Section 5-3-5 E: (deleted -included herein for reference)

E. Solar Panels (Photovoltaic):

1. Solar panels shall be considered an accessory building and shall be subject to the requirements of such, together with all applicable building codes and City ordinances. Structurally attached solar panels shall be a permitted accessory use in all districts and subject to administrative review, approval and permitting.

2. Structurally attached solar panels installed on a building with a sloped roof shall not project vertically above the peak of the roof.

3. Structurally attached solar panels installed on a building with a flat roof shall not project vertically more than five feet (5') above the roof.

4. For all conduit, raceways, enclosures, junction boxes, disconnects, etc., associated with the DC power generation of the system, appropriately sized weatherproof labeling with "CAUTION SOLAR CIRCUIT" or similar marking no less than ten feet (10') apart and at all terminations is required.

5. Building permits for solar panels shall be seventy-five dollars ($75.00). (Ord. 2013-14, 6-10-2013)

NEW: Title 5 (Zoning), Chapter 3 (General Zoning Provisions), Section 15: SOLAR ENERGY SYSTEMS:

A. A small solar energy system (output equal or less than 25kW) as classified by the Illinois Commerce Commission Title 83, Chapter 1c, Part 466 as a Level 1, or Level 3 with the same output as a Level 1 shall be a permitted use in all zoning districts subject to the following provisions:

1. Ground Mounted Small Solar Energy System:

a. Permitted Use: Ground mounted small solar energy systems shall be permitted as an accessory structure in all zoning districts.

b. Setbacks: A ground mounted small solar energy system with monopole support structure shall be set back at least 1 ½ (one and one-half) times its total height from the interior and rear property line of the zoning lot on which it is located. A ground mounted small solar energy system without monopole support shall meet the required building setback for the zoning of the lot in which it is located.

c. Maximum Lot Coverage: When calculating the maximum lot coverage allowed by buildings and structures on a zoning lot, the surface area of ground mounted solar panel(s) shall be included.

d. Easement: No ground mounted small solar energy system shall be located within a platted easement.

e. Public Utility Lines: A ground mounted small solar energy system shall be set back at least 1 ½ (one and one-half) times its total height or at least ten feet (10') from overhead utility lines.

f. Allowed Yards: No ground mounted small solar energy system shall be located within the front or corner side yard of any zoning lot.

g. Total Height: Ground mounted small solar energy system shall be limited to a maximum of ten feet (10') in total height.

h. Soil Conditions: A soil analysis may be required by the zoning officer as part of the building permit application and inspection process to confirm that the soils meet the minimum bearing capacity assumed by the structural design of the pole(s), support structure, and foundation.

i. Wiring: All electrical wires associated with a small solar energy system shall be buried according to the current applicable National Electrical Code.

2. Building Mounted Small Solar Energy System:

a. Permitted Use: Building mounted small solar energy system shall be permitted as an accessory use in all zoning districts.

b. Wiring: All electrical wires associated with a small solar energy system shall be enclosed in conduit or otherwise concealed so as to not be visible.

c. Setbacks: Building mounted small solar energy systems shall be set back in accordance with the International Residential Code in lots zoned Residential and in accordance with the International Building Code in lots zoned for Business or Manufacturing.

d. Height: Non-flush roof mounted systems shall not extend above the highest point of the roof plane on which they are mounted. For a horizontal (flat) roof plane, the roof mounted systems shall be flush-mounted.

e. Area: The solar collector panel surface area may equal the area of the roof plane to which they are attached, less required setbacks of the roof plane upon which the solar collector panels are mounted.

f. Building Code: A building mounted small solar energy system shall meet all weight and wind resistance requirements of applicable Building Codes. A building mounted small solar energy system shall not block required access.

3. General Requirements for Small Solar Energy System:

a. Building Permit: A small solar energy system requires a valid building permit prior to installation. Permit application shall include the following:

   (1) Plat of survey and scaled dimensioned drawing of the zoning lot indicating all buildings existing and the proposed location of the small solar energy system.

   (2) If the system is to be building mounted, a scaled, dimensioned building elevation plan depicting the existing conditions and the proposed small solar energy system. If the system is to be ground mounted, a scaled, dimensioned elevation drawing of the system.

   (3) Detailed installation drawings and specifications for the system.

   (4) Proof of certification in compliance with 83 Illinois Administrative Code 468 and proof of certification of electrician installing the system.

   (5) Proof that notification to the electric power company has been properly completed.

   (6) UL listing or approved equivalent for all component parts of the small solar energy system.

   (7) Must provide proof that property insurance covers solar panels.

b. Building Standards: Any owner or operator of a small solar energy system shall maintain said system in compliance with the standards contained in the current and applicable State or local Building Codes and any applicable standards for solar energy systems that are published by the International Residential Code, International Building Code, National Electrical Code and International Fire Code as amended from time to time.

c. Compliance: If, upon inspection, the zoning officer concludes that a solar energy system fails to comply with such codes and standards or constitutes a danger to persons or property, the zoning officer shall require immediate repair or removal of the system at the owner's expense.

d. Color: All support structures for small solar energy systems shall be a monochromatic, neutral, and nonreflective color. Multiple solar collector panels shall be similar in design and color.

e. Style: When more than one solar collector panel is located on a zoning lot, the multiple solar collector panels shall be uniform in style.

f. Installation: The small solar energy system may be installed by a homeowner, a certified installer who meets the requirements set forth in 83 Illinois Administrative Code 468 as amended, or a licensed electrical contractor.

g. Illumination: A small solar energy system shall not be artificially illuminated.

h. Positioning: A small solar energy system shall not create nuisance glare onto adjacent properties or public rights-of-way. A small solar energy system shall be fixed and non-tracking.

i. Quantity: Multiple small solar energy systems are permitted per zoning lot; however, the systems shall be subject to the site and structure requirements of the zoning district in which it is located.

j. Energy Storage Equipment: All batteries and energy storage systems shall meet all applicable National Electrical Code requirements and shall be regulated as such.

k. Solar Easement: The City does not guarantee access to sunlight for a solar energy system. Owners are encouraged to enter into a legal agreement with neighbors securing such access prior to the application for building permit. The City shall not be a party to a solar access agreement nor shall the City deny a building permit based solely on the project's potential for blocking an adjacent property's access to sunlight.

l. Abandonment of Small Solar Energy System: All abandoned or unused solar energy systems shall be deemed a nuisance after two (2) months of the cessation of operations unless an extension is approved by the City Council. The City may act to abate such nuisance and require removal of the system at the property owner's expense. After the solar energy system is removed, the owner of the property shall restore the site to its original condition or to an approved improved condition within thirty (30) days of removal.

m. Damaged panels must be removed or replaced with panels similar in design and color within one (1) month of incurring the damage.

n. All equipment must be UL certified.

B. A Solar Garden Energy System (output between 25kW and 5MW) as classified by the Illinois Commerce Commission Title 83, Chapter 1c, Part 466 as a Level 2, or Level 3 with the same output as a Level 2, shall meet the following minimum requirements in addition to any special use conditions that the City Council places on the required special use permit. A Solar Garden Energy System shall not be permitted in Residential Zoning districts.

1. Ground Mounted Solar Garden Energy System:

a. Security: A ground mounted solar garden energy system shall be enclosed by a self-locking eight foot (8') tall fence posted with warning signs at all gates. Where this fence abuts properties zoned exclusively for residential uses, a solid screening fence composed of wood, metal, or vinyl shall be installed.

b. Setback: A ground mounted solar garden energy system shall meet the building setback requirements of the zoning district in which the zoning lot is located.

c. Screening and Landscaping: Where a solar garden energy system is the principal use of the property, a screening berm with an average height of five foot (5'), as measured

from the average established grade between the fence and lot lines, surrounding the perimeter of the solar garden energy system, shall be installed.

d. Slopes on berms shall not exceed a four to one (4:1) ratio and shall be planted with landscape materials at the following rate:

   (1) One shade tree per fifty (50) linear feet, one and one-half inch (1 1/2") caliper measured twenty-four inches (24") above grade;

   (2) One evergreen tree per fifty (50) linear feet, six foot (6') minimum height;

   (3) Three (3) deciduous shrubs per fifty (50) linear feet, twenty-four inches (24") in height;

   (4) Three (3) evergreen shrubs per fifty (50) linear feet, twenty-four inches (24") in height; and

   (5) Three (3) ornamental trees may replace each one shade tree, six foot (6') minimum height.

e. Ornamental grass may replace the deciduous shrubs at a rate approved by the zoning officer.

f. The site of a ground mounted solar garden energy system which abuts property zoned exclusively for residential uses shall be improved along the transition lot line with landscape materials at the same rate. These landscape materials shall be planted between the transition lot line and the required solid fence. All screening and landscaping must be maintained. Dead or dying tree, shrubs and bushes must be replaced within 30 days of notice from the City. Ground cover under and around solar panels must be maintained as to not exceed the lowest panel height. All other grass and ground cover must be maintained as to not exceed a height of 8 inches.

g. Installation: The solar garden energy system shall be installed by a certified installer, an installer who meets the requirements set forth in 83 Illinois Administrative Code 468 as amended, and a licensed electrical contractor.

h. Ground Cover: The site of a ground mounted solar garden energy system shall be improved and maintained with a drought tolerant, perennial vegetative ground cover over the entire property including under and around solar arrays, with less than 1% open bare soil. Native prairie and pollinator supporting plants shall constitute a majority of the vegetative cover. The purpose of this ground cover shall be the prevention of soil erosion and the management of stormwater run-off. Top soil shall not be removed from the property during construction nor during operation of the facility.

i. Special Use Permit Required: Whether the solar garden energy system is a principal use of the zoning lot or an accessory use on the zoning lot, a special use permit shall be required. Either type of use shall comply with the special use permit process outlined in section 5-12-9 of the Plano City Code.

j. Panel Design: All panels shall be similar in design and color. All panels shall be improved with an antireflective coating and shall not create a nuisance glare. All panels shall be maintained at a uniform height.

k. Drainage: A stormwater detention and subsurface drainage system shall be maintained during construction and operation of the solar garden energy system. The owner of the facility shall be responsible for repairing any damage to drain tiles and other drainage systems that result from construction, operation or maintenance of the solar garden energy system.

l. Electric Lines: All electric lines shall be buried per the current applicable National Electrical Code requirements.

m. Tree Preservation/Mitigation: The intent of this provision is to mitigate the loss of healthy, mature trees in the City, by requiring replacement trees:

(1) Existing trees, six inches (6") in diameter or greater, as measured four and one-half feet (4 ½') above grade, shall be preserved, when possible, according to a tree preservation plan with approval from the building and zoning officer or designee. The tree preservation plan shall show:

(A) Protective fencing planned to be installed around the critical root zone of those trees identified for preservation, on both grading and landscape plans.

(B) Trees that will have their roots pruned by a certified arborist, to avoid tearing and other damage during construction.

(C) The plan must show locations where limestone and other materials that might negatively affect trees planned to be preserved will be stored on the property.

(2) Where it is determined that trees six inches (6"), as measured four and one-half feet (4 ½') above grade, or greater must be removed to allow for proposed development, tree replacement will be required:

(A) Not less than one (1) 3-inch caliper tree shall be required for each six inches (6") of tree proposed to be removed, as measured four and one-half feet (4 ½') above grade. However, in no instance shall more than three (3) 3-inch caliper replacement trees be required for any tree removed.

(B) Unless otherwise determined by City Council or zoning officer, replacement trees shall be in addition to any other required landscaping.

2. Building Mounted Solar Garden Energy System:

a. Setback: Building mounted solar garden energy systems shall be set back in accordance with the International Building Code in lots zoned for Business or Manufacturing.

b. Installation: The solar garden energy system shall be installed by a certified installer, an installer who meets the requirements set forth in 83 Illinois Administrative Code 468 as amended, and a licensed electrical contractor.

c. Special Use Permit Required: The building mounted solar garden energy system is considered a special accessory use. Building mounted solar garden systems shall be approved through the special use permit process outlined in section 5-12-9 of the Plano City Code.

d. Panel Design: Building mounted solar panels shall be fixed and non-tracking. Solar panels shall be improved with an anti-reflective coating and shall not produce nuisance glare. Solar panels may be installed on the building walls or as architectural features of the building, subject to City Council approval.

e. Wiring: All wiring shall be enclosed in conduit or buried within the building walls unless specifically approved by the City Council through the special use process.

3. General Requirements for Solar Garden Energy System:

a. Abandonment: A decommissioning plan shall be approved by the City Council through the special use permit process. At the time of building permit, a letter of credit, or other financial surety instrument approved by the City Council, in the amount of the estimated cost of decommission, as approved by the City Engineers, shall be submitted to the City. If the solar garden is abandoned and not properly decommissioned, the City shall utilize the funds to restore the property to its original or an improved condition.

b. Plan Submission: An application for special use for a solar garden energy system shall include the following minimum information:

(1) Plat of survey and scaled dimensioned drawing of the zoning lot indicating all buildings existing and proposed and the proposed location of the solar garden energy system and point of interconnection to public utility.

(2) Management plan describing how subscriptions will be marketed or how energy will be consumed for a private system.

(3) Detailed installation drawings and specifications for the system.

(4) Proof of certification in compliance with 83 Illinois Administrative Code 468 and proof of certification of electrician installing the system.

(5) Proof that notification to the electric power company has been properly completed.

(6) Plan for demolition and site restoration at the end of life of the system.

(7) A copy of the agricultural impact mitigation agreement.

(8) Elevation drawing(s), artist rendering(s), or photographic depictions of how the solar garden facility will fit within the existing landscape.

(9) Stormwater management plan.

(10) Soil and wildlife conservation plan, which shall also include a determination on whether the installation of tunnels, culverts, bridges, fencing gaps and other devices are needed to allow for wildlife movement in and around fencing, and if so, the type(s) and location(s) of the installations.

(11) Landscape plan.

(12) Lighting plan.

(13) Noise management plan. The noise emanating from any solar garden energy system as measured at the property line shall not exceed a maximum of fifty decibels (50 dB) at any time.

(14) Foundation and/or racking plan developed by a professional engineer.

(15) UL listing or approved equivalent for all component parts of the solar garden energy system.

c. Ownership: The City shall be notified in writing within 30 days of any change in ownership and/or management of the solar garden energy system.

d. Aviation Protection: If a solar garden energy system is located within five hundred feet (500') of an airport or within approach zones of an airport, the applicant shall provide the results of the Solar Glare Hazard Analysis Tool (SGHAT) for the airport traffic control tower cab and final approach paths indicating that the proposed solar garden energy system will not result in ocular impacts.

C. A Solar Farm Energy System as classified by the Illinois Commerce Commission Title 83, Chapter 1c, Part 466 as a Level 4 (output between 5MW and 10 MW), Part 467 as a Large Distributed Energy Resources Facility (output greater than 10 MW), or subject to the jurisdiction or interconnection requirements of either the Federal Energy Regulatory Commission (FERC) or the applicable Regional Transmission Organization (RTO) (either Midwest Independent Transmission System Operator, Inc. (MISO) or PJM Interconnection, LLC), shall meet the following minimum requirements in addition to any special use conditions that the City Council places on the required special use permit. A ground mounted Solar Farm Energy System shall only be permitted in districts zoned for Agriculture. A building mounted Solar Farm Energy System may be permitted as a special accessory use in lots zoned for Business or Manufacturing.

1. Ground Mounted Solar Farm Energy System:

a. Security: The solar farm energy system shall be enclosed by a self-locking eight-foot (8') security fence posted with warning signs and a knox box at all gates. Where this fence abuts properties zoned exclusively for residential uses, a solid screening fence composed of wood, metal, or vinyl shall be installed. An exemption from the solid screening fence requirement may be permitted by the City Council where the setback

established for the solar farm from the transition lot line is at least five hundred feet (500').

b. Setback: A ground mounted solar farm energy system shall meet the building setback requirements of the zoning district in which the parcel is located.

c. Screening and Landscaping: A screening berm with an average height of five foot (5'), as measured from the average established grade within the required setback and adjacent to the security fencing, surrounding the perimeter of the solar farm energy system, shall be installed.

d. Slopes on berms shall not exceed a four to one (4:1) ratio and shall be planted with landscape materials at the following rate:

   (1) One shade tree per fifty (50) linear feet, one and one-half inch (1 1/2") caliper measured twenty-four inches (24") above grade;

   (2) One evergreen tree per fifty (50) linear feet, six foot (6') minimum height;

   (3) Three (3) deciduous shrubs per fifty (50) linear feet, twenty-four inches (24") in height;

   (4) Three (3) evergreen shrubs per fifty (50) linear feet, twenty-four inches (24") in height; and

   (5) Three (3) ornamental trees may replace each one shade tree, six foot (6') minimum height.

e. Ornamental grass may replace the deciduous shrubs at a rate approved by the zoning officer. All screening and landscaping must be maintained. Dead or dying tree, shrubs and bushes must be replaced within 30 days of notice from the City. Ground cover under and around solar panels must be maintained as to not exceed the lowest panel height. All other grass and ground cover must be maintained as to not exceed a height of 8 inches.

f. Installation: The solar farm energy system shall be installed by a certified installer, an installer who meets the requirements set forth in 83 Illinois Administrative Code 468 as amended, and a licensed electrical contractor.

g. Ground Cover: The site of a ground mounted solar farm energy system shall be improved and maintained with a drought tolerant, perennial vegetative ground cover over the entire property including under and around solar arrays, with less than 1% open bare soil. Native prairie and pollinator supporting plants shall constitute a majority of the vegetative cover. The purpose of this ground cover shall be the prevention of soil erosion and the management of stormwater run-off. Top soil shall not be removed from the property during construction nor during operation of the facility.

h. Special Use Permit Required: A solar farm energy system shall be considered through the special use permit process outlined in section 5-12-9 of the Plano City Code.

i. Panel Design and Height: All panels shall be similar in design and color. All panels shall be improved with an anti-reflective coating and shall not create a nuisance glare. No components of a solar panel, cell or module shall exceed fifteen (15') above the ground at full tilt.

j. Drainage: A stormwater detention and subsurface drainage system shall be maintained during construction and operation of the solar farm energy system. The owner of the facility shall be responsible for repairing any damage to drain tiles and other drainage systems that result from construction, operation, or maintenance of the solar farm energy system.

k. Electric Lines: Electric lines shall be buried to the maximum extent practicable, except for electric lines that must be located above-ground due to interconnection requirements.

l. Tree Preservation/Mitigation: The intent of this provision is to mitigate the loss of healthy, mature trees in the City, by requiring replacement trees:

(1) Existing trees, six inches (6") in diameter or greater, as measured four and one-half feet (4 ½') above grade, shall be preserved, when possible, according to a tree preservation plan with approval from the building and zoning officer or designee. The tree preservation plan shall show:

(A) Protective fencing planned to be installed around the critical root zone of those trees identified for preservation, on both grading and landscape plans.

(B) Trees that will have their roots pruned by a certified arborist, to avoid tearing and other damage during construction.

(C) The plan must show locations where limestone and other materials that might negatively affect trees planned to be preserved will be stored on the property.

(2) Where it is determined that trees six inches (6") in diameter or greater, measured four and one-half feet (4 ½') above grade, must be removed to allow for proposed development, tree replacement will be required:

(A) Not less than one (1) 3-inch caliper tree shall be required for each six inches (6") of tree proposed to be removed, as measured four and one-half feet (4 ½') above grade. However, in no instance shall more than three (3) 3-inch caliper replacement trees be required for any tree removed.

(B) Unless otherwise determined by City Council or zoning officer, replacement trees shall be in addition to any other required landscaping.

2. Building Mounted Solar Farm Energy System:

a. Setback: Building mounted solar farm systems shall be set back in accordance with the International Building Code in lots zoned for Business or Manufacturing.

b. Installation: The solar farm energy system shall be installed by a certified installer, an installer who meets the requirements set forth in 83 Illinois Administrative Code 468 as amended, and a licensed electrical contractor.

c. Special Use Permit Required: A building mounted solar farm energy system is considered a special accessory use. Building mounted solar farm systems shall be considered through the special use permit process outlined in section 5-12-9 of the Plano City Code.

d. Panel Design: Building mounted solar panels shall be fixed and non-tracking. Solar panels may be installed on the building walls or as architectural features of the building, subject to City Council approval. Panels shall be improved with an antireflective coating and shall not create a nuisance glare.

e. Wiring: All wiring shall be enclosed in conduit or buried in the building walls unless specifically approved by the City Council through the special use process.

3. General Requirements for Solar Farm Energy System:

a. Abandonment: A decommissioning plan shall be approved by the City Council during the special use permit process. At the time of building permit, a letter of credit, or other financial surety instrument approved by the City Council, in the amount of the estimated cost of decommission, as approved by the City's Engineer, shall be submitted to the City. If the solar farm is abandoned and not properly decommissioned, the City shall utilize the funds to restore the property to its original or an improved condition.

b. Plan Submission: An application for special use for a solar farm energy system shall include the following minimum information:

(1) Plat of survey and scaled dimensioned drawing of the zoning lot indicating all buildings existing and the proposed location of the solar farm energy system and electric distribution lines.

(2) Management plan describing how subscriptions will be marketed or how energy will be consumed for a private system.

(3) Detailed installation drawings and specifications for the system.

(4) Proof of certification in compliance with 83 Illinois Administrative Code 468 and proof of certification of electrician installing the system.

(5) Proof that notification to the electric power company has been properly completed.

(6) Plan for demolition and site restoration at the end of life of the system.

(7) A copy of the agricultural impact mitigation agreement.

(8) Elevation drawing(s), artist rendering(s), or photographic depictions of how the solar farm system will fit within the existing landscape.

(9) Stormwater management plan.

(10) Soil and wildlife conservation plan, which shall also include a determination on whether the installation of tunnels, culverts, bridges, fencing gaps and other devices are needed to allow for wildlife movement in and around fencing, and if so, the type(s) and location(s) of the installations.

(11) Landscape plan.

(12) Lighting plan.

(13) Noise management plan. The noise emanating from any solar farm energy system as measured at the property line shall not exceed a maximum of fifty decibels (50 dB) at any time.

(14) Foundation and/or racking plan developed by a professional engineer.

(15) UL listing or approved equivalent for all component parts of the solar farm energy system.

c. Ownership: The City shall be notified in writing within thirty (30) days of any change in ownership and/or management of the solar farm energy system.

d. Aviation Protection: If a solar farm energy system is located within five hundred feet (500') of an airport or within approach zones of an airport, the applicant shall provide the results of the Solar Glare Hazard Analysis Tool (SGHAT) for the airport traffic control tower cab and final approach paths indicating that the proposed solar farm energy system will not result in ocular impacts.