



Construction and Demolition Debris Management in Alachua County

Solid Waste and Resource Recovery
Gus Olmos, Director



Objectives

- Describe current Construction and Demolition Debris (C&D) Management System
- Evaluate operational life of C&D landfills in the County
- Evaluate options to increase operational life of the landfills or add additional capacity



Comprehensive Plan

Policy 1.3.4 Private landfills, including C&D landfills, disposal capacity and tipping fees shall be continually monitored by the County to determine if there is sufficient environmentally sound disposal capacity for material such as construction and demolition debris at fair market prices. Should the County have concerns about capacity or cost, it may perform a needs analysis in consideration of a publicly owned construction and demolition debris management facility.



Comprehensive Plan

OBJECTIVE 1.4

Develop and maintain a long-term solid waste management system. Utilize the Leveda Brown Environmental Park as a locale for centralized solid waste management facilities with the capacity for processing various components of the solid waste stream for the next 20 years. The core of the Park is a solid waste transfer station with disposal at properly permitted facilities elsewhere. Continue to expand the capacity and function of the Park to meet changing needs for processing solid waste.



Comprehensive Plan

Policy 1.4.2 Balu Forest shall be held in reserve as a future solid waste management facility site. Should the need arise and there be no other environmentally safe or economic option available, Balu Forest should be considered for a solid waste management facility site.



Options

- Option 1: No changes to existing system
- Option 2: Increase capacity by building and operating a C&D debris landfill on land owned by Alachua County
- Option 3: Utilize Zero Waste Strategies such as incentives, code changes, special permit conditions and additional diversion options to increase reuse, recycling and extend operational life of existing landfills

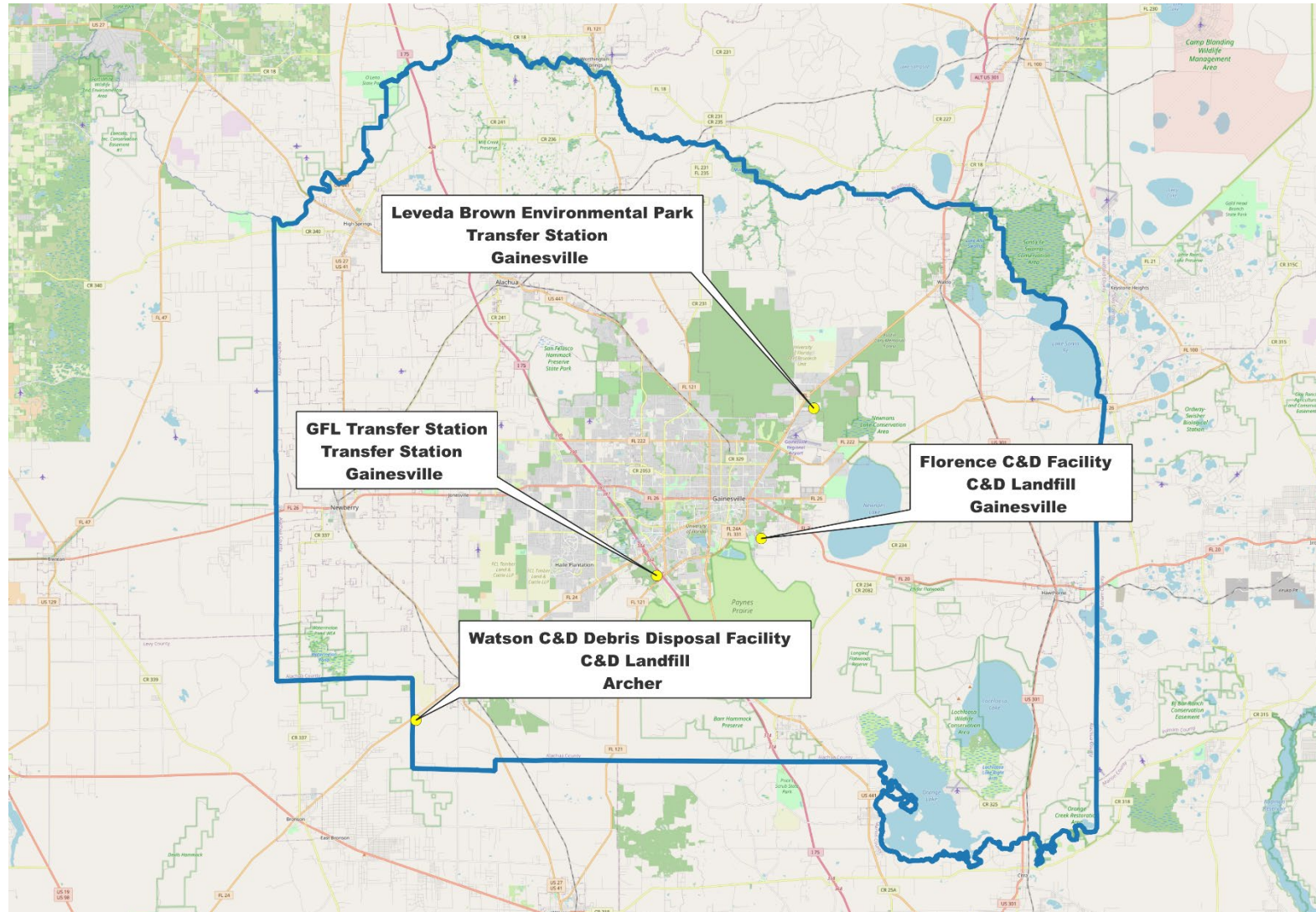


Current System

- C&D collection, recycling and disposal is primarily managed by the private sector
- Main disposal options are Watson and Florence C&D landfills
- Recycled C&D consists of mostly concrete and source separated material
- Most concrete is source separated and brought to Florida Concrete Recycling
- C&D is also collected at the Leveda Brown Transfer Station and Rural Collection Centers as part of the Municipal Solid Waste (MSW) stream

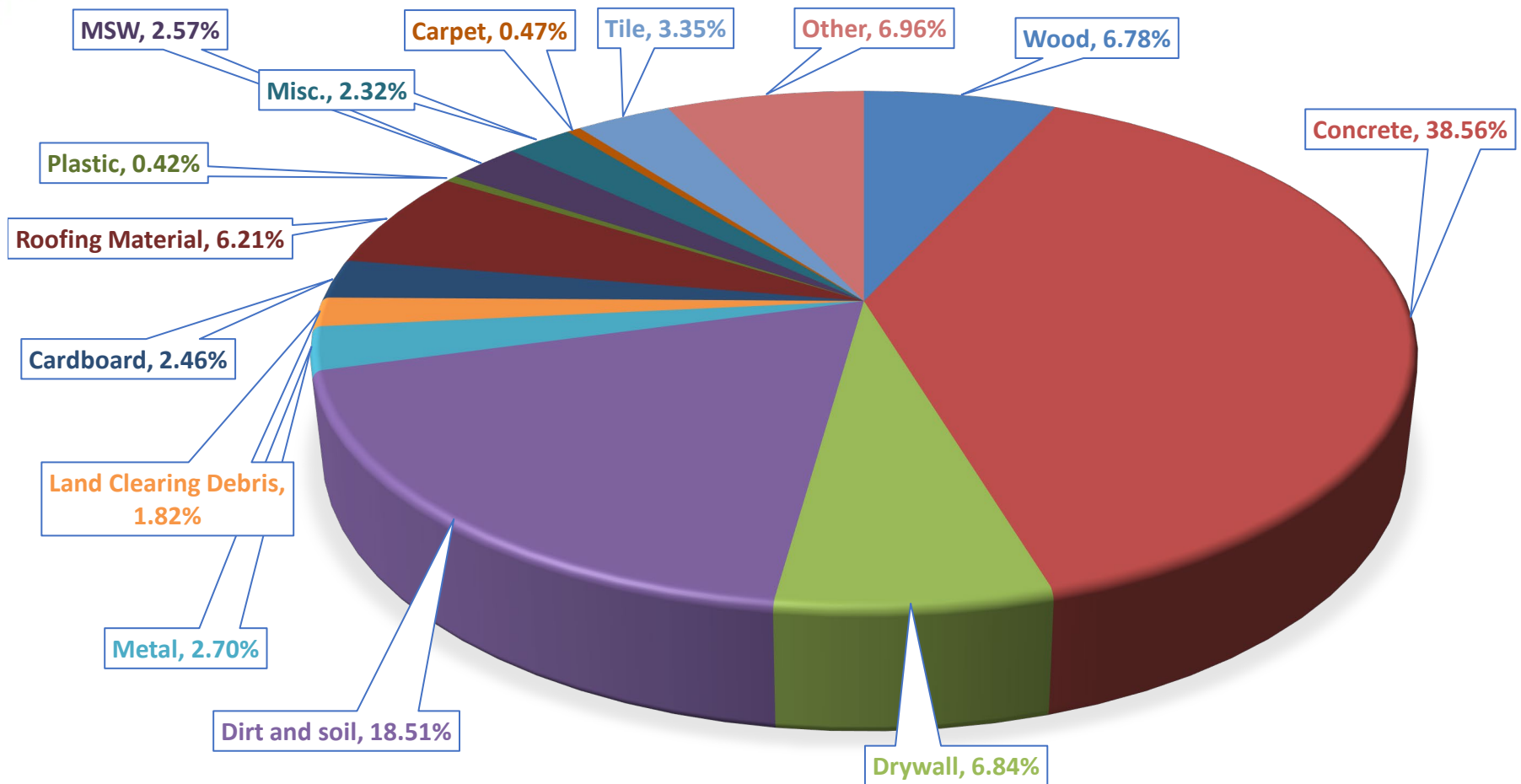


C&D Management Locations Within Alachua County





Composition of C&D Debris by Weight





Countywide C&D Recycling Statistics

Material	Avg Tons Recycled	Product or End Use
Concrete	67,420.17	Road Base; Fill material; Landscaping; Aggregate
Fines	22,880.00	Alternative Daily Cover (ADC) in Landfills
Land Clearing Debris	5,130.29	Mulch; Compost; Road Base; Fuel
Metals	1,529.50	Production of New Metals
Wood	307.00	Mulch; Compost; Road Base; Fuel
Drywall (Gypsum)	140.71	New Drywall; Ingredients for cement, fertilizer, and composting



Current System

Facility	Landfilled (tons/year)	Recycled (tons/year)	Diversion Percent
Watson C&D	53,228	34,074	24%
Florence C&D	29,888	1,385	4%
Florida Concrete Recycling	0	66,675	100
Leveda Brown Environmental Park	10,320	0	0



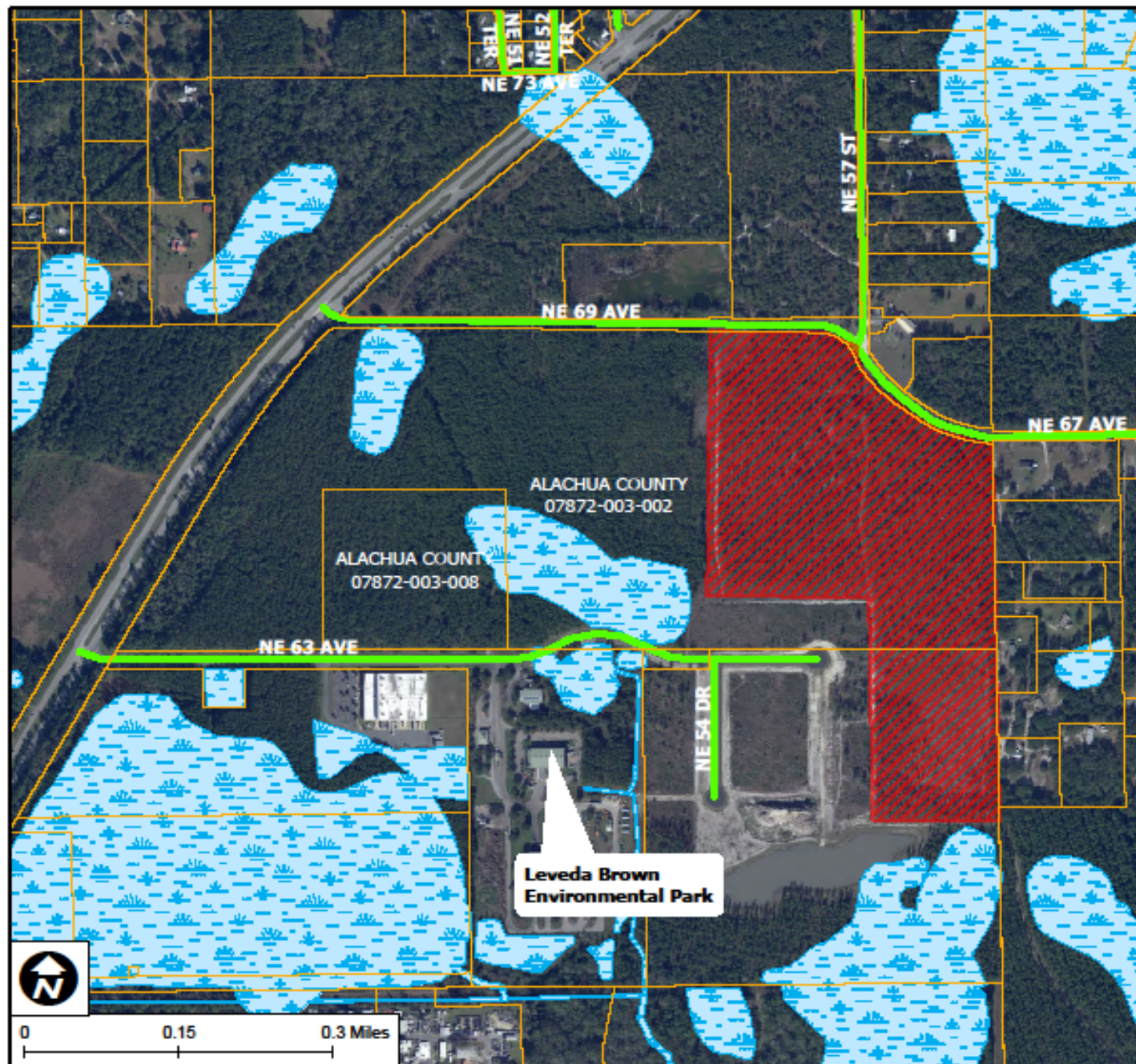
C & D Landfills Expected Operating Life

Facility	Annual Disposal	Expected Life
Florence C&D	124,533 cy	24 years
Watson C&D	221,783 cy	27 years



Option 2

Increase capacity by building and operating a C&D debris landfill on land owned by Alachua County



**C&D Discussion
Leveda Brown
Possible Location**

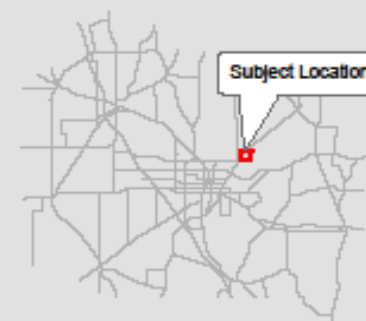
Legend

- Roadway, County Maintained
- Gopher Tortoise Habitat
- Wetlands
- Parcel

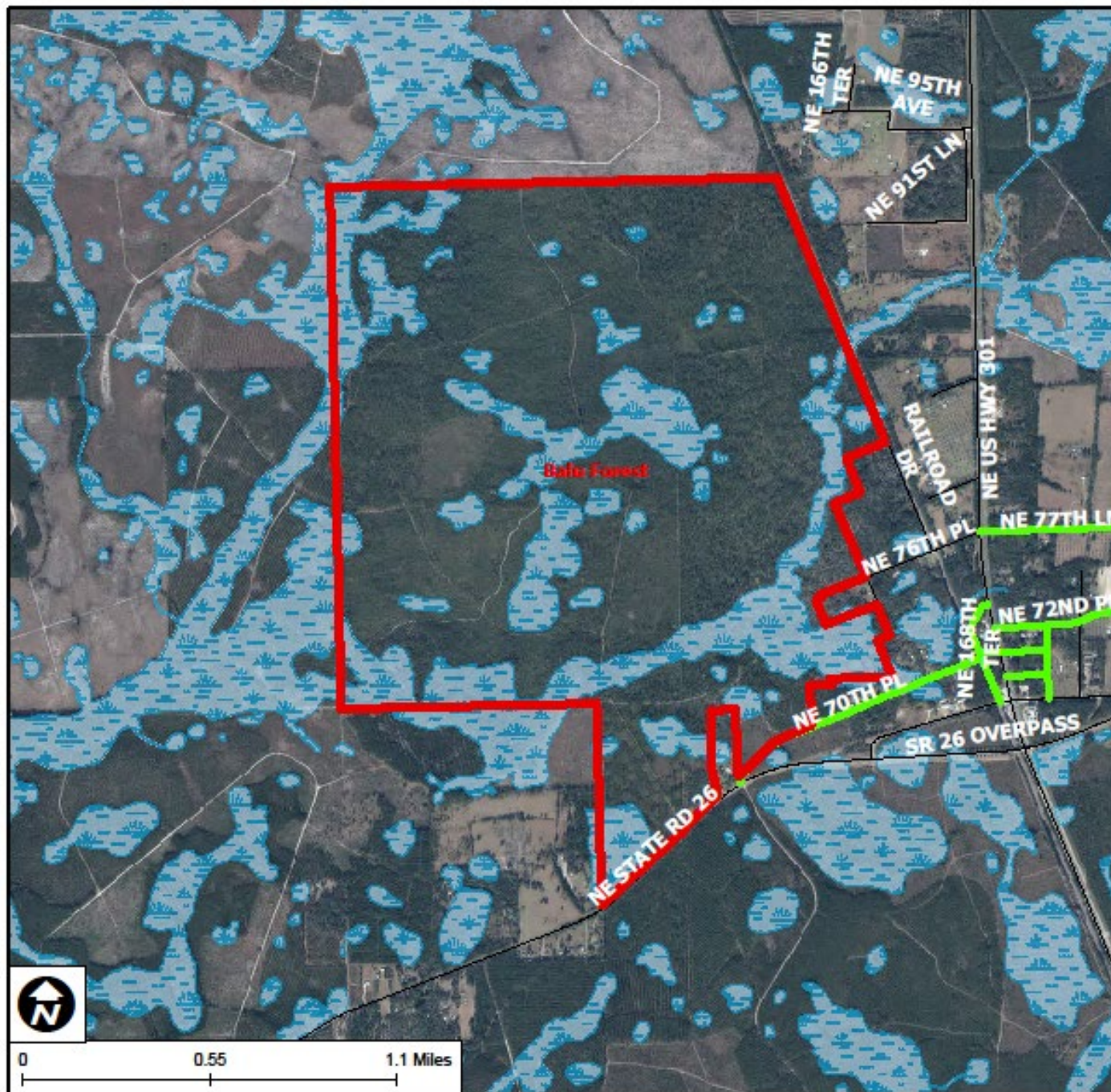
**ALACHUA COUNTY
PUBLIC WORKS**

PHONE: 352-374-5245
FAX: 352-337-6243
MAILING ADDRESS:
5620 NW 120TH LANE
GAINESVILLE, FL 32653

Date: April 26, 2023
Prepared by: PW GIS



Alachua County



C&D Discussion Balu Forest Possible Location

- Legend
- Roadway, County Maintained
 - Roadway, Not County Maintained
 - Wetlands
 - Conservation Areas

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Date: May 15, 2023
Prepared by: PW GIS



Alachua County



Construction & Operation Costs

Construction Cost

- \$1 million per acre
- \$5 – 6 million for a Materials Recovery Facility

Operation Cost

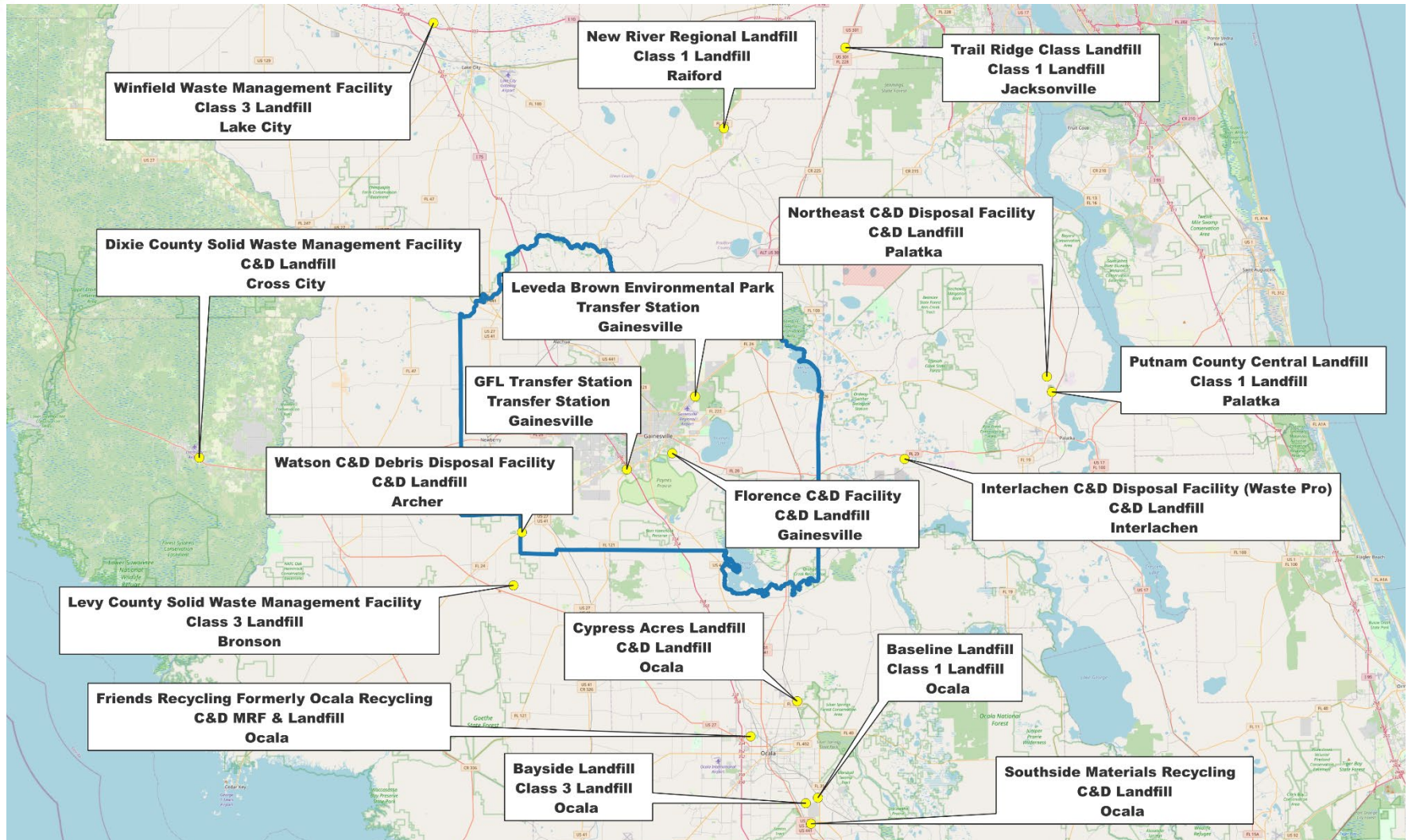
- Approximately \$2 million/year
- Approximately \$1 million for equipment

Closure

- Closure liner (cap) \$7.5 M
- Leachate collection and treatment



Regional C&D Facilities



Facility	Location	Fee	Lined
Florence	Gainesville	\$55.00	No
Watson	Archer	\$45.00	No
New River	Raiford	\$37.00	Yes*
Bronson Sanitary Landfill	Bronson	\$34.00	No
Northeast C&D Landfill	Palatka	\$36.00	Yes
Winfield Solid Waste Facility	Lake City	\$41.00	No
Cypress Acres	Ocala	\$44.00	No
Baseline	Ocala	\$45.00	No
Sun Country Materials Landfill	Riverview	\$61.50	Yes
St. Marks C&D Disposal Facility	St. Augustine	\$120.76	Yes



Potential Next Steps

- Discuss potential locations
- Engineering cost estimates
- Estimate potential tipping fees
- Market analyses
 - Operating life of other C&D landfills in the area
- Consider construction of a Class I Landfill



Option 3

Utilize Zero Waste Strategies such as incentives, code changes, special permit conditions and additional diversion options to increase reuse, recycling and extend operational life of existing landfills



Issues

- Develop methods to produce clean, source-separated incoming material
- Develop markets for recovered materials
- Lack of sufficient quantities of material
 - Potential need for long term storage of materials



Increase Recycling / Reuse

1. Require source separation of designated materials at the point of generation
 - For projects over a certain size threshold
 - Start with a specific list of materials

2. Incentivize deconstruction over demolition
 - Create a deconstruction program to help offset higher up-front costs



Solid Waste & Resource Recovery Operational Changes

Prohibit disposal of C&D materials at

- Transfer Station citizen drop off area
- Rural Collection Centers
- Curbside Collection

Provide dedicated C&D containers at Transfer Station and Rural Collection Areas

- C&D Transfer Station



Findings

- Option 1: Existing C&D debris landfill capacity in the County is over 20 years
- Option 2: A new County operated C&D debris landfill may not be competitive with existing alternatives. Consider building a Class I landfill
- Option 3: 20-year window will allow the County enough time to implement and evaluate the success of the alternatives described in Option 3.



Recommendation

Direct Staff to bring back to the Board a plan to evaluate and implement Zero Waste Strategies to increase the reuse and recycling of Construction and Demolition materials in Alachua County