

MIAMI BEACH

PLANNING DEPARTMENT

Staff Report & Recommendation

PLANNING BOARD

TO: Chairperson and Members
Planning Board

DATE: April 25, 2023

FROM: Thomas R. Mooney, AICP
Planning Director

SUBJECT: **PB23-0586. Landscape Requirements – Palm Trees as Street Trees.**

RECOMMENDATION

Transmit the proposed ordinance amendment to the City Commission with an unfavorable recommendation.

HISTORY

On February 1, 2023, at the request of Commissioner Steven Meiner, the City Commission referred the subject proposal (C4 C) to the Land Use and Sustainability Committee (LUSC) and the Planning Board.

At the March 1, 2023 LUSC meeting, the item was deferred to April 19, 2023, with no discussion. The item is expected to be considered by the LUSC at the April 19, 2023 meeting. Staff will update the Board as to the LUSC's recommendations.

REVIEW CRITERIA

Pursuant to Section 118-163 of the City Code, in reviewing a request for an amendment to these land development regulations, the board shall consider the following when applicable:

1. **Whether the proposed change is consistent and compatible with the comprehensive plan and any applicable neighborhood or redevelopment plans.**

Inconsistent – The proposed ordinance is inconsistent with policy RSE 4.1.3 of the Climate Resiliency and Sustainability Element of the goals, objectives, and policies of the Comprehensive Plan, which states the following:

POLICY RSE 4.1.3

The City shall continue to develop innovative solutions to create an urban canopy, and reduces the intensity of the urban heat island effect and provide shade to improve walkability.

2. **Whether the proposed change would create an isolated district unrelated to adjacent or nearby districts.**

Consistent – The proposed amendment does not create an isolated district unrelated to adjacent or nearby districts.

3. Whether the change suggested is out of scale with the needs of the neighborhood or the city.

Consistent - The proposed ordinance does modify the scale of development, as such the amendment is not out of scale with the needs of the neighborhood or the city.

4. Whether the proposed change would tax the existing load on public facilities and infrastructure.

Consistent – The proposed ordinance will not affect the load on public facilities and infrastructure as the maximum floor area ratio (FAR) is not modified.

5. Whether existing district boundaries are illogically drawn in relation to existing conditions on the property proposed for change.

Not applicable – The proposed amendment does not modify district boundaries.

6. Whether changed or changing conditions make the passage of the proposed change necessary.

Inconsistent – Changing conditions do not make passage of the proposed change necessary, as canopy trees are more beneficial to deal with the environmental issues that the city is currently facing.

7. Whether the proposed change will adversely influence living conditions in the neighborhood.

Partially consistent – The proposed ordinance amendment may adversely affect living conditions in the neighborhood, as canopy street trees reduce urban heat, improve pedestrian comfort, in addition to other benefits.

8. Whether the proposed change will create or excessively increase traffic congestion beyond the levels of service as set forth in the comprehensive plan or otherwise affect public safety.

Consistent – The proposed change will not create or increase traffic congestion from what is currently permitted, as the FAR is not being modified by this ordinance.

9. Whether the proposed change will seriously reduce light and air to adjacent areas.

Consistent – The proposed change will not affect light and air to adjacent areas.

10. Whether the proposed change will adversely affect property values in the adjacent area.

Consistent – The proposed change will not adversely affect property values in the

adjacent areas.

11. **Whether the proposed change will be a deterrent to the improvement or development of adjacent property in accordance with existing regulations.**

Consistent – The proposed change will likely not be a deterrent to the improvement or development of properties in the City.

12. **Whether there are substantial reasons why the property cannot be used in accordance with existing zoning.**

Not applicable.

13. **Whether it is impossible to find other adequate sites in the city for the proposed use in a district already permitting such use.**

Not applicable.

COMPLIANCE WITH SEA LEVEL RISE AND RESILIENCY REVIEW CRITERIA

Section 133-50(b) of the Land Development Regulations establishes the following review criteria when considering ordinances, adopting resolutions, or making recommendations:

- (1) **Whether the proposal affects an area that is vulnerable to the impacts of sea level rise, pursuant to adopted projections.**

Partially Consistent – The proposal does affect areas that are vulnerable to the impacts of sea level rise in the long term.

- (2) **Whether the proposal will increase the resiliency of the City with respect to sea level rise.**

Inconsistent – The proposal may negatively impact the resiliency of the City with respect to sea level rise by reducing the number of canopy trees in future development which can play an important role in managing storm water.

- (3) **Whether the proposal is compatible with the City’s sea level rise mitigation and resiliency efforts.**

Inconsistent – The proposal is incompatible with the City’s sea level rise mitigation and resiliency efforts.

BACKGROUND

As noted in the attached referral memo, the item sponsor has proposed a separate amendment to Chapter 46 of the City Code to provide that an existing palm may be replaced with a new palm at the same location (i.e. “a palm for a palm”) with no additional mitigation requirement. The proposed ordinance is a companion amendment to Section 126-6(a) of the Land Development Regulations of the City Code (LDR’s) to accommodate the proposed modifications to Chapter 46, as well as address any conflicts with Chapter 126.

While Section 126-6(a) addresses the type and placement of street trees specifically, Chapter 46 deals with the preservation of trees and palms, and requires relocation and mitigation for trees that are removed to maintain and grow the canopy for public and private property. Currently, Section 126-6(a)(2) allows single trunk palm species with a minimum of ten inches diameter at breast height (DBH) and a minimum of 15 feet of clear or grey wood at time of planting to supplement the required number of street trees. However, this section of the LDR's does not permit palm trees to count toward the required number of street trees.

PLANNING ANALYSIS

The attached ordinance amends section 126-6(a)(2) of the LDR's by allowing palms to count as required street trees on the basis of one (1) palm per tree, provided such palms meet the following minimum size and spacing requirements:

1. A minimum of ten inches diameter at breast height (DBH).
2. A minimum of 15 feet of clear or grey wood at time of planting.
3. A maximum spacing of 20 feet on center.

This proposed amendment to Chapter 126 is intended to conform the landscaping requirements in the LDRs to the separate amendment proposed for Chapter 46, which would also allow palms to count toward the minimum number of required street trees.

Attached, for informational purposes, is a fact sheet pertaining to the Miami Beach Tree Preservation Code and Urban Forestry Master Plan. In addition to the information provided in this fact sheet, the following is noted with regard to the proposed ordinance amendment, as well as the importance of maintaining and promoting healthy tree canopy city wide:

- If the City Commission decides to amend the current requirements of Chapter 46 and 126 and allow palms to count as the required number of street trees, the City will still need to meet the minimum requirements of the Miami-Dade County Landscape Code. While Miami-Dade County allows palms as street trees, municipalities within the County have different requirements. For example, Pinecrest does not allow palms at all and other cities restrict the type or number of palms that are allowed.
- Palms as street trees offer less shade for pedestrians and less environmental benefits in comparison to canopy trees that are native and Florida Friendly canopy trees.
- The standard recommendation for tree canopy coverage in cities is 30%. Unfortunately, the City of Miami Beach was only at 17% with the last full inventory. Our goal is 22% canopy coverage by 2040 based on planting in 50% of available areas.
- Palms require more maintenance and fertilizer than canopy trees, as well as more frequent upkeep. Excessive or incorrect fertilizer use has been found to lead to algal blooms in Biscayne Bay, our aquatic preserve that is in peril, as fertilizers are carried as run-off into the Bay when it rains. Additionally, canopy trees are usually pruned on a 3-to-4-year cycle, while palms are trimmed 3 to 4 times per year.

It is also important to note that nothing in Chapter 126 precludes specifying palms in landscape

designs. In fact, palms are included in most development projects, in addition to the minimum number of street and lot trees. Chapter 126 was substantially rewritten and adopted in 2016 with the express intention of increasing our urban tree canopy city wide. The current regulations further the resiliency and sustainability goals of the City by creating shady and walkable neighborhoods and contributing to stormwater management.

Based upon the foregoing, staff does not recommend in favor of the proposed revision to Section 126-6(a), as proposed herein. If the proposed ordinance does move forward, staff recommends that the city continue to require the current spacing and height of taller palms, as well as native and Florida Friendly palms.

RECOMMENDATION

In view of the foregoing analysis, staff recommends that the Planning Board transmit the proposed Ordinance amendment to the City Commission with an unfavorable recommendation.

INFORMATIONAL FACT SHEET

Miami Beach Tree Preservation Code and Urban Forestry Master Plan

What is the purpose of the City's Tree Preservation Ordinance? Why do governments have rules about trees?

- The City has a healthy Tree Preservation Ordinance that protects our tree canopy now and for future generations. The ordinance protects and preserves canopy trees and palms of mature size which may be impacted by construction, both on public and private property.
- When trees are removed, there's a loss of canopy, so trees must be replanted to grow the canopy over time. Cities also lose trees from storms, disease, end of useful life, etc. The City ordinance requires "mitigation" in the form of replacement trees lost from development and this is how cities can make sure the canopy can be protected and grow over time.
- Regulations are important for long term community health, safety, sustainability, and economic success.
 - **Fun Facts:**
 - It takes about ten years for most of the species we plant to become established and provide decent shade.
 - Due to our Tree Preservation Permitting Program, we have seen a net increase of 1,750 palms and 5,700 canopy trees planted based on an analysis conducted from October 2018 to 2021.
 - In a recent Miami-Dade County tree inventory, Miami Beach was identified as one of the cities with canopy growth from 2016 to 2020. (Miami-Dade County and American Forests)
 - Extreme heat is an increasingly important resilience priority. Our summers are getting hotter and longer due to climate change and urban development. On average, the Miami area has 51 more days per year with temperatures over 90 degrees Fahrenheit than it did 50 years ago and we're expected to have the highest increase of dangerously high heat days with a heat index over 100 degrees Fahrenheit of any county in the United States by mid-century.

Why is it important to have trees on both public and private property?

- Making the tree canopy solely the responsibility of the government is difficult due to the lack of space—the City needs a partnership with residents since 75% of property is privately owned.
 - **Fun Facts:**
 - 79% of current canopy is on private land, and 14% is on government property.
 - The right of way (ROW) makes up a small percentage of the property on Miami Beach.
 - In addition, City parks need to retain area for recreational use, and have limited space available for new plantings.
 - Some areas, such as North Beach, are both heavily private property and densely urbanized with impervious surfaces. Canopy in these areas requires special placement, help from private property owners, and innovative techniques to allow the tree roots to grow. New development in

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the North Beach Town Center is required to plant larger canopy with appropriate techniques to allow the trees to grow.

What are the benefits of trees? Why is tree canopy important?

- Canopy trees absorb heat, provide shade, manage and filter stormwater, sequester CO₂ and help conserve electricity. Trees provide biodiversity and habitat for birds, bees, butterflies, and other wildlife.
 - **Fun Facts:**
 - It has been found that when sitting under a tree, the temperature can be up to 22 degrees cooler and feel up to 35 degrees cooler.
 - Trees are important flood mitigation structures with approximately 20% of annual rainfall retained in the crown. They also increase the infiltration capacity of soils, reducing flooding and erosion of soils.
 - Trees reduce the urban heat island effect, absorb air pollutants such as ozone, CO₂ and other climate gasses.
 - Urban trees are good for physical AND mental health – people are encouraged to walk in urban forests which boosts serotonin levels and heart health.
 - Trees also provide financial benefits. Shade helps people save on utility bills and trees increase property values by about 8%.

What is the role of the Urban Forestry Division?

- The Urban Forestry Division oversees both operational services and strategic projects. The Division has a highly certified Urban Forester that provides regulatory supervision through responding to tree abuse complaints, providing guidance, and issuing permits.
- Strategic projects to grow the urban forest include conducting the citywide Geographic Information System Tree Inventory, managing the GO Bond tree reforestation initiative, and advising on the right tree in the right place - the optimal planting species to result in mature trees for corridors and roadways for the City of Miami Beach.

What is the Urban Forestry Master Plan (UFMP)?

- The UMFP is a guiding document to help evolve our urban canopy to be more tolerant to climate change, but does not have any regulatory power over the Tree Preservation Ordinance. As a plan, it established a goal to increase the tree canopy from 17% to 22%.
 - Our UFMP has become the benchmark for other plans being developed in South Florida and other parts of the world. The City presented at the first ever international conference of Tree Cities of the World because we created a plan that looks at the approach of sustainably managing an urban forest under the stresses of climate change, and how to create innovative adaptive efforts that will allow for this. As the only US city selected to present at the conference, members from around the world are looking at our plan to help guide them when dealing with similar climate change conditions.
 - The adoption of the UFMP did not result in any regulatory changes regarding how we manage existing trees and palms.

INFORMATIONAL FACT SHEET

Miami Beach Tree Preservation Code and Urban Forestry Master Plan

Why is a distinction made between canopy trees and palm trees, regarding benefits and disadvantages?

- The Urban Forestry Master Plan recommends a transition of our palm canopy from 57% to 25% by 2050. By planting more canopy trees, we reduce the overall percentage of palms, without needing the removal of existing palms.
- Keeping the existing palm canopy percentage will leave the City's landscape vulnerable to future climatic stressors such as extreme heat, flooding and saltwater intrusion, as well as impacts from pest or disease due to the lack of diversity. An overpopulation of palms also reduces the number of planting spots for more beneficial canopy trees.
- Palms tend to be over-pruned which results in "pencil" of the trunk. As a result, palms tend to be weaker and this practice increases drag on the fronds during high wind events, increasing the chance of failure.
- South Florida soils are a mixture of sand, marl (weathered limestone), and Miami Limestone, which is alkaline with a pH hovering at about 8. The limestone does not hold water or nutrients well, and the high pH makes it difficult for plants to get micro-elements they need. These soils are also not conducive for healthy palm growth, and palms require constant fertilizer to stay green in South Florida.
 - **Fun Facts:**
 - Excessive or incorrect fertilizer use has been found to lead to algal blooms in Biscayne Bay, our aquatic preserve that is in peril. When it rains, fertilizers are carried as run-off into the Bay. Improper fertilizer use not only impacts City waterways but can also lead to long-term degradation of the soil.
 - Palms require more frequent upkeep. Canopy trees are usually pruned on a 3-to-4-year cycle, while palms are trimmed 3 to 4 times per year. Coconut palms need their coconuts removed, royal palms need their boots strapped, date palms need their dates either removed or cleaned up once fallen. If not frequently maintained, palms can be dangerous as street trees since their fronds reach a large size and fall with risk of injury to pedestrians, which is why some municipalities do not allow them at all. Treating palm diseases is also very costly, especially preventative treatment for the multitude of diseases affecting palms.

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Miami Beach Tree Preservation Code and Urban Forestry Master Plan

Benefits*	Shade Tree	Palm
	Live Oak, <i>Quercus virginiana</i>	Sabal Palm, <i>Sabal palmetto</i>
Diameter (DBH)	16"	16"
Carbon Dioxide (CO2) Sequestered (Absorbed)	510 pounds/year	2.71 pounds/year
Rainfall Intercepted	725 gallons/year	81 gallons/year
Ozone removed from air	20 ounces/year	1.70 ounces/year
Carbon dioxide stored	3,214 pounds over lifetime	26 pounds over lifetime
Energy Savings (A/C)	60 kWh	26 kWh
Energy Savings Value	\$10.00	\$4.60
Annual Value of Benefits	\$31.00	\$6.48

*Based on an analysis utilizing the USDA Forest Service's i-Tree MyTree benefits tool (www.itreetools.org) - v. 2.4.16

Scenario: 3- Year Pruning Cycle	Year 1		Year 2		Year 3	
	Number Tree/Palm	Cost	Number Tree/Palm	Cost	Number Tree/Palm	Cost
Canopy Tree Pruning (3 Year Cycle)	3,950	\$ 629,775	3891	\$ 633,840.50	4,332	\$ 676,919
Palm Pruning (Depending on species)	16,732	\$2,227,680	16732	\$2,227,680.00	16,732	\$ 2,227,680
Tree & Stump Removal	119	\$ 46,900	126	\$ 50,145.00	131	\$ 49,729
Palm & Stump Removal	157	\$ 39,981	156	\$ 40,994.00	154	\$ 40,591
TOTAL	20,958	\$2,944,336	20905	\$2,952,659.50	21,349	\$ 2,994,919

Scenario: 5-Year Pruning Cycle	Year 1		Year 2		Year 3		Year 4		Year 5	
	Number Tree/Palm	Cost	Number Tree/Palm	Cost	Number Tree/Palm	Cost	Number Tree/Palm	Cost	Number Tree/Palm	Cost
Canopy Tree Pruning (3 Year Cycle)	2,370	\$ 377,865	2299	\$ 373,859.00	2,759	\$ 414,182	3,225	\$ 458,376	3,691	\$ 505,428
Palm Pruning (2x or 4x per year depending on species)	16,732	\$2,227,680	16732	\$2,227,680.00	16,732	\$ 2,227,680	16,732	\$ 2,227,680	16,732	\$ 2,227,680
Tree & Stump Removal	119	\$ 46,900	126	\$ 50,145.00	131	\$ 49,729	137	\$ 49,318	143	\$ 48,900
Palm & Stump Removal	157	\$ 39,981	156	\$ 40,994.00	154	\$ 40,591	153	\$ 40,217	154	\$ 40,094
TOTAL	19,378	\$2,692,426	19313	\$2,692,678.00	19,776	\$ 2,732,182	20,247	\$ 2,775,591	20,720	\$ 2,822,102

Landscape Requirements – Palm Trees as Street Trees

AN ORDINANCE OF THE MAYOR AND CITY COMMISSION OF THE CITY OF MIAMI BEACH, FLORIDA, AMENDING THE RESILIENCY CODE OF THE CITY OF MIAMI BEACH, BY AMENDING CHAPTER 4, ENTITLED “LANDSCAPE REQUIREMENTS,” ARTICLE II, ENTITLED “REQUIREMENTS,” AT SECTION 4.2.3, ENTITLED “MINIMUM STANDARDS,” TO ALLOW PALM TREES TO COUNT TOWARDS THE MINIMUM STREET TREE REQUIREMENTS; PROVIDING FOR REPEALER; SEVERABILITY; CODIFICATION; AND AN EFFECTIVE DATE.

WHEREAS, the City Commission finds that it is in the best interest of its residents, to reduce the cost of required landscaping for new developments; and

WHEREAS, the City Commission has deemed it in the best interest and welfare of the City to adopt regulations that preserve Palm Trees; and

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

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

SECTION 1. Chapter 4, “Landscape Requirements,” Article II, “Requirements,” at Section 4.2.3, “Minimum Standards,” is hereby amended as follows:

4.2.3. Minimum standards.

The following standards shall be considered minimum requirements unless otherwise indicated in the land development regulations:

a. *Trees.*

Tree size: All trees except street trees, shall be a minimum of 12 feet high with a minimum crown spread of six feet and have a minimum caliper of two inches at time of planting, except that 30 percent of the tree requirement may be met by native species with a minimum height of ten feet and a minimum caliper of one and a half inches at time of planting.

i. *Soil volume:* A minimum volume of 1,200 cubic feet, at a depth not to exceed three (3) feet, of noncompacted, open soil (not covered by paving) shall be required for tree planting to provide adequate space for tree roots under pavements. Where more than one tree shares the same planting area, the volume may be reduced to a minimum of 900 cubic feet of soil per tree. When trees are planted in open planting areas, Structural Soil shall be permitted, however when trees are planted in pavement, a suspended paving system, such as Silva Cells or equivalent, shall be required to meet the necessary soil volumes.

ii. *Street tree size and spacing:* Street trees shall be of a species typically grown in Miami Beach which normally mature to a height of at least 20 feet. Street tree plantings shall comply with ADA clearance requirements. Furthermore, street trees shall have a minimum clear trunk of four feet, an overall height of 12 to 14 feet and a minimum caliper of three inches at time of planting and shall be provided along

all roadways at a maximum average spacing of 20 feet on center, except as otherwise provided in this ordinance.

The 20-foot average spacing requirement for townhouse or multi-family units shall be based on the total lineal footage of roadway for the entire project and not based on individual lot widths. Street trees shall be placed within the swale area or shall be placed on private property where demonstrated to be necessary due to right-of-way obstructions as determined by the environment and sustainability department. Street trees planted along roadways shall be placed consistent with the American Association of State Highway and Transportation Officials (AASHTO) Roadside Design Guide with respect to edge of roadway pavement and/or where unable to locate within the right-of-way within seven feet of the property line on private property.

The city may require an increase the maximum average spacing due to site-specific constraints such as, but not limited to, visibility triangles, signage, utilities, view corridors, or the use of large canopy or diameter trees. However, the total number of required trees for this requirement shall be as per a 20-foot average spacing and any required street trees that cannot be provided along the roadway due to a required increase in the maximum average spacing shall be planted elsewhere on the site, or the applicant shall utilize the tree and shrub compliance options, pursuant to section 4.2.4.

- iii. *Palms as street trees:* ~~Palms as street trees are not permitted, except as specified in section 4.2.5 Landscape Neighborhood Overlays.~~ Palms shall be planted per the following requirements. Single trunk palm species with a minimum of ten inches diameter at breast height (DBH) and a minimum of 15 feet of clear or grey wood at time of planting may be planted in addition to the required number of street trees. The maximum spacing of palms as street trees shall be 20 feet on center. Palms shall not count towards the required number of street trees. Palms which meet the requirements of this paragraph shall count as a required street tree on the basis of one (1) palm per tree. The city may require an increase in the maximum spacing due to site specific constraints, such as, but not limited to, visibility triangles, signage, utilities view corridors, or the use of large canopy or diameter trees.
- iv. *Power lines:* Under high voltage transmission lines installed independent of underbuilt distribution lines, tree height and spread shall not exceed the minimum approach distances specified in the FPL Plant the Right Tree in the Right Place guidelines and illustrations. The maximum spacing of appropriate and allowed tree species planted under power lines shall be 20 feet on center.

The city may require an increase the maximum average spacing due to site-specific constraints, such as, but not limited to, visibility triangles, signage, utilities view corridors, or the use of large canopy or diameter trees. However the total number of required trees for this requirement shall be as per a 20-foot average spacing and any required street trees that cannot be provided along the roadway due to a required increase in the maximum average spacing shall be planted elsewhere on the site, or the applicant shall utilize the tree and shrub compliance options, pursuant to section 4.2.4.

* * *

SECTION 2. REPEALER.

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

SECTION 3. 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 4. SEVERABILITY.

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

SECTION 5. EFFECTIVE DATE.

This Ordinance shall take effect ten days following adoption.

PASSED and ADOPTED _____.

Dan Gelber, Mayor

ATTEST:

Rafael E. Granado, City Clerk

First Reading: May 17, 2023

Second Reading: June 28, 2023

Verified By: _____

Thomas R. Mooney, AICP
Planning Director

