



Memorandum

Memorandum No: 24-072

Date: May 20, 2024

To: Honorable Mayor, Vice Mayor, and Commissioners

From: Susan Grant, Acting City Manager *Susan Grant*

Re: Las Olas Black Olive Tree Status Report

The growth and condition of the Black Olive (*Bucida buceras*) trees along East Las Olas Boulevard have been closely monitored by the City Urban Foresters since 2017 (See attached report). All of the 18 trees have been rated as being in fair, fair to poor, or poor condition over the last seven (7) years (See Figure 1). In the 1960s, many of these trees were planted in raised planter boxes. While this strategy was successful for approximately 50 years, it has limited the growth of the trees and restricted root growth. The stunted growth has resulted in trees with root systems which do not have sufficient capacity to support future vibrant growth of the Black Olive trees.

Many of the Black Olive trees have shown a lack of vigor during the past seven years of monitoring. Eight of the remaining trees have grown less than an inch in diameter since 2017. Three of the trees originally assessed have been removed due to poor health related to the dieback of canopy as a result of root rot or posing a danger in this public space.

The Black Olive trees in the Las Olas Shops area are surviving, not thriving and are in decline. Most of these trees are expected to require removal within the next 10 years.

This report was independently reviewed by Michael Orfanedes, Ph.D., Commercial Horticulture Agent with the University of Florida Institute of Food and Agricultural Science Broward County Extension who stated that the Urban Forester “has captured their (Black Olive Trees) condition in a professional, accurate and thorough manner.”

If you have any questions regarding this report, please contact Laura Tooley, Urban Forestry Supervisor, at ltooley@fortlauderdale.gov.

Attachment: Las Olas Black Olive Tree Status Report

c: Anthony Fajardo, Assistant City Manager
Laura Reece, Acting Assistant City Manager
Ben Rogers, Acting Assistant City Manager
Thomas Ansbro, City Attorney
David R. Soloman, City Clerk
Patrick Reilly, City Auditor
Department Directors
CMO Managers

Figure 1 – Review of Condition of Black Olive (*Bucida buceras*) trees in the area of the Las Olas Shops. The trees were examined in 2017, 2019 and again in the fall 2023. Growth as measured by diameter at breast height (DBH) is provided along with notes on the current condition compared to the 2019 observations.

Black Olive Tree #	DBH in inches 2017	DBH in inches 2019	Increase in DBH in inches 2017-19	DBH in inches 2023	Increase in DBH in inches 2019-23	Total DBH Increase in inches 2017-23	Change in Condition since 2019
1	14.50	14.75	0.25	15.25	0.50	0.75	Tree remains in fair condition.
2	19.00	N/A	N/A	N/A	N/A	N/A	Tree removed in January 2019 due to advanced decay and vertical cracking of trunk.
3	15.50	15.90	0.40	16.25	0.35	0.75	Tree remains in fair/poor condition.
4	27.00	27.50	0.50	27.75	0.25	0.75	Tree remains in fair condition.
5	26.00	26.65	0.65	27.25	0.60	1.25	Tree remains in fair/poor condition.
6	25.50	26.00	0.50	26.5	0.50	1.00	Tree remains in fair/poor condition.
7	23.50	23.75	0.25	24	0.25	0.50	Tree remains in fair condition.
8	23.00	23.25	0.25	24	0.75	1.00	Tree remains in fair condition.
9	22.00	22.50	0.50	22.75	0.25	0.75	Tree condition has declined to poor.
10	17.00	17.50	0.50	17.75	0.25	0.75	Tree remains in fair/poor condition.
11	18.00	18.50	0.50	19	0.50	1.00	Tree condition has declined to poor.
12	25.00	25.75	0.75	26	0.25	1.00	Tree remains in fair/poor condition.
13	15.00	16.25	1.25	16.75	0.50	1.75	Tree remains in fair condition.
14	16.50	16.75	0.25	17.5	0.75	1.00	Tree is in fair condition with signs of decline.
15	17.50	17.70	0.20	N/A	N/A	N/A	Tree removed in 2021.
16	15.50	15.75	0.25	16	0.25	0.50	Minimal growth between 2017-23 correlates with severe decline of canopy and in overall health. Tree removed in January 2024.
17	21.00	21.25	0.25	22	0.75	1.00	Tree remains in fair/poor condition.
18	22.00	22.50	0.50	22.5	0.00	0.50	Tree is in fair/poor condition with signs of decline.



Photo courtesy of History Fort Lauderdale

Las Olas Boulevard Black Olive Trees

CITY OF FORT LAUDERDALE

Laura Tooley

Urban Forester

January 2024



Photo courtesy of History Fort Lauderdale



Photo courtesy of History Fort Lauderdale

Executive Summary

The growth and condition of the Black Olive (*Bucida buceras*) trees along East Las Olas Boulevard have been closely monitored by the City Urban Foresters since 2017. All of the 18 trees are rated as being in fair, fair to poor, or poor condition with several removed since the first observations were recorded (See Executive Summary Figure 1).

In the 1960s, many of these trees were planted in raised planter boxes, most likely to limit their growth potential. This strategy was successful for approximately 50 years but is not a sustainable option due to restricted root structures. Crown dieback can occur when foliage demands exceed the capacity of the root system to provide water and mineral nutrients. The stunted growth has resulted in trees with root systems which do not have sufficient capacity to support future vibrant growth of the Black Olive trees.

Additionally, structural roots which have been confined and should provide stability for the mature canopy, have become a pedestal above the existing grade which may act as a pivot point, increasing the risk of whole tree failure during, but not limited to, tropical storm events.

The measurement of Diameter at Breast Height (DBH) is a standard measurement in forestry. As indicated in Executive Summary Figure 1, based on the small increments of growth of DBH, many of the Black Olive trees have shown a lack of vigor during the past seven years of monitoring. Eight of the remaining trees originally assessed have grown less than an inch in diameter since 2017. Two of the trees originally assessed have been removed due to dieback of canopy, and another is scheduled for removal in January 2024. It is highly likely that this stagnation in growth will result in continued decline and loss of trees in the coming decade.

Trees which have shown the smallest trunk growth have also had the largest decline in vigor. For example, the DBH of Tree 16 has only increased by ½" since 2017. The canopy showed some dieback in October 2023, which has accelerated into 2024 encompassing over a third of the canopy, whereby removal is required.

The Black Olive trees in the Las Olas Shops area are surviving, not thriving. As noted above, it is expected that most of these trees will decline and require removal within the next 10 years.

Figure 1 – Review of Condition of Black Olive (*Bucida buceras*) trees in the area of the Las Olas Shops. The trees were examined in 2017, 2019 and again in the fall 2023. Growth as measured by diameter at breast height (DBH) is provided along with notes on the current condition compared to the 2019 observations.

Black Olive Tree #	DBH in inches 2017	DBH in inches 2019	Increase in DBH in inches 2017 19	DBH in inches 2023	Increase in DBH in inches 2019 23	Total DBH Increase in inches 2017 23	Change in Condition since 2019
1	14.50	14.75	0.25	15.25	0.50	0.75	Tree remains in fair condition.
2	19.00	N/A	N/A	N/A	N/A	N/A	Tree removed in January 2019 due to advanced decay and vertical cracking of trunk.
3	15.50	15.90	0.40	16.25	0.35	0.75	Tree remains in fair/poor condition.
4	27.00	27.50	0.50	27.75	0.25	0.75	Tree remains in fair condition.
5	26.00	26.65	0.65	27.25	0.60	1.25	Tree remains in fair/poor condition.
6	25.50	26.00	0.50	26.5	0.50	1.00	Tree remains in fair/poor condition.
7	23.50	23.75	0.25	24	0.25	0.50	Tree remains in fair condition.
8	23.00	23.25	0.25	24	0.75	1.00	Tree remains in fair condition.
9	22.00	22.50	0.50	22.75	0.25	0.75	Tree condition has declined to poor.
10	17.00	17.50	0.50	17.75	0.25	0.75	Tree remains in fair/poor condition.
11	18.00	18.50	0.50	19	0.50	1.00	Tree condition has declined to poor.
12	25.00	25.75	0.75	26	0.25	1.00	Tree remains in fair/poor condition.
13	15.00	16.25	1.25	16.75	0.50	1.75	Tree remains in fair condition.
14	16.50	16.75	0.25	17.5	0.75	1.00	Tree is in fair condition with signs of decline.
15	17.50	17.70	0.20	N/A	N/A	N/A	Tree removed in 2021.
16	15.50	15.75	0.25	16	0.25	0.50	Minimal growth between 2017-23 correlates with severe decline of canopy and in overall health. Recommended for removal in January 2024.
17	21.00	21.25	0.25	22	0.75	1.00	Tree remains in fair/poor condition.
18	22.00	22.50	0.50	22.5	0.00	0.50	Tree is in fair/poor condition with signs of decline.

Trees # 1-7



**1st median
SE 6th Ave. to SE 8th Ave.**

Trees # 8-11



**2nd median
SE 8th Ave. to SE 9th Ave.**

Trees # 12-18



**3rd & 4th medians
SE 9th Ave. to SE 11th Ave.**

Las Olas Black Olive Tree Observations

May, 2017 field observations shown in **blue** (by previous Urban Forester)

February, 2019 field observations in **red** (by previous Urban Forester)

October, 2023 field observations by Laura Tooley shown on subsequent pages.

1st median SE 6th avenue heading east to SE 8th avenue

Tree 1

Black olive ~~14.5"~~14.75" dbh

Over lifted canopy, flush cuts, trunk is partially dog legged, minor branch deadwood, Live Crown Ratio 28%, girdling roots, **mechanical root zone damage**, **32.5' canopy spread diameter** and the tree is in fair condition.



Tree 1
October 2023 update

15.25" DBH

No significant changes in health or condition from previous observations noted.



Tree 2

Black olive 19" dbh

Over lifted canopy, significant trunk decay from possible vehicle strike, bark loose and falling off in large sections, large basal cavity, sap oozing from trunk, poor live crown ratio less than 10%, significant deadwood and leaf chlorosis 17-20' spread. Tree condition is very poor.

Tree was removed in January 2019 due to advanced decay and vertical cracking of trunk.



Black olive 15.5" 15.9" dbh
Over lifted canopy, evidence of storm damage related failures, leaf chlorosis, small branch deadwood, live crown ratio 20-25% tree condition is fair/poor, 27.63' canopy spread diameter.



2019 report photo:

October 2023 update

16.25" DBH

No significant changes in health or condition from previous observations noted.



Black olive 27" 27.5" dbh

Over lifted canopy, poor structure (poor angles of attachment/included bark), swollen/sunken areas of trunk indicating possible presence of decay, leaf chlorosis, live crown ratio of 35-40%, visible decay with carpenter ants present, tree condition is fair, 43.9' canopy spread diameter, inside of raised planter box with evidence of curb uplift from roots.



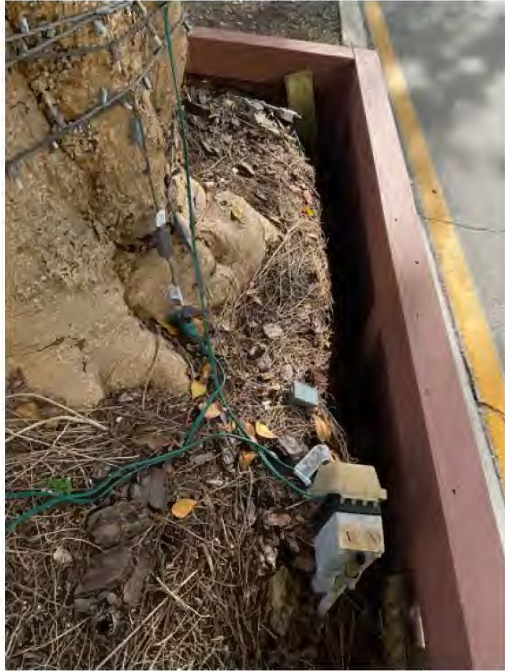
2019 report photos:



October 2023 update

27.75" DBH

Roots appear to be lifting planter box above existing grade. Minimal trunk growth over the four-year period since last measured. Tree remains in fair condition.



Black olive ~~26"~~ 26.65" dbh

Over lifted canopy, poor structure (codominant stems with included bark), small branch deadwood, leaf chlorosis, live crown ratio of 20-25%, 44.2' canopy spread diameter, inside of raised planter box with evidence of curb uplift from roots, tree condition is fair/poor.



2019 report photos:



October 2023 update
27.25" DBH

No significant changes in health or condition from previous observations noted.



Black olive 25.5" 26" dbh

Over lifted canopy, poor structure (codominant stems with included bark), flush cuts, leaf chlorosis, small branch deadwood, branch stubs, live crown ratio 20-25%, 45.67' canopy spread diameter, inside of raised planter box with evidence of curb uplift from roots, tree condition is fair/poor.



2019 report photos



Tree 6
October 2023 update
26.5" DBH

No significant changes in health or condition from previous observations noted.



Black olive 23.75" dbh

Over lifted canopy, sunken areas present in trunk indicating possible decay, poor structure (codominant stems with included bark), small branch deadwood, improper pruning cuts, live crown ratio 40-45%, inside of raised planter box with evidence of curb uplift from roots, 37.92' canopy spread diameter, tree condition is fair.



Tree 7
October 2023 update
24" DBH

No significant changes in health or condition from previous observations noted.



Second median SE 8th Avenue heading east to SE 9th Avenue

Tree 8

Black olive 23" 23.25" dbh

Over lifted canopy, gall present on trunk, past evidence of scaffold limb failure present, small branch deadwood, live crown ratio 50%, 42.55' canopy spread diameter, tree has NW lean with additional root zone uplift on south side, inside of raised planter box with evidence of curb uplift from roots, tree condition is fair.



2019 report photo



Tree 8

October 2023 update

24" DBH

No significant changes in health or condition from previous observations noted.



Tree 9

Black olive 22" 22.5" dbh

Over lifted canopy, poor structure (codominant stems with included bark), small branch deadwood present, live crown ratio 23%, leaf chlorosis, canopy spread 37.45' canopy spread diameter, inside of raised planter box with evidence of curb uplift from roots, tree condition is fair/poor.



2019 report photos:



Tree 9

October 2023 update

22.75" DBH

Decay is visibly present causing patches of bark to slough off. Condition is poor.



Black olive ~~17"~~ 17.5" dbh
Over lifted canopy, poor structure (poor angles of branch attachment), flush cuts, **medium/large branch deadwood present**, live crown ratio 28%, leaf chlorosis, 36.94' canopy spread diameter, doglegs, inside of raised planter box with evidence of curb uplift from roots, tree condition is fair/poor.



Tree 10
October 2023 update
17.75" DBH

Additional uplift of curbing.



Black olive ~~18"~~ 18.5" dbh

Over lifted canopy, poor structure (codominant stems), flush cuts, **stub cuts**, small branch deadwood, live crown ratio 33%, 36.27' canopy spread diameter, inside of raised planter box with evidence of curb uplift from roots, tree condition is fair.



2019 report photos:



Tree #1

October 2023 update

19" DBH

Large patches of bark are missing. Wound response growth is present but is not likely to provide sufficient coverage to restore structural integrity of trunk. Deadwood is visible on both sides of trunk. Tree condition has declined to poor.



Third median SE 9th avenue to SE 10th terrace heading east

Tree 12

Black olive 25" 25.75" dbh

Over lifted canopy, old trunk wound from either flush cut or vehicle strike, flush cuts, poor structure (poor angles of scaffold limb attachment), large branch deadwood present, live crown ratio 25%, 47.01' canopy spread diameter, inside of raised planter box with evidence of curb uplift from roots, tree condition is fair.



2019 report photos:



Tree 12

October 2023 update

26" DBH

No significant changes in health or condition from previous observations noted.



Tree 13

Black olive 45" 16.25" dbh

Over lifted canopy, poor structure (codominant stems), dogleg present, cross branching, flush cuts, small branch deadwood present, live crown ratio 28%, 29.92' canopy spread diameter, inside of raised planter box with evidence of curb uplift from roots, tree condition is fair.



2019 report photo:



Tree 13
October 2023 update
16.75" DBH

No significant changes in health or condition from previous observations noted.



Tree 14

Black olive 46.5" 16.75" dbh

Over lifted canopy, poor structure (codominant stems), small branch deadwood present, flush cuts, poor angles of scaffold limb attachment, live crown ratio 28%, 26.70' canopy spread diameter, inside of raised planter box with evidence of curb uplift from roots, tree condition is fair.



2019 report photo:



Tree 14
October 2023 update
17.5" DBH

Crown exhibiting some dieback and chlorosis, indicating potential decline in health and continued monitoring required.



Tree 15

Black olive 17.5" 17.7" dbh

Over lifted canopy, flush cuts, poor structure (poor angles of scaffold limb attachment), large branch deadwood present, leaf chlorosis, live crown ratio 25%, canopy spread diameter 37.97', inside of raised planter box with evidence of curb uplift from roots, tree condition is poor.



2019 report photo:



October 2023 update

Tree has been removed. No additional data available.



Black olive ~~15.5"~~ 15.75" dbh

Over lifted canopy, flush cuts, poor structure (poor angles of scaffold limb attachment), small branch deadwood present, leaf chlorosis, live crown ratio 27%, 35' canopy spread diameter, inside of raised planter box with evidence of curb uplift from roots, tree condition is fair/poor.



2019 report photo:



Tree 16
October 2023 update
16" DBH

Vertical cracking and obvious dieback of twigs and branch tips. Monitor over 3 months to determine if the rate of decline has continued to accelerate. Live crown ratio 25%, overall condition rating 28% Removal may be recommended.



Tree 16
1010-1012 E Las Olas Blvd.

January 2024 update

Condition of canopy has continued to decline with major dieback becoming evident. Tree has been permitted and posted for removal as soon as possible. Live crown ratio 23%, overall condition rating 18%.



Fourth median SE 10th terrace to SE 11th avenue heading east

Tree 17

Black olive 21" 21.25" dbh

Over lifted canopy, large trunk wound with decay visually evident, poor structure (codominant stems, dogleg, poor angles of scaffold limb attachment), small branch deadwood present, leaf chlorosis, live crown ratio 27%, 36.56' canopy spread diameter, inside of raised planter box with evidence of curb uplift from roots, tree condition is fair/poor.

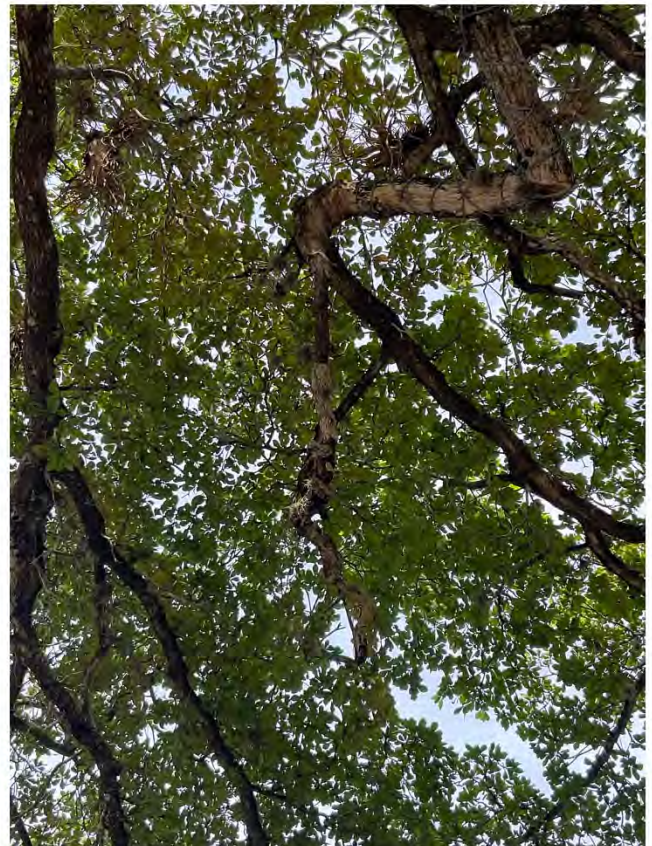


2019 report photo:



October 2023 update
22" DBH

No significant changes in health or condition from previous observations noted.



Tree 18

Black Olive 22" 22.5" dbh

Over lifted canopy, large trunk wound with good reaction wood and decay visually evident, poor structure (poor angles of scaffold limb attachment), water sprouts, small branch deadwood present, leaf chlorosis, live crown ratio 21%, 34.2' canopy spread diameter, inside of raised planter box with evidence of curb uplift from roots, tree condition is fair/poor.



October 2023 update

22.5" DBH

Tree is in fair/poor condition with signs of decline. Decay previously noted has progressed from one side of trunk through to opposite side of trunk.



East side



West side (directly opposite)