



# CHATHAM COUNTY TOWN OF CARY JOINT LAND USE PLAN

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## **Chapter 1: Executive Summary**

The Chatham-Cary Joint Land Use Plan covers over 18,000 acres located east of Jordan Lake in Chatham County. The area is bordered by White Oak Creek to the south, Wake County to the east, Durham County to the north and Jordan Lake to the west. The Plan is an official policy document adopted by the Chatham County Board of Commissioners and Cary Town Council meant to guide future land use regulations, public infrastructure improvements and development. By guiding and limiting future development and infrastructure improvements, the Plan aims to maintain the rural form and character of most of the area, while still accomodating a limited amount of suburban growth in the area closest to Research Triangle Park and the Western Wake Freeway. The plan also seeks to protect water quality in Jordan Lake.

The Town and County have been working together on the Plan since joint resolutions were passed by both jurisdictions in December 2005. The Town Council adopted the Plan on \_\_\_\_\_, with the Board of Commissioners adopting the Plan on \_\_\_\_\_.

The Plan includes a land use map that designates two land use categories for most of the Plan area and the potential locations of two mixed use areas. The area generally along and west of NC 751 is designated as Very Low Density Residential, with lot sizes ranging from 3 – 5 acres. The area generally east of NC 751 is designated Low Density Residential, which will allow smaller lots if public utilities are extended from the Town. The map also includes a Rural Buffer Boundary line running north-south through the Plan area. This line is used to indicate the limits of where public utilities (water, sewer) may be extended to serve future growth. Very low density residential development is planned on the west side of the boundary (where public utilities would not be available), and higher residential densities or mixed use development is envisioned on the east side of the boundary (where public utilities may be provided).

Chapter Two of the Plan begins with a dicussion of the introduction and purpose of the Plan, and continues with an overview of the plan vision, guiding principles used in the development of the Plan, and details on the planning process used by Chatham County and the Town of Cary to develop the Joint Land Use Plan. The chapter concludes with a discussion of the legal status and standing of the of the Plan and a recommended timeline for updating the Joint Land Use Plan.

Chapter Three of the Plan includes guidance on the land uses and residential densities allowed in the different land use categories and the proposed mixed use areas, or nodes. For the Mixed Use Nodes, the Plan includes general guidance on the mix of land uses and includes a discussion of existng developments that are considered comparable to the proposed nodes. Chapter Three also includes guidance on buffers that should be provided adjacent to U.S. Army Corps of Engineers land and the American Tobacco Trail, which runs through the northeastern portion of the Plan area. Chapter Three concludes with recommended transition techniques between land uses and densities and the principles of plan interpretation both jurisdictions have agreed to use.

Chapter Four of the Plan dicusses the Rural Buffer Boundary and the potential provision of public utilities in portions of the plan area. This chapter includes guidance on the Town's utility

extension policies and guidance for the jurisdictions and property owners on a “rescue” policy for a property having a failed private water or sewage treatment system (including private and community wells and septic systems). Chapter Five discusses water quality issues facing the Jordan Lake Watershed, and describes approaches being taken to protect and improve lake water quality.

Chapter Six of the Plan includes some recommended steps that the jurisdictions should take to implement the Plan. These include zoning the land to match the Plan, updating transportation plans for the area, and working on future sites for parks, greenways and schools.

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## Chapter 2: Introduction & Plan Vision

### 2.1 Plan Introduction & Purpose

The Joint Land Use Plan between Chatham County and the Town of Cary covers an area of land in western Chatham County bordered by Jordan Lake on the west, White Oak Creek on the south, Wake County on the east, and Durham County on the north (See Figure 2-1). This plan is not an ordinance or zoning. The plan itself does not change the zoning of property, and it is not a development proposal for a specific project. Rather, this plan is an official policy document used to guide future development regulations, development policies, public infrastructure improvements, and evaluations of future development proposals. The plan provides development guidance to landowners, citizens, and developers in the Joint Plan Area. Of the approximately 18,137 acres in the Plan area, approximately 6,082 acres are owned and regulated by the U.S. Army Corps of Engineers as part of the Jordan Lake project, leaving approximately 12,055 acres where county and local governments can guide existing and future land uses and development. Of those 12,055 acres, approximately 2,550 acres are currently developed as county subdivisions, and about 866 acres are developed or approved as subdivisions and open space within the Town of Cary's municipal limits.

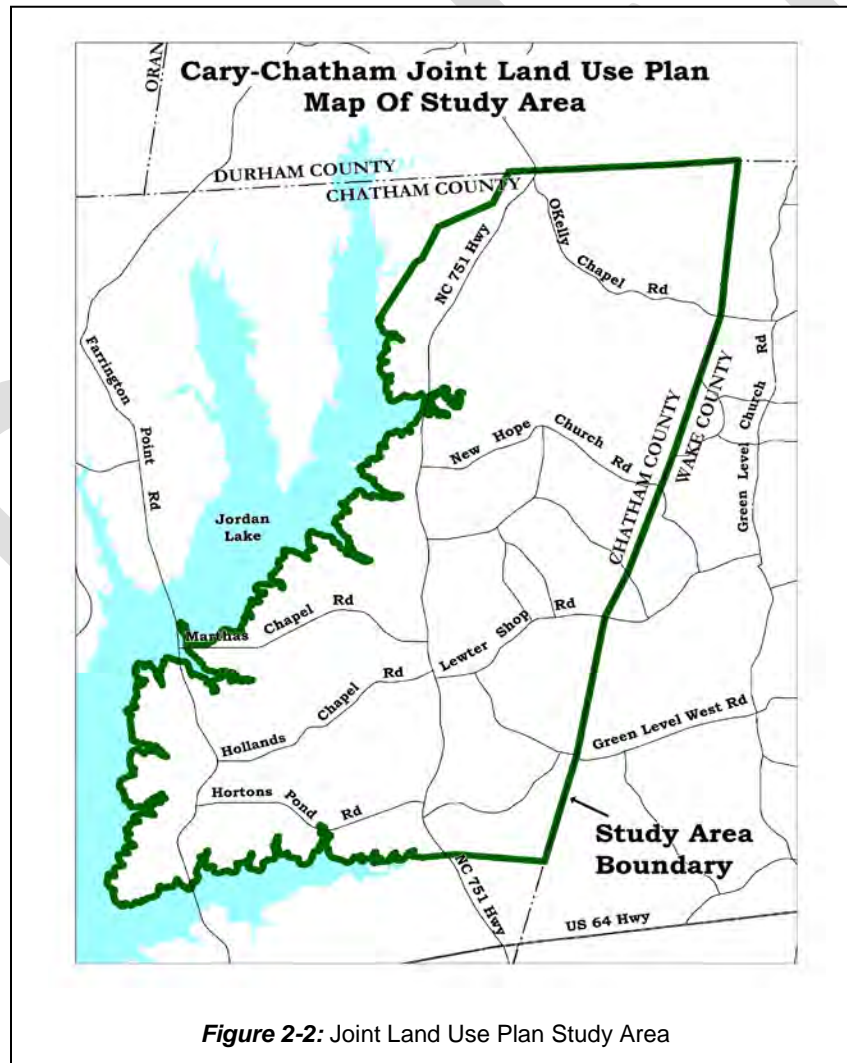


Figure 2-2: Joint Land Use Plan Study Area

In 2005, the Town and County governing boards passed joint resolutions to work as partners to develop a long-range direction for growth and development for the plan area in response to increased growth and development pressure. This area of the Triangle has grown rapidly since 2000, with the Town of Cary, Wake County and Chatham County seeing population increases of over 25%. This area of Chatham County is located minutes away from the Research Triangle Park, the Raleigh-Durham Airport, major Universities as well as major population centers. This area is bordered on the west by Jordan Lake, which supplies drinking water for surrounding areas.

## **2.2 Overall Plan Vision**

While the plan area is located in close proximity to major population and employment centers, this area of Chatham County has remained largely rural and very low density residential in character. Most non-agricultural uses tend to be large, single-family lots of several acres or more, utilizing private wells and septic systems. The Plan envisions the western two-thirds of this area remaining rural and large-lot single family, with lot sizes ranging from two to five acres or larger, but the overall area averaging one dwelling per five acres in density. In the eastern third of the plan area, uses transition to smaller residential lots moving east as public utility services become available. The Plan Map includes a *Rural Buffer Boundary Line* that divides the western two-thirds from the eastern third of the plan area. As noted later in Chapter 4, since some or all of the area east of the Rural Buffer Boundary may be served by public utility services one day, much of this eastern area is envisioned to transition to smaller, suburban lots one acre or smaller in size, with the overall area averaging no more than two dwellings per acre.

In order to serve the daily needs associated with potential future development, and in order to encourage strategic nodes of economic development, the Plan includes two potential Mixed Use Nodes to allow for neighborhood-scale commercial uses, employment center(s) and higher-density residential. While the Plan is intended to guide future development requests when and if such occur, existing approved land uses, lot sizes and subdivisions will be allowed to remain in their current state.

## **2.3 Guiding Principles**

The following *Guiding Principles* form the framework around which this plan has been developed. These principles can also provide guidance in interpreting the recommendations of this plan. The guiding principles, developed by the Joint Staff and Joint Issues Committee, are not the sole influence on the land use and other recommendations contained in this plan. They have been weighed against citizen comments, governing board members' expressions, existing patterns of land uses, geographic and environmental considerations, and other considerations.

### *Guiding Principles*

- Within one mile of the mean pool elevation of Jordan Lake (i.e., of the lake shore), avoid all nonresidential development, and allow residential densities of no more than one dwelling per five acres.
- Preserve the rural character of the bulk of this area, while allowing for balanced growth and development.
- Protect the property rights of residents and landowners in the Joint Plan area.
- Ensure public involvement in the development and implementation of the Joint Land Use Plan.
- Use the future availability of public utility services to guide and direct growth to minimize water quality impacts on Jordan Lake Reservoir.
- Focus the most intense land uses close to the eastern boundary of the plan area and the major transportation facilities, and maintain very low intensity and very low density uses westward towards Jordan Lake Reservoir.
- Encourage limited economic development in the area that capitalizes on its geographic location relative to major employment and population centers.
- Balance the amount of future development with the capacity of the transportation system.
- Create a sense of place that is distinct, attractive, and of high quality – an area recognized within the Triangle region for its high quality of life.
- Preserve key open space, especially where needed to protect water quality.

## **2.4 Planning Process**

The Joint Land Use Plan planning process began in December 2005 with the adoption of joint resolutions by both the Chatham County Board of Commissioners and the Cary Town Council. At that time, Cary also agreed to enact a moratorium on Voluntary Annexations into Chatham County while work on the Plan was completed. The two governing boards also designated that the joint plan should be developed by a joint staff team, consisting of staff from both local governments. The joint staff team held community meetings in June and October 2006 to gather input, with the joint staff presenting two plan map options at the October meeting. After reviewing the input received at the 2006 meetings, the joint staff prepared a revised map option that was presented to a joint meeting of the Board of Commissioners and Town Council in February 2007. In April of that year, the Board of Commissioners held a public hearing on the Joint Land Use Plan map presented at the joint meeting in February. Based on the feedback received at the April public hearing, the Board of Commissioners directed Chatham County planning staff to prepare a new plan map, which was presented at a joint work session of the Board of Commissioners and Town Council in September 2007. At that meeting, it was decided by the Board and the Council that more time was needed to continue working on the Plan, and Cary agreed to extend the Town's moratorium on Voluntary Annexations into Chatham County.

Plan development was delayed during 2008, while the Town of Cary commissioned a watershed impact study to compare the projected impacts of the different plan options, and Chatham County worked on the development of new environmental management ordinances. Then, in May 2009 the Board of Commissioners and Town Council once again held a joint meeting to

discuss the Joint Land Use Plan, and decided at that meeting to appoint a joint committee consisting of two Commissioners and three Town Council members to work on the Plan with the joint staff. The joint committee held their first meeting in June 2009, and continued to work on the plan map for the next year. During that time, the Chatham County Board of Commissioners held a public input session for citizens in the Joint Plan area in August 2009, followed by a Board of Commissioners and Town Council joint meeting in September 2009, with two more public input sessions in November 2009 conducted by the joint staff team.

After a break from August 2010 until January 2011, the joint committee was reconstituted in January 2011 with three Commissioners and three Town Council members. The joint committee met in January, February and April 2011 to discuss the plan, and held a public input session in late June 2011 to receive comments on the plan from citizens and landowners in the joint plan area.

Since the project began in 2006, the Joint Land Use Plan map has gone through numerous drafts and revisions, as the governing boards and joint committee continued to refine and revise the recommendations (See Figure 2-2).

Map Date	Notes	Map Date	Notes
Oct. 2006	Plan Option 1: Map presented at fall 2006 Community Meetings	Aug. 2009	Draft Map 4A presented at August 31 <sup>st</sup> Joint Issues Committee meeting
Oct. 2006	Plan Option 2: Map presented at fall 2006 Community Meetings	Aug. 2009	Draft Map 4B presented at August 31 <sup>st</sup> Joint Issues Committee meeting
Feb. 2007	Joint Staff Plan Map presented at February 2007 joint meeting with Board of Commissioners and Cary Town Council and April 2007 Board of Commissioners Public Hearing	Sept. 2009	Draft Map 5 presented at November 2009 Community Input Sessions
May 2007	Chatham Board of Commissioners Plan Map presented at September joint meeting with Cary Town Council	April 2010	Draft Map 6 presented at May 18 <sup>th</sup> Joint Issues Committee meeting
June 2009	Draft Map 1 presented at June Joint Issues Committee meeting	May 2010	Draft Map 6A presented at June 11 <sup>th</sup> Joint Issues Committee meeting
June 2009	Draft Map 2A presented at August 10 <sup>th</sup> Joint Issues Committee meeting	May 2010	Draft Map 6B presented at June 11 <sup>th</sup> Joint Issues Committee meeting
June 2009	Draft Map 2B presented at August 10 <sup>th</sup> Joint Issues Committee meeting	July 2010	Draft Map 7 presented at August 19 <sup>th</sup> Joint Issues Committee meeting
June 2009	Draft Map 2C presented at August 10 <sup>th</sup> Joint Issues Committee meeting	April 2011	Draft Map Option A presented at April 13 <sup>th</sup> Joint Issues Committee meeting
July 2009	Draft map 3 presented at August 10 <sup>th</sup> Joint Issues Committee meeting	June 2011	Draft Map Option B presented at June 29 <sup>th</sup> Joint Issues Committee Public Input Session

**Figure 2-2:** Progression of Joint Land Use Plan Maps – 2006-2011



## **2.5 The Plan's Standing and Legal Status: How is the Plan Applied?**

The Plan is adopted by Chatham County and the Town of Cary to guide development and policy for this area for the next 20 years. The Plan will be used by both the Town and County in making decisions on Subdivision and Zoning cases, and in the Town's case, for making utility extensions and ruling on annexation requests. Any amendments to this plan will require approval of Chatham County and the Town of Cary.

## **2.6 Plan Amendment Procedures**

Any Plan amendment will require approval of both the Chatham County Board of Commissioners and the Cary Town Council. Plan amendment requests outside the Cary Town Limits shall be submitted to the Chatham County Planning Department, who will forward the request to the Town of Cary for simultaneous review. Plan amendment requests inside the Cary Town Limits shall be submitted to the Cary Planning Department, who will forward the request to Chatham County for simultaneous review. The County will process such request(s) as a zoning map or zoning text amendment, as specified in the Chatham County Zoning Ordinance. The Town will process such request(s) as a Comprehensive Plan Amendment, following the procedures specified in the Town's Land Development Ordinance. Both jurisdictions generally require public hearings for plan amendments; for a proposed amendment to the Joint Land Use Plan, the governing boards may choose to have a joint public hearing. Both jurisdictions also generally require review and recommendations by their respective Planning Boards to their governing boards.

## **2.7 Timetable and Process for Periodic Reviews and Updates**

This Joint Land Use Plan should be revisited and updated at least once every five years, to ensure that it remains up to date and reflects any changes in policies or local and regional conditions and circumstances, including traffic, land uses, and technologies. Any updates will require the concurrence of both the Board of Commissioners and Town Council. The first review should occur no later than 2017.

## **CHAPTER 3: LAND USE**

### **3.1 Introduction**

The *Joint Plan Map* that accompanies this plan depicts the recommended pattern of future land use types and densities. Changes on the map from one land use category to another generally occur along key geographic features, such as roads, streams, and open spaces; however in some cases parcel lines are used. The Plan Map's *Legend* provides summary definitions for each of the land use categories used on the map. More detailed definitions are provided in Sections 3.2 and 3.3, below.

This plan should not be construed as requiring or recommending that existing rural uses be “phased out” in favor of the land use categories depicted on the Plan Map. Quite the contrary: any existing uses within the plan area, including rural home sites, farms, forestry, and private natural areas, will continue to be considered acceptable uses within any of the land use categories shown on the Plan Map. The purpose of this plan is to guide any *future* development so that it conforms to the pattern of uses and intensities given in this plan.

### **3.2 Land Use Category Definitions**

**Medium-Density Residential (MDR):** Includes housing at densities up to 4 dwellings per gross acre, and typically averaging at least 2 dwellings per gross acre. Housing can include a mixture of dwelling types including single-family detached, duplex, patio home, semi-detached/attached dwelling, and townhouses. Multifamily housing is not envisioned. A variety of neighborhood-compatible and complimentary civic and institutional uses may also be considered such as churches, parks, schools, and daycare facilities.

**Low-Density Residential (LDR):** Includes housing at densities up to 2 dwellings per gross acre, and typically averaging at least 1 dwelling per gross acre, although larger lots and/or lower densities may be used when needed to form acceptable transitions. Housing can include a mixture of dwelling types including single-family detached, duplex, patio home, semi-detached/attached dwelling, and townhouses. Multifamily housing is not envisioned. Institutional and civic uses that are compatible and complimentary to the surrounding neighborhood may also be considered such as churches, parks, schools, libraries, and daycare facilities.

**Very Low Density Residential (VLDR):** VLDR areas are recommended for agricultural and large-lot single family detached residential uses. The recommendations for VLDR areas differ depending on whether the VLDR area is situated east or west of the Rural Buffer Boundary, as follows:

- *VLDR areas west of the Rural Buffer Boundary:* New development west of the Rural Buffer Boundary should have a minimum average lot size of 5 acres, with no lot smaller than 3 acres, yielding a maximum recommended density of 1 dwelling per 5 gross acres. The housing type should be limited to single family detached.<sup>1</sup>
- *VLDR areas east of the Rural Buffer Boundary:* New development east of the Rural Buffer Boundary should have a maximum density of 1 dwelling per 3 gross acres, with a minimum

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<sup>1</sup> The Chatham County zoning and subdivision ordinances that will likely be used to implement this land use category include lot size and density exceptions for family subdivisions of land owned prior to January 1, 1994, and for subdivisions of parcels less than 10 acres that have been owned since December 31, 1990. Those exceptions also conform to this land use definition.

lot size of about 2 acres if in Chatham County's zoning jurisdiction, or about 1.5 acres if developed in Cary's zoning jurisdiction.<sup>2</sup>

Institutional and civic uses that are compatible and complimentary to the surrounding neighborhood may also be considered within any VLDR areas, such as churches, parks, schools, libraries, and daycare facilities.

**Mixed Use Node (MXD):** The striped pattern used on the Plan Map for this land use category is intended to convey that a mixed use node is an optional or alternate land use that can be considered for the areas indicated on the map. The thematic land use color(s) visible between or underneath the striped "mixed use node" pattern indicates that it would also be acceptable for the area to be developed at the residential densities indicated by the underlying land use designation, namely Low Density Residential. Section 3.3 describes the mixed use node in detail.

**Office & Institutional:** This land use category is typically limited to uses that were previously zoned and approved by Chatham County or the Town of Cary prior to development of the Joint Plan, and includes all types of office and institutional uses. Examples include corporate and professional offices (large and small), general business offices, clinics, nursing homes, banks, churches, schools, daycare, government offices, and so forth. A limited selection of commercial uses (such as banks, restaurants, personal services) supporting the actual office and institutional uses may also be acceptable within buildings whose primary use is office or institutional, as long as such uses do not dominate the area designated as Office & Institutional.

**Commercial/Retail:** This land use category is typically limited to uses that were previously zoned and approved by Chatham County prior to development of the Joint Plan. The Commercial/Retail classification includes shopping/retail uses, dining, entertainment, banking, personal services, and related.

**Light Industrial:** This land use category is typically limited to uses that were previously zoned and approved by Chatham County prior to development of the Joint Plan. The Light Industrial classification describes a wide range of employment-generating office, light industrial, research and development, and "clean" light manufacturing uses. This classification also includes flex office/light industrial uses, warehousing and distribution, transportation-related uses, automotive and boat repair and bodywork, trade schools, and so forth. Light Industrial areas should be developed in a manner compatible with nearby properties to minimize potential nuisances or damage to the environment.

**Park, Open Space, Golf Course:** Includes public and private parks, golf courses, and permanent open space. These areas may include the provision of parking or ancillary buildings and structures required for operating and maintaining the park, golf course, or open space.

### **3.3 Mixed Use Node**

**Locations.** The Plan map indicates the general locations where a mixed use node could be placed as an alternative to the underlying residential land use of Low Density Residential. The areas designated Mixed Use Node on the Plan Map are purposely depicted using rounded edges in order to convey that this plan does not specify the precise boundaries or extent of the mixed use areas. That is, a mixed use node may be placed within or near the general locations indicated on the map, and does not need to strictly conform to those boundaries provided that the node conforms to the intent and definition given in this plan.

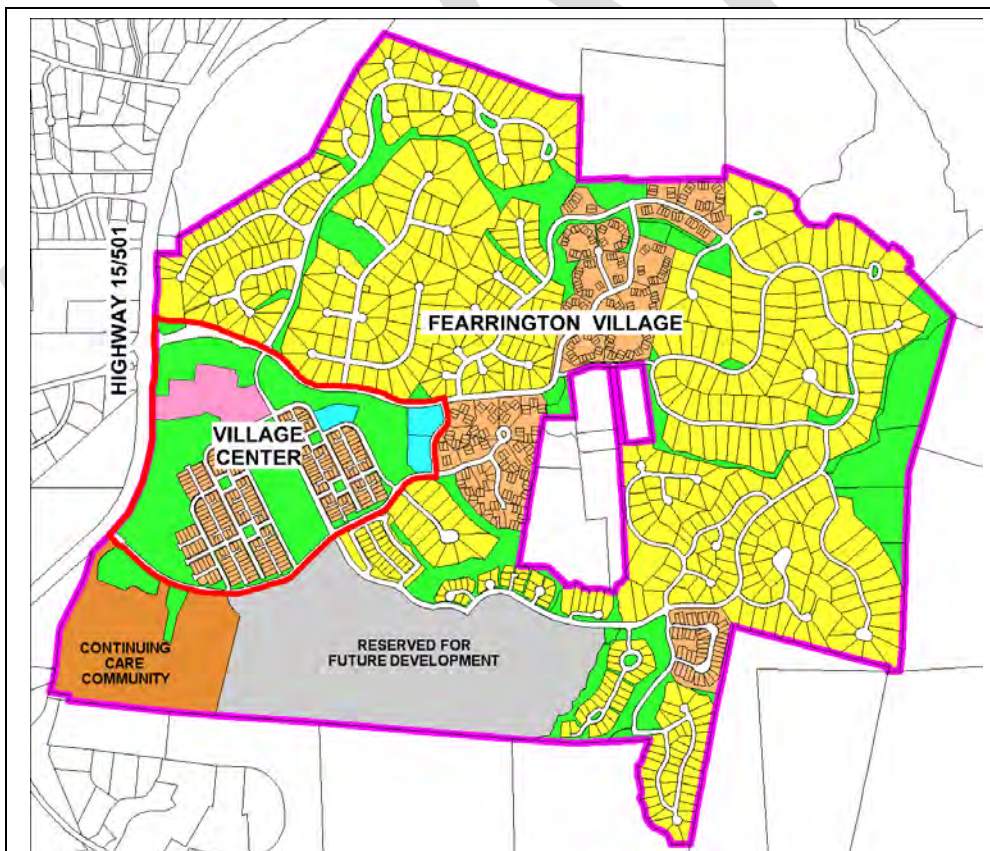
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<sup>2</sup> In Cary, required stream, perimeter, and other buffers must be in common open space, and cannot be included in a residential lot, while such buffers can be included in residential lots in Chatham County subdivisions. The smaller minimum lot size for Cary is intended to compensate for that difference.

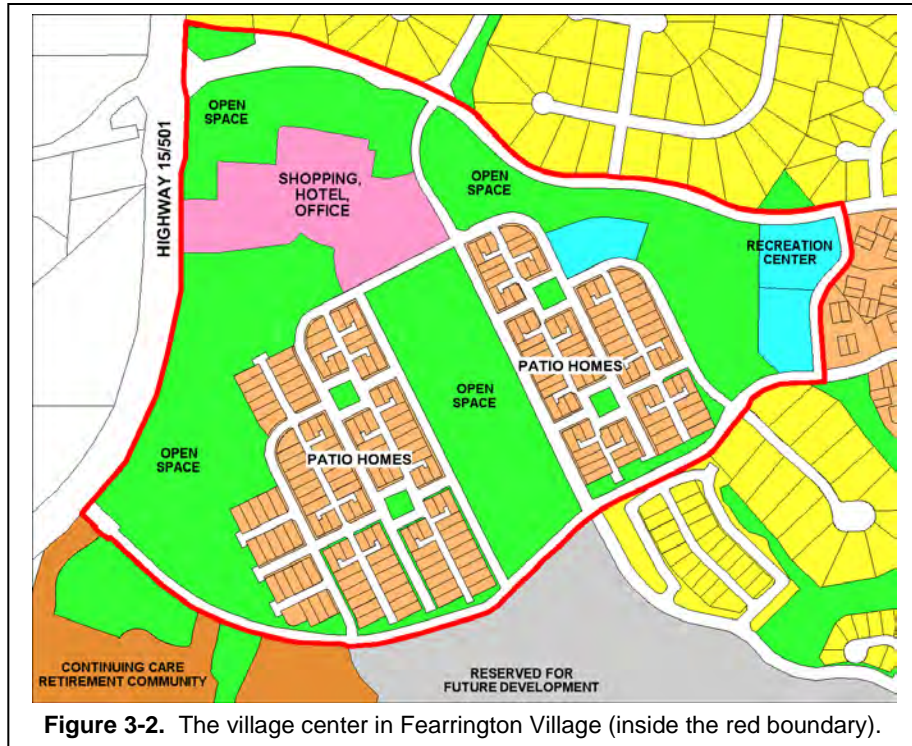
**Land Uses.** The node(s) should generally include a mix of commercial, office, and residential uses, designed in a cohesive, walkable, and pedestrian-friendly manner. The commercial component should be limited to no more than a typical neighborhood-scale shopping center (characteristically anchored by a supermarket). Residential densities may be higher than in the other land use categories. Institutional uses that are compatible and complimentary to the development of mixed-use areas may also be considered – such as churches, schools, libraries, and daycare facilities. Land uses in mixed-use areas may be mixed either side-by-side on adjacent lots, sites, or individual tenant spaces in multi-tenant buildings, or vertically within buildings (e.g., shops on a first floor, with apartments or offices on upper floors). A single use should not substantially dominate an entire Mixed Use Node.

**Comparable Developments.** There are several master-planned developments in Chatham County that contain mixed-use nodes that can serve as illustrative models for the type, mix, and scale of node that is contemplated for this plan. These master-planned communities include Ferrington Village, located off of NC Highway 15/501; Governor’s Club, located on Mt. Carmel Road; and Briar Chapel, located west of NC Highway 15/501.

- a. **Ferrington’s Village Center.** Ferrington Village is a planned community of over 1,070 acres and 1,200 dwellings, located approximately half-way between Pittsboro and Chapel Hill on the east side of NC Highway 15/501 (*Figure 3-1*). Ferrington includes a mixed-use “village center” which serves as one of the illustrative models for the mixed use node envisioned by this area plan (*Figure 3-2*). The village center encompasses approximately 140 acres, and includes a mix of uses, including offices, shops, restaurants and lodging, over 200 patio homes, a community recreation center, and open space.



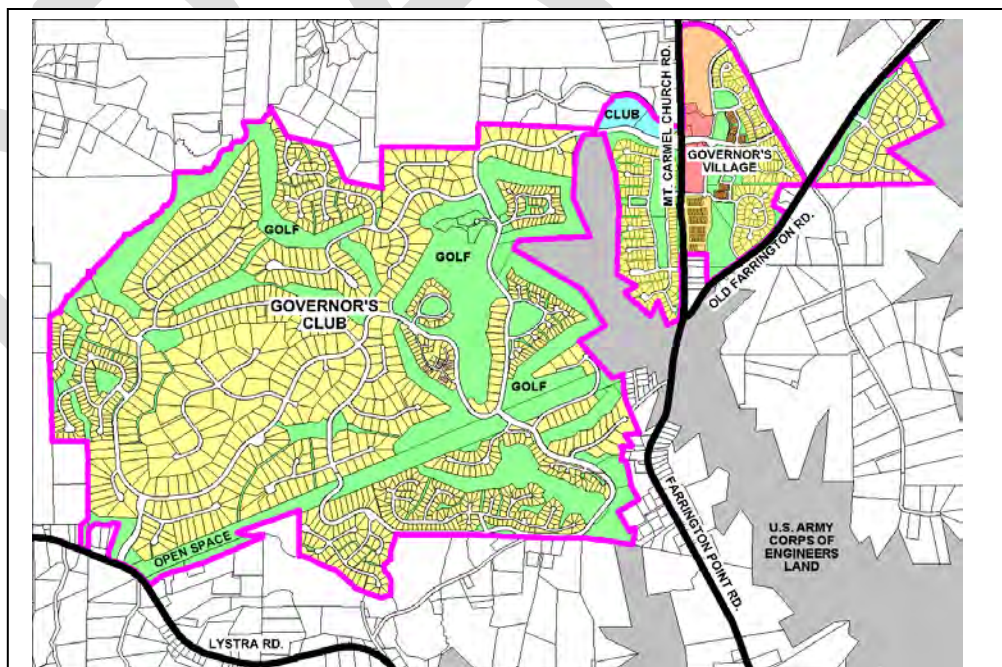
**Figure 3-1.** Ferrington Village. Green is common open space, yellow is single family Residential, light brown are medium-density patio homes and townhomes, red is Dining, lodging, shops and offices.



**Figure 3-2.** The village center in Fearington Village (inside the red boundary).

**b. Governors**

**Village.** *Governors Village* is a 138-acre mixed-use node within the master-planned *Governors Club* golf-course community located south of Chapel Hill along Mt. Carmel Church Road and Farrington Point Road, approximately ½ mile south of the Orange



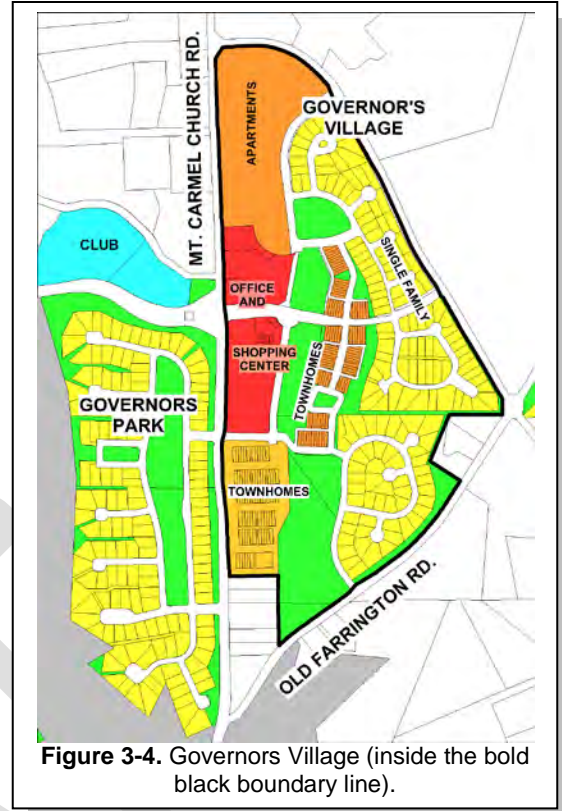
**Figure 3-3.** Governors Club. Governors Village is located at the upper right of the map. Green signifies golf and common open space, yellow is single family residential, light brown are medium-density patio homes and townhomes, dark brown is multifamily Residential, and salmon/red are offices and shops.

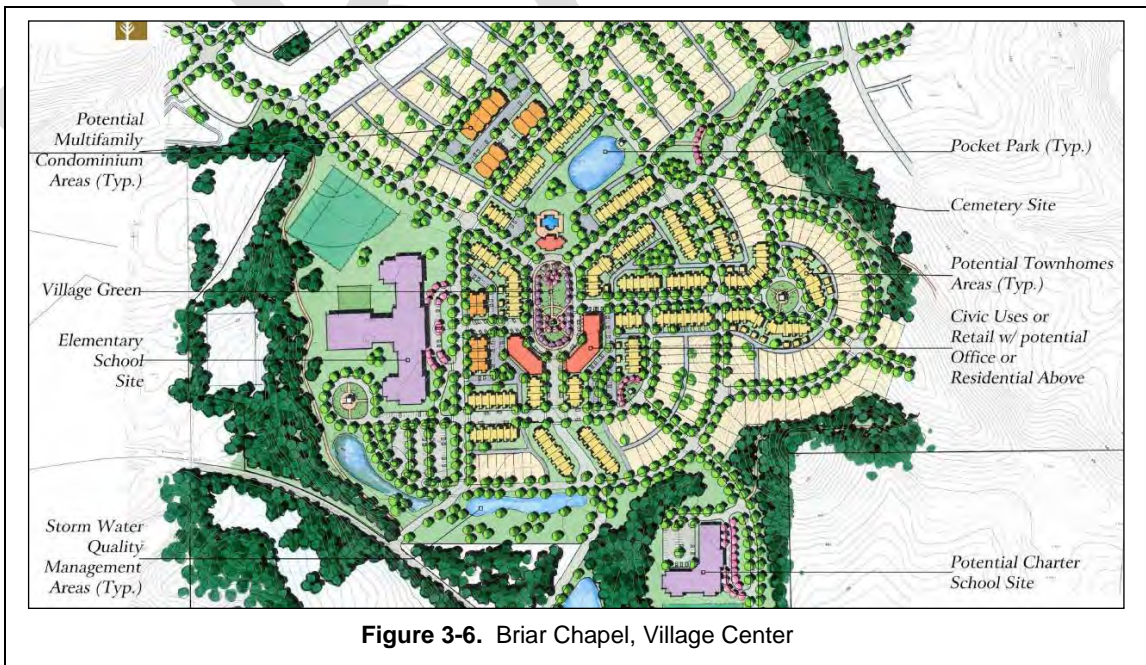
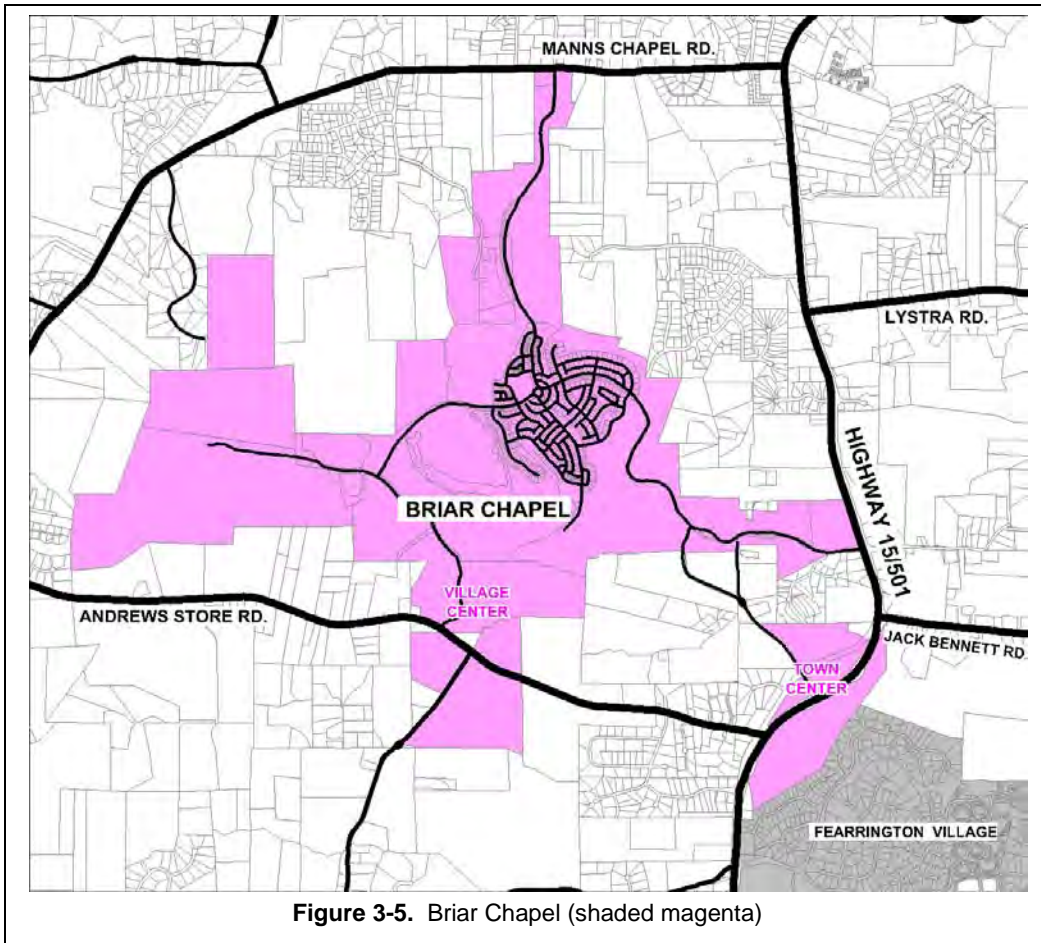
County Line, adjacent to the U. S. Army Corps of Engineers property for the Jordan Lake Reservoir (Figure 3-3). The entire Governors Club community encompasses over 1,600 acres and includes approximately 1,900 dwellings. The *Governors Village* mixed-use center serves as another comparable example for the mixed use node envisioned by this plan (Figure 3-4). Governor's Village includes a variety of uses, including offices and a supermarket-anchored shopping center, about 300 multifamily apartments, 158 townhomes, 152 small-lot single family homes, and open space.

**c. Briar Chapel's Town Center and Village Center.**

Briar Chapel is a planned community currently in its initial stages of development, and will eventually include over 2,300 dwellings and almost 1,600 acres, including two mixed-use nodes. Briar Chapel is located immediately northwest of Farrington Village, and for the most part situated on the west side of NC Highway 15/501 (Figure 3-5). The first mixed-use node is the 60-80 acre *Village Center*, to be located in the heart of the development, which will include a mix of civic uses, retail, an elementary school, townhomes, multifamily condominiums, small-lot single family, and possibly second-floor office (Figure 3-6).

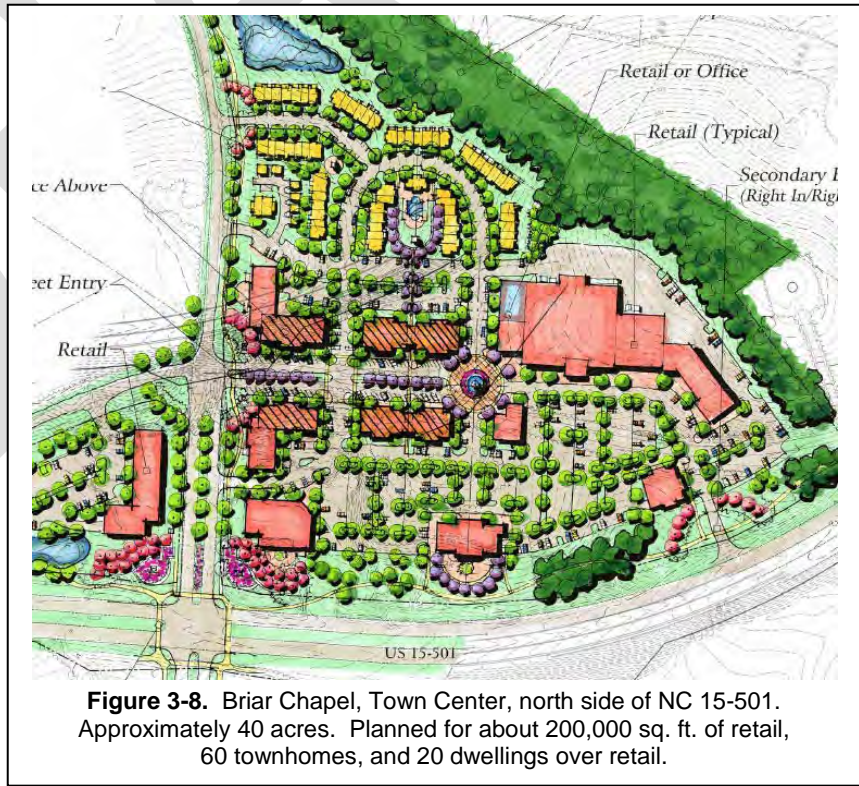
The second mixed-use node will be the *Town Center*, situated at the edge of the community along both sides of NC Highway 15/501, and totaling about 105 acres. Within the *Town Center*, retail and residential uses are planned west of the highway, and office uses east of the highway (Figure 3-7). The portion of the *Town Center* west of the highway is planned to include up to about 200,000 sq. ft. of retail, 60 townhomes, and 20 dwellings over retail (Figure 3-8).







**Figure 3-7.** Briar Chapel, Town Center on north and south Sides of NC 15/501. About 65 acres south of NC 15/501, and 40 acres north of NC 15/501.



**Figure 3-8.** Briar Chapel, Town Center, north side of NC 15-501. Approximately 40 acres. Planned for about 200,000 sq. ft. of retail, 60 townhomes, and 20 dwellings over retail.



### 3.4 Areas of Special Land Use Considerations

#### 3.4.1 Low Density Residential or Mixed Use Areas West of NC Highway 751.

Special recommendations apply to the area between NC Highway 751 and the Rural Buffer Boundary in the vicinity of the NC 751 and Lewter Shop Road intersection (*Figure 3-9*). The Plan Map designates this area as a combination of Low Density Residential and/or Mixed Use Node. The Rural Buffer Boundary west of NC 751 is depicted as an arc in order to convey that its precise boundary is not firmly fixed by the Plan Map, and that the actual final location of the Rural Buffer Boundary – and the corresponding western extent of Low Density Residential and/or Mixed Use areas – may end up deviating westward or eastward from that shown. The final western extent of the boundary line will be determined by the following recommendations:

Any future Low Density Residential or Mixed Use development west of NC 751 should be served by gravity sewer mains designed primarily to serve properties located east of NC 751. More specifically, for some locations on the west side of NC 751 it may be possible to serve future Mixed Use and/or Low Density Residential development using sewer connections that cross back under NC 751 and tie into gravity sewer lines serving areas east of the highway. For such service to be feasible, new buildings on the west side of the highway should be sited relatively close to the highway, with most of the buildings' parking sited behind (i.e., on west of) the buildings.

The precise distance west of NC 751 that either Low Density Residential or Mixed Use land uses could occur will therefore depend on the ground elevation of each site, and the technical feasibility of obtaining sewer service via the gravity sewer lines available on the east side of NC 751. There should be no public sewer system pump stations west of NC 751 in this area. However, in some cases it may be acceptable for individual buildings to use private booster pumps, subject to municipal approval.

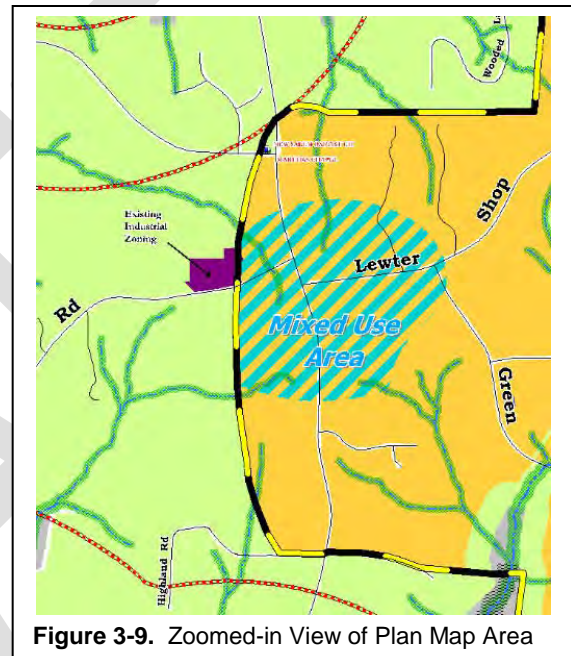


Figure 3-9. Zoomed-in View of Plan Map Area

#### 3.4.2 Water Quality Buffers Adjacent to Corps Land.

Special buffers should be provided adjacent to U.S. Army Corps of Engineers property associated with the Jordan Lake Reservoir, for the portion of the plan area located south of Lewter Shop Road and Martha's Chapel Road. Any future development in this portion of the plan area that is served by public utilities should provide a 400 ft. undisturbed buffer adjacent to Corps property in order to provide additional watershed protection in the White Oak Creek drainage basin.

#### 3.4.3 Land Uses Adjacent to U.S. Army Corps of Engineers Jordan Lake Property

The Joint Plan Map includes land owned by the Federal Government (U.S. Army Corps of Engineers) as part of the Jordan Lake Reservoir and its watershed management. These federal lands include areas for state parks, state game lands, wildlife refuges, environmental management, and other. The federal properties were included in the study area since the reservoir lake shore serves as a familiar geographic boundary, easily recognized by the public.

This plan includes the following recommendations for land uses and development on private properties adjacent to or near the following two types of uses on Corps land:

- a. **Game Lands.** Almost all of the Corps land within the area of this Joint Plan is designated as state-managed game lands, where hunting is permitted at various times of the year. The North Carolina Wildlife Resources Commission (NCWRC) recommends a 150-yard buffer adjacent to game lands whenever possible, particularly for new dwellings and public gathering areas, in order to increase public safety and avoid conflicts between hunters and residents.
- b. **Controlled Burn Areas.** The Corps of Engineers and the state manage a variety of annual “controlled burn areas” on the federal lands, in order to reduce the risk of uncontrolled forest fires and to maintain healthy forest habitat. The state recommends a ½-mile buffer adjacent to the controlled burn areas, so that smoke from controlled fires will affect as few people as possible.

NC Wildlife Resources Commission staff prepared a [Conservation Opportunities](#) map in 2006 that includes identification of game land and controlled burn blocks. Additional information and maps can be obtained from the U.S. Army Corps of Engineers’ Jordan Lake management office at the B. Everett Jordan Dam, or online at <http://www.saw.usace.army.mil/jordan/>. Information is also available from the North Carolina Wildlife Resources Commission, at their Raleigh office at NCSU Centennial Campus, or online at <http://www.ncwildlife.org/>.

#### **3.4.4 The American Tobacco Trail**

The American Tobacco Trail (ATT) is a rails-to-trails greenway that crosses the plan area along a roughly north-south line. New development should provide a 50-foot natural buffer along either side of the ATT right-of-way. This recommendation does not apply to existing subdivisions, nor to subdivisions, site plans, or Planned Development Districts approved prior to adoption of this plan.<sup>3</sup>

ATT buffer areas that are not in a mature, densely-forested state should be supplemented with plantings to achieve an opaque or semi-opaque buffer. Utility lines should be allowed to cross the buffer. In addition, certain uses supportive of the ATT should also be allowed within the buffer, such as public or private trails providing connections to the ATT, public parking and convenience facilities provided for ATT users, and access paths and storage buildings for trail maintenance equipment.

### **3.5 Transitions**

Both Chatham County’s and Cary’s development ordinances and policies include requirements and guidelines for how transitions should be handled between adjacent developments that contain different types or densities of land uses. In general, an appropriate transition between two different types of adjacent developments can be achieved using one or a combination of these four techniques:

- a. Provide a vegetated landscape buffer between the developments. The more intense the disparity between the two developments, the greater the depth and/or opacity of the buffer.
- b. Provide greater building setbacks between the adjacent developments/uses, with open space in the intervening area.

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<sup>3</sup> A Planned Development District, or PDD, is a type of zoning district used by the Town of Cary for master-planned communities.

- c. Provide similar building height, mass, materials, colors, and architecture at the point of transition between the two developments/uses.
- d. When adjacent developments contain the same types of uses, but at different densities or intensities, use similar development densities or intensities at the point of transition between the developments.

Within the plan area, all new development should provide appropriate transitions. In addition, due to the existing rural nature of much of the plan area, transitions should be provided wherever a Low or Medium Density Residential or Mixed Use development abuts a thoroughfare, collector, or state route (SR). In the case of Low or Medium Density Residential, the use of a landscape buffer is generally preferred (i.e., item a., above).

The specific requirements and policies governing transitions for a development project will depend on which jurisdiction has zoning authority for the development.

### **3.6 Principles of Interpretation**

This plan will be used by both Chatham County and the Town of Cary to guide future development, regardless of whether that development occurs under the authority of Chatham County or the Town of Cary. (Properties that do not request annexation into the Town of Cary will continue to be subject to the zoning and development regulations of Chatham County. Properties that request annexation into the Town of Cary will be subject to Cary's zoning and development regulations.) In the case of future rezoning requests, the responsible local planning and zoning board will need to determine whether or not the request conforms to the recommendations of this plan. The following recommendations should be considered in making such a determination:

- a. For either jurisdiction, there may be more than one zoning district that can conform to one of this plan's land use categories.
- b. While it is anticipated that future development will for the most part conform to the boundaries between different land use categories as shown on the Plan Map, there may be exceptional cases where the final boundary between adjacent land use categories shifts somewhat according to the merits of a development proposal and whether it meets the overall plan vision. Such minor shifts in land use boundaries can be considered as conforming, and should not warrant an official amendment to this plan.
- c. Rezoning and development requests should conform to this plan's recommendation that appropriate transitions should be provided between developments (*Section 3.5*). Planning boards may exercise discretion and judgment in determining whether they believe that the transition proposed by an applicant is sufficient and appropriate.
- d. The residential land use categories include provisions for civic and institutional uses; however the planning board may exercise judgment in determining whether a proposed civic or institutional use is appropriate for a given parcel, given its context.

### 3.7 Land Use by Acreage

The total estimated acreage for each of the land use categories as shown on the Plan Map are given in the table below.

<b>Land Use Category</b>	<b>Acres</b>
Very Low Density Residential	7,595
Low Density Residential	2,983
Medium Density Residential	316
Golf/Park/Open Space	486
US Corps Property	6,082
Office & Institutional	69
Commercial/Retail	26
Light Industrial	24
Road rights-of-way (existing)	556
	<b>18,137</b>

## **CHAPTER 4: PUBLIC UTILITIES**

### **4.1 The Rural Buffer Boundary**

The *Plan Map* includes a Rural Buffer Boundary Line that effectively divides the plan area into a western portion and an eastern portion. Areas west of the boundary line should not be eligible to receive public water or sewer utilities, regardless of provider. This includes all municipal, county, and private providers, as well as water or sewer authorities or agencies. Properties on the east side of the Boundary Line may be eligible to receive public water or sewer utilities, subject to the Utility Extension Policies described in Section 4.2, below. Excluding U.S. Army Corps of Engineers property, there are approximately 4,234 acres east of the Rural Buffer Boundary, and 7,821 acres west of the Boundary.

The Rural Buffer Boundary Line meanders in places, and in some cases it can be unclear as to which areas are “east of” or “west of” the line. In such cases, the “east” side of the line can be defined by the side that also includes the Low Density Residential and/or Medium Density Residential land use categories.

Certain types of public water and sewer infrastructure may be located west of the Rural Buffer Boundary, provided that service is not provided west of the boundary. Examples include pump stations, force mains, and other facilities for the purpose of serving areas east of the Rural Buffer Boundary in an efficient manner.

### **4.2 Utility Extension Policies**

As noted above, properties east of the Rural Buffer Boundary may be eligible to be served by public utilities. However, it is not the Town of Cary’s normal practice to initiate the extension of utilities into an area. Rather, utility extensions and connections tend to be initiated, constructed, and paid for by private landowners or developers who wish to tie into Cary’s utilities. Thus, properties located east of the Rural Buffer Boundary should not expect that public utilities will be provided in the future as a matter of course. Rather, private landowners would first need to request permission to connect to the utility system. If permission is granted, then the landowner would construct the extensions to Town standards.

In general, Town of Cary utility extension policies also require properties receiving Town utilities to request annexation as a condition of utility service. In some cases, the Town Council may elect to provide utility service without requiring annexation, although in those cases a higher rate is charged to the utility users. Full details of Cary’s utility connections policies are available in its [Utility System Extension and Connection Policy](#) (Policy Statement 23).

### **4.3 Utility Rescue Policies**

Public utilities may be provided west of the Rural Buffer Boundary when necessary to “rescue” a property having a failed private water or sewage treatment system, provided that both the Town of Cary and Chatham County agree to the rescue. Such rescues could also apply to an entire subdivision if a portion of the subdivision lots experience a failure. In evaluating a rescue request by either an individual owner or an entire subdivision, the local governments may consider both the technical feasibility of repairing the private system(s), and the cost differential to the property owners between repairing a private system and connecting to public utilities.

## **CHAPTER 5: WATERSHED PROTECTION**

### **5.1 Overview of the Jordan Lake Watershed**

Jordan Lake is a regional water supply reservoir, providing drinking water for multiple local governments in this part of North Carolina. The overall water quality of the reservoir depends on the quality of all of the water sources that feed into the lake, including local streams that flow directly into the lake, ground water discharges from subsurface aquifers that feed into the lake, and rainfall deposited directly on the surface of the lake. Streams provide the bulk of the reservoir water, and the network of streams that flow towards and into Jordan Lake is quite expansive, covering parts of 10 counties. The entire land area that eventually drains or seeps towards the lake is called the *Jordan Lake Watershed* (Figure 5-1).



**Figure 5-1.** The Jordan Lake Watershed, shown in white. (Source: Haw River Assembly)

Precipitation that lands outside of this watershed does not drain into river and stream systems that supply Jordan Lake. This very large watershed – covering about 1,686 square miles (1,079,068 acres) – is often described as consisting of three subwatersheds: the Haw River Subwatershed, the Upper New Hope Subwatershed, and the Lower New Hope Subwatershed (Figure 5-2). The Joint Plan covers about 12,055 acres (exclusive of Corps property), accounting for about 1.1% of the total watershed.

The largest of these subwatersheds is the Haw River Subwatershed, which includes all lands and streams that drain into the Haw River. The Haw River extends about 110 miles from its source near Kernersville to its end at the B. Everett Jordan Dam, which in turn creates the reservoir. The Haw River Subwatershed covers 1,343 square miles, and includes about 920 miles of tributaries. This subwatershed alone accounts for 70-90 percent of annual flow through Jordan Reservoir.

The Upper New Hope Subwatershed includes an area that drains towards the upper (northern) end of Jordan Lake, via streams such as Morgan Creek, New Hope Creek, and Northeast Creek. The Upper New Hope Watershed covers 212 square miles, and includes Chapel Hill

and southern Durham, as well as the northeast corner of the area covered by this Joint Land Use Plan, near Wake Road.

The Lower New Hope Subwatershed includes areas that drain directly towards the western and eastern sides of Jordan Lake, including areas west of the lake in Chatham County and east of the lake in both Chatham and Wake Counties. The subwatershed covers about 131 square miles. Most of the area covered by this Joint Land Use Plan is located within the Lower New Hope Watershed. Some of the streams feeding directly into Jordan Lake from the eastern part of this subwatershed include Kit Creek, Panther Creek, and White Oak Creek.

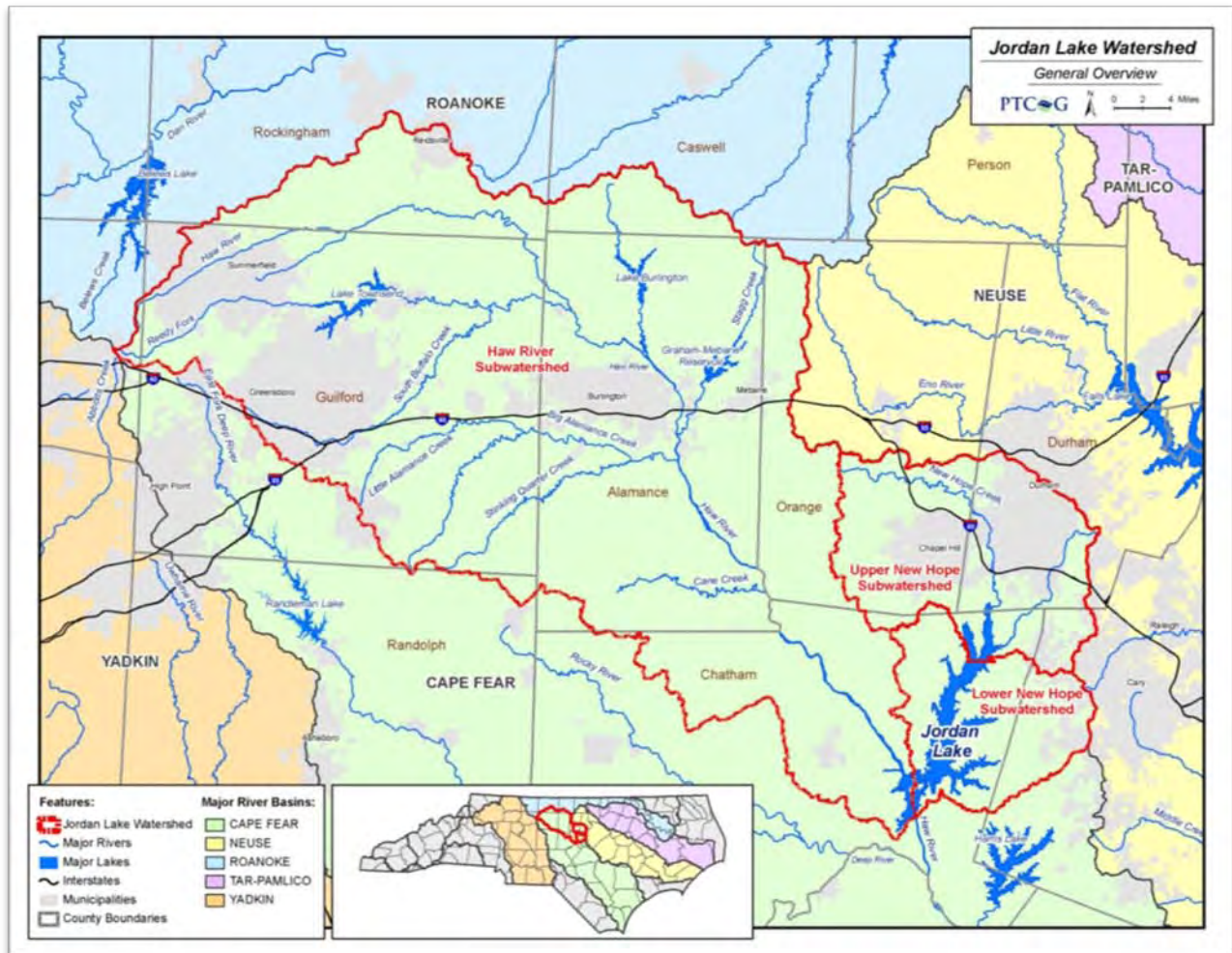


Figure 5-2. The Jordan Lake Watershed and its Subwatersheds (Source: Piedmont-Triad Council of Governments)

## 5.2 Water Quality Concerns

The North Carolina Environmental Management Commission (EMC) has designated Jordan Lake as a *nutrient sensitive watershed* (NSW) since the year of the lake's original impoundment in 1983. The NSW designation means that the lake is considered to be *eutrophic*, meaning that there is an over-abundance of nutrients in the lake, primarily nitrogen and phosphorus, which may result in algal blooms and poor water quality. In response to those conditions, and after many years of study, in June 2009 the State of North Carolina adopted a special set of Jordan Lake watershed protection regulations into law – the Jordan Water Supply Nutrient Strategy (the *Jordan Lake Rules*). The Jordan Lake Rules include specific requirements and standards that

local governments must follow in order to attempt to reduce the amount of nitrogen and phosphorous reaching the lake.

The land development and watershed protection ordinances adopted by Chatham County and the Town of Cary either meet or exceed the new *Jordan Lake Rules*. In fact, in recognition of the issues facing Jordan Lake, and in anticipation of the forthcoming rules, the Town of Cary applied comparably stringent watershed protection rules developed for the Neuse River Basin to all development within the Jordan Lake watershed in 2000. In a similar way, Chatham County significantly revised their watershed protection ordinances in 2008.

Water quality protection and regulation is a complicated topic, since it involves a complex mix of federal and state regulations and policies, implemented in large part by local county or municipal regulations and policies. It is beyond the scope of this area plan to summarize and describe all the various regulations and policies. For this document, it is sufficient to note that both Chatham County and the Town of Cary have local watershed and stormwater management ordinances and programs that meet or exceed state and federal requirements or guidelines.

Additional information about the Jordan Lake Watershed and the Jordan Lake Rules can be obtained from the NC Department of Environment and Natural Resources, or found online at <http://portal.ncdenr.org/web/jordanlake> and <http://portal.ncdenr.org/web/wq/home>.

### 5.3 Approaches for Mitigating Adverse Water Quality Impacts

The Jordan Lake Rules include specific water quality performance targets for new development. In general, the rules specify the maximum total annual amounts of nitrogen and phosphorous per acre that can be allowed to run off of a development in response to rain or snowfall. There are also standards for control of sedimentation and erosion, as well as for the treatment of the Total [amount of] Suspended Solids (TSS) in stormwater runoff. In order for new development to meet these nutrient reduction targets, the state specifies that certain actions must be taken – such as providing natural vegetated buffers along certain classes of stream courses in order to protect stream water quality.

In addition, developers can meet the nutrient and suspended solids targets either by strictly limiting the amount of impervious surfaces, or by incorporating *Best Management Practices* (BMP's) into their site design. Best Management Practices are engineered devices or landscapes that are specifically designed to filter out excess nitrogen, phosphorous, and suspended solids.

Both Chatham County and the Town of Cary take additional regulatory steps to protect water quality<sup>1</sup>. Chatham County and/or the Town of Cary's development ordinances also include measures such as – but not limited to – the following:

- **Buffer requirements** that mandate additional vegetated buffers beyond the riparian buffers required by the Jordan Lake Rules;
- **Impervious surface limitations** that place limits on the total amount of impervious surface allowed in new developments;
- **Peak discharge controls** that mandate that new developments attenuate and manage storm events that are more than that specified by the Jordan Lake Rules, so that peak stormwater discharge for a new development does not exceed pre-development conditions;

<sup>1</sup> Details about Chatham County's watershed protection and stormwater management rules can be found online at [www.chathamnc.org](http://www.chathamnc.org) or by calling the Chatham County Planning Department at (919) 542-8204. Details about Cary's rules can be found at [http://www.townofcary.org/Departments/Engineering/Stormwater\\_Management.htm](http://www.townofcary.org/Departments/Engineering/Stormwater_Management.htm) or by calling the Town of Cary Engineering Department at (919) 469-4030.



- **Erosion and sedimentation regulations** that require new developments to control and limit stormwater and sediment runoff from construction sites, and require that a Sedimentation Erosion Control Plan be submitted with new development proposals, for government review and approval;
- **Requirements that stormwater management plans** must be submitted and approved as a condition of development approval;
- **Inspection and enforcement programs** by local governments that regularly inspect and enforce required stormwater management and watershed protection measures within developments, and to monitor, detect, and eliminate illicit discharges;
- **Allowing or encouraging *Low Impact Development (LID)*** stormwater management practices that seek to promote greater on-site water infiltration and the use of stormwater treatment approaches that more closely mimic natural biological processes;
- **Steep slopes regulations** that limit or control the amount and/or types of development permissible on steep slopes, or that require certain slope stabilization measures;
- **Site grading ordinances** that limit the amount of area that can be cleared and graded at one time for specific types of new development;
- **Open space requirements** that mandate a certain amount of permanent open space within new development projects;
- **Flood plain ordinances** that prohibit or limit development within 100-year floodplain areas, and that prohibit home lots from being platted into floodplain areas;
- **Clear-cutting ordinances** that limit or regulate clear-cutting on parcels, in order to preserve habitat, protect water quality, and filter runoff;
- **Tree protection ordinances** that require tree surveys to be submitted with new development proposals; protection of specimen trees; and identification of tree save areas;
- **Protection of wetlands** from development, and provisions for vegetated buffers adjacent to wetlands;
- **Landscaping and revegetation requirements** that require a specified amount of replanting and restoration of vegetation with new development.

#### **5.4 Application of Local Watershed and Stormwater Regulations to New Development**

Future development within the boundaries of this Joint Plan should fully comply with the watershed protection and stormwater ordinances of the jurisdiction responsible for approving the development. Thus, future development requests within Chatham County that do not request incorporation into the Town of Cary will be subject to Chatham County's rules. Future development requests within Chatham County that also request incorporation into the Town of Cary will be subject to the Town of Cary's rules. Applicable state and federal rules will apply regardless of the local jurisdiction involved.

## **Chapter 6: Plan Implementation**

### **6.1 Overview**

In order for the vision and recommendations expressed by this plan to be realized, specific implementation steps will need to be taken by Chatham County and/or the Town of Cary. Many of the implementation steps seek to provide the conditions under which the plan vision can be achieved, by way of providing sensible land use regulation, necessary public investments, the development of appropriate programs and policies, and other actions. The following implementation steps and recommendations are based on the citizen input and staff analysis of how best to achieve the goals of the Joint Land Use Plan.

#### ***Controlling Factors***

*The implementation of the plan will depend on action being taken to:*

- *Revise existing development regulations*
- *Undertake more detailed studies to resolve and explore the constraints and opportunities which have been identified by this plan*
- *Promote and assist specific objectives*
- *Make infrastructure improvements*

The execution of the implementation steps listed below will likely be phased and is subject to a variety of factors, which will determine their timing. These include:

- a.) *The availability of the personnel and financial resources necessary to implement the specific proposals.*
- b.) *Whether an implementation step is a necessary precursor to or component of the rational evaluation of a new development project.*
- c.) *The interdependence of the various implementation items, in particular, the degree to which implementing one item is dependent on the successful completion of another item.*
- d.) *The relative severity of the problem which a particular implementation item is designed to remedy.*

### **6.2 Zoning**

Currently, areas west of the Rural Buffer Boundary that are designated as Very Low Density Residential (VLDR) are zoned for lot sizes of approximately one acre by Chatham County. It is recommended that Chatham County rezone these areas to reflect the Joint Land Use Plan recommendation for VLDR lot sizes averaging five acres, which would be comparable to the R5 District in the current Chatham County Zoning Ordinance. This district requires lot sizes averaging five acres, with lot sizes as small as two acres depending on the situation. It is expected that this implementation step would take 3 – 6 months to complete.

### **6.3 Design Guidelines**

Currently Chatham County has Design Guidelines that only apply to non-residential development, while the Town of Cary has Design Guidelines that apply to a broader range of uses. The County and Town may want to further study whether specific Design Guidelines are needed for the plan area, or if each jurisdiction should update their individual Guidelines. If the Town and County decide to develop specific Design Guidelines for development in this area, they should include guidance on transition between uses and densities as described in Chapter 3 of this Plan.

### **6.4 Transportation Planning**

If this area of Chatham County develops as envisioned by the Plan, the transportation infrastructure may prove to be inadequate. Part of the Plan area is included in the Durham-Chapel Hill-Carrboro Metropolitan Planning Organization's transportation planning area, while the remainder of the area is included in the Triangle Area Rural Planning Organization's transportation planning area. In addition, Cary's current Comprehensive Transportation Plan includes recommendations for portions of some roads in the Plan area, and the County and NCDOT are beginning to embark on a Comprehensive Transportation Plan for Chatham County. It is recommended that once the Joint Land Use Plan is adopted, the County and Town work together with the MPO, RPO, and NCDOT to study the current transportation infrastructure in place and plan for any improvements that may be needed if the area develops as the Plan envisions.

### **6.5 Public Schools**

In both Chatham and Wake Counties, public schools are a county, and not municipal, function. The entire Plan area is therefore served by Chatham County Schools, including the areas that have been incorporated by the Town of Cary. There are no public schools located within the Plan area currently – the nearest elementary school is on the west side of the lake, an approximately 4-10 mile drive for the bulk of the plan area south of Panther Creek and New Hope Church Road, but as much as a 12-14 mile drive for areas north of Panther Creek along O'Kelly Chapel road, and north of Kit Creek along Wake Road. The nearest middle and high schools are located in Pittsboro, approximately 20 miles away. It is recommended that Chatham County Schools and the Town work together to forecast and evaluate long-term school needs in the joint planning area, and to jointly plan for the location of public school(s) in the joint plan area if they are needed. (While Cary does not provide public schools, the provision of municipal water and sewer is likely to be a key locational consideration.) As locations for school sites in the area are investigated, it is recommended that sites large enough for co-location of a school and park be given priority.

### **6.6 Parks and Greenways**

Currently there are no public parks in this area of Chatham County; however, the Town owns approximately 58 acres on either side of New Hope Church Road at the American Tobacco Trail with plans for a trailhead and park. The only greenway in the area is approximately 4.7 miles of the American Tobacco Trail, a Rails-to-Trails project running from New Hill in Wake County to the American Tobacco campus in Durham. Both the Town and County Parks and Recreation

Departments have adopted Master Plans that include this area of Chatham County. It is recommended that the County and Town continue to work together to plan future parks and greenway facilities for the area that may be needed. It is also recommended that co-location on county school sites be investigated as part of this process.

<b>Task</b>	<b>Agency</b>	<b>Timing</b>
Rezone Area West of Rural Buffer Boundary	Chatham County	2012
Study options for developing and implementing Design Guidelines	Chatham County & Town of Cary	2013-2015
Transportation Planning	Chatham County, Town of Cary, DCHC MPO, TARPO, NCDOT	2012-2013
Schools	Chatham County Schools & Town of Cary	2014-2016
Parks/Greenways	Chatham County & Town of Cary	2012-2014

**Figure 6-1:** Table showing Implementation Tasks, Agency Involved and Expected Timing

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