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HIGHLAND PARK, MICHIGAN

NEW PROPOSED ORDINANCE FOR
SOLAR ENERGY SYSTEMS (SES) —
COMPILED BY THE CITY ENGINEER

Office of the Engineering and Water Department

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PART TWELVE – PLANNING AND ZONING CODE

TITLE SIX – Zoning; General Provisions

CHAPTER 1262

Definitions

1262.01 MEANING OF WORDS AND PHRASES.

- 1262.XY Solar Energy Systems (SES): A device, array of devices, or structural design feature, the purpose of which is to provide for generation and/or storage of electricity from sunlight, or the collection, storage, and distribution of solar energy for space heating or cooling, daylight for interior lighting, or water heating. SES unit types include:
- 1262.XY1 Building-Integrated SES: A SES that is an integral part of a primary or accessory building or structure (rather than a separate mechanical device), replacing or substituting for an architectural or structural component of the building or structure. Building-integrated systems include but are not limited to: photovoltaic (BIPV) or hot water solar energy systems that are contained within roof materials, windows, skylights, awnings, fences, and walls.
- 1262.XY2 Dual-Use SES: This SES sub-type designation may be applicable when the design of a SES increases the overall productivity of a property by means such as: using vertical clearance to enable vehicle parking underneath the SES (a carport or canopy above a parking lot or parking spaces), land management, or the conservation practices listed below. These types of SES are encouraged, but may require deviations from the City during the special land-use review process (ex: if proposed grass or plantings heights or landscape plans conflict with other City requirements):
- a. Agrivoltaics: Solar sites that combine raising crops for food, fiber, or fuel, and generating electricity within the project area to maximize land use.
 - b. Conservation Cover: Solar sites designed in consultation with conservation organizations that focus on restoring native plants, grasses, and prairie with the aim of protecting specific species (e.g., bird habitat) or providing specific ecosystem services (e.g., carbon sequestration, soil health).
 - c. Pollinator Habitat: Solar sites designed to meet a score of 76 or more on the Michigan Pollinator Habitat Planning Scorecard for Solar Sites. Alternatively, the Tier 2 Pollinator Scorecard developed by the Rights-of-Way as Habitat Working Group can be used to evaluate pollinator habitat and management practices.

- 1262.XY3 Ground-Mounted SES (Accessory Use): A SES mounted on a rack or pole that is ballasted on, or is attached to the ground, and the system is accessory to the primary use.
- 1262.XY4 Ground-Mounted SES (Principal Use): A solar photovoltaic system mounted on a rack or pole that is ballasted on, or is attached to the ground, and is the primary land use for the parcel(s) on which it is located.
- 1262.XY5 Repowering: In addition to repairing or replacing SES components to maintain the system, a Principal-Use SES may at any time be repowered by reconfiguring, renovating, or replacing the SES to increase the power rating within the existing project footprint. A proposal to change the project footprint of an existing SES shall be considered a new building application, subject to the ordinance standards at the time of the request.
- 1262.XY6 Roof-Mounted SES: A SES mounted on racking that is attached to or ballasted on the roof of a building or structure. Solar panels affixed on the roof of a carport structure or mounted on a free-standing canopy or pergola are roof-mounted SES.
- 1262.XY7 Solar Access: Unobstructed access to direct sunlight on a lot or building through the entire year, including access across adjacent parcel air rights, for the purpose of capturing direct sunlight to operate a SES.
- 1262.XY8 Solar Photovoltaic (PV): A type of SES that uses semiconductor materials to convert solar energy directly into electricity. The primary components of this type of SES are solar panels, mounting devices, inverters, and wiring. Components may also include cleaning mechanisms and sun-tracking sensors and mechanisms, etc..
- 1262.XY9 Solar Thermal System: A type of SES that converts sunlight into heat. Examples include but are not limited to Solar Hot Air System (also referred to as Solar Air Heat or Solar Furnace), and Solar Hot Water System.
- 1262.XZ Solar Rights: Easement(s) of direct sunlight (Solar Access) may be acquired over the land of another by legally obtaining an express grant or covenant.

CROSS REFERENCES

Chapter 1264.12 – MAJOR USE GROUP SES – Solar Energy Systems

PART TWELVE – PLANNING AND ZONING CODE

TITLE SIX – Zoning; General Provisions

CHAPTER 1264

Land Use Classification System

1264.01 INTENT.

1264.02 CLASSIFICATION SYSTEM.

1264.12 MAJOR GROUP USE SES – Solar Energy Systems.

1264.13 Doubtful use classification.

1264.12 MAJOR USE GROUP SES – Solar Energy Systems

(a) INTENT:

City of Highland Park’s Solar Energy Systems (SES) ordinance intends to:

- i. Provide for a renewable, abundant, local, distributed, resilient, and non-polluting energy resource.
- ii. Decrease the cost of energy.
- iii. Improve quality of life of current residents while also protecting the public health, safety, and welfare.
- iv. Protect property-owner rights to construct SES in all zoning districts, and protect legal permission from landlords to tenants.
- v. Encourage and support environmental site design through conservation or preservation in place (i.e., woodlands, wetlands, cultural resources that should not be disturbed).
- vi. Increase employment and business development in the region by furthering the installation of SES.

This ordinance does not prohibit the sale of excess power (through a “net billing”, “net-metering”, or “bill credit”, or other arrangement) in accordance with Michigan’s laws overseen by the Michigan Public Service Commission (MPSC) or any other federal statute.

Administration of this SES ordinance is to be jointly executed by multiple City of Highland Park Departments who will each have unique responsibilities for specific aspects of its implementation. These Departments include the Department of Public Works, Building

Department, Engineering Department, the Community and Economic Development and/or the Planning Department, and the Fire Department.

(b) PERMITTED USES:

Solar Energy Systems (SES) are permitted as:

SES Unit Type	Allowable Zoning Districts
Accessory Use (<i>Roof-Mounted, Building-Integrated, or Ground-Mounted</i>)	All Districts
Principal Use (<i>Ground-Mounted</i>) <1 acre	All Non-Residential Districts
Principal Use (<i>Ground-Mounted</i>) 1 acre or more	All Non-Residential Districts
Principal Use (<i>Ground-Mounted</i>) any size	All Residential Districts

(c) USE STANDARDS:

i. Roof-Mounted and Building-Integrated SES:

- A. Roof-mounted solar energy systems shall comply with applicable state and local fire codes to ensure emergency access to the roof, provide pathways to specific areas of the roof, provide areas for smoke ventilation, and provide emergency egress from the roof.
- B. Cannot exceed the height of the underlying zoning district or protrude more than 6-feet above the highest point of the roof to which it is attached. If the building is already at height limit, a SES height variance request cannot exceed the 6-foot allowance.
- C. Are exempt from screening requirements.
- D. Solar panels cannot protrude beyond the edges of the roof.
- E. Solar panels affixed on the roof of a carport structure or on a pergola type of free-standing canopy are roof-mounted SES. Both types of free-standing structure SES are Accessory Uses.
- F. SES carports do not count towards the maximum percentage of lot coverage. New carports in commercial districts should consider height for emergency vehicle clearance under carports, tilt for snow shed, and provide different height restrictions for photovoltaic (PV) collectors and associated storage structure.

ii. Ground-Mounted SES:

- A. All Zoning Districts:
 - 1) Cannot be located closer than 10-feet to any principal building. If the Electrical code requires a larger horizontal separation for any SES equipment then use that distance.

- 2) Must be setback at least 8-feet from any side or rear property line.
- 3) Cannot exceed 15-feet in height at maximum tilt. Taller structures, not to exceed the maximum height of the underlying zoning district, may be considered by the Planning Commission as a special land use.
- 4) Are exempt from lot coverage and impervious surface requirements if the area under the system contains vegetative ground cover.
- 5) Fencing: A principal-use SES covering one (1) acre or more shall be secured with perimeter fencing to restrict unauthorized access. If the Electrical code requires fencing around other SES equipment or systems of a smaller footprint of land then Electrical code should overrule the one (1) acre threshold.
 - a) Fencing is not subject to setbacks.
 - b) Whenever installed around a principal-use SES, perimeter fencing shall meet the minimum fence height requirements as outlined for business properties in Part 14 – Building and Housing Code, Title Six – Miscellaneous Building Regulations, Chapter 1460, Section 09. (1460.09): Barbed Wire.
 - c) Note that per electrical code, if no barbed wire is installed on top of a 6-foot tall fence, the fence height shall be a minimum of 7 feet tall but shall not exceed a maximum of 9 feet in height.

B. Residential Zoning Districts:

- 1) Accessory Use SES must be located in the rear or side yard unless they are screened per subsection (iii) below, then the SES may also be located in the non-required front yard. This provision is not applicable to principal use SES.
- 2) Principal Use SES do not have the rear and side yard requirement, but a landscaped screen may be required by the Planning Commission to screen from front lot and side public rights-of-way (as applicable).
- 3) When located within the non-required front yards (in residential districts), a landscaped screen may be required by the Planning Commission to screen from front lot and side public rights-of-way (as applicable).

iii. (Use Standards) Applicable to all SES:

- A. Application: All SES applications must include site or plot plan, whichever is required for a zoning compliance review or City-required permit. Applications for Roof-Mounted SES must include horizontal and vertical elevation drawings that show the location and height of the SES on the building & dimensions of the SES. A SES used to power a single device or specific piece of equipment such as a lawn ornament, lights, weather station, thermometer, clock, well pump, or other similar singular device is exempt from SES ordinance requirements.

- B. Anchoring: Sealed, engineered drawings must be submitted detailing how the SES is securely anchored to the ground or a permanent roof structure, to meet the State of Michigan Frost Laws (a minimum of 42-inches below grade).

- C. Ground Cover: A Ground Mounted Principal-Use SES covering one (1) acre or more shall include the installation of perennial ground cover vegetation maintained for the duration of operation until the site is decommissioned. The applicant shall include a ground cover vegetation establishment and management plan as part of the site plan.
 - 1) An SES utilizing Agrivoltaics is exempt from perennial ground cover requirements for the portion of the site employing the dual-use practice.
 - 2) Project sites with majority existing impervious surface or those that are included in a brownfield plan adopted under the Brownfield Redevelopment Financing Act, PA 381 of 1996, as amended, are exempt from ground cover requirements. These sites must comply with the on-site stormwater requirements of the ordinance.

- D. Land Clearing: Land disturbance or clearing shall be limited to what is minimally necessary for the installation and operation of the system and to ensure sufficient all-season access to the solar resource given the topography of the land. Topsoil distributed during site preparation (grading) on the property shall be retained on site.

- E. Permit Required: A Building Permit with the City's Building Department is required, and all systems must comply with the most recently adopted electrical and building codes.

- F. Maintenance: All SES must be maintained in a safe and in operable condition.

- G. Decommissioning Plan: SES that cover 1 acre or greater (in total land area dedicated to the operation and maintenance of the SES, not only the area of the arrays themselves), a decommissioning plan is required. The decommissioning plan shall indicate the anticipated manner in which the project will be decommissioned, including a description of which above-grade and below-grade improvements will be removed, retained (e.g., access drive, fencing), or restored for viable reuse of the property consistent with the zoning district.

- H. Removal: If a SES ceases to perform its intended function for more than 12-consecutive months, the property owner must remove the collector, mount, and associated equipment and facilities no later than 90 days after the end of the 12-month period. The property must be restored to the condition prior to the development of the system.

- I. Sites 1-acre or greater: For SES that cover 1 acre or greater (total improved surface area of land used by the system), a feasibility study regarding the implementation of a pollinator habitat and/or conservation cover is required.

J. Signage: The area of any signage should be consistent with the zoning district and shall meet the setback, illumination, and materials/ construction requirements of the district for the project site.

K. Solar Rights:

- 1) The City of Highland Park recommends that all proposed SES have a Solar Access sensitivity analysis performed by a qualified professional for the specific proposed location and orientation(s) of the proposed SES. The purpose of the Solar Access sensitivity analysis is to:
 - a) Determine if there are any existing obstructions that will reduce SES power generation. Examples of obstructions include but are not limited to existing buildings, structures, and tall plants and/or trees.
 - b) Determine if, and to what degree, future development or plant growth scenarios on adjacent properties could impact solar access (particularly any adjacent parcels to the south, but also adjacent parcels to the east & west).
 - I. Analysis for future conditions should assume the quantity and height of possible plant growth located a few feet past the adjacent property line has increased significantly (which is quite possible over the lifespan of a SES (PV panels made in 2023 often have a predicted lifespan of 30 years, and the lifespan of future SES technologies or other types of SES may be significantly longer).
 - II. Analysis for the future conditions should assume that the adjacent parcels listed above are developed with buildings or accessory structures that are the maximum height allowed in the existing zoning district, and at the minimum associated setbacks.
 - III. Note that the City of Highland Park Zoning Map determines what zoning district each parcel resides within, but the zoning districts may change over the course of time. Whether a sensitivity analysis is performed or not, the developer of a SES must either:
 1. Accept all risks with regard to losing solar access slowly or all at once at some future unknown point in time, or
 2. Pursue the easement options described in detail below.
- 2) Easement(s) of direct sunlight may be acquired over the land of another by legally obtaining an express grant or covenant, as set forth below:
 - a) The Originator of the easement is required to - submit a notification to the City if there is a solar access easement being sought by a property owner or solar

developer, notify affected neighboring property owners in writing 10 days before, provide the opportunity for a hearing if requested, and request recordation of such easements on burdened and benefited property deeds by the City Building Department. Any instrument creating a Solar Right easement to maintain Solar Access may include, but the contents are not limited to, the following:

- I. A description of the three dimensions of the easement expressed in measurable terms, such as vertical or horizontal angles measured in degrees, or the hours of the day on specified dates during which direct sunlight to a specified surface of a solar collector, device, or structural design feature may not be obstructed, or a combination of these descriptions.
- II. The restrictions placed upon vegetation, structures, and other objects which would impair or obstruct the passage of sunlight through the easement.
- III. The amount, if any, of permissible obstruction of the passage of sunlight through the easement, expressed in measurable terms, such as a specific percentage of sunlight that may be obstructed.
- IV. The provisions for trimming vegetation that would impermissibly obstruct the passage of sunlight through the easement including any compensation for trimming expenses.
- V. Any provisions for compensation of the owner of property benefiting from the easement in the event of impermissible obstruction of the easement.
- VI. The terms or conditions, if any, under which the easement may be revised or terminated.
- VII. If either party believes their recorded Solar Rights have been impeded, then the case would be brought before the Zoning Board of Appeals. If either party is seeking negotiation or arbitration with regard to impeding the terms of the Solar Rights, a neutral third-party analysis and report by a qualified professional is required. In the Zoning Board of Appeals workshops to review the third-party report findings, include the Planning Department /Building Department (CED) and the City's Legal Council, which has structural oversight.

CROSS REFERENCES

Chapter 1262 – Definitions

Chapter 1268 - Off-Street Parking and Loading

1268.02 PARKING LOT STANDARDS

1268.04 OFF-STREET PARKING FOR NEW CONSTRUCTION

1268.05 OFF-STREET PARKING FOR EXISTING

BUILDINGS. 1268.06 COLLECTIVE PROVISIONS

Handicapped parking requirements - see M.C.L.A. Sec. 257.942a

Chapter 1276 – Miscellaneous Provisions

1276.01 INTENT

1276.02 PUBLIC UTILITIES. - see M.C.L.A. Secs. 554.251 et seq.

Fire Prevention Code - see M.C.L.A. Secs. 29.01 et seq.; F.P. Ch. 1610