

# CITY OF GREELEY, COLORADO

ORDINANCE NO. \_\_\_\_\_, 2011

## AN ORDINANCE REPEALING AND RE-ENACTING MUNICIPAL CODE CHAPTER 16.32, ELECTRICAL CODE.

BE IT ORDAINED BY THE CITY COUNCIL OF GREELEY, COLORADO:

**Section 1.** Greeley Municipal Code Chapter 16.32, Electrical Code, a copy of which is attached hereto as Exhibit “A”, is hereby repealed in its entirety.

**Section 2.** Chapter 16.32, Electrical Code, is hereby re-enacted as follows:

### CHAPTER 16.32

#### I. ELECTRICAL CODE

##### **16.32.010 National Electrical Code adopted.**

The, *National Electrical Code*<sup>®</sup>, 2011 Edition, referred to in this Chapter as this *Code* or the *NEC*<sup>®</sup>, is hereby adopted by reference by the City of Greeley. The *National Electrical Code*<sup>®</sup> is published by the National Fire Protection Association, One Batterymarch Park, Quincy, Massachusetts, 02269 and is referenced as NFPA 70. The City of Greeley finds that *The National Electrical Code*<sup>®</sup> provides for the minimum standards to safeguard life, health, property and public welfare by regulating and controlling the design, construction, installation, quality of materials, location, operation and maintenance of electrical systems. To ensure the safety of the public, this *Code* is to be enforced as published or as amended in this Chapter. Enforcement and administrative procedures are also established in this Chapter.

##### **16.32.20 Amendments, Deletions, and Additions Designated.**

*NEC*<sup>®</sup> Articles 90.8(A), 110.14(A), 110.14(B), 210.11(C)(3), 210.52(G), , 230.70(A)(1), 250.118, 334.10, 342.10(B), 344.10(B), 348.60, 350.60, 408.4 and 422.12 of the *National Electrical Code*<sup>®</sup> are hereby amended; Annex H of the *NEC*<sup>®</sup> is hereby deleted; and Articles 210.52(J), 210.52(K), and 210.52(L) are added as set out in Sections 16.32.080 through 16.32.091, and 690.47(D) is added as set out in 16.32.180.

##### **16.32.030 Article 90.8(A) amended; Future Expansion and Convenience.**

Article 90.8(A) of the *NEC*<sup>®</sup>, adopted at Section 16.32.010, is amended to read as follows:

##### **90.8 Wiring Planning.**

- (A) **Future Expansion and Convenience.** Plans and specifications that provide ample space in raceways, spare raceways, and additional spaces allow for future increases in electric power and communication circuits.

Distribution centers located in readily accessible locations provide convenience and safety of operation.

*Provisions shall be provided in the initial electrical installations to allow for future additional loads, feeders and branch circuits. A minimum of three (3), full size breaker spaces shall be provided in each panelboard at the time of final inspection. In addition, a minimum of a one (1) inch spare conduit or adequate pull wire provision shall be provided from each flush mounted panelboard into the attic space and also into the basement or crawl space for future use.*

- (B) **Number of Circuits in Enclosures.** It is elsewhere provided in this Code that the number of wires and circuits confined in a single enclosure be varyingly restricted. Limiting the number of circuits in a single enclosure minimizes the effects from a short circuit or ground fault in one circuit.

**16.32.040 Article 110.14(A), amended; Terminals.**

Article 110.14(A) of the *NEC*<sup>®</sup>, adopted at Section 16.32.010, is amended to read as follows:

**110.14(A) Terminals.** Connection of conductors to terminal parts shall ensure a thoroughly good connection without damaging the conductors and shall be made by means of pressure connectors (including set-screw type), solder lugs, or splices to flexible leads. *A listed oxide inhibitor compound shall be applied to all aluminum conductor terminations per the manufacturer's installation instructions prior to terminating or landing a conductor to a lug or terminal.* Connection by means of wire-binding screws or studs and nuts that have upturned lugs or the equivalent shall be permitted for 10 AWG or smaller conductors.

Terminals for more than one conductor and terminals used to connect aluminum shall be so identified.

**16.32.050 Article 110.14(B), amended; Splices.**

Article 110.14(B) of the *NEC*<sup>®</sup>, adopted at Section 16.32.010, is amended to read as follows:

**110.14(B) Splices.** Conductors shall be spliced or joined with splicing devices identified for the use or by brazing, welding, or soldering with a fusible metal or alloy. Soldered splices shall first be spliced or joined so as to be mechanically and electrically secure without solder and then be soldered. *A listed oxide inhibitor compound shall be applied to all aluminum conductor splices per the manufacturer's installation instructions prior to splicing aluminum conductors with wing nuts, split bolts, or other approved devices.* All splices and joints and the free ends of conductors shall be covered with an insulation equivalent to that of the conductors or with an insulation device identified for the purpose.

Wire connectors or splicing means installed on conductors for direct burial shall be listed for such use.

**16.32.060 Article 210.11(C)(3) amended; Bathroom Branch Circuits.**

Article 210.11(C)(3) of the *NEC*<sup>®</sup>, adopted at Section 16.32.010, is amended to read as follows:

**210.11(C)(3) Bathroom Branch Circuits.** In addition to the number of branch circuits required by other parts of this section, at least one 20-ampere branch circuit shall be provided to supply bathroom receptacle outlet(s). Such circuits shall have no other outlets.

Exception: Where the 20-ampere circuit supplies a single bathroom, outlets for other equipment within the same bathroom shall be permitted to be supplied in accordance with 210.23(A)(1) and (A)(2). *A minimum of one lighting outlet (not required by this Code to be GFCI protected) shall be connected so as not to be protected by the GFCI personnel protection.*

**16.32.070 Article 210.52(G) amended; Basements, Garages, and Accessory Buildings.**

Article 210.52(G) of the *NEC*<sup>®</sup>, adopted at Section 16.32.010, is amended to read as follows:

**210.52(G) Basements, Garages, and Accessory Buildings.** For a one-family dwelling, the following provisions shall apply:

*(1) In each attached garage, and in each detached garage or accessory building with electric power, at least one receptacle outlet, in addition to those for specific equipment, shall be installed at least 450 mm (18 inches) above and no more than 2.0 (6 1/2 feet) above the garage floor. All openings for receptacles, luminaires, heating, refrigeration, and motor loads shall be a minimum of 450 mm (18 inches) above the floor.*

*(2) At least one receptacle outlet, in addition to those for specific equipment, shall be installed in an unfinished basement. Where a portion of the basement is finished into one or more habitable rooms, each separate unfinished portion shall have a receptacle outlet installed in accordance with this section.*

**16.32.080 Article 210.52(J) Added; Framing in Basements.**

Article 210.52(J) of the *NEC*<sup>®</sup>, adopted at Section 16.32.010, is added to read as follows:

**210.52(J) Framing in Basement.** *In new construction and remodels, if all or any part of the walls of an unfinished basement is framed, the electrical receptacle outlets as required by *NEC*<sup>®</sup> 210.52, and switch and luminaire outlets as required by *NEC*<sup>®</sup> 210.70 shall be installed. If*

*the walls, floors and ceilings are not going to be finished, the outlet devices do not have to be installed, however, the outlet boxes shall have blank cover plates installed on them before the final inspection can be approved. If receptacle outlets are installed, they shall have GFCI protection for personnel, if no floor covering is installed at the time of final inspection.*

**16.32.090 Article 210.52(K) Added; Sump Pit Receptacle Outlet.**

Article 210.52(K) of the *NEC*<sup>®</sup>, adopted at Section 16.32.010, is added to read as follows:

**210.52 (K) Sump Pit Receptacle Outlets.** *A 125-volt, single-phase, 15- or 20-ampere receptacle outlet shall be installed adjacent to and within 18” of the sump pit as required by 16.28.460. This receptacle outlet shall be on a dedicated branch circuit and shall be GFCI protected.*

**16.32.91 Article 210.52(L) Added; Igniters for gas-fired appliances.**

Article 210.52(l) of the *NEC*<sup>®</sup>, adopted at Section 16.32.010, is added to read as follows:

**210.52(L) Igniters for gas-fired appliances.** The branch circuit supplying power to an outlet for a gas-fired appliance with an igniter shall not be GFCI protected.

**16.32.100 Article 230.70(A)(1) amended; Readily Accessible Location.**

Article 230.70(A)(1) of the *NEC*<sup>®</sup>, adopted at Section 16.32.010, is amended to read as follows:

**230.70(A)(1) Readily Accessible Location.** The service disconnecting means shall be installed at a readily accessible location either outside of a building or structure or inside nearest the point of entrance of the service conductors.

*For a one-family dwelling, the service disconnecting means shall be located on the exterior of the structure adjacent to or combined with the utility meter enclosure.*

**16.32.110 Article 250.118 amended; Types of Equipment Grounding Conductors.**

Article 250.118 of the *NEC*<sup>®</sup>, adopted at Section 16.32.010, is amended to read as follows:

**250.118 Types of Equipment Grounding Conductors.**

The equipment grounding conductor run with or enclosing the circuit conductors shall be one or more or a combination of the following:

- (1) A copper, aluminum, or copper-clad aluminum conductor. This conductor shall be solid or stranded; insulated, covered, or bare; and in the form of a wire or a busbar of any shape.
- (2) Rigid metal conduit.
- (3) Intermediate metal conduit.
- (4) Electrical metallic tubing.
- (5) *Deleted in its entirety. See Section 16.32.150.*
- (6) *Deleted in its entirety. See Section 16.32.160.*
- (7) Flexible metallic tubing where the tubing is terminated in fittings listed for grounding and meeting the following conditions:
  - a. The circuit conductors contained in the tubing are protected by overcurrent devices rated at 20 amperes or less.
  - b. The combined length of flexible metal tubing in the same ground return path does not exceed 1.8 m (6 ft.).
- (8) Armor of Type AC cable as provided in 320.108.
- (9) The copper sheath of mineral-insulated, metal/sheathed cable.
- (10) Type MC cable where listed and identified for grounding in accordance with the following:
  - a. The combined metallic sheath and grounding conductor of interlocked metal tape-type MC cable.
  - b. The metallic sheath or the combined metallic sheath and grounding conductors of the smooth or corrugated tube-type MC.
- (11) Cable trays as permitted in 392.3(C) and 392.7.
- (12) Cablebus framework as permitted in 370.3.
- (13) Other listed electrically continuous metal raceways and listed auxiliary gutters.
- (14) Surface metal raceways listed for grounding.

**16.32.120 Article 334.10 amended; Used Permitted.**

Article 334.10 of the NEC<sup>®</sup>, adopted at Section 16.32.010, is amended to read as follows:

**334.10 Used Permitted** Type NM, Type NMC and Type NMS cables shall be permitted to be used in the following:

- (1) One- and two-family dwellings and their attached or detached garages, and their storage buildings.
- (2) Multifamily dwellings permitted to be of Types III, IV, and V construction *up to 3 stories in height only and their accessory structures*, except as prohibited in 334.12.
- (3) *Deleted in its entirety.*
- (4) Cable trays in structures permitted to be Types III, IV, and V where the cables are identified for the use.

**16.32.130 Article 342.10(B), amended; Corrosive Environments.**

Article 342.10(B) of the *NEC*<sup>®</sup>, adopted at Section 16.32.010, is amended to read as follows:

**342.10(B) Corrosive Environments.** *IMC, elbows, couplings, and fittings shall be provided with approved supplementary corrosion protection where incased in concrete or in direct contact with the earth.*

**16.32.140 Article 344.10(B), amended; Corrosion Environments.**

Article 344.10(B) of the *NEC*<sup>®</sup>, adopted at Section 16.32.010, is amended to read as follows:

**344.10(B) Corrosive Environments.**

- (1) ***Stainless Steel and Red Brass RMC, Elbows, Couplings, and Fittings.*** *Stainless steel and red brass RMC elbows, couplings, and fittings shall be permitted to be installed in concrete, in direct contact with the earth, or in areas subject to severe corrosive influences where protected by corrosion protection and judged suitable for the condition.*
- (2) ***Supplementary Protection of Galvanized Steel and Aluminum RMC.*** *Galvanized steel and aluminum RMC shall be provided with approved supplementary corrosion protection where encased in concrete or in direct contact with the earth.*

**16.32.150 Article 348.60, amended; Grounding and Bonding.**

Article 348.60 of the *NEC*<sup>®</sup>, adopted at Section 16.32.010, is amended to read as follows:

**348.60 Grounding and Bonding.** *Flexible Metallic Conduit shall not be permitted to be used as an equipment grounding conductor.*

*An equipment grounding conductor shall be installed in all flexible metallic conduits and shall be installed in accordance with 250.134(B).*

*Equipment bonding jumpers shall be installed in accordance with 250.102.*

**16.32.160 Article 350.60, amended; Grounding and Bonding.**

Article 350.60 of the *NEC*<sup>®</sup>, adopted at Section 16.32.010, is amended to read as follows:

**350.60 Grounding and Bonding.** *Liquidtight Flexible Metallic Conduit shall not be permitted to be used as an equipment grounding conductor.*

*An equipment grounding conductor shall be installed in all liquidtight flexible metallic conduits and shall be installed in accordance with 250.134(B).*

*Equipment bonding jumpers shall be installed in accordance 250.102.*

FPN: See 501.30(B), 502.30(B), and 503.30(B) for types of equipment grounding conductors.

**16.32.165 Article 408.4, amended; Circuit Directory or Circuit Identification.**

Article 408.4 of the *NEC*<sup>®</sup>, adopted at Section 16.32.010, is amended to read as follows:

**408.4 Circuit Directory or Circuit Identification.** Every circuit and circuit modification shall be legibly identified *in typewritten form* as to its clear, evident, and specific purpose or use *on all electrical equipment in all occupancies except residential construction. In other than new construction, and when approved by the AHJ, the identification may be legibly handwritten.* The identification shall include sufficient detail to allow each circuit to be distinguished from all others. Spare positions that contain unused overcurrent devices or switches shall be described accordingly. The identification shall be included in a circuit directory that is located on the face or inside of the panel door in the case of a panelboard, and located at each switch or circuit breaker in a switchboard. No circuit shall be described in a manner that depends on transient conditions of occupancy.

**16.32.170 Article 422.12, amended; Central Heating Equipment.**

Article 422.12 of the *NEC*<sup>®</sup>, adopted at Section 16.32.010, is amended to read as follows:

**422.12 Central Heating Equipment.** Central heating equipment other than fixed electric space-heating equipment shall be supplied by an individual branch circuit.

*A combination switch/fuse holder unit such as a SSU or SSY shall be installed as the discounting means for central heating equipment such as gas, forced-air furnaces and unit heaters. The fuse shall be sized at 125% of the nameplate rating of the heating equipment.*

Exception No.1: Auxiliary equipment such as a pump, valve, humidifier, or electrostatic air cleaner directly associated with the heating equipment, shall be permitted to be connected to the same branch circuit.

Exception No 2: Permanently connected air-conditioning equipment shall be permitted to be connected to the same branch circuit.

*Exception No. 3. A door chime transformer shall be permitted to be connected to the same branch circuit.*

**16.32.180 Article 690.47(D) Added; Additional Electrodes for Array Grounding.**

Article 690.47(D) of the NEC<sup>®</sup>, adopted at Section 16.32.010, is added to read as follows:

***690.47(D) Additional Electrodes for Array Grounding.*** *Grounding electrodes shall be installed in accordance with 250.52 at the location of all ground- and pole-mounted photovoltaic and as close as practical to the location of roof-mounted photovoltaic arrays. The electrodes shall be connected directly to the array frame(s) or structure. The dc grounding electrode conductor shall be sized according to 250.166. Additional electrodes are not permitted to be used as a substitute for equipment bonding or equipment grounding conductor requirements.*

*The structure ground- or pole-mounted photovoltaic array shall be permitted to be considered a grounding electrode if it meets the requirements of 250.52. Roof-mounted photovoltaic arrays shall be permitted to use the metal frame of a building or structure if the requirements of 250.52(A)(2) are met.*

*Exception No 1: Array grounding electrode(s) shall not be required where the load served by the array is integral with the array.*

*Exception No 2: Additional array grounding electrode(s) shall not be required if located within 6' of the premises wiring electrode.*

## II. ADMINISTRATION AND ENFORCEMENT

### 16.32.190 Scope.

The following functions are covered:

- (1) The inspection of electrical installations as covered by *NEC*<sup>®</sup> Article 90.2.
- (2) The investigation of fires caused by electrical installations.
- (3) The review of construction plans, drawings, and specifications for electrical systems.
- (4) The review of design, alteration, modification, construction, maintenance, and testing of electrical systems and equipment.
- (5) The regulation and control of electrical installations at special events within the city limits of Greeley and the Island Grove Regional Park including but not limited to the Greeley Independence Stampede, the Farm Show, the Arts Picnic, Cinco De Mayo, the Weld County Fair and other exhibits, trade shows, amusement parks, carnivals, circuses, and other similar special occupancies.
- (6) Enforcement of violations of this Chapter 16.32.

### 16.32.200 Definitions.

**Apprentice.** A person who is working at the trade in the employment of a registered Electrical Contractor and is under the direct supervision of a licensed Master Electrician, Journeyman Electrician, or Residential Wireman.

**Authority Having Jurisdiction.** The individual(s) responsible for approving equipment, materials, an installation, or a procedure.

**Chief Electrical Inspector.** An electrical inspector who is designated the authority having jurisdiction responsible for administering the requirements of this *Code*.

**Electrical Contractor.** Any person, firm, co-partnership, corporation, association, or combination thereof who undertakes or offers to undertake for another the planning, laying out, supervising, and installing or the making of additions, alterations, and repairs in the installation of wiring apparatus and equipment for electric light, heat, and power. A registered professional engineer who plans or designs electrical installations shall not be classified as an electrical contractor.

**Electrical Inspector.** An individual meeting requirements of 16.32.270 and authorized to perform electrical inspections.

**Electrical Work.** Wiring for, installing, and repairing electrical apparatus and equipment for light, heat, and power and other electrical purposes.

**Journeyman Electrician.** A person having the necessary qualifications, training, experience, and technical knowledge to wire for, install, and repair electrical apparatus and equipment for light, heat, power, and other purposes, in accordance with standard rules and regulations governing such work, such as the *National Electrical Code*<sup>®</sup>, and who holds an active Journeyman Electrician License issued by the Colorado State Electrical Board.

**Master Electrician.** A person having the necessary qualifications, training, experience, and technical knowledge to properly plan, lay out, and supervise the installation and repair of wiring apparatus and equipment for electric light, heat, power, and other purposes in accordance with standard rules and regulations governing such work, such as the *National Electrical Code*<sup>®</sup>, and who holds an active Master Electrician License issued by the Colorado State Electrical Board.

**Residential Wireman.** A person having the necessary qualifications, training, experience, and technical knowledge to wire for, and install, electrical apparatus and equipment for wiring one-, two-, three-, and four-family dwellings, and who holds an active Residential Wireman License issued by the Colorado State Electrical Board.

#### **16.32.210 Application.**

- (A) **New Installations.** This *Code* applies to new installations. Buildings with construction permits issued after the date of adoption of this *Code* by the State of Colorado Electrical Board and/or the City of Greeley shall comply with its requirements.
- (B) **Existing Installations.** Existing electrical installations that do not comply with the provisions of this *Code* shall be permitted to be continued in use unless the authority having jurisdiction determines that the lack of conformity with this *Code* presents an imminent danger to occupants. Where changes are required for correction of hazards, a reasonable amount of time, as determined by the authority having jurisdiction, shall be given for compliance, depending on the degree of hazard.

Life safety systems such as exit lighting systems, emergency egress lighting systems, ground fault circuit interrupter devices for personal protection, and smoke detectors may be required to be brought into compliance with current code requirements as determined by the authority having jurisdiction.

- (C) **Additions, alterations, or repairs** to any building, structure, or premises shall conform to that required of a new building without requiring the existing building to comply with all the requirements of this *Code*. Additions, alterations, installations, or repairs shall not cause an existing building to become unsafe or to adversely affect the performance of the building as determined by the authority having jurisdiction. Electrical wiring added to an existing service, feeder, or branch circuit shall not result

in an installation that violates the provisions of the *Code* in force at the time the additions are made.

- (D) **Change of Use.** When any building, structure, or premises is occupied for a purpose that results in a change of use as determined by the Chief Building Official, then the existing electrical service, distribution system, and branch circuit wiring for light, heat power, and other purposes shall be inspected by the authority having jurisdiction to insure that the existing electrical wiring is in compliance with the *NEC*<sup>®</sup> requirements for the new type of use. Any parts of the electrical systems found to be in violation shall be brought into compliance before the building can be occupied for the new use.
- (E) **Relocated Structures.** The entire electrical service, distribution system, and branch circuit wiring for light, heat, power, and other purposes shall be installed to meet the requirements of a new installation whenever an existing structure is relocated within the City limits of Greeley. All existing wiring systems, enclosures, panelboards, circuit breakers, fuses, luminaries and devices shall be removed in their entirety and not reused unless approved by the authority having jurisdiction prior to obtaining an electrical permit to rewire the structure.
- (F) **Mobile and Manufactured Homes.** Every mobile home, manufactured home, or movable structure shall have the electrical utility service or hookup inspected prior to obtaining new or different service to the unit. This inspection shall be requested when the mobile home, manufactured home or movable structure has passed all other inspections required for the applicable type of structure.

#### **16.32.220 Authority.**

Where used in this chapter, the term *authority having jurisdiction* shall include the Chief Electrical Inspector or other individuals designated by the Chief Building Official. This *Code* shall be administered and enforced by the authority having jurisdiction as follows:

- (A) The authority having jurisdiction shall be permitted to render interpretations of this *Code* in order to provide clarification to its requirements as permitted by *NEC*<sup>®</sup> Article 90.4.
- (B) When the use of any electrical equipment or its installations is found to be dangerous to human life or property, the authority having jurisdiction shall be empowered to have the premises disconnected from its source of electric supply. When such equipment or installation has been so condemned or disconnected, a notice shall be placed thereon listing the causes for the condemnation, the disconnection, or both and the penalty under 16.32.240 for the unlawful use thereof. Written notice of such condemnation or disconnection and the causes therefore shall be given within twenty four (24) hours to the owners, the occupant, or both, of such building, structure,

or premises. It shall be unlawful for any person to remove said notice, to reconnect the electric equipment to its source of electric supply, or to use or permit to be used electric power in any such electric equipment until such causes for the condemnation or disconnection have been remedied to the satisfaction of the authority having jurisdiction.

- (C) The authority having jurisdiction shall be permitted to delegate to other qualified individual(s) such powers as necessary for the proper administration and enforcement of this *Code*.
- (D) Police, fire, and other enforcement agencies shall have authority to render necessary assistance in the enforcement of this *Code* when requested to do so by the authority having jurisdiction.
- (E) The authority having jurisdiction shall be authorized to inspect, at all reasonable times, any building or premises for dangerous or hazardous conditions or equipment as set forth in this *Code*. The authority having jurisdiction shall be permitted to order any person(s) to remove or remedy such dangerous or hazardous condition or equipment. Any person(s) failing to comply with such order shall be in violation of this *Code*.
- (F) Where the authority having jurisdiction deems that conditions hazardous to life and property exist, he or she shall be permitted to require that such hazardous conditions in violation of this *Code* be corrected.
- (G) To the full extent permitted by law, any authority having jurisdiction engaged in inspection work shall be authorized at all reasonable times to enter and examine any building, structure, or premises for the purpose of making electrical inspections. Before entering a premises, the authority having jurisdiction shall obtain the consent of the occupant thereof or obtain a court warrant authorizing entry for the purpose of inspection except in those instances where an emergency exists. As used in this section, emergency means circumstances that the authority having jurisdiction knows, or has reason to believe, exist and that reasonably can constitute immediate danger to persons or property.
- (H) Persons authorized to enter and inspect buildings, structures, and premises as herein set forth shall be identified by proper credentials issued by the City of Greeley.
- (I) Persons shall not interfere with an authority having jurisdiction carrying out any duties or functions prescribed by this *Code*.
- (J) Persons shall not use a badge, uniform, or other credentials to impersonate the authority having jurisdiction.

- (K) The authority having jurisdiction shall be permitted to investigate the cause, origin, and circumstances of any fire, explosion, or other hazardous condition.
- (L) The authority having jurisdiction shall be permitted to require plans and specifications to ensure compliance with this *Code*.
- (M) Whenever any installation subject to inspection prior to use is covered or concealed without having first been inspected, the authority having jurisdiction shall be permitted to require that such work be exposed for inspection. The authority having jurisdiction shall be notified when the installation is ready for inspection and shall conduct the inspection within two (2) work days.
- (N) The authority having jurisdiction shall be permitted to order the immediate evacuation of any occupied building deemed unsafe when such building has hazardous conditions that present imminent danger to building occupants.
- (O) The authority having jurisdiction shall be permitted to waive specific requirements in this *Code* or permit alternative methods where it is assured that equivalent objectives can be achieved by establishing and maintaining effective safety. Technical documentation shall be submitted to the authority having jurisdiction to demonstrate equivalency and that the system, method, or device is approved for the intended purpose.
- (P) Each application for a waiver of a specific electrical requirement shall be filed with the authority having jurisdiction and shall be accompanied by such evidence, letters, statements, results of tests, or other supporting information as required to justify the request. The authority having jurisdiction shall keep a record of actions on such applications, and a signed copy of the authority having jurisdiction's decision shall be provided for the applicant.

**16.32.230 Construction Trades Advisory and Appeals Board.**

*The Construction Trades Advisory and Appeals Board shall be as described in Ordinance Sections 16.04.080 and 16.04.090.*

- (A) **General.** *As described in Ordinance Section 16.04.080*
- (B) **Limitations on Authority.** *As described in Ordinance Section 16.04.090*
- (C) **Appeals.**
  - (1) **Review of Decisions.** Any person, firm, or corporation may register an appeal with the Construction Trades Advisory and Appeals Board for a review of any decision of the Chief Electrical Inspector or of any Electrical Inspector, provided that such appeal is made in writing within fifteen (15) calendar days after such person, firm, or

corporation shall have been notified. Upon receipt of such appeal, said Board shall, if requested by the person making the appeal, hold a public hearing and proceed to determine whether the action of this Board, or of the Chief Electrical Inspector, or of the Electrical Inspector complies with this law and, within fifteen (15) calendar days after receipt of the appeal or after holding the hearing, shall make a decision in accordance with its findings.

- (2) **Conditions.** Any person shall be permitted to appeal a decision of the authority having jurisdiction to the Construction Trades Advisory and Appeals Board when it is claimed that any one or more of the following conditions exist:
  - a. The true intent of the codes or ordinances described in this *Code* has been incorrectly interpreted.
  - b. The provisions of the codes or ordinances do not fully apply.
  - c. A decision is unreasonable or arbitrary as it applied to alternatives or new materials.
- (3) **Submission of Appeals.** A written appeal, outlining the *Code* provision from which relief is sought and the remedy proposed, shall be submitted to the authority having jurisdiction within fifteen (15) calendar days of notification of violation.
- (D) **Meetings and Records.** Meetings and records of the Board shall conform to the following:
  - (1) Meetings of the Board shall be open to the public as required by law.
  - (2) Records of meetings of the Board shall be available for review during normal business hours, as required by law.

#### **16.32.240 Permits and Approvals.**

Permits and approvals shall conform to (A) through (I).

- (A) **Permits Required.** No person, whether or not required to be licensed by the Colorado State Electrical Board as an Electrical Contractor, Master Electrician, Journeyman Electrician or Residential Wireman, shall install, alter, or repair any electrical wiring, apparatus or equipment unless a permit for such electrical work has been issued. A permit must be obtained for each separate project. Application for permits shall be made on forms provided by the Building Inspection Division and the required permit fee shall accompany each application.

**(B) Homeowner Permit.** Any person who obtains a permit to personally install electrical work on their own property or residence shall be required to sign a notarized affidavit stating that they are knowledgeable of the requirements of the *National Electrical Code*<sup>®</sup> and that they will be personally responsible for performing the installation of the electrical work outlined on the permit application.

**(C) Working without permit; penalty.** Any person who commences any electrical work for which a permit is required without first having obtained such permit shall be subject to punishment as provided in Chapter 1.33 and 16.32.250, and, in addition, shall be obligated to pay a permit fee equal to twice the regular permit fee. However, the foregoing provision regarding punishment and payment of double fees shall not apply to emergency electrical work when it appears to the satisfaction of the chief electrical inspector that such work was urgently necessary and that it was not practical to obtain a permit before the commencement of the work. The foregoing exculpatory provision shall apply only if the person required to obtain the permit does apply for the permit as soon as practical following the installation of the electrical work.

**(D) Application.**

- (1)** Activity authorized by a permit issued under this *Code* shall be conducted by the permittee or the permittee's agents or employees in compliance with all requirements of this *Code* applicable thereto and in accordance with the approved plans and specifications. No permit issued under this *Code* shall be interpreted to justify a violation of any provision of this *Code* or any other applicable law or regulation. Any addition or alteration of approved plans or specifications shall be approved in advance by the authority having jurisdiction, as evidenced by the issuance of a new or amended permit.
- (2)** A copy of the permit shall be posted or otherwise readily accessible at each work site or carried by the permit holder as specified by the authority having jurisdiction.

**(E) Content.**

Permits shall be issued by the authority having jurisdiction and shall contain the following:

- (1)** Operation or activities for which the permit is issued.
- (2)** Address or location where the operation or activity is to be conducted.
- (3)** Name and address of the permittee.
- (4)** Permit number and date of issuance.

(5) Name of licensed Electrical Contractor (if applicable).

(6) Inspection requirements.

(F) **Issuance of Permits.** The authority having jurisdiction shall be authorized to establish and issue permits, certificates, notices, and approvals, or orders pertaining to electrical safety hazards pursuant to 16.32.240, except that no permit shall be required to execute any of the classes of electrical work specified in the following:

(1) Installation or replacement of equipment such as lamps and of electric utilization equipment approved for connection to suitable permanently installed receptacles. Replacement of flush or snap switches, fuses, circuit breakers, lamps sockets, and receptacles, and other minor maintenance and repair work, such as replacing worn cords and tightening connections on a wiring device.

(2) The process of manufacturing, testing, servicing, or repairing electric equipment or apparatus.

(3) Installation of equipment and circuits operating at less than 50 volts, unless required by the International Fire Code<sup>®</sup> for fire alarm systems; however, all work installed under this exception shall meet the applicable requirements of *NEC*<sup>®</sup> Article 720, Article 725, Article 760, Article 770, Article 800, Article 810, Article 820, and/or Article 830 and is subject to inspection by the authority having jurisdiction.

**Note:** This exception shall not be applicable to *NEC*<sup>®</sup> Article 411--- Lighting Systems Operating at 30 Volts or Less.

(G) **Permit Fee Schedule.** The permit fee schedule as established in Chapter 16.04.040 is adopted for all electrical permits issued under the scope of this *Code*.

(H) **Inspection and Approvals.**

(1) Upon the completion of any installation of electrical equipment that has been made under a permit, it shall be the duty of the person, firm, or corporation making the installation to notify the Electrical Inspector having jurisdiction, who shall inspect the work within a reasonable time.

(2) Where the Electrical Inspector finds the installation to be in conformity with this *Code*, local ordinances and all rules and regulations of the Colorado State Electrical Board, the Inspector shall issue to the person, firm, or corporation making the installation a certificate of approval, authorizing the connection to the supply of

electricity and shall send written notice of such authorization to the electric utility company. This connection to the utility company's supply shall be revocable by the Electrical Inspector for cause.

- (3) When any portion of the electrical installation within the jurisdiction of an Electrical Inspector is to be hidden from view by the placement of parts of the building, the person, firm, or corporation installing the electrical equipment or system shall notify the Electrical Inspector, and such electrical equipment or system shall not be concealed until it has been approved by the Electrical Inspector or until two (2) work days have elapsed from the time of the notification, provided that on large installations, where the concealment of equipment and systems proceeds continuously, the person, firm, or corporation installing the equipment and systems shall give the electrical inspector due notice in advance, and inspections shall be made periodically during the progress of the work.
- (4) If, upon inspection, any installation is found not to be fully in conformity with the provisions of this *Code*, and all applicable statutes, ordinances, rules, and regulations, the inspector making the inspection shall at once forward to the person, firm, or corporation making the installation a written notice stating the defects that have been found to exist.

(I) **Revocation of permits.** Revocation of permits shall conform to the following:

- (1) The authority having jurisdiction shall be permitted to revoke a permit or approval issued if any violation of this *Code* is found upon inspection or in case there have been false statements or misrepresentations submitted in the application or plans on which the permit or approval was based.
- (2) Any attempt to defraud or otherwise deliberately or knowingly design install, service, maintain, operate, sell, represent for sale, falsify records, reports, or applications, or other related activity in violation of the requirements prescribed by this *Code* shall be in violation of this *Code*. Such violations shall be cause for immediate suspension or revocation of any related certificates or permits issued by this jurisdiction. In addition, any such violation shall be subject to any other criminal or civil penalties as available by the ordinances of the City of Greeley and statutes of the State of Colorado.
- (3) Revocation shall be constituted when the permittee is duly notified by the authority having jurisdiction.
- (4) Any person who engages in any business, operation, or occupation, or uses any premises, after the permit issued therefore has been

suspended or revoked pursuant to the provisions of this *Code*, and before such suspended permit has been reinstated or a new permit issued, shall be in violation of this *Code*.

- (5) A permit shall be predicated upon compliance with the requirement of this *Code* and shall constitute written authority issued by the authority having jurisdiction to install electrical work. Any permit issued under this *Code* shall not take the place of any other license or permit required by other regulations or ordinances of the City of Greeley.
- (6) The authority having jurisdiction shall be permitted to require an inspection prior to the issuance of a permit.
- (7) A permit issued under this *Code* shall continue until revoked or for the period of time designated on the permit. The permit shall be issued to one person or business only and for the location or purpose described in the permit. Any change that affects any of the conditions of the permit shall require a new or amended permit.

#### **16.32.250 Notice of Violations and Penalties.**

Notice of Violations and penalties shall conform to (A) and (B).

##### **(A) Violations.**

- (1) Whenever the authority having jurisdiction determines that there are violations of this *Code*, a written notice shall be issued to confirm such findings.
- (2) Any order or notice issued pursuant to this *Code* shall be served upon the owner, operator, occupant, or other person responsible for the condition or violation, either by personal service or mail or be delivering the same to, and leaving it with, some person of responsibility upon the premises. For unattended or abandoned locations, a copy of such order or notice shall be posted on the premises in a conspicuous place at or near the entrance to such premises and the order or notice shall be mailed by registered or certified mail, with return receipt requested, to the last known address of the owner, occupant, or both.

##### **(B) Penalties.**

- (1) Any person who fails to comply with the provisions of this *Code* or who fails to carry out an order made pursuant to this *Code* or violates any condition attached to a permit, approval, or certificate shall be subject to the penalties established by the City of Greeley as provided in Chapter 1.33, and, if applicable, as limited by Section 16.32.250(B)(3).

- (2) Failure to comply with the time limits of an abatement notice or other corrective notice issued by the authority having jurisdiction shall result in each day that such violation continues being regarded as a new and separate offense.
- (3) Any person, firm, or corporation who shall willfully violate any of the applicable provisions of this article shall be guilty of a misdemeanor and punished pursuant to the provisions of Chapter 1.33, including assessing a fine as outlined in the Citation Fine Schedule shown below.

**City of Greeley**

**Citation Fine Schedule**

Violation	Ordinance or Rule Provision	1 <sup>st</sup>	2 <sup>nd</sup>	3 <sup>rd</sup>
Failure to obtain an electrical permit	16.32.240	\$250	\$600	Discretionary (up to \$1,000 per day)
Failure to request an electrical inspection	16.32.240	\$250	\$600	Discretionary (up to \$1,000 per day)
Failure to correct electrical code violations within a reasonable time (30 days)	16.32.250	\$300	\$500	Discretionary (up to \$1,000 per day)
Providing false or misleading advertising	16.32.330	\$250	\$500	Discretionary (up to \$1,000 per day)
Deception, misrepresentation or fraud in obtaining or attempting to obtain an electrical permit	16.32.240	\$1,000	\$1,000	Discretionary (up to \$1,000 per day)
Any other violation of the City of Greeley electrical code	Chapter 16.32	Up to \$1,000	\$Up to \$1,000	Discretionary (up to \$1,000 per day)

**16.32.260 Connection to Electrical Supply.**

Connection to the electric supply shall conform to 16.32.260(A), (B) and (C).

- (A) **Authorization.** It shall be unlawful for any person, firm, or corporation to make connection to a supply of electricity or to supply electricity to any electric equipment installation for which a permit is required or that has been disconnected or ordered to be disconnected.
- (B) **Special Consideration.** By special permission of the authority having jurisdiction, temporary power shall be permitted to be supplied to the premises for specific needs of the construction project. The Chief Electrical Inspector shall determine what needs are permitted under this provision.
- (C) **Disconnection.** Where a connection is made to an installation that has not been inspected as outlined in the preceding paragraphs of this section, the supplier of electricity shall immediately report such connection to the Chief

Electrical Inspector. If, upon subsequent inspection, it is found that the installation is not in conformity with the provisions of this *Code*, the Chief Electrical Inspector shall notify the person, firm, or corporation making the installation to rectify the defects and, if such work is not completed within fifteen (15) calendar days or a longer period as may be specified by the Chief Electrical Inspector, then the Chief Electrical Inspector shall have the authority to cause the disconnection of that portion of the installation that is not in conformity.

**16.32.270 Electrical Inspector's Qualifications.**

- (A) **Licensed by the Colorado State Electrical Board.** All Electrical Inspectors shall be licensed with the Colorado State Electrical Board as a Journeyman or Master Electrician at time of their employment. A Journeyman Electrician shall obtain their Master Electrician License within six (6) months of employment by the City of Greeley.
- (B) **Approved by the Colorado State Electrical Board.** A person who has been certified as a Residential Electrical Inspector by the International Code Council (ICC), has completed two (2) years of practical experience in the inspection of residential dwellings under the direction of a licensed Electrical Inspector and has been approved by the Colorado State Electrical Board, may be employed to inspect one-, two-, three-, and four-family residential dwelling units only.
- (C) **Certification by ICC.** All Electrical Inspectors shall obtain their ICC Electrical Inspector's Certification(s) by completing the certification requirements of the International Code Council within six (6) months of their employment by the City of Greeley.
- (D) **Re-certification.** Electrical Inspectors shall maintain their Colorado State Electrical License and ICC Certifications while employed by the City of Greeley as an Electrical Inspector.

**16.32.280 Liability for Damages.**

Chapter 16.32 shall not be construed to relieve from or lessen the responsibility or liability of any party owning, designing, operating, controlling, or installing any electrical wiring or equipment for damages or injury to persons or property caused by a defect therein, nor shall the City of Greeley or any of its employees be held as assuming any such liability by reason of the inspection, re-inspection, or other examination authorized by this Chapter or otherwise.

**16.32.290 Validity.**

If any section, subsection, sentence, clause, or phrase of Chapter 16.32 is for any reason held to be unconstitutional, such decision shall not affect the validity of the remaining portions of Chapter 16.32.

**16.32.300 Rules and Regulations of the Colorado State Electrical Board  
Supersede Conflicting Provisions of this Chapter 16.32.**

All sections or parts of sections of this Chapter 16.32 in conflict with the Rules and Regulations of the Colorado State Electrical Board are hereby subordinate to such Rules and Regulations; and such Rules and Regulations supersede and replace any conflicting provisions of this Chapter 16.32 to the extent of the conflict.

**16.32.310 Registration of Electrical Contractors.**

- (A) **Registration.** Any person firm, co-partnership, corporation, association, or combination thereof that applies for an electrical permit or is listed as the Electrical Contractor on a building, plumbing, or mechanical permit, shall be registered in good standing with the City of Greeley Building Inspection Division.
- (B) **Licenses.** To be in compliance with this registration requirement, the Electrical Contractor shall provide to the Building Inspection Division a copy of their valid and current Electrical Contractor's License issued by the Colorado State Electrical Board and a valid and current copy of the Master Electrician License issued by the Colorado State Electrical Board of the individual who is listed as the Master Electrician of Record for the Electrical Contractor.
- (C) **Registration Fees.** No fee shall be charged to register the Electrical Contractor or Master Electrician of Record per Colorado State Statute 12-23-111 (15).
- (D) **Renewal.** This registration shall be renewed within thirty (30) days of the deadline of the re-certification examination required by the Colorado State Electrical Board. If the license of either the Electrical Contractor or Master Electrician of Record is not renewed, then the City of Greeley Electrical Contractor registration will lapse and shall be deemed to have expired. No application for any type of permit will be processed if the registration of an Electrical Contractor has expired.

**16.32.320 Electrician Must Have License-Control and Supervision.**

- (A) No person shall engage in or work at the business, trade, or calling of a Journeyman Electrician, Master Electrician, or Residential Wireman in the

State of Colorado until he has received a license from the Division of Registrations upon written notice from the Colorado State Electrical Board or the program administrator, acting as the agent thereof, or a temporary permit from the Board, the program administrator, or his agent.

- (B) No person, firm, co-partnership, association, or combination thereof shall engage in the business of an Electrical Contractor without having first registered with the Colorado State Electrical Board. The Board shall register an Electrical Contractor upon meeting the requirements for a licensed Master Electrician being in charge of the supervision of all electrical work performed by the contractor, payment of required fees, and evidence that the applicant has complied with the applicable workman's compensation law and unemployment compensation law of the State of Colorado.
- (C) No holder of a Master Electrician's license shall be named as the Master Electrician for more than one contractor and the Master Electrician of Record shall be actively engaged in a full time capacity with that electrical contracting company.

**Note:** The City of Greeley authority having jurisdiction shall be authorized to check for compliance pursuant to 16.32.320 and shall report all violations to the Colorado State Electrical Board for their investigation.

**16.32.330      Unauthorized Use of Title.**

No person, firm, partnership, corporation, or association shall advertise to perform or install electrical wiring in any manner or use the title or designation of Licensed Electrical Contractor, Licensed Master Electrician, Licensed Journeyman Electrician, or Licensed Residential Wireman unless qualified and licensed by the Colorado State Electrical Board.

**16.32.340      Apprentices - Supervision - Registration - Discipline.**

- (A) Any person may work as an apprentice but shall not do any electrical wiring for the installation of electrical apparatus or equipment for light, heat, or power except under the supervision of a licensed electrician. The degree of supervision required shall be no more than one licensed electrician to supervise no more than three apprentices at the jobsite.
- (B) Any Electrical Contractor, Journeyman Electrician, Master Electrician, or Residential Wireman who is the employer or supervisor of any electrical apprentice working at the trade shall be responsible for the work performed by such apprentice. The Colorado State Electrical Board may take disciplinary action against any such Contractor or any such Electrician or Residential Wireman for any improper work performed by an electrical apprentice working at the trade during the time of his employment while under the supervision of such person. The registration of such apprentice

may also be subject to disciplinary action by the Colorado State Electrical Board.

- (C) Upon employing an electrical apprentice to work at the trade, the Electrical Contractor, within thirty (30) days after such initial employment, shall register such apprentice with the Colorado State Electrical Board. The employer shall also notify the Board within thirty (30) days after the termination of such employment.
- (D) Such apprentice shall be under the supervision of either a licensed Journeyman Electrician, Master Electrician, or Residential Wireman at all times while on a jobsite. The degree of supervision required shall be no more than one licensed electrician to supervise no more than three apprentices at the jobsite.

**Note:** The City of Greeley authority having jurisdiction shall be authorized to check for compliance pursuant to 16.32.340 and shall report all violations to the Colorado State Electrical Board for their investigation.

**16.32.350 Exemptions.**

- (A) Nothing in this Chapter shall be construed to require any individual to hold a license before doing electrical work on his own residential property or residence if all such electrical work, except for maintenance, repair, or alteration of existing facilities, is permitted and inspected as provided in this Chapter; if, however, such property or residence is intended for sale or resale by that individual or a person engaged in the business of constructing or remodeling such facilities or structures or is rental property which is occupied or is to be occupied by tenants for lodging, either transient or permanent, or is generally open to the public, the owner shall be responsible for, and the property shall be subject to, all of the provisions of this article pertaining to permits, inspections, and licensing, unless specifically exempted therein.
- (B) Nothing in this Chapter shall be construed to require any regular employee of any firm or corporation to hold a license before doing any electrical work on the property of such firm or corporation, whether or not such property is owned, leased, or rented: If the firm or corporation employing any employee performing such work has all such electrical work installed in conformity with the minimum standards as set forth in this Chapter and all such work is subject to inspection by the City of Greeley Electrical Inspectors by request in writing; and if the property of any such firm or corporation is not generally open to the public. Nothing contained in this Chapter shall be construed to require any license, any inspection by the City of Greeley Electrical Inspectors, or the payment of any fees for any electrical work performed for maintenance, repair, or alteration of existing facilities which shall be exempt as provided in this section.

- (C) If the property of any person, firm, or corporation is rental property or is developed for sale, lease, or rental, or is occupied or is to be occupied by tenants for lodging, either transient or permanent, or is generally open to the public, then such property of any such person, firm, or corporation shall be subject to all the provisions of this article pertaining to permits, inspections and licensing, except for the maintenance, repair, or alteration of existing facilities which shall be exempt as provided in this section.
- (D) Nothing in this Chapter shall be construed to cover the installation, maintenance, repair, or alteration of vertical transportation or passenger conveyors, elevators, escalators, moving walks, dumbwaiters, stagelifts, man lifts, or appurtenances thereto beyond the terminals of the controllers. Furthermore, elevator contractors or constructors performing any installation, maintenance, repair, or alteration under this exemption, or their employees, shall not be covered by the licensing requirements of this Chapter.
- (E) Any person who plugs in any electrical appliance where approved electrical outlet is already installed shall not be considered an installer.
- (F) No provision of this Chapter shall in any manner interfere with, hamper, preclude, or prohibit any vendor of any electrical appliance from selling, delivering, and connecting any electrical appliance, if the connection of said appliance does not necessitate the installation of electrical wiring of the structure where said appliance is connected.
- (G) Nothing in this Chapter shall be construed to exempt any electrical work from inspection under the provisions of this Chapter except that which is specifically exempted in this section 16.32.350, and nothing in this section 16.32.350 shall be construed to exempt any electrical work from inspection by the City of Greeley Electrical Inspectors or from any required corrections connected therewith.
- (H) Nothing in this Chapter shall be construed to cover the installation, maintenance, repair, or alteration of security systems, lawn sprinkler systems, environmental controls, or remote radio-controlled systems beyond the terminals of the controllers. Furthermore, the contractors performing any installation, maintenance, repair, or alteration under this exemption, or their employees, shall not be covered by the licensing requirements of this Chapter.
- (I) Load control devices for air conditioning equipment that are owned, leased, or otherwise under the control of, and are operated by, an electric utility, and are on the load side of the single-family residential meter, if such equipment was installed by qualified employees of the electric utility company.
- (J) Nothing in this Chapter shall be construed to cover the installation, maintenance, repair, or alteration of electronic computer data processing

equipment and systems beyond the terminals of the controllers. Furthermore, the contractors performing any installation, maintenance, repair, or alteration under this exemption, or their employees, shall not be covered by the licensing requirements of this article.

- (K) Nothing in this Chapter shall be construed to cover the installation, maintenance, repair, or alteration of communications systems, including telephone and telegraph systems, radio and television receiving and transmitting equipment and stations, and antenna systems other than community antenna television systems beyond the terminals of the controllers. Furthermore, the contractors performing any installation, maintenance, repair, or alteration under this exemption, or their employees, shall not be covered by the licensing requirements of this article.
- (L) Nothing in this article shall be construed to cover the installation, maintenance, repair, or alteration of cranes, hoists, electroplating, industrial machinery, and irrigation machinery beyond the terminals of the controllers. Furthermore, the contractors performing any installation, maintenance, repair, or alteration under this exemption, or their employees, shall not be covered by the licensing requirements of this Chapter.
- (M) Nothing in this Chapter shall be construed to cover the installation, maintenance, repair, or alteration of equipment and wiring for sound recording and reproduction systems, centralized distribution of sound systems, public address and speech-input systems, or electronic organs beyond the terminals of the controllers. Furthermore, the contractors performing any installation, maintenance, repair, or alteration under this exemption, or their employees, shall not be covered by the licensing requirements of this Chapter.
- (N) Nothing in this article shall be construed to require either that employees of the federal government who perform electrical work on federal property shall be required to be licensed before doing electrical work on such property or that the electrical work performed on such property shall be regulated pursuant to this Chapter.
- (O) Nothing in this Chapter shall be construed to require licensing that covers the installation, maintenance, repair, or alteration of fire alarm systems operating at fifty volts or less. Furthermore, the contractors performing any installation, maintenance, repair, or alteration under this exemption, or their employees, shall not be covered by the licensing requirements of this article but shall be subject to all provisions of this Chapter pertaining to permitting and inspections.

**Section 3**

This ordinance shall become effective \_\_\_\_\_, 2011.

PASSED AND ADOPTED, SIGNED AND APPROVED, THIS \_\_\_\_ DAY OF  
\_\_\_\_\_, 2011.

ATTEST:

THE CITY OF GREELEY

\_\_\_\_\_  
City Clerk

\_\_\_\_\_  
Mayor