

VILLAGE OF DOWNERS GROVE
REPORT FOR THE VILLAGE COUNCIL MEETING
NOVEMBER 20, 2012 AGENDA

SUBJECT:	TYPE:	SUBMITTED BY:
Update to Municipal Energy Code	✓ Resolution Ordinance Motion Discussion Only	Tom Dabareiner, AICP Community Development Director

SYNOPSIS

Ordinances have been prepared amending portions of Chapter 7 of the Downers Grove Municipal Code adopting the International Code Council's (ICC) 2012 International Energy Code per State of Illinois requirements.

STRATEGIC PLAN ALIGNMENT

The goals for 2011-2018 identified *Exceptional Municipal Services* and *Steward of Financial and Environmental Sustainability*.

FISCAL IMPACT

N/A

RECOMMENDATION

Staff recommends approval on the December 4, 2012 active agenda.

BACKGROUND

The Village's current energy conservation code was adopted in October, 2009. The energy conservation code that was adopted at that time was the 2009 edition of the International Energy Conservation Code and was mandated for local adoption by the State of Illinois. Senate Bill 3724, signed by the Governor on August 17, 2012, mandates use of the 2012 edition of the International Energy Conservation Code with an effective date of January 1, 2013. The 2009 IECC will stay in effect until January 1, 2013. This code will apply to all commercial and residential buildings throughout the community. Other communities in the western suburbs are also working towards adoption of the 2012 edition.

There are several improvements with the code's adoption. Key changes in the code include:

- Tighter, more insulated, building envelopes.
- Better performing windows.
- Residential performance testing is required prior to occupancy, with a blower door test for whole house air leakage and separate duct leakage test.
- Residential mechanical ventilation is required to ensure the introduction of fresh outdoor air.
- Greater lighting efficiency is required to be achieved with high-efficiency lamps (which are built-in) and intelligent controls.
- Increased power & equipment efficiency, voltage drop controls, and more precise equipment sizing are required.

Some existing local amendments have been eliminated in order to follow the baseline codes representing recognized industry standards. Also, sections have been reorganized and enhanced with cross-references to increase the code's usability.

Staff recommends approval of the building codes as proposed.

ATTACHMENT
Ordinance

2012 Energy Conservation Code

ORDINANCE NO. _____

**AN ORDINANCE ADOPTING THE 2012 EDITION OF THE
INTERNATIONAL ENERGY CONSERVATION CODE**

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

Section 1. That Section 7.1202. is hereby amended to read as follows:

7.1202. International Residential Code - Amendments.

The deletions from and modifications and amendments to the 2006 International Residential Code are the following:

Section R101.1 is amended by deleting the same in its entirety and by substituting in lieu thereof the following:

R101.1 Title. These regulations shall be known as the Residential Code for One- and Two-family Dwellings of the Village of Downers Grove, and shall be cited as such and will be referred to herein as "this code".

Section R103 through Section R104 are amended by deleting the same in their entirety and addressed in Chapter 7, Article II of the Downers Grove Municipal Code.

Section R105.1 is amended by deleting the same in its entirety and addressed in Chapter 7, Article III of the Downers Grove Municipal Code.

Subsection R105.2 is amended by deleting the same in its entirety and by substituting in lieu thereof the following:

R105.2 Work exempt from permit. Permits shall not be required for the following. Exemption from the permit requirements of this code shall not be deemed to grant authorization for any work to be done in any manner in violation of the provisions of this code or any other laws or ordinances of the Village

1. One-story detached accessory structures, provided the floor area does not exceed one hundred (100) square feet and is not more than ten (10) feet from the highest point on the roof to grade.

2. Retaining walls that are not more than three feet in height measured from grade to the top of the wall.

3. Painting, papering, tiling, carpeting, cabinets, counter tops, fixture and appliance replacements.

4. Swings and other playground equipment.

5. Window awnings supported by an exterior wall and do not require additional support.

6. Windows that are the same size as the ones being replaced. Exception: Homes that have received historic designation by the Village Council.

7. Aluminum or vinyl siding replacement. Exception: Homes that have received historic designation by the Village Council.

8. Replacement water heaters, furnaces and air-conditioning units.

9. Re-roofing work involving the replacement of shingles only.

Section R105.3 through Section R105.3.1 are amended by deleting the same in their entirety and addressed in Chapter 7, Article III of the Downers Grove Municipal Code.

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Section R105.3.1.1 is deleted in its entirety

Section R105.3.2 through Section R105.8 are amended by deleting the same in their entirety and addressed in Chapter 7, Article III of the Downers Grove Municipal Code.

Section R106 is amended by deleting the same in its entirety and addressed in Chapter 7, Article IV of the Downers Grove Municipal Code.

Section R108 is amended by deleting the same in its entirety and addressed in Chapter 7, Article VIII of the Downers Grove Municipal Code.

Section R109.1.1 is amended by deleting the phrase "or equipment and special requirements for wood foundations"

Section R109.1.1.1 is hereby added as follows:

R109.1.1.1 Approval of a spot survey. A spot survey indicating the top of foundation elevation and the foundation distances to lot lines must be submitted and approved by the building official prior to the commencement of framing on the foundation.

Section R109.1.3 is amended by deleting the reference to Table R301.2(1) and substitute in lieu thereof the following:

"local flooding data"

Section R109.1.5 is amended by deleting the same in its entirety and by substituting in lieu thereof the following:

R109.1.5 Types of inspections. In addition to the called inspections above, the building official may make or require any other inspections to ascertain compliance with this code and other laws enforced by the building official. Additional inspections required include but are not limited to:

1. Pre-construction, site management inspection
2. Foundation and drain tile prior to backfill
3. Any and all underground utilities
4. Rough framing, electrical, mechanical, plumbing systems
5. Plumbing stack test with water from the highest fixture
6. Insulation with required fire blocking and draft stopping in place
7. New or upgraded electrical service installations prior to activation of service
8. Concrete pours prior to placement of concrete for all exterior and interior slabs on grade, basement and garage floors, stoops, steps, porches, deck piers.

Section R109.1.5.2 is deleted in its entirety.

Section R109.1.6.1 is hereby added as follows:

R109.6.1. Agency approvals. Approval from the Downers Grove Sanitary District will be required as applicable to the type of project.

Section R110 is amended by deleting the same in its entirety and addressed in Chapter 7, Article VII of the Downers Grove Municipal Code.

Section R112 is amended by deleting the same in its entirety and addressed in Chapter 7, Article IX of the Downers Grove Municipal Code.

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Section R113 is amended by deleting the same in its entirety and addressed in Chapter 7, Article X of the Downers Grove Municipal Code.

Section R114 is amended by deleting the same in its entirety and addressed in Chapter 7, Article V of the Downers Grove Municipal Code.

Chapter 2

Section R202 is amended by adding the following definitions:

Section R202 Definitions.

ADHERED STONE OR MASONRY VENEER. Stone or masonry veneer secured and supported through the adhesion of an approved bonding material applied to an approved backing.

AIR-IMPERMEABLE INSULATION. An insulation having an air permeance equal to or less than 0.02 at 75 Pa pressure differential tested in accordance with ASTM E2178 or E 283.

FLOOD HAZARD AREA. An area as defined by local flooding data.

RESCHECK. A proprietary software application for determining compliance with the International Energy Conservation Code.

TERMITE-RESISTANT MATERIAL. Pressure-preservative treated wood in accordance with the AWPAs standards in Section R319.1, naturally durable termite-resistant wood, steel, concrete, masonry or other approved material.

VAPOR RETARDER CLASS. A measure of the ability of a material or assembly to limit the amount of moisture that passes through that material or assembly. Vapor retarder class shall be defined using the desiccant method with Procedure A of ASTM E 96 as follows:

Class I: 0.1 perm or less

Class II: perm greater than .1 but less than or equal to 1.0 perm

Class III: perm greater than 1.0 but less than or equal to 10 perm

Section R202 is further amended by deleting the following definitions:

Section R202 Definitions.

CONFINED SPACE.

UNUSUALLY TIGHT CONSTRUCTION.

VAPOR RETARDER.

CHAPTER 3

Section R.301.1.1 is deleted in its entirety.

Section R301.1.3 is amended by deleting the same in its entirety and by substituting in lieu thereof the following:

R301.1.3. Engineered design. When a building of otherwise conventional construction contains structural elements exceeding the limits of Section R301 or otherwise not conforming to this code, these

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elements shall be designed in accordance with accepted engineering practice. Engineered design in accordance with the International Building Code is permitted for all buildings and structures, and parts thereof, included in the scope of this code.

Section R301.2.1.1 is deleted in its entirety.

Table R301.2(1) is hereby amended as follows:

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

Ground Snow Level	Wind Speed	Seismic Design Category	Subject to Damage From			Winter Design Temp	Ice Barrier Underlayment Required	Flood Hazards	Air Freezing Index	Mean Annual Temp
			Weathering	Frost line depth	Termite					
25 psf	90 MPH (3 second gust at 33 feet above grade)	B	Severe	42"	Moderate to Heavy	-.4 degrees	Yes	Village Zones	2000	50 degrees

Section R301.2.1.2 is deleted in its entirety.

Table R301.2.1.2. is deleted in its entirety.

Section R301.2.1.4 shall be amended by deleting condition #1 and condition #4.

Section R301.2.2.1.2 through Section 301.2.2.4.5 are hereby deleted in their entirety.

Section R301.2.4 first paragraph is amended by deleting the same in its entirety and by substituting in lieu thereof the following:

R301.2.4 Floodplain construction. Buildings or structures constructed in whole or in part in flood hazard areas as determined by local flooding data, shall be designed and constructed in accordance with Section 26.1303.B. of the Village of Downers Grove Municipal Code.

Table 301.5 shall be amended by modifying sleeping room use live load "30" as follows:
"40"

Section R302.1 Exception #2 shall be amended as follows:

R302.1 Exceptions:

2. Detached garages accessory to a dwelling located within five (5) feet of a lot line are permitted to have roof eave projections not exceeding eighteen (18) inches.

Section R305.1 Exception #5 is hereby added as follows:

R305.1 Exceptions:

5. Crawl spaces containing utilities requiring maintenance and servicing shall have a minimum clear height of thirty (30) inches from the slush coat to the bottom of the floor joists.

Section R309.1 is amended by adding the following to the end of the paragraph:

"The door shall be self closing and self latching."

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Section R309.1.1 is amended by deleting the same in its entirety and by substituting in lieu thereof the following:

R309.1.1 Duct penetration. Ducts in the garage penetrating the walls or ceilings separating the dwelling from the garage shall be constructed of a minimum No. 26 gage sheet steel or other approved material and shall have no openings into the garage and shall be covered with a minimum of ½ inch gypsum board.

Section R309.1.1.1 is hereby added as follows:

R309.1.1.1 Separation from heating units. A common door between the garage and the main house heating unit shall not be permitted.

Section R309.1.1.2 is hereby added as follows:

R309.1.1.2 Installation of garage heaters. Heaters installed in garages shall be installed per the provisions of Section 304 of the 2006 International Mechanical Code as adopted and amended.

Subsection R309.2, is amended by deleting the same in its entirety and by substituting in lieu thereof the following:

Garages located less than ten (10) feet from a dwelling unit on the same lot shall be protected with not less than ½ inch gypsum board applied to the interior side of exterior walls that are within this area. Openings in these walls shall be regulated by Section R309.1.

Section R309.3.1 is hereby added as follows:

R309.3.1 Gas curb. The garage floor surface shall be a minimum of 6 inches below the adjacent top of foundation for the common walls with the living space. A six (6)-inch high by four (4)-inch wide concrete gas curb may be poured against the common walls in lieu of the six (6) inch difference in elevation.

Section R3109.2 is amended by deleting the words "3 feet (914mm)" and by substituting in lieu thereof the following:

"10 feet"

Section R3109.2 is further amended by deleting the last sentence of the paragraph.

Section R309.6 is amended by deleting the same in its entirety and by substituting in lieu thereof the following:

R309.6 Automatic garage door openers. Automatic garage door openers, if provided, shall be listed in accordance with UL 325 and wired in accordance with the provisions of the 2008 National Electrical Code.

Section R310.1 is amended by deleting the first three sentences in their entirety and by substituting in lieu thereof the following:

R310.1 Emergency escape and rescue required. Basements and every sleeping room shall have at least one (1) operable emergency and rescue opening. Such opening shall open directly into a public street, public alley, yard or court. Where basements contain one (1) or more sleeping rooms, emergency egress and rescue openings shall be required in each sleeping room and a minimum of one (1) in the main area that can be accessed without passing through a room subject to locking.

Section R310.2.2 is hereby added as follows:

R310.2.2 Window well covers. All window wells shall be covered by a metal grate-type or reinforced fiberglass cover capable of supporting a weight of two hundred fifty (250) lbs. The cover shall

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be easily removable from the inside without the use of keys, tools, or special knowledge.

Section R311.5.8.1 is amended by adding the following sentence at the end of the paragraph:

"Spiral stairways shall not be part of a required means of egress."

Section R312.1 is amended by adding the following sentence at the end of the first paragraph:

"Decorative planter boxes, and built-in seating that do not comply with these height requirements shall not be substituted for providing the required guard."

Section R313 is amended to read as follows:

SECTION R313

SMOKE ALARMS AND CARBON MONOXIDE ALARMS

Section R313.2.1 is amended to add the following condition:

3. Installation, alteration, or repairs of plumbing or mechanical systems that do not result in the removal of interior wall or ceiling finishes exposing the structure, are exempt from the requirements of this section.

Section R313.4 is hereby added as follows:

R313.4 Carbon Monoxide Detection. Every dwelling unit shall be equipped with at least one approved carbon monoxide alarm within fifteen (15) feet of every room used for sleeping purposes. The carbon monoxide alarm may be combined with the smoke detecting devices provided that the combined unit emits an alarm in a manner that clearly differentiates the hazards. The carbon monoxide alarms may be either battery powered, plug-in with battery back-up, or wired into the structure's AC power line with a secondary battery back-up.

Section R317.2 exception shall be amended to delete the words "Chapters 33 through 42" and by substituting in lieu thereof the following:

"the National Electrical Code as adopted and amended by the Village"

Section R318.1 shall be amended to delete Exception #3.

Section R319.1 Condition #1 shall be amended to add the following to the beginning of Condition #1:

"Structural members for all exterior decks and porches, "

Section R319.1 shall further be amended to delete Condition #2 and by substituting in lieu thereof the following:

2. All wood framing members that rest on concrete or masonry exterior foundation walls.

Section R319.1.3 shall be deleted in its entirety.

Section R320.5 shall be deleted in its entirety.

Section R321.1 is amended by deleting the same in its entirety and by substituting in lieu thereof the following:

R321.1 Premises identification. Buildings shall have mounted address numbers placed in a position that is plainly legible from the street fronting the property. Where the distance from the street to the building does not allow for the numbers to be easily viewed, alternative signage shall be provided subject to the review and approval of the Building Official. Address numbers shall be a minimum of four (4) inches high with a minimum stroke width of .5 inches in Arabic font and contrast with their background.

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Section R324.1 is amended by deleting the same in its entirety and by substituting in lieu thereof the following:

R324.1 General. Buildings and structures constructed in whole or in part in flood hazard areas (including A or V Zones) as established by local flooding data shall be designed and constructed in accordance with the provisions contained in this section and the Village of Downers Grove Municipal Code Chapter 26.

Section R324.3 through Section 324.3.6 shall be deleted in their entirety.

CHAPTER 4

Section R401.1 is amended to delete the last sentence of the first paragraph.

Section R401.1 is further amended to delete the exceptions.

Section R401.1 is further amended to delete the last paragraph of the section.

Section R401.2 is amended by deleting the words "wood and" from the last sentence.

Section R401.2.1 shall be added as follows:

R401.2.1 Weather-related construction methods. All concrete preparation, placement, and protection for footings, foundations, and flatwork with temperature conditions below freezing shall be in accordance with accepted industry standards and the protection provisions of ACI 318 when applicable.

Section R402.1 through Section R402.1.2 are deleted in their entirety.

Section R402.3.1 is hereby added as follows:

R402.3.1 Precast concrete foundation materials. Materials used to produce precast concrete foundations shall meet the following requirements.

1. All concrete used in the manufacture of precast concrete foundations shall have a minimum compressive strength of 5,000 psi at 28 days. Concrete exposed to a freezing and thawing environment shall be air entrained with a minimum total air content of 5 percent.
2. Structural reinforcing steel shall meet the requirements of ASTM A 615, A 706 or A 996, the minimum yield strength of the reinforcing steel shall be 40,000 psi Grade 40. Steel reinforcement for precast concrete foundation walls shall have a minimum concrete cover of 3.4 inch.
3. Panel-to-panel connections shall be made with Grade II Steel fasteners.
4. The use of non-structural fibers shall conform to ASTM C 1116.
5. Grout used for bedding precast concrete foundations placed upon concrete footings shall meet ASTM C 1107.

Section R403.1 is amended by deleting the words "fully grouted masonry" and "wood foundations".

Table R403.1 is amended to delete "Masonry footings".

Section R403.1.1 is amended by deleting the phrase "masonry footings"

Section R403.1.1 is further amended by deleting the last sentence of the section.

Figure R403.1(2) and Figure R 403.1(3) are deleted in their entirety.

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Section R403.1.1.2 is added as follows:

R403.1.1.2 Open deck and gazebo piers. One-story wood deck structures without roofs, and free-standing gazebo type structures with roofs, shall be permitted to be constructed on concrete piers. The piers shall be spaced in accordance with proper structural design for the anticipated loading conditions. All wood supporting columns shall be anchored to the piers with galvanized post base anchors.

Section R403.1.1.3 is added as follows:

R403.1.1.3 Screen rooms and Three-season room foundations. Screen rooms and three-season rooms shall be supported on a minimum of an eight (8) inch wide continuous trench-type foundation.

Section R403.1.1.4 is added as follows:

R403.1.1.4 Stoop foundations. When constructed of concrete, stone or masonry materials, the main entry stoop or front porch exceeding three (3) risers in height shall be supported on a minimum of a continuous perimeter trench type foundation 42" deep. All other exterior stoops and stairs shall be supported on a minimum of wing walls tied with reinforcing bars to the main foundation or 8" diameter concrete piers, 42" deep.

Section R403.1.2 is amended by deleting the same in its entirety.

Section R403.1.3 is amended by deleting the same in its entirety.

Section R403.1.4.2 is amended by deleting the same in its entirety.

Section R403.1.5.1 is added as follows:

R403.1.5.1 Reinforcement of stepped foundations. Where stepped footings support continuous concrete foundations walls, a minimum of two (2) No. 4 steel reinforcing bars shall run continuously through the foundations wall for a minimum distance of one (1) foot beyond the ends of the footing break in both directions.

Section R403.1.6 is hereby amended to delete the words "In Seismic Design Categories".

Section R403.1.6 is further amended to add the following at the end of the second paragraph:

"Only steel shims and grout shall be permitted to fill sill plate gaps. No wood or loose shims shall be permitted."

Section R403.1.6.1 is amended by deleting the same in its entirety.

Section R403.2, is amended by deleting the same in its entirety.

Section R403.3 is amended by deleting the same in its entirety.

Figure R403.3(1), (3) and (4) are amended by deleting the same in their entirety.

Section R403.3.1 through Section 403.3.4 are amended by deleting the same in their entirety.

Section R404.1 is amended by deleting the number "3.5 inches (89 mm)" and substituting in lieu thereof the following:

"4.0 inches"

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Section R404.1.1, Section R404.1.2, Section R404.1.4 and Section R404.1.5.1 are amended by deleting the words "In Seismic Design Categories D"

Section R404.1.8 is amended by deleting the same in its entirety.

Section R404.2, is amended by deleting the same in its entirety.

Section R404.2.1, is amended by deleting the same in its entirety.

Section R404.2.2, is amended by deleting the same in its entirety.

Section R404.2.3, is amended by deleting the same in its entirety.

Table R404.2.3 is amended by deleting the same in its entirety.

Table R404.2.4 is amended by deleting the same in its entirety.

Table R404.2.5 is amended by deleting the same in its entirety.

Section R404.3 is amended by deleting the same in its entirety and by substituting in lieu thereof the following:

R404.3. Wood sill plates. Wood sill plates shall be a minimum of two (2)-inch by four (4)-inch nominal lumber. Sill plate anchorage shall be in accordance with Sections R403.1.6 and R602.11. Sill plates shall be of naturally durable or pressure-treated wood.

Section R404.4 is amended by deleting the same in its entirety and by substituting in lieu thereof the following:

R404.4 Insulating concrete form foundation walls. Insulating concrete form (ICF) foundation walls shall be designed and constructed in accordance with the provisions of this section or in accordance with the provisions of ACI 318. Project drawings, typical details and specifications are required to bear the seal of a State of Illinois licensed architect or structural engineer responsible for the design.

Section R404.4.1 is hereby amended to delete the words "In Seismic Design Categories".

Section R404.4.7.2 is amended by deleting the same in its entirety.

Section R405.1 is amended by deleting the same in its entirety and by substituting in lieu thereof the following:

R405.1 Concrete or masonry foundations. Drains shall be provided around all concrete or masonry foundations that retain earth and enclose habitable or usable spaces located below grade. A continuous perforated pipe, six (6) inch minimum diameter, shall be placed on a minimum of two (2) inches of washed gravel and covered with not less than six (6) inches of the same material. A sump pit and pump shall be provided. The sump pump discharge shall be in accordance with Section 13.7 of the Downers Grove Municipal Code.

Section R405.1 is further amended by deleting the exception.

Section R405.2 through Section R406.3.4 are amended by deleting the same in their entirety.

Section R407.3 is amended by deleting the same in its entirety and by substituting in lieu thereof the

following:

R407.3 Structural requirements. The columns shall be restrained to prevent lateral displacement at the bottom and top end. Wood columns shall not be less in nominal size than four (4) inches by four (4) inches and steel columns shall not be less than three (3)-inch diameter standard pipe or approved equivalent. No loose steel shims shall be permitted at the top or bottom ends. Shims must be welded or bolted through to the steel beam being supported.

Section R407.3 is further amended by deleting the exception.

Section R408.3 is amended by deleting the same in its entirety and by substituting in lieu thereof the following:

R408.3 Unvented crawl space. Ventilation openings in under-floor spaces specified in Sections R408.1 and R408.2 shall not be required where:

1. A two (2) inch minimum concrete slush coat floor slab is provided and one of the following is provided for the under-floor space.
 - 1.1 Continuously operated mechanical exhaust ventilation at a rate equal to one (1) cfm for each fifty (50) square feet of crawlspace floor area, including an air pathway to an adjacent conditioned space, and perimeter walls insulated in accordance with the International Energy Conservation Code.
 - 1.2 Conditioned air supply sized to deliver at a rate equal to one (1) cfm for each fifty (50) square feet of under-floor area, including a return air pathway to an adjacent conditioned space, and perimeter walls insulated in accordance with the International Energy Conservation Code.

Section R408.4 is amended to add the following at the end of the first paragraph:

"A minimum of thirty (30) inch vertical clearance is required for access requirements where mechanical equipment is located under floors."

Section R408.7 is amended by deleting the same in its entirety and by substituting in lieu thereof the following:

R408.7 Flood resistance. For buildings located in areas prone to flooding as established by local flooding data.

CHAPTER 5

Section R502.6 is amended by deleting the same in its entirety and by substituting in lieu thereof the following:

R502.6 Bearing. The ends of each joist, beam or girder shall have not less than one and a half (1.5) inches of bearing on wood or metal and not less than three (3) inches on masonry or concrete. Bearing for engineered lumber products must meet the requirements of the manufacturer.

Section R502.7 is amended by deleting the exception.

Section R502.7.1 is amended to add the following at the end of the first paragraph:

"Bridging split in nailing must be removed and replaced."

Section 506.1, is amended by deleting the same in its entirety and by substituting in lieu thereof the following:

R506.1 General. Concrete slab-on-grade floors and exterior slabs, shall be a minimum of 4.0

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inches thick (for expansive soils, see Section R403.1.8). The specified compressive strength of concrete shall be set forth in Section R402.2.f.

Exception: Crawl space floors shall consist of a minimum of 2 inches of concrete on a vapor retarder as specified in 506.2.3 on a base as specified in Section 506.2.2. If plumbing fixtures are located on the floor directly above the crawl space area, a floor drain shall be installed per the State of Illinois Plumbing Code.

Section R506.2 is amended by deleting the same in its entirety and by substituting in lieu thereof the following:

R506.2 Base. A four (4)-inch thick base course consisting of CA-6 type gravel, or three-fourths (3/4) inch crushed stone shall be placed and machine-compacted on the prepared subgrade for all slabs.

Section R506.2.3 is amended by deleting the Exception #1.

CHAPTER 6

Section R602.5 is amended by deleting the same in its entirety and by substituting in lieu thereof the following:

R602.5 Interior nonbearing walls. Interior nonbearing walls shall be permitted to be constructed with studs at sixteen (16) inches on center. Interior nonbearing walls shall be capped with at least a single top plate. Interior nonbearing walls shall be fire blocked in accordance with Section R602.8.

Section R602.7.2 is amended by deleting the last sentence of the paragraph.

Section R602.8.1 is amended by deleting "Batts or blankets or mineral wool or glass fiber or other approved materials installed in such a manner as to be securely retained in place shall be permitted as an acceptable fire block."

Section 602.8.1.1 is amended by deleting the same in its entirety and by substituting in lieu thereof the following:

R602.8.1.1 Unfaced fiberglass. When piping, conduit or similar obstructions are encountered, the insulation shall be packed tightly around the obstruction.

Section R602.8.1.3 is hereby added as follows:

R602.8.1.3 Draftstopping. For draftstopping requirements see Section R502.12.

Section R602.10 shall be amended to delete the phrase "For buildings in Seismic Design Categories D"

Table R602.10.1 shall be amended to delete Seismic Design Categories C and D

Section R602.10.2.2 is amended by deleting the same in its entirety.

Table R602.10.6 shall be amended to delete Seismic Design Categories C and D

Section R602.10.9, Section R602.10.11, Section R602.10.11.3 through Section R602.11.3 are amended by deleting the same in their entirety..

Section R606.1.1 is amended by deleting the same in its entirety and by substituting in lieu thereof the following:

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R606.1.1 Professional registration required. When the empirical design provisions of ACI 530/ASCE 5/TMS 402 Chapter 5 or the provision of this section are used to design masonry; project drawings, typical details and specifications are required to bear the seal of a State of Illinois licensed architect or structural engineer.

Section R606.4.2 is amended by deleting the same in its entirety and by substituting in lieu thereof the following:

R606.4.2 Support at foundation. Cavity wall or masonry veneer construction must be supported on a foundation wall of equal width of the wall system above.

Figure R606.11(2) and Figure R606.11(3) are amended by deleting the same in their entirety.

Section R606.12 through Table R606.12.4.2. are amended by deleting the same in their entirety.

Section R606.16 is hereby added as follows:

R606.16 Weep holes. See section 703.7.6 for weep hole requirements.

Section R607.1.3 is amended by deleting the same in its entirety.

Section R607.3 shall be amended to add Condition #3 as follows

3. See section 703.7.4 for wall tie spacing requirements.

Section R611.1 is amended by deleting the same in its entirety and by substituting in lieu thereof the following:

R611.1 General. Insulating concrete form (ICF) walls shall be designed and constructed in accordance with the provisions of this section or in accordance with the provisions of ACI 318. Project drawings, typical details and specifications and required to bear the seal of a State of Illinois licensed architect or structural engineer responsible for the design.

Section R611.2 is amended by deleting the second paragraph.

Section R611.6.1 is amended by deleting “In Seismic Design Categories D”

Section R611.6.2 is amended by deleting the same in its entirety.

R611.7.1.2 is amended by deleting the first and second paragraphs in their entirety and by substituting in lieu thereof the following:

R611.7.1.2 Vertical steel. Above-grade concrete walls shall have reinforcement in accordance with Sections R611.3, R611.4, or R611.5 and R611.7.2.

R611.7.1.3 is amended by deleting the second and third paragraph.

Section R611.7.4 is amended by deleting “Table R611.7 (11) shall be used to determine the minimum amount of solid wall length for townhouses in Seismic Design Category C, and all buildings in Seismic Design Categories D.”

Table R611.8(2), Figure R611.8(6), Figure R611.8(7), Section R611.8.1.1 through Section R611.9.1 are amended by deleting the same in their entirety.

Section R613.7 is amended by deleting the same in its entirety.

CHAPTER 7

Section R702.3.2.1 is hereby added as follows:

R702.3.2.1 Concealment of framing. All framing of finished rooms, closets, storage areas, and under stairways shall have a minimum of one half (1/2) inch thick gypsum board applied.

Section R703.2 is amended by deleting Exception #1

Section R703.3.1 is amended by adding at the end of the paragraph the following sentence:

“All panels shall contain an approved rated siding grade mark. All panels shall be decorative in appearance such as T1-11 siding.”

Section R703.4 is amended by adding at the end of the paragraph the following sentence

“Siding materials shall not be nailed directly to studs unless the material is a structural rated panel designed for this purpose.”

Section R703.7 is amended by deleting Exception #2

Table R703.7(2) is amended by deleting the same in its entirety.

Section R703.7.2 is amended by deleting the same in its entirety.

Section R703.7.4.1 is amended by deleting the exception.

Section R704 is hereby added as follows:

R704 Weather caulking. All exterior openings in the exterior weather protective membrane shall be caulked with an elastic, non-hardening and firmly adhering material, the intersections of all wood to masonry, or dissimilar materials shall be caulked.

CHAPTER 8

Section R801.3 is amended by deleting the same in its entirety and by substituting in lieu thereof the following:

R801.3 Roof drainage. All dwellings and accessory buildings of four hundred (400) square feet or larger shall have a controlled method of water disposal from roofs that will collect and discharge roof drainage to the ground surface at least five (5) feet from foundation walls, or to an approved drainage system, or in a manner as reviewed and approved by the building official.

Section R802.5.1 is amended by deleting the same in its entirety and by substituting in lieu thereof the following:

R802.5.1 Purlins. Purlins shall be engineered by the design professional of record.

Table R802.5.1(7) is amended by deleting the same in its entirety.

Table R802.5.1(8) is amended by deleting the same in its entirety.

Section R802.7.1 is amended by deleting the exception.

Section R803.1 is amended by deleting the same in its entirety and by substituting in lieu thereof the following:

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R803.1 Lumber sheathing. Allowable spans for lumber used as roof sheathing shall conform to Table R803.1. Spaced lumber sheathing for wood shingle and shake roofing shall conform to the requirements of Sections R905.7 and R905.8.

Section R803.2.4 shall be added as follows:

R803.2.4 Sheathing supports. Sheathing clip supports or other methods approved by the design professional of record shall be used when framing centers exceed sixteen (16) inches o.c.

Section R806.1 is amended by amending the "1/8 inch minimum" and by substituting in lieu thereof the following:

"1/16 inch minimum"

Section R806.2 shall be amended to delete the last sentence of the first paragraph in its entirety and by substituting in lieu thereof the following:

"As an alternative, the net free cross-ventilation area may be reduced to 1/300 when a Class I or II vapor barrier is installed on the warm-in-winter side of the ceiling."

Section R806.4 is amended by deleting Exception #3.

CHAPTER 9

Section R903.4.2 is hereby added as follows:

R903.4.2 Gutters and downspouts.

1. Gutters and downspouts shall be installed on all dwelling units and accessory buildings that are four hundred (400) square feet or larger unless omission is specifically permitted by the building official.
2. Downspouts shall not be connected to the sanitary sewer system or to the footing draitile system unless specifically permitted by the building official. All outlets shall discharge into the front and rear yards through an open splash block or as otherwise permitted by the building official.
3. Gutter and downspout material shall consist of the following:
 - a. 16 ounce, hard, cornice tempered copper
 - b. 26 gauge galvanized sheet metal with a 1.25-ounce total weight psf zinc coating
 - c. Aluminum with a minimum gauge of .019
 - d. Vinyl or other material when permitted by the building official.

Section R905.2.4.2 is hereby added as follows:

R905.2.4.2 Fire resistance of asphalt shingles. Asphalt shingles shall be of Class C label or better per the requirements of Section 1505 of the International Building Code.

Section R905.2.7.2 is amended by deleting the same in its entirety.

Section R905.3.3.3 is amended by deleting the same in its entirety.

Section R907.7 is hereby added as follows:

R907.7 Ventilation. When re-covering or replacing an existing roof, the roof shall be ventilated in accordance with the requirements of Section R806.

CHAPTER 10

Section R1001.3 through Section R1001.3.2 are amended by deleting the same in their entirety.

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Section R1001.4 through Section R1001.4.1 are amended by deleting the same in their entirety.

Section R1002.4 is amended by deleting the same in its entirety.

Section R1003.3 through Section R1003.4.1 are amended by deleting the same in their entirety.

Section R1003.11.3 is amended by deleting the same in its entirety and by substituting in lieu thereof the following:

R1003.11.3 Gas appliances. Flue lining systems for gas appliances shall be in accordance with the International Mechanical Code.

Section R1004.1.1 is hereby added as follows:

R1004.1.1 Insulated fire boxes. When a factory-built fireplace is installed on an outside wall, the frame cavity surrounding the firebox shall be insulated in the same manner as the adjacent wall areas. The product's rating for clearance to combustibles shall be maintained. A minimum of ½" gypsum board shall be installed over combustible materials extending from the bottom of the firebox to the firestop located above the appliance.

Section R1005.4.1 is hereby added as follows:

R1005.4.1 Chimney enclosures. Portions of the chimney which pass through habitable spaces or closets shall be enclosed in a drywall chase to avoid personal contact, contact with combustible material, and damage to the chimney.

Section R1005.4.2 is hereby added as follows:

R1005.4.2 Installation of firestops. Firestops shall be installed inside of the chase enclosing the factory-built chimney. The firestop device shall be as provided by the manufacturer for use with that specific chimney being installed. The firestops shall be placed at a minimum at the level of each ceiling that the chimney passes through or when located on an outside wall, at the points equivalent to each ceiling line. All installations shall meet the requirements of the manufacturer's installation guidelines.

Section R1005.4.3 is hereby added as follows:

R1005.4.3. Insulating of chase. When the enclosing fireplace 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 up to the firestop. The insulation shall then be covered with 1/2 inch drywall.

Chapter 11 is amended by deleting the same in its entirety and by substituting in lieu thereof the following:

See the ~~2009~~2012 International Energy Conservation Code as adopted and amended by the Village.

CHAPTERS 12 through 23 - Residential Mechanical

Section M1201.1 is hereby amended to delete "24" and by substituting in lieu thereof the following:
"23"

Section M1201.2 is hereby amended to delete "24" and by substituting in lieu thereof the following:
"23"

Section M1405.1, Section M1406.1, Section M1406.2, and Section M1407.1 are hereby amended to

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delete the phrase "Chapters 33 through 42 of this code" and by substituting in lieu thereof the following:
"the applicable provisions of the 2008 National Electrical Code."

Section M1413.2 is amended by deleting the same in its entirety and by substituting in lieu thereof the following:

M1413.2 Protection of potable water. The potable water system shall be protected from backflow in accordance with the provisions of the State of Illinois Plumbing Code.

Section M1601.1.1 is amended by deleting Condition #7 and its subsections in their and by substituting in lieu thereof the following:

7. Stud wall cavities and the spaces between solid floor joists shall not be used for air plenums serving habitable spaces. Supply and return air shall be conveyed in a ducted system.

Section M1601.4 is amended by deleting the same in its entirety and by substituting in lieu thereof the following:

M1601.4 Under –floor plenums. An under floor space used as a supply plenum to a habitable space shall not be permitted.

Section M1801.1 and Section M2001.1.1 are amended by deleting reference to "Chapter 24" and by substituting in lieu thereof the following:

"the International Fuel Gas Code."

Section M2004.1 is amended by deleting the same in its entirety and by substituting in lieu thereof the following:

M2004.1 General. Water heaters used to supply both potable hot water and hot water for space heating shall be installed in accordance with this chapter, the manufacturer's installation instructions, the 2006 International Fuel Gas Code, and the 2008 National Electrical Code.

Section M2005.1 shall be amended to delete reference to "Chapter 24" and and by substituting in lieu thereof the following:

"The International Fuel Gas Code."

Section M2005.3 is amended by deleting the same in its entirety and by substituting in lieu thereof the following:

M2005.3 Electric water heaters. Electric water heaters shall also be installed in accordance with the applicable provisions of the 2008 National Electrical Code.

Chapter 24 is amended by deleting the same in its entirety and by substituting in lieu thereof the following:

See the 2006 International Fuel Gas Code as adopted and amended by the Village.

Chapter 25 through Chapter 32 are amended by deleting the same in their entirety and by substituting in lieu thereof the following:

See the State of Illinois Plumbing Code as adopted and amended by the Village.

Chapter 33 through Chapter 42 are amended by deleting the same in their entirety and by substituting in lieu thereof the following:

See the 2008 National Electrical Code as adopted and amended by the Village.

The following appendicies are adopted by reference as amended:

APPENDIX G

AG106.2 is amended by deleting the same in its entirety and by substituting in lieu thereof the following:

AG106.2 Suction Fittings. Pool and spa suction outlets shall have a cover that conforms to ANSI/ASME A112.19.8-2007 on every drain/gate.

APPENDIX K

Section 2. That Section 7.1500.ART. is hereby amended to read as follows:

7.1500.ART. Article XV. INTERNATIONAL ENERGY CONSERVATION CODE

Section 3. That Section 7.1501. is hereby amended to read as follows:

7.1501. 2012 International Energy Conservation Code - Adopted.

The International Code Council Energy Conservation Code, as promulgated by the International Code Council ("ICC"), being particularly the ~~2009~~2012 edition thereof, is hereby adopted 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, including permits and penalties required for such purposes. The same is adopted in its entirety, save and except such portions as are hereinafter deleted, modified or amended, and is, together with such amendments, incorporated as fully as if set out at length herein, and shall control in the construction of all buildings and structures therein regulated within the Village. Said Energy Conservation Code, as modified and amended, may be referred to for all purposes as the "Downers Grove Energy Conservation Code" or the "Energy Conservation Code". At least one copy of said Code, including such amendments to it as shall be enacted, shall be filed in the office of the Village Clerk, and additional copies shall be available in the Community Development Department of the Village.

Section 4. That Section 7.1502. is hereby amended to read as follows:

7.1502. International Energy Conservation Code - Amendments.

The deletions from and modifications and amendments to the International Energy Conservation Code as referred in this Article are the following:

Section C101.1 is amended by deleting the same in its entirety and substituting in lieu thereof the following:

C101.1 Title. This code shall be known as the International Energy Conservation Code of the Village of Downers Grove, and shall be cited as such. It is referred to herein as "this code."

Section C101.4.3 is amended by deleting Exception #3.

Section C103.1 is amended by deleting the phrase "one or more sets" and substituting in lieu thereof the following:

"two ore more sets"

Section C103.3.1 is amended by deleting the same in its entirety and addressed in Chapter 7, Article IV of the Downers Grove Municipal Code.

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Section C103.3.2 is amended by deleting the same in its entirety and addressed in Chapter 7, Article IV of the Downers Grove Municipal Code.

Section C107 is amended by deleting the same in its entirety and addressed in Chapter 7, Article VIII of the Downers Grove Municipal Code.

Section C108.4 is amended by deleting the same in its entirety and addressed in Chapter 7, Article V of the Downers Grove Municipal Code.

Section C109 is amended by deleting the same in its entirety and addressed in Chapter 7, Article IX of the Downers Grove Municipal Code.

Section C201.3 is amended by deleting the same in its entirety and substituting in lieu thereof the following:

C201.3 Terms defined in other codes. Terms that are not defined in this code but are defined in the International Building Code, the National Electrical Code, International Fire Code, International Fuel Gas Code, International Mechanical Code, State of Illinois Plumbing Code, or the International Residential Code shall have the meanings ascribed to them in those codes.

Section C301.2 through Section C301.3 are deleted in their entirety.

Table C301.3(1) is deleted in its entirety.

Section C402.1.1 is amended by deleting the same in its entirety and substituting in lieu thereof the following:

C402.1.1 Installation and fenestration criteria. The *building thermal envelope* shall meet the requirements of Tables C402.1.1 and C402.3 based on the climate zone specified in Chapter 3. The Village of Downers Grove is located in climate zone no. 5. Commercial buildings or portions of commercial buildings enclosing Group R occupancies shall use the R-values from the "Group R" column of Table C402.2. Commercial buildings or portions of commercial buildings enclosing occupancies other than Group R shall use the R-values from the "All other" column of Table C402.2. Buildings with a vertical fenestration area or skylight area that exceed that allowed in Table C402.3 shall comply with the building envelope provisions of ANSI/ASHRAE/IESNA 90.1.

Section R101.1 is amended by deleting the same in its entirety and substituting in lieu thereof the following:

R101.1 Title. This code shall be known as the International Energy Conservation Code of the Village of Downers Grove, and shall be cited as such. It is referred to herein as "this code."

Section R101.4.3 is amended by deleting Exception #3.

Section R103.1 is amended by deleting the phrase "one or more sets" and substituting in lieu thereof the following:

"two ore more sets"

Section R103.3.1 is amended by deleting the same in its entirety and addressed in Chapter 7, Article IV of the Downers Grove Municipal Code.

Section R103.3.2 is amended by deleting the same in its entirety and addressed in Chapter 7, Article IV of

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the Downers Grove Municipal Code.

Section R107 is amended by deleting the same in its entirety and addressed in Chapter 7, Article VIII of the Downers Grove Municipal Code.

Section R108.4 is amended by deleting the same in its entirety and addressed in Chapter 7, Article V of the Downers Grove Municipal Code.

Section R109 is amended by deleting the same in its entirety and addressed in Chapter 7, Article IX of the Downers Grove Municipal Code.

Section R201.3 is amended by deleting the same in its entirety and substituting in lieu thereof the following:

R201.3 Terms defined in other codes. Terms that are not defined in this code but are defined in the International Building Code, the National Electrical Code, International Fire Code, International Fuel Gas Code, International Mechanical Code, State of Illinois Plumbing Code, or the International Residential Code shall have the meanings ascribed to them in those codes.

Section R301.2 through Section R301.3 are deleted in their entirety.

Table R301.3(1) is deleted in its entirety.

Section R402.1.1 is amended by deleting the same in its entirety and substituting in lieu thereof the following:

R402.1.1 Installation and fenestration criteria. The *building thermal envelope* shall meet the requirements of Table R402.1.1 based on the climate zone specified in Chapter 3. The Village of Downers Grove is located in climate zone no. 5.

Section ~~402.2.9~~**R402.2.10** is amended by deleting the same in its entirety and substituting in lieu thereof the following:

~~402.2.9~~**R402.2.10 Crawl space walls.** As an alternative to insulating floors over crawl spaces, crawl space walls shall be permitted to be insulated when the crawl space is not vented to the outside. Crawl space wall insulation shall be permanently fastened to the wall and extend downward from the floor to the finished grade level and then vertically and/or horizontally for at least an additional twenty-four (24) inches. Exposed earth shall not be permitted in crawl spaces. A minimum of a two (2) inch concrete slush coat on a vapor barrier on a minimum of four (4) inches of gravel shall be required.

Section ~~403.2.3~~ is amended by deleting the same in its entirety and substituting in lieu thereof the following:

~~403.2.3 Building cavities.~~ Building framing cavities shall not be used as supply ducts or return ducts serving habitable spaces.

Section ~~R~~**405.6.3** is amended by deleting the same in its entirety and substituting in lieu thereof the following:

R405.6.3 Input values. When calculations require input values not specified by Sections 402, 403, and 404, those input values shall be taken from a source approved by the code official.

Section 5. That all ordinances or parts of ordinances in conflict with the provisions of this ordinance are hereby repealed.

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Section 3. That this ordinance shall be in full force and effect January 1, 2013 in the manner provided by law.

Mayor

Passed:

Published:

Attest:

Village Clerk