SECTION 7. That Article VII, "Electrical Code", is hereby repealed and re-enacted with amendments as follows:

ARTICLE VII. ELECTRICAL CODE

DIVISION 1. GENERALLY

Sec. 5-111. Definitions.

Except as specifically set forth in this article or any document referred to in this article, terms as used shall have the same definitions as the National Electrical Code 2008 Edition.

Approved means accepted or acceptable under the applicable specification stated or cited in this article and/or the National Electrical Code 2008 Edition, or as accepted as suitable for the proposed use under procedures and powers of the administrative authority. Upon written request a certificate of approval may be issued indicating satisfactory completion of the electrical work.

Existing work means any electrical system or any part thereof, which has been lawfully installed prior to adoption of this ordinance.

Sec. 5-112. Purpose.

The purpose of this article is the practical safeguarding of persons and of buildings and their contents from electrical hazards arising from the use of electricity for light, heat, power, radio, signaling, and for other purposes.

Sec. 5-113. Scope.

(a) This article applies to:

(1) The electrical conductors and equipment installed within or on public and private buildings or other structures, and other premises such as yards, carnivals, parking and other lots, and industrial substations;

(2) The conductors that connect the installations to the supply of electricity; and

(3) Other outside conductors on the premises.

(b) This article does not apply to installations in cars, automotive equipment, or the installation of equipment employed by a railway, electrical or communication utility in the exercise of its function as a utility, and located outdoors or in buildings used exclusively for that purpose.

(c) All electrical work must also comply with relevant provisions of the Energy Conservation Code, Article VIII.

Secs. 5-114 – 5-120. Reserved.

DIVISION 2. ADMINISTRATION AND ENFORCEMENT

Sec. 5-121. Electrical permit.

(a) No electrical work shall be undertaken prior to the issuance of an electrical permit therefore by the administrative authority. Such permit shall be issued to a licensed master electrician or licensed master electrician (limited), except as otherwise provided. No permit shall be required to repair portable electrical equipment or lighting fixtures, or to repair or replace sockets, or to repair motors, or to replace motors with motors of the same horsepower rating.

(b) Any permit required may be issued to any person to do electrical work in a single-family dwelling used exclusively for living purposes, including the usual accessory buildings and quarters in connection with such building, provided the person is the bona fide owner of such dwelling and that the same will be occupied by the owner and that the owner shall personally purchase all material and perform all labor in connection therewith; however, the administrative authority may require the homeowner to show that he is qualified to perform such work in a capable manner so as not to endanger the life and property of himself, persons in the neighborhood or property belonging to public utility suppliers. This subsection does not apply to work involving heavy-up or replacement of service equipment, or to any wiring associated with swimming pool installations.

(c) Applications for electrical permits shall be made on suitable forms provided by the administrative authority. The application shall be accompanied by the payment of a fee in accordance with the schedule of fees which has been established by resolution.

(d) No electrical permit shall be issued until plans and specifications showing the proposed work in necessary detail have been submitted to the administrative authority and it has been determined from examination of such plans and specifications that they give assurance that the work will conform to the provisions of this article. If a permit is denied, the applicant may submit revised plans and specifications without payment of additional fee.

(e) If, in the course of the work, it is found necessary to make any change from the plans and specifications on which a permit has been issued, amended plans and specifications shall be submitted and a supplemental permit, subject to the same conditions applicable to the original application for permit, shall be issued to cover the change.

Sec. 5-122. Inspections.

(a) It shall be the duty of the administrative authority to make necessary inspections under this article. Upon completion of all electrical installations the person holding the permit therefor shall be required to notify the administrative authority and request inspection of such installation. However, if such installation, or any part of such installation, is to be hidden from view due to permanent placement of part of a building, the permit holder shall request that this segment of the work be inspected before it is covered over.

(b) The administrative authority shall have the authority to require the removal of any structure that prevents proper inspection of any electrical installation. All requests for electrical inspections shall be made twenty-four (24) hours in advance.

(c) If, when inspection is made, the inspector shall find the installation to be in violation, the permit holder shall be notified and given ten (10) days, or other time period as may be designated by the administrative authority, in which to correct such violation.

Sec. 5-123. Cut-in certificate.

(a) The electric power company shall not supply electricity or power to any electrical equipment, for the installation of which a permit is required by this article, and no person shall connect any such electrical equipment to a supply of electricity or power except in accordance with a cut-in certificate issued by the administrative authority.

(b) Temporary cut-in certificates shall be issued for temporary installation for construction or temporary pending final and such certificates shall be cancelled by the administrative authority at any time if the installation is not maintained or completed as required by this article.

(c) If, after the inspection, the City's electrical inspector finds the installation to be in conformity with the provisions of this article, he shall issue a cut-in certificate therefor, authorizing the use of the installation and connection to the supply of electricity and power, and shall send such certificate to the electric power company. Such certificates may be issued for an entire installation or part thereof.

Secs. 5-124 – 5-130. Reserved.

DIVISION 3. TECHNICAL STANDARD

Sec. 5-131. National Electrical Code -- Adopted.

The National Fire Protection Association (NFPA) National Electrical Code 2008 Edition as modified herein, is hereby adopted as the electrical code for the City. One (1) copy of such publication as adopted shall be maintained by the City Clerk in the office of the Council and made available for inspection by the public during regular office hours. Any amendment or change in such publication promulgated by the National Fire Protection Association shall not become a part of this article until adopted by ordinance. References to other ordinances and codes of the City shall be interpreted and applied in accordance with the terms and effect of such ordinances and codes at the time of such application and interpretation.

Sec. 5-132. Same--Definition.

In section 90-4 of the National Electrical Code 2008 Edition, the phrase "authority having jurisdiction" shall mean the administrative authority for the City.

Sec. 5-133. Same--Amendments.

The National Electrical Code, 2008 Edition (NEC), is amended in the following respects:

Section 90.1 (E) is added to the NEC to read as follows:

(E) Relation with City of Rockville Article VIII. The requirements in this code address the fundamental principles of protection for safety. The Energy Conservation requirements are addressed in Article VIII and Article XIV of the City of Rockville Code.

Section 90.2 of the NEC is amended by adding the following:

(D) Homeowners.

Homeowner must take and pass an exam administered by the Inspection Services Division prior to allowing a homeowner to obtain an electrical permit for doing electrical wiring at their primary residence. This exam will be valid for two years allowing the homeowner to apply for additional permits in that time frame for their primary residence.

Homeowner obtained electrical permits will allow electrical wiring at their primary residence, with the exclusion of the following work:

- Swimming pools, saunas or hot tubs
- Service equipment installation such as heavy-ups, panel replacements, sub-panels
- Replacement of SEC cable.
- Overhead service mast replacements.

Section 90.10 is added to the NEC to read as follows:

90.10 Appeals.

90.10.1 Administrative Appeals. Any person aggrieved by and desirous of challenging a decision of the administrative authority in connection with the interpretation, application, or modification of any provision of this chapter relating to the manner of construction or materials used in connection with the erection, alteration, or repair of a building or structure or system installed therein, shall appeal such decision to a Board of Adjustments and Appeals. An appeal may be taken when it is claimed that:

(1) The true intent of the code or the rules legally adopted there under have been incorrectly interpreted; or

(2) The provisions of the code do not fully apply; or

(3) An equally good or better form of construction can be used.

90.10.2 Application for appeal. An appeal shall be filed with the City Clerk within seven (7) calendar days from the date of the administrative decision being appealed, and a copy thereof shall be submitted to the Chief of Inspection Services. The appeal shall be in writing and shall contain a detailed statement of the reasons in support of such appeal.

90.10.3 Membership.

90.10.3.1 Number. The Board of Adjustments and Appeals shall consist of three (3) persons:

a) A licensed professional engineer or architect chosen by the administrative authority;

b) A licensed professional engineer or architect chosen by the owner of the subject building or structure; and

c) A licensed professional engineer or architect to be jointly chosen by the other two (2) members.

90.10.3.2 Compensation. All fees charged by the licensed professional engineers or architects to serve on the Board shall be paid for by the person appealing the administrative decision.

90.10.4 Meetings and Hearings. The Board of Adjustments and Appeals shall conduct a hearing on the appeal, at which time the appellant, the appellant's representative, representatives of the City who have inspected the subject building or structure or applicable system installed therein, and any other person having knowledge of the matter or whose interests may be affected by the decision on the appeal shall be given an opportunity to be heard. The hearing shall be conducted informally, and the formal rules of evidence shall not apply. The Board may accept written testimony and shall give it such weight as it deserves.

90.10.4.1 Interpretation. Interpretation given provisions of the applicable ICC or NFPA Code by the International Code Council or National Fire Protection Association, shall be given great deference.

90.10.4.2 Actions. The Board may inspect the structure or building and conduct any other investigation or research necessary in order to render a decision.

90.10.5 Decision. The following process shall be followed:

(1) Within fifteen (15) working days of the hearing, the Board shall affirm, modify or reverse the decision of the administrative authority.

(2) The agreement of any two (2) members of the Board shall constitute the decision of the Board. Failure to obtain the agreement of any two (2) members of the Board shall constitute a denial of the appeal and an affirmation of the decision of the administrative authority. The Board's findings and decision shall be rendered in writing and copies thereof shall be provided to the appellant and any other party who has entered their appearance before the Board and requested a copy of the decision. The decision may contain recommendations for remedial steps to be taken to meet the intent of the applicable code.

90.10.6 Appeal. Any person aggrieved by a decision of the Board of Adjustments and Appeals may appeal the decision to the Circuit Court for the County in accordance with the Maryland Rules as set forth in Title 7, Chapter 200.

Section 110-14(a) of the NEC is amended by adding the following:

In all cases, copper-clad aluminum wire must be terminated by means of wire binding screws. The use of any type of "quick-wire" terminals where the possibility of nicking the surface of copper-clad aluminum wire does exist shall not be permitted.

Section 210-5 of the NEC is amended by rewriting subsection (c) to read as follows:

(C) Ungrounded conductor. Where installed in raceways, as open work, or as concealed knob-and-tube work, the ungrounded conductor shall be identified by any color other than as specified in (a) and (b) above. All ungrounded conductors of the same color shall be connected to the same ungrounded feeder conductor and the conductors for systems of different voltages shall be of different colors.

Exception: As permitted in section 200-7, it is required that all multicable conductors are to be color coded as follows:

For 120/208/240 Volts

2 conductors--1 white and 1 black;

3 conductors--1 white, 1 black and 1 red;

4 conductors--1 white, 1 black, 1 red, and 1 blue.

For 227/480 Volts; The colors gray, brown, orange, and yellow must be use in accordance with commonly accepted trade practices.

Section 210-8(A)(6) is added to the NEC to read as follows:

(6) Kitchens where the receptacles are installed to serve the countertop surfaces and within six (6) feet of a sink

Section 220.18 of the NEC is amended to read as follows:

220.18 Maximum Loads. The total load shall not exceed the rating of the branch circuit, and it shall not exceed the maximum loads specified in 220.18(A) through (D) under the conditions specified therein.

(A) Motor-Operated and Combination Loads. Where a circuit supplies only motor-operated loads, Article 430 shall apply. Where a circuit supplies only air-conditioning equipment, refrigerating equipment, or both, Article 440 shall apply. For circuits supplying loads consisting of motor-operated utilization equipment that is fastened in place and has a motor larger than hp in combination with other

loads, the total calculated load shall be based on 125 percent of the largest motor load plus the sum of the other loads.

(B) Inductive Lighting Loads. For circuits supplying lighting units that have ballasts, transformers, or autotransformers, the calculated load shall be based on the total ampere ratings of such units and not on the total watts of the lamps.

(C) Range Loads. It shall be permissible to apply demand factors for range loads in accordance with Table 220.55, including Note 4.

(D) Dwelling units. General lighting branch circuits in dwelling occupancies served by a fifteen-ampere branch circuit shall not have more than twelve (12) power consuming outlets. A duplex receptacle is considered one (1) outlet.

A small appliance branch circuit in dwelling occupancies served by a twenty-ampere branch circuit shall have not more than eight (8) receptacle outlets.

Section 230.2 of the NEC is amended by adding the following Exception:

Exception: Individual meters to measure electrical consumption shall be provided for each dwelling unit of a multi-family group when such dwelling units have separate heating and/or cooling systems whose primary energy source is electricity.

Section 230.70 of the NEC is amended to read as follows:

230.70 General. Means shall be provided to disconnect all conductors in a building or other structure from the service-entrance conductors.

(A) Location. The service disconnecting means shall be installed in accordance with 230.70(A)(1), (A)(2), and (A)(3).

(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 not to exceed 5 feet from the point of entrance of the service conductors.

(2) Bathrooms. Service disconnecting means shall not be installed in bathrooms.

(3) Remote Control. Where a remote control device(s) is used to actuate the service disconnecting means, the service disconnecting means shall be located in accordance with 230.70(A)(1).

(B) Marking. Each service disconnect shall be permanently marked to identify it as a service disconnect.

(C) Suitable for Use. Each service disconnecting means shall be suitable for the prevailing conditions. Service equipment installed in hazardous (classified) locations shall comply with the requirements of Articles 500 through 517.

Section 230.79, subsection (c) of the NEC is amended by deleting the value of "one hundred (100) amperes" and substituting therefore the value of "one hundred fifty (150) amperes" as the minimum service disconnecting means rating for single-family dwellings.

Section 310.5 of the NEC is amended to read as follows:

The minimum size of conductors shall be solid or stranded, which shall not be smaller than No. 14 copper, No. 12 copper clad, or No. 4 aluminum or aluminum alloy. Exceptions shall not be allowed for the use of aluminum or aluminum alloy conductors.

Section 410.36, subsection (B) of the NEC is amended to read as follows:

(B) Suspended Ceilings. Framing members of suspended ceiling systems used to support luminaires shall be securely fastened to each other and shall be securely attached to the building structure at appropriate intervals. Attachment to the building structure shall be a tie wire size No. 12 or larger steel from opposing corners of the fixture. Luminaries shall be securely fastened to the ceiling framing member by mechanical means such as bolts, screws, or rivets. Listed clips identified for use with the type of ceiling framing member(s) and luminaire(s) shall also be permitted.

Section 424.11 of the NEC is amended to add the following:

Wiring for all fixed electric space heating equipment shall be copper wire only. Conductors shall terminate from the heating equipment terminals to the disconnect.

Section 424.19 of the NEC is amended to add the following:

The disconnect serving the equipment shall not be secured or fastened to the heating equipment.

Section 426.22 of the NEC is amended by adding subsection (F) to read as follows:

(F) Non-heating leads. Non-heating leads shall be of copper wire only.

Section 426.23 of the NEC is amended by adding subsection (C) to read as follows:

(C) Non-heating leads. Non-heating leads shall be of copper wire only.

Section 440.62, subsection (C) of the NEC is amended to read as follows:

Each individual room air-conditioning unit regardless of its current rating, shall be served by an individual circuit of not less than No. 12 copper wire.

Section 440.63 of the NEC is amended by adding the following to the end of the section:

Duplex receptacles rated less than twenty (20) amperes are not permitted for use with air-conditioning units.

Section 500.5, subsection (D), of the NEC is amended by adding (FPN No. 3) to read as follows:

(FPN No. 3): such locations as trash or incinerator rooms.

Section 503.10, subsection (A) of the NEC is amended by adding a new paragraph (4) to read as follows:

(4) **No conduits, busways, wireways, or feeder cables.** No conduits, busways, wireways, or feeder cables shall pass through trash or incinerator rooms. The only wiring permitted in such rooms may be circuit wiring with suitable insulation having to do with and terminating in such rooms. Conduit embedded in two or more inches of concrete or masonry may be considered to be outside such rooms.

Section 700.18 of the NEC is amended to read as follows:

For branch circuits that supply equipment classed as emergency, there shall be an emergency supply source to which the load will be transferred automatically upon the failure of the normal supply.

Any building in which standpipes are installed must have one 30-ampere, 120-volt circuit installed for each standpipe riser, supplied from the emergency panel. The wiring method for exposed work must be galvanized, threaded metal conduit. Boxes must be metal, weatherproof types with gasketed flap-door covers and threaded hubs. The wiring method for concealed work must be metal conduit with appropriate galvanized boxes having gasketed flap-door covers suitable for fire department use. The weatherproof cover must be suitable for receiving the L5-20R NEMA type twist-lock receptacle without damage (e.g., Bell # 128-226 cover or equivalent).

Supply wiring must be at least 75 degrees C-type wire. One single 20-ampere three-wire twist lock receptacle (NEMA L5-20R) must be installed at least as high as, and with a 2-feet offset from EACH HOSE VALVE CONNECTION. Each outlet box must be painted "fire-alarm red" in color and be marked "Only for Fire Department Use.

Note: This Section supersedes the requirements of Table 210.21(B) (2).

Secs. 5-134 – 5-140. Reserved.

DIVISION 4. LICENSING OF ELECTRICIANS

Sec. 5-141. Required; violation declared misdemeanor.

(a) Any person wishing to install, maintain, and/or repair any electrical circuits, equipment, or apparatus, or who wishes to supervise such work, within the corporate limits of the City shall obtain a master electrician's license from the administrative authority.

(b) Any person wishing to install, maintain, and/or repair, or supervise the installation, maintenance, and/or repair of a particular appliance, equipment, or apparatus, such as air conditioning equipment, oil and gas heating furnaces, electric signs, and similar specialties within the corporate limits of the City shall obtain a master electrician's (limited) license from the administrative authority.

(c) Any person wishing to work under the supervision of a master electrician to install, maintain, and/or repair any electrical circuits, equipment or apparatus within the corporate limits of the City shall obtain a journeyman electrician's license by any county or municipality in the state approved by the administrative authority. All work done under this license shall be done under the supervision of a master electrician or master electrician (limited), who is licensed by the City.

(d) Any person who shall perform any electrical work within the corporate limits of the City who is not by or under the supervision of a licensee as provided in this article or is not otherwise qualified as set forth in section 5-121, subsection (b), shall be guilty of a misdemeanor.

(e) All company vehicles, by July 1, 2010, shall have the City's license number displayed so to be visible from the street.

Sec. 5-142. Qualifications; examination.

(a) The administrative authority shall establish standards and procedures for the qualifications and licensing of master electricians and master electricians (limited). The administrative authority shall issue an appropriate license to each person who meets the qualifications and licensing requirements therefor.

(b) No additional examination will required by the administrative authority when an applicant presents a valid license issued by the State or County or any other municipality or County within the State, provided such City or County administers examinations and has qualification procedures equivalent to those required for licensing by the City.

(c) No license shall be granted to any person under the age of twenty-one (21) years.

(d) The examination fee shall be as set by the agency approved by the administrative authority to give the examination.