

NB 11. RESOLUTION OF THE MAYOR AND CITY COMMISSION OF THE CITY OF MIAMI BEACH, FLORIDA, DIRECTING THE CITY ADMINISTRATION TO EXPLORE FEASIBLE STRATEGIES FOR CREATING AND EXPANDING "GREEN ROOFS", AS WELL AS INCORPORATING GREENERY AND LANDSCAPING ON CITY BUILDINGS, AND PRESENT ITS FINDINGS TO THE LAND USE AND SUSTAINABILITY COMMITTEE AND THE FINANCE AND ECONOMIC RESILIENCY COMMITTEE WITHIN 90 DAYS OF THE ADOPTION OF THIS RESOLUTION.

Applicable Area:

MIAMI BEACH

COMMITTEE MEMORANDUM

TO: Finance and Economic Resiliency Committee Members

FROM: Eric Carpenter, City Manager

DATE: May 7, 2025

TITLE: RESOLUTION OF THE MAYOR AND CITY COMMISSION OF THE CITY OF MIAMI BEACH, FLORIDA, DIRECTING THE CITY ADMINISTRATION TO EXPLORE FEASIBLE STRATEGIES FOR CREATING AND EXPANDING "GREEN ROOFS", AS WELL AS INCORPORATING GREENERY AND LANDSCAPING ON CITY BUILDINGS, AND PRESENT ITS FINDINGS TO THE LAND USE AND SUSTAINABILITY COMMITTEE AND THE FINANCE AND ECONOMIC RESILIENCY COMMITTEE WITHIN 90 DAYS OF THE ADOPTION OF THIS RESOLUTION.

RECOMMENDATION

The Administration recommends implementing a green roof pilot project as provided herein.

BACKGROUND/HISTORY

On May 15, 2024, the Mayor and City Commission (the City Commission) adopted a dual referral pursuant to Resolution No. 2024-33064, sponsored by Commissioner Joseph Magazine (item C7 BH) to the Finance and Economic Resiliency Committee (FERC) and the Land Use and Sustainability Committee (LUSC) to discuss creating and expanding green roofs, greenery and landscaping on City buildings.

Green roofs help to cool the buildings below them by storing heat and helping to reduce temperature fluctuations. They also act as insulators and decrease the flow of heat through roof structures which can help improve indoor comfort for building occupants.

In addition to helping to cool the buildings below them, green roofs can help reduce the urban heat island effect. The urban heat island effect is known to increase the temperatures in developed areas and therefore worsen the impacts of extreme heat.

The urban heat island effect is caused by materials commonly used in urban development which absorb significant amounts of energy from the sun and increase the ambient temperature of their surroundings. Materials that utilize darker colors are a major culprit of heat island effect, as they absorb more of the sun's energy than lighter colors. Materials which consist of very light colors, otherwise known as "High Albedo Surfaces", tend to reflect a greater amount of the sun's energy into the atmosphere, and therefore reduce the potential for the urban heat island effect.

An additional benefit of green roofs is that their vegetation helps to reduce air pollution and emissions. Researchers estimate that a 1,000-square foot green roof can remove about 40 pounds of particulate matter (PM) from the air in a year¹. The vegetation of green roofs also helps to provide stormwater management benefits. A North Carolina study of actual green roof performance found that test green roofs reduced runoff from peak rainfall events by more than 75 percent².

¹ Peck, S. & Kuhn, M. (2003) Design Guidelines for Green Roofs.

² Moran, A., Hunt, B., et al. (2004) A North Carolina Field Study to Evaluate Greenroof Runoff.

A prime example of a successful green roof project exists at the New World Symphony located at 500 17th Street and designed by Gehry Partners, LLP.

ANALYSIS

On March 13, 2019, the City Commission adopted the Urban Heat Island Ordinance (Ordinance No. 2019-4252), requiring that all new construction install a sustainable roof. Approved roof types under the Ordinance include metal roofs, solar roofs, blue roofs, white roofs, cool roofs, green roofs, or any other roofing system recognized by a green building certification agency that helps to reduce heat island effect, allows for the reuse or retention of storm water or reduces greenhouse gases.

Given the structural considerations necessary on account of weight (or dead load) of the plantings, soil, and water, as well as the complex drainage infrastructure needed for proper irrigation, green roof projects are most successful when contemplated during the early design phase of a building.

A secondary option for incorporating greenery and landscaping into City buildings is the installation of “living walls”, or vertical plantings installed within a prefabricated armature, mounted adjacent to a building’s façade.

Similar to green roofs, living walls can help absorb heat from the sun, thus insulating buildings, as well as aid in the reduction of air pollution and emissions. However, unlike green roofs, “living walls” can be appreciated and enjoyed by the general public at a pedestrian scale.

The Facilities Management Division has identified a potential location for installation of a “living wall” on the west façade of the “777” building located at 1701 Meridian Avenue.

Project specific cost data for either a green roof or a living wall is not available at this time, however, the current industry average cost for a green roof is \$120.00 per square foot; and the current industry average cost for a “living wall” is \$160.00 per square foot.

The item was discussed at the July 9, 2024, Land Use and Sustainability Committee meeting, where it was recommended that the Facilities Management Division collaborate with the Environment and Sustainability Department to research all-in costs for implementation of green roof systems.

Additionally, the Facilities Management Division was asked to research whether or not the implementation of green roofs increases the longevity (or useful service life) of a facility’s roof and what the fiscal impact of a green roof might be with regard to operation and maintenance.

Finally, the LUSC requested that the Facilities Management Division evaluate the cost of installing a green roof over an existing roof system versus replacing an existing roof with a green roof system. These points were discussed and addressed at the October 14, 2024, LUSC meeting.

Several studies have pointed to greater (roofing) membrane longevity under green roofs, given that the vegetated areas provide protection from the sun. However, roof areas that lie in the periphery of the vegetated areas remain exposed to the sun and may wear earlier than the primary roof field. Depending on the system selected, the cost associated with a green roof retrofit can be very similar to that of replacing an existing roof with a new green roof system. While it is difficult to assign a maintenance cost for a green roof prior to selecting a specific design, most green roofs require maintenance once per month. Subsequently, yearly maintenance costs can be expected to surpass that of a traditional roof system.

According to a 2011 study published by the U.S. General Services Administration, green roofs on commercial and public buildings provide a payback period of approximately 6.2 years, nationally.

Given its available area on a single-plane, high parapet wall, generous roof pitch and robust drainage infrastructure, the Facilities Management building located at 1833 Bay Road in the Sunset Harbor neighborhood is a prime location in which to pilot a green roof installation. Based on a potential green roof field area of approximately 6,000 SF, installation of a green roof at the Facilities Management building would cost approximately \$720,000.00, inclusive of design and permitting fees.

The Facilities Management Division recommends allocating an additional 5% of the installation costs for yearly maintenance of the proposed green roof, possibly in the form of a comprehensive roof warranty, thus bringing the total fiscal impact of the pilot program up to \$756,000.00. On October 14, 2024, the Land Use and Sustainability Committee deliberated on this item and recommended in favor of implementing a green roof pilot project at the Facilities Management building, with funding to be requested through the FY 2026 capital budget process.

FISCAL IMPACT STATEMENT

The fiscal impact of the proposed green roof pilot project is approximately \$756,000 inclusive of design, permitting fees, and comprehensive roof maintenance program.

Does this Ordinance require a Business Impact Estimate? (FOR ORDINANCES ONLY)

The Business Impact Estimate (BIE) was published on .

See BIE at: <https://www.miamibeachfl.gov/city-hall/city-clerk/meeting-notice/>

FINANCIAL INFORMATION

CONCLUSION

The Administration recommends implementing a green roof pilot project as provided herein.

Applicable Area

Citywide

Is this a "Residents Right to Know" item, pursuant to City Code Section 2-17?

Yes

Is this item related to a G.O. Bond Project?

No

Was this Agenda Item initially requested by a lobbyist which, as defined in Code Sec. 2-481, includes a principal engaged in lobbying? No

If so, specify the name of lobbyist(s) and principal(s):

Department

Facilities and Fleet Management

Sponsor(s)

Commissioner Joseph Magazine

Co-sponsor(s)

Commissioner David Suarez
Commissioner Tanya K. Bhatt

Condensed Title

Explore strategies for creating and expanding "Green Roofs" on City buildings.

URBAN HEAT ISLAND ORDINANCE

ORDINANCE NO. 2019-4252

AN ORDINANCE OF THE MAYOR AND CITY COMMISSION OF THE CITY OF MIAMI BEACH, FLORIDA, AMENDING THE CODE OF THE CITY OF MIAMI BEACH AT CHAPTER 114, ENTITLED "GENERAL PROVISIONS," SECTION 114-1, ENTITLED "DEFINITIONS," TO DEFINE "COOL PAVEMENT," "HIGH ALBEDO SURFACE," "POROUS PAVEMENT," "SOLAR CARPORT," "SUSTAINABLE ROOF FEE," AND TO AMEND RELATED DEFINITIONS; AMENDING CHAPTER 118, ENTITLED "ADMINISTRATION AND REVIEW PROCEDURES," ARTICLE I, ENTITLED "IN GENERAL," AT SECTION 118-7, ENTITLED "FEES FOR THE ADMINISTRATION OF LAND DEVELOPMENT REGULATIONS," TO WAIVE APPLICATION FEES FOR LAND USE BOARD APPROVAL TO INSTALL SUSTAINABLE ROOFING SYSTEMS, SOLAR CARPORTS, POROUS PAVEMENTS, AND COOL PAVEMENTS; AMENDING CHAPTER 130, ENTITLED "OFF-STREET PARKING," AT ARTICLE III, ENTITLED "DESIGN STANDARDS," TO CREATE REQUIREMENTS FOR SURFACE AND ROOFTOP PARKING; AMENDING CHAPTER 133, ENTITLED "SUSTAINABILITY AND RESILIENCY," ARTICLE II, ENTITLED "SEA LEVEL RISE AND RESILIENCY REVIEW CRITERIA," IN ORDER TO ESTABLISH REVIEW CRITERIA TO REDUCE THE HEAT ISLAND EFFECT OF BUILDINGS; AMENDING CHAPTER 142, ENTITLED "ZONING DISTRICTS AND REGULATIONS," ARTICLE II, ENTITLED "DISTRICT REGULATIONS," DIVISION 2, ENTITLED "RS-1, RS-2, RS-3, RS-4 SINGLE-FAMILY RESIDENTIAL DISTRICTS," AT SECTION 142-105, ENTITLED "DEVELOPMENT REGULATIONS AND AREA REQUIREMENTS," TO ALLOW FOR SOLAR PANELS TO BE CONSIDERED AS AN ALLOWABLE HEIGHT EXCEPTION; AMENDING CHAPTER 142, ENTITLED "ZONING DISTRICTS AND REGULATIONS," ARTICLE IV, ENTITLED "SUPPLEMENTARY DISTRICT REGULATIONS," DIVISION 1, ENTITLED "GENERALLY," AT SECTION 142-875, ENTITLED "ROOF REPLACEMENTS AND NEW ROOFS," TO ESTABLISH REQUIREMENTS FOR SUSTAINABLE ROOFS AND TO CREATE A "SUSTAINABLE ROOF FEE" FOR THE CONSTRUCTION OF ROOFS UTILIZING ALTERNATIVE ROOFING MATERIALS; AMENDING CHAPTER 142, ENTITLED "ZONING DISTRICTS AND REGULATIONS," ARTICLE IV, ENTITLED "SUPPLEMENTARY DISTRICT REGULATIONS," DIVISION 2, ENTITLED "ACCESSORY USES," AT SECTION 142-902, ENTITLED "PERMITTED ACCESSORY USES," TO CLARIFY THAT SOLAR PANELS ARE A PERMITTED ACCESSORY USE IN ALL DISTRICTS; AMENDING CHAPTER 142, ENTITLED "ZONING DISTRICTS AND REGULATIONS," ARTICLE IV, ENTITLED "SUPPLEMENTARY DISTRICT REGULATIONS," DIVISION 4, ENTITLED "SUPPLEMENTARY YARD REGULATIONS," AT SECTION 142-1132, ENTITLED "ALLOWABLE ENCROACHMENTS WITHIN REQUIRED YARDS," TO ALLOW FOR SOLAR CARPORTS AS AN ALLOWABLE ENCROACHMENT INTO THE SIDE YARD SETBACKS, AND TO CREATE DRIVEWAY REQUIREMENTS INCORPORATING PERVIOUS SURFACE AREAS; FURTHER AMENDING THE AFORESTATED PROVISIONS TO CLARIFY EXISTING REGULATIONS; AND AMENDING APPENDIX A, ENTITLED "FEE SCHEDULE," IN ORDER TO ESTABLISH A SUSTAINABLE

**ROOF FEE; AND PROVIDING FOR CODIFICATION; REPEALER;
SEVERABILITY; AND AN EFFECTIVE DATE.**

WHEREAS, heat islands are urbanized areas that experience higher temperatures than surrounding areas; and

WHEREAS, heat islands are created by development projects that result in impermeable and dry surfaces that take the place of open land and vegetation; and

WHEREAS, the effects of climate change include increases in average temperatures, leading to more severe heat island effects; and

WHEREAS, heat islands lead to increased energy consumption due to the extensive use of air conditioning, especially during the hot and humid summer months; and

WHEREAS, efforts to cool urban heat islands will benefit the City by lowering temperatures, reducing demand for electricity, reducing air pollution and greenhouse gas emissions, and preventing certain harmful health impacts; and

WHEREAS, the Future Land Use Element of the City of Miami Beach 2025 Comprehensive Plan ("Comprehensive Plan"), at Policy 3.6, requires that the City "[m]aximize unpaved landscape to allow for more stormwater infiltration[;] [e]ncourage planting of vegetation that is highly water absorbent, can withstand the marine environment, and the impacts of tropical storm winds[;] [and] [e]ncourage development measures that include innovative climate adaption and mitigation designs with creative co-benefits where possible . . ."; and

WHEREAS, for the purpose of prioritizing funding for infrastructure improvements and adaptation planning, the Comprehensive Plan designates the entire City as an "Adaptation Action Area" ("AAA"), containing one or more areas that experience coastal flooding due to extreme high tides and storm surges, and which areas are vulnerable to the related impacts of rising sea levels; and

WHEREAS, the Conservation/Coastal Zone Management Element of the Comprehensive Plan, at Policy 14.4, states that "[t]he City will develop and implement adaptation strategies for areas vulnerable to coastal flooding, tidal events, storm surge, flash floods, stormwater runoff, salt water intrusion and other impacts related to climate change or exacerbated by sea level rise, with the intent to increase the community's comprehensive adaptability and resiliency capacities"; and

WHEREAS, the Conservation/Coastal Zone Management Element of the Comprehensive Plan, at Policy 14.8, provides that the "City shall integrate AAAs into existing and future City processes and city-wide plans and documents," including the land development regulations; and

WHEREAS, the City Commission desires to amend the land development regulations to provide for sustainable construction methods, including alternative technologies like solar panels or "cool pavements," all of which may assist the City to reduce "heat island" effects, and to reduce some of the negative impacts of climate change in the City; and

WHEREAS, the amendments set forth below are necessary to accomplish the above objectives.

NOW THEREFORE, BE IT ORDAINED BY THE MAYOR AND CITY COMMISSION OF THE CITY OF MIAMI BEACH, FLORIDA.

SECTION 1. Chapter 114 of the City Code, entitled "General Provisions," is hereby amended as follows:

**CHAPTER 114
GENERAL PROVISIONS**

Sec. 114-1. - Definitions.

The following words, terms and phrases when used in this subpart B, shall have the meanings ascribed to them in this section, except where the context clearly indicates a different meaning:

* * *

Blue roof means a non-vegetated source control to detain stormwater. A blue roof slows or stores stormwater runoff by using various kinds of flow controls that regulate, block, or store water instead of vegetation.

* * *

Carport/shelter means a canopy or rooflike structure, open on at least two sides, which may be attached or detached from the main building, for the purpose of providing shelter for one or more motor vehicles.

* * *

Carport, solar means a canopy or rooflike structure, the top surface of which is composed of solar panels, open on at least two (2) sides, which structure may be attached to or detached from a building, for the purpose of providing shelter for one or more motor vehicles.

* * *

Cool pavement means a paving material that has a high albedo surface and reflects more solar energy than standard paving materials, or that has been otherwise modified to remain cooler than conventional pavements.

* * *

Cool roof: See "white roof."

* * *

Green roof means a green space created by layers of growing medium and vegetation added on top of a traditional roofing system. It may also include additional layers such as a root barrier and drainage and irrigation systems.

* * *

High albedo surface means a material that has a solar reflectance value of 0.65 or greater on the Solar Reflectance Index ("SRI"), consistent with the Cool Roof Rating Council Standard Product Rating Program Manual ("CRR-1"), as may be amended from time-to-time.

* * *

Porous pavement means a pavement material that allows for water to drain through the pavement surface into the ground. Such pavement shall have a minimum of 20 percent of air content, or voids to allow for the water to drain.

* * *

Sustainable roof fee means a fee that is charged for the use of non-sustainable roofing systems. The funds collected shall be deposited in the "Sustainability and Resiliency Fund," established pursuant to Section 133-8 of the City Code.

Sustainable roofing system means a solar roof, blue roof, white roof, cool roof, green roof, metal roof, or any other roofing system recognized by a green building certification agency that reduces heat island effect, allows for the reuse or retention of stormwater or reduces greenhouse gases.

* * *

White roof means a roof that has been painted white or is surfaced with some other light or reflective material.

SECTION 2. Chapter 118 of the City Code, entitled "Administration and Review Procedures," Article I, entitled "In General," is hereby amended as follows:

**CHAPTER 118
ADMINISTRATION AND REVIEW PROCEDURES**

ARTICLE I. - IN GENERAL

* * *

Sec. 118-7. - Fees for the administration of land development regulations.

(a) Application fees, generally. The fees identified herein, and as outlined in Appendix A, are for the purpose of defraying expenses for public notices, and administrative costs associated with processing and analyzing the each request or application. These fees shall be evaluated and adjusted annually based on the consumer price index for all urban consumers (CPI-U). No application shall be considered complete until all requested information has been submitted and all applicable fees are paid. The costs associated with notices is are the responsibility of the applicant. There shall be no refund or adjustment of fees. Any unpaid fees, including fees assessed for failure to appear before a board, shall become a lien against the property.

(b) Waiver of specified fees. The public hearing application fee for application for public hearing related only relating to any of the following alternative, sustainable systems shall be waived: a solar roof or a renewable energy system, sustainable roofing system, solar carport, porous pavement, or cool pavement on an existing building or parking facility shall be waived. If the an application for any of the aforesated alternative, sustainable systems includes other requests pursuant to these land development regulations, components, the standard public hearing application fee shall apply to those particular portions of the application. Additionally, the filing fee per associated with a variances application related relating to the installation of a renewable energy system, sustainable

roofing system, solar carport, porous pavement, or cool pavement only to a solar roof or a renewable energy system shall also be waived.

~~(a)~~ (c) *Amendment to the land use regulations, zoning map, comprehensive plan, future land use map.* Any applicant requesting a public hearing on any application for an amendment pursuant to section 118-162 shall pay, upon submission, all applicable fees in subsections (1) through (4) below:

* * *

~~(b)~~ (d) *Conditional use permits.* Any applicant requesting a public hearing on any application for conditional use permits, pursuant to section 118-193 shall pay upon submission all applicable fees in subsection (1) through (10) below:

* * *

(e) (e) *Design review.* Any applicant requesting a public hearing on any application for design review board approval, pursuant to sections 118-253 and 118-254, shall pay, upon submission, all applicable fees in subsection (1) through (11) below:

* * *

~~(d)~~ (f) *Land/lot split.* Any applicant requesting a public hearing on any application for a lot split pursuant to section 118-321 shall pay, upon submission, all applicable fees in subsection (1) through (7) below:

* * *

~~(e)~~ (g) *Variances.* Any applicant requesting a public hearing on any application pursuant to section 118-353 shall pay, upon submission, the applicable fees in subsection (1) through (11) below:

* * *

~~(f)~~ (h) *Certificate of appropriateness.* Any applicant requesting a public hearing on any application pursuant to sections 118-562 through 118-564, shall pay, upon submission, the applicable fees in subsection (1) through (12), below:

* * *

~~(g)~~ (i) *Historic designation.* Any applicant other than the city commission, a city board or other city official applicant requesting a public hearing on any application pursuant to section 118-591, shall pay, upon submission, the applicable fees in subsection (1) through (9) below:

* * *

~~(h)~~ (j) *Determination of architectural significance.* Any applicant requesting a determination of architectural significance, pursuant to section 142-108, shall pay, upon submission all applicable fees in subsection (1) below:

* * *

~~(i)~~ (k) *Staff review and miscellaneous fees.* In the course of the administration of the land development regulations the department shall impose a fee for services and items outlined below:

* * *

~~(j)~~ (l) *Fee in lieu of providing required parking.*

* * *

SECTION 3. Chapter 130 of the City Code, entitled "Off-Street Parking," Article III, entitled "Design Standards," is hereby amended as follows:

**CHAPTER 130
OFF-STREET PARKING**

* * *
ARTICLE III. - DESIGN STANDARDS

* * *

Sec. 130-62. - Drainage and maintenance.

- (1) Off-street parking facilities shall be drained of excess stormwater to prevent damage to abutting property and/or public streets and alleys and surfaced with erosion-resistant material in accordance with applicable city specifications.
- (2) Off-street parking areas shall be maintained in a clean, orderly, and dust free condition, at the expense of the owner or lessee, and shall not be used for the sale, repair, or dismantling or servicing of any vehicles, equipment, materials or supplies.

* * *

Sec. 130-68. - Commercial and noncommercial parking garages.

~~Main use Commercial~~ commercial and noncommercial parking garages ~~as a main use, shall be located~~ on a separate lot, and shall be subject to the following regulations, in addition to section 142-1107, ~~parking lots or garages on certain lots and in addition to~~ the other regulations of this article:

* * *

- (10) Open-air parking facilities, open to the sky, shall be constructed with a high albedo surface in order to minimize the urban heat island effect. The provisions of this paragraph shall apply to all parking areas, and all drive lanes and ramps.

Sec. 130-69. - Commercial and noncommercial parking lots.

~~Main use Commercial~~ commercial and noncommercial parking lots ~~as a main use shall be located~~ on a separate lot, and shall be subject to the following regulations, in addition to section 142-1107, ~~parking lots or garages on certain lots and in addition to~~ the other regulations of this article:

- (1) The required front and rear yards shall be those of the underlying district.
- (2) The required side yards shall be as follows:

Lot Width	Side Yard Setbacks
55 feet wide or less	Two (2) feet

Between 56 and 100 feet, inclusive	Five <u>(5)</u> feet
Greater than 100 feet	Ten feet

(3) Open-air parking lots, open to the sky, shall be constructed with (i) a high albedo surface consisting of a durable material or sealant in order to minimize the urban heat island effect, or (ii) porous pavement. The provisions of this paragraph shall apply to all parking areas, and all drive lanes and ramps.

SECTION 4. Chapter 133 of the City Code, entitled "Sustainability and Resiliency," Article II, "Sea Level Rise and Resiliency Review Criteria," is hereby amended as follows:

**CHAPTER 133
SUSTAINABILITY AND RESILIENCY**

* * *
ARTICLE II. – SEA LEVEL RISE AND RESILIENCY REVIEW CRITERIA

Sec. 133-50. – Criteria

The City's Land Use Boards shall consider the following when making decisions within their jurisdiction, as applicable:

(a) Criteria for development orders:

- (1) A recycling or salvage plan for partial or total demolition shall be provided.
- (2) Windows that are proposed to be replaced shall be hurricane proof impact windows.
- (3) Where feasible and appropriate, passive cooling systems, such as operable windows, shall be provided.
- (4) ~~Whether resilient~~ Resilient landscaping (salt tolerant, highly water-absorbent, native, or Florida-friendly plants) ~~will~~ shall be provided, in accordance with Chapter 126 of the City Code.
- (5) ~~Whether The project applicant shall consider the~~ adopted sea level rise projections in the Southeast Florida Regional Climate Action Plan, as may be revised from time-to-time by the Southeast Florida Regional Climate Change Compact, The applicant shall also specifically study including a study of the land elevation of the subject property and the elevation of surrounding properties were considered.
- (6) The ground floor, driveways, and garage ramping for new construction shall be adaptable to the raising of public rights-of-way and adjacent land, and shall provide sufficient height and space to ensure that the entry ways and exits can be modified to accommodate a higher street height of up to three (3) additional feet in height.

- (7) As applicable to all new construction, Where feasible and appropriate, all critical mechanical and electrical systems shall be located above base flood elevation. All redevelopment projects shall, whenever practicable and economically reasonable, include the relocation of all critical mechanical and electrical systems to a location above base flood elevation.
- (8) Existing buildings shall be, wherever reasonably feasible and economically appropriate, be elevated up to the base flood elevation, plus City of Miami Beach Freeboard.
- (9) When habitable space is located below the base flood elevation plus City of Miami Beach Freeboard, wet or dry flood proofing systems will be provided in accordance with Chapter 54 of the City Code.
- (10) ~~Where feasible and appropriate,~~ As applicable to all new construction, stormwater retention systems shall be provided.
- (11) Cool pavement materials or porous pavement materials shall be utilized.
- (12) The design of each project shall minimize the potential for heat island effects on-site.

SECTION 5. Chapter 142 of the City Code, entitled "Zoning Districts and Regulations," Article II, entitled "District Regulations," Division 2, entitled "RS-1, RS-2, RS-3, RS-4 Single-Family Residential Districts," is hereby amended as follows:

CHAPTER 142 ZONING DISTRICTS AND REGULATIONS

* * * ARTICLE II. - DISTRICT REGULATIONS

* * * DIVISION 2. - RS-1, RS-2 RS-3 RS-4 SINGLE-FAMILY RESIDENTIAL DISTRICTS

* * * **Sec. 142-105. Development regulations and area requirements.**

(a) The review criteria and application requirements for the RS-1, RS-2, RS-3, RS-4 single-family residential districts are as follows:

- (7) *Height exceptions.* The height regulation exceptions contained in section 142-1161 shall not apply to the RS-1, RS-2, RS-3 and RS-4 zoning districts. In general, height exceptions that are not integral to the design intent of a structure shall be located in a manner to minimize visual impacts on predominant neighborhood view corridors as viewed from public rights-of-way and waterways. The following height exceptions shall apply, and unless otherwise specified in terms of height and location, shall not exceed ten 10 feet above the roofline of the structure. ~~In general, height exceptions that have~~

~~not been developed integral to the design intent of a structure shall be located in a manner to have a minimal visual impact on predominant neighborhood view corridors as viewed from public rights-of-way and waterways.~~

- a. Chimneys and air vents, not to exceed five (5) feet in height.
- b. Decorative structures used only for ornamental or aesthetic purposes such as spires, domes, belfries, and covered structures, which are open on all sides, and are not intended for habitation or to extend interior habitable space. Such structures shall not exceed a combined area of 20 percent of the enclosed floor area immediately one floor below, and shall be setback a minimum of ten feet from the perimeter of the enclosed floor below.
- c. Radio and television antennas.
- d. Parapet walls, only when associated with a habitable roof deck, not to exceed three and one-half feet (3' 6") above the finished roof deck height, and set back a minimum of 10 ~~ten~~ feet from the perimeter of the enclosed floor below.
- e. Rooftop curbs, not to exceed ~~one-foot~~ three (3) feet in height.
- f. Elevator bulkheads shall be located as close to the center of the roof as possible and be visually recessive such that they do not become vertical extensions of exterior building elevations.
- g. Skylights, not to exceed five (5) feet above the main roofline, and provided that the area of skylight(s) does not exceed 10 ~~ten~~ percent of the total roof area of the roof in which it is placed.
- h. Air conditioning and mechanical equipment not to exceed five (5) feet above the main roofline and shall be required to be screened in order to ensure minimal visual impact as identified in the general section description above.
- i. Rooftop wind turbines, not to exceed 10 ~~ten~~ feet above the main roofline.
- j. Solar panels, not to exceed five (5) feet in height.

* * *

SECTION 6. Chapter 142 of the City Code, entitled "Zoning Districts and Regulations," Article IV, entitled "Supplementary District Regulations," Division I, entitled "Generally," is hereby amended as follows:

CHAPTER 142
ZONING DISTRICTS AND REGULATIONS

* * *

ARTICLE IV. SUPPLEMENTARY DISTRICT REGULATIONS

DIVISION 1. GENERALLY

* * *

Sec. 142-875. - Roof replacements and new roofs.

- (a) Review and approval of all new roof construction and all replacement roof construction shall be in accordance with the following criteria:

- (1) In single-family residential districts, the style, design, and material of the roof installed on the main structure shall be compatible with all accessory structures.
 - (2) The color of the roof shall be neutral and shall not overwhelm or cause the roof to stand out in a significant manner.
 - (3) The design, details, dimensions, surface texture, and color of the roof shall be consistent with the architectural design, style, and composition of the structure.
 - (4) The design, details, dimensions, surface texture, and color of the roof shall be consistent with the established scale, context, and character of the surrounding area.
- (b) In addition to the regulations in subsection (a), above, the following regulations shall apply to new roof construction, including additions to existing structures:
- (1) Roofs should consist of a sustainable roofing system, subject to the review and approval of the planning department; or
 - (2) If a sustainable roofing system is not utilized, then the property owner/applicant shall be required to pay a "sustainable roof fee," in the amount set forth in Appendix A to the City Code, which fee shall be calculated based on the square footage of the enclosed floor area immediately one floor below the roof. Funds generated by the "sustainable roof fee" shall be deposited into the Sustainability and Resiliency Fund established in Chapter 133, Article I. The following types of roofs which do not meet the requirements of a sustainable roofing system shall be permitted, subject to the review and approval of the planning department:
 - A. Pitched roofs which do not meet the requirements of a sustainable roofing system, and which may consist of flat tiles, barrel tiles, or glass roofs.
 - B. Flat or non-pitched roofs which do not meet the requirements of a sustainable roofing system.
 - C. Notwithstanding the foregoing, if a development is required to comply with the sustainability requirements in Chapter 133, Article I, payment of the "sustainable roof fee" shall not be applicable.
 - D. Notwithstanding the foregoing, if a building or structure is designed in the Mediterranean revival or mission style of architecture, payment of the "sustainable roof fee" shall not be applicable.
 - (3) Structures located within a locally designated historic district, or site, or structure shall additionally comply with the following regulations:
 - A. The use of glass or sustainable roofing systems shall require the review and approval of the Historic Preservation Board, pursuant to chapter 118, article X of these land development regulations.

B. If new construction is eligible for administrative review pursuant to chapter 118, article X of the land development regulations, the planning director may approve a metal, glass, or sustainable roofing system if the planning director determines that the scale, massing, and design of the proposed new structure can accommodate a metal, glass, or sustainable roofing system, and that such roofing system will not negatively impact the established architectural context of the immediate area.

(4) Asphalt shingles shall be prohibited.

(5) No variances from the provisions of this subsection (b) shall be granted.

(c) In addition to the regulations in subsection (a), above, the following regulations shall apply to the repair or replacement of an existing roof:

(1) The repair or replacement of an existing roof for a property located outside of a locally designated historic district, or site, or structure may consist of sustainable roofing systems, flat tiles, barrel tiles, glass roofs, or flat or non-pitched roofs, subject to the review and approval of the planning department.

(2) In addition to the requirements in subsection (c)(1), and as applicable to architecturally significant single-family homes constructed prior to 1942 and individually designated Historic Single Family Residences that are not located within a local historic district, the planning director may approve a metal, glass, or sustainable roofing system if the planning director determines that the scale, massing, and design of the subject home can accommodate a metal, glass, or sustainable roofing system, and that such roofing system will not negatively impact the established architectural context of the immediate area.

(3) Notwithstanding the above, for those structures constructed and substantially maintained in the Mediterranean revival or mission style of architecture, the use of roof material other than concrete, clay, or ceramic tile shall be subject to the review and approval of the design review board or historic preservation board, as applicable. For purposes of this subsection, Mediterranean revival or mission architecture shall be defined as those structures built between 1915 through 1942 and characterized by, but not limited to, stucco walls, low pitch terra cotta or historic Cuban tile roofs, arches, scrolled or tile capped parapet walls and articulated door surrounds, or Spanish baroque decorative motifs and classical elements.

(4) For repair or replacement of existing roofs within any locally designated historic district, site or structure, the following regulations shall apply:

A. The repair or replacement of existing roofs shall comply with the criteria set forth in chapter 118, article X of this Code.

B. For contributing buildings or historic sites or structures, the use of glass or sustainable roofing systems shall require the review and approval of the Historic Preservation Board.

C. For non-contributing buildings, the planning director may approve a metal, glass, or sustainable roofing system if the planning director determines that the scale, massing, and design of the proposed new structure can accommodate a metal, glass, or sustainable roofing system, and that such roofing system will not negatively impact the established architectural context of the immediate area.

(5) Asphalt shingles shall be prohibited.

(6) Notwithstanding the provisions in subsection (c)(5) above, in the event that a material other than those permitted for a pitched roof in any district was legally constructed, such roof may be replaced with the same material.

(7) Notwithstanding the provisions in subsection (c)(5) above, in the event that the building official determines that limitations exist regarding the load capacity of an existing roof, a roofing material other than those authorized in this section may be approved by the planning director for any type of structure.

(8) No variances from the provisions of this subsection (c) shall be granted.

~~(a) In all districts, the new construction, repair or replacement of any pitched roof may consist of flat or barrel tile, which shall be composed of concrete or clay material. Asphalt shingles shall be prohibited in all districts.~~

~~(b) For properties located outside of a locally designated historic district, site or structure, metal, glass or sustainable roofing systems may be proposed for new construction, existing multifamily and townhome structures, existing commercial buildings, single-family homes constructed after 1942, and nonarchitecturally significant single-family homes constructed prior to 1942, and shall be subject to the review and approval of the planning department, in accordance with the following criteria:~~

~~(1) In single-family residential districts, the style, design and material used for the main structure and all accessory structures shall be compatible when located on the same property.~~

~~(2) The color of the roof shall be neutral and shall not overwhelm or cause the roof to stand out in a significant manner.~~

~~(3) The design, details, dimensions, surface texture and color shall be consistent with the architectural design, style and composition of the structure.~~

~~(4) The design, details, dimensions, surface texture and color shall be consistent with the established scale, context and character of the surrounding area.~~

~~(c) For architecturally significant single-family homes constructed prior to 1942, the planning director, or designee, may approve a metal, glass or sustainable roofing system if it is determined that the scale, massing and design of the subject home can accommodate a metal, glass or sustainable roofing system, and that such roofing system will not negatively impact the established architectural context of the immediate area. Such review by the planning director, or designee, shall be subject to the criteria in subsections (b)(1)–(4) above.~~

- (d) ~~The appeal of any decision of the planning department under subsections (a), (b) or (c) above, shall be to the board of adjustment, in accordance with chapter 118, article VIII of these land development regulations. The review by the board of adjustment, either by appeal or if the metal, glass or sustainable roofing system does not qualify for planning director approval as provided above, shall also be pursuant to the criteria in subsections (b)(1)–(4) above.~~
- (e) ~~Within any locally designated historic district, site or structure, the following shall apply:~~
- (1) ~~The use of metal, glass or sustainable roofing systems on new construction shall require the review and approval of the historic preservation board, in accordance with the criteria in subsections (b)(1)–(4) above, and chapter 118, article X of these land development regulations. For non-contributing buildings, or if new construction is eligible for administrative review under chapter 118, article X of the land development regulations, the planning director, or designee, may approve a metal, glass or sustainable roofing system if it is determined that the scale, massing and design of the proposed new structure can accommodate a metal, glass, or sustainable roofing system, and that such roofing system will not negatively impact the established architectural context of the immediate area. Such review by the planning director, or designee, shall be subject to the criteria in subsections (b)(1)–(4) above.~~
 - (2) ~~Metal, glass or sustainable roofing systems proposed for contributing buildings shall require the review and approval of the historic preservation board, in accordance with the criteria in subsections (b)(1)–(4) above, and chapter 118, article X of these land development regulations.~~
 - (3) ~~The appeal of any decision of the planning director, or designee under this subsection shall be the board of adjustment. The review by the board of adjustment, either by appeal or if the metal, glass or sustainable roofing system does not qualify for planning director approval as provided above, shall also be pursuant to the criteria in subsections (b)(1)–(4) above and section 118-564.~~
- (f) ~~Notwithstanding the above, for those structures constructed and substantially maintained in the Mediterranean revival or mission style of architecture, the use of roof material other than concrete, clay or ceramic tile shall be subject to the review and approval of the design review board or historic preservation board, as applicable. For purposes of this subsection, Mediterranean revival or mission architecture shall be defined as those structures built between 1915 through 1942 and characterized by, but not limited to, stucco walls, low pitch terra cotta or historic Cuban tile roofs, arches, scrolled or tile capped parapet walls and articulated door surrounds, or Spanish baroque decorative motifs and classical elements.~~
- (g) ~~Notwithstanding the above, in the event a material other than flat or barrel tile was permitted for a pitched roof in any district, such roof may be replaced with the same material, subject to the criteria in subsection (a) above.~~
- (h) ~~For those structures which contain historic Cuban barrel tiles, such tiles shall be retained and preserved, subject to the provisions of the applicable building codes.~~
- (i) ~~No variances from any of these provisions shall be granted. However, in the event that the building official determines that limitations exist regarding the load capacity of an existing roof, a roofing material other than concrete, clay or ceramic tile may be approved by the planning department for any type of structure, in accordance with the criteria specified in subsections 142-875(b)(1)–(4) above.~~

SECTION 7. Chapter 142 of the City Code, entitled "Zoning Districts and Regulations," Article IV, entitled "Supplementary District Regulations," Division 2, entitled "Accessory Uses" is hereby amended as follows:

CHAPTER 142
ZONING DISTRICTS AND REGULATIONS
* * *
ARTICLE IV. SUPPLEMENTARY DISTRICT REGULATIONS
* * *
DIVISION 2. ACCESSORY USES
* * *

Sec. 142-902. - Permitted accessory uses.

The following are permitted accessory uses:

- * * *
- (6) Solar panels are a permitted accessory use in all districts. Notwithstanding the foregoing, the installation of solar panels shall comply with setback regulations and all other criteria within the land development regulations.

SECTION 8. Chapter 142 of the City Code, entitled "Zoning Districts and Regulations," Article IV, entitled "Supplementary District Regulations," Division 4, entitled "Supplementary Yard Regulations," is hereby amended as follows:

CHAPTER 142
ZONING DISTRICTS AND REGULATIONS
* * *
ARTICLE IV. SUPPLEMENTARY DISTRICT REGULATIONS
* * *
DIVISION 4. SUPPLEMENTARY YARD REGULATIONS
* * *

Sec. 142-1132. - Allowable encroachments within required yards.

- * * *
- (e) Carports and solar carports. Only one (1) carport or solar carport shall be erected within a required yard of a single-family home, subject to the following requirements, as may be applicable:

- (1) Carports shall be subject to the following requirements:

- A. Carports shall be constructed of canvas and pipe for the express purpose of shading automobiles ~~and shall have a minimum required interior side yard setback~~

of four feet. The carport shall be permitted to extend into any front yard of a single-family residence, provided such carport is at least 18 inches from the property line or sidewalk, and provided it is attached to the main building. When the main entrance to a house is located on a side of the house facing the street, the carport shall be permitted to extend into the side yard facing the street, provided such carport is at least 18 inches from the property line or sidewalk and provided it is attached to the main building. The side of the carport that faces the required rear yard may be permitted to align with the walls of the existing residence, provided the residence is located a minimum of five feet from the rear property line. When a carport is detached it shall not be located in the required front or side-facing-the-street yards.

B. Setbacks. Minimum setbacks for carports shall be as follows:

- i. Front yard – 18 inches from the property line, provided the carport is attached to or immediately adjacent to the main building.
- ii. Interior side yard – four (4) feet from the property line.
- iii. Side yard facing the street – 18 inches feet from the property line, provided the carport is attached to or immediately adjacent to the main building.
- iv. The side of the carport that faces the required rear yard may be permitted to align with the walls of the existing residence, provided the residence is located a minimum of five (5) feet from the rear property line.
- v. When a carport is detached and located more than 12 inches from the main home it shall not be located in the required front or side-facing-the-street yards.

C. Carports shall not be permitted to exceed 20 feet in width, or 20 feet in length. An unobstructed view between the grade and the lower ceiling edge of the carport of at least seven (7) feet shall be maintained. Only one carport shall be erected within a required yard.

D. Carports constructed prior to the adoption of this section shall be considered as legal nonconforming structures. Such nonconforming canopies may be repaired or replaced; however, the degree of their nonconformity shall not be increased thereby.

(2) Solar carports. Solar carports shall be subject to the following requirements:

A. Setbacks. Minimum setbacks for solar carports shall be as follows:

- i. Front yard – 15 feet from the property line, provided the solar carport is attached to or immediately adjacent to the main building.
- ii. Interior side yard – four (4) feet from the property line.
- iii. Side yard facing the street – five (5) feet from the property line, provided the solar carport is attached to or immediately adjacent to the main building.

iv. The sides of the solar carport that face the required rear yard may be permitted to align with the walls of the existing residence, provided the residence is located a minimum of five (5) feet from the rear property line.

v. When a solar carport is detached and located more than 12 inches from the main home, it shall not be located in the required front or side-facing-the-street yards.

B. Solar carports shall not be permitted to exceed 20 feet in width or 20 feet in length. An unobstructed view between the grade and the lower ceiling edge of the carport of at least seven (7) feet shall be maintained.

(g) Driveways. Driveways and parking spaces leading into a property located in single-family and townhome districts are subject to the following requirements:

(1) Driveways shall have a minimum setback of four (4) feet from the side property lines.

(2) Driveways and parking spaces parallel to the front property line shall have a minimum setback of five (5) feet from the front property line.

(3) Driveways and parking spaces located within the side yard facing the street shall have a minimum setback of five (5) feet to the rear property line.

(4) For lots with a home built after the adoption of this ordinance, dDriveways and parking areas that are open to the sky within any required yard shall be composed of porous pavement or shall have a high albedo surface consisting of a durable material or sealant, as defined in section 114-1 of this Code.

(5) Driveways and parking areas composed of asphalt that does not have a high albedo surface, as defined in section 114-1 of this Code, shall be prohibited.

* * *

SECTION 9. The City Code of the City of Miami Beach, at Appendix A, entitled "Fee Schedule," is hereby amended as follows:

**APPENDIX A
FEE SCHEDULE**

<i>Section of this Code</i>	<i>Description</i>	<i>Amount</i>
	* * *	
	Subpart B. Land Development Regulations	
	* * *	
	Chapter 142. Zoning Districts and Regulations	
	* * *	

	<u>Article IV. Supplementary District Regulations</u>	
142-875	<u>Sustainable roof fee, per square foot</u>	<u>3.00</u>

SECTION 11. APPLICABILITY

This Ordinance shall not apply to developments that have an approved Order from the Board of Adjustment, Design Review Board, Historic Preservation Board, or Planning Board issued prior to the effective date of this Ordinance, or to developments that have been issued a building permit process number prior to the effective date of this Ordinance.

SECTION 12. REPEALER.

All ordinances or parts of ordinances and all sections and parts of sections in conflict herewith are hereby repealed.

SECTION 13. CODIFICATION.

It is the intention of the City Commission, and it is hereby ordained, that the provisions of this Ordinance shall become and be made part of the Code of the City of Miami Beach, as amended; that the sections of this Ordinance may be re-numbered or re-lettered to accomplish such intention; and that the word "ordinance" may be changed to "section" or other appropriate word.

SECTION 14. SEVERABILITY.

If any section, subsection, clause or provision of this Ordinance is held invalid, the remainder shall not be affected by such invalidity.

SECTION 15. EFFECTIVE DATE.

This Ordinance shall take effect ten days following adoption:

PASSED and ADOPTED this 13 day of MARCH, 2019.

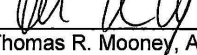
ATTEST:


Dan Gelber, Mayor

 3/28/19
Rafael E. Granado, City Clerk

First Reading: February 13, 2019

Second Reading: March 13, 2019

Verified By: 
Thomas R. Mooney, AICP
Planning Director

T:\AGENDA\2019\03 March\Planning\Urban Heat Island - Adopted ORD.docx

APPROVED AS TO
FORM & LANGUAGE
& FOR EXECUTION

 3-25-19
City Attorney Date



RESOLUTION NO.

2024-33064

A RESOLUTION OF THE MAYOR AND CITY COMMISSION OF THE CITY OF MIAMI BEACH, FLORIDA, DIRECTING THE CITY ADMINISTRATION TO EXPLORE FEASIBLE STRATEGIES FOR CREATING AND EXPANDING "GREEN ROOFS", AS WELL AS INCORPORATING GREENERY AND LANDSCAPING ON CITY BUILDINGS, AND PRESENT ITS FINDINGS TO THE LAND USE AND SUSTAINABILITY COMMITTEE AND THE FINANCE AND ECONOMIC RESILIENCY COMMITTEE WITHIN 90 DAYS OF THE ADOPTION OF THIS RESOLUTION.

WHEREAS, the City of Miami Beach is committed to promoting sustainability, enhancing resident quality of life, and pioneering innovative urban solutions to address environmental challenges; and

WHEREAS, the utilization of green roofs, also known as living roofs, presents an opportunity to optimize the use of city space, mitigate urban heat island effects, improve air quality, reduce stormwater runoff, and promote biodiversity; and

WHEREAS, incorporating greenery and landscaping on City buildings not only enhances aesthetic appeal but also contributes to environmental resilience and fosters a healthier urban ecosystem; and

WHEREAS, embracing green roof initiatives aligns with Miami Beach's aspiration to become a leader in urban sustainability and innovation; and

WHEREAS, the Mayor and City Commission desire to direct the City Administration to explore feasible strategies for creating and expanding "green roofs", as well as incorporating greenery and landscaping on City buildings, and present its findings to the Land Use and Sustainability Committee and the Finance and Economic Resiliency Committee within 90 days of the adoption of this Resolution.

NOW, THEREFORE, BE IT DULY RESOLVED BY THE MAYOR AND CITY COMMISSION OF THE CITY OF MIAMI BEACH, FLORIDA, that the Mayor and City Commission hereby direct the City Administration to explore feasible strategies for creating and expanding "green roofs", as well as incorporating greenery and landscaping on City buildings, and present its findings to the Land Use and Sustainability Committee and the Finance and Economic Resiliency Committee within 90 days of the adoption of this Resolution.

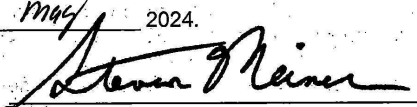
PASSED and ADOPTED THIS 15 day of May 2024.

ATTEST:



Rafael E. Granado, City Clerk

MAY 21 2024

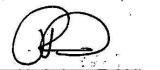

Steven Meiner, Mayor

(sponsored by Commissioner Joe Magazine)

Co-Sponsored by Commissioner David Suarez

APPROVED AS TO
FORM & LANGUAGE
& FOR EXECUTION





City Attorney

5/10/2024
Date

COMMISSION MEMORANDUM

TO: Honorable Mayor and Members of the City Commission

FROM: Ricardo Dopico, City Attorney 

DATE: May 15, 2024

SUBJECT: A RESOLUTION OF THE MAYOR AND CITY COMMISSION OF THE CITY OF MIAMI BEACH, FLORIDA, DIRECTING THE CITY ADMINISTRATION TO EXPLORE FEASIBLE STRATEGIES FOR CREATING AND EXPANDING "GREEN ROOFS", AS WELL AS INCORPORATING GREENERY AND LANDSCAPING ON CITY BUILDINGS, AND PRESENT ITS FINDINGS TO THE LAND USE AND SUSTAINABILITY COMMITTEE AND THE FINANCE AND ECONOMIC RESILIENCY COMMITTEE WITHIN 90 DAYS OF THE ADOPTION OF THIS RESOLUTION.

BACKGROUND/HISTORY

Was this Agenda Item initially requested by a lobbyist which, as defined in Code Sec. 2-481, includes a principal engaged in lobbying? No

If so, specify name of lobbyist(s) and principal(s): N/A

ANALYSIS

The attached Resolution was prepared at the request of the sponsor, Commissioner Joe Magazine

SUPPORTING SURVEY DATA

N/A

FINANCIAL INFORMATION

N/A, to be determined at Committee