

Plain text has no changes from the Village amendments.

Highlighted text is additions or changes. *The Highlights will be removed with final draft edition of code.*

Red Line-outs are deleted text not needed (~~abedefg~~) and will be removed from final edition

Larger Red italic text are explanations and will be removed from final edition

All changes have been formally submitted to electrical commission as

CHAPTER 3

ELECTRICAL CODE

SECTION:

5-3-1: Electrical Inspection Regulations

5-3-2: Electrical Commission Created

5-3-3: (Reserved)

5-3-4: Permits Required

5-3-5: Adoption

5-3-6: Deletions

5-3-7: Amendments

5-3-8: Limitation

5-3-9: Penalty and Enforcement

5-3-1: ELECTRICAL INSPECTION REGULATIONS:

The Electrical Code regulated in this Chapter shall be enforced by the Development Services Department through qualified personnel as determined by the Department Director. The Department shall inspect all electrical equipment installed or altered in the Village, and shall require that it conform to the standards and specifications applicable and adopted as provided by the laws and ordinances appertaining thereto. (Ord. 4692, 12-19-11)

5-3-2: ELECTRICAL COMMISSION CREATED:

Established. There is an electrical commission established, as set forth in Title 2, Chapter 4 of the Village Code. (Amd. Ord. 5066, 3-7-16)

5-3-3: (RESERVED)

5-3-4: PERMITS REQUIRED:

No electrical equipment as defined in this Chapter shall be installed or altered in the Village except upon a permit first being issued by the Development Services Department. (Ord. 331, 8-8-66; Amd. Ord. 4692, 12-19-11)

5-3-5: ADOPTION:

A certain document entitled "National Electrical Code 2014 edition, published by the National Fire Protection Association, Batterymarch Park, Quincy, Massachusetts," be and hereby is adopted as the "Electrical Code for the Village of Orland Park," for regulating the installation, repair, replacement and alteration of electrical systems in the Village of Orland Park as provided; and each and all of the regulations, provisions, penalties, conditions and terms of said "National Electrical Code 2014" are adopted and made a part hereof, as if fully set out in this Code with the

additions, insertions, deletions and changes prescribed in this Chapter. (Ord. 4068, 9-6-05; Amd. Ord. 4692, 12-19-11; Amd. Ord. 5066, 3-7-16)

A copy of the rules and regulations of the "National Electrical Code 2014" printed in book form was on file in the office of the Village Clerk for more than thirty (30) days prior to the enactment of this Code, and has been and is available for inspection. Reference in this Chapter to "this Code" is a reference to the "National Electrical Code 2014" (sometimes referred to as "NEC 2014") and such reference includes that document and any amendments, or supplements thereto whether adopted concurrently or subsequently. References in this Code to "the building code" shall mean the Village's Building Code as set forth in Chapter 1 of this Title 5, as may be amended from time to time. (Ord. 4068, 9-6-05; Amd. Ord. 4692, 12-19-11; Amd. Ord. 5066, 3-7-16)

 5-3-6: DELETIONS:

The following articles of the NEC 2014 are hereby deleted: 320, 322, 324, 326, 328, 330, 334, 338, 340, 362, 604 & **706.135 (I) Non Concealed Spaces.** (Ord. 4068, 9-6-05; Amd. Ord. 4692, 12-19-11; Amd. Ord. 5066, 3-7-16)

 5-3-7: AMENDMENTS:

The adopted NEC 2014 is hereby amended as follows:

1. **ARTICLE 90 - INTRODUCTION** of the NEC 2014 is hereby amended to add the following:

90-9-Licensing/Registration of Electrical Contractors

(a) **General.** All persons desiring to engage in the business of Electrical Contractor within the Village of Orland Park shall apply for licensing to the Development Services Department on forms provided by the Department.

(b) **Supervising.** All licensed/registered Electrical Contractors shall appoint or employ a person, who may be himself or some other person, who shall be known as a Supervising Electrician. A Supervising Electrician so appointed or employed shall perform the work or supervise and direct the installation, alteration, repair or maintenance of electrical equipment. A Supervising Electrician shall be at least twenty-one (21) years of age, and shall have had at least four (4) years' experience in the installation, alteration, repair or maintenance of electrical equipment, or an experience equivalent thereto.

(c) **Examination.** Any person who has been appointed or employed as a Supervising Electrician for a licensed/registered Electrical Contractor shall be required to take an examination to qualify as a Supervising Electrician. Applications for the examination shall be filed with the Development Services Department. The applicant shall furnish, on application forms provided by the Development Services Department, the name and addresses of former employers, the periods of time employed by each and a brief description of the work performed for such employers. In addition, the applicant shall provide such other information as may be required by the Development Services Department. A ~~one hundred twenty dollar (\$120.00)~~ **two hundred fifty dollars (\$250.00)** fee for each examination shall be paid at the time an application is filed. It shall be the responsibility of the Electrical Commission of the Village of Orland Park to prepare and administer the examination given to Supervising Electricians. The Electrical Commission shall prepare as many different examinations as are necessary to adequately provide for the number of applicants. Each applicant shall be required to answer a reasonable number of questions in writing to indicate that he has sufficient knowledge and technical training to perform the work or to supervise the installation, alteration, repair or maintenance of electrical equipment. Examinations shall be administered within a reasonable time after the approval of an

application. All applicants shall be notified in writing by the Electrical Commission of the results within ten (10) days of an examination. The applicant shall be required to wait a period of six (6) months or until the next examination date before taking a second exam. When an applicant shall have successfully completed the examination required in this Section, the Development Services Department shall certify such a person as a Supervising Electrician.

After passing the examination, the applicant is required to register with the Village of Orland Park as a Supervising Electrician. Fee for the registration is ~~\$100.00~~ **\$200.00** Supervising Electrician Registrations expire each year on December 31st. The annual renewal fee is ~~\$100.00~~ **\$200.00**

90-10-Permit Required

(a) **General.** It shall be unlawful for any person to install, alter or repair any electrical equipment within the Village of Orland Park without the issuance of a permit for such work by the Development Services Department of the Village of Orland Park. Procedures and regulations concerning such permits shall be administered by the Development Services Department in accordance with all codes and ordinances of the Village of Orland Park regulating the issuance of such permits. The Electrical Inspector, as required, shall assist the Development Services Department in administering all permit regulations.

(b) **Suspension of Permit.** In the event any registered Electrical Contractor fails to correct any defect, error or deficiency in any electrical equipment installed, altered or repaired pursuant to a permit issued by the Development Services Department within fifteen (15) days after inspection and written notification thereof of such defect, error or deficiency by the Electrical Inspector, such failure may, at the discretion of the Development Services Department, result in the suspension of the issuance of any permits to such registered Electrical Contractor to perform work within the Village of Orland Park. In addition thereto, the penalties provided in this Code may be enforced.

(c) **Temporary Permit.** A Temporary Permit for the use of designated portions or the entirety of installed, altered or repaired electrical equipment may be granted by the Development Services Department. Provided, however, that the portion of electrical equipment comprising the service entrance equipment and wiring, the meter and meter connection cabinet and the meter wiring, up to but not beyond the disconnecting switch or other disconnecting device, may be made electrically alive prior to the issuance of a Temporary Permit. In such case, the Electrical Contractor shall notify the Electrical Inspector of his intention to make such portion of the electrical equipment electrically alive. In addition, the disconnecting switch or other disconnecting device shall be sealed in the "off" position and tagged with a warning notice reading as follows:

"It is unlawful for any person to place this switch in the 'on' or 'closed' position or to use electricity on any wiring beyond this switch previous to the issuance by the Development Services Department of a Temporary Permit authorizing the use of current on this installation."

90-11-Inspection of Electrical Equipment

(a) **Inspection Required.** The Development Services Department shall inspect all electrical equipment installed, altered, or repaired within the Village of Orland Park and shall require that it conform to the electrical regulations of this Code hereinafter established. Except as otherwise provided in Section 90-10c of this Code, whenever any electrical equipment has been installed, altered or repaired, no electrical current shall be used on such equipment prior to the inspection of such equipment by the Development Services Department and the issuance of a Temporary Permit therefrom authorizing the use of current on such equipment. The Development Services

Department and only the Development Services Department is authorized to attach to electrical cabinets and equipment any official notice or seal to prevent the use of electricity. Any person other than Development Services Department personnel who shall attach such a notice or who shall in any way tamper with a notice or seal attached by the Development Services Department shall be in violation of this Code. The amount of all fees for inspection required under this Code and the procedures for the collection thereof shall be in accordance with all applicable provisions of the Municipal Code of the Village of Orland Park.

(b) **Re-inspection.** The Development Services Department is authorized to re-inspect any electrical equipment previously approved to assure its continued compliance with the regulations of this Code. In the event such electrical equipment is found to be unsafe and dangerous to life or property, the Electrical Inspector shall notify in writing the person(s) responsible for such electrical equipment in order to advise such person(s) to place the electrical equipment in a safe and secure condition in compliance with the electrical regulations of this Code. The written notice shall also inform such person(s) of a reasonable and fair time within which the improper electrical equipment shall be brought in compliance with this Code. In no event, however, shall this time exceed fifteen (15) days from the date of such notice. Refusal to comply with the requirements of such notice, shall subject the person(s) responsible for the electrical equipment to the penalties provided for in this Code.

(c) **Waiver of Electrical Regulations.** The electrical regulations of this Code may be modified or waived when, in the judgment of the Electrical Inspector, such modification or waiver is advisable in a particular case or when an advancement in the technology of electricity makes such modification or waiver in the best interests of the residents of Orland Park. Any modification or waiver shall be based upon good engineer/architect's standards or construction practice. Any modifications or waivers from the regulations of this Code shall be obtained from the Development Services Department in writing prior to the commencement of the particular work involved.

(d) **Right of Entry.** In the discharge of its duties, the Development Services Department shall have the authority to enter, at any reasonable hour, any building, structure or premises within the Village of Orland Park to enforce the regulations of this Code. The authority to enter shall be that permitted by law and such entry shall be affected only by lawful means respecting the rights of all persons involved. The assistance and cooperation of the police, fire and health departments and all other Village Officials shall be available to the Electrical Inspector as required in the performance of said Inspector's duties to inspect and to regulate the electrical equipment under this Code, and as permitted by law.

(e) **Conflict.** In the event of a conflict between the provisions of this Code and the requirements of any other Village of Orland Park Code or ordinance, the more stringent requirement shall apply.

2. Section 210.12 Arc Fault Circuit Interrupter Protection:

This regulation applies to Dwelling Units only.

(A) **Dwelling Units:** All 120-volt, single phase, 15- and 20 ampere branch circuits supplying outlets in dwelling unit family rooms, dining rooms, living rooms, parlors, libraries, dens, bedrooms, closets, hallways, or similar room or areas shall be protected by listed arc-fault circuit interrupter, combination combination-type, installed to provide protection of the branch circuit.

Add Section

3. Section 210 .13 Ground Fault Protection required:

This regulation applies to single family dwelling units only.

(A) Ground Fault Circuit protection shall not be required in single family residences for sump pumps. A single receptacle is required for all sump pump installations in single family residences.

Code Commentary: It is not a good application to have a sump pump tied to GFIC receptacle that if a receptacle becomes de-energized the sump pump dis-continues working and leads to flooding of sub grade interior surfaces.

4. Section 210-52(c) is hereby amended to read as follows:

(c) **Counter Tops.** In kitchens and dining areas of dwelling units, a receptacle outlet shall be installed at each counter space wider than 12 inches (305 mm). Receptacles shall be installed so that no point along the wall line is more than 24 inches (610 mm), measured horizontally from a receptacle outlet in that space. Island counter tops 12 inches (305 mm) or wider shall have at least one receptacle for each four feet (1.22 m) counter top. Counter top spaces separated by range tops, refrigerators, or sinks shall be considered as separate counter top spaces. Receptacles rendered inaccessible by appliances fastened in place or appliances occupying dedicated space shall not be considered as these required outlets.

Add section:

5. Article 230 is hereby amended to add section 230.23 (D) to read as follows:

230.23 (D) Min service size single family dwellings:

All services to single family dwelling exceeding 4,500 square feet occupied area shall be required to have a 400 ampere single phase service.

Note: Occupied areas shall be defined as areas within the enclosed walls of dwelling unit including basements and garages.

Code Commentary: Many single family residences constructed in Orland Park are very large and contain many bedrooms and multicar garages. The larger footprints of homes and excessive use of electrical wattage promulgates the increase of larger electric services based on calculated demand KVA.

6. Article 230 is hereby amended to add Section 230-70(D) to read as follows:

230-70(D). Service Location. The location of the underground service meter for new subdivisions shall be approved by the Electrical Inspector prior to installation.

7. Section 310.1(A) hereby is added to Section 310.1 to read as follows:

310.1(A) Type of Conductor Materials Allowed

(1) **Copper Material.** Conductors in this article shall be of copper only, except for utility installation.

(2) **Aluminum Material.** Aluminum feeders (cables) may only be used for switchboards, panelboards and equipment feeders for 100 or larger amp wire.

6. Section 310.106(B) is hereby amended to delete the words "Aluminum, copper-clad aluminum," so that it reads as follows:

310.106(B) Conductor Materials. Conductors in this article shall be of copper unless otherwise specified.

7. The title of Article 352 is hereby amended as follows:

i) The title shall read: “**ARTICLE 352 - RIGID NONMETALLIC CONDUIT (RNC) FOR UNDERGROUND AND SPECIAL LOCATION APPLICATIONS USES ONLY.**”

ii) Section 352.10 shall read as follows:

352.10 **Uses Permitted.** The use of RNC shall be permitted under the following conditions:

For Public Knowledge (FPN): Extreme cold may cause some nonmetallic conduits to become brittle and therefore more susceptible to damage from physical contact.

(A) **Concealed.** In walls, floors, and ceilings.

(B) **Corrosive Influences.** In locations subject to severe corrosive influences as covered in 300.6 and where subject to chemicals for which the materials are specifically approved.

(C) **Cinders.** In cinder fill.

(D) **Wet Locations.** In portions of dairies, laundries, canneries, or other wet locations and in locations where walls are frequently washed, the entire conduit system including boxes and fittings used therewith shall be installed and equipped so as to prevent water from entering the conduit. All supports, bolts, straps, screws and so forth, shall be of corrosion-resistant materials or be protected against corrosion by approved corrosion-resistant materials.

(E) **Dry and Damp Locations.** In dry and damp locations not prohibited by 352.12

(F) **Exposed.** For exposed work where not subject to physical damage if identified for such use.

(G) **Underground Installations.** For underground installations, see 300.5 and 300.50. Conduits listed for the purpose shall be permitted to be installed underground in continuous lengths from a reel.

(H) **Support of Conduit Bodies.** Rigid nonmetallic conduit shall be permitted to support nonmetallic conduit bodies not larger than the largest trade size of an entering raceway. The conduit bodies shall not contain devices or support luminaries (fixtures) or other equipment.

8. Article 358 is hereby amended to add subsection 358(D) to read as follows:

358(D) Tubing for Water Meter Readers. Electrical metallic tubing shall be installed to contain low voltage wiring for water meter readers located adjacent to gas meters.

Add subsection

358.10 (E) Supplemental Conduit. Minimum of 1" electro metallic tubing (E.M.T.) is required for all satellite low voltage cables in all multistory, multifamily and single family residences. This conduit shall be installed on the interior of the building.

Code Commentary: The installation of separate metallic tubing allows low voltage and satellite cables to be protected and contain on the INTERIOR of a home and not randomly installed on exterior of buildings.

9. Section 410.10(G) is hereby added to Section 410.10 to read only as follows:

(G) **Luminaires in Closets Requirements:** The requirement for lights in closets may be waived if the closet has an area of less than five square feet and if there is a closely adjacent fixed light so placed to illuminate the contents of the closet. Wardrobe closets are not exempt from this provision. Closet lights shall be permanently installed lighting fixtures. Drop cords are not allowed.

10. Section 450.21 is hereby amended to read as follows:

450.21 Dry-type Transformers Installed Indoors.

(A) **Mounting Height:** All dry-type transformers shall be installed at a minimum of seven (7) feet above a finished floor, and at a minimum of **two (2) feet** **one (1) foot** from the walls.

(B) **Not over 112-1/2 kVA.** Dry-type transformers installed indoors and rated 112-1/2 kVA or less shall have a separation of at least 12 inches (305mm) from combustible material.

Exception No. 1: Where separated from the combustible material by a fire-resistant heat-insulating barrier.

Exception No. 2: Transformers 600 volts, nominal, or less completely enclosed, with or without ventilating openings.

(C) **Over 112-1/2 kVA.** Individual dry-type transformers of more than 112-1/2 kVA rating shall be installed in a transformer room of fire-resistant construction.

Exception No. 1: Transformers with 80°C rise or higher ratings and separated from combustible material by a fire-resistant, heat-insulating barrier or by not less than 6 feet (1.83m) horizontally and 12 feet (3.66 m) vertically.

Exception No. 2: Transformers with 80°C rise or higher ratings and completely enclosed except for ventilating openings.

(D) **Over 35,000 Volts.** Dry-type transformers rated over 35,000 volts shall be installed in a vault complying with Part C of this article.

11. A new section, Section 725.1(A) is added to Section 725.1 to read as follows:

725.1(A) ADDITIONAL PHYSICAL PROTECTION

Where the Electrical Inspector determines that damage to remote-control circuits of water meter equipment may occur, all conductors of such remote-control circuits shall be installed in rigid metal conduit, intermediate metal conduit, rigid nonmetallic conduit or electrical metal tubing. Tubing shall terminate six (6) inches from the water meter location and the building gas meter. (Ord. 3656, 7-1-02)

12. A new Article 726 is added to this code to read as follows:

726 Emergency Knox Box Shunt Switch (Commercial Buildings Only)

Any Electrical Service with 800 amps or more will require a Knox Box Shunt Switch. If there is a door within 5 feet of the main distribution panel, a shunt switch will not be required. (Ord. 4068, 9-6-05; Amd. Ord. 4692, 12-19-11; Amd. Ord. 5066, 3-7-16)

5-3-8: LIMITATION:

Nothing in this Chapter shall prohibit, deny or limit the provisions of any other ordinances of the Village which specifically regulate electrical equipment. In particular, this Chapter shall not prohibit, deny or limit those requirements of the Land Development Code of the Village of Orland Park, which pertain to the installation, alteration and use of electrical equipment in swimming and other pools.

5-3-9: PENALTY AND ENFORCEMENT:

1. Any person, firm, corporation or entity who violates, disobeys, omits, neglects, refuses to comply with or who resists enforcement of any of the provisions of this Chapter, shall upon conviction be fined as detailed in Title One, Chapter Four ([1-4-1: GENERAL PENALTY](#)). (Amd. Ord. 5103, 6-6-16)

2. In the event any electrical equipment is installed, altered, repaired or maintained in violation of this Chapter, the Village, in addition to other remedies, may institute any appropriate action or proceedings 1) to prevent the unlawful installation, repair or maintenance, 2) to prevent the occupancy of any unsafe building, structure or land, 3) to prevent any illegal act conduct, business or use in or about the premises, or 4) to restrain, correct or abate the violation. (Ord. 3217, 1-4-99; Amd. Ord. 5066, 3-7-16)