Tower Road Reconstruction Scrub Seal Pavement Interlayer



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County Location

Alachua County, Florida

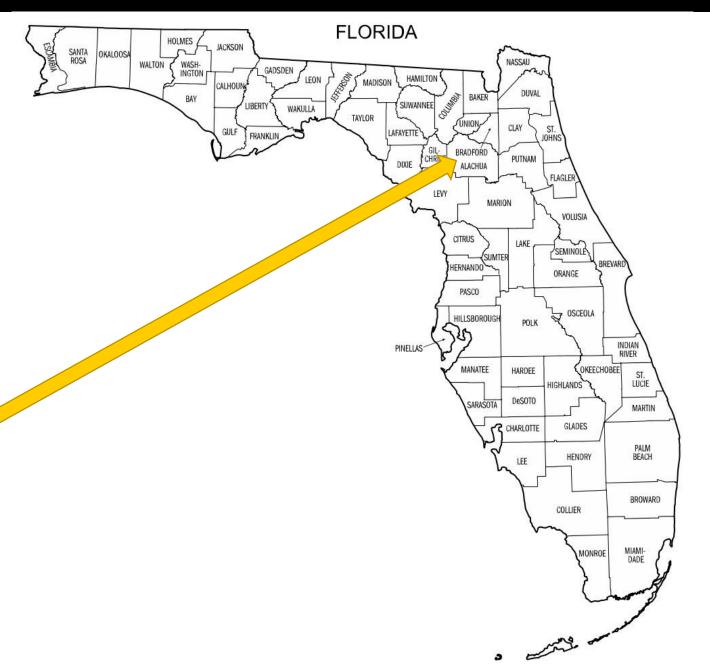
Where Nature & Culture Meet

969 square miles

Approx. 266K population

Municipalities: Gainesville, Alachua, Newberry, High Springs, Hawthorne, Archer, Waldo, Micanopy & La Crosse

Major Employers: UF, Shands, VA, NFRMC, Santa Fe College, Local Governments, Publix & Nationwide



Alachua County Roadway Inventory 2017

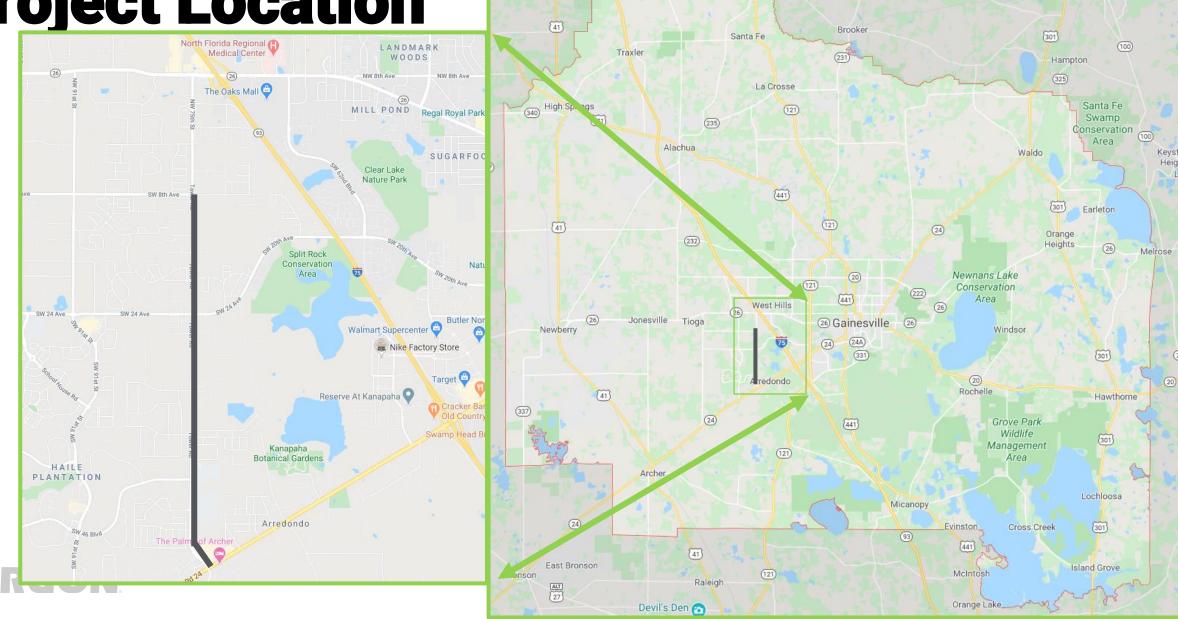


Inventory PCI – Less than 50



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Project Location



Worthington

Springs

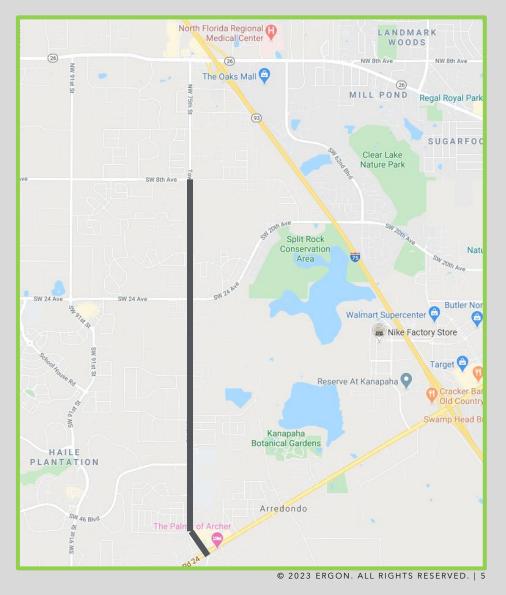
Starke

(100)

Roadway Characteristics

Minor urban arterial Suburban Context 3.2 miles Approx. 95K SY Pavement 17,000 ADT 3% Trucks Constructed in 1986

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Pre-Construction Pavement Condition- PCI 30-40



Project History

Construction Options

2000 Charrette	\$45.5 Million
2010 Simple Plan	\$31.4 Million
2011 Really Simple Plan	\$13.3 Million
2016 Citizens Standards	\$7.9 Million

Project Funding

2016 Funding Allocation	\$1.3 Million
2016 Five Year Allocation	\$6.2 Million



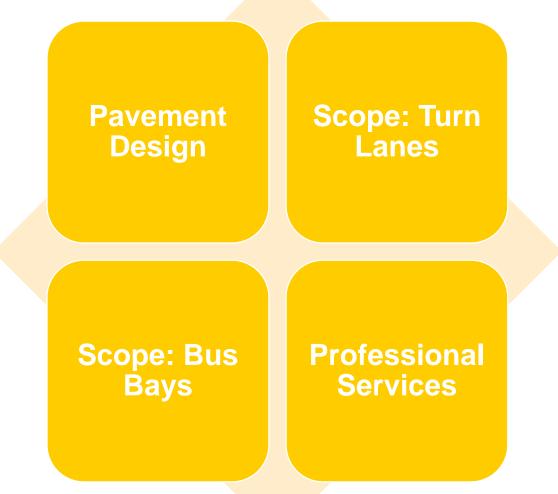
Project History

Final Construction Scope & Funding

Element	Cost	Total
Rehabilitate Pavement (Overlay)	\$2,490,000	\$2,490,000
Add/Lengthen Turn Lanes (6 Intersections)	+\$1,240,000	\$3,730,000
Add Two Bus Turnouts	+\$200,000	\$3,930,000
Professional Services	+\$590,000	\$4,520,000
Final Funding Allocation		\$3,500,000
Shortfall		\$1,020,000

Project History

How to overcome \$1M shortfall?



Pavement Design

Design Parameters

\succ	17,000 ADT	
	3% Trucks	
	Constructed	
	in 1986	

Geote	ch Report	Depths	Avg. Dep	oth
Stabiliz	zation	Provided	12" assur	ned
Limerock Base		3.5" – 7"	5"	
Asphalt		2.5" – 4"	3"	
Existing SN		2.25		sphalt
	Required SN	N 3.7	_	

Asphalt Required		
Mill & Fill	4.75"	
Overlay	3.25"	

Pavement Design Design Options vs. Available Funding



Pavement Design Design Choice by Limited Funding



Pavement Design Design Choice by Limited Funding

1.5 inch overlay with FC 12.5 (PG76-22)	



1.5 inch overlay with FC 12.5 (PG76-22)

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			Constant
	A Garage and	1	
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and the second second	1.5		

Design Life		
R 95%	4 Years	
R 85%	8 Years	
R 75%	13 Years	

How to Increase Pavement Performance?

Pavement Design Options

How to Increase Pavement Performance?

ARMI Layer Open Graded Crack Relief Layer Chip Seal Scrub Seal

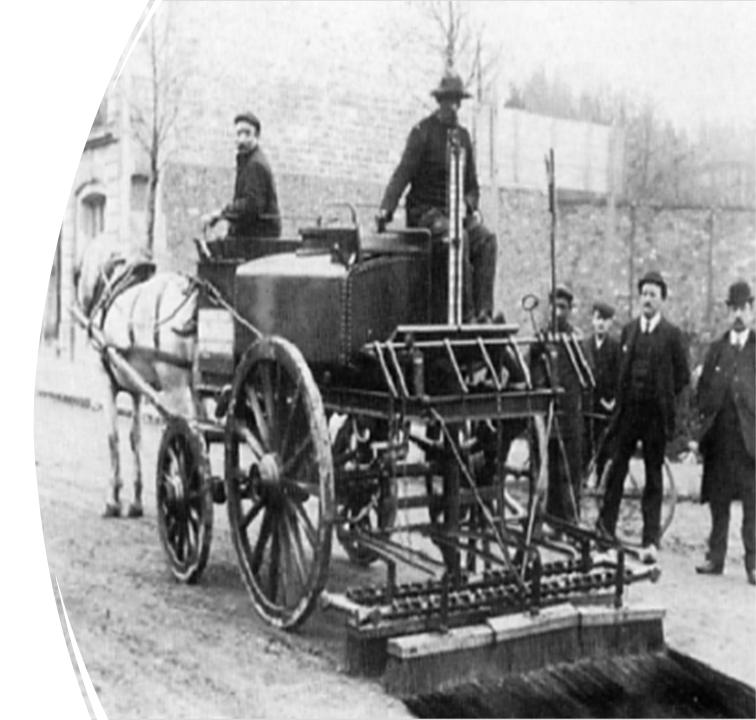


Scrub Seal

Application of a fine or course aggregate on a broomed layer of polymer modified asphalt rejuvenating emulsion

3 Components:

- Asphalt
- Polymer
- Rejuvenator





Same as CHIP seal except:

- Different emulsion- CMS-1PC
- Broom sled/ "Wave of Emulsion"
- Broom scrubs/ rejuvenating agents
- Larger than ¼" cracks





Scrub Broom

SCRUB SEAL PURPOSE

"Mass Crack Treatment" Enrich asphalt Interlayer **Friction** Rejuvenator No milling Bridge gap







SCRUB SEAL CANDIDATES



Mass Crack Treatment (1/4" +)



Good candidates







Roads with mass cracking where crack sealing it not economical



Scrub Seal Cores

5

Core separated along crack

Construction

Construction Challenges & Pitfalls

✓ Local procurement code/funding source
✓ Contractor material substitution requests
✓ CRS-2H

- ✓ CRS-2P
- ✓ Weather
- ✓ Loose Chips
- ✓ Striping

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Construction

Successes

Final Construction Cost: \$3.15 M

Scrub Seal: 39,850 SY: \$133K

No reflective cracking today!



Pre-Construction Pavement 2017 Condition- PCI 30-40



Pre-Construction Pavement 2017 PCI 30-40 Post Construction Pavement 2019 PCI 100

Set States

Photo taken March 14, 2023









Pre-Construction Pavement 2017 PCI 30-40 Post Construction Pavement 2019 PCI 100

> Photo taken March 14, 2023



eScrub as a Standalone Treatment

Treatment – December 2017 Photo – March 14, 2023

Alachua County Roadway Inventory Update



Thank you.