

Chatham-Cary Joint Issues Committee

June 11, 2010

Draft Joint Land Use Plan

Approach for Activity Node Discussion

1. **Presentation of Plan 6, Plan 6A, Plan 6B**
2. **Regional and Environmental Setting**
3. **Structured “Decision-Tree” Discussion**
 - Should it be renamed? (Activity Node? Other?)
 - Should the Node be moved?
 - Should the total size of Node be changed? (acreage, total units, floorspace)
 - Should the mix between housing, office, & retail be changed, or the amounts for each? (use mix ratios, acreage, units, floorspace, density)

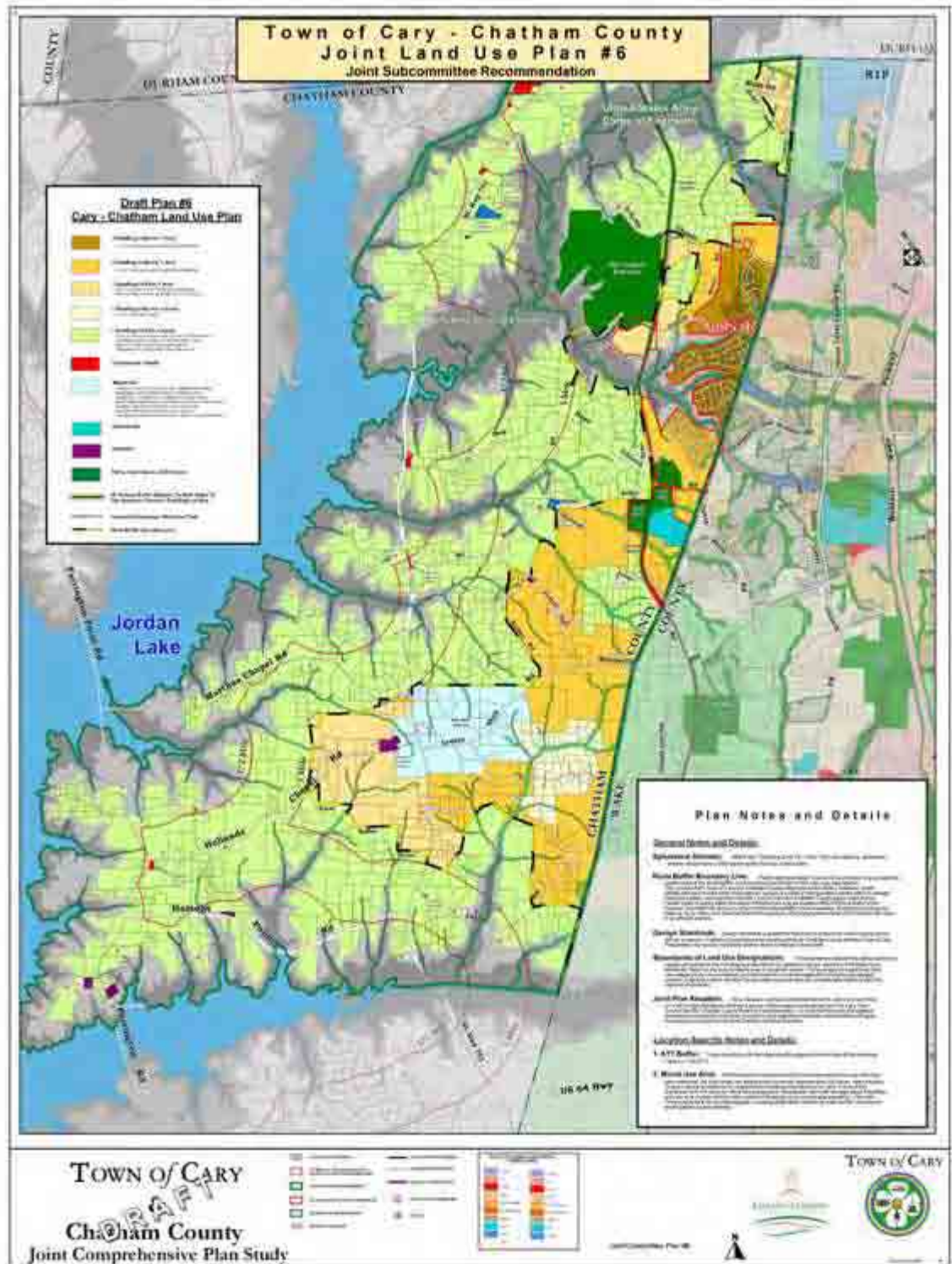
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Plan 6 (Current Draft)

New Plan Draft #6

- School Symbols Removed
- Park Symbols Removed
- Greenway Lines Removed
- Verde Road Subdivision Changed to 1 unit per 3 ac.

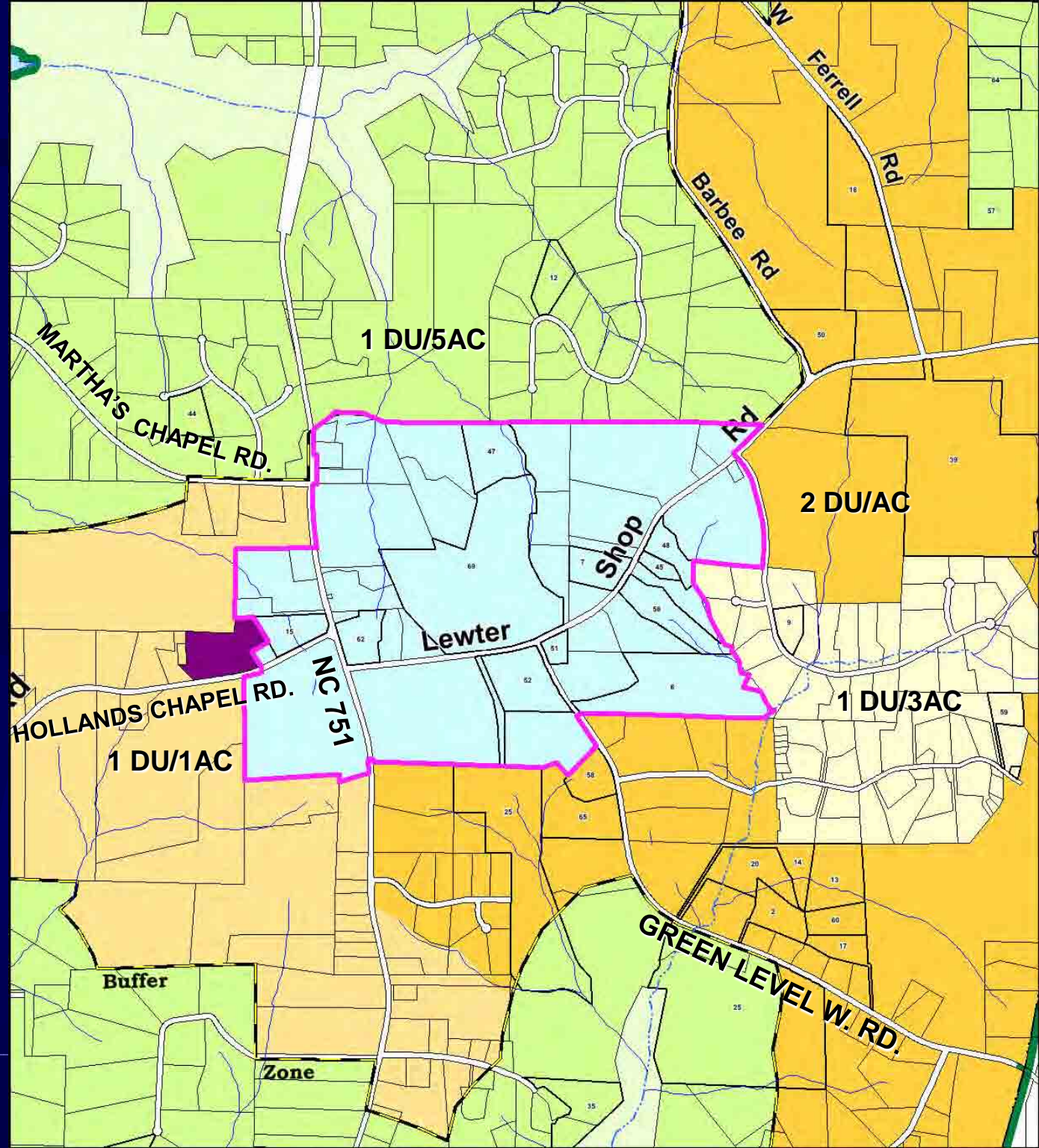


Draft Plan 6

Mixed Use
Node:

~452 ac.

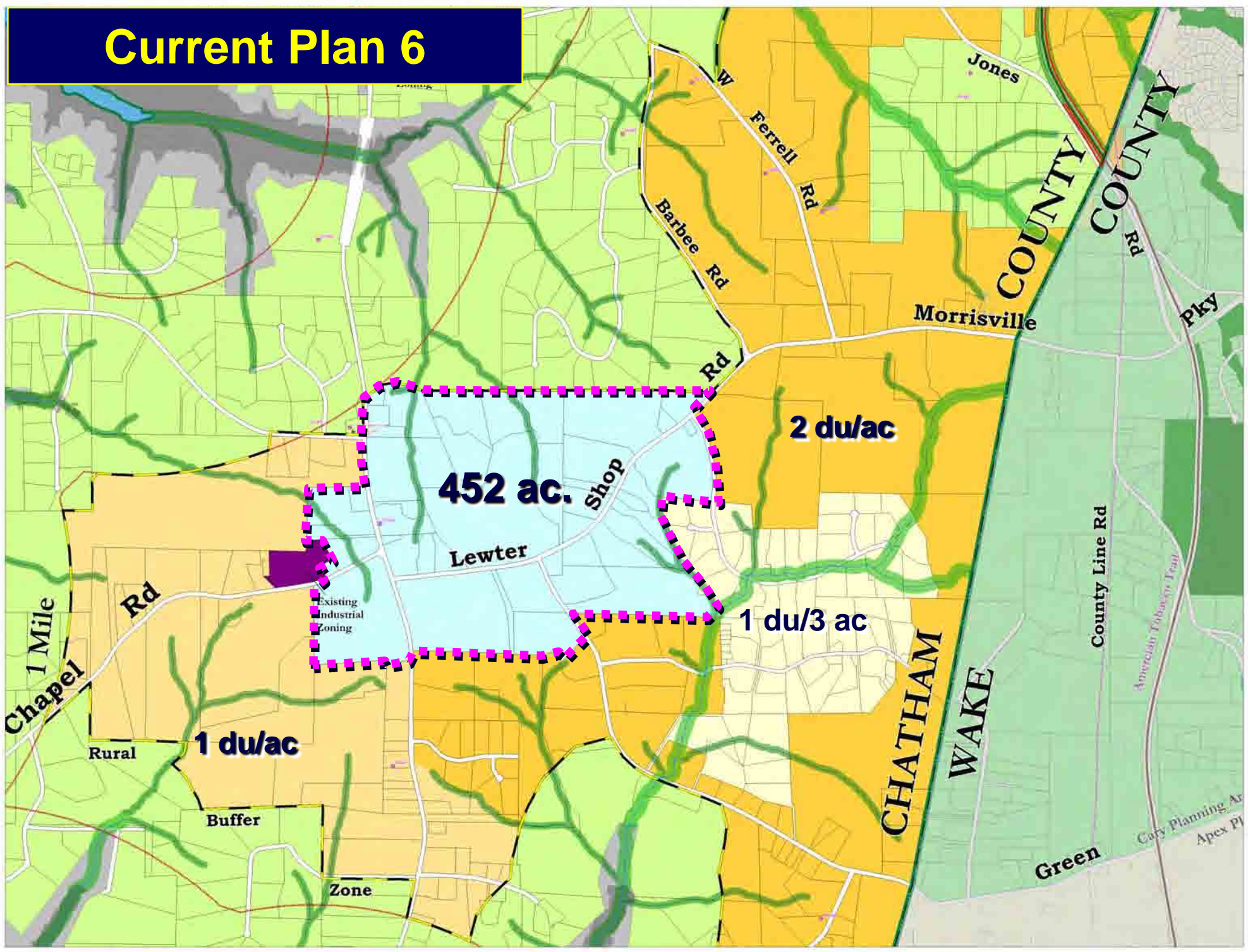
(net of ROW)



Plan 6A

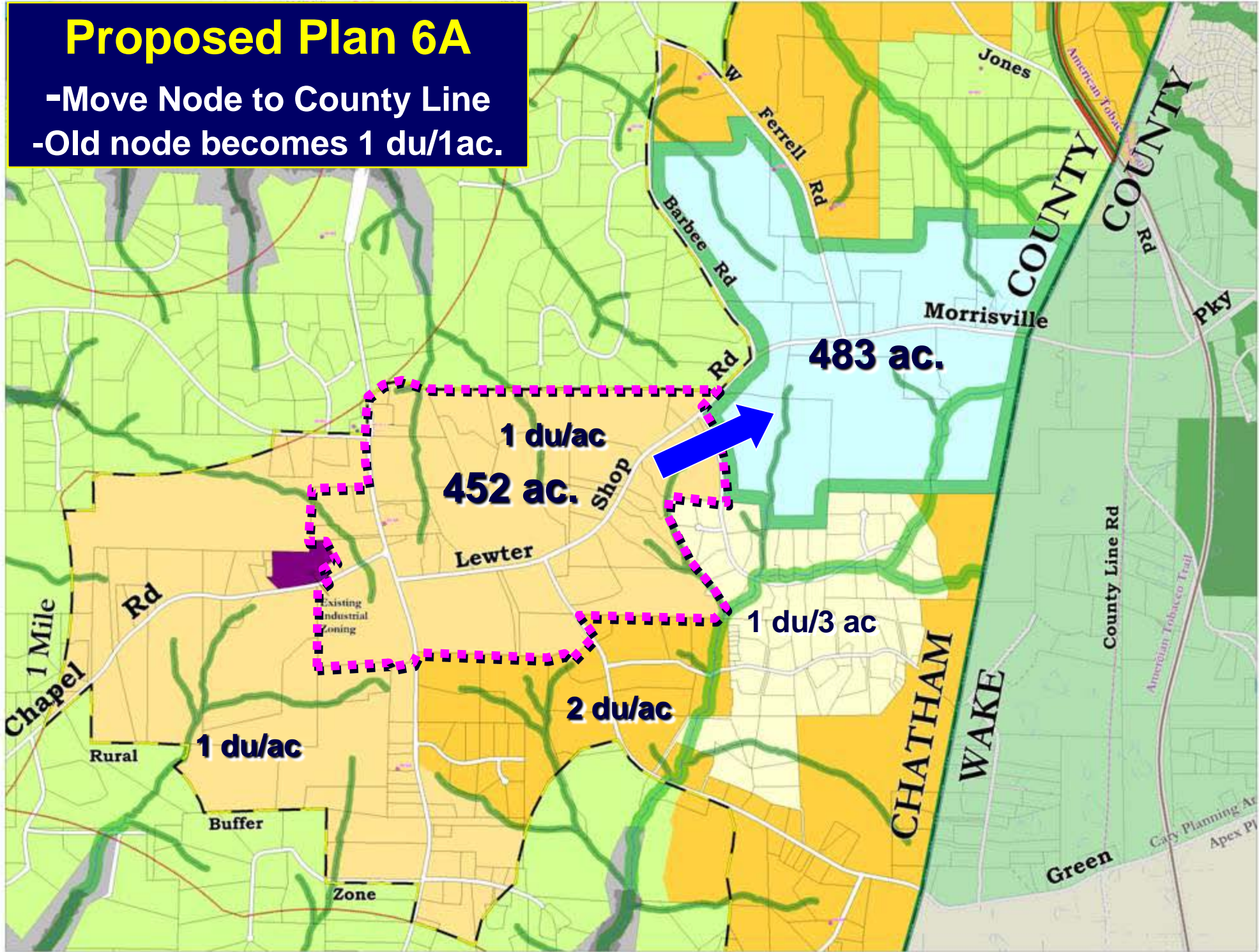
(Chatham Proposal)

Current Plan 6



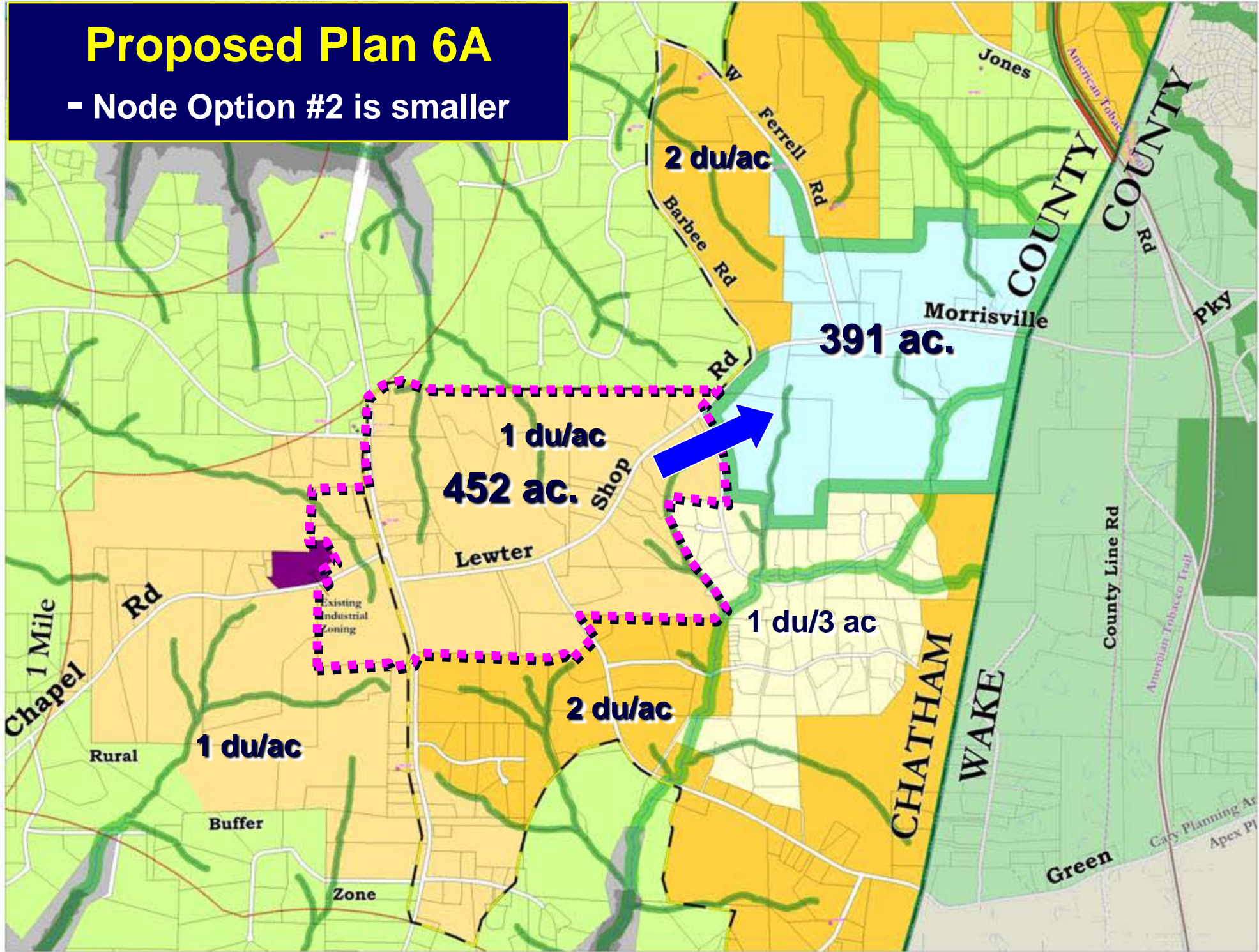
Proposed Plan 6A

- Move Node to County Line
- Old node becomes 1 du/1ac.



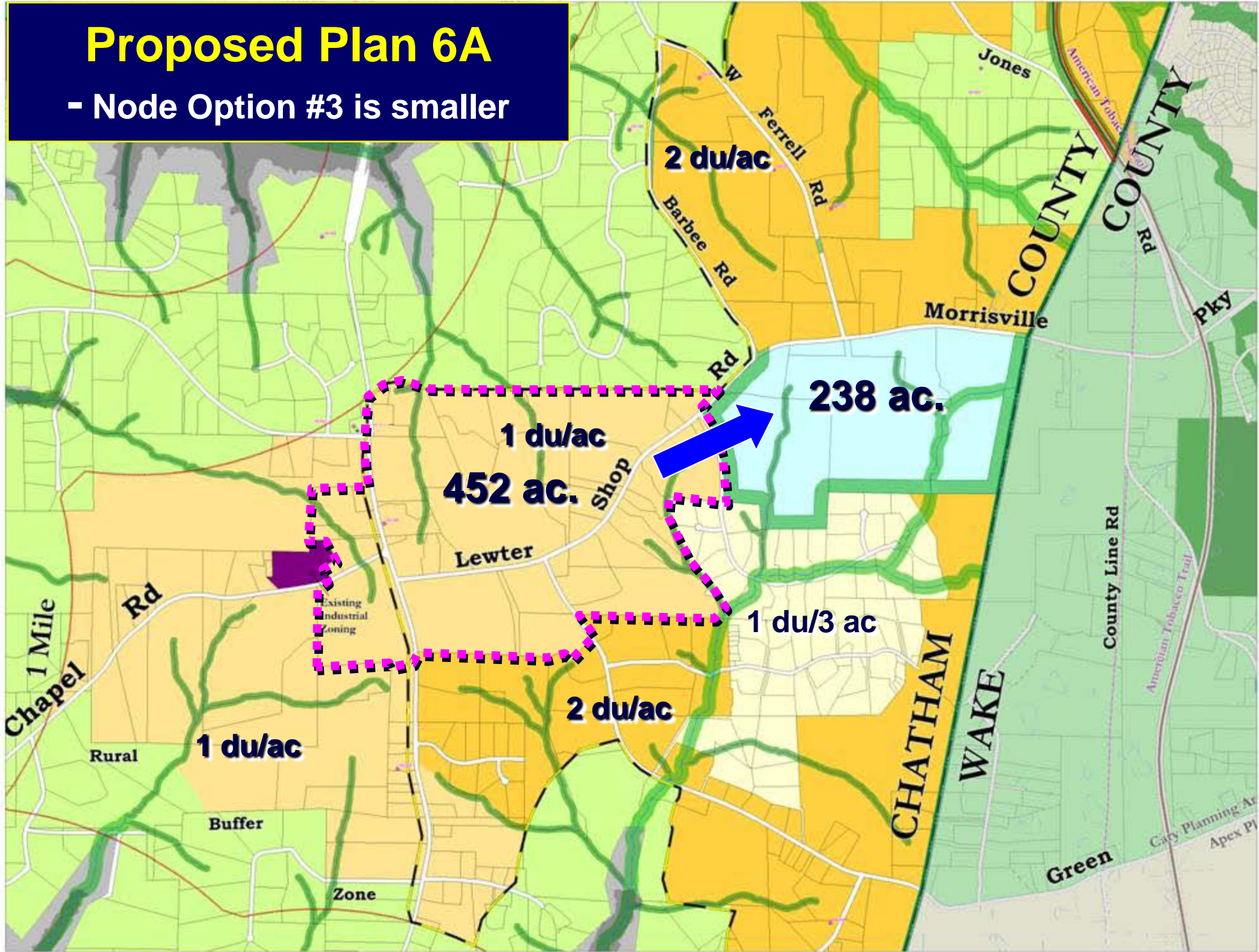
Proposed Plan 6A

- Node Option #2 is smaller



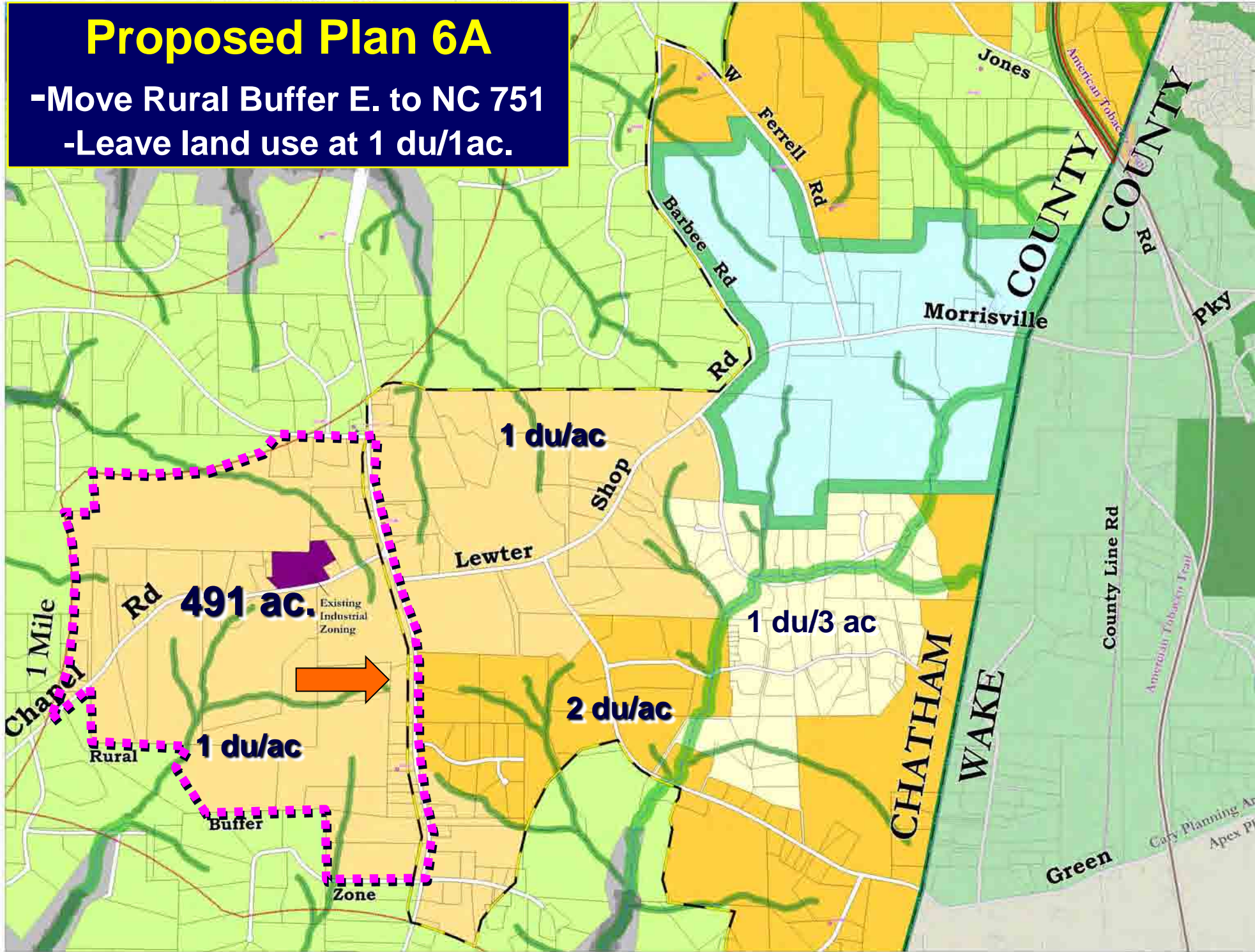
Proposed Plan 6A

- Node Option #3 is smaller



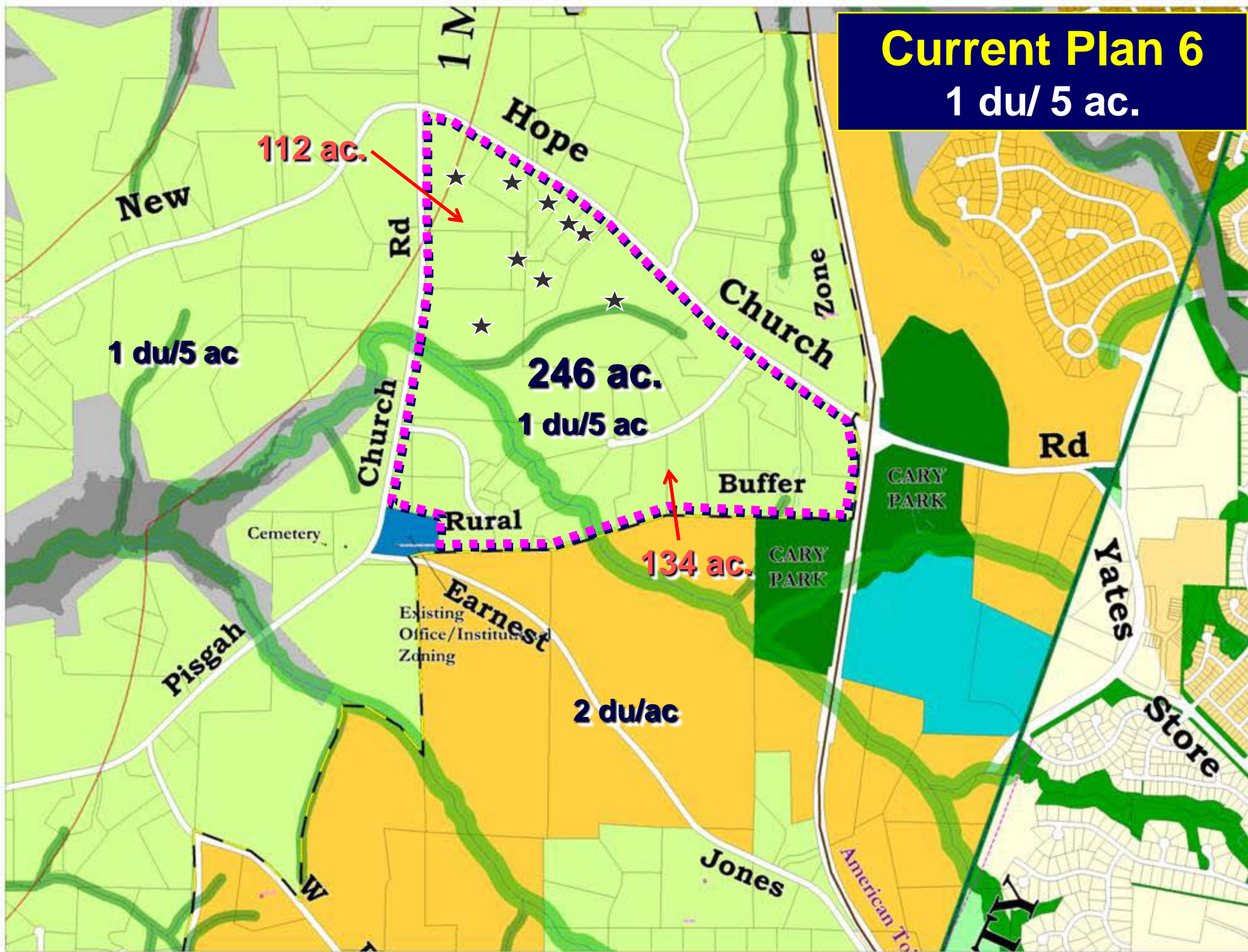
Proposed Plan 6A

- Move Rural Buffer E. to NC 751
- Leave land use at 1 du/1ac.

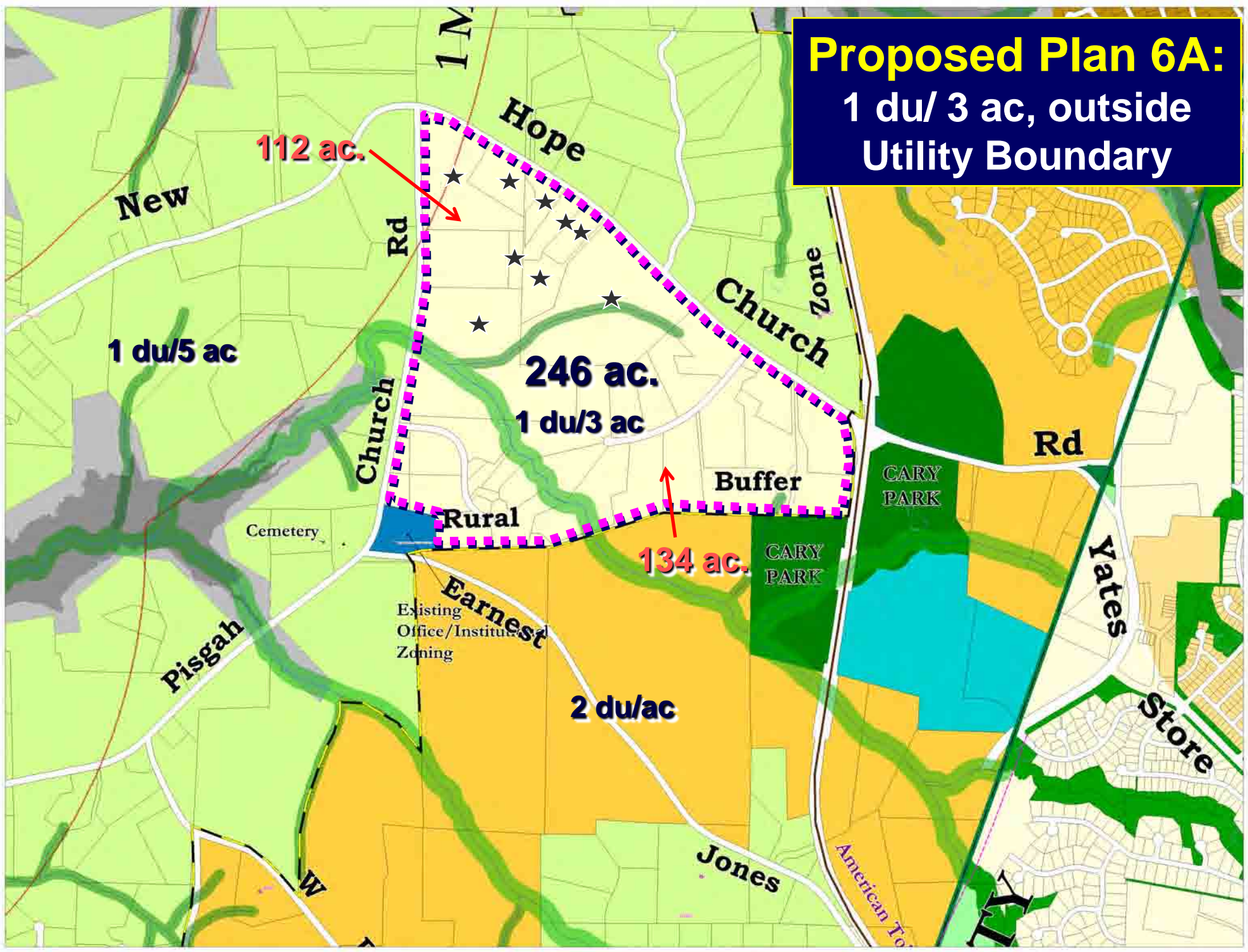


Current Plan 6

1 du/ 5 ac.



Proposed Plan 6A:
1 du/ 3 ac, outside
Utility Boundary



112 ac.

1 du/5 ac

246 ac.

1 du/3 ac

134 ac.

2 du/ac

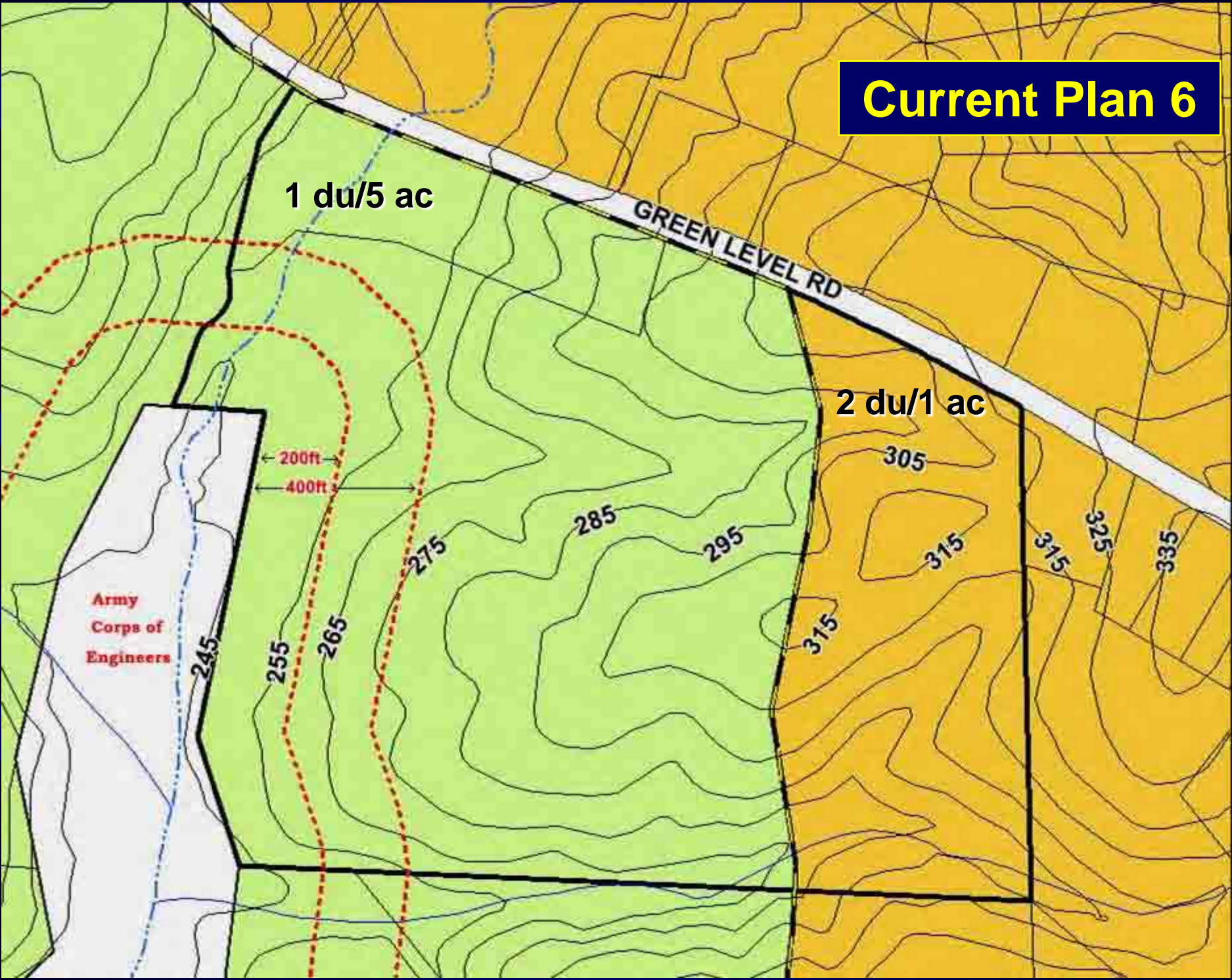
Existing
Office/Institutional
Zoning

CARY PARK

CARY PARK

Store

Current Plan 6



1 du/5 ac

GREEN LEVEL RD

2 du/1 ac

200ft

400ft

Army
Corps of
Engineers

245

255

265

275

285

295

315

305

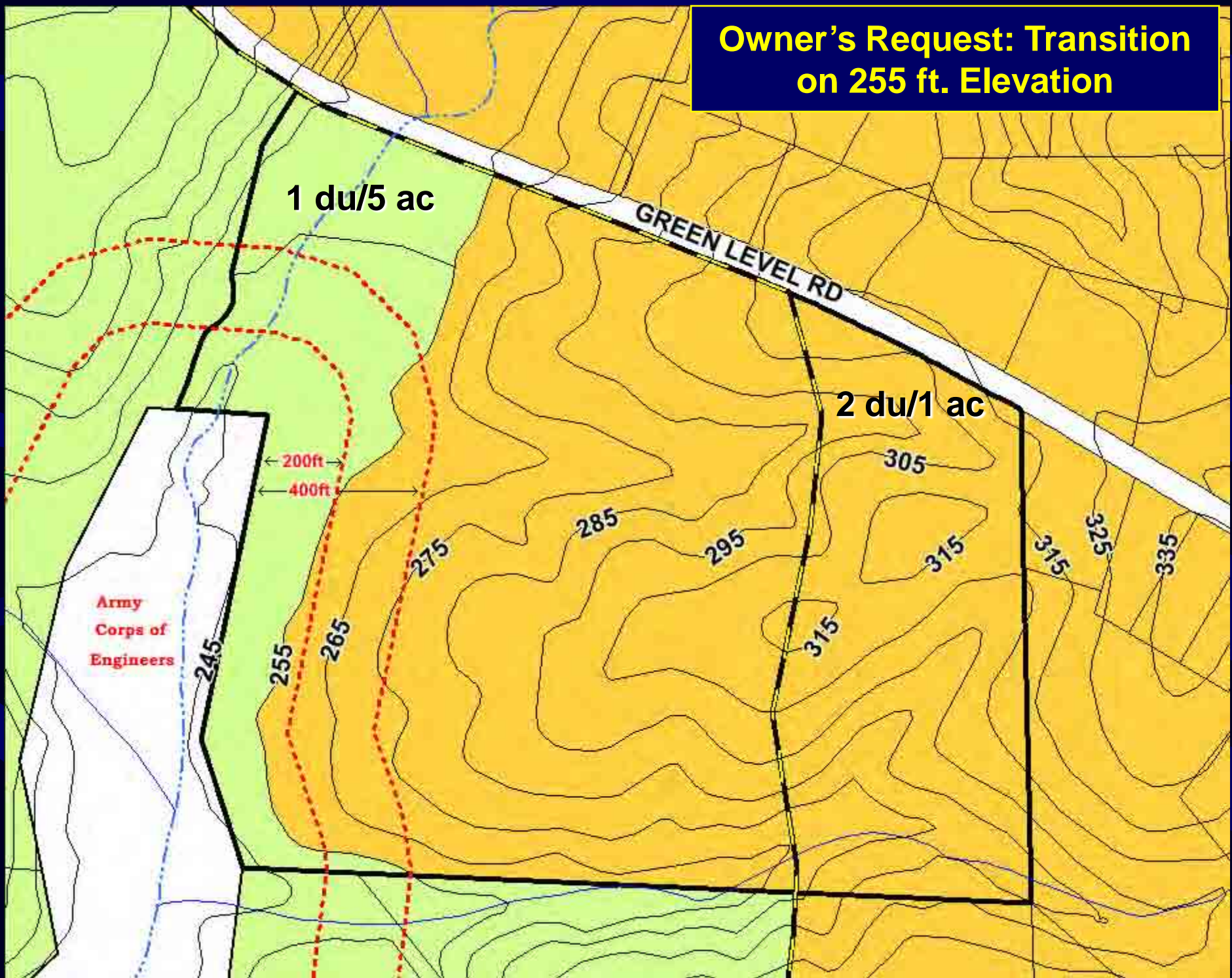
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315

325

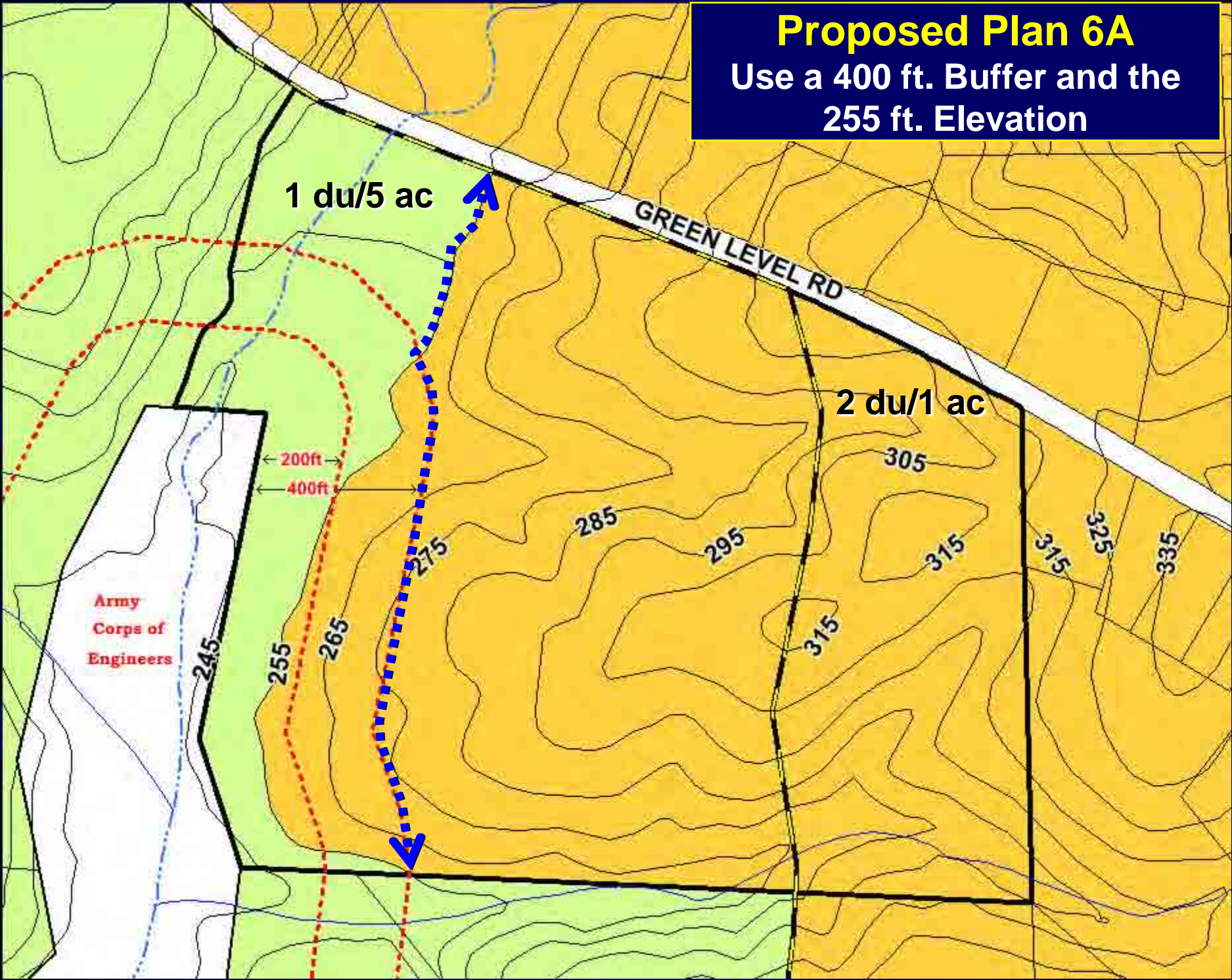
335

**Owner's Request: Transition
on 255 ft. Elevation**

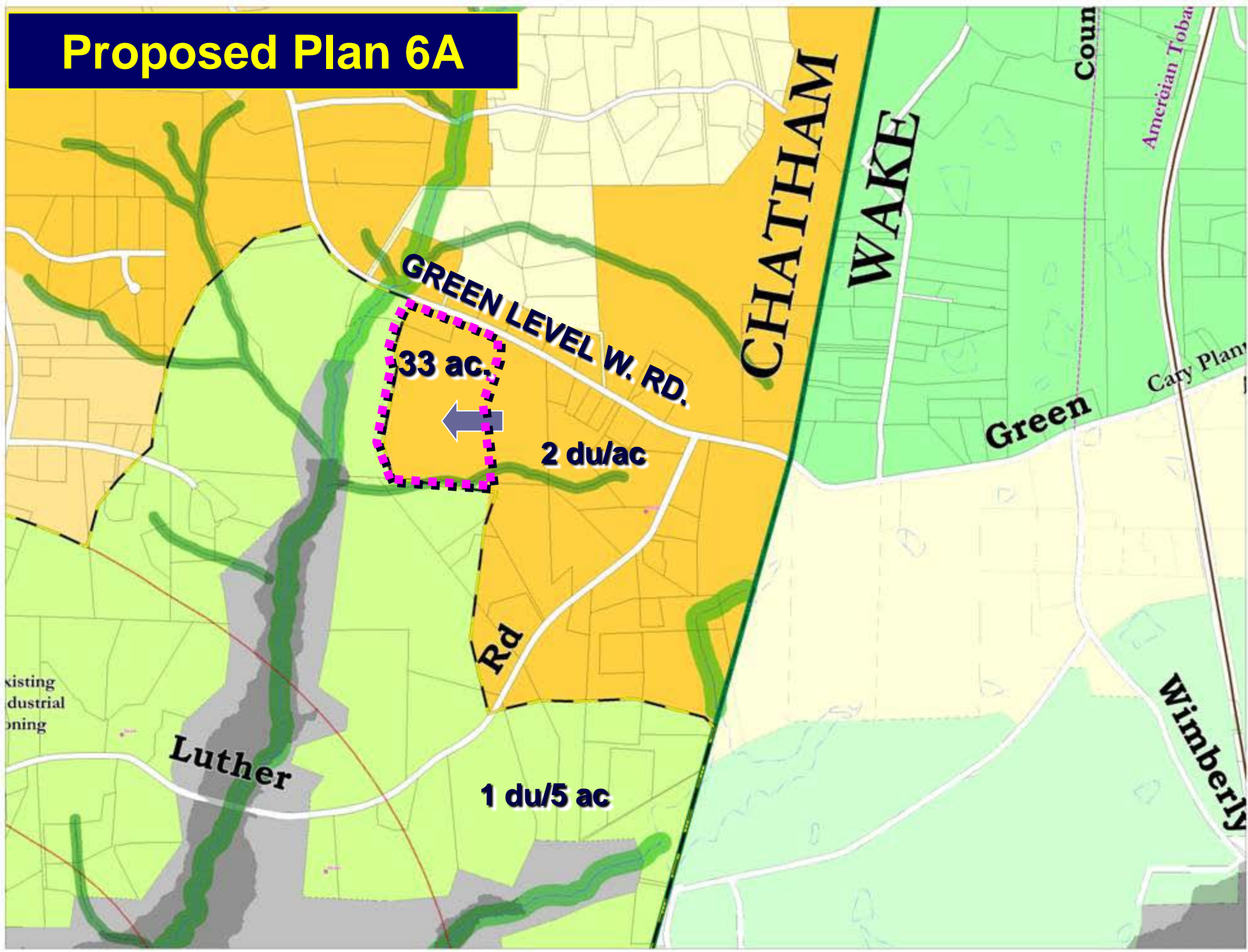


Proposed Plan 6A

Use a 400 ft. Buffer and the
255 ft. Elevation

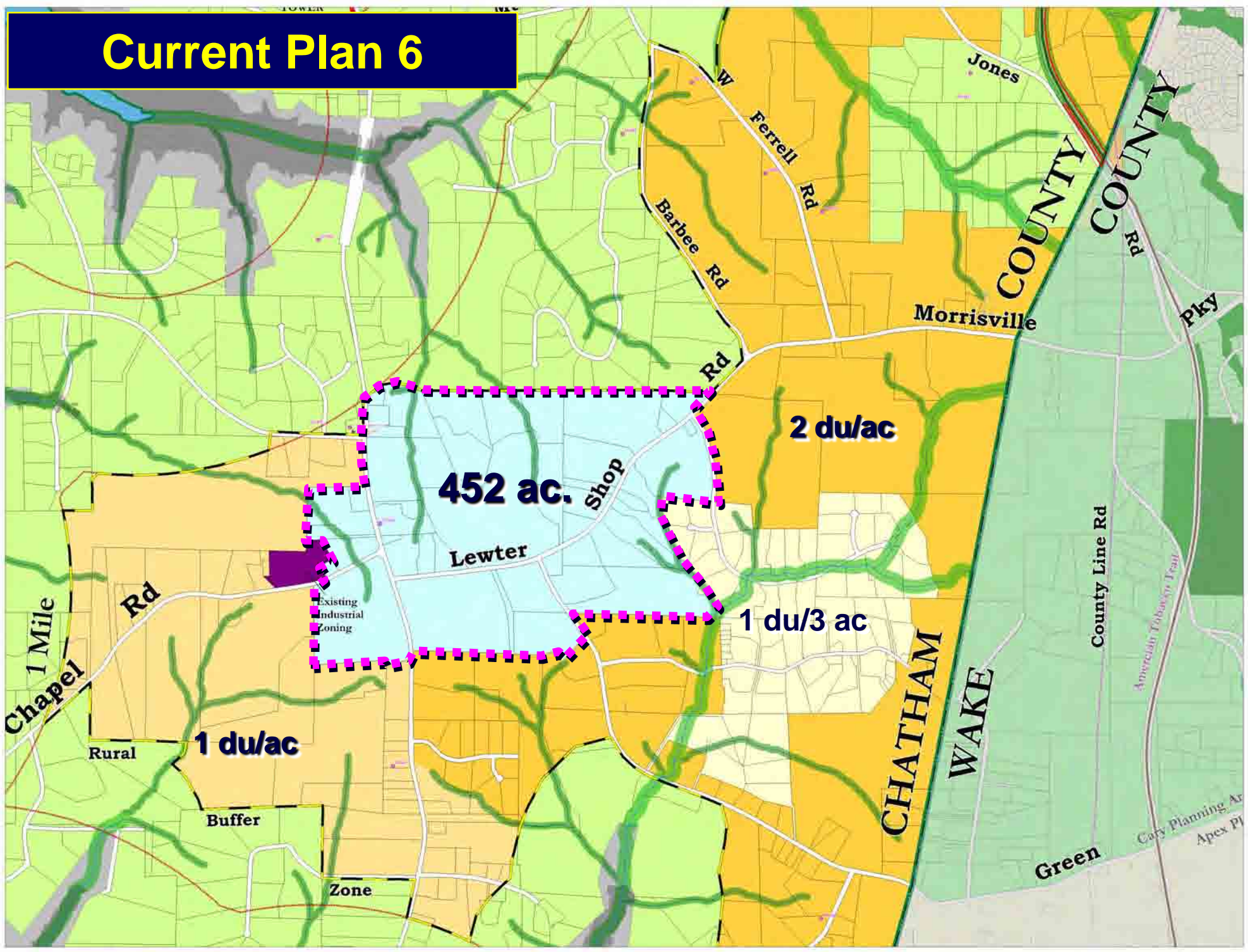


Proposed Plan 6A



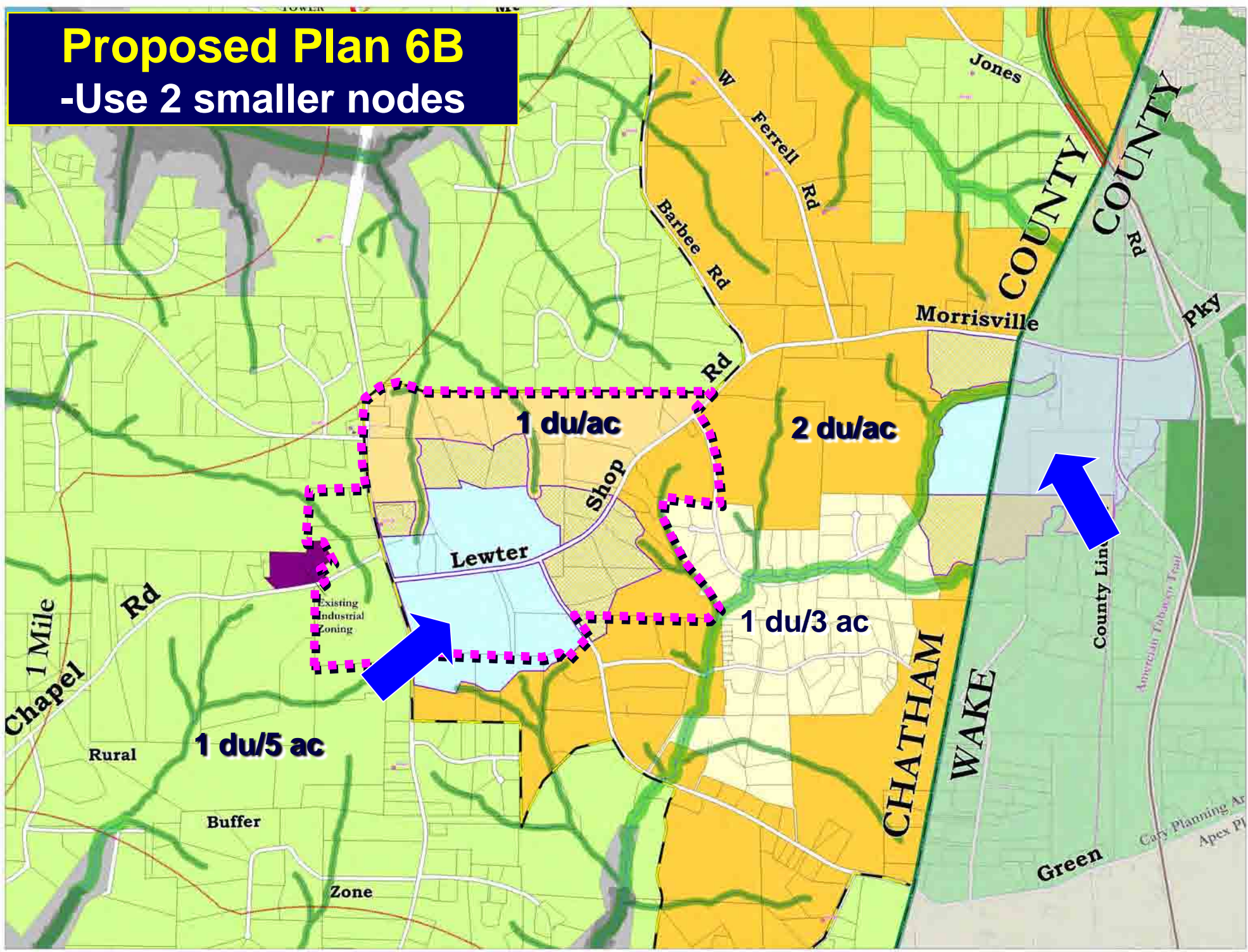
Plan 6B (Cary Proposal)

Current Plan 6



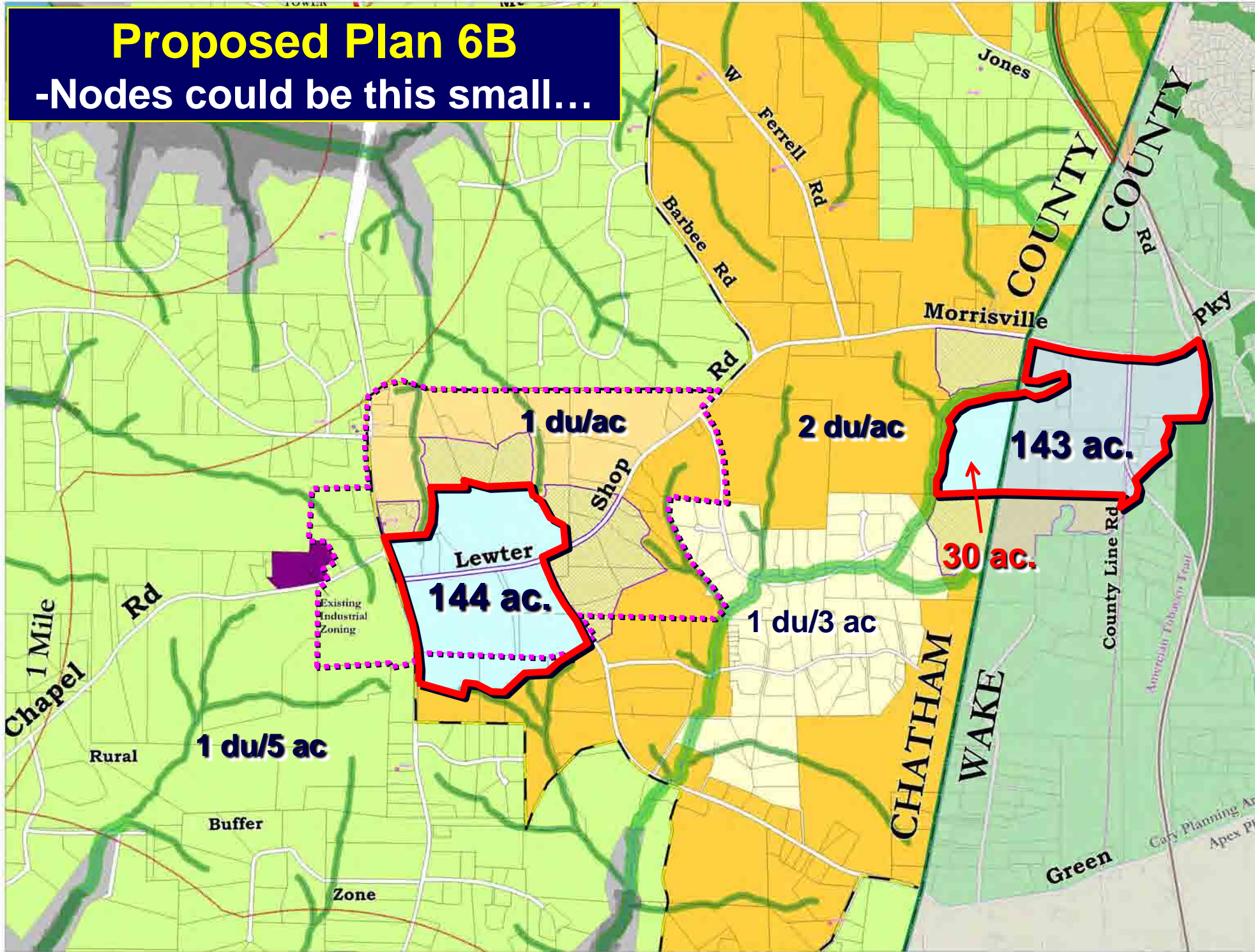
Proposed Plan 6B

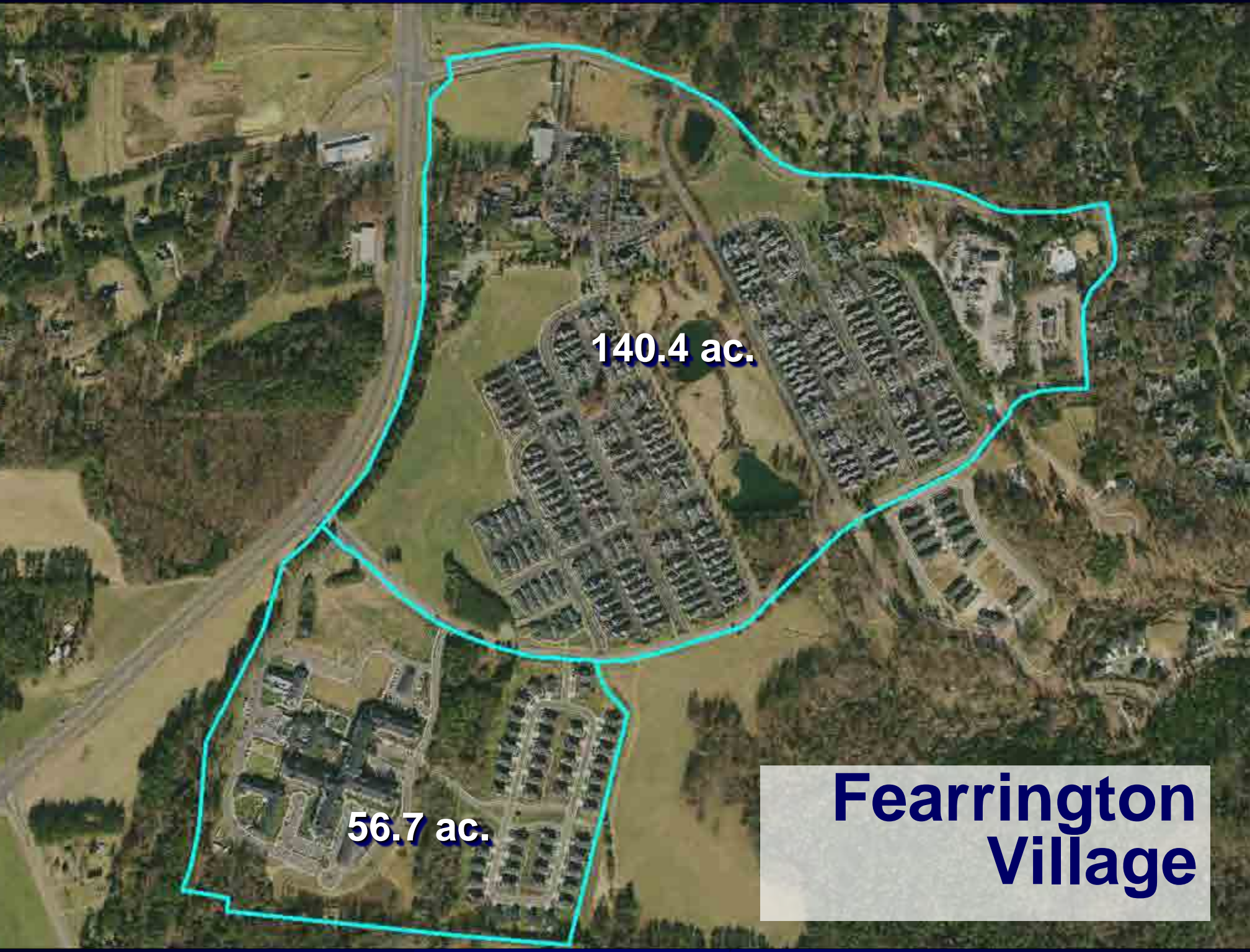
-Use 2 smaller nodes



Proposed Plan 6B

-Nodes could be this small...



An aerial photograph of a residential development. A large, irregularly shaped area in the center and upper right is outlined in cyan and labeled '140.4 ac.'. This area contains several large apartment complexes and a central green space with a pond. A smaller, more rectangular area in the lower left is also outlined in cyan and labeled '56.7 ac.'. This area contains a smaller apartment complex and some surrounding greenery. The rest of the image shows a mix of trees, grass, and other buildings.

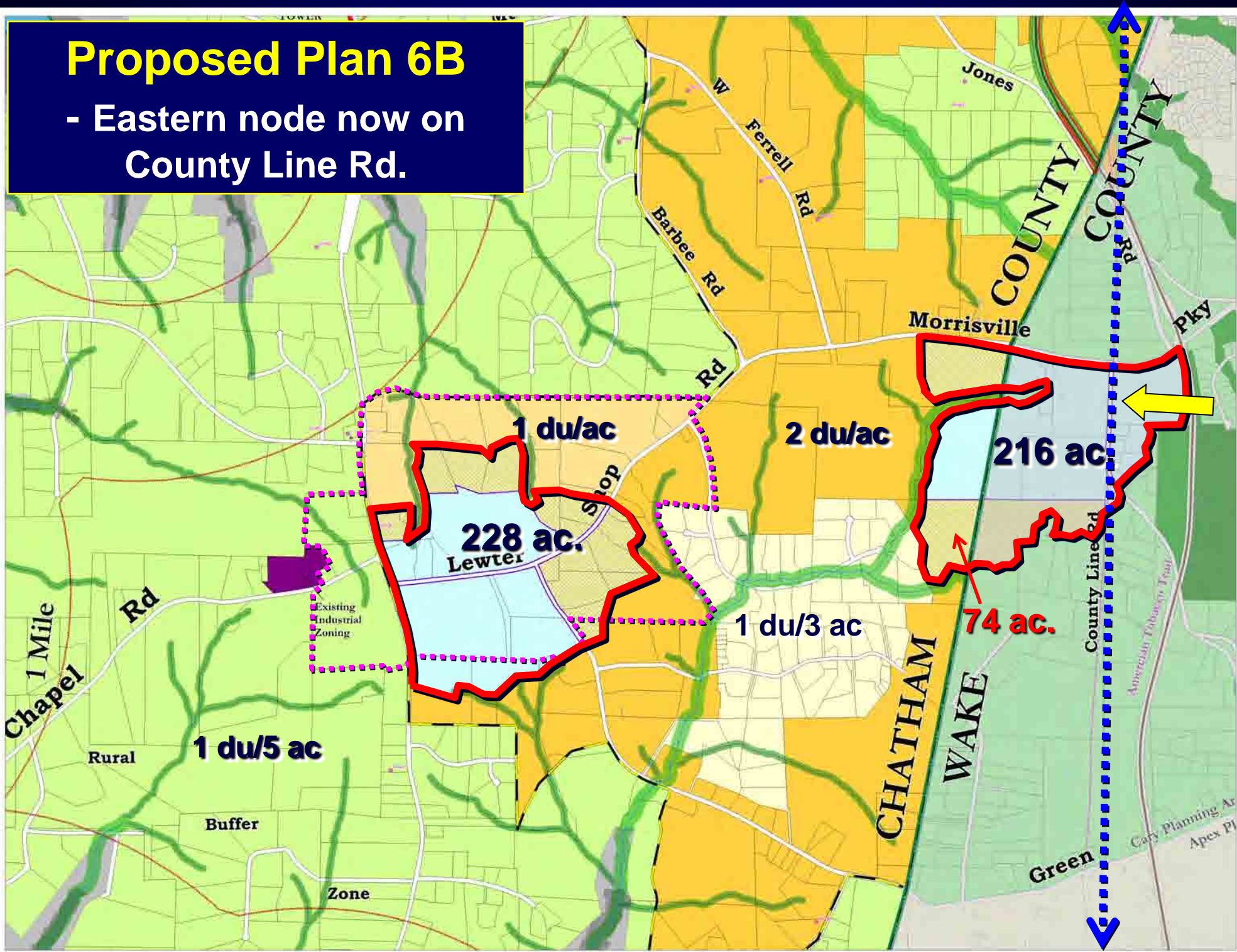
140.4 ac.

56.7 ac.

**Fearrington
Village**

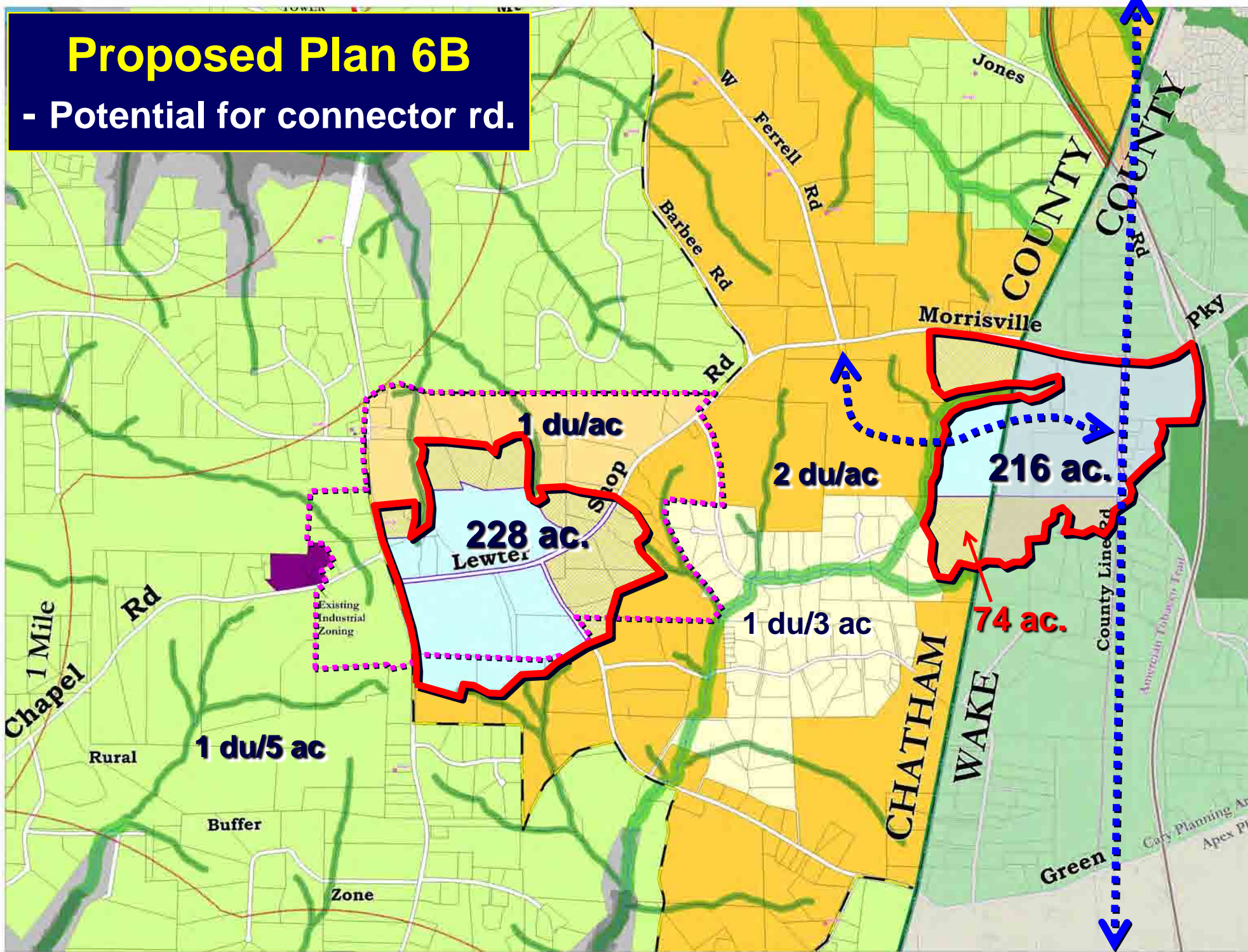
Proposed Plan 6B

- Eastern node now on County Line Rd.

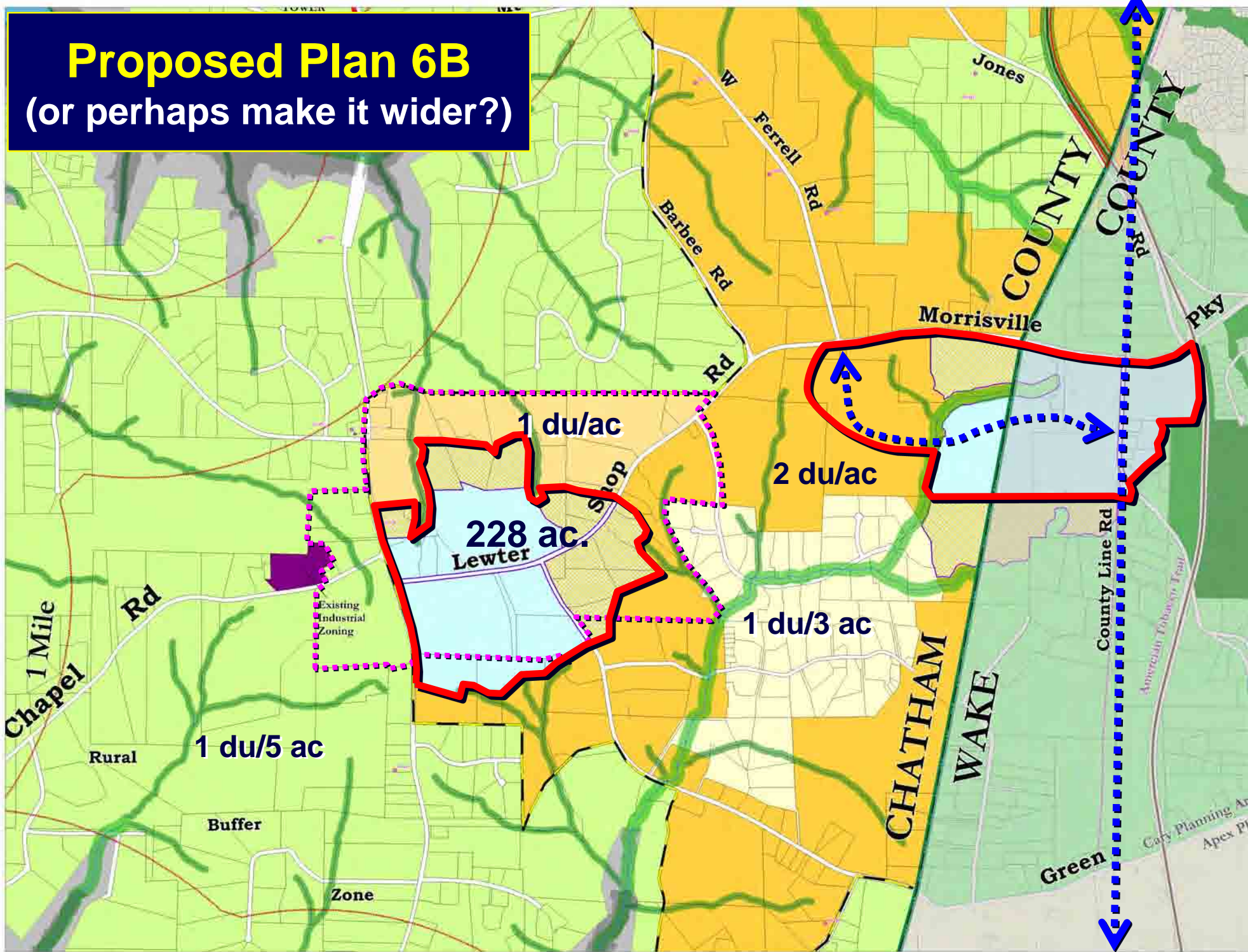


Proposed Plan 6B

- Potential for connector rd.

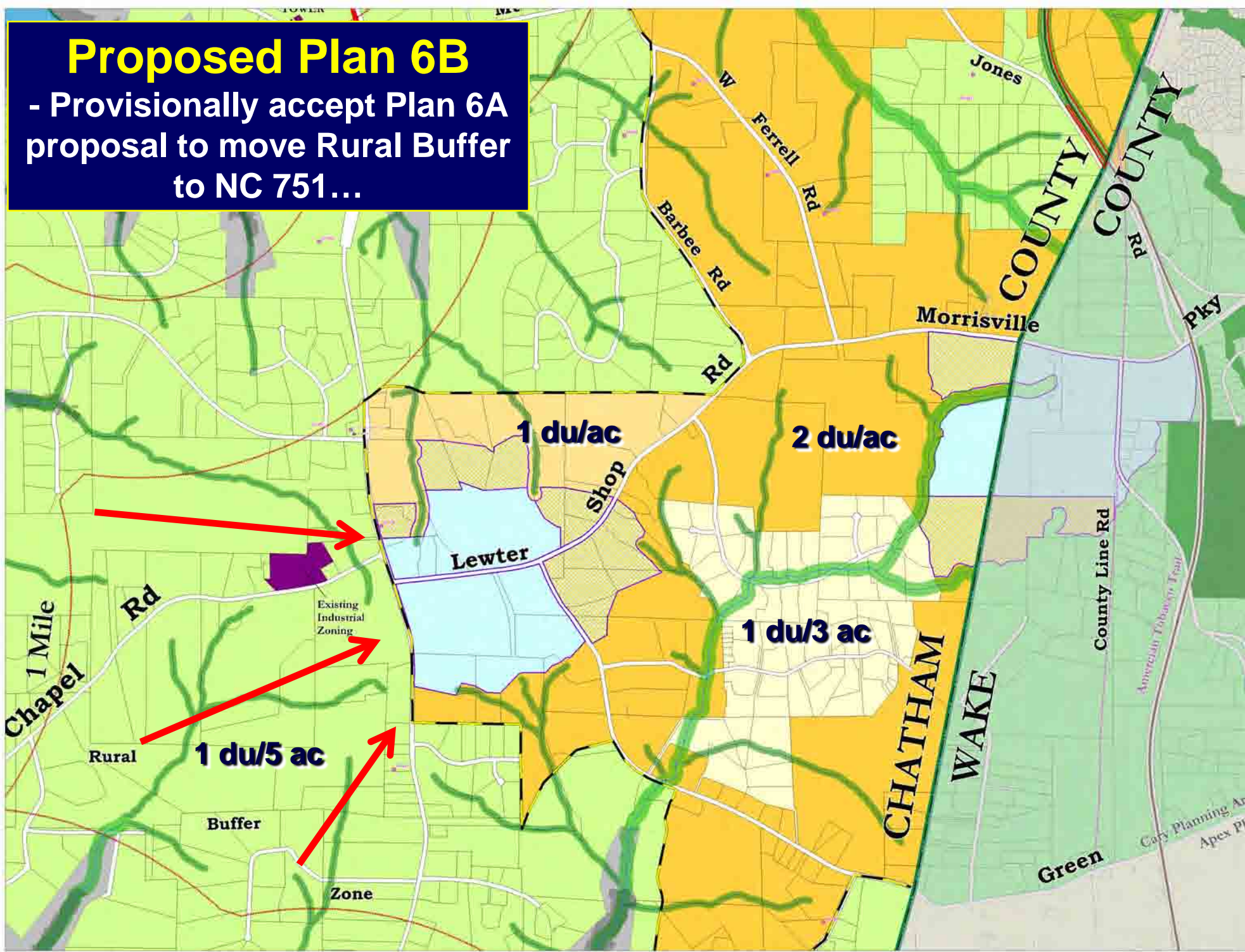


Proposed Plan 6B (or perhaps make it wider?)



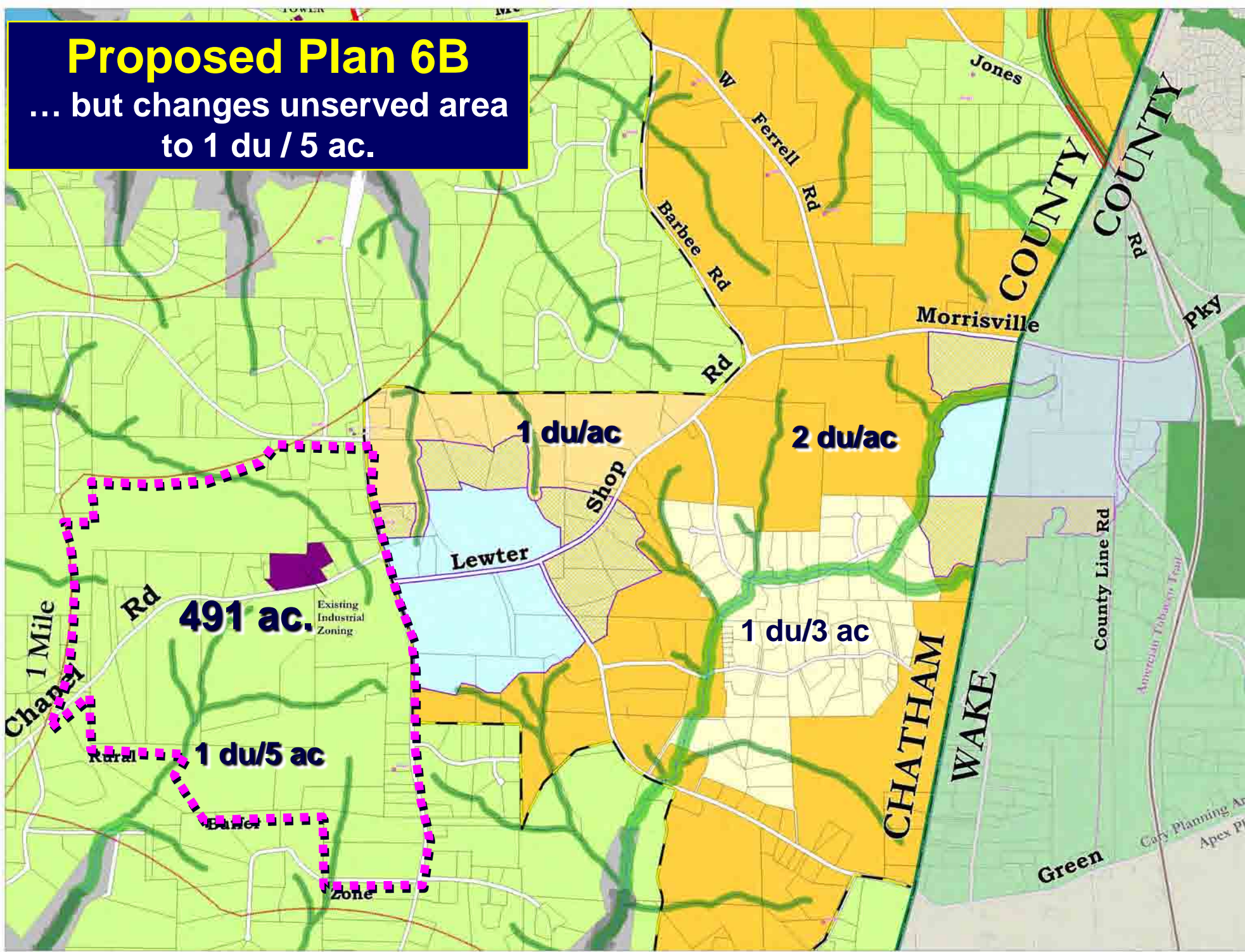
Proposed Plan 6B

- Provisionally accept Plan 6A proposal to move Rural Buffer to NC 751...



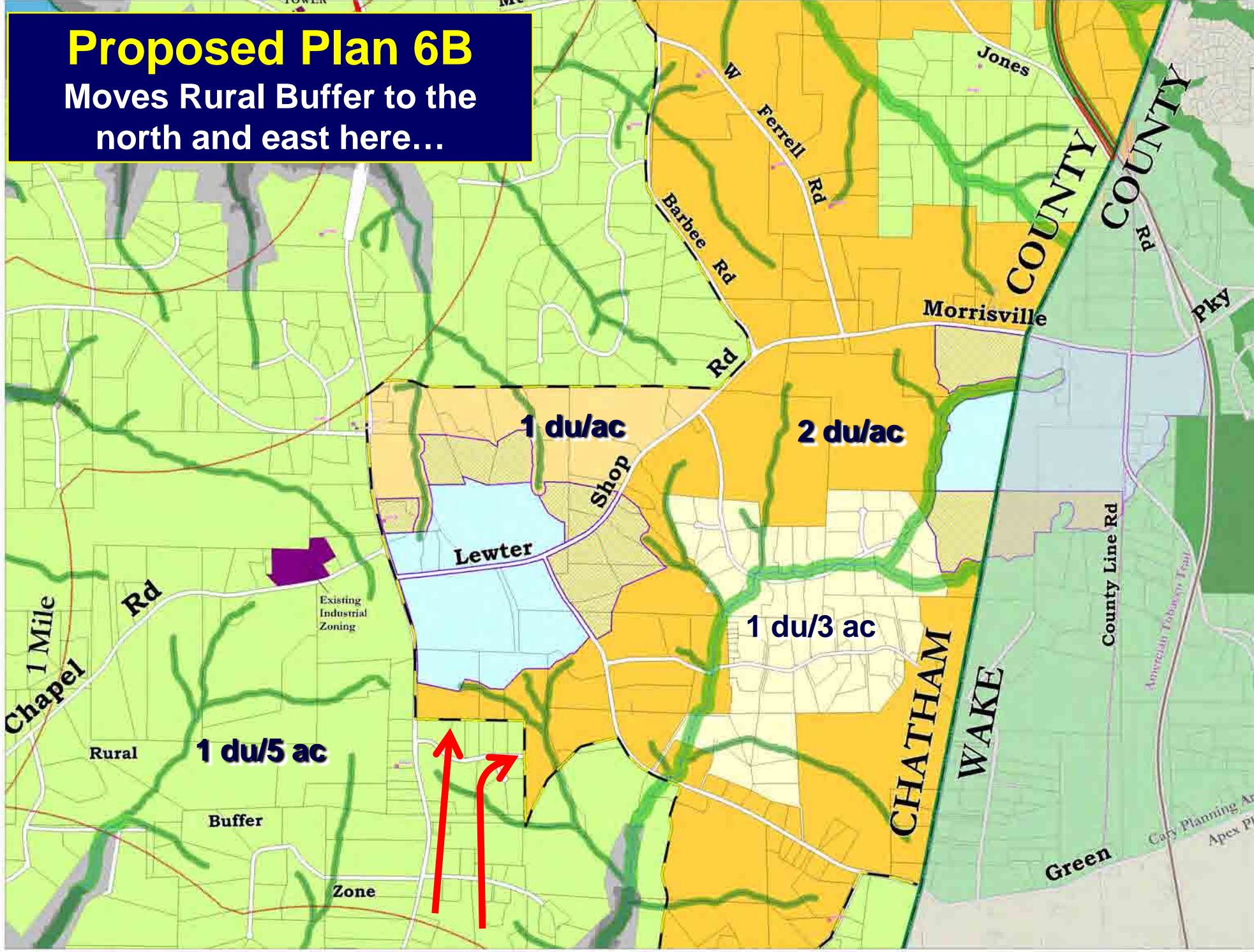
Proposed Plan 6B

... but changes unserved area to 1 du / 5 ac.



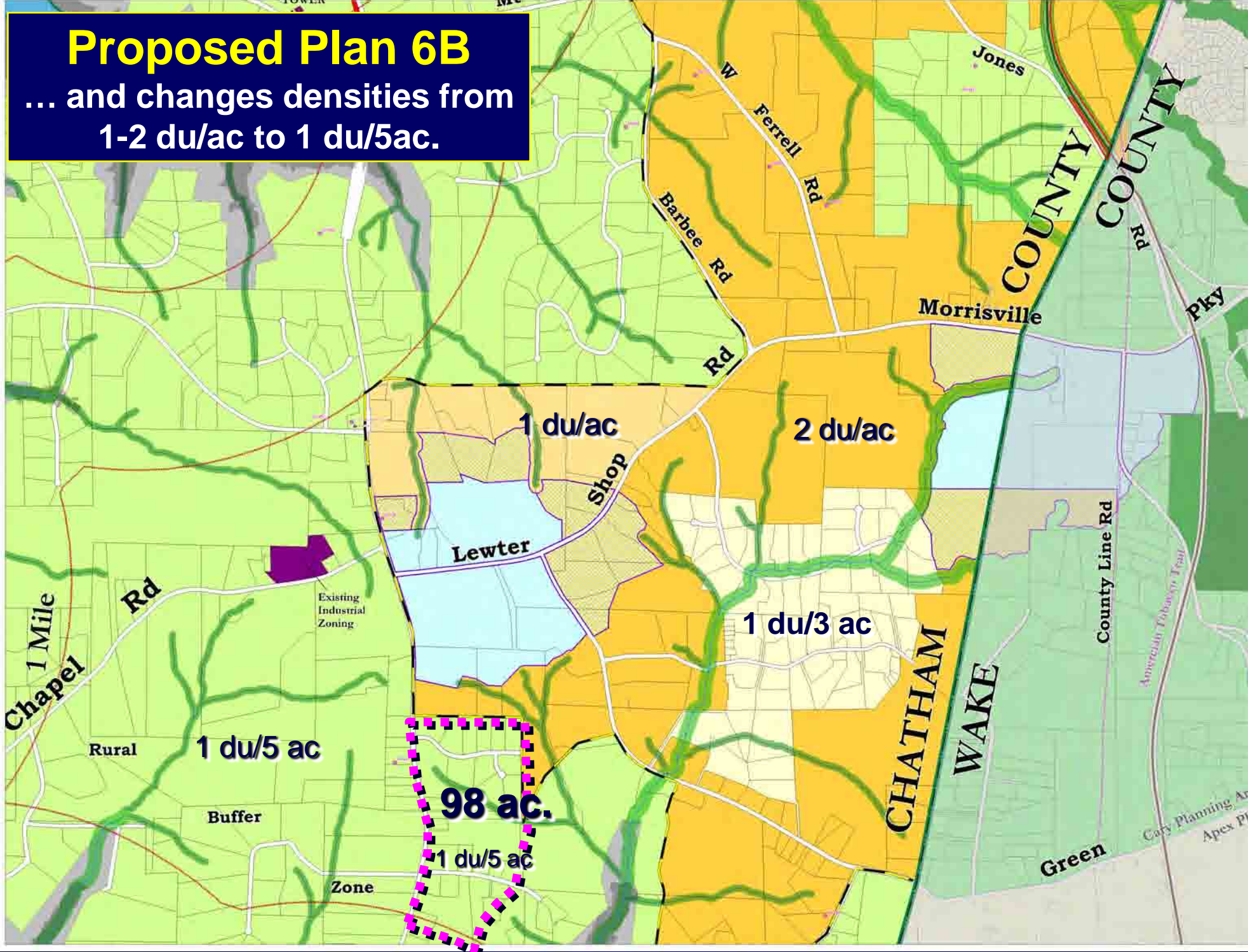
Proposed Plan 6B

Moves Rural Buffer to the north and east here...

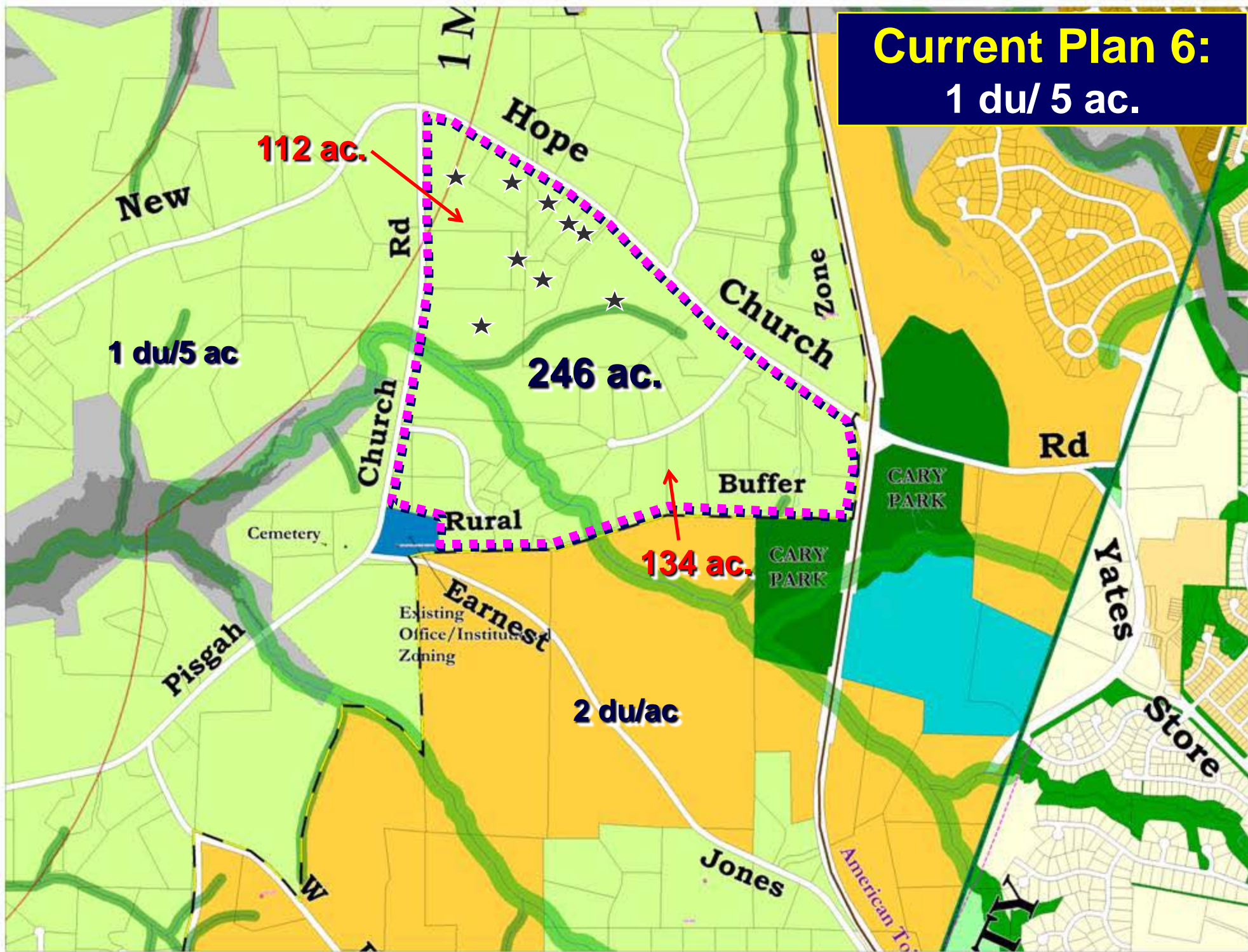


Proposed Plan 6B

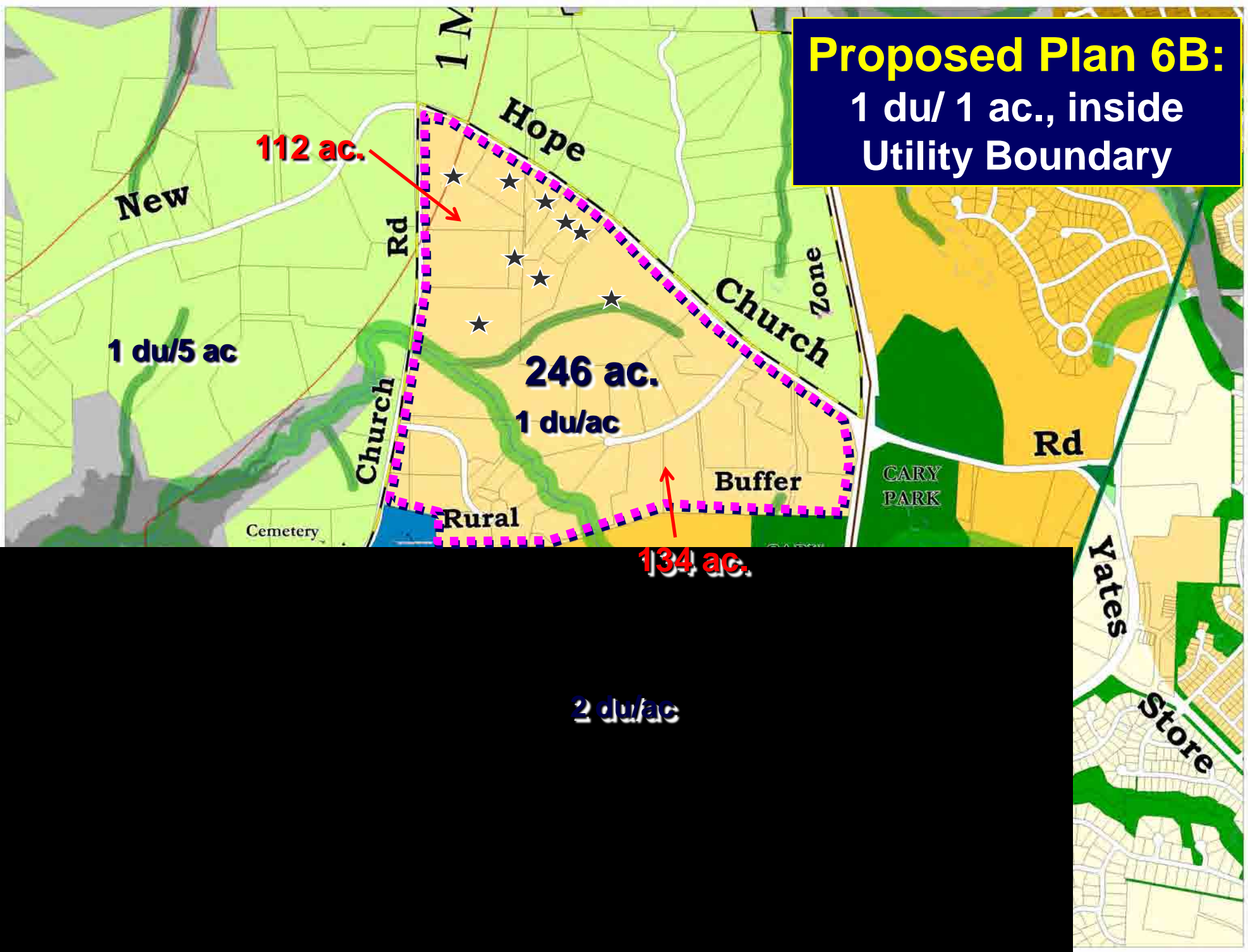
... and changes densities from 1-2 du/ac to 1 du/5ac.



Current Plan 6: 1 du/ 5 ac.

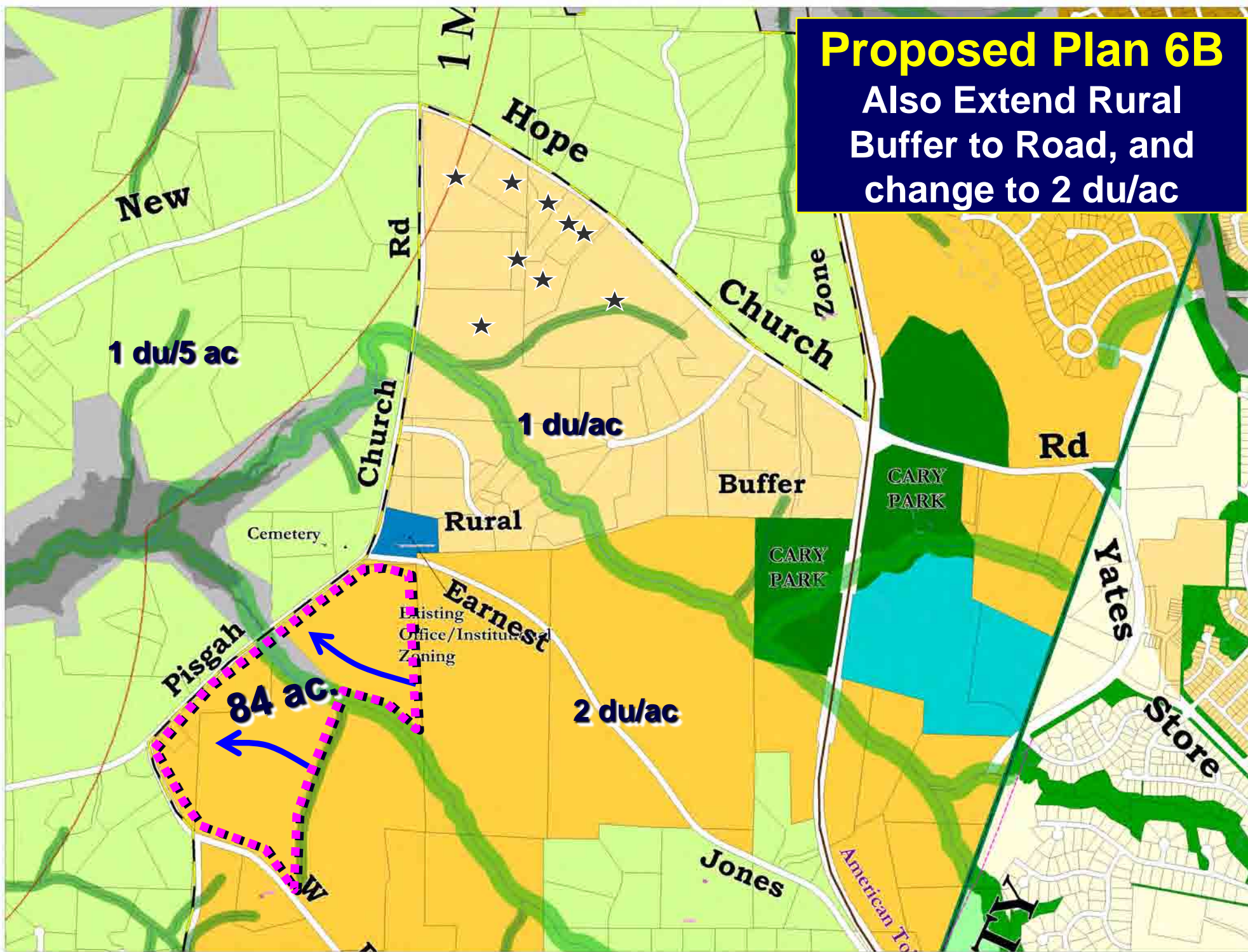


Proposed Plan 6B:
1 du/ 1 ac., inside
Utility Boundary



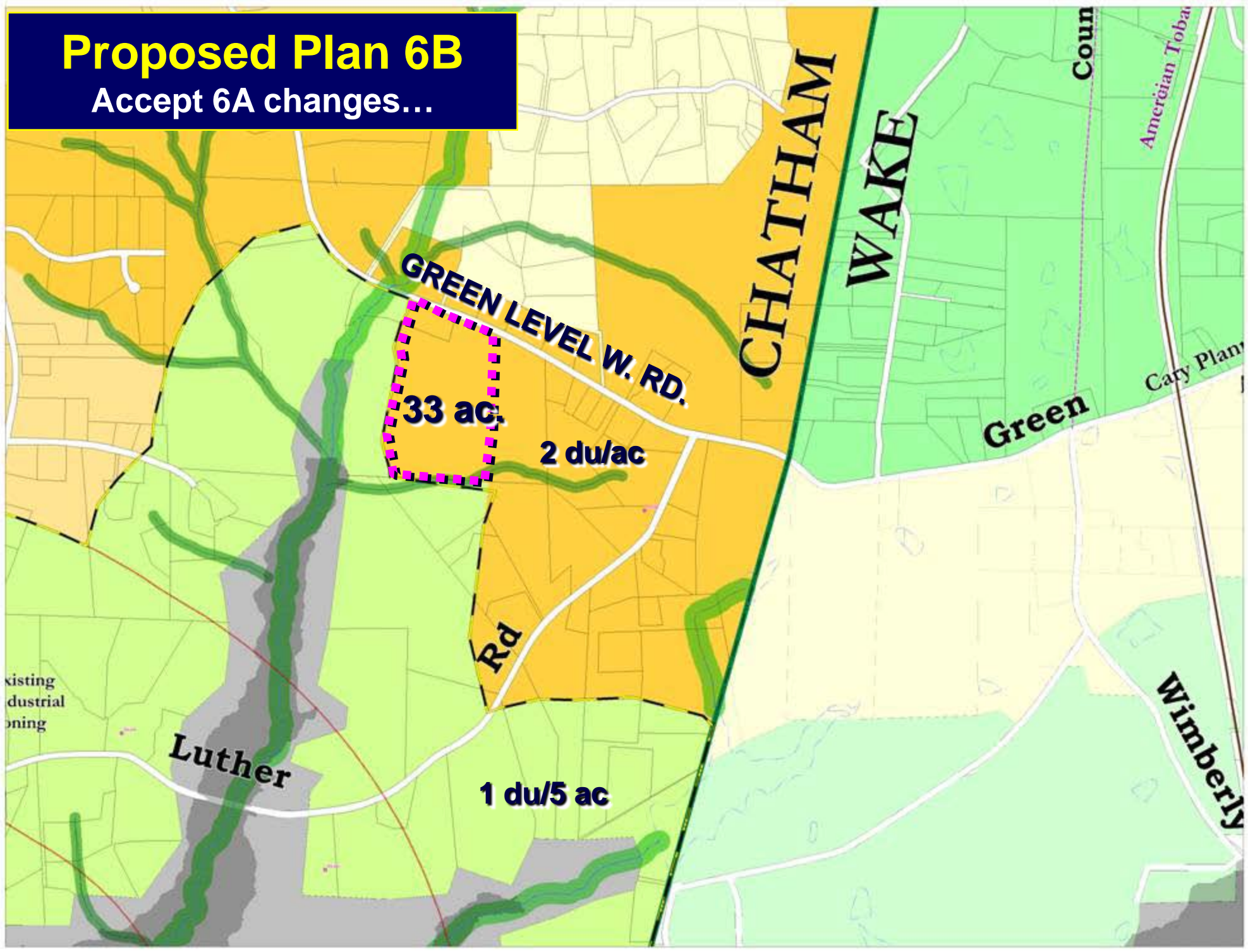
Proposed Plan 6B

Also Extend Rural Buffer to Road, and change to 2 du/ac



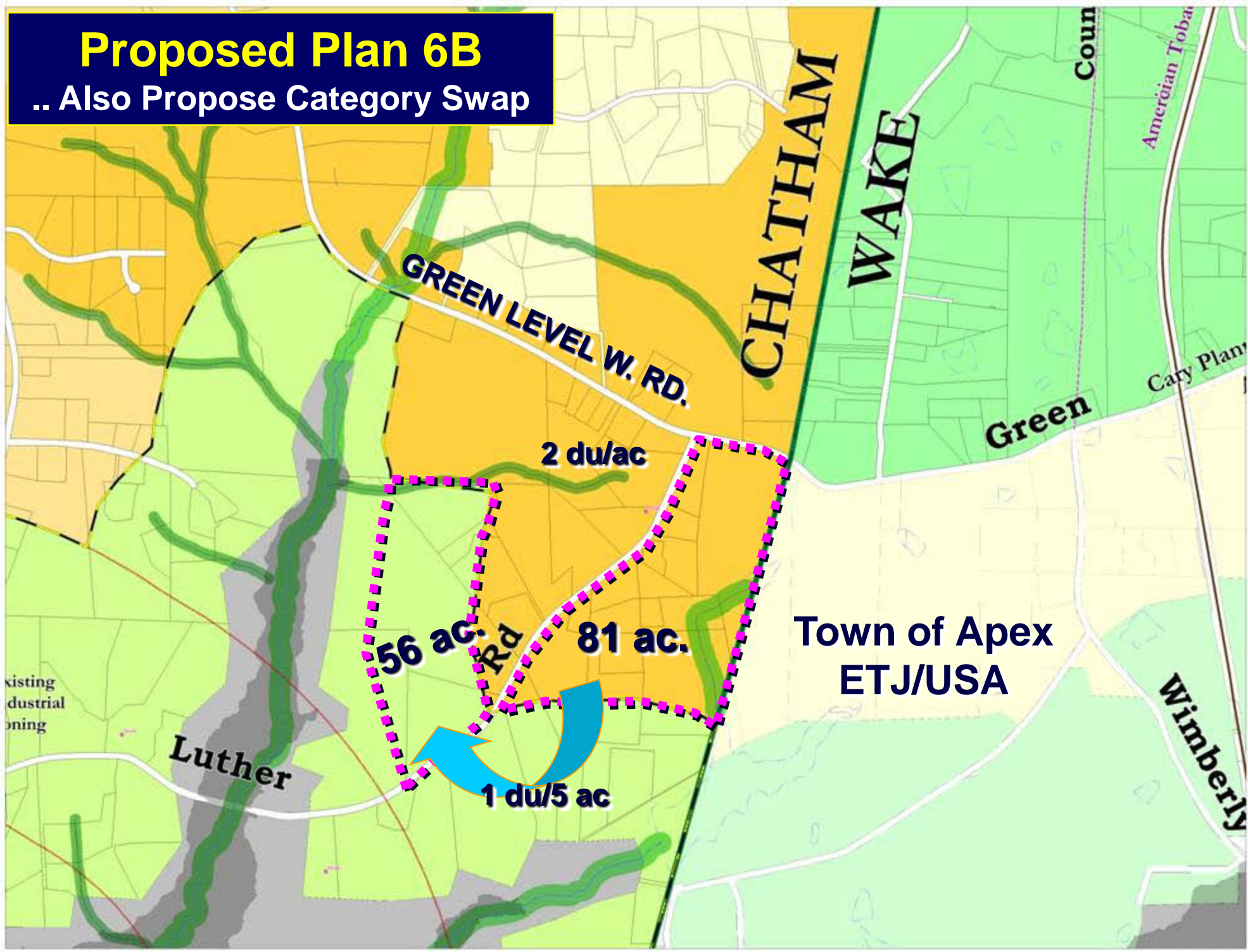
Proposed Plan 6B

Accept 6A changes...



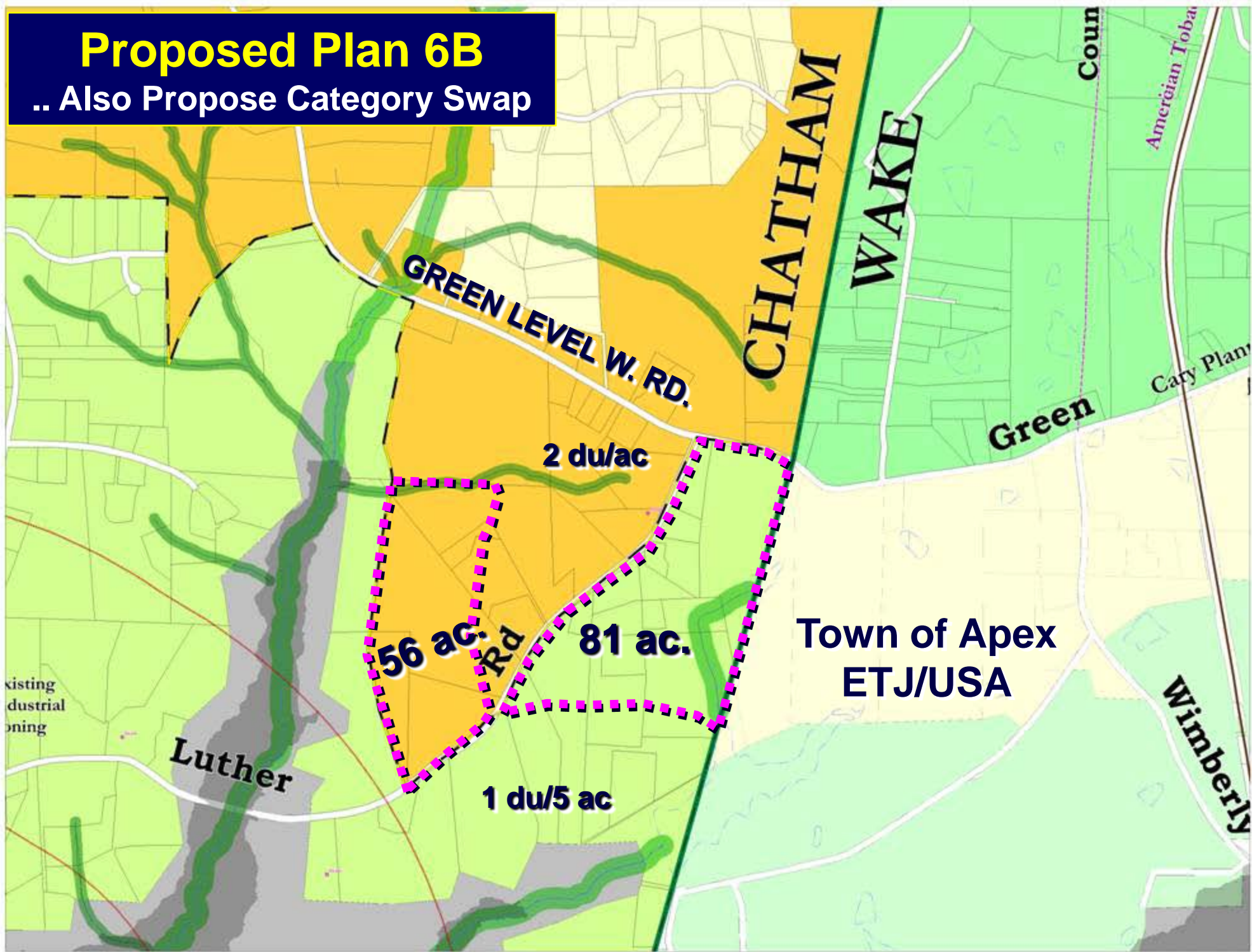
Proposed Plan 6B

.. Also Propose Category Swap



Proposed Plan 6B

.. Also Propose Category Swap



Brief Statistical Comparison of Plans 6, 6A, 6B

Differences in Rural Buffer/Urban Services Area

	Total Acres			Change in Acres from Plan 6	
	Plan 6	Plan 6A	Plan 6B	Plan 6A	Plan 6B
West or East of Rural Buffer					
West of Rural Buffer (no public utilities)	7,479	8,008	7,878	+ 529	+ 399
East of Rural Buffer (potential for public utilities)	3,238	2,709	2,839	- 529	- 399
Total Acres	10,717	10,717	10,717		

Changes in Acres by Land Use Category

Land Use Category	Plan 6 (acres)	Change in Acres from Plan 6			
		Using Largest MXD Area		Using Smallest MXD Area	
		Plan 6A	Plan 6B	Plan 6A	Plan 6B
Residential – 1 dwelling per 5 acres	7,296	- 273	+ 311	- 273	+ 311
Residential – 1 dwelling per 3 acres	255	+ 241	0	+ 241	0
Residential – 1 dwelling per 1 acre	716	+ 452	- 175	+ 452	- 130
Residential – 2 dwellings per acre	1,525	- 451	+ 14	- 206	+ 97
Residential – 4 dwellings per acre	0	0	0	0	0
Commercial (existing ac.)	26	0	0	0	0
Industrial (existing ac.)	24	0	0	0	0
Office & Institutional (existing ac.)	15	0	0	0	0
Mixed Use Node - commercial/retail portion	24	0	0	0	0
Mixed Use Node – office/empl.	214	+ 16	- 75	- 107	- 139
Mixed Use Node – residential	214	+ 15	- 75	- 107	- 139
Parks/Open Space/Golf	408	0	0	0	0
Total (official unincorporated plan area):	10,717	0	0	0	0

Changes in Buildout Projections

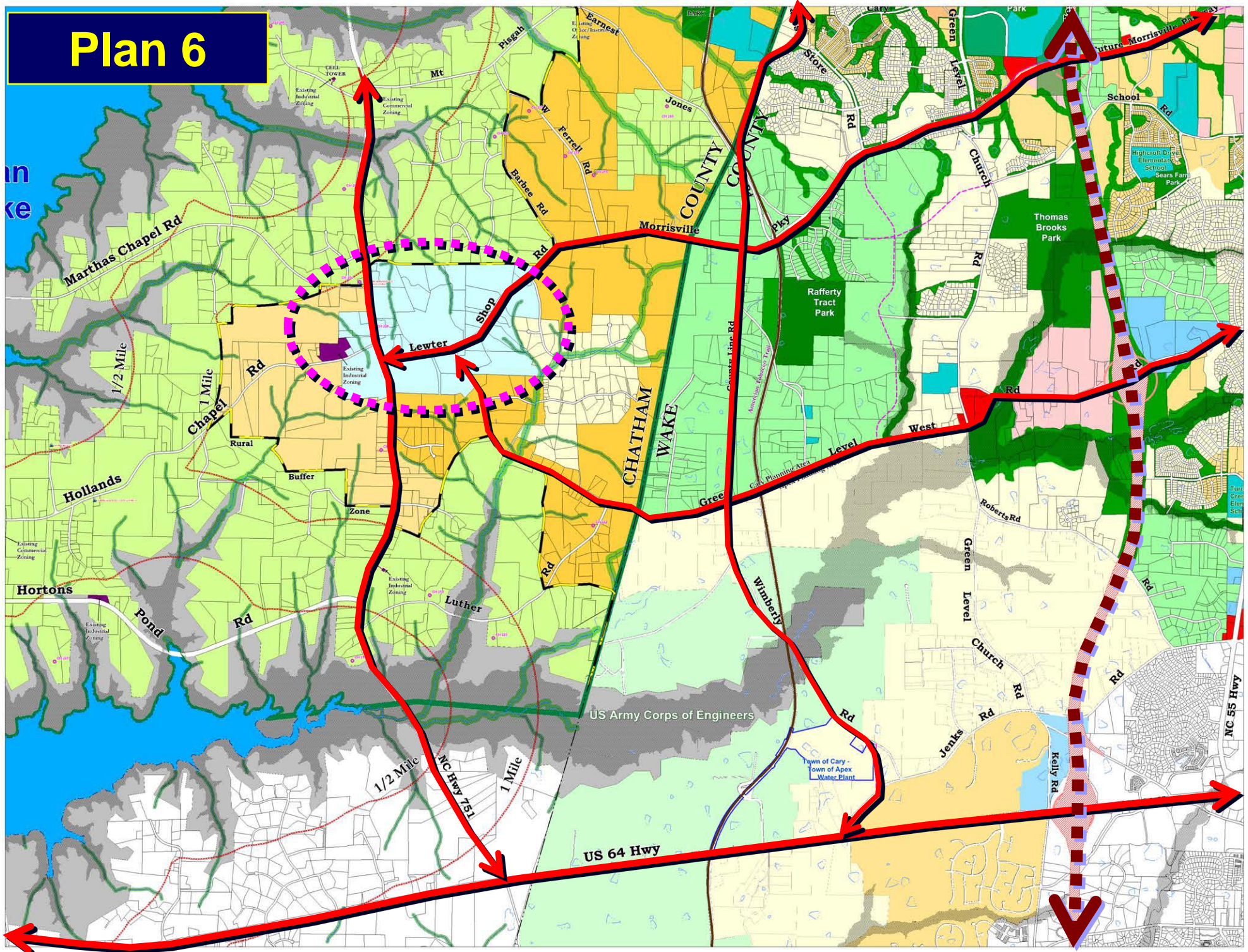
Metric	Plan 6 Buildout	Change in Buildout Potential from Plan 6			
		Using Largest MXD Area		Using Smallest MXD Area	
		Plan 6A	Plan 6B	Plan 6A	Plan 6B
<i>Maximum</i> number of dwellings	7,021	- 1,220	- 685	- 1,218	- 985
<i>Maximum</i> estimated population	19,453	- 3,195	- 1,947	- 3,189	- 2,673
<i>Maximum</i> estimated K-12 student pop.	1,998	- 315	- 204	- 315	- 271
Total estimated nonresid. floor space	2,051,022	+ 121,968	- 571,725	- 815,661	- 1,059,597
Total estimated employment	7,417	+ 464	- 2,173	- 3,099	- 4,026

Approach for Activity Node Discussion

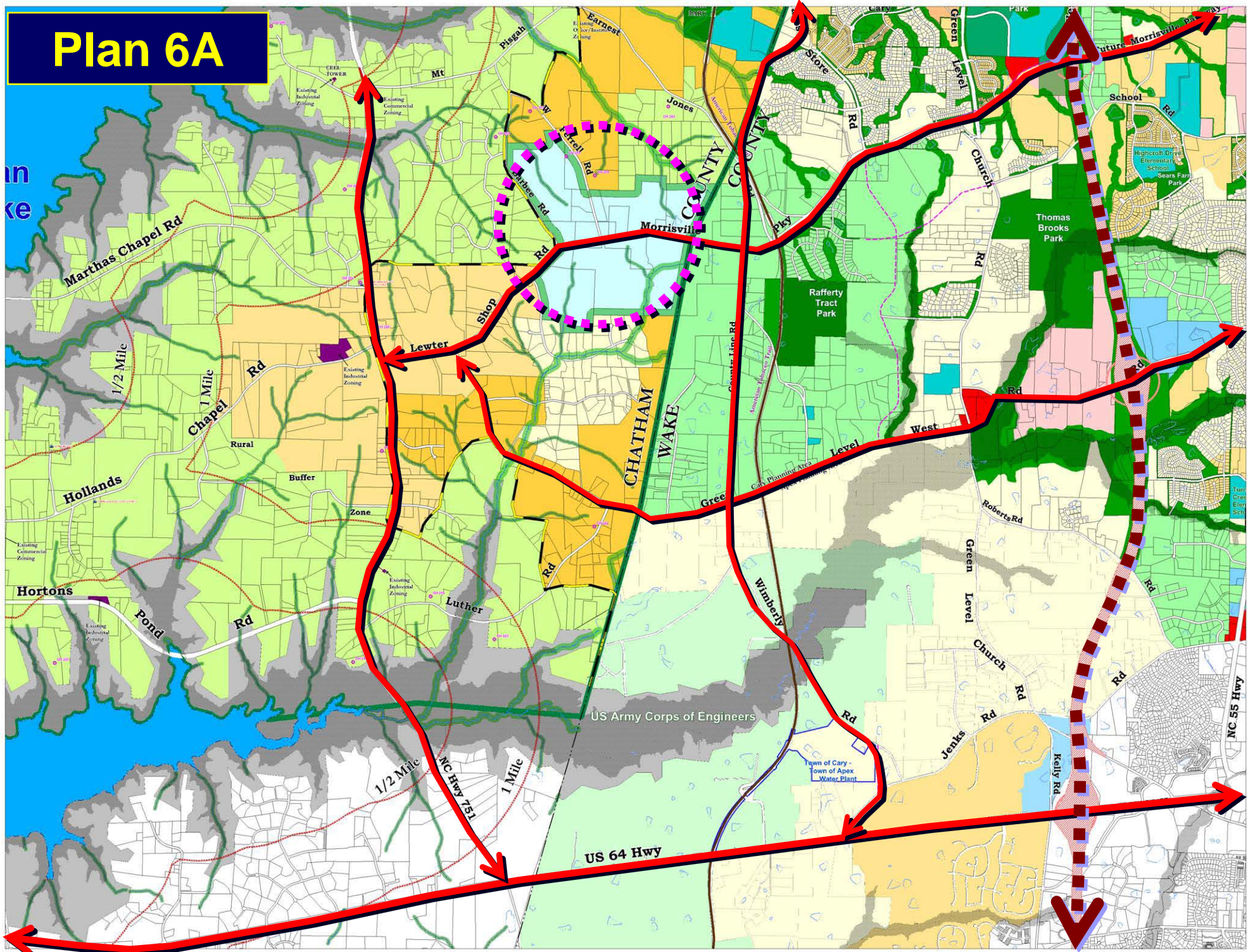
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Regional Comparisons and Evaluation

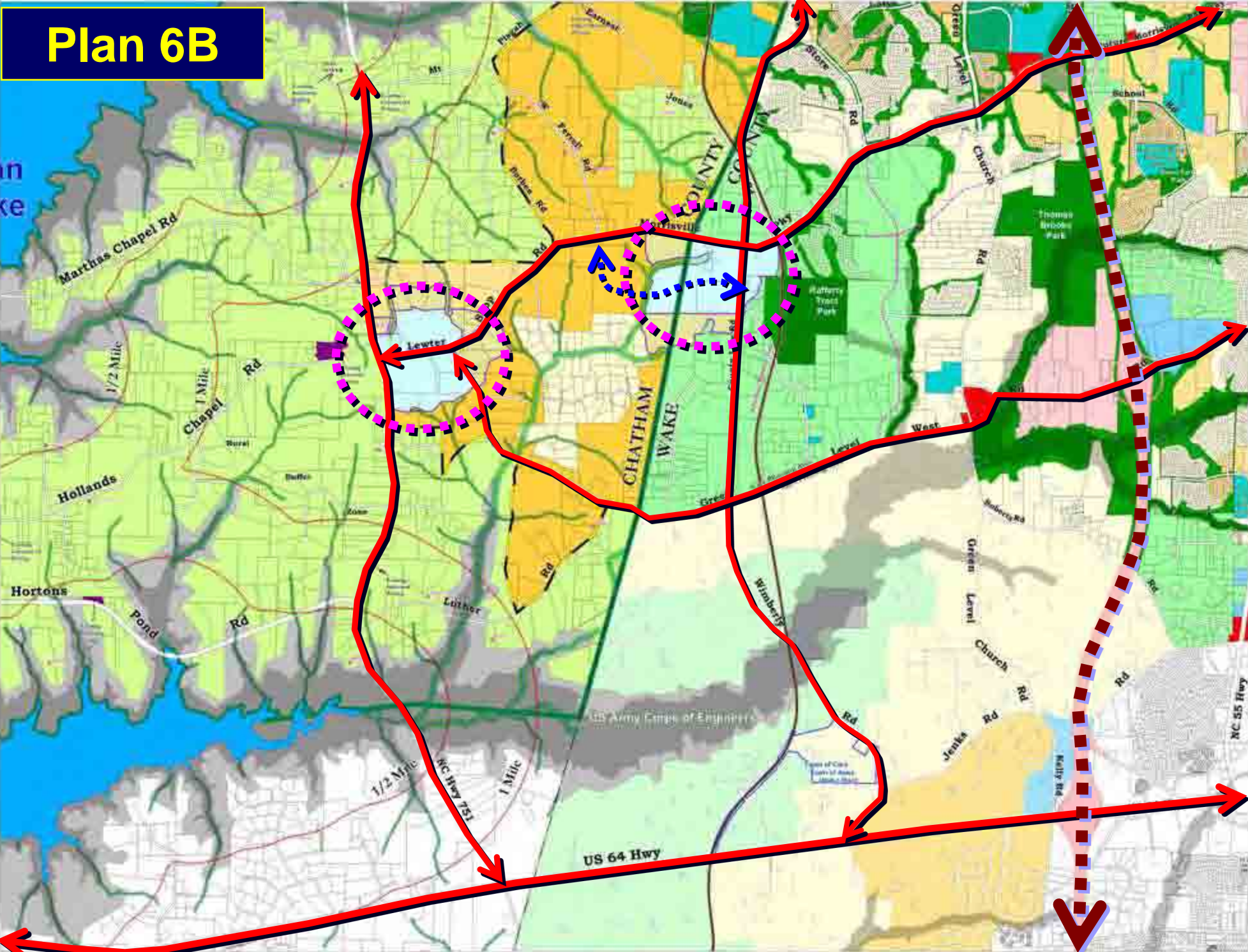
Plan 6



Plan 6A



Plan 6B



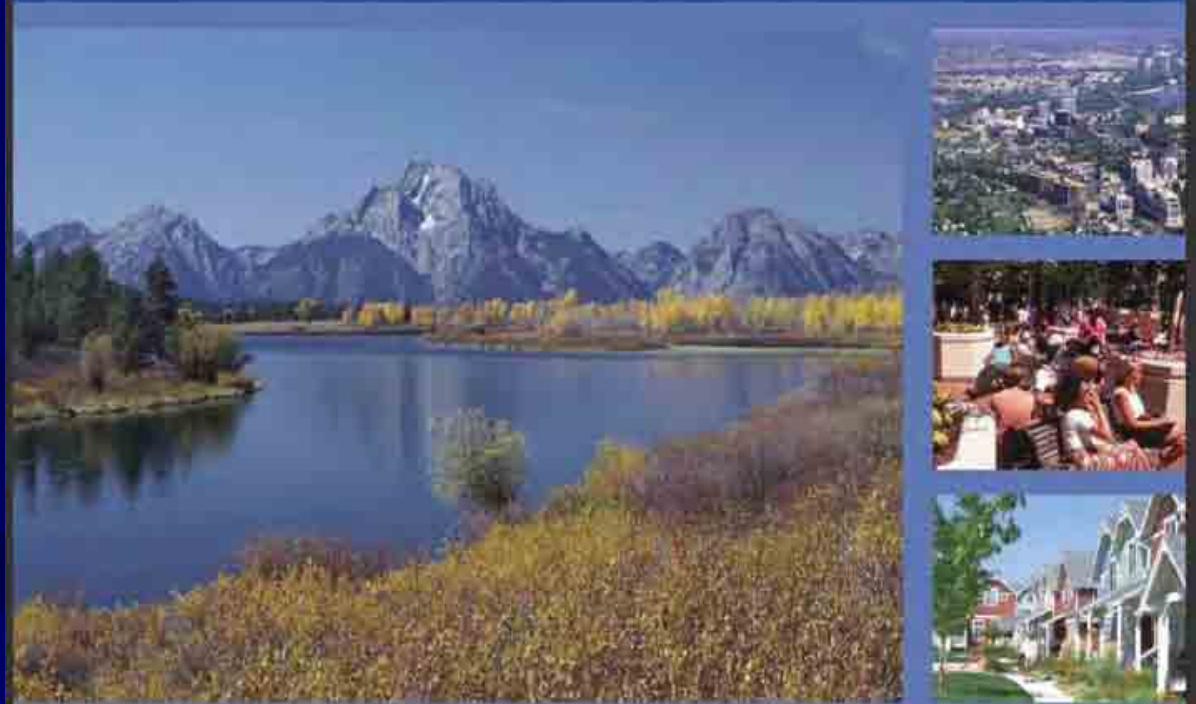
Environmental Data and Comparisons

NC DWQ Jordan Lake Model

Table 9. Summary of Average Annual Field-Scale Loading Rates by Land Use Across all HRUs (lb/ac/yr).

Code	Land use description	TN	TP
BAR	Barren	45.96	29.92
CIT	Commercial/Heavy Industrial	24.05	3.70
FOR	Forest	1.59	0.33
OFF	Office/Light Industrial	16.47	2.63
PAS	Pasture	5.69	1.08
RVH	Residential <0.25 ac per du (sewered)	15.03	2.47
RHH	Residential – 0.25-0.5 ac per du (sewered)	11.86	2.00
RMH	Residential – 0.5-1.0 ac per du (sewered)	11.72	1.94
S-RMH	Residential – 0.5-1.0 ac per du (unsewered)	41.42	2.03
RML	Residential – 1.0-1.5 ac per du (sewered)	10.89	1.81
S-RML	Residential – 1.0-1.5 ac per du (unsewered)	28.71	1.86
RLL	Residential – 1.5-2.0 ac per du (sewered)	9.37	1.71
S-RLL	Residential – 1.5-2.0 ac per du (unsewered)	22.09	1.74
RVL	Residential – 2.0+ ac per du (sewered)	2.49	0.60
S-RVL	Residential – 2.0+ ac per du (unsewered)	11.40	0.63
ROW	Row Crop	13.37	5.32
UGR	Urban Green Space	3.57	0.61
WAT	Water	0.00	0.00
WET	Wetland	2.20	0.40

EPA Study



PROTECTING WATER RESOURCES WITH HIGHER-DENSITY DEVELOPMENT

Other Studies

Phase I Report Wekiva River Basin Nitrate Sourcing Study

Prepared for:



St. Johns River Water
Management District
4049 Reid Street
Palatka, Florida 32177

and



Florida Department of
Environmental Protection
2600 Blair Stone Road
Tallahassee, FL 32399

Prepared by:

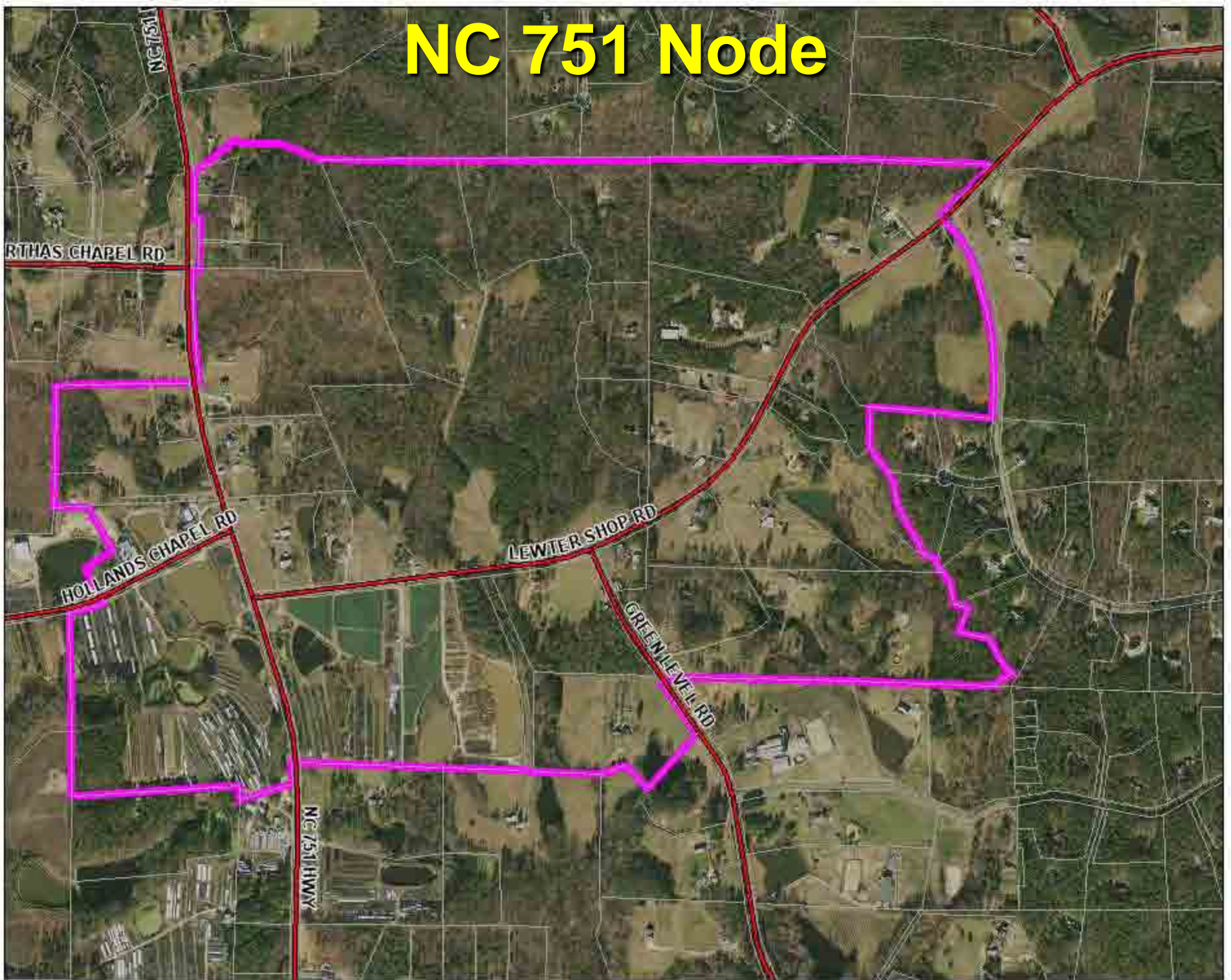
 **MACTEC**

404 SW 140th Terrace
Newberry, FL 32669

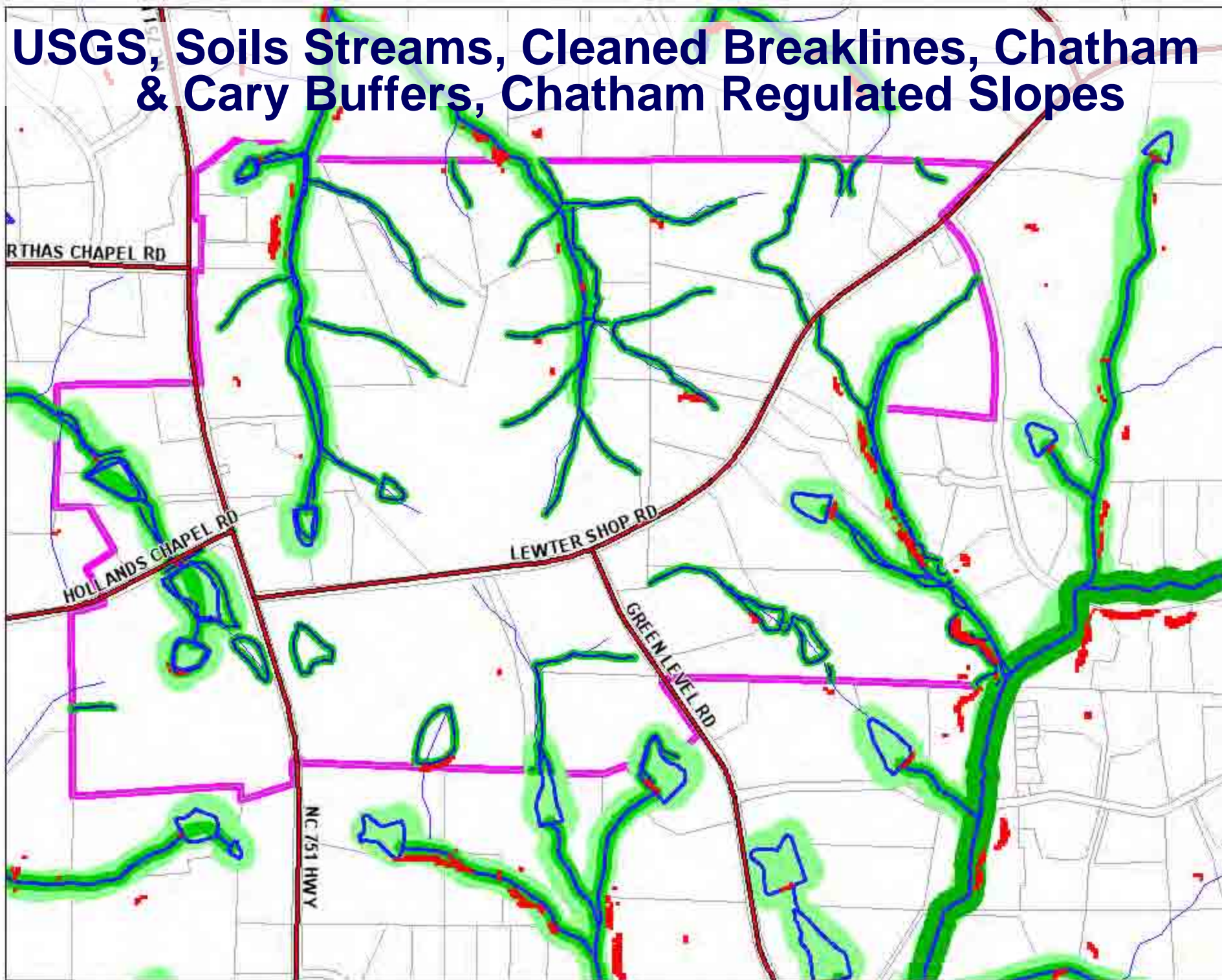
MACTEC Project No.: 6063060079

March 2007

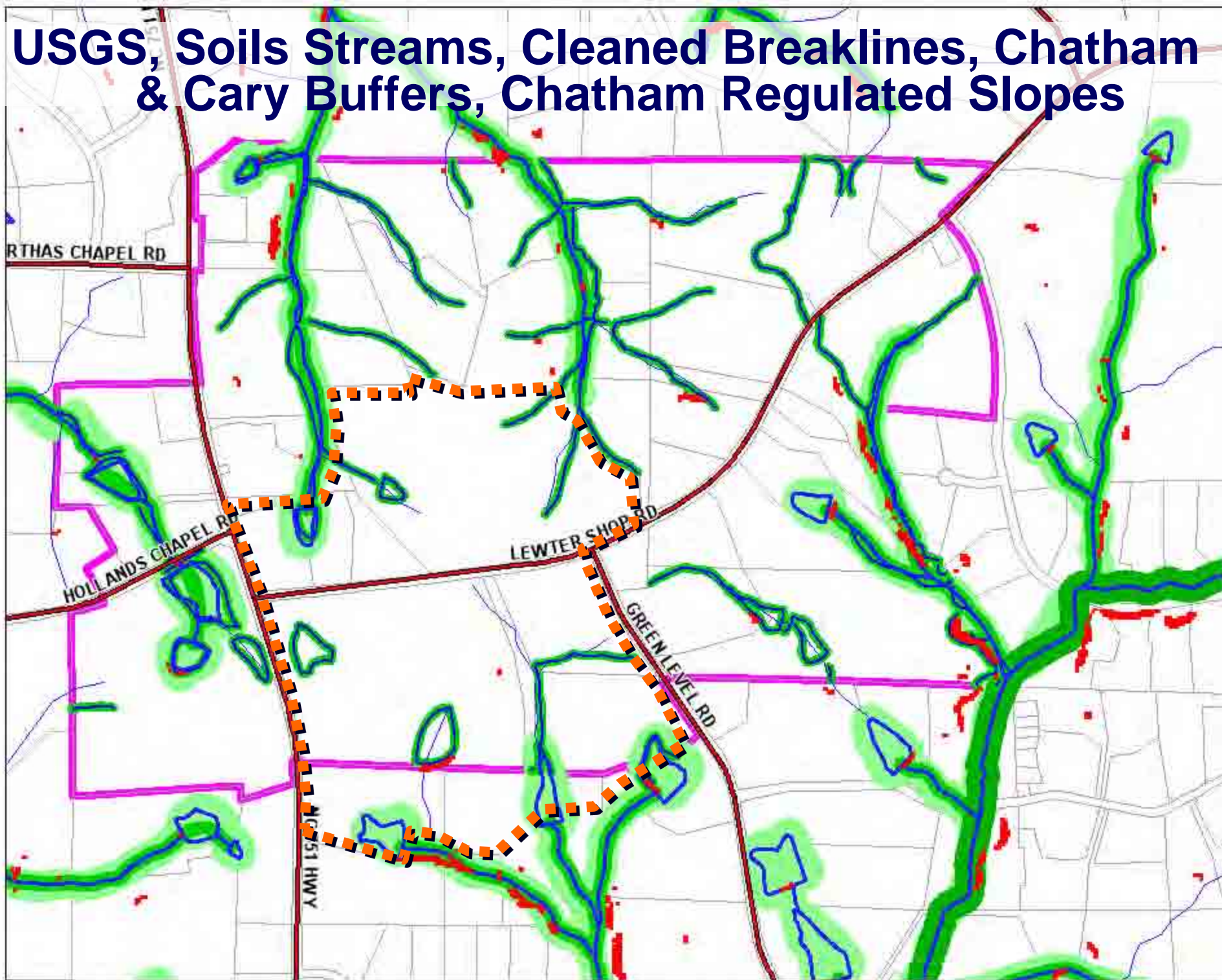
NC 751 Node



USGS, Soils Streams, Cleaned Breaklines, Chatham & Cary Buffers, Chatham Regulated Slopes



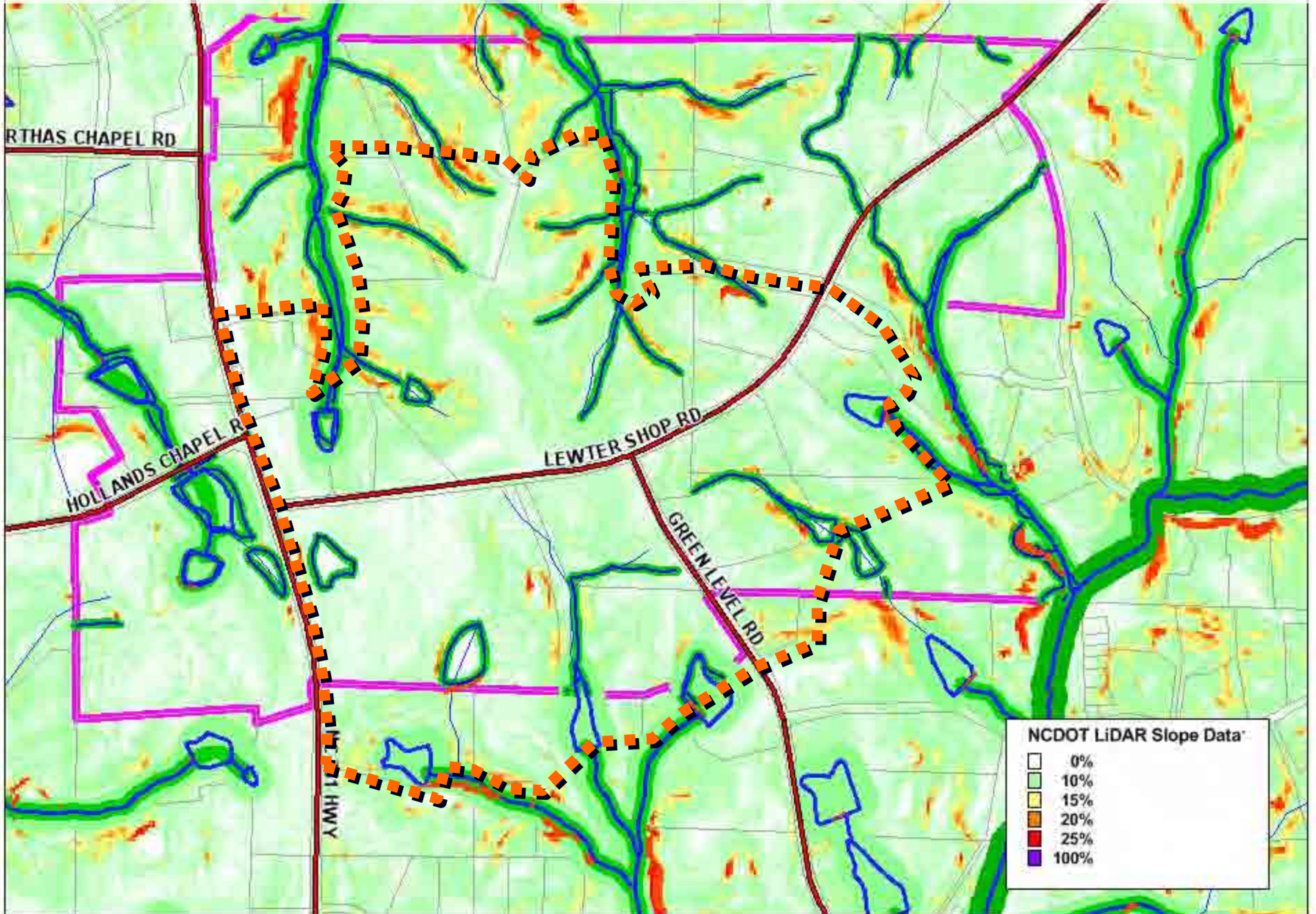
USGS, Soils Streams, Cleaned Breaklines, Chatham & Cary Buffers, Chatham Regulated Slopes



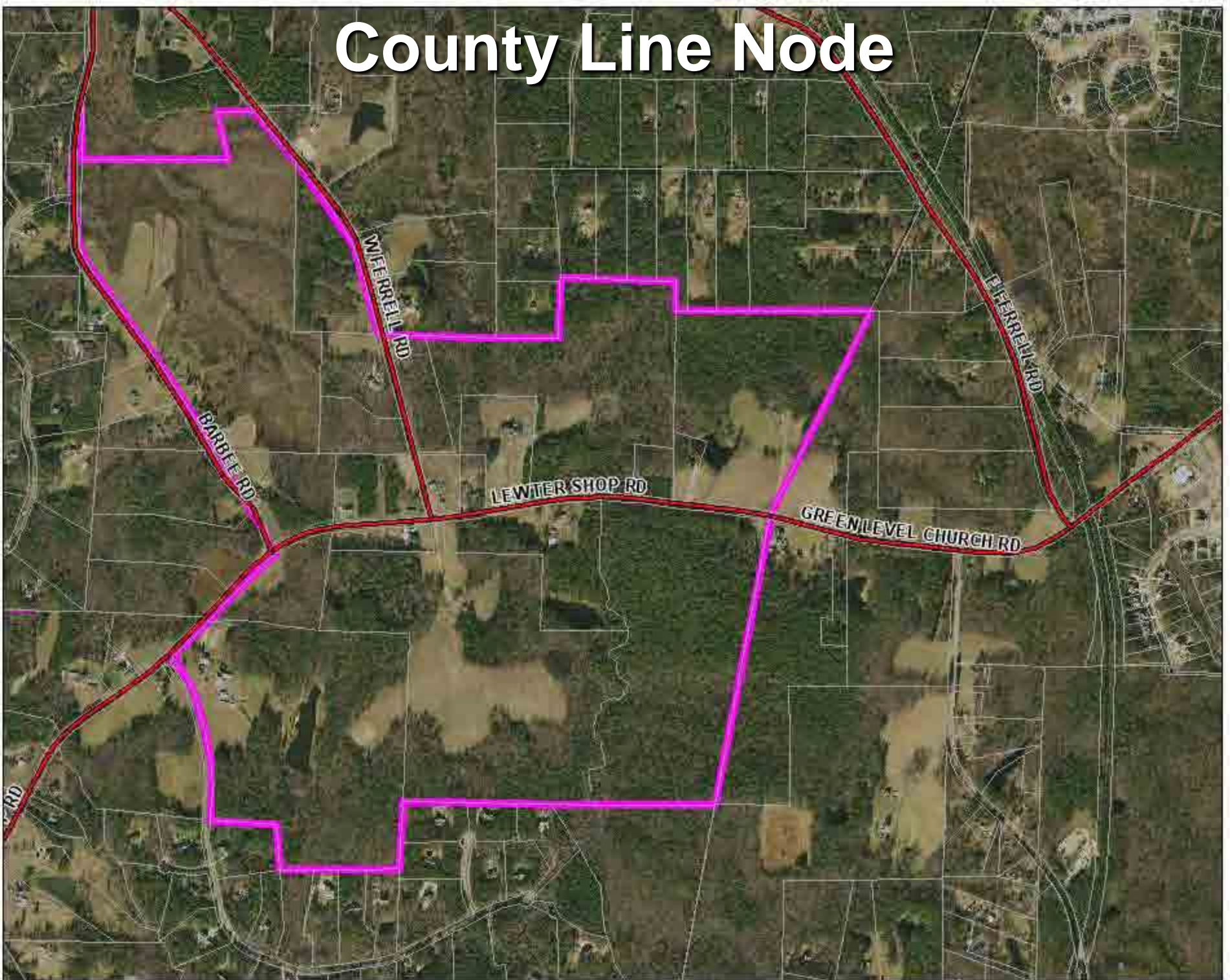
USGS, Soils Streams, Cleaned Breaklines, Chatham & Cary Buffers, Chatham Regulated Slopes



USGS, Soils Streams, Cleaned Breaklines, Chatham & Cary Buffers, Chatham Regulated Slopes, LiDAR



County Line Node



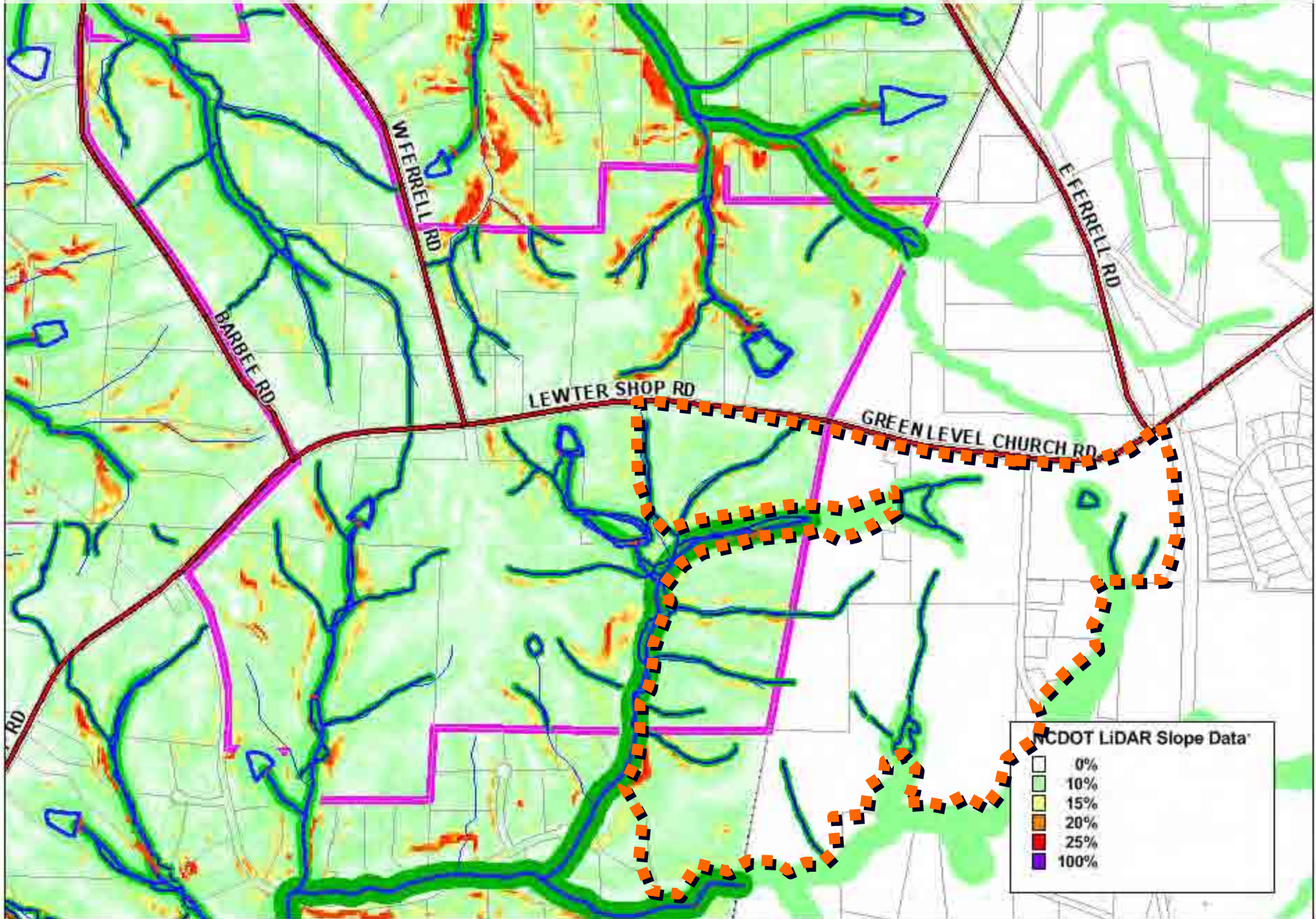
USGS, Soils Streams, Cleaned Breaklines, Chatham & Cary Buffers, Chatham Regulated Slopes



USGS, Soils Streams, Cleaned Breaklines, Chatham & Cary Buffers, Chatham Regulated Slopes



USGS, Soils Streams, Cleaned Breaklines, Chatham & Cary Buffers, Chatham Regulated Slopes, LiDAR



Committee Discussion

*Should the Node be moved?
Renamed?*

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Mixed Use Node Discussion

- **Current Draft Plan:**
~ 460 Acre “Node” located around NC 751 and Lewter Shop Road Area

Office/Employment

Acres	218
Floor Space	1,661,814
Employees	6,315

Commercial/Retail

Acres	24
Floor Space	188,179
Employees	470

Residential

Acres	218
Max. Dwellings	1,744
Max. Density	8 du/ac
Population	4,888
K-12 Students	506

Mixed Use Node Discussion

Office Component

	218 ac.	150 ac.	100 ac.	50 ac.
Floor Space	1,661,814	1,143,450	762,300	381,150
Employees	6,315	4,345	2,896	1,448

Commercial/Retail Component

	24 ac.	18 ac.	12 ac.	6 ac.
Floor Space	188,179	141,134	94,089	47,044
Employees	470	352	235	117

Mixed Use Node Discussion

Residential Component – 8 homes/ac.

	218 ac.	150 ac.	100 ac.	50 ac.
Dwellings	1,744	1,200	800	400
Population	4,888	3,363	2,242	1,121
K-12 Students	506	348	232	116

Residential Component – 6 homes/ac.

	218 ac.	150 ac.	100 ac.	50 ac.
Dwellings	1,308	900	600	300
Population	3,666	2,522	1,681	840
K-12 Students	380	262	174	88

NC 751 Node

25.4 ac.

13.7 ac.

6.3 ac.

56.8 ac.

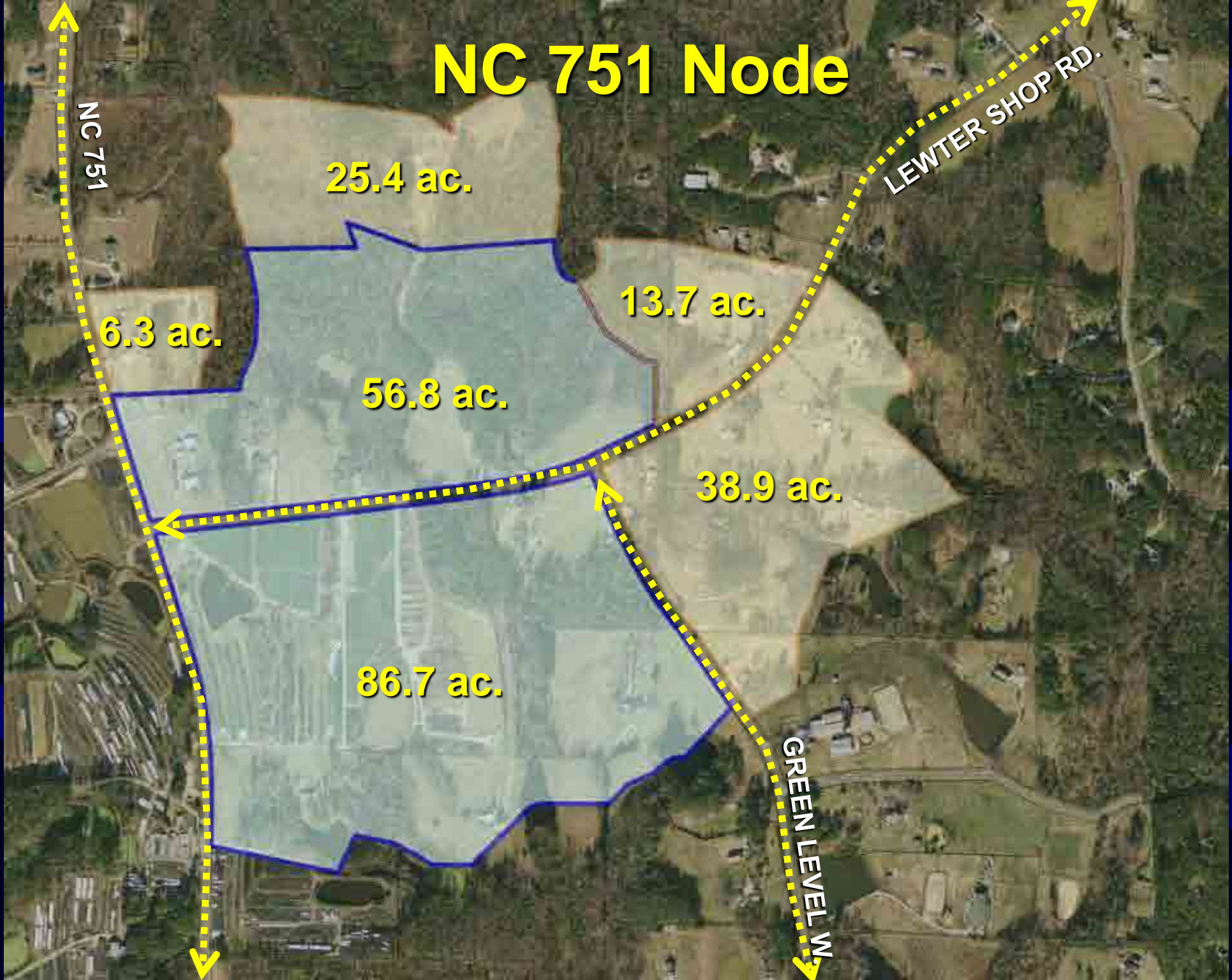
38.9 ac.

86.7 ac.

NC 751

LEWTER SHOP RD.

GREEN LEVEL W.



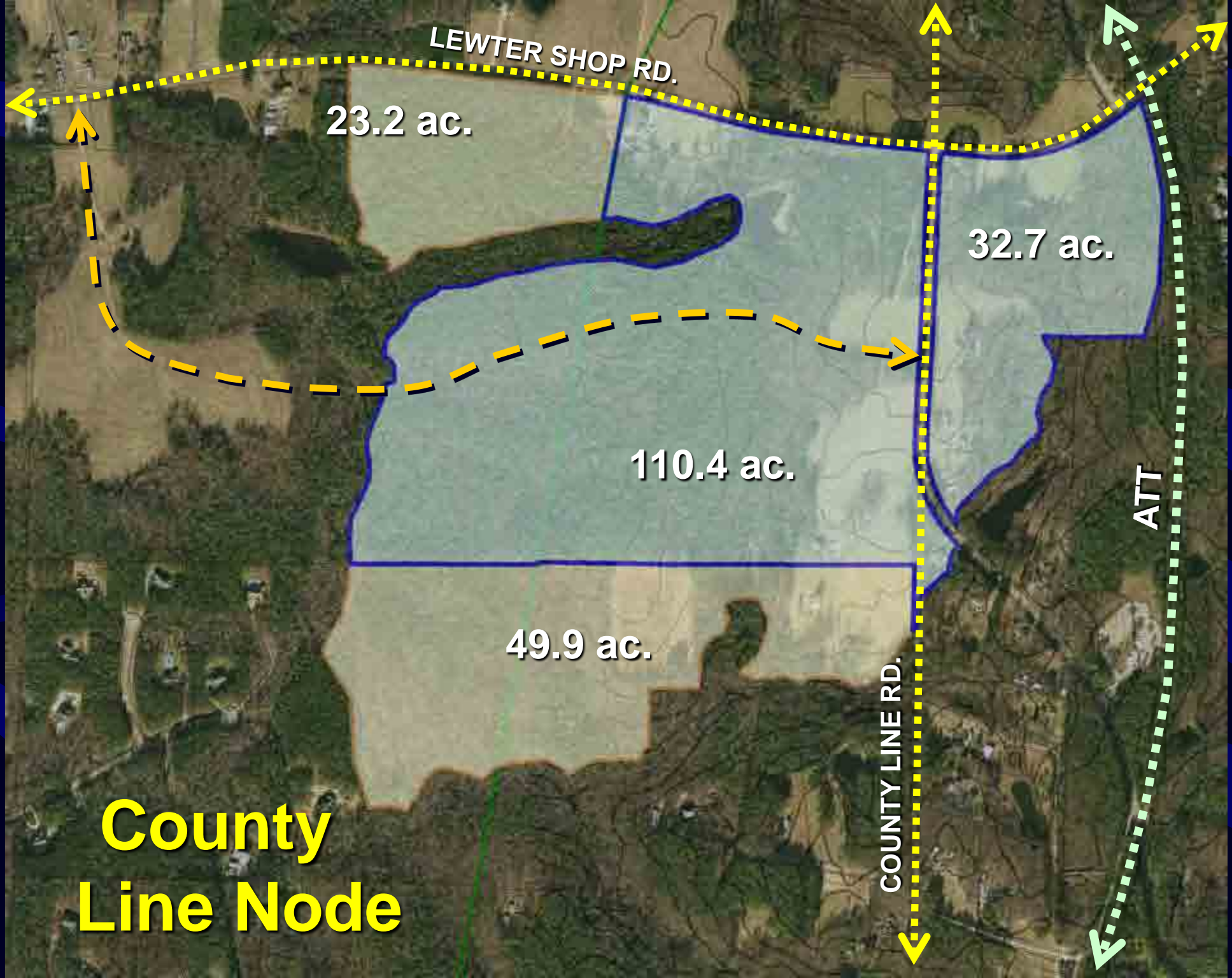
NC 751 Node

NC 751

LEWTER SHOP RD.

GREEN LEVEL W.





LEWTER SHOP RD.

23.2 ac.

32.7 ac.

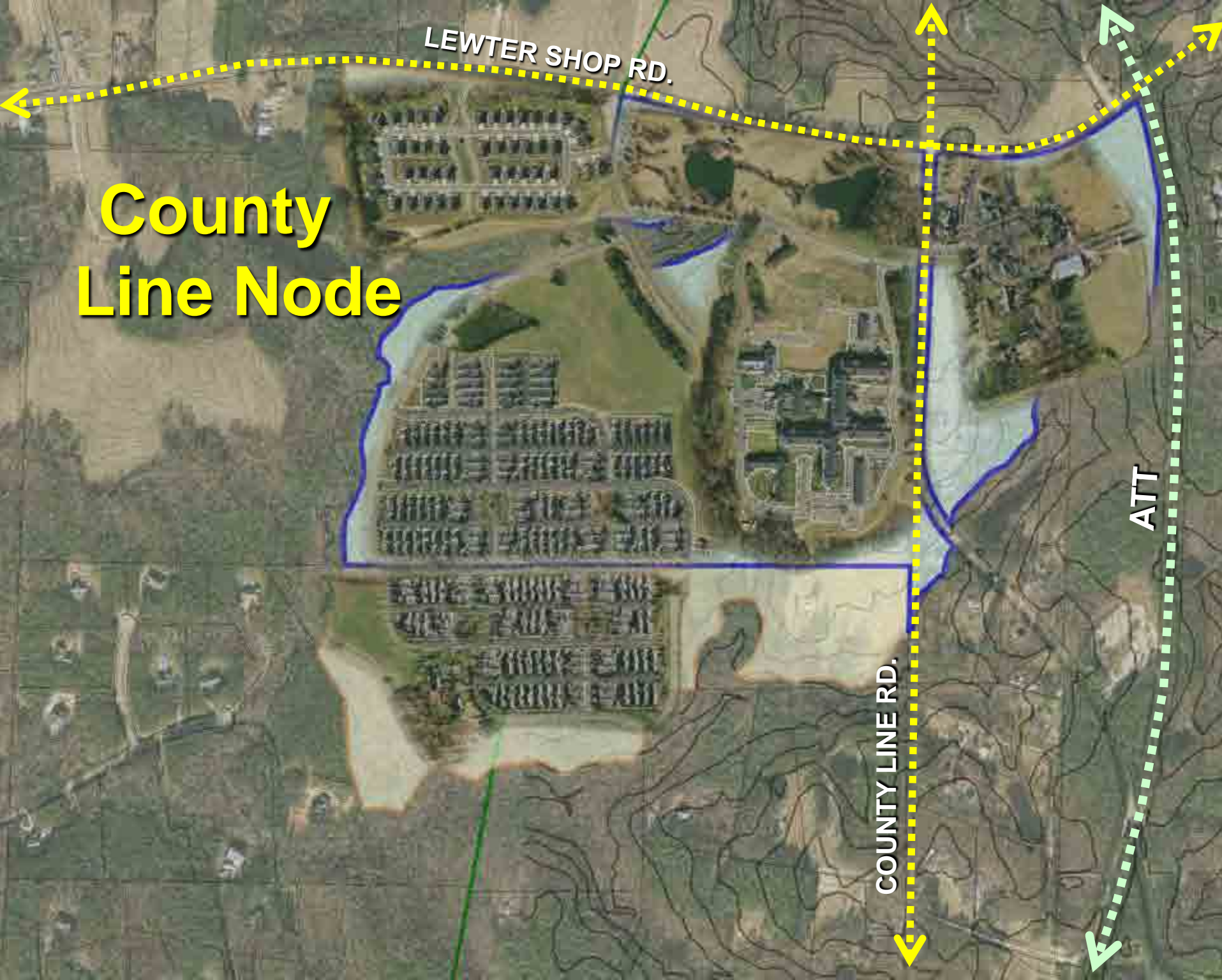
110.4 ac.

49.9 ac.

ATT

COUNTY LINE RD.

**County
Line Node**



LEWTER SHOP RD.

County
Line Node

COUNTY LINE RD.

ATT

Representative Examples of Residential Densities

1 Dwelling Unit Per 5 Acres

1 Dwelling Unit Per Acre



Representative Examples of Residential Densities

3.6 Dwelling Units Per Acre

4.0 Dwelling Units Per Acre



Representative Examples of Residential Densities

7.8 Dwelling Units Per Acre

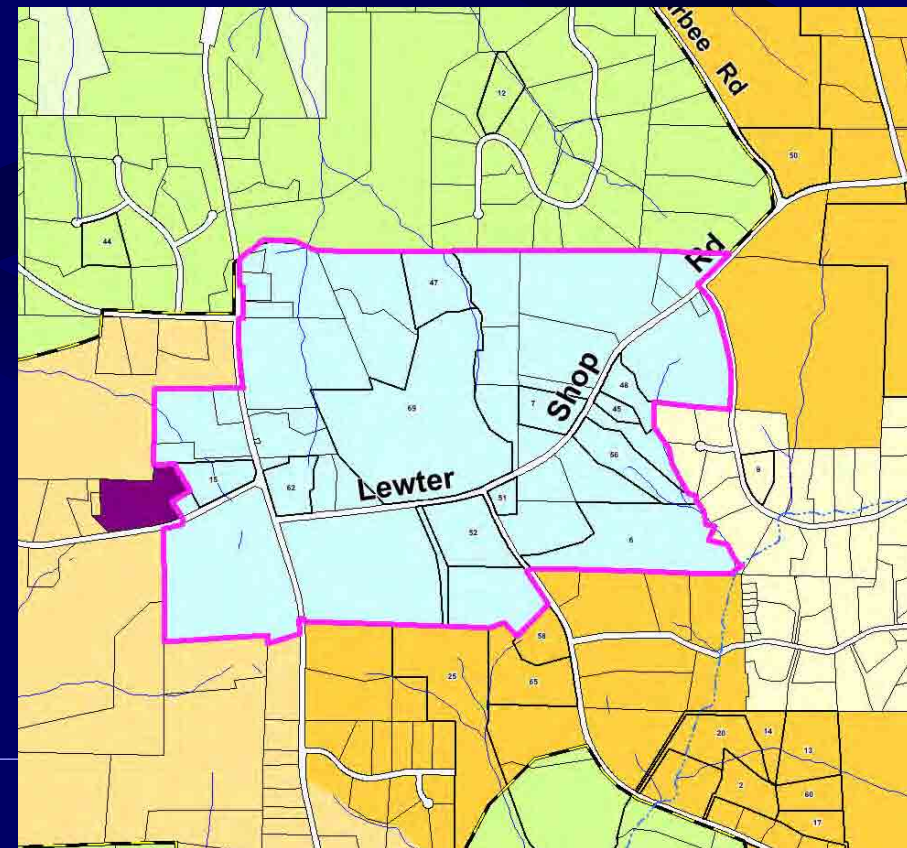


8.6 Dwelling Units Per Acre



Question: Mixed Use Node Area

- Conceptual (“Floating”) Boundary or A Fixed Boundary?
- Use A Plan Amendment Process to Move Boundary from what’s shown?
- Impact of Conceptual/Floating Boundary on Intergovernmental Plan Interpretation



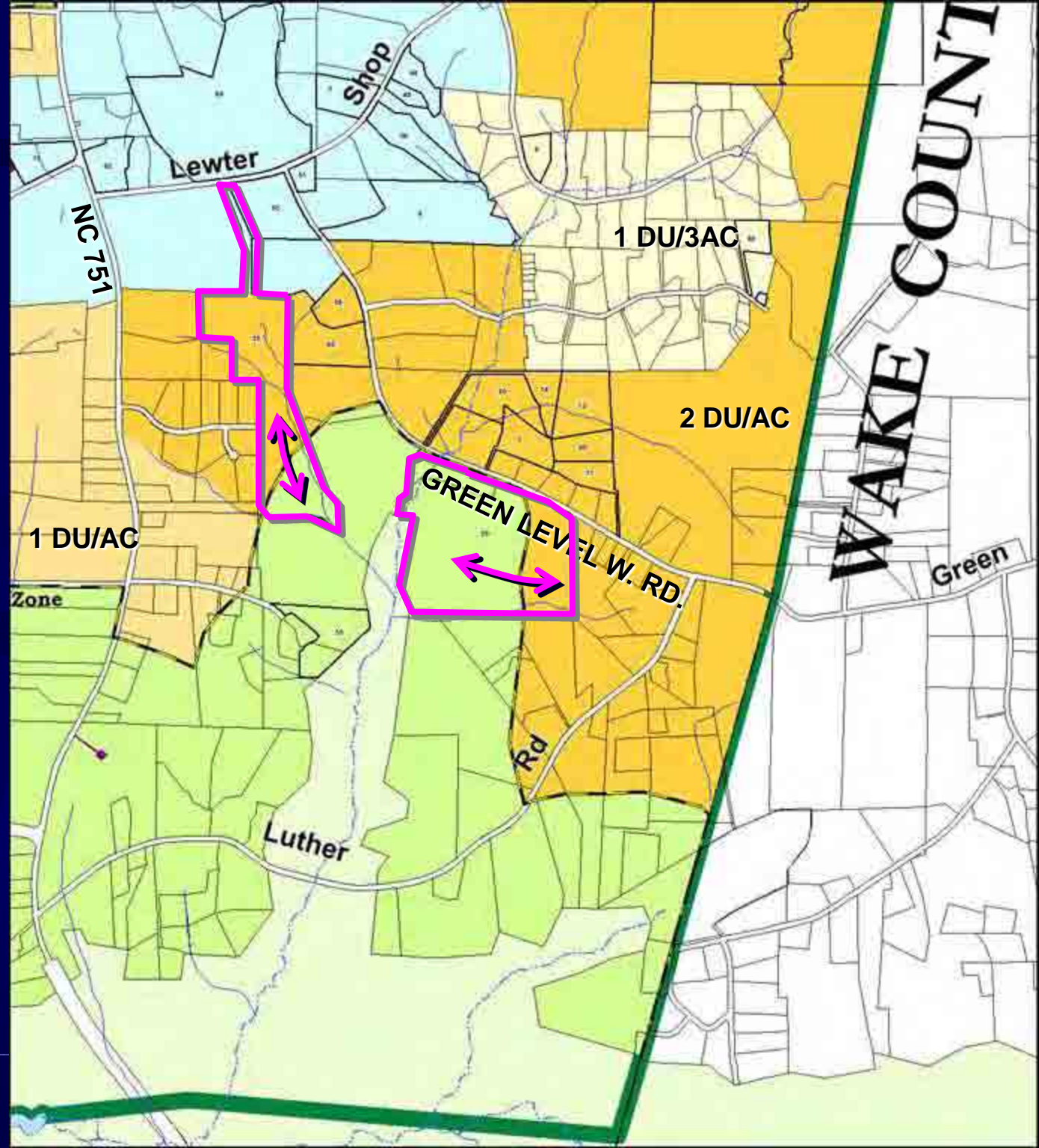
Unresolved Map Change Requests

Ferrell Family Properties

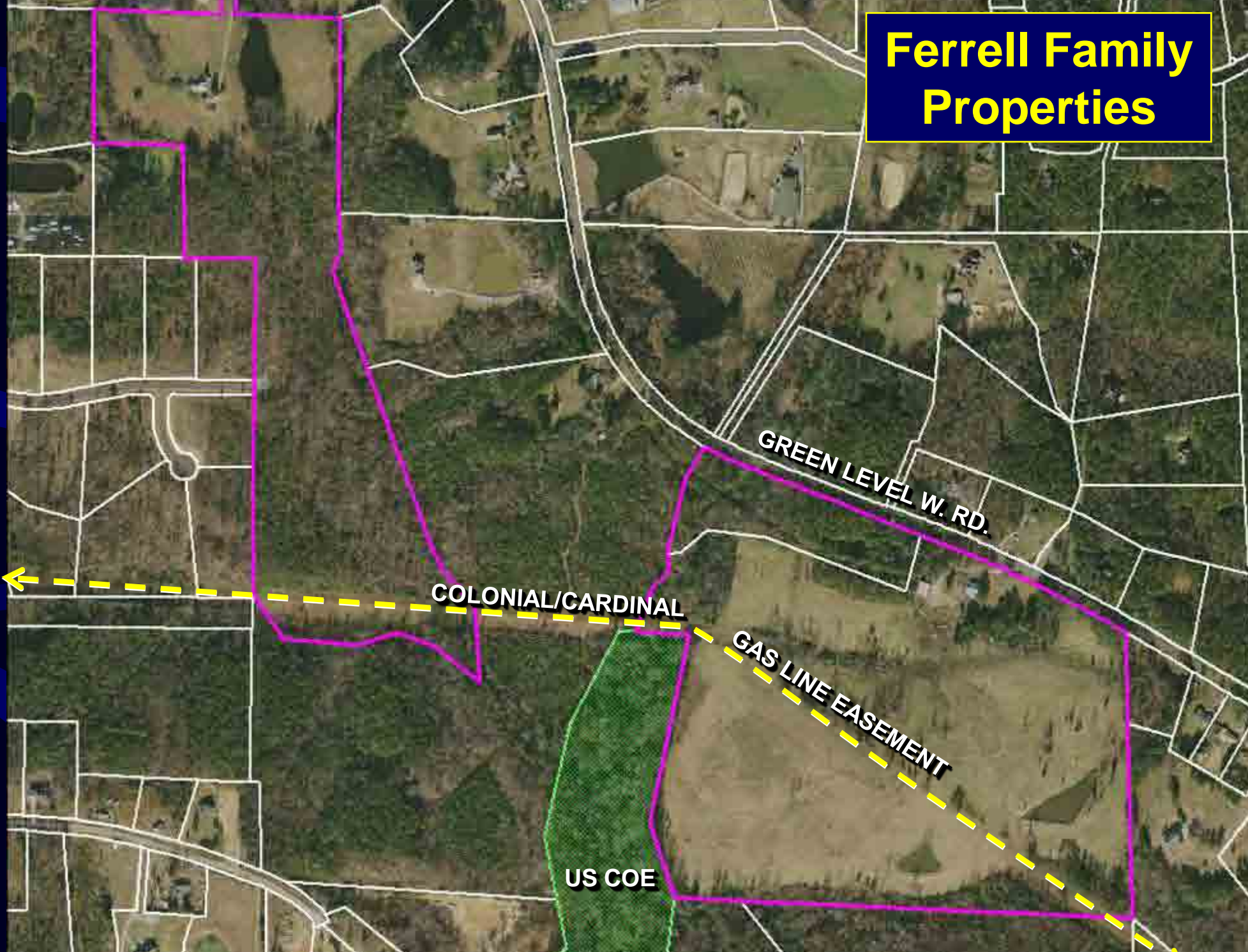
Ferrell Family Properties

Current Draft
Plan:

Properties Split
Between
2 DU/1AC and
1 DU/5AC



Ferrell Family Properties



COLONIAL/CARDINAL

GREEN LEVEL W. RD.

GAS LINE EASEMENT

US COE

Current Plan 6

1 du/5 ac

GREEN LEVEL RD

2 du/1 ac

200ft

400ft

Army
Corps of
Engineers

245

255

265

275

285

295

315

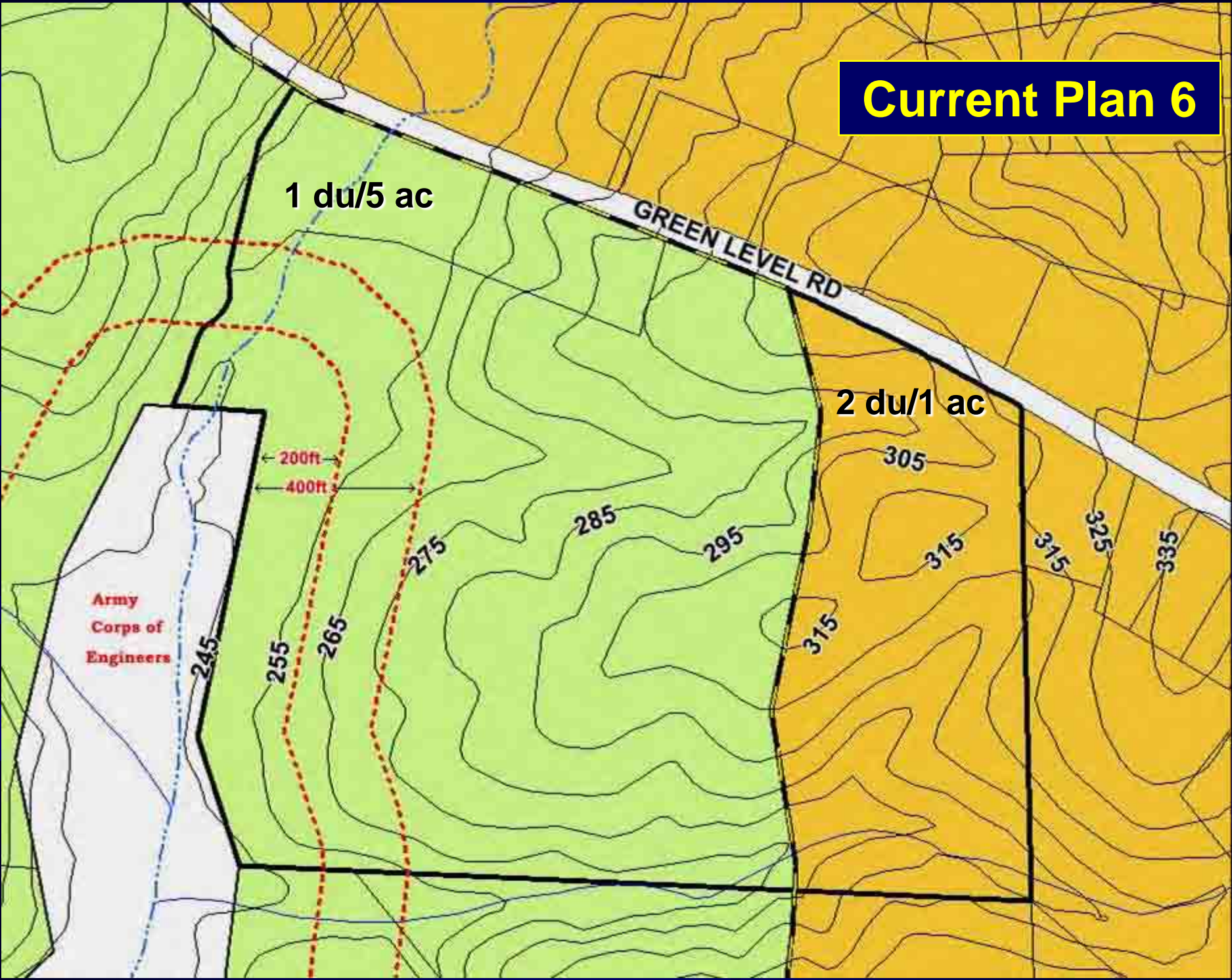
305

315

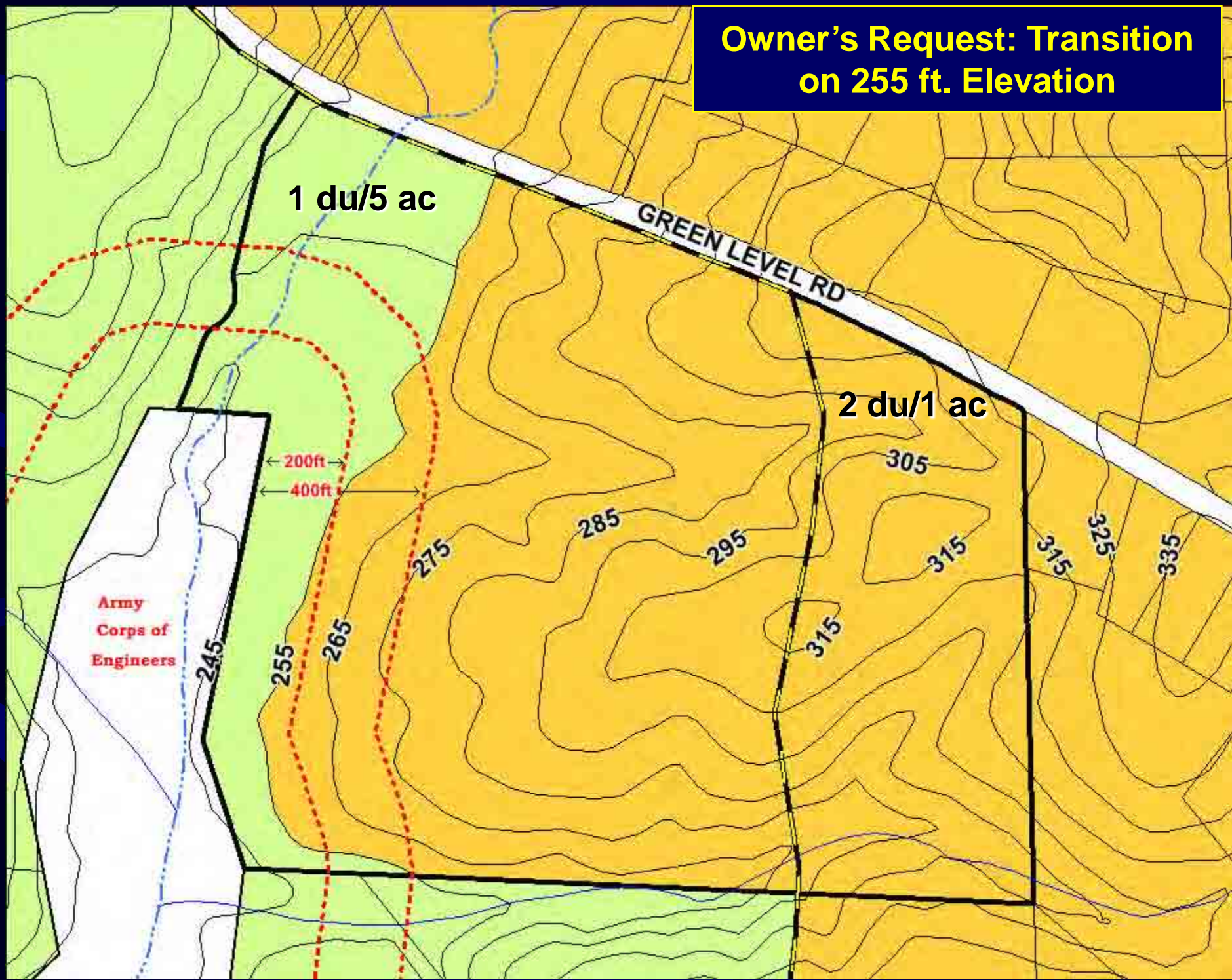
315

325

335

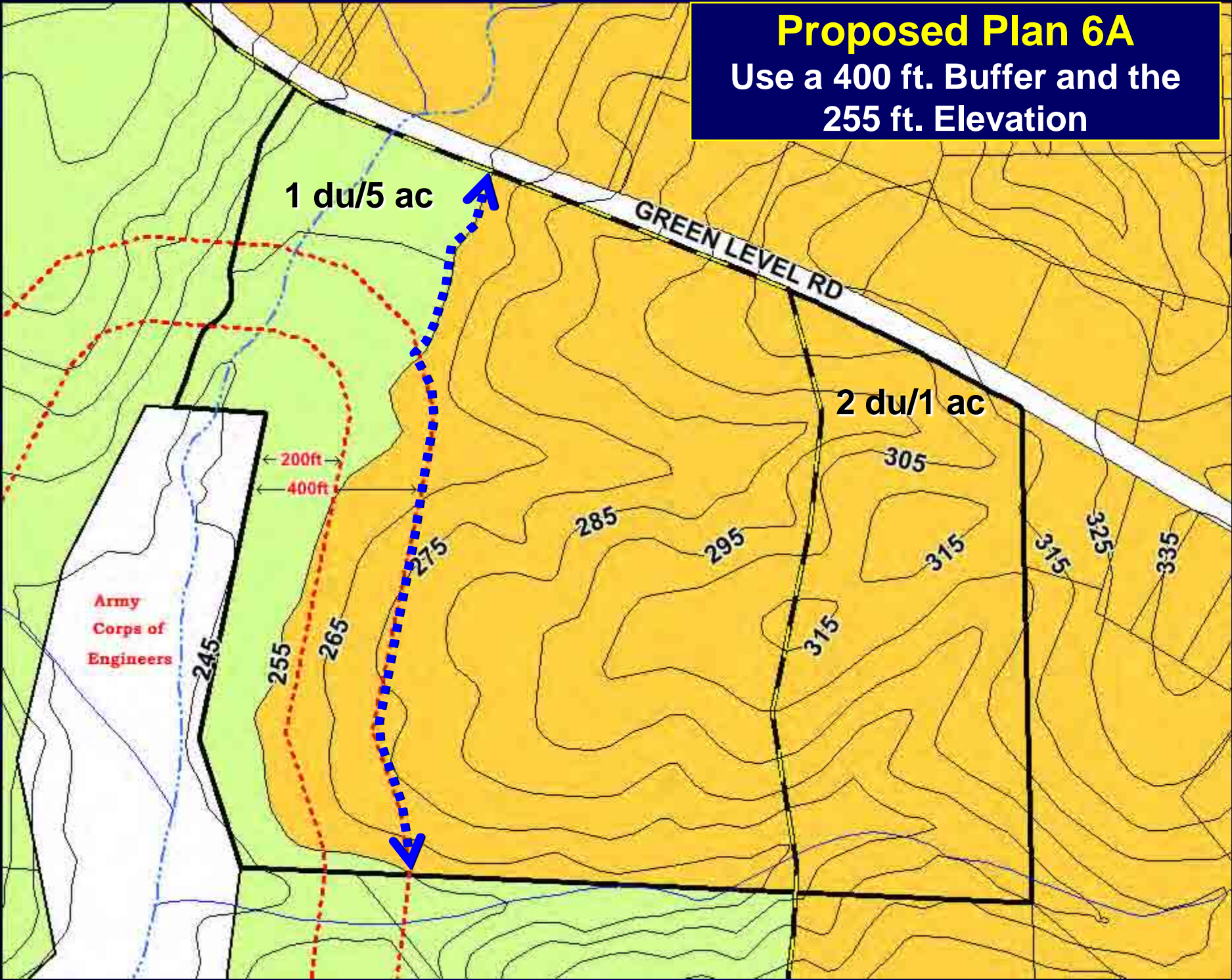


**Owner's Request: Transition
on 255 ft. Elevation**

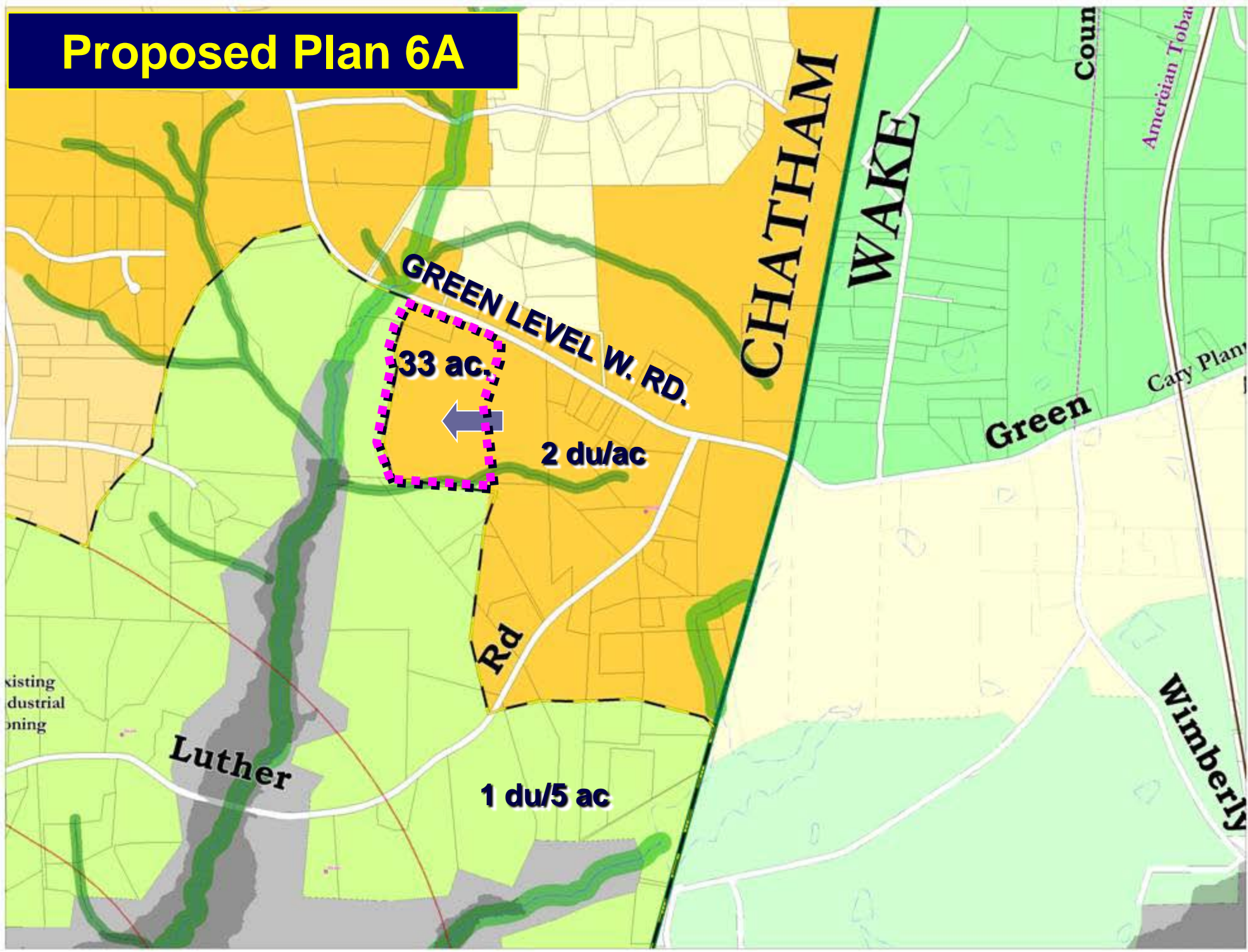


Proposed Plan 6A

Use a 400 ft. Buffer and the
255 ft. Elevation

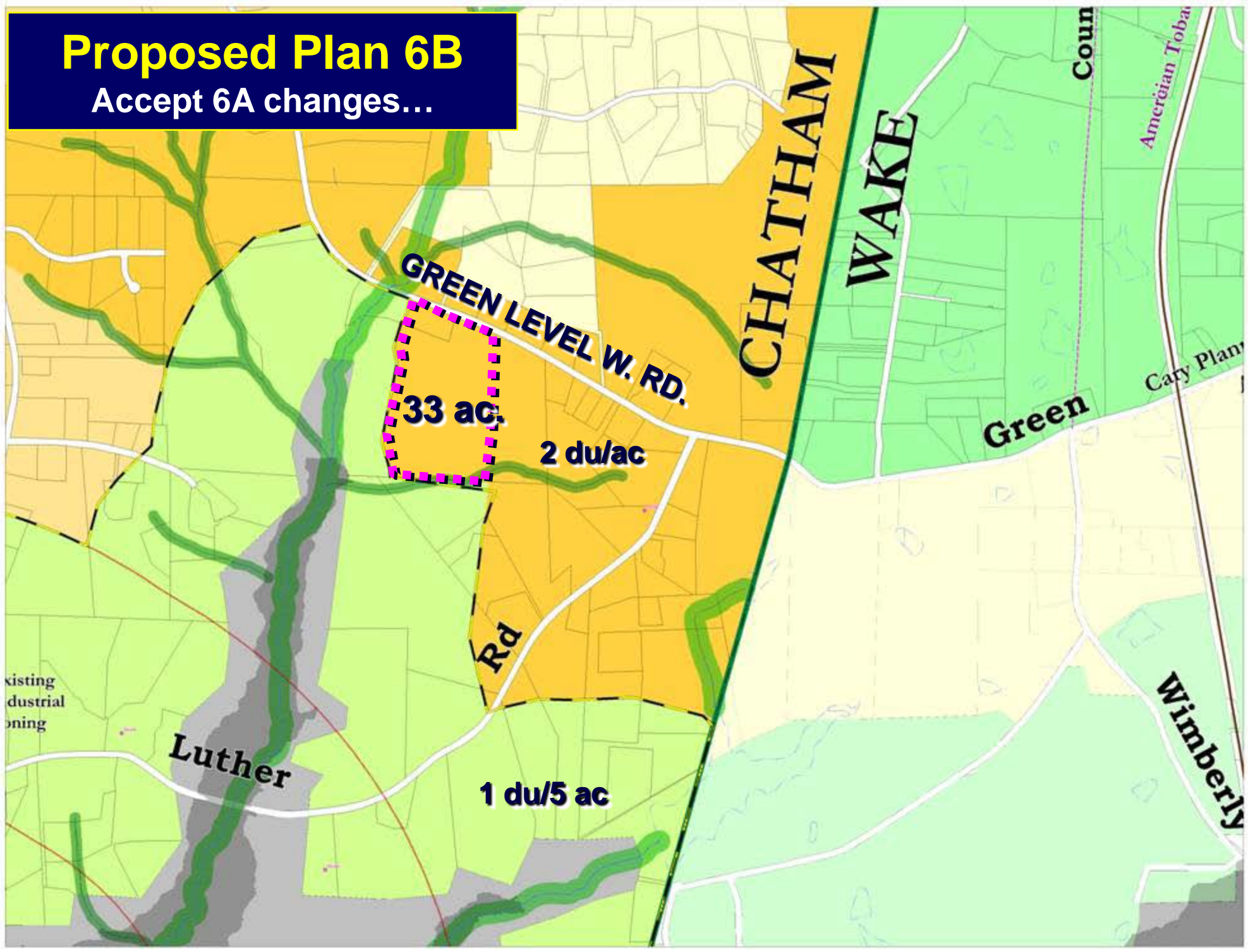


Proposed Plan 6A



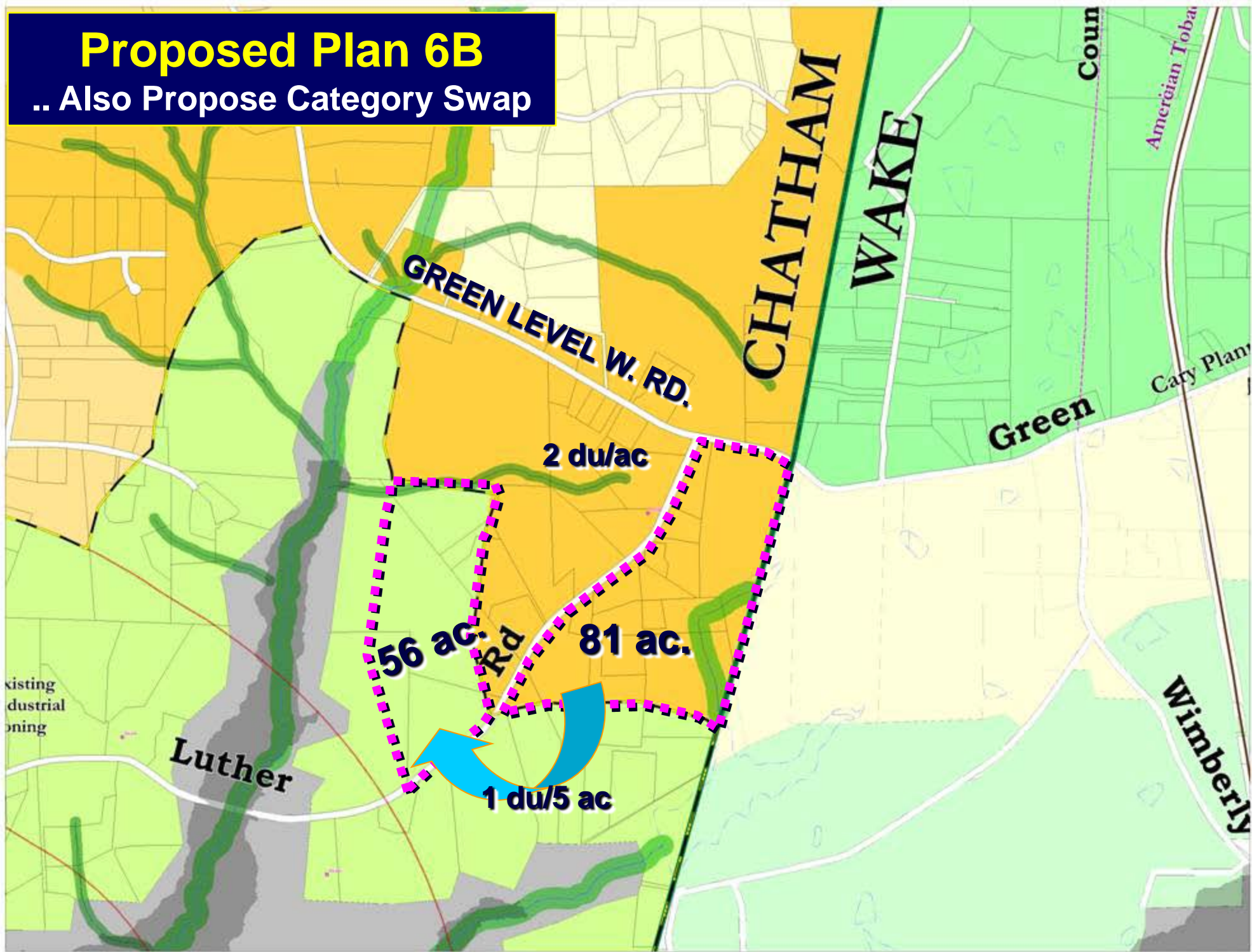
Proposed Plan 6B

Accept 6A changes...



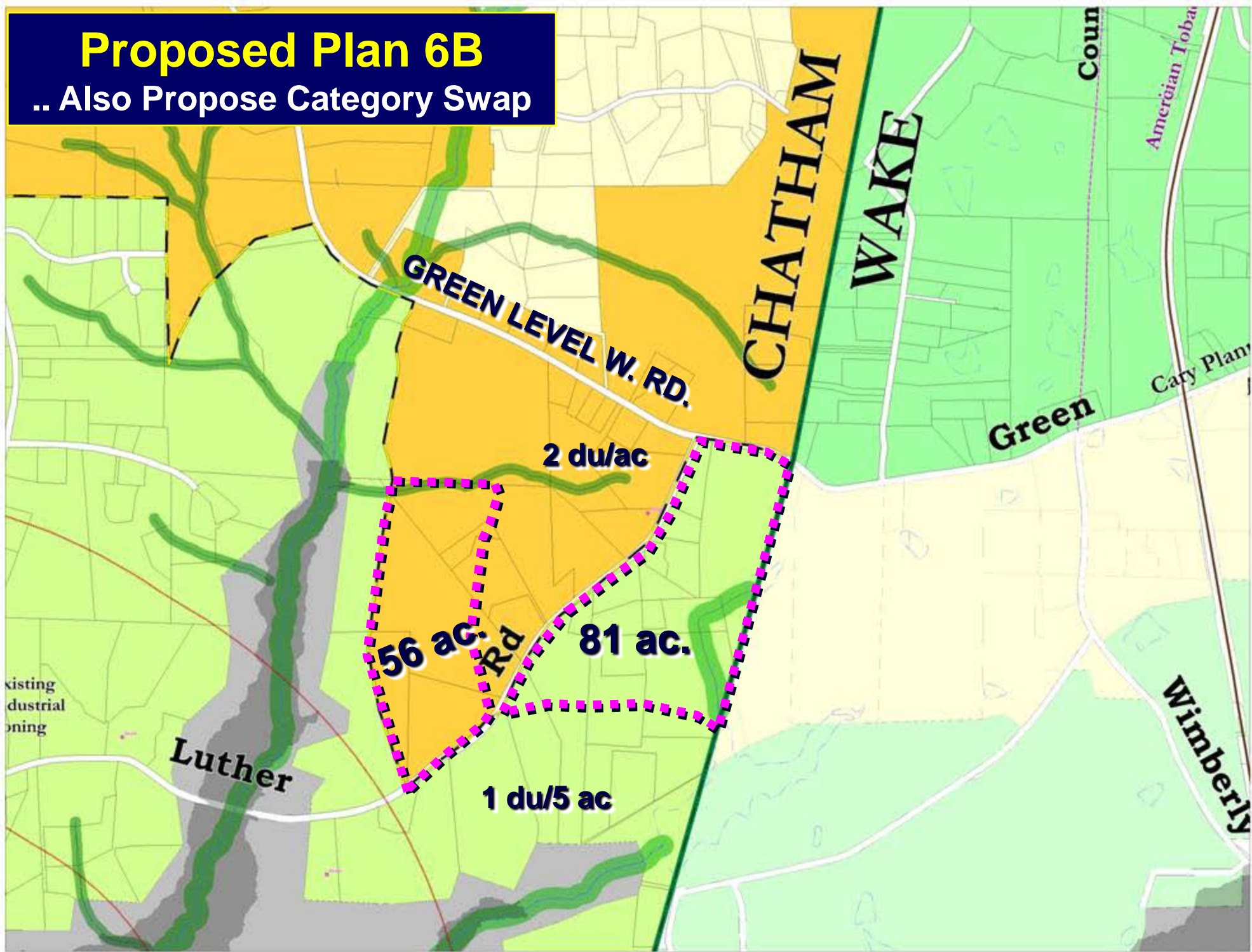
Proposed Plan 6B

.. Also Propose Category Swap



Proposed Plan 6B

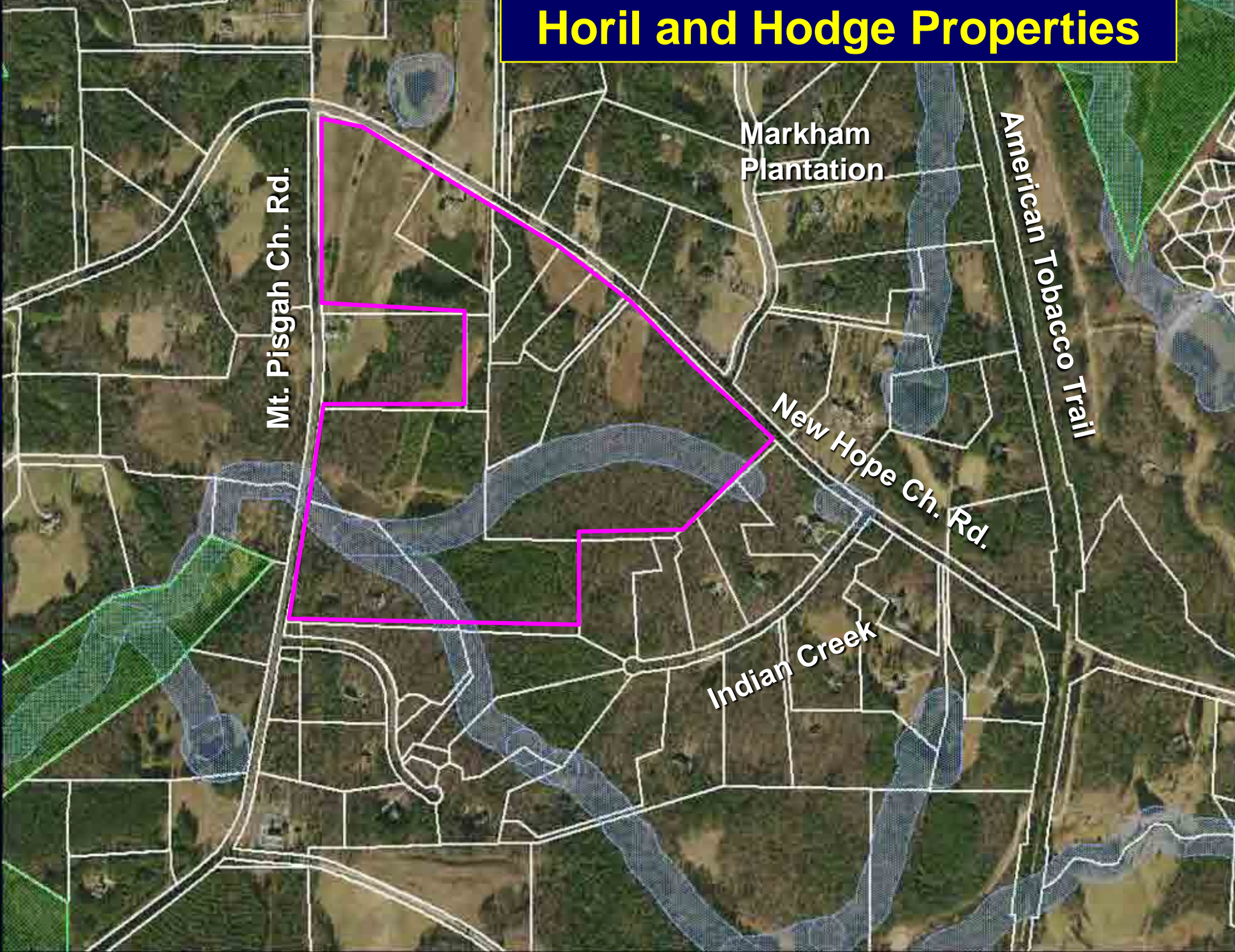
.. Also Propose Category Swap



Unresolved Map Change Requests

Horil / Hodge Properties

Horil and Hodge Properties



Mt. Pisgah Ch. Rd.

Markham
Plantation

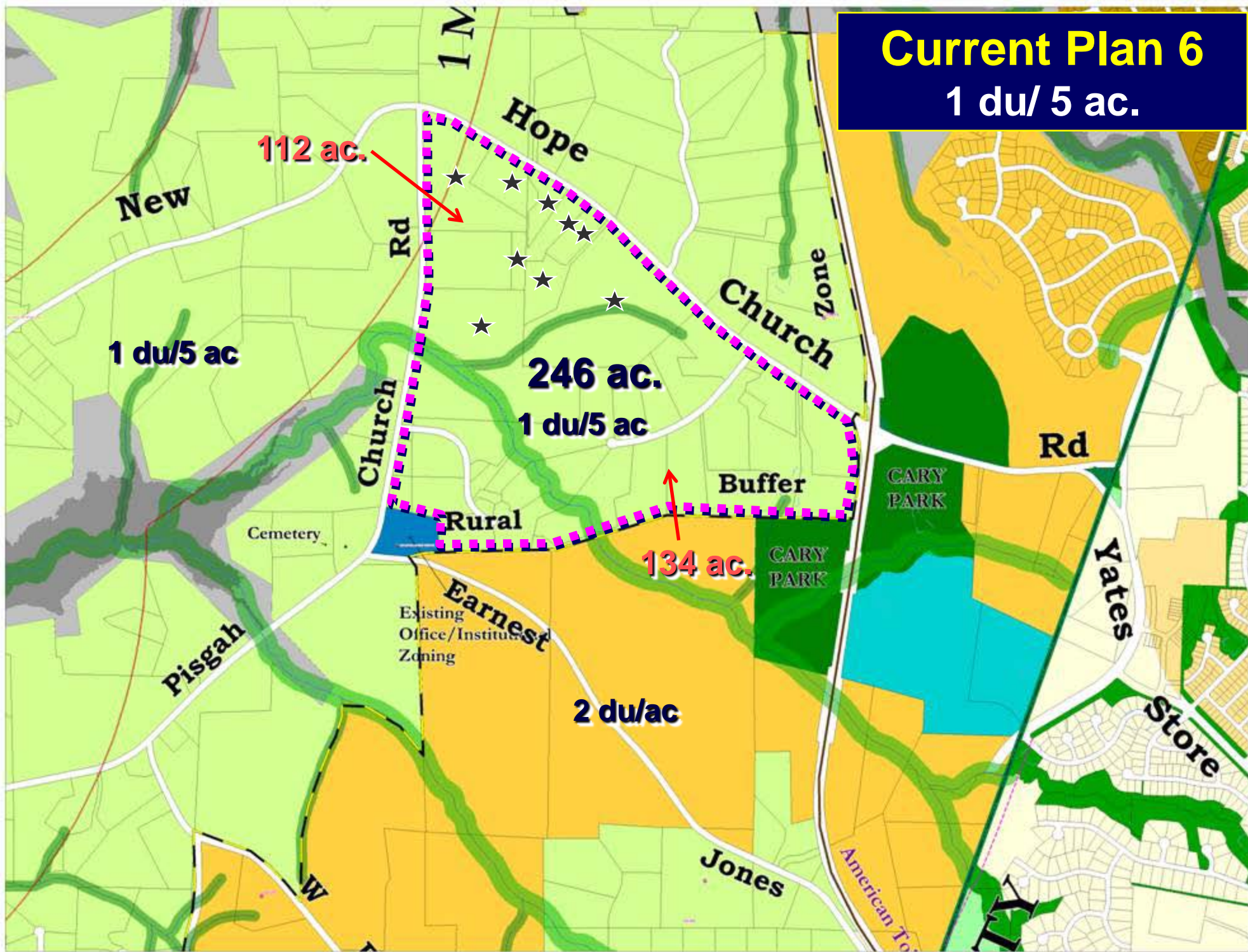
New Hope Ch. Rd.

American Tobacco Trail

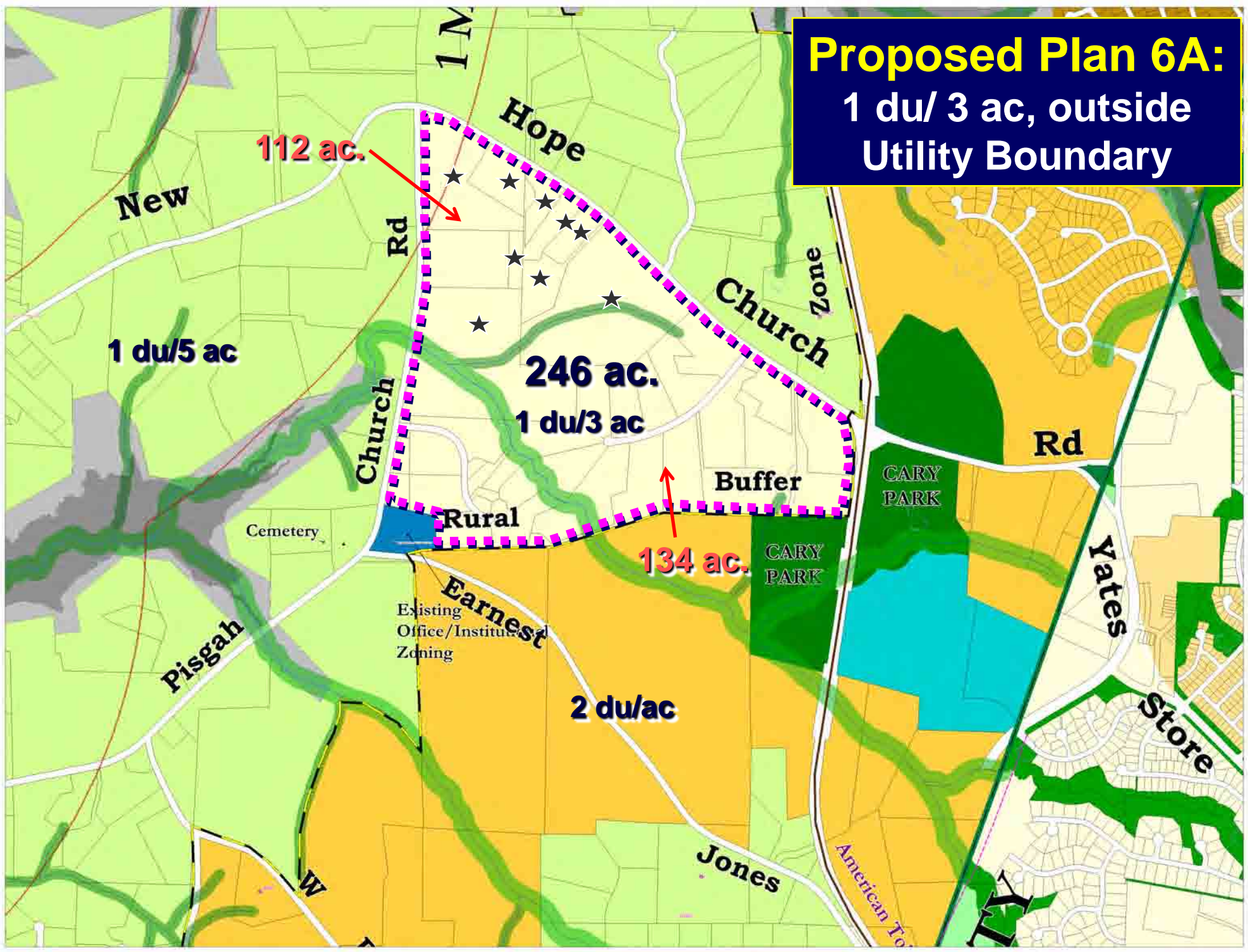
Indian Creek

Current Plan 6

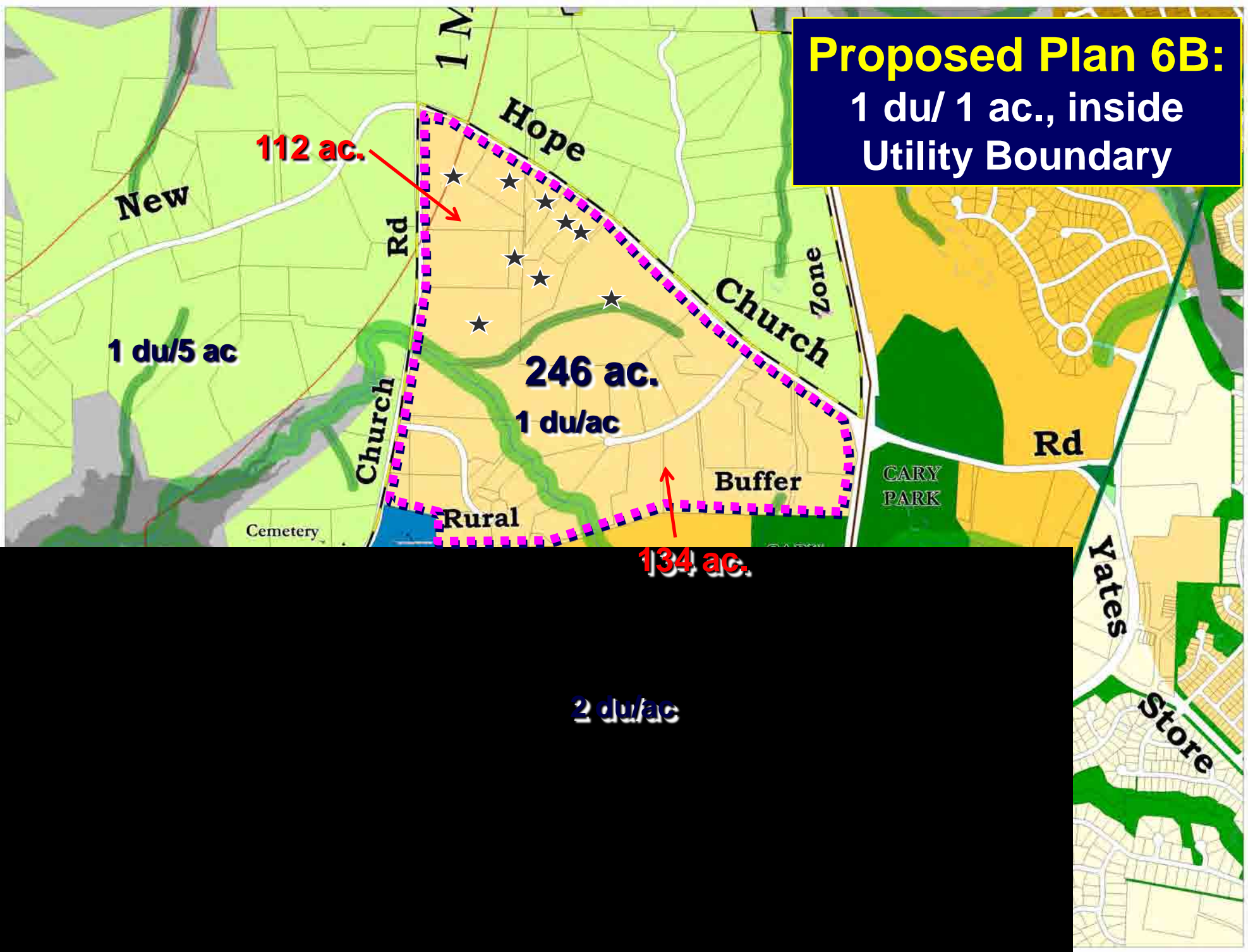
1 du/ 5 ac.



Proposed Plan 6A:
1 du/ 3 ac, outside
Utility Boundary



Proposed Plan 6B:
1 du/ 1 ac., inside
Utility Boundary



Proposed Plan 6B

Also Extend Rural Buffer to Road, and change to 2 du/ac

