



CITY OF WEST CHICAGO

BUILDING PERMIT GUIDELINES FOR SINGLE-FAMILY HOMES

This building permit guideline packet will provide a summary of information required to obtain a building permit for single-family construction, including submittal requirements, necessary inspections and occupancy requirements. Submitting a complete application will assist the City in providing a speedy review and issuance of building permits.

For assistance with the building permit application please call the following staff:

Stuart Caravello	Chief Building Official	(630) 293-2200, ext. 155
Tom Dabareiner	Community Development Director	(630) 293-2200, ext. 141
Steve Pertzborn	Senior Civil Engineer	(630) 293-2200, ext. 175
John Sterrett	City Planner/Asst. Community Dev. Director	(630) 293-2200, ext. 158
Jacki Stern	Permit Clerk	(630) 293-2200, ext. 131

CODES AND ORDINANCES USED BY THE CITY, WITH AMENDMENTS:

- International Residential Code, 2015
- The National Electric Code (NEC), 2014
- The International Fire Code, 2015
- International Mechanical Code, 2015
- Illinois State Plumbing Code, 2014 (State Statue)
- International Existing Building Code, 2015
- International Swimming Pool and Spa Code, 2015
- International Property Maintenance Code, 2015
- International Energy Conservation Code, 2015 (State Statue)

REQUIREMENTS FOR OBTAINING A PERMIT TO BUILD A SINGLE FAMILY HOME

The following items are required and must be included with the building permit application before the City will accept the application. All plans must be folded to fit into a legal- sized folder.

- A) Three sets of drawings with:
 - 1- Footing and foundation details.
 - 2- Floor plans with electric, plumbing and HVAC details.
 - 3- Cross-section of general construction.
 - 4- Front, rear and side elevations.

- B) Provide size, species, grade, spacing, spans and directions of floor joists, ceiling joists, rafters and headers.

- C) If truss construction is to be used, diagrams of the trusses and the layout are required. They shall be stamped by an Illinois licensed architect or structural engineer.

- D) Provide details showing compliance with the Model Energy Code. Any of three approaches are acceptable: Prescriptive Package, Trade-off Worksheet or MEC check software.

- E) Provide light and ventilation schedule for the house including egress window details and ventilation requirements for the roof and crawl space.

- F) Copies of the plumber and roofer's State license are required.

- G) A copy of the City of West Chicago contractor's registration.

- H) Four (4) proposed plats of survey showing distances of building from all lot lines. This can be the required engineering survey. See Engineering Department Site Plan Requirements handout for details.

- I) H) Complete a Du Page County Stormwater Management Permit Application and submit for building permit.

Permit applications are processed in the order in which they are received and are typically reviewed within 15 working days.

Civil Engineering Documentation Requirements

This information shall be submitted to Community Development as part of the complete building permit application. The Community Development Department will transmit it to the Engineering Department.

Permit Plat Review:

- Site plan must be signed and sealed by a registered land surveyor or professional engineer
 - Show benchmark approved subdivision grading plan
 - Show record lot dimensions (distance between property corners)
 - Show all easements and setbacks on the property, give as-built dimensions and locations of all city owned utilities in easements-on property
 - Show dimensions of building with respect to property lines (Side-yard setbacks are 10% of the width of the property measured at the building line.)
 - Show top of foundation elevation (T/F). Show T/F elevations of adjacent buildings (Identify if it is approved proposed or an as-built elevation)
 - Show garage floor finished elevation (G/F). G/F 6" min below T/F plus slope down to door
 - Show ground elevations at corners of building, minimum 6" below T/F
 - Show proposed or as-built grades on property line corresponding to the approved subdivision grading plan or adjacent lot's as-built survey. Show proposed contour lines.
 - Turf area slope must be between 2% and 25%
 - Show drainage routes flow arrows and show slopes along swales
 - Show the as-built top of curb and edge of pavement elevations at property line and driveway flares
 - Show drive length and give width at garage, widest point, property line and curb cut
 - Show driveway and apron slope percent and finished elevations of drive approach along center-line at garage, street and building side of sidewalk, and curb (slope must be between 2%-8%)
 - Show sidewalk through driveway. Sidewalk must be on parkway/easement
 - Show trench backfill locations under all sidewalks, approaches, and driveways
 - Show proposed location, size and type of water and sanitary service from public main to building (typically: 1" Copper, 6" PVC SDR26). Maintain 10' separation between water and sewer and 5' separation between trees and B-box.
 - Show location of B-box in parkway/easement but not in driveway or sidewalk
 - Show approved erosion and sediment control plan on lot.
 - Show location of parkway trees according to approved landscape plan
 - Other _____
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REQUIRED FIELD INSPECTIONS

The following information will help builders comply with West Chicago's residential dwelling code. Schedule inspections at least one day in advance at 630-293-2200 ext. 131. All work must be completed and ready for inspection. A copy of the inspection report will be stapled to your permit board or handed to the builder. If the inspection fails, the corrective actions will be stated on the report.

Footings

Inspection required after excavation and removal of any unsuitable soils or vegetation. Framing must be placed to the specified dimensions on your approved plans. All water and mud must be removed. All changes in elevation must be framed at 90°. In all cases footings must extend below frost line.

Footings shall be supported on undisturbed natural soils or engineered fill. On lots having unknown soil characteristics the building official shall require a soil test by a certified soils engineer.

Foundations

Inspection required before pouring concrete if any re-bar is specified on plans. Forms should be in place with re-bar installed. No voids are allowed between foundation walls and step cuts. Pour foundation walls against the excavated banks. Re-bar is recommended at all jumps and above windows.

During cold weather, (3 successive days where the mean temperature drops below 40 degrees Fahrenheit), preparations are required to protect the bearing soil and concrete. Calcium chloride cannot be added at the job site.

Backfill

Inspection is required after damp proofing or waterproofing. All drain tiles must be in place, maintaining full pipe diameter throughout the system, with a minimum of six inches of gravel covering the pipe. Standpipes to window wells must be secured and covered to avoid damage by backfill material.

Foundation walls will be checked for plumb and level, location on footing and spacing of anchor bolts. Remember, if native soils are used for fill in the garage it must be done in lifts with compaction between lifts.

Spot Survey

Before starting framing, two copies of foundation survey must be submitted. This survey will be used to verify proper placement of the foundation on the lot. Top of foundation will also be checked. An approved copy will be returned to the builder.

At this point of construction provisions to maintain the site should be completed, gravel for the driveway and installation of the silt fence.

Flatwork/Paving

A compacted six-inch gravel base is required under all asphalt driveways, and a four-inch base is required for concrete driveways. Have the approved vapor barrier in place with joints lapped not less than twelve inches prior to inspection. Any required reinforcement for slabs also shall be in place. Do not forget the radon tees buried below the vapor barrier in basements and crawl spaces. Exterior slabs and detached garages do not have to have a vapor barrier.

Four inches of concrete is required for basements, garages and drives. Asphalt drives and approaches shall be 2½ inches thick. Concrete approaches and public sidewalks through driveways shall be a minimum of 6 inches (public sidewalks are inspected by Engineering Department).

Plumbing/Electric

Required plumbing inspections include sewer and water connection, underground, and a rough inspection before covering or concealing work. We operate under the Illinois Plumbing Code and a licensed plumber will conduct the inspections.

A separate electric service inspection is required. ComEd will not provide power until they receive the City's approval. At the framing inspection all electric is checked for compliance with National Electric Code. All wiring must have been pulled at time of inspection.

Framing

The most comprehensive inspection is rough framing. The house must be under roof with the house wrap completed and all windows and doors installed, as water tight as possible. All the mechanical trades shall have work that will be concealed in walls completed. Fire blocking, both horizontal and vertical, shall be in place and as always have the job site clean and tidy.

All floor, wall, and roof-ceiling construction will be checked against your approved plans and the *International Residential Code*. Frame construction shall be capable of accommodating all imposed loads and shall transmit the resulting loads to the supporting structural elements. Full bearing of structural members and placement of mechanical fasteners will be checked to insure this capability. Over notching, over boring, headroom in stairways, rise and run of stairs are but a few of the many framing items checked.

HVAC installations will be inspected at this time, as well as rough electric. All wire must be pulled for the rough inspection and all penetrations fire stopped.

Energy Conservation/Blower-door test

Typically performed prior to insulation unless a blower-door test is to be conducted.

Insulation

Before hanging drywall insulation inspection is required. R-values will be checked against your approved plans and compliance with the energy conservation code.

Fireplace

After parging the smoke chamber and installing the first flue tile, masonry fireplaces are required to be inspected. Prefab units are inspected during the rough inspection. Remember all wood-burning fireplaces shall be equipped with an exterior air supply to assure proper fuel combustion.

Occupancy Requirements

Prior to receiving a certificate of occupancy, the following items must be completed:

- A. Submit the occupancy application.
- B. Submit 2 copies of the as-built survey for review addressing the items listed on the engineering review checklist. The as-built survey will be reviewed within five working days.
- C. Submit the proposed closing date.
- D. Schedule a final inspection with the building division, which will include engineering inspection, building inspection and water inspection.
- E. The certificate of occupancy will be issued the next working day after all requirements are met. The home may not be occupied until the certificate of occupancy is issued.

Temporary Occupancy

See temporary occupancy requirements if requesting a temporary certificate of occupancy.

OVERVIEW OF THE MODEL ENERGY CODE

The Model Energy Code contains requirements for building systems and features that affect energy consumption. These requirements apply to the building's exterior envelope, which is the boundary between the heated or cooled interior space and the outside or unconditioned spaces such as garages or attics.

To comply with MEC every builder must meet the basic energy conservation requirements and provide detailed calculations showing how the combination of insulation levels, window types, and other envelope-related construction measures will result in compliance.

The basic energy conservation requirements mainly deal with air leakage of the building envelope. The air leaks may be caulked with a durable material, taped, gasketed, weather-stripped, covered with a continuous house-wrap, or otherwise sealed. Here's a short list of common solutions:

- House wrap is mandatory. Seal all protrusions (electric lights, gas pipes, sump discharge pipe, etc.) through house wrap.
- Can lights in attic must be airtight. Gasket scuttle opening.
- Limit window and door air leakage.
- Bath exhaust in attics must be insulated (R-5).

There are three ways to show compliance with the Model Energy Code:

- Use a Prescriptive Package. MEC check provides 21 packages for Zone 14 (Northern Illinois). The builder determines the glazing area % and glazing U-value. The prescriptive package chart gives the insulation requirements for ceilings, walls, etc.
- Complete a Trade-Off Worksheet. This approach is a pencil-and-paper method that allows the builder to use the R-value and U-value of each component of the proposed house to calculate the total proposed UA. Engineering firms typically complete this method.
- Use MECcheck software. The program has built into it the calculations of normal building materials (plywood, drywall, concrete etc.) The user inserts the square footage of walls, ceilings, glazing and other components along with the proposed R & U-values. The program then calculates the UA values and determines whether or not this package of insulation levels and window types will meet the code.

The software approach is probably the best. It is easy and flexible. MECcheck materials can be downloaded free from the internet at: <http://www.energycodes.org> or purchased for a small duplication and handling fee from Doe's Building Standards and Guidelines hotline: 800-270-CODE (2633).

ELECTRICAL REQUIREMENTS

These are some, but not all of the code requirements. Please check NEC with the City amendments for more information.

1. GFCI outlets are required above all kitchen counter tops, islands and peninsular counters 12" or more in width. Two 20-amp circuits required.
2. GFCI outlets are required in all bathroom outlets on a dedicated 20-amp circuit or a 20-amp circuit for each bathroom. Minimum of one outlet within 3' of sink.
3. GFCI outlets are required in unfinished basements. Minimum of one outlet.
4. GFCI outlets are required in all accessible (below 6') garage wall outlets. Exception is a 220 outlet. Minimum of one 15-amp outlet per vehicle space is required.
5. GFCI outlets and weatherproof covers are required for all outside outlets. A minimum of one in front and one in back is required.
6. GFCI outlets are required for a Hydro massage bathtub. Bond motor to water pipe.
7. Two 20-amp circuits are required for kitchen counter tops. Dining room, and breakfast area are required to be on 20-amp circuits also.
8. Laundry rooms must have a dedicated 20-amp circuit.
9. Separate Branch Circuits Required: Central A/C, Electric ranges, Microwaves ovens, Motors of 2 hp. and larger, electric water heaters, Sump Pumps, Ejector Pits, Central vacuum system, and Furnaces.
10. Use 2' / 4' rule for kitchen countertop outlets.
11. Use 6' / 12' rule for all room outlets.
12. Install outlet in hallway if 10' or more.
13. Exterior electrical outlet or fixture boxes shall be sealed to the inside.
14. Switch controlled lighting outlet is required in all habitable rooms, garages and bathrooms.
15. Adequately light stairways with a switch at top and bottom.
16. Closet lights must be fluorescent and 6" horizontal from the hanger bar plane.
17. Ground panel to the street side of the water meter and jumper meter. An 8' driven ground rod is required (generally on the exterior).
18. Identify all circuits on the service panel.
19. Use a **Single** NON GFCI dedicated outlet for the basement sump / ejector pumps.
20. A bonding bushing and jumper shall be used if the full knockout is NOT used in the exterior service panel.
21. Interconnected smoke detectors (wired in series) are required on each floor and in every bedroom.
22. A carbon monoxide detector required within 15 feet of bedroom doors.
23. Fire stopping is required in all vertical and horizontal over-bored and notched areas. Use only non-flammable materials. No foam.
24. An 110V power supply is required close by the radon reduction pipe for a possible future in-line fan. Basement or attic is acceptable.
25. A light provided for attic / crawl space access (pull chain or switch).
26. If lighting cans are installed in insulated ceilings, they must be the airlock type.
27. Install all equipment per manufactures instructions.

MISCELLANEOUS GENERAL INFORMATION

ALL SAFETY FEATURES shall be in place at the rough inspection. Ladders are to be provided when necessary and must be OSHA approved. If the inspector does not feel the area is safe, no inspection will be conducted.

No chloride shall be either on the job site or on the concrete trucks for winter concreting.

Six-mil plastic shall be used under all slabs under roof (basement floor, attached garage and the slush coated crawl space).

Passive Radon Reduction System. A "T" shall be placed on the vent pipe below the vapor barrier in the basement and crawl spaces. The sump cover shall be sealed. All floor joints and cracks shall be sealed. The vent stack in either the basement or the attic shall provide an electrical power source. The vent stack shall be labeled "Radon Reduction System".

Foil backed tape or caulking shall be used to seal electrical boxes protruding through the exterior envelope and to seal oval and round duct joints. Support furnace a minimum of 2" above floor to allow air circulation underneath. Bricks are acceptable. Approved house wrap is mandatory.

Hurricane clips and uplift clips are to be installed on trusses.

Sewer pipe shall be schedule 40 and the copper water pipe shall be a continuous run. Rock is to extend to surface under sidewalk areas. Install as per code.

Required guardrail openings shall not allow a 4" sphere to pass through.

FIRE BLOCKING shall be provided vertically and DRAFT STOPPING shall be provided horizontally. Fire rated caulk is required. Absolutely NO FOAM or any material that is / or states flammable.

The builder is responsible for providing approved emergency egress for sleeping rooms. Minimum width is 20"; minimum height is 22", with a total minimum of 5.7 square feet clear open window.

Chases must be insulated with the same R- value as the walls and be covered with ½" dry wall. The B box is to be located in the designated place, parkway or easement.

**GENERAL INFORMATION
FOR
CONSTRUCTION SITE**

1. Every building site and certain remodeling jobs must have a non-combustible, covered trash container on site until the structure is completed. Only City licensed scavenger services are allowed to supply the container.
2. All debris is to be deposited in the container on a daily basis and none shall be allowed to blow around the site.
3. The Building Permit shall be posted on a board at least two feet square and located two feet or more above grade near the street.
4. Results of the inspections will be posted on the permit board. Please do not call Community Development for results.
5. All construction vehicles are to be parked on one side of the street except for loading and / or unloading.
6. Mud on the streets shall not be tolerated. Immediate removal is necessary or citations may be issued.
7. Driveways will have an adequate amount of 3” rock or gravel placed in them after backfill to eliminate mud problems caused by deliveries and on site equipment.
8. Erosion control measures are required in conformance with the Engineering Dept specifications, see handout.
9. If an inspection fails twice, a re-inspection fee of \$75 must be paid prior to any inspection being conducted.
10. Call (630) 293-2200 ext. 131 **before 1:00 P.M.** to schedule an inspection for the next day. Inspections are conducted between 8:30 A.M. and 3 P.M. Times are not given for the inspection.
11. STOP WORK orders shall be posted on the property and a letter sent to the contractor. Approval from an inspector is necessary to remove the Stop Work Order posting.
12. Contractor, at the larger work sites, shall provide portable toilet stations.
13. **PLAN REVIEWS ARE TO BE READ AND THE INFORMATION IS TO BE GIVEN TO THE SUB-CONTRACTORS WORKING ON THE PROJECT!**