



Agenda
Village of Arlington Heights
Building Code Review Board
Community Room
33 S. AH Road, Arlington Heights, IL 60005
June 19, 2019
7:00 PM

I. CALL TO ORDER

II. ROLL CALL

III. APPROVAL OF MINUTES

- A. Approval of November 29, 2018 Minutes

IV. REPORTS

V. OLD BUSINESS

VI. NEW BUSINESS

- A. 2018 International Residential Code Update

VII. OTHER BUSINESS

VIII. ADJOURNMENT

Persons with disabilities requiring auxiliary aids or services, such as an American Sign Language interpreter or written materials in accessible formats, should contact David Robb, Disability Services Coordinator, at 33 S. Arlington Heights Road, Arlington Heights, Illinois 60005, (847)368-5793 (Voice), (847)368-5980 (Fax) or drobb@vah.com.



**Building Code Review Board
6/19/2019**

Item: Approval of Minutes - November 29, 2018

Department: Building & Life Safety

ATTACHMENTS:

Description	Type
November 29, 2018 Minutes	Minutes

DRAFT
BUILDING CODE REVIEW BOARD

MINUTES OF A MEETING BEFORE THE
VILLAGE OF ARLINGTON HEIGHTS
BUILDING CODE REVIEW BOARD

November 29, 2018

MEMBERS PRESENT:

Rich Bondarowicz, Chairman
John Carrato
Scott Smith

ADMINISTRATION PRESENT:

Steven Touloumis, Director of Building & Life Safety
Mark Fink, Assistant Building Official
Don Lay, Fire Safety Supervisor
Andrew Larson, Acting Fire Chief
Patty LeVee, Recording Secretary

OTHERS PRESENT:

Eileen Schoeb, OKW Architects – Presbyterian Homes/The Moorings of Arlington Heights
Keith Ginnodo, Kingsley & Ginnodo Architects – 132 W. Northwest Hwy.
Michael and Ellen Para – Owners, 132 W. Northwest Hwy.

SUBJECT:

- Item 1. Variance request from Chapter 23, Section 23-402(f) of the Arlington Heights Municipal Code at The Moorings of Arlington Heights Campus, 811 E. Central Rd.
 - Item 2. Variance request from Chapter 23, Section 903.2.8 and 703.2 of the Arlington Heights Municipal Code at 132 W. Northwest Highway.
 - Item 3. Proposed Modification to Village Code Chapters 23 and 27
-

There being a quorum present, the meeting was called to order at 7:00pm.

APPROVAL OF MINUTES

MR. CARRATO MOTIONED TO APPROVE THE DECEMBER 12, 2017 MINUTES, SECONDED BY MR. SMITH, THE MOTION PASSED UNANIMOUSLY.

NEW BUSINESS

ITEM I – Petitioner: Presbyterian Homes, 811 E. Central Rd.

Ms. Eileen Schoeb, of OKW Architects, representing Presbyterian Homes at The Moorings, stated there is a small shed, which they refer to as a salt barn that is going adjacent to the maintenance area at the Presbyterian Homes Facilities. It is a 328 square foot storage barn for the winter snow

salt removal and in the off season will be used for miscellaneous landscape material. The existing location that they have this stored on their site was back around the lake, adjacent to where the new assistant living and memory care were in place. This is open concrete barrier with a tarp over the top and they would like to protect it. Since it is moving to the maintenance area they want an aesthetically acceptable facade around the front so people cannot see the pile of salt as it sits there.

Ms. Schoeb noted the amendment requires that all buildings need sprinklers in the IBC 2009 Section, in the standard code this building would not require a sprinkler. The shed is very small, it is unheated and has no water source. They are requesting the variation to allow this to be installed without a sprinkler system. The closest it is to any residential building is about 60 feet away.

Mr. Smith mentioned that when coming to this Board seeking relief they offer alternatives. Something they would do to achieve the same effect but in a different way.

Ms. Schoeb responded that this is a very small building, trying to install a sprinkler system with water is actually creating a higher fire risk because they would have to install heat in that space. It is not occupied, it is just storage material. The chances of something occurring in that space would be higher if it was a heated building and they would be doing this to install only one required sprinkler head. If they installed a dry system, it would be expensive and it is a chemical process. Again, they just need one head. The alternative is they are using wood frame system because it is a salt product. It is encased with a concrete barrier to keep the salt out of the way but because of deterioration they want to have the wood product. They are siding this with a hardy fiberboard. The roof is Class A asphalt singled roof and there is an overhead garage door. The materials being stored are non-combustible.

Ms. Schoeb concluded saying in the straight code world, this would not be required to be sprinklered.

Mr. Touloumis stated the Building & Life Safety Department would make the recommendation to waive the sprinklers.

Mr. Lay stated he would support this. It is non-combustible material. The way the code is written, the model code, does not require it to be sprinklered and the only reason that relief is being sought is because of the local amendment that was made when this was passed for the 2009 Code. That amendment required all U Use buildings to have fire sprinklers, which is not required in the Code. **Mr. Lay** has no objection to this variation at all.

Chairman Bondarowicz asked if there were any concerns about the use of this changing. **Mr. Lay** responded that he would not, Presbyterian Homes has been very responsible, we go there on regular fire inspections and we have been there through their projects over the last couple of years. Presbyterian Homes is aware of our concerns and Mr. Lay does not see a change of use

happening. This is being erected for the purpose of holding salt, and it would not be conducive to any other use because it would cause corrosion.

Mr. Touloumis added that even if they were to make a tool shed or store a lawn mower, it still wouldn't change the classification of the building. Due to the small size of this, he does not foresee any way it would ever get the classification change to storage use or something of that nature because of the small size and because of the accessory nature of the building. It would always stay U Use.

MR. CARRATO MOVED TO APPROVE THIS VARIANCE REQUEST TO THE VILLAGE TRUSTEES, SECONDED BY MR. SMITH, THE MOTION WAS APPROVED.

ITEM II. – Petitioner: Keith Ginnodo, 132 W. Northwest Hwy.

Mr. Keith Ginnodo, of Kingsley & Ginnodo Architects, introduced himself as architect for the project at 132 W. Northwest Highway, along with Michael and Ellen Para, the owners of the property. He is seeking two petitions, (1) the elimination of the automatic fire suppression system; and (2) regarding the floor ceiling assembly that calculates to an hour but is not specifically adhering to the UL assembly.

Mr. Ginnodo gave an overview of the project. They are going to build a second floor over an existing masonry building. It is a commercial space that they are going to build a 1350 square foot residence on the top.

Mr. Ginnodo began with Petition 1 stating he did not initially think they would need a sprinkler system. They proceeded assuming it was not necessary as they have a 2nd floor residence with dedicated stairway interior and exterior, it is 12 ½ feet above ground and windows are all egress. He also discovered the existing buildings category in the code and found a compliance alternative method. They decided to try this and see where the building falls in terms of general safety. He noted that it is technically not applicable because **Mr. Touloumis** determined that the sprinkler part of this is a requirement of the code, whether he can demonstrate this or not.

Mr. Ginnodo decided to go through the categories anyway, and explained there are three major set categories -Fire Safety, means of egress and general safety, followed by 19 sub-categories. He explained the process of compliance alternatives, mathematically analyzing the building (height, area, compartmentation, tenant and dwelling unit separations, quarter walls, vertical opening formula, HVAC systems, Fire Alarm, Smoke control, means of egress, etc.). After tabulating scores and comparing to the mandatory safety scores, the most severe shows Fire Safety being the lowest score but still positive by six points. **Mr. Ginnodo** quoted the sections that states: "where the final score of any category equals zero or more, the building is in compliance". This method illustrates that it is a small project and they feel this is a good demonstration for how well the building is going to perform in reality.

Mr. Ginnodo said that on the question of hardship, in general they feel like the site is already very challenged by its boundaries. They have done all they can to make a code compliant and safe building. It is small and there is well over \$550,000 tied up into the construction without consideration of the sprinkler system. Adding the fire suppression system, they would have to upgrade the water main 150 feet over, would have to remove and replace the side walk, fire hydrant, auxiliary valve box, rpz, etc. Estimate of these costs comes out to be \$35,000 to \$50,000. These costs put the economic viability of the project at risk. The hardship is that it seems to put undue burden on viability to build on the site.

Mr. Touloumis commented that the compliance alternative is not used very often. It is part of the Code, but unfortunately the Code section reads a little bit unclearly. In the beginning, it states "Additions- additions shall conform to new construction." You cannot use this for an addition, as **Mr. Ginnodo** pointed out, you cannot even apply the compliance alternative for this type of scenario because the basis is not established using this method for an addition. The Code clearly says follow the new code for an addition. He cannot take into consideration this methodology because it was not designed with an addition as a basis in mind. **Mr. Touloumis** stated he does not support this approach.

Chairman Bondarowicz asked what the use for the building is as well as the zoning. **Mr. Ginnodo** replied that the first floor is currently offices to house attorneys. They are planning to have Michael Para's office in back and Ellen Para's shop in front. Her shop is home goods and apothecary (essential oils, non-toxic skin care etc.) It is a B5, it is central business district.

Mr. Touloumis said the standard code requires all R uses to be sprinklered. The IBC is applicable and IBC requires all R occupancies to be sprinklered. In general, he does not see any way around this.

Mr. Ginnodo said he has talked to **Mr. Touloumis** and understands that code indicates sprinklers are required. He feels it seems like an undue burden and after the exercise thought maybe they are required but they sure are not necessary. One step they took was to increase the fire alarm system from basic to a reportable, monitored system. The quote went from a \$7,000 system to a \$10,000 system in order to put the building in the best possible situation as far as fire detection alarm system goes.

Mr. Carrato reminded that the Board never considers cost as a hardship. Typically when looking for relief, they need to provide something different to provide an equivalent. It looks like **Mr. Touloumis** is saying that is not possible.

Mr. Lay stated there was an alternative available to them. They are quoting a regular NFPA 13 System. That is not required in this particular occupancy. They can put in a 13D System, which goes right off the domestic water and eliminates all of these extra requirements. This really amounts to the same type of system put in townhomes. 13D Systems do not have the exterior connections as 13 Systems do. They do not have the Fire Department connections. These

systems are much smaller, and consist of about 4 or 5 heads that get tapped right into the domestic system.

Chairman Bondarowicz said this is like a typical residential system that you see in many communities.

Mr. Lay continued stating this fire alarm is not required by code, this alarm does not have to be monitored. They would be required to put in an exterior strobe light that would activate if a water flow was detected. It would be entirely up to them to upgrade the alarm, but it is not required and it does not have to be monitored per the Code. The Code and requirement that you would have to meet is the 13D System. The system that they are looking at is above and beyond what is really required. It can be done, but it is not needed.

Chairman Bondarowicz asked **Mr. Ginnodo** if what he has is 158 feet of water service, and said a new water service that would go to the main would be required with the commercial system. Currently it is a 2 inch system, typically it is 1 ½ inch service.

Mr. Carrato noted they need to upgrade the service regardless. **Mr. Ginnodo** responded yes, they are tapping into the existing 2" pipe and not replacing it all the way down.

Mr. Lay stated that if they go with the 13D residential system, it would eliminate all of the excess expense that they are concerned about, and it is a lot more conducive to this type of a project.

Mr. Carrato stated the Building Code Review Board could deny the request and if the Petitioner is meeting the Code, they do not need to come back or the Petitioner, Mr. Ginnodo, could withdraw his request.

Mr. Ginnodo chose to withdraw Petition 1.

Mr. Ginnodo discussed Petition 2. He stated that relief from the requirement of a one hour fire-resistant rating either as listed assembly or as tested and instead accept a variation of UL L570. He indicated the cross section of the drawing basically shows the residence above, and the existing building now mercantile and business. He explained the bar joist going through and showed a comparison of detail. He noted the UL L570, which is a one hour rating assembly. For the suspension system, they do not specify how much space can or should be in between and, similar to the drop in ceiling, would be a more robust metallic system also by USG that basically suspends frame all the way across with maybe two layers of dry wall.

Mr. Ginnodo said this is one way they could do this and comply with the ordinance; however, the downside for the owners is that one of the cool parts of the building going in is the bar joist and looking up and seeing the metal deck that gives a quasi-industrial feel to it. They would have to take that out and feel that is a hardship as it would reduce the value of the building taking the architectural component of the building away.

Mr. Ginnodo said they are proposing instead of having a hung connection between the dry wall and the bottom of the joist, they are leaving clear space and fastening directly to the metal deck two layers of drywall in the appropriate fashion. Below that they keep the metal deck, and instead keep the bar joist system.

Chairman Bondarowicz asked for clarification that the metal deck exists and the dry wall is new. He pointed out this is not a UL rated wall. Mr. Ginnodo agreed and said you cannot classify it but it is really close to the UL L570.

Mr. Touloumis said the only difference between the two and his concerns is where you attach the drywall to the bottom side of something you get a push up from heat or something; whereas when they are attached to the top of something you do not have any back support. With that being said, he believes it is close enough, if enough fasteners were added to facilitate the same type of safety level they would get with the one hour true design and they are very similar. The Department would recommend approving.

Chairman Bondarowicz had brief discussion regarding mold resistance drywall.

MR. SMITH MOVED TO APPROVE PETITION II, SECONDED BY MR. CARRATO, THE MOTION CARRIED.

OLD BUSINESS

Mr. Touloumis discussed the proposed language to our existing code that he presented at the last meeting on December 12, 2017. The reason for the quick change was to try and eliminate coming before this Board for variations on sprinklers for a tool sheds and small utility buildings.

Mr. Touloumis read his points for the substantiation of this, as written in the "Recommendation for Amendments to the Village of Arlington Heights Municipal Code".

Mr. Touloumis next responded to the questions presented to him at the last meeting when this was first presented. Questions and responses being:

1. Is there a size limit on U Buildings? No, the Code does not have any listed size limits on U Buildings. The Code says the U Buildings are accessory in nature. It is not designed as a storage building, which would fall under a different classification.
2. Are there any barns in town that would fall under a U Building? Mr. Touloumis has not been able to discover any barns. There are barns that are on one and two family dwelling properties, but those would not fall under this Use group or the IBC. It wouldn't be applicable.
3. Do commercial garages need sprinklers? Yes, except if they are open parking structures. A great majority of our parking structures in town are open.

4. Can you provide Use group examples of all exempt buildings from sprinklers? The current Code allows (1) exemption from sprinklers to open parking structures (Vail garage, Village Hall garage), (2) Exempt would be open air portions of Group A-5, which again would be open air portions of the race track, the bleachers etc., and (3) Group F-2 is another example and that is factory use for basically non-combustible type materials. This would be if you were making salt or ice or cement blocks or something of that nature.

Mr. Touloumis concluded he is asking the Building Code Review Board to recommend adding the Group U occupancy.

Mr. Lay commented that this has been discussed at length and he wholeheartedly agrees with Mr. Touloumis' summation. It does not make sense, in his opinion, to require a shed to be sprinklered. If it is not a shed, then it is a storage building and that is another issue. These are accessory uses and they are specifically exempt from the model Code. He believes that when this was created it was overlooked and did not seem to make sense.

Mr. Smith asked if the language was exactly the same in both Codes. **Mr. Touloumis** responded it is slightly different but not contextually.

MR. CARRATO MOVED TO APPROVE THESE TWO MODIFICATIONS TO THE VILLAGE CODE CHAPTERS 23 AND 27. SECONDED BY MR. SMITH, THE MOTION CARRIED.

OTHER BUSINESS

Mr. Touloumis explained he had begun making modifications to the Village Ordinance and proposed the procedure he plans to implement on the Code updates.

WITH NO FURTHER BUSINESS, MR. CARRATO MOVED TO ADJOURN, SECONDED BY MR. SMITH, ALL WERE IN FAVOR.

The meeting adjourned at 8:07PM.



**Building Code Review Board
6/19/2019**

Item: 2018 International Residential Code Update Recommendations

Department: Building & Life Safety

ATTACHMENTS:

Description	Type
Recommendations to Existing Chapter 23, Article 3 IRC	Presentation
New Recommendations to Municipal Code Section 23 201 IRC	Presentation
2018 IRC Adoption Language	Presentation
Current Chapter 23 of the Municipal Code	Presentation

Article III will be renumbered as Article II, Section 201. Recommendations will be written as general in nature and the specific language recommendations will be provided in a separate document as the complete rewrite. The original adopting language was left written as is, for the sake of context and will be changed appropriately for the final version.

Article III Regulations and Standards for One- and Two-Family Dwellings; Adoption of the International Residential Code

Section 23-301 Adoption of the International Residential Code for One- and Two-Family Dwellings

- a. There is hereby adopted by reference the 2009 Edition of the International Residential Code for One- and Two-Family Dwellings (IRC), for the purpose of establishing rules and regulations for the construction, alteration, removal, demolition, equipment, use and occupancy, location and maintenance of buildings and structures, except as modified by Section 23-302 of this Article.
- b. The International Residential Code shall:
 1. Regulate the construction of all one- and two-family residential construction where the provisions of this Chapter specifically cover the subject matter in question.
 2. In the event that a detail of the construction or regulation is not covered by the 2009 Edition of the International Residential Code, the provisions of Article IV of this Chapter shall apply.

Section 23-302 Modification by Amendment and Deletion of Various Sections of the International Residential Code. The 2009 Edition of the IRC adopted by this Article is modified for use in the Village by the following amendments, which amendments are given articles and section numbers identical to the IRC. Appendices **G, H, K and M** are specifically

adopted. To the extent any provision of the IRC conflicts with any provision of the Arlington Heights Municipal Code, the Municipal Code provision will apply.

Note: Appendix G is replaced by section R326, H is to be dropped, K to be kept but amendments will be changed, M to be kept.

Chapter 2- Definitions

R201.3 Terms defined in other codes

Add the following text at the end:

Where terms are defined in both the IRC or other ICC codes and the Municipal Code, the definitions in the Municipal Code shall apply.

Recommendation: This section shall be reworded to not have the Municipal Code definitions override IRC definitions. Renumbered as 201.5.

Substantiation: Context is a critical element to a definition and the new language will take that into consideration. (See New Recommendations).

Chapter 3- Building Planning

R301.1 Application

Delete the text and replace with the following:

Buildings and structures and all parts thereof shall be designed by a State of Illinois licensed architect or structural engineer; and shall be constructed, by a licensed contractor or owner who shall be responsible for compliance with the Village Code for construction, to safely support all loads, including dead loads, live loads, roof loads, flood loads, snow loads, wind loads and seismic loads as prescribed by this code.

Recommendation: This amendment to the standard code language shall be eliminated, and leave the standard code language as is written.

Substantiation: The Illinois Architectural Licensing Act defines when buildings are required to be designed by a Licensed Architect. Following these rules provides for consistency and an acceptable level of quality. Our existing amendment requires, as an example, a bathroom remodel to be designed by a licensed architect, which adds unnecessary cost to a minor project.

R301.1.1 Alternative provisions

Delete the first sentence and replace it with the following:

The following standards, where used by the licensed architect or engineer, are also permitted subject to the limitations of this Article and any applicable Village restrictions.

Recommendation: This amendment to the standard code language shall be eliminated, and leave the standard code language as is written.

Substantiation: The Illinois Architectural Licensing Act defines when buildings are required to be designed by a Licensed Architect. Following these rules provides for consistency and an acceptable level of quality. Use of these alternate standards is not common and would likely be required by the State of Illinois that an architect do the design anyways.

Table R301.2(1)

Revise Table R301.2(1) to read as follows:

TABLE R301.2(1) CLIMATIC AND GEOGRAPHIC DESIGN CRITERIA

Gr Sn Lo	Wind Design		Sei De Cat	Subject to Damage From			Wi De Te	I b u l n R	Flo Ha Ch 15 of Vil Co de	Air Fre Ind	Mean Annu Temp NOA Data Wauk
	S p e e d	T o p o g r		Weat herin g	F r o s t L i	Term ite					
M i n 3	M i n 9	N O	C at e g	Sever e	4 2 i n	M o d er	- 40 F	Y E S	No v 6, 20	20 00	47.6° F

NOTE: This table in the 2018 IRC will be populated with the appropriate data.

Figure R301.2(2) Seismic Design Categories - Site Class D

Add the following text at the bottom of figure R301.2(2):

SEISMIC DESIGN CATEGORIES-SITE CLASS D*

* Site Class D shall be assumed in Arlington Heights, but where soil reports indicate worse conditions, Site Class shall be re-evaluated by the Soils Engineer and the Building Official.

Recommendation: Delete this amendment and do not replace.

Substantiation: The language of **R301.2.2.1.1 Alternate determination of seismic design category**, contains the necessary language for dealing with an unknown site class. This amendment is redundant and unnecessary. It will also very likely never be used to increase the Seismic Design Category.

Table R301.5 Minimum Uniformly Distributed Live Loads

Amend Table R301.5 by changing live loads for sleeping rooms from 30 to 40.

Recommendation: Delete this amendment and do not replace.

Substantiation: There is no justification to make this increase.

R302.1 Exterior Walls

Delete Exceptions 1, 3, 4, and 5.

Recommendation: Delete this amendment and do not replace.

Substantiation: There is no justification to delete these exceptions and practical application of the code is difficult without the exceptions.

R302.3 Two-family Dwelling Structures

Delete Exceptions 1 and 2.

Recommendation: Delete this amendment and do not replace.

Substantiation: Allowing alternatives is a fundamental basis of the ICC codes and deleting the exceptions may dissuade someone from installing a fire sprinkler system. Even if Arlington Heights chooses not to require them, persuasion to install them should not be reduced by eliminating possible cost trade-offs.

Table R302.6 Dwelling/Garage Separation

Amend Table R302.6 to read as follows:

Change 1h inch to $\frac{5}{8}$ inch in all rows of Table R302.6.

Add footnote to read as follows:

When any portion of a detached garage is within 10 feet of a dwelling, all four interior walls and the ceiling shall be covered with a minimum of $\frac{5}{8}$ -inch fire-resistance-rated (Type X) gypsum board.

Recommendation: Delete this amendment and do not replace.

Substantiation: There is no justification for this amendment.

R304.2 Other Rooms

Change 70 to 100.

Recommendation: Delete this amendment and do not replace.

Substantiation: There is no justification for this amendment.

R305.1 Minimum Height

Delete the existing language and replace it with the following:

All first floor habitable spaces, hallways, corridors, bathrooms, toilet rooms, laundry rooms, and portions of basements containing such rooms shall have a minimum ceiling height of not less than 8 feet. All second floor rooms and other spaces in the building shall have a clear ceiling height of not less than 7 feet 6 inches.

Exceptions 1 and 2 remain unchanged.

Add the following as Exception 3:

3. Crawl spaces shall have a minimum clear height of 30 inches measured from the slush coat to the bottom of the floor joist or any support beam above.

Recommendation: Delete this amendment and do not replace.

Substantiation: There is no justification for this amendment and it is not in tune with energy conservation or residents wanting to create habitable space in a currently existing unfinished basement.

R305.1.1 Basements

Change 6 feet 8 inches to 7 feet.

In the Exception, change 6 feet 4 inches to 6 feet 8 inches.

Recommendation: Rewrite amendment as:

R305.1.1 Basements.

Delete main subsection (Exception shall remain) and replace with:
Portions of *basements* that do not contain *habitable space* or hallways shall have a ceiling height of 7 feet 2 inches as measured from the top of the concrete floor to the underside of the ceiling joist or floor joists above. Additional floor and/or ceiling finishes, including lay-in tile drop ceilings, shall not reduce this value to less than 7 feet in accordance with R305.1 even if not defined as *habitable space* or hallway.

Substantiation: New construction will require basements to be built with a ceiling height that allows for building it out as habitable space in the future- this adds value to homes and prevents frustration of an owner when they find out they can't (legally) use their basement for habitable space. (See Appendix J Section AJ601.4 Ceiling Height, in New Recommendations to the IRC, for language dealing with existing basements.)

R309.1 Floor Surfaces, Separation of Structures and Minimum Dimensions

Revise R309.1 to read as follows:

- a. Garage floor surface shall be of approved noncombustible construction. The area of the floor used for parking automobiles and vehicles shall be sloped to facilitate the movement of liquids to approved drain or toward the main vehicle entry. The floor surface of the garage shall be a minimum of 6 inches below any adjacent space. In lieu of this requirement, a 6-inch high by 6-inch wide concrete or nonabsorbent curb shall be placed against all common walls.

Recommendation: Delete this amendment and do not replace.

Substantiation: The first two sentences are in the standard code. The next two sentences are confusing and can be read to apply in a manner that is not prudent. For example, it could be interpreted that a detached garage is required to have the floor below the ground outside of the garage; this does not make sense. While it is likely the intent is to assure that an attached garage doesn't have run-off into the house, the language creates confusion as to intent.

- b. There shall be a minimum of a 3 feet wide walkway between the house and any detached garage or other accessory structure.

Recommendation: Delete this amendment and do not replace.

Substantiation: The intent of this section is confusing. Is the intent to keep a detached garage 3 feet away from the house? Or is it to assure there is paved surface between the house and the garage? Also, since the title of this section is Garages and Carports, stating that a walkway is required between the house and 'other accessory structure', such as a shed, can be confusing and misleading; who's going to look for info about a shed under Garages and Carports? Also, is it really intended that if someone builds a shed that they have to have a walkway going to it from the house? Also, what is a walkway?—A concrete sidewalk? Pavers? Stepping stones? Limestone?

(Ord. #13-055)

- c. Any garage with multiple doors or with a garage door width wider than 12 feet shall be considered at least a two-car garage.

The following minimums shall be for newly constructed garages only. These minimums shall not apply to modifications or additions to existing garages, unless the existing interior dimensions are proposed to be reduced. In those cases, the minimums set forth below shall apply.

1. Minimum Interior Garage Dimensions

Number of	Depth of Garage	Width of Garage
1	21 feet 4 inches	12 feet
2	21 feet 4 inches	21 feet
3	21 feet 4 inches	30 feet

2. Minimum Garage Door Sizes

Number of Cars	Door Size to be at least
1	9 feet
2	16 feet or two 8-foot doors
3	16 feet + 8 feet or three 8-foot doors

3. Minimum Ceiling Height:

The minimum ceiling height for a carport, attached garage or detached garage shall be 7 feet 6 inches.

Recommendation: Delete this amendment and do not replace.

Substantiation: 1. This is a 'comfort' code and if wanted by the Village, it belongs in the Zoning Code.

2. There are variations to construction that this language can be difficult to apply. For example, if someone is adding an attached garage to an existing house, does this apply? What about tight side driveways where building a detached garage to these specs would be impractical?

3. As the world becomes more energy conscious, if someone wishes to drive a moped and a smart car, forcing them to build a larger than necessary garage may be viewed as 'too much government' or 'red-tape'.

4. Because this is in the Building Code, it is often overlooked during early design phases by architects. There have been several instances of this which has caused consternation and placed the Village in a position to have to allow for a variance or cancel an entire project at the 11th hour.

d. One side-hinged egress door shall be provided for any detached garage.

Recommendation: Rewrite this amendment as:

Add the following subsection:

R309.6 Exterior walk through door. Enclosed detached garages shall have at least one exterior walk through door which shall be side hinged and provide a clear width of not less than 32 inches where measured between the face of the door and the stop, with the door open 90 degrees (1.57rad). The clear height of the door opening shall be not less than 78 inches (1981mm) measured from the top of the threshold to the bottom of the stop. The door shall not rely on electrical power for operation, and shall be readily openable from the inside without the use of a key or special knowledge or effort.

Substantiation: Assuring there is a walk through door allows for better, quicker access for emergency responders, as well as allowing for someone to get out where there is loss of power to a garage door opener.

R310.2 Window Wells

Add the following after the last sentence:

The window well shall be of galvanized metal or other approved material and shall be bolted to the foundation wall with a minimum of 4 anchor or expansion bolts. The base of the well shall be equipped with a screened drain tied into the drainage system of the foundation with a rigid pipe. The base of the well shall have a minimum of 4 inches of washed stone fill.

Recommendation: Delete the amendment and do not replace.

Substantiation: There are many different designs for window wells which may not require bolting to the foundation wall or a certain type of fill. Drainage is now required in the 2018 IRC so an amendment is not needed for this.

R310.4 Bars, Grilles, Window-well Covers and Screens

Add the following after the last sentence:

Window wells shall be covered with a metal grated cover or clear plastic or translucent fiberglass type cover. The cover shall be capable of supporting a minimum load of 250 lbs. The cover must be removable from the inside without the use of a key, tool, or force greater than that, which is required for normal operation of the emergency escape and rescue opening

Recommendation: Rewrite the amendments as:

R310.4 Bars, grilles, covers, and screens. Replace the existing language with: Where bars, grilles, covers, screens, or similar devices are placed over emergency escape and rescue openings, area wells that serve an emergency escape and rescue opening, and/or window wells that serve an emergency escape and rescue opening, the minimum net clear opening size shall comply with Sections R310.2.1 through R310.2.3, and such devices shall be releasable or removable from the inside without the use of a key, tool, special knowledge, and/or force greater than that required for the normal operation of the emergency escape and rescue opening.

Substantiation: The existing code language does not define a window well or area well as only serving emergency escape and rescue openings; the amendment language clarifies that the minimum size is only intended for those specific area wells and window wells. NOTE- A new amendment requiring all window wells to have a cover is being added as R310.4.1

R311.2 Egress door required

Delete the existing language and replace it with the following:

Not less than two egress doors shall be provided from each dwelling unit. At least one required egress door shall be side-hinged, and shall provide a minimum net clear opening of 3 feet in width and 6 feet 8 inches in height. Egress doors shall be readily openable from the inside of a dwelling without the use of a key or special knowledge or effort.

Recommendation: Delete the amendment and do not replace.

Substantiation: There is no justification for the amendment.

R311.7 Stairways

Add the following text to this Section:

Stairways shall be designed and constructed in accordance with R311.7.1 through R311.7.9.2. Exterior stairways of wood shall be supported at least 2 inches above the finish grade on a concrete slab or piers. The maximum length of unsupported wood treads shall be limited to 3 feet. For stairways greater than 3 feet in width, additional stringer supports shall be provided such that no span exceeds 3 feet.

Recommendation: Delete the amendment and do not replace.

Substantiation: There is no justification for the amendment, plus it is confusing and misleading and could lead to unsafe installations, such as a 1x4 used as a stair tread.

R311.7.9.1 Spiral stairways

Add the following sentence at the beginning of this Section:

Spiral stairways are not permitted for use as the primary egress.

Recommendation: Delete the amendment and do not replace.

Substantiation: There is no justification for the amendment, plus it is confusing. 'Primary egress' is not a defined or used term in the IRC.

R313.1.1 Design and installation

Replace "Section 2904" with "NFPA 13D."

Recommendation: Delete the amendment and do not replace.

Substantiation: This subsection was updated to include either/or both systems so the amendment is not needed.

R313.2 One- and two-family dwellings automatic fire systems

Delete in its entirety.

Recommendation: Rewrite the amendment as:

R313.2 One- and two-family dwellings automatic fire sprinkler systems.

Replace the existing language with:

An automatic residential fire sprinkler system is not required in one- and two-family dwellings, but if installed, shall be done in accordance with R313.2.1.

(The Exception to this subsection remains unchanged).

Substantiation: Newer construction methods reduce the spread of fire adequately enough without the added expense of installation and maintenance, plus there is added risk of damage due to an inadvertent release or system leakage.

R316.5.3 Attics

Delete 3.1, 3.2, 3.3 and 3.4.

Recommendation: Delete the amendment and do not replace.

Substantiation: There is no justification for this amendment.

R316.5.4 Crawl Spaces

Delete 3.1, 3.2, 3.3 and 3.4.

Recommendation: Delete the amendment and do not replace.

Substantiation: There is no justification for this amendment.

R317.1 Location Required

Amend item 2 by deleting everything from "and are less" to the end of the sentence.

Recommendation: Keep the amendment as is.

Substantiation: Final grade elevations are difficult to determine at time of framing inspections; also, concrete/masonry draws water through capillary action, hence will be wet even when the top is above 8 inches.

R317.1.4 Wood Columns

Delete the exceptions.

Recommendation: Keep the amendment as is.

Substantiation: Columns are not allowed in the locations covered by Exception 1 and 2 per local amendment- this just provides clarity. Deck columns are subject to snow piles, etc., hence should remain required to be protected.

R319.1 Address Numbers

Delete this Section in its entirety and replace with the following:

1. New and existing buildings shall be provided with approved addresses. It shall be the duty of the owners of every building in the Village to have placed thereon the assigned numbers above the door which is the principal entrance fronting on the street, or where no street exists, the assigned numbers shall be above or on the principal entrance to the building via an alley, driveway, parking lot, fire lane, or other improved right-of-way. The assigned numbers shall be Arabic numerals at least six inches high and of such size and shape so as to be easily visible from the street, alley, driveway, parking lot, fire lane, or improved right-of-way. The Arabic numerals shall be constructed of a durable material which contrasts with the background upon which the assigned numbers are affixed.

2. The practice of affixing numbers in script or word form is not prohibited; however, the Arabic numerals required herein must be affixed on or over the principal entrance.

3. In any instance where numbers located on the principal entrance of the building are not easily visible and identifiable from the street, alley, driveway, parking lot, fire lane, or other improved right-of-way upon which the principal entrance fronts, the Building and Fire Departments may require a monument, pole or other

such additional numbering signs or placards on or about the building and premises as necessary to ensure that such buildings are easily identifiable from the street, alley, driveway, parking lot, fire lane, or other improved right-of-way.

4. The names of all new buildings and developments shall not include any numerical references in vanity addresses or in identifying the buildings or development name unless the numerical references and name are the property number and actual street address assigned by the

Village.

Recommendation: Leave amendment written as is.

Substantiation: The existing amendment clarifies addressing issues that the standard code doesn't.

Chapter 4 - Foundations

R401.1 Application

Delete the last sentence and the Exceptions.

Recommendation: Modify the amendment to read as:

R401.1 Application.

Delete everything after the second sentence.

Substantiation: The intent is to eliminate the use of wood foundations; both the 3rd and 4th sentence along with the Exceptions (which are between the 3rd and 4th sentences), pertain to use of wood foundations. This rewrite provides the clearer intent.

R401.2 Requirements

Delete the section and replace with the following:

Foundation construction shall be capable of accommodating all loads according to R301 and of transmitting the resulting loads to the supporting soil. Fill soils that support footings and foundations shall be designed, installed and tested in accordance with accepted engineering practice.

- a. All organic material including topsoil and all landscape materials and debris shall be removed prior to the placing of foundations, slabs, raised porches, stoops, or similar construction.
- b. Stoop foundations, the main entry stoop and all porches, terraces, and flights of stairs exceeding three risers shall be supported on engineered foundation.

Recommendation: Delete the amendment and do not replace.

Substantiation: Section 403.1 covers supporting footings on undisturbed natural soil or engineered fill. This amendment is redundant and unnecessary.

R402.1 Wood Foundations

Delete and replace with the following:

Wood foundations are not permitted within the Village

Recommendation: Reword this amendment as:

R402.1 Wood foundations.

Replace the existing language with:

Wood foundation systems shall not be used. Any reference to wood foundation systems, including but not necessarily limited to, footings, fasteners, and/or wood treatment for wood foundation systems contained in this code shall not be used. Where any conflicts may arise, the Building Official is authorized to make a final determination.

Substantiation: Wood foundation systems are very uncommon and it is practically infeasible to properly inspect and monitor the proper installation of such systems which is very likely to lead to premature degradation and potentially severe structural deficiencies. Also, there has been no requests or argument to allow for such systems.

R403.1.1 Minimum Size

Add after the second sentence:

At a minimum, it shall be twice the foundation wall thickness.

Change the third sentence to be 8 inches instead of 6 inches. Add the following new paragraphs:

a. All footings should be designed for a soil bearing capacity of 3,000 psf. Soil bearing capacity shall be verified prior to placement of concrete footings by a licensed engineer.

1. Pier, post and column footings shall have a minimum pad size of not less than 30 inches square by 12 inches thick.

2. Cast in place piers shall be allowed in the construction of exterior decks the elevation of which is not more than 5 feet above grade. The minimum diameter shall be 8 inches with the bottom belled to a diameter of 12 inches.

b. Where approved engineering design is provided to account for soil bearing capacity, trench foundations may be used.

Recommendation: Delete the amendment and do not replace.

Substantiation: There is no justification for this amendment. Also, it is completely inappropriate to demand that footings are designed for a soil bearing capacity of 3,000 psf—footings should be designed to the actual soil capacity. Also, the code has provisions for requiring soils testing and presumption of load-bearing values for soils, so the requirement for a licensed engineer to evaluate this is overkill and ‘red tape’-- this language technically requires the Building Dept. to require a licensed engineer to evaluate the soil for a new deck. Also part a. 2. often misleads people into thinking that deck piers only ever have to be 8 inches belled out to 12 inches (even though that is not what it says).

Table R403.1 Minimum Width of Concrete, Precast or Masonry Footings

Revise the values in Table R403.1 to be not less than 16 inches.

Recommendation: Delete the amendment and do not replace.

Substantiation: There is no justification for this amendment.

R403.3 Frost protected shallow foundation

Delete this section in its entirety and replace with the following: Frost protected shallow foundations are not permitted.

Recommendation: Rewrite amendment as:

R403.3 Frost-protected shallow foundation. Delete this section in its entirety and do not replace.

Substantiation: There are very limited applications for this, and other communities have experienced issues with them when owners change site grading.

R404.1.2 Concrete foundation walls

Delete the last sentence and replace with the following:

Beam pockets shall be not less than 1 inch wider than the beam supported shall be installed to provide a minimum end bearing of 4 inches.

Recommendation: Delete the amendment and do not replace.

Substantiation: There is no justification for this amendment. Allowing a design provided by the IRC and not requiring an architect is a primary goal of the code—reducing ‘red tape’. Information regarding beam pockets and minimum bearing is not appropriate in this Chapter of the code and conflicts with Section 502.6.

R404.3 Wood sill plates

Delete and replace with the following:

Wood sill plates shall be a minimum of 2-inch by 4-inch nominal lumber. Plates shall be shimmed level to provide solid contact with the foundation wall. Shims shall be placed not more than 32 inches on center. Voids underneath shall be filled with approved material to prevent air infiltration and pest infestation.

Recommendation: Delete the amendment and do not replace.

Substantiation: There is no justification for this amendment. The State Energy Code covers air infiltration. Also, reference to other sections of the code was deleted by this amendment and those references need to remain.

R407.1 Wood Column Protection

Delete and replace with the following:

Wood columns are not permitted in below-grade applications.

Recommendation: Rewrite the amendment as:

R407.1 Wood column protection.

Add the following at the end:

Wood columns are not permitted for use below the *grade plane*.

Substantiation: Steel columns typically last longer than wood; wood columns require structural calculations.

R407.3 Structural Requirements

Delete and replace with the following:

The columns shall be restrained to prevent lateral displacement at the bottom and top ends. Steel columns shall not be less than 3-inch-diameter concrete-filled steel pipe standard weight or heavier. Column caps must be bolted or welded to steel girders. Shim columns only at the bottom and for a maximum height of 2 ¼ inches. No loose shims are permitted. Embed in a minimum of 2 inches of concrete or bolt to floor or foundation with a minimum of two ½ inch diameter anchor bolts per base plate. Provide ½ inch thick minimum base plate.

Recommendation: Rewrite the amendment as:

R407.3 Structural requirements.

Add the following to the end of the main paragraph:

Steel columns shall be welded to a ½ inch thick base plate that extends beyond the outside edge of the column to allow for the required installation of a minimum of two ½ inch diameter anchor bolts. The minimum plan view dimension of the base plate shall be 4 inches. A concrete floor shall not be used to prevent lateral displacement of a column.

Substantiation: The amendment provides clarity for column support and lateral displacement not provided by the standard code. The rewritten version eliminates redundant info, such as attachment of the cap to the girder, and unclear language such as shimming columns only at the bottom for a maximum height of 2 ¼ inches. Also added is language that prohibits reliance on the basement concrete to prevent displacement because the column could move while the floor is being poured and/or floors themselves can move/shift in a manner not uniform with the foundation causing unwanted movement of the column.

R408, R408.1 through R408.7 Under-Floor Space

Delete text of Section R408.1 through R408.7, and replace with the following paragraphs as part of revised Section R408:

- a. At a minimum, the clear height of under-floor spaces shall be not less than 30 inches.
- b. All crawl spaces shall have a floor slab consisting of 2 inches of concrete over 2 inches minimum stone over a minimum 6-mil vapor barrier.
- c. Access shall be provided to all under-floor spaces via an interior space. Access openings shall be not less than 30 inches by 30 inches.
- d. Exterior ventilation is not allowed for under-floor space.
- e. Insulation shall be based on the Energy Conservation provisions of this Code.

Recommendation: Delete the amendment and do not replace.

Substantiation: There is no justification for this amendment. Also, the Energy Conservation provisions of this code are to be replaced with the State of Illinois Energy Code.

Recommendation: Delete all existing amendments to Chapter 5, except as noted.

Substantiation: There is no justification for any of these amendments. Particularly, amendment 502.3 is the antithesis of one of the most fundamental purposes of the IRC, which is to allow for simplification of design. Amendment 502.3 requires that all structures with floors, including such things as decks, be designed by a licensed architect or engineer—this should not be the case.

Chapter 5 - Floors

R502.3 Allowable joist spans

Delete and replace with the following:

Spans shall be in accordance with the design by the licensed architect or engineer, but in no case shall joist dimensions be less than 2 x 8.

R502.3.1

Delete and replace with the following:

For all Tables, in this chapter of the IRC, the minimum floor joist shall be 2 x 8.

R502.6.2 Joist framing

Delete and replace with the following:

Joists framing into the side of a wood girder, steel beam, masonry wall, or concrete foundation wall shall be supported by approved framing anchors.

R502.7.1 Bridging

Change 2 inches by 12 inches in the first sentence to 2 x 8 or larger.

Recommendation: Rewrite amendment as:

R502.7.1 Bridging.

Replace 12 (inches) with 6.

Substantiation: Field experience shows severe twisting of floor joists of smaller dimensions occurs.

R504 Pressure Preservatively Treated-Wood Floors (On Ground)

Delete this entire section and replace with the following:

Wood floors on ground/grade are not permitted.

R506.1 General

Change 3.5 inches in the first sentence to 4 inches.

Recommendation: Leave amendment written as is. (With editorial change of 3.5 written as 3 ½).

Substantiation: Field experience has shown early degradation of slabs less than 4 inches thick.

R506.2 Site Preparation

Add at the end of the first paragraph:

Basements shall be pumped and kept dry at least 24 hours before the floor is to be placed.

R506.2.2 Base

Delete the Exception.

Recommendation: Delete all existing amendments to Chapter 6.

Substantiation: There is no justification for any of these amendments. Particularly, amendments 602.7, 606.1.1, and 611.1 are the antithesis of one of the most fundamental purposes of the IRC, which is to allow for simplification of design. Also, requiring no greater than 16" spacing of studs is not aligned with Green construction and Energy Conservation practices.

Chapter 6 - Wall Construction R602.3 Design and Construction

Add the following after the last sentence:

Balloon framing construction shall not be permitted in the Village.

Figure R602.3(1) Typical Wall, Floor and Roof Framing

Delete the drawing for Balloon Framing Construction.

R602.3.2 Top plate

Delete the Exception.

R602.4 Interior load-bearing walls

Add at the end:

Wood frame bearing walls are not permitted in basements.

R602.5 Interior non-bearing walls

Delete the first sentence and replace it with the following:

Interior nonbearing walls shall be constructed with a minimum of 2x4 studs spaced a maximum of 16 inches on center.

R602.7 Headers

Delete and replace with the following:

Header spans shall be designed by a licensed architect or engineer and shall not be less than the requirements of Tables R502.5(1) and R502.5(2).

R602.7.2 Headers in Non-bearing walls

Delete and replace with the following:

Openings exceeding three feet shall have a minimum of two 2x4 studs laid on edge.

Openings less than three feet may have one 2x4 stud laid flat.

R606.1.1 Professional registration not required

Delete in its entirety.

R611.1 General

Delete the second sentence.

Recommendation: Delete all existing amendments to Chapter 7.

Substantiation: There is no justification for any of these amendments.

Chapter 7 - Wall Covering

Table R702.3.5 Minimum Thickness and Application of Gypsum Board

Delete data for rows corresponding to a single layer of $\frac{5}{8}$ inches thickness of gypsum board.

Add footnote f to read as follows:

f. For the interior finish of an exterior building envelope assembly; the gypsum board shall (at a minimum) be $\frac{5}{8}$ inch thick. Gypsum board shall be taped and finished to at least a 'level one' in unoccupied spaces and 'level three' in occupied spaces, as specified by the US Gypsum Association document GA-214-07.

R703.2 Water-resistive barrier

Delete all exceptions.

R703.3.1 Panel siding

Add the following at the end:

All panels shall contain an approved rated siding grade mark.

R703.7.3 Lintels

Add the following after the last sentence:

All shop-primed steel lintels that are left exposed to the weather shall have a finish coat of paint applied.

R703.7.4.3 Mortar or grout fill

Delete in its entirety.

R703.7.6 Weepholes

Add the following at the end (delete the period and continue the sentence):

, including at head and sill flashing of windows. A vermin-proof barrier to prevent pests and rodents from entering the wall cavity without inhibiting the flow of moisture is required.

Recommendation: Except as noted, delete all existing amendments to Chapter 8.

Substantiation: There is no justification for any of these amendments.

Chapter 8 - Roof-Ceiling Construction

R801.2 Requirements

Add the following at the end:

Roof and ceiling construction shall be designed by a licensed architect or engineer of record.

R801.3 Roof drainage

Delete the following text:

In areas where expansive or collapsible soils are known to exist,

Recommendation: Keep this amendment as written.

Substantiation: We do not want water draining off a roof uncontrolled to the ground.

R802.3 Framing details

Change ridge board from 1-inch to 2-inch.

Recommendation: Rewrite this amendment as:

R802.3 Ridge. Replace 1 (inch) with 2.

Substantiation: Field experience has shown that 1" nominal ridge boards splinter and split when fastening rafters to them.

R802.3.1 Ceiling joist and rafter connections

Change the dimensions for the collar ties in the last paragraph from 1-inch by 4-inch to 2-inch by 4-inch.

R802.11.1 Uplift Resistance

Delete the first sentence and replace it with the following:

Roof assemblies shall have roof rafters or trusses attached to their supporting wall assemblies by connections capable of providing the resistance required in Table R802.11.

Add the following at the end of the second paragraph:

At a minimum, tie down clips installed in accordance with the manufacturer's requirements shall be provided at all truss and rafter ends bearing on outside wall plates to tie the roof framing to the wall framing with a continuous load path designed to transmit the uplift forces from the rafter or truss ties to the foundation.

R803.2.2 Allowable spans

Add the following sentence at the end:

Sheathing clip supports shall be used when framing centers exceed 16 inches on-center.

R806.2 Minimum area

Delete the last sentence.

Recommendation: Delete all existing amendments to Chapter 9.

Substantiation: 903.4 is unnecessary as the requirement for controlled water from a roof is already required by Section R801.3. There is no justification to require a Class C label. Existing roofs may not be able to meet the requirements of R806 without redesigning the roof—the Village should not make people redesign their roofs to put a new covering on it.

Chapter 9 - Roof Assemblies

R903.4 Roof drainage

Add a second sentence to read as follows:

Where roofs are sloped to drain over roof edges, gutters and downspouts are required.

After the last sentence, add the following:

Gutters and downspouts shall comply with the following requirements:

1. Gutters and downspouts shall be installed on all dwelling units unless omission is specifically permitted by the Code Official.
2. Downspouts shall not be connected to the sanitary sewer system or to the footing drain tile system. All outlets shall discharge into the front or rear yards only through an open splash-block or as otherwise permitted by the Code Official.
3. Acceptable materials include the following:
 - i. 16 ounce, hard, cornice tempered copper.
 - ii. 26 gauge galvanized sheet metal with a 1.25 ounce total weight per square foot zinc coating.
 - iii. Aluminum with a minimum gauge of 0.019.
 - iv. Plastic, vinyl or other material as permitted by the Code Official.

R905.2.4 Asphalt Shingles

Add the following sentence:

Asphalt shingles shall be of a Class C label or better.

R907.1 Roof Recovering

Add the following sentence:

When recovering or replacing an existing roof, the roof shall be ventilated in accordance with the requirements of R806 for new roofs.

Recommendation: Delete all existing amendments to Chapter 10.

Substantiation: There is no justification for any of these amendments. Also, the State Energy Code adequately covers the requirements for determining the thermal envelope of a building, so language pertaining to insulation is redundant, unnecessary, and potentially conflicting.

Chapter 10 - Chimneys and Fireplaces R1004.1 General requirements for factory-built fireplaces

Add the following at the end:

Fire-blocking shall be provided in accordance with R1003.19. When the enclosing chase is located on an outside wall or adjacent to an unheated area, it shall be insulated in the same manner as the adjacent walls. Combustible framing within the enclosure, except the supporting floor construction, shall then be covered with 5/8 inch minimum drywall, taped and sealed.

R1004.2 Hearth extensions

Add the following at the end:

Units without a sealed firebox shall have hearth extensions of not less than 3/8 inch thick stone, tile, or other approved non-combustible material, and shall comply with R1001.10.

R1004.4 Unvented gas log heaters

Delete and replace with the following:

Unvented gas log heaters are not permitted.

R1005.1 General requirements for factory-built chimneys

Add the following at the end:

Fire-blocking shall be provided in accordance with R1003.19. When the enclosing chase is located on an outside wall or adjacent to an unheated area, it shall be insulated in the same manner as the adjacent wall. Combustible framing within the enclosure, except the supporting floor construction, shall then be covered with 1/2 inch minimum drywall, taped and sealed.

Chapter 11 - Energy Efficiency

Delete this Chapter in its entirety and refer to Article X, Regulations and Standards for Energy Conservation and Sound Control Measures.

Recommendation: Delete this amendment and rewrite as:

Delete Chapter 11 in its entirety.

Substantiation: The State of Illinois Energy Code does not allow for modifications to it for residential applications. Also, Article VII (which is improperly referenced as Article X) Section 23-704 is, at least partially, modifying energy code requirements under the guise of 'sound control' which is disingenuous and confusing, not to mention it being most often overlooked by design professionals and contractors because it is not grouped with the IRC amendments. There is no justification for any of these amendments, plus it is practically impossible to field determine actual STC and IIC.

Recommendation: Delete all existing amendments to Chapter 14.

Substantiation: There is no justification for any of these amendments. Particularly, adding sprinkler protection for furnaces and boilers poses many practical installation and maintenance problems. Also, the amendment does not specify a standard by which the sprinkler is to be installed to, which leads to inconsistent interpretations, and makes it difficult for designers.

Chapter 14-Heating and Cooling Equipment

M1401.1 Installation

Add the following at the end:

Systems shall be arranged so that the circulating air from one dwelling unit does not discharge into another dwelling unit.

Add the following at the end:

In houses that are not fully sprinklered, fire sprinkler protection shall be provided for furnaces and boilers. Sprinkler head type and temperature rating shall be dependent upon room configuration and ambient room temperature. Sprinkler head temperature rating shall be not less than 212 degrees Fahrenheit nor greater than 286 degrees Fahrenheit. Water supply to the sprinkler head(s) may be fed from a branch of the domestic water supply in compliance with the Code.

M1408.5 Installation

Delete 3 and replace it with the following:

3. Floor furnaces shall be installed not closer than 6 inches to the ground. The lower six inches of the furnace shall be sealed to prevent water entry.

M1411.3 Condensate Disposal

Add the following at the end:

Condensate pumps shall be prohibited in new construction.

M1411.3.2

Add the following at the end:

The maximum length for such drain pipes shall be 15 feet.

M1413.1 General

Delete and replace with the following:

Evaporative cooling equipment is prohibited.

Recommendation: Delete all existing amendments to Chapter 16.

Substantiation: There is no justification for any of these amendments, though it is noted that a variation to 1602.1 Return air, will be presented as a new amendment.

Chapter 16 - Duct Systems M1601.1.1 Above-ground Duct Systems

Delete paragraph 7 and replace it with the following:

7. For flexible duct work and connectors:
 - 7.1 Flexible air ducts shall be limited to 8 feet in length.
 - 7.2 Flexible air connectors shall be limited to 8 feet in length.

M1601.4.5 Duct Installation

Add the following new paragraphs:

4. All duct work installed in an attic shall be insulated. All metal supply duct work installed in a ventilated crawl space or other non-conditioned space shall be insulated. Insulation shall be a minimum 2-inch, $\frac{1}{2}$ pound density blanket, or 1-inch thick, $\frac{1}{2}$ pound density liner.
5. When non-metallic ducts or other approved insulating or lining materials are used, the minimum thermal conductance value of the material shall be 0.23 at 75 degrees Fahrenheit.
6. Where duct liner has been interrupted, a duct covering of equal thermal performance shall be installed.
7. Service openings shall not be concealed by duct coverings unless the exact location of the opening is properly labeled.
8. All ducts which operate at temperatures in excess of 120 degrees Fahrenheit shall have sufficient thermal insulation to limit the exposed surface temperature to 120 degrees Fahrenheit, and a vapor barrier shall not be required.

M1602.1 Return Air

Add the following at the end:

All ducted cold air return inlets shall be located both high and low on walls, except in areas listed as a prohibited source in Section M1602.2. Each return inlet register shall have operable louvers.

M1602.2 Prohibited Sources

Delete item 4 and replace with the following:

4. A closet, bathroom, toilet room, kitchen, garage, mechanical room, boiler room, furnace room, unconditioned spaces (including cellars, cavity walls, attics, under-floor space) or from another dwelling unit.

**Chapter 18 - Chimneys and Vents M1803.4 Connection to
Fireplace Flue**

Delete Section M1803.4 and replace with the following:

Connection of appliances to chimney flues serving fireplaces is prohibited.

Recommendation: Delete this amendment and do not replace.

Substantiation: There is no justification for this amendment.

Chapter 21 - Hydronic Piping

M2103.1 Piping Materials

Delete the following materials:

standard weight steel pipe, copper tubing, chlorinated polyvinyl chloride (CPVC), polybutylene

Add the following at the end:

Only the above mentioned piping materials shall be used for Table M2101.1.

Recommendation: Delete this amendment and do not replace.

Substantiation: There is no justification for this amendment.

Chapter 22 - Special Piping and Storage Systems

M2201.3 Underground tanks

Delete Section M2201.3 and replace with the following:

Underground tanks are prohibited.

Recommendation: Delete this amendment and do not replace.

Substantiation: There is no justification for this amendment.

Recommendation: Delete all existing amendments to Chapter 24.

Substantiation: There is no justification for any of these amendments.

Chapter 24 - Fuel Gas

G2406.2 Prohibited Locations

Add the following as 6:

No appliance shall be located under stairways used as a means of egress.

G2407.11 Combustion air ducts

Delete the Exception in paragraph 1.

G2426.7 Protection Against Physical Damage

Add the following at the end:

Portions of vents which extend through occupied spaces shall be protected to prevent damage to the vent.

Chapters 25 to 33 Plumbing

Delete all of Chapters 25 through 33 and replace with the following:

The applicable provisions of the Plumbing Regulations in the Municipal Code shall establish the general scope of the plumbing system and equipment requirements for One- and Two-Family Dwelling structures.

Recommendation: Rewrite amendment to Chapters 25 to 33 as:

Except as noted in a. below, delete Chapter 25 in its entirety.

a. Section P2503.7 shall remain in effect only as referenced by Section P2904.8.1, list item number 8.

Except as noted in a. below, delete Chapter 26 in its entirety.

a. Section P2603.5 shall remain in effect only as referenced by Section P2904.2.3, but subsection 2603.5.1 is deleted.

Delete Chapter 27 in its entirety.

Delete Chapter 28 in its entirety.

Except as noted in a. below, delete Chapter 29 in its entirety.

a. Section P2904 shall remain in effect.

Delete Chapter 30 in its entirety.

Delete Chapter 31 in its entirety.

Delete Chapter 32 in its entirety.

Substantiation: All 'plumbing' as regulated by the State of Illinois is being removed from the IRC, but there is language within these Chapters of the IRC that are not, at least solely, 'plumbing' as regulated by the State, hence are being kept. Of particular note is Section P2904 which regulates the installation of fire sprinkler systems—while fire sprinklers are being recommended as not required, if someone chooses to install them, it is important to have an adopted standard by which they are to be installed. Chapter 33 pertains to subsoil drainage which is not a 'plumbing' system, hence being kept. (See New Recommendations for plumbing scope.)

Chapters 34 to 43 Electrical

Delete all of Chapters 34 through 43 and replace with the following:

The applicable provisions of the Electrical Regulations in the Municipal Code shall establish the general scope of the electrical system and equipment requirements for One- and Two-Family Dwelling structures.

Recommendation: Rewrite amendment as:

Delete Chapters 34 through 43 in their entirety.

Substantiation: While the language of this section comes directly from the NEC, the potential for inconsistencies exist with the restructuring done in the IRC, as well as there being potential for something not carried over from the NEC to the IRC that may need to be used. In short, sticking to one book makes things easier and reduces potential for errors and different interpretations. (See New Recommendations for electrical requirements).

Chapter 44 - Referenced Standards

GGA Gypsum Association

Add the following row:

GA 214-07 Recommended Levels of Gypsum Board FinishTable R702.3.5

Recommendation: Delete this amendment and do not replace.

Substantiation: The amendment to Table R702.3.5 is being eliminated and this reference relates to that amendment.

Appendix G AG103.2 Above-ground pools and on-ground pools

Replace ANSI/NSPI-4 with ANSI/APSP-4-2007.

AG108.1 General

Replace ANSI/NSPI-4-99 standard for above-ground/on-ground residential swimming pools with ANSI/APSP-4-2007 standard for above-ground/on-ground residential swimming pools

Recommendation: Delete this amendment and do not replace.

Substantiation: Pool installations are now referenced by IRC Section R326. Appendix G covers a different topic. There is also no need to update the ANSI code referenced standard.

Appendix K

AK101.1 General

Revise to read as follows:

- a. Every exterior wall of a dwelling that is part of the building's thermal envelope shall be designed and constructed to reduce the transmission of sound as provided for in Article III.
- b. Every exterior wall of a dwelling that is part of the building's thermal envelope shall be designed and constructed to reduce the transmission of sound as provided for in Article III.
- c. All components of the building's exterior envelope shall be designed and constructed in accordance with the provisions of the IRC as amended, to reduce the transmission of noise into every habitable livable dwelling space.
- d. Wall and floor-ceiling assemblies separating dwelling units including those separating adjacent townhouse units shall provide air-borne sound insulation for walls, and both air-borne and impact sound insulation for floor-ceiling assemblies.

Recommendation: Rewrite this amendment as:

AK101.1 General.

Add the following sentence to the end:

Walls and floor-ceiling assemblies within the same dwelling unit are not required to meet sound transmission ratings.

Substantiation: This clarifies intent which would otherwise be subject to different interpretations based on the language structure being inconsistent from Section AK102 and Section AK103- i.e., AK103 specifically defines the area between dwelling units as where it is applicable, but Section AK102 does not and could be interpreted as it is intended that all walls and floors, including those in the same dwelling unit, are required to meet the STC rating.

Requiring sound transmission ratings on exterior walls is practically impossible to enforce. Also, the State Energy Code is going to require insulation which will serve adequately for sound transmission. Also, a. and b. are repeated language. Also, c. is subject to a wide range of interpretation and really serves no purpose that wasn't covered by a. (and b.). Lastly, d. is standard code language which will remain.

AK102.1 General

Revise as follows:

Change Sound Transmission Class (STC) rating of 45 to: Sound
Transmission Class (STC) rating of 55

Recommendation: Delete this amendment and do not replace.

Substantiation: There is no justification for this amendment.

AK1 03.1 General

Revise as follows:

Change Impact Insulation Class (IIC) rating of not less than 45 to: Impact
Insulation Class (IIC) rating of not less than 55

Recommendation: Delete this amendment and do not replace.

Substantiation: There is no justification for this amendment.

Recommendations to the Municipal Code Section 23-201b- Amendments to the 2018 IRC and Appendices.

The following recommendations are new recommendations that do not relate to any existing ordinance language. Not highlighted language is added where needed to provide context for the highlighted language.

Municipal Code Chapter 23- Building Construction & Property Maintenance Standards,
Article II- Regulations and Standards for One- and Two-Family Dwellings,
Section 23-201- Adoption of the 2018 International Residential Code and Appendices for One- and Two-Family Dwellings

a. There is hereby adopted by reference the 2018 International Residential Code (IRC), published by the International Code Council, Inc. and specifically includes Appendices J, K, M, and O, except as modified by Section 23-201 b of this Article.

Substantiation: Appendix J is needed to deal with existing construction. Appendix O covers vehicular gates.

i. The First Printing: August 2017 was utilized in the adoption of this code and modifications. Any future errata of a formatting or clarifying nature shall be considered as part of this code. Future errata and/or printing changes of a contextual nature shall have their applicability determined by the Director of the Building & Life Safety Department.

Substantiation: As future errata and printing versions are published, there is potential for conflicting information from the first printed version. This language clarifies that the Building Official is authorized to make the decision regarding intent and applicability in the event of a conflict.

b. The IRC adopted by this Article is modified for use in the Village by the following amendments. The following Code sections shall be referenced in place of the corresponding 2018 IRC sections.

Chapter 1

R101.1 Title.

Insert 'The Village of Arlington Heights' as [NAME OF JURISDICTION].

R101.2 Scope.

Delete the entire Exception.

Substantiation: These types of occupancies should be left to conform to the IBC, particularly because any existing house won't have a fire sprinkler system, and any new house being built will not be being built with the intent of any of these uses.

R101.2 Scope.

Add the following to the end of the paragraph:

Where this code does not cover the provision of an installation, the 2018 International Building Code (IBC) shall be used, but the IBC shall not be used to otherwise circumvent administrative or technical requirements of this code.

Substantiation: Clarifies that if someone builds a house using 'commercial' methods, that the IBC shall be used. Also clarifies that someone cannot use rules from the IBC to override the IRC requirements—someone tried to do this pertaining to a shed installation where the IBC allowed for a closer setback.

R101.2.1 Plumbing scope.

Add this section to read as follows:

Plumbing shall be done in accordance with Municipal Code Chapter 23 Article X. Any reference in this code to plumbing as defined in Municipal Code Chapter 23 Article X, cross references to or from other sections of this code to plumbing as defined in Municipal Code Chapter 23 Article X, and/or definitions of plumbing related items as defined in Municipal Code Chapter 23 Article X shall not be applicable, but sections of Part VII of this code that are specifically adopted, that are not regulated by Municipal Code Chapter 23 Article X shall be applicable.

Substantiation: Intended to be 'catchall' language saying that plumbing (as defined by the State of Illinois) shall be done in accordance with the State Code and not the IRC. But also clarifies that items under the 'Plumbing' section of the IRC, which are not defined as 'plumbing' by the State, shall be applicable (where we specifically adopt it). Trying to catch every cross-reference to sections of the code that may be defined as 'plumbing' is difficult and this language helps eliminate potential loopholes.

101.2.2 Electrical scope.

Add this section to read as follows:

Electrical installations shall be done in accordance with Municipal Code Chapter 23 Article VI.

Substantiation: The electrical section of the IRC is being deleted (explained below). This establishes where/how electrical is regulated.

101.2.3 Energy conservation scope.

Add this section to read as follows:

Energy Conservation shall be done in accordance with Municipal Code Chapter 23 Article XII.

Substantiation: The energy section of the IRC is being deleted (explained below). This establishes where/how energy is regulated.

101.2.4 Antennas and earth stations.

Add this section to read as follows:

Antennas and earth stations shall be installed in accordance with Municipal Code Chapter 23 Article XVII.

Substantiation: The IRC does not contain specific rules for antennas and earth stations. This establishes where/how they are regulated.

R105.1 Work exempt from permit.

Delete the following list items:

Building:

List items 1, 2, 3, 4, 5, and 10.

Substantiation: The Village should regulate these items and require a permit for them.

1. Detached accessory structures, such as sheds, are regulated by zoning and need to be reviewed. Additionally, there has been a recent history of poorly constructed sheds- the Building Dept. believes it is important to do a review regarding the structural elements so as to avoid complete reworking after a failed inspection.
2. Fences are regulated by the zoning code, and have historically been required to get a permit anyways, so this change is just setting the code to reality.
3. We don't want people installing retaining walls without them being reviewed.
4. While very uncommon, if someone did want to install a 5000 gallon water tank in their yard, it would be prudent to review it for location if nothing else.
5. Sidewalks and driveways have historically been required to get a permit, so this change is just setting the code to reality.
10. All decks should be required to obtain a permit for zoning and structural review.

Electrical:
List item 2.

Substantiation: The Village should regulate these items and require a permit for them.

1. One of the most common electrical violations is improperly wired receptacles. Permits should be obtained so an inspection is done.

Plumbing:
List items 1 and 2.

Substantiation: These items are removed so as to avoid any conflict with the State of Illinois Plumbing Code.

Modify the following list items:

Building:
List item 6 shall read as follows: Painting, papering, tiling, carpeting, countertops, kitchen or bathroom upper cabinets, cabinets in rooms other than kitchens or bathrooms, exterior siding and gutters, and roof coverings.

Substantiation: This list is modified to be more precise and practical as well as consistent with reality. Also since there is practical difficulty in a Village inspector inspecting a roof installation's critical elements, a permit should not be required so as to not mislead residents in regards to what they should expect from the Village.

Upper cabinets most often don't lead to code issues, but base cabinets most often do.

Siding and gutters has not required a permit, so this language is just setting code to reality.

Electric:

List item 3 shall read as follows: Replacement of non-circuit breaker type overcurrent devices.

Substantiation: Replacing fuses should not require a permit (because this is analogous to flipping back on a circuit breaker). But the replacement of circuit breakers potentially involves moving them into a different location in the panel which can be very dangerous by causing the grounded conductor (neutral) to be overloaded, overheat, and cause a fire.

105.3 Application for permit.

Add the following language after the first sentence: Where required by the Building Official, plans shall be submitted for plan review and approved prior to the submittal of application(s) for permits.

Substantiation: The Village may consider requiring plans to be submitted for review before permits are applied for. This language clarifies that this is allowed.

Add the following subsection:

105.10 Safeguards during construction.

All construction shall conform to Chapter 33 of the IBC as referenced by municipal code section 23-301.

109.1.1 Foundation inspection.

Delete the existing text of the subsection and replace with:

109.1.1 Required inspections.

All inspections required by the Village shall be requested by the permit holder and shall be approved in accordance with subsection R109.4

Substantiation: The existing code language structure of listing some of the types of inspections, then adding a catchall that says 'anything else required by the Building Official' is often misinterpreted and leads to misunderstandings. This amendment helps clear up that confusion by just telling people that they have to check with the Village.

109.1.2 Plumbing, mechanical, gas and electrical system inspection.
Delete the entire subsection.

Substantiation: All inspections will be required by Section 109.1.1

109.1.3 Floodplain inspections.
Delete the entire subsection.

Substantiation: All inspections will be required by Section 109.1.1

109.1.4 Frame and masonry inspection.
Delete the entire subsection.

Substantiation: All inspections will be required by Section 109.1.1

109.1.5 Other inspections.
Delete the entire subsection.

Substantiation: All inspections will be required by Section 109.1.1

109.1.5.1 Fire-resistance-rated construction inspection.
Delete the entire subsection.

Substantiation: All inspections will be required by Section 109.1.1

109.1.6 Final inspection.
Delete the entire subsection.

Substantiation: All inspections will be required by Section 109.1.1

109.1.6.1 Elevation documentation.

Delete the entire subsection.

Substantiation: All inspections will be required by Section 109.1.1

110.3 Certificate issued.

Delete list items number 3, 5, and 8.

Substantiation: Number 3-Properties may be owned by a company or partners with multiple addresses, owners' addresses may change, and this is private information that may not want to be shared. Number 5- COs may be issued for change of use which involves no work- the phrase 'compliance with this code' can be misleading. Number 8- This information serves no practical purpose. If a house is built with a sprinkler system that is not required, and subsequently the system is decommissioned, the CO could be misinterpreted.

Section R112 Board of Appeals

Delete this section in its entirety.

Substantiation: The Village does not have a Board of Appeals, hence this section is eliminated.

Chapter 2

Add the following Section:

R201.5 Terms defined in the IRC or other ICC codes and the Municipal Code. Where terms are defined in both the IRC or other ICC codes and the Municipal Code, the meaning shall be interpreted as the context implies. The Director of the Building & Life Safety Department is authorized to make the determination of such meaning where conflicts may arise.

Substantiation: This is an updated version of an existing amendment. The existing amendment stated that the Municipal Code definition always trumps the adopted code definition which could be problematic depending on circumstances. This update allows for the practical, intended application of a definition and gives the Building Official the authority to make that determination.

Chapter 3

Table R301.2(1) Climatic and Geographic Design Criteria

Delete the Manual J Design Criteria table.

Substantiation: This part of the table is being eliminated to avoid potential conflicts with the State of Illinois Energy Code.

R302.13 Fire protection of floors.

Delete this section in its entirety including Exceptions.

Substantiation: This is an attempt to force the fire sprinkler agenda. There is no evidence or history of firemen falling through a residential floor that was built with 2x8s. Practically applying this code is difficult at best and is likely to create other hazards such as hidden shut-off valves, undetected leaks, and less smoke collection area in the event of a fire below.

302.14 Combustible insulation clearance.

Delete the last sentence.

Substantiation: This is regulated by the State of Illinois Energy Code.

Add the following subsection:

310.4.1 Required covers. Window wells shall be covered with a cover that allows light through, doesn't allow the passage of a 4 inch diameter sphere, and has a minimum rating of 250 pounds.

Substantiation: Uncovered window wells create an obvious degree of danger that is easily remedied with this amendment.

Chapter 4

R403.1 General. Remove the following language from the first sentence.

crushed stone footings, wood foundations,

Substantiation: It is recommended to not use these types of footings due to concerns of long-term structural integrity.

R403.1 General. Add the following language to the end of the paragraph.

Also, concrete stairways with three or more risers placed as a single structure which serve the primary dwelling shall be provided with a footing in accordance with this section.

Substantiation: The code is silent on this type of structure, so this clarifies the requirements that have been historically enforced and should be kept as there is much field evidence of movement of these structures which creates tripping hazards (and looks bad as well). The language also clarifies that this is intended for a single structure only, and not intended for a series of concrete sidewalks. NOTE- The allowance for elevation differences in R311.3.1 and R311.3.2 will not be considered a riser.

R403.1 General. Add the following Exception to this section.

Exception: Storage sheds that are 100 square feet or less are not required to be supported on a footing.

Substantiation: The code is silent on this type of structure, so this clarifies the requirements that have been historically enforced and should be kept as there is no good reason for it.

R403.4.1 Crushed stone footings. Remove this section in its entirety and do not replace.

Substantiation: It is recommended to not use this type of footing due to concerns of long-term structural integrity.

R404.1.5.3 Pier and curtain wall foundations. Remove this section in its entirety and do not replace.

Substantiation: It is recommended to not use this type of foundation system. It is not common in residential construction and it's not likely we would see someone try to use it anyways.

R407.3 Structural requirements.
Delete the Exception to R407.3.

Substantiation: It's safer to provide restraint for lateral displacement and there will be very few, if any, projects where this situation occurs anyways.

Chapter 5

R507.3.2 Minimum depth. Delete Exceptions 1 and 2, and replace Exception 1 with:

1. Free-standing decks that are not directly accessible from a door of the primary building need not be provided with footings that extend below the frost line.

Substantiation: Field experience has shown that movement of free-standing decks, stairs, and similar occurs and can create a tripping hazard when placed adjacent to buildings. Requiring a footing for decks below the frost line will reduce the potential for differential movement relative to the building, thus reducing potential for this hazard. Decks that do not serve the primary structure, e.g., deck in the middle of a yard, may still be built without the expense of frost protected footings.

Chapter 6

Table R602.3(5) Size, Height and Spacing of Wood Studs. Add footnote d. to read:

In kitchens, butler pantries, and similar areas where upper cabinetry will be or is likely to be installed, an adequate means shall be installed for support of such cabinetry. Gypsum board or lath and plaster shall not be considered adequate support.

Add footnote d. to all spacing dimensions greater than 16 inches.

Substantiation: If 24 inch spacing is used for studs, there is often inadequate support for cabinetry that holds heavy dishes, glasses, etc. This amendment allows for requiring 16 inch spacing in certain areas, yet allowing other areas of less concern to use 24 inch spacing which is in tune with green and energy conscious construction.

Table R602.3(5) Size, Height and Spacing of Wood Studs. Add footnote e. to read:

Newly constructed walls which will contain plumbing drain, waste, and/or vent lines that are installed horizontally through the wall studs, shall be built with a minimum stud size of 2x6.

Add footnote e. to the table title.

Substantiation: It is a very common problem that 2x4 studs are bored and/or notched over the allowable amount to accommodate plumbing DWV piping. Methods for providing repairs to these studs are practically difficult, if not often impossible, to install. The difference in cost is negligible to increase the stud size and is recouped by not adding extra labor and materials for remedies, not to mention project delays due to failed inspections.

R602.10 Wall bracing. Delete the existing language and replace with: Primary buildings and accessory buildings that shelter automobiles shall be braced using the continuously sheathed wood structural panel method (CS-WSP) listed in Table R602.10.4 in accordance with this section or shall be designed by a State of Illinois licensed Structural Engineer. Other buildings shall be braced in accordance with this section or, when applicable, Section R602.12.

Substantiation: Continuously sheathed wood structural panel is the de facto method used in Chicagoland for building wood frame homes, (probably because it is the simplest yet most reliant method in terms of achieving a safe, reliable, and compliant installation), hence this amendment is going to have no real impact on builders/homeowners. What it does do is assure that if a builder wants to veer from this method, that plans are carefully and clearly designed to help assure structural integrity. The general quality and professionalism of the carpentry trade has been on a decline and using only one empirically known reliable method promotes construction quality and timely project completion.

Table R602.10.4 Bracing Methods. Replace 3/8" with 1/2" for the minimum thickness of bracing method continuously sheathed wood structural panel.

Substantiation: Continuously sheathed wood structural panels of less than 1/2" thickness have been observed to be more likely to experience warping, nail head pull through, and general damage from construction site operations. A minimum of 1/2" assures a minimum quality level for the Village, plus it also the most commonly used size in Chicagoland already so it will not be a change from current construction practice.

Chapter 8

R801.3 Roof drainage.

Insert the following after the word *dwelling*s:
and accessory structures with a single roof plane that exceeds 100 square feet

Substantiation: This amendment is intended to require detached garages to have gutters, but not sheds or other smaller, similar types of accessory structures. For example, A 20x20 garage with hip roof will exceed 100 sq. ft. on a single roof plane, but a 10 x 15 shed with a gable roof won't.

R803.2.2.1 Allowable Thickness. Wood structural panels used as roof sheathing for new construction and/or new additions of primary buildings and/or accessory buildings that shelter automobiles shall be a minimum of 5/8" thick.

Substantiation: Using 5/8" plywood for roofs reduces potential for errors that are very difficult to remedy after the roof covering has been installed. The additional price per 4x8 sheet is small at under \$2.00.

Chapter 16

Add this section:

M1602.4 Return air inlets. Unless approved by the Building Official in writing, non-central return air inlets shall be installed both high and low in each room where return inlets are installed.

Substantiation: Because HVAC systems are never 'designed' for homes, and due to the fact that ACCA Manuals are fairly complex, and ACCA Manual T is not a directly referenced standard from the IRC, this amendment allows for enforcement of a practical and low cost way to assure a new home or addition has an increased likelihood of 'good' space conditioning in every room. There have been numerous examples of contractors installing supply and return openings very close to one another, or furniture blocking the returns which leads to 'poor' space conditioning.

Appendix J

AJ301.1.2 Plumbing materials and supplies.

Delete this section in its entirety.

Substantiation: This is removed to avoid potential conflict with the State of Illinois Plumbing Code.

AJ301.2 Water closets.

Delete this section in its entirety.

Substantiation: This is removed to avoid potential conflict with the State of Illinois Plumbing Code.

AJ301.3 Electrical.

Delete this section in its entirety.

Substantiation: This language can be confusing and interpreted in many ways. Also, it may conflict with municipal code section 23-205 which will adopt the 2017 NEC and be applicable to all electrical installations. Note- The electrical section of the IRC is being eliminated.

AJ501.5 Electrical equipment and wiring.

Delete the existing text of this section in its entirety, including all subsections, and replace with:

AJ501.5 Specific work types.

AJ501.5.1 Kitchen remodels. Where base cabinets are removed to facilitate a kitchen remodel, the following items must be brought into compliance as noted:

1. Receptacle outlets in the kitchen shall comply with the 2017 National Electric Code sections 210.52(B) and (C).

2. The kitchen sink shall be vented in compliance with the State of Illinois Plumbing Code.

3. Exhaust vents must be terminated to the exterior of the structure.

Exception: The Building Official may waive these requirements where there is practical difficulty in achieving compliance.

Substantiation: AJ501.5 is being repurposed to cover some practical, common field issues with the intent of assuring a quality and safe installation, particularly with systems that are difficult to analyze when the transfer of a property occurs. The amendments are intended to be of a 'scoping' nature, not technical, and this structuring will allow for easy updates for other types of work. The electrical items are being removed to avoid potential conflict with municipal code section 23-601 which will adopt the 2017 NEC.

AJ501.5.1 is added to cover specifics related to a kitchen remodel. People (quite often flippers), will attempt to 'remodel' a kitchen by updating cabinets and making it appear 'new', all while leaving outdated systems in place. This could be viewed as a deceptive practice, and often new homeowners having problems with their new kitchen will wonder how the Village could have approved it this way. The removal of base cabinets is a good threshold by which to require that systems directly related to the kitchen are modernized as well.

AJ601.4 Ceiling height.

Delete the existing text of this section in its entirety and replace with:

For buildings that contain *basements* without *habitable space* and/or hallways with ceiling heights not in compliance with this code for new construction, when an application is submitted to convert the basement to habitable space, the Building Official may grant approval upon review of the project and determination that there are other approved safety features of the space to offset the reduction in ceiling height, but in no case shall a ceiling below 6 feet 7 inches be allowed for use as *habitable space*. Where lay-in tile drop

ceilings are installed, the determined ceiling height shall be measured from the finished floor to the bottom side of the ceiling grid.

For buildings that contain basements with habitable space where the existing ceiling height does not conform with this code for new construction, when an application is submitted to remodel the basement habitable area, the application may be approved if:

a. The remodel will increase the ceiling height to be compliant with this code for new construction.

b. The Building Official grants approval upon review of the project and determination that there are other approved safety features of the space to offset a reduction of a non-compliant ceiling height in conformance with the first paragraph of this section.

c. Historical records show that the basement ceiling height as exists was previously approved by the Building Official and the remodel plans do not further reduce the ceiling height.

Substantiation: This amendment allows for better and more practical control over existing basement ceiling heights, as well as being slightly less restrictive than current code. It also provides decision making power to the Building Official.

Municipal Code Chapter 23- Building Construction & Property Maintenance Standards,
Article II- Regulations and Standards for One- and Two-Family Dwellings,
Section 23-201- Adoption of the 2018 International Residential Code and Appendices for One- and
Two-Family Dwellings

a. There is hereby adopted by reference the 2018 International Residential Code (IRC), published by the International Code Council, Inc. and specifically includes Appendices J, K, M, and O, except as modified by Section 23-201 b of this Article.

i. The First Printing: August 2017 was utilized in the adoption of this code and modifications. Any future errata of a formatting or clarifying nature shall be considered as part of this code. Future errata and/or printing changes of a contextual nature shall have their applicability determined by the Director of the Building & Life Safety Department.

b. The IRC adopted by this Article is modified for use in the Village by the following amendments. The following Code sections shall be referenced in place of the corresponding 2018 IRC sections.

R101.1 Title.

Insert 'The Village of Arlington Heights' as [NAME OF JURISDICTION].

R101.2 Scope.

Add the following to the end of the paragraph:

Where this code does not cover the provision of an installation, the 2018 International Building Code shall be used, but the IBC shall not be used to otherwise circumvent administrative or technical requirements of this code.

R101.2 Scope.

Delete the entire Exception.

R101.2.1 Plumbing scope.

Add this section to read as follows:

Plumbing shall be done in accordance with Municipal Code Chapter 23 Article X. Any reference in this code to plumbing as defined in Municipal Code Chapter 23 Article X, cross references to or from other sections of this code to plumbing as defined in Municipal Code Chapter 23 Article X, and/or definitions of plumbing related items as defined in Municipal Code Chapter 23 Article X shall not be applicable, but sections of Part VII of this code that are specifically adopted, that are not regulated by Municipal Code Chapter 23 Article X shall be applicable.

R101.2.2 Electrical scope.

Add this section to read as follows:

Electrical installations shall be done in accordance with Municipal Code Chapter 23 Article VI.

R101.2.3 Energy conservation scope.

Add this section to read as follows:

Energy Conservation shall be done in accordance with Municipal Code Chapter 23 Article XII.

R101.2.4 Antennas and earth stations.

Add this section to read as follows:

Antennas and earth stations shall be installed in accordance with Municipal Code Chapter 23 Article XVII.

R105.1 Work exempt from permit.

Delete the following list items:

Building:

List items 1, 2, 3, 4, 5, and 10.

Electrical:

List item 2.

Plumbing:

List items 1 and 2.

Modify the following list items:

Building:

List item 6 shall read as follows: Painting, papering, tiling, carpeting, countertops, kitchen or bathroom upper cabinets, cabinets in rooms other than kitchens or bathrooms, exterior siding and gutters, and roof coverings.

Electric:

List item 3 shall read as follows: Replacement of non-circuit breaker type overcurrent devices.

R105.3 Application for permit.

Add the following language after the first sentence: Where required by the Building Official, plans shall be submitted for plan review and approved prior to the submittal of application(s) for permits.

Add the following subsection:

105.10 Safeguards during construction.

All construction shall conform to Chapter 33 of the IBC as referenced by municipal code section 23-301.

R109.1.1 Foundation inspection.

Delete the entire subsection and replace with:

R109.1.1 Required inspections.

All inspections required by the Village shall be requested by the permit holder and shall be approved in accordance with subsection R109.4

R109.1.2 Plumbing, mechanical, gas and electrical system inspection.

Delete the entire subsection.

R109.1.3 Floodplain inspections.

Delete the entire subsection.

R109.1.4 Frame and masonry inspection.

Delete the entire subsection.

R109.1.5 Other inspections.

Delete the entire subsection.

R109.1.5.1 Fire-resistance-rated construction inspection.

Delete the entire subsection.

R109.1.6 Final inspection.

Delete the entire subsection.

R109.1.6.1 Elevation documentation.

Delete the entire subsection.

R110.3 Certificate issued.

Delete list items number 3, 5, and 8.

Section R112 Board of Appeals

Delete this section in its entirety.

Add the following Section:

R201.5 Terms defined in the IRC or other ICC codes and the Municipal Code. Where terms are defined in both the IRC or other ICC codes and the Municipal Code, the meaning shall be interpreted as the context implies. The Director of the Building & Life Safety Department is authorized to make the determination of such meaning where conflicts may arise.

Table R301.2(1) Climatic and Geographic Design Criteria

Insert the following values corresponding to the listed criteria:

Ground Snow Load- 25 psf

Wind Design:

Speed(mph)..... 115

Topographic effects.....No

Special wind region.....No

Windborne debris zone.....No

Seismic Design Category.....A

Subject To Damage From:

Weathering.....Severe

Frost Line Depth.....42 inches

Termite.....Moderate to Heavy

Winter Design Temp.....-4° F

Ice Barrier Underlayment Required.....Yes

Flood Hazards..... a. November 6, 2000;

b. August 19, 2008;

c. August 19, 2008 (all panels) Panel Numbers—

0044J, 0063J, 0064J, 0182J, 0184J, 0192J, 0201J, 0202J, 0203J, 0204J, 0211J, 0212J.

Air Freezing Index.....2000

Mean Annual Temp..... 47.6° (Waukegan 4 WSW station)

Table R301.2(1) Climatic and Geographic Design Criteria

Delete the Manual J Design Criteria table.

R302.13 Fire protection of floors.

Delete this section in its entirety including Exceptions.

R302.14 Combustible insulation clearance.

Delete the last sentence.

R305.1.1 Basements.

Delete main subsection (Exception shall remain) and replace with:

Portions of *basements* that do not contain *habitable space* or hallways shall have a ceiling height of 7 feet 2 inches as measured from the top of the concrete floor to the underside of the ceiling or floor joists above. Additional floor and/or ceiling finishes shall not reduce this value to less than 7 feet in accordance with R305.1 even if not defined as *habitable space* or hallway.

Add the following subsection:

R309.6 Exterior walk through door. Enclosed detached garages shall have at least one exterior walk through door which shall be side hinged and provide a clear width of not less than 32 inches where measured between the face of the door and the stop, with the door open 90 degrees (1.57rad). The clear height of the door opening shall be not less than 78 inches (1981mm) measured from the top of the threshold to the bottom of the stop. The door shall not rely on electrical power for operation, and shall be readily openable from the inside without the use of a key or special knowledge or effort.

R310.4 Bars, grilles, covers, and screens. Replace the existing language with:

Where bars, grilles, covers, screens, or similar devices are placed over emergency escape and rescue openings, area wells that serve an emergency escape and rescue opening, and/or window wells that serve an emergency escape and rescue opening, the minimum net clear opening size shall comply with Sections R310.2.1 through R310.2.3, and such devices shall be releasable or removable from the inside without the use of a key, tool, special knowledge, and/or force greater than that required for the normal operation of the emergency escape and rescue opening.

Add the following subsection:

R310.4.1 Required covers. Window wells shall be covered with a cover that allows light through, doesn't allow the passage of a 4 inch diameter sphere, and has a minimum rating of 250 pounds.

R313.2 One- and two-family dwellings automatic fire sprinkler systems.

Replace the existing language with:

An automatic residential fire sprinkler system is not required in one- and two-family dwellings, but if installed, shall be done in accordance with R313.2.1.

(The Exception to this subsection remains unchanged).

R319.1 Address Numbers

Delete this Section in its entirety and replace with the following:

1. New and existing buildings shall be provided with approved addresses. It shall be the duty of the owners of every building in the Village to have placed thereon the assigned numbers above the door which is the principal entrance fronting on the street, or where no street exists, the assigned numbers shall be above or on the principal entrance to the building via an alley, driveway, parking lot, fire lane, or other improved right-of-way. The assigned numbers shall be Arabic numerals at least six inches high and of such size and shape so as to be easily visible from the street, alley, driveway, parking lot, fire lane, or improved right-of-way. The Arabic numerals shall be constructed of a durable material which contrasts with the background upon which the assigned numbers are affixed.

2. The practice of affixing numbers in script or word form is not prohibited; however, the Arabic numerals required herein must be affixed on or over the principal entrance.

3. In any instance where numbers located on the principal entrance of the building are not easily visible and identifiable from the street, alley, driveway, parking lot, fire lane, or other improved right-of-way upon which the principal entrance fronts, the Building and Fire Departments may require a monument, pole or other such additional numbering signs or placards on or about the building and premises as necessary to ensure that such buildings are easily identifiable from the street, alley, driveway, parking lot, fire lane, or other improved right-of-way.

4. The names of all new buildings and developments shall not include any numerical references in vanity addresses or in identifying the buildings or development name unless the numerical references and name are the property number and actual street address assigned by the Village.

R401.1 Application.

Delete everything after the second sentence.

R402.1 Wood foundations.

Replace the existing language with:

Wood foundation systems shall not be used. Any reference to wood foundation systems, including but not necessarily limited to, footings, fasteners, and/or wood treatment for wood foundation systems contained in this code shall not be used. Where any conflicts may arise, the Building Official is authorized to make a final determination.

R403.1 General. Remove the following language from the first sentence.

crushed stone footings, wood foundations,

R403.1 General. Add the following language to the end of the paragraph.

Also, concrete stairways with three or more risers placed as a single structure which serve the primary dwelling shall be provided with a footing in accordance with this section.

R403.1 General. Add the following Exception to this section.

Exception: Storage sheds that are 100 square feet or less are not required to be supported on a footing.

R403.3 Frost-protected shallow foundations. Remove this section in its entirety and do not replace.

R403.4.1 Crushed stone footings. Remove this section in its entirety and do not replace.

R404.1.5.3 Pier and curtain wall foundations. Remove this section in its entirety and do not replace.

R407.3 Structural requirements.

Add the following to the end of the main paragraph:

Steel columns shall be welded to a ½ inch thick base plate that extends beyond the outside edge of the column to allow for the required installation of a minimum of two ½ inch diameter anchor bolts. The minimum plan view dimension of the base plate shall be 4 inches. A concrete floor shall not be used to prevent lateral displacement of a column.

R407.3 Structural requirements.

Delete the Exception to R407.3.

R506.1 General

Change 3 ½ inches in the first sentence to 4 inches.

R507.3.2 Minimum depth. Delete Exceptions 1 and 2, and replace Exception 1 with:

1. Free-standing decks that are not directly accessible from a door of the primary building need not be provided with footings that extend below the frost line.

Table R602.3(5) Size, Height and Spacing of Wood Studs. Add footnote d. to read:

In kitchens, butler pantries, and similar areas where upper cabinetry will be or is likely to be installed, an adequate means shall be installed for support of such cabinetry. Gypsum board, lath and plaster, and/or stud spacing greater than 16 inches shall not be considered adequate support.

Add footnote d. to all spacing dimensions greater than 16 inches.

Table R602.3(5) Size, Height and Spacing of Wood Studs. Add footnote e. to read:

Newly constructed walls which will contain plumbing drain, waste, and/or vent lines that are installed horizontally through the wall studs, shall be built with a minimum stud size of 2x6.

Add footnote e. to the table title.

R602.10 Wall bracing. Delete the existing language and replace with:

Primary buildings and accessory buildings that shelter automobiles shall be braced using the continuously sheathed wood structural panel method (CS-WSP) listed in Table R602.10.4 in accordance with this section or shall be designed by a State of Illinois licensed Structural Engineer. Other buildings shall be braced in accordance with this section or, when applicable, Section R602.12.

Table R602.10.4 Bracing Methods. Replace 3/8" with 1/2" for the minimum thickness of bracing method continuously sheathed wood structural panel.

R801.3 Roof drainage

Delete the following text:

In areas where expansive or collapsible soils are known to exist,

R801.3 Roof drainage.

Insert the following after the word *dwelling*s:

and accessory structures with a single roof plane that exceeds 100 square feet

R802.3 Ridge. Replace 1 (inch) with 2.

R803.2.2.1 Allowable Thickness. Wood structural panels used as roof sheathing for new construction and/or new additions of primary buildings and/or accessory buildings that shelter automobiles shall be a minimum of 5/8" thick.

Delete Chapter 11 in its entirety.

Add this subsection:

M1602.4 Return air inlets. Unless approved by the Building Official in writing, non-central return air inlets shall be installed both high and low in each room where return inlets are installed.

Except as noted in a. below, delete Chapter 25 in its entirety.

a. Section P2503.7 shall remain in effect only as referenced by Section P2904.8.1, list item number 8.

Except as noted in a. below, delete Chapter 26 in its entirety.

a. Section P2603.5 shall remain in effect only as referenced by Section P2904.2.3, but subsection 2603.5.1 is deleted.

Delete Chapter 27 in its entirety.

Delete Chapter 28 in its entirety.

Except as noted in a. below, delete Chapter 29 in its entirety.

a. Section P2904 shall remain in effect.

Delete Chapter 30 in its entirety.

Delete Chapter 31 in its entirety.

Delete Chapter 32 in its entirety.

Delete Chapters 34 through 43 in their entirety.

AJ301.1.2 Plumbing materials and supplies.

Delete this section in its entirety.

AJ301.2 Water closets.

Delete this section in its entirety.

AJ301.3 Electrical.

Delete this section in its entirety.

AJ501.5 Electrical equipment and wiring.

Delete this section in its entirety including all subsections and replace with:

AJ501.5 Specific work types.

AJ501.5.1 Kitchen remodels. Where base cabinets are removed to facilitate a kitchen remodel, the following items must be brought into compliance as noted:

1. Receptacle outlets in the kitchen shall comply with the 2017 National Electric Code sections 210.52(B) and (C).
2. The kitchen sink shall be vented in compliance with the State of Illinois Plumbing Code.
3. Exhaust vents must be terminated to the exterior of the structure.

Exception: The Building Official may waive these requirements where there is practical difficulty in achieving compliance.

AJ601.4 Ceiling height.

Delete the existing language in its entirety and replace with:

For buildings that contain *basements* without *habitable space* and/or hallways with ceiling heights not in compliance with this code for new construction, when an application is submitted to convert the basement to habitable space, the Building Official may grant approval upon review of the project and determination that there are other approved safety features of the space to offset the reduction in ceiling height, but in no case shall a ceiling below 6 feet 7 inches be allowed for use as *habitable space*. Where lay-in tile drop ceilings are installed, the determined ceiling height shall be measured from the finished floor to the bottom side of the ceiling grid.

For buildings that contain basements with habitable space where the existing ceiling height does not conform with this code for new construction, when an application is submitted to remodel the basement habitable area, the application may be approved if:

- a. The remodel will increase the ceiling height to be compliant with this code for new construction.
- b. The Building Official grants approval upon review of the project and determination that there are other approved safety features of the space to offset a reduction of a non-compliant ceiling height in conformance with the first paragraph of this section.
- c. Historical records show that the basement ceiling height as exists was previously approved by the Building Official and the remodel plans do not further reduce the ceiling height.

AK101.1 General.

Add the following sentence to the end:

Walls and floor-ceiling assemblies within the same dwelling unit are not required to meet sound transmission ratings.

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CHAPTER 23 BUILDING REGULATIONS

Article 1 General Provisions

- Section 23-101 Director of the Building and Life Safety Department
- Section 23-102 Definitions
- Section 23-103 Building Permit Requirements
- Section 23-104 Demolition of Buildings
- Section 23-105 General Lot Grade Maximums
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Article II Regulations and Standards For Antenna Structures and Earth Stations

- Section 23-201 Definitions
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Article III Regulations and Standards For One- and Two-Family Dwellings; Adoption of the International Residential Code

- Section 23-301 Adoption of the International Residential Code for One- and Two-Family Dwellings
- Section 23-302 Modification by Amendment and Deletion of Various Sections of the International Residential Code

Article IV Regulations and Standards for Building Structures Other Than One- and Two-Family Dwellings; Adoption of the International Building Code

- Section 23-401 Adoption of the International Building Code
- Section 23-402 Modification by Amendment and Deletion of Various Sections of the International Building Code

Article V Regulations and Standards for Heating, Ventilation, Air-Conditioning and Related Mechanical Systems; Adoption of the International Mechanical Code

- Section 23-501 Adoption of the International Mechanical Code
- Section 23-502 Modification by Amendment and Deletion of Various Sections of the International Mechanical Code

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Article VI Regulations and Standards for Fuel Gas and Related Systems; Adoption of the International Fuel Gas Code

- Section 23-601 Adoption of the International Fuel Gas Code
- Section 23-602 Modification by Amendment and Deletion of Various Sections of the International Fuel Gas Code

Article VII Regulations and Standards for Energy Conservation and Sound Control Measures

- Section 23-701 Adoption of the International Energy Conservation Code
- Section 23-702 Modification by Amendment and Deletion of Various Sections of the International Energy Conservation Code
- Section 23-703 Specific Sound Control Measures for Commercial Buildings and Multi-Family Dwelling Structures
- Section 23-704 Specific Sound Control Measures for One- and Two-Family Dwellings

Article VIII Relocating Buildings

- Section 23-801 Requirements and Restrictions
- Section 23-802 Exception – Consent of Neighboring Owners
- Section 23-803 Permit Required
- Section 23-804 Application for Permit
- Section 23-805 Failure to Make Changes
- Section 23-806 Certificate of Occupancy

Article IX Regulations and Standards for Elevators, Dumbwaiters, Escalators, Platform Lifts, Chairlifts, and Moving Walks

- Section 23-901 Adoption of Safety Codes
- Section 23-902 Elevator Requirements

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Article I General Provisions

(Ord. #17-023)

Section 23-101 Director of the Building and Life Safety Department. The duties of the Director of the Building and Life Safety Department are as follows:

- a. To devote his or her whole time to the duties of the office.
- b. To enforce provisions of the Building, Zoning, Fire, and Sign Regulations.
- c. To make, when requested by proper authority, or when the public interest so requires, investigations in connection with matters referred to in this Code and render written reports on the same.
- d. To enforce compliance with law, to remove illegal and unsafe conditions.
- e. To ensure the necessary safeguards are used during construction.

(Ord. #17-023)

Section 23-102 Definitions. In all International Code Council codes adopted throughout the Municipal Code, all references to jurisdiction shall mean the Village of Arlington Heights, all references to Department of Building Safety shall mean the Village's Building and Life Safety Department, all references to Department of Fire Prevention shall mean the Village's Building and Life Safety Department and/or Fire Department as applicable, all references to Building Director or Building Official shall mean the Director of the Building and Life Safety Department or designee, all references to Code Enforcement Officer or Code Official shall mean the Village's Code Enforcement Officers and/or Inspectors, and all references to the Appeals Board shall mean the Village's Building Code Review Board and/or Village Board, as applicable.

Section 23-103 Building Permit Requirements.

- a. All new construction, and any alteration, addition, or repair, for purposes of maintenance or otherwise, to existing buildings or structures shall require a building permit prior to proceeding with such work, except where the fair market value of the work as determined by the Building Director is less than \$1000. All construction shall be in conformance with the municipal building ordinances. All construction performed without any of the required permits will be charged a penalty of double the listed permit fee.
- b. Where more than 50% of an existing building or structure is demolished, the entire building or structure shall comply with current Code requirements.
- c. A building permit may not be issued if any contractor on the project has performed work in the Village and all or part of such work was not in substantial compliance with the Municipal Code or any applicable Village ordinances and the failure was part of a pattern and practice on the part of the contractor.
- d. Applicants for building permits shall submit the following, as applicable based on the work being done:
 1. Applicants for new commercial construction shall provide six sets of building plans. Applicants for commercial alterations shall provide four sets of building

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plans. Applicants for residential construction shall provide three sets of building plans. Where the cost of the construction, alterations or addition exceeds the sum of \$5,000, such plans shall be impressed with the seal or certificate of a duly licensed and registered architect or structural engineer of the State of Illinois. The certification of the architect or engineer shall state that the plans conform to these Regulations.

2. For other than single family residences, with each set of plans, plumbing, electrical, mechanical and fire protection drawings, showing scope of work and performance specifications;
 3. Plans with existing conditions, to the extent necessary to determine compliance with applicable codes;
 4. Completed building, plumbing and electrical application forms;
 5. Every application for a building permit shall show the foundation grade and set forth a grading plan for the proposed construction, determined in accordance with this Article and Rules established there.
 6. Three plats of survey showing the exact location of proposed construction, including all existing and proposed grades;
 7. Three copies of detailed landscape drawings are required for all proposed construction. All drawings are to be in compliance with the applicable Village specifications. Single-family residences are exempt from the requirements of this paragraph.
 8. No plans shall be reviewed until the initial permit fee set forth in Chapter 7 of this Code has been paid. The initial permit fee is non-refundable and will be applied to the total permit and plan review fees due for the project.
- e. The issuance of a building permit shall not affect the necessity of obtaining other permits required by other specific and relevant provisions of this Code for permits in connection with other such construction projects. No building permit shall be issued until other required permits have been approved.
- f. As applicable, permits issued hereunder shall be conditioned so as to require compliance with the provisions of this Code relating to the installation of sidewalks.
- g. Permits issued hereunder shall expire one year from the issuance date. Any permit under which no substantial work is commenced within six months of issuance shall expire by limitation and a new permit shall be secured before work is started upon payment of the applicable re-issuance fee. In the event the construction is delayed or prevented by acts of God, strikes, disaster or other circumstances beyond the control of the contractor, application for exemption of this paragraph shall be made to the Director of Building in writing. After due review of the circumstances in the application, the Director of Building is authorized, in proper cases, to waive the re-issuance fee(s).
- h. In the event a detail of construction is not covered in Article III of this Chapter, the provisions of Article IV shall apply.

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(Ord. #13-035)

Section 23-104 Demolition of Buildings.

- a. No building or other structure shall be demolished, razed or wrecked unless a permit is first obtained from the Director of Building.
- b. Application for a demolition permit shall be made to the Director of Building and be accompanied by the following:
 1. A description of the proposed building and photo documentation of the existing structure to be wrecked, its location, nature of construction, method and procedure of its proposed demolition, and reason therefore as well as proposed future plans for the site;
 2. For demolition in residential districts and for all properties in the B-5 zoning district, design review is required in accordance with the requirements of Chapter 28, Section 14.2-3;
 3. A bond with good and sufficient sureties, acceptable to the Finance Director, indemnifying, keeping and saving harmless the Village against any loss, cost, damage, expense, judgment or liability of any kind whatsoever which the Village may suffer, or which may accrue against, be charged to or be recovered from the Village, or any of its officials, from or by reason or on account of accidents to persons or property during any such demolition, razing or wrecking operations, and from or by reason or on account of anything done under or by virtue of any permit granted for any such demolition, razing or wrecking operations. Such bond shall be in the penal sum of \$20,000 for structures not exceeding three stories in height, and \$40,000 for structures of four or more stories;
 4. Releases from all utilities serving the premises stating that their respective services have been disconnected and terminated in a safe and approved manner; and
 5. Such other information as may be required by the Director of Building, such as a site plan.
 6. Copies of all required State and County permits.
- c. If it is determined by the Director of Building that a structure is unsafe, uninhabitable and/or dangerous, then a demolition permit may be issued without Design Commission review.
- d. The Director of Building shall issue a demolition permit when he or she finds that:
 1. The applicable permit fee has been paid; and
 2. The application and the proposed operations fully comply with all provisions of this Code, including the prior issuance of any other permits necessary for demolition, such as street occupation permits.
- e. All demolition, razing and wrecking operations carried on under permit shall conform to the following requirements:

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1. All provisions of this Code respecting safety procedures to be used in occupying streets and making excavations, including lighting, guard railing, temporary sidewalks and proper scaffolding.
2. Rubble causing dust so as to cause a nuisance shall be adequately wetted down.
3. Except as to buildings no more than two stories in height and wholly of wood frame construction, no more than one story at a time shall be wrecked. No wall, chimney or other construction shall be allowed to fall in mass on an upper floor. Bulky material, such as beams and columns, shall be lowered and not allowed to fall.
4. Chutes for the removal of materials and debris shall be provided in all parts of demolition operations that are more than 20 feet above grade.
5. All pits, holes or other areas below street grade shall be filled and leveled. All debris shall be removed and the premises left in a safe condition.

Section 23-105 General Lot Grade Maximums. No lot shall be graded in such a manner as to raise the grade of such lot to any point higher than a continuous grade level between the grade of the lots on either side abutting such lot.

Section 23-106 Altering Grade Levels.

- a. All foundation grades shall be established in such a manner as to achieve the free, natural and unobstructed flow of surface water.
- b. No grades within the Village shall be disturbed or otherwise altered, except as allowed pursuant to a permit issued by the Director of Building. No person shall, during the course of construction, alter or permit or cause to be altered the grade of any lot in a manner which will permit or cause the draining of said lot in a manner to cause flooding on an adjoining lot or otherwise change or divert the natural flow of water in a manner deleterious to any other property.
- c. The Director of Engineering shall from time to time promulgate detailed Rules, not inconsistent with this Article, for the purpose of determining grades. Such Rules shall become effective by filing them in the office of the Village Clerk and have the force and effect of an ordinance of the Village.

Section 23-107 Conformity with Lot Grading Plan. If, during construction of any building, the Director of Engineering finds that non-conformity with the lot grading plan on file is causing or is likely to cause flooding of any adjoining lot, the Director may issue a written order requiring compliance with such grading plan within ten days. If such order is not complied with, the Director of Engineering may issue an order stopping all work on such building.

Section 23-108 Soil Erosion and Sediment Control. In order to prevent damage and maintenance to downstream storm water facilities and other properties, including public streets, the grading plan required with every application for a building permit shall contain soil erosion and sediment control measures. These may include locations and details of soil stockpiles,

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detention facilities, temporary and permanent berms, other structural or vegetative control devices and statements of procedure. The area of land stripped of vegetation shall be kept minimal. If uncovered land presents an environmental hazard, immediate corrective action shall be required. If during the construction of any building or during the preparation or grading of any site, the Director of Engineering finds that non-conformity with the plan on file is causing or is likely to cause damage or require maintenance to downstream storm water facilities or other properties, the Director may issue a written order requiring immediate compliance. If that order is not complied with, the Director of Engineering may issue an order stopping all work on such site or building.

These provisions shall be supplemental to the requirements of Chapter 28 "Zoning Regulations" and Chapter 29 "Subdivision Regulations" of this Code respecting any planned development or subdivision approval.

Section 23-109 Stop Work Order.

- a. Upon notice from the Director of Building that work on any building or structure is being pursued contrary to the provisions of this Code or in an unsafe and dangerous manner, such work shall be immediately stopped. The stop work order shall be posted at the site.
- b. Any person who continues to work in or about the structure after having been served with a stop work order, except work that person is directed to perform to remove a violation or unsafe condition, shall be liable for a fine of not less than \$100 nor more than \$500.

Section 23-110 Final Inspections and Certificates of Occupancy. Upon completion of the building or structure, and before issuance of a Certificate of Occupancy, a final inspection shall be made. A request for final inspection shall be accompanied by a written statement from the architect and/or structural engineer of record that to the best of their knowledge, information and belief, the structure and all related fire, alarm, mechanical systems, building components, details, and site improvements for which the Certificate is requested comply in all respects to all applicable codes, as well as all Design Commission, Plan Commission and Village Board approvals and plans. If the architect or structural engineer is not including systems as part of their statement, there shall be a statement attached from the design professional for each engineered system in the building. If any exceptions exist, they shall be noted with an explanation of steps being taken to remedy those deficiencies.

After the final inspection, all violations of the approved plans and permit shall be noted and the applicant shall be notified of the discrepancies.

A Certificate of Occupancy shall be issued within five business days after completion of the final inspection and correction of any deficiencies noted. The five-day period herein provided for the issuance of occupancy permits may be extended to permit the Building Official to determine if such occupancy will meet applicable codes.

Section 23-111 Building Operations

- a. Construction, demolition, or remodeling activity on private property that generates loud or disruptive noises shall not start before 7:00 a.m. Monday through Friday and 8:00 a.m. on Saturdays and Sundays. Activities shall cease each day no later than 7:00 p.m.

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Monday through Friday and 6:00 p.m. on Saturdays and Sundays. Exceptions to this provision may only be granted by the Village Manager.

- b. No sidewalk shall be obstructed in the course of building operations without a special permit from the Director of Public Works. Whenever removal of a sidewalk is required, such work shall not be done until a permit is secured from the Director of Public Works. When sidewalks are removed, proper barricading and notification to pedestrians well in advance of the sidewalk being removed shall be provided.
- c. Vehicular traffic to and from a construction site shall not use adjacent residential streets when reasonable alternative access to the site is available and the entrances to such residential streets have been posted, at the direction of the Village Manager, with signs prohibiting construction traffic. Traffic and deliveries shall at no time block driveway access to any adjacent properties unless specific permission has been granted by the affected property owner. When necessary, proper barricading or flaggers shall be utilized when two-way traffic is restricted.
- d. Streets used by vehicles exiting from a construction site shall be kept free of dust, dirt, mud, stones, and other debris from the site. The holder of a building permit shall take all reasonable measures to prevent deposit of debris on the streets and shall cause any such debris to be removed from the streets adjoining the construction site. At a minimum, streets shall be cleaned of debris at least two times during each day's operations and at the end of the day. Streets shall be cleaned at such additional times or as required to keep the streets safe for use, upon notice given by an agent of the Village to the supervisor of the construction site.

If any holder of a building permit fails to remove the dust, dirt, mud, stones or other debris from a street within two hours after notice by the Village, the Village may remove such material and charge the holder of the building permit with the reasonable cost of removal. The Village's action in removing the material shall not bar any enforcement procedures otherwise available to the Village.

- e. Active construction or remodeling sites shall provide adequate security to prevent unauthorized access by the public to structures under construction.
- f. If a permit authorizes demolition or construction of a new structure or addition, the work area is required to be fenced. The perimeter of the work area shall be protected by a new or existing fence, no less than five feet in height. This fencing must be installed prior to any work commencing and must remain in place until a certificate of occupancy has been issued or demolition is completed with no additional work anticipated on the site. The fence must be of chain link or equal quality and strength, and firmly weighted to or anchored into the ground, with uprights at a maximum of eight feet on center. All doors or gates in the fence must be locked at all times other than when there is work taking place on the site.
- g. Construction activities shall comply with all parking restrictions outlined in Chapter 18 of this Code. Furthermore, contractors shall be courteous and observe the rights of nearby properties by not blocking the street or driveways.

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- h. Contractors shall not store materials or equipment on a site unless they are specifically for the permitted work for that site.
- i. Dust generated by construction activities shall be controlled to the extent possible. If a problem develops, the Village may require materials or areas to be wetted to keep dust propagation to a minimum.
- j. Construction or remodeling activities shall always include appropriate provisions to protect adjacent properties. Under no circumstances shall these construction or remodeling activities use an adjacent property for access, storage or discharge of construction related debris or materials. If an adjacent property must be used for access, written permission of the property owner must be filed with the Director of Building prior to the initiation of that use.
- k. In general, no construction activity shall pose any danger to the public. All such operations shall be conducted in a safe manner and suitable protection for the general public shall be provided.

Section 23-112 Condominium Conversions.

- a. All rental dwellings must apply to the Building Department for review and approval prior to any conversion to a condominium development. All applications shall include, but not limited to:
 - 1. Completed application form;
 - 2. Names, addresses, phone numbers of developer(s) architect, and contractor;
 - 3. Development plan with details of implementation. (i.e.: phases of renovation, sales, and occupancy;
 - 4. Review for any and all applicable building permits.
- b. All condominiums and town homes must comply with Section 14-1703 through 14-1708 of the Municipal Code.
- c. All condominium conversion development projects shall be equipped with the following:
 - 1. An automatic sprinkler system in accordance with the International Fire Code.
 - 2. A manual fire alarm system and smoke alarms in accordance with the International Fire Code.

Section 23-113 Violations.

- a. Any person, firm, corporation or other business entity violating any of the provisions of Chapter 23 or deviating from any plans duly approved and issued by the Director of Building without first obtaining written authorization shall be fined not less than \$100 and not more than \$500, notwithstanding any other civil or criminal penalties, charges, actions, or proceedings then and there enforceable by any other individual or governmental authority.

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- b. The imposition of the penalties herein prescribed shall not preclude the Village from instituting appropriate legal action to prevent unlawful construction or to restrain, correct or abate a violation, or to prevent illegal occupancy of a building, structure or premises or to stop an illegal act, conduct business or use of a building or structure on or about any premises.

Section 23-114 Severability. If any provision or clause of this Article or application thereof to any person or circumstances is held invalid, such invalidity does not affect other provisions or applications of the Article which can be given effect without the invalid provision or application.

Section 23-115 Exception. The provisions of the building regulations of the Village shall not apply to the construction of horse stables, utilized in connection with any racetrack subject to the regulations of the Illinois State Racing Board, if such stables are constructed of non-combustible material.

Article II Regulations and Standards for Antenna Structures and Earth Stations

Section 23-201 Definitions. For the purpose of this Article, the words or terms used shall be as defined in Chapter 28 of the Municipal Code.

Section 23-202 Exemptions. The following categories of antenna structures are exempt from the requirements of this Article:

- a. Commercial and non-commercial roof mounted antenna structures which measure less than 12 feet from the highest point of the roof line of the building;
- b. Any existing antenna structure which has been constructed and which was in place prior July 15, 1991.
- c. The grounding requirements of this Code are not exempt from paragraphs a and b above.
- d. "Radials" used in amateur antenna systems are exempt.

Section 23-203 Restrictions.

- a. No ground base antenna shall exceed 75 feet above the grade level (commercial or non-commercial).
- b. No antenna shall protrude in any manner upon the public way or adjoining property.
- c. No antenna shall be of a windmill type. A solid dish-type construction or design shall not be permitted in a residentially zoned district.
- d. Non-commercial roof-mounted antenna structures may not exceed 30 feet from mounting base. Two antenna structures will be allowed for each roof, one of which may be for radio, and one of which may be for television purposes. The base structure which supports the mast shall not exceed three feet. No guy wires for additional supports shall support the base structure or antenna mast.

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- e. Commercial roof-mounted antenna may not exceed 30 feet from mounting base.
- f. Location of all antenna structures within all zoning districts shall be restricted as set forth in Chapter 28.
- g. "Radials" used in amateur antenna systems must not support the base structure or antenna or be higher than two feet above the roof.
- h. No earth station in an R-1, R-2, R-3, or R-4 Zoning District shall exceed eight feet in diameter or 14 feet above the grade level in height. No advertising, logos, or symbols will be permitted on any earth station surfaces except as permitted in Chapter 28. All earth stations shall be a neutral color. Earth stations shall be permitted in rear yards only. On corner lots, no earth station shall be erected outside of the established building line of both street frontages, and 25 feet from property lines fronting on any street or highway.

Section 23-204 Standards of Construction.

- a. Antenna structures may be constructed from one of the following materials: aluminum, galvanized steel, or an equally weather resistant steel, or treated wood, subject to the written approval of the Director of Building. Where two dissimilar materials such as aluminum and concrete or aluminum and steel are in contact, provisions shall be made to avoid electrolysis. All antenna structures shall be erected in such manner so as to be able to withstand a minimum wind velocity of 80 m.p.h. (impact pressure of 25 pounds per square foot).
- b. Earth stations that are elevation/azimuth fixed-mount type shall be erected in such a manner so as to be able to withstand a minimum wind velocity of 125 m.p.h. Earth stations that are tunable or adjustable-mount type shall be erected in such a manner so as to be able to withstand a minimum wind velocity of 100 m.p.h.
- c. All towers and/or roof-mounted structures supporting antenna as noted in this Article shall be grounded. Grounding shall be in accordance with the applicable provisions of the Municipal Code. The ground conductor shall be a minimum of #10 GA copper; however, in all instances, construction shall follow the manufacturer's requirements for grounding.

Section 23-205 Permit Application for Non-Commercial Antenna and Non-Commercial Earth Stations. Permit Applications shall be made to the Director of Building and shall provide the following information:

- a. Two sets of plans, two plats of survey and specifications for the tower structure and appurtenances and earth station structure, including detailed plans showing locations, heights, structural design and any other information pertinent or required by the Director of Building.
- b. All towers and/or roof-mounted structures supporting antenna as noted in this Article shall be properly grounded pursuant to the applicable requirements of the Municipal Code.
- c. No permit will be issued for any roof mounted antenna structure or antenna which

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measures greater than 12 feet from the highest point of the roof line of the building unless the design has been prepared by a registered structural engineer of the State of Illinois and certified to comply with applicable building codes, that the basic structure which supports the antenna mast does not extend more than three feet above the highest point on the roof; and that no guy wires or similar appurtenances are used to support the base structure or antenna mast.

Section 23-206 Building Permit Required for Commercial Antenna Structures and Commercial Earth Stations.

- a. Commercial antenna structures and commercial earth stations shall not be erected without a building permit as required by this Code.
- b. Commercial antenna structures and commercial earth stations shall be subject to the zoning requirements of Chapter 28 of this Code. It is the intent of Chapter 23 that commercial antenna structures conform to the requirements of this Article; however, if special use permits are authorized by Chapter 28, each petition will require justification for varying from restrictions and construction standards imposed by this Article.
- c. No building permit will be issued for any commercial antenna structure or commercial earth station unless the design has been prepared by a Licensed Structural Engineer of the State of Illinois and certified to comply with applicable building codes.

Article III Regulations and Standards for One- and Two-Family Dwellings; Adoption of the International Residential Code

Section 23-301 Adoption of the International Residential Code for One- and Two-Family Dwellings

- a. There is hereby adopted by reference the 2009 Edition of the International Residential Code for One- and Two-Family Dwellings (IRC), for the purpose of establishing rules and regulations for the construction, alteration, removal, demolition, equipment, use and occupancy, location and maintenance of buildings and structures, except as modified by Section 23-302 of this Article.
- b. The International Residential Code shall:
 1. Regulate the construction of all one- and two-family residential construction where the provisions of this Chapter specifically cover the subject matter in question.
 2. In the event that a detail of the construction or regulation is not covered by the 2009 Edition of the International Residential Code, the provisions of Article IV of this Chapter shall apply.

(Ord. #13-015)

Section 23-302 Modification by Amendment and Deletion of Various Sections of the International Residential Code. The 2009 Edition of the IRC adopted by this Article is modified for use in the Village by the following amendments, which amendments are given articles and section numbers identical to the IRC. Appendices G, H, K and M are specifically

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adopted. To the extent any provision of the IRC conflicts with any provision of the Arlington Heights Municipal Code, the Municipal Code provision will apply.

Chapter 2 – Definitions

R201.3 Terms defined in other codes

Add the following text at the end:

Where terms are defined in both the IRC or other ICC codes and the Municipal Code, the definitions in the Municipal Code shall apply.

Chapter 3 – Building Planning

R301.1 Application

Delete the text and replace with the following:

Buildings and structures and all parts thereof shall be designed by a State of Illinois licensed architect or structural engineer; and shall be constructed, by a licensed contractor or owner who shall be responsible for compliance with the Village Code for construction, to safely support all loads, including dead loads, live loads, roof loads, flood loads, snow loads, wind loads and seismic loads as prescribed by this code.

R301.1.1 Alternative provisions

Delete the first sentence and replace it with the following:

The following standards, where used by the licensed architect or engineer, are also permitted subject to the limitations of this Article and any applicable Village restrictions.

Table R301.2(1)

Revise Table R301.2(1) to read as follows:

TABLE R301.2(1) CLIMATIC AND GEOGRAPHIC DESIGN CRITERIA

Ground Snow Load	Wind Design		Seismic Design Category	Subject to Damage From			Winter Design Temp.	Ice-barrier under lay-ment Req'd	Flood Hazard Chapter 15 of Village Code	Air Freezing Index	Mean Annual Temp NOAA Data Waukegan
	Speed	Topo-graphic Effects		Weathering	Frost Line Depth	Termite					
Min 30 psf	Min 90 mph	NO	Category B	Severe	42 inches	Moderate To Heavy	-4°F	YES	Nov 6, 2000	2000	47.6°F

Figure R301.2(2) Seismic Design Categories – Site Class D

Add the following text at the bottom of figure R301.2(2):

SEISMIC DESIGN CATEGORIES – SITE CLASS D*

* Site Class D shall be assumed in Arlington Heights, but where soil reports indicate worse conditions, Site Class shall be re-evaluated by the Soils Engineer and the Building Official.

Table R301.5 Minimum Uniformly Distributed Live Loads

Amend Table R301.5 by changing live loads for sleeping rooms from 30 to 40.

R302.1 Exterior Walls

Delete Exceptions 1, 3, 4, and 5.

R302.3 Two-family Dwelling Structures

Delete Exceptions 1 and 2.

Table R302.6 Dwelling/Garage Separation

Amend Table R302.6 to read as follows:

Change ½ inch to 5/8 inch in all rows of Table R302.6.

Add footnote to read as follows:

When any portion of a detached garage is within 10 feet of a dwelling, all four interior walls and the ceiling shall be covered with a minimum of 5/8-inch fire-resistance-rated (Type X) gypsum board.

R304.2 Other Rooms

Change 70 to 100.

R305.1 Minimum Height

Delete the existing language and replace it with the following:

All first floor habitable spaces, hallways, corridors, bathrooms, toilet rooms, laundry rooms, and portions of basements containing such rooms shall have a minimum ceiling height of not less than 8 feet. All second floor rooms and other spaces in the building shall have a clear ceiling height of not less than 7 feet 6 inches.

Exceptions 1 and 2 remain unchanged.

Add the following as Exception 3:

3. Crawl spaces shall have a minimum clear height of 30 inches measured from the slush coat to the bottom of the floor joist or any support beam above.

R305.1.1 Basements

Change 6 feet 8 inches to 7 feet.

In the Exception, change 6 feet 4 inches to 6 feet 8 inches.

R309.1 Floor Surfaces, Separation of Structures and Minimum Dimensions

Revise R309.1 to read as follows:

- a. Garage floor surface shall be of approved noncombustible construction. The area of the floor used for parking automobiles and vehicles shall be sloped to facilitate the movement of liquids to approved drain or toward the main vehicle entry. The floor surface of the garage shall be a minimum of 6 inches below any adjacent space. In lieu of this requirement, a 6-inch high by 6-inch wide concrete or nonabsorbent curb shall be placed against all common walls.
- b. There shall be a minimum of a 3 feet wide walkway between the house and any detached garage or other accessory structure.

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(Ord. #13-055)

- c. Any garage with multiple doors or with a garage door width wider than 12 feet shall be considered at least a two-car garage.

The following minimums shall be for newly constructed garages only. These minimums shall not apply to modifications or additions to existing garages, unless the existing interior dimensions are proposed to be reduced. In those cases, the minimums set forth below shall apply.

1. Minimum Interior Garage Dimensions

Number of Cars	Depth of Garage	Width of Garage
1	21 feet 4 inches	12 feet
2	21 feet 4 inches	21 feet
3	21 feet 4 inches	30 feet

2. Minimum Garage Door Sizes

Number of Cars	Door Size to be at least
1	9 feet
2	16 feet or two 8-foot doors
3	16 feet + 8 feet or three 8-foot doors

3. Minimum Ceiling Height;

The minimum ceiling height for a carport, attached garage or detached garage shall be 7 feet 6 inches.

- d. One side-hinged egress door shall be provided for any detached garage.

R310.2 Window Wells

Add the following after the last sentence:

The window well shall be of galvanized metal or other approved material and shall be bolted to the foundation wall with a minimum of 4 anchor or expansion bolts. The base of the well shall be equipped with a screened drain tied into the drainage system of the foundation with a rigid pipe. The base of the well shall have a minimum of 4 inches of washed stone fill.

R310.4 Bars, Grilles, Window-well Covers and Screens

Add the following after the last sentence:

Window wells shall be covered with a metal grated cover or clear plastic or translucent fiberglass type cover. The cover shall be capable of supporting a minimum load of 250 lbs. The cover must be removable from the inside without the use of a key, tool, or force greater than that, which is required for normal operation of the emergency escape and rescue opening.

R311.2 Egress door required

Delete the existing language and replace it with the following:

Not less than two egress doors shall be provided from each dwelling unit. At least one required egress door shall be side-hinged, and shall provide a minimum net clear opening of 3 feet in width and 6 feet 8 inches in height. Egress doors shall be readily openable from the inside of a dwelling without the use of a key or special knowledge or effort.

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R311.7 Stairways

Add the following text to this Section:

Stairways shall be designed and constructed in accordance with R311.7.1 through R311.7.9.2. Exterior stairways of wood shall be supported at least 2 inches above the finish grade on a concrete slab or piers. The maximum length of unsupported wood treads shall be limited to 3 feet. For stairways greater than 3 feet in width, additional stringer supports shall be provided such that no span exceeds 3 feet.

R311.7.9.1 Spiral stairways

Add the following sentence at the beginning of this Section:

Spiral stairways are not permitted for use as the primary egress.

R313.1.1 Design and installation

Replace "Section 2904" with "NFPA 13D."

R313.2 One- and two-family dwellings automatic fire systems

Delete in its entirety.

R316.5.3 Attics

Delete 3.1, 3.2, 3.3 and 3.4.

R316.5.4 Crawl Spaces

Delete 3.1, 3.2, 3.3 and 3.4.

R317.1 Location Required

Amend item 2 by deleting everything from "and are less" to the end of the sentence.

R317.1.4 Wood Columns

Delete the exceptions.

R319.1 Address Numbers

Delete this Section in its entirety and replace with the following:

1. New and existing buildings shall be provided with approved addresses. It shall be the duty of the owners of every building in the Village to have placed thereon the assigned numbers above the door which is the principal entrance fronting on the street, or where no street exists, the assigned numbers shall be above or on the principal entrance to the building via an alley, driveway, parking lot, fire lane, or other improved right-of-way. The assigned numbers shall be Arabic numerals at least six inches high and of such size and shape so as to be easily visible from the street, alley, driveway, parking lot, fire lane, or improved right-of-way. The Arabic numerals shall be constructed of a durable material which contrasts with the background upon which the assigned numbers are affixed.

2. The practice of affixing numbers in script or word form is not prohibited; however, the Arabic numerals required herein must be affixed on or over the principal entrance.

3. In any instance where numbers located on the principal entrance of the building are not easily visible and identifiable from the street, alley, driveway, parking lot, fire lane, or other improved right-of-way upon which the principal entrance fronts, the Building and Fire Departments may require a monument, pole or other

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such additional numbering signs or placards on or about the building and premises as necessary to ensure that such buildings are easily identifiable from the street, alley, driveway, parking lot, fire lane, or other improved right-of-way.

4. The names of all new buildings and developments shall not include any numerical references in vanity addresses or in identifying the buildings or development name unless the numerical references and name are the property number and actual street address assigned by the Village.

Chapter 4 – Foundations

R401.1 Application

Delete the last sentence and the Exceptions.

R401.2 Requirements

Delete the section and replace with the following:

Foundation construction shall be capable of accommodating all loads according to R301 and of transmitting the resulting loads to the supporting soil. Fill soils that support footings and foundations shall be designed, installed and tested in accordance with accepted engineering practice.

- a. All organic material including topsoil and all landscape materials and debris shall be removed prior to the placing of foundations, slabs, raised porches, stoops, or similar construction.
- b. Stoop foundations, the main entry stoop and all porches, terraces, and flights of stairs exceeding three risers shall be supported on engineered foundation.

R402.1 Wood Foundations

Delete and replace with the following:

Wood foundations are not permitted within the Village.

R403.1.1 Minimum Size

Add after the second sentence:

At a minimum, it shall be twice the foundation wall thickness.

Change the third sentence to be 8 inches instead of 6 inches.

Add the following new paragraphs:

a. All footings should be designed for a soil bearing capacity of 3,000 psf. Soil bearing capacity shall be verified prior to placement of concrete footings by a licensed engineer.

1. Pier, post and column footings shall have a minimum pad size of not less than 30 inches square by 12 inches thick.

2. Cast in place piers shall be allowed in the construction of exterior decks the elevation of which is not more than 5 feet above grade. The minimum diameter shall be 8 inches with the bottom belled to a diameter of 12 inches.

b. Where approved engineering design is provided to account for soil bearing capacity, trench foundations may be used.

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Table R403.1 Minimum Width of Concrete, Precast or Masonry Footings

Revise the values in Table R403.1 to be not less than 16 inches.

R403.3 Frost protected shallow foundation

Delete this section in its entirety and replace with the following:

Frost protected shallow foundations are not permitted.

R404.1.2 Concrete foundation walls

Delete the last sentence and replace with the following:

Beam pockets shall be not less than 1 inch wider than the beam supported shall be installed to provide a minimum end bearing of 4 inches.

R404.3 Wood sill plates

Delete and replace with the following:

Wood sill plates shall be a minimum of 2-inch by 4-inch nominal lumber. Plates shall be shimmed level to provide solid contact with the foundation wall. Shims shall be placed not more than 32 inches on center. Voids underneath shall be filled with approved material to prevent air infiltration and pest infestation.

R407.1 Wood Column Protection

Delete and replace with the following:

Wood columns are not permitted in below-grade applications.

R407.3 Structural Requirements

Delete and replace with the following:

The columns shall be restrained to prevent lateral displacement at the bottom and top ends. Steel columns shall not be less than 3-inch-diameter concrete-filled steel pipe standard weight or heavier. Column caps must be bolted or welded to steel girders. Shim columns only at the bottom and for a maximum height of 2¼ inches. No loose shims are permitted. Embed in a minimum of 2 inches of concrete or bolt to floor or foundation with a minimum of two ½ inch diameter anchor bolts per base plate. Provide ½ inch thick minimum base plate.

R408, R408.1 through R408.7 Under-Floor Space

Delete text of Section R408.1 through R408.7, and replace with the following paragraphs as part of revised Section R408:

- a. At a minimum, the clear height of under-floor spaces shall be not less than 30 inches.
 - b. All crawl spaces shall have a floor slab consisting of 2 inches of concrete over 2 inches minimum stone over a minimum 6-mil vapor barrier.
 - c. Access shall be provided to all under-floor spaces via an interior space. Access openings shall be not less than 30 inches by 30 inches.
 - d. Exterior ventilation is not allowed for under-floor space.
 - e. Insulation shall be based on the Energy Conservation provisions of this Code.
-

Chapter 5 – Floors

R502.3 Allowable joist spans

Delete and replace with the following:

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Spans shall be in accordance with the design by the licensed architect or engineer, but in no case shall joist dimensions be less than 2 x 8.

R502.3.1

Delete and replace with the following:

For all Tables, in this chapter of the IRC, the minimum floor joist shall be 2 x 8.

R502.6.2 Joist framing

Delete and replace with the following:

Joists framing into the side of a wood girder, steel beam, masonry wall, or concrete foundation wall shall be supported by approved framing anchors.

R502.7.1 Bridging

Change 2 inches by 12 inches in the first sentence to 2 x 8 or larger.

R504 Pressure Preservatively Treated-Wood Floors (On Ground)

Delete this entire section and replace with the following:

Wood floors on ground/grade are not permitted.

R506.1 General

Change 3.5 inches in the first sentence to 4 inches.

R506.2 Site Preparation

Add at the end of the first paragraph:

Basements shall be pumped and kept dry at least 24 hours before the floor is to be placed.

R506.2.2 Base

Delete the Exception.

Chapter 6 – Wall Construction

R602.3 Design and Construction

Add the following after the last sentence:

Balloon framing construction shall not be permitted in the Village.

Figure R602.3(1) Typical Wall, Floor and Roof Framing

Delete the drawing for Balloon Framing Construction.

R602.3.2 Top plate

Delete the Exception.

R602.4 Interior load-bearing walls

Add at the end:

Wood frame bearing walls are not permitted in basements.

R602.5 Interior non-bearing walls

Delete the first sentence and replace it with the following:

Interior nonbearing walls shall be constructed with a minimum of 2x4 studs spaced a maximum of 16 inches on center.

R602.7 Headers

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Delete and replace with the following:

Header spans shall be designed by a licensed architect or engineer and shall not be less than the requirements of Tables R502.5(1) and R502.5(2).

R602.7.2 Headers in Non-bearing walls

Delete and replace with the following:

Openings exceeding three feet shall have a minimum of two 2x4 studs laid on edge. Openings less than three feet may have one 2x4 stud laid flat.

R606.1.1 Professional registration not required

Delete in its entirety.

R611.1 General

Delete the second sentence.

Chapter 7 – Wall Covering

Table R702.3.5 Minimum Thickness and Application of Gypsum Board

Delete data for rows corresponding to a single layer of $\frac{3}{8}$ inches thickness of gypsum board.

Add footnote f to read as follows:

f. For the interior finish of an exterior building envelope assembly; the gypsum board shall (at a minimum) be $\frac{5}{8}$ inch thick. Gypsum board shall be taped and finished to at least a 'level one' in unoccupied spaces and 'level three' in occupied spaces, as specified by the US Gypsum Association document GA-214-07.

R703.2 Water-resistive barrier

Delete all exceptions.

R703.3.1 Panel siding

Add the following at the end:

All panels shall contain an approved rated siding grade mark.

R703.7.3 Lintels

Add the following after the last sentence:

All shop-primed steel lintels that are left exposed to the weather shall have a finish coat of paint applied.

R703.7.4.3 Mortar or grout fill

Delete in its entirety.

R703.7.6 Weepholes

Add the following at the end (delete the period and continue the sentence):

, including at head and sill flashing of windows. A vermin-proof barrier to prevent pests and rodents from entering the wall cavity without inhibiting the flow of moisture is required.

Chapter 8 – Roof-Ceiling Construction

R801.2 Requirements

Add the following at the end:

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Roof and ceiling construction shall be designed by a licensed architect or engineer of record.

R801.3 Roof drainage

Delete the following text:

In areas where expansive or collapsible soils are known to exist,

R802.3 Framing details

Change ridge board from 1-inch to 2-inch.

R802.3.1 Ceiling joist and rafter connections

Change the dimensions for the collar ties in the last paragraph from 1-inch by 4-inch to 2-inch by 4-inch.

R802.11.1 Uplift Resistance

Delete the first sentence and replace it with the following:

Roof assemblies shall have roof rafters or trusses attached to their supporting wall assemblies by connections capable of providing the resistance required in Table R802.11.

Add the following at the end of the second paragraph:

At a minimum, tie down clips installed in accordance with the manufacturer's requirements shall be provided at all truss and rafter ends bearing on outside wall plates to tie the roof framing to the wall framing with a continuous load path designed to transmit the uplift forces from the rafter or truss ties to the foundation.

R803.2.2 Allowable spans

Add the following sentence at the end:

Sheathing clip supports shall be used when framing centers exceed 16 inches on-center.

R806.2 Minimum area

Delete the last sentence.

Chapter 9 – Roof Assemblies

R903.4 Roof drainage

Add a second sentence to read as follows:

Where roofs are sloped to drain over roof edges, gutters and downspouts are required.

After the last sentence, add the following:

Gutters and downspouts shall comply with the following requirements:

1. Gutters and downspouts shall be installed on all dwelling units unless omission is specifically permitted by the Code Official.
2. Downspouts shall not be connected to the sanitary sewer system or to the footing drain tile system. All outlets shall discharge into the front or rear yards only through an open splash-block or as otherwise permitted by the Code Official.
3. Acceptable materials include the following:
 - i. 16 ounce, hard, cornice tempered copper,

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- ii. 26 gauge galvanized sheet metal with a 1.25 ounce total weight per square foot zinc coating,
 - iii. Aluminum with a minimum gauge of 0.019,
 - iv. Plastic, vinyl or other material as permitted by the Code Official.
-

R905.2.4 Asphalt Shingles

Add the following sentence:

Asphalt shingles shall be of a Class C label or better.

R907.1 Roof Recovering

Add the following sentence:

When recovering or replacing an existing roof, the roof shall be ventilated in accordance with the requirements of R806 for new roofs.

Chapter 10 – Chimneys and Fireplaces

R1004.1 General requirements for factory-built fireplaces

Add the following at the end:

Fire-blocking shall be provided in accordance with R1003.19. When the enclosing chase is located on an outside wall or adjacent to an unheated area, it shall be insulated in the same manner as the adjacent walls. Combustible framing within the enclosure, except the supporting floor construction, shall then be covered with 5/8 inch minimum drywall, taped and sealed.

R1004.2 Hearth extensions

Add the following at the end:

Units without a sealed firebox shall have hearth extensions of not less than $\frac{3}{8}$ inch thick stone, tile, or other approved non-combustible material, and shall comply with R1001.10.

R1004.4 Unvented gas log heaters

Delete and replace with the following:

Unvented gas log heaters are not permitted.

R1005.1 General requirements for factory-built chimneys

Add the following at the end:

Fire-blocking shall be provided in accordance with R1003.19. When the enclosing chase is located on an outside wall or adjacent to an unheated area, it shall be insulated in the same manner as the adjacent wall. Combustible framing within the enclosure, except the supporting floor construction, shall then be covered with $\frac{1}{2}$ inch minimum drywall, taped and sealed.

Chapter 11 – Energy Efficiency

Delete this Chapter in its entirety and refer to Article X, Regulations and Standards for Energy Conservation and Sound Control Measures.

Chapter 14 – Heating and Cooling Equipment

M1401.1 Installation

Add the following at the end:

Systems shall be arranged so that the circulating air from one dwelling unit does not discharge into another dwelling unit.

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Add the following at the end:

In houses that are not fully sprinklered, fire sprinkler protection shall be provided for furnaces and boilers. Sprinkler head type and temperature rating shall be dependent upon room configuration and ambient room temperature. Sprinkler head temperature rating shall be not less than 212 degrees Fahrenheit nor greater than 286 degrees Fahrenheit. Water supply to the sprinkler head(s) may be fed from a branch of the domestic water supply in compliance with the Code.

M1408.5 Installation

Delete 3 and replace it with the following:

3. Floor furnaces shall be installed not closer than 6 inches to the ground. The lower six inches of the furnace shall be sealed to prevent water entry.

M1411.3 Condensate Disposal

Add the following at the end:

Condensate pumps shall be prohibited in new construction.

M1411.3.2

Add the following at the end:

The maximum length for such drain pipes shall be 15 feet.

M1413.1 General

Delete and replace with the following:

Evaporative cooling equipment is prohibited.

Chapter 16 – Duct Systems

M1601.1.1 Above-ground Duct Systems

Delete paragraph 7 and replace it with the following:

7. For flexible duct work and connectors:
 - 7.1 Flexible air ducts shall be limited to 8 feet in length.
 - 7.2 Flexible air connectors shall be limited to 8 feet in length.
-

M1601.4.5 Duct Installation

Add the following new paragraphs:

4. All duct work installed in an attic shall be insulated. All metal supply duct work installed in a ventilated crawl space or other non-conditioned space shall be insulated. Insulation shall be a minimum 2-inch, $\frac{3}{4}$ pound density blanket, or 1-inch thick, 1½ pound density liner.
 5. When non-metallic ducts or other approved insulating or lining materials are used, the minimum thermal conductance value of the material shall be 0.23 at 75 degrees Fahrenheit.
 6. Where duct liner has been interrupted, a duct covering of equal thermal performance shall be installed.
 7. Service openings shall not be concealed by duct coverings unless the exact location of the opening is properly labeled.
 8. All ducts which operate at temperatures in excess of 120 degrees Fahrenheit shall have sufficient thermal insulation to limit the exposed surface temperature to 120 degrees Fahrenheit, and a vapor barrier shall not be required.
-

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M1602.1 Return Air

Add the following at the end:

All ducted cold air return inlets shall be located both high and low on walls, except in areas listed as a prohibited source in Section M1602.2. Each return inlet register shall have operable louvers.

M1602.2 Prohibited Sources

Delete item 4 and replace with the following:

4. A closet, bathroom, toilet room, kitchen, garage, mechanical room, boiler room, furnace room, unconditioned spaces (including cellars, cavity walls, attics, under-floor space) or from another dwelling unit.

Chapter 18 – Chimneys and Vents

M1803.4 Connection to Fireplace Flue

Delete Section M1803.4 and replace with the following:

Connection of appliances to chimney flues serving fireplaces is prohibited.

Chapter 21 – Hydronic Piping

M2103.1 Piping Materials

Delete the following materials:

standard weight steel pipe, copper tubing, chlorinated polyvinyl chloride (CPVC), polybutylene

Add the following at the end:

Only the above mentioned piping materials shall be used for Table M2101.1.

Chapter 22 – Special Piping and Storage Systems

M2201.3 Underground tanks

Delete Section M2201.3 and replace with the following:

Underground tanks are prohibited.

Chapter 24 - Fuel Gas

G2406.2 Prohibited Locations

Add the following as 6:

No appliance shall be located under stairways used as a means of egress.

G2407.11 Combustion air ducts

Delete the Exception in paragraph 1.

G2426.7 Protection Against Physical Damage

Add the following at the end:

Portions of vents which extend through occupied spaces shall be protected to prevent damage to the vent.

Chapters 25 to 33 Plumbing

Delete all of Chapters 25 through 33 and replace with the following:

The applicable provisions of the Plumbing Regulations in the Municipal Code shall establish the general scope of the plumbing system and equipment requirements for One- and Two-Family Dwelling structures.

Chapters 34 to 43 Electrical

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Delete all of Chapters 34 through 43 and replace with the following:

The applicable provisions of the Electrical Regulations in the Municipal Code shall establish the general scope of the electrical system and equipment requirements for One- and Two-Family Dwelling structures.

Chapter 44 - Referenced Standards

GGA Gypsum Association

Add the following row:

GA 214-07 Recommended Levels of Gypsum Board FinishTable R702.3.5

Appendix G

AG103.2 Above-ground pools and on-ground pools

Replace ANSI/NSPI-4 with ANSI/APSP-4-2007.

AG108.1 General

Replace ANSI/NSPI-4-99 standard for above-ground/on-ground residential swimming pools with ANSI/APSP-4-2007 standard for above-ground/on-ground residential swimming pools

Appendix K

AK101.1 General

Revise to read as follows:

- a. Every exterior wall of a dwelling that is part of the building's thermal envelope shall be designed and constructed to reduce the transmission of sound as provided for in Article III.
- b. Every exterior wall of a dwelling that is part of the building's thermal envelope shall be designed and constructed to reduce the transmission of sound as provided for in Article III.
- c. All components of the building's exterior envelope shall be designed and constructed in accordance with the provisions of the IRC as amended, to reduce the transmission of noise into every habitable livable dwelling space.
- d. Wall and floor-ceiling assemblies separating dwelling units including those separating adjacent townhouse units shall provide air-borne sound insulation for walls, and both air-borne and impact sound insulation for floor-ceiling assemblies.

AK102.1 General

Revise as follows:

Change Sound Transmission Class (STC) rating of 45 to:
Sound Transmission Class (STC) rating of 55

AK103.1 General

Revise as follows:

Change Impact Insulation Class (IIC) rating of not less than 45 to:
Impact Insulation Class (IIC) rating of not less than 55.

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Article IV Regulations and Standards for Building Structures Other Than One- and Two-Family Dwellings; Adoption of the International Building Code

Section 23-401 Adoption of the International Building Code

- a. There is hereby adopted by reference the 2009 Edition of the International Building Code (IBC) for the purpose of establishing rules and regulations for the construction, alteration, removal, demolition, equipment, use and occupancy, location and maintenance of buildings and structures other than for One- and Two-Family Dwellings, except as modified by Section 23-402 of this Article.
- b. The International Building Code shall regulate the construction of all buildings and structures except for One- and Two-Family Dwellings specifically regulated by Article III, where the provisions of this Chapter 23 specifically cover the subject matter in question.

(Ord. #13-019)

Section 23-402 Modification by Amendment and Deletion of Various Sections of the International Building Code. The 2009 Edition of the International Building Code adopted by this Chapter is modified for use in the Village by the following amendments, which amendments are given articles and section numbers identical to the International Building Code. Appendices C, E, F, G, H, and I are specifically adopted. To the extent any provision of the IBC conflicts with any provision of the Arlington Heights Municipal Code, the Municipal Code provision will apply.

Chapter 2 – Definitions

201.3 Terms defined in other codes

Add the following text at the end:

Where terms are defined in both the IBC or other ICC codes and the Municipal Code, the definitions in the Municipal Code shall apply.

202 Definitions

In the definition of HIGH-RISE BUILDING, change 75 feet to 60 feet.

Chapter 5 – General Building Heights and Areas

501.2 Address Identification

Delete this section in its entirety and replace with the following:

1. It shall be the duty of the owners of every building in the Village to have placed thereon the assigned numbers above the door which is the principal entrance fronting on the street, or where no street exists, the assigned numbers shall be above or on the principal entrance to the building via an alley, driveway, parking lot, fire lane, or other improved right-of-way. The assigned numbers shall be Arabic numerals at least six inches high and of such size and shape so as to be easily visible from the street, alley, driveway, parking lot, fire lane, or improved right-of-way. The Arabic numerals shall be constructed of a durable material which contrasts with the background upon which the assigned numbers are affixed.

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2. The practice of affixing numbers in script or word form is not prohibited; however, the Arabic numerals required herein must be affixed on or over the principal entrance.
3. Each commercial building and multi-family dwelling with a rear or side entrance on an alley, driveway, parking lot, fire lane or improved right-of-way shall have the assigned number or numbers affixed on or over such entrance in Arabic numerals at least six inches high.
4. In any instance where numbers located on the principal entrance of the building are not easily visible and identifiable from the street, alley, driveway, parking lot, fire lane, or other improved right-of-way upon which the principal entrance fronts, the Building and Fire Departments may require a monument, pole or other such additional numbering signs or placards on or about the building and premises as necessary to ensure that such buildings are easily identifiable from the street, alley, driveway, parking lot, fire lane, or other improved right-of-way.
5. Where the buildings are part of a multi-unit complex or development, either residential or commercial, every door to every office or apartment in every building shall be numbered as well as their principal entrance to the building having a sign on the entrance indicating which individual numbered units are contained therein.
6. The names of all new buildings and developments shall not include any numerical references in vanity addresses or in identifying the buildings or development name unless the numerical references and name are the property number and actual street address assigned by the Village.

Chapter 7 – Fire and Smoke Protection Features

705.1 General

Add the following after the last sentence:

Gypsum board shall be taped and finished to at least a ‘level one’ in unoccupied spaces and ‘level three’ in occupied spaces, as specified by the US Gypsum Association document GA-214-07; for the interior finish of an exterior building envelope assembly: the gypsum board shall be a minimum $\frac{5}{8}$ inch thick.

Chapter 9 – Fire Protection Systems

901.6 Supervisory Service

Replace the words “where required” with “all”.

[F] 903.2 Where Required

Delete this section in its entirety and replace with the following:

Approved automatic sprinkler systems shall be required in all new buildings and structures, except for open parking structures, open-air portions of Group A-5, and Group F-2 occupancies.

[F] 903.4.3 Floor Control Valves

Change “high-rise buildings” to “all buildings”.

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[F] 904.3.5 Monitoring

Change text to read:

Alternate automatic fire extinguishing systems shall be monitored in compliance with the provisions of this code and NFPA 72.

[F] 905.4 Location of Class I Standpipe hose connections

Add the following after the word connections in the first sentence:
with a 2½ inch x 1½ inch reducer and cap and chain.

[F] 905.5 Location of Class II standpipe hose connections

Add the following after the word connections in the first sentence:
with a 1½ inch cap and chain.

[F] 905.6 Location of Class II standpipe hose connections

Add the following after the word connections in the first sentence:
with a 2½ inch x 1½ inch reducer and cap and chain.

[F] 907.2.13 High-rise buildings

Replace 75 feet with 60 feet.

[F] 907.2.13.2 Fire department communication system

Add the following after the last sentence:

Each location of a fire department communication device shall be an independent zone from the control panel in the fire command room.

[F] 907.5.2.3.1 Public and common areas

Add the following after the last sentence:

A visible exterior weatherproof alarm notification device shall be located within close proximity to the front main entrance of the building or tenant space, as approved.

[F] 907.6.3.1 Zoning indicator Panel

Delete the first sentence and replace it with the following:

A zoning indicator panel and the associated controls or a fire alarm panel shall be provided at the main front entrance or at an alternative approved location.

[F] 912.2.1 Visible location

Add the following sentence at the end:

Such connections shall be located at the main front entrance of the building and within a maximum travel distance of 100 feet to the nearest fire hydrant.

[F] 913.4 Valve supervision

Delete methods 3 and 4.

Chapter 11 – Accessibility

Delete the entire chapter.

Chapter 12 – Interior Environment

1207.2 Air-borne sound

Change sound transmission class (STC) from 50 to 55.

1207.3 Structure-borne sound

Change impact insulation class (IIC) from 50 to 55.

1209.1 Crawl spaces

In the first sentence, change 18 inches by 24 inches to 30 inches by 30 inches

Add the following at the end:

At a minimum, the clear height of under-floor spaces shall be not less than 30 inches.

Chapter 15 – Roof Assemblies and Rooftop Structures

1510.3 Recovering versus Replacement

Insert the following before the first sentence:

The roofs shall be drained and ventilated in accordance with the requirements for new roofs.

Chapter 16 – Structural Design

Table 1607.1

In item 27, change the number 30 to 40.

1608.2 Modify to read as Snow Loads

Delete the existing text and replace with the following:

Ground snow loads shall be a minimum of 30 pounds per square foot.

Chapter 18 – Soils and Foundations

1805.1.2 Under-floor space

Add the following after the last sentence:

All crawl spaces shall have a floor consisting of not less than 3 inches of concrete over 4 inches thickness or more of stone over a vapor barrier that equals or exceeds 6-mil thickness.

1807.1 Foundation Walls, Retaining Walls and Embedded Posts and Poles

Add the following after the last sentence:

Timber and wood foundation systems are not permitted in the Village.

1809.9 Masonry-unit footings

Delete this section in its entirety and replace with the following:

Masonry-unit footings are not permitted in the Village.

Chapter 26 – Plastic

2603.4.1.6 Attics and crawl spaces

Delete and replace with the following:

Within an attic or crawl space, foam plastic insulation shall be protected against ignition by $\frac{3}{8}$ inch gypsum wall board, corrosion-resistant steel having a base metal thickness of 0.016 inch or other approved material installed in such manner that the foam plastic insulation is not exposed. The protective covering shall be consistent with the requirements for the type of construction.

Chapter 27 – Electrical

Delete this chapter in its entirety replace with the following:

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The applicable provisions of the Electrical Regulations in the Municipal Code shall establish the general scope of the electrical system and equipment requirements for other than One- and Two-Family Dwelling structures.

Chapter 29 – Plumbing Systems

Delete this chapter in its entirety replace with the following:

The applicable provisions of the Plumbing Regulations in the Municipal Code shall establish the general scope of the plumbing system and equipment requirements for other than One- and Two-Family Dwelling structures.

Chapter 30 – Elevator and Conveying Systems

3002.3 Emergency Signs

Add the following text:

The sign shall be 7 inches by 5 inches and read as follows: IN FIRE EMERGENCY, DO NOT USE ELEVATOR. USE EXIT STAIRS.

3002.4 Elevator car to accommodate ambulance stretcher

Delete and replace with the following:

At least one elevator shall be provided for fire department emergency access to all floors. The elevator car shall be of such a size and arrangement to accommodate an ambulance stretcher in its horizontal, open position, provided the cab size shall be not less than 60 inches by 85 inches, to accommodate an ambulance stretcher in its horizontal, open position; and shall be identified by the International Symbol for emergency medical services (Star of Life). The Symbol shall be not less than 3 inches high and shall be placed inside on both sides of the hoist-way door frame.

(Ord. 13-019)

Chapter 34 – Existing Buildings and Structures

3408 Change of Occupancy

Amend to read as follows:

3408.1 Conformance. No change shall be made in the use or occupancy of any building that would place the building in a different division of the same group of occupancies or in a different group of occupancies, unless such building is made to comply with the requirements of this Code for such division or group of occupancies. Subject to the approval of the Building Official, the use or occupancy of existing buildings shall be permitted to be changed and the building is allowed to be occupied for purposes in other groups in existing structures where the space at issue is 3,000 square feet or less of gross floor area, the structure at issue does not include residential occupancies, and the space at issue meets the fire separation requirements of Table 508.4 of the International Building Code.

Chapter 35 – Referenced Standards

GGA Gypsum Association

Add the following row:

GA 214-07 Recommended Levels of Gypsum Board Finish.....Table 705.1

Article V Regulations and Standards for Heating, Ventilation, Air-Conditioning and Related Mechanical Systems; Adoption of the International Mechanical Code

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Section 23-501 Adoption of the International Mechanical Code.

- a. There is hereby adopted by reference the 2009 Edition of the International Mechanical Code (IMC) for the purpose of establishing rules and regulations for governing the design, construction, quality of materials, erection, installation, alteration, repair, location, relocation, replacement, addition to, use or maintenance of heating, ventilation, air-conditioning and related mechanical systems, except as modified by this Chapter of the Municipal Code.
- b. The International Mechanical Code shall:
 1. Regulate heating, ventilation, air-conditioning and related mechanical systems in other than one and two family dwellings regulated by Article III, where the provisions of this Chapter 23 specifically cover the subject matter in question.
 2. In the event that a detail or regulation is not covered by the 2009 Edition of the International Mechanical Code, then the provisions of the ASHRAE Standards, applicable provisions of the Village Code shall apply.

Section 23-502 Modification by Amendment and Deletion of Various Sections of the International Mechanical Code. The 2009 Edition of the International Mechanical Code adopted by this Chapter is modified for use in the Village by the following amendments, which amendments are given articles and section numbers identical to the International Mechanical Code. To the extent any provision of the IMC conflicts with any provision of the Arlington Heights Municipal Code, the Municipal Code provision will apply.

Chapter 3 – General Provisions

304.6 Public garages

Add the following after the last sentence:

Appliances described in this Section shall be prohibited from serving areas other than the public garage.

304.7 Private garages

Add the following after the last sentence:

Appliances described in this Section shall be prohibited from serving areas other than the private garage.

Chapter 5 – Exhaust Systems

505.1 Domestic systems

Delete Exception 1.

Chapter 6 – Duct Systems

602.3 Stud cavity and joist space plenums

Delete this section in its entirety.

603.6.1.1 Duct length

Delete and replace with the following:

Flexible air ducts shall be limited to 8 feet.

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603.6.2.1 Connector length

Delete and replace with the following:

Flexible air connectors shall be limited to 8 feet.

603.17 Registers, grilles and diffusers

Add the following after the last sentence:

For residential uses under Article IV of Chapter 23 of the Municipal Code, cold air returns shall be located both high and low in the occupied space.

Chapter 9 – Special, Appliances, Fireplaces And Solid Fuel Burning Equipment

918.6 Prohibited Sources

In item 1, delete 10 feet and replace it with 12 feet.

Chapter 11 – Refrigeration

1101.4 Water connection

Delete and replace with the following:

Water supply and discharge connections associated with refrigeration systems shall be made in accordance with Chapter 24 of the Municipal Code. The use of open-loop water cooled equipment is prohibited. Exemptions from this prohibition may be granted by the Director of Public Works upon application submitted to the Director of Public Works for such exemption as part of the building permit submittal process.

Chapter 12 – Hydronic Piping

1209.3.1 Steel pipe joints

Delete this section in its entirety.

1209.3.2 Copper tubing joints

Delete this section in its entirety.

Article VI Regulations and Standards for Fuel Gas and Related Systems; Adoption of the International Fuel Gas Code

Section 23-601 Adoption of the International Fuel Gas Code

- a. There is hereby adopted by reference the 2009 Edition of the International Fuel Gas Code (IFGC) for the purpose of establishing rules and regulations for governing fuel gas systems, gas-fired appliances and related systems for use in buildings, structures and premises, except as modified by this Article.
- b. The International Fuel Gas Code shall:
 1. Regulate fuel gas and related systems in other than one- and two- family dwellings regulated by Article III, where the provisions of this Chapter 23 specifically cover the subject matter in question.

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2. In the event that a detail or regulation is not covered by the 2009 Edition of the IFGC then the applicable provisions of the ASHRAE Standards, applicable provisions of the Village Code shall apply..

Section 23-602 Modification by Amendment and Deletion of Various Sections of the International Fuel Gas Code. The 2009 Edition of the International Fuel Gas Code adopted by this Chapter is modified for use in the Village by the following amendments, which amendments are given articles and section numbers identical to the International Fuel Gas Code. To the extent any provision of the IMC conflicts with any provision of the Arlington Heights Municipal Code, the Municipal Code provision will apply.

Chapter 4 – Gas Piping Installations

403.4.3 Copper and brass

Delete existing text and replace with the following:
Copper and brass pipe shall not be used.

403.4.4 Aluminum

Delete existing text and replace with the following:
Aluminum-alloy pipe shall not be used.

403.5.2 Copper and brass tubing

Delete existing text and replace with the following:
Copper and brass tubing shall not be used.

403.5.3 Aluminum tubing

Delete existing text and replace with the following:
Aluminum-alloy tubing shall not be used in exterior locations or underground.

Chapter 5 – Chimneys and Vents

501.8 Appliances not required to be vented

Delete items 1 and 2.

505.1.1 Commercial cooking appliances vented by exhaust hoods

Delete existing text and replace with the following:
Where commercial cooking appliances are vented by means of a Type I or II kitchen exhaust hood system that serves such appliances, the exhaust hood system shall comply with the applicable sections of the Municipal Code.

(Ord. #16-010)

Article VII Regulations and Standards for Energy Conservation and Sound Control Measures

Section 23-701 Adoption of the International Energy Conservation Code. There is hereby adopted by reference the 2015 Edition of the International Energy Conservation Code (IECC) as now or hereafter amended, for the purpose of establishing rules and regulations for governing energy efficient building envelopes and installation of energy efficient mechanical, lighting and power systems for buildings/structures, except as modified by this Article.

- a. The International Energy Conservation Code shall:

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1. Regulate energy conservation in all buildings and structures, where the provisions of this Chapter 23 specifically cover the subject matter in question.
2. In the event that a detail or regulation is not covered by the 2015 Edition of the International Energy Conservation Code or other provisions of this Article, then the applicable provisions of the ASHRAE Standards and/or applicable provisions of the Municipal Code shall apply.

Section 23-702 Modification by Amendment and Deletion of Various Sections of the International Energy Conservation Code. The 2015 Edition of the International Energy Conservation Code adopted by this Chapter is modified for use in the Village by the following amendments, which amendments are given articles and section numbers identical to the International Energy Conservation Code. To the extent any provision of the IECC conflicts with any provision of the Arlington Heights Municipal Code, the more stringent provision will apply.

Chapter 4 – Residential Energy Efficiency

402.1.1 Insulation and Fenestration criteria

Delete existing text and replace with the following:

The building thermal envelope in Arlington Heights shall comply with Table 402.1.1.

Table 402.1.1

INSULATION AND FENESTRATION REQUIREMENTS BY COMPONENT^a

FENESTRATION U-FACTOR ^b	SKYLIGHT U-FACTOR ^b	GLAZED FENESTRATION SGGC ^b	CEILING R-VALUE		WOOD FRAME WALL R-VALUE		MASS WALL R-VALUE ^c	FLOOR OVER UNHEATED INTERIOR SPACES OR UNFINISHED BASEMENT R-VALUE	FINISHED BASEMENT WALL R-VALUE	SLAB PERIMETER R-VALUE AND DEPTH ^c	CRAWL SPACE WALL R-VALUE
			Flat	Cathedral	2x4 Walls	2x6 Walls					
0.35 and shall carry the US Department of Energy's Energy Star Rating	0.60	NR	R-49	R-38	13 + 5 ^d	R-21	R-13/17	R-30	R-15	R-11 and 4 feet	R-30

- a. R-values are minimums. U-factors and SHGC are maximums. R-19 batts compressed into nominal 2x6 framing cavity, such that the R-value is reduced by R-1 or more, shall be marked with the compressed batt R-value in addition to the full thickness R-value.
- b. The fenestration U-factor column excludes skylights. The SHGC column applies to all glazed fenestration.
- c. R-5 shall be added to the required slab edge R-values for heated slabs.
- d. "13+5" means R-13 cavity insulation plus R-5 insulated sheathing. If structural sheathing covers 25 percent or less of the exterior, R-5 sheathing is not required where structural sheathing is used. If structural sheathing covers more than 25 percent of exterior, structural sheathing shall be supplemented with insulated sheathing of at least R-2.
- e. The second R-value applies when more than half the insulation is on the interior of the mass wall.

Table 402.1.3

EQUIVALENT U-FACTORS^a

FENESTRATION U-FACTOR	SKYLIGHT U-FACTOR	CEILING U-FACTOR		FRAME WALL U-FACTOR		MASS WALL U-FACTOR ^b	FLOOR OVER UNHEATED INTERIOR SPACES OR UNFINISHED BASEMENT U-FACTOR	FINISHED BASEMENT WALL U-FACTOR	CRAWL SPACE WALL U-FACTOR
		Flat	Cathedral	2x4 Walls	2x6 Walls				
0.35 and shall carry the US Department of Energy's Energy Star Rating	0.60	0.020	0.026	0.060	0.048	0.082	0.033	0.067	0.033

- a. Non-fenestration U-factors shall be obtained from measurement, calculation or approved source.
- b. When more than half of the insulation is on the interior, the mass wall U-factors shall be the same as the frame wall U-factor.

402.2.11 Thermally isolated sunroom insulation

Delete existing text and replace with the following:

The minimum R-Values and their corresponding U-factors shall be in accordance with Tables 402.1.1 and 402.1.3 respectively. New wall(s) separating a sunroom from conditioned space(s) shall meet the building thermal envelope requirements.

Chapter 5 – Commercial Energy Efficiency

502.3 Fenestration (Prescriptive)

Add the following at the end:

Where glazing units are provided for exterior walls, every exterior window shall be sealed at the wall-window interface and shall be glazed with insulating glazing with a low E coating on the inside of the outside pane.

503.3.1 Economizers

Delete Exception 1.

Table 503.3.1(1)

Delete existing table and replace with the following:

Economizers are required on all cooling systems greater than or equal to 54,000 Btu/h for packaged systems and 66,000 Btu/h for split systems. The total capacity of all systems without economizers shall not exceed 480,000 Btu/h per building, or 20 percent of its economizer capacity, whichever is greater.

503.4.1 Economizers

Delete Exceptions 2 and 3.

503.4.3.2.2 Climate Zones 5 through 8

Delete existing text and replace with the following:

If a closed-circuit cooling tower is used, then a separate heat exchanger shall be required to isolate the cooling tower from the heat pump loop, and heat loss shall be controlled by shutting down the circulation pump on the cooling tower loop and providing an automatic valve to stop the flow of fluid. The use of open-loop water cooled equipment is prohibited in the Village.

Section 23-703 Specific Sound Control Measures for Commercial Buildings and Multi-Family Dwelling Structures. The following provisions shall apply to commercial buildings and multi-family dwelling structures, and any other spaces used for human occupancy that are regulated by Article IV of Chapter 23 of the Municipal Code:

- a. The following are the sound control regulations for all exterior building envelopes:
 1. Where glazing units are provided for exterior walls, such glazing units shall have a minimum STC rating of 32.
 2. At a minimum, roof insulation shall be R-30. This requirement shall not apply to the repair or replacement of roof membranes and/or roof assemblies.
 3. Insulation for floors above unconditioned or exterior space shall be R-30.

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4. Openings other than fenestrations shall be sealed and taped in such a manner as to prevent sound from infiltrating into the interior building environment.
- b. Sound transmission control provisions for interior spaces shall not be applicable within spaces used as mechanical rooms, storage rooms and other spaces not to be occupied by humans; however, those spaces shall be separated with sound insulation from other spaces intended to be occupied by humans.
- c. This Section shall apply to common interior walls, partitions and floor/ceiling assemblies between dwelling units; and between dwelling units and tenant spaces.
 1. Walls, partitions and floor/ceiling assemblies shall have a sound transmission class (STC) of not less than 55 for air-borne noise when tested in accordance with ASTM E 90. Penetrations or openings in construction assemblies for piping; electrical devices; recessed cabinets; bathtubs; soffits; or heating, ventilating or exhaust ducts shall be sealed, lined, insulated or otherwise treated to maintain the required ratings.
 2. Floor/ceiling assemblies shall have an impact insulation class (IIC) rating of not less than 55 when tested in accordance with ASTM E 492.
 3. Referenced Standards.
 - i. ASTM E 90-04 Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements.
 - ii. ASTM E 492-04 Test Method for Laboratory Measurement of Impact Sound Transmission through Floor-ceiling Assemblies Using the Tapping Machine.

Section 23-704 Specific Sound Control Measures for One- and Two-Family Dwellings. In addition to the applicable technical provisions of Article III of this Chapter the following provisions shall apply to all one- and two-family dwellings in the Village:

- a. The following shall apply to all exterior building envelopes:
 1. Exterior sheathing shall be a minimum ½ inch thick Plywood or Oriented-Strand-Board (OSB) or other approved materials on the entire face of all exterior walls.
 2. Roof sheathing shall be a minimum 5/8 inch thick Plywood or Oriented-Strand-Board (OSB) or other approved materials on the entire roof surface.
 3. Exterior windows shall be a minimum of insulated glass with low E coating and shall carry the US Department of Energy's Energy Star Rating.
 4. Exterior doors shall carry the US Department of Energy's Energy Star Rating, and shall meet or exceed the following:

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- i. Doors shall be either solid core wood, insulated fiberglass, insulated steel or an approved alternative. This provision shall apply to service doors, front doors, back doors and doors between the garage and house;
 - ii. Weather stripping shall be provided for door-side treatments and door-bottom treatments to reduce air infiltration to not more than 0.5 cubic feet per minute per square foot;
 - iii. Glazing in doors, sidelights and transoms shall be of a minimum insulated glass conforming to Table 402.1.1 of the IECC or an approved alternative.
5. All interior surfaces where gypsum board is used shall be $\frac{5}{8}$ inch thick and shall be taped and finished to at least a 'level one' in unoccupied spaces and 'level three' in occupied spaces, as specified by the US Gypsum Association document GA-214-96. All other interior surfaces, including floors and ceilings, shall be sealed and finished to minimize the transmission of sound.
 6. Openings other than fenestrations shall be sealed and taped in such a manner as to prevent sound from infiltrating into the interior building environment.
 7. Insulation for floors above unconditioned or exterior space shall be R-30.
- b. The following provisions apply to walls, partitions and floor/ceiling assemblies separating attached dwelling units including those separating adjacent townhouse units and those housing noise generating equipment and materials.
1. Air-borne sound insulation for walls, partitions and floor/ceiling assemblies shall meet a Sound Transmission Class (STC) rating of not less than 55 when tested in accordance with ASTM E 90. Penetrations or openings in construction assemblies for piping; electrical devices; recessed cabinets; bathtubs; soffits; or heating, ventilating or exhaust ducts shall be sealed, lined, insulated or otherwise treated to maintain the required ratings. Dwelling units entrance doors, which share a common space, shall be tight-fitting to the frame and sill.
 2. Floor/ceiling assemblies between dwelling units or between a dwelling unit and a public or service area within the structure shall have an impact insulation class (IIC) rating of not less than 55 when tested in accordance with ASTM E 492.
 3. Referenced Standards.
 - i. ASTM E 90-04 Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements.
 - ii. ASTM E 492-04 (1996)e Specification for Laboratory Measurement of Impact sound Transmission through Floor-ceiling Assemblies Using the Tapping Machine.

Article VIII Relocating Buildings

Section 23-801 Requirements and Restrictions. No residential building or structure shall be moved into other territory already improved with residences to the extent of 75% of the building

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sites contained within a radius of 300 feet of the outside lot lines of the new proposed location unless:

- a. Such residential building or structure is 40 years or less in age;
- b. Such residential building or structure is of approximately the same age, type of architecture, and constructed of approximately the same materials as residential buildings and structures comprising at least 50% of the then existing residential buildings or structures within the area; or unless such residential building or structure shall be, when moved, so repaired, altered and improved that it will conform to the type of architecture and be constructed of such materials so as to be similar in appearance, quality and value to at least 50% of the residential buildings and structures then existing within the area;
- c. Such residential building or structure shall conform with the provisions of these Building Regulations so far as practicable.

Section 23-802 Exceptions - Consent of Neighboring Owners. The provisions of Section 23-201 shall be waived if there is first obtained the written consent of the owners of 75% of the building sites contained within a radius of 300 feet of the outside lot lines of the proposed location to which a residential building or structure is proposed to be moved.

Section 23-803 Permit Required. No building or structure shall be moved to any new location within the Village unless a permit therefor has been issued by the Director of Building. The Director of Building shall issue permits if all provisions of this Article have been complied with and the proposed new building will substantially comply with the provisions of these Building Regulations.

Section 23-804 Application for Permit.

- a. An application for a permit required under the provisions of this Article shall be accompanied by a complete set of plans and specifications covering all proposed repairs, alterations and improvements to be made to the building or structure proposed to be moved.
- b. Such application shall be accompanied by a cash bond in the sum of \$3,000, or a bond in the sum of \$3,000 with sureties satisfactory to the Director of Building, indemnifying the Village and guaranteeing the completion of all repairs, alterations and improvements on such building in accordance with such plans and specifications, within one year after the placing of such building on its new location, and further providing that in the case of failure to complete such repairs, alterations and improvements, such moved building or structure shall be removed from such premises.

Section 23-805 Failure to Make Required Changes. In the event that the moved building or structure is not properly repaired, altered or improved within one year after placing such building or structure, the bond filed in respect thereto shall be forfeited.

Section 23-806 Certificate of Occupancy. After completion and inspection, the Director of Building shall issue a certificate of occupancy when the building or structure has been moved, repaired, altered and improved in accordance with the conditions of the permit.

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Article IX Regulations and Standards for Elevators, Dumbwaiters, Escalators, Platform Lifts, Chairlifts and Moving Walks

Section 23-901 Adoption of Safety Codes. There is hereby adopted by reference the following:

- a. American Society of Mechanical Engineers (ASME)
 1. Safety Code for Elevators and Escalators (ASME A17.1-2007/CSA B44-07)
 2. Performance-Based Safety Code for Elevators and Escalators (ASME A17.7-2007/CSA B44.7-07)
 3. Guide for Inspection of Elevators, Escalators, and Moving Walks (ASME A17.2-2007)
 4. Safety Code for Existing Elevators and Escalators (ASME A17.3-2005)
 5. Safety Standards for Platform Lifts and Stairway Chairlifts (ASME A18.1-2005)
 6. Standard for the Qualification of Elevator Inspectors (ASME QEI-1-2007)
- b. American Society of Civil Engineers (ASCE)
 1. Automated People Mover Standard (ASCE 21-05), Part 1, 2006
 2. Automated People Mover Standards (ANSI/ASCE/T&DI 21.2-08), Parts 2, 3 and 4, 2008

Section 23-902 Elevator Requirements.

- a. A minimum of one elevator is required for all new buildings three or more stories in height, above grade; provided, however, that no elevator shall be required in buildings of three stories when the elevator would service no more than two dwelling units per floor.
- b. All new elevators shall be equipped with emergency key opening devices at all landings. The location and specific type of device shall be approved by the Fire Department.
- c. If the elevator uses an automatic dialer, the ten digit number 847-590-3470 shall be used. If bidirectional communication is available and is used, the elevator should call 911. The phone line used to dial 911 must have the correct address information affiliated with that phone line.