

Project Overview**#862493****Project Title:** NCDOT Cell Tower Relocation**Jurisdiction:** Town of Knightdale**Application Type:** Special Use Permit (Full)**State:** NC**Workflow:** Special Use Permit: Master Plan (Step 2)**County:** Wake**Project Contacts****Contact Info: Applicant**

Nishka Hatten
Kimley-Horn
1801 Porter St, #401
Baltimore, MD 21230
P:667-262-9357
nishka.hatten@kimley-horn.com

Contact Info: Property Owner

Jim Kellenberger Kellenberger
RALEIGH RUGBY FOOTBALL CLUB INC
PO BOX 19232
RALEIGH, NC 27619
P:919-621-0362
jimkellenberger05@gmail.com

Please indicate which of the following contacts should be included in this project.: None of the Above

Project Location**Project Address:** 7417 POOLE ROAD, RALEIGH, NC 27610 **PIN:** 1743503468**Total Acreage:** 15.54**Project Description****Brief Description of Proposed Project:**

This application is a result of the proposed North Carolina Department of Transportation (NCDOT) multi-lane Highway project, I-540. The current NCDOT project is impacting many of the properties within the Town of Knightdale, one of which is the property at 7417 Poole Rd, Parcel ID 1743503468, that is owned by Raleigh Rugby Football Club, Inc. (Raleigh Rugby Club) and is represented by Jim Kellenberger.

NCDOT will be purchasing a portion of the Raleigh Rugby Club property for the I-540 project through eminent domain. Currently, the Raleigh Rugby Club is zoned Neighborhood Mixed Use (NMX) under the Town of Knightdale UDO. The property houses two rugby and football pitches as well as the SBA Communications 222 Monopole that is the subject of this Variance application. All neighboring parcels are zoned Rural Transition (RT). The Telecommunications tower is located in an area that will be taken by the NCDOT, as a part of the I-540 project. Therefore, to continue providing service to its customers, SBA must relocate this tower.

Project Location Data**Inside Corporate Limits:** Yes**Current Land Use:** Entertainment/Recreation**Proposed Land Use (General):** Entertainment/Recreation**Current Zoning:** NMX - Neighborhood Mixed-Use**Residential Information****Does this project include a residential component?:** No**Proposed Density:****Number of Townhome Lots:****Number of Detached Single Family Lots:**

Total Number of Proposed Residential Lots: 0

Number of alley loaded lots:

Number of Multi-Family/Apartments Units:

Number of front loaded lots:

Please Note: Knightdale's Unified Development Ordinance has unique regulations pertaining to mass grading and landscape preservation. Please consult the UDO regulations below to ensure your proposed project meets the requirements.

As outlined in **UDO Chapter 9.3: Residential Clearing & Grading**, mass grading is prohibited except where residential lots are less than 60 feet in width.

As outlined in **UDO Chapter 7.4.H: Tree Protection**, there are requirements for landscape preservation, tree save areas, protection measures, and replacement specifications.

Non-Residential Information

Does this project include a non-residential component?: No Total Number of Proposed Non-Residential Lots:

Total Number of Non-Residential Buildings:

If your project contains more than three buildings, please upload total proposed square footage information as part of your project documents.

Building #1 Square Footage:

Building #2 Square Footage:

Building #3 Square Footage:

Please Note: Knightdale's Unified Development Ordinance has unique regulations pertaining to landscape preservation. Please consult the UDO regulations below to ensure your proposed project meets the requirements.

As outlined in **UDO Chapter 7.4.H: Tree Protection**, there are requirements for landscape preservation, tree save areas, protection measures, and replacement specifications.

Utility & Stormwater Information

Proposed Water Supply: N/A

Proposed Wastewater Supply: N/A

How will stormwater management be addressed?: Not Yet Decided

Does the proposed development anticipate the addition or extension of public streets?: No

Description of Public Utility Connection (Water Supply):

Description of Public Utility Connection (Wastewater Supply):

New Device Type:

Does the parcel(s) contain any of the following environmental/natural features?: N/A

Neighborhood Meeting Information

Please Note: A full Neighborhood Meeting Report is a required element of this application. The questions below must answered and are not a substitution for providing a full report, as outlined in the application checklist.

Date of Mailed Notification: 12/29/2022

Date of Neighborhood Meeting: 01/17/2023

Number of Property Owners Contacted: 10

Number of Residents in Attendance: 2

Provide a brief summary of the meeting, including any issues or concerns that were discussed.:

Jim Kellenberger, a representative from Raleigh Rugby club, and Tammy, the daughter of Janet and Eugene Banks, were both present during the neighborhood meeting. Questions from Jim

Kellenberger regarding proposed access and project timeline were addressed during the meeting.

Comprehensive Plan Consistency

Current 2035 Comprehensive Plan Placetype Designation:
Rural Living

Provide brief statements regarding whether the rezoning request is consistent with the Growth Framework designation, Growth & Conservation Placetype, and any applicable policies contained within the 2035 Comprehensive Plan.:

This rezoning request to rezone the remnant of the Raleigh Rugby Club property from NMX to RR is consistent with the Growth Framework designation, Growth & Conservation Placetype, and any applicable policies contained within the 2035 Comprehensive Plan.

UDO Consistency

Explain how the project is consistent with the Unified Development Ordinance:

This project has adhered to all requirements set forth in the UDO, including but not limited to tower height, landscaping, and fencing.

Explain how the project meets the required Findings of Fact found in UDO Ch. 12.2.F.4.c:

This project has met all Quasi-Judicial Procedure requirements set forth in the UDO in the Variance, Special Use Permit and Rezoning applications.

Explain any requested variations or modifications to UDO standards (residential only):

VAR-6-22 granted approval for the applicant, SBA Tower IX LLC to locate a telecommunications tower within the 200-foot residential district setback requirement (Sec 5.9.D.4)

Water Allocation Policy Compliance

Please Note: Connection to municipal water requires compliance with the [Water Allocation Policy](#). Projects must be awarded 50 points or more to merit water allocation. Specific information regarding policy compliance must be included in the Master Plan submittal.

Land Use Category: 30 pts- All Other Uses Not Categorized

Bonus Points:

Base Points:

Total Points Proposed: 0

PROJECT SUMMARY	
SITE NAME:	NCDOT RELO – NC 28591 HWY 2516 RELO
SITE ADDRESS:	7417 POOLE RD RALEIGH, NC 27610
JURISDICTION:	TOWN OF KNIGHTDALE
COUNTY:	WAKE COUNTY
CURRENT ZONING:	NMX – NEIGHBORHOOD MIXED USE
PROPOSED ZONING:	RR – RURAL RESIDENTIAL
SPECIAL USE PERMIT:	SUP-2-22
REZONING:	ZMA-1-23
PROPERTY OWNER:	RALEIGH RUGBY FOOTBALL CLUB INC
ADDRESS:	PO BOX 19232 RALEIGH NC 27619
APPLICANT:	SBA TOWERS IX LLC, 8051 CONGRESS AVENUE BOCA RATON, FL 33487 OFFICE: (800) 487-7483 FAX: (561) 226-3572
SBA CONTACT:	ANNE HATHAWAY
SITE COORDINATES:	1A
LATITUDE:	35° 45' 22.34" N (NAD 83/2011)
LONGITUDE:	78° 30' 41.55" W (NAD 83/2011)
ELEVATION:	237.1' AMSL (NAVD 88)
PARCEL NUMBER:	1743503468

FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION. HANDICAP ACCESS NOT REQUIRED.

WATER ALLOCATION POLICY COMPLIANCE

FACILITY HAS NO WATER OR PLUMBING AND WILL NOT BE CONNECTING TO ANY PUBLIC UTILITIES.

CONSULTING TEAM

<u>ARCHITECTURAL – ENGINEERING FIRM:</u> KIMLEY-HORN 1801 PORTER ST SUITE 401 BALTIMORE, MD 21230 CONTACT: MARSHALL KNIGHT PHONE: (301) 741-3599	
<u>SURVEYING FIRM:</u> POINT TO POINT LAND SURVEYORS 100 GOVERNORS TRACE PEACHTREE CITY, GA 30269 CONTACT: mwilliams@p2pls.com PHONE: (678) 478-9945	

UTILITIES INFORMATION

<u>POWER COMPANY:</u> TBD CONTACT: TBD PHONE: N/A	<u>FIBER COMPANY:</u> TBD CONTACT: TBD PHONE: N/A
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VARIANCE APPROVAL

ON NOVEMBER 3, 2022 TOWN OF KNIGHTDALE BOARD OF ADJUSTMENTS GRANTED APPROVAL FOR VAR-6-22 WHICH ALLOWED THE APPLICANT, SBA TOWER IX LLC. TO LOCATE A TELECOMMUNICATIONS TOWER WITHIN THE 200-FOOT RESIDENTIAL DISTRICT SETBACK REQUIREMENT (SECTION 5.9.D.4).

SBA

SITE NAME

NCDOT RELO – NC 28591 HWY 2516 RELO

SITE I.D.

NC01564-B

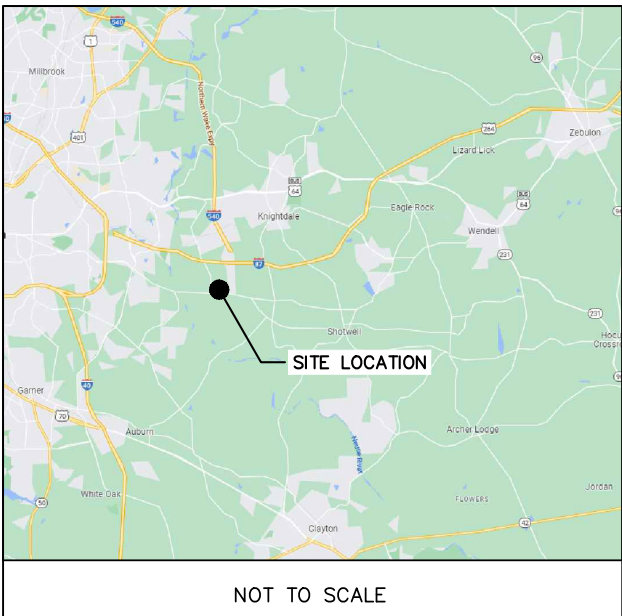
E911 ADDRESS

7417 POOLE RD
RALEIGH, NC 27610

PROJECT TYPE

199' MONOPOLE ZONING DRAWINGS

VICINITY MAP



REGIONAL MAP



DRIVING DIRECTIONS

FROM KNIGHTDALE, NC:

DIRECTIONS: HEAD SOUTH ON N SMITHFIELD RD. TURN RIGHT ON TO S FIRST AVE. CONTINUE ONTO BETHLEHEM RD, CONTINUE FOR 1.8 MILES. TURN RIGHT ONTO K HELD RD AND CONTINUE FOR 0.7 MILES. TURN LEFT ONTO CLIFTON RD AND CONTINUE FOR 0.5 MILES. TURN RIGHT ONTO POOL RD AND CONTINUE TO THE DESTINATION. IF YOU REACH THE INTERSECTION OF POOLE RD AND HODGE RD YOU HAVE GONE TOO FAR.

SHEET SCALE FACTOR:
PLOT SIZE: 11"x17": "TO SCALE" 24"x36": 2X SCALE AS NOTED



SHEET INDEX

NO.	DESCRIPTION
T-1	TITLE SHEET
LS-1	LAND SURVEY / LEGAL DESCRIPTION
LS-2	LAND SURVEY
LS-3	LAND SURVEY SITE INFORMATION
Z-1	OVERALL SITE PLAN
Z-2	ENLARGED SITE PLAN
Z-3	SITE ELEVATIONS
Z-4	EROSION SEDIMENT CONTROL PLAN
Z-5	STORM WATER MANAGEMENT PLAN
Z-6	SITE DETAILS
Z-7	FENCE DETAILS
L-1	LANDSCAPING PLAN
L-2	LANDSCAPING DETAILS
L-3	LANDSCAPING DETAILS

BUILDING CODES AND STANDARDS

ALL WORK SHALL BE PERFORMED AND MATERIALS INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNING AUTHORITIES. NOTHING IN THESE PLANS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THESE CODES.

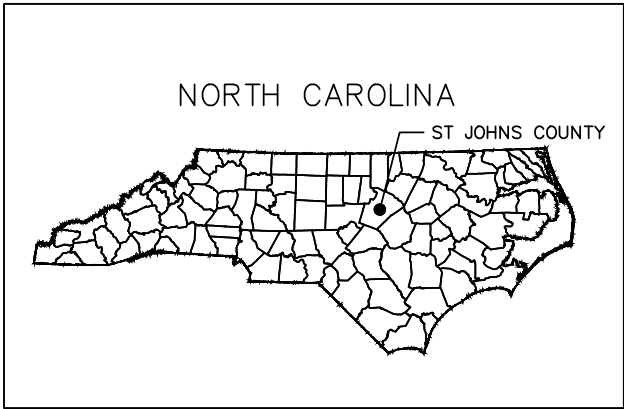
FLORIDA BUILDING CODE: NC STATE BC 2018
BUILDING/DWELLING CODE: NC STATE BC 2018
STRUCTURAL CODE: NC STATE BC 2018
PLUMBING CODE: NC STATE BC 2018
MECHANICAL CODE: NC STATE BC 2018
ELECTRIC CODE: 2017 NEC, NCEC 2014 AMENDMENTS
FIRE/LIFE SAFETY CODE: NC STATE FIRE PREVENTION CODE 2018
TOWER STRUCTURAL CODE: TIA-222-H
DESIGN WIND SPEED: 116 MPH
RISK CATEGORY: II
EXPOSURE CATEGORY: C

RISK CATEGORY DESIGN WIND SPEEDS ARE BASED ON ASCE 7-16 CRITERIA FOR A 3-SECOND GUST. REFER TO STRUCTURAL ANALYSIS IN THE EVENT A CONFLICT ARISES BETWEEN STANDARD REQUIREMENTS AND LISTED CODES, THE MORE RESTRICTIVE REQUIREMENT WILL TAKE PRECEDENCE.

APPROVALS

TITLE	SIGNATURE	DATE
SBA CONST. MGR:		
PROPERTY OWNER:		
PLANNING:		
THE ABOVE SHOWN PARTIES HEREBY APPROVE AND ACCEPT THESE DOCUMENTS AND AUTHORIZE THE CONTRACTOR TO PROCEED WITH THE CONSTRUCTION DESCRIBED HEREIN. ALL DOCUMENTS ARE SUBJECT TO REVIEW BY THE LOCAL BUILDING DEPARTMENT AND MAY IMPOSE CHANGES OR MODIFICATIONS.		

STATE COUNTY MAP



SBA NETWORK SERVICES, LLC.
8051 CONGRESS AVENUE
BOCA RATON, FL 33487
TEL: (800) 487-7483



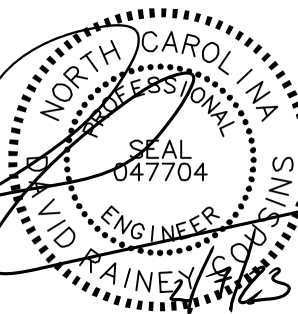
655 NORTH FRANKLIN STREET
SUITE 150
TAMPA, FL 33602
PHONE (813) 620-1460
WWW.KIMLEY-HORN.COM

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A&E PROJECT #:	148415272
DRAWN BY:	NKH
CHECKED BY:	BFS
REV. B BY:	NKH

REVISIONS

NO.	DATE	DESCRIPTION
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2	11/21/22	REVISED PER COMMENTS
3	09/25/22	ISSUED FOR REVIEW



DAVID RAINEY COUSINS, PE
NC PROFESSIONAL ENGINEER LIC.# 047704

SITE NAME:
NCDOT RELO - NC 28591
HWY 2516 RELO

SITE NUMBER:
NC01564-B

SITE ADDRESS:
7417 POOLE RD
RALEIGH, NC 27610

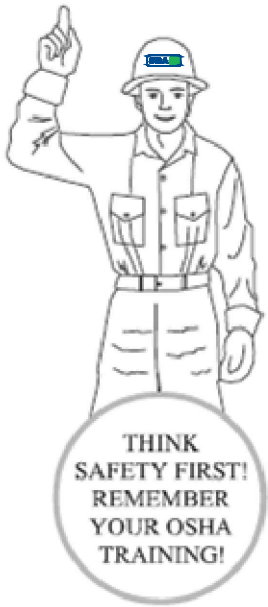
DESIGN TYPE:
RAWLAND RELOCATION

SHEET TITLE:
TITLE SHEET

SHEET NUMBER: T-1	REVISION: B
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ABBREVIATIONS

AB	ANCHOR BOLT	GR	GRADE	SIM	SIMILAR
AC	ASPHALTIC CONCRETE	GYP	GYPSUM	SPECS	SPECIFICATIONS
A/C	AIR CONDITIONING	GFCI	GROUND FAULT CIRCUIT	SS	STAINLESS STEEL
ADJ	ADJUSTABLE		INTERRUPT	STL	STEEL
A.F.F.	ABOVE FINISH FLOOR	GND	GROUND	STOR	STORAGE
ARCH	ARCHITECTURAL	HC	HOLLOW CORE	STRUCT	STRUCTURAL
APPROX	APPROXIMATELY	HDW	HARDWARE	SUSP	SUSPENDED
A.G.L.	ABOVE GRADE LEVEL	HTR	HEATER	SW	SWITCH
A.M.S.L.	ABOVE MEAN SEA LEVEL	HM	HOLLOW METAL	SWBO	SWITCHBOARD
BD	BOARD	HORIZ	HORIZONTAL	THK	THICK
BLDG	BUILDING	HR	HOUR	TI	TENANT IMPROVEMENT
BLKG	BLOCKING	HT	HEIGHT	TMA	TOWER MOUNTED AMPLIFIER
BOT	BOTTOM	HV	HIGH VOLTAGE	TOS	TOP OF SURFACE
BSMT	BASEMENT	ID	INSIDE DIMENSION	TS	TUBE STEEL
BTS	BASE TRANSCEIVER	INS	INSULATION	TYP	TYPICAL
	STATION	INT	INTERIOR	U	UNDERGROUND
C	COURSE(S)	JT	JOINT	UNO	UNLESS NOTED
CEM	CEMENT	LAM	LAMINATED		OTHERWISE
CL	CHAIN LINK	LBS	POUNDS	VCT	VINYL
CLG	CEILING	LT	LIGHT		COMPOSITION
CLR	CLEAR	LA	LIGHTNING ARRESTOR		TILE
COL	COLUMN	LNA	LOW NOISE AMPLIFIER	VERT	VERTICAL
CONC	CONCRETE	MFR	MANUFACTURER	V.I.F.	VERIFY IN FIELD
CONST	CONSTRUCTION	MAT	MATERIAL	VG	VERTICAL GRAIN
CONT	CONTINUOUS	MAX	MAXIMUM	W/	WITH
CORR	CORRIDOR	MECH	MECHANICAL	WD	WOOD
CO	CONDUIT ONLY	MIN	MINIMUM	WR	WATER RESISTANT
DIA	DIAMETER	MISC	MISCELLANEOUS	WT	WEIGHT
DBL	DOUBLE	ML	METAL LATH	XFMR	TRANSFORMER
DEPT	DEPARTMENT	MO	MASONRY OPENING	ⓐ	AT
DEMO	DEMOLITION	MS	MACHINE SCREW	[CHANNEL
DIM	DIMENSION	MTD	MOUNTED	⌒	CENTERLINE
DN	DOWN	MTL	METAL	∠	ANGLE
DR	DOOR	(N)	NEW	ℓ	PROPERTY LINE
DTL	DETAIL	NIC	NOT IN CONTRACT		
DWG	DRAWING	NO	NUMBER		
(E)	EXISTING	NTS	NOT TO SCALE		
EA	EACH	O	OVERHEAD		
ELEC	ELECTRIC	OA	OVERALL		
ELEV	ELEVATION	O.C.	ON CENTER		
EQUIP	EQUIPMENT	OPNG	OPENING		
EXP	EXPANSION	OPP	OPPOSITE		
EXT	EXTERIOR	PARTN	PARTITION		
FA	FIRE ALARM	PL	PLATE		
FB	FLAT BAR	PLAS	PLASTER		
FF	FINISH FLOOR	PLYWD	PLYWOOD		
FH	FLAT HEAD	POC	POINT OF CONNECTION		
FIN	FINISH(ED)	PROP	PROPERTY		
FLR	FLOOR	PT	PRESSURE TREATED		
FOS	FACE OF STUDS	R	RISER		
FS	FINISH SURFACE	REQD	REQUIRED		
FT	FOOT, FEET	RD	ROOF DRAIN		
FTG	FOOTING	RM	ROOM		
FW	FINISH WALL	RMS	ROOMS		
F.G.	FINISH GRADE	RO	ROUGH OPENING		
FUT	FUTURE	SC	SOLID CORE		
GA	GAUGE	SCHED	SCHEDULE		
GALV	GALVANIZED	SECT	SECTION		
GL	GLASS	SHT	SHEET		



SYMBOLS:

SECTION NUMBER

SHEET NUMBER

BUILDING SECTION REFERENCE

DETAIL NUMBER

SHEET NUMBER

DETAIL SECTION REFERENCE

SECTION NUMBER

SHEET NUMBER

ELEVATION VIEW REFERENCE

KEY NOTE REFERENCE

DOOR NUMBER

AREA AND/OR ROOM NUMBER

MECHANICAL UNIT

UTILITY POLE

WORK POINT

REVISION OR CONTROL POINT

(REFERENCE POINT)
(ELEVATION) ELEVATION REFERENCE

MASONRY

BRICK

CONCRETE

EARTH

STEEL

GRAVEL

CENTER LINE

PROPERTY LINE

LEASE LINE

EASEMENT LINE

RIGHT-OF-WAY

CHAIN LINK FENCE

WOOD FENCE

SILT FENCE

BELOW GRADE ELECTRIC

BELOW GRADE TELEPHONE

OVERHEAD ELECTRIC/TELEPHONE

OVERHEAD TELEPHONE

OVERHEAD ELECTRIC

CONTOUR

TREE PROTECTION FENCE

TREE LINE

TREES, SHRUBS, BUSHES

SANITARY SEWER LINE

WATER LINE

NATURAL GAS LINE



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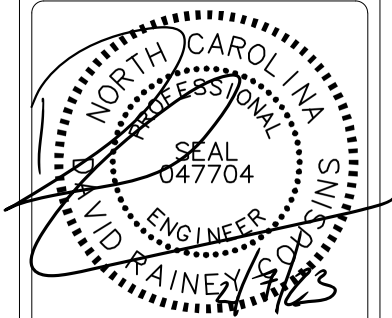


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DRAWN BY:	NKH
CHECKED BY:	BFS
REV. B BY:	NKH

REVISIONS		
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⚠	11/21/22	REVISED PER COMMENTS
⚠	09/25/22	ISSUED FOR REVIEW
NO.	DATE	DESCRIPTION



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NC PROFESSIONAL ENGINEER LIC.# 047704

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NCDOT RELO - NC 28591
HWY 2516 RELO

SITE NUMBER:
NC01564-B

SITE ADDRESS:
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RALEIGH, NC 27610

DESIGN TYPE:
RAWLAND RELOCATION

SHEET TITLE:
ABBREVIATIONS &
SYMBOLS LEGEND

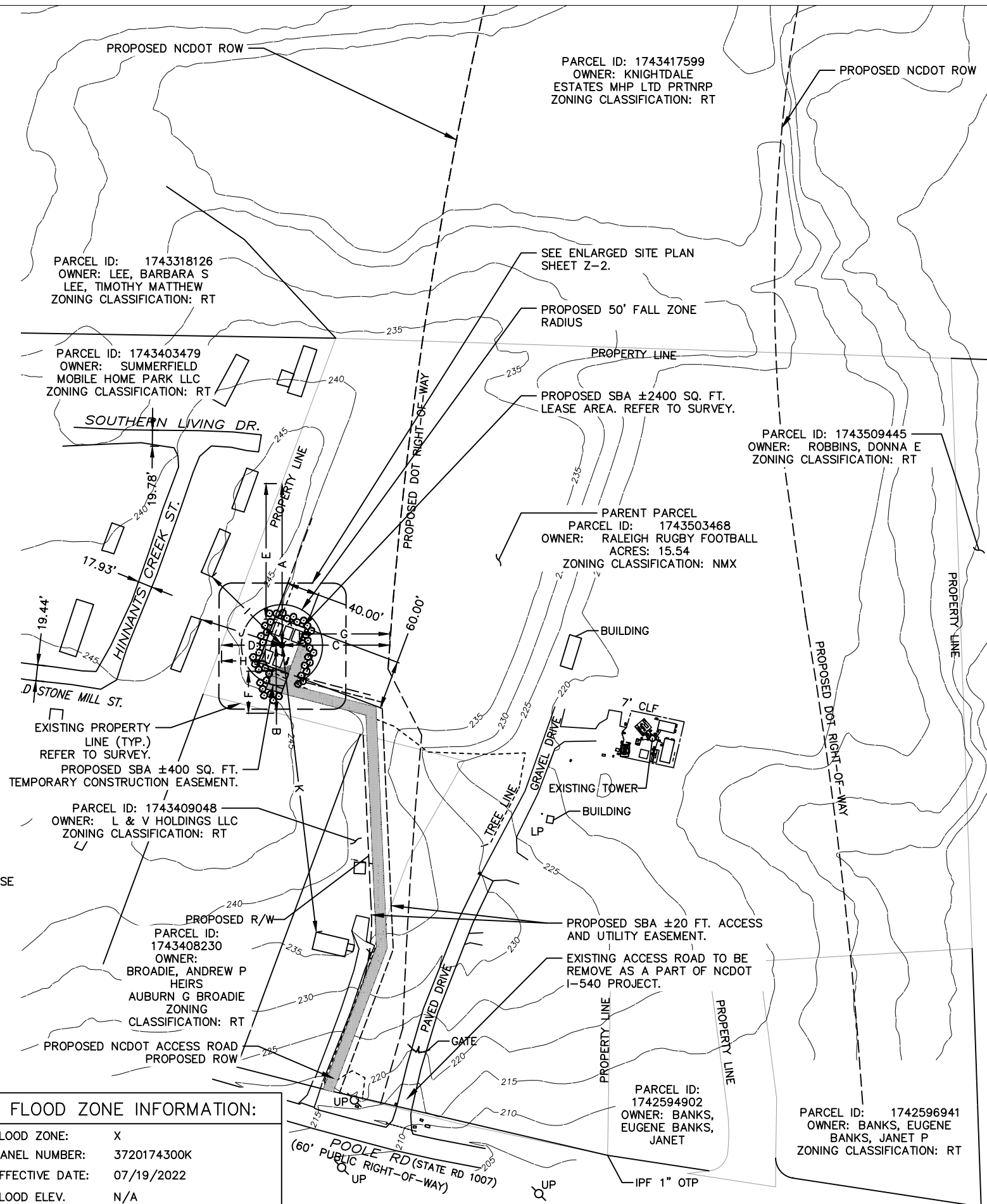
SHEET NUMBER: T-2	REVISION: B
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DIRECTION	REQUIRED TOWER SETBACK	PROPOSED TOWER SETBACK
(A) NORTH	200'	200.80'
(B) SOUTH	200'	85.11'
(C) EAST	200'	132.88'
(D) WEST	200'	74.80'

DIRECTION	REQUIRED COMPOUND SETBACK	PROPOSED COMPOUND SETBACK
(E) NORTH	50'	±168'
(F) SOUTH	50'	±53'
(G) EAST	50'	±111'
(H) WEST	50'	±53'

FLOOD_ZONE_INFORMATION:	
FLOOD_ZONE:	X
PANEL_NUMBER:	3720174300K
EFFECTIVE_DATE:	07/19/2022
FLOOD_ELEV.	N/A



SCALE: 1" = 150'





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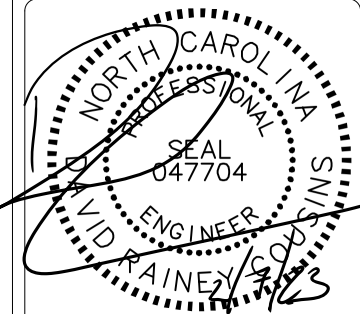
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ENLARGED SITE PLAN

SHEET NUMBER:
Z-2

REVISION:
B

NEW 199' MONOPOLE FURNISHED BY OWNER,
INSTALLED BY CONTRACTOR (DESIGNED BY OTHERS). SEE DETAIL 1/Z-3.

50' FALL RADIUS

PROPOSED SBA 10' LANDSCAPE BUFFER WITH TWO (2) STAGGERED ROWS OF EVERGREEN TREES SURROUNDING THE PERIMETER OF THE TOWER COMPOUND.

PROPOSED SBA ±2,400 SQ. FT. LEASE AREA. REFER TO SURVEY.

NEW SBA ±2,400 SQ. FT. FENCED COMPOUND
NEW 8' COMMERCIAL STRENGTH WELDED STEEL FENCE FURNISHED & INSTALLED BY CONTRACTOR. SEE SHEET Z-7.

PROPOSED #57 GRAVEL WITH GEOTEXTILE FABRIC EXTENDED TO 1'-0" OUTSIDE OF FENCE LINE. REFER TO DETAIL 2/Z-6.

PROPOSED OCCASIONAL USE PARKING SPACE.
PROPOSED 48' OF PRESSURE TREATED TIMBERS SURROUNDING PROPOSED PARKING AREA AT MINIMUM 6" HEIGHT. VEHICLE ACCOMMODATION AREA TO BE SCREENED WITH TYPE B BUFFER YARD. (SEE SHEET L-3 FOR DETAIL).

NEW 14' DOUBLE GATE. SEE DETAIL 2, PAGE Z-5.

NEW 12'-0" WIDE GRAVEL ACCESS DRIVE WITHIN 20'-0" ACCESS EASEMENT FURNISHED & INSTALLED BY CONTRACTOR SEE DETAIL 1, PAGE Z-4.

NEW SBA GANG METER CENTER ON H-FRAME.

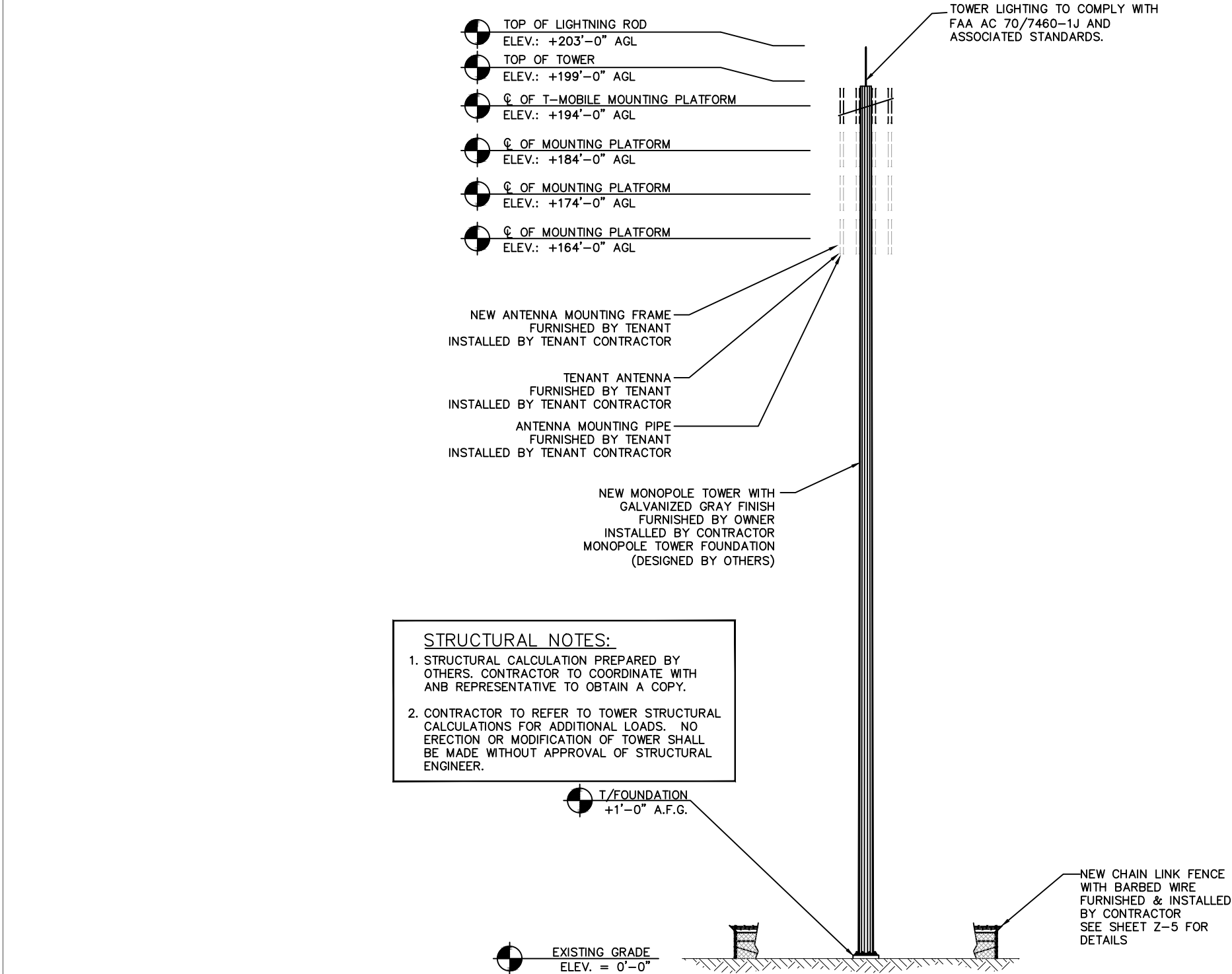
NEW SBA 20' WIDE ACCESS & UTILITY EASEMENT

GRAPHIC SCALE



(IN FEET)

SCALE: 1" = 20'



NOTES:

ABANDONMENT NOTE:

IN THE EVENT THE USE OF ANY ANTENNA TOWER HAS BEEN DISCONTINUED FOR A PERIOD OF THREE HUNDRED AND SIXTY FIVE (365) CONSECUTIVE DAYS, THEN, THE TOWER SHALL BE DEEMED TO BE ABANDONED. DETERMINATION OF THE ABANDONMENT SHALL BE MADE BY TOWN OF KNIGHTDALE BASED ON DOCUMENTATION AND/OR AFFIDAVITS FROM THE ANTENNA TOWER OWNER/OPERATOR REGARDING THE ISSUE OF TOWER USAGE. UPON TOWN OF KNIGHTDALE DETERMINATION OF SUCH ABANDONMENT, THE TOWER SHALL BE REMOVED AT THE EXPENSE OF THE PROPERTY OWNER OR SPECIAL USE PERMIT HOLDER WITHIN THIRTY (30) DAYS OF NOTIFICATION BY THE LAND USE ADMINISTRATOR. FAILURE TO REMOVE THE TOWER WITHIN THE SPECIFIED THIRTY (30) DAY PERIOD SHALL CONSTITUTE A VIOLATION OF THE TOWN OF KNIGHTDALE UDO, SUBJECT TO THE PROVISIONS OF CHAPTER 14 OF THE UDO.

LIGHTING NOTE:

NO SIGNALS, LIGHTS, OR ILLUMINATION SHALL BE PERMITTED ON THE ANTENNA TOWER, UNLESS REQUIRED BY A FEDERAL, STATE, OR LOCAL AGENCY, OR SUCH LIGHTING OR ILLUMINATION IS PART OF THE DESIGN OR A CAMOUFLAGE SCHEME, OR COUNTY APPROVED SECURITY LIGHTS. IF A FEDERAL, STATE OR LOCAL AGENCY REQUIRES LIGHTING, THE MOST UNOBTRUSIVE METHOD OF LIGHTING AVAILABLE SHALL BE REQUESTED FROM THE REGULATING AGENCY.



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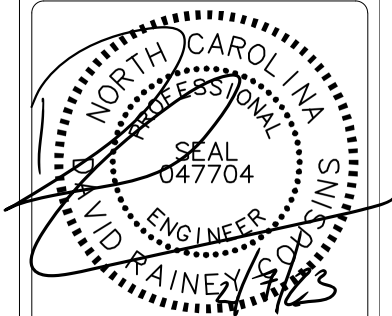


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DESIGN TYPE:
RAWLAND RELOCATION

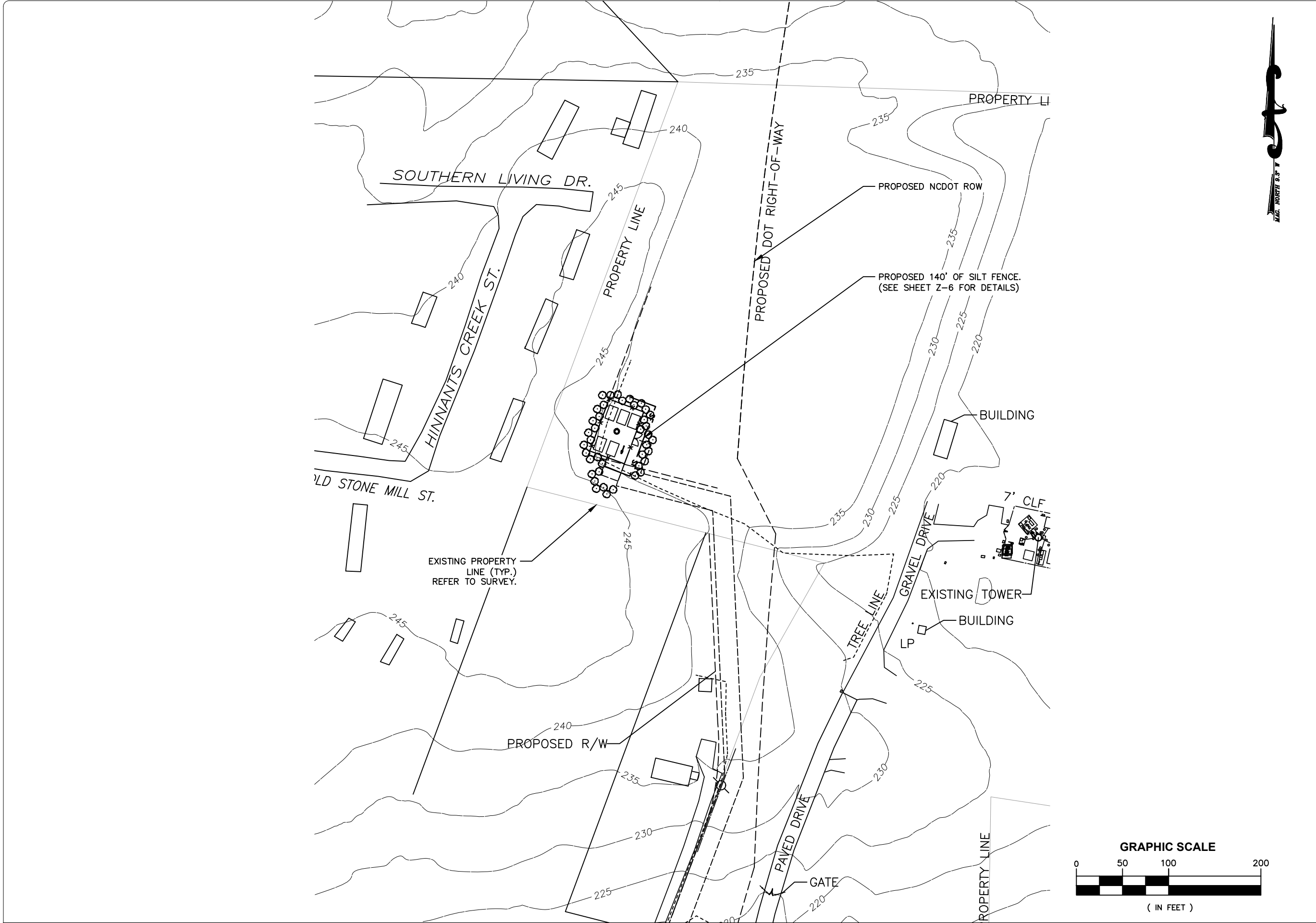
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SITE ELEVATIONS

SHEET NUMBER:

Z-3

REVISION:

B



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8051 CONGRESS AVENUE
BOCA RATON, FL 33487
TEL: (800) 487-7483

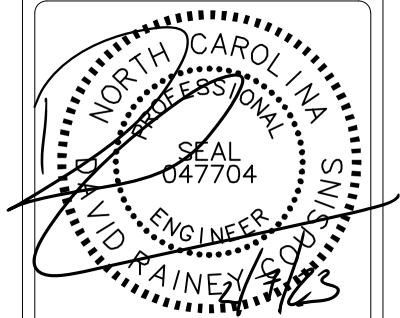


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SUITE 150
TAMPA, FL 33602
PHONE (813) 620-1460
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A&E PROJECT #:	148415272
DRAWN BY:	NKH
CHECKED BY:	BFS
REV. B BY:	NKH

REVISIONS		
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Δ	11/21/22	REVISED PER COMMENTS
Δ	09/25/22	ISSUED FOR REVIEW
NO.	DATE	DESCRIPTION



DAVID RAINEY COUSINS, PE
NC PROFESSIONAL ENGINEER LIC.# 047704

SITE NAME:
NCDOT RELO - NC 28591
HWY 2516 RELO

SITE NUMBER:
NC01564-B

SITE ADDRESS:
7417 POOLE RD
RALEIGH, NC 27610

DESIGN TYPE:
RAWLAND RELOCATION

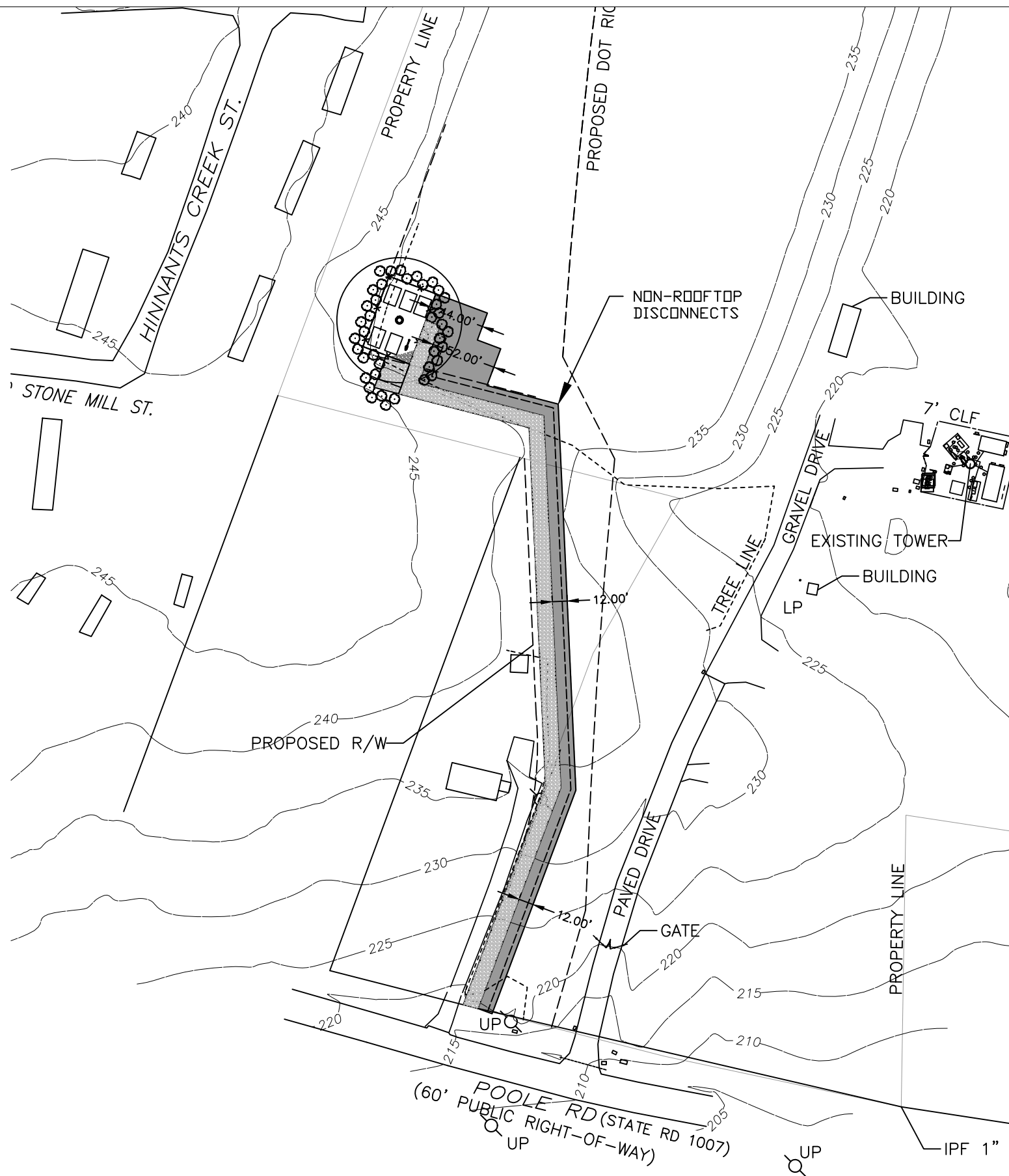
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CONTROL PLAN

SHEET NUMBER:

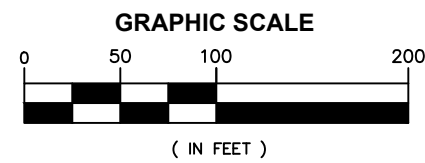
Z-4

REVISION:

B



LOD:	19,803 SQFT / 0.45 AC
EXISTING IMPERVIOUS:	17,417 SQFT / 0.40 AC
PROPOSED IMPERVIOUS:	10,629 SQFT / 0.24 AC.



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BOCA RATON, FL 33487
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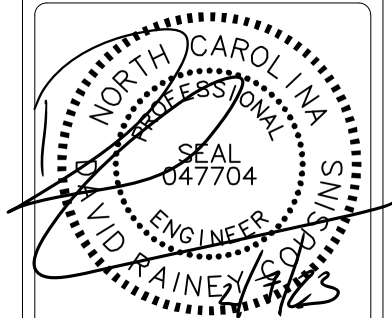


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HWY 2516 RELO

SITE NUMBER:
NC01564-B

SITE ADDRESS:
7417 POOLE RD
RALEIGH, NC 27610

DESIGN TYPE:
RAWLAND RELOCATION

SHEET TITLE:
SWM PLAN

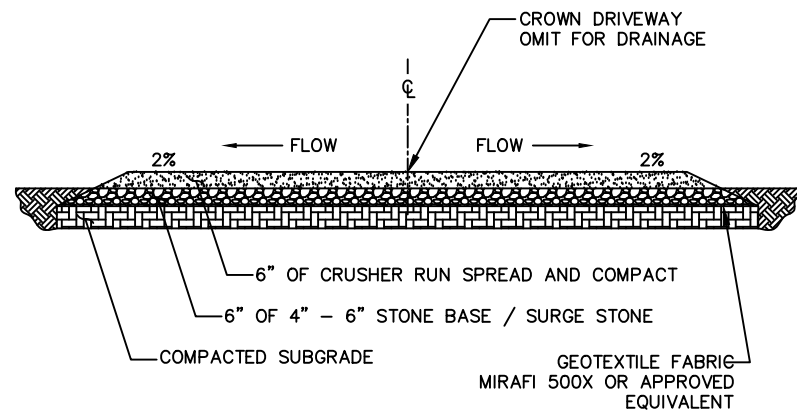
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Z-5

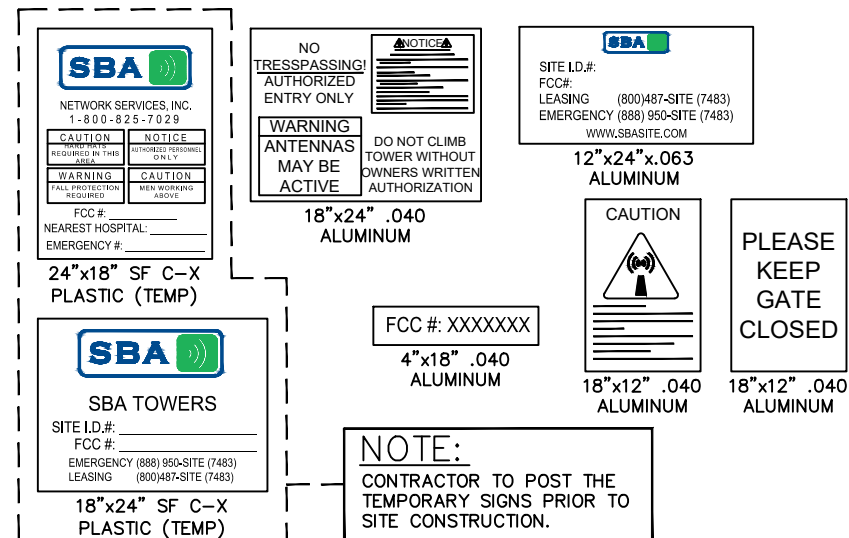
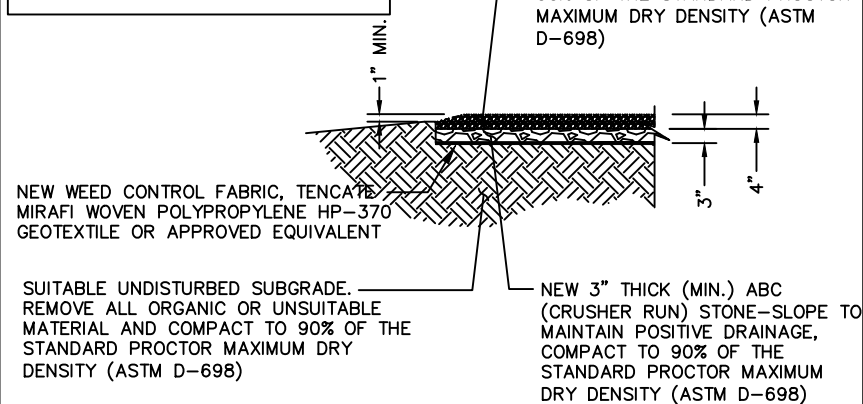
REVISION:

B

WEED CONTROL FABRIC SHALL BE USED UNDER ACCESS DRIVE WITH A 36" MINIMUM OVERLAP. CONTRACTOR SHALL INSTALL FABRIC PER MFG. RECOMMENDATIONS.



WEED CONTROL FABRIC SHALL BE USED UNDER ENTIRE PROPOSED GRAVELED AREA WITH A 36" MINIMUM OVERLAP. CONTRACTOR SHALL INSTALL FABRIC PER MFG. RECOMMENDATIONS.






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TEL: (800) 487-7483

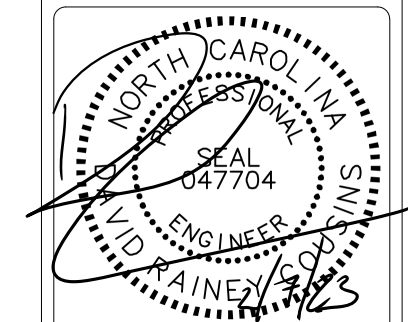
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RALEIGH, NC 27610

DESIGN TYPE:
RAWLAND RELOCATION

SHEET TITLE:

SITE DETAILS

SHEET NUMBER:

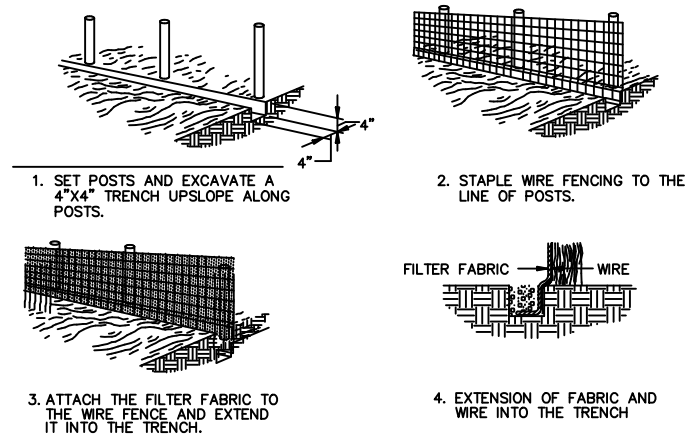
Z-6

REVISION:

B

NOTES:

1. CONTRACTOR SHALL BE RESPONSIBLE FOR CONSTRUCTION AND MAINTENANCE OF EROSION AND SEDIMENTATION CONTROLS DURING CONSTRUCTION. INSTALL SILT FENCE AS SHOWN WHERE ADDITIONALLY REQUIRED FOR PROTECTION OF ADJACENT PROPERTIES, ROADWAYS, AND WATERWAYS.
2. CONTRACTOR SHALL INSPECT INSTALLED EROSION CONTROL DEVICE WEEKLY DURING CONSTRUCTION AND AFTER HEAVY RAINS FOR DAMAGE OR EXCESSIVE SILTATION. MAINTENANCE SHALL INCLUDE CLEANING BUILT-UP SEDIMENT BEHIND THE BARRIERS AND/OR REPLACING DAMAGED SECTIONS.
3. THE EROSION CONTROL DEVICES SHALL BE MAINTAINED BY THE CONTRACTOR UNTIL PERMANENT STABILIZATION IS ESTABLISHED.
4. HAY BALES SHALL NOT BE USED AS EROSION CONTROL.
5. CONTRACTOR IS RESPONSIBLE FOR PROVIDING SITE FREE OF DRAINAGE PROBLEMS.
6. CONTRACTOR SHALL USE BEST MANAGEMENT PRACTICES FOR CONSTRUCTION TO PREVENT THE DIVERSION OF SEDIMENT LADEN STORM WATER RUNOFF OR ERODED MATERIALS FROM LEAVING THE CONSTRUCTION SITE.
7. CONTRACTOR SHALL PREVENT TRACKING OF SEDIMENT OUTSIDE OF CONSTRUCTION LIMITS. THIS MAY REQUIRE CLEANING AND/OR WASHING OF DEBRIS AND SEDIMENT FROM ALL VEHICLES PRIOR TO EXITING THE SITE. ANY SEDIMENT DEPOSITED ON THE ROADWAY SHALL BE SWEEP AS NECESSARY THROUGHOUT THE DAY OR AT THE END OF EVERY DAY AND DISPOSED OF IN AN APPROPRIATE MANNER. SEDIMENT SHALL NOT BE WASHED INTO STORM SEWER SYSTEMS.
8. ANY DEBRIS AND/OR SEDIMENT EXITING THE SITE DUE TO TRACKING OR FAILURE OF A SITE BMP SHALL BE CLEANED IMMEDIATELY BY THE CONTRACTOR BY A METHOD OTHER THAN FLUSHING. CONTRACTOR SHALL ALSO IMMEDIATELY REPAIR ANY BMPS THAT HAVE FAILED AND/OR INSTALL ADDITIONAL BMPS TO ENSURE SEDIMENT DOES NOT LEAVE THE SITE.



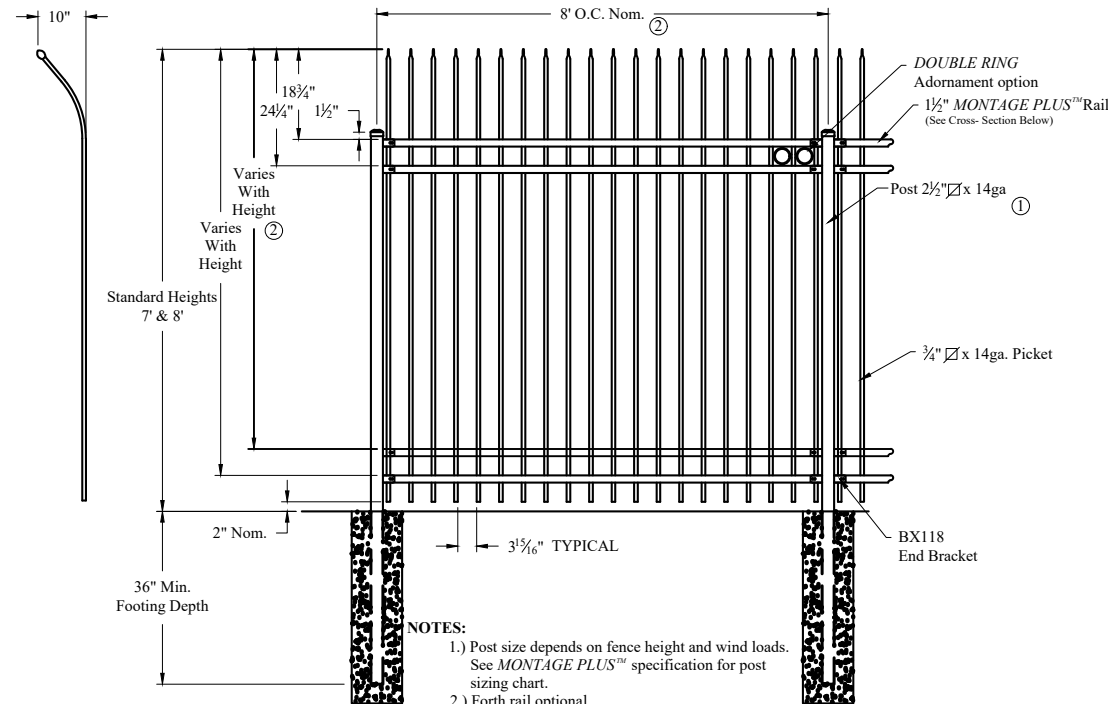
SILT FENCE

4	EROSION CONTROL DETAIL
---	------------------------

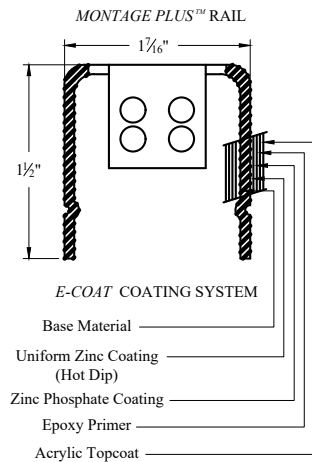
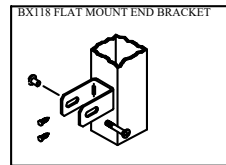
SCALE: N.T.S.

NOTES:

1. THE PROPOSED FENCE DESIGN SHOWN FOR A BASIS OF DESIGN TO ALLOW CONTRACTOR TO SOURCE PRODUCT LOCALLY. CONTRACTOR TO VERIFY INSTALLED FENCE COMPLIES WITH ALL FENCING REQUIREMENTS SET FORTH IN THE TOWN OF KNIGHTDALE UNIFIED DEVELOPMENT ORDINANCE.
2. CONTRACTOR SHALL INSTALL SBA COMBO GATE LOCK AND DAISY CHAIN.



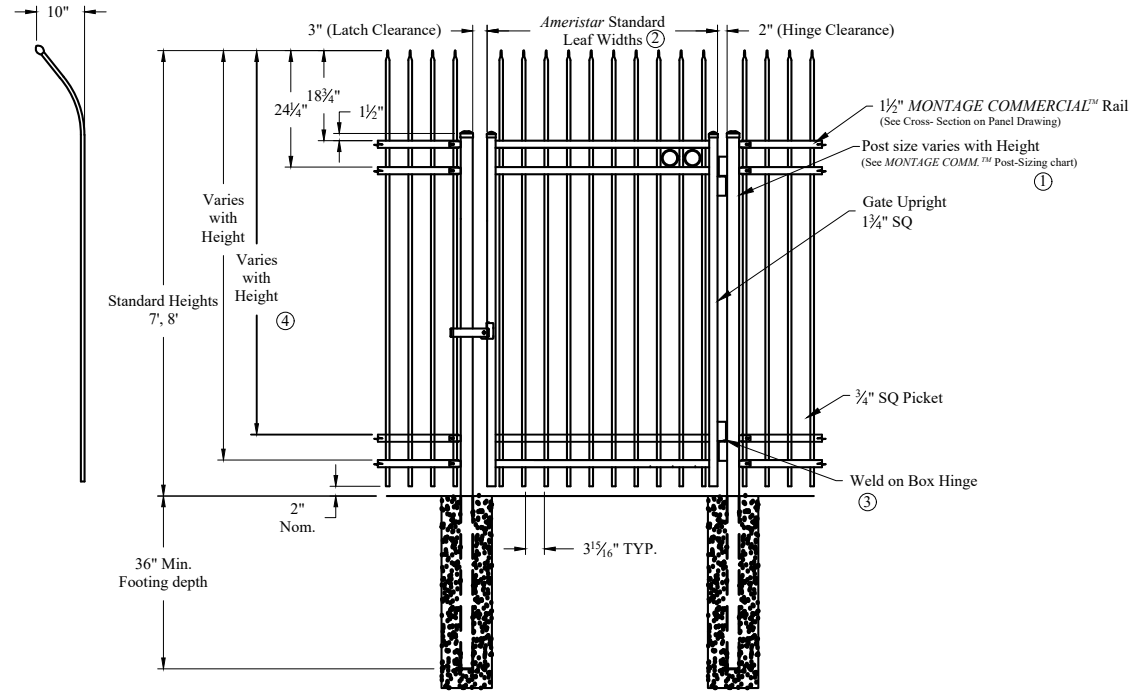
- NOTES:
- 1.) Post size depends on fence height and wind loads. See *MONTAGE PLUS™* specification for post sizing chart.
 - 2.) Forth rail optional.
 - 3.) 7' & 8' Heights will require a 14ga Picket & 14ga Post



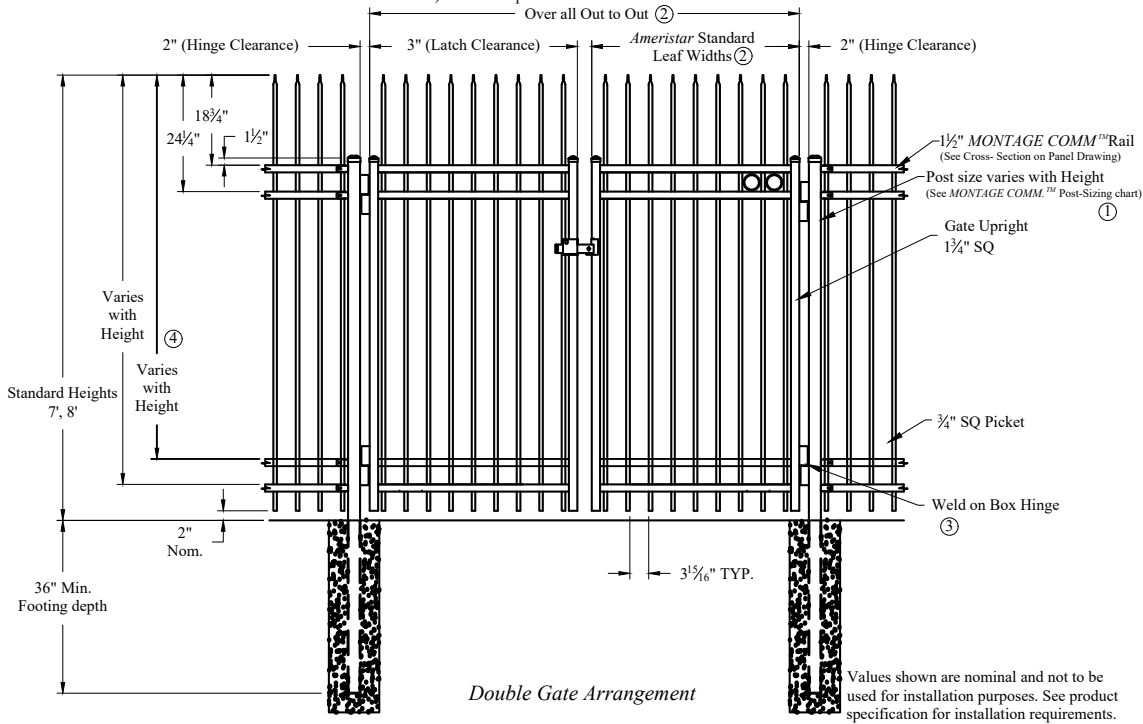
PROFUSION™ WELDING PROCESS
No exposed welds,
Good Neighbor profile - Same
appearance on both sides

MONTAGE PLUS™ RAIL
Specially formed high strength
architectural shape.

Values shown are nominal and not to be used for
installation purposes. See product specification
for installation requirements.



- NOTES:
- Single Gate Arrangement*
- 1.) Post size depends on fence height, weight and wind loads. See *MONTAGE COMMERCIAL™* specifications for post sizing chart.
 - 2.) See *Ameristar* gate table for standard out to outs. Custom gate openings available for special out to out/leaf widths.
 - 3.) Additional styles of gate hardware are available on request. This could change the Latch & Hinge Clearance.
 - 4.) Forth rail optional.



Double Gate Arrangement



SBA NETWORK SERVICES, LLC.
8051 CONGRESS AVENUE
BOCA RATON, FL 33487
TEL: (800) 487-7483

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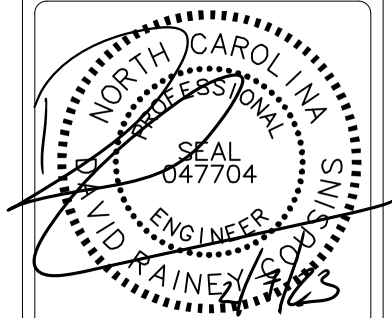
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DAVID RAINEY COUSINS, PE
NC PROFESSIONAL ENGINEER LIC.# 047704

SITE NAME:
**NCDOT RELO - NC 28591
HWY 2516 RELO**

SITE NUMBER:
NC01564-B

SITE ADDRESS:
**7417 POOLE RD
RALEIGH, NC 27610**

DESIGN TYPE:
RAWLAND RELOCATION

SHEET TITLE:
FENCE DETAILS

SHEET NUMBER:

Z-7

REVISION:

B

PLANTING SCHEDULE

KEY	QTY	BOTANICAL NAME	COMMON NAME	SIZE	TYPE	SPACING	SYMBOL	REMARKS
LC	33	X CUPRESSO-CYPARIS LEYLANDII	LEYLAND CYPRESS	1.5" GAL	UNDERSTORY EVERGREEN	10'-0" O.C.		FULL TO BASE

LANDSCAPE INSTALLATION NOTES:

1. ALL PLANT MATERIALS SHALL BE BE OF GOOD QUALITY AS GIVEN IN, AMERICAN STANDARD FOR NURSERY STOCK, BY THE AMERICAN NURSERY & LANDSCAPE ASSOCIATION CURRENT EDITION.
2. SIZES SPECIFIED IN THE PLANT LIST ARE MINIMUM SIZES TO WHICH THE PLANTS ARE TO BE INSTALLED. TRUNK CALIPER IS MEASURED SIX INCHES ABOVE THE GROUND ON TREES.
3. ALL LANDSCAPING SHALL BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE LOCAL JURISDICTIONAL STANDARDS AND IN ACCORDANCE WITH CURRENT INDUSTRY STANDARDS IN A NEAT, HEALTHY, AND WEED FREE CONDITION.
4. IT IS THE LANDSCAPE CONTRACTORS RESPONSIBILITY TO ENSURE THAT ALL PLANT BED AREAS HAVE PROPER DRAINAGE FOR OPTIMUM GROWTH OF LANDSCAPE MATERIAL BEFORE INSTALLATION BEGINS.
5. THE CONTRACTOR SHALL ENSURE THAT ALL PLANTING ISLANDS AND OTHER AREAS SHALL BE CLEAN OF TRASH, CONSTRUCTION DEBRIS OTHER WASTE MATERIALS TO A DEPTH OF 24" PRIOR TO LANDSCAPE INSTALLATION.
6. THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFICATION OF ALL UNDERGROUND AND OVERHEAD UTILITIES. PLANT MATERIAL IS TO BE LOCATED SUCH THAT IT WILL NOT INTERFERE WITH ANY UNDERGROUND OR OVERHEAD UTILITIES. TREES CANNOT BE PLANTED AROUND, OVER, OR UNDER ANY EXISTING OR PROPOSED POWER LINES. THIS INCLUDES ANY LINES DESIGNED AFTER FINAL SITE PLAN APPROVAL.
7. ALL PLANT BEDS AND TREE RINGS SHALL BE TREATED WITH A PRE-EMERGENT HERBICIDE AND THEN TOP-DRESSED WITH 3" DEEP PINE BARK MULCH. ALL NEW TREES SHALL HAVE A TREE RING WITH A MINIMUM 24" RADIUS, ALL NEW TREES AND PALMS SHALL BE STAKED.
8. TREES, SHRUBS AND GROUND COVER SHALL BE INSTALLED USING THE FOLLOWING PROCEDURE: PLANT PITS SHALL BE EXCAVATED TO TWICE THE DIAMETER OF THE PLANT ROOT BALL. AERATE EXISTING SOIL BEFORE BACKFILLING PIT. ADD AGRIFORM FERTILIZER TABLETS TO EACH PLANT PIT, AS PER THE SPECIFICATIONS.
9. TREE INSTALLATION: ALL REQUIRED TREES SHALL BE INSTALLED 1" - 2" ABOVE FINISH GRADE. TREES INSTALLED OR BURIED TOO DEEP SHALL BE RESET TO THIS STANDARD. REMOVE THE TOP 1/3 OF THE WIRE BASKETS ON ALL B & B STOCK.
10. THE CONTRACTOR MUST MAINTAIN THE LANDSCAPING FOR 1 YEAR FROM THE DATE OF CONSTRUCTION COMPLETION. THIS INCLUDES BUT IS NOT LIMITED TO WATERING AND INSURING THAT THE LANDSCAPING DOES NOT DIE. IF ANY OF THE LANDSCAPING DIES WITHIN THE 1 YEAR TIME FRAME, THE CONTRACTOR MUST REPLACE IT WITH EQUIVALENT LANDSCAPING. LOCAL JURISDICTION WATERING GUIDELINES SHALL BE FOLLOWED THOROUGHLY. LANDSCAPED AREAS MUST BE 100% IRRIGATED THROUGHOUT THE ESTABLISHMENT PERIOD.
11. CONTRACTOR MUST CONFIRM LANDSCAPE REQUIREMENTS AND SPECIFICATIONS WITH LOCAL JURISDICTION.

EX PROPERTY LINE

NEW 199' MONOPOLE

PROPOSED SBA 10' LANDSCAPE BUFFER

PROPOSED ±2,400 SQ. FT. SBA LEASE AREA. REFER TO SURVEY.

NEW SBA ±2,400 SQ. FT. FENCED COMPOUND

PROPOSED 1.5" GAL LEYLAND CYPRESS SPACED 10'-0" O.C. (TYP)

PROPOSED #57 GRAVEL WITH GEOTEXTILE FABRIC EXTENDED TO 1'-0" OUTSIDE OF FENCE LINE. REFER TO DETAIL 2/Z-5.

VEHICLE ACCOMMODATION AREA TO BE SCREENED WITH TYPE B BUFFER YARD. (SEE SHEET L-3 FOR DETAIL).

EX TREE LINE

EX TREE LINE

GRAPHIC SCALE



(IN FEET)



SBA NETWORK SERVICES, LLC.
8051 CONGRESS AVENUE
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TEL: (800) 487-7483

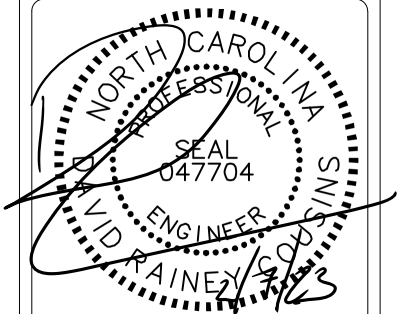


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DAVID RAINEY COUSINS, PE
NC PROFESSIONAL ENGINEER LIC.# 047704

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NCDOT RELO - NC 28591
HWY 2516 RELO

SITE NUMBER:
NC01564-B

SITE ADDRESS:
7417 POOLE RD
RALEIGH, NC 27610

DESIGN TYPE:
RAWLAND RELOCATION

SHEET TITLE:
LANDSCAPING PLAN

SHEET NUMBER:

L-1

REVISION:

B



1. EVERGREEN TREE SHALL BE MIN. 10'-0" IN HEIGHT AT TIME OF PLANTING.
2. EVERGREEN SHRUB SHALL BE A MIN. 5'-0" (H) X 5'-0" (W) AT TIME OF PLANTING





SBA NETWORK SERVICES, LLC.
8051 CONGRESS AVENUE
BOCA RATON, FL 33487
TEL: (800) 487-7483

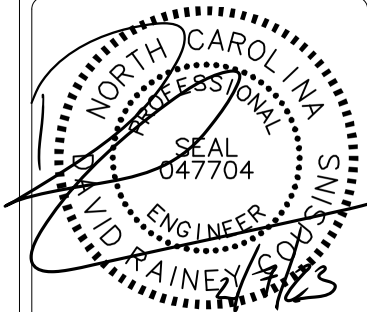


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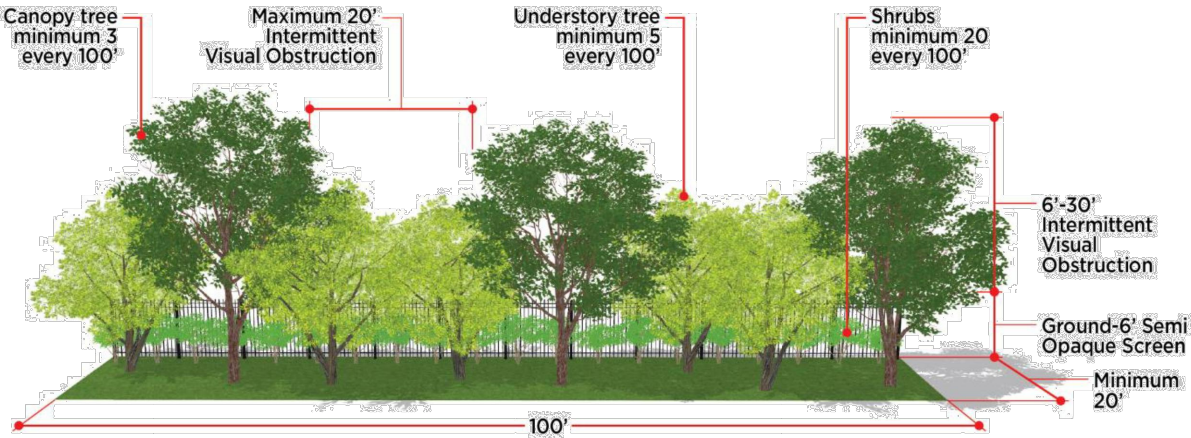
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DESIGN TYPE:
RAWLAND RELOCATION

SHEET TITLE:
LANDSCAPING DETAILS

SHEET NUMBER:	REVISION:
L-3	B

Figure 7.5: Type B Buffer Yard Standards



September 26, 2022

Anne E. Hathaway
SBA Network Services, Inc.
8051 Congress Avenue
Boca Raton, FL 33487

RE: Proposed 199' Sabre Monopole for NC DOT Raleigh, Rugby Club, NC

Dear Ms. Hathaway,

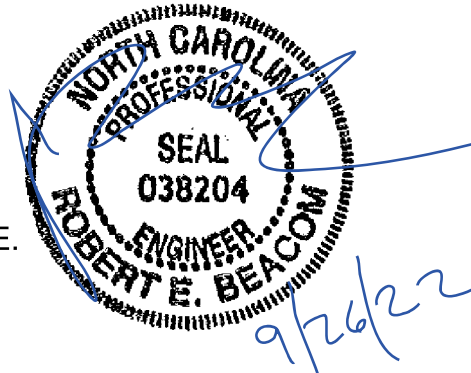
Upon receipt of order, we propose to design and supply the above referenced Sabre monopole for an Ultimate Wind Speed of 116 mph with no ice and 30 mph + 1.5" ice, Risk Category II, Exposure Category C and Topographic Category 1 in accordance with the Telecommunications Industry Association Standard ANSI/TIA-222-H, "Structural Standard for Antenna Supporting Structures and Antennas".

When designed according to this standard, the wind pressures and steel strength capacities include several safety factors, resulting in an overall minimum safety factor of 25%. Therefore, it is highly unlikely that the monopole will fail structurally in a wind event where the design wind speed is exceeded within the range of the built-in safety factors.

Should the wind speed increase beyond the capacity of the built-in safety factors, to the point of failure of one or more structural elements, the most likely location of the failure would be within the monopole shaft, above the base plate. Assuming that the wind pressure profile is similar to that used to design the monopole, the monopole will buckle at the location of the highest combined stress ratio within the monopole shaft. This is likely to result in the portion of the monopole above leaning over and remaining in a permanently deformed condition. ***Please note that this letter only applies to the above referenced monopole designed and manufactured by Sabre Towers & Poles.*** This would effectively result in a fall radius equal to 50 ft at ground level.

Sincerely,

Robert E. Beacom, P.E., S.E.
Engineering Manager





STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

ROY COOPER
GOVERNOR

J. ERIC BOYETTE
SECRETARY

February 7, 2023

Ms. Anne Hathaway
Manager of Site Development – New Builds
SBA Communications Corporation
8051 Congress Avenue
Boca Raton, FL 33487-1307

Subject: R-2829B, Parcel 53 (Raleigh Rugby Football Club), SBA Cell Tower Access

Ms. Hathaway:

During the Town of Knightdale's most recent review, questions were raised relating to the planned highway work in and around SBA's current and proposed cell tower (tower) locations. Please reference the image below and find the following information in response to Nishka Hatten's email dated February 6, 2023.

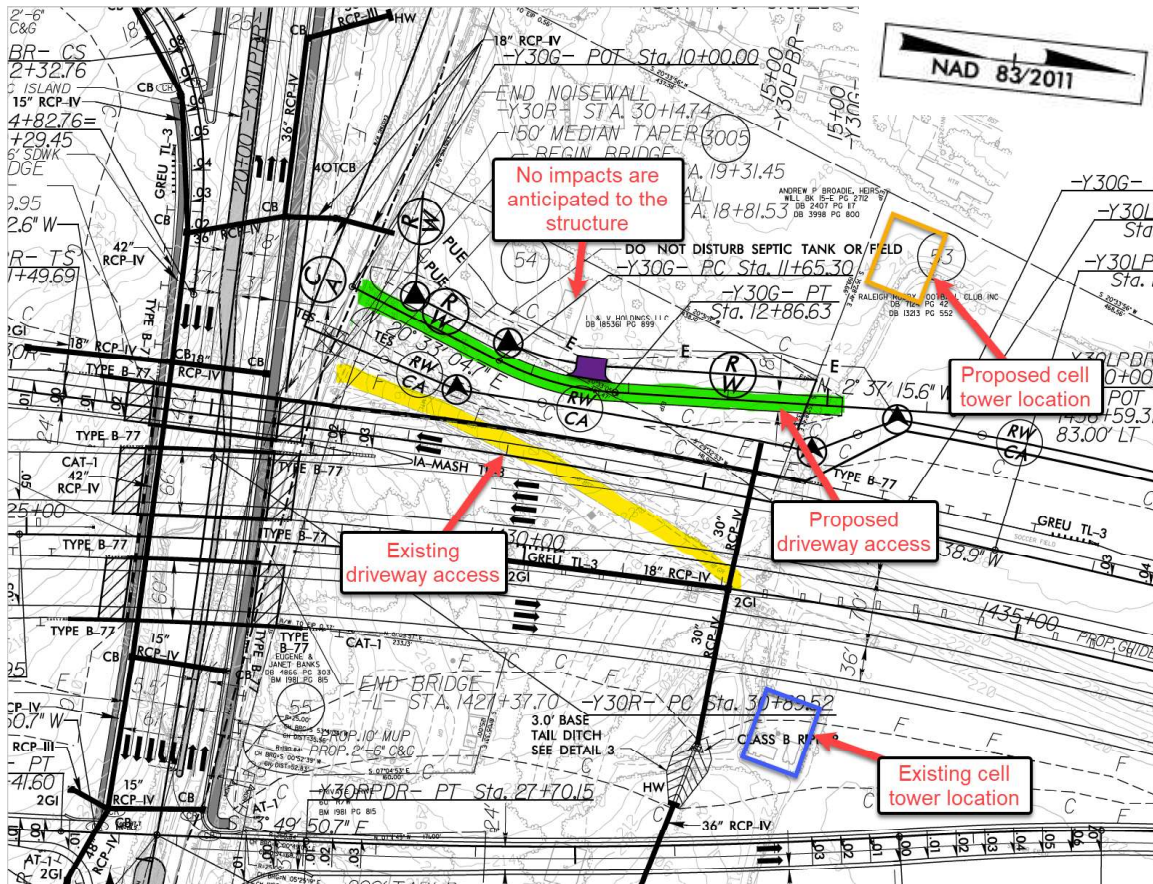
The current SBA tower location is identified by a blue rectangle. The tower is currently located between the proposed eastbound lanes of NC 540 and the on-ramp from Poole Road to eastbound NC 540. The tower cannot remain at this location inside the proposed right of way/controlled access. The proposed tower location is identified with an orange rectangle on the western remnant of the Raleigh Rugby Football Club (RRFC) property.

The existing driveway that provides access to the tower is identified by yellow highlighting. This driveway is also fully inside the proposed right of way/controlled access and will be removed as part of the project.

The proposed driveway that is shown in green will be used to provide access to the RRFC remnant as well as the new location for the tower. At this time, the house on the L&V Holdings property is not impacted by project construction; however, the current plans are preliminary and subject to change once the Design-Build Team finalizes their design. The proposed access to the house is off the green driveway and is shown in purple.

As noted in previous correspondence, access to the tower will be maintained throughout the life of the R-2829B construction project through either the existing or proposed driveway.

Please do not hesitate to contact me should there be additional questions.



Sincerely,

DocuSigned by:

DJernigan

F33D97B5AFE34BE...

Dennis Jernigan, PE
Acting Chief Engineer
N. C. Turnpike Authority

Ec: Alan Shapiro, PE – N. C. Turnpike Authority
Nishka Hatten – Kimley-Horn and Associates, Inc.
Keith Markland – Kimley-Horn and Associates, Inc.



2401 Brentwood Rd, Suite 107
Raleigh, NC 27604
P (919) 873-2211
Terracon.com

November 21, 2022

Kimley-Horn and Associates, Inc.
1801 Porter Street, Suite 401
Baltimore, MD 21230

Attn: Nishka Hatten
P: 667-262-9357

RE: 7417 Poole Road Site
Environmental Evaluation
Wake County, NC
Terracon Project No: 70227672

Dear Ms. Hatten:

Terracon Consultants, Inc. (Terracon), has completed the requested environmental evaluation of the 15.54-acre site at 7417 Poole Road in Wake County, NC (Exhibit 1). Terracon staff was tasked with collecting different types of data for the Town of Knightdale regarding this site including:

- Existing wetlands and waters
- Vegetative characteristics
- Protected species habitat evaluation
- Floodplains
- Topographical information
- Historical resources

Background Research

Prior to the initiation of field efforts, several available resources were reviewed, including the U.S. Geological Survey (USGS) 7.5-minute topographic quadrangle of Raleigh East NC, the Natural Resources Conservation Service (NRCS) published Soil Survey of Wake County, NC, aerial photography, and other publicly available mapping resources. Field work was conducted by technical staff on November 16, 2022.

Topography and Geology

Topography in the study area is characterized by rolling hills on the property. Elevations range from a high of approximately 246 feet above mean sea level (MSL) down to approximately 195 feet above MSL (Exhibit 1) based on a review of USGS mapping and other online resources. Terracon also identified significant slopes within the study area, defined as 15% slopes or greater (Figure 7).

The study area is located within the Raleigh Belt formation within the piedmont physiographic province in North Carolina. No unique geologic features were identified within the study area.

Soils

Exhibit 2 depicts four soil mapping units potentially occurring in the study area: Appling sandy loam, 2-6% slopes, eroded; Appling sandy loam, 10-15% slopes; Wake soils, 10-25% slopes; and Wehadkee silt loam.

Explore with us

The soils mapping unit Wehadkee silt loam, potentially occurring in the study area, is considered a hydric (wetland) soil mapping unit by NRCS.

Wetlands and Waters

Section 404 of the Clean Water Act (CWA) requires regulation of discharges into waters of the U.S. (WOTUS). Although the principal administrative agency of the CWA is the U.S. Environmental Protection Agency (EPA), the U.S. Army Corps of Engineers (USACE) has major responsibility for implementation, permitting, and enforcement of provisions of the CWA. Water bodies such as rivers, lakes, and streams are subject to jurisdictional consideration under the Section 404 program. However, by regulation, certain wetlands are also considered WOTUS.

Currently WOTUS are assessed by the CWA's pre-2015 definition of WOTUS. This definition of WOTUS includes the implementation of rulemaking as decided in the Supreme Court's decision of the consolidated cases *Rapanos v. United States* and *Carabell v. United States*.

Specifically, the following waters will be under federal jurisdiction pursuant to the CWA:

- Traditional navigable waters (TNWs)
- Wetlands adjacent to TNWs
- Non-navigable tributaries of traditional navigable waters that are relatively permanent where the tributaries typically flow year-round or have continuous flow at least seasonally (3 months)
- Wetlands that directly abut such tributaries
- Relatively permanent, standing or continuously flowing bodies of water "forming geographic features" that are described in ordinary parlance as "streams, oceans, rivers, and lakes". These are Relatively Permanent Waters (RPWs).

The following waters will be considered jurisdictional if a significant nexus (contributes to the physical, chemical, or biological integrity of downstream TNWs) exists between these features and traditional navigable waters:

- Non-navigable tributaries that are not relatively permanent
- Wetlands adjacent to non-navigable tributaries that are not relatively permanent
- Wetlands adjacent to but that do not directly abut a relatively permanent non-navigable tributary

The following waters will be considered non jurisdictional under the CWA:

- Swales or Erosional features (gullies, small washes characterized by low volume, infrequent or short duration flows)
- Ditches (including roadside ditches) excavated wholly in and draining only uplands and that do not carry a relatively permanent flow of water.

However, wetlands and other waterbodies that do not fall under federal regulation per the CWA may be subject to jurisdiction by the N.C Division of Water Resources (NCDWR) under the state's Isolated and Other Non-404 Jurisdictional Wetlands and Waters program.

Our delineation methodology generally follows the guidance outlined in the Regional Supplement to the USACE Wetland Delineation Manual for the Atlantic and Gulf Coastal Plain Region, which states that areas must exhibit three distinct characteristics to be considered jurisdictional wetlands: 1) prevalence of hydrophytic (water tolerant) plants; 2) presence of hydric soils; and 3) sufficient wetland hydrology indicators within 12 inches of the ground surface.

The study area was also reviewed for the presence of tributaries (stream channels) using criteria provided by the USACE and the NCDWR. When present, intermittent and perennial tributaries, and certain other surface waters, are also considered jurisdictional by the USACE and/or NCDWR.

Our review of the 7417 Poole Road site identified two (2) potential wetlands, one (1) potential tributary, and one potential surface water (Exhibit 3). These results are considered preliminary and are subject to review and approval by the USACE. Exhibit 3 depicts the approximate location and extent of the potential wetlands and tributaries and was prepared using non-survey grade, sub-meter GPS data. Exhibit 3 is not a replacement for a traditional survey. It is suitable for preliminary planning purposes only and for use by a surveyor to aid in locating flags.

The following tables contain the specific information for the potential wetlands and tributaries that were identified and delineated inside the property boundary. The potential wetlands were classified according to the North Carolina Wetland Assessment Method (NCWAM). The wetlands on site were classified as Headwater Forest Wetlands and Bottomland Hardwood Forest wetlands. Headwater Forest wetlands are intermittently inundated to seasonally saturated, dominated by woody vegetation, and located in areas that have less than a second-order stream or are located within a topographic crenulation without a stream. Bottomland Hardwood Forest wetlands are found in geomorphic floodplains of second order and larger streams. These wetlands are generally intermittently to seasonally inundated for long periods of time and are dominated by hardwood vegetation.

Table 1. Potential Wetlands Identified for the 7417 Poole Road Site

Potential Wetland ID	NCWAM Classification	Approximate size (ac)	Hydrophytic Vegetation ¹	Hydric Soil (Munsell color)	Indicators of Hydrology ¹
W1	Bottomland Hardwood Forest	.09	American sycamore, lizard's tail	10YR 5/2 with redox	Saturation at Surface, Drainage Patterns
W2	Headwater Forest	.01	giant cane, lizard's tail	10YR 5/2 with redox	Saturation at Surface, Drainage Patterns
Total:		0.10 AC			

¹ Does not include all hydrophytic vegetation or hydrology indicators

Table 2. Potential Tributaries Identified for the 7417 Poole Road Site

Potential Tributary ID	Flow Regime ¹	NCDWR Stream Score	Approximate Amount Along Boundary (LF)
T1	Intermittent	29	224
Total:			224 LF

¹ Based on NCDWR score

Table 3. Potential Surface Waters Identified for the 7417 Poole Road Site.

Surface Waters ID	Approximate Size in Study Area (ac)	Likely Jurisdictional Authority
SW1	0.11	USACE/DWR
Total:	0.11 AC	

Riparian Buffers/Setbacks

The study area is within the Neuse River Basin. Per the Neuse River Basin Riparian Rule, a 50-foot buffer may apply to streams that are mapped on either the most current version of the 1:24,000 scale (7.5 minute) quadrangle topographic map (Exhibit 1) and/or the published Soil Survey prepared by the Natural Resources Conservation Service of the United States Department of Agriculture (Exhibit 2). Tributary T1 is depicted on the published soil survey map (Exhibit 2) and will likely be subject to a 50-foot buffer. However, the stream on the soil survey is significantly longer than the stream that was observed during the field evaluation. Therefore, concurrence from NCDWR will be required to confirm the origin point of T1 and the extent of the riparian buffer on the site.

Vegetative Characteristics

Four (4) distinct tree stands were found within the study area consisting of two (2) types of tree communities: mixed hardwood forest and pine forest. A maintained/disturbed area is also present within the study area (Figure 8). The mixed hardwood forest stands (TS1 and TS3) include multiple hardwood tree species at different stages of growth with larger canopy trees dominating the overstory, and smaller hardwood species dominating the understory. Pine forest stands are dominated by pine species, with younger hardwood species found in the understory. The following table contains the location of the stands within the study area, with the species composition, general size and height, spacing, and health within the individual stands.

Table 4. Vegetative Characteristics for the 7417 Poole Road Site.

Stand ID	Natural Community Type	Dominant Species	Average Size (DBH)	Dripline (ft)	Stand Health
TS1	Mixed Hardwood Forest	Sweetgum, American Sycamore	15	7.5	High
TS2	Pine Forest	Loblolly Pine, Sweetgum	18	5	Moderate
TS3	Mixed Hardwood Forest	Water Oak, Southern Red Oak, Sweetgum	12	7.5	Moderate
TS4	Pine Forest	Loblolly Pine, Black Cherry	16	5	Moderate

Terracon was also tasked with identifying significant trees within the study area, both within the above stands and open-grown and field-grown trees. 72 trees of varying species with a diameter at breast height (DBH) of 24 inches or greater were identified within the study area. 254 trees with a DBH of 12 inches or greater were identified within the study area (Figure 9).

Floodplains

A small area in the southeastern portion of the site is designated as being within the 100-year floodplain (AE zone), which is defined as an area with a 1 percent annual chance of flooding and are regulatory floodways. Consultation with FEMA may be required if construction in the AE zone and/or the regulatory floodway is necessary.

Endangered Species Act Protected Species

Species with the federal classifications of Endangered (**E**) or Threatened (**T**) are protected under the Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. 1531 *et seq.*). Species officially Proposed (**P**) for such listing are not protected under the ESA, but are recommended for inclusion in evaluations based on potential for status to be upgraded to official listing as E or T. The U.S. Fish and Wildlife Service (USFWS) online Information for Planning and Consultation (IPaC) system (IPAC 2022) indicates that six (6) species are recommended for project consideration. A North Carolina Natural Heritage Program (NHNHP) database query was generated in November 2022 to determine if any of these species have been documented inside of or within 1.0 mile of the study area. Terracon conducted habitat assessments inside the study area in November 2022.

Table 5. Federal listed species for Wake County, NC.

Common Name	Scientific Name	Federal Status (T/E) ¹	Potential Habitat Present Y/N	Biological conclusion
Red-cockaded woodpecker	<i>Picoides borealis</i>	E	No	No effect
Neuse River waterdog	<i>Necturus lewisi</i>	T	No	No effect
Carolina madtom	<i>Noturus furiosus</i>	E	No	No effect
Atlantic pigtoe	<i>Fusconaia masoni</i>	PT	No	No effect
Dwarf wedgemussel	<i>Alasmidonta heterodon</i>	E	No	No effect
Michaux's sumac	<i>Rhus michauxii</i>	E	Yes	Unresolved
Monarch butterfly	<i>Danaus plexippus</i>	C	Yes	Not Required

¹E-Endangered, T-Threatened, PT-Proposed Threatened, C-Candidate

Red-cockaded woodpecker - The red-cockaded woodpecker (RCW) typically occupies open, mature stands of southern pines, particularly longleaf pine (*Pinus palustris*), for foraging and nesting/roosting habitat. The RCW excavates cavities for nesting and roosting in living pine trees, aged 60 years or older, which are contiguous with pine stands at least 30 years of age to provide foraging habitat. The foraging range of the RCW is normally no more than 0.5 mile (IPAC 2022).

Habitat Present: No

Potential habitat for RCW does not occur within the study area. Pine forest stands within the study area do not include the open understory required by this species for suitable foraging or nesting habitat. NCNHP data reviewed in November 2022 indicates no known occurrences of

RCW within one mile of the study area. The project is anticipated to have no effect on the RCW.

Biological Conclusion: No Effect

Neuse River waterdog – The Neuse River waterdog typically occupies low to moderate gradient streams with low current velocity. The waterdog is a fully aquatic salamander that does not leave the water. The waterdog has external gills that need clean, flowing water with high dissolved oxygen concentrations. Typically, the species selects streams wider than 15 meters, however it has been found in smaller creeks. The Neuse River waterdog primarily resides under large granite rocks or in burrows and moves into leaf beds in riffles in early spring (IPAC 2022).

Habitat Present: No

Potential habitat for the Neuse River waterdog does not occur within the study area. T1 does not contain the necessary flow regimes and substrates for this species within the study area. NCNHP data reviewed in November 2022 indicates no known occurrences of the Neuse River waterdog within the project study area.

Biological Conclusion: No Effect

Carolina madtom – In North Carolina, the Carolina madtom is known from the Neuse and Tar-Pamlico River drainages. This fish inhabits medium to large streams and rivers with continuous year-round flow with a moderate gradient. The substrate within these streams should be silt free with stable gravel and a cobble bottom habitat with cover for nest sites (IPAC 2022).

Habitat Present: No

Potential habitat for the Carolina madtom does not occur within the study area. T1 does not contain the necessary flow regimes and substrates for this species within the study area. NCNHP data reviewed in November 2022 indicates no known occurrences of the Carolina madtom within 1.0 mile of the study area.

Biological Conclusion: No Effect

Atlantic pigtoe – The Atlantic pigtoe inhabits small creeks to large rivers with coarse sand and gravel substrates. This mussel requires excellent water quality with flows sufficient to maintain, clean, silt free substrates (IPAC 2022).

Habitat Present: No

Potential habitat for the Atlantic pigtoe does not occur within the study area. T1 does not contain the necessary flow regimes and substrates for this species within the study area. NCNHP data reviewed in November 2022 indicates no known occurrences of the Atlantic pigtoe within one mile of the study area.

Biological Conclusion: No Effect

Dwarf wedgemussel - In North Carolina, the dwarf wedgemussel is known from the Neuse and Tar River drainages. The mussel inhabits creek and river areas with a slow to moderate current and sand, gravel, or firm silt bottoms. Water in these areas must be well oxygenated. Stream banks in these areas are generally stable with extensive root systems holding soils in place (IPAC 2022).

Habitat Present: No

Habitat potentially capable of supporting the dwarf wedgemussel does not occur within the study area. T1 does contain the necessary flow regimes and substrates for this species within the

study area. NCNHP data reviewed in November 2022 indicates no known occurrences of the dwarf wedgemussel within 1.0 mile of the study area.

Biological Conclusion: No Effect

Michaux's sumac - Michaux's sumac, endemic to the inner Coastal Plain and lower Piedmont, grows in sandy or rocky, open, upland woods on acidic or circumneutral, well-drained sands or sandy loam soils with low cation exchange capacities. The species is also found on sandy or submesic loamy swales and depressions in the fall line Sandhills region as well as in openings along the rim of Carolina bays; maintained railroad, roadside, power line, and utility rights-of-way; areas where forest canopies have been opened up by blowdowns and/or storm damage; small wildlife food plots; abandoned building sites; under sparse to moderately dense pine or pine/hardwood canopies; and in and along edges of other artificially maintained clearings undergoing natural succession. In the central Piedmont, it occurs on clayey soils derived from mafic rocks. The plant is shade intolerant and, therefore, grows best where disturbance maintains it open habitat (IPAC 2022).

Habitat Present: Yes

Potential habitat for Michaux's sumac does occur along the field edges within the study area. Species-specific surveys should be completed during the proper survey window (May-October). NCNHP records reviewed in November 2022 indicates no known occurrences of Michaux's sumac within 1.0 mile of the study area.

Biological Conclusion: Unresolved

CULTURAL RESOURCES

Historical Structures

Research conducted using the North Carolina State Historic Preservation Office (SHPO) HPOWEB GIS service database on November 15, 2022, revealed that while no historical resources are located directly within the project study area, 10 are located within a 0.5-mile radius (**Table 6; Exhibit 12**).

Eight of the resources were recommended not eligible for the *National Register of Historic Places* (NRHP). Two resources have not been assessed for the NRHP, including Jeffreys Cemetery (WA4215), located approximately 0.3 mile east of the project study area, and a house (WA7692) that was destroyed between 2010 and 2013.

Table 6: Historic-Age Resources within a 0.5-Mile Radius of the Project Study Area

Resource ID	Name/Description	NRHP Status
WA4215	Jeffreys Cemetery	Surveyed Only (Unassessed)
WA7088	House; c. 1940	Not Eligible
WA7089	House; c. 1910	Not Eligible
WA7090	House; c. 1925	Not Eligible
WA7091	House; c. 1910	Not Eligible
WA7092	Store; c. 1950	Not Eligible
WA7093	Houses; c. 1948	Not Eligible
WA7094	House; 1900-1910	Not Eligible
WA7625	Houses	Not Eligible
WA7692	House; 1940s; destroyed between 2010 and 2013	Surveyed Only (Unassessed)

Archaeological Sites

Research conducted by Terracon at the North Carolina Office of State Archaeology (OSA) on November 15, 2022, indicated that while no archaeological sites have been recorded directly within the project study area, eight sites have been recorded within a 0.5-mile radius (**Table 7**, see **Exhibit 12**). All eight sites were recorded during a 2017 survey for the preferred alternative for the Complete 540 Triangle Expressway Southeast Extension and were recommended not eligible for the NHRP (Stair et al. 2017).

Table 7: Archaeological Sites within a 0.5-Mile Radius of the Project Study Area

Site Number	Component	NRHP Status
31WA2087	Precontact	Not Eligible
31WA2088	Precontact	Not Eligible
31WA2089	Precontact	Not Eligible
31WA2090	Precontact	Not Eligible
31WA2091	Precontact	Not Eligible
31WA2093	Precontact	Not Eligible
31WA2094	Precontact	Not Eligible
31WA2095	Historic Cemetery	Not Eligible

Site 31WA2095 is a historic period cemetery that corresponds with HPOWEB Resource WA4215. While information in HPOWEB refers to the cemetery as Jeffreys Cemetery, the cemetery was recorded as the Hinton Cemetery during the 2017 survey (Stair et al. 2017).

The current project study area is located within the Area of Potential Effects (APE) for the 2017 archaeological survey. During the 2017 investigations, no shovel testing was conducted within the project study area due to the area being mapped as having eroded soils; however, portions of the area were subjected to pedestrian inspection.

Map Research

No structures are depicted within or immediately adjacent to the project study area on the 1914 Wake County Soil Map or the 1968 Raleigh East, NC USGS topographic map (1:24,000).

Aerial imagery between 1938 and 1983 shows much of the project study area consisting of open agricultural fields, with wooded areas to the east. One structure is visible along the southwestern boundary of the project study area in imagery between 1959 to 2002 (**Exhibit 13**). Structural remains associated with this structure were identified during the current field investigations. After 2002, the area becomes wooded and the structure is no longer visible. Imagery from 1996 shows four additional structures within the project study area. Structural remains of the structure located along the eastern project boundary were identified during the current investigations (see **Exhibit 13**). The other three structures were demolished and were located within the area of the current rugby fields.

Field Visit

Terracon conducted a field visit of the project study area on November 16, 2022, to evaluate existing project conditions and identify readily apparent signs of possible cultural resources. Field methodology included a pedestrian (visual) walkover of portions of the project area. Because much of the area has been previously disturbed by the construction of the rugby fields and associated road, gravel parking areas, and buildings, the investigation focused on the wooded portions along the edges of the project study area. Evidence of past disturbance including push piles, ditches, and ruts, was noted in some of the wooded portions, especially along the western southern parcel boundaries.

Structural remains, which appeared to be modern, were noted in the eastern portion of the project area, which consisted primarily of cinderblocks, bricks, electrical wiring, and asphalt roofing shingles (**Exhibit 14 and Photograph 5**). These remains correspond with a structure identified on the 1996 aerial photograph (see **Exhibit 13**); no structures are clearly visible in this location on earlier aerial images or historical maps. Structural remains were also noted along the boundary in the southwestern portion of the project study area, which correspond with a structure observed in this location on aerial imagery between 1959 and 2002 (**Photograph 6; see Exhibit 13**). The remains consisted of a collapsed wood frame structure with metal roofing, with associated brick piers and portions of a cinderblock foundation. A large pushpile of soil and debris was observed directly south of the remains.


In summary, no intact, standing historic period structures were observed within the project area. A previous archaeological survey (Stair et al. 2017) recorded no archaeological sites; however, the current site visit noted the remains of a collapsed mid-twentieth century structure (likely a former barn or agricultural building) along the southwestern parcel boundary and modern structural remains in the eastern portion of the parcel. Due to a lack of integrity and extensive disturbance to the areas, neither set of structural remains appear to be significant. In general, there appears to be a low potential for intact archaeological sites to be present within the project area due to previous development and ground disturbance to the parcel.

Recommendations

Terracon has completed the environmental evaluation for the subject property. It is recommended that NCDWR be consulted to confirm the extent of Neuse River Riparian Rules on the site. Potential habitat exists for one (1) of the federally listed species for Wake County: Michaux's Sumac. Species-specific surveys may be warranted for Michaux's sumac during the proper season.

Please contact our office if you have questions regarding this evaluation.

Sincerely,
Terracon Consultants, Inc.

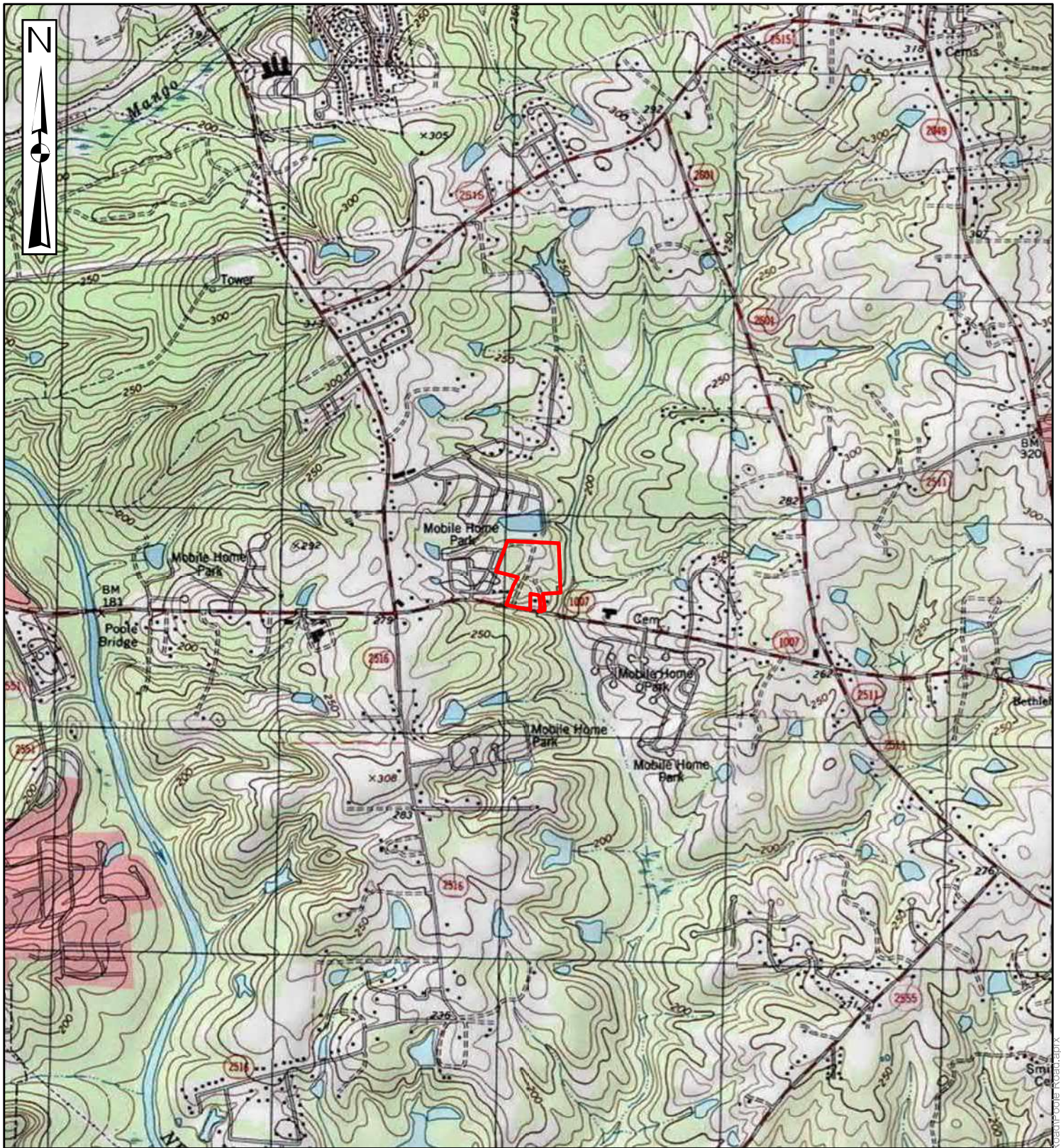


Robert Turnbull
Department Manager

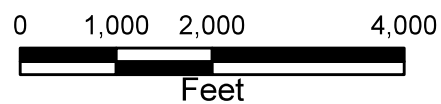


for Dylan Warren
Field Scientist

Attachments: Exhibits, Photos



Project Study Area



DATA SOURCES:
USGS USA topo Map 2013; Site Boundary found using
Wake County GIS Parcel Download

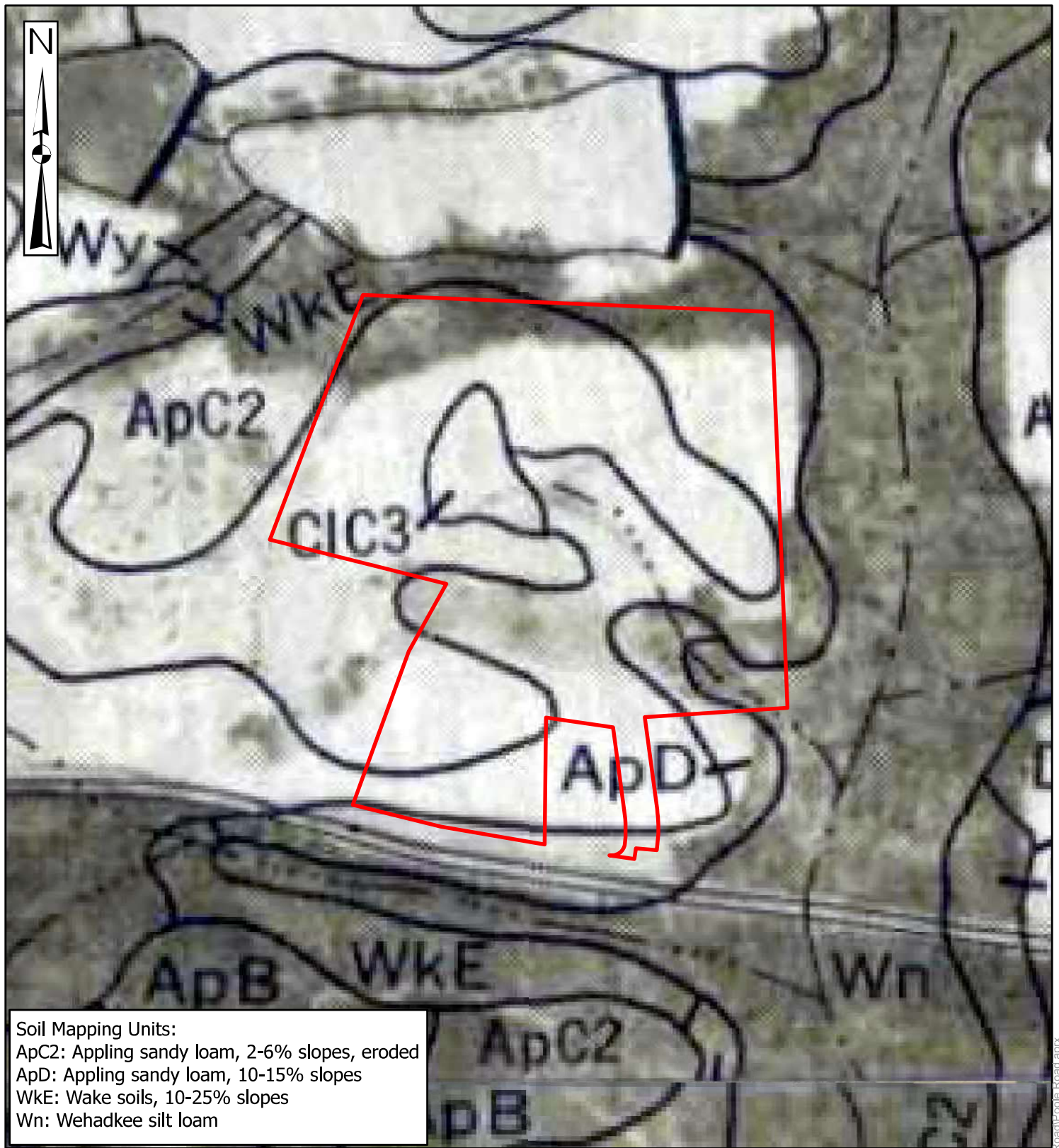
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Drawn By:	NR	Scale:	1 in = 2,000 ft
Checked By:	DW	Filename:	Poole Road
Approved By:	RT	Date:	November 2022

	
2401 Brentwood Road, Suite 107 Raleigh, NC 27604 Phone: (919) 873-2211 Fax: (919) 873-9555	

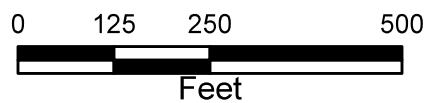
Topography
Poole Road 7417 Poole Road Knightdale, Wake County, NC

EXHIBIT NO.
1

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Project Study Area



DATA SOURCES:
 NRCS Published Soil Surveys Wake County 1970; Site
 Boundary found using Wake County GIS Parcel
 Download

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Drawn By:	NR	Scale:	1 in = 250 ft
Checked By:	DW	Filename:	Poole Road
Approved By:	RT	Date:	November 2022

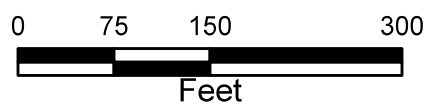
2401 Brentwood Road, Suite 107 Raleigh, NC 27604 Phone: (919) 873-2211 Fax: (919) 873-9555	

NRCS Published Soil Survey
Poole Road 7417 Poole Road Knightdale, Wake County, NC

EXHIBIT NO.
2



- ▬ Project Study Area
- ▨ Potential Storm Water Ponds
- ▨ Potential Wetlands
- Potential Intermittent Streams



DATA SOURCES:
Site Boundary found using Wake County GIS Parcel
Download; NC OneMap Imagery/Orthoimagery Latest

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Approved By:	RT	Date:	November 2022

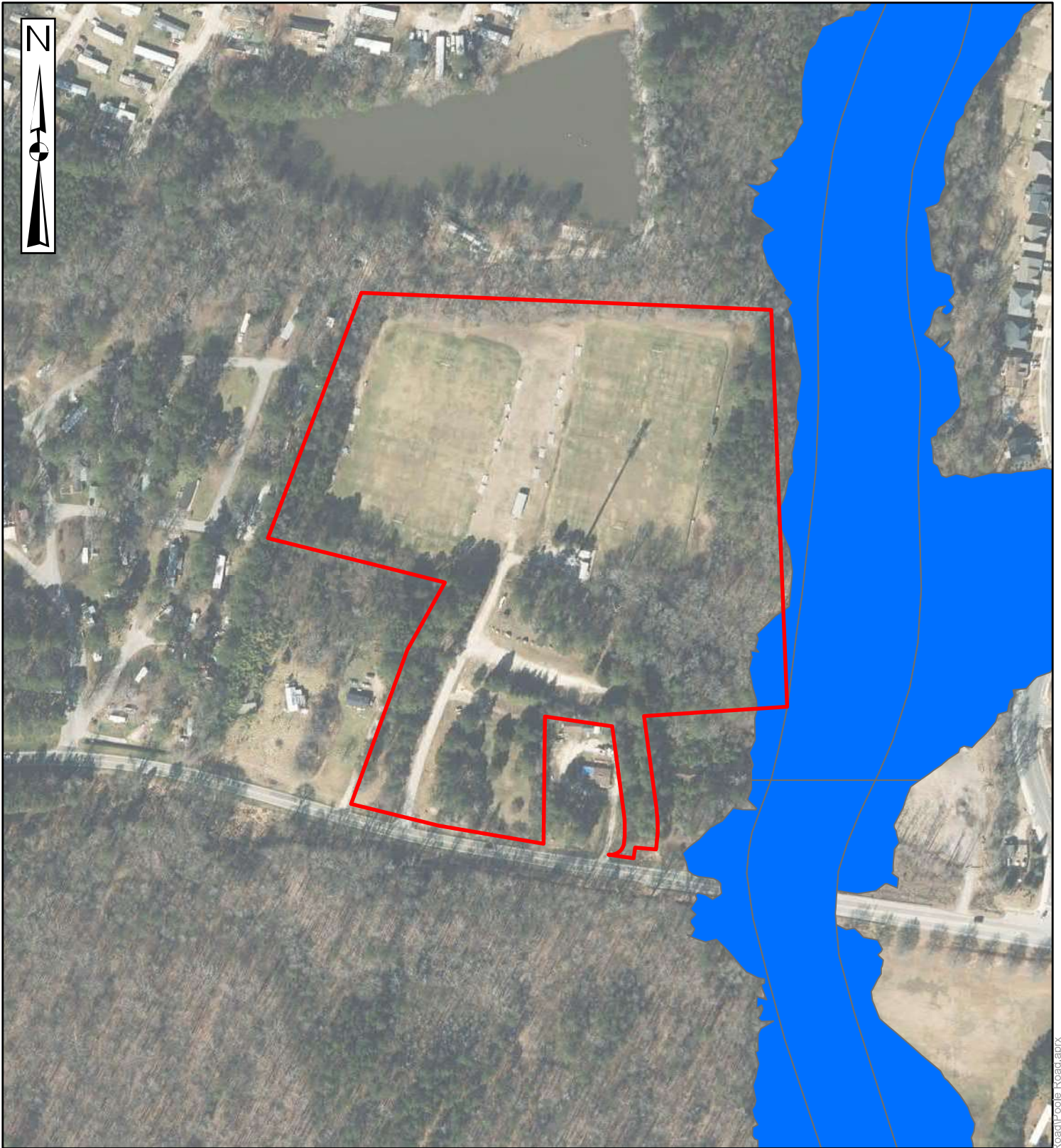


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Phone: (919) 873-2211	Fax: (919) 873-9555

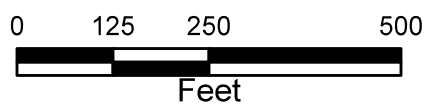
Potential Wetlands and Waters
Poole Road 7417 Poole Road Knightdale, Wake County, NC

EXHIBIT NO.
3

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- Project Study Area
- 0.2 PCT ANNUAL CHANCE FLOOD HAZARD
- AE 1 PCT ANNUAL FLOOD CHANCE



DATA SOURCES:
 Latest High-Resolution NC Statewide Orthoimagery, NC
 OneMap Server; 2021; Site Boundary found using Wake
 County GIS Parcel Download; NC Spatial Data Down-
 load FEMA Flood Zones

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Drawn By:	NR	Scale:	1 in = 250 ft
Checked By:	DW	Filename:	Poole Road
Approved By:	RT	Date:	November 2022

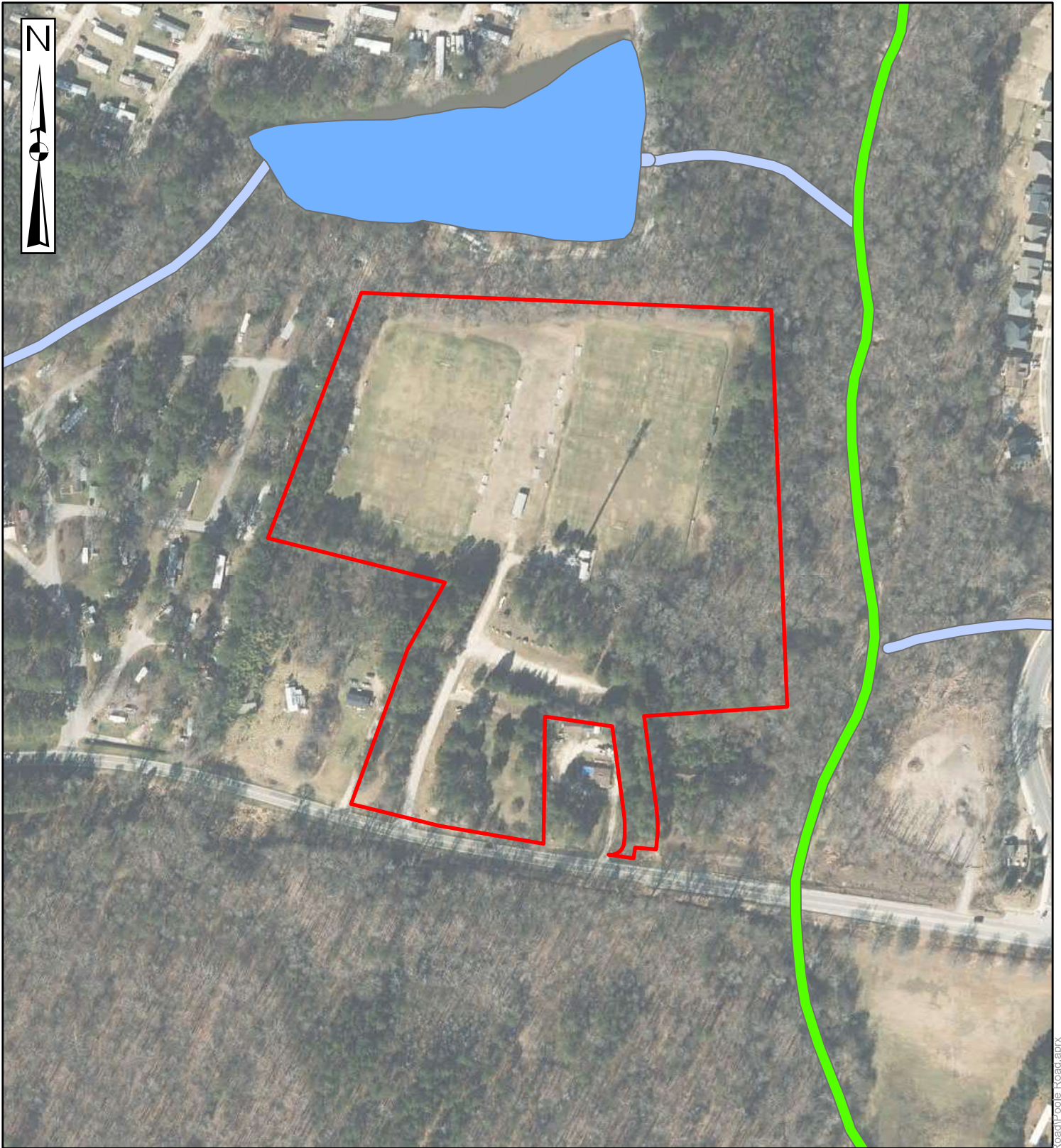


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Phone: (919) 873-2211	Fax: (919) 873-9555

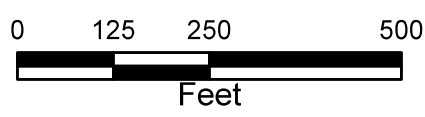
Flood Zones
Poole Road 7417 Poole Road Knightdale, Wake County, NC

EXHIBIT NO.
4

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- Project Study Area
- Freshwater Pond
- Riverine
- Freshwater Forested/Shrub Wetland



DATA SOURCES:
 Latest High-Resolution NC Statewide Orthoimagery, NC OneMap Server; 2021; Site Boundary found using Wake County GIS Parcel Download; NWI Wetlands mapper download 2022

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Checked By:	DW	Filename:	Poole Road
Approved By:	RT	Date:	November 2022

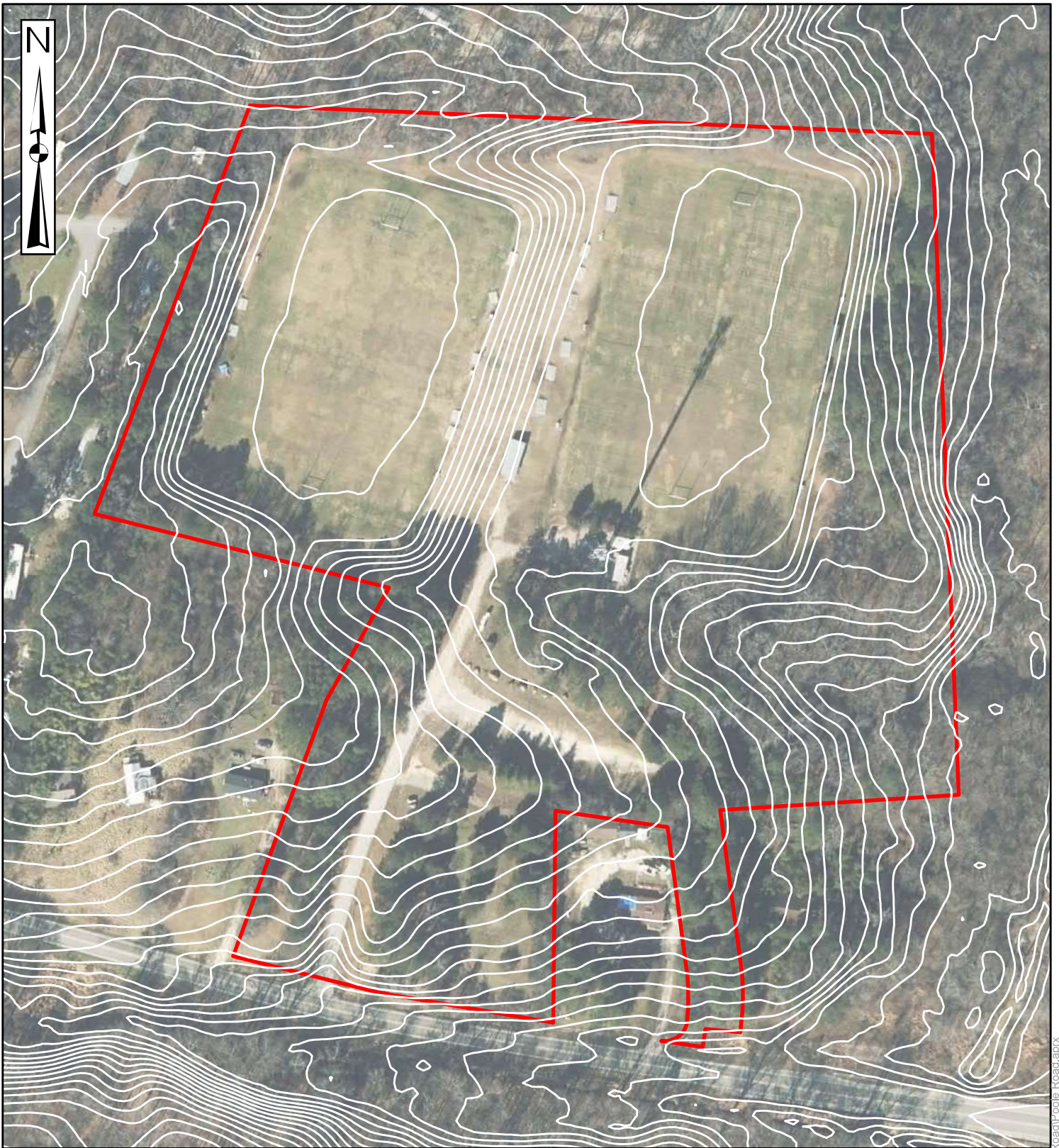


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Phone: (919) 873-2211	Fax: (919) 873-9555

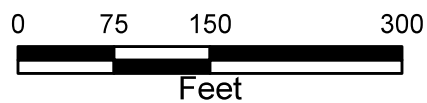
National Wetland Inventory
Poole Road 7417 Poole Road Knightdale, Wake County, NC

EXHIBIT NO.
5

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Project Study Area
Contours 2ft



DATA SOURCES:
NRCS Published Soil Surveys Wake County 1970; Site
Boundary found using Wake County GIS Parcel
Download; NOAA Data Access LIDAR data

PM:	RT	Project No.	70227672
Drawn By:	NR	Scale:	1 in = 150 ft
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Approved By:	RT	Date:	November 2022

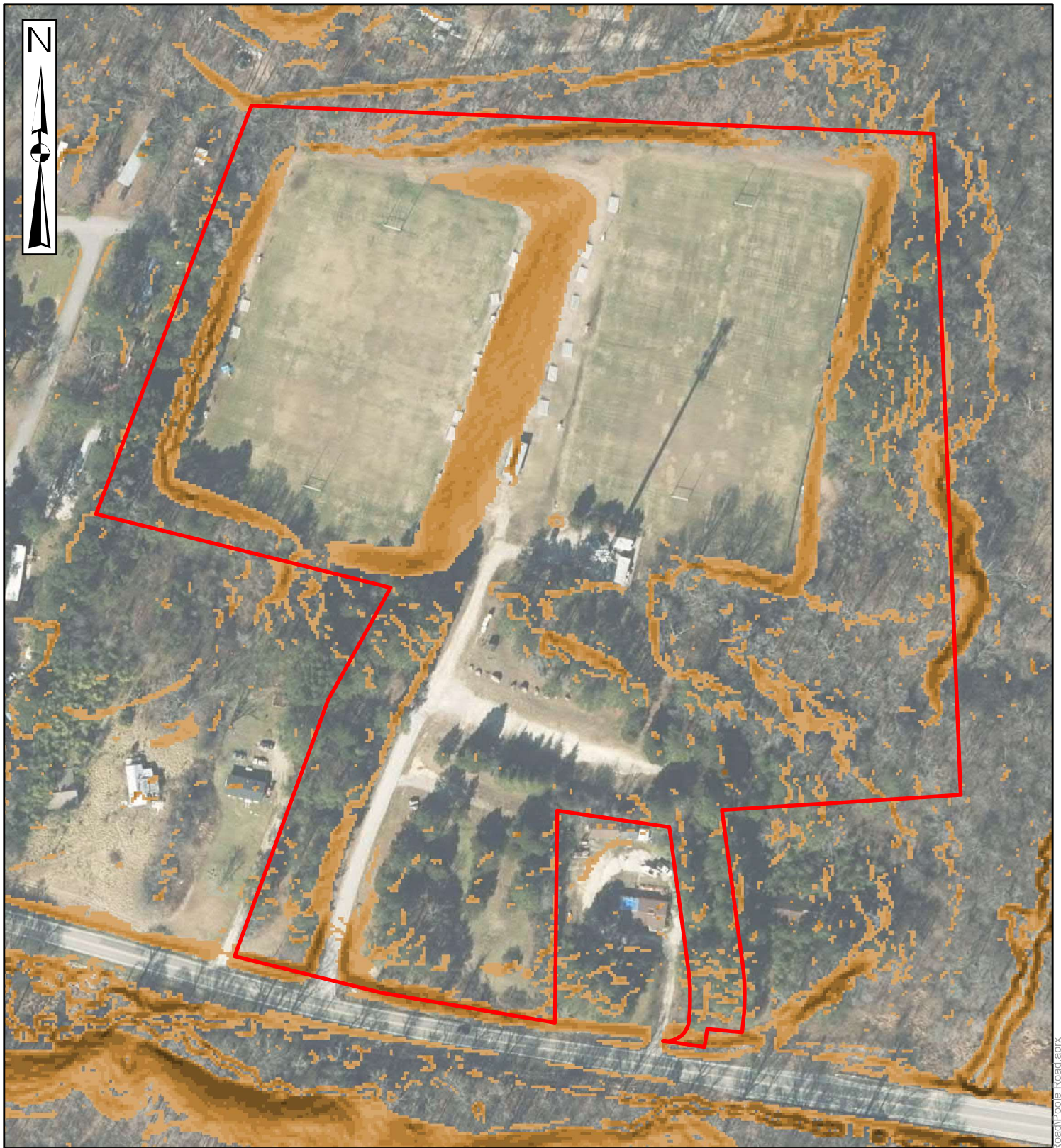


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 Phone: (919) 873-2211 Fax: (919) 873-9555

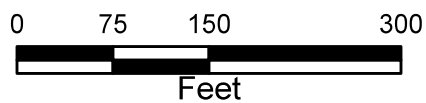
NOAA 2 Foot Countours
Poole Road 7417 Poole Road Knightdale, Wake County, NC

EXHIBIT NO.
6

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- Project Study Area
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 16 - 20
 21 - 25
 26 - 30
 31 - 40
 41 - 60
 61 - 100
 101 - 1000



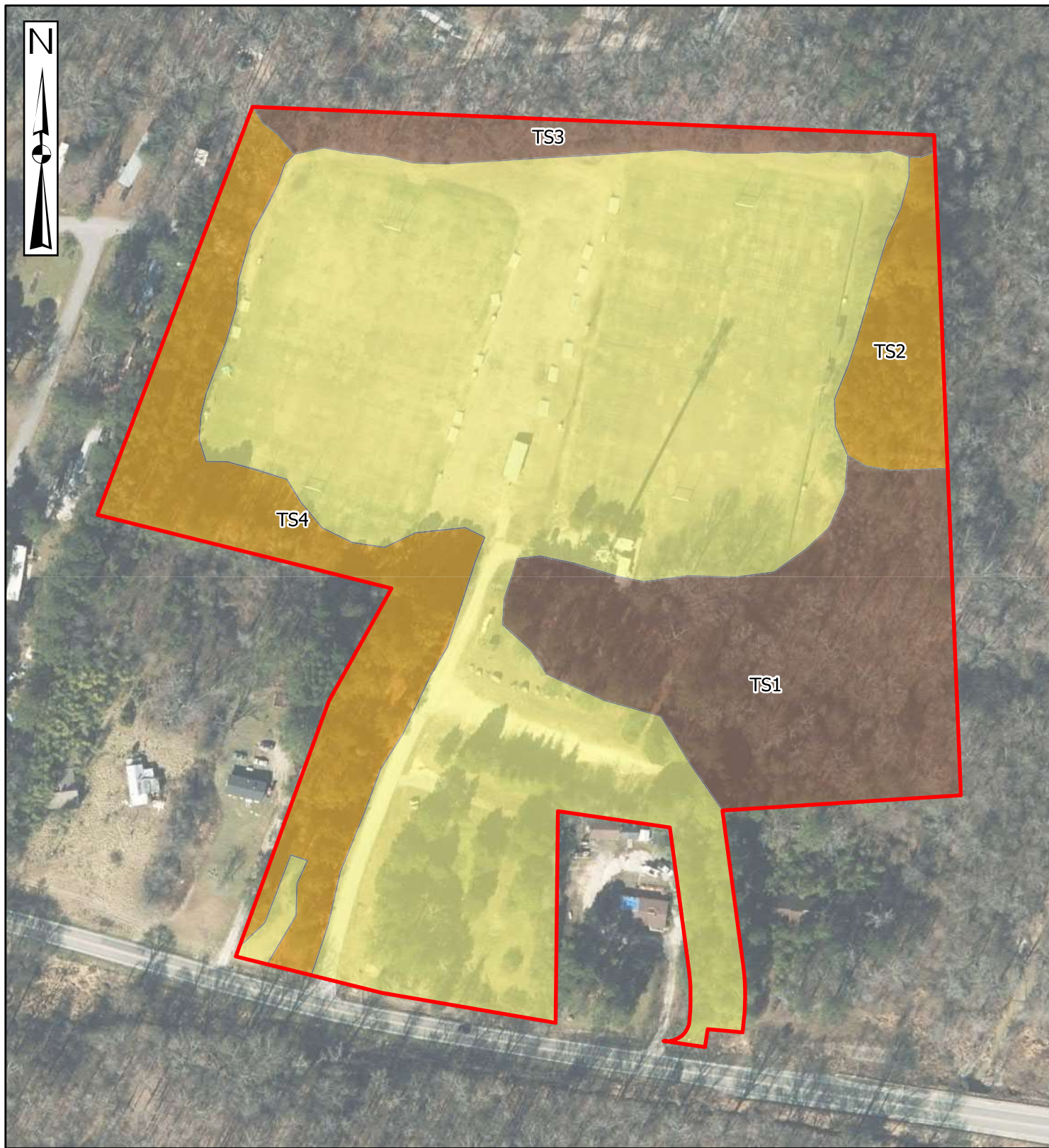
DATA SOURCES:
 NOAA Data Access Lidar 2015; Site Boundary found
 using Wake County GIS Parcel Download; NC
 OneMap Latest Imagery/OrthoImagery

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Drawn By:	NR	Scale:	1 in = 150 ft
Checked By:	DW	Filename:	Poole Road
Approved By:	RT	Date:	November 2022

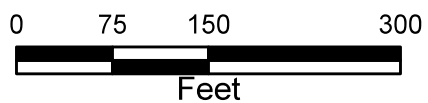
2401 Brentwood Road, Suite 107	Raleigh, NC 27604
Phone: (919) 873-2211	Fax: (919) 873-9555

Slope in Percentages
Poole Road 7417 Poole Road Knightdale, Wake County, NC

EXHIBIT NO.
7



- Project Study Area
- Maintained/Disturbed
- Mixed Hardwood Forest
- Pine Forest



DATA SOURCES:
 Site Boundary found using Wake County GIS Parcel
 Download; NC OneMap Imagery/Orthoimagery Latest

PM:	RT	Project No.	70227672
Drawn By:	NR	Scale:	1 in = 150 ft
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Approved By:	RT	Date:	November 2022

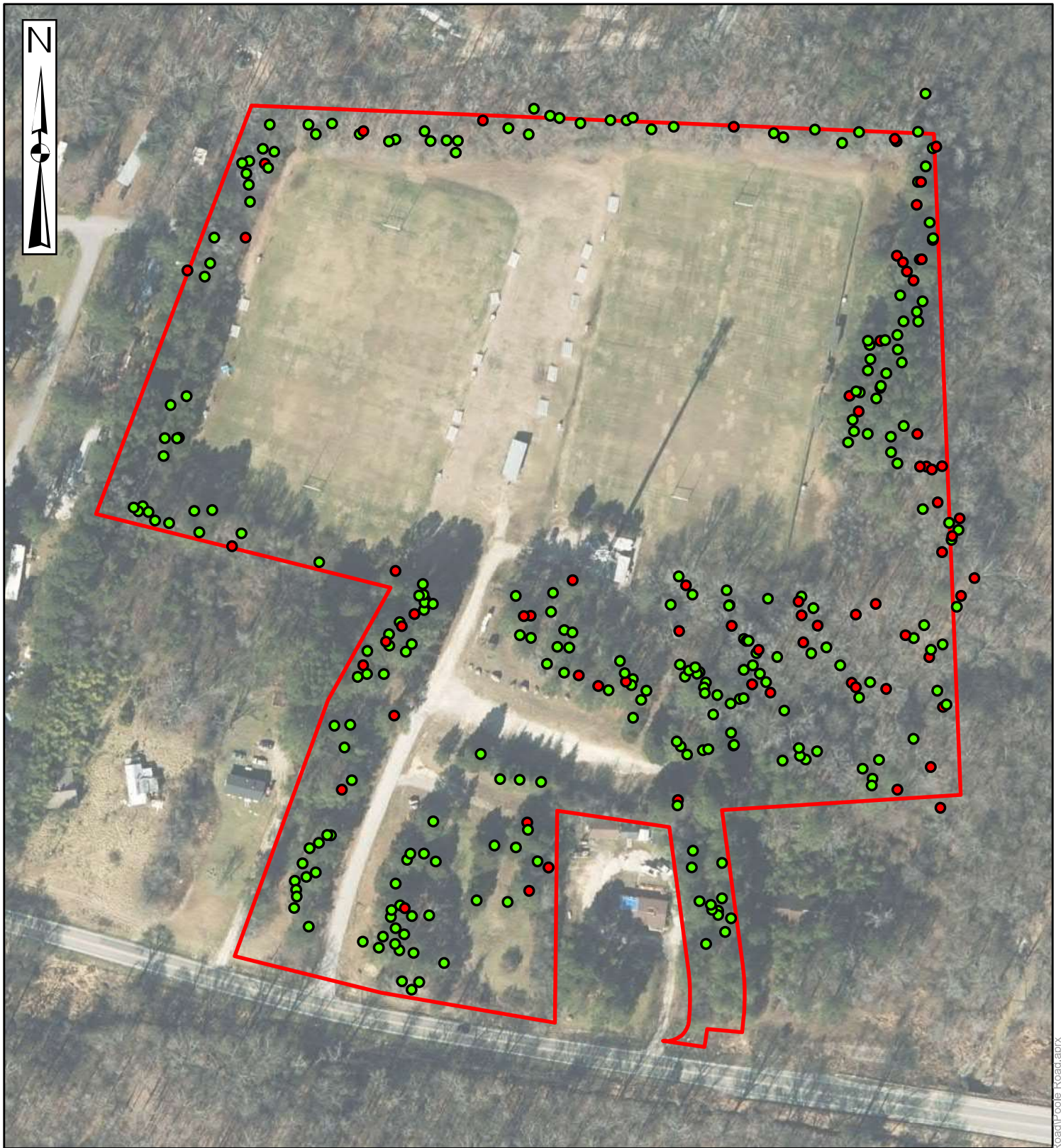


2401 Brentwood Road, Suite 107	Raleigh, NC 27604
Phone: (919) 873-2211	Fax: (919) 873-9555

Vegetative Communities
Poole Road 7417 Poole Road Knightdale, Wake County, NC

EXHIBIT NO.
8

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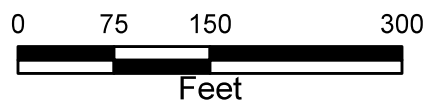


Tree DBH

● 12 inches DBH

● 24 inches DBH

■ Project Study Area



DATA SOURCES:
NOAA Data Access Lidar 2015; Site Boundary found
using Wake County GIS Parcel Download; NC OneMap
Imagery/Orthoimagery Latest

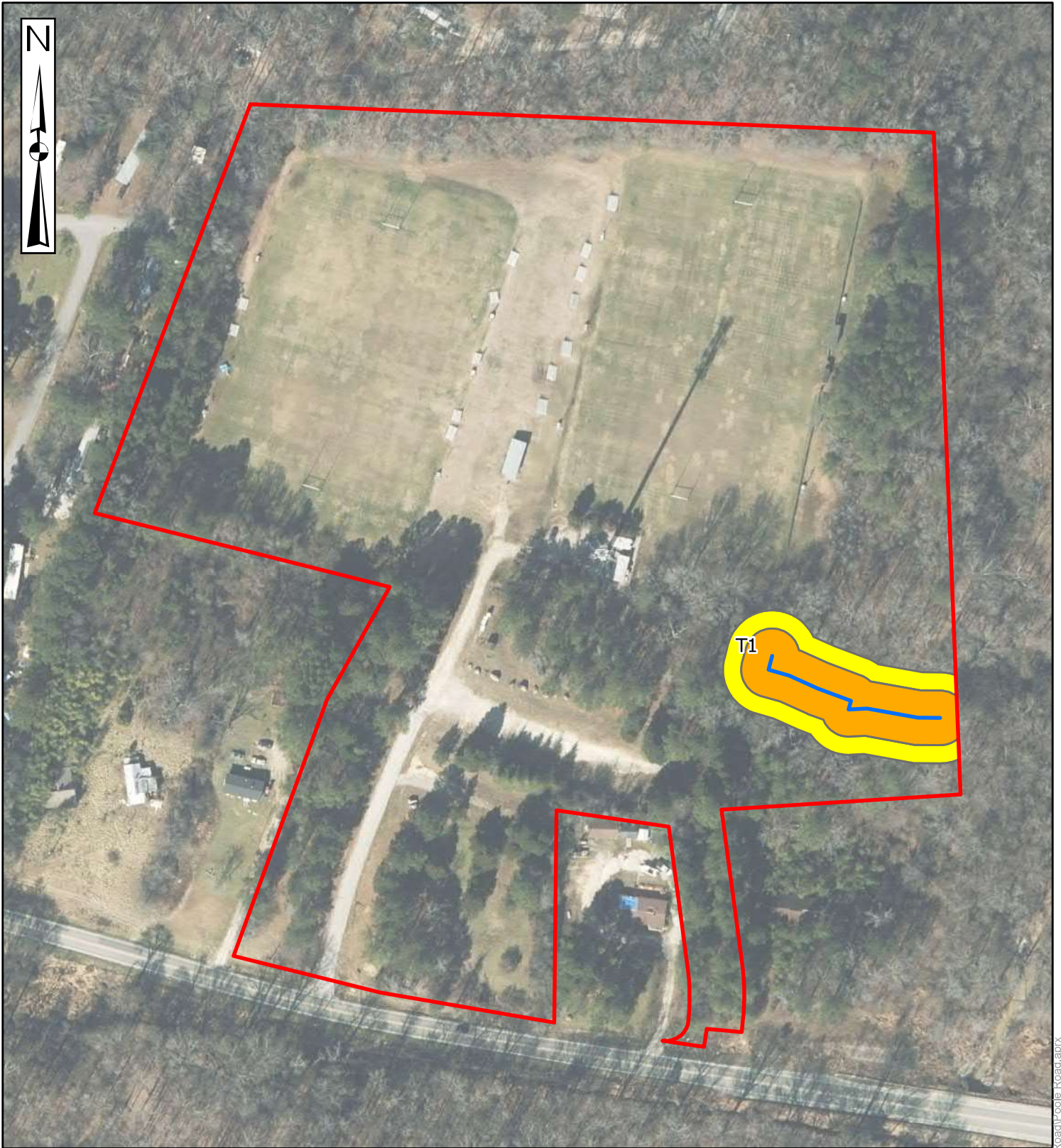
PM:	RT	Project No.	70227672
Drawn By:	NR	Scale:	1 in = 150 ft
Checked By:	DW	Filename:	Poole Road
Approved By:	RT	Date:	November 2022

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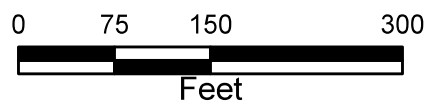
Significant Trees
<p>Poole Road 7417 Poole Road Knightdale, Wake County, NC</p>

EXHIBIT NO.
9

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Project Study Area
 Potential Intermittent Streams
 Zone 2 (50 ft Buffer)
 Zone 1 (100 ft Buffer)



DATA SOURCES:
 Site Boundary found using Wake County GIS Parcel
 Download; NC OneMap Imagery/Orthoimagery Latest

PM:	RT	Project No.	70227672
Drawn By:	NR	Scale:	1 in = 150 ft
Checked By:	DW	Filename:	Poole Road
Approved By:	RT	Date:	November 2022

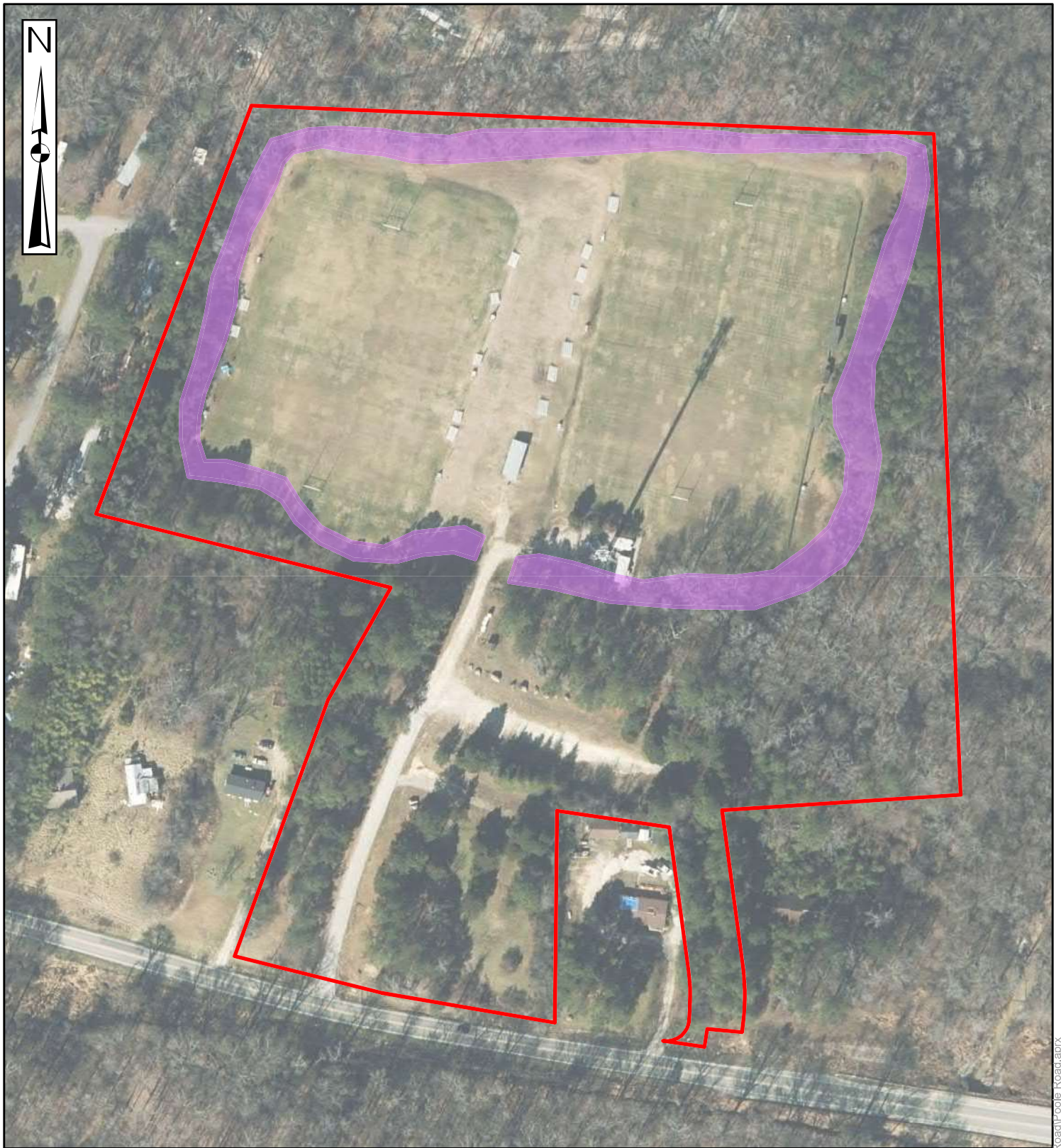


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Knightdale Buffers
Poole Road 7417 Poole Road Knightdale, Wake County, NC

EXHIBIT NO.
10

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Project Study Area

Potential Michaux's Sumac Habitat

0 75 150 300
Feet

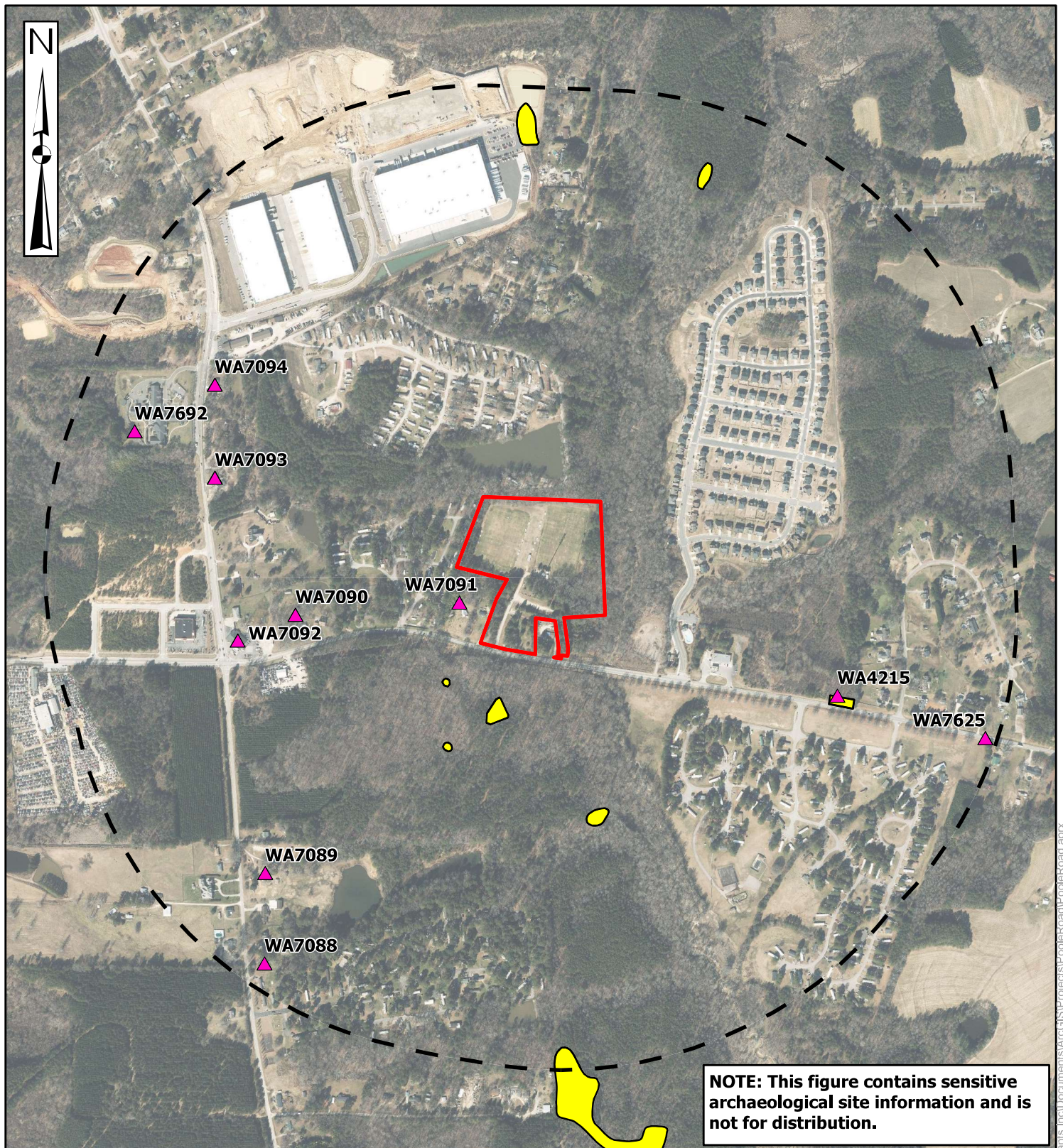
DATA SOURCES:
Site Boundary found using Wake County GIS Parcel
Download; NC OneMap Imagery/Orthoimagery Latest

PM:	RT	Project No.	70227672
Drawn By:	NR	Scale:	1 in = 150 ft
Checked By:	DW	Filename:	Poole Road
Approved By:	RT	Date:	November 2022

	
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Potential Michaux's Sumac Habitat
<p>Poole Road 7417 Poole Road Knightdale, Wake County, NC</p>

EXHIBIT NO.
11




- Project Study Area
- 0.5-Mile Buffer
- Previously Recorded Archaeological Sites
- ▲ Historic Period Resources

0 250 500 1,000
Feet

DATA SOURCES:
Site Boundary found using Wake County GIS Parcel
Download; NC OneMap Imagery/Orthoimagery Latest;
NC Historic Preservation Office HPOWEB; North
Carolina Office of State Archaeology

PM:	RT	Project No.	70227672
Drawn By:	MM	Scale:	1 in = 875 ft
Checked By:	DW	Filename:	PooleRoad
Approved By:	RT	Date:	November 2022

			
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Previously Recorded Resources
Poole Road 7417 Poole Road Knightdale, Wake County, NC

EXHIBIT NO.
12



1959 Aerial Imagery



1996 Aerial Imagery

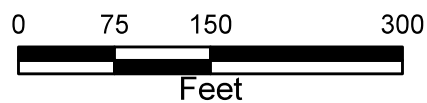
Note: Yellow circles indicate structures associated with structural remains identified during the current investigations

PM:	RT	Project No.	70227672	 2401 Brentwood Road, Suite 107 Raleigh, NC 27604 Phone: (919) 873-2211 Fax: (919) 873-9555	Aerial Imagery	EXHIBIT NO.
Drawn By:	MM	Scale:			Poole Road 7417 Poole Road Knightdale, Wake County, NC	13
Checked By:	DW	Filename:	PooleRoad			
Approved By:	RT	Date:	November 2022			




Project Study Area

Structural Remains



DATA SOURCES:
Site Boundary found using Wake County GIS Parcel
Download; NC OneMap Imagery/Orthoimagery Latest

PM:	RT	Project No.	70227672
Drawn By:	MM	Scale:	1 in = 150 ft
Checked By:	DW	Filename:	PooleRoad
Approved By:	RT	Date:	November 2022



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Structural Remains
<p>Poole Road 7417 Poole Road Knightdale, Wake County, NC</p>

EXHIBIT NO.
14

C:\Users\mckay\OneDrive - Terracon Consultants\Documents\WcGIS\Projects\PooleRoad\PooleRoad.aprx



Photograph 1: Mixed Hardwood Forest



Photograph 2: Pine Forest



Photograph 3: Tributary T1



Photograph 4: Wetland W1



Photograph 5: Structural Remains in Eastern Portion of Project Study Area



Photograph 6: Structural Remains in Southwestern Portion of Project Area

National Flood Hazard Layer FIRMeTte



78°30'53"W 35°45'34"N



Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS		Without Base Flood Elevation (BFE) Zone A, V, A99
		With BFE or Depth Zone AE, AO, AH, VE, AR
		Regulatory Floodway
OTHER AREAS OF FLOOD HAZARD		0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile Zone X
		Future Conditions 1% Annual Chance Flood Hazard Zone X
		Area with Reduced Flood Risk due to Levee. See Notes. Zone X
		Area with Flood Risk due to Levee Zone D
OTHER AREAS		NO SCREEN Area of Minimal Flood Hazard Zone X
		Effective LOMRs
GENERAL STRUCTURES		Area of Undetermined Flood Hazard Zone D
		Channel, Culvert, or Storm Sewer
		Levee, Dike, or Floodwall
OTHER FEATURES		20.2 Cross Sections with 1% Annual Chance
		17.5 Water Surface Elevation
		Coastal Transect
		Base Flood Elevation Line (BFE)
		Limit of Study
		Jurisdiction Boundary
MAP PANELS		Coastal Transect Baseline
		Profile Baseline
		Hydrographic Feature
		Digital Data Available
		No Digital Data Available
		Unmapped



The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 9/22/2022 at 8:42 AM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

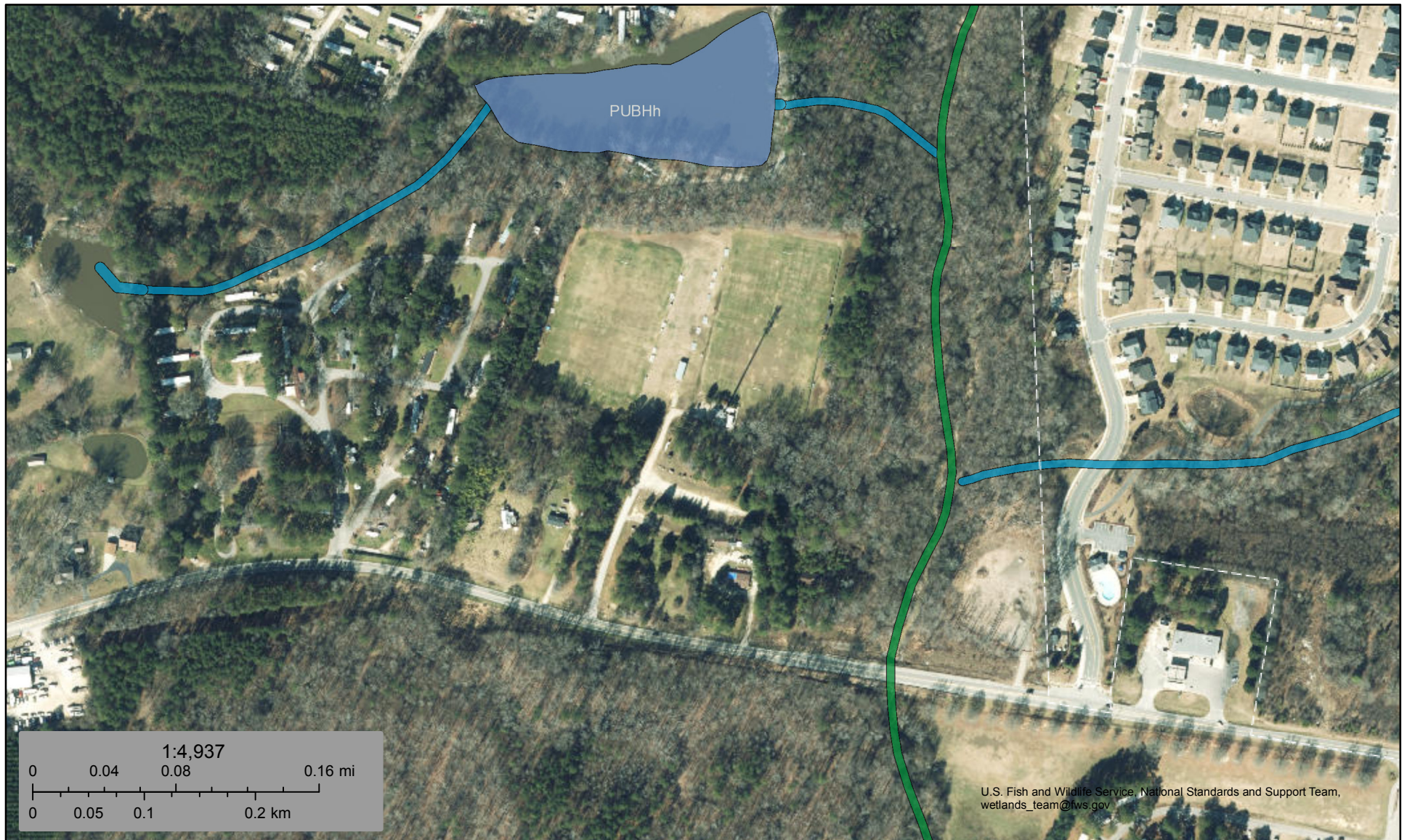
This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.



U.S. Fish and Wildlife Service

National Wetlands Inventory

7417 Poole Rd



U.S. Fish and Wildlife Service, National Standards and Support Team,
wetlands_team@fws.gov

September 25, 2022

Wetlands

	Estuarine and Marine Deepwater		Freshwater Emergent Wetland		Lake
	Estuarine and Marine Wetland		Freshwater Forested/Shrub Wetland		Other
			Freshwater Pond		Riverine

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

Prepared by and Return to:
Town of Knightdale
950 Steeple Square Court
Knightdale, North Carolina 27545



NORTH CAROLINA
WAKE COUNTY

TOWN OF KNIGHTDALE

950 STEEPLE SQUARE COURT ▪ KNIGHTDALE, NC 27545
OFFICE (919) 217-2242 ▪ FAX (919) 217-2249

ORDER GRANTING A VARIANCE

THE TOWN OF KNIGHTDALE

On the date listed below, the Knightdale Board of Adjustment, held a public hearing to consider the following application:

APPLICANT:	Kimley-Horn on behalf of SBA Communications
PROPERTY OWNERS:	Raleigh Rugby Football Club INC.
PROJECT NUMBER:	VAR-6-22
PROJECT LOCATION:	7417 Poole Road
WAKE COUNTY PIN:	1743-50-3468
BOARD OF ADJUSTMENT MEETING DATE:	October 25, 2022

The Board of Adjustment, for the Town of Knightdale held a public hearing on Tuesday, October 25, 2022 to receive evidence presented by interested parties on a request for variance from the Knightdale Unified Development Ordinance.

The Board of Adjustment, having considered the verified application, the staff reports, and the testimony, exhibits, and arguments presented at the public hearing, makes the following FINDINGS OF FACT:

1. Applicants seek a variance to Section 5.9.D.4 of the Town of Knightdale Unified Development Ordinance (UDO) to allow for the construction of a 199-foot wireless telecommunication tower within the 200-foot residential district setback requirement.
2. There is present in this matter an identified hardship based on the future impact of I-540 on the property. After completion, the property will be split into 2 tracts and there is not a location on the tracts that would meet the required setbacks.
3. The requested relaxing of the 200-foot required residential district setback is in line with the spirit and intent of the Unified Development Ordinance based off its reduction in overall height from the existing tower.
4. The above hardship is not a result of any action taken by the applicants. NCDOT will be purchasing a portion of the property through eminent domain, including the area where the current tower is located.

THEREFORE, based on the foregoing Findings of Fact, the Board of Adjustment makes the following CONCLUSIONS OF LAW:

1. There are unnecessary hardships in complying with the strict application of the Ordinance.
2. The identified hardships result from conditions peculiar to the property, including location, size and topography.
3. The identified hardships did not result from actions taken by the applicant or property owners; and
4. The variance is consistent with the spirit, purpose and intent of this Ordinance; such that public safety is secured, and substantial justice is achieved.

Having heard all of the evidence and arguments presented at the hearing, the Board of Adjustment hereby grants the variance VAR-6-22. A variance is granted from the following sections of the Unified Development Ordinance:

Section 5.9.D.4 Infrastructure Use Standards (Wireless Telecommunications Facility - Towers) to allow the applicant to locate a telecommunications tower within the 200-foot residential district setback requirement.

This order of the Board of Adjustment in granting this Variance shall expire if a building permit has not been obtained within one (1) year from the date of its decision.

Ordered this 3rd day of November, 2022.

David Calverley, Chairperson
Board of Adjustment

NOTE: If you are dissatisfied with the decision of this board, an appeal may be taken to the Superior Court of Wake County within thirty (30) days after the date this order is served on you. See Chapter 12, Development Process, of the Knightdale Unified Development Ordinance.

NORTH CAROLINA
WAKE COUNTY

IN WITNESS WHEREOF, the Town of Knightdale has caused this order to be issued in its name, and the undersigned being all of the property owners of the properties above described, do hereby accept this Variance, together with all its conditions, as binding upon them and their successors in interest or ownership.

Jim Kellenberger
Raleigh Rugby Football Club INC

ATTEST:

SEAL

Heather M. Smith, Town Clerk

I, _____, a Notary Public in and for said County and State, do hereby certify that _____, Town Clerk of Knightdale, personally came before me this day and being by me duly sworn says that she knows the corporate seal of the Town of Knightdale and that the seal affixed to the foregoing instrument is the corporate seal of the Town of Knightdale, that _____, Town Clerk for the Town of Knightdale subscribed her name thereto; that the corporate seal of the Town of Knightdale was affixed thereto, all by virtue of an order of the Board of Adjustment and that said instrument is the act and deed of the Town of Knightdale.

IN WITNESS WHEREOF, I have hereunto set my hand and seal this _____ day of _____, 2022.

Notary Public
My Commission Expires: