WAKE COUNTY HISTORIC FARM CONTEXT (1918-1968) AND SURVEY UPDATE

Wake County, North Carolina
NCHPO ER 20-0096

SUBMITTED TO:

RST Development, Inc.
6110 Executive Blvd., Suite 620
Rockville, Maryland 20852

April 2022

RGA Technical Report #2021-160NC

RICHARD GRUBB & ASSOCIATES

WAKE COUNTY HISTORIC FARM CONTEXT (1918-1968) AND SURVEY UPDATE

Wake County, North Carolina
NCHPO ER 20-0338

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MANAGEMENT SUMMARY

Richard Grubb & Associates, Inc. (RGA) completed this Wake County Historic Farm Context (1918-1968) and Survey Update on behalf of RST Development, Inc. This project mitigates the adverse effects to the Dr. L.J. Faulhaber Farm (WA4811) caused by the construction of a residential development known as the 401 Assemblage in Raleigh, Wake County, North Carolina (the undertaking). The undertaking requires a permit from the United States Army Corps of Engineers (USACE), and therefore is subject to Section 106 of the National Historic Preservation Act, as amended. In April 2021, the USACE, the North Carolina State Historic Preservation Officer, and RST Development, Inc., executed a Memorandum of Agreement (MOA) to mitigate the adverse effects of the undertaking to the Dr. L.J. Faulhaber Farm, a property eligible for listing in the National Register of Historic Places (NRHP). The MOA stipulated, in part, the scope of this Wake County Historic Farm Context and Survey Update.

This report includes a historical background essay and context for Wake County farms from the period 1918 to 1968. Between July 2021 and February 2022, RGA architectural historians conducted a survey update of 76 previously recorded farm complexes in Wake County. Additional tasks completed pursuant to the MOA were: updating existing entries in the North Carolina State Historic Preservation Office's database of historic properties; updating the files for properties which have undergone substantial changes since they were last surveyed; and providing preliminary assessments of potential NRHP eligibility.

As a result of this Wake County Historic Farm Context (1918-1968) and Survey Update, 76 resources were assessed, and 13 of these were recommended potentially eligible for listing in the NRHP. Additional study and full NRHP evaluations are recommended for these 13 resources.

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1.0 PROJECT DESCRIPTION

Richard Grubb & Associates, Inc. (RGA) completed this Wake County Historic Farm Context (1918-1968) and Survey Update on behalf of RST Development, Inc. This project satisfies Stipulation I.B of a Memorandum of Agreement (MOA) between the United States Army Corps of Engineers (USACE), the North Carolina State Historic Preservation Officer (SHPO), and RST Development, Inc (Applicant) (Appendix A). The MOA mitigates the adverse effects to the Dr. L.J. Faulhaber Farm (WA4811), a property eligible for the National Register of Historic Places (NRHP), caused by the construction of a residential development known as 401 Assemblage in Raleigh, North Carolina.

1.1 Project Background

This Wake County Historic Farm Context (1918-1968) and Survey Update was the result of the Applicant's plans to construct a residential development (the undertaking) which will lead to the demolition of the Dr. L.J. Faulhaber Farm. The undertaking requires a permit from the USACE and is therefore subject to Section 106 of the National Historic Preservation Act, as amended. The Dr. L.J. Faulhaber Farm was placed on the State Study List in 2007 and was determined to be eligible for the NRHP in 2014 through Section 106 review for the Triangle Expressway Southeast Extension. The USACE determined the undertaking would result in an adverse effect to the Dr. L.J. Faulhaber Farm. The USACE, the SHPO, and the Applicant worked together to develop an MOA to mitigate the adverse effects caused by the undertaking. Stipulation I.B of the MOA required the development of a historical context for farm complexes (1918-1968) in Wake County, North Carolina, including a survey update of selected previously recorded resources.

1.2 Project Location

The Dr. L.J. Faulhaber Farm is located approximately five miles southeast of Garner and eight miles south of downtown Raleigh, in Panther Branch Township, Wake County, North Carolina. Because of the Faulhaber Farm's location, the historic farm context and survey update focus on Wake County. Wake County was formed in 1770 from parts of Cumberland, Johnson, and Orange Counties. It sits in northeast central North Carolina at the fall line between the Piedmont and Coastal Plain regions. Its geology is varied, with rocky hills in the west, the fertile Neuse River basin in the east, and sandy flatlands in the south.

1.3 Methodology

This historic context focuses on agriculture and farm complexes from the period 1918 to 1968 and draws upon and expands an earlier agricultural history of Wake County developed in "Historic and Architectural Resources of Wake County, North Carolina (ca. 1770-1941)," which was later edited for publication as *The Historic Architecture of Wake County, North Carolina* (Lally and Johnson 1993, Lally 1994). These documents were produced following the first comprehensive historic architectural survey of Wake County, which was conducted by Kelly A. Lally from 1988-1991. Investigators drew extensively upon journals, newspaper articles, and advertisements for information on local responses to state and national trends in agriculture. Numerous studies, reports, and service bulletins published by the US and North Carolina Departments of Agriculture, the Federal Housing Administration, and the Agricultural Experiment Station of the North Carolina State College of Agriculture provided valuable statistical data and detailed discussions of the full range of issues confronting farmers, especially in the periods during and after World War II. Finally, the numerous entries on agriculture available through the *Encyclopedia of North Carolina* proved invaluable in summarizing key events and historical themes while prompting additional avenues of inquiry.

Lally's survey files provided photographs, site sketches, architectural descriptions, and historical background for the properties she recorded. Many of those files were later updated during survey updates conducted in five phases in 2007, 2017, 2018, and 2019. The survey update projects also recorded previously unidentified resources which were built between 1941, the end point of Lally's survey, and 1970.

RGA consulted several sources to devise the list of potential farm complexes to be included in the survey update (Context Resources). First, North Carolina State Historic Preservation Office (HPO) staff provided RGA with the results of a baseline search of the HPO's Survey Database using the search terms "farm" and "agriculture." The resulting list of 430 properties was filtered by the construction date and materials condition fields to eliminate resources falling outside of the context's study period (1918-1968) and those which are known to be no longer extant. Additional resources were eliminated which were not actual farms but other property types with "farm" in their name, such as the John and Lena Farmer House (WA5353) or the (former) State Farmers Market (WA5343). Some resources were eliminated because they were determined to not constitute a "complex," such as a stand-alone farm outbuilding or a former farm residence with no surviving agricultural resources or land. The remaining resources were examined using satellite and street-level imagery from Google Earth and Google Maps to eliminate any structures which appeared to have been demolished since their last update in the HPO Survey Database. HPOWEB, the HPO's web-based mapping application, provided additional information about farm complexes which did not have the words "farm" or "agriculture" in their database records. The resulting list of 79 resources was reviewed by the HPO staff and was approved as the preliminary Context Resources to be updated as part of the context study.

The development of the list of Context Resources was limited by the information included in the date, name, or significance fields of the Survey Database. It is not possible to search for a range of dates, and dates are entered somewhat inconsistently. For instance, some entries in the date field refer to the construction date of a farm dwelling but do not reflect the dates of its associated agricultural outbuildings. It is not uncommon for a farm complex with a nineteenth-century dwelling to be actively farmed well into the twentieth century, often by multiple generations of the same family, and to include outbuildings (and secondary dwellings) spanning many decades. Some early historic resource surveys focused primarily on dwellings and their database records do not mention farming or agriculture even if the house was at the center of a farm. For these reasons, it is assumed that some farms in operation during the context study period were missed by the database search. Therefore, it was understood that the Context Resources list was preliminary and that it would be subject to change if field observations indicated that additional properties should be included in the study or that others should be eliminated.

1.4 Field Methods

Prior to the field survey, the HPO staff provided scans of the existing survey files for the 79 properties on the preliminary Context Resources list. Fieldwork was conducted between July 2021 and February 2022. RGA architectural historians visually inspected and photographed each resource and documented any changes to architecture and setting that had occurred since its most recent survey on HPO Historic Property Field Data Forms. The field data was then entered into the HPO's Survey Database. Given the scope of the project, the majority of fieldwork was conducted from public rights-of-way and interior access was not attempted.

During fieldwork, 10 properties were identified as appropriate sites to be added to the list of Context Resources as they appeared to have resources dating to the study period. They were photographed and documented accordingly. Thirteen properties were removed from the list after it was determined that they had no extant resources dating to the study period, did not constitute farm complexes, or were duplicates of other properties on the list. The final number of Context Resources recorded was 76.

1.5 Summary of Survey Results

For the survey update portion of this project, 76 farm complexes were surveyed to document changes which had occurred since each resource's most recent survey. A preliminary assessment of NRHP eligibility according to the NRHP Criteria for Evaluation was made for each resource, indicating whether or not it was likely to be eligible, whether previous determinations of eligibility are still accurate, and whether further investigation was recommended. These findings are summarized in Table 1.1 and Figure 1.1.

Table 1.1: Resources documented and their NRHP recommendation.

Survey Site No.	Name	Status	NRHP Recommendation
WA0335	Frank Bryan Farm	DOE	Remains Eligible
WA0336	George and Julia Bryan Farm	DOE	Remains Eligible
WA0344	Rand Farm	SO	Not Eligible
WA0352	Yeargan Farm	SO	Potentially Eligible
WA0538	Burt Farm	SL	Remains Eligible
WA0571	Ballentine Dairy Farm	NRHD	No Longer Eligible
WA0589	Yancey Farm	SO	Not Eligible
WA0591	James Suggs House	SO	Not Eligible
WA0592	Weeks-Veasey House	SO	Not Eligible
WA0744	A.M. Howard Farm	NRHD	Remains Eligible
WA0763	William Upchurch Farm	SO	Potentially Eligible
WA1004	Alious & Daisey Mills Farm and Store	NRHD	Remains Eligible
WA1047	H.T. Lawrence Farm	SL	Remains Eligible
WA1070	Harvey Ragan House	SO	Not Eligible
WA1071	James E. Ragan Farm	SO	Not Eligible
WA1086	Humie Olive Farm	SO	Not Eligible
WA1097	Allie Lawrence Farm	SL, NRHD	Remains Eligible
WA1098	Utley-Horton Farm	NRHD	Remains Eligible
WA1118	Daniel Farm	SL	Remains Eligible
WA1119	Dwight Rowland Farm	SL	Remains Eligible
WA1142	Oburn-Honeycutt Farm	SO	Not Eligible
WA1149	Bud Lipscomb Farm	SO	Not Eligible
WA1212	George Williams Farm	DOE	Remains Eligible
WA1323	Nipper Dairy Farm	SO	Not Eligible
WA1367	Wilbur O'Briant Farm	NRHD	Remains Eligible
WA1381	Paul Horton Farm	SO	Not Eligible
WA1431	Vernon Keith, Sr., Farm	SL	Remains Eligible
WA1679	Joseph Collier Farm	SO	Not Eligible
WA1688	A.D. Nichols Farm	SO	Potentially Eligible
WA1689	Thomas Nichols Farm	SL	Remains Eligible
WA1690	Rufus Smith Farm	SO	Potentially Eligible
WA1739	Isa Perry Farm	SO	Not Eligible
WA1759	Williams Farm	SO	Potentially Eligible
WA1788	Dunn-Scarborough-Frazier Farm	SO	Not Eligible
WA1792	Farm Complex	SO	Not Eligible

Table 1.1; cont.

Survey Site No.	Name	Status	NRHP Recommendation
WA1799	Montezuma Z. Pearce Farm	SO	Potentially Eligible
WA1816	Duke-Woodlief Farm	SO	Not Eligible
WA1840	J.R. Fowler Farm	SO	Potentially Eligible
WA1841	J.R. Fowler Farm Tenant House	SO	Potentially Eligible
WA1856	House	SO	Not Eligible
WA1857	Farm Complex	SO	Not Eligible
WA1864	Martin-Perry Farm	SO	Not Eligible
WA1880	Fernie Richards Farm	SO	Not Eligible
WA1885	Jesse G. Bunn Farm	SO	Not Eligible
WA1898	Ida Massey Jones House	SO	Not Eligible
WA1928	B.A. Weathers House and Farm	DOE	No Longer Eligible
WA1967	Farm Complex	SO	Not Eligible
WA1968	Pope Farm	SO	Not Eligible
WA1988	Henry A. Croom Farm	SO	Potentially Eligible
WA2010	Fernie Todd Farm	SO	Not Eligible
WA2028	Wall-Ledford Farm	SO	Not Eligible
WA2250	John Robert Baucom Farm	SO	Not Eligible
WA4180	Bowden-Hicks Farm	DOE	No Longer Eligible
WA4209	Mallie & Cora Butts Farm	NRHD	Remains Eligible
WA4785	Snipes Farm	SO	Potentially Eligible
WA4786	Page Farm	SO	Potentially Eligible
WA4799	Yates Farm	SL	No Longer Eligible
WA4806	Percy & Mynette Strother Farm	SO	Not Eligible
WA4807	B.B. & Ida Wilson Farm	SO	Not Eligible
WA4811	Dr. L.J. Faulhaber Farm	DOE	To Be Demolished
WA4829	Buffaloe Farm	SO	Not Eligible
WA5699	Farm	SO	Not Eligible
WA6412	Farm	SO	Not Eligible
WA7194	Excel & Elsie Green Farm	SO	Not Eligible
WA7509	Booth Farm	SO	Not Eligible
WA7595	Farm Complex	SO	Not Eligible
WA7651	Scarboro Farm and Tenant House	SO	Not Eligible
WA7805	William Brinkley Farm	SO	Potentially Eligible
WA7806	William Brinkley Farm Tenant House	SO	Potentially Eligible
WA7920	Lassiter Farm	SO	Not Eligible
WA8205	Farm Complex	SO	Not Eligible
WA8361	Watkins Farm	SO	Not Eligible
WA8362	Williams Farm	SO	Not Eligible
WA8364	Woodlief Farm	SO	Not Eligible
WA8365	Ellington Farm	SO	Not Eligible
WA8366	Pierce Farm	SO	Not Eligible

SO – Surveyed Only
NRHD – National Register of Historic Places Historic District
SL– Study List
DOE– Determined Eligible

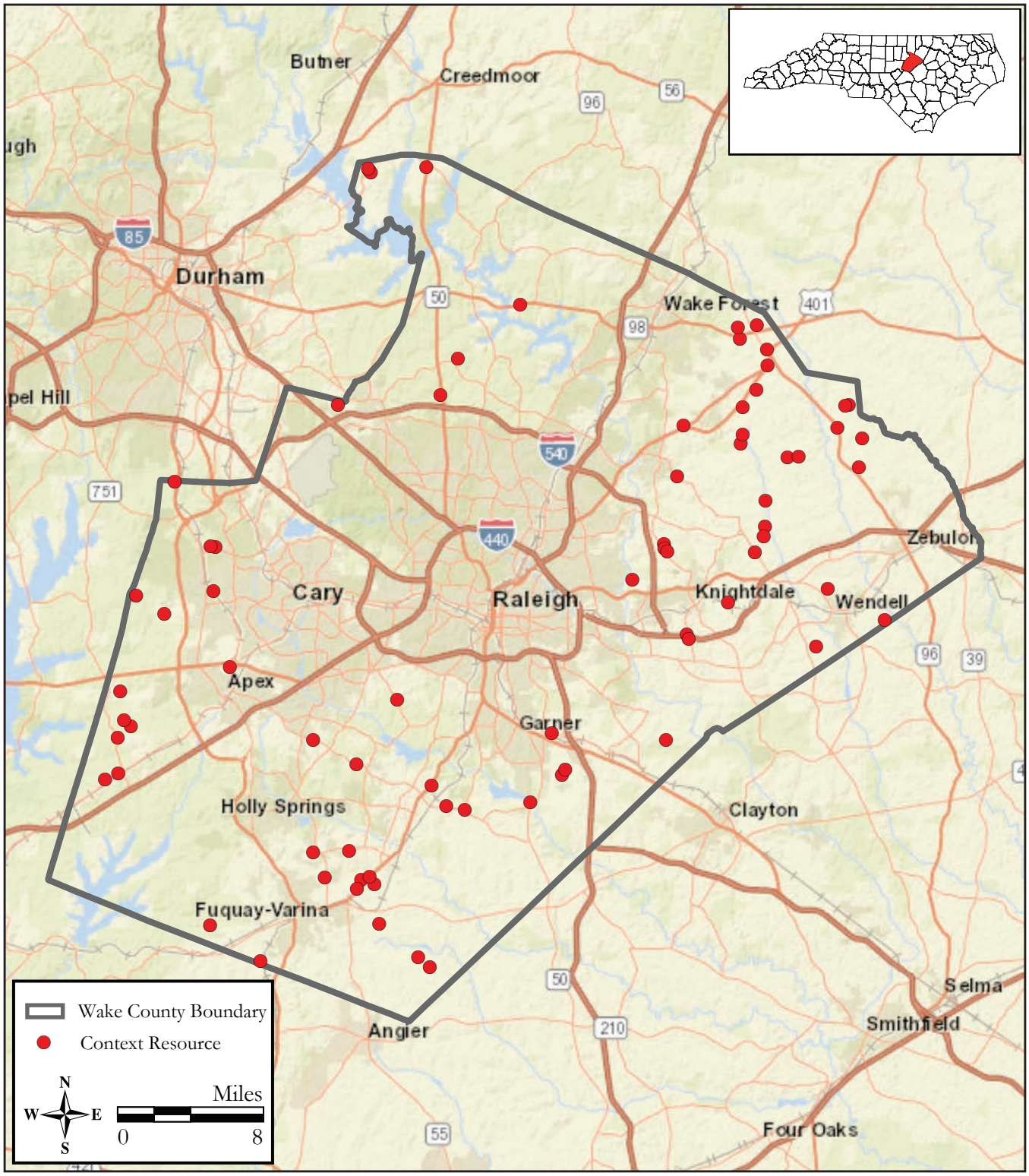

Figure 1.1: Map showing locations of the Context Resources surveyed for this project (ESRI 2021).

The results of this Wake County Historic Farms Context and Survey Update are presented in the following sections of this report: Section 2.0 provides a broad historic context for agriculture and farm complexes focusing on the period 1918-1968 and summarizing growth and development in Wake County since 1968; Section 3.0 includes the survey update results and preliminary assessments of NRHP eligibility for each Context Resource. Digital and paper copies of updated survey files and survey database entries for the 76 Context Resources have been submitted under separate cover to the HPO.

This report was authored by Ellen Turco, Philip Hayden, Debbie Bevin, and Olivia Heckendorf. Ms. Turco served as the Principal Investigator; Mr. Hayden developed the historic context; and Ms. Bevin and Ms. Heckendorf conducted fieldwork and made contributions throughout the report. All RGA staff assigned to this report meet the professional qualifications standards of 36 CFR 61 set forth by the National Park Service (Appendix B). Emily Dale created the report graphics. Karrie Welborn served as technical editor and Natalie Maher formatted the report.

2.0 WAKE COUNTY HISTORIC FARM CONTEXT 1918-1968

2.1 Introduction

Geographically central and sixth in size of all the counties in North Carolina, Wake County covers 824 square miles and 527,360 acres.[1] Stradling the Coastal Plain to the east and the Piedmont region to the west, the region reflects conditions found throughout a large part of the state in terms of soils and growing conditions (Figures 2.1 and 2.2). It also contains a major metropolitan center and the state capitol, Raleigh, with its associated links to transportation, urbanization, and suburbanization. Wake County is, therefore, a useful microcosm for understanding the material culture of rural organization, agriculture, and its historic responses to change.

This historic and architectural context focuses on agriculture and farm complexes from the period 1918 to 1968 and draws upon and expands an earlier agricultural history of Wake County developed in support of the architectural survey published in 1994 (Lally 1993, 1994). That context provided an excellent overview of broad historical trends and their impact on the twentieth century. It framed the history of agriculture and farming as a continuum with four distinct phases extending from the period of initial European settlement and subsistence farming through the Civil War, growing commercial production, crop specialization, and finally, a general decline in family farms (Lally 1993: E-8). It touched on themes such as the rise of a market economy, single-crop production, and impacts from social, political, and religious institutions. It also explored the effects of growing wealth disparity, class stratification, race, and tenancy (Lally 1994: 9-25). Because most of the population during the eighteenth and nineteenth centuries remained in the country, rural life and farming were inseparable. Historians have sometimes called the changes to agriculture during this period the first great transformation in American rural life (Barron 1997: 12-13).

Focusing on Wake County, the earlier historic context found evidence for all of these trends. However, it also identified the persistence of long-held agricultural traditions and the continued dominance of the small family farm as counterpoint to change. For example, while cotton and tobacco grew in commercial importance across the South, more than half of Wake County's small farmers produced neither (Lally 1994: 14). At the same time, slaveholding—the principal means to large-scale commodity production in the South—remained concentrated in the hands of only one-third of the free households in Wake County between 1790 and 1860. Of these, approximately 25 percent enslaved between one and 20 people. Less than four percent of the landowners enslaved more than 20 people, making them part of a small agricultural elite (Lally 1994: 15). These enslavers also controlled local and county government (Lally 1994: 16). But despite their influence, large plantations with dwellings for enslaved workers or specialized farm buildings were relatively rare in Wake County. In other words, on the eve of the Civil War, two-thirds of the county's free households (consisting of city dwellers, farmers, and the landless) owned no enslaved people nor the associated buildings, support structures, or other material fingerprints of slaveholding. Subtracting the townsfolk, nearly 60 percent of all Wake County households cultivated their own lands at the subsistence level or lived and worked on the farms of others. This population did not hold positions of leadership in local government (Lally 1994: 18).

The aftermath of the Civil War forced greater dependence on commercial agriculture, mass-production, centralized markets, consumer goods, and tenant farming. Cotton and tobacco increased in dominance as railroads and new commodity exchanges in Raleigh and towns such as Wilson and Rocky Mount opened distant outlets for farm produce. Three railroads served Wake County. The Seaboard Air Line system extended south from Washington, DC, to Florida. The other two, the Norfolk Southern and the Southern Railway, provided abundant east-west connections (Anderson 1929: 9). Cash became essential for securing goods and services, while an increasing number of financial institutions provided needed credit.

1 Lally (1993) describes the county as consisting of 867 square miles and seventh in size.

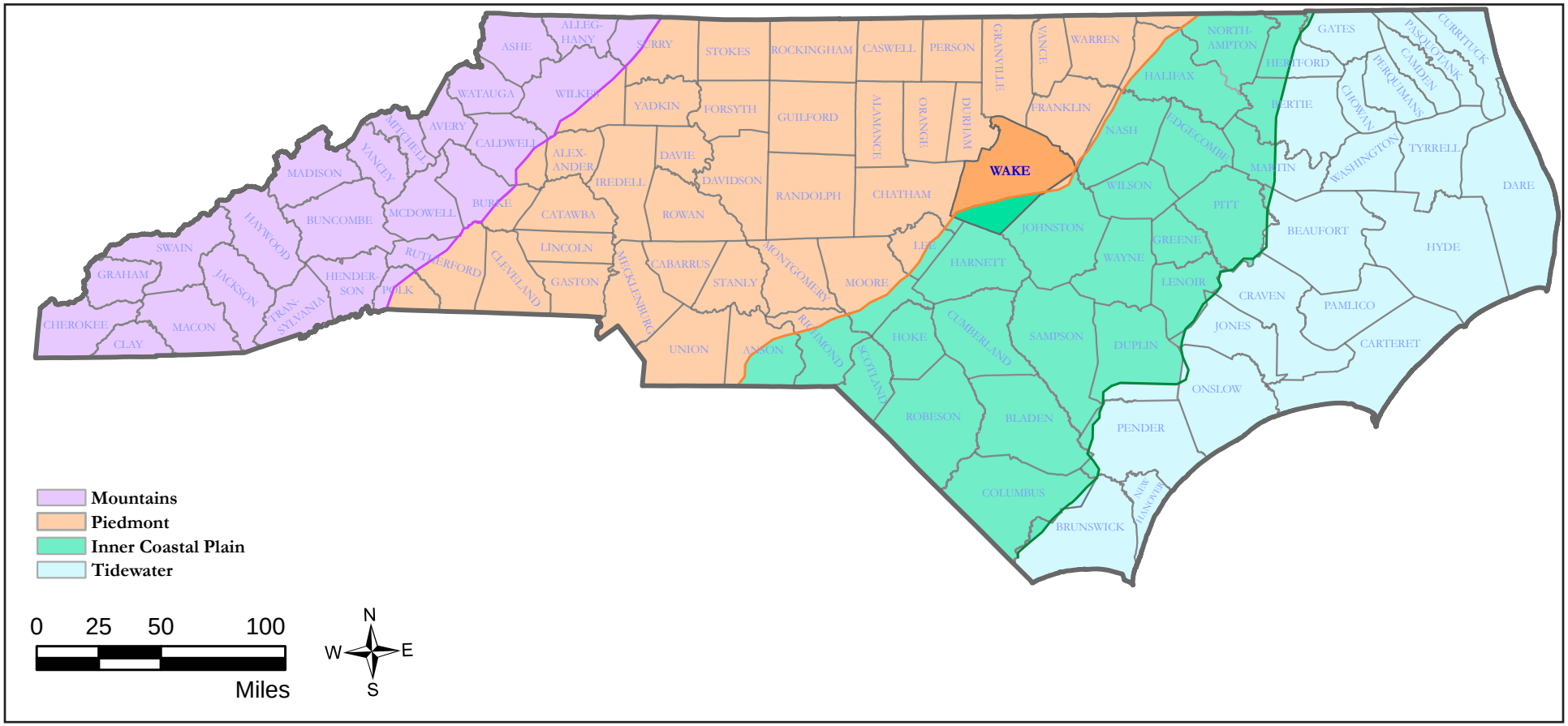

Figure 2.1: Geographic regions of North Carolina
(Created by Emily Dale, Richard Grubb & Associates, Inc. 2022)

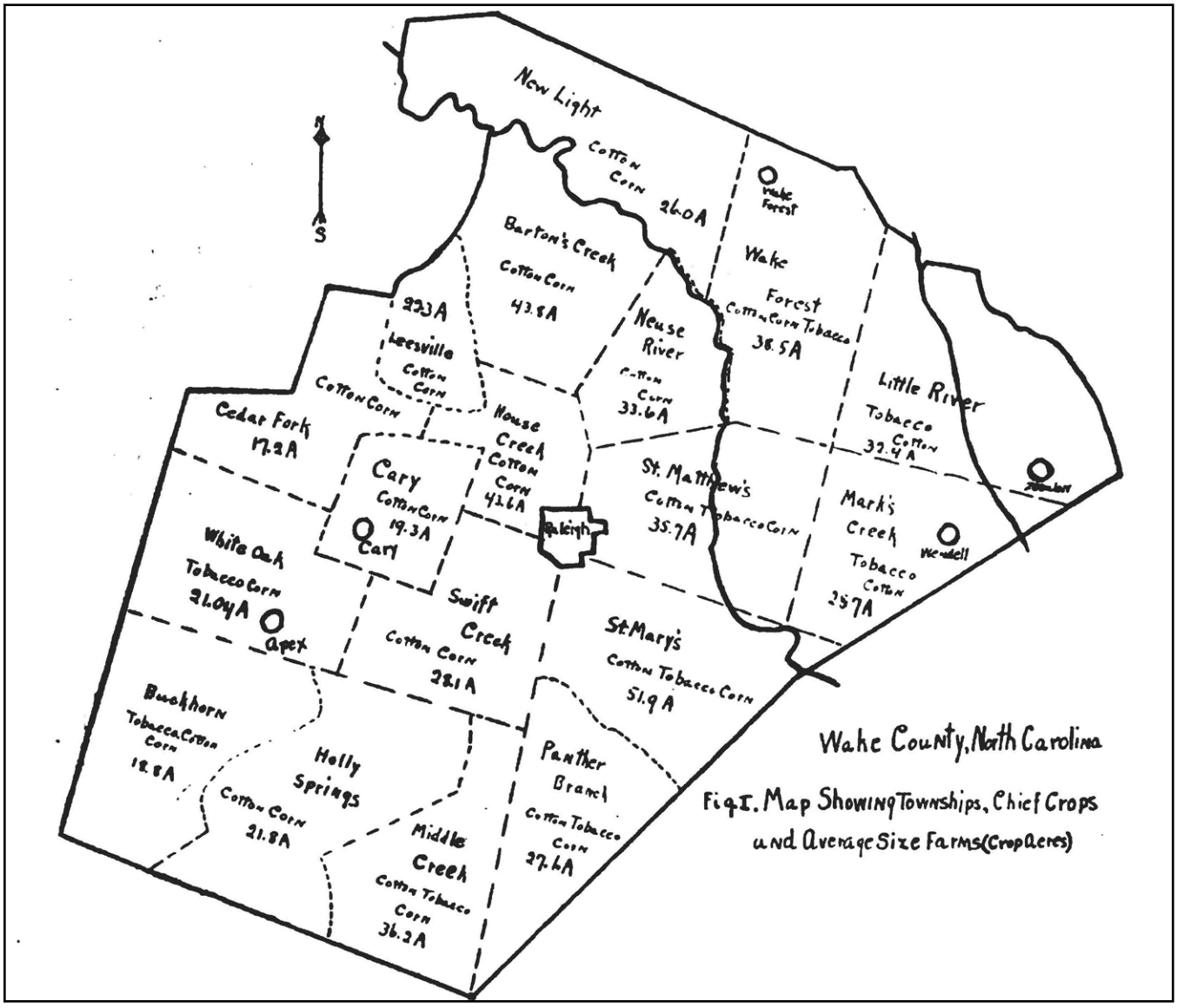

Figure 2.2: 1929 Wake County township map showing chief crops and average farm sizes (Anderson 1929: 4).

At the same time, some traditional farm practices, such as free-ranging livestock, diminished as new fencing laws were enacted to impound livestock and protect crops. Small farmers without adequate pastureland were forced to give up their animals, deepening their dependence on single-crop production (Lally 1994: 63). Also beginning in the 1870s and extending into the early twentieth century, advances in scientific agriculture and new training programs gave rise to a class of professionals ready to instruct farmers on new techniques. Colleges and agricultural extensions sprang up across the nation. Trade journals, self-help manuals, and almanacs proliferated (Figure 2.3). Farm support programs grew more centralized, shifting from local and county control to the state and federal level, while mass markets created wholesale buyers, commodities syndicates, and middlemen. Meanwhile, the growing popularity of the personal automobile, government support for better roads, and the widespread availability and mass marketing of farm implements and consumer goods provided ways for rural people to engage more fully with the wider cultural world. Farms decreased in size as larger and older operations were subdivided. New farmsteads were created and planted with cash crops worked by individual farmers and a growing number of tenants. More farmsteads, tobacco barns, sorting sheds, and the apparatus of cotton growing came to dominate the landscape. Wire fences impounded barnyards and roadsides to keep animals from the fields. Mail-order windmills, pumps, and tenant houses sprang up, along with new, ready-cut homes delivered by train from distant manufacturing centers. A centralizing economy, expanding government involvement, increasing professional expertise, and growing consumerism set the stage for what some historians call the second great transformation of rural America (Barron 1997). These forces, unleashed in the years immediately following the Civil War, were in full force on the eve of the First World War.

World War I triggered a nationwide revolution in agricultural production as demand stimulated mass production and greater efficiency. For North Carolina, this meant an intensification of the region's traditional practice of single-crop production. Cotton and tobacco predominated. When hostilities began, the state suffered from low prices for both commodities, but the effects of the war and its immediate aftermath brought temporary relief in the form of greater demand and higher prices. This was due in large part to sharp increases in the demand for cigarettes, which encouraged war-time farmers to plant more acres of tobacco. Leaf cultivation had special soil and climate requirements, sharply localizing its production to specific areas of Wake County. The "bright" tobacco, which was flue-cured inside log tobacco barns and used mainly for cigarettes, dominated the market and flourished throughout the eastern half of the state and in the north-central counties, including Wake County. Production jumped from approximately 2.5 million pounds cultivated nationwide in 1916 to just shy of 6.5 million pounds by 1920 (US Department of Agriculture 1923: 409, 412). In 1919, North Carolina produced the second largest crop of tobacco in the nation at 280,163,432 pounds (US Department of Agriculture 1923: 407). By 1920, the nation as a whole produced more than 1.5 billion pounds of tobacco (US Department of Agriculture 1923: 465). Tobacco had become so important to the farm economy that the US Department of Agriculture devoted an entire chapter of one of its annual reports to its history and cultivation (US Department of Agriculture 1923: v). Like the rest of the state at the close of World War I, Wake County's principal crops remained cotton and tobacco and this typified the rest of North Carolina, both economically and socially (Zimmerman and Taylor 1922: 5).

2.2 The 1920s - Change and Continuity

With the end of World War I, commodity supplies suddenly outstretched demand. Prices plunged. Nationwide, the farm economy fell into a long depression (Knapp 1930: 3; Fenn, et al. 2003). At this time, the rural population of North Carolina equaled 58.5 percent of the total population while 64.2 percent of the state's land was dedicated to farming. Of all the farmlands, 40.9 percent was improved, and 59 percent was either in woodland or unimproved (US Department of Agriculture 1923: 1009). Of the owner-operated farms in North Carolina in 1920, just over two-thirds (68%) were free of mortgage debt while 16.2 percent were encumbered (US Department of Agriculture 1923: 1004). Significantly, the average value of North Carolina agricultural lands increased substantially between

THE PROGRESSIVE FARMER.

Consolidated, 1904, with The Cotton Plant, Greenville, S. C.

PROGRESSIVE FARMER—VOL. XXI. NO. 5.
THE COTTON PLANT—VOL. XXIII. NO. 5.

RALEIGH, N. C., MARCH 15, 1906.

Weekly—$1 a Year.

TWO MORE THINGS THE PROGRESSIVE FARMER STANDS FOR—MORE LIVE STOCK AND PRETTIER HOMES.

Example at Brown's Summit, Guilford County, N. C., on the Southern Railway, of the Western farmer transplanted. Taking semi-improved land he stocks it with sheep, cattle and hogs; raises wheat, corn and oats in abundance; and builds a model farm house. But we should not wait for outsiders to take the lead in this development of the South. It ought to set us to thinking—that paragraph in a letter published this week from one of the best farmers in The Progressive Farmer's territory:

"I received a compliment a few years ago that I appreciated, and at the same time did not like. Two strangers passed my place and stopped and spoke to me. After a few minutes one asked me if I was not raised in the North. I said no, and asked why he inquired. He said, 'Because our people do not improve their farms as you are doing.' A few farms over the State improved and developed will do more to attract substantial people here than all the agents you can ever send across the Atlantic."

Figure 2.3: Cover of *The Progressive Farmer* magazine in March 1906 (*The Progressive Farmer* 1906).

1910 and 1920, from $15.99 per acre to $42.84 per acre (US Department of Agriculture 1923: 1006). Rising land values had two effects. It improved some farmers' net worth, but it also impacted property taxes and increasingly placed farm ownership beyond reach for many.

In 1920, the total number of Wake County farm units peaked at 6,804, covering a full 77 percent of the total acreage of the county (Zimmerman and Taylor 1922: 5). Farm sizes in the county averaged 59.8 acres, while the average of improved land per farm totaled only 24.8 acres. Of all the farms in the county at the close of World War I, 1,059 were under 20 acres. Operations between 20 and 40 acres totaled 2,347, while farms of 50 to 99 acres equaled 1,731 (Zimmerman and Taylor 1922: 6). Supporting Wake County's small farms was an equally meager collection of farm buildings. While the average value of an individual's farm land and all other improvements totaled $5,050, the value of the buildings alone equaled just $1,042, including dwellings, barns, garages, silos, corn cribs, tobacco barns, and chicken houses (Zimmerman and Taylor 1922: 6). Large-scale operations, with extensive, specialized buildings, were the exception in Wake County at the beginning of the twentieth century (Zimmerman and Taylor 1922: 5).

In 1920, the number of tenant farms in the county exceeded owner-occupied farms by 56 percent. The tenant farms averaged 42.6 acres while owners' farms averaged 78.6 acres. Among the tenants in 1920, 1,304 worked the land as sharecroppers while 2,479 paid some combination of rent and shares (Zimmerman and Taylor 1922: 7). Illiteracy rates, especially among the tenant farmers and sharecroppers, ran extremely high (Zimmerman and Taylor 1922: 12).

Statewide, land ownership in 1920 was divided along racial lines. White owners averaged 85.7 acres per farm. At the same time, Black-owned farms state-wide averaged half that amount, or about 45 acres (US Department of Agriculture 1923: 1003). These numbers reflected a decade-long shift between 1910 and 1920. The percentage of all farms owned by White farmers dropped from 74 percent in 1910 to 71.6 percent in 1920 while African American and other non-white planters increased from 25.9 percent in 1910 to 28.3 percent in 1920 (US Department of Agriculture 1923: 1003). For tenant farmers, the racial split was the reverse. Blacks accounted for 71 percent of the tenant farmers across the state in 1920, while Whites made up 33 percent (Hill et al 2006).

Rural Organization

Between 1920 and 1927, investigators at the North Carolina State College of Agriculture and Engineering's Agricultural Experiment Station studied Wake County's rural population in detail as part of a broader effort to understand and improve rural living conditions (Zimmerman and Taylor 1922; Anderson 1928, 1929). The studies not only formed a snapshot of farm life immediately following World War I, but also provided perfect examples of the ongoing infiltration of both professional science and government into farming policy and practice. They also shed light on how North Carolinians, in general, and Wake County's residents, in particular, negotiated these trends in different ways. Some welcomed greater help from the state and federal governments and were quick to adapt its recommendations. Others remained steadfastly committed to traditional ways. Adaptability in the face of change proved difficult for many, and this created the great paradox of the period: the larger forces of modernity driving the second great agricultural transformation were neither monolithic nor universal (Barron 1997: 10). Cultural stasis played as much a part in rural life during the 1920s as innovation.

The 1922 study "Rural Organization: A Study of Primary Groups in Wake County, N.C." found Wake County's rural society organized around two distinct spheres of influence (Zimmerman and Taylor 1922). The Primary Group centered on schools, churches, lodges, and neighborhoods. The Secondary Group comprised impersonal government agencies and recreational and trade institutions. The study identified a decrease in the reliance on the Primary Group, made possible by changes in farming technology, improved transportation, and better communication. But the study detected a growing trend back toward the Primary Group institutions, with these institutions federated into larger organizations to meet the needs of a more interconnected world. Schools served as the geographic focus for neighborhood identity. But the study also found distinct divides among people within these geographic communities, that is, in the towns, crossroads settlements, and proximate neighborhoods

where rural people gathered and conducted business. Where face-to-face community contact was presumed, the researchers found clear division lines between class, economic status, education, and race (Zimmerman and Taylor 1922: 30, 32). There was much to unite country folk, but there was more to separate them.

The study appeared to provide a scientific rationale for community planners to relocate key institutions to the vicinity of the schools. Efficiencies, the study argued, would naturally follow. But the study also reinforced a pervasive narrative of the virtues of rural schools and the primacy of local control, which the authors viewed as "sacred" (Zimmerman and Taylor 1022: 40). The study cited significant locally driven institutions to emerge during the early 1920s, such as farm loan associations, credit unions, and cooperative marketing groups led by farmers. The success of these local groups depended, in turn, on their federating into larger county and state-wide associations. This provided a preferred alternative to what the researchers concluded were the failed efforts of the Secondary Group of social institutions, such as impersonal large banks, commodities dealers, and government (Zimmerman and Taylor 1922: 39). In its conclusions, the study's authors went further to link a robust rural society to moral stability:

> The impersonal [secondary] groups have failed to socialize people. The impersonal economic groups have made economic slaves of the great mass of people. The impersonal governmental groups, have led to political pie and bad government. The impersonal social groups, such as commercialized recreation, have led to a breakdown of our social relationships, and the promulgation of ideals in the secondary groups which are false to those developed in the primary groups. Would a money-made time merchant, a grafting lawyer, a crooked politician, an over-sexualized picture show have developed if the trading, governmental, and social functions had been confined to properly organized primary groups (Zimmerman and Taylor 1922: 39-40)?

The results of this survey helped steer a decade of state farm policy toward fostering local, federated farm institutions in Wake County and elsewhere across North Carolina. Because of its emphasis on supporting farmers through institutions of trade and business, the material world of rural farm life immediately following World War I was defined as much by its homegrown institutions as by its farmsteads.

Farm Life

Another set of studies carried out by the Agricultural Experiment Station between 1926 and 1927 looked more closely at the conditions of White farmers and their families. It found a remarkably homogeneous population. Over three-quarters of those surveyed were native to the county, while nearly all the rest were native to North Carolina (Anderson 1928, 1929). Wake County's rural folk had been farming for nearly half a century, while almost half had started out on some form of tenant farm. This included cases where sons married, started families, and lived and worked their father's farms while occupying tenant houses on their father's land (Lally 1994: 138-139). While most farms remained in the same family, they rarely transferred through inheritance. Most (68 percent) were purchased directly by sons from their fathers or fathers-in-law. Generational ownership and a lack of occupational mobility among the sample suggested an extremely stable and experienced population. This did not, however, necessarily translate into a sense of familial piety or nostalgia for farmsteads (Anderson 1928: 9). To the contrary, few farmers appear to have preserved the homes of their forefathers. Instead, with each acquisition, descendants seemed ready to recast the homestead through alteration or replacement to reflect their own newfound ownership.

Most owner-farmers were in their prime working years in the 1920s, with an average age of 50.3 years (Anderson 1928: 5). Farm sizes ranged from 30 to 40 acres. Traditional field patterns consisting of small single-crop plots, little pastureland, and timber stands characterized most Wake County farms into the second decade of the twentieth century. By 1920, an estimated 50 percent of Wake County was covered in second-growth timber (Zimmerman and Taylor 1922: 5). The arable land was planted with 49,122 acres of corn, 38,744 acres of cotton, 20,126 acres of tobacco, 18,533 acres of hay and forage, and 4,792 acres of wheat (Zimmerman and Taylor 1922: 6). Sixty-four percent of the farmer's total annual cash income came from the sale of just three crops, with cotton and tobacco making up

97.6 percent. Corn served mainly to feed livestock. The remainder of the income derived from animal sales, labor for hire, and other investments, principally farm rents (Anderson 1928: 11, 13-14). Such a heavy reliance on only two crops meant that most farms in the 1920s resembled each other in both field patterns and outbuildings, with tobacco barns constituting the single most common cultural feature (Plate 2.1). Age, noted the study author, "partially explains the inability to break from a rigid one-crop system of agriculture, since conservatism increases with age, and the owners control the farm practices of the tenants as well as their own" (Anderson 1929: 13). The study also demonstrated ongoing reluctance to diversify crops as a hedge against losses. "Summing up the farm practices as indicated by the crop and animal production, the value of housing and equipment, and the purchases of labor, feed, and fertilizer," wrote the researchers, "it is evidence that Wake County farmers have one of the most uneconomical, unbusinesslike, systems of agriculture possible" (Zimmerman and Taylor 1922: 6).

Farm owners' families rarely relied on fellow family members to work the fields; hired labor filled that role. Instead, the wives and children of Wake County's White male farm owners kept vegetable gardens, potato patches, cows, and chickens to supply the family with food. In contrast, 80 percent of tenant wives, 81 percent of tenant sons, and 96 percent of daughters worked in the fields (Anderson 1929: 97). Education levels remained low. Farmers averaged a sixth-grade education while housewives averaged seven grades (Lally 1994: 139-140).

While owners were generally older in age, tenants were typically younger with half reporting ages of 35 years or less (Anderson 1929: 12). Over two-thirds of the tenants were sharecroppers, keeping half of their production. One quarter were share tenants who kept three quarters of their production but furnished most of the labor, seed, fertilizer, and animals themselves. A small number rented their land for cash (Lally 1994: 140). Farm tenancy rates increased between 1920 and 1925 from 56 to 59 percent of the total farming population. During the same time, some 400 small landholdings of under 100 acres changed hands. Many were converted into new subdivisions (Lally 1994: 137). During this time some 12,000 acres of arable land was bulldozed over or left fallow.

While efforts to forge alliances through lodges, granges, and cooperatives had been underway since the late nineteenth century and were promoted heavily by the Agricultural Experiment Station in the early 1920s, after ten years of encouragement, local support for such institutions remained low in Wake County (Zipf 2006). By 1929, surveyors reported that less than one percent of all White farm owners reported membership in a cooperative farm organization, and only 104 of the surveyed households (35%) belonged to some kind of fraternal lodge (Anderson 1929: 98).

Farmsteads

Most farmers plowed their total cash earnings back into farm operations (36 percent) and investments, such as rental land (19.7 percent). Other home and household expenditures averaged 16.5 percent of income. The largest capital outlay, however, went into new homes erected by 5.1 percent of the survey sample (Plate 2.2). An additional 7.1 percent of families constructed additions to homes, while 27.9 percent improved their dwellings with new paint, screening, and general repairs. In other words, over 40 percent of the sampled farmers made significant changes to their homes during the two years studied (Anderson 1928: 31). The remaining share of annual income went toward general living requirements, including 5.6 percent toward purchase and maintenance of an automobile (Anderson 1928: 20). Seventy-nine percent of farmers owned at least one automobile by the time the study was conducted, making it the single most important consumer purchase for farmers and a necessity in rural life (Anderson 1928: 49). Garages became the most common type of new building on the farm landscape in the 1920s (Plate 2.3).

Housing in Wake County in the 1920s was adequate but not generous. The majority of homes belonging to owner-farmers (68 percent) were of one-story construction (Plate 2.4). The remainder (32 percent) measured two stories tall (Plate 2.5). The smallest homes, averaging 4.6 rooms, were concentrated in Leesville Township. The largest homes clustered around Neuse River Township in north central Wake and averaged 7.1 rooms. Dwellings for tenant families were typically smaller (Plate 2.6). Eighty-eight

Plate 2.1: Tobacco barns and packhouses, like these on the Montezuma Z. Pearce Farm (WA1799) in Rolesville, were typical features of the Wake County agricultural landscape in the 1920s (Heckendorf 2022).

Plate 2.2: C.P. Bryan built this Craftsman bungalow on his farm (WA0335) near Garner in 1926 after the original farmhouse burned (Heckendorf 2022).

Plate 2.3: Widespread automobile ownership in the 1920s meant that garages like this one at the Ogburn-Honeycutt Farm (WA1142) in Fuquay-Varina became the most common type of new building constructed on farms (Heckendorf 2021).

Plate 2.4: The single-story farmhouse at the Ogburn-Honeycutt Farm (WA1142) was typical of farmhouses in the 1920s (Heckendorf 2021).

Plate 2.5: Substantial, two-story farmhouses like the one at the Alious and Daisey Mills Farm and Store (WA1004) in Green Level were less common (Heckendorf 2021).

Plate 2.6: Typical tenant house at the J.R. Fowler Farm (WA1840) in the Fowler's Crossroads Community southeast of Rolesville (Heckendorf 2022).

percent were one story and just 12 percent were two stories. They averaged 4.4 rooms per residence, indicating that most landowners invested in the most common type of dwelling favored in the county (Anderson 1929: 89-90). Some 65 percent of these homes used an open fireplace for their main source of heat. An additional 33 percent relied on stoves, while the remainder utilized both (Anderson 1928: 31). Nearly every farm family (99.4%) obtained their fuel from wood produced on the farm (Anderson 1928: 34). For lighting, nearly two-thirds (65.9%) burned kerosene lamps. Only 15.8 percent were connected to electricity, with 5.8 percent of that number linked to an outside line and 10 percent connected to an on-site generator (Anderson 1928: 32). Refrigeration was non-existent. In terms of the rural landscape in the 1920s, access to electric power lines remained beyond reach for most, and woodlands comprised an important part of every farm.

Wood remained the building material of choice on Wake County farms. Widely available dimensional lumber and standard light frame construction characterized most new homes and outbuildings during the 1920s. Mass-produced building components, such as windows, doors, fireplace surrounds, staircases, porch columns, and decorative trim, provided a wide selection of styles and easy construction. Ready-cut homes sold by mail-order suppliers, such as Sears Roebuck and Company, Montgomery Ward, Gordon Van-Tine, Aladdin, and Radford, offered fashionable alternatives for a small number of new farmhouses and tenant cottages (Figure 2.4; Plate 2.7) (Reiff 2000). Terra cotta hollow tile, poured concrete, and concrete block found initial favor on farms in the early twentieth century (Plates 2.8-2.9). By the 1920s, these materials were popular for their ease of construction, versatility, and durability. For the cost of a mail-order press and raw materials, a farmer could manufacture his own concrete blocks in a wide range of attractive patterns (Simpson 1989: 108-118). Suitable applications ranged from concrete foundations and building piers to whole farmhouses and outbuildings (Figure 2.5; Plates 2.10-2.12) (Wormeley 1905). Where sanitation was important to production, such as in dairy operations, concrete floors and walls were preferable to wood for their ease of cleaning. Poured concrete barn floors, fenceposts, boundary markers, water troughs, and silos were just some of the many new applications for concrete use on farms. (Plate 2.13).

The introduction of centralized refrigerated packing houses and cold storage plants offered farmers an opportunity to experiment with more temperature-sensitive produce and poultry. However, by 1922, North and South Carolina ranked at the bottom nationally in terms of available cubic feet of central storage plants, behind only Wyoming, North Dakota, and New Hampshire/Vermont, which all enjoyed naturally cooler climes (US Department of Agriculture 1923: 1019). A lack of affordable refrigeration was both the result of the region's preference for cotton and tobacco and a hinderance to diversification.

The state of rural water supply and sanitary sewage disposal in the 1920s remained firmly entrenched in traditional patterns. Only nine percent of households were connected to indoor running water, achieved principally through the use of air pressure pumps to force piped water from a nearby well (Anderson 1929: 92). Another nine percent of Wake County households used hand pumps located inside the kitchen or on a rear porch. The remaining households (83%) continued to carry their water an average of 40 feet from a nearby well (Anderson 1929: 92). Sophisticated water supply systems were confined to the few dairy farms in the county, where sanitation rules required abundant fresh water (Anderson 1929: 92).

The most common method for waste-water disposal was to throw it outside. Outhouses appeared to be the second most common means of sanitary sewage management (Plate 2.14). Twelve percent of the farmhouses contained both indoor baths and toilets. An additional five percent had indoor toilets only. But only 1.8 percent of homes were actually connected to a septic tank (Anderson 1928: 32). Thus, wells and outhouses remained features of the Wake County farmstead in the 1920s, even when the privy house proved the exception rather than the rule. Vegetable gardens, small orchards, and chicken coops rounded out the typical features to be found on most family farms (Anderson 1928: 35-36).

Figure 2.4: Advertisement for Gordon-Van Tine in *The Country Gentleman* from 1922 (*The Country Gentleman* 87 (1): 31).

Plate 2.7: Craftsman Bungalow at the Henry A. Croom Farm (WA1988) in Knightdale (Heckendorf 2021).

Plate 2.8: Terra cotta tile tobacco barns at the Dwight Rowland Farm (WA1119) near Fuquay-Varina
(Heckendorf 2022).

Plate 2.9: Terra cotta tile hen house at the Allie Lawrence Farm (WA1097) in New Hill
(Heckendorf 2022).

Figure 2.5: Security Portland Cement advertisement from *The News & Observer* (*The News & Observer* 14 April 1923: 27).

Plate 2.10: Concrete block gambrel-roofed barn at the Allie Lawrence Farm (WA1097) in New Hill
(Heckendorf 2022).

Plate 2.11: Concrete block hen house within the Bryan Farms Historic District (WA7351) near Garner
(Heckendorf 2022).

Plate 2.12: Concrete block garage at the Thomas E. Nichols Farm (WA1689) northwest of Knightdale
(Heckendorf 2021).

Plate 2.13: Poured concrete had a variety of uses on farms, including as boundary markers, like the one on the Thomas E. Nichols Farm (WA1689) (Heckendorf 2021).

Plate 2.14: This privy at the L.C. Yeargan Farm (WA0352) in Garner remained in use as an outdoor convenience even after bathrooms were installed in the house (Heckendorf 2021).

Cooperatives and Government Assistance

Since the 1870s, farmers had been pooling their market power within informal local cooperatives, unincorporated organizations, and more formal incorporated groups (Knapp 1930: 17). Responding to the post-war collapse of the agricultural economy, in December 1921, Congress's Joint Commission of Agricultural Inquiry offered 13 recommendations for assisting farmers across the United States. The Capper-Volstead Act (February 22, 1922) formally permitted agricultural cooperatives to engage in collective marketing, grading, sorting, processing, and distributing of their products while exempting them from anti-trust assaults (Knapp 1930: 5). Following suit, North Carolina immediately enacted the North Carolina Co-operative Marketing Act (North Carolina General Assembly 1921: 342). The Intermediate Credit Act (March 4, 1923) allowed for the creation of new banking institutions equipped to supply more short-term credit to farmers (Knapp 1930: 5). These and other federal and state actions exemplified the trend toward centralization and government oversight of the farming sector.

Continued overproduction of such commodities as grain and cotton throughout the 1920s, outstripped domestic demand and forced large quantities of unwanted product into the world export market. Competing in a worldwide glut, both export and domestic prices fell. Congress worked on a number of schemes to support domestic prices, including one to buy up surplus product and then sell it at strategic times on the export market. The key objection to such a plan was that it would artificially and temporarily raise domestic prices and prompt producers to plant even more, thus creating an even greater surplus and forcing prices down once again (Knapp 1930: 7-8). The legislation to emerge from all the post-war discussions culminated in the Agricultural Marketing Act (June 15, 1929). It created the Federal Farm Board and provided for a 500-million-dollar revolving fund to make loans in support of local Advisory Commodity Committees, Stabilization Corporations, and Clearing House Corporations (Knapp 1930: 10). "We have at last made a constructive start at agricultural relief" wrote President Herbert Hoover at the signing ceremony (Thompson 1940: 3).

Opposition from both independent producers and marketers began almost immediately, especially over grain and cotton. Calling the system socialistic, they criticized the unfair use of government funds against competing investments from private capital (Knapp 1930: 13). Many in leadership, wary of outside government intervention, chose to trust in the forces of supply and demand to create stability in markets. As late as 1929, Dr. Daniel E. Millet, at a convention of the United States Chamber of Commerce, cautioned against farm cooperatives in favor of economic survival of the fittest. "We need not more combination," he said, "including farmers, but less interference with the economic law of supply and demand functioning through price because that is the only sure, inevitable, sound, scientific method of eliminating the marginal producers" (Knapp 1930:3). Those marginal producers, particularly of cotton, constituted the majority of small family farmers working in communities like Wake County.

Despite everything, overproduction of cotton remained a menace. Across the South, boards and cooperatives continued to work to reduce the number of acres in production. The cotton producers' representative on the Federal Farm Board put it this way:

> The Federal Farm Board cannot fix the world price of cotton. It cannot protect farms from the consequences of over-planting; neither can the cotton cooperative nor the new American Cooperative Association. The Board wants to help farmers to help themselves. If growers will reduce their cotton acreage, they will thereby help themselves to better incomes (Kapp 1930: 16).

Diversification

The region's persistent dependency on cotton and tobacco to the exclusion of all else hampered professional efforts to improve stability (LeCount 2006). A decade earlier, the Department of Agriculture had warned: "too exclusive devotion to a single crop anywhere is unwise for normal times and spells disaster in times of disturbance…. It prevents full utilization of land and labor, fails to fill the gaps in the work schedules, and furnishes no reserves" (US Department of Agriculture 1915: 18). For example, it described the "lamentable neglect" in the number of livestock on North Carolina

farms (US Department of Agriculture 1915: 18). Averages for milk cows totaled less than two per farm. Hogs totaled less than five, while poultry averaged less than 20 birds per rural household. Across the region, 12 southern states imported $175 million in wheat, corn and oats, and $48 million in basic foodstuffs such as meat, dairy products, and poultry (US Department of Agriculture 1915: 18). In other words, North Carolina farmers were chasing cash crops at the expense of their own sustenance, which they had to import.

To counteract this condition, advocates of progressive farm practices stressed ways to diversify production. Prior to 1918, the US Department of Agriculture focused its attention on clean water, drainage, state highways, cooperative financing, and public markets in support of the farmer. It advocated for the application of commercial fertilizers as a new way for farmers to squeeze out more and more from their existing meager holdings (US Department of Agriculture 1923: 465). Applicable lessons from overseas practices also captured its attention, as did promising new crops (US Department of Agriculture 1915: 5). By 1922, the department's annual yearbook emphasized timber management, hog production, dairying, and diversified grains, including oats, barley, rye, rice, grain, sorghums, seed flax, and buckwheat as necessary additions to the farmer's annual harvest.

Because timber constituted a sizable part of most farms, advocates of diversification began to emphasize the value of sound timber management. This included taking inventory of the woodlands, developing thinning and harvesting plans, and protecting the stands from insects and fire. The wood's value for fuel remained high in a region reliant on fireplaces, stoves, and flue-cured tobacco raising, but it also furnished potash for fertilizing and building material for traditional tobacco barn construction. New markets were also emerging for utility poles and fence posts to contain the growing number of livestock herds. Lines of telegraph, telephone, and electric poles began to run across the landscape, while wire fence lines increasingly separated pasturelands from crop fields (Figures 2.6-2.8; Plate 2.15).

Agriculture experts tried to encourage the raising and canning of vegetables and fruits as another route toward diversification, as well as to facilitate full employment for the entire household. Demonstration clubs across the state encouraged homemakers to increase supplies of canned goods for household consumption or sale. Between 1929 and 1930, North Carolina farms increased the canned goods supplied by a quarter of a million units. One Wake County farmer reported that his family had preserved 8,000 containers for the use of his household throughout the year and to sell for ready cash (Jeter 1931: 8). Fenced vegetable patches, small orchards, and curb-side market stands were just a few of the tangible links to this effort on the landscape (Plate 2.16).

Truck farming, made possible by improvements in road networks, allowed farmers to diversify into fresh vegetables for urban markets. Some developed special delivery routes to serve customers in specific neighborhoods and businesses. Others sold at the Raleigh City Market (Lally 1997: 140, 142, 150). Later, Durham became a popular market for Wake County farmers (Lally 1997: 145).

Fertilizer

In 1923, the Agricultural Experiment Station launched studies into the effects of potash on peanut yields, as well as on controlling the cotton boll weevil, which was destroying crops on its slow movement eastward from Texas (North Carolina Department of Agriculture 1923: 38-39). In 1924, Wake County farmers, through cooperative purchasing, secured 20 carloads of lime and five mechanical spreaders to increase yields by chemical means (*Chatham Record* 10 January 1924: 5). By 1929, as noted above, Wake County reported that owners spent almost half of their available funds for farm expenditures on fertilizer (Figure 2.9) (Anderson 1929: 41-42).

Dairy

At the end of the 1920s, most Wake County farmers maintained only a small grouping of livestock. Owners averaged 5.5 hogs and 3.4 cows per farm, while tenants, on average, kept only 2.5 hogs and 1.5 cows (Anderson 1929: 60). By 1929, increased livestock production and grazing lands were seen as an easy way to help advance diversification. At an assembly of 1,000 Wake County Farmers, Dr. Clarence Poe of *the Progressive Farmer* remarked: "A one-armed farmer is handicapped. Just so is the farmer who does not include livestock in his plans. By using that other arm almost twice as much could be accomplished" (*Beaufort News* 11 July 1929: 1).

Figure 2.6: A 1925 electrification advertisement in *The Daily Tar Heel* (*The Daily Tar Heel* 5 October 1925: 3).

Figure 2.7: A 1927 photograph of a woodlot thinning demonstration in Wake Forest (Jeter 1927).

Figure 2.8: Photograph of red oak telephone poles and wire fence in Cary (Graeber 1930).

Plate 2.15: Wire fencing and power lines cut through and divide the landscape at the intersection of Fowler and Edgemont roads near Riley Hill in Wake County (Heckendorf 2022).

Plate 2.16: Pecan groves provided an additional income source to Wake County farmers such as L.C. Yeargan (WA0352) (Heckendorf 2021).

NITROGEN top-dressing increased the yield of ... cotton 516 lbs. ... acre for Mr. R. F. ... Statt, S. C. ... netted him an additional profit of $30 ... acre over and ... the cost of the ... Sulphate of Ammonia top-dressing.

WITHOUT SULPHATE OF AMMONIA

WITH SULPHATE OF AMMONIA

1397 LBS

1331 LBS

SEED COTTON PER ACRE

What Farmer is RICH ENOUGH to *toss away* such PROFIT?

$294.00 per acre more net profit for apples. $27.50 more net profit for wheat. $17.25 more for oats, $349.00 more for oranges, $36.00 more for corn, $182.00 more for potatoes.

These and hundreds of other reports come from farmers who have increased the yield of their money-crops by top-dressing with Sulphate of Ammonia. What farmer can afford to let such profit get by?

Business-like farmers follow a tested fertilizer program to assure bumper yields. First, they apply a complete fertilizer, high in nitrogen, at planting time. Then, when the crops begin to feed heavily, *they top-dress with Sulphate of Ammonia.*

Arcadian Sulphate of Ammonia top-dressing supplies an extra amount of nitrogen when the crops need it most. Arcadian is rich in nitrogen (20.56 per cent guaranteed.) All soluble, all quickly usable. It's fine and dry—easy to put out—and one application lasts through any ordinary growing season.

To be sure of your supply of Arcadian Sulphate of Ammonia, place your order with your fertilizer dealer when you buy your mixed goods. Farmers everywhere are invited to write The Barrett Company for information on nitrogen fertilizer problems. Address our nearest office.

The Barrett Company

40 Rector Street, New York, N. Y.

Atlanta, Ga. Norfolk, Va. San Francisco, Calif.
Memphis, Tenn. Cleveland, Ohio Toronto, Ont., Canada

ARCADIAN

Reg U S Pat Off

Sulphate of Ammonia

NITROGEN *is the* GROWTH ELEMENT As essential as sunshine to growing crops. Be sure your crops get plenty of nitrogen both in the complete fertilizer you use at planting time and as top-dressing during the growing season.

Figure 2.9: Advertisement for Arcadian Sulphate of Ammonia in *The Franklin Times* (*The Franklin Times* 11 April 1930: 4).

Dairying advanced dramatically during the first three decades of the twentieth century. Fresh milk, cream, butter, and ice cream grew in market share, leading a few producers to specialize in larger dairy herds. The invention of the milking machine served as a key catalyst. Developed by a Swiss engineer named Carl Gustaf de Laval (1845-1913), and placed into widespread production beginning in 1918, the first successful machine revolutionized milking operations (World Book Encyclopedia 1968: 466). Demand for the machine soared, "spreading as rapidly as rural electrification would permit, and with it came water systems and other equipment dependent on electric motors" (Schmidt 1973: 239). Among the gadgets adopted by dairy farmers were devices for processing and distributing feed, bedding, and manure, new equipment for sterilizing and filling bottles, and advanced refrigeration for storing and shipping the finished product (Schmidt 1973: 239). It also demanded large quantities of water, leading to large-scale water systems.

New discoveries regarding bovine diseases, milk handling, and public health resulted in a host of state standards designed to prevent the transference of ailments to both the dairy herds and consumers. For example, milking parlors and milk houses had to be completely separated from the herds in the barn. This change forced many producers to build specialized milking parlors and milk houses for chilling, storing, bottling, and shipping their product (Plate 2.17). The regulations also emphasized the sanitizing benefits of ample windows, sunlight, and ventilation inside barns. Dirt floors were covered with concrete to help minimize the transference of soil-borne disease and/or bacteria. Overall, concern for ventilation, light, screening, manure disposal, and general cleanliness dictated new construction or alterations to older farm buildings to satisfy new sanitation requirements. As a result, many buildings were modified using concrete block walls and industrial metal sash windows (Plate 2.18).

This transformed the structure, configuration, and appearance of those Wake County farmsteads dedicated to large-scale production (Middlesworth 2006). As one historian noted:

> More sanitary barns and apparatus, up-to-date machinery for handling of milk, the motor truck for quick transportation, more scientific feeding, with the use of balanced rations, particularly the feeding of alfalfa and silage, are developments of large import. The eradication of tuberculosis with the aid of the tuberculin test administered by the State Department of Agriculture is progressing satisfactorily (Woodward 1930: 702).

Federal efforts to detect and eliminate tuberculosis also improved dairy healthfulness and production. Pine State Creamery Company, founded in 1919 to acquire and pasteurize milk from local producers, created a large wholesale market for small farmers (Lally 1997: 140). Milk production soared from 221,000 gallons to 966,000 gallons in the 1920s. About 40 large dairy producers dominated the county in the 1920s and 1930s. These included the Nipper Dairy Farm (WA1323) and Durham Dairy (Lally 1997: 140). Regardless of these few successes, the average number of cows kept per farm throughout this period totaled just two (US Department of Agriculture 1923: 317).

Silage

Dairying required crop changes to produce the maximum yield of feed. During the 1920s, North Carolina dairy farmers planted more pastures and began to use grass and legume silage. The wet feed produced higher quantities of milk (Fletcher 1955: 170). Between 1910 and 1925, the annual yield from a single cow increased from 4,472 pounds to 5,599 pounds, largely as a result of improved feeding and other efficiencies (Woodward 1930: 702). Barns designed to store large quantities of hay began to appear on certain properties (Plate 2.19). At the same time, dairy farmers learned to use silos to store ensilage, which greatly improved milk production by providing feed storage during the winter months (Figures 2.10 and 2.11) (Schmidt 1973: 239). Concrete and terra cotta tile silos offered definite advantages over older wood stave structures. They were more stable and durable, and they could be constructed to greater heights. Concrete silos were also easier to keep air-tight, to reduce spoilage (Noble 1980: 141-142; 146) (Plate 2.20).

Trench silos provided Wake County farmers with a less expensive alternative for storing green silage. Early examples, dug directly into the ground, appeared in Wake County in 1920 (Figure 2.12). By 1932, the use of these simple excavated ditches found wide use on farms with smaller dairy herds.

Plate 2.17: The milk house at the Dr. L.J. Faulhaber Farm (WA4811) south of Garner is an example of a specialized outbuilding used by dairy farmers to chill, store, bottle, and ship their products
(Heckendorf 2021).

Plate 2.18: The gambrel roof barn at the Harvey Ragan House (WA1070) west of Apex has concrete block walls and industrial metal sash windows which met new standards for sanitation (Heckendorf 2022).

Plate 2.19: The large, gambrel roof barn at the Mills Farm and Store (WA1004) in Green Level has livestock stalls below with plentiful hay storage space above (Heckendorf 2021).

Figure 2.10: Silo and barns at the Sion Williams Farm in Raleigh in 1933 (North Carolina State University 1933).

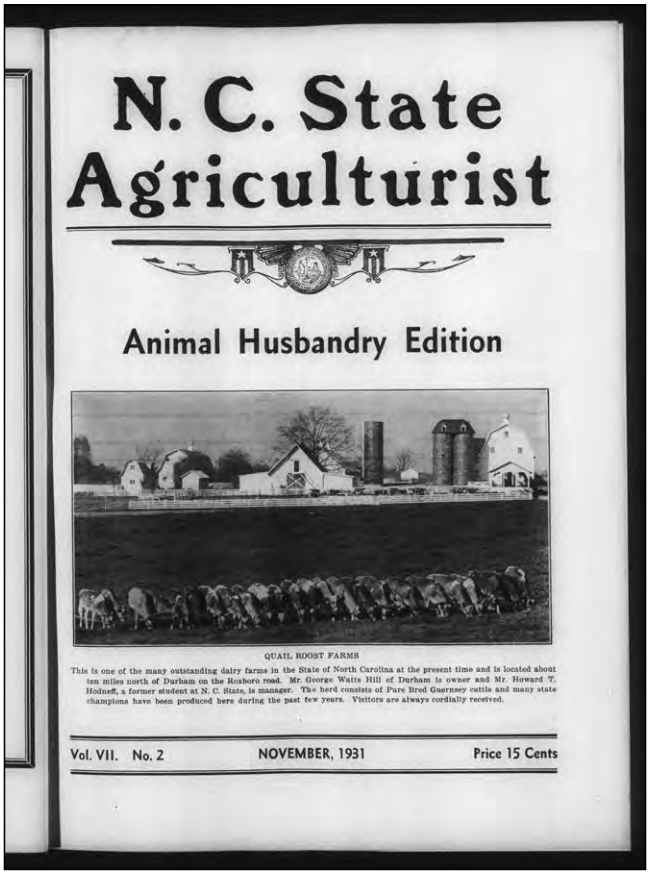

Figure 2.11: Cover of the *N.C. State Agriculturalist* from November 1931 that demonstrates the use of silos in dairy farming (*N.C. State Agriculturalist* 1931).

Plate 2.20: This tall, durable concrete stave silo constructed of interlocking masonry units reinforced by metal bands is located on the Harvey Ragan House (WA1070) property (Heckendorf 2022).

Figure 2.12: Circa 1920 photograph of a trench silo being filled (North Carolina State University 1920).

Farmers J. P. Wyatt on Route 1 in Cary, and A. P. Jones and Earl Shaw, both located on Route 4 in Raleigh, experimented with trench silos in 1932. Averaging five feet deep, eight feet wide at the base, 10 feet wide at the top, and 60 feet long, the structures could hold between 35 and 40 tons of silage material. Mule power and a hand spade served to finish the structures with the help of swapped labor with neighbors. Shaw's trench silo took two days to prepare and fill, which was then capped by straw and earth to form the seal (*Chatham Record* 22 September 1932: 2). Such structures left little mark on the landscape, unless protected by a temporary roof structure (*The News & Observer* 29 May 1933b: 2). However, they were not suited to all soil conditions. As explained by *The News & Observer* in Raleigh:

> The trench silo should be located near the barn where there is good drainage and a clay subsoil free from rock strata. Loose soils or wet soils, with a high water table are not adapted to this type of silo. A hillside location is preferable with the trench being dug back into the hill making possible natural drainage from the bottom of the silo. Where a hillside is not available the trench silo can be dug on level ground. It is desirable, however, to arrange for drainage from one end of the trench where the lay of the land will permit (*The News & Observer* 29 May 1933b: 2).

Despite the many efforts at diversification, Wake County farmers continued much as before, remaining dependent on the cash crops of cotton and tobacco. The arrival of the boll weevil in Wake County in in 1927 finally forced the issue. Local farmers switched to tobacco or other produce. For those who moved into truck farming, new crops included sweet potatoes, peanuts, soybeans, green beans, watermelons, apples, cherries, peaches, pears, grapes, pecans. A. E. Glover of Wendell praised peanuts as a cash crop as profitable as cotton and the peanut plant ideal for livestock feed (*Zebulon Record* 17 April 1942: 1). The start of the Great Depression just a few years later produced new efforts to stabilize and improve the family farm.

2.3 The New Deal and War Years, 1933 – 1945

Expanded Federal Programs

New Deal programs during the administration of Franklin Delano Roosevelt expanded existing federal programs providing aid to farmers. In May 1933, the federal government established the Farm Credit Administration along with the Federal Land Bank. Through the local National Farm Loan Associations, it helped farmers refinance mortgage debt at lower rates, thus stabilizing the private banking system, reducing payment burdens, and relieving time constraints on repayments (*Zebulon Record* 15 May 1936b: 3). By 1936, for example, the Raleigh Production Credit Association had borrowed $266,459 from the Federal government in support of local farm credit (*Zebulon Record* 24 January 1936a: 7).

New or expanded crop reduction programs were designed to encourage lower production, thereby prompting higher prices. For example, such programs reduced cotton production in the county by half from 48,000 acres to just under 20,000 acres. By 1940, the amount slipped to 10,850 acres (Lally 1994: 142-143). Efforts to stabilize tobacco prices encouraged farmers to plant more. By 1940, 32,318 acres were planted in tobacco. Thus, earlier efforts to steer farmers away from cotton and into tobacco continued into the New Deal era with a corresponding effect on the nature of the built environment. The number of tobacco barns increased, while cotton processing facilities decreased. Sale advertisements in the local newspapers, such as that for the R. A. Baucom Farm in St. Mary's Township, captured the nature of farms in the county (Figure 2.13). With 60 acres of cleared land, a five-room house, two, two-room tenant houses, two tobacco barns, a packing house, and other outbuildings, the Baucom place appeared firmly focused on tobacco production.

The impact of federal programs encouraged new investment in North Carolina farms. "Already the sound of saw and hammer has been heard in every county," noted one newspaper, "and here and there along country roads well screened white houses and well-arranged barns are beginning to show their faces. Like stones that start a ripple these patterns in better housing constitute the beginning of an ever-widening interest in better farm homes and better farm living" (Thompson 1940: 3). Planners at the Agricultural Extension Service published a guide on proper farmstead organization in which they advocated for many of the same ideals advanced in suburban housing circles (Figure 2.14). It encouraged new farmhouse

PARCEL 5—R. A. Baucom Farm, St. Mary's Township, Wake County, 6 miles N. W. Clayton, N. C., containing 112 acres, 60 acres cleared, 52 woods; 1 5-room dwelling; 2 2-room tenant houses; 2 tobacco barns and pack house and outhouses.

Figure 2.13: Sales advertisement for the R. A. Baucom Farm in St. Mary's Township in *The News & Observer* from 1933
(*The News & Observer* 30 April 1933a: 25).

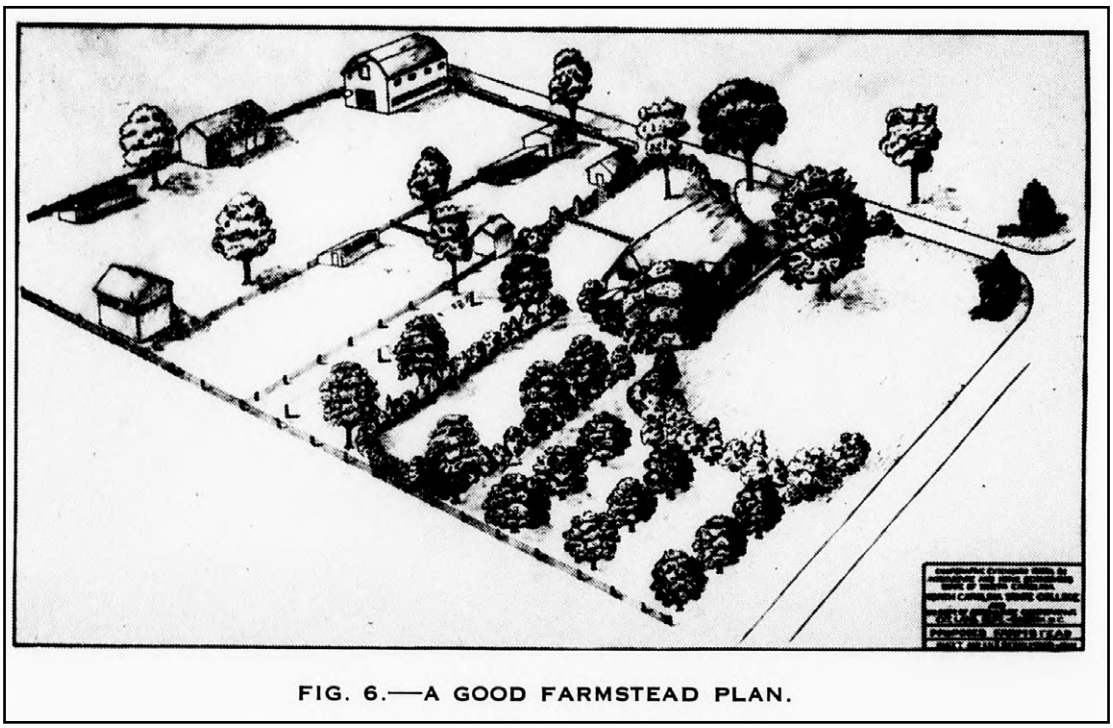

FIG. 6.—A GOOD FARMSTEAD PLAN.

Figure 2.14: Example of "A Good Farmstead Plan" from the Extension Circular written by John A. Harris
(Harris 1941: 7).

construction at a distance from the road, preferably sited on a rise. For the farm outbuildings, the guide favored a courtyard plan with the barn and outbuildings framing an open workspace (Harris 1941: 10) (Plates 2.21 and 2.22). "The courtyard," the guide recommended, "should be a reasonable distance from the house, but should be near enough to appear as part of the general plan. It is usually desirable to locate this courtyard in such a manner that the prevailing winds will carry the barnyard odors away from the house" (Harris 1941: 10). Other components of the planned farmstead included a public front lawn, a private lawn or "outdoor living room, a service area, and sometimes a vegetable garden, poultry yard, and other units, depending on the needs of the individual" (Harris 1941: 10-11). Consistent with the times, the emphasis was on open space, natural contours, and boundary plantings in place of fences. Terracing, if required, was pushed to the front or back of the main lawn to avoid disrupting the open vista (Harris 1941: 11-12). This was in contrast to the nineteenth-century preference for enclosed yards and fencing. For driveways and walks, the guidance encouraged straight routes or ones with subtle curves to add interest. The results encouraged a grid-like organization to farm layouts at odds with more organically arranged farm complexes.

Soil Management

With the onset of the Great Depression, the federal government introduced programs to promote better soil conservation and fertility. This was achieved mainly through allotments and penalties for over-planting. Crop rotation played a major role in these programs. It helped take certain crops out of production, while replacing them with crops that helped return organic matter and nitrogen to the soil. Seeding fields with such crops also served to hold soil in place and reduce erosion by wind and rain. In 1933, the Federal government passed the Agricultural Conservation Act to promote farm improvement through soil conservation. This allowed the government to encourage limits on soil depleting crops while reducing surpluses of the same and promoting seeding of soil enhancing crops to enhance crop diversification (Thompson 1940: 3).

Agricultural experts promoted a system of consultation in which professionals from the Agricultural Experiment Station would help develop a specialized plan of crop rotation and reorganization of fields to encourage diversification, soil stability, and rejuvenation. One of the larger Wake County farms served as a representative example (Figure 2.15). At the beginning of the study, the researchers found the farm maintained 35 distinct fields averaging just 2.5 acres per field with no system of crop rotation. While each field was of a manageable size for the labor-intensive crops they held, the method of farming each field lacked a system for regeneration. The extension service's revised plan demonstrated how the farmer could benefit from a reorganized field structure. It called for creating three five-acre fields to accommodate the property's tobacco rotation. Three more fields of 15 acres apiece were designed for the rotation of cotton, corn, and nitrogen-fixing beans. Two ten-acre fields served the rotation of corn, soybean, and small grains. Hog rotations across the farms also provided a means of fertilizing fields (North Carolina Department of Agriculture 1930: 33). For farms that took advantage of the reorganization plans, traditional field patterns were consolidated into larger plots, and new crops and support buildings emerged on the landscape. Increased dairying operations helped encourage greater use of pastureland as a soil-conserving measure. By 1940, some 400 Wake County farms were producing butter and cream (Lally 1994: 140). In 1944, in an effort to further encourage small "barnyard" milk producers to become grade "A" suppliers, specialists designed a prefabricated barn and milk house approved by the State Board of Health (Figure 2.16).

Other programs included tree planting to replenish fuel and timber supplies, and the dedication of permanent pastureland (North Carolina Department of Agriculture 1925: 72). To control erosion, Wake County farmers began planting kudzu in 1942, a plant that possessed valuable soil retaining qualities but that would come to overwhelm the Southern landscape in later years (*The Journal-Patriot* 14 September 1942: 5).

Wake County farmers remained reluctant to adopt conservation techniques and continued to plant cotton and tobacco at the expense of soil fertility. Chemical enhancements remained a popular remedy. County farmers reportedly purchased 35 percent more fertilizer in 1933 than in the preceding year, relying on their cash reserves to buy the product (*The Enterprise* 13 June 1933: 1). By 1939, newspapers

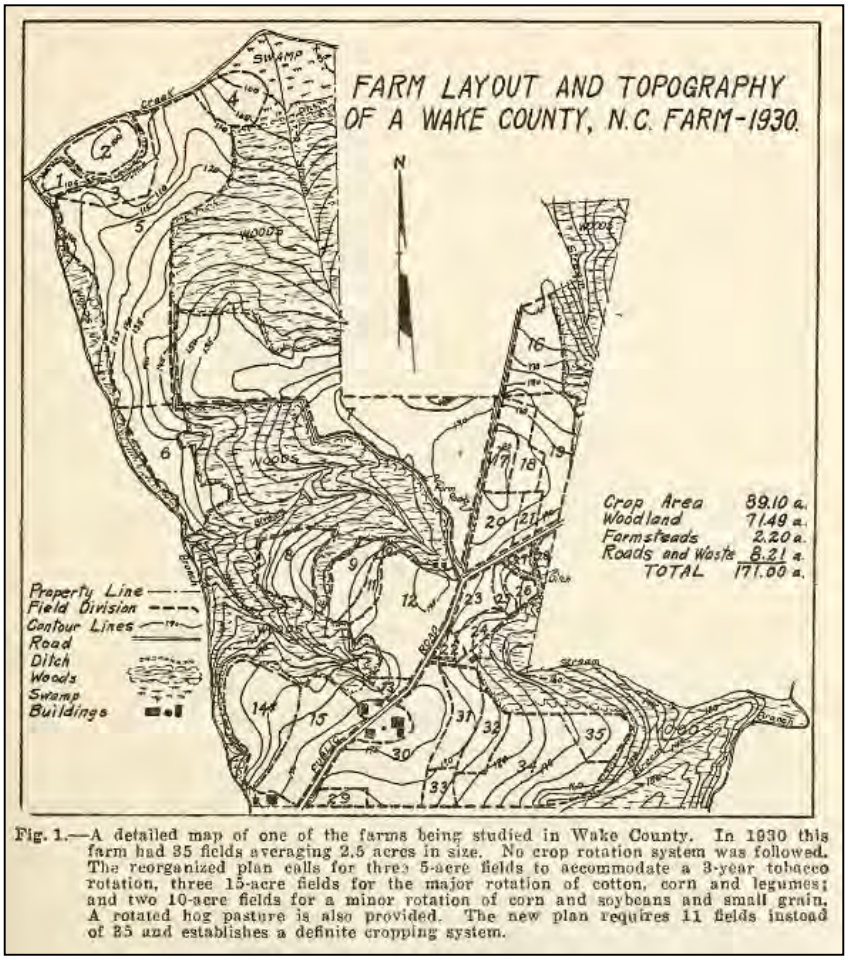

Figure 2.15: A detailed map of the layout and topography of a farm in Wake County from 1930 (North Carolina Department of Agriculture 1930: 33).

Figure 2.16: Photograph of a prefabricated milk house and dairy barn (North Carolina State University 1944).

Plate 2.21: The Dr. L.J. Faulhaber Farm (WA4811) south of Garner demonstrates adherence to suggestions made by the Agricultural Extension Service. This photo of the Dr. L.J. Faulhaber Farm shows the house set back from the road and on the highest point of the property (Heckendorf 2021).

Plate 2.22: The farm outbuildings at the Dr. L.J. Faulhaber Farm (WA4811) are arranged in a courtyard plan which is centered on an open workspace (Heckendorf 2021).

reported that Wake County farmers lost $20,000 a year for lack of seeding in soil-conserving crops, adding limestone, and terracing their fields to avoid run-off (*Zebulon Record* 15 September 1939: 6).

Electrification

Rural electrification, which began slowly in the 1920s, intensified with the creation of the Rural Electrification Administration in 1935 and passage of the Rural Electrification Act in 1936. In this period, the Carolina Power & Light Company approved, commenced, or completed construction of 64 rural electrification extensions across Wake County totaling 150 miles and servicing 767 customers (*The News & Observer* 21 September 1936: 7). Communities linked to the power grid by 1936 included Olive Chapel, Willow Springs, Wilburn, McCullers, New Hope, Green Hope, Auburn, Eagle Rock, and Swift Creek. Places slated for new lines included the communities of Bay Leaf, Bethany, Friendship, and Pet's Cross Roads (*Rocky Mount Herald* 25 September 1936: 2). At the same time, local Women's Clubs across North Carolina sponsored events to introduce farm women to the uses and benefits of electric power in the home (*The News & Observer* 21 September 1936: 7). "In addition to electric lights," a representative of Carolina Power & Light noted,

> many of the farmers are making use of time and labor-saving electric devices. Electric refrigerators and radios are becoming quite numerous in some of the communities reached by these electrical lines, and many of our farm women are enjoying the use of the same electrical home conveniences as their city neighbors (*Rocky Mount Herald* 25 September 1936: 2).

Electrification had a visible impact on the Wake County agricultural landscape. Wooden utility poles, typically located within legally recorded rights-of-way, sprang up in even greater numbers than before along farm lanes and across open fields. If the shortest path ran through a wooded copse, the route was cleared and left bare. If these routes did not conform to established plow patterns or fence lines, the latter might be changed to align with the right-of-way. Electrification rendered some farm buildings and structures obsolete. Ice houses, root cellars, and spring houses were replaced by refrigerators. Windmills and hand pumps gave way to electric pumps. Private generating plants were abandoned. Home interiors were retrofitted with wiring, and farmhouse kitchens were drastically reconfigured to accommodate electric appliances in accordance with modern theories of spatial organization and efficiency.

Farm Housing Standards

Federal legislation in the 1930s set new standards for both rural and suburban housing, upon which mortgage values depended. The Federal Home Loan Bank Act (1932) and the Home Owner's Loan Act (1933) made funds available and created low interest, long-term mortgage loans (US Department of the Interior 2002: 31). The National Housing Act (1934) created the Federal Housing Administration (FHA), which established standards for housing design and financing (US Department of the Interior 2002: 32). Technical Bulletins with titles like Principles of Planning Small Houses laid out the government's expectations for new homes to qualify for federal loan guarantees (Federal Housing Administration [hereafter FHA] 1937, 1940). These reforms focused mainly on single-family homes, but similar programs promulgated through the US Department of Agriculture's Farm Security Administration, focused on farmhouses and tenant residences. Publications with names like *Farmhouse Plans, Modernizing Farmhouses, and Small Houses* targeted rural homeowners with the same general principles promoted by the FHA (Ashby 1935; Ashby and Nash 1935; US Department of Agriculture 1939).

FHA house designs and floorplans emphasized economy and efficiency based on scientific principles of work, health, and hygiene, as well as modern conveniences in heating, plumbing, and electrical service. The simple and economical, Minimal Traditional-style houses promoted by the FHA downplayed references to historical architectural styles but incorporated "traditional" details such as gabled roofs, multi-paned windows, and paneled doors, that were familiar to homebuilders (Figure 2.17). The 1930s saw the construction of Minimal Traditional-style farmhouses which met the new standards (Plate 2.23), but when able, Wake County farmers also continued to erect ready-cut, prefabricated

houses purchased from mail order suppliers such as Sears, Roebuck and Company, Aladdin, and Radford. While initially the New Deal programs for farmers were designed to sustain an existing way of life, the introduction of federal standards created a leveling effect across rural America as older homes were remodeled and new homes erected in accordance with the required designs (Wright 1981: 222). The house at the Fernie Todd Farm (WA2010) (Plate 2.24) resembles an expansion plan for an existing farmstead illustrated in the US Department of Agriculture's *Farmer's Bulletin No. 1738* titled "Farmhouse Plans" (Figure 2.18) (Ashby 1935: 32).

The effects of government support helped stabilize the farm economy nationwide. Nevertheless, agriculture in North Carolina and across the country on the eve of World War II had reached a tipping point. While agricultural worker productivity between 1910 and 1940 had increased by 41 percent, only 50 percent of the country's farms produced 90 percent of the products going to market. In other words, a full half of the country's producers received only one-tenth of the income realized on the open market. Farmers were losing their land at record rates and half of all the remaining farms in the nation were occupied and operated by tenants, not owners (Thompson 1940: 3). The winners were large, consolidated farms with highly mechanized operations. Most of the small producers in places like Wake County—owners and tenants alike—continued to struggle (Thompson 1940: 3).

Zoning and Suburbanization

Urban growth and declining opportunities forced many to abandon the farm or sell their land for development. "In the future," noted a 1929 report on agricultural taxation in North Carolina, "there is likelihood that the farms of the Piedmont will be used in increasing numbers as homes for town workers in order to maintain a standard income" (Forster, et al 1929: 75). Recognizing the need for larger towns to engage in coordinated planning, the General Assembly passed legislation in 1919 granting large towns the right to create planning commissions (Huggins 2006a). In 1923, the legislature extended the right to zoning policies (Huggins, 2006a). Early applications of these powers were applied to managing automobiles and street traffic, city beautification, parks creation, and segregation of land uses through zoning. An undercurrent of the movement helped facilitate separation of the races and ghettoizing of communities along racial and economic lines.

In 1933, Secretary of the Interior Harold Ickes created the National Planning Board to advise him in the preparation of the public works program of the National Industrial Recovery Act. The National Planning Board sought to stimulate state planning by offering the services of a consultant to those states that formed planning boards. Most states complied. In 1935, the governor of North Carolina created a State Planning Board to take advantage of federal monies available through the National Planning Board (Huggins 2006b). This included support for rural electrification, soil erosion control, and rural rehabilitation. The Board engaged in a number of planning studies, including agriculture, population trends, and housing for Black residents (Huggins 2006b). At the same time, Federal housing policy, designed to promote mortgageable property, encouraged comprehensive residential planning for both individual homeowners and large-scale developers.

Ongoing suburban development continued to erode open farmland around larger urban centers such as Raleigh. While in many northern and mid-western states, some disgruntled urban dwellers abandoned the cities in a nostalgic return to the land, this trend appeared to bypass most Southern states (US Department of Agriculture 1915: 257, 259). The return-to-the-land movement in places like Wake County more closely resembled regular suburbanization, in which urban dwellers retreated in increasing numbers to trim new residences in leafy, segregated communities with room for lawns, gardens, vegetable patches, and play. Coupled with the lingering influences of the late nineteenth-century cult of domesticity, the home, in most minds, remained the bastion of morality and an essential counterpoint to urban woes (Wright 1981: 84-85; 210). As suburbanization spread, it had two effects on the rural landscape. It consumed open space, pushing farming further out. It also created a powerful ideal in the minds of many rural folk. In a telling instance, the *Zebulon Record* conflated the idealized imagery of a contented farmer with that of a snug suburban home in its weekly column on farm and home (Figure 2.19), while extolling the virtues of carefully planned and well-maintained farmsteads on the life of a community:

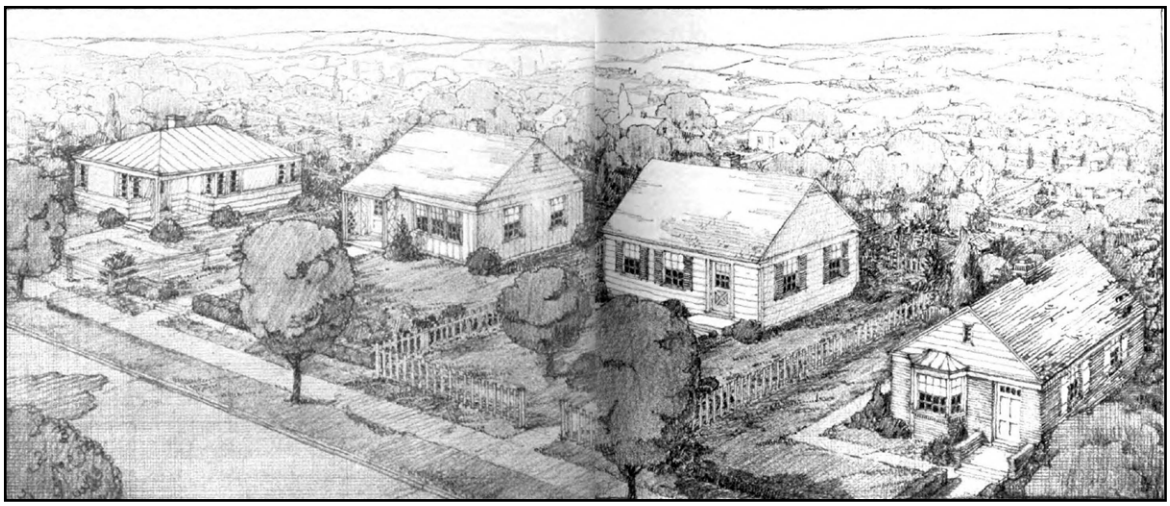

Figure 2.17: Illustration of Minimal Traditional-style houses promoted by the FHA (Federal Housing Administration 1937, 1940).

Plate 2.23: Minimal Traditional farmhouse on the Dwight Rowland Farm (WA1119) near Fuquay-Varina (Heckendorf 2022).

Plate 2.24: 1930s rear additions to the house at the Fernie Todd Farm (WA2010) in Wendell follow recommendations made by the US Department of Agriculture (Heckendorf 2021).

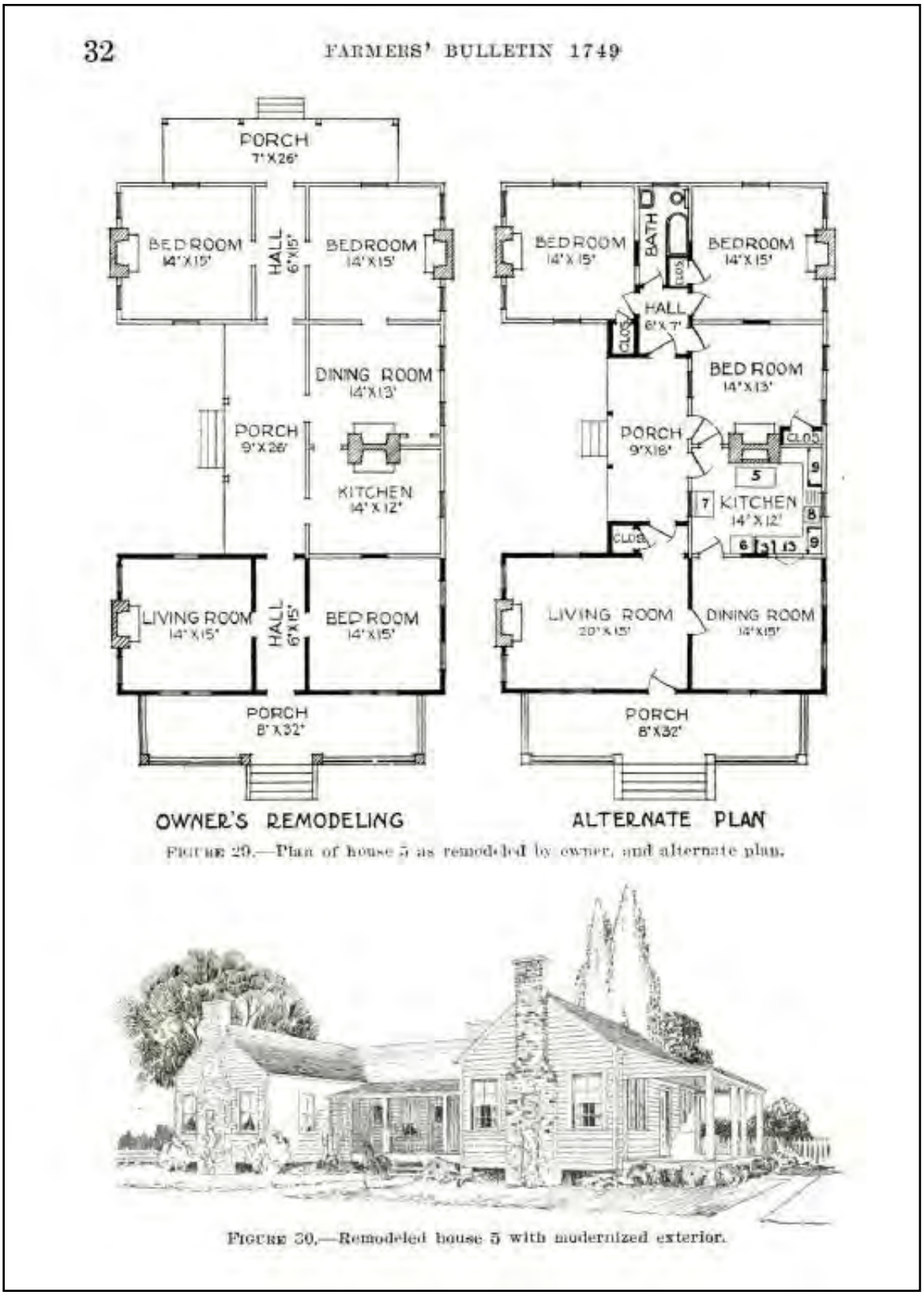

Figure 2.18: Example of a remodeled farmhouse from the US Department of Agriculture's *Farmer's Bulletin* (Ashby 1935: 32).

> Every farm family has the opportunity of beautifying the farmstead. It will tend to make all the family more contented, and will add to the enjoyment of all who would pass and tend to increase the value of the farm. These improvements are not expensive, neither do they take up too much time (*Zebulon Record* 22 April 1938: 6).

Programming, planning, and standardization became the hallmarks of the Roosevelt Era. It encouraged and amplified trends in agriculture already in motion before World War I. Some farmers embraced the new ideas of scientific farming and modified their existing properties accordingly. Other farmers built from scratch following modern principles. But for many, traditional ways worked best. Only in the period following the end of World War II did many Wake County farmers fully embrace modern agricultural practices.

2.4 Post-World War II Shifts, 1945-1968

The number of Wake County farms between 1920 and the close of the Second World War fluctuated only slightly yet declined overall. In 1945, the total was 5,943, representing a loss of 861 farms (12.6%) over the county's all-time high of 6,804 in 1920 and just 32 farms below the 5,975 total reported in 1935. In terms of acreage, Wake County farms in 1945 covered 419,510 acres. This represented an increase of 10,618 acres over 1935, with the average farm size increasing from 68.4 acres to 70.6 acres (*Zebulon Record* 12 January 1945: 4). Compared to the 1920s, individual farm sizes had increased slightly in response to consolidation, field reorganizations, and the influences of crop quotas and diversification. Much of the stability could be attributed to wartime demand and better management of the land. Still, the trend in 1945 was unmistakably downward. Nationwide, the Census Bureau reported a 9.6 percent drop in the country's farm population between 1940 and 1947 (*The News & Observer*, 17 January 1949:11). This came on the heels of a corresponding 52 percent increase in the non-farming population of Wake County from 11,620 in 1920 to 17,686 in 1940 (Lally 1994: 137). Rural people left the farm in search of better opportunities in the urban centers, while newspaper advertisements seeking lands for development testified to the pressure of increasing suburban development on arable lands (Figure 2.20).

Wake County farmers at the end of the war remained firmly committed to the traditional one-cash-crop approach to farming. In terms of dollar value, the county's top five crops in 1944 included tobacco ($13,099,160); cotton $1,410,770); corn ($1,282,780); hay ($700,390); and sweet potatoes ($408,600) (North Carolina Department of Agriculture 1945: 7). An exasperated R. L. Goodwin of the North Carolina State Extension Service exclaimed before a meeting of the Zebulon Rotarians in 1947, "Wake County Farmers are not farming on a sound basis. The one-crop system of tobacco cultivation is not safe and livestock are not showing proper profit" (*Zebulon Record* 3 July 1947: 1). To illustrate, Goodwin compared corn and livestock production in Wake and Union Counties. Both jurisdictions increased their livestock production by approximately $1 million between 1940 and 1945. At the same time, Wake County's profits from the increase totaled only about $100,000, while Union County's profits averaged over half a million dollars. The difference lay in the cost of feed, which Union County farmers grew themselves. The Wake County farmers purchased their feed. "They're set in their ways, like we all are," explained Goodwin, speaking of the present generation of farmers, "and they hate change" (*Zebulon Record* 3 July 1947: 8). He preferred to rest his hopes on the 4-H Clubs and FFA Clubs, which were training young farmers in modern practices. "And when they take over the farms," he concluded, "we will have a great yield from our farms and greater prosperity for our farmers" (*Zebulon Record* 3 July 1947: 8). Five years later, farm leaders were again calling for improved farm incomes by increasing farm sizes, utilizing mechanized electrical power, adopting scientific farming practices, and improving general farm management (Ballentine 1952: 2).

Ongoing dairy operations, livestock diversification, and soil conservation measures all encouraged farmers to plant more grasses and legumes. Nevertheless, the transition to greater pastureland came late to Wake County. John Reitzel, the county's farm agent, identified the change beginning in 1944. That year, Wake County farmers added 400 acres of pasture. An additional 1,000 acres were seeded

Figure 2.19: The weekly column heading for "Farm and Home" in the *Zebulon Record* (*Zebulon Record* 22 April 1938: 6).

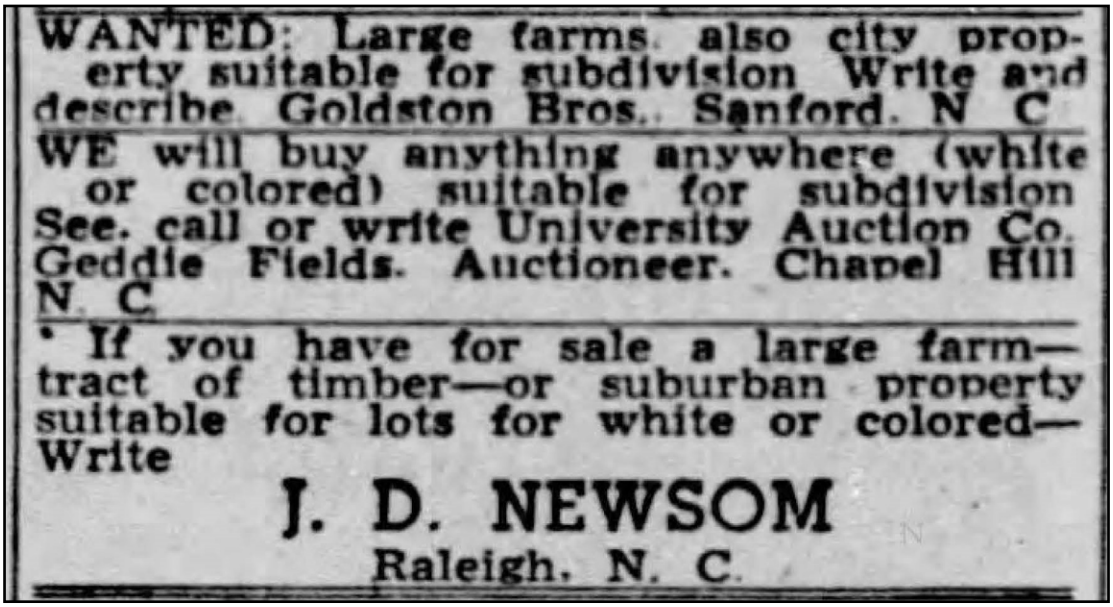

Figure 2.20: Example of an advertisement placed in *The News & Observer* seeking land for development
(*The News & Observer* 29 May 1946: 11).

in 1945, followed by 1,800 acres in 1946 and 3,500 acres in 1947 (*The News & Observer* 15 February 1948: 5). Raising corn and other grains helped with crop diversification and soil conservation. Newly developed gasoline motors helped launch new individual grain bins for drying and storing crops. The firm of Black, Sivalls & Bryson (BS&B) developed a line of corrugated metal containers and "in-bin" drying systems. These allowed farmers to manage their own crop storage without the need of a central grain silo. Newspapers in Wake County began advertising the new bins beginning in 1959, and they received attention at the North Carolina State Fair that season (Figures 2.21 and 2.22, Plate 2.25).

Perhaps the most visible post-war change to the rural landscape concerned tobacco barns. Numerous and dispersed across the landscape, the small buildings formed a material reminder of the region's overwhelming dependence on this one crop. Most tobacco barns were still built of log construction well into the twentieth century (Plate 2.26). The material was inexpensive, plentiful, and well-suited to retaining heat for the tobacco curing process. Flue-cured tobacco, in particular, was widely grown in the region. The buildings were easily distinguished by their small size with holes and loading doors on opposite sides of the two gable ends. Older barns also featured ventilators in the gable ends, between the eaves, or in the ridge. By the end of the war, the Agricultural Extension Service encouraged growers to invest in new barns as a way of reducing costs in both fuel and insurance (Bennett, et al 1949: 3). The service continued to sanction log construction, although it considered it wasteful in terms of the lumber. Framed structures with inner and outer layers of plank siding, building paper, and an air space between the studs, produced excellent results (Bennett, et al 1949: 3) (Plate 2.27). A solid plank roof beneath a shingle or metal roof completed the desired insulating qualities. Farmers were also able to avail themselves of new insulation products, such as fiberglass, and paper-backed rock wool.

The Extension Service's preferred method of construction, however, was with concrete block. Its plans for new tobacco barns called for frame structures measuring 17 feet, 8 inches square. High concrete-block foundations elevated the combustible materials above the furnace and created a tall building profile. A row of blocks set on their sides with the holes facing outward for ventilation were among the tell-tale signs of new barns of the late 1940s and 1950s. Most importantly, the new type of curing barn featured a specially designed ridge flue to reduce excessive heat loss. They featured a flat cap, distinct from the pitch of the main roof. This design helped reduce the tendency of winds to deflect down into the barn, disrupting the curing process (Bennett, et al 1949: 5). The design won quick approval by many and became a standard and recognizable form on the landscape (Figure 2.23; Plate 2.28).

Post-war investments in farm construction hit new records in 1949. A number of these improvements depended on the availability of electricity, which had become far more widespread by the end of the war. Farmers increased their investments in better water supply, refrigeration, and ready lighting. Nationwide, by 1949, over two-thirds of all farms were connected to central power stations as opposed to only one-sixth of the present total in 1934 (*The News & Observer* 17 January 1949: 11).

Mechanization and Industrial Farming

Most Wake County Farmers obtained access to tractors only after the Second World War. Prior to that, they relied on draft animals, walking plows, and traditional manual tools (Hill et al 2006). By mid-century, however, big producers grew increasingly reliant on tractors to maintain large-scale production, while smaller farmers began pooling their resources to gain access to the expensive equipment. A full-page ad for Ford Tractors published in Raleigh's *The News & Observer* (Figure 2.24) summed up the state of mechanization in North Carolina:

> Fields once white with cotton are now dotted with herds of livestock. Broilers and eggs are now major sources of income. Electricity has brought a better way of life to more farm families. And, perhaps most important, North Carolina farmers are mechanizing their operations with modern farm equipment. Today our state has more tractors and more combines than any other state in the south except Texas (*The News & Observer* 22 February 1954: 37).

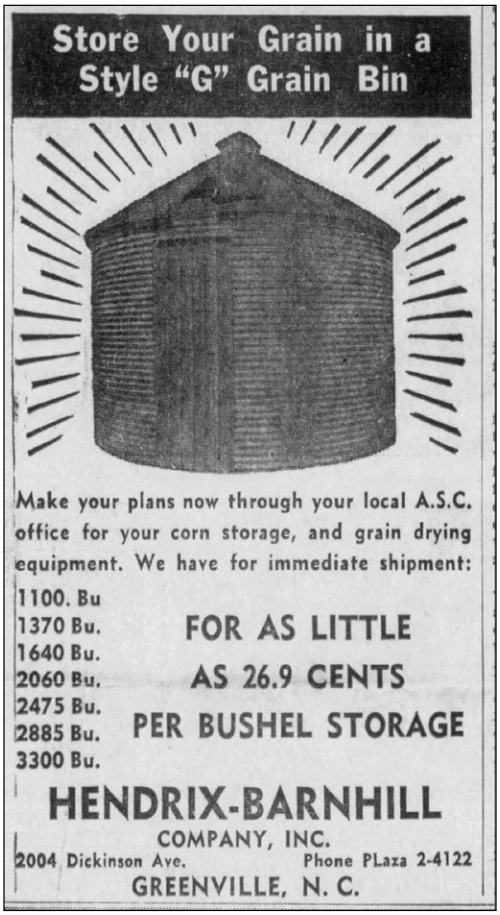

Figure 2.21: Advertisement for metal grain bins in *The News & Observer* (*The News & Observer* 7 September 1959b: 23).

Figure 2.22: Photograph of a metal grain container at the North Carolina State Fair in 1959 (North Carolina State University 1959).

Plate 2.25: Corrugated metal grain bins at the Ogburn-Honeycutt Farm (WA1142) in Fuquay-Varina (Heckendorf 2022).

Plate 2.26: Log tobacco barn with stone foundation at the Excel and Elsie Green Farm (WA7194) in Cary near the Durham County border (Heckendorf 2022).

Plate 2.27: Frame tobacco barns like these at the Coley-Howard Farm (WA1124) in Willow Springs were promoted in the mid-twentieth century as an improvement over log construction. They are frequently clad with metal over their original wood plank siding (Heckendorf 2022).

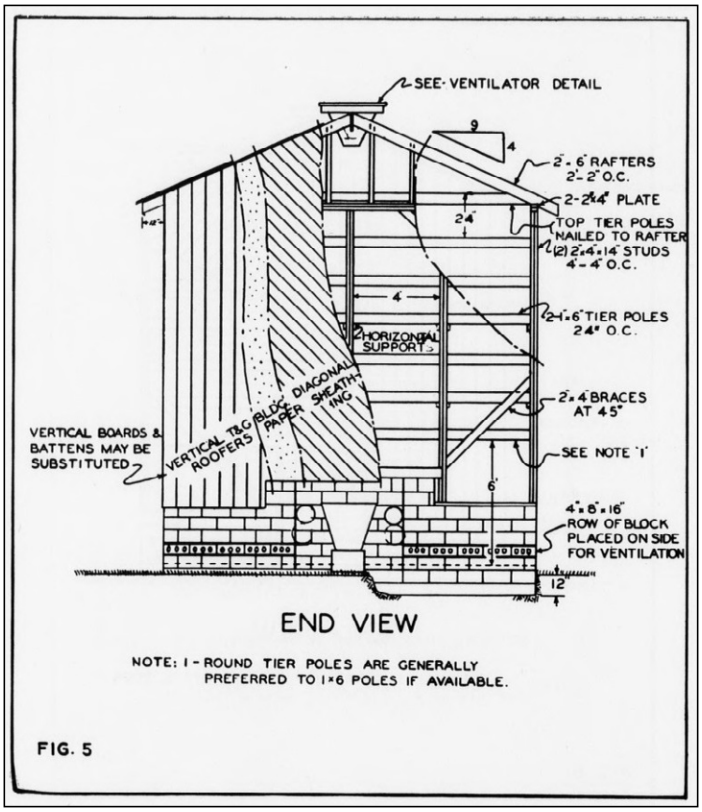

Figure 2.23: Illustration of concrete block, flue cured tobacco barn (Schaub 1953).

Plate 2.28: Tobacco barns with concrete block foundations and ridge vents on the Dwight Rowland Farm (WA1119) near Fuquay-Varina (Heckendorf 2022).

MONDAY MORNING, FEBRUARY 22, 1954. THE NEWS AND OBSERVER, RALEIGH, N. C. ANNUAL FARM EDITION 37

TO OUR CUSTOMERS AND FRIENDS IN NORTH CAROLINA WE SAY . . .

"THANKS!"

To our many customers and friends in North Carolina we say "thanks" for the confidence you've shown in the products we sell . . . the low-cost Ford Tractor and versatile Dearborn Equipment. Today great changes are taking place in the agricultural picture of our state. And, through you, our products are playing a major part in these changes.

Fields once white with cotton are now dotted with herds of livestock. Broilers and eggs are now major sources of farm income. Electricity has brought a better way of life to more farm families. And, perhaps most important, North Carolina farmers are mechanizing their operations with modern farm equipment. Today our state has more tractors and more combines than any other state in the South except Texas. And today more farmers than ever before are finding "Ford Farming" a faster, easier way to farm . . . a surer way to more farm profit.

Through low-cost tractor power you can now farm more efficiently. You can handle farm maintenance and farm improvement projects that will pay off in terms of a better farm plant. You can spend less time on field work, less sweat and toil on chores. You can farm easier and live longer.

You, the farmers of North Carolina, can be proud of the agricultural progress you are making. We, your Ford Tractor Dealer, appreciate the opportunity of working with you toward the goal of a better, more satisfying farm life.

Your Nearby Ford Tractor Dealer

Ford TRACTOR — Dearborn EQUIPMENT

AHOSKIE
Ahoskie Motor Co.

BELHAVEN
Latham Seed & Equipment Co. Inc.

CLINTON
Henry Vann Tractor Co.

ELIZABETH CITY
Carroll Equipment Co.

ENFIELD
Enfield Tractor & Equipment Co.

GOLDSBORO
Bryan-Edmonson Tractor Co. Inc.

GREENVILLE
John Flanagan Buggy Co. Inc.
88 Years Service

HENDERSON
Farm Tractor & Equipment Co., Inc.

KINSTON
Jenkins Farm Equipment Co., Inc.

NASHVILLE
Nash County Equipment Co.

RALEIGH
Sanders Motor Co. Inc.

RICHLANDS
C. R. V. Motor Co. Inc.

SMITHFIELD
B. & R. Wilson, Inc.

TARBORO
Edgecombe Tractor & Implement Co.

WELDON
Roanoke Tractor & Equipment Co., Inc.

WILMINGTON
Orrell Farm Equipment Co., Inc.

WILLIAMSTON
Williamston Motor Co.

WILSON
Farm Service Co.

WINDSOR
Chowan Tractor & Equipment Co.

Figure 2.24: Advertisement for Ford Tractors in *The News & Observer* from 1954 (*The News & Observer* 22 February 1954: 37).

Tractors helped improve efficiencies, reduce manual labor, and increase yields (Figure 2.25) Pooling facilities also allowed farmers to share equipment. Roy Womble and Walter Ray Franks elected to share the use of a new concrete trench silo in 1959 and filled it using a single shared tractor (Figure 2.26) (*The News & Observer* 7 September 1959c: 23).

Mechanization was not immediate, however, and Wake County remained a study in contrasts. Published accounts continued to report on the use of manual labor to collect, sort, and put up tobacco for curing. Harvest time for many remained a family affair with long hours devoted to bringing in the crop (Figure 2.27) (North Carolina State College 1955; *The Carolinian* 28 August 1948: 1). As late as 1961, Wake County farmers reported only nine self-propelled tobacco harvesters in use (Humphries 1962: 17).

Nevertheless, mechanization helped facilitate industrial-scale projection for some Wake County farmers. Big farmers were able to gain easy access to credit, consolidate land, institute modern scientific farming practices, diversify, and reap the rewards. Some local farming grew more vertically integrated, following the models of other industries. Industrial-scale agriculture was nothing new; major companies across the country had applied the principles of mass-production to the growing, packaging, and selling of foodstuff since the late nineteenth century. Now seed, fertilizer, and chemical companies joined with farmers to develop detailed management plans for their farms and to furnish the necessary supplies (Figure 2.28). The advisory services first promulgated by the extension services in the early twentieth century were increasingly assumed by private industry positioned to provide analytical service and expert advice for a price.

Black Farmers

Information on the experience of the Black farmer was conspicuously absent in most published accounts of Wake County's farming business during the twentieth century. A history of the Extension Services published in 1953 recounted the difficulties in establishing Black agents to assist Black farmers. Counties refused to appropriate funds, leaving Black farmers to obtain their information through publications or observation of their White neighbors (Schaub 1953: 31). Studies, institutions, and programs remained mostly segregated, hampering access. Toward the end of the Second World War, however, Black farmers grew more organized and vocal in their quest for access to the same programs and benefits enjoyed by their White counterparts. In February 1945, Black community members of Wake County organized the Negro Farmers County Council and elected Bartell Lane as its first president (*The News & Observer* 20 February 1945: 12). The group identified 13 areas of focus for improving conditions for the Black farmer. They echoed concerns raised by White farmers a decade earlier, suggesting how little the farm improvement programs of the 1920s and 1930s had reached Black farmers. These included: wise use of credit; community leadership; food and feed production for family needs; food and feed storage; livestock and poultry production (care and management); soil conservation; team and equipment purchase; community co-ops; neighborhood action group; farm ownership (under sound credit and supervision); proper fertilizers for proper crops; burning of mortgages; market outlets for surplus farm crops; assistance for returning veterans in finding farms; and medical care for community farm families (*The News & Observer* 20 February 1945: 12).

By November of 1945, Black farmers created three new machinery co-ops at Apex, Sandy Fork, and Springfield to acquire tractors, tillers, disc harrows, and hay balers for shared use (*The Carolinian* 10 November 1945: 7). Seven years later, the top priorities among Black farm leaders were creating higher corn yields, encouraging growing hay and providing pasture for livestock, and money management (*The News & Observer* 20 March 1947: 11). O. Leslie Scott of the Fuquay community typified the image of the successful Black farmer immediately following the close of the war. Since 1930, the 55-year-old Scott had been able to assemble two 100-acre farms at Fuquay Springs and Holly Springs. As reported in *The Carolinian*:

Figure 2.25: Photograph of Wake County farmers utilizing tractors (North Carolina State University 1956).

Figure 2.26: Photograph of Walter Ray Franks filling a concrete trench silo with a tractor (North Carolina State University 1959).

Figure 2.27: Photograph of a family stringing tobacco in 1955 (North Carolina State College 1955).

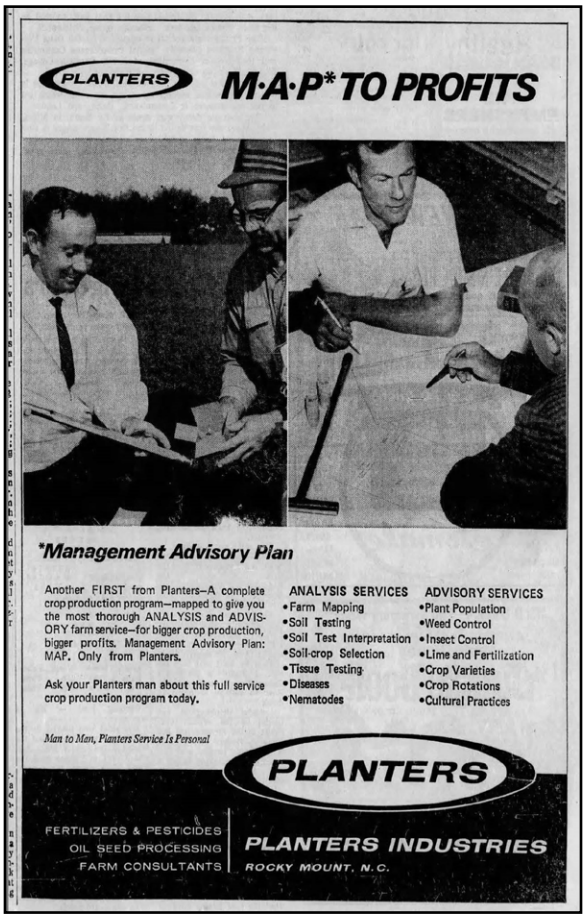

Figure 2.28: Planters Industries advertisement for a "Management Advisory Plan" in *The News & Observer* (*The News & Observer* 1 January 1968: 23).

> He cultivates approximately 75 acres of land of which about 25 are devoted to tobacco. A large portion of the farming is carried on by two tenants who live in well-constructed dwellings on the Scott farm. According to Ratford [sic; C. Brice Ratchford], the only repairs needed on the farm buildings now in the way of farm improvements are a new barn and chicken house. Materials have already been bought for building these and the farmer plans to have them completed by fall. All land and buildings have been paid for and he has enough money to run his farms and tenants until this year's crops are harvested. 'Hard work and good management were the answers for his success,' the specialist declared (*The Carolinian* 14 June 1947: 3).

A heavily illustrated article appearing in the *The Carolinian*'s second section in August 1948, further elaborated on Scott's operations (*The Carolinian* 28 August 1948: 1). To harvest 16 acres of tobacco, he enlisted the entire family. Scott and his two sons transferred the crop from the field to mule-drawn sledges for transport to the tobacco barn. In the barn's adjoining shed, Mrs. Scott and her four young daughters, ranging in age from 11 to 17 years, busied themselves grading, tying, and stacking sticks of leaf for hanging in the barn to cure. The youngest sons, aged six and nine, drove the mules back and forth between the field and the barn and transferred the harvested tobacco from the sledge to the processing table. At Scott's second farm, tenant Hughie Lyons and his family were busy performing the same task. There, the crop had already filled 10 barns and they were in the process of filling one more at the time of the article (*The Carolinian* 28 August 1948: 5). Remarking on the Scott farmstead as far from the common perception of a dilapidated shack, the author noted

> the white farm bungalow on the home [farm] was immaculate and freshly painted and in good repair as were the rest of the farm buildings. The livestock, which included four mules, six cows, and 27 hogs were sleek, fat and gave every appearance of being well cared for. Approximately 200 chickens and a large table garden made it very unlikely that the Scott family would be bothered about the high cost of food for some time to come (*The Carolinian* 28 August 1948: 5).

Black farmers who had been denied access to many of the Extension Service's programs and demonstrations were able to organize more effectively in the post-war period. With help from community groups and the county's Negro Farm Agent, Black farmers were able to see improvement techniques first-hand. A home demonstration event in the Shiloh Community in 1956 introduced Black farmers to the latest trends in remodeled kitchens, new water systems, and built-in clothes storage options (*The Carolinian* 28 July 1956: 5). A similar event in 1961 provided members of the Morrisville and Juniper Level communities demonstrations on tobacco grading, home improving, and sweet potato cultivation (*The Carolinian* 28 October 1961: 27). In 1962, the Shiloh community chose new bathrooms as the home improvement goal of the year for farm families (*The Carolinian* 4 August 1962: 7).

Agricultural Decline

Farms like Scott's operation and the one advertised for sale in *The News & Observer* in 1959 typified many Wake County farms of the post-World War II period (Figure 2.29). A good, paved road provided access by automobile to the farm. Larger than most, the farm included 60 acres of cleared land with some devoted to pasture. Evidently, soil conservation measures and perhaps some dairying were underway. The rest of the land was probably devoted to timber or waste. The farm included two new dwellings less than 10 years old, suggesting that it was either a newly minted farmstead or one totally rebuilt from the ground up according to modern standards. The number of homes suggested an owner/tenant arrangement or perhaps a shared property between members of the same family with distinct households. The four new barns almost certainly referred to modern tobacco barns, built according to the latest designs and ready to service the area's dominant corp. The reference to "lake sight" might have referred to a location suitable for the creation of a watering hole or signaled the presence of an existing vista. Either way, the advertisement appealed to buyers seeking both modernity and a piece of the picturesque. New farmhouses of the late 1950s and 1960s mirrored those popular forms and styles under construction in suburban developments throughout the south. Low-slung

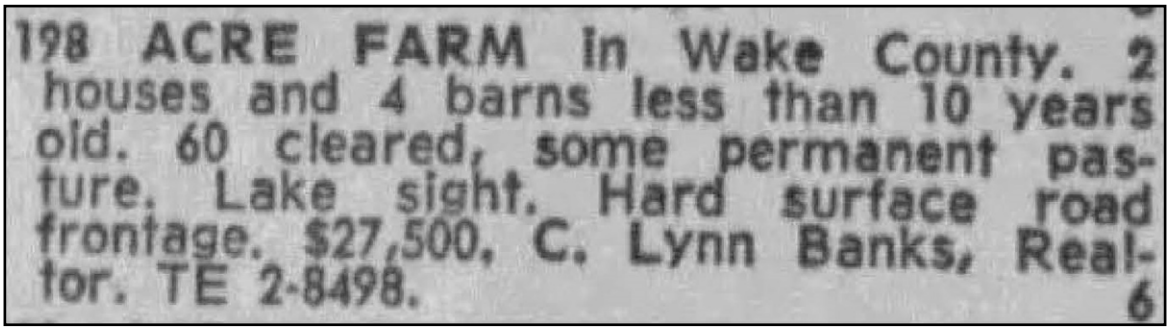
198 ACRE FARM in Wake County. 2 houses and 4 barns less than 10 years old. 60 cleared, some permanent pasture. Lake sight. Hard surface road frontage. $27,500. C. Lynn Banks, Realtor. TE 2-8498.

Figure 2.29: Advertisement for the sale of a 198-acre farm in Wake County (*The News & Observer* 4 April 1959: 15).

ranch homes and carports appeared with increasing frequency on farms both as main dwellings and as annexes for other family members or tenants. These homes, more than anything, projected an image of modern prosperity and even a little touch of glamour (Plate 2.29).

The advertisement indicated post-war investment in farming. But by the early 1960s, farming was in a slow decline. From 1945 to 1962, the total farm acreage dropped 3.7 percent, from 419,510 acres to 403,924 acres (Humphries 1962: 17). Of this, however, only 84,966 acres were actively cultivated. The remaining land included pasture and woodland, which made up a large percentage of the county's total farm acreage (Humphries 1962: 17). The number of actual farms in the county in 1950 totaled over 6,000. By 1964, that number had dropped to under 3,000 (Lally 1994: 176).

The nature of farming was also changing. Soybeans represented the largest single increase in crop production between 1960 and 1962 in Wake County. Brood sows and milk cows saw increases, while beef cattle declined. At the same time, large commercial chicken growers raised 733,166 broilers in 1961 (Humphries 1962: 17). Government assistance for farms started to pay more attention to woodland management in the form of low-interest loans to help with fencing, pest control, thinning, and fire protection (Humphries 1962: 17). The dairy cow population of North Carolina reached 350,000 in 1947 and produced 175 million gallons of milk for both domestic consumption and export to other states (Middlesworth 2006). Tobacco remained North Carolina's largest cash crop in 1964. It accounted for nearly half of the state's total farm income that year, while North Carolina produced 61 percent of the country's total output of cigarettes (*Charlotte Observer* 12 January 1964: 13). But that year, the US Surgeon General Luther Terry issued the first report citing health risks associated with smoking. A year later, Congress passed the Federal Cigarette Labeling and Advertising Act, requiring a warning label on cigarette packs. The anti-smoking movement began to influence wider attitudes toward tobacco products. By 1971, a ban on television and radio advertising for cigarettes was in force (Yeargin and Williams 2006).

Farmland loss accelerated at the end of the 1960s as suburbanization and rising land values forced many to sell. Farmland in the county dropped to 375,520 acres in 1967, down 7 percent from 1962 and more than 10 percent from 1945 levels. Lands planted in cotton, wheat, and hay all plunged sharply, while corn, tobacco, oats, and soybeans continued to dominate or see general increases (*The News & Observer* 5 July 1967: 27). As for farm residents, the total population of people living on a farm in Wake County plunged 23.1 percent from 27,044 in 1962 to 20,789 in 1966 (Humphries 1962: 17; *The News & Observer* 5 July 1967: 27). Just 13 percent of the state's total employed workers labored in agriculture, forestry, or fishing in 1960. By 1970, that number fell to 4.9 percent (Hyman 1974: 5). One report attributed the steady fall mainly to mechanization:

> Change in the technology of agricultural production in the form of less labor-intensive cultivation and harvesting in the 1960s is undoubtedly responsible for the decline in agricultural employment in the state. Some of the displaced agricultural workers may reasonably be expected to have migrated to urban areas in the state in response to employment opportunities (Hyman 1974: 48).

The same report also blamed strong market forces encouraging suburban growth. It noted:

> Since 1950 there have been strong market forces changing urban structure in North Carolina toward suburbanization in urban areas. These trends are largely attributable to changed productive techniques, decreased transport costs, and higher income in the State. Policy makers will find it difficult to change any of the factors encouraging suburbanization with the possible exception of transport costs. The dominant mode of commuting in North Carolina's urban areas has been shown to be the private automobile which accounts for about 85 percent of all trips to and from work. The proliferation of the private automobile since 1950 has, of course, been a major cause of suburbanization. The dispersal of population at the same time has made it difficult and costly to supply commuters with viable alternatives to the automobile as a mode of transport (Hyman 1974: 53).

Rise of Regional Planning

Renewed calls for better land use planning began almost immediately after the end of World War II. In 1950, to help manage growth, the North Carolina General Assembly granted to the counties the same powers it had given the cities to enact planning and zoning regulations. Regional planning commissions followed in 1961 (Williams 2006). The legislature also created the State Planning Division within the Department of Administration to help address concerns over uncoordinated growth (Huggins 2006b).

Fiscal policy played its part. The state government recognized the need to diversify its tax base. Agriculture and cigarette taxes alone could no longer sustain the kind of revenues needed. Research industries offered one such source of revenue. Governor Luther Hodges created the Research Triangle Council to explore ways to promote research and industrial development near the capital by leveraging the resources of the University of North Carolina at Chapel Hill, Duke University in Durham, and North Carolina State University (Nisbet 1955: 4). The Council issued a plan in early November 1955, calling for the creation of a research park supported by public and private capital (*The News & Observer* 8 November 1955: 24). Private investors began immediately to acquire land in Durham and Wake Counties knowing that the state or private developers would eventually seek to purchase it. This took land out of the active farm economy and banked it for speculative purposes. Acquisition of over 5,000 acres by the Research Triangle Foundation of North Carolina in January 1959 assured the project's future, but it exemplified a larger trend toward amassing farmlands for eventual development.

The Research Triangle Park project generated a huge regional planning effort to address critical and far-reaching infrastructure questions concerning water supply, sewer, electricity, and highway access (Shea 1959: 64). It also stimulated both planned and unplanned adjacent growth and population shifts. The number of people in the town of Cary increased from 1,446 to 7,686 between 1950 and 1970 (Lally 1994: 329). The rate of population growth in North Carolina's urban centers during the 1960s was twice the national average, while the state's suburban growth exceeded that of the rest of country during the same period (Hyman 1974: 2, 12). The population of Raleigh increased from approximately 50,000 in the 1940s to almost 100,000 in the 1960s (Lally 1994: 176).

A report released in 1969 by the Research Triangle Regional Planning Commission warned of the dangers of suburban and commercial sprawl in Wake County and neighboring jurisdictions if allowed to continue unchecked (Marlow 1969: 3). It described the impacts to farmland, the loss of open space, and threats to the regional water supply, and it advocated for a regional approach to development through the year 2020. The plan called for comprehensive water and sewer service and a network of designated open space reservations. "Open spaces must be planned," the report warned, "if urban Triangle residences aren't to find themselves boxed in by neighbors, businesses, and highways" and it noted that "zoning—anathema to many in the Triangle—is an absolute bare minimum essential" (Marlow 1969: 3).

The Research Triangle Regional Planning Commission renewed the perennial call from professional circles for a more considered, scientific approach to land use. It was a clarion call to help galvanize support for the use of planning powers and control of the loss of open space on a county-wide scale. Runaway sprawl, spiraling land values, and competition in the agricultural sector were turning farms in the region into an endangered species. The 1969 report predicted rising property taxes on farmland and increasing conflicts between customary agricultural practices and residents of new subdivisions. The report also advocated for targeted land purchases to create large state park reserves, particularly around existing and proposed reservoirs such as the Falls Reservoir site. Controlling farming in these areas was essential to prevent harmful run-off of fertilizers, pesticides, and animal and human waste. Although not directly stated, the recommendations inferred that many by this time considered agriculture in the region obsolete. Planning efforts that in the years following the end of World War I had tried to respond to the urgent needs of farms, became a way to manage their disposal by the late 1960s.

2.5 Agricultural Trends Since 1968

By most measures, the end of the 1960s marked a turning point for agriculture in Wake County. Farm totals slipped to just 1,755 by 1974 (Lally 1994: 176). Surviving operations grew more intensive, more industrial, and more mechanized, allowing the few remaining growers to better capitalize on their available resources. Other farms morphed into suburban country estates, in which long-time property owners or newly arrived transplants occupied and improved small parcels surrounding existing farmsteads while leasing out their remaining acreage to large producers. These types of farms, set among expansive cultivated fields, projected an element of romantic grandeur akin to popular images of the Antebellum South, but were in truth rural versions of a modern suburban ideal in a borrowed setting.

Still other farmers made ends meet by selling off buildable lots at strategic locations around the edges of their farms (Plate 2.30). The presence of good road frontage was often a deciding factor. Homes constructed on these lots conformed to all the usual building and design standards for the day, which emulated popularized models in the region's larger subdivisions. Lots created in this manner cannibalized their parent farm, cluttering formerly rural country roads with a mash-up of suburban architectural styles, and creating an incongruous visual and architectural vocabulary across the landscape.

For farms that remained centers of tobacco production, advances in processing techniques led to the development of the portable bulk curing barn. Similar to a shipping container, the bulk tobacco barn was connected to a propane-fired heater that allowed for precise curing, not unlike the design of the metal grain bins introduced in the early 1960s. Advertisements for barns under the brand name of BulkTobac began appearing in Wake County newspapers in 1974, just at the end of the oil embargo by the Organization of Petroleum Exporting Counties, which jolted Americans into a greater understanding of the value of energy efficiency (Figures 2.30 and 2.31). Bulk curing barns quickly replaced older style tobacco barns on many farms, leading to disuse, demolition, or adaptive reuse of existing barns for new, sometimes non-agricultural, purposes (Plates 2.31 and 2.32).

Improved efficiencies helped reduce labor needs, but some crops still required manual harvesting. Reliance on migrant labor to fill this need appeared relatively low in Wake County. Local newspapers were remarkable for their lack of coverage about migrant workers in the county. While the eastern coastal counties of North Carolina found it necessary to impose strict standards on the construction and operation of migrant worker camps, no such provisions appear to have been enacted in Wake County (*Port Pilot* 5 August 1942: 22; *News-Times* 23 May 1952: 1). Wake County farmers seem to have remained independent of migrant support, and a general lack of organized camps characterized the landscape (Lally 1994: 143). However, mobile homes, camper trailers, and similar portable shelters might indicate a different story.

Industrial farming practices, house lot sales, bulk tobacco barns, and migrant workers' accommodations are just some of the new kinds of agricultural structures that attract greater attention from cultural historians as they look more closely at changes to rural life in the twenty-first century.

2.6 Epilogue

Wake County has undergone a dramatic transformation in the last 50 years. Its population has ballooned from 229,000 in 1970 to over 1.1 million in 2020 (www.census.gov). Much of that population growth has settled in the expanding suburbs outside of Raleigh which have transformed former farmland and small towns into an undistinguishable mass of commercial corridors and residential subdivisions (Figure 2.32). At the conclusion of her county-wide survey 30 years ago, Kelly Lally observed these trends but noted that many rural farmsteads survived "amidst the pressures of development, representing the county's agrarian past" (Lally 1994: 3). Given that the pace of suburban development and the attendant loss of agricultural land throughout Wake County has only accelerated in the decades since, intact farm complexes with undeveloped farmland have become increasingly rare.

Plate 2.29: 1963 Colonial Revival Ranch house (WA7502) associated with the Daniel Farm (WA1118) near Fuquay-Varina
(Heckendorf 2022).

Plate 2.30: Upchurch Estates (WA7798) with Ranch houses lining the frontage of Rex Road in Holly Springs. These houses were built in 1971 on farmland subdivided by G.W. Upchurch
(Heckendorf 2021).

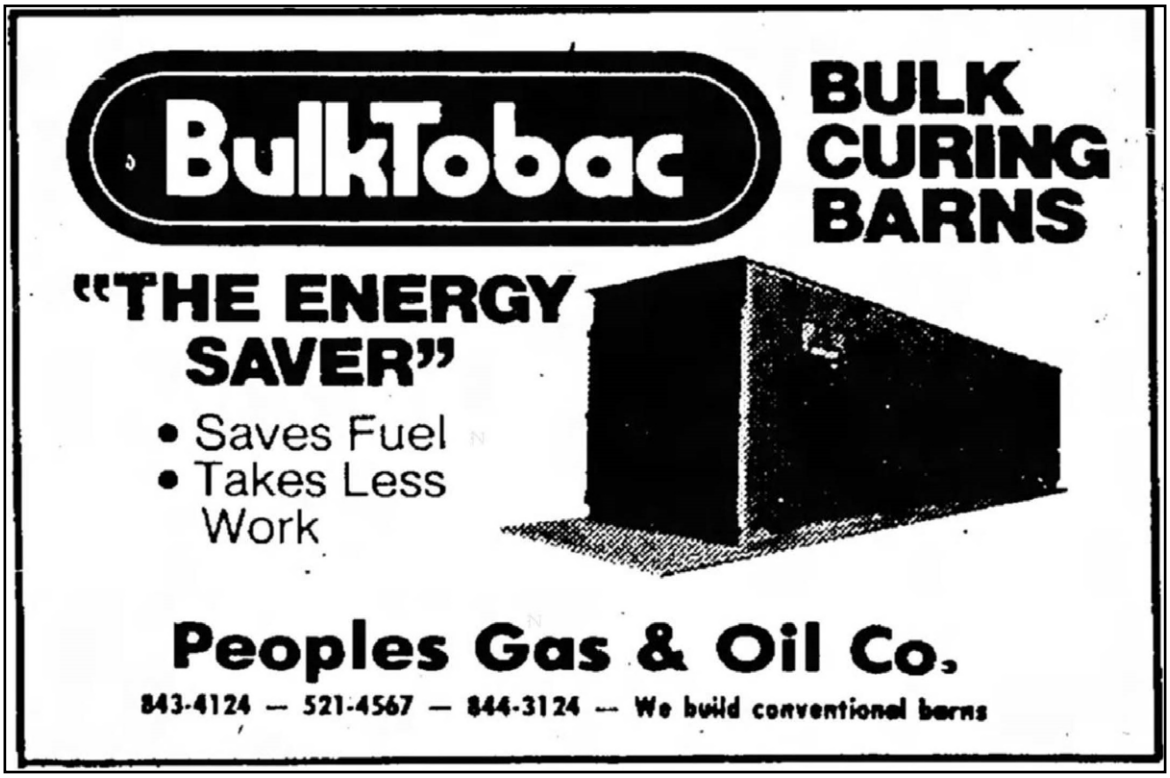

Figure 2.30: Advertisement for BulkTobac bulk curing barns in *The Robesonian* (*The Robesonian* 28 April 1974: 18).

Figure 2.31: A photograph from the 1970s featuring a line of five bulk curing barns in the foreground and two traditional tobacco barns in the background (North Carolina State University 1970s).

Plate 2.31: Four older bulk curing barns on the James E. Ragan Farm (WA1071) west of Apex (Heckendorf 2022).

Plate 2.32: The A.D. Nichols Farm (WA1688), which is now in operation as Watson-Pair Farms, uses a number of modern bulk curing barns (Heckendorf 2021).

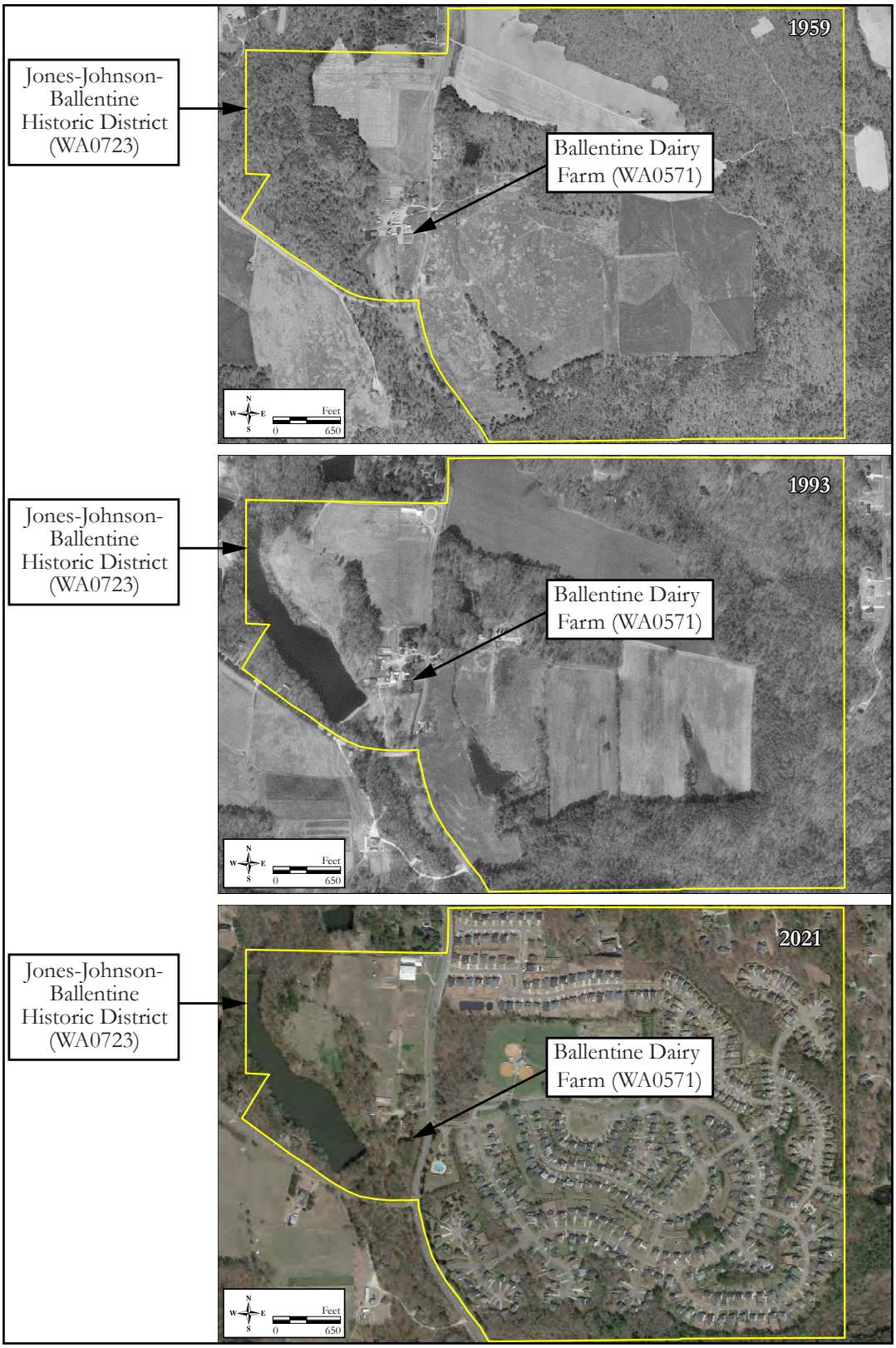

Figure 2.32: Aerial views of the Ballentine Dairy Farm (WA0571) in 1959, 1993, and 2021. These aerials demonstrate the loss of farmland due to development of the area, especially between 1993 and 2021 with construction of the Ballentine Subdivision and the Ballentine Elementary School (USDA 1959; Google Earth 1993; Google Earth 2021).

3.0 SURVEY UPDATE RESULTS AND PRELIMINARY ASSESSMENTS OF NATIONAL REGISTER ELIGIBILITY

For the survey update portion of the project, 76 previously recorded farm complexes were surveyed to document changes which had occurred since each resource's most recent survey (see Table 1.1 and Figure 1.1). A preliminary assessment of NRHP eligibility according to the NRHP Criteria for Evaluation was made for each resource, indicating whether or not it is potentially eligible, whether previous determinations of eligibility are still accurate, and whether further investigation is recommended. Each property's survey site file and survey database record were updated to reflect current conditions.

Most of the Context Resources had been surveyed more than once over the last 30 years, some as many as four times. The majority were first identified and recorded by Kelly Lally during her comprehensive Wake County survey of 1988-1991. Her work was updated in five phases in 2007, 2017, 2018, and 2019. These survey update projects also resulted in the identification of resources which had reached 50 years of age since the conclusion of Lally's survey. In addition, many farms have been evaluated as part of Section 106 consultation for highway construction or commercial and residential developments throughout Wake County. Taken together, these records of Wake County's rural built environment, collected over a 30-year period, vividly convey the gradual decline of agriculture in Wake County; however, they also highlight surviving pockets of historic farm complexes, some of which are still family-owned and actively farmed.

Significant historic farm complexes survive in all quadrants of Wake County outside of Raleigh. Some of the larger farms are located in parts of the county where watershed protections limit the density of development. For example, in the northwestern corner of the county near the Granville and Durham County borders, the Brinkley Farm (WA7805 and WA7806), the Vernon Keith Farm (WA1431), and the Sandy Plain Rural Historic District all lie within the Falls Lake protected watershed. Since 2008, development has been restricted in an area along the eastern county border stretching from Wake Forest to Zebulon to protect the water quality of a future Little River reservoir. The Montezuma Z. Pearce Farm (WA1799), the Williams Farm (WA1759) and the J.R. Fowler Farm (WA1840 and WA1841) all lie within this protected area. It is less likely to find large tracts of undeveloped land surviving in those parts of Wake County which lie closer to Raleigh, and which are under the most intense development pressure. In these areas, high land prices mean that farmland is far more valuable when sold to a developer, resulting in a proliferation of subdivisions named for the families who once farmed the land (Plate 3.1).

Typical changes to farm complexes observed during fieldwork conducted for this project were the loss or deterioration of outbuildings which were no longer in use and the loss of farmland to residential or commercial development. There are a significant number of surviving historic farmhouses sitting on small parcels with little associated land and few or no outbuildings remaining. On still-functioning farms, the presence of newer outbuildings reflects modern agricultural practices but generally does not detract from the agricultural landscape or diminish the farms' integrity of setting, feeling or association.

The following preliminary assessments of NRHP eligibility and recommendations for further study were based on the NRHP Criteria for Evaluation. To be eligible for the NRHP, a property (defined as districts, sites, buildings, structures, or objects) must possess both physical integrity and historic significance. An eligible property must have several of these factors, as well as most of the seven aspects of integrity: location, design, setting, materials, workmanship, feeling and association. In addition, an eligible property must also possess significance under at least one of the four NRHP evaluation criteria. Criteria used in the evaluation process are specified in the Code of Federal Regulations, Title 36, Part 60, National Register of Historic Places (36 CFR 60.4).

Properties can be eligible for the NRHP if they are associated with:

- Criterion A are associated with events that have made a significant contribution to the broad patterns of our history, or

- Criterion B are associated with the lives of persons significant in our past, or
- Criterion C embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components lack individual distinction, or
- Criterion D have yielded, or may be likely to yield, information important in pre-history or history.

For the purposes of this survey update project, assessments were made only under NRHP Criterion A for agricultural significance and Criterion C for architectural significance. The scope of the project did not include historical research which would be necessary to establish significance under Criterion B for association with a person of significance or under Criterion D for information potential.

The Multiple Property Documentation Form (MPDF) produced at the conclusion of the Wake County survey serves as an additional evaluation tool for determining the significance of thematically related properties by establishing registration requirements. The MPDF identified farm complexes as a property type which was a change from earlier architectural surveys that tended to focus on individual dwellings over agricultural landscapes. Lally observed that "Wake County is filled mostly with modest dwellings, surrounded by dependencies that, together with the house, often reveal more about Wake County's history than could any house by itself" (Lally and Johnson 1993: F-105). The author identified the components which were typically found on Wake County farms: a main dwelling at the center of the complex, usually facing the road, and a collection of dependencies including both domestic and agricultural outbuildings which were organized around the dwelling. The landscape surrounding the buildings, including cultivated fields, pastures, and woodlands; vegetable gardens and orchards; and farm roads and fences formed the setting for these rural properties. The MPDF's registration requirements focused on the overall ensemble:

> With farm complexes, the whole is greater than any of the individual parts. Thus, integrity derives mostly from the existence of the many components that make up farm complexes: dwellings, domestic and agricultural outbuildings, landscape features, plantings, and other farm features. Individual buildings within the complex might be altered to some degree without compromising the integrity of the whole, for which setting, form, and overall configuration of the farm's components are the most important aspects. Modifications, such as the addition of wood or metal coverings to the exteriors of some farm buildings or the relocation of buildings from one site to another on a working farm, should not adversely affect the integrity of the farm complex, as long as the general design and most of the original buildings and materials survive. These changes should be noted in the nomination, because they often reveal important information about the evolution of a farm property over time.
>
> The specifications for the integrity of dwellings that are a part of farm complexes are not as stringent as for individual houses. If the exterior of a house has been remodeled but retains its original overall form, fenestration, and identifying details, it will be considered a contributing element. Replacement siding in and of itself, in most cases, does not destroy integrity. Integrity of the interior is desirable, but not essential. In rare cases, such as with collections of very early outbuildings which are quite rare as ensembles, the integrity or even the presence of a dwelling is not required for eligibility. A dwelling without architectural integrity would be considered a non-contributing element of such a complex (Lally and Johnson 1993: F-117).

In terms of significance, the MPDF stated:

> The importance of agriculture in Wake County's history and the changes that took place in local agriculture over time are reflected best in the many farms still found on the landscape. Wake was never a county of wealthy planters, but one of small scale and middling farmers who made their livings from the land. Their dwellings were functional and relatively simple, surrounded by numerous outbuildings and other

Plate 3.1: North Raleigh subdivision entrance at the location of the former Bailey Dairy Farm (WA1324), which was demolished circa 2000 (Heckendorf 2022).

farm features essential to the operation of the farm and the household. Thus, even where the farm dwellings themselves are not architecturally outstanding, they with their outbuildings compose farmsteads that represent an agricultural lifestyle now undergoing tremendous change (Lally and Johnson 1993: F-116-117).

3.1 Context Resources with Previous NRHP Listing or Determination of Eligibility

Twenty of the 76 Context Resources had previously been listed in the NRHP, included on the State Study List, or determined to be NRHP eligible through the Section 106 process (Table 3.1; Figure 3.1). The majority of these resources appear to remain eligible for the NRHP, either individually or as contributing resources within historic districts. In these cases, minor material alterations, outbuilding loss, or changes to setting did not substantially compromise the integrity of the farm complexes, which continued to convey their agricultural significance (Plate 3.2).

Four farm complexes no longer appear to be NRHP eligible due to a substantial loss of integrity. The Ballentine Dairy Farm (WA0571; Plate 3.3; see Figure 2.32) in Fuquay Varina was listed in the NRHP as a contributing resource in the Jones-Johnson-Ballentine Historic District in 1990. However, between 2005 and 2010 the majority of land associated with the farm was developed as the Ballentine Subdivision, and only the altered farmhouse and a handful of outbuildings survive on a reduced parcel. The farm was determined to no longer be eligible for the NRHP in 2014. Similarly, after the construction of a residential subdivision led to the demolition of all surviving outbuildings, the Yates Farm (WA4799; Plate 3.4), a depression-era tobacco farm which had been included on the State Study

Table 3.1: Context Resources with previous NRHP listing or determination of eligibility.

Survey Site No.	Name	Status	NRHP Recommendation
WA0335	Frank Bryan Farm	DOEHD 2014	Remains eligible
WA0336	George & Julia Bryan Farm	DOEHD 2014	Remains eligible
WA0538	Burt Farm	SL 2017	Remains eligible
WA0571	Ballentine Dairy Farm	NRHD 1990	No longer eligible
WA0744	A.M. Howard Farm	NRHD 2000	Remains eligible
WA1004	Alious & Daisey Mills Farm and Store	NRHD 2001	Remains eligible
WA1047	H.T. Lawrence Farm	SL 1991	Remains eligible
WA1097	Allie Lawrence Farm	SL 1991; NRHD 2001	Remains eligible
WA1098	Utley-Horton Farm	NRHD 2001	Remains eligible
WA1118	Daniel Farm	SL 2006	Remains eligible
WA1119	Dwight Rowland Farm	SL 2006	Remains eligible
WA1212	George Williams Farm	DOE 2014	Remains eligible
WA1367	Wilber O'Briant Farm	SLHD 1991	Remains eligible
WA1431	Vernon Keith, Sr., Farm	SL 2017	Remains eligible
WA1689	Thomas E. Nichols Farm	SL 2016	Remains eligible
WA1928	B.A. Weathers House and Farm	DOE 2018	No longer eligible
WA4180	Bowden-Hicks Farm	DOE 1999	No longer eligible
WA4209	Mallie & Cora Butts Farm	NRHD 2000	Remains eligible
WA4799	Yates Farm	SL 2007	No longer eligible
WA4811	Dr. L.J. Faulhaber Farm	SL 2007; DOE 2014	To be demolished

NRHD – National Register of Historic Places Historic District
SL– Study List
DOE– Determined Eligible

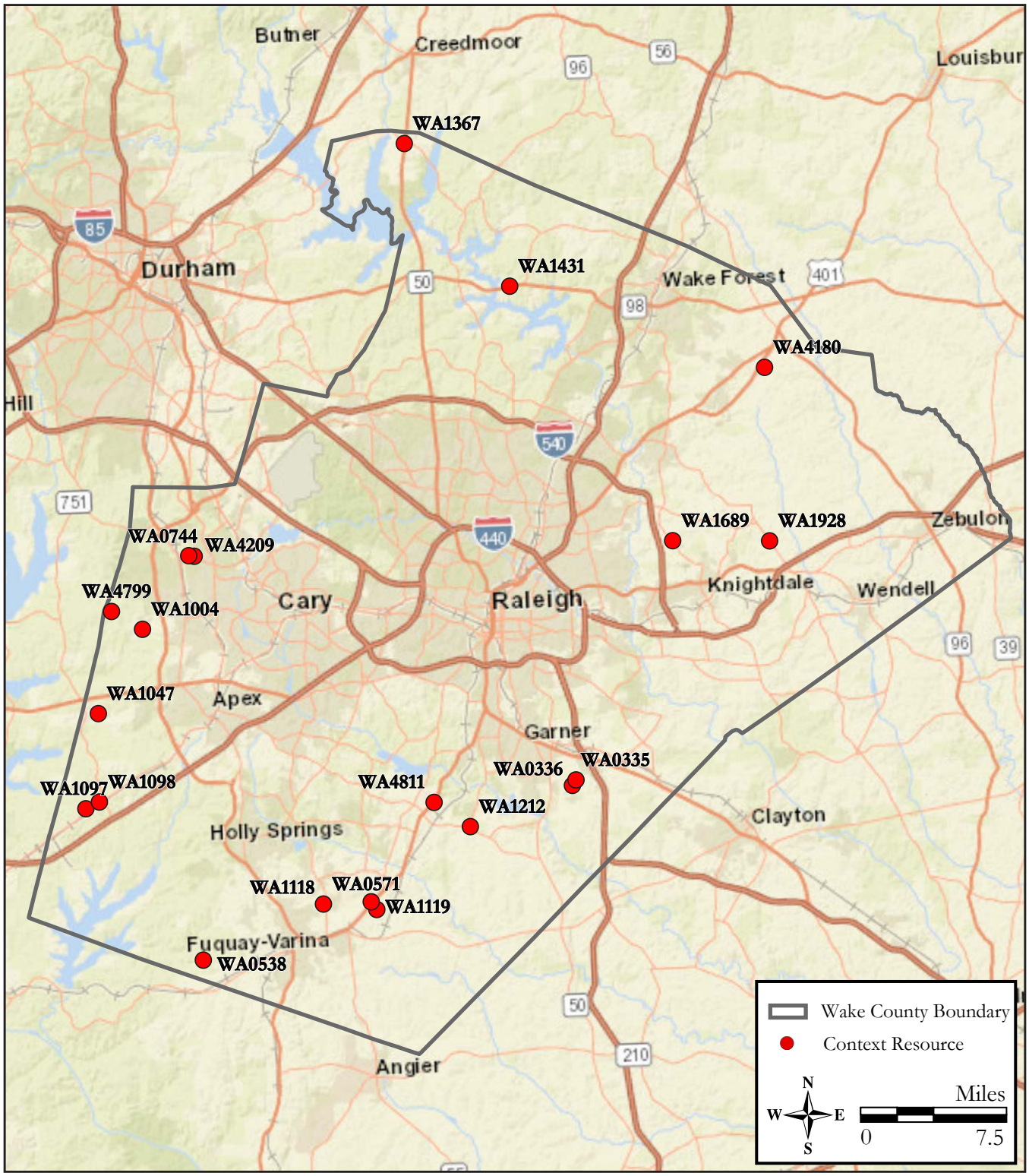

Figure 3.1: Map showing locations of Context Resources with previous NRHP listing or determinations of eligibility (ESRI 2021).

Plate 3.2: The Utley-Horton Farm (WA1098), which is part of the National Register-listed New Hill Historic District (WA1101), continues to convey its agricultural significance through its farmhouse, outbuildings, and acreage
(Heckendorf 2022).

Plate 3.3: The Ballentine Dairy Farm (WA0571) in Fuquay-Varina no longer appears to be eligible for the NRHP.
Approximately 200 acres of the 258-acre farm were lost to development for the Ballentine Subdivision and Ballentine Elementary School. The Ballentine Dairy Farm has also lost many of its outbuildings
(Heckendorf 2021).

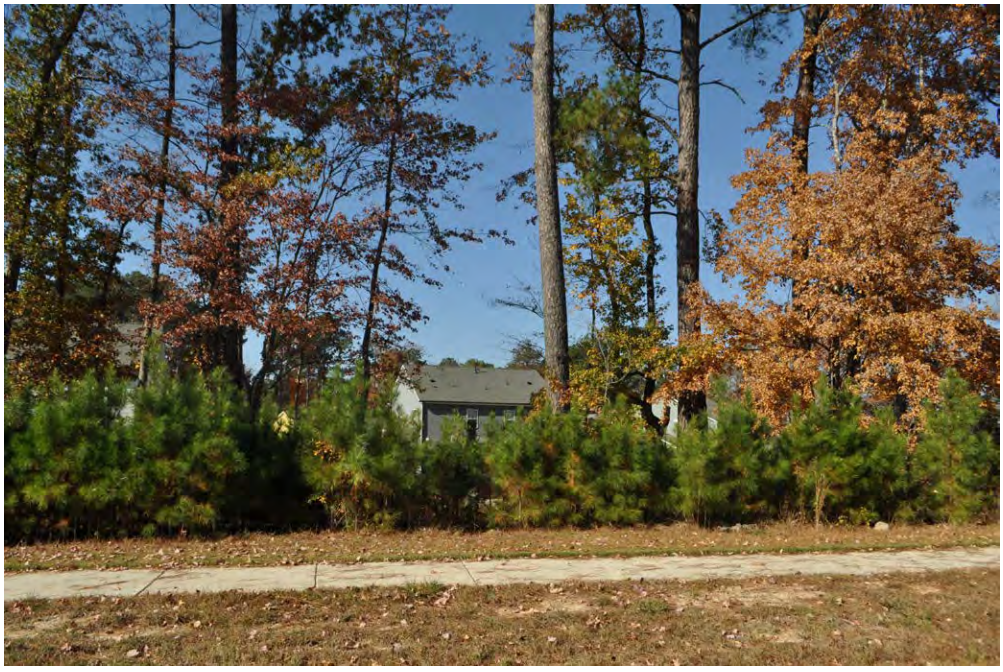

Plate 3.4: New west Cary residential development on the former location of the Yates Farm's (WA4799) tenant house, tobacco barns, and packhouses (Heckendorf 2021).

Plate 3.5: The integrity of the B.A. Weathers House and Farm (WA1928) in Knightdale has been compromised by alterations to the house, the demolition of outbuildings, and the construction of new, single-family homes on its former farmland (Heckendorf 2022).

Plate 3.6: The Bowden-Hicks Farm (WA4180) east of Rolesville has been substantially altered through a complete gutting of the farmhouse and the loss of associated outbuildings
(Heckendorf 2021).

List in 2007, was determined to no longer be eligible for the NRHP in 2018. Two farm complexes which had previously been determined eligible for the NRHP through Section 106 review, the B.A. Weathers House and Farm (WA1928; Plate 3.5) and the Bowden-Hicks Farm (WA4180; Plate 3.6), no longer appear NRHP eligible. The B.A. Weathers House and Farm has lost integrity of setting due to the demolition of associated outbuildings and the construction of multiple new houses in its immediate vicinity. In addition, material changes to the house have diminished its integrity of design and materials. The Bowden-Hicks Farm has suffered a substantial loss of integrity through a complete gutting of the farmhouse, loss of three tenant houses and a barn, and inappropriate replacement materials on the remaining outbuildings.

3.2 Context Resources that are Potentially Eligible for the NRHP and Recommended for Further Investigation

Thirteen of the 76 Context Resources which were previously recorded but had not been listed in the NRHP, included on the State Study List, or determined to be NRHP eligible, are potentially eligible and are recommended for further investigation (Table 3.2; Figure 3.2). Some of these farm complexes have older primary resources (farmhouses) but include mid-twentieth-century dwellings and agricultural outbuildings which were less than 50 years of age when the farms were first recorded, while others such as the Page Farm (WA4786) were newly recorded between 2005 and 2019 during one of Wake County's phased survey updates (Plate 3.7). Included in this group of potentially eligible resources are two family farms, the William Brinkley Farm (WA7805 and WA7806) and the J.R. Fowler Farm (WA1841 and WA1842), each having several generations of dwellings along with agricultural resources spanning many decades. In eastern Wake County, the J.R. Fowler Farm (Plate 3.8) has been in continuous operation by the Fowler Family since the eighteenth century and includes numerous early twentieth-century tenant houses, a circa 1920 store, farm buildings related to tobacco and livestock from throughout the twentieth century, three family dwellings from the 1950s to 1960s, and three recent family dwellings, set in a rural landscape of cultivated fields, pastures, and woodlands. Rather than diminishing the integrity of the agricultural landscape, the construction of new houses on the farm reflects a long tradition of sub-dividing land for successive generations of family farmers.

Table 3.2: Context Resources that are potentially NRHP eligible and recommended for further investigation.

Survey Site No.	Name	Notes
WA0352	L.C. Yeargan Farm	
WA0763	William Upchurch Farm	
WA1688	A.D. Nichols Farm	Possibly associated with WA1689 (SL)
WA1690	Rufus Smith Farm	
WA1759	Williams Farm	
WA1799	Montezuma Z. Pearce Farm	Associated with WA1798 (SL)
WA1840	J.R. Fowler Farm	Associated with WA1841
WA1841	J.R. Fowler Farm Tenant House	Associated with WA1840
WA1988	Henry A. Croom Farm	
WA4785	Snipes Farm	
WA4786	Page Farm	
WA7805	William Brinkley Farm	Associated with WA7806 and WA1392
WA7806	William Brinkley Farm Tenant House	Associated with WA7805 and WA1392

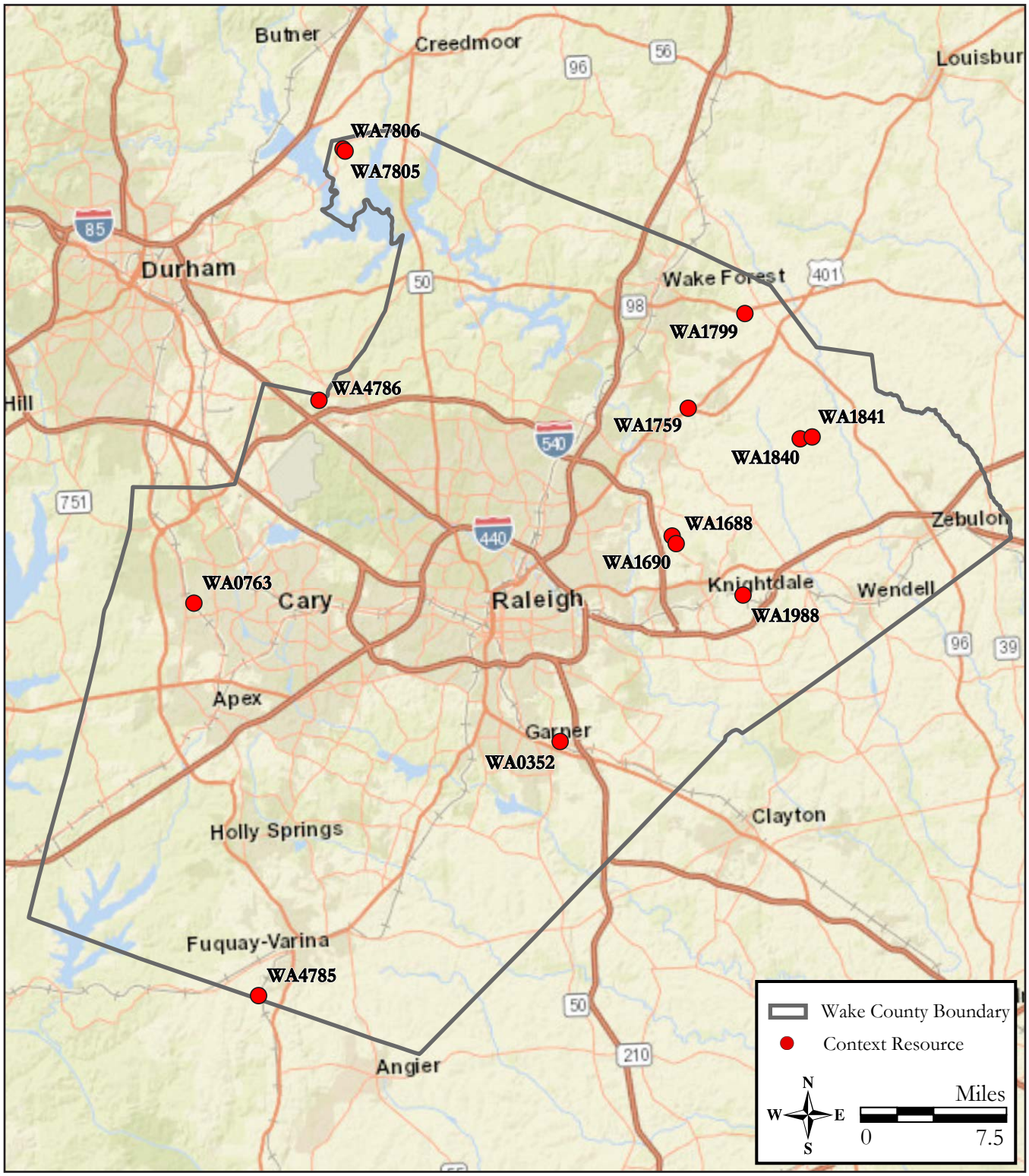

Figure 3.2: Map showing locations of Context Resources that are potentially NRHP eligible and recommended for further investigation (ESRI 2021).

Plate 3.7: The Page Farm (WA4786), located near the Durham County line north of Raleigh-Durham International Airport, includes an early-twentieth century dwelling and a substantial number of mid-twentieth-century outbuildings surrounded by cultivated farmland (Heckendorf 2021).

Plate 3.8: The J.R. Fowler Farm (WA1841 and WA1842), which has been in continuous operation in the Fowlers Crossroads Community since the eighteenth century, has a variety of outbuildings related to tobacco and livestock.
The property also includes six family dwellings, which illustrate the evolution of a family farm over time (Heckendorf 2022).

3.3 Context Resources Recommended Not NRHP Eligible

The remaining 43 Context Resources are recommended not eligible for the NRHP (Table 3.3; Figure 3.3). Some of these farm complexes are typical examples of rural properties which lack individual distinction and significance. Some have suffered a loss of material and design integrity due to alterations to dwellings and deterioration or loss of original outbuildings. In parts of the county with intense development pressure, surviving farm complexes are less likely to retain rural settings. Most importantly for evaluation as historic farm complexes, many are no longer actively farmed, which diminishes their ability to convey agricultural significance.

Table 3.3: Context Resources recommended not NRHP eligible.

Survey Site No.	Name
WA0344	Rand Farm
WA0589	Yancey Farm
WA0591	James Suggs House
WA0592	Weeks-Veasey House
WA1070	Harvey Ragan House
WA1071	James E. Ragan Farm
WA1086	Humie Olive Farm
WA1142	Ogburn-Honeycutt Farm
WA1149	Bud Lipscomb Farm
WA1323	Nipper Dairy Farm
WA1381	Paul Horton Farm
WA1679	Joseph Collier Farm
WA1739	Isa Perry Farm
WA1788	Dunn-Scarborough-Frazier Farm
WA1792	Farm Complex
WA1816	Duke-Woodlief Farm
WA1856	House
WA1857	Farm Complex
WA1864	Martin-Perry Farm
WA1880	Fernie Richards Farm
WA1885	Jesse G. Bunn Farm
WA1898	Ida Massey Jones Farm

Survey Site No.	Name
WA1967	Farm Complex
WA1968	Pope Farm
WA2010	Fernie Todd Farm
WA2028	Wall-Ledford Farm
WA2250	John Robert Baucom Farm
WA4806	Percy and Mynette Strother Farm
WA4807	B.B. and Ida Wilson Farm
WA4829	Buffaloe Farm
WA5699	Farm
WA6412	Farm
WA7194	Excel and Elsie Green Farm
WA7509	Booth Farm
WA7595	Farm Complex
WA7651	Scarboro Farm and Tenant House
WA7920	Lassiter Farm
WA8205	Farm Complex
WA8361	Watkins Farm
WA8362	Williams Farm
WA8364	Woodlief Farm
WA8365	Ellington Farm
WA8366	Pierce Farm

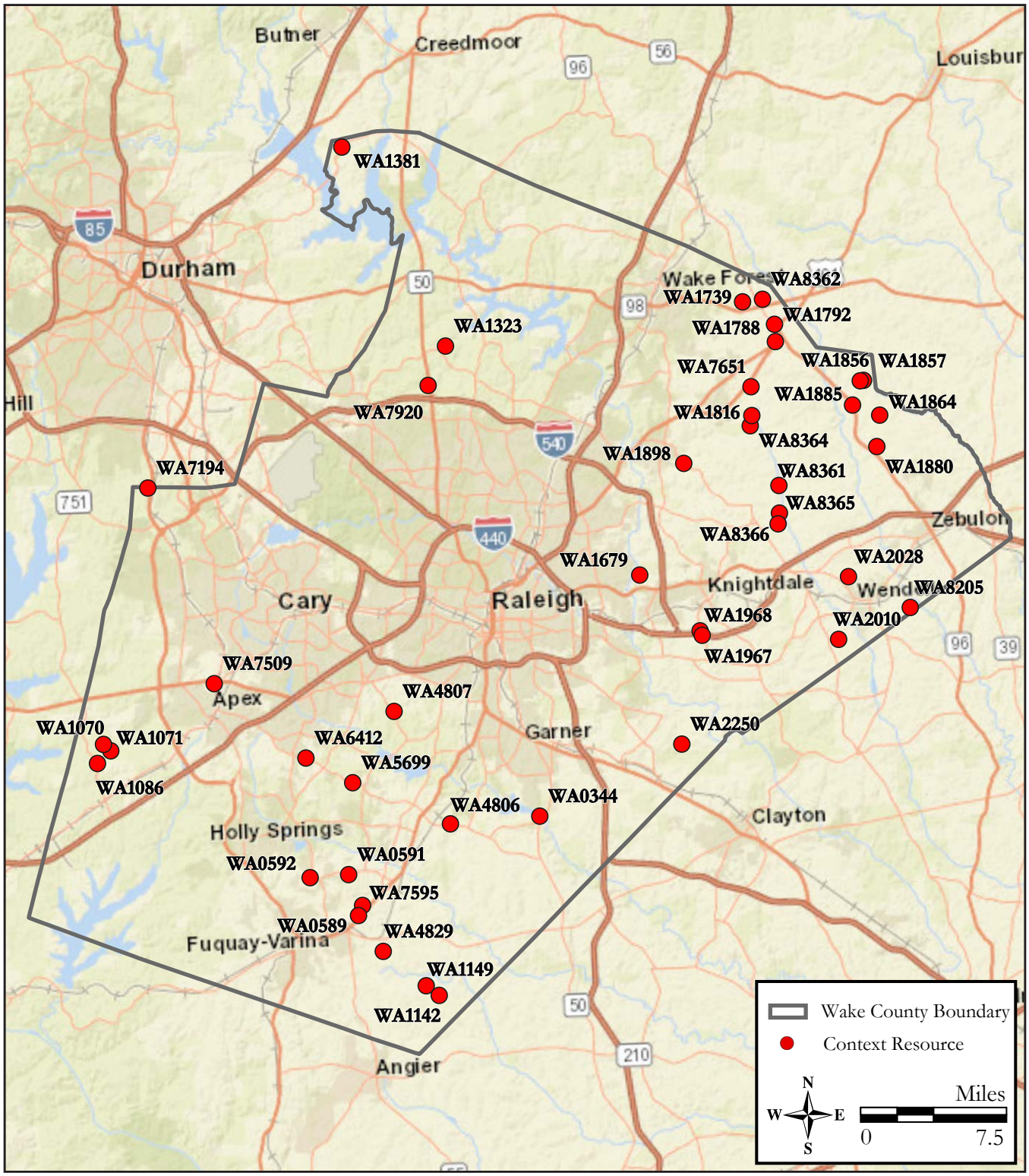

Figure 3.3: Map showing locations of Context Resources that are recommended not NRHP eligible (ESRI 2021).

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APPENDIX A: MEMORANDUM OF AGREEMENT

MEMORANDUM OF AGREEMENT

BETWEEN THE U.S. ARMY CORPS OF ENGINEERS,

NORTH CAROLINA STATE HISTORIC PRESERVATION OFFICER,

AND

RST DEVELOPMENT, LLC

FOR

CONSTRUCTION OF 401 ASSEMBLAGE, WAKE COUNTY,

NORTH CAROLINA

WHEREAS RST Development, LLC, plans to construct a residential development known as 401 Assemblage in Raleigh, Wake County, North Carolina (Undertaking); and

WHEREAS the Undertaking will require one or more federal permits from the United States Army Corps of Engineers (USACE) pursuant to Section 404 of the Clean Water Act (33 U.S.C § 1334); and

WHEREAS USACE has been designated the lead federal agency for this Undertaking with regard to compliance with Section 106 of the National Historic Preservation Act (54 U.S.C. § 306108); and

WHEREAS RST Development, LLC, (Applicant) is a consulting party as an applicant for a federal permit and/or assistance and is therefore an invited signatory, pursuant to 36 CFR § 800.2(c)(4); and,

WHEREAS USACE has determined that the Undertaking will have an adverse effect on the Dr. L.J. Faulhaber Farm (WA4811), which is eligible for listing in the National Register of Historic Places, and has consulted with the North Carolina State Historic Preservation Officer (SHPO) pursuant to 36 CFR Part 800, the regulations implementing Section 106 of the National Historic Preservation Act (54 U.S.C. § 306108); and

WHEREAS Applicant, on behalf of USACE, initiated consultation with the Catawba Indian Nation in a letter dated January 15, 2021, regarding this Undertaking in accordance with Section 106 of the National Historic Preservation Act, 54 U.S.C. § 300101 et seq. and its implementing regulations, 36 CFR Part 800, and received no objection to its determination; and,

WHEREAS in accordance with 36 CFR § 800.6(a)(1), USACE has notified the Advisory Council on Historic Preservation (ACHP) of its adverse effect determination, and the ACHP has chosen not to participate in the consultation pursuant to 36 CFR § 800.6(a)(1)(iii);

NOW THEREFORE, USACE, the SHPO, and Applicant agree that the Undertaking shall be implemented in accordance with the following stipulations in order to mitigate the effects of the Undertaking on the historic property.

STIPULATIONS

USACE shall ensure that the following stipulations are implemented:

I. MITIGATION

A. Documentation

To ensure there is a permanent record of the Dr. L.J. Faulhaber Farm as it now exists, Applicant shall carry out the recordation plan as outlined in Appendix A to this MOA.

a. Recordation must be submitted to SHPO for review and approval prior to demolition of structures or alteration of agricultural fields within the historic property boundaries.
b. If SHPO does not comment within fifteen (15) days of receipt, recordation materials may be considered sufficient for documentation and Applicant may proceed with demolition. If SHPO objects to any part of the recordation, Applicant shall undertake the work necessary to complete recordation.
c. Final submittal of recordation materials shall occur within sixty (60) days of the execution of this agreement.

B. Historical Context Document

Applicant shall develop a historical context for farm complexes (1918-1968) in Wake County, North Carolina for the purposes of providing a comprehensive understanding of the rise and decline of agriculture's importance in Wake County's economy throughout the Interwar (1918-1941), World War II (1941-1945), and post-war (1945-1968) eras. Historical context development must be undertaken by a qualified consultant who meets the Secretary of the Interior's Professional Qualifications in History or Architectural History.

a. Historical Context Requirements and Scope of Work (SOW) Development
    i. Within thirty (30) days of the execution of this agreement, the consultant will request from the SHPO a list of previously recorded resources identified as "farms" within Wake County. The consultant will use the list to identify any extant farms that fit into the period identified in Stipulation I.B.
    ii. Within sixty (60) days of the execution of this agreement, the consultant will provide the SHPO with a preliminary list of resources to be included in the historical context document. This list is the result of Stipulation I.B.a.i identification efforts. SHPO will have 15 days to comment. Once approved this list will be

known as the list of "Context Resources". The number of "Context Resources" shall not exceed 120 farm complexes.

iii. The consultant may draw upon the historic context developed in "Historic and Architectural Resources of Wake County, North Carolina (ca. 1770-1941)," which was later edited for publication as The Historic Architecture of Wake County, North Carolina (Kelly A. Lally, 1994). The consultant will expand this context as warranted and apply the principles outlined therein to specific, previously surveyed resources on the Wake County landscape, identifying the tangible evidence of larger movements in social history.

iv. The consultant will survey the Context Resources to record and evaluate any changes to architecture and setting that have occurred since the 1988-1991 Wake County architectural survey.

v. An update of the Context Resources SHPO Survey Site Record, is required if the consultants find significant changes have occurred since a Context Resource's most recent survey date. This includes an update to the Survey Site Database digital record and providing photographs/photo sheets for the Survey Site File.

vi. Context Resources will be preliminarily evaluated for National Register of Historic Places eligibility. After survey and within the historical context document, the consultant will provide a recommendation for the Context Resource as either "unlikely to be eligible/no further investigation recommended", or "likely to be eligible/further investigation recommended". If a Context Resource has been previously determined eligible for listing or is currently listed the consultant must state whether that determination is still accurate.

vii. Within ninety (90) days of the execution of this agreement, the consultant will provide the SHPO with an SOW for the development of the historical context document for review and comment. SHPO will have thirty (30) days to comment. If the SHPO does not comment within thirty (30) days, the consultant may proceed as outlined in the SOW.

b. Context Document Deliverables Timeline

i. An initial draft of the context document shall be submitted to the SHPO within twelve (12) months of the execution of this MOA. SHPO will have sixty (60) days to comment on the initial draft.

ii. A final draft of the context document and all associated deliverables for the Survey record shall be submitted to the SHPO within two (2) years of the execution of this MOA. SHPO will have thirty (30) days to comment on the final draft.

II. DURATION

This MOA will expire if its terms are not carried out within five (5) years from the date of its execution. Prior to such time, USACE may consult with the other signatories to reconsider the terms of the MOA and amend it in accordance with Stipulation V below.

III. MONITORING AND REPORTING

Following the execution of this MOA, until it expires or is terminated, Applicant shall annually provide a summary report detailing the work undertaken to all parties to this agreement. Such report shall include any scheduling changes proposed, any problems encountered, and any disputes and objections received related to carrying out the terms of this MOA.

IV. DISPUTE RESOLUTION

Should any signatory or concurring party to this MOA object at any time to any actions proposed or the manner in which the terms of this MOA are implemented, USACE shall consult with such party to resolve the objection. If USACE determines that such objection cannot be resolved, USACE will:

A. Forward all documentation relevant to the dispute, including the USACE's proposed resolution, to the ACHP. The ACHP shall provide USACE with its advice on the resolution of the objection within thirty (30) days of receiving adequate documentation.

B. If the ACHP does not provide its advice regarding the dispute within the thirty-day (30) time period, USACE may make a final decision on the dispute and proceed accordingly.

C. Prior to reaching a final decision on the dispute, USACE shall prepare a written response that takes into account any timely advice or comments regarding the dispute from the ACHP, signatories and concurring parties, and provide them with a copy of this written response. USACE will then proceed according to its final decision.

D. The parties' respective responsibility to carry out all other actions subject to the terms of this MOA that are not the subject of the dispute remain unchanged.

V. AMENDMENTS

This MOA may be amended when such an amendment is agreed to in writing by all signatories. The amendment will be effective on the date a copy signed by all of the signatories is filed with the ACHP.

VI. TERMINATION

If any signatory to this MOA determines that its terms will not, or cannot be carried out, that party shall immediately consult with the other signatories to attempt to develop an amendment per Stipulation V, above. If within thirty (30) days (or another time period

agreed to by all signatories) an amendment cannot be reached, any signatory may terminate the MOA upon written notification to the other signatories.

Once the MOA is terminated, all work related to the Undertaking shall cease, and prior to work continuing on the Undertaking, USACE will either (a) execute another MOA pursuant to 36 CFR § 800.6 or (b) request, take into account, and respond to the comments of the ACHP under 36 CFR § 800.7. USACE shall notify the signatories as to the course of action it will pursue.

VII. IMPLEMENTATION

Execution of this MOA by USACE, SHPO, and RST Development, and implementation of its terms are evidence that USACE has taken into account the effects of this Undertaking on historic properties and afforded the ACHP an opportunity to comment.

MEMORANDUM OF AGREEMENT
BETWEEN THE U.S. ARMY CORPS OF ENGINEERS,
NORTH CAROLINA STATE HISTORIC PRESERVATION OFFICER,
AND
RST DEVELOPMENT, LLC
FOR
CONSTRUCTION OF 401 ASSEMBLAGE, WAKE COUNTY,
NORTH CAROLINA

Signatory:

U.S. ARMY CORPS OF ENGINEERS
FOR THE COMMANDER

By: Scott McLendon Date: April 4, 2021
Scott McLendon
Chief, Regulatory Division
Wilmington District

MEMORANDUM OF AGREEMENT
BETWEEN THE U.S. ARMY CORPS OF ENGINEERS,
NORTH CAROLINA STATE HISTORIC PRESERVATION OFFICER,
AND
RST DEVELOPMENT, LLC
FOR
CONSTRUCTION OF 401 ASSEMBLAGE, WAKE COUNTY,
NORTH CAROLINA

Signatory:

NORTH CAROLINA STATE HISTORIC PRESERVATION OFFICER

By:_____ Date: 4/7/2021
Ramona M. Bartos
Deputy State Historic Preservation Officer

MEMORANDUM OF AGREEMENT
BETWEEN THE U.S. ARMY CORPS OF ENGINEERS,
NORTH CAROLINA STATE HISTORIC PRESERVATION OFFICER,
AND
RST DEVELOPMENT, LLC
FOR
CONSTRUCTION OF 401 ASSEMBLAGE, WAKE COUNTY,
NORTH CAROLINA

Signatory:

RST DEVELOPMENT, LLC

By:_____ Date: 04/01/2021
M. Scott Copeland
Managing Member

MEMORANDUM OF AGREEMENT

BETWEEN THE U.S. ARMY CORPS OF ENGINEERS,

NORTH CAROLINA STATE HISTORIC PRESERVATION OFFICER,

AND

RST DEVELOPMENT, LLC

FOR

CONSTRUCTION OF 401 ASSEMBLAGE, WAKE COUNTY,

NORTH CAROLINA

APPENDIX A

Recordation Plan
for
Dr. L. J. Faulhaber Farm (WA4811)
Raleigh, Wake County, North Carolina

I. Historical Background: A brief historical and physical narrative/description of the farm and building complex should be prepared to include the following:

- Date of construction
- Name of the architect/builder
- Ownership and uses of the property since initial construction
- Site plan of property and buildings with labels
- Detail of any significant agricultural or architectural details and elements
- Historic photographs and aerial photography

II. Photographic Requirements: Photographic views of the farm, buildings and associated facilities, including:

- Overall views of the main complex and fields.
- Each visible elevation of extant buildings
- Details of construction or design including exterior architecturally significant elements
- Views showing the relationship of the buildings to one another and within the agricultural setting
- Site plan keyed to photographs listed above; sketch drawing or aerial/satellite imagery with photo numbers and view direction indicated. Example can be provided upon request.

III. Format: Digital Photographs

- Digital images must be submitted on Flash Drive or CD and should be accompanied with physical prints of each image to be included in the packet
  - Use at least a 6 megapixel camera
  - May be jpeg format
  - Must be at least 3000 pixels x 2000 pixels (450 ppi for a 6.5" x 4.5")
  - Digital file names for photos should follow the convention below: SSN_PropertyName_Month/Year_PhotographerName_PhotoNumber_PhotoDescription
    - For example –
      - WA4811_FaulhaberFarm_01-2021_JaneDoe_01
  - View Descriptions should be listed in a photo log and identified by Digital File Name
  - Photosheets must be created and saved digitally as well as printed for the final physical copy of the recordation packet. Sheets should include 6-9 photographs with the file names either underneath or on the reverse side of the image. An example can be provided upon request.

IV. Copies and Curation:

- Upon acceptance of the final draft, items requested as part of the recordation packet must be deposited with the North Carolina State Historic Preservation Office to be made a permanent part of the statewide survey and iconographic collection
  - Physical Copy – Part I - All items listed; Part II - Photosheets and keyed site plan
  - Digital Copy - Part I – All items (can be merged into a single pdf document); Part II – (1) A folder containing each individual photograph with file names labeled as instructed, (2) Site plan keyed to Photos, (3) Photosheets
- All digital images and photographs to be labeled according to State Historic Preservation Office standards

APPENDIX B: QUALIFICATIONS OF THE PRINCIPAL INVESTIGATOR AND AUTHORS

RICHARD GRUBB & ASSOCIATES
Historic Architecture • Archaeology • Historical Research
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ELLEN TURCO
PRINCIPAL SENIOR HISTORIAN (36 CFR 61)

Ellen Turco has over 20 years' experience in cultural resources management across multiple industries such as transportation, telecommunications, oil and gas infrastructure, and land development. Her experience includes historical research and writing, architectural surveys and analysis, National Register of Historic Places evaluations for individual resources, districts and landscapes, both state and federal Historic Preservation Tax Credit applications, and the preparation of both Memorandum of Agreement and Programmatic Agreement documents. She has conducted and directed cultural resources surveys in accordance with Sections 106 and 110 of the National Historic Preservation Act, as amended, NEPA, and other municipal and state cultural resource regulations. Ms. Turco exceeds the qualifications set forth in the Secretary of Interior's Standards for an Historian and Architectural Historian [36 CFR 61].

YEARS OF EXPERIENCE

With this firm: 2018-Present
With other firms: 23

EDUCATION

MA 1995
North Carolina State University
Public History

BA 1992
Eckerd College
Philosophy

PROFESSIONAL TRAINING

Section 106 for Experienced Practitioners

Preparing Section 106 Agreement Documents

Section 106 Review for Planners and CRM professionals

Innovative Approaches to Section 106 Mitigation

Project Budgeting for CRM Professionals

PROFESSIONAL SOCIETIES

(former) Director, American Cultural Resources Association

Chair, Wake Forest Historic Preservation Commission

Voting Member, Capital Area Preservation Anthemion Awards Committee

2018 North Carolina Museum's Council's Award of Excellence

2016 Capital Area Preservation Anthemion Award

REPRESENTATIVE PROJECT EXPERIENCE

Improvements to U.S. 70, James City, NC (Sponsor: NCDOT) Principal Investigator and Historian for a Phase I and II Historic Architectural Resource Inventory and National Register evaluation of 250 resources in a post-Civil War African American freedmen's community in eastern North Carolina. Authored background history and historic contexts for James City and evaluated resources under the NRHP Criteria both individually and as a historic district. The identification of NRHP eligible resources was a key element of the planning process in this historically sensitive community where environmental justice issues were a factor.

Upgrades to U.S. 70, Johnston and Wayne Counties (Sponsor: NCDOT) This fast-tracked report evaluated the National Register eligibility of the Waverly H. Edwards House in a compressed timeframe. The house was the one resource located within alternative corridors so determining National Register status early on in project planning was essential. The house was recommended not eligible and a historic architecture survey of the larger areas around the alternative corridors was undertaken subsequently.

Improvements to NC 42 Interchange with I-40, Johnston County, (Sponsor: NCDOT) Principal Investigator and Historian for a Phase I Historic Architectural Resource Inventory of a formerly rural but now heavily developed 5-mile long corridor. The Phase I work eliminated 25 resources from intensive study and identified 4 resources that required Phase II National Register evaluations. The phased approach allows project planning and design to proceed in areas without historic sensitivity.

Mount Ararat African American Episcopal Church, Wilmington, New Hanover County, NC (Sponsor: NDOT) Principal Investigator and Historian for this multi-part mitigation of a Reconstruction-era African American church and cemetery. Authored NRHP nomination text for the church, former school site, and adjacent cemetery. Provided background on folk burial practices in the eastern Coastal Plain for the ground-penetrating radar cemetery survey and authored an illustrated public history booklet about the history of the Middle Sound community entitled "Kin, Kindred, Relatives and Friends." Work on this project identified a potentially eligible resource, the Nixon Oyster Plant, that had been omitted in previous planning surveys. The Oyster Plant was treated in a subsequent document to ensure that all Section 106 and NEPA requirements were met.

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PHILIP A. HAYDEN
PRINCIPAL SENIOR ARCHITECTURAL HISTORIAN (36 CFR 61)

YEARS OF EXPERIENCE
With this firm: 2003-2015; 2018-Present
With other firms: 20

EDUCATION
MA 1992
University of Delaware/Winterthur Program
Early American Culture

BA 1984
Connecticut College
American History & Historic Preservation

PROFESSIONAL TRAINING
ACHP Advanced Seminar: Reaching Successful Outcomes in Section 106 Review; August 2011

CRM Best Practices Workshop, October 2006

Section 106: An Introduction, May 2005

Philip A. Hayden possesses over 30 years' experience in the fields of historic preservation, architectural history, and cultural resources management with an emphasis on transportation, railroad, and energy undertakings. Mr. Hayden has performed numerous investigations pursuant to the National Historic Preservation Act (NHPA, Sections 106 and 110), the National Environmental Policy Act (NEPA), the Department of Transportation Act (Section 4(f), and various state regulatory requirements. His experience includes preparation of identification and evaluation surveys, detailed historic contexts, effects determinations, Memorandums of Agreement (MOAs), Project Programmatic Agreements (PAs), and Historic American Buildings Survey (HABS)/Historic American Engineering Record (HAER) documentation. Mr. Hayden exceeds the qualifications set forth in the Secretary of Interior's Standards for Historians and Architectural Historians [36 CFR 61].

REPRESENTATIVE PROJECT EXPERIENCE

Historic Dam Context, Avery, Watauga, and Wilkes Counties, NC (Sponsor: Blue Ridge Resource Conservation and Development Council, Inc.). As mitigation for adverse effects to the National Register-eligible B.O. Ward House and Mill Complex caused by the removal of the Ward Mill Dam, Mr. Hayden researched and authored a historical background essay and context for mills and dams in three western North Carolina counties.

Historic Resources Inventory, Fairfax Manor/Lake Side Park, City of Jacksonville, Duval County, FL (Sponsor: FEMA). In support of a large neighborhood architectural survey of approximately 225 residential structures, Mr. Hayden researched and authored an extensive historic context consistent with Florida State Historic Preservation Office requirements.

Widening of NC 115 from US 421 to 2nd Street, North Wilkesboro, Wilkes County, NC (Sponsor: NCDOT). This North Carolina Department of Transportation project required intensive-level survey and National Register evaluation of 11 resources. Mr. Hayden researched and authored historic contexts for the poultry and livestock production in Wilkes County, enabling the evaluation of resources associated with those industries.

WV Route 10 Operational Improvements Project, Mercer, Wyoming, and Logan Counties, WV (Sponsor: WVDOT). This high-priority project for the West Virginia Department of Highways required cultural resources clearance for 70 miles of roadway improvements and numerous bridge replacements in a two-month period. Mr. Hayden, working as Principal Investigator and Senior Architectural Historian for TRC, delineated multiple areas of potential effect, prepared required Historic Property Inventory forms, evaluated National Register eligibility, and assessed project effects.

Eight Point Wind Energy Center Project, Allegany and Steuben Counties, NY (Sponsor: NextEra, Eight Point Wind Energy Center LLC). Acting as Principal Investigator and Senior Architectural Historian with TRC, Mr. Hayden coordinated with the New York State Office of Parks, Recreation, and Historic Preservation to finalize the fieldwork methodology, develop an Area of Potential Effects, and conduct a reconnaissance-level architectural survey and assessment of effects on 797 newly identified historic resources in rural New York. The investigation was in support of US Army Corps of Engineers permits and Articles VII and X of the New York Public Service Law.

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DEBBIE BEVIN
SENIOR ARCHITECTURAL HISTORIAN (36 CFR 61)

YEARS OF EXPERIENCE
With this firm: 2020-Present
With other firms: 25

EDUCATION
MA 1993
Georgia State University
Heritage Preservation

BA 1988
University of Virginia
Architectural History

PROFESSIONAL TRAINING
Section 106 for Experienced Practitioners

Preparing Section 106 Agreement Documents

Protecting Historic Properties during Disaster Response

Flood Hazard Mitigation in Historic Districts

Debbie Bevin, MA, has over 25 years' experience in the field of cultural resources management, including work at the federal, state, and local government levels, for non-profit organizations, and private-sector consulting firms. For the majority of her career she has focused on environmental compliance in accordance with Sections 106 and 110 of the National Historic Preservation Act, as amended, NEPA, and other municipal and state cultural resource regulations, particularly as they relate to transportation and disaster recovery. Ms. Bevin was the reviewer for all NCDOT transportation projects while employed with the North Carolina State Historic Preservation Office, where she identified historic properties, made determinations of eligibility, assessed effects, and negotiated agreement documents for transportation undertakings which adversely affected historic resources. She also has extensive experience identifying, documenting, and evaluating historic architectural resources. Ms. Bevin exceeds the qualifications set forth in the Secretary of Interior's Standards for an Architectural Historian [36 CFR 61].

REPRESENTATIVE PROJECT EXPERIENCE

Replace Bridge 57, Carteret County, NC (Sponsor: NCDOT) Architectural historian for in-depth National Register evaluations and determinations of eligibility for a nineteenth-century dwelling, a twentieth-century progressive farm, and a historic canal. The report was completed to the standards of the North Carolina State Historic Preservation Office (NCSHPO) and NCDOT.

Yeargan Farm Historic Structures Survey Report, Garner, Wake County, NC (Sponsor: Town of Garner, NC) Architectural Historian for in-depth National Register evaluation and determination of eligibility for a circa 1920s farm complex. Project was undertaken as part of master planning for a proposed recreational park on the property.

Druid Hills Historic Structures Survey, Charlotte, Mecklenburg County, NC (Sponsor: City of Charlotte, NC) Architectural Historian for historic structures survey and in-depth National Register eligibility evaluations for seven post-World War II neighborhoods containing over 1,000 individual resources. Project was undertaken in anticipation of future undertakings that may be funded by HUD and would therefore be subject to Section 106. Thematic focus areas included FHA-promulgated community planning and architecture, and the socioeconomic forces and government programs which promoted and enforced racial segregation.

NC 115 Improvements, North Wilkesboro, Wilkes County, NC (Sponsor: NCDOT) Architectural Historian for Phase II Historic Architecture Survey Report with in-depth National Register of Historic Places eligibility evaluations for eleven properties. The report was completed to the standards of the North Carolina State Historic Preservation Office (NCSHPO) and NCDOT.

Historic Architecture Survey Update of Apex, Fuquay-Varina, and Holly Springs (Sponsor: Capital Area Preservation, Wake County Historic Preservation Commission and NC Historic Preservation Office) Served as Architectural Historian for the documentation of 487 historic buildings in southwest Wake County. Final report included recommendations for National Register historic districts, individual properties, and local historic landmarks. A federal Historic Preservation Fund grant administered by the North Carolina State Historic Preservation Office funded the project.

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OLIVIA H. HECKENDORF
ARCHITECTURAL HISTORIAN (36 CFR 61)

Olivia Heckendorf's experience includes historical research, writing, and architectural surveys. Ms. Heckendorf has worked on cultural resources surveys completed in accordance with Section 106 of the National Historic Preservation Act, as amended. Her educational and professional experience meet the qualifications set forth in the Secretary of Interior's Standards for an Architectural Historian [36 CFR 61].

YEARS OF EXPERIENCE

With this firm: 2019-Present
With other firms: 1

EDUCATION

MA 2019
Cornell University
Historic Preservation Planning

BA 2015
University of Wisconsin-Whitewater
History

PROFESSIONAL TRAINING

ACRA Technical Writing Webinar

PROFESSIONAL SOCIETIES

Member, American Cultural Resources Association

Member, Cornell University Historic Preservation Planning Alumni

Member, Preservation League of New York State

Member, Preservation North Carolina

REPRESENTATIVE PROJECT EXPERIENCE

Historic Structures Survey Report for Grove Airport, Charlotte, Mecklenburg County, NC (Sponsor: U.S. Department of Housing and Urban Development) Conducted a survey of 28 buildings that were part of circa 1941 airport. Survey work included the identification of airport building types and photographs of both the exterior and interiors when possible. Research was limited due to the COVID-19 outbreak, but online resources proved to be extremely valuable. In addition, maps were made to reflect the various construction periods over time. Due to integrity, the Grove Airport was recommended not eligible for the National Register of Historic Places and this was agreed upon by NC SHPO.

Improvements to Smith-Reynolds Airport, Winston-Salem, Forsyth County, NC (Sponsor: Federal Aviation Administration) Conducted a survey of the African American neighborhood of Castle Heights and Mount Sinai Full Gospel Deliverance Center. Completed a historic context regarding the history of the African American community in Winston-Salem, including topics such as "red-lining" and urban renewal.

Corridor K, Graham County, NC (Sponsor: NCDOT) Architectural historian for Phase I and II Historic Architecture studies. Completed surveys of large project corridor with a combined resource count of over 200. Work within a compressed time frame requested by NCDOT. Conducted extensive research on roughly 40 potentially NRHP-eligible properties. The Phase I work eliminated resources from intensive study and identified resources that required Phase II National Register evaluations. Digital data capture and early identification of potentially historic properties support NCDOT's public involvement efforts and the development of avoidance plans and feasible alternatives.

NC 115 Improvements, North Wilkesboro, Wilkes County, NC (Sponsor: NCDOT) Architectural historian for Phase I and Phase II Historic architecture studies. Phase I documented over 80 resources to the standards of the NC SHPO and NCDOT. All buildings were documented with photographs and digital capture was used in the field. Findings were presented to NCDOT to identify resources that required Phase II National Register Evaluation. Phase II included intensive-level study of 11 resources and the completion of a historic context for the area.

Determination of National Register of Historic Places Eligibility for the Ezra Rural Historic District, Johnston County, NC (Sponsor: U.S. Army Corps of Engineers) Surveyed properties within a one-mile radius of the established APE in order to determine the boundary of the Ezra Rural Historic District. Fieldwork included the documentation of both previously surveyed properties and unsurveyed properties. In total, 16 properties were surveyed and four of those were recommended for inclusion within the boundary of the Ezra Rural Historic District. Research for the historic context included a discussion of post-Civil War farmsteads and their development into the first half of the twentieth century.