

*Board of County Commissioners*

# **Addressing the Value and Role of Trees in the Development of Orange County**

## **Work Session #2**

**January 11, 2022**



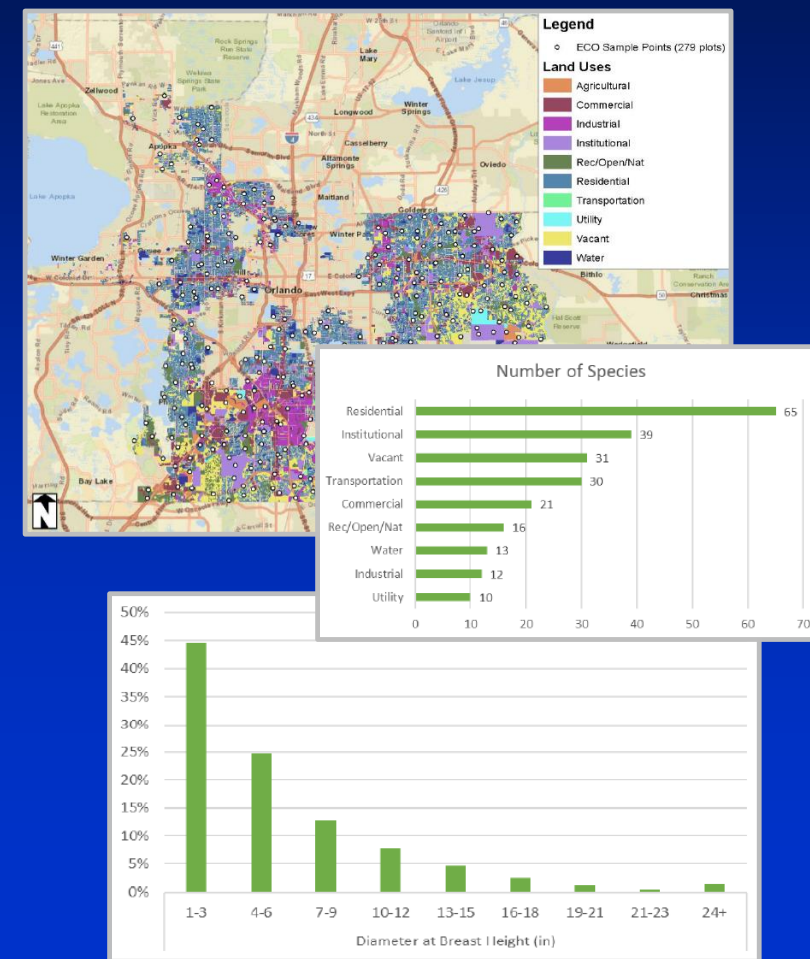
# Overview and Objectives

- Reviewing standards and processes for tree preservation and removal
  - Sustainability commitments
  - Current code/permitting issues
  - Citizen concerns
- Evaluate best practices
- Gain insight and policy direction
  - Work Session #1 – Education and Process
    - Held on October 26, 2021
  - Work Session #2 – Analysis and Objectives



# Work Session #1 Recap

- Protection of trees is essential
  - Should be appropriately controlled
  - Preserve high value trees
  - Prohibit indiscriminant clearing
- Provide a wide variety of benefits
- Canopy is in good health
- Development process is complex

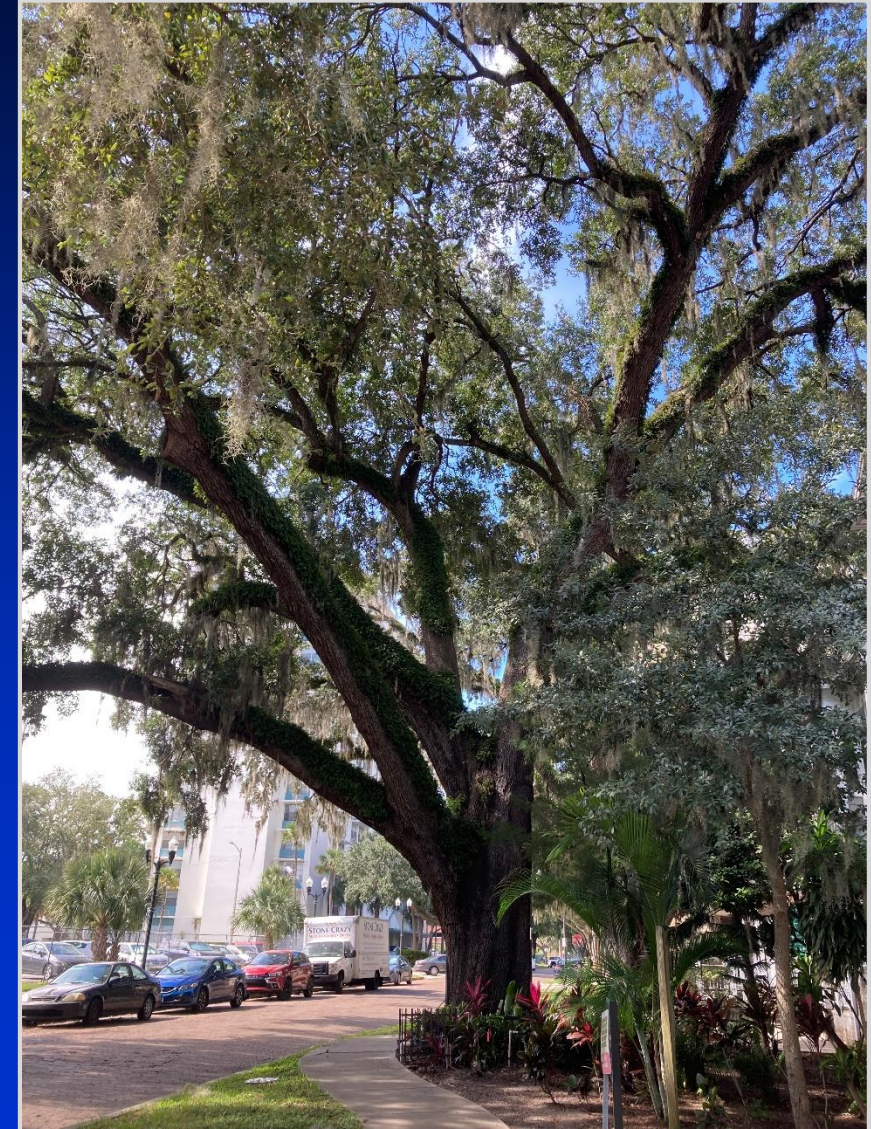






# Presentation Outline

- Assessment
- Review of other Jurisdictions
- Board Policy Considerations
- Immediate Actions
- Next Steps



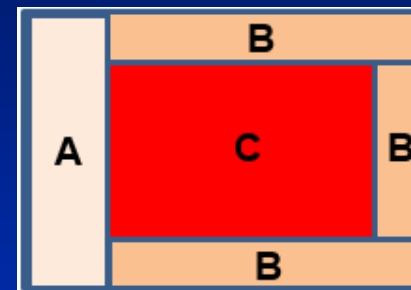
- **Codes**

- Chapter 15, Art. VIII – Tree Preservation and Removal
- Chapter 16 - Excavation and Fill
- Chapter 24 – Landscape, Buffering and Open Space
- Chapter 38 – Zoning

- **Area of Focus – Development Projects**

- Tree protections
- Replacement / mitigation standards
- Process

- Permit required for the destruction of protected trees
  - Protected trees – trees on the recommended stock list, located within identified zones on the site
    - 8+” (Protection Zone A) Frontage
    - 10+” (Protection Zone B) Side and rear
    - 24+” (Protection Zone C) Project area
  - Requires onsite replacement or payment to Tree Fund
    - Protected Trees – 1:1 caliper inch replacement
    - Specimen Trees – 2:1 (Live Oak / Magnolia 24+”)
  - Provides a mitigation cap of 90 caliper inches per acre





# Tree Protections

## Top Issue

- There are no specific provisions in the code to preserve a tree, no matter what size or species, only requirements for a narrative justification when Protected trees are to be removed
  - To qualify for 90" mitigation cap – must demonstrate that they have avoided the removal of Protected trees to the maximum extent practicable
  - To impact Specimen trees - must show that impacts are necessary for site development; grading, drainage, utilities, parking, construction of structures, site access, etc.





# Tree Protections

## Narrative Justification

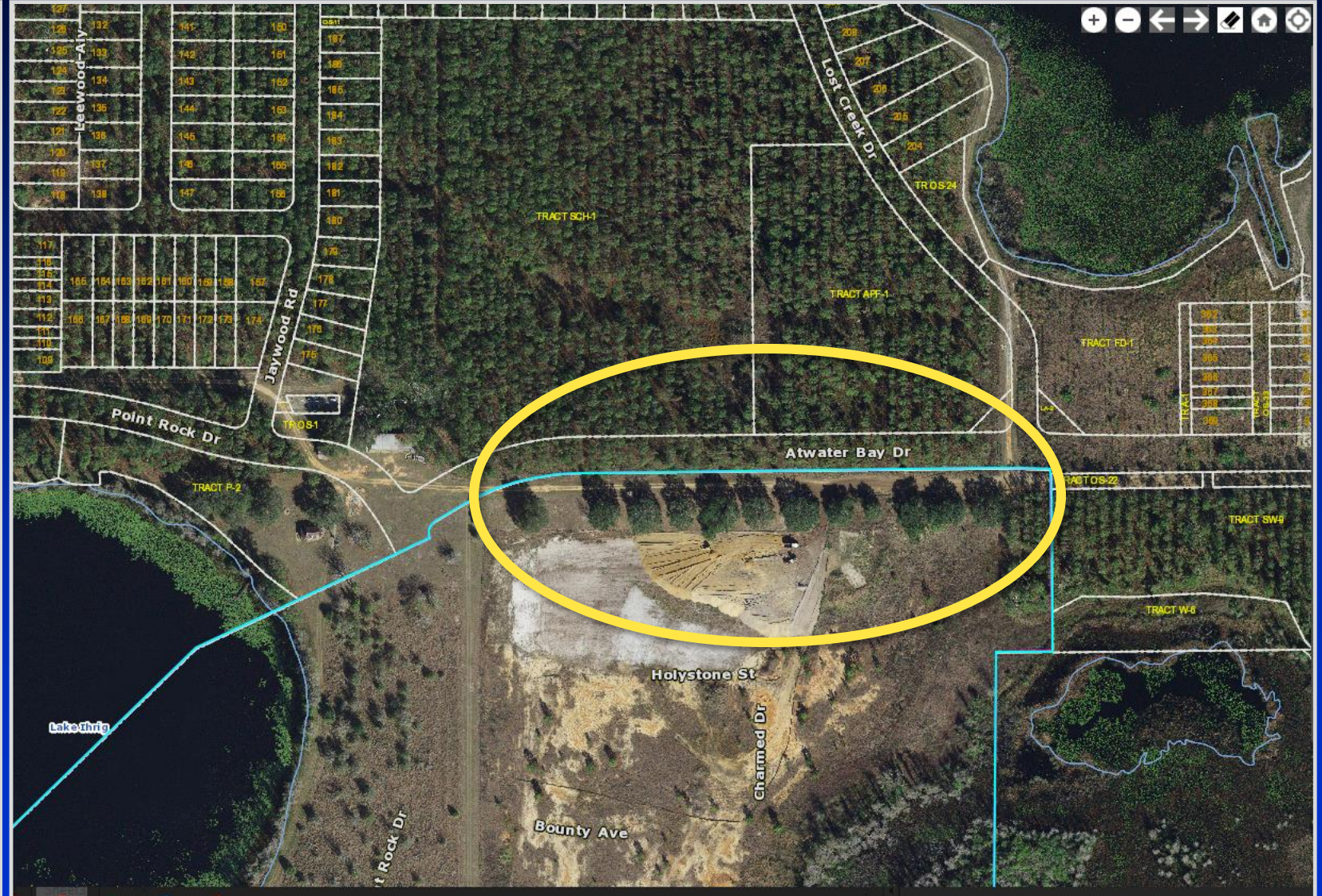
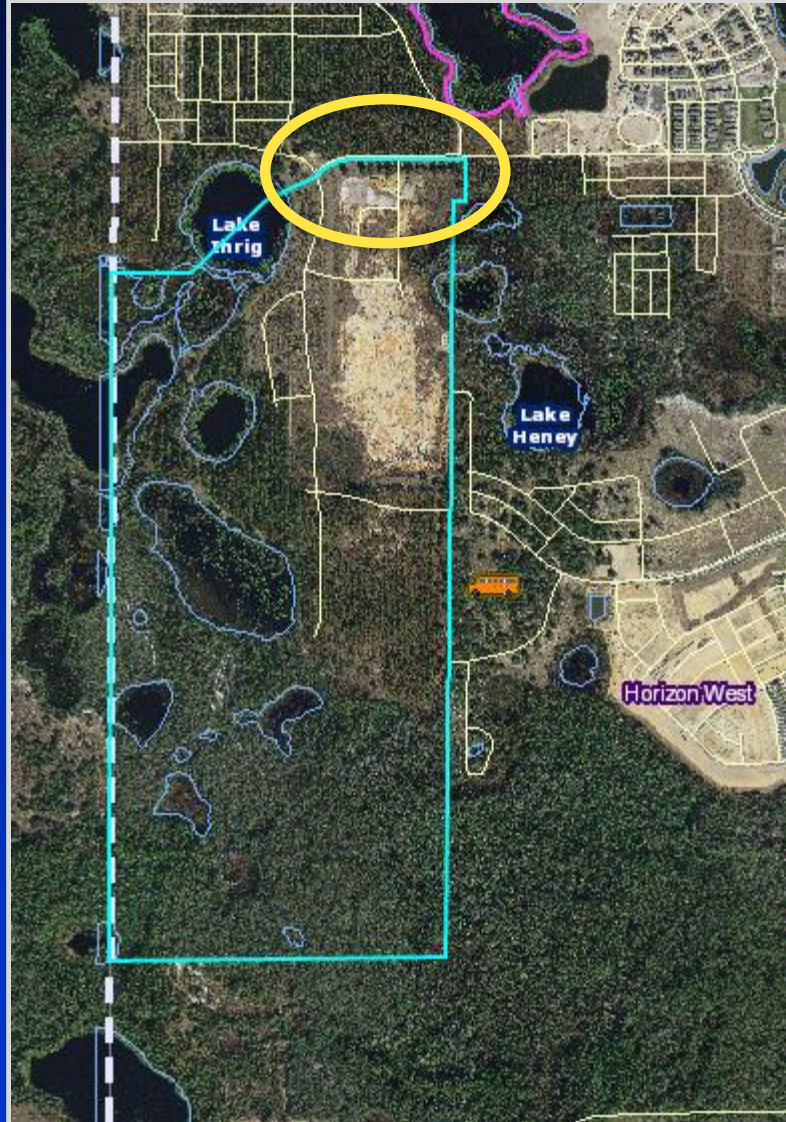
- **Design Criteria for Site Development**
  - **Grading challenges – high water table in east to hills in west**
    - May need to regrade for commercial viability of site (rear drainage)
  - **Stormwater – trees complicate maintenance and system integrity**
    - Roots damage underdrains / Leaves can clog drainage
    - Accessibility for maintenance
  - **Utilities – roots underground and limbs in aerial**
    - Installation may need large area excavated / gravity sewer may dictate
  - **Parking – minimum parking standards**
    - Large trees take up spots / root damage





# Tree Protections

## Grading Example







# Tree Protections

## Grading Example

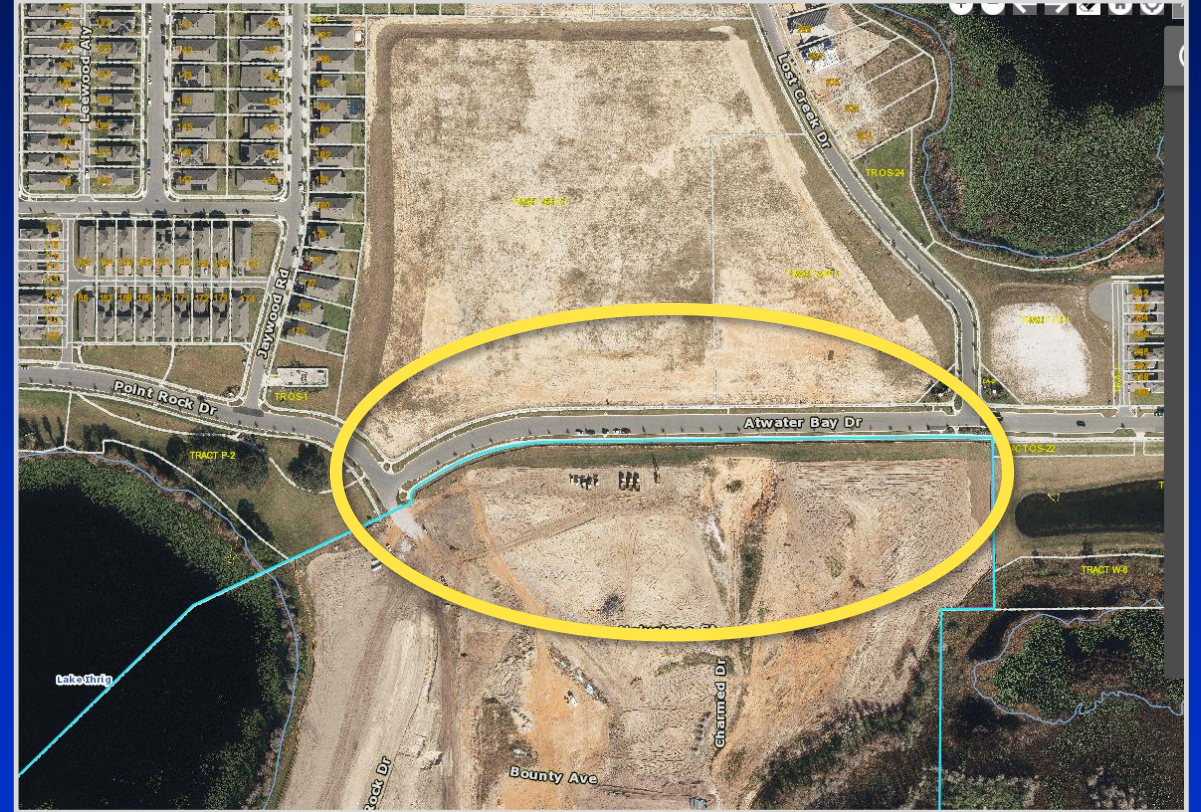
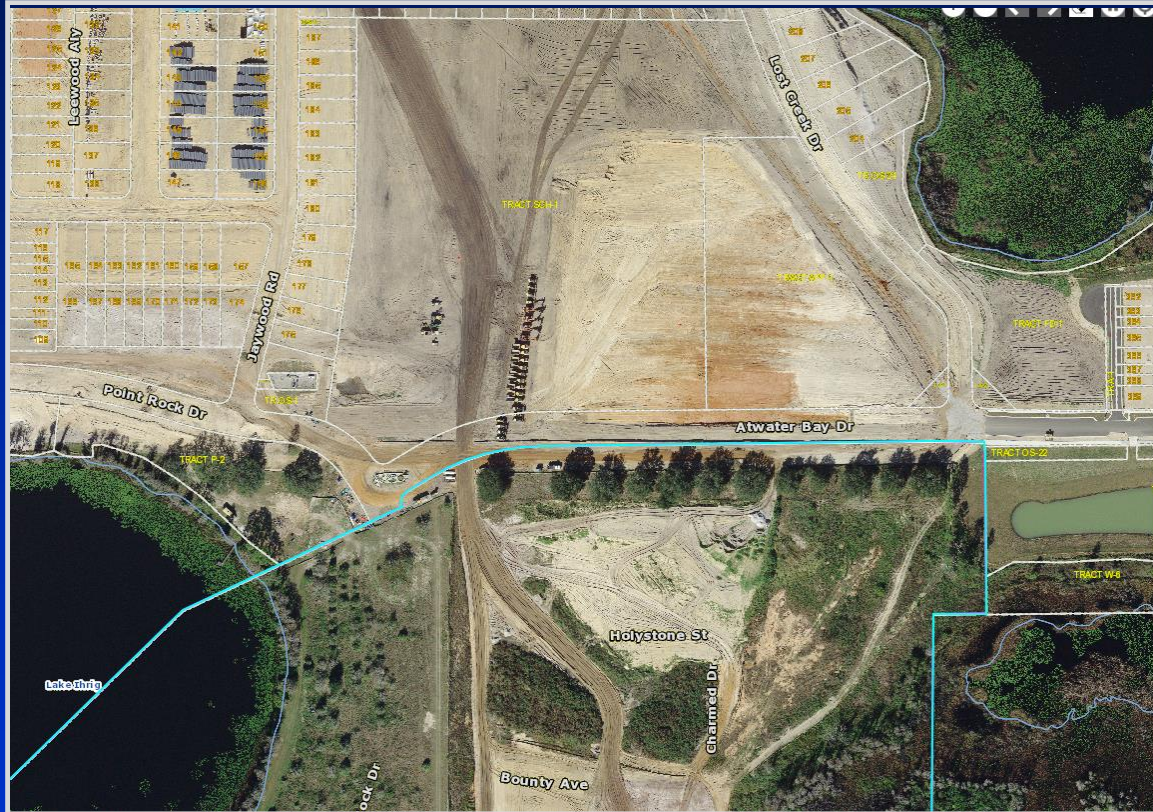






# Tree Protections

## Grading Example

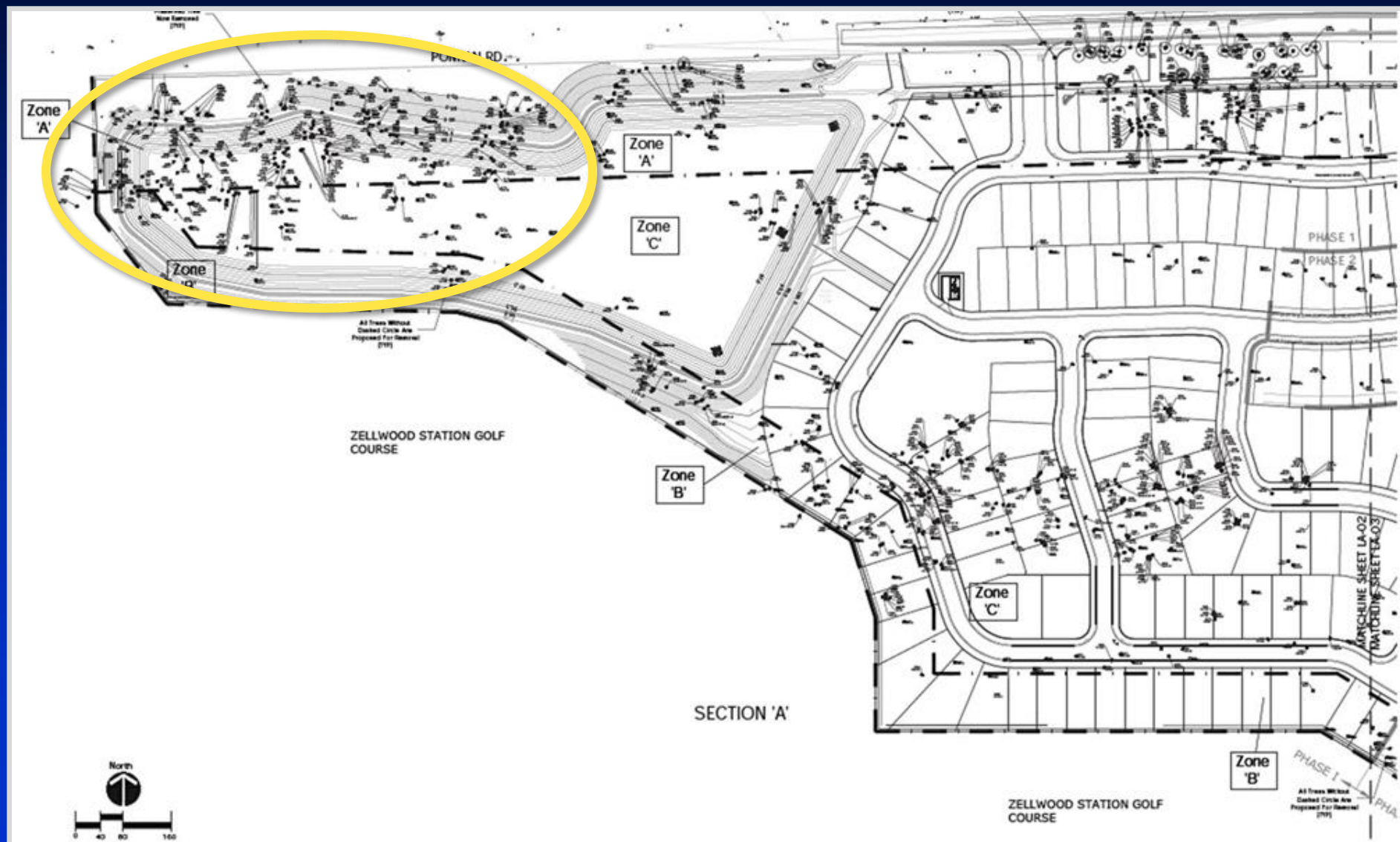






# Tree Protections

## Stormwater Example





# Inclusive Design







# Inclusive Design

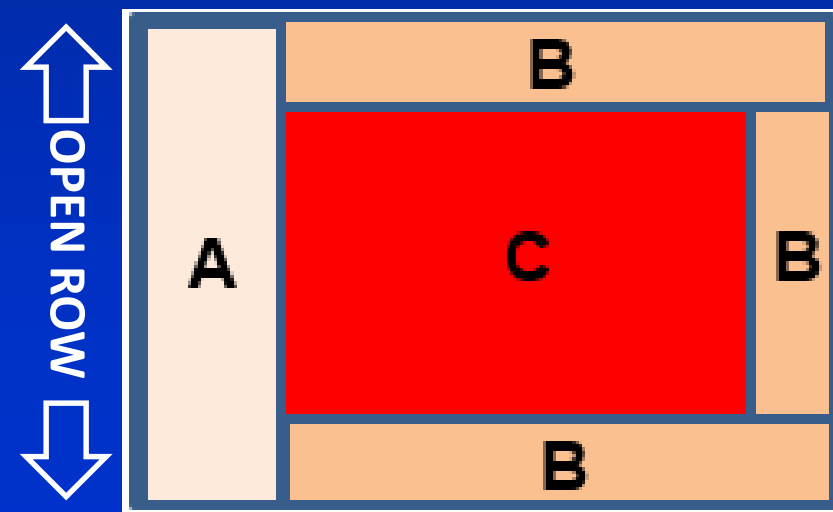




# Replacement and Mitigation Standards

## Top Issues

- Exceptions leave many trees out of regulatory consideration
  - Small trees (<8")
  - Any size Pine
  - Single family residential lots
- Protection Zones B and C allow the exclusion of larger trees, up to 23" (Zone C)
- 90" per acre cap may exclude a substantial number of trees



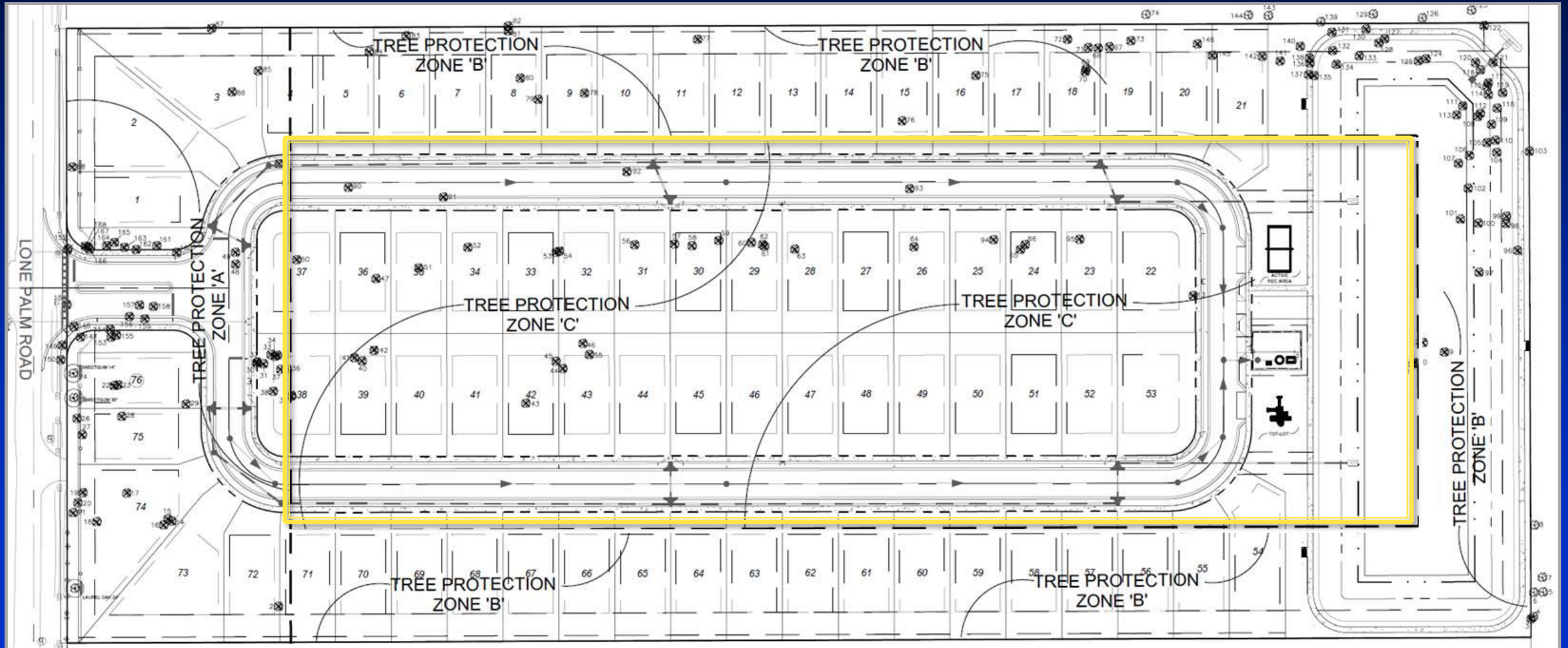






# Replacement and Mitigation Standards

## Protection Zone C Example







# Replacement and Mitigation Standards

## Protection Zone C Example

### TREE PROTECTION ZONE 'A'

#	TREE TYPE	SIZE	REMOVED INCHES	SAVED INCHES	MITIGATION
1	LAUREL OAK	24"	-	24"	0"
2	RED MAPLE	6"	6"	-	N/A
16	RED MAPLE	24"	24"	-	24"
17	LIVE OAK	12"	12"	-	12"
22	BALD CYPRESS	24"	24"	-	24"
23	SWEETBAY MAG	16"	16"	-	16"
24	SWEETGUM	14"	-	14"	0"
25	SWEETGUM	30"	-	30"	0"
26	S RED CEDAR	18"	18"	-	18"
27	S RED CEDAR	24"	24"	-	24"
28	RED MAPLE	24"	24"	-	24"
29	S RED CEDAR	36"	36"	-	36"
36	LAUREL OAK	36"	36"	-	36"
48	RED MAPLE	14"	14"	-	14"
89	S RED CEDAR	24"	24"	-	24"
149	SILVER MAPLE	9"	9"	-	9"
150	LAUREL OAK	8"	8"	-	8"
162	SILVER MAPLE	16"	16"	-	16"
164	WATER OAK	11"	11"	-	11"
166	RED MAPLE	12"	12"	-	12"
167	SWEETGUM	8"	8"	-	8"
	<b>TOTAL</b>	<b>390"</b>	<b>322"</b>	<b>68"</b>	<b>316"</b>

### TREE PROTECTION ZONE 'B'

#	TREE TYPE	SIZE	REMOVED INCHES	SAVED INCHES	MITIGATION
3	LAUREL OAK	10"	10"	-	10"
9	RED MAPLE	10"	10"	-	10"
12	RED MAPLE	10"	10"	-	10"
67	LAUREL OAK	17"	17"	-	17"
68	LAUREL OAK	14"	14"	-	14"
69	LAUREL OAK	15"	15"	-	15"
70	LAUREL OAK	16"	16"	-	16"
71	LIVE OAK	13"	13"	-	13"
72	LIVE OAK	12"	12"	-	12"
73	LIVE OAK	14"	14"	-	14"
75	LAUREL OAK	11"	11"	-	11"
76	LIVE OAK	24"	24"	-	48"
77	RED MAPLE	20"	20"	-	20"
78	DBL RED MAPLE	12"	12"	-	12"
89	S RED CEDAR	24"	24"	-	24"
90	RED MAPLE	10"	10"	-	10"
92	RED MAPLE	24"	24"	-	24"
93	LAUREL OAK	10"	10"	-	10"
94	LAUREL OAK	10"	10"	-	10"
96	LAUREL OAK	26"	26"	-	26"
97	SILVER MAPLE	18"	18"	-	18"
98	LAUREL OAK	12"	12"	-	12"
99	LAUREL OAK	12"	12"	-	12"
	<b>TOTAL</b>	<b>344"</b>	<b>344"</b>	<b>-</b>	<b>344"</b>

### TREE PROTECTION ZONE 'C'

#	TREE TYPE	SIZE	REMOVED INCHES	SAVED INCHES	MITIGATION
10	RED MAPLE	10"	10"	-	N/A
11	RED MAPLE	12"	12"	-	N/A
13	RED MAPLE	24"	24"	-	24"
39	LAUREL OAK	14"	14"	-	N/A
40	RED MAPLE	12"	12"	-	N/A
41	RED MAPLE	13"	13"	-	N/A
42	SABAL PALM	14"	14"	-	N/A
43	SABAL PALM	14"	14"	-	N/A
44	LAUREL OAK	16"	16"	-	N/A
45	LAUREL OAK	12"	12"	-	N/A
46	LAUREL OAK	16"	16"	-	N/A
47	LAUREL OAK	27"	27"	-	27"
48	RED MAPLE	14"	14"	-	N/A
49	S RED CEDAR	14"	14"	-	N/A
50	DBL LAUREL OAK	10"	10"	-	N/A
51	DBL LAUREL OAK	24"	24"	-	24"
52	LAUREL OAK	20"	20"	-	N/A
54	LAUREL OAK	14"	14"	-	N/A
56	DBL LAUREL OAK	12"	12"	-	N/A
58	DBL LAUREL OAK	15"	15"	-	N/A
59	LAUREL OAK	12"	12"	-	N/A
60	LAUREL OAK	18"	18"	-	N/A
62	LAUREL OAK	12"	12"	-	N/A
63	LAUREL OAK	12"	12"	-	N/A
64	TPL LAUREL OAK	15"	15"	-	N/A
65	LAUREL OAK	21"	21"	-	N/A
66	DBL LAUREL OAK	18"	18"	-	N/A
95	MAG	6"	6"	-	N/A
	<b>TOTAL</b>	<b>421"</b>	<b>75"</b>	<b>-</b>	<b>75"</b>

Zone A Total - 390  
Saved - 68  
Mitigated - 316

Zone B Total - 344  
Saved - 0  
Mitigated - 344

Zone C Total - 421  
Saved - 0  
Mitigated - 75



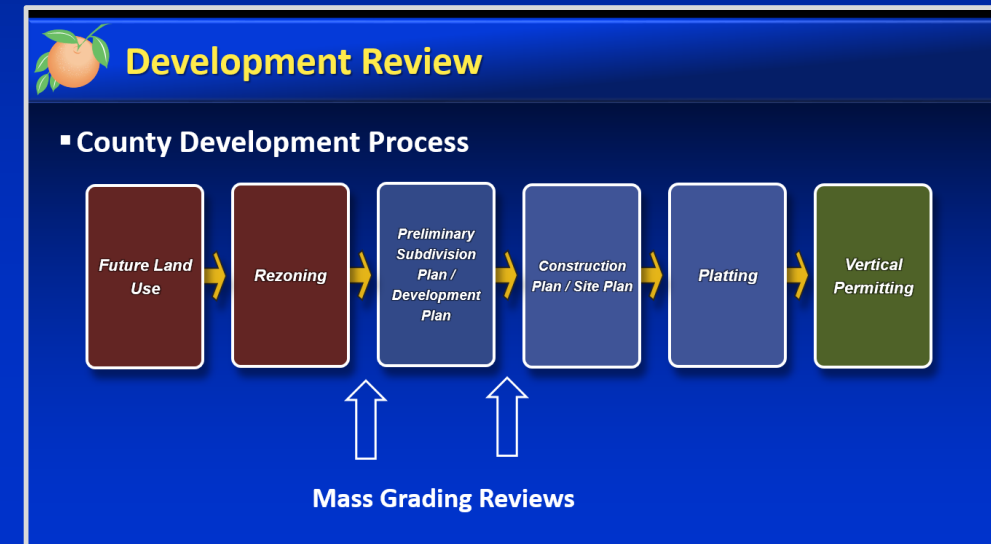


# Replacement and Mitigation Standards

## Top issues

- Specimen tree definition excludes other valuable tree species
  - May limit biodiversity
- 90" mitigation cap not clearly identified for undeveloped property
- Ecosystem services provided by large trees are not restored for many years by the replanting of small trees
- No specific mechanism for tracking or quantifying offsite mitigation managed through Tree Replacement Trust Fund
  - Offsite replacement success rate for many trees is unknown

- Mass Grading DP permits occurring before a site plan is prepared
  - Staff arborists need specific data relating to lots, structures, etc. for permit analysis
- Information on trees identified for preservation not consistently depicted on all plans
  - Mass grading plans / Landscape plans
  - Limits accidental clearance or damage during site work





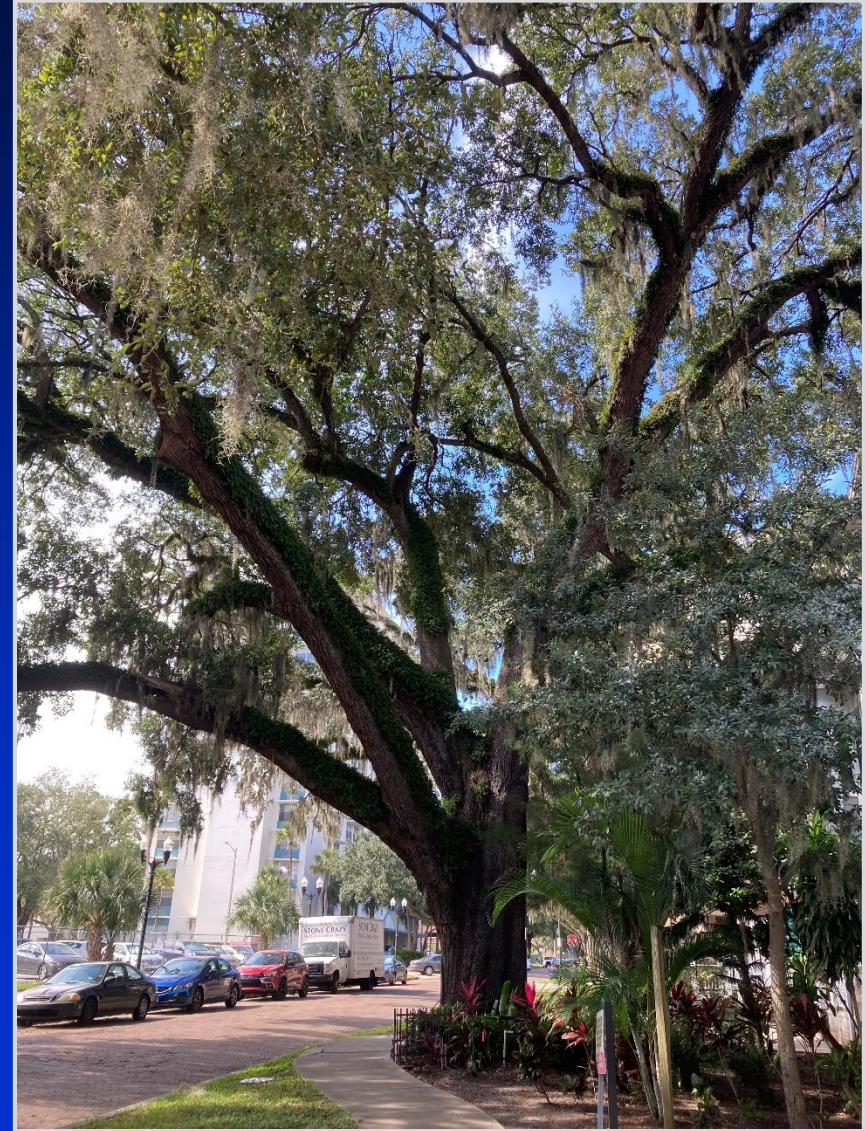
# Summary of Assessment

- No specific standards for preservation
- Many trees are excluded or exempt from code provisions
- Mitigation caps leave many trees out of the equation
- Benefits provided by large trees may not be replaced for years
- Some processes for mass grading lack detailed information for effective arbor review
- Tree preservation data may not exist on all site plans



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# Review of other Jurisdictions

## ■ Counties

- Seminole
- Osceola
- Lake
- Duval
- Hillsborough
- Alachua
- Broward

## ■ Cities

- Orlando
- Winter Park
- Apopka
- Winter Garden
- Ocoee
- Windermere
- Mt. Dora





# Review of other Jurisdictions

## ■ Standards Reviewed

- Tree Preservation – Ranges from percentages to “case by case” decision to size/class
  - 50% of developable site
  - Jurisdictional process – staff/board determination
  - Maximum protection for 40+”
  - Special requirements – Champion Trees / Grand Oaks / Heritage Trees
- Regulated Trees – Ranges from size to type and classification
  - Ranges from “No minimum” to 18”
  - Specimen trees 18” and up
  - Nonspecimen 5” and up on recommended stock list (valued within jurisdiction)
  - Native to Central Florida
  - Florida Friendly list, greater than 4”



# Review of other Jurisdictions

## ■ Standards Reviewed

### – Mitigation Ratio / Fee – Ranges from appraisal to ratios

- Guide for Plant Appraisal, 9<sup>th</sup> Edition
- Ratios from .5:1 to 3:1
- Fees from \$5 per tree to \$215 per inch

### – Mitigation Caps

- 60"/acre (commercial) 30"/acre (residential)
- \$15,000/acre plus \$200/inch for each tree over 30"

### – Protection Zones / Locational Requirements

- No equivalent A/B/C zones - only one standard

### – SFR Exceptions

- 1 acre to 5 acres



# Review of other Jurisdictions

## ■ Other Items of note

### — Biodiversity

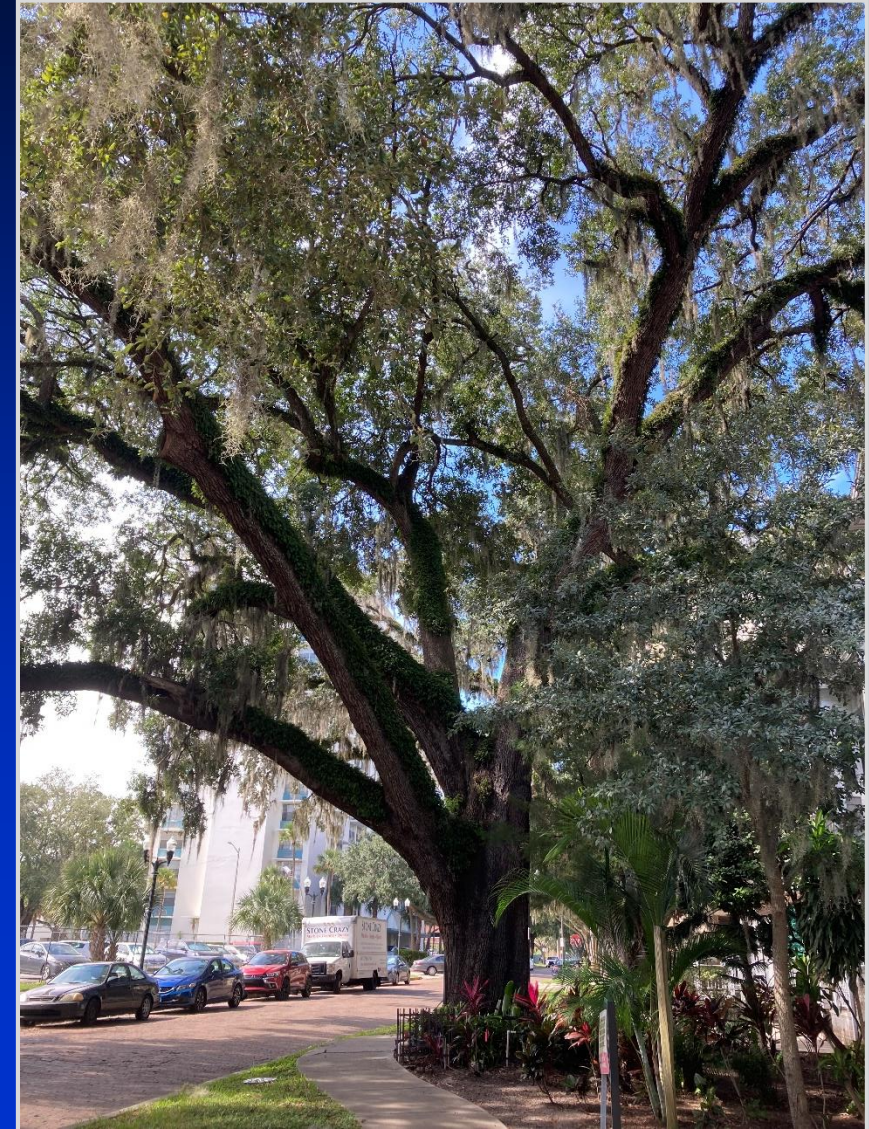
- Combat monocultures - required minimum mix of tree species  
(trees planted)
  - 10-20 = min 2 species
  - 21-30 = min 3 species
  - 31-40 = min 4 species
  - 41+ = min 5 species
- Wider variety of Specimen trees - up to 15

### — Canopy goal – 40% city coverage in Orlando



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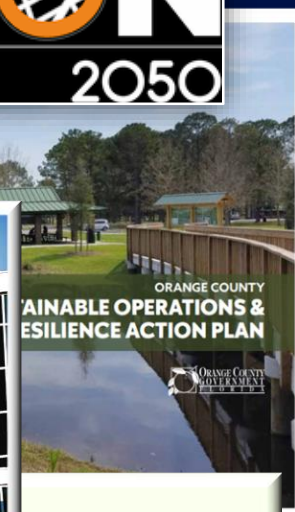
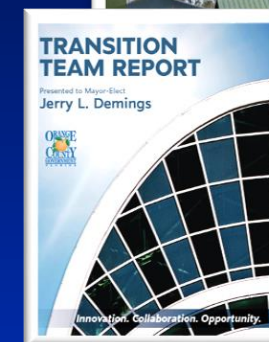






# Commitments

- **County & Community-wide Goals (2015)**
  - Promote urban forestry and expand tree canopy
- **Transition Team Report (2018)**
  - Adopt a Sustainable and Smart Growth Vision
- **County Sustainable Operations Action Plan (2021)**
  - Protect and enhance tree canopy and wildlife habitats on County properties
    - Community and County benefits from safe, inclusive, and accessible green and public spaces
    - Helps County meet for LEED for Cities and AARP Livable Communities







# Policy Considerations

- Development process is complex and impacts to trees are an inevitable part of development
- Staff assessment has identified several areas of focus for discussion
  - *Protecting More Trees*
  - *Preserving High Value Trees*
  - *Prioritizing USA “Urban Forest”*
  - *Planting Trees – Partnerships and Programs*



# Policy Considerations

## ■ Protecting More Trees

- Maximize eligible species on Recommended Species list for onsite replacement
- Reduce exception size threshold for all trees
- Reduce size thresholds for Protected trees in Protection Zones
- Reduce property size for private residential lot exception
- Clarify mitigation cap eligibility - only for nondeveloped sites
  - Consider a percent threshold of total trees or limit to Zone C



# Policy Considerations

## ■ Preserving High Value Trees

- Increase Specimen tree list to enhance biodiversity
  - Species and size
- Create “Heritage Tree” designation to define highest value trees
  - Possibly a Specimen tree with larger size threshold
- Identify location of highest value trees at LUP stage
- Limit removal of highest value trees in Protection Zone A and B



# Policy Considerations

- **Prioritizing Urban Service Area “Urban Forest”**
  - **Reduced threshold for residential exception in USA**
    - Look to see most common lot size break points
  - **Limit removal of Specimen trees in Protection Zone A and B**
    - Stormwater or parking



# Policy Considerations

## ■ Planting Trees - *Partnerships and Programs*

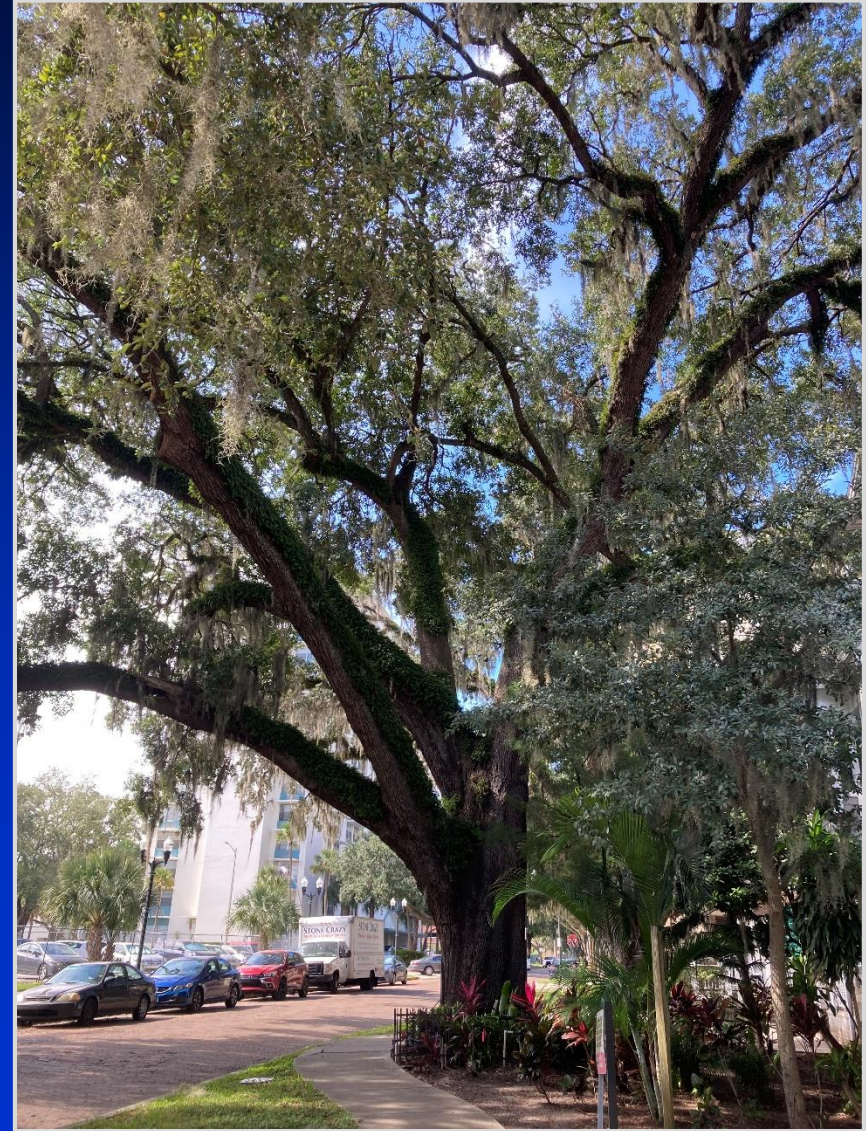
- Develop plan for most effective use of Tree Replacement Fund
  - Assess County property for tree planting
  - Develop equity model for community tree enhancement programs
    - Heat island mitigation assessment
    - Biodiversity enhancement
- Develop plan for routine tree canopy coverage analysis





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# Immediate Actions

- **Administrative changes proposed to improve review criteria and limit accidental damage to preserved trees during mass grading:**
  - Overlay tree survey on PSP/DP site plan
  - Verify the tree survey via inspection or some independent verification
  - DRC/Zoning should make comments during appropriate reviews about reasonable modifications to the site to protect the trees of greatest value
  - Evaluate options for Mass Grading DPs
  - Protected trees (to be preserved) must be shown on Mass Grading plans
  - Verify preserved trees are flagged and have a fence/barrier prior to permit issuance or authorization to clear



# Immediate Actions

## ■ Challenges

### —Staffing/cross training for increased inspections

- Permit verification
- Site work protections
- Compliance

### —Permit timeframes

- Negotiating alternatives to narrative request for mitigation cap and Specimen tree impacts
  - Site work changes (i.e. limit reverse grading)

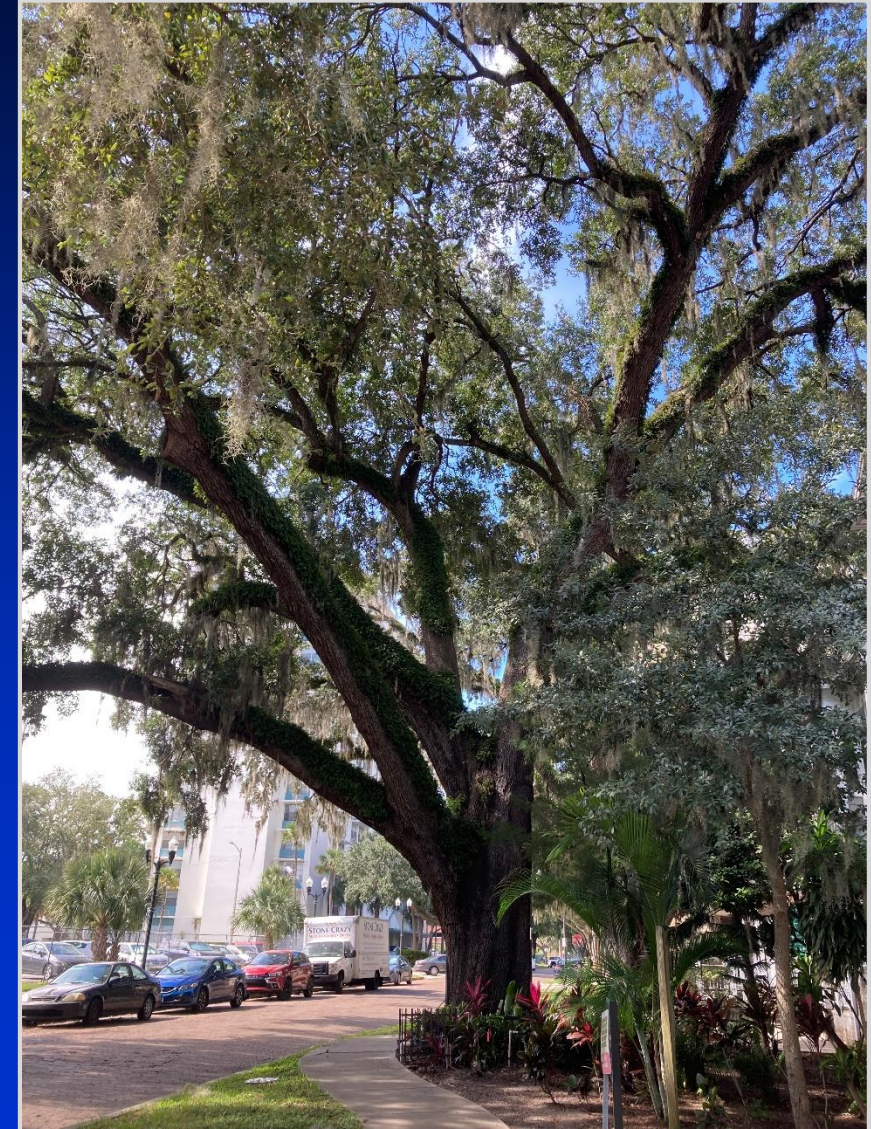
### —In process applications





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# Next Steps

- **Stakeholder Engagement**

- Land owners / Property owners / Envl and Sustainability Advocates
- Developers / Consultants / Engineers

- **Advisory Boards**

- EPC / SAB / AG

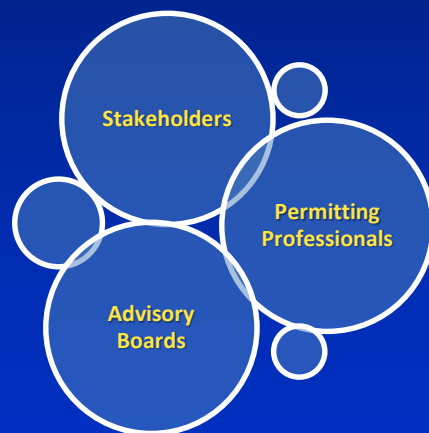
- **Drafting process**

- **Work Session**

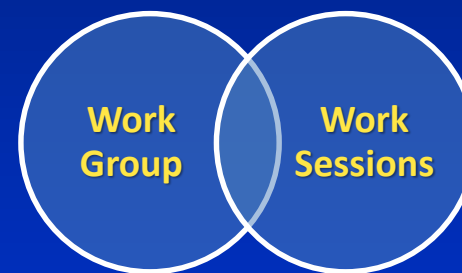
- Board / LPA *(Summer 2022)*

- **Adoption process**

- DAB / LPA / Board *(Fall/Winter 2022)*



Engagement



Drafting



Adoption



# Considerations Summary

## ■ Areas of Focus

### —Protecting More Trees

- Size limits
- Exceptions size thresholds
- Mitigation cap eligibility
- Protection Zones

### —Preserving High Value Trees

- Enhance Specimen tree biodiversity
- “Heritage Tree” designations, removal in less intense Protection Zones

### —Prioritizing USA “Urban Forest”

- Reduced residential exception
- Removal of Specimen trees for stormwater or parking

### —Planting Trees – Partnerships and Programs

- Plan for most effective use of Tree Replacement Fund
- Canopy study program

## ■ Stakeholders