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RESIDENTIAL CODE 1

7-6-1: ADOPTION:

7-6-2: AMENDMENTS:

7-6-1: ADOPTION: ** 🖃

The 2009-2018 International residential code (2009-2018 IRC) as published by the International Formatted: Font: (Default) Arial Code Council, is hereby adopted by the Village by reference and is made a part hereof as if fully set forth in this section with the additions, insertions, deletions and changes set forth section 7-6-2 of this article. To the extent that the provisions of the IRC are inconsistent with any codes previously adopted by the Village by reference, the provisions of the 2009 IRC strait Formatted: Font: (Default) Arial, 12 pt, govern unless specifically set forth in this code. In the event of a conflict between any provisions of the IRC and any provision of the Oak Park Village Code, the provisions of the Oak Park Village Code shall govern.

There shall be three (3) copies of the 2009 18 international residential code kept on file for public inspection in the office of the Village Clerk. (Ord. 2014 0 63, 10 6 2014, eff. 1 1 20

7-6-2: AMENDMENTS: 4 ==

The 2009-2018 international residential code, as adopted pursuant to section 7-6-1 of this article, is hereby amended by adding the underlined language and deleting the overstricken language as follows:

CHAPTER 1 SCOPE AND ADMINISTRATION

PART 1. - SCOPE AND APPLICATION

SECTION R101 - GENERAL

Section R101.1 Title. These regulations, as amended and adopted by the Village of Oak Park shall be known as the residential code of the Village of Oak Park, hereinafter referred to as "this code."

SECTION R102 - APPLICABILITY

Section 102.5 Appendices. Provisions in the appendices shall not apply unless specifically referenced in the adopting ordinance. Adopted as part of this code are:

1. Appendix A - Sizes-Sizing And Capacities Of Gas Piping;

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Oak Park Amendments to the 2018 IRC

- 2. Appendix B Sizing Of Venting Systems Serving Appliances Equipped With Draft Hoods, Category 1 Appliances, And Appliances Listed For Use With Type B Vents;
- 3. Appendix C Exit Terminals Of Mechanical Draft And Direct-Vent Venting Systems;
- 4. Appendix D Recommended Procedure For Safety Inspection Of An Existing Appliance Installation;
- 5. Appendix F Radon Control Methods, as amended hereinafter;
- 6. Appendix G Piping Standards for Various Applications, Swimming Pools, Spas And Hot Tubs

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- 7. Appendix H Patio Covers;
- 8. Appendix J Existing Buildings And Structures;
- 9. Appendix K Sound Transmission, and
- 10. Appendix M Home Day Care R-3 Occupancy.

PART **11-2** - ADMINISTRATION AND ENFORCEMENT

CHAPTER 1, PART #2 - ADMINISTRATION AND ENFORCEMENT is deleted in its entirety Formatted: Font: (Default) Arial, 12 pt and replaced with the following:

CHAPTER 1, PART II-2 - ADMINISTRATION AND ENFORCEMENT

Administration and enforcement of this code shall be governed by applicable provisions of chapter 1 of the international building code as amended and adopted by the Village.

CHAPTER 3 BUILDING PLANNING

SECTION R301 - DESIGN CRITERIA

TABLE R301.2(1) CLIMATIC AND GEOGRAPHIC DESIGN CRITERIA is modified to read as follows:

TABLE R301.2(1)

Climatic And Geographic Design Criteria

Ground snow load: 30-25 psf Wind design speed: 90-115 mph

Topographic effects: No Seismic design category: B

Weathering: Severe

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Oak Park Amendments to the 2018 IRC Page 3

Frost depth line: 42 inches
Termites: Moderate to heavy

Winter design temperature: -4°F, 97.5%

Summer design temperature: 89°F dry bulb, 2.5%; 76°F wet bulb, 2.5%

Ice barrier underlayment required: Yes

Flood hazards: No

Air freezing index: 1543 (°F-Days) Annual mean temperature: 49.4°F Heating degree days (HDD): 6,155 Cooling degree days (CDD): 942

Climate zone: 5A
Heating maximum: 72°F
Cooling minimum: 75°F

100-year hourly rainfall rate: 4 inches

	<u> </u>		1 1	<u> </u>		1 1			
MANUAL J DESIGN CRITERIA"									
Elevation	<u>Lattitude</u>	Winter heating	Summer cooling	Altitude correction factor	Indoor design tenpratur e	<u>Design</u> temperatu re cooling	Heating temperatu re difference		
_	_	_	_	_	_	_	_ /		
Cooling temperatu re difference	Wind velocity heating	Wind velocity cooling	Coinciden twet bulb	<u>Daily</u> range	<u>Winter</u> <u>humidity</u>	<u>Summer</u> <u>humidity</u>	=		
_		_	_	_	_	_			

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[Heitzman note: Commissioner James Johnson agreed at our last meeting to fill out this table for inclusion in the IRC 2018]

TABLE R301.5 MINIMUM UNIFORMLY DISTRIBUTED LIVE LOADS

Add the following to the use Balconies (exterior) and decks:

Horizontal Live Load: 10 psf applied parallel and perpendicular to the joist span on all horizontal occupiable surfaces, including but not limited to built-in seating areas, stairs and walking surfaces for exterior balconies and free-standing decks.

Exceptions:

1. Free standing decks whose occupiabe surface is 36" or less from the *grade plane*.

2. Compliance with the anchorage requirements of Section R507 is acceptable in lieu of designing for Horizontal Live Load.

TABLE R301.5

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Minimum Uniformly Distributed Live Loads, in pounds per square foot

Use: Balconies (exterior) and decks

<u>Live Load: 15, applied laterally and parallel to adjoining main building exterior wall on all horizontal occupiable surfaces, including, but not limited to built-in seating areas, stairs and walking surfaces</u>

SECTION R302 - FIRE-RESISTANT CONSTRUCTION

Section R302.1 Exterior Walls. Construction, projections, openings and penetrations of exterior walls of dwellings and accessory buildings shall comply with table R302.1.

Exceptions:

- 1. Walls, projections, openings or penetrations in walls perpendicular to the line used to determine the fire separation distance;
- 2. Existing exterior walls of dwellings and accessory structures, located on the same lot and projections there from, which are within the minimum fire separation distance required between two structures on the same lot shall not be required to comply with the minimum fire-resistance rating:
- 3. Detached tool sheds and storage sheds, playhouses and similar structures exempted from permits are not required to provide wall protection based on location on the lot. Projections beyond the exterior wall shall not extend over the lot line;
- 4. Detached garages accessory to a dwelling located within 2 feet (610 mm) of a lot line are permitted to have roof eave projections not exceeding 4 inches (102 mm); and
- 5. Foundation vents installed in compliance with this code are permitted.

TABLE R302.1(1) EXTERIOR WALLS

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Exterior Wall Element / Minimum Fire-Resistance Rating / Minimum Fire Separation Distance

Walls / fire-resistance rated / 1-hour, tested in accordance with ASTM E 119 or UL 263 with exposure from both sides / <5 feet <3 feet

Walls / not fire-resistance rated / 0-hours .5 feet .3 feet

Projections / fire-resistance rated / 2-hours, underside surfaces / <1 foot

Projections / fire-resistance rated / 1-hour, underside surfaces / .2 feet to 5 feet .1 foot and <2 feet

<u>Projections / fire-resistance rated / 1-hour, underside surfaces / fire retardant treated framing and decking / <2 feet</u>

Projections / not fire-resistance rated / 0-hours / 5 feet .2 feet

Openings in walls / not allowed / not applicable / <3 feet

Openings in walls / 25% maximum of wall area / 0-hours / 3 feet .3 feet and <5 feet

Openings in walls / unlimited / 0-hours / 5 feet .5 feet

Penetrations / all / comply with section R302.4 / <5 feet

Penetrations / all / None required <u>0-hours</u> / .5 feet

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3 feet

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TABLE R302.1(1)	
EXTERIOR WALLS	

			Formatted: Font: (Default) Arial, 12 pt
	MINIMUM	MINIMUM	Formatted: Font: 12 pt
WALL ELEMENT	FIRE RESISTANCE RATING	FIRE SEPARATION	·
		DISTANCE	
Fire resistance	1 hour—tested in accordance	0 feet	Formatted: Font: 12 pt
rated	with		
	ASTM E119 or UL263		
	or Section 703.3 of the		
	International Building Code		
	with		
	exposure from both sides		
Not fire resistance	0 hours	≥ <mark>5</mark> - <u>3</u> feet	
rated			
Not allowed	N/A	< <u>2-1</u> foot	Formatted: Font: 12 pt
Fire resistance	1 hour on the underside, or	≥ 2 feet 1 foot to < 5 -2	
rated	heavy timber, or fire-retardant-	feet	
	treated wood a,b		
Fire resistance	1 hour, underside surfaces / fire	2 feet	
rated	retardant treated framing and		
	decking		
Not fire resistance	0 hours	<u>≥ 5-2</u> feet	
rated			
Not allowed	N/A	< 3 feet	Formatted: Font: 12 pt
25% maximum of	0 hours	3 feet < 5 feet	
wall area			
Unlimited	0 hours	5 feet	
All	Comply with Section R302.4	< 3 feet	Formatted: Font: 12 pt
	Fire resistance rated Not fire resistance rated Not allowed Fire resistance rated Not fire resistance rated Not fire resistance rated Not allowed 25% maximum of wall area Unlimited	Fire resistance rated Not fire resistance rated Not allowed Fire resistance rated Not fire resistance rated Not allowed Fire resistance rated Not allowed Fire resistance rated Not fire resistance rated Not allowed Fire resistance rated Not allowed Fire resistance rated Not fire resistance rated Not allowed Fire resistance rated Not allowed Not o hours	Fire resistance rated Not fire resistance rated Not allowed Fire resistance rated Not fire resistance rated Not allowed Fire resistance rated Not fire resistance rated Not allowed Fire resistance rated Not allowed Fire resistance rated Not fire resistance rated Not allowed N/A Fire resistance rated Not fire resistance rated Not allowed N/A Fire resistance rated Not allowed N/A Not allowed N/A Not allowed N/A Not allowed Not allowed N/A Sieet Sieet Sieet Not allowed N/A Sieet Sieet Sieet Sieet

a. The fire-resistance rating shall be permitted to be reduced to 0 hours on the underside of the eave overhang if fireblocking is provided from the wall top plate to the underside of the roof sheathing.

None required

b. The fire-resistance rating shall be permitted to be reduced to 0 hours on the underside of the rake overhang where gable vent openings are not installed.

Section R302.2 Townhouses. Each townhouse shall be considered a separate building and shall be separated by from other townhouses by a minimum 2-hour fire-resistance-rated fire wall assemblies meeting the requirements of section R302.1 for exterior walls assembly. The cavities of such walls shall not contain plumbing or mechanical equipment, ducts or vents.

Section R302.12 Draftstopping.

Add the following exception:

Exception: Draftstopping is not required in buildings equipped throughout with an automatic Formatted: Font: (Default) Arial, 12 pt sprinkler system in accordance with section P2904. NFPA 13, NFPA 13R or NFPA 13D as approved by the building official.

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SECTION R311 - MEANS OF EGRESS

Section R311.1.1 Occupied Roofs. For purpose of means of egress only, roofs that are intended for private or public use occupiable space (uses other than general maintenance repair) shall have two separate means of egress. For purpose of this section only, exterior spiral stairways constructed in accordance with section 1009.9 may be provided as a means of egress from an occupiable roof area.

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Exceptions:

- 1. Buildings provided throughout with automatic sprinkler protection;
- 2. Buildings with parapets or roof edge so no higher than 30 feet above the level of fire department access; and

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3. Buildings with windows or other exterior wall openings leading directly to the occupied roof area which have a sill height no higher than 30 feet above the level of fire department access

SECTION R313 - AUTOMATIC FIRE SPRINKLER SYSTEMS

Section R313.2 One- And Two-Family Dwellings Automatic Fire Systems. An automatic Formatted: Format residential fire sprinkler system shall be installed in new construction of one- and two-family dwellings.

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Exception: An automatic residential fire sprinkler system shall not be required for additions or alterations to existing buildings that are not already provided with an automatic residential sprinkler system. Existing one- and two-family dwellings where more than 50% of the habitable floor area above the foundation level is demolished and rebuilt shall be provided with an automatic fire sprinkler system throughout the dwelling.

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SECTION R314 - SMOKE ALARMS

Section R314.1.1 Listings. Smoke alarms shall be listed in accordance with UL 217. Combination smoke and carbon monoxide alarms shall be listed in accordance with UL 217 and UL 2034. The alarm system shall not be dependent upon a subscription-based service to provide the level of notification intended by the provisions of this code. No provision of this code shall be construed to override any more-restrictive provision of other applicable laws and ordinances.

Oak Park Amendments to the 2018 IRC Page 8

R314.3 Location. In new construction or where renovation or addition work requiring a permit occurs in existing buildings, semoke alarms shall be installed in the following locations:

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- 1. In each sleeping room.
- 2. Outside each separate sleeping area <u>within 15 feet of in the immediate vicinity of the door to every bedrooms.</u>

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- 3. On each additional *story* of the *dwelling*, including *basements* and *habitable attics* and not including crawl spaces and uninhabitable *attics*. In *dwellings* or *dwelling units* with split levels and without an intervening door between the adjacent levels, a smoke alarm installed on the upper level shall suffice for the adjacent lower level provided that the lower level is less than one full *story* below the upper level.
- 4. Smoke alarms shall be installed not less than 3 feet (914 mm) horizontally from the door or opening of a bathroom that contains a bathtub or shower unless this would prevent placement of a smoke alarm required by this section.
- 5. In open floor plan areas, within 15 feet of the location used for sleeping purposes;

6. In occupiable spaces of accessory structures, other than those used for vehicle or general storage. When occupiable space, other than that used for vehicle or general storage, is constructed or altered in an accessory structure, an approved smoke alarm shall be installed on each level of the structure. The smoke alarm(s) shall be hard-wire connected to a smoke alarm located within the primary structure on site. Physical interconnection of smoke alarms shall not be required where listed wireless alarms are installed and all alarms sound upon activation of one alarm.

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SECTION R315 - CARBON MONOXIDE ALARMS

R315.1.1 Listings. Carbon monoxide alarms shall be *listed* in accordance with UL 2034. Combination carbon monoxide and smoke alarms shall be *listed* in accordance with UL 2034 and UL 217. The alarm system shall not be dependent upon a subscription-based service to provide the level of notification intended by the provisions of this code. No provision of this code shall be construed to override any more-restrictive provision contained in any other law or ordinance.

R315.3 Location. Carbon monoxide alarms in *dwelling units* shall be installed outside of each separate sleeping area in the immediate vicinity of the bedrooms within 15 feet of the bedroom door, or in the case of an open floor plan, within 15 feet of the location used for sleeping purposes. Where a fuel-burning *appliance* is located within a bedroom or its attached bathroom, a carbon monoxide alarm shall be installed within the bedroom.

315.3.1. Where occupiable space is constructed or altered in an accessory structure an approved carbon monoxide alarm shall be installed in each occupiable space other than space used for vehicle or general storage. The carbon monoxide alarm(s) shall be hardwire connected to a carbon monoxide alarm located within the primary structure on site. Physical interconnection of smoke alarms shall not be required where listed wireless alarms are installed and all alarms sound upon activation of one alarm.

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SECTION R321 - ELEVATORS AND PLATFORM LIFTS

R321.1 Elevators. Where provided, passenger elevators, limited-use and limited-application elevators or private residence elevators shall comply with ASME A17.1/CSA B44-the current provisions of the state of Illinois safety codes and standards for conveyances.

R321.2 Platform lifts. Where provided, platform lifts shall comply with ASME A18.1 the current provisions of the state of Illinois safety codes and standards for conveyances..

SECTION R325 SAFEGUARDS DURING CONSTRUCTION is added as follows: SECTION R325 - SAFEGUARDS DURING CONSTRUCTION

Section R325.1 Safeguards During Construction. Safety measures shall be provided in accordance with applicable provisions of this code, chapter 33 Safeguards During Construction of the international building code as amended and adopted by the Village, and applicable laws.

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CHAPTER 4 FOUNDATIONS

SECTION R401 - GENERAL

Section R401.4.1 Geotechnical Evaluation. In lieu of a complete geotechnical evaluation, the load-bearing values in table R401.4.1 shall be assumed. Unless proven otherwise by submittal of a complete geotechnical soils evaluation of the soils at the site, the maximum load-bearing capacity of foundation materials shall be assumed to be 1,500 pounds per square foot. Where the building official determines that in-place soils with an allowable bearing capacity of less than 1,500 pounds per square foot are likely to be present at the site, the allowable bearing capacity shall be determined by a geotechnical soils evaluation.

TABLE R401.4.1 shall be deleted in its entirety.

SECTION R403 – FOOTINGS

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Section R403.1.4 Minimum Depth. All exterior footings shall be placed at least 42.14 inches Formatted: Font: (Default) Arial, 12 pt (305 mm) below the undisturbed ground surface. Where applicable, the depth of footings shall also conform to sections R403.1.4.1 through R403.1.4.2.

Section R403.1.4.1 Frost Protection. Except where otherwise protected from frost, foundation walls, piers and other permanent supports of buildings and structures shall be protected from frost by one or more of the following methods:

- 1. Extended below the frost line specified in table R301.2.(1);
- 2. Constructing in accordance with section R403.3;
- 3. Constructing in accordance with ASCE 32; or
- 4. Erected on solid rock.

Exceptions:

- 1. Protection of freestanding accessory structures with an area of 600 square feet (56 m²) or less, of light frame construction, with an eave height of 10 feet (3048 mm) or less shall not be required.
- 2. Protection of freestanding accessory structures with an area of 400 square feet (37 m²) or less, of other than light-frame construction, with an eave height of 10 feet (3048 mm) or less shall not be required.
- 3. Decks not supported by a dwelling need not be provided with footings that extend below the frost line.

Exceptions: Free-standing accessory structures meeting all the following conditions shall not be required to be protected:

- 1. Total building perimeter area is 600 square feet or less for light-frame construction or 400 square feet or less for other than light-frame construction;
- 2. Building not higher than 1-story and eave height not higher than 10 feet;
- 3. Building with attic space clear headroom less than 80 inches in height. Higher clear headroom is permitted where the total floor area of the attic space with clear headroom greater than 80 inches occurs over an area less than 70 square feet;
- 4. Building envelope is not constructed with brittle materials such as masonry, stucco, EIFS or similar materials;
- 5. Any overall exterior wall line dimension does not exceed 24 feet; and

6. Where the accessory structure is not connected to a plumbing sewer line.

Section R403.1.9 Minimum Reinforcement For Slabs-On-Ground With Turned Down Footings. Slabs-on-ground with turned down footings shall have a minimum of one no. 4 bar at the top and bottom of the footing. Where the slab is not cast monolithically with the footing, no. 3 or larger vertical dowels with standards hooks on each end shall be provided in accordance with figure R403.1.3.2. Standard hooks shall comply with section R611.5.4.5.

Section R403.1.10 Minimum Reinforcement For Slabs-On-Ground With Interior

Thickened Slabs. Slabs-on-ground with interior thickened slabs shall have a minimum of two
no. 4 bars set in and parallel with the direction of the thickened portion of the slab.

CHAPTER 5 FLOORS

SECTION R502 - WOOD FLOOR FRAMING

Section R502.1.8 Exterior Wood Structural Members. Structural members exposed to the weather shall be of single piece construction unless the individual sections that comprise the composite member are separated by permanently installed spacers to provide air ventilation between the sections.

Section R502.3 Allowable Joist Spans. With the exception of all grades of southern pine lumber species, allowable spans for floor joists shall be accordance with table R502.3.1(1) and R502.3.1(2). For all grades of southern pine lumber, the allowable spans for floor joists shall be determined from the current amendment to the international residential code as published by the American Wood Council. For other grades and/or species and for other loading conditions, refer to the AF&PA span tables for joists and rafters.

Section R502.14 Protection Of Prefabricated And Cold-Formed Structural Members.

When there is usable space above a floor/ceiling assembly and the framing members are prefabricated wood I-joists, wood trusses, cold-formed steel joists or similar construction, the assembly shall be separated from the space below by not less than one layer of \$\frac{5}{8}\$-inch type X gypsum board, taped and sealed with joint compound, or approved equivalent, applied to the bottom of the assembly.

CHAPTER 8 ROOF-CEILING CONSTRUCTION

SECTION R802 - WOOD ROOF FRAMING

Section R802.4 Allowable Ceiling Joist Spans. With the exception of all grades of southern pine lumber species, allowable Sspans for ceiling joists shall be in accordance with table R802.4(1) and R802.4(2). For all grades of southern pine lumber, the allowable spans for

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ceiling joists shall be determined from the current amendment to the international residential code as published by the American Wood Council. For other grades and/or species and for other loading conditions, refer to the AF&PA span tables for joists and rafters.

Section R802.5 Allowable Rafter Spans. With the exception of all grades of southern pine <u>lumber species</u>, allowable spans for rafters shall be accordance with table R802.5.1(1) through R802.5.1(8). For all grades of southern pine lumber, the allowable spans for rafters shall be determined from the current amendment to the international residential code as published by the American Wood Council. For other grades and/or species and for other loading conditions, refer to the AF&PA span tables for joists and rafters. The span of each rafter shall be measured along the horizontal projection of the rafter.

CHAPTER 9 ROOF ASSEMBLIES

SECTION R905 - REQUIREMENTS FOR ROOF COVERINGS

Section R905.14 Sprayed Polyurethane Foam Roofing, section R905.14.1 Slope, section R905.14.2 Material Standards, section R905.14.3 and section R905.14.4 are deleted in their entirety.

CHAPTER 11 ENERGY EFFICIENCY

Chapter 11 - ENERGY EFFICIENCY is deleted in its entirety.

CHAPTER 13

GENERAL MECHANICAL SYSTEM REQUIREMENTS

SECTION M1303 - LABELING OF APPLIANCES

Add the following new paragraph:

Section M1303.1.1 2 Manufacturer's Data Sheets. In lieu of providing a label as required by Formatted: Font: (Default) Arial, 12 pt section M1303.1 the manufacturer's product data sheets may be provided in a permanent protective sleeve located on or near the appliance.

SECTION M1308 - MECHANICAL SYSTEMS INSTALLATION

Section M1308.2.1 Protection For Concealed Dryer Vent Ducts. In concealed locations where clothes dryer vent ducts are installed between studs, joists, rafters or similar members less than 1.5 inches from the nearest edge of the member, the duct shall be protected by shield plates. Protective steel shield plates having a minimum thickness of 0.0575-inch (no. gage), shall cover the area of the width of the duct and shall extend a minimum of 2 inches

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past each side of the duct for the full length of the duct.

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CHAPTER 14 HEATING AND COOLING EQUIPMENT

SECTION M1403 - HEAT PUMP EQUIPMENT

Section M1403.1 Heat Pumps. Where outside and/or return air ducts or openings are required by manufacturer specifications, the minimum unobstructed total area of the outside and return air ducts or openings to a heat pump shall not be less than 6 square inches per 1,000 Btu/h (13 208 mm²kW) output rating or as indicated by the conditions of the listing of the heat pump. Electric heat pumps shall conform to UL 1995.

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SECTION M1411 - HEATING AND COOLING EQUIPMENT

Section M1411.2 Refrigeration Coils In Warm-Air Furnaces. Where a cooling coil is located in the supply plenum of a warm-air furnace, the furnace blower shall be rated at not less than 0.5-inch water column (124 Pa) static pressure at the required airflow for the associated cooling coil (NEC), unless the furnace is listed and labeled for use with a cooling coil. Cooling Formatted: Font: (Default) Arial, 12 pt coils shall not be located upstream from heat exchangers unless listed and labeled for such use. Conversion of existing furnaces for use with cooling coils shall be permitted provided the furnace will operate within the temperature rise specified for the furnace.

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Section M1411.3 Condensate Disposal. Condensate from all cooling coils or evaporators shall be conveyed from the drain pan outlet to an approved place of disposal. Such piping shall maintain a minimum horizontal slope in the direction of discharge of not less than ¹/₈ unit vertical in 12 units horizontal (1-percent slope). Condensate drain lines or piping associated with permanently installed equipment or appliances shall not discharge into a street, alley or other areas where it would cause a nuisance to the exterior through the building envelope.

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Section M1411.4 Auxiliary Drain Pan. Category IV condensing appliances shall have an auxiliary drain pan where damage to any building component will occur as a result of stoppage in the condensate drainage system. These pans shall be installed in accordance with the applicable provisions of section M1411.3.

Exception: Fuel fired appliances that automatically shut down operation in the event of a stoppage in the condensate drainage system.

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CHAPTER 15 EXHAUST SYSTEMS

SECTION M1503 - RANGE HOODS DOMESTIC COOKING EXHAUST EQUIPMENT

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Add the following new paragraph:

<u>Section M1503.6.3 Makeup Air Temperature.</u> The temperature differential between makeup air and the air in the conditioned space shall not exceed 10°F except where the added heating and cooling loads of the makeup air do not exceed the capacity of the HVAC system.

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CHAPTER 16 DUCT SYSTEMS

SECTION M1601 - DUCT CONSTRUCTION

Section M1601.4.1 Joints, seams and connections is modified to add the following text

Unlisted duct tape is not permitted as a sealant on any ductwork.

CHAPTER 18 CHIMNEYS AND VENTS

Section M1806 FLUE LINERS is added as follows:

Section M1806 Flue Liners

Section M1806.1 Retrofit Flue Liners. Retrofit flue liners shall conform to the manufacturer's written instructions, this code and sections M1806.1.1 and M1806.1.2.

Section M1806.1.1 Flexible Flue Liners. Flexible flue liners shall conform to the manufacture written instructions, this code and sections M1806.1.1.1 through M1806.1.1.3.

Section M1806.1.1.1 Attachment. Flexible flue liners shall be firmly attached at the top of the chimney in accordance with the manufacturer's written instructions. In the absence of manufacturer's written instructions, the upper termination of the liner shall be adequately supported and attached with a minimum of three corresion-resistant fasteners made of material(s) compatible with all materials in contact thereto. The attachment(s) shall be adequate to support the entire flue liner in the chimney.

Section M1806.1.1.2 Transition Between Horizontal And Vertical. Flexible flue liners shall not be utilized to transition between horizontal and vertical sections of the flue liner.

Section M1806.1.1.3 Prohibited Installations. Flexible flue liners shall not be utilized in conjunction with solid fuel-burning appliances unless specifically listed and labeled for such use.

Section M1806.1.2 Chimney Connection. A flue liner shall be connected by one of the metho

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prescribed below:

Section M1806.1.2.1 Capped Tee. A capped tee shall be installed at the bottom of the flue liner. The tee stem shall look out toward the appliance connection, the capped end shall be located at the bottom of the vertical length of the flue liner.

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Section M1806.1.2.2 Elbow And Capped Tee. Where it is not possible to install a capped tee if Formatted: Font: (Default) Arial, 12 pt, Not conformance with section M1806.1.2.1, the transition from the vertical length of flue liner to the horizontal length shall be made with a securely attached elbow. A cleanout shall be provided by installing a capped tee in the connector next to the chimney. The capped end of the tee stem shall face downward. The cap shall include provisions for drainage.

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Section M1806.1.2.3 Other Approved Method. This section is not intended to prevent the use of any material, method of construction, design or system not specifically prescribed herein, provided that such construction, design or system has been approved by the code official as meeting the intent of this code.

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CHAPTER 23

SOLAR THERMAL ENERGY SYSTEMS

SECTION M2301 - SOLAR THERMAL ENERGY SYSTEMS

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Section M2301.2 Design and installation. The design and installation of solar energy systems shall comply with Sections_M2301.2.1 through M2301.2.9-13 and the 2008-2017 national electric code as amended and adopted by the Village.

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Section M2301.5 Backflow Prevention. Connections from the potable water supply to solar energy systems shall comply with section P2902.5.5, the state of Illinois plumbing code.

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CHAPTER 24 FUEL GAS

SECTION G2417(406) - INSPECTION, TESTING AND PURGING

Section G2417.7 Purging. The text of section G2417.7 is deleted and replaced with the following:

Section G2417.7 Purging Requirements. The purging of piping shall be in accordance with sections G2417.7.1 through G2417.7.3.

Section G2417.7.1 Piping Systems Required To Be Purged Outdoors. The purging of piping systems shall be in accordance with the provisions of sections G2417.7.1.1 through

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G2417.7.1.4 where the piping system meets either of the following:

- 1. The design operating gas pressure is greater than 2 psig; and
- 2. The piping being purged contains one or more sections of pipe or tubing greater than 2 inches in nominal size and exceeding the lengths in table G2417.7.1.1.

Section G2417.7.1.1 Removal From Service. Where existing gas piping is opened, the section that is opened shall be isolated from the gas supply and the line pressure vented in accordance with section G2417.7.1.3. Where gas piping meeting the criteria of table G2417.7.1.1 is removed from service, the residual fuel gas in the piping shall be displaced with an inert gas.

TABLE G2417.7.1.1

Size and length of piping

Nominal pipe size (inches) / length of piping (feet)

 $\frac{2^4}{12} + 50$

 $\frac{3/>30}{}$

4 / > 15

6/>10

8 or larger / Any length

Section G2417.7.1.2 Placing In Operation. Where gas piping containing air and meeting the criteria of table G2417.7.1.1 is placed in operation, the air in the piping shall first be displaced with an inert gas. The inert gas shall then be displaced with fuel gas in accordance with section G2417.7.1.3.

Section G2417.7.1.3 Outdoor Discharge Of Purged Gases. The open end of a piping system being pressure vented or purged shall discharge directly to an outdoor location. Purging operations shall comply with all of the following requirements:

- 1. The point of discharge shall be controlled with a shutoff valve;
- 2. The point of discharge shall be located at least 10 feet from sources of ignition, at least 10 feet from building openings and at least 25 feet from mechanical air intake openings:
- 3. During discharge, the open point of discharge shall be continuously attended and monitored with a combustible gas indicator that complies with section G2417.7.1.4;
- 4. Purging operations introducing fuel gas shall be stopped when 90% fuel gas by volume is detected within the pipe; and
- 5. Persons not involved in the purging operations shall be evacuated from all areas within 10 feet of the point of discharge.

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Section G2417.7.1.4 Combustible Gas Indicator. The combustible gas indicator used during Formatted: Indent: Left: 0" purging operations shall be listed and shall be calibrated in accordance with the manufacturer's instructions and recommended schedule. The combustible gas indicator used for pipe discharge monitoring shall numerically display a volume scale from 0% to 100% with a resolution of not greater than 1% increments.

<u>Section G2417.7.2 Piping Systems Allowed To Be Purged Indoors Or Outdoors. The purging of piping systems shall be in accordance with the provisions of section G2417.7.2.1 where the piping system meets both of the following:</u>

1. The design operating gas pressure is 2 psig or less; and

2. The piping being purged is constructed entirely from pipe or tubing of 2 inch nominal size or smaller, or larger size pipe or tubing with lengths shorter than specified in table G2417.7.1.1.

Section G2417.7.2.1 Purging Procedure. The piping system shall be purged in accordance with one or more of the following:

The piping shall be purged with fuel gas and shall discharge to the outdoors;

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- 2. The piping shall be purged with fuel gas and shall discharge to the indoors or outdoors through an appliance burner not located in a combustion chamber. Such burner shall be provided with a continuous source of ignition;
- 3. The piping shall be purged with fuel gas and shall discharge to the indoors or outdoors through a burner that has a continuous source of ignition and that is designed for such purpose;
- 4. The piping shall be purged with fuel gas that is discharged to the indoors or outdoors, and the point of discharge shall be monitored with a listed combustible gas detector in accordance with G2417.7.1.2. Purging shall be stopped when fuel gas is detected; or
- 5. The piping shall be purged by the gas supplier in accordance with applicable written procedures.

Section G2417.7.2.2 Combustible Gas Detector. The combustible gas detector used during purging operations shall be listed and shall be calibrated or tested in accordance with the manufacturer's instructions and recommended schedule. The combustible gas detector used for pipe discharge monitoring shall indicate the presence of fuel gas.

Section G2417.7.3 Purging Appliances And Equipment. After the piping system has been placed in operation, appliances and equipment shall be purged before being placed into operation.

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SECTION G2455 FLUE LINERS is added as follows:

SECTION G2455

FLUE LINERS

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Section G2455.1 Retrofit Flue Liners. Retrofit flue liners shall conform to the manufacturer's Formatted: No underline written instructions, this code and sections G2454.1.1 and G2454.1.2.

Section G2455.1.1 Flexible Flue Liners. Flexible flue liners shall conform to the manufacturer's Formatted: No underline written instructions, this code and sections G2454.1.1.1 through G2454.1.1.3.

Section G2455.1.1.1 Attachment. Flexible flue liners shall be firmly attached at the top of the chimney in accordance with the manufacturer's written instructions. In the absence of manufacturer's written instructions, the upper termination of the liner shall be adequately supported and attached with a minimum of three corrosion-resistant fasteners made of material(s) compatible with all materials in contact thereto. The attachment(s) shall be adequate to support the entire flue liner in the chimney.

Section G2455.1.1.2 Transition Between Horizontal And Vertical. Flexible flue liners shall not be utilized to transition between horizontal and vertical sections of the flue liner.

Section G2455.1.1.3 Prohibited Installations. Flexible flue liners shall not be utilized in conjunction with solid fuel-burning appliances unless specifically listed and labeled for such use.

Section G2455.1.2 Chimney Connection. A flue liner shall be connected by one of the methods prescribed below:

Section G2455.1.2.1 Capped Tee. A capped tee shall be installed at the bottom of the flue liner. The tee stem shall look out toward the appliance connection, the capped end shall be located at the bottom of the vertical length of the flue liner.

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Section G2455.1.2.2 Elbow And Capped Tee. Where it is not possible to install a capped tee in conformance with section G2454.1.2.1, the transition from the vertical length of flue liner to the horizontal length shall be made with a securely attached elbow. A cleanout shall be provided by installing a capped tee in the connector next to the chimney. The capped end of the tee stem shall face downward. The cap shall include provisions for drainage.

Section G2455.1.2.3 Other Approved Method. This section is not intended to prevent the use- Formatted: No underline of any material, method of construction, design or system not specifically prescribed herein, provided that such construction, design or system has been approved by the building official as meeting the intent of this code.

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CHAPTER 25 PLUMBING ADMINISTRATION is deleted in its entirety.

CHAPTER 26 GENERAL PLUMBING REQUIREMENTS

SECTION P2601 - GENERAL

Section P2601.1 Scope. The provisions of this chapter shall govern the installation of plumbing not specifically covered in other chapters applicable to plumbing systems. The installation of plumbing, appliances, equipment and systems not addressed by this code shall comply with the applicable provisions of the international plumbing code. The provisions of the Formatted: Font: (Default) Arial, 12 pt current edition of the state of Illinois plumbing code shall govern the erection, installation, alteration, repairs, relocation, replacement, addition to, use or maintenance of plumbing equipment and systems.

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Section P2601.2 Connection. Plumbing fixtures, drains and appliances used to receive or discharge liquid wastes or sewage shall be connected to the sanitary drainage system of the building or premises in accordance with the requirements of this code. This section shall not be construed to prevent indirect waste systems.

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Sewer and Water Service to be Provided. All new one or two-family dwellings shall provide the following:

- 1. New sewer service from the principle structure to the Village sewer main in street.
- 2. Over-head sewer system in buildings with basements.
- 3. New water service from the principle structure to the Village main.
- 4. New water meter, purchased from Village.
- 5. New Buffalo box water shut off valve in parkway, purchased from Village.

Section P2601.3 Flood Hazard Area is deleted in its entirety.

Construction Site Restroom Facilities. For any temporary building or building under construction, that is not yet occupied for its intended purpose, temporary restroom facilities shall be provided for persons working on the construction site in accordance with applicable laws and ordinances.

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Sections P2602, Individual Water Supply And Sewage Disposal, through section P2608 <u>P2609</u> Materials Evaluation And Listing, inclusive, are <u>all</u> deleted in their entirety.

Chapter 27 Plumbing Fixtures,

Chapter 28 Water Heaters,

Chapter 29 Water Supply And Distribution,

Chapter 30 Sanitary Drainage,

Chapter 31 Vents, and

Chapter 32 Traps are all deleted in their entirety.

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CHAPTER 33 STORM DRAINAGE

Chapter 33 STORM DRAINAGE is deleted in its entirety and replaced with chapter 11 of the 2018 International Plumbing Code appended to this code and re-titled Chapter 33 Storm Formatted: Font: (Default) Arial, 12 pt Drainage.

CHAPTER 34 GENERAL REQUIREMENTS

SECTION E3401 - GENERAL

Section E3401.1 ScopeApplicability. The provisions of chapters 34 through 43 shall establish the general scope of the electrical system and equipment requirements of this Chapters 34 through 43 cover those wiring methods and materials most commonly encountered in the construction of one- and two-family dwellings and structures regulated by this code. Other wiring methods, materials and subject matter covered in the NFPA 70 are also allowed by this code. This chapter governs the electrical components, equipment, and systems used in or on buildings, structures, and properties governed by this code. Electrical components, equipment, and systems shall be designed and constructed in accordance with the provisions of the national electric code, NFPA 70 as amended and adopted by the Village.

Sections E3401.2 Scope, E3401.3 Not Covered and E3401.4 Additions and Alterations Formatted: Font: (Default) Arial, 12 pt are deleted in their entirety.

SECTION E3402 BUILDING STRUCTURE PROTECTION is deleted in its entirety.

SECTION E3403 - INSPECTION AND APPROVAL

Sections E3403.1 Approval and E3403.3 Listing and labeling are deleted in their entirety.

Section E3403.2 Inspections Required. New electrical work and parts of existing systems affected by new work or alterations shall be inspected by the building official to ensure compliance with the requirements of chapters 34 through 43. Any electrical work performed Formatted: Font: (Default) Arial, 12 pt where a permit is required to do the work shall be inspected by the building official to ensure compliance with this code. Any electrical work that will be concealed shall be inspected and approved before being concealed. Work inspected and approved shall not be modified without obtaining a subsequent approval after the modification. The building official may require any equipment, component, or panelboard, or access to these elements to be opened for inspection. The building official may require any project related personnel to be on site for apy Formatted: Font: (Default) Arial, 12 pt inspection, including, but not limited to property owners, design professionals, general contractor and/or sub-contractor representatives or owners.

Safe access shall be provided to all areas required for inspection. The building official reserves the right to not perform any inspection where safe access is not provided, including but not necessarily limited to, trenches, ladders, temporary stairs, guardrails, areas requiring the

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removal of safety equipment such as boots or hard hats, and/or manholes or vaults. Where specialty safety equipment is required to perform an inspection, it shall be provided for the inspector to use for the inspection, by a responsible party to the construction project.

The property owner shall ultimately be responsible for assuring that all the required inspections are approved.

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Sections E3404 - GENERAL EQUIPMENT REQUIREMENTS; E3405 - EQUIPMENT LOCATION AND CLEARANCES; E3406 - ELECTRICAL CONDUCTORS AND CONNECTIONS, and E3407 CONDUCTOR AND TERMINAL IDENTIFICATION are deleted in their entirety.

Chapter 35 Electrical Definitions,

Chapter 36 Services.

Chapter 37 Branch Circuit And Feeder Requirements,

Chapter 38 Wiring Methods,

Chapter 39 Power And Lighting Distribution,

Chapter 40 Devices And Luminaires.

Chapter 41 Appliance Installation.

Chapter 42 Swimming Pools, and

Chapter 43 Class 2 Remote-Control, Signaling And Power-Limited Circuits are all deleted in their entirety.

APPENDIX F

RADON CONTROL METHODS

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SECTION AF101 - SCOPE

Appendix F section AF101.1 General. This appendix contains construction in jurisdictions where radon resistant construction is required. Where installed, radon control methods shall be in accordance with this appendix unless superseded by state requirements.

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Inclusion of this appendix by jurisdictions shall be determined through the use of locally

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available data and a determination of zone 1 designation in figure AF101 and Table AF101(1

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APPENDIX J

EXISTING BUILDINGS AND STRUCTURES

SECTION AJ102 - COMPLIANCE

Appendix J sections AJ102.10 and AJ102.11 are added as follows:

Section AJ102.10 Conversion Into Habitable Space. When any area not previously approved or utilized as habitable space is converted into and/or utilized as habitable space.

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regardless of the amount of construction work done in this area, it shall be considered as reconstruction and shall be subject to the requirements of this appendix and the provisions of section R310 of this code.

Section AJ102.11 Conversion Into A Sleeping Room. When any area not previously approved or utilized as a sleeping room is converted into and/or utilized as a sleeping room, regardless of the amount of construction work that was or was not done in this conversion or change of utilization, it shall be subject to all requirements for new construction of a sleeping room as found in this code.

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AJ102.12 Adding Insulation to Existing Attics

Whenever the total R value of existing plus proposed insulation to be added to the floor of an existing attic exceeds R25 (f/Btu), haxBuilding Permit shall be required and a licensed design professional shall submit evidence of the structural adequacy of the existing roof framing (rafters, joists, ridge beams and their connections, as applicable) based on the snow load design provisions of the International Residential Code, or the International Building Code, as currently adopted, including amendments. Where the existing framing cannot be shown to comply with the current design snow load requirements, such framing, including connections, shall be appropriately reinforced using construction details prepared by a licensed design professional. The same requirements shall apply when insulation in excess of R25 is applied between the rafters of a ventilated roof.

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