

New Home Construction Requirements

ENERGY EFFICIENCY COMPLIANCE

By ordinance, The Village Board has adopted the “National Energy Code Requirements for Construction”. Effective September 1, 2006 all plans submitted for building permit for either a new home or addition must comply with Chapter 11 of the 2000 International Residential Code requirements for energy efficiency.

All plans submitted for new construction of homes or additions must comply with Table N1102.1 where minimum R-values are listed.

Hawthorn Woods is in **Zone 14** (taken from table N1101.2 of the 2000 International Residential Code). Zone 14 has **HDD (Heating Degree Days) of 6,500 – 6,999** which indicates the required R-values for our zone.

Unless minimum R-values and construction wall/roof assemblies are clearly indicated showing compliance with Table N1102.1, plans will be rejected. Minimum R-values will be required for the following:

Walls above grade	R-21
Ceilings & Attics	R-49
Basement walls	R-11
Crawl spaces	R-20
Joist ends	R-21
Floors	R-30
Glazing “U” factors	.35
See chapter 11 for additional information	

An alternative method is to demonstrate compliance by providing a REScheck calculation as provided by a free download proof of compliance program issued by the Department of Energy.

Go to www.energycodes.gov/rescheck and click on Download REScheck software. Simply insert the actual R-values for various components of the building envelope and requested in the REScheck worksheet. A notice of COMPLIANCE or NON-COMPLIANCE will be issued upon completion of the worksheet. The design professional will sign the worksheet and submit the copy with the permit application.

AFTER SEPTEMBER 1, 2006, ALL PLANS FOR NEW CONSTRUCTION OF HOMES OR ADDITIONS MUST COMPLY WITH THE AFOREMENTIONED REQUIREMENTS FOR ENERGY CONSERVATION.

Effective June 30, 2005, **all contractors and subcontractors** doing business in the Village of Hawthorn Woods **must be licensed by the Village**. The term “contractor” and “subcontractor” shall include, but not be limited to: any person or company who undertakes to construct, alter, improve, install, repair, remodel, rehabilitate, renovate or move any land, house, building or other structure (of any kind or nature, whether residential or not) or any fixture or any other item that is located on or in the ground and/or attached to something that is located on or in the ground. All licenses are \$250.00 and are valid from May 1st to April 30th of each year. Licenses are half price after November 1st of each year.

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CALL JULIE AT LEAST TWO DAYS BEFORE YOU DIG

Illinois law requires **all** persons digging, regardless of the depth of the project, to call JULIE at **1-800-892-0123** at least 48 hours (two working days) prior to the start of excavation and to begin that excavation project within 14 calendar days from calling JULIE. (The 48 hour notice does not include Saturdays, Sundays or holidays.) Failure to contact JULIE prior to excavation in accordance with the law can carry penalties from \$200 up to \$5,000 for **each separate offense**. The Illinois Commerce Commission is the enforcement body for the law, not JULIE.



CODES

International Building Code - 2000
International Residential Code - 2000
International Mechanical Code - 2000
International Fuel Gas Code - 2000
International Fire Code - 2000
International Property Maintenance Code – 2000
National Electric Code – 2002
Illinois Plumbing Code – Current Edition
Illinois Accessibility Code – Current Edition
Lake County Health Department Septic System and Well Requirements
Village of Hawthorn Woods Code Section 8-1-1
Village of Hawthorn Woods Zoning Ordinance

- Building plans shall include floor plans of all levels at 1/4” – 1’ scale. Plans shall include dimensions, functions, structural and electrical layouts; all exterior elevations, wall sections and details of construction materials; and light and ventilation schedule.
- All plans must be prepared by a licensed Architect – no pre-printed plans from publications
- Minimum floor areas per Village Zoning requirements are 1,700 square feet for one story homes and 2,200 square feet for two story homes. (Check individual subdivision covenant requirements for possible greater square footage requirements and other building requirements. A storm sewer connection may be required for this property – **Village Code Section 11**.)
- A portable toilet and dumpster for construction debris shall remain on sites the entire length of construction.
- The Architectural Committee will require any person who applies for a building permit and who has in the past failed to adhere to the building codes and corresponding ordinances of the Village to personally appear before the Architectural Committee before the building permit will be issued. Notice of the time and place for this meeting will be given to the applicant after the plans submitted for the permit have been reviewed and deemed acceptable.
- Consult Village Ordinances per design requirements and approved materials list.

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CHECKLIST FOR OBTAINING A BUILDING PERMIT

- Obtain contractor/subcontractor license through the Village
- Complete building permit application
- Two (2) sets of architectural plans stamped and sealed by an Illinois architect
- One (1) plat of survey
- Two (2) sets Lake County Health Department septic layouts (If applicable)
- One (1) Lake County septic inspection, approval, and receipt (If applicable)
- Sump pump discharge routing, Lake County Health Papers (If applicable)
- Four (4) Copies Site Drainage/Grading Plan prepared by a licensed civil engineer
- Truss Engineering
- \$500.00 plan review fee
- Copy of School Contribution receipt (Pay @ school, village does not collect fees)
- Copy of Library Contribution receipt (Pay @ library, village does not collect fees)

Village of Hawthorn Woods has considered and expressly rejected the inclusion of the following materials:

- Concrete block
- Precast concrete wall panels
- Aggregate matrix panels
- Vinyl, or aluminum, steel or other metal, sidings, corner boards or trim
- Plywood or masonite sidings
- Panel brick or thin set stone veneers
- Curtain wall construction
- Reflective glass
- Glazed wall tile or glazed masonry units
- Bright wall flashings and copings
- Metal wall panels
- Exposed structural framing and miscellaneous metals
- Staccato boards
- Fiber-cement panel sheeting material

CONSTRUCTIONS SIGNS

In connection with the construction or remodeling of a building, there shall be permitted one (1) sign not exceeding fifteen (15) square feet in area: on corner lots, two (2) such signs, one facing each street, shall be permitted. Said signs shall be removed within two (2) weeks after completion of the structure indicated. Construction signs must be 22 feet from edge of road, 33 feet from center of road.

ADVERTISING SIGNS

Any sign which directs attention to a business, commodity, service, or entertainment conducted, sold or offered elsewhere than upon the premises where such sign is located or to which it is affixed. Signs may not be put in the Village right-of-way, which is at least 22 feet from the edge of the road.

Please check individual subdivision covenant requirements for possible restrictions.

CONSTRUCTION

- 10” minimum foundation for basements
- Two #5 reinforcing rods at top and bottom of foundation walls
- Conduit system required for electrical
- Multiple smoke detectors at each floor level (110 v. interconnected), plus each bedroom
- **Plumbing vents** must be located behind ridges
- **Engineered trussed rafters** require Engineers Stamp on engineering drawings. Truss diagrams must be submitted with architects’ drawings for building permit. **Permits will not be issued without truss diagrams**
- 1st Floor Live Load 40#/square foot
- 2nd Floor Live Load 30#/square foot
- Deck Live Load 60/square foot
- Homes exceeding 3,000 square feet require a minimum of two (2) furnaces
- Homes using E.I.F.S exterior shall be required to install a “moisture exchange system”(access attic panels): Minimum of 4’0” headroom above” supplied by manufacturer of E.I.F.S. Installation contractors shall be manufacturer-licensed application.
- **Garages** shall have 5/8” type “X” gypsum board on common house walls and ceilings; ½” drywall on balance of garage walls
- **Chimneys:** Prefab chimneys at exterior wall location shall be covered with brick, stone or E.I.F.S fires top chimney chase and install 5/8” type “X” sheetrock on interior of chase
- **Furnaces:** All homes 3,000 square feet or larger shall have a minimum of two furnaces

SET BACKS (Village Code 9-5A-4.1, 2, & 3)

Front Yard (R-1): A front yard of not less than thirty (30) feet measured between that part of the building nearest the front property line and the front property line, except for lots on a cul-de-sac terminus where the distance shall not be less than fifty (50) feet. Note: In the case of irregularly shaped buildings, the area in front of that part of the building façade farthest from the front property line is also to be considered as part of the front yard.

Side Yard (R-1): A side yard on each side of the main building of not less than twenty (20) feet, except where a side yard adjoins to a street the minimum width of such yard shall be not less than thirty (30) feet

Rear Yard (R-1): A rear yard of not less than fifty (50) feet. (Ord. 381-97)

PLUMBING REQUIREMENTS

- Water lines within building shall be Type “K” copper below grade and Type “L” copper or galvanized steel above grade.
- In buildings connected to septic systems, copper waste and vent lines are prohibited.
- **Footing tile discharge piping must not** discharge to Village right-of-ways, ditches, or adjoining properties. Discharge piping shall terminate on the owner’s property to storm sewer connection, in a trench drain, to drainage swales or other approved locations at approved by the Building Official. Discharge piping shall be shown on the approved septic system. Where a storm sewer is located on property, this shall be primary connection for footing tile.
- Each residence is required to have a **floor drain** connected to sanitary system in basement (adjacent to water heater)
- A **condensate drain** connected to storm sump is required for softener backwash and condensate drainage. This drain shall not connect to septic system.
- **Plumbing** vents shall terminate at the rear of the roof ridge.

PERMIT EXPIRATION & RENEWAL (Code Section 8-2-5 Term of Permit)

New Construction:

The building permit for new construction shall expire **twelve (12) months** after issuance.

Permit Renewal:

Not less than thirty (30) days prior to the expiration date of the building permit, the permit holder or homeowner may request that the building permit be renewed. Such requests shall be forwarded to the Village Administration for consideration. The Administrator may approve renewal of the permit.

Type of construction	Time Period	Term of extension	Renewal fee
New residential construction	12 months	3 months	\$500 for the first renewal \$1,000 thereafter
All other residential permits	9 months	1 month	\$100 for the first renewal \$500 thereafter

In addition, if work is not commenced within six (6) months of the date of issuance of the permit, or is suspended for six (6) months, a new permit will be required before work can be resumed.

Upon expiration of the building permit, all bond money held by the Village will be automatically forfeited to the Village. After which the permit holder or homeowner must apply for a new building permit including all bond money. Such new permit will be for only those items remaining to be completed to acquire a Final Certificate of Occupancy

No Bond Refunds will be given from November 1st to April 1st.

- Each applicant shall be responsible for determining if storm sewers are present in their subdivision. Contact the Public Works Office at 847-540-5227 for assistance.
- If storm sewers are present, sump pump discharge **MUST BE** connected into storm sewer per Village Ordinances.
- Final Site inspection requests will be taken by calling the Building Dept. at (847) 847-3527

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GENERAL INFORMATION AND PROCEDURES

- Post permit at the site. Do not attach to trees. Permit must be visible from the street and accessible to all inspectors. Before excavation, call for site inspection. (8-2-1)
- Contractor must place culvert to preserve ditch lines, install 6" (inches) of gravel below culvert pipe prior to installing into ditch line this is required to preserve the proper flow line of ditch. Footing inspection will not be approved unless the culvert has been properly placed and covered with road gravel. A storm sewer connection may be required for this property. Contractor must verify if storm sewer exists in the particular subdivision and if so, a connection for sump pump will be required. If a storm sewer connection is made, an inspection fee will be charged.
- **Site Inspection Requirement:** When structure has been staked at site, foundation grade marked; benchmark established, lot line stakes located, and prior to excavation. All silt fences **MUST** be installed. All permits **MUST** be posted.
- When all construction is complete and prior to occupancy, written copy of well and septic approvals by Lake County Health Department is required. The following inspections must be made:
 - Final Plumbing
 - Final Electrical
 - Final Overall (\$25.00 to \$500.00 fine per day if building is occupied before final inspections.)

CERTIFICATE OF OCCUPANCY

- No Certificate of Occupancy for any building or addition thereto shall be issued without the submission of a spotted survey verifying the location of said building on the lot in question. Said spotted survey shall be submitted by the applicant as soon as is practicable following the completion of the foundation for said building. All construction must be completed prior to issuing an Occupancy certificate.
- **Temporary Certificate of Occupancy** may be issued if all inspections are completed and approved and there exists no life safety issue that could endanger the occupants of a structure. All approvals from the Lake County Health Department must be received by the Building Department prior to issuance of a Temporary Certificate of Occupancy. All bonds will be retained until final Certificate of Occupancy is issued. *Notwithstanding anything in Section 8-2-7E of the Village Code, no temporary certificates of occupancy shall be issued from May 1st through November 30th*
- **Final Certificate of Occupancy** may be issued upon completion of all construction and grading activities.
- **Refundable Bonds** A final site inspection must be passed by the 1st day of the month in order to receive the bond money to be returned by the 15th of the following month. Bonds will be returned only when all of the following requirements have been met:
 - Downspouts, sump discharges, storm sewer connections
 - Driveway and sidewalks
 - Driveway apron
 - Culvert and Culvert pipe clear of debris for free flow of water
 - Swale/drainage ditch
 - Road pavement
 - Final site grading and seeding to include restoration of areas affected by construction
 - **At a minimum, the final inspection shall not take place until the grass has been mowed twice.**

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PLAN REVIEW & PERMIT FEE INFORMATION

Plan Review Fee:	\$500.00		
Plan RE-Review Fee:	\$100.00		
Engineering Review:	\$125.00 for each submittal		
Permit Fee:	\$.40/sq. foot living space		\$.20/sq. foot non-living space
Base Fee:	\$1,500.00		
Inspection Fees:	Varies		
New Plumb. Fixtures:	\$15.00 each	Water Heaters:	\$25.00 each
Sump/Ejector Pumps:	\$25.00 each	Drain Title:	\$25.00
Gas Piping:	\$25.00 – first 25 lineal ft		
	\$10.00 – each additional 25 lineal ft		
Cert. of Occupancy:	\$75.00		
Road Bond:	\$6,000.00		

Park Donations, General Fund Donations and School and Library Donations vary by development based on the annexation agreement for the given subdivision.

INSPECTIONS

The following inspections may be required during the construction of a new home:

Prior to any lumber being delivered, a spotted survey showing top of foundation elevations and building set back locations are required. This survey must be returned prior to beginning and framing.

Site	\$40.00	Underground Plumbing	\$100.00
Pipe Placement	\$30.00	Aboveground Plumbing	\$100.00
Footing	\$35.00	Final Plumbing	\$100.00
Foundation	\$35.00	Rough Electric	\$40.00
Flatwork Basement	\$35.00	Electric Service	\$40.00
Flatwork Garage	\$35.00	Final Electric	\$40.00
Backfilling	\$35.00	Final Overall	\$50.00
Rough Framing	\$35.00	Final Site (Bond Refund)	\$40.00
Insulation	\$35.00	Fireplace	\$35.00

Structural & Electrical Reinspection: There will be a reinspection fee of the ***double*** amount if the inspector is unable to give approval and has to do another inspection within any given inspection time.

Plumbing Reinspection: There will be a reinspection fee of ***\$100.00*** if the inspector is unable to give approval and has to do another inspection within any given inspection time.

TO SCHEDULE AN INSPECTION CALL YOUR INSPECTOR DIRECTLY

EVEN NUMBERED PERMITS

Building Inspector: Bill Holmes (847) 847-3541
Plumbing Inspector: Carl Ulrich (847) 847-3544
Electrical Inspector: Garry Karrow (847) 847-3546

ODD NUMBERED PERMITS

Building Inspector: Eigil Pagh (847) 847-3542
Plumbing Inspector: John Fenger (847) 847-3598
Electrical Inspector: Jerry Henkle (847) 847-3545

Please note, the information in this handout is intended to be general in nature and is not a substitute for applicable Village codes or ordinances. If you should have any questions relating to building codes, inspections or construction procedures, please call (847) 847-3527 Monday – Friday, 8:30am to 5:00pm

New Home: Exterior Design Guidelines

The Village of Hawthorn Woods requires that homes be designed to blend with site characteristics and surrounding homes. Under no circumstances will the same exterior elevation or one that is very similar to another elevation and/or within the same subdivision unit. Further, the Architectural Committee is not interested in issuing building permits for model homes; therefore, regardless of changes in front elevations, the committee will never allow more than three homes to be built with the same foundation plan anywhere within the Village, regardless of changes in exterior elevation.

These guidelines are to avoid depreciation of the property values within the Village. Preliminary exterior elevations and plans may be submitted for preliminary approval prior to completion and submission of final plans for application of a building permit.

REQUIREMENTS

- Exterior elevation designs shall have harmonious materials with a maximum of three (3) dissimilar materials. Masonry design at the front elevation only must be avoided by continuing the masonry on the side elevations, continuing the masonry on all elevations or providing a pleasing termination of the masonry material. In general, masonry materials should terminate at inside corners or at a change of plan. All sides of a structure shall be designed with a pleasing balance of architectural elements, features, windows or doors. A façade unrelated to the rest of the structure is not in keeping with acceptable design. The Architectural Committee reserves the right to review all plans for design compliance.
- House Design shall take existing site conditions into account. Foundations should be “stepped” to comply with existing contours. Changing or altering existing site contours shall be restricted to a maximum change of four feet without approval of the Plan Reviewer or Architectural Commission.
- Requirements in addition to, or changes to the IBC 2000:

Minimum “R” values for insulation shall be as follows:

Attic	R38
Exterior Walls	R13 (Total wall assembly, R-19)
Floors over unheated space	R30
Floors over garages	R38
Slab edges	R7

- Roof live load shall be 30 pounds per square foot. Wind load shall be 20 pounds per square foot. Frost line depth shall be 3’6” below grade.
- Basement windows should provide natural light and ventilation of not less than 1% of floor area.
- Basement ceiling height shall be 7’6” to joists
- All duct work, both supply and return air ducts shall be in sheet metal or other approved material.
- 1-3/4” solid wood door or equivalent with rabbeted frame shall be provided between garage and residence on common walls and ceiling.
- 5/8” Type “X” fire rated gypsum board shall be provided between garage and residence on common walls and ceiling. 1/2” drywall required on balance of garage walls.
- At basements, provide direct access to the exterior at grade by a door or window at least 30” wide by 36” high with sill at 36” maximum above basement floor.
- Garage floor slabs to be min. 4” thickness and contain 6x6x#10 wire mesh
- Electrically connected smoke detectors shall be installed at all floor levels including basements and be interconnected. Smoke detectors shall be less than 15’0” from bedroom doors.
- **Standards** Conformity with the applicable standards specified in Section S-26.302 shall be evidence that the materials for foundations, footings and basement walls as set forth in this chapter are reasonably safe to persons and property. A continuous foundation shall be provided under all structures which share a common roof, or have roof lines tied together, unless the Village Architect determines that adverse

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grading conditions require an alternative foundation system and approves the specific alternative foundation system proposed for the structures.

- Wood foundations are not permitted.
- Footings at 8" concrete walls shall be 16" wide by 8" high.
- Footings at 10" concrete walls shall be 20" wide by 10" high.
- Footings at 12" concrete walls shall be 24" wide by 12" high.
- All **foundation walls** shall be poured in place concrete. All foundation walls over 7' shall be 10" thickness minimum. All foundation walls shall be reinforced with 2-5#'s reinforcing bars at top and bottom of wall. Provide 2-4# bars above and below openings in walls, extend bars 2' beyond openings. Foundation walls or wing walls shall be provided under entrance stoop, platforms or steps.
- **Wood stud walls** shall have double top plates, interlock interior partition top plates, interlock interior partition top plates to the exterior, all intersecting partitions and walls shall be interlocked and splices in top plates shall be offset a minimum of 4 feet from splices in plate below.
- **Interior nonbearing partitions** may be constructed of 2 x 4 studs spaced 16" on center. Bearing walls in wood frame construction shall be adequately designed to accommodate piping and ductwork to be concealed in the wall construction. In general, this will require the walls incorporating piping and ductwork to be constructed of 2 x 6 studs or double 2 x 4 walls may be used.
- **Sill plate** on foundation wall shall be shimmed with decay resistant material, set plate on sill seal type insulation or grout tight.
- **Plywood Roof sheathing** shall be ½" minimum thickness. All wall sheathings shall be ½" minimum thickness. 5/8" plywood will be required over 24 truss spacing.
- All **wall sheathings** shall be ½" minimum thickness.
- **Gypsum board** shall be ½" minimum thickness at 16: on center framing spacing and 5/8" minimum thickness at 24" on center framing spacing.
- **Sheathing paper** as specified in R-503.7 shall be applied under all sidings and masonry.
- **Water-resistant membrane and sheathing paper** shall be installed on the exterior side of the wall sheathing. Where E.I.F.S. system is used, install paper specified for E.I.F.S. usage above plywood, yet below expanded rigid foam sheathing required by E.I.F.S system.
- **Floor joists** shall be "X" type or solid bridging at 7'0" on center maximum.
- **Ceiling joists** shall have solid bridging at 7'0" on center maximum.
- **Oriented strand board (OSB)** roof sheathing shall be ½" for 16" O.C. 5/8" for 24"O.C. truss spacing.
- **Attic access panels** shall be located in hallways, walk-in type closets or rooms for accessibility. 22" x 30" minimum size per access, with light above.
- **Composition roof shingles, wood shakes and wood shingles** shall be fastened with nails as specified in Table R-808.2a.
- **Chimneys** shall be constructed of masonry construction or UL approved prefabricated metal. Prefabricated metal chimneys shall be enclosed above the roof line with an enclosure of wood sliding or similar approved material, to blend with and complement the style and materials used on the home.