



Home Tree Mitigation Tree Commission About

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**TREE MITIGATION**  
CITY OF JACKSONVILLE




**TREE REMOVAL PERMIT INFORMATION**

Click here to search detailed information on Site Clearing and Tree Removal Permits. In reviewing tree removal information on a specific permit, for "B" permits click on the Spec 2 tab, for "L" permits click on the Tree Mitigation tab.




**TREE FUND CITY PLANTING PROJECTS**

Click here to search detailed information about City Tree Fund Planting Projects



**AVAILABLE FOR APPROPRIATION**


15F (Ordinance): \$16,484,127.74  
15N (Charter): \$6,330,006.05  
Better Jacksonville Plan - Tree Mitigation Project: \$1,717,826.00  
Total: \$24,531,959.79



**FILE AN ISSUE**

Click here to report site clearing or tree removal without a permit, or to request tree maintenance on public property in the CARE System, select "Tree Removal or Landscape Violation" from the dropdown

Disclaimer: The AVAILABLE FOR APPROPRIATION information shown on this page is updated nightly from the City's financial records, but does not include any pending appropriations, or other financial transactions of the funds which have not been completed.



If you experience difficulty viewing or accessing the documents provided on this site, or navigating this application's table (bylaws) using any assistive technology please contact the Disabled Services Division at 904-630-4940 or 904-630-4933 (TTY) to request an accommodation.

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Activity	Budget	Expenditures	Purchase Orders	Balance
00000189-5Th & Cleveland Ash Site Tree Planting	28,760	11,083	17,677	-
00000237-Avondale Tree Planting Plan	6,247	6,247	-	-
00000275-Brown's Dump Ash Site Tree Planting	5,181	2,149	3,033	-
00000378-County-Wide Tree Prog-Right Of Way	2,085,827	839,289	422,118	824,421
00000429-Duval County School Board Property	92,244	-	-	92,244
00000541-Hammond Blvd Project	175,761	-	165,478	10,283
00000604-Intersec,Bridge,Misc 09-10 Landscaping	18,468	-	-	18,468
00000651-King St Planting College To Park	16,106	7,381	8,725	-
00000659-Lenox Ave Planting Verma To Cassat	5,287	5,287	-	9,156
00000744-North Main Street Landscaping	10,446	1,290	-	-
00000755-Old St Aug At Bartram Park	1,836	1,836	-	-
00000982-Tree Protection & Related Expenses	1,451,069	14,120	-	1,436,949
00001035-Mandarin Road Tree Planting	82,667	-	8,066	74,601
00001036-Springfield Preservation Tree Planting	220,408	-	23,459	196,949
00001315-Level 2 Tree Planting Program	2,966,490	1,095,661	871,499	999,330
00001316-Moncrief Rd Beautification Project	409,341	-	267,078	142,264
00001317-Riverside Avondale Pres - Relief	415,432	-	415,432	-
00001345-District 8 Tree Planting	263,837	211,070	52,767	-
00001606-Sulzbacher Village Level 3 Tree Planting	72,298	-	72,298	-
00001607-Huguenot Park Level 3 Tree Planting	105,587	-	105,587	-
00001623-Level 3 Tree Planting Program	1,000,000	-	-	1,000,000
<b>All Activity Values</b>	<b>9,433,292.33</b>	<b>2,195,412.79</b>	<b>2,433,216.05</b>	<b>4,804,663.49</b>
All Activity Values	5,995	-	5,995	-
All Activity Values	532,545	-	-	532,545
All Activity Values	514,854	-	-	514,854
All Activity Values	383,747	419,158	-	(35,412)
All Activity Values	3,620,573	2,687,439	933,134.24	-
All Activity Values	18,857	9,428	9,428	-
All Activity Values	1,031,432	-	-	1,031,432
All Activity Values	2,266,376	-	-	2,266,376
<b>All Activity Values</b>	<b>17,807,670</b>	<b>5,311,438</b>	<b>3,381,773</b>	<b>9,114,459</b>
00000544-Harris Road Tree Planting	3,127	3,127	-	-
00001035-Mandarin Road Tree Planting	48,919	-	3,321	45,598
<b>All Activity Values</b>	<b>52,046</b>	<b>3,127</b>	<b>3,321</b>	<b>45,598</b>

Available Balance, Revenues, and Expenditures by month

	Sep-20	Aug-20	July 2020	June 2020	May 2020	April 2020	March 2020	February 2020	January 2020	December 2019	November 2019	October 2019
<b>15304-Tree Protection &amp; Related Expenditures</b>												
Cash	25,309,064	25,881,689	25,655,851	25,931,828	25,569,242	25,869,617	25,749,206	25,297,382	25,216,691	25,890,478	26,208,877	26,150,840
Liabilities	(25,870)	(325,172)	-	(4,783)	-	(4,830)	-	-	(16,014)	-	(109,903)	-
Net Budgeted Expenditures	(8,795,202)	(9,504,929)	(10,223,880)	(11,012,591)	(10,242,913)	(10,779,682)	(10,806,376)	(10,811,983)	(9,194,389)	(8,036,326)	(8,430,409)	(6,601,008)
Available Balance Total	16,487,992	16,051,588	15,431,971	14,914,454	15,326,329	15,085,105	14,942,830	14,485,399	15,986,289	17,854,152	17,668,566	19,549,833

Revenues	436,404	619,617	517,518	588,125	241,224	320,160	457,431	499,110	132,137	185,586	224,584	319,316
Expenditures	709,727	718,950	788,712	230,322	536,769	204,579	5,607	382,406	841,937	394,083	170,599	327,748

**15305-Tree Mitigation & Related Expense**

Cash	6,360,752	5,713,900	5,637,999	5,529,537	5,472,360	5,438,277	5,408,352	5,198,881	5,079,685	5,061,305	5,039,376	4,998,722
Liabilities	(48,919)	(48,919)	(48,919)	(48,919)	(52,046)	(52,046)	(52,046)	(52,046)	(52,046)	(52,046)	(52,046)	(52,046)
Net Budgeted Expenditures	(48,919)	(48,919)	(48,919)	(48,919)	(52,046)	(52,046)	(52,046)	(52,046)	(52,046)	(52,046)	(52,046)	(52,046)
Available Balance Total	6,311,833	5,664,981	5,579,080	5,477,492	5,420,315	5,386,232	5,356,307	5,146,835	5,027,639	5,009,260	4,987,330	4,946,676

Revenues	666,852	85,901	39,255	119,510	34,083	29,925	206,471	119,196	18,379	21,930	40,654	72,927
Expenditures	-	-	-	3,127	-	-	-	-	-	-	-	-

PO Balance by Fund - 10/19/2020

Purchase Order Number	Fund	Supplier Name	Center	Account	Concatenated Segments	Remaining PO Balance
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15304-Tree Protection & Related Expenditures (15F)	15304	Fernandina Mulch & Stone, LLC	151004	549006	15304 151004 549006.000000 00001315.00000 0000000	\$0.50
9A08081-12	15304	The Davey Tree Expert Company	151004	549006	15304 151004 549006.000000 00000378.00000 0000000	\$289.10
9A08644-27	15304	Fernandina Mulch & Stone, LLC	151004	549006	15304 151004 549006.000000 00000378.00000 0000000	\$300.00
606172-20	15304	Fernandina Mulch & Stone, LLC	151004	549006	15304 151004 549006.000000 00000378.00000 0000000	\$1,457.20
9A08081-7	15304	The Davey Tree Expert Company	151004	549006	15304 151004 549006.000000 00001315.00000 0000000	\$2,041.45
\$2,389.72						
\$5,801.07						
\$5,994.50						
\$6,773.63						
\$7,662.40						
\$8,066.35						
\$8,724.53						
\$9,428.34						
\$10,897.20						
\$12,421.31						
\$15,118.80						
\$16,348.80						
\$17,676.72						
\$21,463.30						
\$23,166.00						
\$23,459.24						
\$23,496.78						
\$24,074.23						
\$24,774.95						
\$28,026.00						
\$28,593.00						
\$36,049.20						
\$37,107.36						
\$47,811.84						
\$52,767.40						
\$54,901.20						
\$55,490.00						
\$56,980.01						
\$61,471.44						
\$63,423.00						
\$72,298.00						
\$93,742.00						
\$105,587.00						
\$165,478.00						
\$191,322.00						
\$214,822.00						
\$261,016.30						
\$267,077.80						
\$415,431.59						
\$708,928.00						
9A08081-5	15304	Fernandina Mulch & Stone, LLC	151004	549006	15304 151004 549006.000000 00001315.00000 0000000	\$0.50
9A08081-12	15304	The Davey Tree Expert Company	151004	549006	15304 151004 549006.000000 00000378.00000 0000000	\$289.10
9A08644-27	15304	Fernandina Mulch & Stone, LLC	151004	549006	15304 151004 549006.000000 00000378.00000 0000000	\$300.00
606172-20	15304	Fernandina Mulch & Stone, LLC	151004	549006	15304 151004 549006.000000 00000378.00000 0000000	\$1,457.20
9A08081-7	15304	The Davey Tree Expert Company	151004	549006	15304 151004 549006.000000 00001315.00000 0000000	\$2,041.45
\$2,389.72						
\$5,801.07						
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\$6,773.63						
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\$15,118.80						
\$16,348.80						
\$17,676.72						
\$21,463.30						
\$23,166.00						
\$23,459.24						
\$23,496.78						
\$24,074.23						
\$24,774.95						
\$28,026.00						
\$28,593.00						
\$36,049.20						
\$37,107.36						
\$47,811.84						
\$52,767.40						
\$54,901.20						
\$55,490.00						
\$56,980.01						
\$61,471.44						
\$63,423.00						
\$72,298.00						
\$93,742.00						
\$105,587.00						
\$165,478.00						
\$191,322.00						
\$214,822.00						
\$261,016.30						
\$267,077.80						
\$415,431.59						
\$708,928.00						
15305-Tree Mitigation & Related Expense (15N)	15305	Fernandina Mulch & Stone, LLC	151004	549006	15305 151004 549006.000000 00001035.00000 0000000	\$3,321.49

CITY OF JACKSONVILLE TREE PLANTING PROJECTS - ACTIVE

Visit <https://peg-cloud.com/jacksonvilleFL/> for City of Jacksonville Tree Project Maps  
 Visit <http://jactreemaintenance.com> - Tree Fund City Projects for links to legislation and planting details

CD	Project Title	Project Scope	Project or Ordinance Number	Division/Project Manager	Estimated Cost	Actual Cost	Anticipated Start Date	Actual Start Date	Anticipated Completion Date	Actual Completion Date	Status
7	Main Street	Tree removal and planting on N. Main St. between 1st. St. and 7th St.	2017-0111-E	Public Works - Mowing and Landscape Richard Leon/Fred Pope	\$22,057.00	\$20,176.85	8/20/2018	8/20/2018	9/17/2018	10/18/2018	Complete - Davey 1/yr
7	Harts Rd & Dunn Ave. Medians and Streetscape in Downtown Jacksonville	5 Date Palms to be planted on two medians on Harts Rd. at the cross street of Dunn Ave. (Phase 1) 8 Date Palms to be planted as replacements in Downtown Jax (4 on Riverside Ave., 2 on Adam St. W, 1 on Forsyth St. W, 1 on Monroe St) (Phase 2) 13 Date Palms total. Includes removal of existing Date Palm stumps in city street planting boxes. Introduced by CM Gaffney. Appropriation from Tree Fund 15F.	2018-0007-E	Public Works - Mowing and Landscape Richard Leon/Kathleen McGovern	\$62,540.03	\$62,540.03	Phase 1 4/10/2018 Phase 2 4/25/18	Phase 1 3/23/2018 Phase 2 4/30/18	Phase 1 6/11/18 Phase 2 6/11/18	6/11/2018	Complete - Davey 1/yr
6	Old St. Augustine Rd Medians	Two median tree plantings on Old St. Augustine Rd. from Barrtram Park Blvd to entrance of Palmetto Leaves Park South. (No removals) Introduced by CM Schellenberg. Appropriation from Tree Fund 15F.	2018-0043-E	Public Works - Mowing and Landscape Richard Leon/Kathleen McGovern	\$18,364.21	\$18,364.21	4/20/2018	6/1/2018	8/8/201	10/18/2018	Complete - Davey 1/yr
14	King Street	King St. from College St to Park St., replacement planting on nine medians and sidewalk cut-outs. Introduced by CM Love. Appropriation requested from 15F.	2018-0159-E	Public Works - Mowing and Landscape Richard Leon/Kathleen McGovern	\$85,366.23	\$73,813.93	5/11/2018	5/11/2018	8/20/2018	10/18/2018	Complete - Davey 1/yr
4	Patton Rd/Beach Blvd. -Southside	Right of Way Plantings on two adjacent sites at the intersection of Patton Rd. and Beach Blvd. (no removals) and residential right of way plantings. Introduced by CM Scott Wilson and through citizen request. Appropriation requested from 15F (\$32,202.87) and 15N (\$62,080.49)	2018-0190-E	Public Works - Mowing and Landscape McDaniel/Kathleen McGovern	\$94,283.36	\$94,283.36	11/15/2018	2/20/2019	3/14/2019	3/14/2019	Complete - Davey 2/yr
14	Avonable Neighborhood - Tree Planting Plan	Tree Planting in City ROW on residential streets in Avonable replace dead/storm damaged trees. Introduced by CM Love. Appropriation requested from 15F.	2018-0273-E	Public Works - Mowing and Landscape Richard Leon/Kathleen McGovern	\$31,232.60	\$31,232.60	7/19/2018	7/19/2018	8/20/2018	12/20/2018	Complete - Davey 1/yr
4	Lenox Ave. Tree Planting	Tree Planting in City ROW tree planting (no removals) on Lenox Ave. from Shen Ave to Cassat Ave. Introduced by CM Dennis, Appropriation requested from 15F.	2018-0307-E	Public Works - Mowing and Landscape Dave McDaniel/Kathleen McGovern	\$26,435.84	\$26,435.84	10/12/2018	10/15/2018	10/26/2018	12/20/2018	Complete - Davey 1/yr
7	Harts Rd. II Medians and Right of Way	Tree Planting in City ROW and medians; Introduced by CM Gaffney	2018-0369-E	Public Works - Mowing and Landscape Dave McDaniel/Kathleen McGovern	\$31,265.81	\$31,265.81	9/12/2018	9/12/2018	10/2/2018	12/20/2018	Complete - Davey 1/yr
6	Mandarin Rd. Tree Planting	Tree Planting in City ROW tree planting along new trail/walk and supplementing existing medians. (65 trees and MOI) Introduced by CM Schellenberg. Appropriation requested from 15N and 15F	2018-0791-E	Public Works - Mowing and Landscape Richard Leon/Kathleen McGovern	\$166,045.00	\$45,846.43	3/25/2019	3/25/2019	4/14/2019	4/14/2019	Complete - Liberty 2/yr
7	Springfield Neighborhood Tree Planting - SPAR collaboration	Tree Planting in City ROW on residential streets and businesses in Springfield for tree planting requests and to replace dead/storm damaged trees. (146 trees) Introduced by CM Gaffney. Appropriation requested from 15F.	2018-0792-E	Public Works - Mowing and Landscape Richard Leon/Kathleen McGovern	\$278,872.00	\$81,922.79	3/25/2019	4/14/2019	6/25/2019	6/25/2019	Complete - Liberty 2/yr
8	Moncrief Rd. Tree Planting	Tree Planting of 142 trees in City ROW along Moncrief Rd. as park of Moncrief Rd. Beautification Project from 33rd. St. to 45th. St., Introduced by CM Newby	2019-0178-E	Planning and Development Jeff Lucovsky	\$409,341.42	Inspection pending	9/1/2020	9/1/2020			Complete - Liberty 2/yr
14	RAP ReLeaf Neighborhood Tree Planting - RAP collaboration	Tree Planting in City ROW on residential streets and businesses in District 14 for tree planting requests and replacement dead/storm damaged trees. (364 trees) Introduced by CM Love. Appropriation requested from 15F	2019-0044-E	Public Works - Mowing and Landscape Richard Leon/Kathleen McGovern	\$781,748.00	\$781,748.00	4/20/2019	5/1/2019	5/1/2019	10/1/2020	Complete - Davey 1/yr
8	District 8 Tree Planting	Tree Planting in Yancey Park, Pritchard Rd. Median, and Moncrief - Disimore Rd. right of way. Introduced by CM Pittman. Appropriation requested from 15F.	2019-0521-E	Public Works - Mowing and Landscape Richard Leon/Kathleen McGovern	\$256,921.95	\$256,921.95	3/25/2020	3/25/2020	6/1/2020	6/1/2020	Complete - Davey 1/yr
12	Hammond Blvd.	80 trees along Hammond Blvd and Devos St. right of ways and Medians. Additional trees at Thomas Jefferson Park	2017-0767-E	Public Works - Mowing and Landscape Fred Pope/ Kathleen McGovern	\$164,478.00	\$164,478.00	7/1/2020	7/1/2020	10/1/2020	10/1/2020	Complete - Liberty 2/yr

## CITY OF JACKSONVILLE LEVEL 2 TREE PLANTING PROJECTS

Visit <https://pg-cloud.com/JacksonvilleFL/> for City of Jacksonville Tree Project Maps

Visit [jxtreemitigation.coj.net](http://jxtreemitigation.coj.net) - Tree Fund City Projects for links to legislation and planting details

Requesting Entity	Project Scope	Status	Appropriation Amount	Obligated	Contract/Warranty
Kensington Association HOA Director	54 trees requested within Kensington Lakes city right of ways along Kensington Gardens Blvd. and Kensington Lakes Dr to replace trees lost due to storm damage/disease; may include removals. Planting Plan pending.	Complete	\$124,202.62		Davey -1/yr
Cathedral District Tree Planting	50+ trees requested as Cathedral District (CD7) tree planting, may include removal of damaged/diseased trees. City right of way tree plantings within general proximity but not limited to State St to Catherine St. to Main St. to Adams St.; site evaluation scheduled	Complete	\$120,371.14		Liberty 2/yr
Executive Director, Tree Hill Nature Center	22 trees requested in Tree Hill amphitheater parking area; site plan complete; no removals required; ready for review pending cost estimate per new countywide tree planting contract.	Complete	\$21,472.80	\$21,472.80	Liberty 3/mos
San Marco Preservation Society and Greenscape, San Marco Tree Planting	102 Trees requested in city right of ways within District 5, includes removal of damaged/diseased trees; site evaluation scheduled	Punchlist/Complete	\$247,749.52		Davey -1/yr
Sheffield Elementary School PTA President	10 Trees requested to provide shade for existing play area/field at Sheffield Elementary School; site visit complete - pending design and review.	Complete	\$20,414.48		Davey -1/yr
S-Line Biodiversity Corridor Tree Planting	Installation of 25 trees throughout the S-Line Trail Biodiversity Corridor. This will offer additional tree canopy and shade to the trail.	Complete	\$30,949.40	\$30,949.40	Liberty 3/mos
Canopy Place Tree Planting/resident request	Installation of 40 trees in city right of ways and medians to provide additional tree canopy, sound buffer and screening.	Complete	\$117,483.97		Davey -1/yr
Sunrise Ridge/resident request	Installation of 40 tree in city right of ways to increase tree canopy as well screening and buffer from adjacent highway.	Complete	\$107,316.52		Davey -1/yr
Jacksonville Beach Golf Park/Jax Beach	Installation of 156 trees in city golf course park to increase tree canopy, create screening, and attract wildlife.	Complete	\$147,562.80	\$147,562.80	Liberty 3/mos
Yates Building - Cultural Council of Greater Jacksonville	8 Trees to be installed around renovated fountain at building entrance	Complete	\$38,312.00		Liberty 2/yr
City Cemetery - citizen request	18 Trees in right of ways on Ionia St. and Jessie St.	Complete	\$41,350.50		Liberty 2/yr
Baymeadows East Association Tree Planting	119 Trees in right of ways and medians on Baymeadows East and Fort Family Regional Park	Complete	\$284,900.07		Davey -1/yr

Requesting Entity	Project Scope	Status	Appropriation Amount	Obligated	Contract/Warranty
Cobblestone Homeowners Association/residential requests/HOA	Installation of 105 trees in city right of ways and medians to provide additional tree canopy, sound buffer and screening.	In Progress	\$191,322.00		Liberty 2/yr
Love Grove/Willowbranch	51 Trees in right of ways around and within Willowbranch Park	Scheduling	\$93,742.00		Liberty 2/yr
Ed Austin Park Tree Planting/Resident request	115 Trees in right of ways around and within Willowbranch Park	In Progress	\$214,822.00		Liberty 2/yr
Nathan Krestul Park - Friends of Krestul Park	Trees within Park - 34 trees	Scheduling	\$95,580.00		Liberty 2/yr
John Gorrie Dog Park/Friends of John Gorrie Dog Park	Trees along Park Right of Way - Buffer - 11 Trees	Scheduling	\$23,166.00		Liberty 2/yr
Atlantic Blvd./Atlantic Blvd. Business Assoc.	Trees along Park Right of Way and within medians	In Development			Liberty 2/yr
Southside Estates Park/Residents adjacent to park	Trees within Park	In Development			Liberty 2/yr
Alexandria Oaks Park/SMPS and Bolles School request	Trees within Park - 15 trees	Scheduling	\$28,593.00		Liberty 2/yr
Huntington Forest Park/Resident request to CM	Trees along Park Right of Way - Buffer - 15 trees	Scheduling	\$28,026.00		Liberty 2/yr
Neptune Beach/Residential requests - City of Neptune	Trees within residential Right of Ways - 47 trees	Scheduling	\$55,490.00		Liberty 3/mos
Greenland Park/residents adjacent to park	Trees within Park - 53 trees	Scheduling	\$95,580.00		Liberty 2/yr
Harlow Blvd./Resident request	Trees within median on Harlow Blvd. - 47 trees	MBRC	\$102,804.00		Liberty 2/yr
Atlantic Beach/City of Atlantic Beach	Trees within Atlantic Beach residential Right of Ways and Parks - 96 trees	MBRC	\$194,532.00		Liberty 2/yr

GIC: Jacksonville Trees to Offset Stormwater (May 2019)  
 Draft Priorities for Review by Tree Commission  
 Potential Recommendation to Resiliency Subcommittee on Environmental Planning  
 Draft 10.20.20

### **Working group**

Nancy Powell, John November, Lad Hawkins, Tom Larson, Bill Hoff, Jr., Bruce Fouraker

### **1) Set ambitious goals and implement a major plan for tree planting to effect stormwater, heat index and beautification. Place significant focus on the Northside, Eastside and Downtown.**

Adapted from GIC Recommendation #10 and #12 with measurement #6

- Identify area on the Northside/former redline areas where the data shows a lack of tree canopy
- Add Downtown as a priority due to the low canopy coverage and revitalization efforts
- Set a specific goal to increase the number of trees by XXXX, which would increase the canopy by Y and lower the heat index by Z by YEAR.
- Level 2 funding and resources be set against that goal - over next 1, 3 and 5 years.
- Measure results
- Community wide education effort on the project and benefit to the residents and businesses.

### **2) Strengthen Ordinance Codes to support a healthy and growing tree canopy.**

Expands on GIC Recommendation #7 and #15:

- Review and revise the streetscape, tree, landscape, parking lot codes to ensure that more canopy trees are required and able to grow and thrive. (We understand that a subcommittee including Susan Grandin, Fred Pope and others are working on this - would like ability to give input.)

### **3. Plant trees around stormwater ponds.**

GIC Recommendation #13.

Set a specific goal for this using the data from the mapping tools and the stormwater calculators. Prioritize areas of town that have higher flood risks.

### **4. Plan and implement major education effort to private property owners on benefits of caring for trees, retaining mature trees, and planting new trees.**

In lieu of GIC Recommendation #5, adapted from GIC #4.

### **5. Tree Maintenance Operations and Funding**

- Consideration of larger match for mature tree maintenance (currently 25%)
- Coordination between DOT and City for state road maintenance.



**Top recommendations to improve forest care and coverage in Jacksonville listed in priority order include the following:**

1. Link the city's urban trees to stormwater infrastructure through city documents including the Comprehensive Plan, Land Development Procedures Manual, and Stormwater Design Manual. These documents should discuss the role of urban forests in stormwater management. They should also credit trees as best management practices (BMPs) for stormwater management.

2. Apply for aid when cleaning up and replanting trees post-storm. The Federal Emergency Management Agency (FEMA) offers aid for not just storm clean up, but also for replanting, as long as the urban forest is clearly identified as a part of green stormwater infrastructure. The Florida Forest Service (FFS) Urban and Community Forestry staff is an excellent resource for more information on this topic. They are currently working with FEMA to develop the standards for how to account for tree loss.

3. Use the GIC's stormwater uptake calculator to determine the benefits of maintaining or increasing tree canopy goals by watershed. The calculator provided to Jacksonville allows the city to determine the stormwater benefits or detriments (changes in runoff) from adding or losing trees and calculates the pollution loading reductions for nitrogen, phosphorus and sediment.

4. Discourage the practice of clear-cutting development sites in the City of Jacksonville. Total loss of tree canopy on a site results in excess runoff and excess nutrient loading. In addition, housing developments that include green space and natural areas in their plans sell faster and for higher profits (Benedict and McMahon 2006). Higher profits result in increased tax revenue for a city. One way to avoid clear-cutting lots is by setting tree canopy coverage requirements or preventing clear cutting prior to submission of an approved site plan for a development. These requirements can be set as percentages by land use or by tree density requirements per land use/area.

5. Remove the single-family dwelling exemption from tree removal permit ordinances. The City of Jacksonville requires tree removal permits for most land uses but exempts single family dwellings. A significant portion of the city's land area is made up of single family dwellings. As such, a large portion of tree canopy can be lost. Having a permit requirement would allow the urban forester to educate the landowner and determine if there are alternatives to tree removal. This recommendation will require more staff for review, enforcement and education.



Total loss of tree canopy on a site that has been clear cut results in excess runoff and additional nutrient loading.

6. Conduct a land cover assessment every four years to determine current canopy coverage and allow for comparison of tree canopy coverage change over time. Keeping tree canopy coverages at levels that promote public health, walkability, and groundwater recharge is vital for livability and for meeting state water quality standards. Regular updates to land cover maps allow for this analysis and planning to take place. In addition, regular updates to an urban tree canopy accompanied by stormwater uptake calculations can be used to show FEMA that tree canopy is being used as green stormwater infrastructure.

7. Require 600, 1,000 and 1,500 cubic feet soil volume planting requirements for small, medium, and large trees respectively for all tree plantings. At a minimum, canopy trees require 1000 cubic feet of soil volume to thrive as recommended by the Environmental Protection Agency (Stormwater to Street Trees 2013). The City of Jacksonville currently does not require a minimum root zone volume. Instead, tree planting areas are specified. A lack of minimum root zone volume requirement can lead to inadequate soil volume for newly planted trees, contributing to suboptimal growth and health.

8. Consult urban forestry staff at the beginning of development projects for city-owned and privately-owned land. Urban forestry staff in most cities are consulted when tree survival has already been compromised. The city should involve urban forestry staff at the beginning of projects during preliminary design discussions so forestry staff can identify trees that should be preserved on-site along with tree preservation mechanisms.

④ In lieu of this ↑

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9. **Inspect tree protection mechanisms prior to the beginning of construction.** In many cities, staff either do not inspect tree protection mechanisms or those who conduct inspections lack training in tree protection mechanisms, such as fencing, and arboriculture. City staff should be trained to inspect tree protection mechanisms and inspections should be required before construction can begin.

10. **Set clear measurable goals with actionable steps for the conserving the urban forest.** The city should create urban forestry goals by neighborhood, watershed, or community zone. Having a canopy goal allows cities to recognize when canopy is too low or and make a plan for how to bring the canopy up to desired levels or to prevent excessive tree loss. Having a goal also inspires community tree planting campaigns.

11. **Use the urban forestry budget calculator to determine funds needed to reach planting goals.** Planting and maintaining trees costs additional money, but is well worth the outcomes for ecosystem services that trees provide. The city should determine the goal for its tree canopy coverage level and allocate funds to achieve it over time. Most importantly, the city should encourage more planting on private property since most city land is in private ownership.

12. **Use the new infiltration maps to prioritize tree planting and tree retention areas.** GIC created infiltration maps to show where trees should be planted and retained for maximum stormwater benefit. Distribute these maps to community groups and use them within municipal government processes to guide tree planting efforts and encourage tree preservation.

13. **Plant trees around stormwater ponds.** Trees take up stormwater and do not threaten the structural integrity of stormwater ponds as long as they are not placed on the embankment. Trees also beautify a landscape and can allow a stormwater pond to function as an amenity and a stormwater management device. Tree roots also work to cleanse groundwater and can add shade to a stormwater pond to reduce algal growth.

14. **Incentivize LID and constructed green infrastructure (green roofs, bioswales, recessed planting beds etc.).** Most developers in Jacksonville are not utilizing LID (Low Impact Development) strategy BMPs, though the regulatory framework exists for them to do so. One way to encourage the use of LID BMPs is to green light - faster approval processes -- the development process when substantial LID methods are employed on-site.

15. **Develop a complete green streets policy.** Complete green streets allow for integration of stormwater management and aesthetic goals. By incorporating vegetation as an integral part of the design, green streets create and connect habitat, reduce urban heat island effect, help remove air pollutants, and promote walking and biking. The city should develop a green streets policy that includes the following elements: green infrastructure (trees and other vegetation), pedestrian space, bicycle lanes, and stormwater management.



16. **Develop an Urban Forest Management Plan (UFMP) for the city.** The city should include the current condition of the urban forest, the current maintenance costs, and options to achieve the urban tree canopy coverage goals in a citywide UMFP. A UFMP details a vision for urban tree canopy. It meshes local government and community interests to proactively manage the urban canopy and provide long term benefits. The city should develop an UFMP which describes the condition of the urban forest, the current maintenance costs, and the urban tree canopy coverage goals and methods to achieve them.

17. **Develop a Forestry Emergency Response Plan (FERP) for the city.** Forestry Emergency Response Plans (FERPs) are essential parts of any municipality's hazard mitigation and emergency management plans. Elements of FERPs should be given the same thought and attention paid to other aspects of emergency response management. FERPs should include the following sections: tree benefits, risk management and pre-disaster response, and post-disaster response and FEMA reimbursement processes for tree loss.

18. **Re-use urban waste wood.** Re-use of urban waste wood is an excellent way to engage the community, get them excited about urban forestry, and make a positive impact on the local economy. The USFS Southern Region funded the Southeast Urban Wood Exchange which connects urban wood producers and processors. Urban wood in Jacksonville can be posted to this site and used by locals. Access the website at: <http://www.urbanwoodexchange.org/index.php>.