

## Type I and II Ground Disturbing Categorical Exclusion Action Classification Form

STIP Project No.	<u>U-6023</u>
WBS Element	<u>47149.1.1</u>
Federal Project No.	<u>STBG-0527(020)</u>

A. Project Description:

The North Carolina Department of Transportation proposes to upgrade the traffic signal system in Wake Forest, Wake County. The Wake Forest Traffic Signal System project includes replacing signal cabinets on 35 signals, the installation of 24 miles of fiber optic cable, and the addition of eight new CCTV cameras. Thirty-two existing base-mounted cabinets will be replaced with new base-mounted cabinets, two pole-mounted cabinets will be replaced with base-mounted, and one existing pole-mounted cabinet will be removed and replaced with a pole-mounted cabinet. One new base mounted cabinet is proposed. One CCTV camera will be mounted on a new pole and all others will be on existing poles. Any new fiber optic cable will be installed underground in conduit or on existing aerial utility lines. Figure 1 shows the project vicinity and Figures 2-2.29 show the proposed design details.

According to the 2018-2027 NCDOT STIP (updated July 2019), the project is currently scheduled to begin construction in fiscal year 2020 and estimated to have a total cost of \$3.2 million.

B. Description of Need and Purpose:

Due to recent and anticipated population growth in the Town of Wake Forest, a fiber-optic network and modern Ethernet-based network to improve signal timing and coordination is required to meet the growing needs of the population.

C. Categorical Exclusion Action Classification:

TYPE I A

D. Proposed Improvements

8. Installation of fencing, signs, pavement markings, small passenger shelters, traffic signals, and railroad warning devices where no substantial land acquisition or traffic disruption will occur.

## E. Special Project Information:

### **Jurisdictional Features**

Ten jurisdictional streams, including two streams on the North Carolina 2018 Final 303(d) list of impaired waters for exceeding criteria for benthos were identified in the study area, as documented in the *Natural Resources Technical Report* (July 2019). There are no anticipated impacts to jurisdictional streams. No ponds or wetlands were identified in the study area.

### **Floodway**

The project proposes construction of underground fiber across three regulatory floodway areas. The final construction grade is proposed to match the existing grade; therefore, no impacts to floodways are anticipated.

### **Tribal Coordination**

This project falls within a North Carolina County in which a federally recognized Tribe, the Catawba Indian Nation, and a state recognized Tribe, the Haliwa-Saponi Indian Tribe, have expressed an interest in ground disturbing activities. The Catawba Indian Nation and the Haliwa-Saponi Tribe were notified about the project. In a letter dated May 21, 2019, the Catawba Indian Nation indicated no immediate concerns with regard to the project area and request to be notified if Native American artifacts and/or human remains are located during the ground disturbance phase of the project. The Haliwa-Saponi Tribe did not respond.

### **Cultural Resources**

An "Effects Required Form" was completed by the NCDOT Historic Architecture Unit on May 20, 2019 which identified seven historic properties within the project study area. Five of these sites have proposed improvements on or directly adjacent to the property. NCDOT completed a "No Historic Properties Present or Affected" form on August 20, 2019.

A "No Archaeological Survey Required Form" was completed by the NCDOT Archaeology group on March 19, 2019.

### **Hazardous Materials**

There are hazardous material sites located within the study area. The majority of ground disturbing activities take place within existing NCDOT right-of-way and do not encroach on parcels with hazardous materials. Therefore, there are no anticipated impacts to hazardous material sites.

F. Project Impact Criteria Checklists:

<u>Type I &amp; II - Ground Disturbing Actions</u>			
<u>FHWA APPROVAL ACTIVITIES THRESHOLD CRITERIA</u>			
If any of questions 1-7 are marked "yes" then the CE will require FHWA approval.		Yes	No
1	Does the project require formal consultation with U.S. Fish and Wildlife Service (USFWS) or National Marine Fisheries Service (NMFS)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2	Does the project result in impacts subject to the conditions of the Bald and Golden Eagle Protection Act (BGPA)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3	Does the project generate substantial controversy or public opposition, for any reason, following appropriate public involvement?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4	Does the project cause disproportionately high and adverse impacts relative to low-income and/or minority populations?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
5	Does the project involve a residential or commercial displacement, or a substantial amount of right of way acquisition?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
6	Does the project require an Individual Section 4(f) approval?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
7	Does the project include adverse effects that cannot be resolved with a Memorandum of Agreement (MOA) under Section 106 of the National Historic Preservation Act (NHPA) or have an adverse effect on a National Historic Landmark (NHL)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
If any of questions 8 through 31 are marked "yes" then additional information will be required for those questions in Section G.			
<u>Other Considerations</u>		Yes	No
8	Does the project result in a finding of "may affect not likely to adversely affect" for listed species, or designated critical habitat under Section 7 of the Endangered Species Act (ESA)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
9	Is the project located in anadromous fish spawning waters?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
10	Does the project impact waters classified as Outstanding Resource Water (ORW), High Quality Water (HQW), Water Supply Watershed Critical Areas, 303(d) listed impaired water bodies, buffer rules, or Submerged Aquatic Vegetation (SAV)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
11	Does the project impact waters of the United States in any of the designated mountain trout streams?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
12	Does the project require a U.S. Army Corps of Engineers (USACE) Individual Section 404 Permit?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
13	Will the project require an easement from a Federal Energy Regulatory Commission (FERC) licensed facility?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
14	Does the project include a Section 106 of the NHPA effects determination other than a no effect, including archaeological remains?	<input type="checkbox"/>	<input checked="" type="checkbox"/>

<u>Other Considerations (continued)</u>		Yes	No
15	Does the project involve hazardous materials and/or landfills?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
16	Does the project require work encroaching and adversely affecting a regulatory floodway or work affecting the base floodplain (100-year flood) elevations of a water course or lake, pursuant to Executive Order 11988 and 23 CFR 650 subpart A?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
17	Is the project in a Coastal Area Management Act (CAMA) county and substantially affects the coastal zone and/or any Area of Environmental Concern (AEC)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
18	Does the project require a U.S. Coast Guard (USCG) permit?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
19	Does the project involve construction activities in, across, or adjacent to a designated Wild and Scenic River present within the project area?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
20	Does the project involve Coastal Barrier Resources Act (CBRA) resources?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
21	Does the project impact federal lands (e.g. U.S. Forest Service (USFS), USFWS, etc.) or Tribal Lands?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
22	Does the project involve any changes in access control?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
23	Does the project have a permanent adverse effect on local traffic patterns or community cohesiveness?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
24	Will maintenance of traffic cause substantial disruption?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
25	Is the project inconsistent with the STIP or the Metropolitan Planning Organization's (MPO's) Transportation Improvement Program (TIP) (where applicable)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
26	Does the project require the acquisition of lands under the protection of Section 6(f) of the Land and Water Conservation Act, the Federal Aid in Fish Restoration Act, the Federal Aid in Wildlife Restoration Act, Tennessee Valley Authority (TVA), or other unique areas or special lands that were acquired in fee or easement with public-use money and have deed restrictions or covenants on the property?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
27	Does the project involve Federal Emergency Management Agency (FEMA) buyout properties under the Hazard Mitigation Grant Program (HMGP)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
28	Does the project include a <i>de minimis</i> or programmatic Section 4(f)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
29	Is the project considered a Type I under the NCDOT's Noise Policy?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
30	Is there prime or important farmland soil impacted by this project as defined by the Farmland Protection Policy Act (FPPA)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
31	Are there other issues that arose during the project development process that affected the project decision?	<input type="checkbox"/>	<input checked="" type="checkbox"/>



G. Additional Documentation as Required from Section F

**Question 1**

The USFWS has developed a programmatic biological opinion (PBO) in conjunction with the Federal Highway Administration (FHWA), the US Army Corps of Engineers (USACE), and NCDOT for the northern long-eared bat (NLEB) in eastern North Carolina. The PBO covers the entire NCDOT program in Divisions 1-8, including all NCDOT projects and activities. The programmatic determination for NLEB for the NCDOT program is May Affect, Likely to Adversely Affect. The PBO provides incidental take coverage for NLEB and will ensure compliance with Section 7 of the Endangered Species Act for five years for all NCDOT projects with a federal nexus in Divisions 1-8, which includes Wake County, where TIP U-6023 is located. This level of incidental take is authorized from the effective date of a final listing determination through April 30, 2020.

**Question 10**

The project is located in the Neuse River Basin which includes Smith Creek (Wake Forest Reservoir), a High Quality Water (HQW) and water supply watershed (WS-1 or WS-II). The project is not anticipated to impact any jurisdictional water sources.

**Question 15**

There are hazardous materials sites located within the study area. The majority of ground disturbing activity takes place within NCDOT right-of-way and there is no ground disturbing activity proposed on parcels with hazardous materials. Figures 2.1-2.29 show all hazardous material locations adjacent to the project. There are no anticipated impacts to hazardous material sites.

H. Project Commitments

**Wake County  
Wake Forest Signal System  
STIP No.: U-6023  
WBS No.: 47149.1.1  
FA No.: STBG-0527(020)**

COMMITMENTS FROM PROJECT DEVELOPMENT AND DESIGN

NCDOT Archaeology

The NCDOT Archaeology Group will notify the Catawba Indian Nation if Native American artifacts and/or human remains are located during the construction phase of the project.

NCDOT Environmental Analysis Unit

The current plans do not include proposed impacts to jurisdictional streams. If the project scope changes to include aquatic impacts, species surveys would be required prior to construction to satisfy Section 7.

NCDOT Historic Architecture

No storage of materials or equipment will occur within the boundaries of the historic resources. Should trenching disturb any sidewalk, design specifications will include a provision for replacement in kind. Specifications will also prohibit removal or damage to granite curbing and stone walls, as well as removal, trimming, or damage to trees.

The below listed features, as well as all built and landscape elements within the boundaries of the five critical properties within the Wake Forest Local Historic District, should be afforded proper protection during construction:

- The picket fence enclosing the corner property in the southeast corner of South Avenue and South Main Street.
- The granite curbing along South Avenue and South Main Street.
- The granite curbing and stone wall along Front Street, North Avenue, North Main Street.
- The "Town Tree" (a deodar cedar) on North Avenue between the seminary and railroad tracks located in the island.

I. Categorical Exclusion Approval

STIP Project No.	<u>U-6023</u>
WBS Element	<u>47149.1.1</u>
Federal Project No.	<u>STBG-0527(020)</u>

**Prepared By:**

8/20/2019

Date

DocuSigned by:

*Teresa Gresham, P.E.*

E67C91DDE5AA4DC...

Teresa Gresham, PE  
Kimley-Horn and Associates

**Prepared For:**

NCDOT Division of Highways

**Reviewed By:**

8/26/2019

Date

DocuSigned by:

*Colin Mellor*

33883E5FFD0F44D3...

Colin Mellor, Eastern Regional Team Lead  
Environmental Policy Unit  
North Carolina Department of Transportation



**Approved**

If all of the threshold questions (1 through 7) of Section F are answered "no," NCDOT approves this Categorical Exclusion.



**Certified**

If any of the threshold questions (1 through 7) of Section F are answered "yes," NCDOT certifies this Categorical Exclusion.

8/26/2019

Date

DocuSigned by:

*Pamela R Williams*

48B1AAEF4334D463...

Pamela R. Williams  
Project Management Unit  
North Carolina Department of Transportation

19-02-0033



## NO ARCHAEOLOGICAL SURVEY REQUIRED FORM

This form only pertains to ARCHAEOLOGICAL RESOURCES for this project. It is not valid for Historic Architecture and Landscapes. You must consult separately with the Historic Architecture and Landscapes Group.



### PROJECT INFORMATION

Project No: **U-6023** County: **Wake & Franklin**  
 WBS No: **47149.1.1** Document: **C E**  
 F.A. No: **STBG-0527(020)** Funding:  State  Federal

Federal Permit Required?  Yes  No Permit Type: **usace**

**Project Description:** NCDOT proposes to upgrade and expand a portion of the existing Wake Forest signal system / ITS in Wake and Franklin Counties. The work may include improvements to the existing traffic signals, communications upgrade and expansion, field equipment upgrades, and expansion of the video monitoring system. In addition to possible aerial or wireless connections, some underground earth disturbances may be expected in the form of trench excavation, bored directional drilling, pole installation and footings for other operations and control equipment. Total coverage of the project is noted as 24.0 miles on the request for archaeological input. Much of the work has minor width and will be done over already disturbed roadside environments, often with the existing ROW. Therefore, the archaeological Area of Potential Effects amounts to a series of narrow, linear improvements above and below ground and small points where any new posts/poles for traffic signals, overhead wires or cameras, or utility/communications control boxes, are required. For purposes of this review, the focus is on the subsurface improvements. Under the Programmatic Agreement for Minor Transportation Projects (PA), all of these are generally exempt activities, however, the wide spread scale of this project resulted in further input from our office.

This is federally funded project, therefore Section 106 of the National Historic Preservation Act applies for the archaeological review. A USACE permit may be necessary, too. Please note that a separate review is required for Historic Architecture.

### SUMMARY OF CULTURAL RESOURCES REVIEW

#### **Brief description of review activities, results of review, and conclusions:**

USGS and GIS mapping shows the project area is present in northern Wake County with a portion crossing into into Franklin County. While there are undeveloped parcels in nearly all the segments of the project, the area has undergone very recent modern development. Virtual streetside viewing was conducted at certain locations and showed conditions including utilities, driveways, wooded lots, etc. along the project streets. According to USGS mapping and GIS resources (data layer created by NCDOT archaeologist Paul J. Mohler), a small number of cemeteries are present nearby the APE though appear to be avoided. Should designs or fieldwork encounter cemeteries or suspected human remains, please contact this office immediately for further input.

The Office of State Archaeology was visited in the spring of 2019 to review archaeological mapping and to reference any known archaeological surveys and sites. This helps establish an archaeological context for comparison. There have been several archaeological reviews in the general project vicinity, mostly compliance-based research. Examples include the large scale PA 17-06-0018 for improvement to US 1 which will require archaeological survey, and the much smaller PA 16-04-0006 which was not recommended for survey. Several archaeological sites are present in the general project area though are not likely to be impacted by the project, based on APE and the nature of the work to be done. For example,

19-02-0033

the Ailey Yong House (31Wa1958) is nearby the project area a block or two away, but not adjacent or within the APE and will not be affected.

A review of the NC HPOweb resource shows the presence of NRHP listed historic districts and properties, notably the WA1665 Wake Forest Historic District (2003), and the WA0047 Wakefields (Home Acres) (1974) property. Other determined eligible resources include the Raleigh & Gaston Rail Corridor which crosses the APE at three locations. It is assumed that no subsurface archaeological elements that contribute to NRHP eligibility will be affected by the signalization and IT improvements. Note, a separate review by the NCDOT Architectural Historian Team is required.

The ground disturbing footprint of this project is limited, having great length in certain areas but is otherwise extremely narrow. There will be no notable large or expanded impact areas and much of the project will overlap existing facilities and ROW. Due to the nature of the roadside improvements, much of the APE has already been impacted and is considered to have disturbed soils. Expectations are low that an intact, significant archaeological site would be affected during the signal system improvements based on the relative scale of the footprint. No new archaeological survey is recommended for this undertaking as currently proposed. For archaeological review, the proposed signal system upgrade should be considered compliant with Section 106.

***Brief Explanation of why the available information provides a reliable basis for reasonably predicting that there are no unidentified historic properties in the APE:***

The scale and nature of the project is limited to narrow subsurface impacts, generally within a disturbed archaeological context and within existing modified ROW. It is unlikely that any archaeological remains associated properties identified as listed or eligible National Register of Historic Places would be impacted during this undertaking. Cemeteries appear to be avoided. For archaeological review, this federally funded undertaking should be considered compliant with Section 106.

A separate review from the NCDOT Architectural History team is required for their input. Should any cemeteries, human remains or unanticipated archaeological discoveries be encountered during the project, please contact our office immediately for any necessary further input.

This project falls within a North Carolina County in which a federally recognized Tribe, the Catawba Indian Nation, has expressed an interest. It is recommended that you contact each federal agency involved with your project to determine their Section 106 Tribal consultation requirements.

**SUPPORT DOCUMENTATION**

See attached:  Map(s)     Previous Survey Info     Photos     Correspondence  
 Photocopy of County Survey Notes    Other:

**FINDING BY NCDOT ARCHAEOLOGIST**

**NO ARCHAEOLOGY SURVEY REQUIRED**



NCDOT ARCHAEOLOGIST

**3/19/2019**

Date



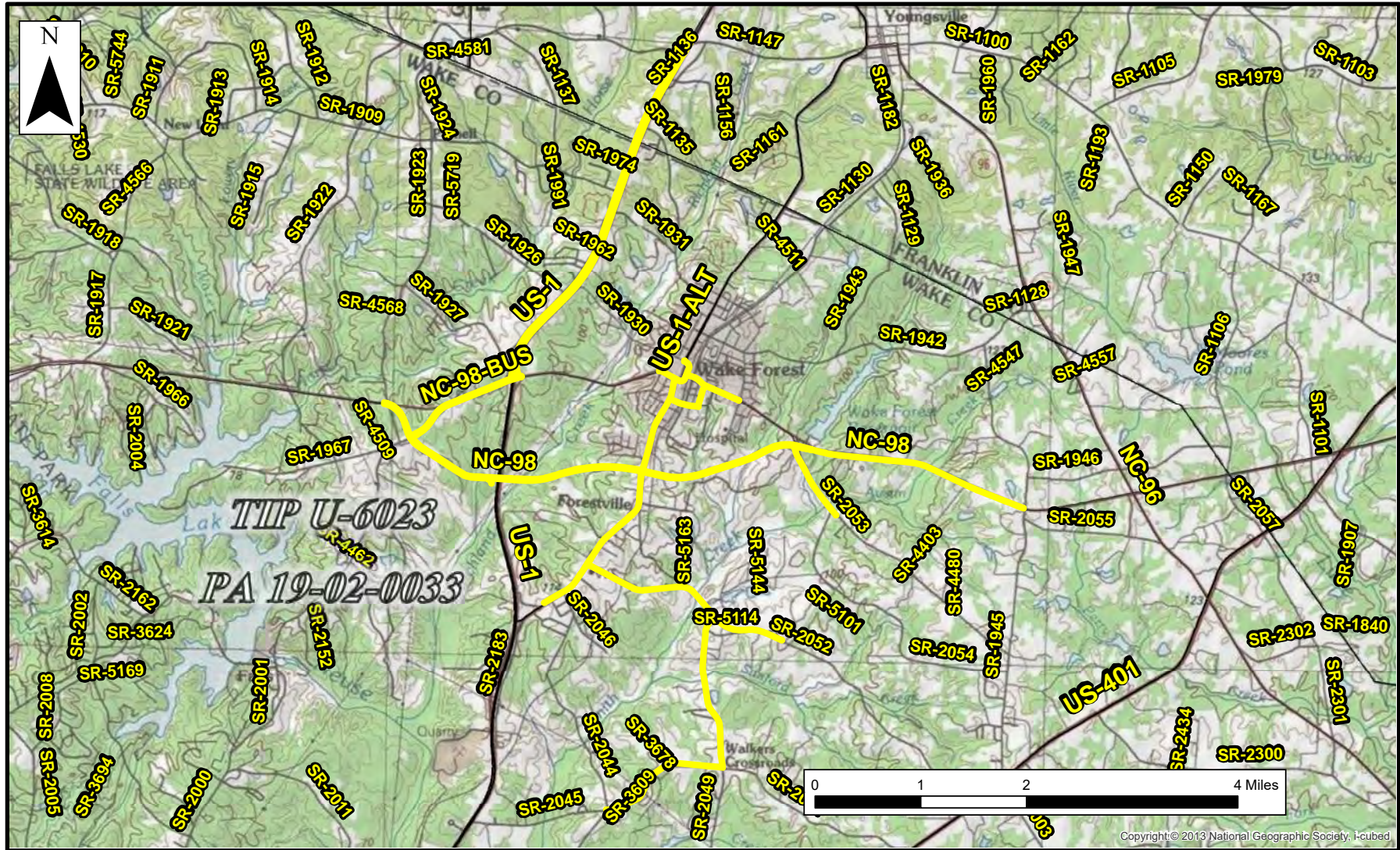


Figure 1. Vicinity of TIP # U-6023 / PA 19-02-0033, the proposed upgrade and installation of a computerized traffic signal system for a portion of Wake Forest in Wake County. The APE is shown here on USGS mapping (Wake Forest and Rolesville) is depicted larger than the expected actual impacts of the upgrade. The actual footprint may be very narrow and will usually be adjacent to the existing road and facilities.







19-02-0033



## HISTORIC ARCHITECTURE AND LANDSCAPES NO HISTORIC PROPERTIES PRESENT OR AFFECTED FORM

This form only pertains to Historic Architecture and Landscapes for this project. It is not valid for Archaeological Resources. You must consult separately with the Archaeology Group.

### PROJECT INFORMATION

<b>Project No:</b>	U-6023	<b>County:</b>	Wake and Franklin
<b>WBS No.:</b>	47149.1.1	<b>Document Type:</b>	
<b>Fed. Aid No:</b>	STBG-0527(020)	<b>Funding:</b>	State <input type="checkbox"/> Federal <input checked="" type="checkbox"/>
<b>Federal Permit(s):</b>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<b>Permit Type(s):</b>	USACE
<b>Project Description:</b> Upgrade thirty-six (36) traffic signals and install twenty-four (24) miles of fiber optic cable and four (4) new CCTV cameras on the Wake Forest Traffic Signal System in Wake and Franklin Counties.			

### SUMMARY OF HISTORIC ARCHITECTURE AND LANDSCAPES REVIEW

- There are no National Register-listed or Study Listed properties within the project's area of potential effects.
- There are no properties less than fifty years old which are considered to meet Criteria Consideration G within the project's area of potential effects.
- There are no properties within the project's area of potential effects.
- There are properties over fifty years old within the area of potential effects, but they do not meet the criteria for listing on the National Register.
- There are no historic properties present or **affected** by this project. (Attach any notes or documents as needed.)

**DESCRIPTION OF REVIEW ACTIVITIES, RESULTS, AND CONCLUSIONS:** HPOWeb reviewed on 22 March 2019 and yielded five NR (one of which is also LD), one DE, one LD, and no SS or SL properties in the Area of Potential Effects (APE). The APE equates with the study area provided in the review request (see attached). The seven properties of concern are: the NR-listed Wakefields (Home Acres) (WA0047), the Wake Forest Historic District (WA1665), the Downtown Wake Forest Historic District (WA4293), the Purefoy-Chappell House and Outbuildings (WA1501) (also LD) and, the Forestville Baptist Church (WA0182), as well as the locally designated Wake Forest Local Historic District (WA5009) and the NR-eligible Raleigh and Gaston Rail Corridor (NC0008). The comprehensive architectural surveys of the county (1988-91 and 2005-6) and related publication, as well as later studies, recorded no properties in the APE besides those noted above (Kelly Lally, *The Historic Architecture of Wake County, North Carolina* (Raleigh: Wake County Government, 1994)). Google Maps "Street View" confirmed the presence and relative placement of architectural and landscape resources in the APE (viewed 22 March 2019).

Additional design information and a meeting with Kimley-Horn and Associates (Lauren Harper) established that no proposed improvements will occur on or near two of the properties, Wakefields and the Purefoy-Chappell House. Project activities on the remaining five properties

Historic Architecture and Landscapes NO HISTORIC PROPERTIES PRESENT OR AFFECTED form for Minor Transportation Projects as Qualified in the 2007 Programmatic Agreement.



include attachment of aerial fiber to existing poles, in-kind replacement of controller cabinets, directional drilling for underground conduit, attachment of guy wires to existing poles, installation of additional signal heads (no new mast arms), and placement of junction boxes flush with ground surface. Three properties will experience installation of new infrastructure and some disturbance of ground (see attached). None of the proposed improvements will impose any adverse effects on the five properties. Trenching will occur on the utility strip next to the sidewalk and will not require any tree removal. Installation of aerial cables will not require tree trimming. **No storage of materials or equipment should occur within the boundaries of the resources. Should trenching disturb any sidewalk, design specifications include provision for replacement in kind. Specifications also prohibit removal or damage to granite curbing and stone walls, as well as removal, trimming, or damage to trees.**

A finding of "no historic properties present or affected" will satisfy both Section 106 and GS 121-12(a) compliance requirements.

Town of Wake Forest Planning (Michelle Michael, Senior Planner (Historic Preservation)) reviewed the project design and concurred that it imposes no adverse effects on the five critical properties as currently defined and governed by the protective specifications ("Requirements for Working in Historic Areas"). No Certificate of Appropriateness is required. Four specific locations in the Wake Forest Historic District and Wake Forest Local Historic District contain **features of particular concern:**

At the SE corner of South Avenue and S. Main Street – picket fence enclosing the corner property.

Along South Avenue and S. Main Street – granite curbing.

Along Front Street, North Avenue, and N. Main Street – granite curbing and stone wall.

On North Avenue between the seminary and railroad tracks (island in SE corner of Figure 3 (attached)) – the "Town Tree" (a deodar cedar).

**These features, as well as all built and landscape elements within the boundaries of the five critical properties (see attached), should be afforded proper protection during construction.**

**Should any aspect of the project design change, please notify  
NCDOT Historic Architecture as additional review may be necessary.**

**SUPPORT DOCUMENTATION**

X Map(s)     Previous Survey Info.    X Photos    Correspondence    X Design Plans

**FINDING BY NCDOT ARCHITECTURAL HISTORIAN**

Historic Architecture and Landscapes – **NO HISTORIC PROPERTIES PRESENT OR AFFECTED**

*Vanessa E. Tabach*

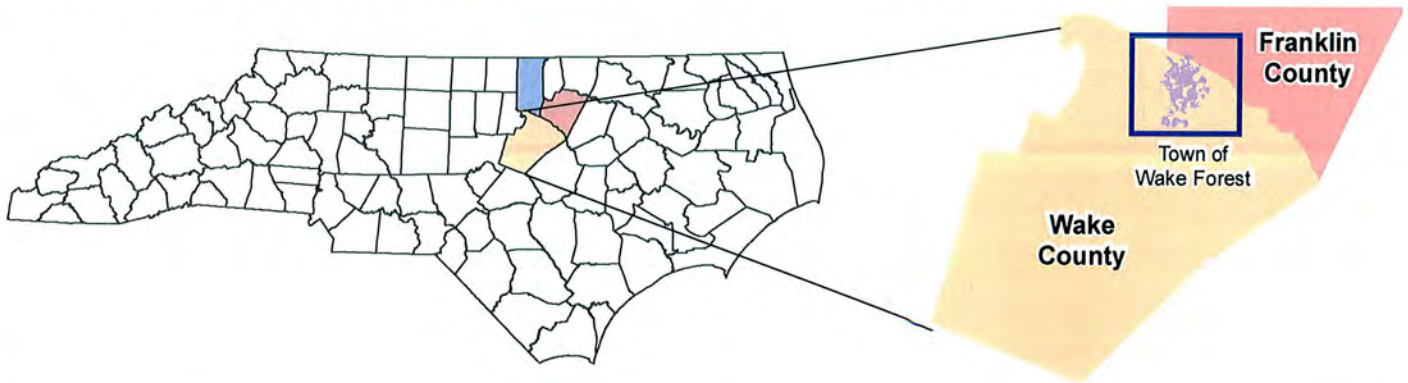
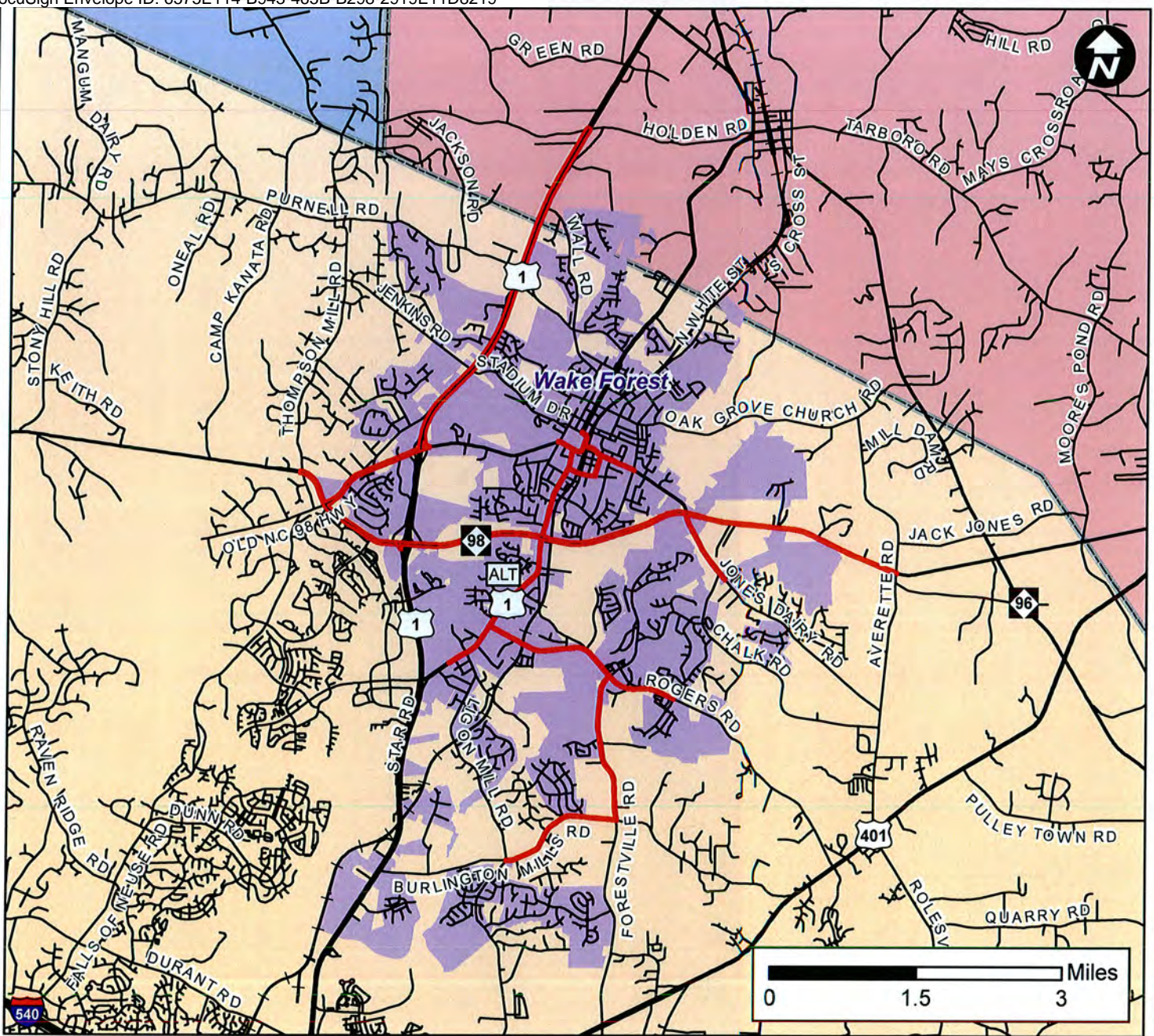
*20 August 2019*

NCDOT Architectural Historian

Date

U-6023, Wake County  
WBS No. 47149.1.1  
Tracking No. 19-02-0033





- Town of Wake Forest
- Wake County
- Granville County
- Franklin County
- U-6023 Study Area

**Figure 1**  
**Project Vicinity**  
 NCDOT Project No. U-6023  
 Wake Forest Signal System Upgrade  
 Wake and Franklin Counties

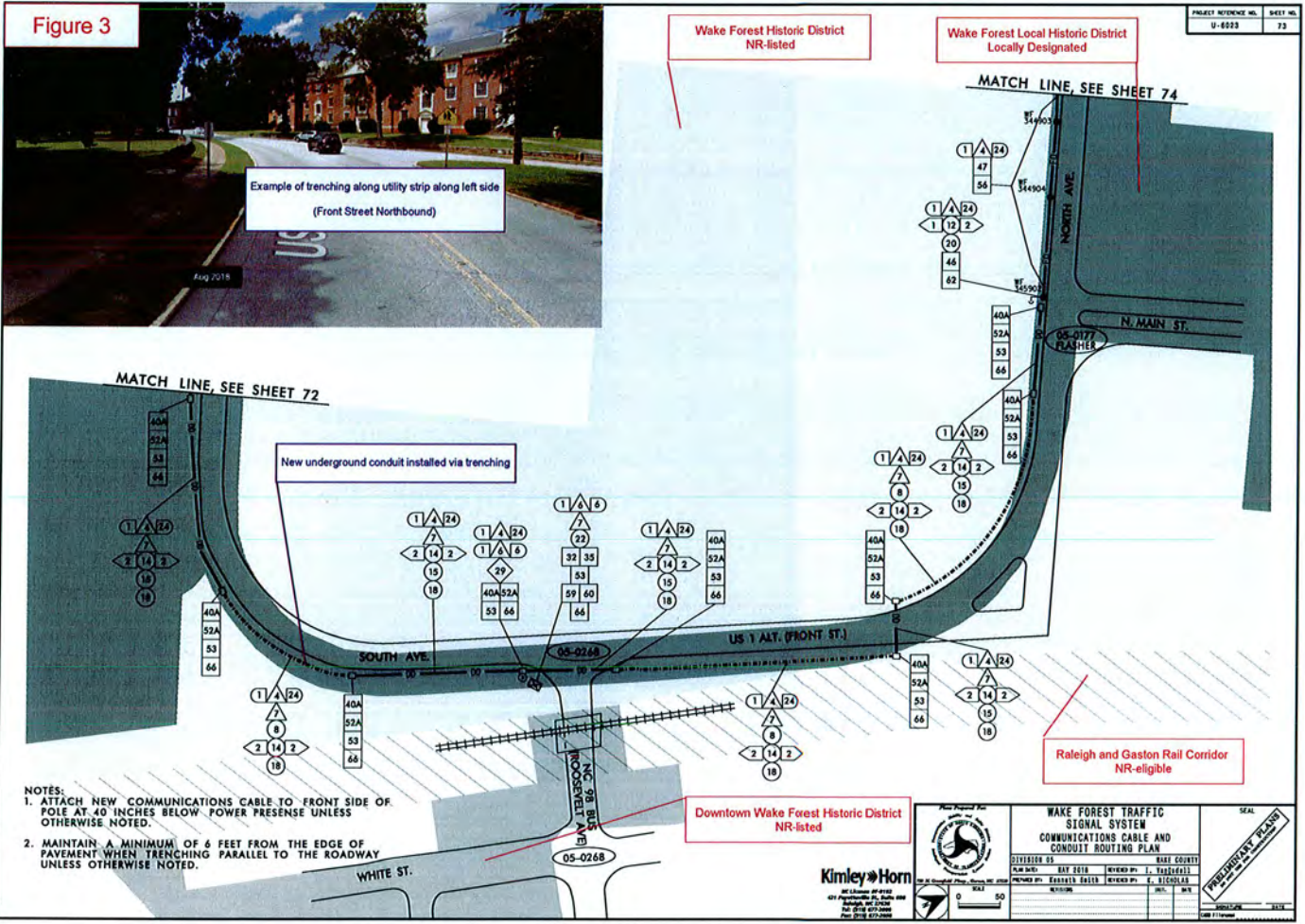
*Tracking No. 19-02-0033*







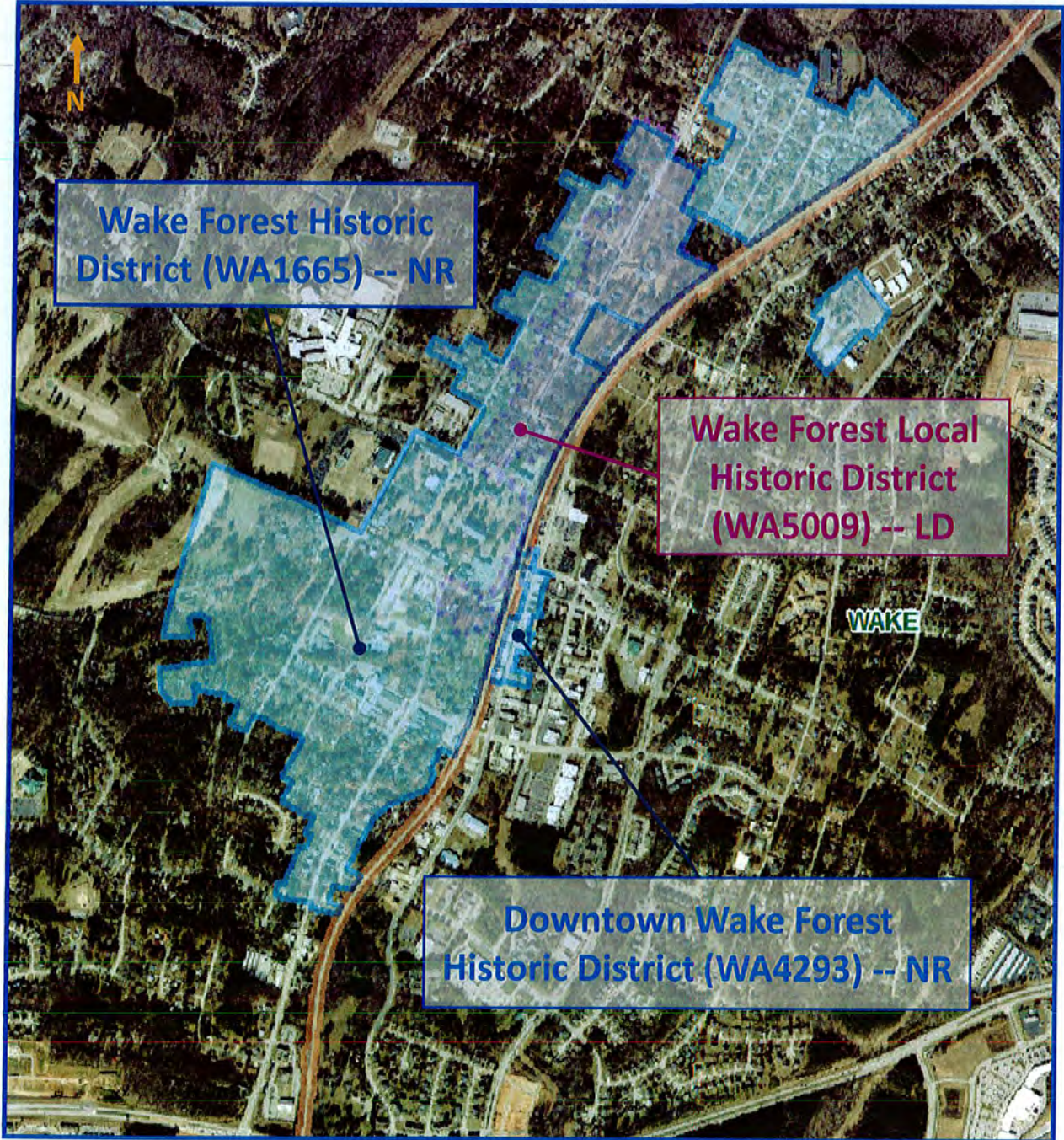




US 1 ALT. Trenching on utility strips.  
 In Wake Forest Local Historic District (WA5009).

U-6023, Wake County





## Historic District Boundaries

U-6023

Wake Forest Signal System

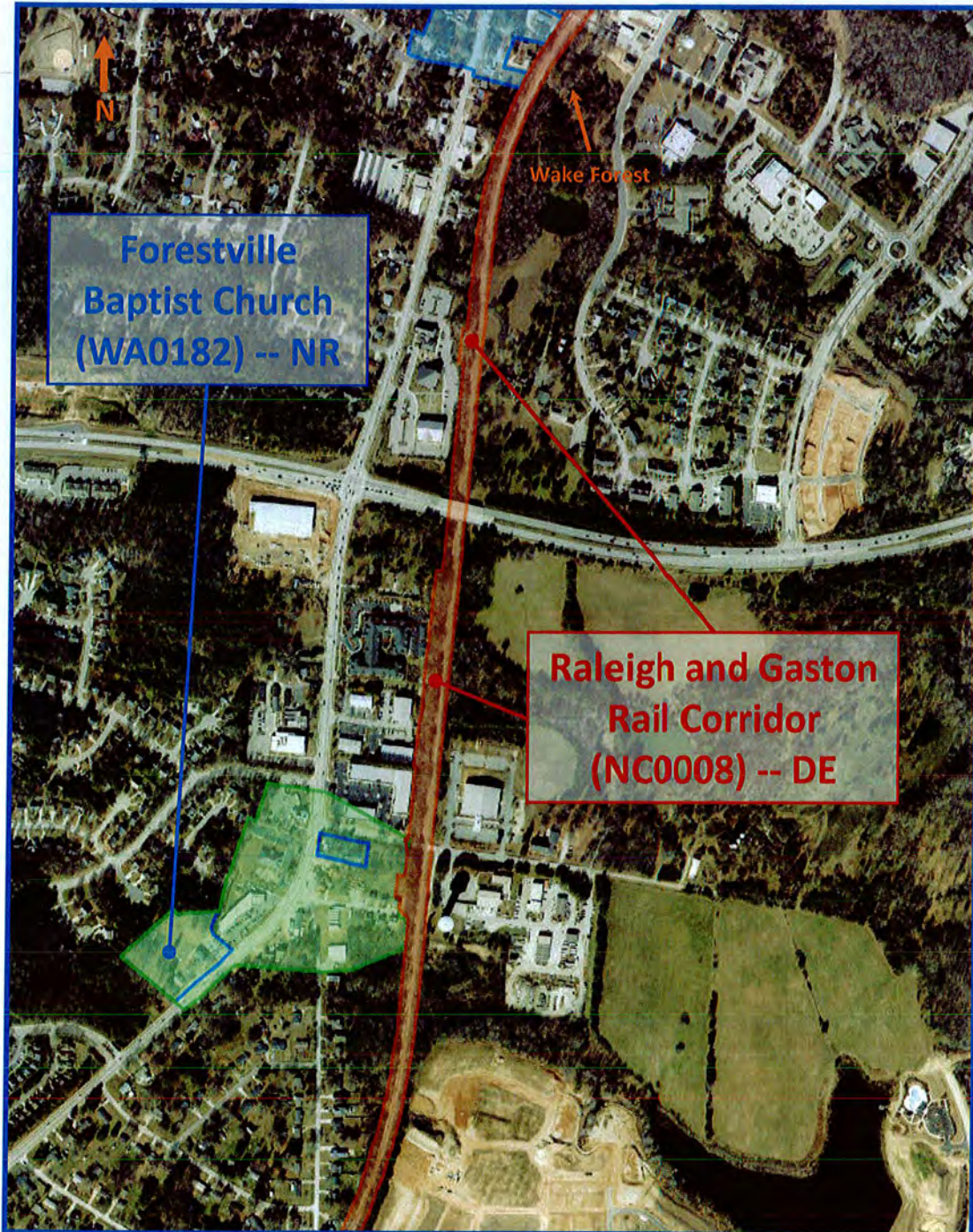
Wake County

WBS No. 47149.1.1

Base map: HPOWeb, nts

See <http://gis.ncdcr.gov/hpoweb> for detailed views.



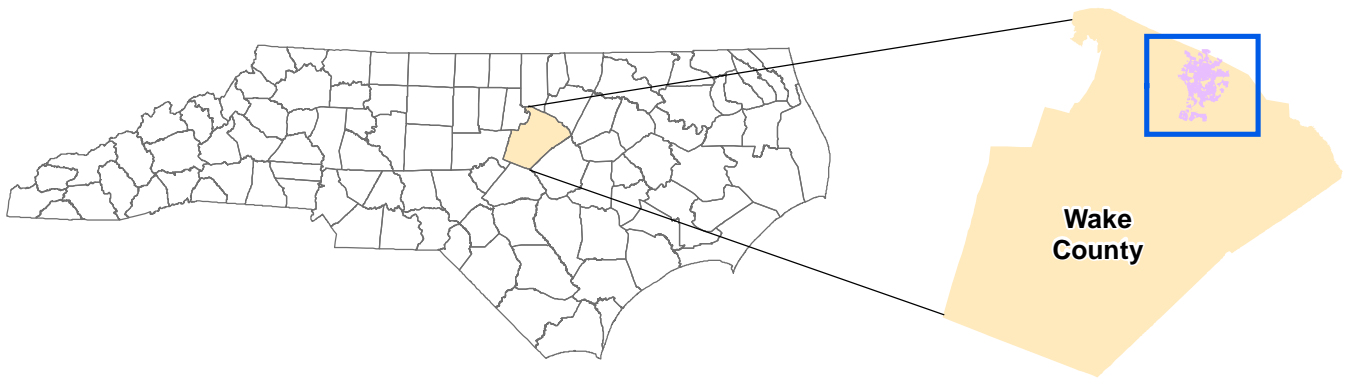
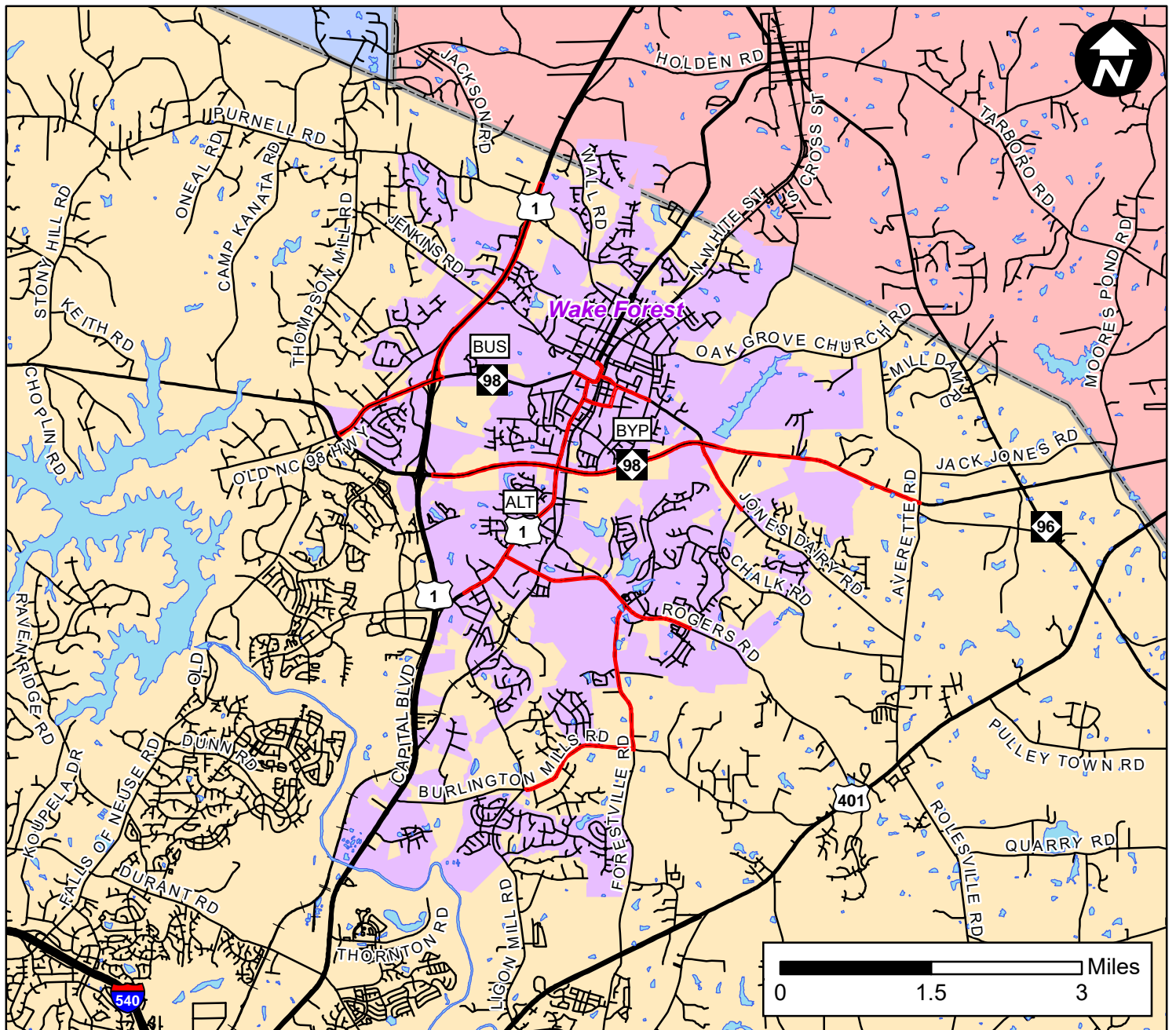


## Historic Property Boundaries

U-6023 Wake Forest Signal System Wake County  
WBS No. 47149.1.1 Base map: HPOWeb, nts

See <http://gis.ncdcr.gov/hpoweb> for detailed views.

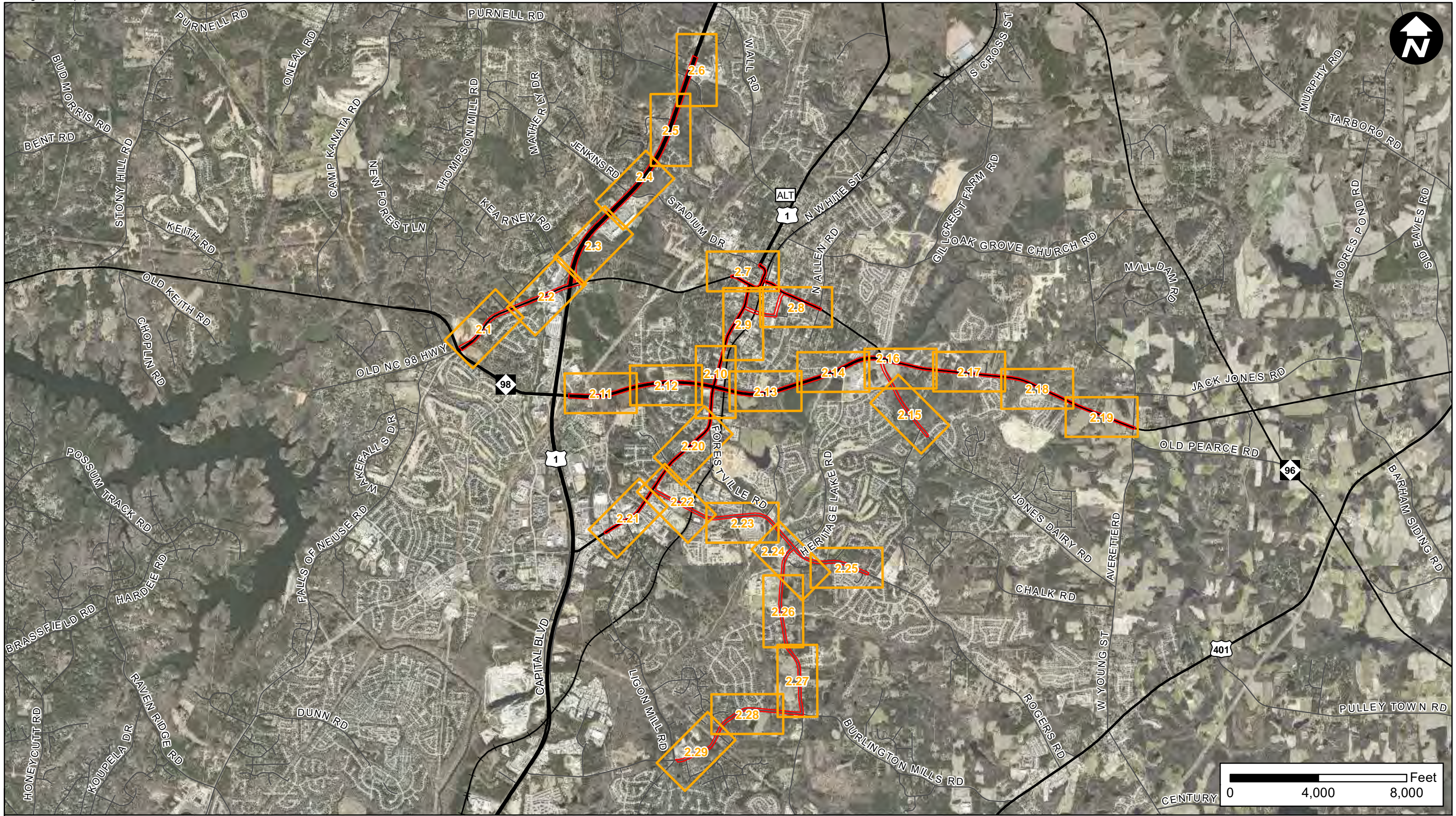




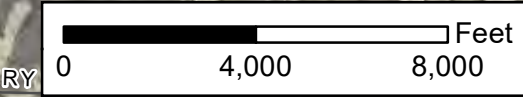
- U-6023 Study Area
- Town of Wake Forest
- Wake County
- Granville County
- Franklin County

**Figure 1**  
**Project Vicinity**  
 NCDOT Project No. U-6023  
 Wake Forest Signal System Upgrade  
 Wake County





- U-6023 Study Area
- Figures 1-29 Extents
- Railroad

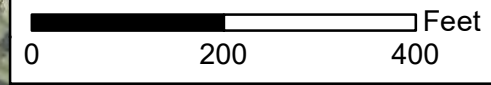


**Figure 2**  
**Environmental Features: Cover Map**  
 NCDOT Project No. U-6023  
 Wake Forest Signal System Upgrade  
 Wake County





- Proposed Cabinet
- △ Proposed Junction Box
- Proposed Aerial Fiber
- Proposed Conduit
- Proposed Directional Drilling Conduit
- Underground Storage Tank Incident
- Property Lines

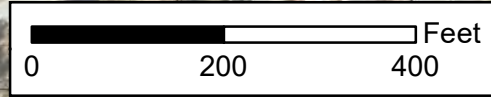


**Figure 2.1**  
**Environmental Features**  
 NCDOT Project No. U-6023  
 Wake Forest Signal System Upgrade  
 Wake County





- |                         |   |                                      |                  |
|-------------------------|---|--------------------------------------|------------------|
| □ Proposed Cabinet      | — Proposed Conduit                      | ● Hazardous Waste Site               | □ Property Lines |
| △ Proposed Junction Box | — Proposed Directional Drilling Conduit | ● Underground Storage Tank -- Active |                  |
| ○ Proposed Wood Pole    | — Delineated Streams                    | ■ Floodway                           |                  |
| — Proposed Aerial Fiber | ● Dry-Cleaning Solvent Cleanup          | ■ 100-Year Floodplain                |                  |



**Figure 2.2**  
**Environmental Features**  
 NCDOT Project No. U-6023  
 Wake Forest Signal System Upgrade  
 Wake County

See Figure 2.1

See Figure 2.2

See Figure 2.2

See Figure 2.3



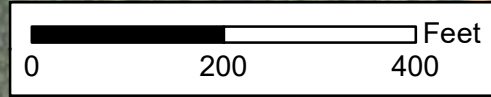


See Figure 2.2  
See Figure 2.3

See Figure 2.3  
See Figure 2.4



- Proposed Cabinet
- Proposed Aerial Fiber
- Hazardous Waste Site
- Underground Storage Tank -- Active
- ▨ Brownfields Boundary
- Property Lines



**Figure 2.3**  
**Environmental Features**  
NCDOT Project No. U-6023  
Wake Forest Signal System Upgrade  
Wake County





- Proposed Cabinet
- Proposed Aerial Fiber
- Property Lines

0 200 400 Feet

**Figure 2.4**  
**Environmental Features**  
 NCDOT Project No. U-6023  
 Wake Forest Signal System Upgrade  
 Wake County



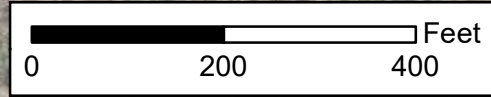









Staffordshire  
Neighborhood

Wakefields  
(Home Acres)

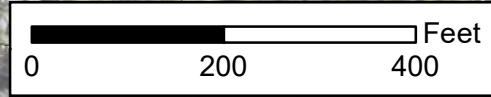
See Figure 2.5  
See Figure 2.6



-  Proposed Aerial Fiber
-  Underground Storage Tank Incident
-  National Register Historic Site
-  National Register Historic Boundary
-  Property Lines

**Figure 2.5**  
**Environmental Features**  
 NCDOT Project No. U-6023  
 Wake Forest Signal System Upgrade  
 Wake County





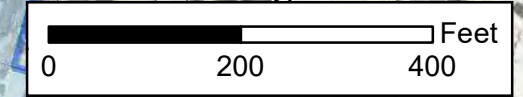
- Proposed Cabinet
- Proposed Aerial Fiber
- Proposed Conduit
- Underground Storage Tank Incident
- National Register Historic Boundary
- Underground Storage Tank -- Active
- Property Lines

**Figure 2.6**  
**Environmental Features**  
 NCDOT Project No. U-6023  
 Wake Forest Signal System Upgrade  
 Wake County





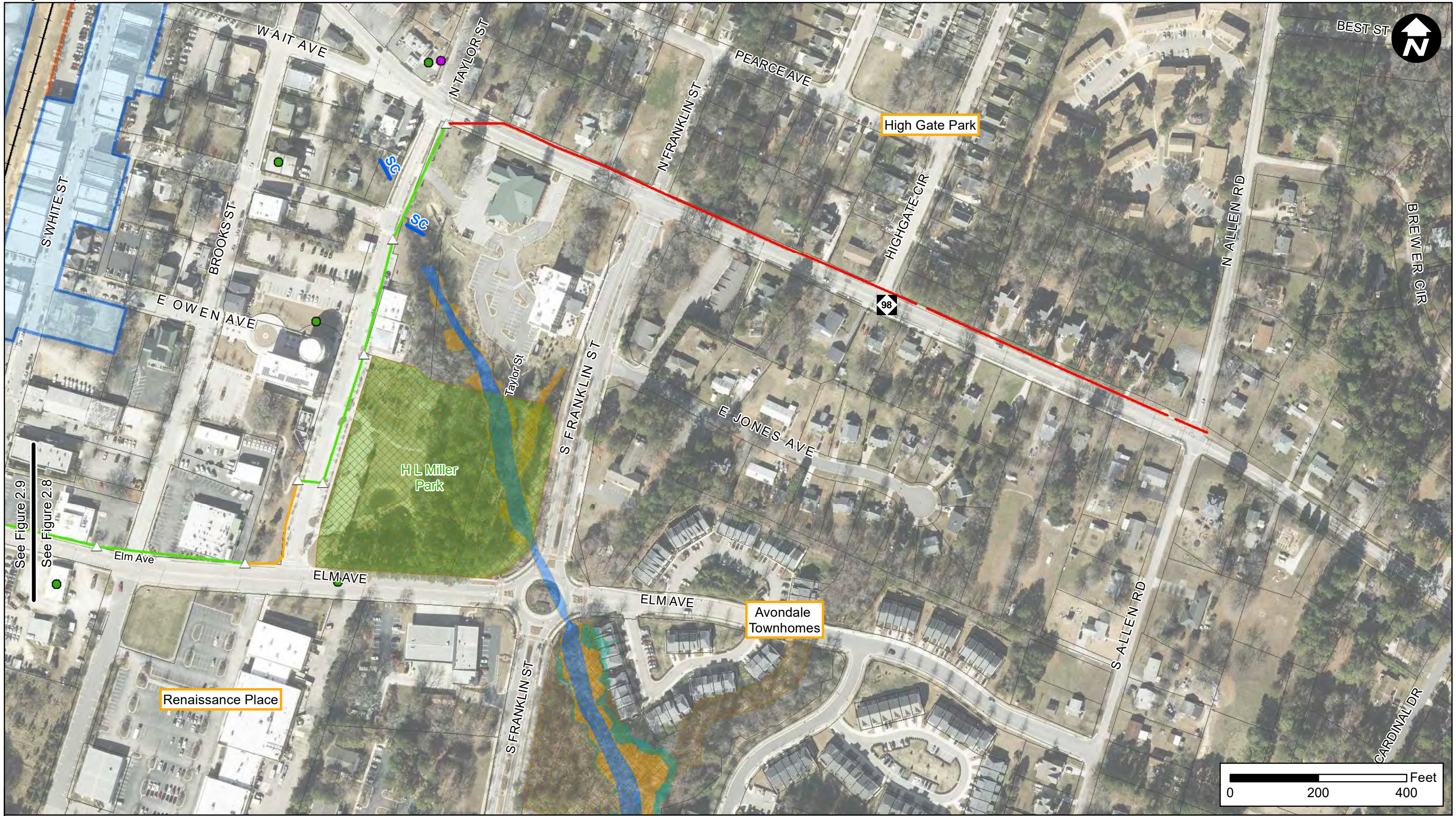
- |                       |                                       |                                 |   |
|-----------------------|---------------------------------------|---------------------------------|---|
| Proposed Cabinet      | Proposed Directional Drilling Conduit | Railroad                        | National Register Historic Boundary       |
| Proposed Junction Box | Hazardous Waste Site                  | National Register Historic Site | Determined Eligible for National Register |
| Proposed Aerial Fiber | Underground Storage Tank Incident     | Study List and Landmark         | Local Government Ownership                |
| Proposed Conduit      | Underground Storage Tank -- Active    | Local Historic District         | Property Lines                            |



**Figure 2.7**  
**Environmental Features**  
 NCDOT Project No. U-6023  
 Wake Forest Signal System Upgrade  
 Wake County



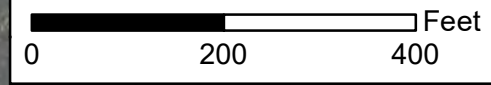




See Figure 2.9  
See Figure 2.8

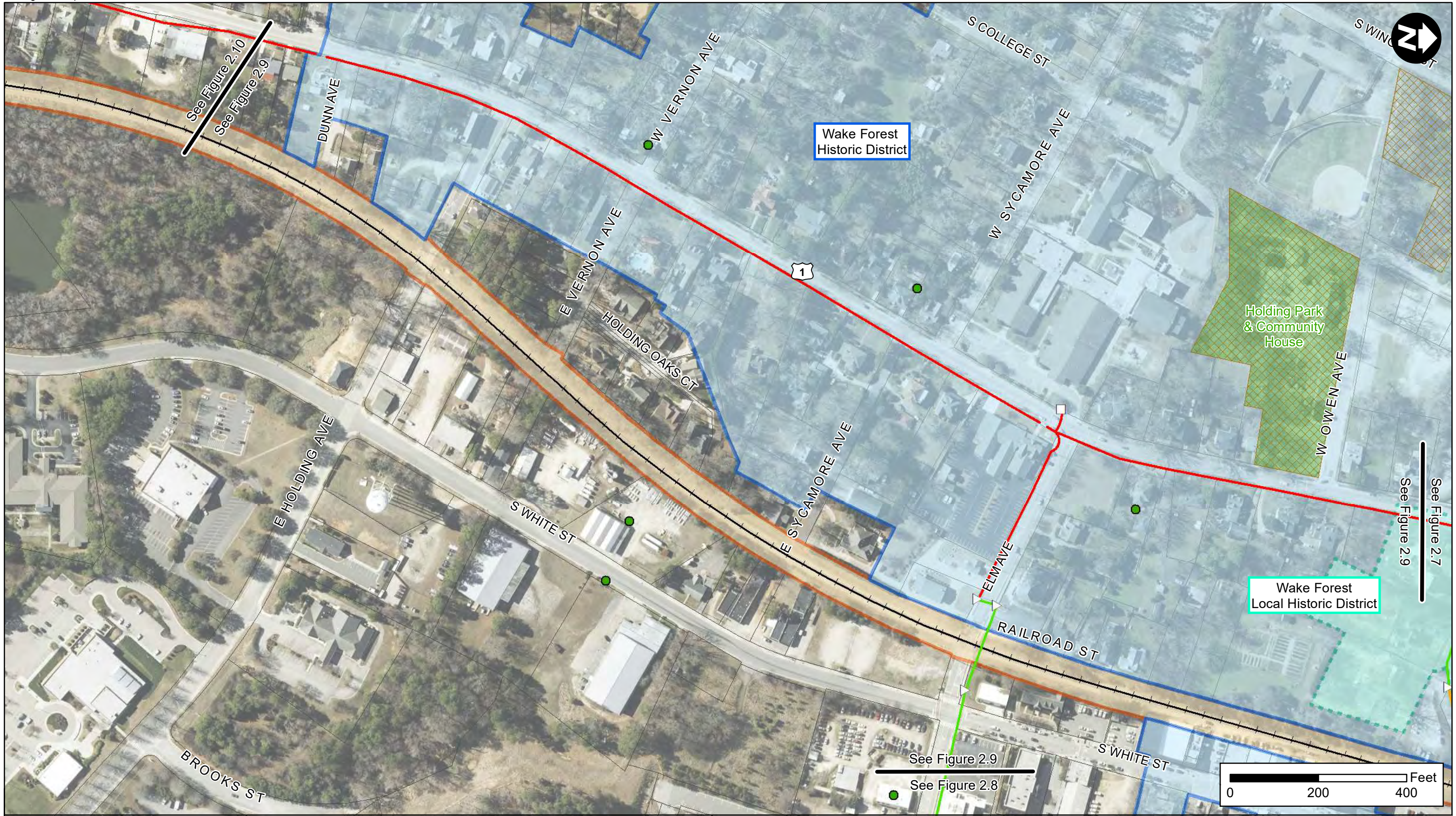


- |   |                                      |   |                       |
|---|--------------------------------------|---|-----------------------|
| △ Proposed Junction Box                 | — Delineated Streams                 | — Railroad                                  | ■ Floodway            |
| — Proposed Aerial Fiber                 | ● Underground Storage Tank Incident  | ■ National Register Historic Boundary       | ■ 100-Year Floodplain |
| — Proposed Conduit                      | ● Underground Storage Tank -- Active | ■ Determined Eligible for National Register | ■ 500-Year Floodplain |
| — Proposed Directional Drilling Conduit | ■ Park                               | ■ Local Government Ownership                | □ Property Lines      |

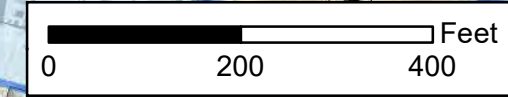


**Figure 2.8**  
**Environmental Features**  
NCDOT Project No. U-6023  
Wake Forest Signal System Upgrade  
Wake County





- Proposed Cabinet
- △ Proposed Junction Box
- Proposed Aerial Fiber
- Proposed Conduit
- Proposed Directional Drilling Conduit
- Underground Storage Tank Incident
- Park
- +— Railroad
- Local Historic District
- National Register Historic Boundary
- Determined Eligible for National Register
- Local Government Ownership
- Property Lines

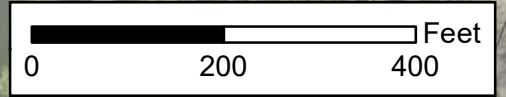


**Figure 2.9**  
**Environmental Features**  
 NCDOT Project No. U-6023  
 Wake Forest Signal System Upgrade  
 Wake County





- |                         |   |   |
|-------------------------|---|---|
| □ Proposed Cabinet      | — Proposed Conduit                      | —+— Railroad                                |
| △ Proposed Junction Box | — Proposed Directional Drilling Conduit | ▭ National Register Historic Boundary       |
| ○ Proposed Wood Pole    | ● Underground Storage Tank Incident     | ▭ Determined Eligible for National Register |
| — Proposed Aerial Fiber | ● Underground Storage Tank -- Active    | ▭ Property Lines                            |

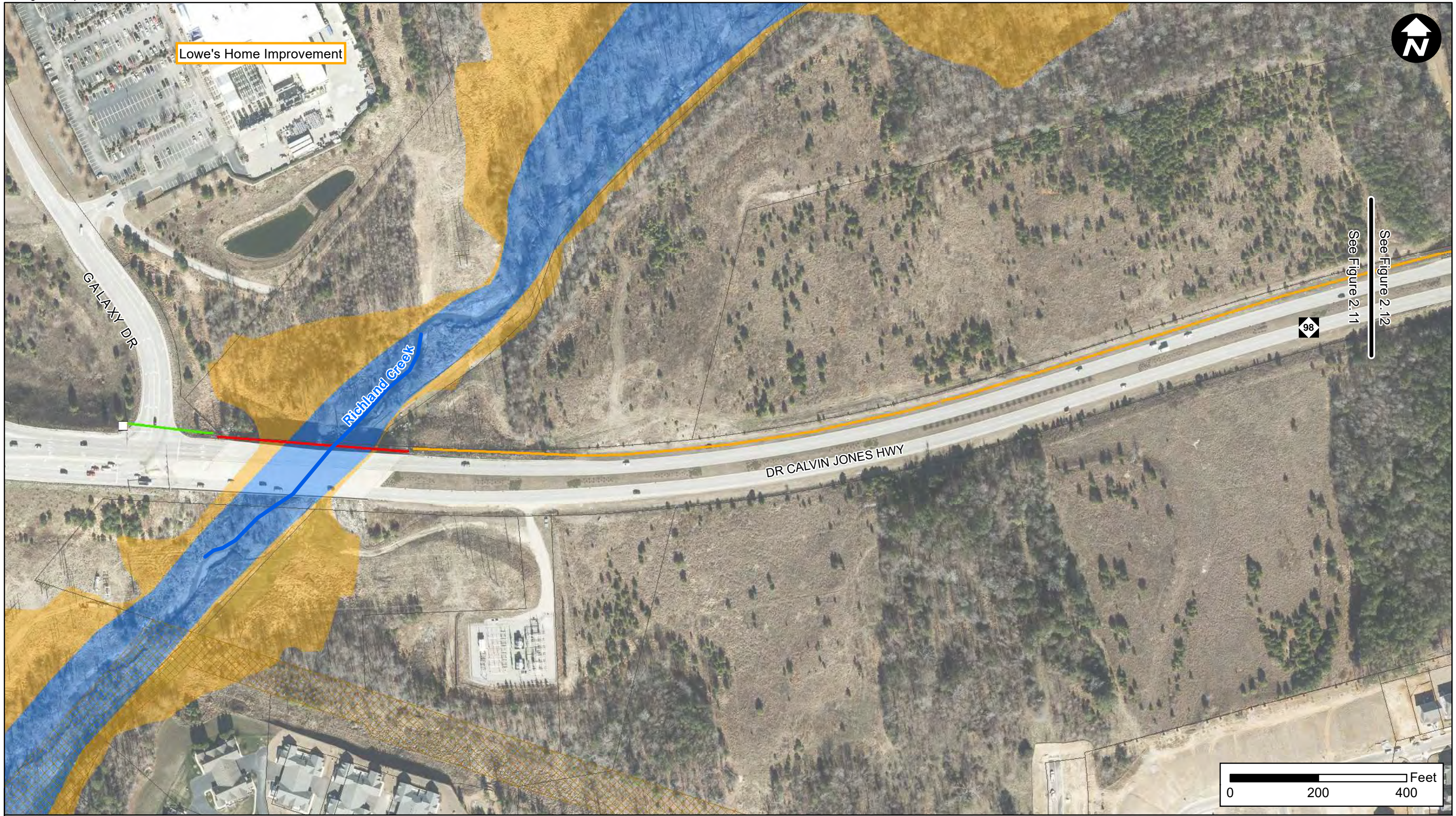


**Figure 2.10**  
**Environmental Features**  
 NCDOT Project No. U-6023  
 Wake Forest Signal System Upgrade  
 Wake County





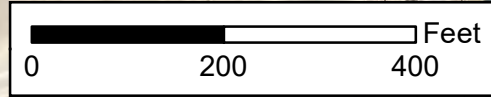
Lowe's Home Improvement



See Figure 2.11  
See Figure 2.12



- Proposed Cabinet
- Property Lines
- Proposed Aerial Fiber
- Local Government Ownership
- Proposed Conduit
- Floodway
- Proposed Directional Drilling Conduit
- 100-Year Floodplain
- Delineated Streams

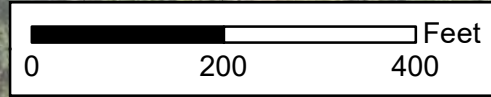


**Figure 2.11**  
**Environmental Features**  
NCDOT Project No. U-6023  
Wake Forest Signal System Upgrade  
Wake County





- Proposed Conduit
- Proposed Directional Drilling Conduit
- Delineated Streams
- Property Lines



**Figure 2.12**  
**Environmental Features**  
 NCDOT Project No. U-6023  
 Wake Forest Signal System Upgrade  
 Wake County





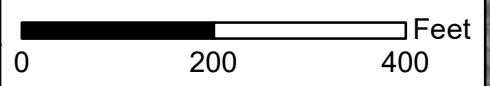


See Figure 2.10

See Figure 2.13

See Figure 2.13

See Figure 2.14



- Proposed Cabinet
- Proposed Aerial Fiber
- Proposed Conduit
- Proposed Directional Drilling Conduit
- ▨ Local Government Ownership
- Floodway
- 100-Year Floodplain
- 500-Year Floodplain
- Property Lines

**Figure 2.13**  
**Environmental Features**  
 NCDOT Project No. U-6023  
 Wake Forest Signal System Upgrade  
 Wake County





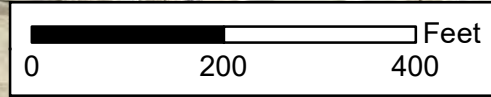
See Figure 2.13

See Figure 2.14

See Figure 2.14

See Figure 2.16

- Proposed Cabinet
- Proposed Aerial Fiber
- Underground Storage Tank -- Active
- Local Government Ownership
- Floodway
- 100-Year Floodplain
- 500-Year Floodplain
- Property Lines

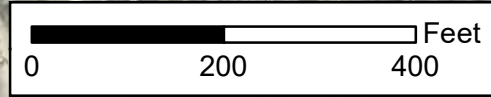


**Figure 2.14**  
**Environmental Features**  
 NCDOT Project No. U-6023  
 Wake Forest Signal System Upgrade  
 Wake County





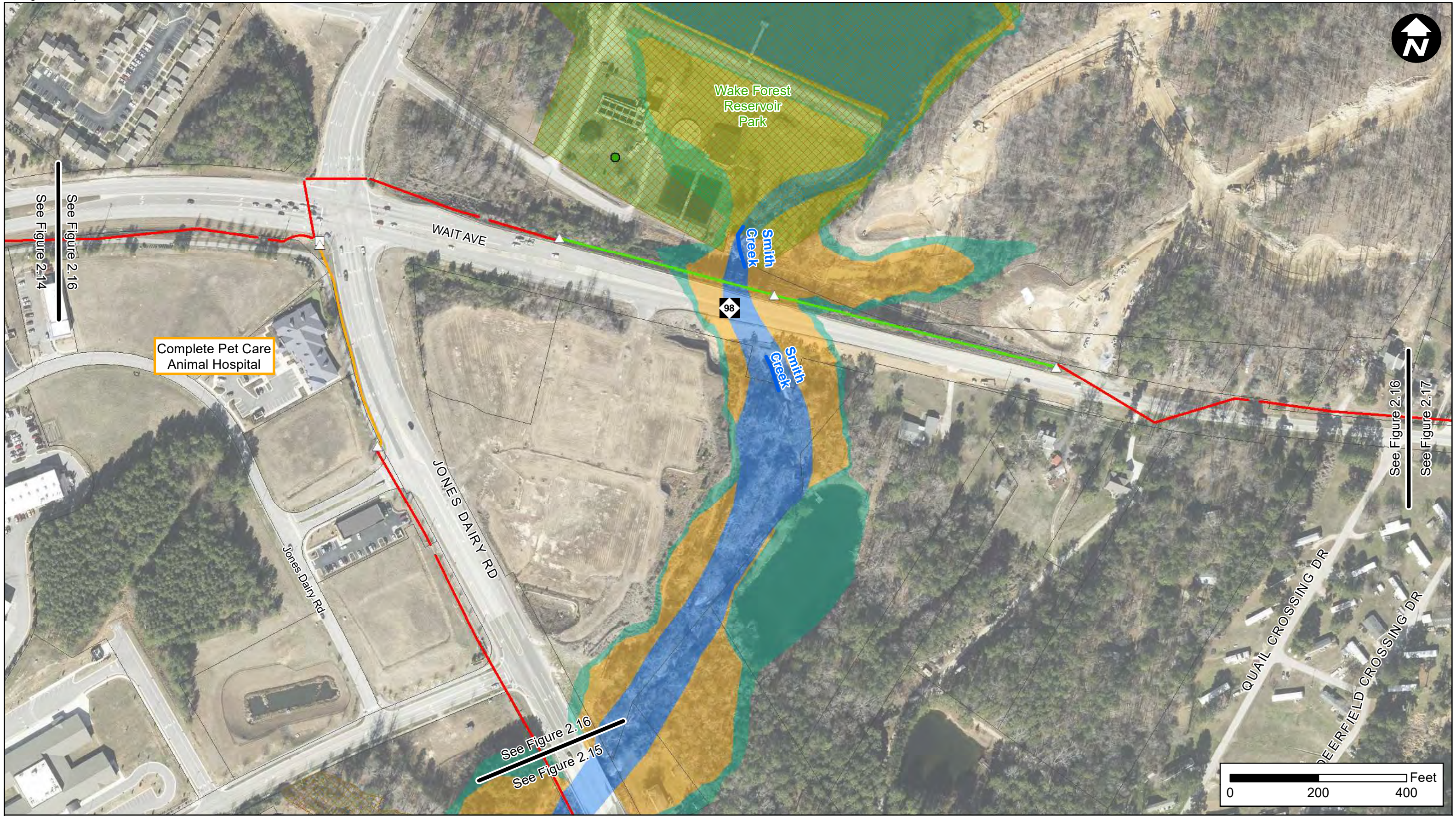
- Proposed Cabinet
- Proposed Aerial Fiber
- Underground Storage Tank -- Active
- Local Government Ownership
- Floodway
- 100-Year Floodplain
- 500-Year Floodplain
- Property Lines



**Figure 2.15**  
**Environmental Features**  
 NCDOT Project No. U-6023  
 Wake Forest Signal System Upgrade  
 Wake County





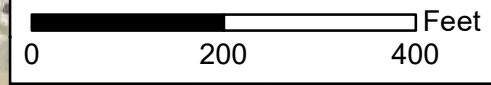


Complete Pet Care Animal Hospital

See Figure 2.14  
See Figure 2.16

See Figure 2.16  
See Figure 2.17

See Figure 2.16  
See Figure 2.15



- Proposed Cabinet
- △ Proposed Junction Box
- Proposed Aerial Fiber
- Proposed Conduit
- Proposed Directional Drilling Conduit
- Delineated Streams
- Underground Storage Tank Incident
- ▨ Local Government Ownership
- Property Lines
- Floodway
- 100-Year Floodplain
- 500-Year Floodplain
- Park

**Figure 2.16**  
**Environmental Features**  
 NCDOT Project No. U-6023  
 Wake Forest Signal System Upgrade  
 Wake County





See Figure 2.16

See Figure 2.17

See Figure 17

See Figure 18

DEERFIELD CROSSING DR

WAIT AVE

98

CG

CG

SHENANDOAH FARM RD

MIDDLEGAME WAY

OLD MURRAY DR

Bowling Green

0 200 400 Feet



- △ Proposed Junction Box
- ▭ Property Lines
- Proposed Aerial Fiber
- Proposed Conduit
- Delineated Streams

**Figure 2.17**  
**Environmental Features**  
 NCDOT Project No. U-6023  
 Wake Forest Signal System Upgrade  
 Wake County





See Figure 17

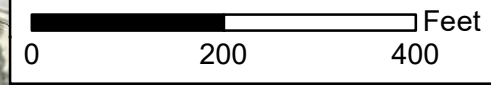
See Figure 18

See Figure 2.18

See Figure 2.19



- Proposed Aerial Fiber
- Proposed Conduit
- Local Government Ownership
- Floodway
- 100-Year Floodplain
- 500-Year Floodplain
- Property Lines



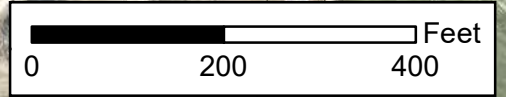
**Figure 2.18**  
**Environmental Features**  
 NCDOT Project No. U-6023  
 Wake Forest Signal System Upgrade  
 Wake County









See Figure 2.18

See Figure 2.19



-  Proposed Cabinet
-  Proposed Conduit
-  Proposed Directional Drilling Conduit
-  Property Lines

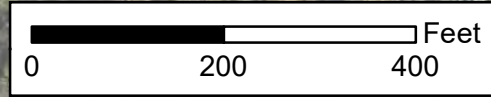


**Figure 2.19**  
**Environmental Features**  
 NCDOT Project No. U-6023  
 Wake Forest Signal System Upgrade  
 Wake County





- Proposed Aerial Fiber
- Underground Storage Tank Incident
- Underground Storage Tank -- Active
- Railroad
- National Register Historic Site
- National Register Historic Boundary
- Determined Eligible for National Register
- Property Lines



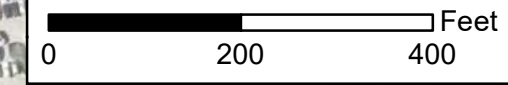
**Figure 2.20**  
**Environmental Features**  
 NCDOT Project No. U-6023  
 Wake Forest Signal System Upgrade  
 Wake County







- Proposed Cabinet
- △ Proposed Junction Box
- Proposed Aerial Fiber
- Proposed Conduit
- Proposed Directional Drilling Conduit
- Hazardous Waste Site
- Underground Storage Tank -- Active
- Park
- ▨ Local Government Ownership
- ▭ Property Lines

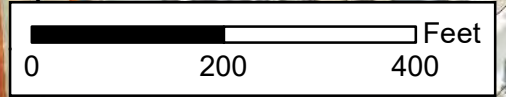


**Figure 2.21**  
**Environmental Features**  
 NCDOT Project No. U-6023  
 Wake Forest Signal System Upgrade  
 Wake County





- Proposed Cabinet
- △ Proposed Junction Box
- Proposed Aerial Fiber
- Proposed Conduit
- Proposed Directional Drilling Conduit
- Delineated Streams
- Underground Storage Tank Incident
- Underground Storage Tank -- Active
- +— Railroad
- Determined Eligible for National Register
- Property Lines



**Figure 2.22**  
**Environmental Features**  
 NCDOT Project No. U-6023  
 Wake Forest Signal System Upgrade  
 Wake County





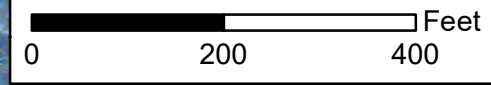
See Figure 2.22

See Figure 2.23

See Figure 2.23  
See Figure 2.24

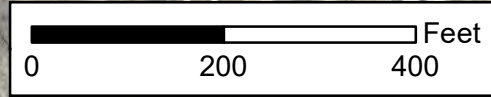
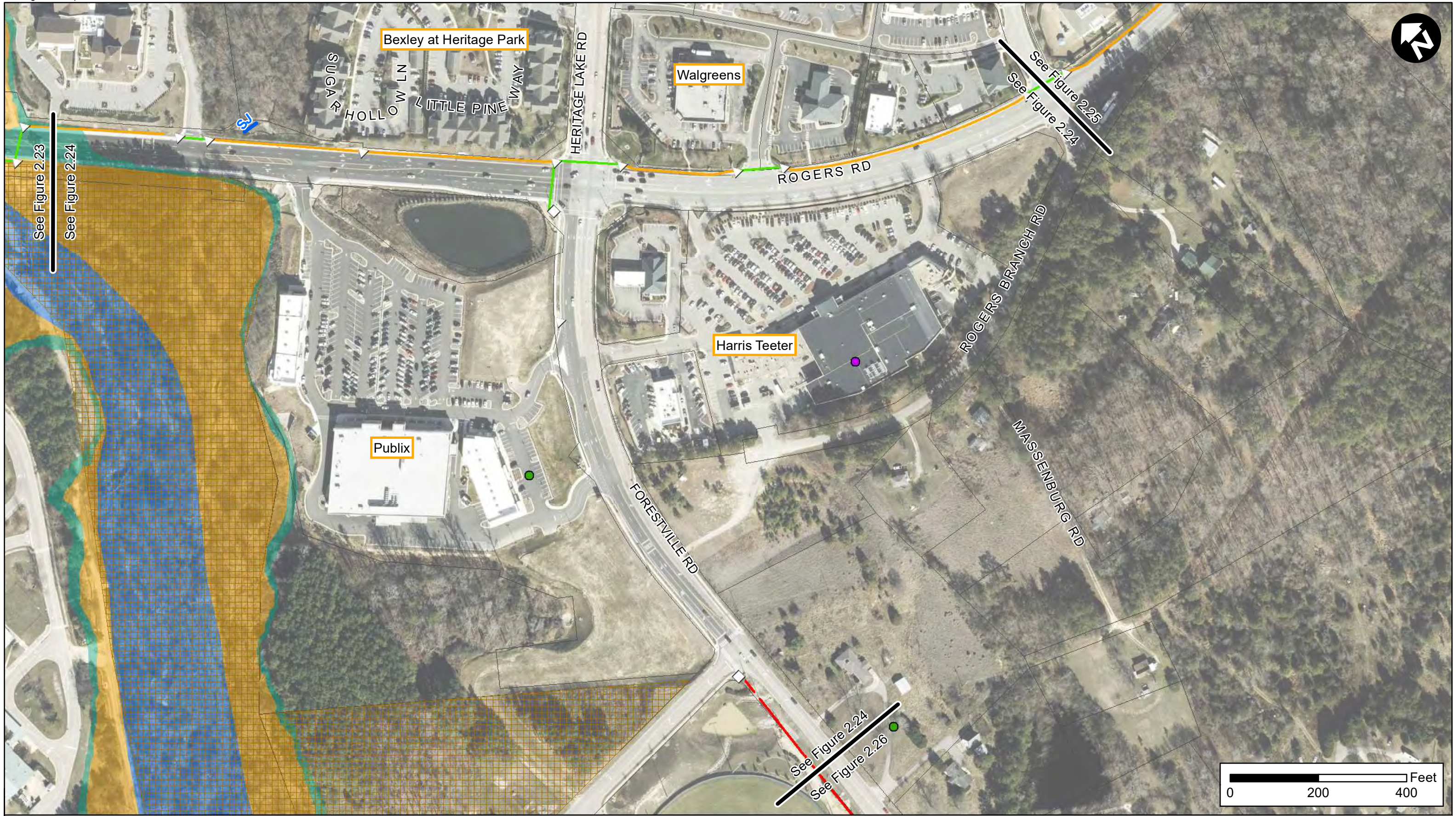


- Proposed Cabinet
- △ Proposed Junction Box
- Proposed Conduit
- Proposed Directional Drilling Conduit
- Delineated Streams
- Underground Storage Tank -- Active
- Conservation Easement
- Local Government Ownership
- Floodway
- 100-Year Floodplain
- 500-Year Floodplain
- Property Lines



**Figure 2.23**  
**Environmental Features**  
 NCDOT Project No. U-6023  
 Wake Forest Signal System Upgrade  
 Wake County



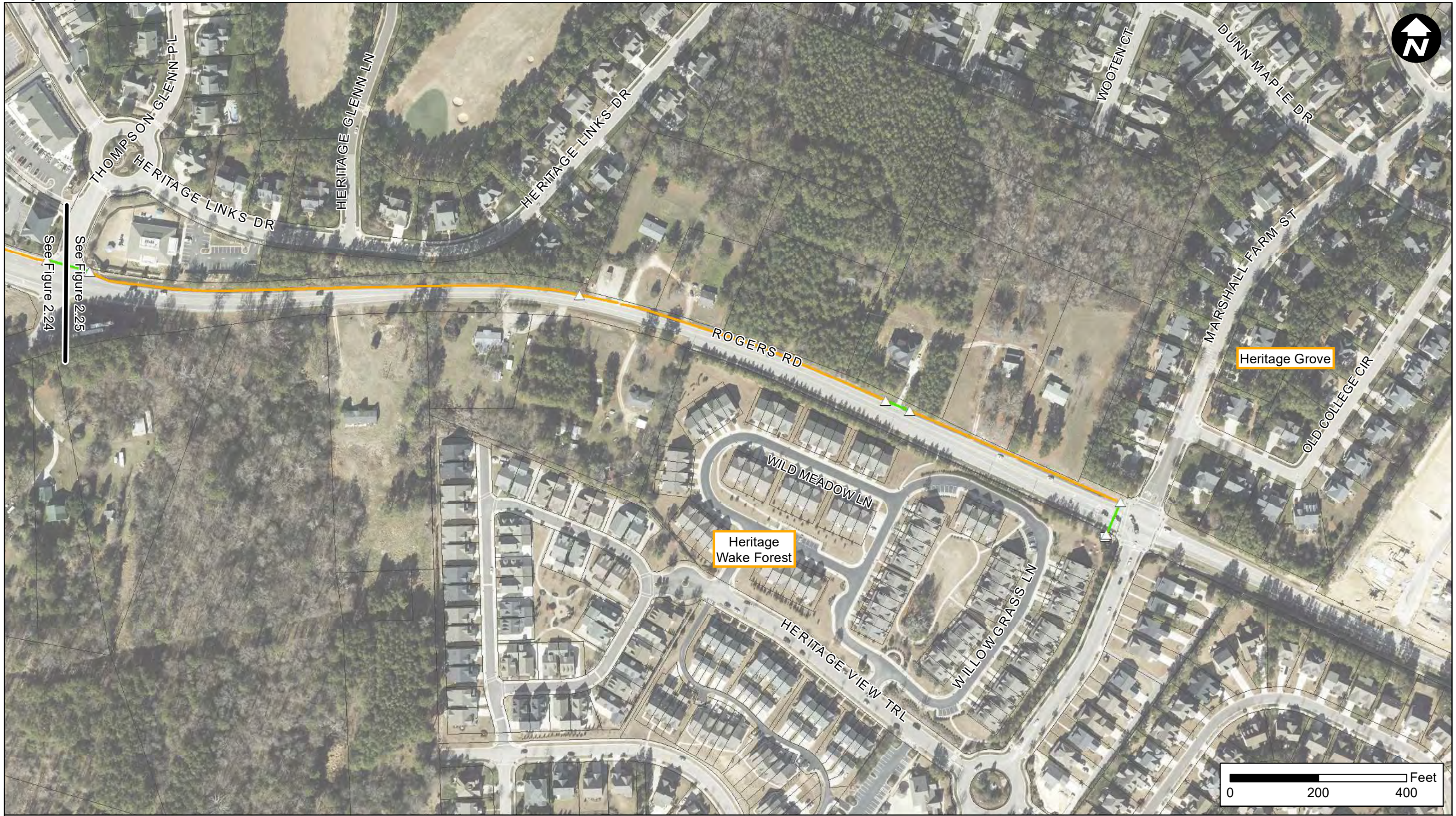


- Proposed Cabinet
- △ Proposed Junction Box
- Proposed Aerial Fiber
- Proposed Conduit
- Proposed Directional Drilling Conduit
- Delineated Streams
- Underground Storage Tank Incident
- Underground Storage Tank -- Active
- ▨ Local Government Ownership
- ▭ Floodway
- ▭ 100-Year Floodplain
- ▭ 500-Year Floodplain
- ▭ Property Lines

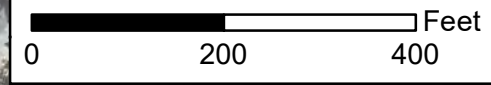


**Figure 2.24**  
**Environmental Features**  
 NCDOT Project No. U-6023  
 Wake Forest Signal System Upgrade  
 Wake County





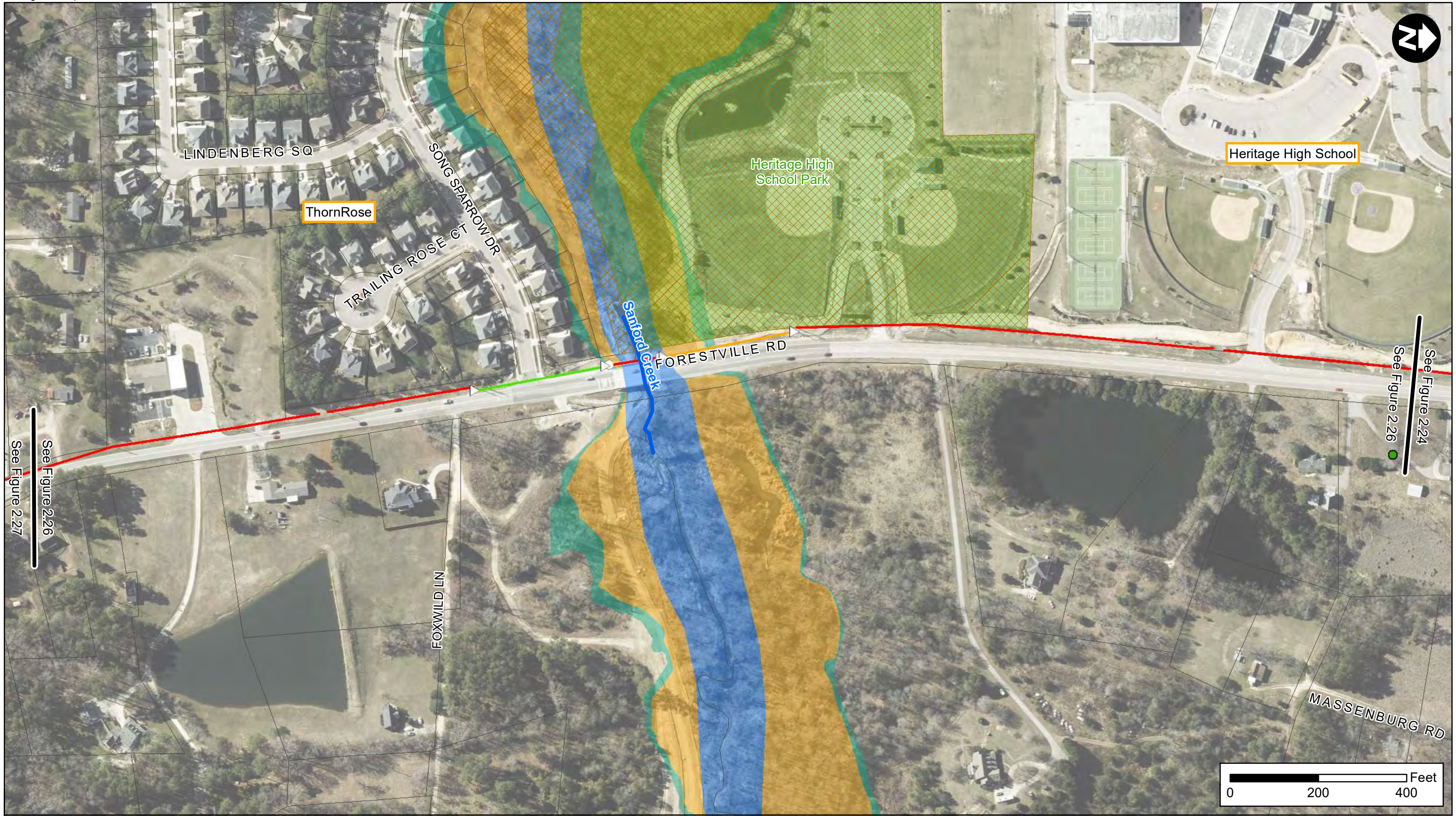
- Proposed Cabinet
- △ Proposed Junction Box
- Proposed Conduit
- Proposed Directional Drilling Conduit
- Property Lines



**Figure 2.25**  
**Environmental Features**  
 NCDOT Project No. U-6023  
 Wake Forest Signal System Upgrade  
 Wake County







See Figure 2.27

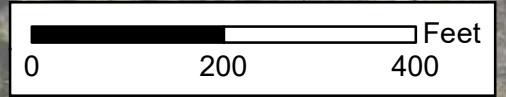
See Figure 2.26

See Figure 2.26

See Figure 2.24



- △ Proposed Junction Box
- Proposed Wood Pole
- Proposed Aerial Fiber
- Proposed Conduit
- Proposed Directional Drilling Conduit
- Delineated Streams
- Underground Storage Tank Incident
- ▨ Local Government Ownership
- Floodway
- 100-Year Floodplain
- 500-Year Floodplain
- Property Lines
- Park



**Figure 2.26**  
**Environmental Features**  
 NCDOT Project No. U-6023  
 Wake Forest Signal System Upgrade  
 Wake County





See Figure 2.28

See Figure 2.27



See Figure 2.26  
See Figure 2.27

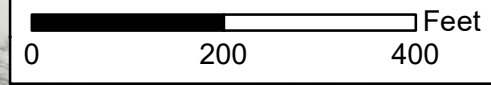
BURLINGTON MILLS RD

PINE VALLEY DR

FORESTVILLE RD

AUTUMN FOREST TRL

Stonewater



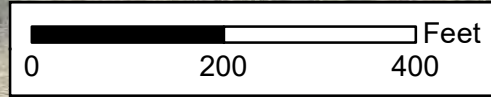
- Proposed Cabinet
- △ Proposed Junction Box
- Proposed Aerial Fiber
- Proposed Conduit
- Proposed Directional Drilling Conduit
- Underground Storage Tank Incident
- Property Lines

**Figure 2.27**  
**Environmental Features**  
 NCDOT Project No. U-6023  
 Wake Forest Signal System Upgrade  
 Wake County





— Proposed Aerial Fiber  
 □ Property Lines



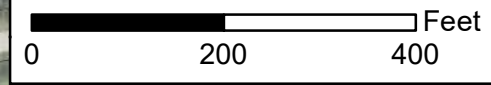
**Figure 2.28**  
**Environmental Features**  
 NCDOT Project No. U-6023  
 Wake Forest Signal System Upgrade  
 Wake County







- Proposed Cabinet
- △ Proposed Junction Box
- Proposed Aerial Fiber
- Proposed Conduit
- Proposed Directional Drilling Conduit
- Property Lines



**Figure 2.29**  
**Environmental Features**  
 NCDOT Project No. U-6023  
 Wake Forest Signal System Upgrade  
 Wake County