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CHAPTER 159

SPIRIT LAKE ELECTRICAL CODE

159.01 National Electrical Code Adopted

159.02 Amendments

159.01 NATIONAL ELECTRICAL CODE ADOPTED. Except as hereinafter added to, deleted, modified, or amended, there is hereby adopted as the Electrical Code of the City of Spirit Lake, Iowa, that certain electrical code known as the *NFPA 70, National Electrical Code*®, 2005 Edition. The provisions of Article 80 are adopted with Amendments as if included within. Provisions of said *National Electrical Code*, as amended, shall control the installation, alteration, repair, relocation, replacement, addition to, use, maintenance or removal of electrical appliances, equipment, conduits, raceways, apparatus, or control of such system and all matters covered by said electrical code within the corporate limits of the City of Spirit Lake, Iowa, the same as if contained herein, and shall be known as the Spirit Lake Electrical Code. *(Ord. 12-05 – Oct. 07 Supp.)*

159.02 AMENDMENTS. The following sections are hereby revised:

1. Section 80.9(C) is revised by adding Section 80.9(C.1) to read as follows:

Section 80.9(C.1) - Additions to Buildings or Remodeling. All additions or remodeling shall comply with the following standards:

- A. When kitchens, bedrooms or bathrooms are reconfigured, the wiring shall conform to the 2005 National Electrical Code and the provisions of this chapter.
- B. When any habitable room has the wall covering removed, exposing the structure, the wiring shall conform to the 2005 National Electrical Code and the provisions of this chapter.
- C. The minimum size of electrical service(s), over-current panel(s) for the electrical system of an existing dwelling(s) which is being remodeled or added to shall be computed and installed according to SEC. 110.64, 110.65 and 110.66, of this code, the same as for new dwellings. Exceptions: The inspector shall approve existing equipment, which meets the computed minimum requirements.
- D. Where the construction, alteration or modification of a building reduces the clearances of the service drop conductors below the acceptable minimum clearances required by the electric utility company, such service

conductors shall be relocated according to the directions of the electrical inspector or the electric utility company.

(Ord. 12-05 – Oct. 07 Supp.)

2. Section 80.11 is revised by adding Section 80.11(C) to read as follows:

Section 80.11(C) - Conversion of Buildings. Conversion of building occupancy shall comply with the following standards.

- A. Conversion of Single Family Residences. The conversion of a single family residence into a duplex or an apartment house shall conform to the requirements for a multiple family dwelling.
- B. Conversion of Apartment Building from One Class to Another Class. Conversion of a residence into a business or commercial building in combination with a residence will place the residence in the same class of wiring as the business or commercial building unless separated by a 2-hour fire wall.
- C. Conversion of a Residence to Business or Commercial Building. Conversion of a residence into a business or commercial building or the construction of a business or commercial building in combination with a residence will place the residence in the same class of wiring as the business or commercial building unless separated by a 2-hour fire wall.

3. Section 80.11 is revised by adding Section 80.11(D) to read as follows:

Section 80.11(D) - Moved Buildings. All moved buildings within or into the city limits of Spirit Lake shall comply with the following standards.

- A. The electrical system in a moved building shall be made to comply with the provisions of this Code the same for new construction. Exception: Parts of an electrical system, which were not removed/damaged and had been installed in compliance with the Electrical Code which was in effect at the time of the installation, may be salvaged and retained in said electrical systems, provided that the safety of the system is maintained equal to new work complying with the provisions of this Code.
- B. The permanent service connection shall not be made by the power company until the electrical system is completely installed, and is approved by the inspector.
- C. The existing service on the moved building shall not be connected to the electrical power source unless specifically approved by the inspector.

4. Section 80.11 is revised by adding Section 80.11(E) to read as follows:

Section 80.11(E) - Repair of Damaged Systems. Any part of an electrical system damaged by explosion, fire, act of God, or any other damage, shall be replaced or repaired in conformance with the provisions of this Code for new work. If any existing building is damaged, by fire or otherwise, or altered in a manner to require the replacement of fifty percent (50%) or more of the electrical equipment, in the opinion of the inspector, the entire building shall be made to conform to the requirements of this Code for new buildings. Exception: Parts of an electrical system, which were not damaged and had been installed in compliance with the Electrical Code which was in effect at the time of the installation, may be salvaged and retained in said electrical system, provided that the safety of the system is maintained equal to new work complying with the provisions of this Code.

5. Section 80.11 is revised by adding Section 80.11(F) to read as follows:

Each electrical inspector is hereby empowered to inspect, and reinspect as necessary all wiring, poles, raceways, fixtures and apparatus used in conducting electrical current for the purpose of light, heat, or power or control of light, heat or power within the City of Spirit Lake. Whenever such wiring, raceways, apparatus or fixtures are found to be hazardous to life and property, unsafe by reason of obsolescence, or to have been installed in violation of this chapter or regulations of the city, said inspector shall notify the person, firm or corporation who owns, uses or operates such wiring, raceways, apparatus, or fixtures, by personal service, or by certified mail to their last known address, directing them to place the same in a safe and secure condition, conforming to this Code and the other ordinances and regulations of the city, within a reasonable time as specified by the inspector, and also notify such person, firm or corporation in the same notice of the right to obtain a hearing by appealing such direction or order from the inspector to the Electrical Board of Licensing and Appeals in accordance with the established procedures. If the necessary changes or repairs are not completed within the specified time, the inspector shall have the authority to disconnect or order the disconnection of electrical service to the equipment or installation 48 hours after written disconnect notice. No such disconnection shall be ordered during the pending of a related appeal to the Electrical Board of Licensing and Appeals, except in the case where the conditions may be imminently dangerous to life or property. In cases where continuance of electrical service to an electrical system or equipment contributes to the existence of an electrical hazard to persons or property, an inspector shall have the authority to cause immediate discontinuance of such service. Said inspector shall present written notification, by personal service or certified mail, to any person, firm or corporation

owning abandoned, dead or dangerous wiring, apparatus, or fixtures which are no longer used, requiring the removal of same within a reasonable time, to be set by the inspector. Upon the failure or refusal to comply with the terms of said notice, the inspector may report the same through the Building Official to the City Council, which may order the removal of same, and order the cost of such removal to be assessed against the property from which removed. Reconnection of electric service and reconnection charges shall be in accordance with the electric utility company standards and tariffs as filed with the Iowa Utility Board (IUB).

6. Section 80.15 is revised to read as follows:

(A) Establishment of the Board. There is hereby established an Electrical Board for License and Appeals, hereafter referred to as the "Board," with authority and responsibility as follows:

1. To act as Spirit Lake Board of Examiners provided for in Chapter 160 of the Code of Ordinances of the City of Spirit Lake, Iowa.
2. To act as a Board of Appeals as provided in the Code.
3. To periodically review the provisions of the code and make recommendations to the City Council for improving and updating said document.

(B) Composition of the Board. The Board shall consist of five (5) members, all of whose place of business, residence, or work is located in Dickinson County, Iowa. All members shall be qualified by experience and training to pass judgment upon matters pertaining to electrical construction. The membership should be from the following areas: one licensed electrical contractor, one licensed working master electrician, a representative from a public service company furnishing electrical power to the city, one practicing electrician capable of designing systems governed by this code, and a representative directly involved with electrical maintenance from a manufacturing plant, with no one company or interest being represented by more than two members of the Board. Said Board shall serve without compensation. One staff member from the Department of Code and Ordinance Enforcement shall be an ex officio member without vote and shall act as Secretary of the Board.

(C) Appointment of Members and Terms of Office. The Mayor, with the approval of the City Council, shall appoint the members of the Electrical Board for Licensing and Appeals. The term of appointment to the Board shall be three (3) years except that the terms shall be so arranged and staggered so that the terms of no more than two (2) members shall expire on December 31 of any one year. A vacancy within any term shall be filled by appointment of the Mayor with the approval of the City Council for the unexpired portion of that term only. The Board shall designate members as

Chairperson and Vice Chairperson and shall adopt reasonable rules for conducting its investigations and proceedings, and shall render all decisions and findings in writing to the Building Official with a duplicate copy to the appellant and may recommend to the City Council new legislation as is consistent therewith.

(D) Quorum. Three members of the Board shall constitute a quorum for the transaction of business, providing that a decision on a matter relating to a specific license shall not be valid unless decided in the presence of a Board member who holds a similar valid license. Any vote taken for the purpose of suspending or revoking a contractor's license shall require a majority vote of all members of the Board.

(E) Powers and Duties of the Board. The Electrical Board for License and Appeals shall have the following powers and duties:

1. To act upon reports of violations by licensed electricians, residential electricians, apprentice electricians, apprentice residential electricians, or electrical contractors as filed by the electrical inspector with the Board.
2. To prescribe rules consistent with the provisions of this code for hearings before the Board to suspend, revoke, or reinstate licenses.
3. To revoke any license, by votes of all members of the Board, for repeated violations of this code or the rules of the local or the State Board of Health relating to electrical installations, but only after the person charged with a violation has been afforded the opportunity to be heard in his/her own defense.
4. To keep a complete record of the official proceedings of the Board; to preserve all documents, books, and papers relating to appeals, examinations for licenses, and hearing of complaints and charges for at least three (3) years.
5. To hear appeals from the decision of the electrical inspector and to rule on interpretations of the provisions of the code, and to determine the suitability of alternate materials and methods of construction consistent with the provisions of the Code.
6. To permit variances from the strict terms and provisions of this code if such variance can be made without increasing the hazards to health or safety of persons or property and when granting of such variance will not violate the intent and purpose of this code. Inconvenience or financial hardship to the appellant shall not be grounds for the granting of such variance.

7. To periodically review the National Electric Code and Chapters 159 and 160 of the Code of Ordinances of the City of Spirit Lake, Iowa, and make recommendations to the City Council.

7. Section 80.15(G)(4) is revised as follows:

Section 80.15(G)(4) – Appeal. In the event any person shall feel aggrieved by any action of the Board, he may appeal from such action to the City Council by filing written notice of his appeal within ten (10) days from the date of the action. The Council shall give the appellant and the Board five (5) days' written notice by certified mail of the date, time, and place of and hearing of said appeal. All interested persons shall be given the opportunity to be heard at such hearing and the City Council may affirm, modify, or overrule the action of the Board based upon the evidence submitted before the City Council.

8. Section 80.19 is revised by adding Section 80.19(A1) to read as follows:

Section 80.19(A1) - Permit Required. Before commencing the installation or alteration of any wiring system through or by which is conveyed or intended to be conveyed, electrical current for power, heating, cooling or illuminating purposes or control of any of the above, over 25 volts, in, on, or under any building or structure in the City of Spirit Lake, Iowa, a permit therefor shall first be obtained by the licensed insured electrical contractor in charge of such work from the Code and Ordinance Enforcement Department, and it shall be unlawful to commence or proceed with such work unless such permit shall have first been obtained. An investigation fee of \$35.00 shall be charged when a permit has not first been obtained. Exceptions: The provisions of this section shall not apply to the following:

1. Such wiring in a single family dwelling, or dwelling unit condominium or townhouse, which is accomplished by a homeowner in compliance with the provisions of Section 80.19(A2) of this Code.
2. Such electrical maintenance work which is accomplished within or about a manufacturing, industrial, or public utility establishment in compliance with the provisions of Section 80.19(A6) of this Code and Article 80.19(D) of the National Electrical Code.
3. Such integral electrical wiring and equipment which was permanently wired or installed on or within a factory built structure in an approved factory by qualified mechanics, and which was inspected, approved and certified by an approved third party inspection agency in compliance with the Iowa State Building Code; however, any part of the electrical wiring or electrical system which was installed or added to a factory built structure after its location and erection on a local building site by qualified factory mechanics, shall be

installed and connected under the authority of an electrical permit by a licensed insured electrical contractor in compliance with the Code.

9. Section 80.19 is revised by adding Section 80.19(A2) to read as follows:

Section 80.19(A2) - Wiring by Homeowner.

(A) Examination and Permit. A permit shall be issued to a homeowner who proposes to install, repair, or add to the electrical system in his/her own, existing, single family dwelling, which is used as his/her own permanent place of residence, or a unit condominium or townhouse that is separated from the other units by a one-hour fire wall, provided that each of the following conditions shall be fulfilled:

1. Such owner has applied to the Code and Ordinance Enforcement Department for an examination;
2. The fee for each homeowner's examination has been paid to the City Clerk;
3. Said homeowner has successfully passed an examination to prove that he/she is capable of doing the specific electrical work covered by the permit in a safe and workmanship manner; and
4. The inspection fees for the permitted work have been paid to the city.

Exceptions: An electrician or residential electrician licensed by the city may obtain a homeowner's permit for a new dwelling, or rewiring his or her own dwelling, condominium or townhouse.

(B) Fee for Homeowner's Permits. The fees for homeowner's examination and inspections shall be charged as follows:

Fee for Homeowner's Examination –	No Cost - Initial Test/Pass
	\$25.00 - Retake

(C) Responsibility of Homeowner. The owner shall personally perform all labor in connection with the work. All work done under the provisions of this section shall meet the materials and workmanship requirements of the code and shall be inspected the same as for work done by a licensed and insured contractor.

10. Section 80.19 is revised by adding Section 80.19(A3) to read as follows:

Section 80.19(A3) - Emergency Work. In case of emergency involving imminent hazard to life or property, authorized personnel may proceed with necessary corrective work to alleviate the hazardous or dangerous condition as it relates to the electrical system prior to obtaining a permit if same is required, providing that the permit is applied for and tentative approval obtained at the earliest

practicable occasion thereafter. All emergency work shall be made to comply with the provisions of this chapter and shall be inspected by an electrical inspector in the same manner as for other electrical work. After furnishing or restoring emergency service, the local power company superintendent shall inform the Code and Ordinance Enforcement Department of the date, time, location, and nature of such emergency power restoration.

11. Section 80.19 is revised by adding Section 80.19(A4) to read as follows:

Section 80.19(A4) - Electrician License Required. Except as provided in Section 80.19(A1), 80.19(A2), and 80.19(A7), no person shall engage in doing electrical work or installing electrical wiring or equipment and apparatus which is or will be connected to any electric power source in the City of Spirit Lake, Iowa, unless said person shall have obtained an electrician's license or a residential electrician's license from said city before doing any such electrical work and further provided that such licensee is employed by a licensed electrical contractor. Each individual, partner, or officer of a company or corporation, desiring an electrical contractor's license, each individual desiring an electrical license, or residential electrician license shall make application to the Spirit Lake Board of Examiners in Chapter 160 of the Code of Ordinances of the City of Spirit Lake, Iowa.

12. Section 80.19 is revised by adding Section 80.19(A5) to read as follows:

Section 80.19(A5) - Electrical Contractor's License Required.

- A. Except as provided in Section 80.19(A2), 80.19(A6) and 80.19(A7), no person shall engage in the activity of electrical contracting, as defined in Article 100, without first obtaining an electrical contractor's license from said city.
- B. Refer to Chapter 160 of the Code of Ordinances for the City of Spirit Lake, Iowa.

13. Section 80.19 is revised by adding Section 80.19(A6) to read as follows:

Section 80.19(A6) - Exemptions. The provisions of Sections 80.19(A4) and 80.19(A5) shall not apply to any of the following:

- A. A regular employee of a manufacturing, educational, institutional, industrial, or public utility establishment, who does electrical maintenance work for that establishment only, shall be permitted to do electrical maintenance work only on that establishment's property as defined in Part I of Article 100 and Article 80.19(D) of the National Electrical Code.
- B. A regular employee of any railroad who does electrical work on railroad equipment only as a part of said employment.

- C. A regular employee who works at assembling, fabricating, manufacturing, or testing electronic or electrical appliances, machinery, products, or other electrical materials; this provision does not exempt employees who wire prefabricated buildings.
- D. A regular licensed employee of a licensed mechanical or plumbing contractor who is replacing a residential furnace or air conditioner when the existing wiring is within 5 feet of the new unit(s).
- E. A regular licensed employee of a licensed plumbing contractor who is replacing a residential water heater when the existing wiring is within 5 feet of the new unit(s).

14. Section 80.19 is revised by adding Section 80.19(A7) to read as follows:

Section 80.19(A7). The provisions of Section 80.19(A1), 80.19(A2), 80.19(A4) and 80.19(A5) shall not be applicable to electrical work and wiring installed and concealed in prefabricated assemblies where such fabricating plant is more than 15 miles outside the corporate limits of the City of Spirit Lake, Iowa. The electrical permits normally required for fabrication of prefabricated assemblies shall be the responsibility of the approved and certified fabricator for those assembly plants located more than 15 miles outside the corporate city limits. The provisions of Section 80.19(A1), 80.19(A4) and 80.19(A5) shall be applicable to electrical work and wiring installed within prefabricated assemblies within the corporate limits of the city, the same as for any other electrical work within the city.

15. Section 80.19 is revised by adding Section 80.19(A8) to read as follows:

Section 80.19(A8) - Apprentice Electrician and Apprentice Residential Electrician Registration. An apprentice electrician or apprentice residential electrician need not be licensed, provided that he/she is employed by an electrical contractor to assist one or more licensed electricians or residential electricians and further provided that such apprentice performs work under the direct supervision of a licensed electrician or residential electrician responsible for such work. Each apprentice electrician or apprentice residential electrician shall register as per Section 160.06 of the Code of Ordinances of the City of Spirit Lake, Iowa. The ratio of apprentice residential electrician(s) to residential electricians shall be two to one. The ratio of apprentice electrician(s) to electricians shall be two to one.

16. Section 80.19(E) is revised to read as follows:

Section 80.19(E) - Fees. Electrical permits shall not be issued until the fees, as set forth and established by resolution of the City Council, have been paid to the City Clerk. An amended electrical

permit or a supplemental permit for additional construction shall not be issued until the permit fee for the additional work has been paid.

17. Section 80.19(F)(3) is revised by adding Section 80.19(F)(3)(A) to read as follows:

Section 80.19(F)(3)(A). No person shall cover or conceal or cause to be covered or concealed any wiring for which a permit has been issued or is required by this code, before said wiring has been inspected and approved. An inspector shall have the authority to remove or cause removal of lath, plaster, boarding, paneling, insulation, earth, concrete or other cover which may prevent the proper inspection of wires or electrical apparatus before it has been approved.

18. Section 80.19(F) is revised by adding Section 80.19(F)(6) to read as follows:

Section 80.19(F)(6). Upon the completion or near completion of electrical work that has been done under a permit, the electrical contractor or the homeowner doing the work shall notify an inspector that the work is ready for inspection. Failure to notify an inspector the electrical work is ready for inspection within 30 days of completion shall result in a \$35.00 late charge being added to the regular permit fee. It shall be the duty of the person requesting inspections required by this Code to provide access to and means for inspection of such work. If an inspector finds the work to be in conformity with the provisions of the Code, he or she shall affix an approval sticker to a conspicuous and logical place on the premises, and shall note such approval in the Department records. Such approval shall authorize the use of the work and its connection to the supply of electricity. An inspector may grant conditional approval by authorizing the temporary connection and use of an installation, with such approval to expire at a stated time. If the Department has been notified in writing that an electrical installation is ready for inspection, and such inspection is not made within 12 working hours (7:30 a.m. to 4:30 p.m. Monday through Friday except holidays) after the time of receipt of such written notification, such installation shall be considered to be in compliance with the Code, provided only that the licensed/insured contractor in charge of the work shall file an affidavit with the Department, certifying that the work was installed in accordance with the provisions of the Code and that the materials and workmanship meet or exceed the requirements of said Code. Electrical work or equipment, which is installed or added to a factory-built structure or a mobile home, after its location and erection on a local building site, shall be inspected and be subject to local Codes and required permits. An inspector is hereby also authorized, if he/she so determines that good cause exists, to inspect the entire electrical system of a facility.

19. Section 80.27 is revised to read as follows:

Section 80.27 - Electrical Inspector.

- (A) **Qualifications.** Each electrical inspector shall be a practical expert electrician and shall be appointed by the Mayor, with the approval of the City Council. Each inspector shall know and understand practical and theoretical electricity, electrical materials, systems and methods of construction, and all orders, rules, regulations and codes, which pertain to municipal electrical inspection. An electrical inspector shall not engage in the sale, installation, or maintenance of electrical equipment, materials, or systems which are regulated by this code, either directly or indirectly, or have any financial interest in any concern engaged in such business in the City of Spirit Lake, Iowa, at any time while employed as an inspector. Exception: Work on his/her personal residence. While so employed, an electrical inspector shall hold membership in the International Association of Electrical Inspectors and serve on any committee to which appointed, subject to the approval of the Mayor. The Code and Ordinance Enforcement Department shall maintain a membership in the National Fire Protection Association or participate in the benefits of said association if the Spirit Lake Fire Department is already a member. The Department shall fund certification examination fees and continuing education training, and offer incentives for maintaining continuing education and/or certification.
- (B) **Duties.** It shall be the duty of each inspector to administer and enforce the provisions of the code and other related ordinances, codes, regulations or statutes, and to perform such other duties as may be required by the Building Official, Director of Public Works, or the City Council. Such inspector shall keep complete records of all permits issued, inspections and re-inspections made, and other official work performed in accordance with the provisions of this chapter, prepare reports as necessary, and serve on essential committees. Such duties are not intended to include designing of, or laying out electrical work or systems, except as such activity contributes to the enforcement of the code. The inspectors shall coordinate their work with other inspectors and supervisors in the Department.
- (C) **Authority.** Each electrical inspector is authorized and empowered to inspect any and all buildings or installations, and to order the necessary removal, disconnection or repair to put in proper and safe conditions for the safety of life and the prevention of fire, all electrical heating and lighting apparatus, power generators, motors, machinery, conduits, raceways, fixtures and connections, electrical wires and electrical apparatus used for light, heat or power purposes or control of such and to control the disposition and arrangement of the sale so the persons and property shall not be in danger.

20. Article 80 is revised by adding Section 80.28 to read as follows:

Section 80.28 - Right of Entry. An inspector shall have the right, during reasonable hours and upon the consent of the occupant, to enter any building or premises in the discharge of official duties to make an inspection, re-inspection, or tests of electrical equipment, in accordance with the provision of the law. When the building or premises is unoccupied, the consent of the owner or owner's agent shall be obtained prior to entering. In case of an emergency involving hazard or danger to life or property, the inspector shall take immediate action to alleviate the hazard from the faulty electrical system.

21. Section 80.29 is revised to read as follows:

Section 80.29 - Liability for Damages. The issuance of electrical permits, the inspection and enforcement of compliance with the Code, or the approval of electrical wiring, apparatus, poles, raceways and other electrical systems or equipment by an electrical inspector, shall not relieve the person, firm or corporation having control of such electrical systems or equipment from responsibility, or lessen the liability of a person, firm, or corporation installing or owning such wiring, apparatus, poles, raceways, or other electrical equipment, as would exist in the absence of such permits, inspection, code enforcement, or the granting of such approval.

22. Section 90.4 is revised to read as follows:

Section 90.4 - Enforcement. The Department of Code and Ordinance Enforcement is hereby created and the official in charge thereof shall be known as the Code Official and the terms "authority having jurisdiction," "chief electrical inspector" and/or "electrical inspector" as used within this code shall be the Building Official of the City of Spirit Lake or any duly authorized representative.

23. Article 100 Part I is revised by adding the following definitions.

"Electrical contracting" means undertaking, or offering to undertake, the planning and installation of electrical systems and equipment, and the employment, management, supervision, and control of electricians, residential electricians, apprentice electricians, and apprentice residential electricians doing electrical work.

"Electrical contractor" means any person responsible for the activity of planning, or supervising electricians, residential electricians, apprentice electricians, and apprentice residential electricians doing electrical wiring, work, or equipment installations, and connections to apparatus, which is or will be connected to an electric light and power source.

"Electrical work" means all installations, alterations, repairs, removals, replacements, disturbances, connections, disconnections, and maintenance of wiring and electrical equipment or control of any

of the above, over 25 volts in, above, or under any building, structure or open space in the City of Spirit Lake, Iowa.

“Electrician” means any person doing electrical work for an electrical contractor.

“Residential electrician” means any person working for an electrical contractor for the purpose of becoming an electrician, and enrolled in, and satisfactorily progressing toward the completion of a registered apprenticeship training program, signatory by an electrical contractor and accredited by the U.S. Department of Labor.

“Apprentice electrician” means any person working for an electrical contractor for the purpose of becoming an electrician, and enrolling in, and satisfactorily progressing toward the completion of a registered apprenticeship training program, signatory by an electrical contractor and accredited by the U.S. Department of Labor.

“Apprentice residential electrician” means any person working for an electrical contractor assisting one or more residential electricians as defined in “residential electrician” above, and enrolled in, and satisfactorily progressing toward the completion of a registered apprenticeship training program, signatory by an electrical contractor and accredited by the U.S. Department of Labor.

“Electrical maintenance work” means the repair of the existing electrical equipment while under single management, supervised, and performed by a qualified worker, that was installed by a licensed electrical contractor, within a manufacturing, industrial or public utility establishment, or limited replacement and extensions of branch circuits as determined by the Administrative Authority. Assembled processing machinery, which serves the existing operations within a manufacturing, industrial, or public utility establishment may be connected to existing branch circuits.

24. Article 110 is revised by adding Section 10.60 to read as follows:

Section 110.60 - Electrical Welder. The permanent, extended location and use of an electrical welder in a residential zoned district, for business, hobby or other purposes, is hereby prohibited, except by written permission from the Building Official.

25. Article 110 is revised by adding Section 110.61 to read as follows:

Section 110.61 - Wiring in or on Public Property. It shall be unlawful for any person to locate any electrical raceway or to conduct electrical energy over, under or across any street, alley, sidewalk, or other public property, or to make any excavation in such public property for the purpose of laying an electrical raceway or wiring, without first obtaining written approval from the City Council. Said Council approval shall be requested in writing, prior to the start of any such work, by submitting an application through the Department to said Council, stating in detail the location, depth, extent, number of ducts, and the purpose which the raceway, wiring

or crossing will serve. All such raceways or crossings shall be constructed and installed in compliance with the Code and with the provisions of the resolution of the City Council.

26. Article 110 is revised by adding Section 110.62 to read as follows:

Section 110.62 - Exterior Service - Wiring.

- A. All electrical service wiring shall be installed to conform to the electric utility company's service standards furnishing power to the structure. Exception: Rigid nonmetallic conduit may be approved for the underground part of commercial, industrial, and residential installation in compliance with Article 352 of the 2005 National Electric Code.
- B. The minimum size service conductor shall be No. 4 AWG and the minimum trade size of the conduit shall be one inch. Exception: Communications equipment under the exclusive control of communication utility companies and outdoor signs having a continuous electrical load with not more than 80% ampacity of the conductors, may be wired with No. 10 AWG ungrounded service conductors and No. 4 AWG grounded service conductors in one-inch minimum size conduit.
- C. Multiple meter and multiple over-current protection panels shall be permanently marked with a phenolic plaque.

(Ord. 12-05 – Oct. 07 Supp.)

27. Article 110 is revised by adding Section 110.63 to read as follows:

Section 110.63 - Electric Service and Meter.

- A. Application. The electrical contractor shall notify the customer to make application to the commercial department of the electric utility company for electrical service and the installation location of the electric meter.
- B. Meter Height. The electric meter and height shall be located as per the electric company service standards.
- C. Service and Transformer Location. The electric service shall be located according to the electric utility company service standards.
- D. Service Attachment Devices. An approved attachment device for the overhead electrical service wiring shall be provided by the electrical contractor or by the customer. Any service riser mast used as an attachment point shall be a minimum of 2-inch diameter rigid or intermediate steel conduit and be suitably supported.

- E. Location of Service Head. The service drop conductors shall be attached to the building at a point below the bottom and within 3 feet of the service head. At least 3 feet of wire shall be left hanging from the entrance cap for termination.
- F. Raceway Seal. The service conduit shall be sealed at the exit point of the load side of the meter socket.

28. Article 110 is revised by adding Section 110.64 to read as follows:

Section 110.64 - Single Family Dwelling Service.

- (A) Minimum Size Distribution Panels.
 - 1. The minimum size service entrance panel for a single family dwelling with up to 1,000 square feet of finished floor space, or space which may be finished, shall be equipped to provide protection against over-current with no less than 100 ampere main over-current protective device having at least 20 available 120 volt branch circuit spaces.
 - 2. The minimum size service entrance panel for a single family dwelling with 1,001 to 2,000 square feet of finished floor space, or space which may be finished, shall be equipped to provide protection against over-current with no less than a 150 ampere main over-current protective device having at least 30 available 120 volt branch circuit spaces.
 - 3. The minimum size service entrance panel for a single family dwelling with over 2,000 square feet of finished floor space, or space which may be finished, shall be equipped to provide protection against over-current with no less than a 200 ampere main over-current protective device having at least 40 available 120 volt branch circuit spaces.
 - 4. A 3-pole solid neutral entrance disconnect switch of equal rating shall be considered acceptable in conjunction with the above minimum service requirements.
- (B) Existing Service Equipment. Existing open type service equipment or split-bus service equipment shall be replaced by approved dead front service equipment at the time the service is increased or changed.

29. Article 110 is revised by adding Section 110.65 to read as follows:

Section 110.65 - Two Family and Multiple Family Dwelling Service. The minimum electrical capacity for an electrical service,

which serves more than one apartment, shall be computed from the provisions of Article 220 of the 2005 National Electrical Code.

(Ord. 12-05 – Oct. 07 Supp.)

30. Article 110 is revised by adding Section 110.66 to read as follows:

Section 110.66 - Feeders and Panel Requirements for Individual Apartments.

- A. Feeders to individual apartments shall be computed from the provisions of Article 220 of the 2005 National Electric Code.
- B. Apartments with not over 500 square feet of finished floor area shall have a minimum 70 ampere main lug panel with 12 available spaces.
- C. Apartments with 501 to 1,000 square feet of finished floor area shall have a minimum 150 ampere main lug panel with 16 available spaces.
- D. Apartments with 1,001 to 2,000 square feet of finished floor area shall have a minimum 150 ampere main lug panel with 24 available spaces.
- E. Apartments over 2,000 square feet of finished floor area shall have a minimum 200 ampere main lug panel with 30 available spaces.

(Ord. 12-05 – Oct. 07 Supp.)

31. Article 110 is revised by adding Section 110.67 to read as follows:

Section 110.67 - Rule for Computing Range and Dwelling Loads.

- (A) Range Feeder Size. From entrance switch or distribution point, install not less than No. 8 AWG stranded copper conductors for a range up to 15 KW, with maximum protection not to exceed the current carrying capacity of the conductor. For a range 15 KW to 20 KW, install not less than #6 AWG stranded copper conductors, with maximum protection not to exceed the current carrying capacity of the conductor.

- (B) Branch Circuit Requirements. One circuit for lighting shall be provided for every 600 square feet of finished floor space, or space which may be finished. In addition, provision for the following appliances circuits shall be made:

Two separate 20 ampere circuits for kitchen and breakfast area receptacles. The garbage disposal unit may be wired on one of the kitchen receptacle circuits or the dishwasher circuit. There must be at least 2 circuits on the main usable counter top area.

One separate 20 ampere circuit for each laundry area. Other circuits, if installed, shall be as follows:

One separate circuit for each non-gravity furnace with disconnect switch.

One separate 20 ampere circuit for each food freezer.

One separate 20 ampere circuit for each dishwasher.

One separate 20 ampere circuit for a workshop.

One separate 20 ampere circuit for a refrigerator.

Additional separate circuits for other heavy loads.

32. Article 110 is revised by adding Section 110.68 to read as follows:

Section 110.68 - Prohibited Electrical Construction.

- (A) Service Entrance Cable. The installation of Type SE service entrance cable as provided in Article 338 of the 2005 National Electrical Code is prohibited, unless approved by the City in certain installations.
- (B) Open Wiring. The installation of open wiring, as provided in Article 394 and 398, is prohibited.

(Ord. 12-05 – Oct. 07 Supp.)

33. Article 110 is revised by adding Section 110.69 to read as follows:

Section 110.69 - Conductors.

- A. All conductors other than service drop conductors, medium and high voltage cables (601 volt insulation level and above) and conductors comprising an integral part of switchboards, transformers or busways meeting N.E.M.A. Standards and the provisions of the 2005 National Electrical Code shall be copper. Exceptions:
 - 1. Aluminum service drop cable installed in accordance with the 2005 National Electrical Code may be used for the overhead, aerial service to outside accessory installations such as outbuildings and signs.
 - 2. Aluminum conductors of 4/0 AWG trade size may be used as a substitute for copper conductor provided that such aluminum conductors are appropriately sized, and further provided that such conductors are terminated in an approved connection.
- B. All wiring in outlet or fixture boxes shall be continuous before the receptacle, fixture or electrical device is installed.

(Ord. 12-05 – Oct. 07 Supp.)

34. Article 110 is revised by adding Section 110.70 to read as follows:

Section 110.70 - Wiring Methods - Dwellings.

- A. Habitable Space. Nonmetallic-sheathed cable may be installed for the conductors in the concealed wood or in the protected steel frame portions of one- and two-family dwellings, or multi-family buildings with 12 or less dwelling units and 3 floors or less above grade, except for service entrance conductors. Garages, sheds, and storage buildings accessory to dwellings may be wired in nonmetallic cable. For the purpose of this section, area separation walls shall not define separate buildings.
- B. The residential part(s) of group homes may be wired in nonmetallic-sheathed cable if the occupant load is not more than 20 persons.
- C. The white conductor in nonmetallic-sheathed cable used as a switch leg is not required to be re-identified as per Article 200.7(C)(2) of the 2005 National Electrical Code.
- D. Habitable space in accessory buildings does not need ground fault protection for outlets.
- E. Electric panels shall not be installed within 6 inches of a corner in new construction.
- F. Basements.
 - 1. Require Basement Lights. A lighting outlet with lamp holder shall be provided in each room of a basement or cellar of a residential building. At least one such fixture shall be located in every 200 square feet of such floor space. Smoke detectors shall be located as per the Building Code.
 - 2. All finished habitable rooms in residential basements shall have the required outlets as defined in Article 210.52 of the National Electrical Code.
 - 3. Circuits. No connection shall be made between the basement or cellar wiring and the wiring in the floors above except as provided in this section. Such raceway(s) shall start from the panel and run continuous to all outlets.

Exceptions:

- a. Basements or cellar wiring in a single family dwelling may be fed by grounded nonmetallic-sheathed cable from the floor above if the entrance panel is not located inside the basement or cellar.
- b. The lighting outlet with lamp-holder at the floor of the basement or cellar stairs may be fed from either the first floor or basement.

- c. When rewiring, the circuits may be fed from raceways in the basement.
- d. It is permissible to wire basement appliances circuits through the floor(s) above.

(Ord. 12-05 – Oct. 07 Supp.)

35. Article 110 is revised by adding Section 110.71 to read as follows:

Section 110.71 - Wiring Methods - Other Buildings.

- A. All electrical installations in buildings classified and/or zoned as commercial or industrial within the city limits of Spirit Lake, Iowa, shall be in approved metallic or nonmetallic raceways. For purposes of this code, a building is a structure that stands alone, and is separated from other structures by open area or by fire walls approved by the Spirit Lake Building Code.
- B. Conductors in and upon all buildings other than those covered by Section 110.70 of the Code, shall be run in approved raceways.

Exception: Type AC and MC cable as approved in Section 110.68. Type FCC Flat Conductor Cable may be installed in compliance with Article 324 of the 2005 National Electrical Code. Type AC, TC, and MC cable, which is tray rated may be installed in approved cable trays, in industrial applications, for feeders, motor wiring, and control of motor wiring.

(Ord. 12-05 – Oct. 07 Supp.)

36. Article 110 is revised by adding Section 110.72 to read as follows:

Section 110.72 - Emergency Power. Emergency lighting and exit lighting shall be powered from a secondary independent source, notwithstanding the provisions of Exception No. 5 of Article 230.82 and 700.12 of the 2005 National Electrical Code.

(Ord. 12-05 – Oct. 07 Supp.)

37. Article 110 is revised by adding Section 110.73 to read as follows:

Section 110.73 - Temporary Wiring. Temporary wiring shall be per Article 590 of the 2005 National Electrical Code. Exception: Triplex and quadplex Ariel cable may be used if protected to within 2 feet of the ceiling and further protected from physical damage. The bare messenger wire shall not be used as a current carrying conductor. The voltage shall be limited to 150 volts to ground and 250 volts between phases. All wire splices shall be installed in junction boxes.

(Ord. 12-05 – Oct. 07 Supp.)

38. Section 3401.3 is revised to read as follows:

Section 3401.3 Compliance with Other Codes. Alterations, repairs, additions and changes of occupancy to existing structures shall comply with the provisions for alterations, repairs, additions, and changes of occupancy in the Spirit Lake Fire Code, International Property Maintenance Code and the International Building and Residential Code.

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