

ORDINANCE NO.: 128 -2022
INTRODUCED BY: All of Council

AN ORDINANCE ENACTING NEW CHAPTER 1353, TITLED “OUTDOOR LIGHTING” OF PART THIRTEEN, TITLE THREE OF THE BUILDING CODE OF THE CODIFIED ORDINANCES TO PROVIDE STANDARDS AND REGULATIONS FOR OUTDOOR LIGHTING IN THE CITY OF RICHMOND HEIGHTS AND REPEALING SECTION 301.4.1.2 OF SECTION 1309.05, “GENERAL REQUIREMENTS”, OF THE CITY’S CODIFIED ORDINANCES.

WHEREAS, the City has all powers of home rule which may now or hereafter lawfully be possessed or exercised by municipalities under the laws of the state of Ohio, including the power to make regulations for the safety, health and welfare of its citizens and all those who work in and visit the City;

WHEREAS, providing for the regulation of lighting requirements for businesses and multi-family residential buildings operating within the City of Richmond Heights, including enforcement procedures, fines and penalties, will further the protection of the public safety, health and welfare;

WHEREAS, the City’s Building Commissioner has reported incidents of inadequate, unsafe, inefficient, and poorly maintained outdoor lighting at local places of business, including, but not limited to, residential multi-family apartment buildings in the City of Richmond Heights;

WHEREAS, the City’s Safety Committee has reviewed the need for this legislation and has recommended the same to Council;

WHEREAS, this Council desires to enact new Chapter 1353, titled “Outdoor Lighting”, of Part Thirteen, Title Three of the Building Code of the Codified Ordinances of Richmond Heights to provide standards and regulations for outdoor lighting for the protection of the public safety, health and welfare.

NOW, THEREFORE, Be It Ordained by the Council of the City of Richmond Heights, State of Ohio, that:

Section 1. New Chapter 1353, titled “Outdoor Lighting”, of Part Thirteen, Title Three of the Building Code of the Codified Ordinances of the City of Richmond Heights, Ohio is hereby enacted to read as follows:

**“Chapter 1353
Outdoor Lighting**

1353.1 INTENT AND PURPOSE.

(a) Outdoor lighting shall be designed to be energy efficient, provide the minimum lighting necessary to

ensure adequate safety, night vision, and comfort, and shall not create or cause excessive glare on adjacent properties and public street rights of way.

(b) Parcels nonresidential business and multi-family residential buildings, including outparcels, shall be required to provide safe, convenient, and efficient outdoor lighting for pedestrians and vehicles. Lighting shall be designed in a consistent and coordinated manner for the entire site. The lighting and lighting fixtures shall be integrated and designed so as to enhance the visual impact of the developed property on the community and/or should be designed to blend into the surrounding landscape. Lighting design and installation shall ensure that lighting accomplishes on-site lighting needs without intrusion on adjoining properties or shining directly into the public right-of-way.

1353.2 EXEMPTIONS.

(a) The following activities are exempt from the requirements of this chapter: temporary outdoor lights used exclusively for temporary events, such as evening recreational activities, concerts, plays or other outdoor events that are open to the public for a limited period of time, provided that the event or function meets all other applicable Municipal code requirements. Such lighting shall be located at least fifty (50) feet from any adjoining residential district or use and designed to the maximum extent possible to avoid intrusion on adjoining property.

(b) Outdoor lighting that is exempt from this chapter as set forth in this section shall only be illuminated while the activity takes place and during high traffic periods immediately before and after the event.

1353.3 DEFINITIONS.

(a) **ARCHITECTURAL LIGHTING:** Luminaires provided to enhance features of the architectural design of a structure.

(b) **Fixture:** The assembly that houses the lamp or lamps; and can include all, or some of the following parts: a housing, a mounting bracket or pole socket, a lamp holder, a ballast, a reflector, or mirror, and/or a refractor or lens.

(c) **FOOT-CANDLES (fc):** A quantitative unit measuring the amount of light (illumination) falling onto a given point, one footcandle equals one lumen per square foot.

(d) **GLARE:** The effect produced by a light source within the visual field that is sufficiently brighter than the level to which the eyes are adapted, to cause annoyance, discomfort, or loss of visual performance and ability.

(e) **HEIGHT OF LUMINAIRE:** The height of a luminaire shall be the vertical distance from the ground directly below the centerline of the luminaire to the lowest direct light emitting part of the luminaire.

(f) **HIGH LEVEL ACTIVITY PARKING LOTS:** These are parking lots in which most of the parking spaces will be occupied by customer vehicles after 6:00 p.m.

(g) **LAMP:** The component of a luminaire that produces the actual light.

(h) **LOW ACTIVITY LEVEL PARKING LOTS:** These are parking lots in which most of the parking spaces will be occupied by employee vehicles, with very few parking spaces occupied by customer vehicles after 6:00 p.m.

- (i) **LUMEN:** A quantitative unit used to identify the amount of light emitted by a light source. A lamp is generally rated in lumens.
- (j) **LUMINAIRE:** A complete lighting system and includes a lamp or lamps and a fixture.
- (k) **MAINTAINED FOOT-CANDLES:** Illuminance of lighting fixtures adjusted for a maintenance factor accounting for dirt buildup and lamp output depreciation. The maintenance factor used in the design process to account for this depreciation cannot be lower than 0.72 for high pressure sodium and 0.64 for metal halide and mercury vapor.
- (l) **MEDIUM ACTIVITY LEVEL PARKING LOTS:** These are parking lots in which most of the parking spaces will be occupied by employee vehicles, but with significant parking spaces occupied by customer vehicles after 6:00 p.m.
- (m) **OUTDOOR LIGHTING:** The nighttime illumination of an outside area or object by any manmade device located outdoors that produces light by any means.

1353.4 OUTDOOR LIGHTING GENERAL DESIGN REQUIREMENTS.

(a) Lighting shall be used to provide safety while accenting key architectural elements and to emphasize landscape features. Light fixtures shall be designed as an integral design element that complements the design of the building and shall be reviewed by the Architectural Board of Review of the Municipality for approval. This can be accomplished through style, material, and/or color. All lighting fixtures designed or placed so as to illuminate any portion of a site shall meet the following requirements:

(1) Fixture (luminaire):

- A. The light source shall be completely concealed behind an opaque surface and recessed within an opaque housing and shall not be visible from or shine at eye level into any street right-of-way or adjoining properties. Overhead lighting fixtures shall be designed to prevent light from emitting upwards towards the sky.

- B. Under canopy lighting fixtures should be completely recessed within the canopy.

(2) Fixture heights shall be as Listed in Table 1353.1

(3) Light source (lamp):

- A. LED, fluorescent, metal halide or color corrected high-pressure sodium are preferred. The Municipality's Division of Building, Zoning and Housing or its Architectural Board of Review shall have the authority to approve other lamp types (including light emitting diodes (LEDs) and fiber optics) provided the color emitted is similar to the preferred types. Non-color corrected high pressure sodium lamps are prohibited.

- B. The same light source type should be used for the same or similar types of lighting on any one site throughout any development.

(4) Glare: Lamps shall be directed, shaded, shielded, or otherwise located to minimize perceived glare on adjacent properties or streets. Accordingly, canopy lighting with refractive drop lenses, tilting fixtures, floodlights, and wall mounted nonhorizontal fixtures (commonly referred to as wall packs) are specifically prohibited.

(5) Controls: Outdoor Lighting for nonresidential business and multi-family residential properties shall have centralized lighting control systems utilizing time clocks, motion sensors, daylight harvesting controls, and other control system components to manage Outdoor Lighting system wide.

(6) Scope: Outdoor Lighting shall be designed to enhance public safety and security. Accordingly, comprehensive lighting designs are required for every building use type, except non-rental residential uses.

A. Adequate lighting at all parking locations, entrances, public walkways and other transitional pathways in overall lighting layout and luminaire selections shall be provided.

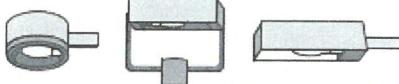
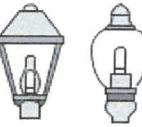
(7) Limit Lighting to Periods of Activity: The use of sensor technologies, timers, or other means to activate lighting during times when it will be needed may be required by the Municipality's Division of Building, Zoning and Housing to conserve energy, provide safety, and promote compatibility between different land uses.

(8) If existing exterior lighting fixtures are modified, extended, expanded, or added to, the altered portion shall comply with this chapter.

(9) Expansions, additions, or replacements to exterior lighting installations shall be designed to avoid harsh contrasts in color and/or lighting levels.

(b) Examples of Lighting Fixtures.

(1) The following images reflect acceptable and unacceptable light fixtures:

UNACCEPTABLE	ACCEPTABLE
Fixtures that produce glare and light trespass	Fixtures that shield the light source, to reduce glare and light trespass and to facilitate better vision at night.
Non-cutoff floodlights	Full-cutoff fixtures
	
Non-cutoff streetlight or dusk to dawn security fixtures	Full-cutoff streetlights
	
Non-cutoff wallpacks	Full-cutoff wallpacks
	
Non-cutoff Colonial-type fixtures	Full-cutoff Colonial-type fixtures
	
Drop-lens canopy fixtures	Flush-mounted canopy fixtures
	
Sag-lens/Drop-lens with exposed light source	Full-cutoff fixtures
	

1353.5 ILLUMINATION LEVELS AND HEIGHT RESTRICTIONS.

- (a) All site lighting shall be designed so that the level of illumination as measured in footcandles (fc) at any one point meets the standards in the table below with minimum and maximum levels measured on the pavement within the lighted area and average level (the overall generalized ambient light level), measured as a not-to-exceed value calculated using only the area of the site intended to receive illumination.

LIGHT LEVEL TABLE 1353.1 (Units in Footcandles)

Type of Lighting	Min.	Avg.	Max.	UNIFORMITY RATIO	Max. Height to Light Source
Architectural/Decorative Lighting	0.0	1.0	5.0		
Canopy area lighting	2.0	10.0	15.0		Recessed in canopy
Multi-family parking lot	0.2	1.0	8.0		
Low Activity Parking Lots	0.5		2.0	6:1	25
Medium Activity Parking Lots	1.5		3.0	6:1	25
High Activity Parking Lots	2.5		4.0	4:1	25
Storage area (security lighting)	.02	1.0	10.0		
Non-residential & Multi-family Entrances & Exit Discharges	1.0	5.0	15.0		
Dumpster Enclosures	1.0	5.0	10.0		
Bikeways or parks	0.3	0.4	0.5		12
Landscape	.02	0.8	5.0		ABR Review Required
Public Walkways	1.5	2.0	3.0		ABR Review Required

(b) Exception for gasoline service station canopies: The average illumination on the pavement area under the canopy and around the fuel pumps shall be between thirty-five (35) and seventy (70) foot-candles. The remainder of the gasoline service station pavement shall meet the requirements for high activity level parking lots.

(c) Exception for bank and credit union canopies: The average illumination on the pavement area under the drive-up canopy and around automated teller machines must meet federal regulations. The remainder of the bank and credit union parking lot pavement shall meet the requirements for high activity level parking lots.

(d) Architectural lighting shall be permitted as long as it is ground mounted near the building, utilizes seventy (70) watt or smaller lamps, and is approved by the Municipality's Division of Building, Zoning and Housing or its Architectural Board of Review.

(e) Lighting at Site Perimeter:

(1) The maximum level of illumination at the outer perimeter of the site or project is intended to be 0.2 footcandles or less, but in no instance greater than 0.5 footcandles when abutting a residential zoning district; and 0.5 footcandles or less, but in no instance greater than 1.0 footcandles when abutting all other districts or streets.

(2) All light fixtures located within fifty (50) feet of any residential use or residential property boundary (excluding multifamily residential uses or properties zoned for multifamily use) shall not exceed fifteen (15) feet in height and shall be mounted in such a manner that the cone of light is contained on-site and does not cross any property line of the site.

(f) **Parking Lots:**

(1) All luminaires shall be cut-off luminaires as defined by the latest edition of the Illumination Engineering Society of North America (IESNA Handbook).

(2) If the design is of a period or architectural style within the overall design of the project, as determined by the Architectural Board of Review, alternatives or supplements to the lighting may be used, provided that:

A. If the alternatives or supplements to the lighting is not “cut-off” luminaires as defined by IESNA, the maximum initial lumens generated by each fixture shall not exceed two thousand (2,000).

B. Mounting heights of such alternative luminaires shall not exceed fifteen (15) feet above grade.

C. All luminaires of a period or architectural style shall be approved by the Architectural Board of Review Board.

(g) **Walkways, bikeways, and parks:**

(1) Walkways and bikeways shall be illuminated to enhance security in their use.

(2) Lighting fixtures shall be designed to direct light downward, and light sources shall have an initial output of no more than one thousand (1,000) lumens.

(h) **Garbage dumpsters and recycling bins** must have a dedicated light source that are illuminated at levels for walkways.

(i) **Landscape Lighting:** Trees and shrubs shall not interfere with the distribution of pathway and transitional lighting.

1353.6 NONCONFORMITIES.

(a) All luminaires lawfully in place prior to the effective date of this chapter shall be permitted to remain, provided they are maintained in a manner required by the Municipality’s ordinances. However, at the time that a nonconforming fixture is replaced, moved, upgraded, or otherwise changed, the fixture must be brought into compliance with the requirements of this chapter. Any expansion of, or addition to, an existing lighting system must conform to the requirements of this chapter.

(b) All Luminaires shall be changed if other site-related improvements are proposed on the property which require a building permit.

(c) Nonconforming luminaires that direct light toward streets or parking lots that cause glare which

disrupts the vision of motorists or cyclists shall be either shielded or redirected within one hundred twenty (120) days of notification thereof by the Municipality's Division of Building, Zoning and Housing, so that the luminaires do not cause a potential hazard to motorists or cyclists.

- (d) Luminaire repairs do not trigger the compliance requirements of this chapter, meaning lighting can be maintained or repaired without needing to be updated to the latest standards. Replacing lamps and ballasts in an existing outdoor luminaire or keeping the luminaire housing but adding a lower energy-consuming LED retrofit kit is considered a "repair". Repairs do not include wiring alterations or increase in the energy consumption of the component, system or equipment being repaired. Changing wiring or replacing components of a system (such as an entire cobrahead or shoebox luminaire) or similar equipment that is beyond ten percent (10%) of the existing system or equipment is considered an "alteration" and not a "repair".
- (e) Correlated Color Temperature (CCT) shall be applied in a coordinated manner and limited to the range of 2500K to 6000K. Other colored light sources are prohibited except for artistic displays and illuminated signs approved by the Municipality's Division of Building, Zoning and Housing.
- (f) The Color Rendering Index (CRI) shall be minimum of fifty (50) for roadway and street lighting, and sixty-five (65) for parking and area lighting.

1353.7 APPROVALS.

(a) Land uses required herein to provide six (6) or more parking spaces, or one (1) or more loading spaces, shall provide lighting facilities to illuminate all parking spaces, aisles and loading spaces in accordance with the Light Level Table 1353.1 herein and the following requirements:

(1) **Photometric Plan:** Site plans for off street parking facilities shall be submitted to Municipality's Division of Building, Zoning and Housing for approval and shall contain a photometric plan. The photometric plan shall include all the following information:

- A. Identification of all proposed light fixtures, including those used for site lighting, canopy lighting and exterior building lighting.
- B. Identification of all proposed control equipment, conduit, and wiring, including material, size, and location.
- C. Photometric calculations, showing a grid of individual illumination values as well as a summary of the maximum, minimum and average illumination of the pavement surface in foot-candles.
- D. Construction details of the pole, pole foundation, electrical trench with warning tape and pole handhole wiring.
- E. Catalog cut sheets for the proposed light poles, fixtures, and any exterior control equipment.

(2) **Outdoor Lighting Audit:** For building additions or major renovation projects, in addition to the Photometric Plan, building owners shall submit an Outdoor Lighting Audit of existing lighting systems to the Municipality's Division of Building, Zoning and Housing for approval. The Lighting Audit shall identify each lighting type, as identified in Table 1353.1 herein, used on the site and shall include all the following information and requirements:

- A. The age, condition, quality, and location of existing lighting fixtures, noting any lens discoloration, lens cracking, paint cracking, or burn marks.
- B. Model and manufacturer of lighting system to obtain existing photometrics.
- C. Lamp wattage and ballast type.
- D. Observe the operational environment of the lighting system, noting the possibility of particulate, moisture, or dirt buildup in or around lighting fixture.
- E. Observe how the lighting system is controlled and how often it is used.
- F. Note the perceived color of objects within the space to characterize color quality.
- G. Measure the physical layout of the existing lighting system noting luminaire height and spacing.
- H. Use an illuminance meter to measure the light intensity of the existing system during dark sky conditions to determine if the existing design is appropriate for the space. Readings should be taken on the ground and at even intervals to create a “grid” of measurements. These illuminance levels can be compared to the recommended levels for the application.
- I. Based upon the information gathered above, provide a report establishing conclusions about the existing lighting system including:
 - i. Whether the lighting system meets the original or proposed lighting needs of the space and occupants, given the required operations (energy use) and maintenance costs?
 - ii. Calculation of the system efficacy of each type of luminaire. How efficient is each system at delivering light to its intended surface?
 - iii. Calculation of the theoretical system illumination, determined from a rough lumen method or point-to-point calculation. Use lighting design software to determine if the theoretical measurements match the measured illumination values from the site. This will help determine the level of deterioration of the current lighting system, as well as if the system meets the Municipality’s code requirements.
 - iv. Calculation of the existing lighting power density and a determination of whether it meets any applicable codes or energy standards
 - v. The difference in performance characteristics between existing and lighting systems proposed for the project.

(b) Design Review and Approval: In addition to Building Construction Approval, all projects requiring Photometric Plans shall be subject to review and approved by the Municipality’s Architectural Board of Review.

1353.8 MAINTENANCE, CONTINUANCE AND REMOVAL.

(a) Expended or inoperative lighting bulbs or implements shall be replaced or repaired within ten (10) days after notice has been given by the Municipality’s Division of Building, Zoning and Housing to the owner of the parking facility that such bulbs or implements have ceased to be operative.

(b) All luminaires, lighting equipment and appurtenances, including building mounted luminaires, street and pole lighting, security lighting and all other similar equipment shall be maintained in a clean, safe, and sanitary, condition, in accordance with the conditions established in current and any previous plan approvals by the Building Commissioner, Architectural Board of Review, and Planning Commission and by the Certificate of Business Occupancy. Equipment shall not be disabled or removed without the approval of the Municipality's reviewing authority."

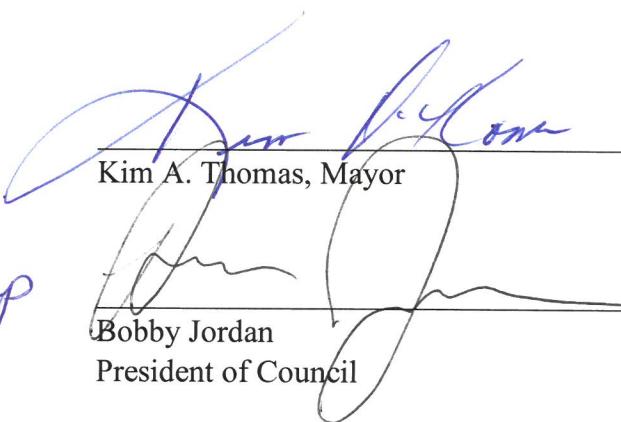
Section 2. Existing Section 301.4.1.2 of Chapter 1309.05, General Requirements, of the Codified Ordinances of the City of Richmond Heights is hereby repealed.

Section 3. It is found and determined that all formal actions of this Council concerning and relating to the adoption of this Ordinance were adopted in an open meeting of this Council and all deliberations of this Council and any of its committees that resulted in such formal action, were in meetings open to the public, in compliance with all legal requirements, including Section 121.22 of the Ohio Revised Code.

Section 4. This Ordinance shall take effect and be in force at the earliest time permitted by law.

PASSED: 10/25/2022

APPROVED: 10/25/2022



Kim A. Thomas, Mayor

Bobby Jordan
President of Council

Betsy Traben
Clerk of Council

ATTEST Rhonda Gehm, Pro Temp

Betsy Traben
Clerk of Council