

VILLAGE OF DOWNERS GROVE
Report for the Village Council Meeting

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| SUBJECT: | SUBMITTED BY: |
| Adoption of 2015 ICC Building and Fire Codes | Stan Popovich, AICP Director of Community Development |

SYNOPSIS

Ordinances have been prepared adopting the International Code Council's (ICC) 2015 series of building and fire codes.

STRATEGIC PLAN ALIGNMENT

The goals for 2015-2017 include *Exceptional Municipal Services* and *Steward of Financial, Environmental and Neighborhood Sustainability*.

FISCAL IMPACT

N/A

UPDATE & RECOMMENDATION

This item was discussed at the June 13, 2017 Village Council meeting. At the meeting, Commissioner Waldack inquired about building code triggers for additional work. A staff report will be provided on Tuesday.

This item is scheduled for continued discussion at the June 20, 2017 Village Council meeting.

BACKGROUND

The Village's current building codes were adopted in October 2009. The building codes which were adopted at that time were the 2006 edition of the International Code Council (ICC) codes. Staff is proposing that the Village update to the 2015 edition of the ICC's building and fire codes. The specific codes targeted for adoption are:

- *2015 International Residential Code (IRC)* – governs construction of one- and two-family residential buildings and townhomes
- *2015 International Building Code (IBC)* – governs construction of all other use types
- *2015 International Property Maintenance Code (IPMC)* – governs maintenance of all existing buildings and properties
- *2015 International Fire Code (IFC)* – governs construction and maintenance of life safety systems in commercial and multi-family buildings

- *2015 International Fuel Gas Code (IFGC)* - governs installation of fuel-gas piping systems and fuel gas appliances
- *2015 International Mechanical Code (IMC)* - governs mechanical systems utilized to provide control of environmental conditions and related processes within buildings
- *2015 International Swimming Pool and Spa Code (ISPSC)* - governs aquatic recreation facilities, pools and spas

Staff has undertaken an extensive review process to examine the 2015 codes and determine differences between the current 2006 codes and local amendments with the proposed 2015 codes. In exploring the code changes, staff emphasized the following key concepts and strategies:

- Align with Long Range Plan goals
- Create clear and user friendly code requirements
- Reduce the number of local code amendments (42% reduction in the IRC and 55% reduction in IBC)
- Maintain consistency with existing ordinance provisions
- Maintain and provide code provisions that address local construction practices
- Align Village regulations with comparable communities

The principal change between the 2006 and 2015 IRC is the requirement to install fire sprinklers in newly constructed single family house. Some neighboring communities in the immediate area have removed this requirement from their building codes. A list of communities and fire districts in Illinois requiring sprinklers is attached.

Below is a brief summary of the major changes included in the 2015 model codes that are proposed for adoption.

2015 International Residential Code:

- All new one- and two-family dwellings and townhomes are required to have fire sprinklers. This does not affect existing one- and two-family dwellings undergoing renovations or additions.
- All exposed engineered wood floor framing needs to be covered with gypsum board unless sprinklers are provided. This would require a layer of drywall on the ceiling of an unfinished basement.
- When finishing an existing basement an emergency escape window is only required if there is a sleeping room.
- Smoke alarms for remodeling and additions are now allowed to be wirelessly interconnected.
- Smoke alarms required throughout existing dwelling unit as part of a remodeling project are allowed to be battery operated rather than hard-wired for power.

2015 International Building Code:

- Cross-Laminated Timber (CLT) is now permitted within exterior walls required to be of noncombustible construction, much in the same manner as fire-retardant-treated wood is allowed. The CLT must be covered on the exterior side with approved materials. CLT is regulated as Type IV construction, historically reserved for heavy timber.
- Excavation near foundations of adjacent structures now have basic requirements for providing protection to the adjacent structure.
- Certain Institutional occupancies have added sub-classifications to differentiate between the needs of individuals capable of self-preservation and those incapable, especially in situations such as assisted living facilities.

- Relaxed requirements for: Areas of Refuge in stairwells, number of allowable basement stories in podium style buildings, and dead end corridor length. However, developers would still be required to comply with the Illinois Accessibility Code.

2015 International Property Maintenance Code (IPMC)

- No major changes

2015 International Fire Code:

- Remove the restrictive amendments imposing limitations on waste oil and fresh oil storage.
- Require fire sprinklers in all new commercial buildings of all uses. This does not affect the triggers for the installation of fire sprinklers in existing commercial buildings.
- Require periodic evaluation of the fire sprinkler system in warehouse buildings to ensure it is adequately designed for any changes to what is being stored and the manner in which it is stored.
- Limit the use of NFPA 13R fire sprinkler systems (systems designed for residential buildings four stories and below that offer less protection than that provided for commercial structures) to buildings of Types I or II construction. This improves the quality of protection in residential buildings constructed of wood.
- Clarify an existing amendment which requires smoke detectors in residential buildings to be part of the building's fire alarm system.

2015 International Fuel Gas Code (IFGC)

- No major changes

2015 International Mechanical Code (IMC)

- No major changes

2015 International Swimming Pool and Spa Code (ISPSC)

- This is a new separate code book. In the 2006 family of ICC codes, swimming pools and spas were included in the IRC code as an appendix. The 2015 family of ICC codes creates a separate code book for swimming pools and spas.
- No major changes to the technical aspects of the code.

For the first time the National Multi-family Housing Council (NMHC), National Apartment Association, Building Owners and Managers Association, and the National Association of Home Builders are encouraging state and local jurisdictions to consider adopting the 2015 ICC Codes. The NMHC has stated that, "Many of the changes benefit apartment and commercial construction and taken as a whole these positive changes more than offset the changes that might increase construction costs."

On May 24, 2017, staff held an informational meeting regarding the proposed adoption of the 2015 ICC family of codes. Staff invited architects, builders and contractors to attend the meeting which highlighted some of the key technical changes from the existing codes to the 2015 codes. Fourteen individuals attended and participated in the discussion.

ATTACHMENTS

Ordinances

Communities and Jurisdictions requiring sprinklers

Sprinkler background information

Alarm Code-2017

ORDINANCE NO. _____

AN ORDINANCE AMENDING THE ALARM CODE

BE IT ORDAINED by the Village Council of the Village of Downers Grove in DuPage County, Illinois, as follows: (Additions are indicated by **shading**/underline; deletions by ~~strikeout~~):

Section 1. That Section 17.54. is hereby amended to read as follows:**17.54. Definitions.**

(a) *Alarm Company* means any individual, partnership, corporation or other entity selling, leasing, maintaining, servicing, repairing, altering, replacing, moving or installing any alarm system or causing to be sold, leased, maintained, serviced, repaired, altered, replaced, moved or installed any alarm system in or on any building, structure or facility.

(b) *Alarm System* means any assembly of equipment, mechanical or electrical, arranged to signal the occurrence of illegal entry, a fire, or other events requiring urgent attention and to which police, fire or ambulance personnel are expected to respond. Individual, stand alone devices such as vehicle alarms and smoke detectors which emit audible or visual signals primarily designed to alert occupants of premises or those nearby of impending fire, criminal activity, or medical emergency shall not be considered as an alarm system and subject to the restrictions set forth herein.

(c) *Alarm User* means jointly and severally, any person, firm, partnership, association, corporation, company or organization which owns, leases, or occupies the premises or property where an alarm system is maintained.

(d) *Automatic Dialer* means a telephone device or telephone attachment which automatically relays a prerecorded message to report a robbery, burglary, fire or other emergency by means of a telephone line.

(e) *Fire Alarm Coordinator* means the Fire Prevention Division Chief or the employee(s) designated by the Fire Chief as the Fire Alarm Coordinator.

(f) *Security Alarm Coordinator* means the employee designated by the Police Chief as the Security Alarm Coordinator.

(g) *Village System (Board Alarm)* means the Village of Downers Grove alarm receiving and monitoring panel as installed and maintained ~~in the Village Operations Center (VOC)~~ by the Village of Downers Grove. (Ord. No. 2681, § 1)

Section 2. That Section 17.56. is hereby amended to read as follows:**17.56. Connection to Village System--application; obligation of owner.**

(a) Where the Downers Grove Municipal Code requires a property owner to connect to the Village System, the property owner shall complete an application form as provided under this Article, shall obtain and maintain a connection in his or her name, and shall be responsible for compliance with the terms of this Article with regard to all applications, requirements, and fees associated with connection to the Village System.

(b) Where the Downers Grove Municipal Code does not require a property owner to connect to the Village system, the property owner may voluntarily request connection. The property owner shall complete an application form as provided under this Article, shall obtain and maintain a connection in his or her name, and shall be responsible for compliance with regard to all applications, requirements and fees associated with connection to the Village System.

(c) Commercial Alarm Systems shall have a single wireless radio connection, or if connecting via telephone line, it shall have two alarm POTS telephone lines. One line shall be designated solely for the

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Alarm System and cannot be used for any other purpose. The secondary telephone line is for system redundancy and it can be used for voice communications, but it shall not have any devices installed on it such as electronic devices, computers, fax machines or modems.

(d) Residential alarm systems may have a single wireless connection, or if connecting via telephone line, may operate with a single POTS telephone line that can be used for voice communications, but it shall not have any devices installed on it such as electronic devices, computers, fax machines or modems.

Section 3. That Section 17.58. is hereby amended to read as follows:

17.58. Alarm system requirements for connection.

Alarm System connections to the Village System shall be made only after compliance with the following requirements:

- (a) Connection shall not overburden or otherwise interfere with the operation of the Village System.
- (b) The Alarm System shall be installed according to the manufacturer's specifications.
- (c) Alarm Systems shall be compatible, as determined by the Fire or Security Alarm Coordinator, with the Village System
- (d) The Alarm User shall make arrangements with the company installing the Alarm System and with their telephone service provider for a POTS telephone line(s) from the property to the Village System, if necessary.
- (e) For security Alarm Systems, mechanisms shall be adjusted so that an alarm signal will sound for no longer than ten (10) minutes after being activated.
- (f) For fire Alarm Systems, the Alarm User shall purchase and install a standard security lock box in the manner and location prescribed by the Fire Alarm Coordinator and containing keys to all entrances and exits to the building to allow immediate access in emergency situations. All lock boxes shall have reflective striping for visibility. At the request of the Alarm User, the Fire Alarm Coordinator may permit the installation of a security lock box tamper switch connected to a security Alarm System; however, no such connection to the fire Alarm System shall be allowed.
- (g) For fire Alarm Systems, the following standards and guides as adopted by the National Fire Protection Association (NFPA) are adopted by reference as the standards for the installation, maintenance and testing of fire Alarm Systems:
 - (1) NFPA 72 Standard for the Installation, Maintenance and use of Protective Signaling Systems current Edition, as amended.
- (h) The Fire Alarm Coordinator shall inspect the property prior to connection and make a written finding as to whether the above requirements have been met. For fire Alarm Systems required to be installed by the Downers Grove Municipal Code, the inspection shall be a prerequisite for the final occupancy permit given by the building official of the Village for new construction or remodeling of buildings. (Ord. No. 2183, § 1; Ord. No. 2681)

Section 4. That Section 17.59. is hereby amended to read as follows:

17.59. Fire Alarm System Requirements.

Fire alarm systems, when required, shall be installed per the Downers Grove Municipal Code and Village Alarm Code, NFPA 72, the Illinois Accessibility Code and the following as approved by the Fire Code official:

- (a) Audio visual devices are required in all occupancies, in all occupied spaces, and are required to be heard at 15dB over ambient noise levels.
- (b) Visual alarm devices are required in all restrooms.
- (c) ~~Buildings with fire suppression and/or alarm systems installed are required to have a weatherproof audio/visual (24 VDC) device mounted on the exterior of the building in an~~

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~~approved location. Strip malls with individual business shall have a weatherproof audio/visual (24 VDC) device mounted on the exterior of the building for each individual business in an approved location. The audio/visual device shall be adjacent to the fire department connection when provided. This device shall activate in unison with the existing fire suppression or alarm systems.~~

- ~~(d)~~ Air handling systems over 2000 cfm (cubic feet per minute) are required to be equipped with duct smoke detectors which deactivate the HVAC system.
- ~~(ed)~~ Individual duct smoke detectors shall be monitored on a separate zone of the alarm panel OR multiple duct detectors can be monitored on the same zone if a remote LED/test-reset keypad for each individual duct detector is mounted immediately adjacent to the detector. These devices shall be mounted no higher than seven (7) feet off the floor.
- ~~(fe)~~ Smoke detection in any air distribution system shall alarm as a supervisory signal.
- ~~(gf)~~ A secondary power supply minimum capacity of 60 hours or as approved by the code official.
- ~~(hg)~~ All visual alarm devices (strobes) shall synchronize.

Section 5. That Section 17.62. is hereby amended to read as follows:

17.62. Maintenance, testing and alarm verification requirements.

(a) All Alarm Users shall maintain the Alarm System in good working order. All alarm systems that are malfunctioning, in disrepair, or in need of component replacement shall come into Code compliance within thirty (30) days of notification by the Village. Each alarm user whose system has not been brought into Code compliance by the 31st day after notification will be charged a fee as set forth in Administrative Regulation entitled "User-Fee, License and Fine Schedule" per day for each day not in Code compliance.

(b) The Alarm User shall have any fire Alarm System and all devices tested annually by a licensed testing agency or licensed electrical contractor.

(1) Tests under this section shall be conducted according to the standards as set forth in Section 17-58(g).

(2) The results of the testing agency or electrical contractors test shall be in writing, signed by the agency or contractor, and kept on file at the premises where the Alarm System is being used. A copy of the test results shall be submitted to the Village as directed by the Fire Alarm Coordinator in an approved manner through a third party company upon completion of the Alarm System test. Tests shall not be considered completed until the Village receives the written results thereof. If the written results are not received by the Village within thirty (30) days after the end of the applicable testing interval, the Alarm User shall be subject to the additional fee set forth in Section 17-71(b).

(c) Alarm Users shall require their alarm system service provider to verify alarm activations by telephone ~~or electronic means~~ prior to reporting the alarm activation to the Village Operations Dispatch Center. Alarm System service providers shall attempt verification on all Alarm Systems.

(d) It shall be the responsibility of both the Alarm User and the owner of the premises where the Alarm System is located to notify the Village within ten (10) days of a change of ownership, user or keyholder and to provide a telephone number and current address of said person.

(e) It shall be the responsibility of both the Alarm User and the owner of the premises where the Alarm System is located to notify the Village within ten (10) days of a change of telephone number or address. (Ord. No. 2183, § 1; Ord. No. 2681, § 2)

Section 6. That Section 17.66. is hereby amended to read as follows:

17.66. Conducting tests, maintenance or repair work.

Whenever an Alarm User, or agent(s) of the Alarm User, conducts tests, maintenance work, or repair work on any Alarm System connected to the Village System, the Alarm User shall notify the Village

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~~OperationsDispatch~~ Center of that fact prior to conducting such tests or work, and shall notify the ~~Village~~
~~OperationsDispatch~~ Center that such tests or work has been completed immediately after such completion.

Section 7. That Section 17.67. is hereby amended to read as follows:

17.67. False Alarms--negligence.

If the Downers Grove Police or Fire Department responds to a false alarm and it is determined by the Fire or Security Alarm Coordinator that the cause of the false alarm was negligence in failing to contact the ~~Village OperationsDispatch~~ Center as required by Section 17-66, the Alarm User shall be subject to the fee set forth in Section 17-71(f). This determination of the Fire or Security Alarm Coordinator can be appealed pursuant to the procedures in Section 17-65. If an Alarm User is assessed the fee under this section, the alarm shall not be counted toward the accumulation of false alarms subject to further fees in Section 17-71(h) of this Article.

Section 8. That all ordinances or parts of ordinances in conflict with the provisions of this ordinance are hereby repealed.

Section 9. That this ordinance shall be in full force and effect from and after its passage and publication in the manner provided by law.

Mayor

Passed:

Published:

Attest: _____

Village Clerk

Communities and Fire Districts Requiring Sprinklers

| No. | CITY | DATE | COMMERCIAL/RESIDENTIAL SQUARE FEET |
|-----|--|----------------------|---|
| 1 | Long Grove (Municipality) | April, 1988 | 0/13D |
| 2 | Barrington Fire Protection District | September, 1997 | 0/13D |
| 3 | Lake Barrington | December, 1997 | 0/13D |
| 4 | Wheeling | July, 2000 | 0/13D plus manufactured homes |
| 5 | Clarendon Hills | August, 2000 | 2000/13D |
| 6 | Village of Barrington | December, 2000 | 0/13D |
| 7 | Park Ridge | March, 2001 | 0/13D |
| 8 | West Dundee | August, 2001 | 4,000/13D - all 1-2 family new con. |
| 9 | Glenside | 2001 | 13D/3,000 square feet |
| 10 | Hoffman Estates | January, 2002 | 1,000 for all use groups & 13D |
| 11 | Glen Ellyn | March, 2002 | 0/13D |
| 12 | Round Lake Beach | March, 2002 | 0/13D |
| 13 | Streamwood | June, 2002 | 1,000 Commercial/13D |
| 14 | LaGrange Park | Aug-03 | 0/A, E, H, I R1, R2; 2,000/13D |
| 15 | Mount Prospect | June, 2003 | 0/13D + condo conversions & mfg. homes |
| 16 | Berkeley | November, 2003 | A,E,H,P,R,S - 0/13D / M,B,I - 3000 |
| 17 | Rolling Meadows | 2003 | 4,000 square feet |
| 18 | Matteson Fire Department | January, 2004 | 0/13D |
| 19 | Countryside Fire Protection District | March, 2004 | 0/13D |
| 20 | Huntley Fire Protection District | July, 2004 | 0/13D |
| 21 | North Maine Fire Protection District | July, 2004 | 0/13D |
| 22 | Indian Creek (Countryside FPD) | Feb-00 | 0/13D |
| 23 | Skokie | October, 2004 | 5,000/13D |
| 24 | Long Grove Fire Protection District | November, 2004 | 13D |
| 25 | Hickory Hills | January, 2005 | 0/13D/multi-family retrofit |
| 26 | Justice | February, 2005 | 0/13D |
| 27 | Des Plaines | March, 2005 | 0/13D |
| 28 | Libertyville (Municipality) | March, 2005 | 1,000/13D |
| 29 | Sunnycrest FPD (Flossmoor) | January, 2005 | 13D |
| 30 | Bedford Park Fire Department | July, 2005 | 0/13D |
| 31 | Roselle | Dec-08 | 13D |
| 32 | St. Charles/Countryside FPD | August, 2005 | On Hold |
| 33 | Oak Forest | August, 2005 | 0/13D/ +50% Commercial |
| 34 | Lincolnwood | October, 2005 | 5,000/13D |
| 35 | Libertyville Fire Protection District | November, 2005 | 0/13D |
| 36 | Bridgeview | November, 2005 | 0/13D, mfg homes, |
| 37 | River Forest | March, 2006 | 5000/13D + 50 % single-family |
| 38 | Glenwood | June, 2006 | 0/13D + 50% assessed valuation retrofit/ownership changes |
| 39 | Palos Hills | August, 2006 | 0/13D/ Apartment to Condo |
| 40 | Villa Park | August/October, 2006 | (Hold) 1,500/13D/End 2013 |
| 41 | Prospect Heights | December, 2006 | 0/13D |
| 42 | Northbrook | February, 2007 | 5,000/13D plus Townhomes |
| 43 | Bellwood | January, 2007 | 0/13D + 50% Retrofit Apartment to Condo |
| 44 | Lake Bluff | March, 2007 | 0/13D, 75% Additions |
| 45 | Lake Zurich Rural Fire Protection District | April, 2007 | 13D |
| 46 | Lincolnshire/Riverwoods Fire Protection District | May, 2007 | 13D |
| 47 | Orland FPD | 2007 | Unincorporated No Water Supply, 5,000 |
| 48 | Highwood | August, 2007 | 0/13D |
| 49 | Lisle-Woodridge FPD | October, 2007 | 5,000 sq. ft. |
| 50 | Alsip | October, 2007 | 0/13D |
| 51 | Palatine Rural FPD | November, 2007 | 0/13D |
| 52 | Chicago Ridge | December, 2007 | 0/13D |

Communities and Fire Districts Requiring Sprinklers

| | | | |
|-----|-------------------------------------|-----------------|--|
| 53 | Pleasantview FPD | January, 2008 | Single exit subdivision |
| 54 | Country Club Hills | January, 2008 | 0/13D |
| 55 | Park Forest | September, 2008 | 0-13D |
| 56 | Newport Township FPD (Wadsworth) | January, 2009 | 0/13D |
| 57 | Green Oaks | February, 2009 | 13D |
| 58 | Riverside | March, 2009 | 13D |
| 59 | Palos Heights FPD | June, 2009 | 13D |
| 60 | Lake Zurich | September, 2009 | 13D |
| 61 | Palos Fire Protection District | October, 2009 | 13D/5,000† |
| 62 | Crest Hill | December, 2009 | 0 sqft commercial/ all 13D |
| 63 | Normal | January, 2010 | 13D |
| 64 | Burlington Fire Protection District | April, 2010 | 13D |
| 65 | Riverwoods | April, 2010 | 13D |
| 66 | Wilmette | May, 2010 | 13D/Lightweight Construction |
| 67 | Aurora | May, 2010 | 13D/5,000† |
| 68 | Forest Park | May, 2010 | 0 Sq Ft / 13D |
| 69 | St Charles | July, 2010 | 13D effective 2012 |
| 70 | Oak Brook | January, 2011 | 13D |
| 71 | Palos Park | March, 2011 | NFPA 13D, 5,000† |
| 72 | Schaumburg | May, 2011 | 13D, 1,000 Sq Ft, High Rise Retrofit, Apartment to Condo |
| 73 | Central Stickney FPD | June, 2011 | 0/13D, 2009 IFC with Amendments |
| 74 | Glencoe | Jan., 2012 | 0 sq. ft./13D |
| 75 | Flossmoor | March, 2012 | 13D |
| 76 | Norwood Park FPD | April, 2012 | 2009 IRC/ICC /13D/ 1000 Sq.Ft. |
| 77 | Harwood Heights | April, 2012 | 2009 ICC/IRC/13D/1000 Sq.Ft. |
| 78 | Norridge | April, 2012 | 2009 ICC/IRC/13D/1000 Sq.Ft. |
| 79 | South Holland | April, 2012 | 2009 IRC/13D |
| 80 | Manhattan FPD | April, 2012 | 13D |
| 81 | Wood Dale | May, 2012 | 13D |
| 82 | Gurnee | June, 2012 | 0/13D, 2012 IRC |
| 83 | Blue Island | July, 2012 | 13D |
| 84 | Milan | August, 2012 | 13D, 2012 IRC |
| 85 | Vernon Hills | October, 2012 | 1,000 square feet/13D Lightweight Construction/ 2012 IRC All 13D |
| 86 | Elgin | October, 2012 | 2012 IRC/Future Plats |
| 87 | Homewood | October, 2012 | 5,000 sq. ft. |
| 88 | Warren Waukegan FPD | November, 2012 | 0/13D 2012 IRC |
| 89 | Niles | January, 2013 | 13D |
| 90 | Hazelcrest | February, 2013 | 13D |
| 91 | Roselle Fire District | March, 2013 | 13D |
| 92 | Westchester | November, 2013 | 13D |
| 93 | Addison | December, 2013 | 2012 IRC/13D |
| 94 | Riverdale | January, 2014 | 13D |
| 95 | Evanston | February, 2014 | 2012 IRC/13D LSC 101 2012 |
| 96 | Elmwood Park | September, 2014 | 2012 IRC/NFPA 13D |
| 97 | Westmont | October, 2014 | 2012 IRC/NFPA 13D/2016 |
| 98 | Western Springs | October, 2014 | 2012 IRC/13D |
| 99 | Barrington Countryside FPD | October, 2014 | 0/13D 2012 IBC |
| 100 | Brookfield | January, 2015 | 2015 IRC/13D |
| 101 | Oak Park | January, 2015 | 2009 IRC/13D |

Sprinkler Background Information

General Information

- Residential fire sprinklers are designed for life safety, not property protection
- New homes are typically not safer than older homes because new homes tend to be constructed with lightweight materials, have open floor plans so smoke spreads more rapidly and new furnishings are typically synthetic materials
- Since 2009, model building codes have required fire sprinklers in one and two family dwellings
- Some insurance companies offer discounts for fire sprinklers

Sprinkler system costs

Reported costs of residential fire sprinklers in new single family home construction vary depending on the source and region of the country:

- In 2013, the Northern Illinois Fire Sprinkler Advisory Board (NIFSAB) reported that costs averaged \$2.38 per square foot.
- In 2015, the Village of Westmont collected quotes from qualified sprinkler contractors as part of their 1-year grace period procedures. During that year, 14 applicants opted out of installing residential sprinkler systems and submitted quotes. Their data for these homes which ranged in size from 2,841 sq.ft to 5,866 sq.ft is as follows:
 - Cost range (per sq. ft.): \$1.69 - \$3.68
 - Cost range (per system): \$7,400 - \$13,170
- In 2016, the National Association of Homebuilders (NAHB) reported that the average cost per system nationwide was about \$6,000.

What is a complete residential sprinkler system?

Complete systems typically include sprinkler coverage in all habitable rooms, including but not limited to kitchens, family rooms, basements, and bedrooms. Sprinkler protection is not required in small bathrooms, closets, garages, porches, unused attics and crawl spaces and concealed spaces.

Sprinkler system elements are:

- Sprinkler heads
- Supply lines
- Shut-off valves
- Back-flow devices (to protect domestic water)
- Pressure gauge
- Water flow switch and local alarm bell (optional)
- Outside Horn and Strobe (optional)

What happens if there is a fire and the house is equipped with sprinklers?

Sprinklers only respond to heat, not smoke. Unlike in movies, sprinklers do not all activate together; only the sprinkler closest to the fire will activate. In approximately 90% of home fires, the fire is controlled by a single sprinkler head, flowing at 13 gallons per minute.

The intent of a single family sprinkler system is to control the fire, allowing occupants time to escape; complete extinguishment is not the intended purpose of a home sprinkler system. When functioning properly, a home sprinkler system will keep the fire under control and prevent it from spreading. After firefighters arrive, they will perform clean up operations and turn off the water supply to the sprinkler system, to prevent any additional water damage.

Fire and Sprinkler Statistics

Data compiled by the National Fire Incident Reporting System within FEMA identify the following statistics on fires and sprinklers.

- 83% of fire deaths occur in one and two family dwellings
- The risk of dying in a home fire decreases by about 80% when fire sprinklers are present
- The risk of dying in a home fire decreases by about 50% with smoke alarms alone
- In communities which require fire sprinklers (some for at least 15 years) they have documented: 80% fewer civilian deaths, 70% less property damage, and 65% fewer firefighter injuries
- 90% of the time fires are contained by the operation of a single fire sprinkler

History of fires in single family home

In the past five years (July 2012 through July 2017) the Village of Downers Grove has experienced 38 fires in single family homes.

- 17 resulted in damages of \$100,000 or more
- 13 resulted in damages of \$10,000 to \$99,999
- 8 resulted in damages under \$10,000
- 1 fire resulted in a fatality