

ELECTRICAL REQUIREMENTS



DOCUMENT SUBMITTAL LIST

- Completed *Application for Construction or Use*. Application must include authorized signature by the property owner if not owner occupied.
- Copy of Electrical Contractor License and surety bond, if work is conducted by contracting electrician.
- Three copies of plan drawings including electrical line diagram when applicable, materials list, and panel schedule when adding to existing or installing new systems.

Failure to provide any of the above documents may result in processing delays.

GENERAL INFORMATION

1. A permit is required to install, add, or alter, any electrical system or equipment other than changing lamps, fixtures, receptacles, switches, or similar apparatus.
2. All work is to be done in accordance with the 2008 National Electrical Code and the amendments adopted by the City of Warrenville (summary on page 4 of this brochure).
3. The application review period averages two weeks. The applicant will be contacted when the permit is ready for issuance and payment.
4. If work commences prior to permit issuance, the permit fee shall be doubled.
5. Approved construction documents shall be available on site at all times.
6. Alterations to the approved plans must be resubmitted to the Building Department in writing for review and approval prior to construction.
7. It is the responsibility of the applicant to assure access is provided to all electrical systems for required inspections. Most electrical permits require three inspections: rough-in, service, and final. Call for a rough-in inspection when all of the raceways and boxes are installed with wires pulled in raceways. Do not cover any work with insulation, receptacles, or wall switches until the inspector has approved it. Be sure that panel boxes are covered and circuits are labeled in the correct spaces on the box. All equipment, fixtures, switches, and appliances must be installed, and energized for the final inspection. A list of the required inspections is provided on the reverse side of the permit card.
8. Inspections must be scheduled at least one day prior to the desired inspection date by calling the Warrenville Community Development Department (630-393-9050).
9. A permit may become invalid if work does not begin within 180 days of issuance, or if construction has been halted and not resumed for a period of 60 consecutive days.
10. It is the homeowner/contractor's responsibility to have underground utilities located no less than 48 hours prior to digging by calling J.U.L.I.E (811).

FEE SCHEDULE

For the issuance of each electrical permit	\$22.00
System Fee Schedule Note: The following are in addition to the above permit-issuing fee	
1. New Residential Buildings	
The fees in this section (1) include all wiring and electrical equipment in or on each building, or other electrical equipment on the same premises constructed at the same time	
Multifamily: For new multifamily buildings having three or more dwelling units constructed at the same time, not including the area of garages, carports and accessory buildings, per square foot	\$.045
Single and two-family: For new single and two-family residential buildings constructed at the same time and not including the area of garages, carports and accessory buildings, per square foot	\$.050
For other types of residential occupancies and for alterations, additions and modifications to existing residential buildings, use the unit fee schedule.	
2. Private Swimming Pools	
New private, in-ground swimming pools for single-family and multifamily occupancies including a complete system of necessary branch circuit wiring, bonding, grounding, underwater lighting, water pumping and other similar electrical equipment directly related to the operation of a swimming pool, each pool	\$44.25
3. Carnivals And Circuses	
Carnivals, circuses, or other traveling shows or exhibitions utilizing transportable-type rides, booths, displays and attractions.	
For electrical generators and electrically driven rides, each	\$22.00
For mechanically driven rides and walk-through attractions or displays having electric lighting, each	\$6.50
For a system of area and booth lighting, each	\$6.50
For permanently installed rides, booths, displays and attractions, use the unit fee schedule	
4. Temporary Power Service	
For a temporary service pole or pedestal including all pole or pedestal mounted receptacle outlets and appurtenances, each	\$22.00
For a temporary distribution system and temporary lighting and receptacle outlets for construction sites, decorative lights, Christmas tree sales lots, fireworks stands, etc., each	\$11.00
Unit Fee Schedule Note: The following are in addition to the above permit-issuing fee	
5. Receptacle, Switch and Light Outlets	
For receptacle, switch, light or other outlets at which current is used or controlled, except services, feeders and meter:	
First 20 fixtures, each	\$1.00
Additional fixtures, each	\$.65

6. Lighting Fixtures	
For lighting fixtures, sockets or other lamp-holding devices:	
First 20 fixtures, each	\$1.00
Additional fixtures, each	\$.65
For pole or platform-mounted lighting fixtures, theatrical-type lighting fixtures or assemblies, each	\$1.00
7. Residential Appliances	
For fixed residential appliances or receptacle outlets for same, including wall-mounted electric ovens; counter-mounted cooking tops: electric ranges: self-contained room, console or through-wall air conditioners: space heaters: food waste grinders: dishwashers: washing machines: water heaters: clothes dryer: or other motor-operated appliances not exceeding one horsepower (HP) (746 W) in rating, each	\$4.25
8. Nonresidential Appliances	
For nonresidential appliances and self-contained factory-wired, nonresidential appliances not exceeding one horsepower (HP) kilowatt (kW) or kilovolt-ampere (kVA), in rating including medical and dental devices: food, beverage and ice cream cabinets: illuminated show cases: drinking fountains: vending machines: laundry machines: or other similar types of equipment, each	\$4.25
Note: For other types of air conditioners and other motor-driven appliances having larger electrical ratings, see Power Apparatus.	
9. Power Apparatus	
For motors, generators, transformers, rectifiers, synchronous converters, capacitors, industrial heating, air conditioners and heat pump, cooking or baking equipment or other apparatus, as follows:	
Rating in horsepower (HP), kilowatts (kW), kilovolt-amperes (kVA) or kilovolt-amperes-reactive (kVAR):	
Up to and including 1, each	\$4.25
Over 1 and not over 10, each	\$11.00
Over 10 and not over 50, each	\$22.00
Over 50 and not over 100, each	\$44.25
Over 100, each	\$66.50
Notes: For equipment or appliances having more than one motor, transformer, heater, etc. the sum of the combined ratings may be used. These fees include all switches, circuit breakers, contractors, thermostats, relays and other directly related control equipment.	
10. Busways	
For trolley and plug-in-type busways, each 100 feet or fraction thereof Note: An additional fee is required for lighting fixtures, motors, and other appliances that are connected to trolley and plug-in-type busways. A fee is not required for portable tools.	\$6.50

11. Signs, Outline Lighting and Marquees	
For signs, outline lighting systems or marquees supplied from one branch circuit, each	\$22.00
For additional branch circuits within the same sign, outline lighting system or marquee, each	\$4.25
12. Services	
For services of 600 volts or less and not over 200 amperes in rating, each	\$27.25
For services of 600 volts or less and not over 200 amperes to 1,000 amperes, each	\$55.50
For services over 600 volts or over 1,000 amperes in rating, each	\$111
13. Miscellaneous Apparatus, Conduits and Conductors	
For electrical apparatus, conduits and conductors for which a permit is required but for which no fee is herein set forth Note: This fee is not applicable when a fee is paid for one or more services, outlets, fixtures, appliances, power apparatus, busways, signs or other equipment.	\$16.25
Bond: A \$100.00 building bond is required at the time of building permit issuance for interior remodeling work, and will be refunded upon completion and approval of the project in accordance with all applicable City Ordinances in the manner in which it was initially submitted.	

AMENDED REQUIREMENTS TO THE NEC

EMT is required in remodeling or new residential construction with access to wall or ceiling cavities, conductors shall be installed completely in EMT. Short lengths of flexible metal conduit may be permitted by the Code Official.

All conductors for wiring must be copper.

All commercial work requires conductors be a minimum size #12 AWG.

All exterior low voltage wiring for commercial HVAC equipment shall be installed in an approved *raceway*.

15 amp devices shall be supplied with number 12 AWG conductors and 20 amp devices with 12 AWG conductors.

Conductors cannot be dependent device connections such as lamp-holders, receptacles, and so forth, where removal would interrupt the continuity. Conductor shall be looped or have a pigtail wiring connection to the device.

Conductors terminated at receptacles or switches are allowed only under the screw of the device per the manufacturer's directions.

PVC shall not be permitted to emerge from concrete, earth, or other solid surface. Any portion of the raceway emerging from concrete or earth shall be installed in ridged metal conduit to a point not less than 18 inches above and below the emergence.

EMT is not permitted in concrete, direct contact with earth, or used for exterior installations.

Metal-Clad Cable Type MC cable is only to be used with lay-in type fixtures and recessed lighting fixtures in lengths not to exceed 6 feet of the total raceway.

All unused wiring, including low voltage, is required to be removed back to the source of power or last utilized electrical device on the circuit.

Service entrance conductors are to be installed in rigid metal conduit or intermediate metal conduit. PVC is allowed for underground use only and must be protected from any physical damage.

Raceways installed in or under a slab or underground, with the exception of service entrance raceways, require a separate equipment grounding conductor.

The service disconnecting means shall be installed in a readily accessible location at the utility meter or at a point not more than five feet from the utility meter.

Where tandem, duplex, or similar overcurrent devices are use in a service panel, proof must be provided to the Code Official that circuits are properly balanced. Proof shall be provided in a written form using a panel schedule, by a registered or licensed electrician.

The following materials and methods are not permitted:

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| Armored Cable Type AC. | Concealed Knob and Tubing Wiring. |
| Flat Cable Assemblies Type FC. | Messenger Supported Wiring. |
| Flat Conductor Cable Type FCC. | Open Wiring on Insulators. |
| Integrated Gas Spacer Cable Type IGS. | Surface Nonmetallic Raceways. |
| Medium Voltage Cable Type MV. | Nonmetallic Extensions. |
| Nonmetallic Sheathed Cable. | Electrical nonmetallic tubing. |
| Service Entrance Cable Types SE and USE. | Flexible Metal Conduit outdoors |
| Liquid Tight Flexible Nonmetallic Conduit. | |
| Manufactured wiring systems in any concealed or outdoor locations. | |

ELECTRICAL CONTRACTOR REGISTRATION

- A.** All contracted electrical work shall be performed by a licensed or registered and bonded electrician who is also registered with the City of Warrenville. The electrical license must be one which was acquired by passing a written electrical examination offered by an approved municipality or a national contractor/trades journeyman or higher electrician certification by the International Code Council©.
- B.** The fee for registration as an electrical contractor is \$35 and is not prorated. The certificate of registration expires on December 31 of the year in which it is issued. Any statements on an application made by a person registering as an electrical contractor that are found untrue, shall cause the application to become null and void.

Approved construction documents shall be available on site at all times.

Alterations to the approved plans must be resubmitted to the Building Department in writing for review and approval prior to construction.

Where conflicts between this guide and the code arise, the most restrictive code, or manufacturer's installation instructions shall prevail.