connected to supply the system will not obstruct access to the buildings for other fire apparatus. Fire department connections shall be located within 100 feet of a fire hydrant at a location approved by the code official.

912.6 is amended to read as follows:

912.6 BACKFLOW PROTECTION. The potable water supply to automatic sprinkler and standpipe systems shall be protected against backflow as required by the International Plumbing Code and The Illinois Plumbing Code.

SECTION 913 FIRE PUMPS

913.4 is amended to read as follows:

913.4 VALVE SUPERVISION. Where provided, the fire pump suction, discharge and bypass valves, and the isolation valves on the backflow prevention device or assembly shall be supervised by a fire alarm system by an approved listed central station providing full central station service in accordance with NFPA 72.

SECTION 1013 EXIT SIGNS

1013.1.2 is added to read as follows:

1011.1.2 FLOOR PROXIMITY EXIT SIGNS. The installation of low-level exit signs to supplement regular exit signs shall be placed in all R-1 & R-2 occupancies. Such exit signs may be approved luminescent, photo luminescent, self-luminous, or self-illuminated types. They are not intended to replace standard exit signs but are designed as a supplementary aid for a building occupant seeking egress in smoke-filled environment at a location that is the last to become obscured

Such signs shall be located near the floor level in addition to those signs required for doors or corridors. The bottom of the sign shall be not less than 10 inches, but not more than 12 inches above the floor. For exit doors, the sign shall be mounted on or adjacent to the door with the nearest edge of the sign within 4 inches of the door frame. Photo luminescent signs may be used in place of externally illuminated signs.

Appendix A is added to read as follows:

APPENDIX A FIRE ALARM PLAN SUBMITTAL CHECKLIST

This checklist is an effort to help provide a uniform approach for the design community and to provide owners and fire alarm designers with complete fire alarm design and submittal package requirements.

When submitting plans for review all plan submittals must include this Fire Alarm Plan Submittal Checklist or they will not be accepted. By completing this checklist and including all of the necessary information requested it is the intent of this document to provide efficient and appropriate turnaround of the plans submitted. It is the responsibility of the installer/designer to assure that all applicable code requirements are followed.

The installation, renovation, addition, and/or maintenance of any fire alarm system shall comply with the following:

IMPORTANT:

No installation work shall be performed until the plans have been reviewed and approved. Expect up to 10 working days for plan reviews per submittal.

CHECKLIST: (All plans submitted must contain the following)

- Proof of Contractor's license to be able to work within the village limits of Coal City, Diamond, Carbon Hill or Grundy County
- Must be certified electrician to install Fire Alarm System, must be licensed to install Fire Alarm Systems.

FIRE ALARM DRAWINGS:

- Must submit Fire Alarm drawings to the Coal City Fire District 35 S. DeWitt Place, Coal City, IL 60451
- **Must submit 3 complete sets of fire alarm drawings, and one on CD in PDF format,** and cut sheet/product information. The scaled drawings must include the following:
 - Title block to include the following information: Property name and address, Alarm Company name and address, date of drawing with space for revision dates, classification of the system per NFPA 72 1.3.1, who drew the drawing, the scale of the drawing, label the drawing as Fire Alarm System Standard or Addressable, Number of pages of the drawing.

- A legend of Fire Alarm System located on one sheet to indicate the type of device installed.
 - A point-to-point wire diagram indicating the number of wires and gauge for each wire run. Include EMT size when appropriate. Include a statement in the installation notes under the symbols legend indicating the type of wire and gauge for each circuit.
 - An on line and riser diagram for all devices, notification circuits, auxiliary circuits, initiating circuits, and circuit designation.
 - Include overall dimension of the building on each floor and square footage. Ceiling heights and ceiling construction must be identified on the drawings.
- Drawings need to be clear, legible and understandable. Drawings must be of a fire alarm design only.

CALCULATIONS

- Wire size, type, and resistance value
- Voltage drop calculations
- Battery calculations (minimum 60 hour battery backup with 5 minutes of alarm)

SPECIFICATION SHEETS

All pertinent information shall be highlighted on the sheet. Please provide cut sheets for all devices installed.

- FACP - Type, Listing, Current Draw
- Batteries – Type, Listing, Current Draw
- Smoke Detector – Type, Configuration, Spacing, Current Draw
- Heat Detector – Type, Configuration, Spacing, Current Draw
- Shunt Trip Heat Detector – Type, Rating, RTI-elevators
- Duct Detectors – Switch located on Fire Alarm panel (reset stations need to be located near the panel)
- Manual Pull Stations – Type, Configuration
- Audible Appliances – Type, Rating, Power Tap
- Alarm Temporal Pattern
- Visual Appliances – Type, Configuration
- Protective Covers – Type, Attenuation
- Water Flow Devices – Type, Configuration
- Supervisory Device – Type, Configuration
- Synchronization Module – Type, Current Draw
- Sequence of operation
- Class and Style of Signaling Line Circuits
- Class and Style of Notification Appliance Circuits

ADDITIONAL SUBMITTAL INFORMATION REQUIRED

- UL listed Remote station
- Graphic Map with initiating device locations
- Measured or ambient sound levels used
- Alarm signal devices shall produce a sound that exceeds the Average Ambient Sound Level Table (NFPA Standard 72)
- A Record of Completion – shall be prepared and submitted at final inspection (Record of completion can be found in Section 1-6.2 in NFPA 72)
- A stamped set of plans and cut sheets approved by the Fire District shall be available at the work-site at all times.

ROUGH INSPECTION

A rough inspection of all fire alarm wiring shall be done by the Coal City Fire Protection District prior to the installation of drywall and/or ceiling materials.

FINAL INSPECTION

No acceptance testing will be conducted prior to completion of construction. A minimum of 2 working days is needed to schedule test.

Final acceptance is subject to Field Inspection.

Re-inspection fees will be charged for re-inspections needed due to incomplete systems and/or failure to follow the above rules.

An appointment is needed to be scheduled to have the final inspection completed. No testing will occur until all communicators are operational and being monitored.

The contractor must provide the Coal City Fire Protection District with a certificate stating that the fire protection systems are installed in full compliance with NFPA standards, IBC/IFC requirements, and that all acceptance tests have been conducted. This certificate must be presented to the Fire Inspector at the time of the final acceptance test for the system.

The contractor must also supply a NFPA 72 worksheet at the time of the fire alarm acceptance test.

Appendix B is added to read as follows:

APPENDIX B SPRINKLER SYSTEM PLAN SUBMITTAL CHECKLIST

This checklist is an effort to help provide a uniform approach for the design community and to provide owners and sprinkler system designers with complete sprinkler system design and submittal package requirements.

When submitting plans for review all plan submittals must include this Sprinkler System Plan Submittal Checklist or they will not be accepted. By completing this checklist and including all of the necessary information requested it is the intent of this document to provide efficient and appropriate turnaround of the plans submitted. It is the responsibility of the installer/designer to assure that all applicable code requirements are followed. All plans that are rejected and resubmitted will have additional fees charged for plan review.

The installation, renovation, addition, and/or maintenance of any sprinkler system shall comply with the following:

IMPORTANT:

No installation work shall be performed until the plans have been reviewed and approved. Expect up to 10 working days for plan reviews per submittal

CHECKLIST: (All plans submitted must contain the following)

- Proof of Contractor's license to be able to work within the Village of Coal City.
- Must be licensed to install Sprinkler Systems with the Illinois Office of the State Fire Marshal.

SPRINKLER SYSTEM DRAWINGS:

- Must submit Sprinkler System drawings to the Coal City Fire District 35 S. DeWitt Place, Coal City, IL 60451.
- **Must submit 3 complete sets of sprinkler systems drawings and one on CD in PDF format** and cut sheet/product information. The scaled drawings must include the following:
 - Title block to include the following information: Property name and address, Sprinkler company name/Contractor name, address and phone number, date of drawing with space for revision dates, classification of the system per NFPA 13, who drew the drawing, and a detailed scope of work.
 - All hydraulic node points shall be shown clearly on the drawing.

- The specific type and quantity of sprinklers shall be provided on every page.
- All ceiling information including soffits, heights, construction type, slope, etc. shall be shown and noted with cross section detailed on the plans
- Specific code sections and storage information shall be provided for all design densities over an Ordinary Group II
- Provide a scaled site plan clearly showing the building fire department connection location and fire hydrant locations.

Drawings need to be clear, legible and understandable. Drawings must be of a sprinkler system design only.

CALCULATIONS

- Hydraulic calculations shall clearly show the friction loss for the backflow preventor and include a graph curve sheet
- Fire hydrant flow test information shall be dated and less than one (1) year old.

SPECIFICATION SHEETS

All pertinent information shall be highlighted on the sheet. Please provide cut sheets for all devices installed.

- All sprinklers, valves, etc shall be included on the cut sheets.

ROUGH INSPECTION

A rough inspection of all sprinkler piping shall be done by the Coal City Fire Protection District prior to the installation of drywall and/or ceiling materials.

TESTS

A flush of the underground water mains must be made prior to the connection to the sprinkler system. All tests must be witnessed by the Coal City Fire Protection District.

All underground and overhead systems and piping should be hydrostatically tested with water at not less than 200 psi for two hours. This test must be witnessed by the Coal City Fire Protection District.

When the system is complete a 2 inch main drain test must be completed and must be witnessed by the Coal City Fire Protection District.

When the system is completed a wet system inspectors test must be completed and the inspectors test report must be provided to the Coal City Fire Protection District.

FINAL INSPECTION

No acceptance testing will be conducted prior to completion of construction. A minimum of 2 working days is needed to schedule test.

Final acceptance is subject to Field Inspection.

Re-inspection fees will be charged for re-inspections needed due to incomplete systems and/or failure to follow the above rules.

An appointment is needed to be scheduled to have the final inspection completed.

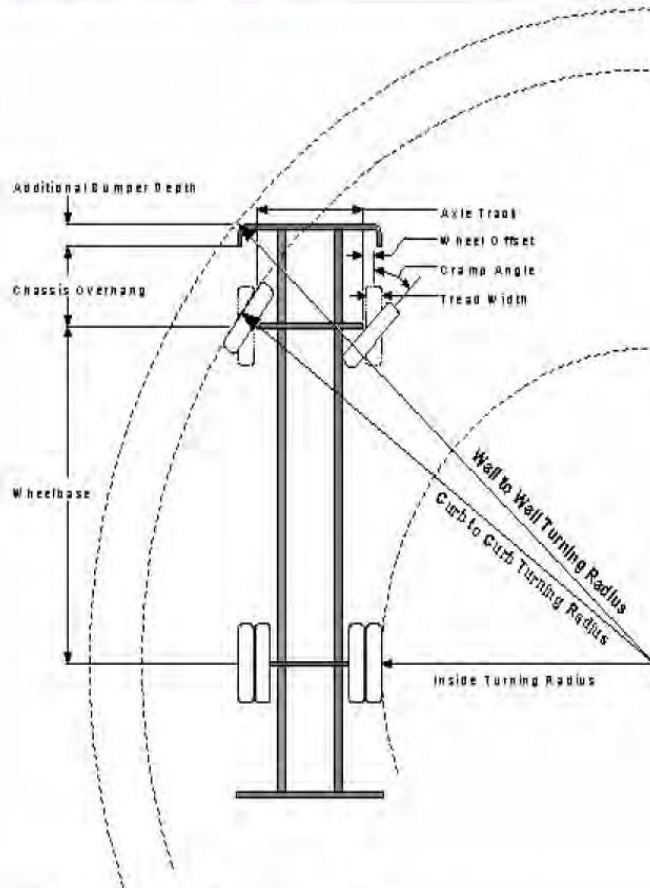
The contractor must provide the Coal City Fire Protection District with a certificate stating that the fire protection systems are installed in full compliance with NFPA standards, IBC/IFC requirements, and that all acceptance tests have been conducted. This certificate must be presented to the Fire Inspector at the time of the final hydrostatic/acceptance test.

APPENDIX C TURNING PERFORMANCE ANALYSIS



Turning Performance Analysis

11/12/2007



Parameters:

Inside Cramp Angle:	45.00 °
Axle Track:	82.92 in.
Wheel Offset:	4.68 in.
Tread Width:	12.60 in.
Chassis Overhang:	65.99 in.
Additional Bumper Depth:	22.00 in.
Front Overhang:	143.60 in.
Wheelbase:	274.00 in.

Calculated Turning Radii:

Inside Turn:	21 ft. 11 in.
Curb to Curb:	38 ft. 5 in.
Wall to Wall:	46 ft. 5 in.

Comments:

Aerial Application

Components	PRIDE #	Description
Front Axle	0018453	Axle, Front, Oshkosh TAK-4, Non Drive, 22,800 lb, DLX/Enf/Qtm/AXT
Front Wheels	0019611	Wheels, Frt, Alum, Alcoa, 22.50" x 12.25" (425/ & 385/)
Front Tires	0031623	Tires, Michelin, 12R22.50 16 ply all position XZE
Chassis	0060025	Lance-2000 Chassis, PAP/SkyArm/Midmount
Front Bumper	0012246	Bumper, 22" extended - all chassis'
Aerial Device	0022160	Aerial, 100' Pierce Platform

Notes:

Actual Inside Cramp Angle may be less due to highly specialized options.

Curb to Curb tuning radius calculated for a 9.00 inch curb.



Turning Performance Analysis

11/12/2007

Definitions:

Inside Cramp Angle	Maximum turning angle of the front inside tire.
Axle Track	King-pin to king-pin distance of the front axle.
Wheel Offset	Offset from the center-line of the wheel to the king-pin.
Tread Width	Width of the tire tread.
Chassis Overhang	Distance from the center-line of the front axle to the front edge of the cab. This does not include the bumper depth.
Additional Bumper Depth	Depth that the bumper assembly adds to the front overhang.
Wheelbase	Distance between the center lines of the vehicle's front and rear axles.
Inside Turning Radius	Radius of the smallest circle around which the vehicle can turn.
Curb to Curb Turning Radius	Radius of the smallest circle inside of which the vehicle's tires can turn. This measurement assumes a curb height of 9 inches.
Wall to Wall Turning Radius	Radius of the smallest circle inside of which the entire vehicle can turn. This measurement takes into account any front overhang due to the chassis, bumper extensions and/or aerial devices.

APPENDIX D
FIRE APPARATUS ACCESS ROADS

Appendix D shall be adopted in its entirety.

Section D102.1 shall be amended to read as follows:

D102 ACCESS AND LOADING. Facilities, buildings or portions of buildings hereafter constructed shall be accessible to fire department apparatus by way of an approved fire apparatus access road with an asphalt, concrete or other approved driving surface capable of supporting the imposed load of fire apparatus weighing at least 85,000 pounds.

Attachment A is added to read as follows:

**ATTACHMENT A
REFERENCED CODES AND STANDARDS**

The codes and standards referenced in this code shall be those that are listed in Chapter 80 and such codes and standards shall be considered part of the requirements of this code to the prescribed extent of each such reference. Where differences occur between the provisions of this code and the referenced standards, the most stringent provision shall apply.

The following NFPA codes and editions listed are to be adopted in their entirety:

NFPA	10	2010
	13	2010
	13R	2010
	13D	2010
	14	2010
	15	2012
	16	2011
	20	2010
	24	2010
	25	2011
	33	2011
	70	2011
	72	2010
	654	2011
	1123	2010
	1124	2012

Attachment B is added to read as follows:

**ATTACHMENT B
FEES**

PLAN REVIEW FEES:

The following schedule of fees shall be imposed for the following services rendered in connection with the review and approval of construction drawings.

ARCHITECTURAL / LIFE SAFETY REVIEWS:	\$.05/sqft
SITE PLAN – NEW DEVELOPMENT: (Preliminary site reviews and preconstruction meetings)	\$150.00
SPRINKLER PLAN REVIEWS, BASE FEE:	
For the first 100 sprinkler heads:	\$650.00
Over 100 sprinkler heads:	\$1.50/head
Fire pump plan review and test fee:	\$250.00
FIRE ALARM PLAN REVIEWS:	
For fire alarm plan reviews on buildings up to 10,000 sq. ft.:	\$350.00
For each additional 10,000 sq. ft.:	\$150.00
Above or Below Ground Storage Tank Plan Review:	\$500.00
Above or below ground storage tank inspection:	\$100.00
COMMERCIAL COOKING SYSTEMS:	\$500.00
SPECIAL HAZARD SYSTEMS:	
HOOD & DUCT – MECHANICAL REVIEW:	\$150.00

INSPECTION AND TESTING:

Commercial Cooking Systems, Special Hazard Systems: \$100.00

SPRINKLER INSTALLATION INSPECTION: \$100.00

FIRE ALARM INSTALLATION INSPECTION: \$100.00

ABOVE / BELOW GROUND STORAGE TANK INSPECTION: \$100.00

WORKING WITHOUT APPROVED PLANS: \$100.00

NO APPROVED PLANS ON THE JOB SITE:

First offense: Verbal Warning

Second offense per day/per occurrence: \$100.00

SPECIAL USE / EVENTS PERMITS:

Includes permit review and pre-event inspections: \$100.00

FIREWORKS:

Display Inspection Fee: \$250.00