

TIME CERTAIN 10:15 AM

Agenda Item #:

PALM BEACH COUNTY
BOARD OF COUNTY COMMISSIONERS

4-A-1

AGENDA ITEM SUMMARY

Meeting Date: June 6, 2017

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Consent

[x]
[]

Regular

Public Hearing

Department: Engineering and Public Works
Submitted By: Engineering and Public Works
Submitted For: Road and Bridge Division

I. EXECUTIVE BRIEF

Motion and Title: Staff requests the Board affirm the recent staff initiative to preserve adjacent "good" trees (oaks, native trees, ie. tamarind, buttonwood, gumbo limbo, etc.) when repairing and replacing sidewalks and pathways due to tree root damage, but continue to allow the removal of adjacent "nuisance" trees (ficus, earleaf acacia, carrotwood, Australian pines, etc.) during the repair process.

Summary: The new initiative staff has implemented is the use of physical root barriers (not previously used) during the sidewalk repair in an attempt to prevent a recurrence of the root(s) lifting the sidewalk. Palm Beach County has an obligation to construct, maintain, repair and replace asphalt and concrete sidewalks/pathways within the rights-of-way that we maintain. Over 1200 miles of concrete sidewalk and 200 miles of asphalt sidewalk are currently maintained. A major problem occurs when tree roots damage the adjacent sidewalk and road pavement, typically buckling or raising up a section of sidewalk or road and causing a potential tripping hazard. This is starting to occur more and more as trees within the rights-of-way mature. The practice in past years was to allow developments to plant "canopy" trees (oaks, black olives, etc.) within close proximity of the pavement, many times between the road and the adjacent sidewalk. Long-term maintenance associated with the issue has been, and will be, expensive and will continue to consume a large amount of staff time.

The Engineering Department expends over \$1 million per year addressing sidewalk repairs. The maintenance crews (4 crews/20 staff members) currently spend about 50% of their time on this issue. While repair of the sidewalk alone addresses the short-term problem, removal of the adjacent tree(s) in conjunction with the repair addresses it long-term. Staff has removed over 175 trees over the past three years.

(Continued on Page 3)

Background and Justification: The Engineering Department's current policy for trees located within County rights-of-way that cause a sidewalk "trip" hazard includes: (1) grinding the existing sidewalk to address small bumps; (2) removing the existing sidewalk, root pruning and replacing the sidewalk to address moderate damage for the "first occurrence" site, and (3) removing the existing sidewalk, removing the tree and replacing the sidewalk for a "repeat occurrence" site. If an HOA is involved, the County will provide an opportunity for the HOA to obtain a permit for the existing trees and therefore take over the responsibility of the trees including the future repair of any damaged County infrastructure when caused by the trees.

Attachments:

1. PowerPoint

Recommended by:


Department Director

5/25/17
Date

Approved By:


Assistant County Administrator

6/1/17
Date

II. FISCAL IMPACT ANALYSIS

A. Five Year Summary of Fiscal Impact:

Fiscal Years	2017	2018	2019	2020	2021
Capital Expenditures	\$ -0-	-0-	-0-	-0-	-0-
Operating Costs	-0-	-0-	-0-	-0-	-0-
External Revenues	-0-	-0-	-0-	-0-	-0-
Program Income (County)	-0-	-0-	-0-	-0-	-0-
In-Kind Match (County)	-0-	-0-	-0-	-0-	-0-
NET FISCAL IMPACT	\$ **	-0-	-0-	-0-	-0-
# ADDITIONAL FTE POSITIONS (Cumulative)					

Is Item Included in Current Budget? Yes No

Budget Account No:

Fund Dept Unit Object

Recommended Sources of Funds/Summary of Fiscal Impact:

**The fiscal impact of this item is indeterminable at this time. It is expected that an overall savings will be recognized over the next several years.

C. Departmental Fiscal Review: *Atwill*

III. REVIEW COMMENTS

A. OFMB Fiscal and/or Contract Dev. and Control Comments:

[Signature] 5/30/17
OFMB
5/30/17

[Signature] 5/30/17
Contract Dev. and Control
5/30/17

B. Approved as to Form and Legal Sufficiency:

[Signature] 5/30/17
Assistant County Attorney

C. Other Department Review:

Department Director

This summary is not to be used as a basis for payment.

SUMMARY: (Continued from page 1)

The removal of the trees decreases the long-term total repair costs and staff time, but often the removal of trees is not a popular option; particularly within communities represented by homeowners associations (the support appears to be tied to the number of trees we might be looking to remove). Over the past few years, staff has worked with individual homeowners (when there is not an HOA) to determine their support for removing individual trees. A large majority of the time, the homeowners were supportive of the removal, and the trees were removed. "Good" trees are not cut down, and staff believes installation of root barriers will keep the problem away for the next 10-15 years. Staff recommends this process be used when the adjacent tree is not on the list of (controlled/prohibited)/nuisance trees contained in the Unified Land Development Code (ULDC). Staff believes this will be a cost savings, at least in the next few years, as removing a tree is expected to cost almost double the cost of installing a root barrier. Staff is requesting concurrence from the Board of County Commissioners as the number of identified locations continues to increase and we have a current backlog of over 250 locations involving trees damaging sidewalks. Over 100 of those locations are on public roads within the Lake Charleston community and that is the first area we will be implementing this new approach. Countywide (LBH)

PBC Road and Bridge Trees-Infrastructure Impact

TREES-INFRASTRUCTURE IMPACT - INTRODUCTION

Current Policy

- ¼" lip to ¾" lip – Grind
 - > ¾" lip
 - 1ST occurrence – Remove sidewalk, root prune tree, replace sidewalk
 - Repeat occurrence – **Remove tree** & roots affecting infrastructure and replace sidewalk
-

New Policy

- ¼" lip to ¾" lip – Grind
- > ¾" lip
 - "Good tree" – Remove sidewalk, root prune tree, **install root barrier**, replace sidewalk
 - "Nuisance" tree – **Remove tree** & roots and replace sidewalk

ISSUES WITH CERTAIN TREES LOCATED TOO CLOSE TO COUNTY IMPROVEMENTS

(streets, sidewalks, drainage, etc.)

- May create trip and falls hazards.
- Road and Bridge staff time and costs to investigate and resolve issue.
- Requires other Engineering staff hours researching ownership, permits, r/w lines.
- Reduces effectiveness of drainage swales.
- Tree root systems intruding the underground conveyance system.
- Continued tree maintenance to maintain the required sight distance.
- Required sweeper/vactor operations to remove foliage dropped from trees.
- Loss incurred from stolen barricades required to be staged as a result of tree damage.
- Concrete sidewalk slabs pushed up by roots – creating a “Lip” with adjacent slab.

CURRENT TREE/ROOT RELATED LOCATIONS KNOWN BY ROAD AND BRIDGE

- Lake Charleston S/D – multiple locations
- Boca Landings S/D – multiple locations
- Sandalfort Cove S/D – multiple locations
- Lakes at Boca Raton S/D – multiple locations
- Pine Ridge at Delray S/D – multiple locations
- Pheasant Walk S/D – multiple locations
- Concord Green S/D – multiple locations
- Palm Beach Farm S/D – multiple locations
- Forest Homes S/D – multiple locations
- Boca Del Mar S/D – multiple locations
- Golf Rd / Delray Dunes W of Congress Av
- Clint Moore Rd / Jog Rd to E-3 canal
- Cobblestone Wy / Judge Winikoff Rd to Ponderosa Rd
- Shorewind Dr / Palmetto Park Rd to Palmetto Park Rd
- Judge Winikoff Rd / Glades Rd to SR 441
- Via Del Sonrisa Del Sur / Santiago Cir to SW 18th St
- Lantana Rd / Congress Ave & Military Tr
- Gateway Blvd / Jog Rd to Military Tr
- El Clair Ranch E of Boynton Beach
- Moultrie Dr. / Hagen Ranch to Charleston Shores
- W side of Davis Rd N of Collin Dr
- Prosperity Farms Rd / Monet Rd to Edgewater Dr
- Roebuck Rd / Central Blvd to Loxahatchee River Dr
- Randolph Siding Rd / 130th Ave N to Alexander Run
- Randolph Siding Rd / 110th Ave N to Jupiter Farms Rd
- Radnor Rd / Radnor Cir to Ellison Wilson Rd
- Collin Dr / Kirk Rd to Davis Rd
- Sycamore Dr.



(live Oaks)

Lake Charleston, Briarcliff Circle



(black olives)

Sandalfoot Cove Sec11, SW 18th Rd



(green buttonwood)

Boca Landings, Lakeridge Blvd



(black olives)

Boca Fontana, La Fontana Blvd



Lake Charleston, Briarcliff Circle



(black olives)

Sandalford Cove Sec11, SW 18th Rd



(black olives)

Boca Landings, Lakeridge Blvd



(mahogany)

Lakes at Boca Raton, Lakes at Boca Raton Dr



(black olives)

Country Landing, Woodstream Ter



(black olives)

W side of Davis N of Collin Dr.



(ficus)

Rossmoor Lakes, El Clair Ranch Rd.

Concrete Sidewalk (SW) Hazard Criteria

<u>Condition</u>	<u>Action</u>
Vertical Displacement (lip) $< \frac{1}{4}"$ $\frac{1}{4}"$ to $\frac{3}{4}"$ $> \frac{3}{4}"$	No Action Grind Sidewalk Remove/Replace Sidewalk
Severe Cracking	Remove/Replace Sidewalk

TREES IMPACTING INFRASTRUCTURE – CURRENT POLICY

TREES COVERED BY PERMIT

- Notify permit holder to take appropriate action to resolve issue.

TREES NOT COVERED BY PERMIT

A) **Part of an HOA**

- Offer option for HOA to take over responsibility of trees (agreement or permit)
Note that County would conduct a one-time repair of the damaged infrastructure.

B) **Not part of HOA or HOA**

- declines option to take over trees**
- 1ST occurrence – (<3/4" lip) – grind
 - 1ST occurrence – (>3/4" lip) – remove sidewalk, root prune tree, replace sidewalk
 - 2nd occurrence/repeat offender –
Remove tree & roots affecting infrastructure, and replace sidewalk

*Note – Prior notification to HOA or adjacent property owner is given when removing trees.

FISCAL IMPACT

Historically, Engineering has been root pruning problem trees and replacing damaged sidewalk. In the worst cases, the tree has also been removed (typically with signoff from HOA or adjacent property owner). On average PBC spends approximately \$1mil per fiscal year addressing tree related damage/sidewalk repairs which is increasing as more trees throughout the county are maturing. R&B has recently acquired sidewalk grinders that remove vertical displacements (lips) that are between ¼" & ¾". We just started the grinding program and we will need to monitor it for a few years to see it's effectiveness.

Approximate Yearly Costs

— Pathway Program (- \$1.5mil/yr)	
Maintenance Component is \$500k/yr	
Estimated 20% related to tree issue	- \$100k
— Material	
R&B Concrete sidewalk account	- \$100k
— Trip & Fall Claims	
Engineering average pay out per year	- \$100k
— Staff Time (sidewalk repair, root prune, tree removal)	
R&B Crew time	- \$700k
	<hr/>
Total	- \$1mil

TREE RELATED INFRASTRUCTURE – SCENARIO 1 (existing approach)

Scenario 1: Root prune, replace sidewalk
without root barrier with tree remaining:

- Concrete removal
- Root prune
- Concrete install
- Dress surrounding area

Cost for each occurrence estimated at \$1,300

Historically involved over 400 sites a year (at an annual cost of about \$550k).

Note: Based on experience future damage is expected for some percentage of location.

TREE RELATED INFRASTRUCTURE – SCENARIO 2

Scenario 2: Remove tree/roots and
replace sidewalk :

- Concrete removal
- Remove tree
- Grind stump
- Concrete install
- Dress surrounding area

Cost for each occurrence estimated at \$4,400

Historically involved about 60 sites a year (at an annual cost of about \$250k).

Note: Future damage is not expected.

TREE RELATED INFRASTRUCTURE – RECOMMENDED SCENARIO 3

Scenario 3: Root prune, **install root barrier**,

replace sidewalk with tree remaining:

- Concrete removal
- Root prune
- **Install root barrier**
- Concrete install
- Dress surrounding area

Cost for each occurrence estimated at:

\$2,000 (root barrier on one side only)

\$2,600 (root barrier on both sides – protecting both road and sidewalk)

Note: Root barriers are expected to last 15 years

TREE RELATED INFRASTRUCTURE COST COMPARISON

	Per Occurrence	Projected 10yr. Cost	Projected 25yr. Cost
SCENARIO 1 (sidewalk replace)	\$1,300	\$5,200	\$13,000
SCENARIO 2 (tree removal)	\$4,400	\$4,400	\$4,400
SCENARIO 3 (root barrier)	\$2,300	\$2,300	\$4,600

Engineering's recommendation - Scenario 3 (root barrier)
Exception: Use Scenario 2 when nuisance trees are involved.

NUISANCE TREES

Controlled Species per ULDC

- Ficus Species (ULDC requires 30' setback)
- Black Olive (requires 15' setback)
- Rosewood

Prohibited Species per ULDC

- Australian Pine (exotic)
- Toog Tree or Bischofia (exotic)

Engineering's recommendation is to pursue the removal of these nuisance trees when damaging county infrastructure.

RECENT COMMUNITIES WHERE TREES HAVE BEEN REMOVED WITHOUT MAJOR COMPLAINT ISSUES

LOCATION	#	SPECIES
•Lakeside Green	10	Black Olives
•Boca Landings	24	Green Buttonwoods
•Lakes at Boca Raton	22	Various species (Black olive and unknown)
•Canal Circle East	2	Black Olives

BOARD CONCURRENCE NEW PROTOCOL TREES IMPACTING INFRASTRUCTURE

- Grind sidewalk when vertical displacement is between $\frac{1}{4}$ " and $\frac{3}{4}$ ".
- Remove/replace sidewalk when vertical displacement is greater than $\frac{3}{4}$ " - includes adding root barrier.
- Pursue the removal of Nuisance trees when causing damage to county infrastructure.
- Conduct other tree removals (when causing damage) if requested by the adjacent property owner or HOA. However, if, in an HOA, the HOA supports removal and the adjacent owner does not – the tree will remain.