



LAND USE REVIEW BOARD MEETING AGENDA

950 Steeple Square Court, Knightdale, North Carolina 27545

**June 8, 2020
7:00 p.m.**

- | | | |
|------------|---|-------------------------------|
| ITEM I. | ADOPTION OF AGENDA | |
| ITEM II. | APPROVAL OF MINUTES
March 09, 2020 Minutes | |
| ITEM III. | BOARD OF ADJUSTMENT
VAR-1-20-Wake EMC Substation | Senior Planner |
| ITEM IV. | PLANNING BOARD
A. ZMA-8-19- Parkstone Townhomes PUD
B. ZMA-7-19 - Poplar Creek Village Phase IV | DS Director
Senior Planner |
| ITEM V. | COMMUNITY APPEARANCE COMMISION | |
| ITEM VI. | TREE BOARD
Virtual Arbor Day Update | Planner* |
| ITEM VII. | OTHER BUSINESS
UDO Update | Assistant DS Director |
| ITEM VIII. | NEW BUSINESS | |
| ITEM IX. | ADJOURNMENT | |

*Staff will provide update during meeting



KNIGHTDALE LAND USE REVIEW BOARD MINUTES

950 Steeple Square Court, Knightdale, North Carolina 27545

March 9, 2020

The Knightdale Land Use Review Board met at 7:00 p.m. in the Council Chamber Room of Town Hall.

LURB MEMBERS PRESENT: Rita Blackmon, Darryl Blevins, Steve Evans, Gentry Lassiter, Latatious Morris, Tiffanie Meyers, Chris Parker and Bradley Pope.

ABSENT: Michael Blake

STAFF MEMBERS PRESENT: Chris Hills, Development Services Director; Kevin Lewis, Senior Planner; and Dustin Tripp, Assistant Town Manager.

TOWN COUNCIL MEMBERS PRESENT: Councilor Steven Morgan.

Meeting called to order by Chair Morris at 7:01 p.m.

ITEM I. ADOPTION OF AGENDA
Chairperson Morris introduced the agenda.

...Motion by Mr. Evans to adopt the agenda. Motion seconded by Mr. Lassiter and carried unanimously.

ITEM II. WELCOME AND INTRODUCTIONS
Mr. Hills welcomed the board and introduced new board member Chris Parker.

ITEM III. OFFICE ELECTIONS
A. Chair and Vice Chair
Chairperson Morris opened the floor for nominations for Chair and Vice Chair.

...Motion by Ms. Meyers to re-nominate Chairperson Morris to the position. Motion Seconded by Mr. Pope and carried unanimously.

...Motion by Ms. Blackmon to re-nominate Vice Chairperson Lassiter to the position. Motion seconded by Mr. Blevins and carried unanimously.

B. Quasi-Judicial Appointments
Chairperson Morris opened the floor for nominations for three In-Town and two ETJ Quasi-Judicial members. Mr. Hills explained who was eligible to serve as an ETJ Quasi-Judicial member.

...Motion by Vice Chairperson Lassiter to nominate Mr. Evans as an In-Town Quasi-Judicial member. Seconded by Ms. Meyers and carried unanimously.

...Motion by Mr. Pope to nominate Mr. Parker as an In-Town Quasi-Judicial member. Seconded by Mr. Blevins and carried unanimously.

...Motion by Ms. Blackmon to nominate Mr. Blevins as an In-Town Quasi-Judicial member. Seconded by Mr. Lassiter and carried unanimously.

...Motion by Mr. Evans to nominate Mr. Pope as an ETJ Quasi-Judicial member. Seconded by Ms. Meyers and carried unanimously.

...Motion by Mr. Evans to nominate Ms. Meyers as an ETJ Quasi-Judicial member, pending further clarification by the Town Attorney. Seconded by Ms. Blackmon and carried unanimously.

ITEM IV.

APPROVAL OF MINUTES

A. February 10, 2020 Minutes

Chair Morris introduced the minutes of February 10, 2020.

...Motion by Mr. Evans to approve the minutes of February 10, 2020. Motion seconded by Ms. Meyers and carried unanimously.

B. January 13, 2020 Quasi-Judicial Minutes

...Motion by Mr. Blevins to approve the minutes of January 13, 2020. Motion seconded by Mr. Pope and carried unanimously.

ITEM V.

BOARD TRAINING

Mr. Hills conducted a training session.

ITEM VI.

BOARD OF ADJUSTMENT

None at this time.

ITEM VII.

PLANNING BOARD

None at this time.

ITEM VIII.

COMMUNITY APPEARANCE COMMISSION

None at this time.

ITEM VII.

TREE BOARD

A. Arbor Day Update

Mr. Hills presented an update to the upcoming Arbor Day celebration on April 3, 2020.

B. Street Tree Update

Mr. Hills provided an update on the current Street Tree Project happening on the eastbound on-ramp at I-540.

ITEM VIII. OTHER BUSINESS

A. Census Update

Mr. Hills provided an update on the upcoming Census; residents should soon be receiving postcards in the mail. Census Day is April 1, 2020.

B. UDO Update

Mr. Hills updated board members of the UDO update. The consultant is wrapping up the diagnostic review of the UDO.

ITEM IX. NEW BUSINESS

None at this time.

ITEM XI. PAST COUNCIL ACTIONS

None at this time.

ITEM XII. ADJOURNMENT

...Motion by Ms. Meyers to adjourn at 8:20 p.m. Motion seconded by Ms. Blackmon and carried unanimously.

Latatious Morris, Land Use Review Board Chairperson

Aquila Blackwell, Planning Technician



Town of Knightdale

Staff Report

Title: VAR-1-20 Wake Electric
Substation Variance

Staff : Kevin Lewis, Senior Planner

Date: June 8, 2020

Director Signature:

Asst. Town Manger Signature:

Town Manager Signature:

BACKGROUND INFORMATION

The purpose of this staff report is to provide background information regarding a variance request to allow for the reduction of the required street frontage improvements in order to build a substation.

SUMMARY

Applicant Briana Eddy with Booth & Associates, on behalf of Wake Electric Membership Corporation, submitted a variance request for the property located at 3529 Marks Creek Road and further identified by the Wake County PIN 1765-27-0347. The applicant is specifically requesting relief from requirements regarding road frontage improvements, street lighting, fence height and material.

APPLICABLE REGULATIONS:

Unified Development Ordinance (UDO) Section 4.9.B – Fences and Walls

- (1) Fences shall not exceed four (4) feet in height.
- (3.c) All fences shall be wrought iron or material similar in appearance and durability.

UDO Section 8.10.A – Street Tree Plantings

- (A) All developments shall be required to have street trees along all public right-of-way in accordance with the illustrations of the Street Classification and Design found in Chapter 17.

UDO Section 11.5.A – Street Lighting

- (A) Street lighting shall be placed on all streets by the developer to allow for the safe use of streets by cars, cyclists, and pedestrians.

UDO Section 17.3.A – Street Classification & Design

- (A) New development with frontages on existing and new publicly maintained streets shall be required to upgrade all their frontages to meet the standards of this chapter. For Major Subdivisions receiving Master Plan approval prior to November 16, 2005, recorded plat setbacks for principal buildings shall prevail.



Town of Knightdale

Staff Report

STAFF ANALYSIS:

1. The 109-acre parcel is identified as 3549 Marks Creek Road. The proposed development would occur on approximately 3.36 acres, located on the south side of Horton Road on the western border of the current parcel. This parcel is located in Knightdale's Extraterritorial Jurisdiction.



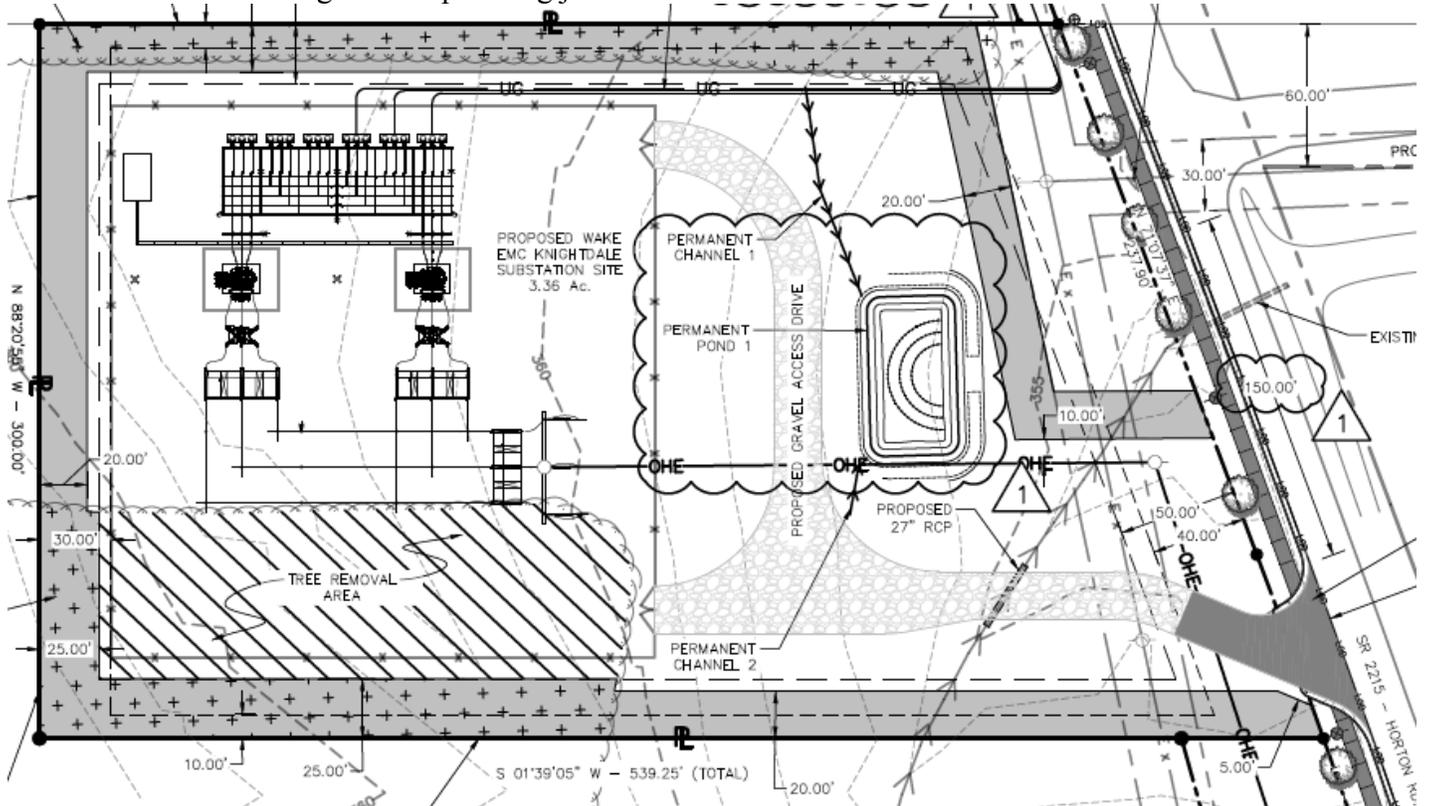
2. The zoning for the subject parcel is Rural Transition (RT), which “is intended as a holding district for areas that are currently rural in nature, but could transition to more intense uses due to proximity of utilities, transportation, and other infrastructure.” Class 1 Utilities are permitted by right in the RT district, according to Sec 2.3.C of the UDO.



Town of Knightdale

Staff Report

3. Right-of-Way improvements and design standards, as noted above, are required for all developments made within Knightdale's planning jurisdictions.



4. The applicant is specifically requesting relief from the requirement to provide right-of-way infrastructure improvements including curb & gutter, sidewalks, streetlights.
5. The applicant is requesting relief from standards for fencing materials, asking to use chain link fencing instead of the required wrought iron. Similar substation projects elsewhere in Knightdale have complied with this section of the UDO. The application also indicates that the fence will need to be a minimum of 6' in height in the front yard, while the UDO prohibits fences over 4'.



Town of Knightdale

Staff Report

8. The applicant submitted the variance application on February 27, 2020.
9. Town of Knightdale Development Services staff posted public hearing signage and contact information on the property, posted public hearing notices in a paper of general circulation, and mailed notices to the property owners within 200 feet of the subject property in accordance with the Unified Development Ordinance and applicable State Statute.





Town of Knightdale

Staff Report

LURB REQUIRED FINDINGS OF FACT:

The Land Use Review Board shall consider the variance request in relation to the findings of fact. The findings of fact are as follows:

15.5.D.4 Board Powers and Responsibilities

- a. **Required Findings of Fact:** The LURB, after having held a public hearing on the matter, may grant or deny a variance based on the following:
 - i. General Required Findings of Fact: The LURB must make the following determinations of fact for all variance requests:
 - a. Unnecessary hardship would result from the strict application of the Ordinance;
 - b. The identified hardship is the result of conditions peculiar to the property, such as location, size and/or topography;
 - c. The identified hardship did not result from actions taken by the applicant or property owner; and
 - d. The variance is consistent with the spirit, purpose and intent of this Ordinance, such that public safety is secured and substantial justice is achieved.

ATTACHMENTS:

Variance Application, Master Plan

RECOMMENDED ACTION

Staff recommendations are not applicable to variance cases.

APPLICATION FOR VARIANCE



By completing and signing this application, the applicant hereby requests the Land Use Review Board (LURB) to vary or modify the specified regulations and/or provisions of the Unified Development Ordinance (UDO) due to special conditions or unnecessary hardships as outlined on Page 2 of this application. The submittal of this application authorizes the Town of Knightdale to enter onto the property in order to conduct a site inspection and to post the property in accordance with the Town's public notification requirements. At the hearing, an individual applicant may give testimony themselves and present evidence from experts that they have gathered; however, if the applicant desires to have experts speak during the hearing or the applicant is a corporate entity, an attorney representing the applicant must be in attendance.

PROPERTY INFORMATION:

Site Address: Horton Road, Knightdale, NC

Project Name (if applicable): Knightdale Substation

OWNER INFORMATION:

Name: Wake Electric Membership Corporation

Phone: 919-863-6487

Address: 100 S. Franklin Street

City/State: Wake Forest

Zip: 27587

Email: Don.Bowman@wemc.com

Fax: N/A

APPLICANT INFORMATION (if different from above - authorized agent, lessee or contract purchaser):

Name: Booth & Associates, LLC

Phone: 919-851-8770

Address: 5811 Glenwood Avenue, Suite 109

City/State: Raleigh, NC

Zip: 27612

Email: EddyBD@Booth-Assoc.com

Fax: _____

A super-majority vote of four-fifths (4/5) of the voting members of the LURB is required to approve any request for variance. In all matters before the Board, the applicant shall have the burden of providing clear, competent and material evidence in support of the application. The Board may prescribe appropriate conditions and safeguards in conformity with the UDO when granting a variance. Unless otherwise authorized by the LURB and included in its decision to grant a variance, an order of the Board in granting a variance shall expire if a building permit or Certificate of Occupancy (for a use for which a building permit is not required) has not been obtained within one (1) year from the date of the decision.

It is hereby acknowledged that the following items are **NOT** cause for a variance to be granted:

- * The request for a particular use expressly, or by inference, prohibited in the District involved.
- * Hardship resulting from personal circumstances.
- * Hardship resulting from conditions that are common to the neighborhood or the general public.
- * Any request that will cause a structure to be in violation of other Federal, State, or local laws, regulations or ordinances.
- * Any request within any designated floodway or non-encroachment area where the variance would result in any increase in flood levels during the base flood discharge.

THIS SPACE FOR DEVELOPMENT SERVICES STAFF ONLY

Case Number VAR - _____ - _____ Submittal Date: _____ Filing Fee Receipt # _____ Received By: _____

PIN# _____ REID# _____ Zoning: _____ Book of Maps: _____ Page: _____

Acres: _____ Census Tract: _____

DEVELOPMENT

(v) 919-217-2241 / (f) 919-217-2249
www.knightdalenc.gov



SERVICES

950 Steeple Square Court
Knightdale, NC 27545

1. This application is hereby made to the LURB requesting a variance from Chapter/Section(s) 17.3.A.6 of the Unified Development Ordinance.

2. Specifically describe the type, dimension and/or location of the variance requested (i.e. "Rear Yard Setback variance of 3 feet to allow for a 22-foot setback rather than the required 25 feet.")

The UDO requires streetfront improvements for any development that occurs along a boulevard. It is requested that the member-owned cooperative be allowed to forgo these improvements. Please see attached sheets (pages 4 and 5) for further explanation.

3. If applicable, attach a sketch of the proposed placement of future structures drawn on a current survey of the property, or provide a current survey of the existing structure. Also, show pertinent information such as provision for access, parking, etc. Please see Master Plan set for more information.

4. Describe any proposed conditions to the variance request that might be appropriate to reduce or minimize any injurious effects the variance may have:

The substation is proposed to have a Type B vegetated screen surrounding it. No structures associated with the proposed substation (besides the buffer vegetation and the proposed electric line, which will be along the road) will be in the right-of-way. The substation will not add any traffic to this rural area. Area has been left along the road to plan for a future 20'-0" Right of Way Expansion to Horton Road.

5. Please complete the following:

I, Briana Eddy, hereby offer the following information in support of the required Findings of Fact: (attach additional sheets if necessary):

a. The following unnecessary hardships would result from the strict application of the UDO:

See the attached sheets (pages 4 and 5) for description of Wake Electric's intent behind the variance request.

b. The identified hardship(s) is the result of conditions peculiar to the property, including (check all that apply):

location

size

topography

other (please write in): _____

c. The identified hardship did not result from actions taken by the applicant or property owner: True

d. For the following reasons the variance requested is consistent with the spirit, purpose and intent of the UDO, such that public safety is secured and substantial justice is achieved:

Public safety is the first priority of Wake Electric. The plans submitted have fulfilled the spirit and intent of the UDO via landscaping buffers, minimizing impact of the site and ensuring the environment is protected.

FOR FLOOD DAMAGE PREVENTION ORDINANCE VARIANCE REQUESTS ONLY:

e. The variance is the minimum necessary, considering the flood hazard, to afford relief: _____

f. For the following reasons there is a showing of good and sufficient cause for the variance:

g. The granting of a variance will not result in increased flood heights, additional threats to public safety, or extraordinary public expense, create nuisance, cause fraud on or victimization of the public or conflict with existing local laws or ordinances: _____



OWNER(S) SIGNATURES:

All owners must sign and have signatures notarized. Corporations, LLCs and Partnerships must sign (authorized corporate officer, general partner or LLC manager(s)), include company name and seal (if applicable), have a witness attest to the signature and have signature notarized. (Attach additional sheets if needed.)

Owner 1: Don Bowman, Vice President of Eng and Ops Date: 5/21/2020
(Signature and Title)

Owner 2: _____ Date: _____
(Signature and Title)

Corporation/LLC/Partnership Name: WAKE ELECTRIC MEMBERSHIP CORP. Corporate Seal:

Attest: Jack D Sapp, Field Service Rep Date: 5/21/2020
(Signature and Title)

NOTARIZATION

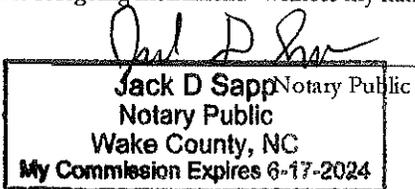
NORTH CAROLINA
Franklin COUNTY

I, the undersigned Notary Public in and for the aforesaid County and State, certify that Don Bowman

personally came before me this day and acknowledged the due execution of the foregoing instrument. Witness my hand and notorial seal

this the 21 day of May, 20 20.

My commission expires: 6-17-2024



APPLICANT SIGNATURE:

I, BRIANA EDDY, the undersigned, being first duly sworn, depose and say that I am the owner, attorney, attorney-in-fact, agent, lessee, or contracted purchaser of the property described and which is the subject matter of this application.

Applicant: Briana Eddy, General Manager Date: 5/20/2020
(Signature and Title)

NOTARIZATION

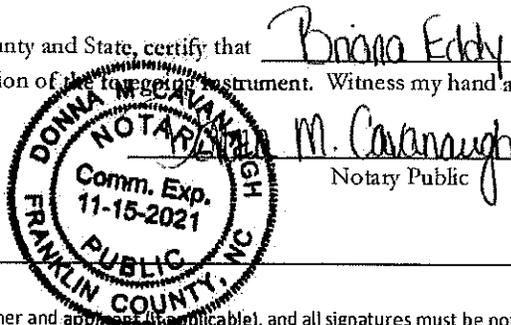
NORTH CAROLINA
Franklin COUNTY

I, the undersigned Notary Public in and for the aforesaid County and State, certify that Briana Eddy

personally came before me this day and acknowledged the due execution of the foregoing instrument. Witness my hand and notorial seal

this the 21st day of May, 20 20.

My commission expires: 11/15/2021



SUBMITTAL REQUIREMENT CHECKLIST:
COMPLETED APPLICATION FORM. Application must be signed by the property owner and applicable, and all signatures must be notarized. Applications are considered complete only when all required information, including all supporting materials specified by the Planning Department, is accompanied by the applicable fee. The Planning Department shall make a determination of completeness. If an application is deemed incomplete, the Department will notify the applicant of the status along with an explanation of deficiencies. No further processing will take place until deficiencies are corrected in the form of a re-submittal. Consequently, incomplete applications may not maintain the original processing cycle.
\$600.00 PROCESSING FEE.
COPY OF THE RECORDED PLAT/SURVEY OF THE PROPERTY, WITH METES AND BOUNDS DESCRIPTION.
SUPPLEMENTAL INFORMATION, such as site plans, environmental studies, architectural plans, etc., that is necessary to rule on the required Findings of Fact. The applicant shall have the burden of providing clear, competent and material evidence in support of the application.

Brief site description

The parcel with PIN number 1765270347, zoned Rural Residential (RR1), is to be subdivided. Wake Electric Membership Corporation is to own a 3.36-acre part (henceforth, “the site”) of the original 110.2-acre parcel. The remaining 106.84-acre property is to remain with its original owner. A substation which will benefit the Town of Knightdale is proposed to be built at the site.

5.a. The following unnecessary hardships would result from the strict application of the UDO:

The site is at the very edge of Knightdale’s ETJ. As such, while striving to maintain the spirit of the UDO, not all of the requirements in the UDO are necessarily feasible in this particular area.

The site is located approximately 0.25 miles from the nearest intersection. The parent parcel extends all the way to this intersection. According to comments from the Town of Knightdale upon submission of the Sketch Plan for this project, “street frontage improvements are required on entire frontage of parcels being subdivided.” It is a burden to build a quarter mile of frontage improvements for a site that only has a street frontage of approximately 320 feet.

Please note that Wake Electric has designed the structures and equipment along Horton Road far enough back to allow an additional 20’-0” Right of Way to be added to the existing 60’-0” Right of Way for potential future expansion.

Below, street frontage improvements are listed (based on the table given in UDO 2.2), as well as their applicability to properties zoned RR1:

- The maximum density is 1 unit per acre. The substation, counting as one unit, meets this qualification, as it is on a 3.36-acre parcel.
- Open space dedication is required per UDO 2.2. Due to public safety considerations surrounding an energized electrical substation facility, it is proposed that no development of recreational open space be part of this project.
- On-street parking is occasionally required in zone RR1. On-street parking is not used in or near the area now and there is no reason to add it; installing it would require a considerable amount of additional development that is outside the scope of this project. Also, on-street parking could entice unnecessary public gathering near the electric infrastructure, leading to public safety concerns
- Curbing is not required in zone RR1.
- Open swales are acceptable for drainage in properties zoned RR1. There is currently a swale alongside the road and a swale running through the property; the proposed design would leave these intact.
- Street trees are not required for zone RR1. Wake Electric is willing to consider other landscaping alternatives for screening and aesthetics.

- A 6-foot minimum multi-use path is required for properties in zone RR1. The path is deemed unnecessary because of the negligible amount of foot traffic in this area, and the proposed development will do nothing to increase this foot traffic.

It is also stated in UDO 11.5.A that “street lighting shall be placed on all streets by the developer to allow for the safe use of streets by cars, cyclists, and pedestrians.” It is argued that adding street lighting to this area will actually be detrimental. The area is currently not lit by streetlamps, and as such it is dark at night. Adding a section of streetlamps along this strip will cause passing drivers to have to adjust their vision first to the brightness and then back to the dark. This may lower the safety that passing drivers exhibit while on the road. Street lights would also detract from the rural aspect of the RR1 zone. Any streetlighting along the NCDOT route will have to be permitted through an encroachment agreement citing “Policies and Procedures for Accommodating Utilities on Highway Right of Way” through the regional DOT office engineering group.

The maximum four (4) foot fence per the UDO for the front yard would not be adequate for the security that this hazardous electrical equipment requires. In the *Rural Utilities Service Design Guide for Rural Substations*, it is required that the substation fence consist of a six foot (6’) chain link fabric with additional one foot (1’) of 12 ½” gauge barbed wire for a total of seven foot (7’) height fence on all sides (or similar alternative at seven foot (7’) height. *The National Electrical Safety Code 2017* also calls for this as rule. The safety of the public is paramount for Wake Electric and, as such, it is vital that Wake keep its equipment secure. The proposed fence would help prevent dangerous accidents that could severely harm or kill individuals. There is also required signage with safety warnings that will be installed on the fence.

It is requested that the requirement for a permanent stormwater basin be waived because post-construction stormwater runoff depth is estimated to be slightly less than pre-construction stormwater runoff depth. As such, there is no net increase in runoff and no need for a permanent stormwater basin. Under 15 NCAC 02H .1003 (6)(b), “the permitting authority shall have the option to approve projects that do not comply with all the provisions of this Section on a case-by-case basis as follows: ... If the variation pertains to other aspects of the project [other than an SCM design that does not meet all of the MDC], then the applicant shall demonstrate that the project provides equal or better stormwater control and equal or better protection of waters of the State than the requirements of this Section.” Engineering calculations are provided to prove post-construction runoff depth is less than pre-construction runoff depth.

It is also stressed that while Figure 17.6 of the UDO requires the installation of street trees as part of the street frontage improvements, Section 2.2 of the UDO (“Form-Based Standards by Zoning District”) says the installation of street trees is not required in Zone RR1. As such, even if the Town deems that street frontage improvements are required for the site, the installation of street trees should not be required.

In short, in keeping with the UDO's goal to "protect natural vistas and landscape features that define our local heritage" in the Rural Residential zone, a variance to forgo the street-front improvements for the Knightdale Substation project is requested. Street trees along the transmission right of way would have to be regularly maintained as to not become a danger tree situation.

Please take note that when the Knightdale Substation and adjacent transmission line is in place, the easement given to Wake Electric at the Knightdale Station Park will be able to be reinstated back to the Town of Knightdale.

Knightdale Substation Runoff Depth Calculations

Town of Knightdale Project #: ZCP-2-20

Method: Discrete NRCS Curve Number Method for Runoff Depth

Pre-Construction Runoff

Runoff During Construction

Post-Construction Runoff

Drainage Area 1		
	Area (sf)	CN*
Sub Area 1A	4393	91
Sub Area 1B	1352	77
Sub Area 1C		
Sub Area 1D		
Sub Area 1E		
Total Area	5745	-
Composite CN	-	87.71

Drainage Area 1		
	Area (sf)	CN*
Sub Area 1A	5745	94
Sub Area 1B		
Sub Area 1C		
Sub Area 1D		
Sub Area 1E		
Total Area	5745	-
Composite CN	-	94.00

Drainage Area 1		
	Area (sf)	CN*
Sub Area 1A	244	80
Sub Area 1B	2512	96
Sub Area 1C	2989	77
Sub Area 1D		
Sub Area 1E		
Total Area	5745	-
Composite CN	-	85.44

Drainage Area 2		
	Area (sf)	CN*
Sub Area 2A	10772	91
Sub Area 2B	16033	77
Sub Area 2C		
Sub Area 2D		
Sub Area 2E		
Total Area	26805	-
Composite CN	-	82.63

Drainage Area 2		
	Area (sf)	CN*
Sub Area 2A	26805	94
Sub Area 2B		
Sub Area 2C		
Sub Area 2D		
Sub Area 2E		
Total Area	26805	-
Composite CN	-	94.00

Drainage Area 2		
	Area (sf)	CN*
Sub Area 2A	9341	77
Sub Area 2B	17464	96
Sub Area 2C		
Sub Area 2D		
Sub Area 2E		
Total Area	26805	-
Composite CN	-	89.38

Drainage Area 3		
	Area (sf)	CN*
Sub Area 3A	100575	91
Sub Area 3B	12037	77
Sub Area 3C		
Sub Area 3D		
Sub Area 3E		
Total Area	112612	-
Composite CN	-	89.50

Drainage Area 3		
	Area (sf)	CN*
Sub Area 3A	112612	94
Sub Area 3B		
Sub Area 3C		
Sub Area 3D		
Sub Area 3E		
Total Area	112612	-
Composite CN	-	94.00

Drainage Area 3		
	Area (sf)	CN*
Sub Area 3A	42418	80
Sub Area 3B	51849	96
Sub Area 3C	1049	98
Sub Area 3D	17296	77
Sub Area 3E		
Total Area	112612	-
Composite CN	-	87.07

Total Site Area (sf)	145162
Overall Composite CN	88.16

Total Site Area (sf)	145162
Overall Composite CN	94.00

Total Site Area (sf)	145162
Overall Composite CN	87.43

Retention, S (in.)	1.34
Precipitation, P** (in.)	2.88
Runoff, Q (in.)	1.72

Retention, S (in.)	0.64
Precipitation, P** (in.)	2.88
Runoff, Q (in.)	2.23

Retention, S (in.)	1.44
Precipitation, P** (in.)	2.88
Runoff, Q (in.)	1.67

*Curve Numbers (CNs) are from Tables 2-2a, 2-2b, and 2-2c in the "Urban Hydrology for Small Watersheds" TR-55 method manual published by the USDA.

**Precipitation is for 1-yr, 24-hr storm.

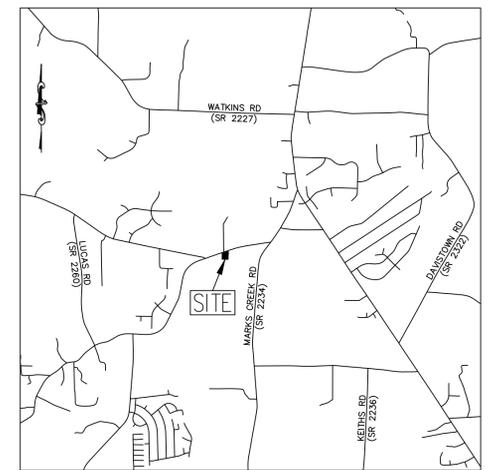
KNIGHTDALE SUBSTATION DEVELOPMENT MASTER PLAN

FOR

WAKE ELECTRIC MEMBERSHIP CORPORATION

KNIGHTDALE, NORTH CAROLINA

TOWN OF KNIGHTDALE PROJECT # ZCP-2-20



VICINITY MAP
SCALE: N.T.S.

PROPERTY OWNER INFORMATION

DON BOWMAN - VICE PRESIDENT OF ENGINEERING & OPERATIONS
WAKE ELECTRIC MEMBERSHIP CORPORATION
228 PARK AVENUE - YOUNGSVILLE, NORTH CAROLINA 27596
TELEPHONE: 919-863-6487

a. Town Approved Standards Shall Control. In the event of a conflict or inconsistency between these construction drawings and the Town of Knightdale's Approved Standards for this project, the Approved Standards shall control. Town of Knightdale Approved Standards shall mean all development documents necessary for approval for the Property including, but not limited to, any special use permit, subdivision plan, site plan, subdivision plat(s), phasing schedule, Development Agreement, Utility Allocation Agreement, Annexation Agreement, the Town of Knightdale Standard Specification and Details Manual and applicable provisions of the North Carolina State Building Code.

b. Professional Design Engineer Certification. These improvements shall be constructed in accordance with the following drawings and with the Standard Specifications of the Town of Knightdale.

I, Robert S. Young, PE, certify that the Standard Specifications of the Town of Knightdale have been thoroughly checked and found to be applicable to this project. All exceptions to the applicable Town standards have been previously approved by the Town of Knightdale and said exceptions are shown on Sheet(s) MP12 of these drawings.

Seal By: Robert S. Young, PE
Date: 5/22/2023



a. Town Certification. This design has been reviewed by the Engineer for the Town of Knightdale, and to the best of my knowledge and belief, it conforms to the requirements established in the Standard Specifications of the Town of Knightdale.

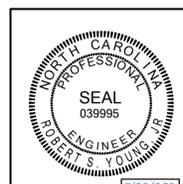
By: _____ Date: _____
Town Engineer

These plans are approved by the Town of Knightdale and serve as construction plans for this project.

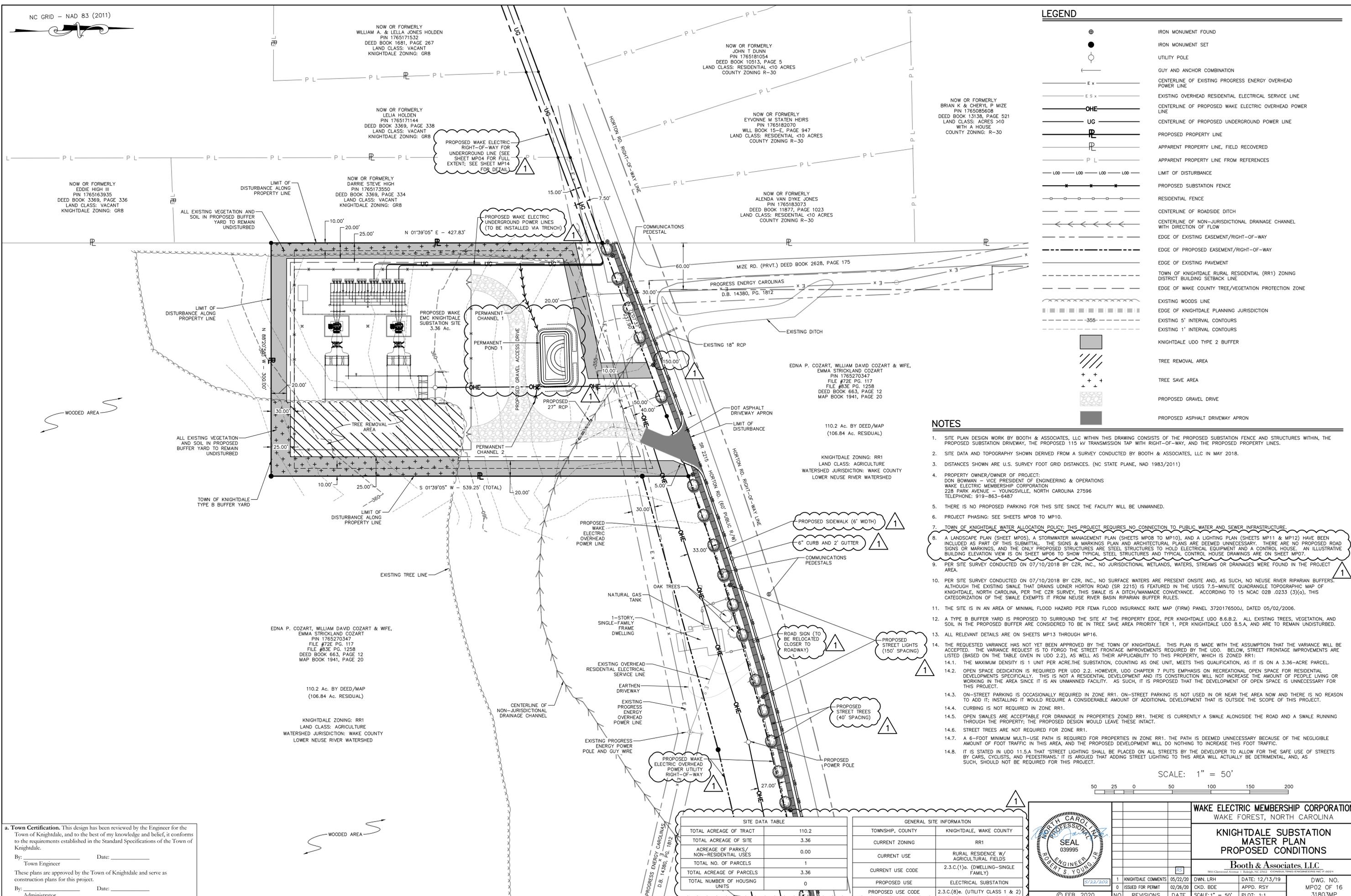
By: _____ Date: _____
Administrator

SHEET INDEX	
NO.	DESCRIPTION
MP01	COVER SHEET
MP02	PROPOSED CONDITIONS
MP03	PARENT PARCEL
MP04	UNDERGROUND ELECTRIC LINE
MP05	LANDSCAPE PLAN
MP06	ILLUSTRATIVE BUILDING ELEVATION
MP07	CONTROL HOUSE
MP08	STORMWATER MANAGEMENT PLAN - EXISTING SITE CONDITIONS
MP09	STORMWATER MANAGEMENT PLAN - CONSTRUCTION SITE CONDITIONS
MP10	STORMWATER MANAGEMENT PLAN - FINAL SITE CONDITIONS
MP11	LIGHTING PLAN - SUBSTATION
MP12	LIGHTING PLAN - STREET FRONT
MP13	DETAILS
MP14	DETAILS
MP15	DETAILS
MP16	LIGHTING PLAN DETAILS

SITE DATA TABLE		GENERAL SITE INFORMATION	
TOTAL ACREAGE OF TRACT	110.2	TOWNSHIP, COUNTY	KNIGHTDALE, WAKE COUNTY
TOTAL ACREAGE OF SITE	3.36	CURRENT ZONING	RR1
ACREAGE OF PARKS/ NON-RESIDENTIAL USES	0.00	CURRENT USE	RURAL RESIDENCE W/ AGRICULTURAL FIELDS
TOTAL NO. OF PARCELS	1	CURRENT USE CODE	2.3.C.(1)g. (DWELLING-SINGLE FAMILY)
TOTAL ACREAGE OF PARCELS	3.36	PROPOSED USE	ELECTRICAL SUBSTATION
TOTAL NUMBER OF HOUSING UNITS	0	PROPOSED USE CODE	2.3.C.(8)e. (UTILITY CLASS 1 & 2)



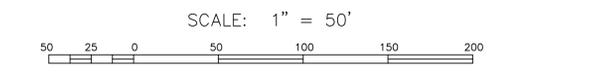
WAKE ELECTRIC MEMBERSHIP CORPORATION WAKE FOREST, NORTH CAROLINA			
KNIGHTDALE SUBSTATION MASTER PLAN COVER SHEET			
Booth & Associates, LLC <small>3801 Chathamwood Avenue Raleigh, NC 27612 CONTACT: (919) 870-0800 FAX: (919) 870-0801</small>			
1	KNIGHTDALE COMMENTS	05/22/20	DWN. LRH
0	ISSUED FOR PERMIT	02/26/20	CKD. BDE
	NO. REVISIONS	DATE	SCALE: AS SHOWN
			DATE: 02/26/20
			APPD. RSY
			PLOT: 1:1
			DWG. NO. MP01 OF 16
			31803MP



LEGEND

- IRON MONUMENT FOUND
- IRON MONUMENT SET
- UTILITY POLE
- GUY AND ANCHOR COMBINATION
- CENTERLINE OF EXISTING PROGRESS ENERGY OVERHEAD POWER LINE
- EXISTING OVERHEAD RESIDENTIAL ELECTRICAL SERVICE LINE
- CENTERLINE OF PROPOSED WAKE ELECTRIC OVERHEAD POWER LINE
- CENTERLINE OF PROPOSED UNDERGROUND POWER LINE
- PROPOSED PROPERTY LINE
- APPARENT PROPERTY LINE, FIELD RECOVERED
- APPARENT PROPERTY LINE FROM REFERENCES
- LIMIT OF DISTURBANCE
- PROPOSED SUBSTATION FENCE
- RESIDENTIAL FENCE
- CENTERLINE OF ROADSIDE DITCH
- CENTERLINE OF NON-JURISDICTIONAL DRAINAGE CHANNEL WITH DIRECTION OF FLOW
- EDGE OF EXISTING EASEMENT/RIGHT-OF-WAY
- EDGE OF PROPOSED EASEMENT/RIGHT-OF-WAY
- EDGE OF EXISTING PAVEMENT
- TOWN OF KNIGHTDALE RURAL RESIDENTIAL (RR1) ZONING DISTRICT BUILDING SETBACK LINE
- EDGE OF WAKE COUNTY TREE/VEGETATION PROTECTION ZONE
- EXISTING WOODS LINE
- EDGE OF KNIGHTDALE PLANNING JURISDICTION
- EXISTING 5' INTERVAL CONTOURS
- EXISTING 1' INTERVAL CONTOURS
- KNIGHTDALE UDO TYPE 2 BUFFER
- TREE REMOVAL AREA
- TREE SAVE AREA
- PROPOSED GRAVEL DRIVE
- PROPOSED ASPHALT DRIVEWAY APRON

- ### NOTES
- SITE PLAN DESIGN WORK BY BOOTH & ASSOCIATES, LLC WITHIN THIS DRAWING CONSISTS OF THE PROPOSED SUBSTATION FENCE AND STRUCTURES WITHIN, THE PROPOSED SUBSTATION DRIVEWAY, THE PROPOSED 115 KV TRANSMISSION TAP WITH RIGHT-OF-WAY, AND THE PROPOSED PROPERTY LINES.
 - SITE DATA AND TOPOGRAPHY SHOWN DERIVED FROM A SURVEY CONDUCTED BY BOOTH & ASSOCIATES, LLC IN MAY 2018.
 - DISTANCES SHOWN ARE U.S. SURVEY FOOT GRID DISTANCES. (NC STATE PLANE, NAD 1983/2011)
 - PROPERTY OWNER/OWNER OF PROJECT: DON BOWMAN - VICE PRESIDENT OF ENGINEERING & OPERATIONS WAKE ELECTRIC MEMBERSHIP CORPORATION 228 PARK AVENUE - YOUNGSVILLE, NORTH CAROLINA 27596 TELEPHONE: 919-863-6487
 - THERE IS NO PROPOSED PARKING FOR THIS SITE SINCE THE FACILITY WILL BE UNMANNED.
 - PROJECT PHASING: SEE SHEETS MP08 TO MP10.
 - TOWN OF KNIGHTDALE WATER ALLOCATION POLICY: THIS PROJECT REQUIRES NO CONNECTION TO PUBLIC WATER AND SEWER INFRASTRUCTURE.
 - A LANDSCAPE PLAN (SHEET MP05), A STORMWATER MANAGEMENT PLAN (SHEETS MP08 TO MP10), AND A LIGHTING PLAN (SHEETS MP11 & MP12) HAVE BEEN INCLUDED AS PART OF THIS SUBMITTAL. THE SIGNS & MARKINGS PLAN AND ARCHITECTURAL PLANS ARE DEEMED UNNECESSARY. THERE ARE NO PROPOSED ROAD SIGNS OR MARKINGS, AND THE ONLY PROPOSED STRUCTURES ARE STEEL STRUCTURES TO HOLD ELECTRICAL EQUIPMENT AND A CONTROL HOUSE. AN ILLUSTRATIVE BUILDING ELEVATION VIEW IS ON SHEET MP06 TO SHOW TYPICAL STEEL STRUCTURES AND TYPICAL CONTROL HOUSE DRAWINGS ARE ON SHEET MP07.
 - PER SITE SURVEY CONDUCTED ON 07/10/2018 BY CZR, INC., NO JURISDICTIONAL WETLANDS, WATERS, STREAMS OR DRAINAGES WERE FOUND IN THE PROJECT AREA.
 - PER SITE SURVEY CONDUCTED ON 07/10/2018 BY CZR, INC., NO SURFACE WATERS ARE PRESENT ONSITE AND, AS SUCH, NO NEUSE RIVER RIPARIAN BUFFERS. ALTHOUGH THE EXISTING SWALE THAT DRAINS UPRON HORTON ROAD (SR 2215) IS FEATURED IN THE USGS 7.5-MINUTE QUADRANGLE TOPOGRAPHIC MAP OF KNIGHTDALE, NORTH CAROLINA, PER THE CZR SURVEY, THIS SWALE IS A DITCH/MANMADE CONVEYANCE. ACCORDING TO 15 NCAC 02B .0233 (3)(a), THIS CATEGORIZATION OF THE SWALE EXEMPTS IT FROM NEUSE RIVER BASIN RIPARIAN BUFFER RULES.
 - THE SITE IS IN AN AREA OF MINIMAL FLOOD HAZARD PER FEMA FLOOD INSURANCE RATE MAP (FIRM) PANEL 3720176500J, DATED 05/02/2006.
 - A TYPE B BUFFER YARD IS PROPOSED TO SURROUND THE SITE AT THE PROPERTY EDGE, PER KNIGHTDALE UDO 8.6.B.2. ALL EXISTING TREES, VEGETATION, AND SOIL IN THE PROPOSED BUFFER ARE CONSIDERED TO BE IN TREE SAVE AREA PRIORITY TIER 1, PER KNIGHTDALE UDO 8.5.A, AND ARE TO REMAIN UNDISTURBED.
 - ALL RELEVANT DETAILS ARE ON SHEETS MP13 THROUGH MP16.
 - THE REQUESTED VARIANCE HAS NOT YET BEEN APPROVED BY THE TOWN OF KNIGHTDALE. THIS PLAN IS MADE WITH THE ASSUMPTION THAT THE VARIANCE WILL BE ACCEPTED. THE VARIANCE REQUEST IS TO FORGO THE STREET FRONTAGE IMPROVEMENTS REQUIRED BY THE UDO. BELOW, STREET FRONTAGE IMPROVEMENTS ARE LISTED (BASED ON THE TABLE GIVEN IN UDO 2.2), AS WELL AS THEIR APPLICABILITY TO THIS PROPERTY, WHICH IS ZONED RR1:
 - THE MAXIMUM DENSITY IS 1 UNIT PER ACRE. THE SUBSTATION, COUNTING AS ONE UNIT, MEETS THIS QUALIFICATION, AS IT IS ON A 3.36-ACRE PARCEL.
 - OPEN SPACE DEDICATION IS REQUIRED PER UDO 2.2. HOWEVER, UDO CHAPTER 7 PUTS EMPHASIS ON RECREATIONAL OPEN SPACE FOR RESIDENTIAL DEVELOPMENTS SPECIFICALLY. THIS IS NOT A RESIDENTIAL DEVELOPMENT AND ITS CONSTRUCTION WILL NOT INCREASE THE AMOUNT OF PEOPLE LIVING OR WORKING IN THE AREA SINCE IT IS AN UNMANNED FACILITY. AS SUCH, IT IS PROPOSED THAT THE DEVELOPMENT OF OPEN SPACE IS UNNECESSARY FOR THIS PROJECT.
 - ON-STREET PARKING IS OCCASIONALLY REQUIRED IN ZONE RR1. ON-STREET PARKING IS NOT USED IN OR NEAR THE AREA NOW AND THERE IS NO REASON TO ADD IT; INSTALLING IT WOULD REQUIRE A CONSIDERABLE AMOUNT OF ADDITIONAL DEVELOPMENT THAT IS OUTSIDE THE SCOPE OF THIS PROJECT.
 - CURBING IS NOT REQUIRED IN ZONE RR1.
 - OPEN SWALES ARE ACCEPTABLE FOR DRAINAGE IN PROPERTIES ZONED RR1. THERE IS CURRENTLY A SWALE ALONGSIDE THE ROAD AND A SWALE RUNNING THROUGH THE PROPERTY; THE PROPOSED DESIGN WOULD LEAVE THESE INTACT.
 - STREET TREES ARE NOT REQUIRED FOR ZONE RR1.
 - A 6-FOOT MINIMUM MULTI-USE PATH IS REQUIRED FOR PROPERTIES IN ZONE RR1. THE PATH IS DEEMED UNNECESSARY BECAUSE OF THE NEGLIGIBLE AMOUNT OF FOOT TRAFFIC IN THIS AREA, AND THE PROPOSED DEVELOPMENT WILL DO NOTHING TO INCREASE THIS FOOT TRAFFIC.
 - IT IS STATED IN UDO 11.5.A THAT "STREET LIGHTING SHALL BE PLACED ON ALL STREETS BY THE DEVELOPER TO ALLOW FOR THE SAFE USE OF STREETS BY CARS, CYCLISTS, AND PEDESTRIANS." IT IS ARGUED THAT ADDING STREET LIGHTING TO THIS AREA WILL ACTUALLY BE DETRIMENTAL, AND, AS SUCH, SHOULD NOT BE REQUIRED FOR THIS PROJECT.



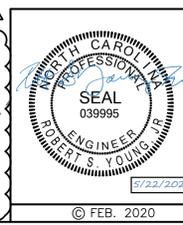
a. Town Certification. This design has been reviewed by the Engineer for the Town of Knightdale, and to the best of my knowledge and belief, it conforms to the requirements established in the Standard Specifications of the Town of Knightdale.

By: _____ Date: _____
Town Engineer

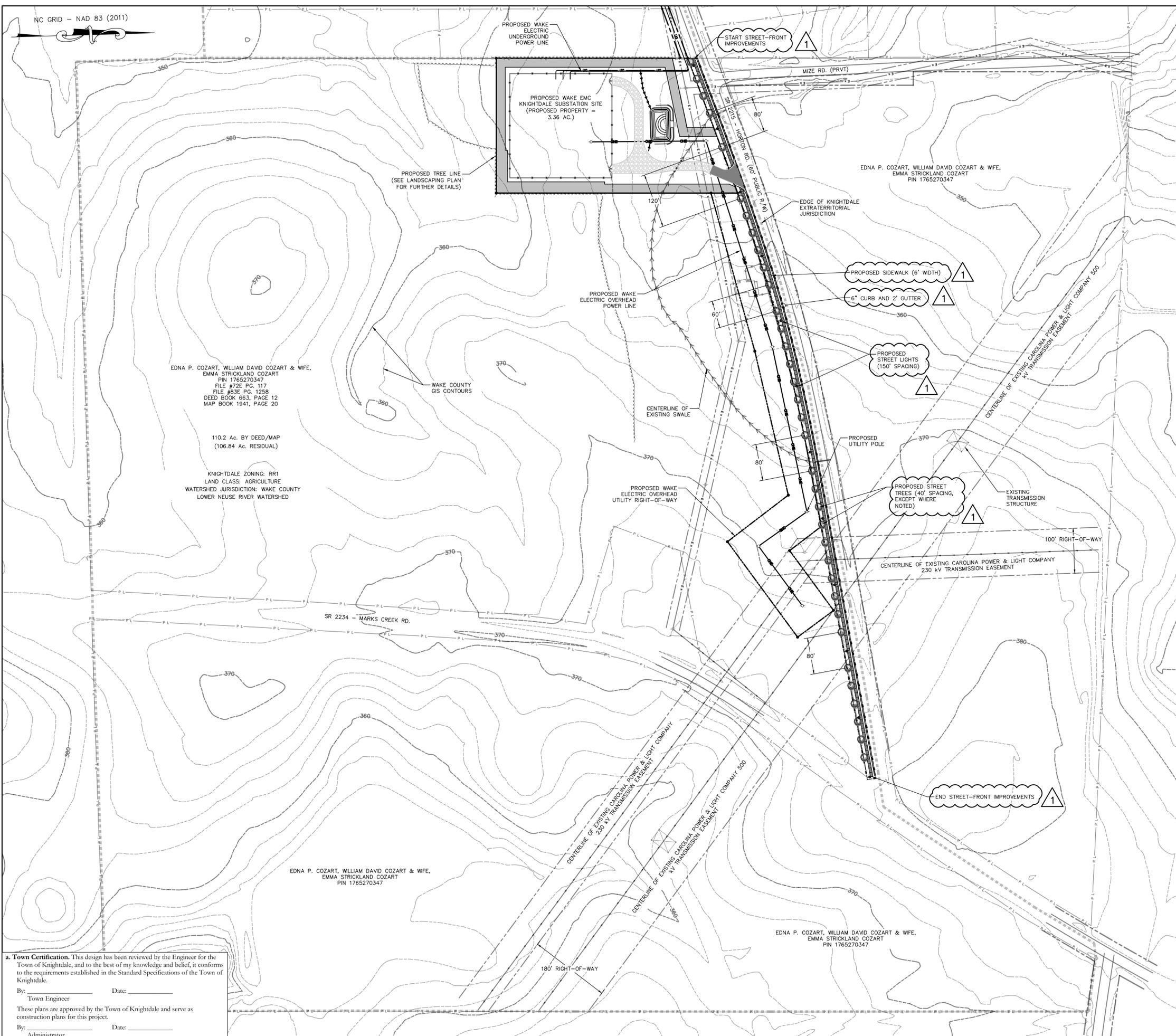
These plans are approved by the Town of Knightdale and serve as construction plans for this project.

By: _____ Date: _____
Administrator

SITE DATA TABLE		GENERAL SITE INFORMATION	
TOTAL ACREAGE OF TRACT	110.2	TOWNSHIP, COUNTY	KNIGHTDALE, WAKE COUNTY
TOTAL ACREAGE OF SITE	3.36	CURRENT ZONING	RR1
ACREAGE OF PARKS/ NON-RESIDENTIAL USES	0.00	CURRENT USE	RURAL RESIDENCE W/ AGRICULTURAL FIELDS
TOTAL NO. OF PARCELS	1	CURRENT USE CODE	2.3.C.(1)a. (DWELLING-SINGLE FAMILY)
TOTAL ACREAGE OF PARCELS	3.36	PROPOSED USE	ELECTRICAL SUBSTATION
TOTAL NUMBER OF HOUSING UNITS	0	PROPOSED USE CODE	2.3.C.(B)a. (UTILITY CLASS 1 & 2)

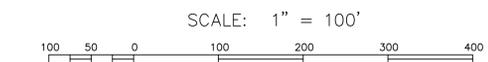


WAKE ELECTRIC MEMBERSHIP CORPORATION WAKE FOREST, NORTH CAROLINA			
KNIGHTDALE SUBSTATION MASTER PLAN PROPOSED CONDITIONS			
Booth & Associates, LLC 3801 Chathamwood Avenue Raleigh, NC 27612 (919) 863-6487 www.boothandassociates.com			
1	KNIGHTDALE COMMENTS	05/22/20	DWN.LRH DATE: 12/13/19
0	ISSUED FOR PERMIT	02/26/20	CKD.BDE DATE: 02/26/20
NO.	REVISIONS	DATE	SCALE: 1" = 50'
			DWG. NO. MP02 OF 16
			31803MP



LEGEND	
	IRON MONUMENT FOUND
	IRON MONUMENT SET
	UTILITY POLE
	GUY AND ANCHOR COMBINATION
	CENTERLINE OF EXISTING PROGRESS ENERGY OVERHEAD POWER LINE
	EXISTING OVERHEAD RESIDENTIAL ELECTRICAL SERVICE LINE
	CENTERLINE OF PROPOSED WAKE ELECTRIC OVERHEAD POWER LINE
	CENTERLINE OF PROPOSED UNDERGROUND POWER LINE
	PROPOSED PROPERTY LINE
	APPARENT PROPERTY LINE, FIELD RECOVERED
	APPARENT PROPERTY LINE FROM REFERENCES
	PROPOSED SUBSTATION FENCE
	RESIDENTIAL FENCE
	CENTERLINE OF ROADSIDE DITCH
	CENTERLINE OF NON-JURISDICTIONAL DRAINAGE CHANNEL WITH DIRECTION OF FLOW
	EDGE OF EXISTING EASEMENT/RIGHT-OF-WAY
	EDGE OF PROPOSED EASEMENT/RIGHT-OF-WAY
	EDGE OF EXISTING PAVEMENT
	WOODS LINE
	EDGE OF KNIGHTDALE PLANNING JURISDICTION
	EXISTING 10' INTERVAL CONTOURS
	EXISTING 2' INTERVAL CONTOURS
	KNIGHTDALE UDO TYPE 2 BUFFER
	PROPOSED GRAVEL DRIVE
	PROPOSED ASPHALT DRIVEWAY APRON

- NOTES**
1. SITE PLAN DESIGN WORK BY BOOTH & ASSOCIATES, LLC WITHIN THIS DRAWING CONSISTS OF THE PROPOSED SUBSTATION FENCE AND STRUCTURES WITHIN, THE PROPOSED SUBSTATION DRIVEWAY, THE PROPOSED 115 KV TRANSMISSION TAP WITH RIGHT-OF-WAY, AND THE PROPOSED PROPERTY LINES.
 2. SITE DATA SHOWN DERIVED FROM A SURVEY CONDUCTED BY BOOTH & ASSOCIATES, LLC IN MAY 2018. TOPOGRAPHY DERIVED FROM WAKE COUNTY GIS. GIS DATA INSTEAD OF SURVEY DATA IS USED FOR TOPOGRAPHY ON THIS SHEET BECAUSE OF THE COMPARATIVELY LIMITED DATA FROM THE SURVEY.
 3. DISTANCES SHOWN ARE U.S. SURVEY FOOT GRID DISTANCES. (NC STATE PLANE, NAD 1983/2011)
 4. PROPERTY OWNER/OWNER OF PROJECT:
DON BOWMAN - VICE PRESIDENT OF ENGINEERING & OPERATIONS
WAKE ELECTRIC MEMBERSHIP CORPORATION
228 PARK AVENUE - YOUNGSVILLE, NORTH CAROLINA 27596
TELEPHONE: 919-863-6487
 5. ALL RELEVANT DETAILS ARE ON SHEETS MP13 THROUGH MP16.



a. Town Certification. This design has been reviewed by the Engineer for the Town of Knightdale, and to the best of my knowledge and belief, it conforms to the requirements established in the Standard Specifications of the Town of Knightdale.

By: _____ Date: _____
Town Engineer

These plans are approved by the Town of Knightdale and serve as construction plans for this project.

By: _____ Date: _____
Administrator

	WAKE ELECTRIC MEMBERSHIP CORPORATION WAKE FOREST, NORTH CAROLINA			
	KNIGHTDALE SUBSTATION MASTER PLAN PARENT PARCEL Booth & Associates, LLC <small>3001 Chathamwood Avenue, Raleigh, NC 27612</small>			
1 KNIGHTDALE COMMENTS 0 ISSUED FOR PERMIT	05/22/20 02/26/20	DWN.LRH CKD. BDE	DATE: 12/13/19 APPD. RSY	DWG. NO. MP03 OF 16 31803MP
© FEB. 2020	NO.	REVISIONS	DATE	SCALE: 1" = 100' PLOT: 1:1

NC GRID - NAD 83 (2011)

NOW OR FORMERLY
JANELLE COFIELD
PIN 1765075046
DEED BOOK 10920, PAGE 1196
LAND CLASS: RESIDENTIAL <10 ACRES
KNIGHTDALE ZONING: GR8

EXISTING SECONDARY
ELECTRIC LINE TO BE
USED TO TIE IN

PROPOSED WAKE
ELECTRIC UNDERGROUND
POWER LINE (TO BE
INSTALLED VIA TRENCH)

SR 2215 - BUFFALO RD.

EDGE OF KNIGHTDALE
EXTRATERRITORIAL
JURISDICTION

NOW OR FORMERLY
JAMES A MITCHELL & STANLEY E MITCHELL SR
PIN 1765078902
DEED BOOK 17368, PAGE 376
LAND CLASS: VACANT
COUNTY ZONING R-30

NOW OR FORMERLY
2405 HORTON TRUST
PIN 1765078973
DEED BOOK 16086, PAGE 2689
LAND CLASS: RESIDENTIAL <10 ACRES
COUNTY ZONING R-30

NOW OR FORMERLY
CLIFTON COLLINS
PIN 1765079983
DEED BOOK 10411, PAGE 198
LAND CLASS: RESIDENTIAL <10 ACRES
COUNTY ZONING R-30

NOW OR FORMERLY
BILLIE DUNN JR & MATTIE R DUNN
PIN 1765170991
DEED BOOK 13402, PAGE 1964
LAND CLASS: RESIDENTIAL <10 ACRES
COUNTY ZONING R-30

NOW OR FORMERLY
JOHN T DUNN
PIN 1765181054
DEED BOOK 10513, PAGE 5
LAND CLASS: RESIDENTIAL <10 ACRES
COUNTY ZONING R-30

NOW OR FORMERLY
EYVONNE M STATEN HEIRS
PIN 1765182070
WILL BOOK 15-E, PAGE 947
LAND CLASS: RESIDENTIAL <10 ACRES
COUNTY ZONING R-30

NOW OR FORMERLY
ALENDA VAN DYKE JONES
PIN 1765183073
DEED BOOK 11877, PAGE 1023
LAND CLASS: RESIDENTIAL <10 ACRES
COUNTY ZONING R-30

NOW OR FORMERLY
EDDIE HIGH III
PIN 1765163935
DEED BOOK 3369, PAGE 336
LAND CLASS: VACANT
KNIGHTDALE ZONING: GR8

NOW OR FORMERLY
DARRIE STEVE HIGH
PIN 1765173550
DEED BOOK 3369, PAGE 334
LAND CLASS: VACANT
KNIGHTDALE ZONING: GR8

EDNA P. COZART, WILLIAM DAVID COZART & WIFE,
EMMA STRICKLAND COZART
PIN 1765270347
FILE #72E PG. 117
FILE #83E PG. 1258
DEED BOOK 663, PAGE 12
MAP BOOK 1941, PAGE 20

PROPOSED WAKE EMC
KNIGHTDALE SUBSTATION SITE
(PROPOSED PROPERTY =
3.36 AC.)

110.2 Ac. BY DEED/MAP
(106.84 Ac. RESIDUAL)

KNIGHTDALE ZONING: RR1
LAND CLASS: AGRICULTURE
WATERSHED JURISDICTION: WAKE COUNTY
LOWER NEUSE RIVER WATERSHED

a. Town Certification. This design has been reviewed by the Engineer for the Town of Knightdale, and to the best of my knowledge and belief, it conforms to the requirements established in the Standard Specifications of the Town of Knightdale.
By: _____ Date: _____
Town Engineer
These plans are approved by the Town of Knightdale and serve as construction plans for this project.
By: _____ Date: _____
Administrator

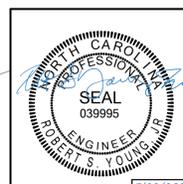
LEGEND

- IRON MONUMENT FOUND
- IRON MONUMENT SET
- UTILITY POLE
- GUY AND ANCHOR COMBINATION
- CENTERLINE OF EXISTING PROGRESS ENERGY OVERHEAD POWER LINE
- EXISTING OVERHEAD RESIDENTIAL ELECTRICAL SERVICE LINE
- CENTERLINE OF PROPOSED WAKE ELECTRIC OVERHEAD POWER LINE
- CENTERLINE OF PROPOSED UNDERGROUND POWER LINE
- PROPOSED PROPERTY LINE
- APPARENT PROPERTY LINE, FIELD RECOVERED
- APPARENT PROPERTY LINE FROM REFERENCES
- PROPOSED SUBSTATION FENCE
- RESIDENTIAL FENCE
- CENTERLINE OF ROADSIDE DITCH
- CENTERLINE OF NON-JURISDICTIONAL DRAINAGE CHANNEL WITH DIRECTION OF FLOW
- EDGE OF EXISTING EASEMENT/RIGHT-OF-WAY
- EDGE OF PROPOSED EASEMENT/RIGHT-OF-WAY
- EDGE OF EXISTING PAVEMENT
- WOODS LINE
- EDGE OF KNIGHTDALE PLANNING JURISDICTION
- EXISTING 10' INTERVAL CONTOURS
- EXISTING 2' INTERVAL CONTOURS
- KNIGHTDALE UDO TYPE 2 BUFFER
- PROPOSED GRAVEL DRIVE
- PROPOSED ASPHALT DRIVEWAY APRON

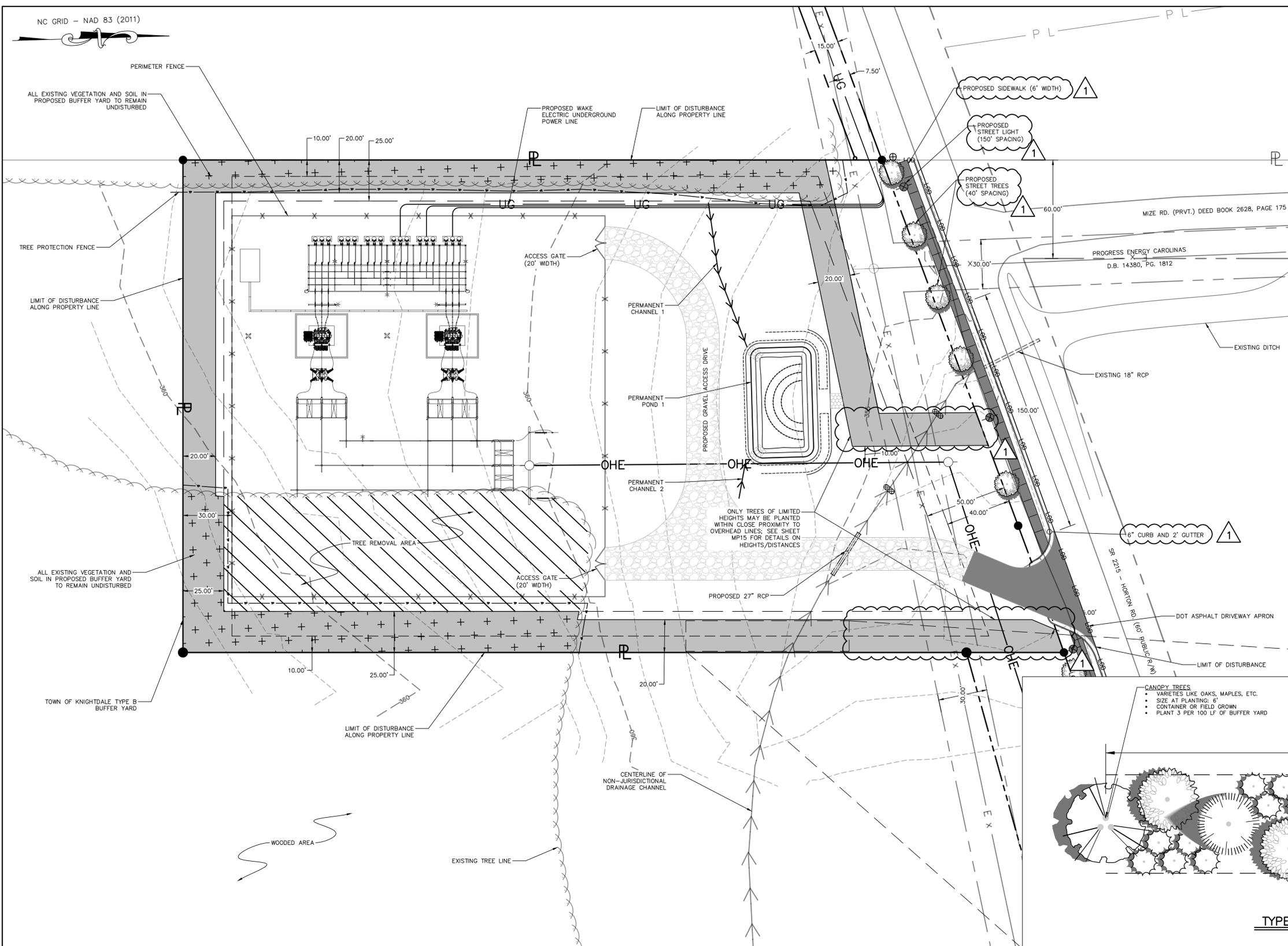
NOTES

- SITE PLAN DESIGN WORK BY BOOTH & ASSOCIATES, LLC WITHIN THIS DRAWING CONSISTS OF THE PROPOSED SUBSTATION FENCE AND STRUCTURES WITHIN, THE PROPOSED SUBSTATION DRIVEWAY, THE PROPOSED 115 KV TRANSMISSION TAP WITH RIGHT-OF-WAY, AND THE PROPOSED PROPERTY LINES.
- SITE DATA SHOWN DERIVED FROM A SURVEY CONDUCTED BY BOOTH & ASSOCIATES, LLC IN MAY 2018. TOPOGRAPHY DERIVED FROM WAKE COUNTY GIS. GIS DATA INSTEAD OF SURVEY DATA IS USED FOR TOPOGRAPHY ON THIS SHEET BECAUSE OF THE COMPARATIVELY LIMITED DATA FROM THE SURVEY.
- DISTANCES SHOWN ARE U.S. SURVEY FOOT GRID DISTANCES. (NC STATE PLANE, NAD 1983/2011)
- PROPERTY OWNER/OWNER OF PROJECT:
DON BOWMAN - VICE PRESIDENT OF ENGINEERING & OPERATIONS
WAKE ELECTRIC MEMBERSHIP CORPORATION
228 PARK AVENUE - YOUNGSVILLE, NORTH CAROLINA 27596
TELEPHONE: 919-863-6487
- ALL RELEVANT DETAILS ARE ON SHEETS MP13 THROUGH MP16.

SCALE: 1" = 100'



WAKE ELECTRIC MEMBERSHIP CORPORATION WAKE FOREST, NORTH CAROLINA			
KNIGHTDALE SUBSTATION MASTER PLAN UNDERGROUND ELECTRIC LINE			
Booth & Associates, LLC <small>3011 Clarendon Avenue, Raleigh, NC 27612</small>			
1	KNIGHTDALE COMMENTS	05/22/20	DWN.LRH
0	ISSUED FOR PERMIT	02/26/20	CKD.BDE
NO.	REVISIONS	DATE	SCALE: 1" = 100'
			DATE: 12/13/19
			APPD. RSY
			PLOT: 1:1
			DWG. NO. MP04 OF 16
			31803MP

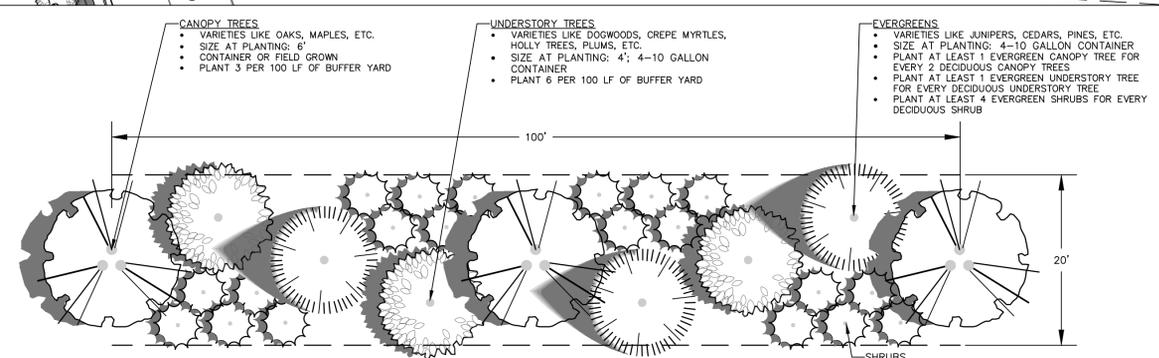


LEGEND

- ⊕ IRON MONUMENT FOUND
- IRON MONUMENT SET
- UTILITY POLE
- GUY AND ANCHOR COMBINATION
- E x — CENTERLINE OF EXISTING RESIDENTIAL ENERGY OVERHEAD POWER LINE
- E S x — EXISTING OVERHEAD RESIDENTIAL ELECTRICAL SERVICE LINE
- OHE — CENTERLINE OF PROPOSED WAKE ELECTRIC OVERHEAD POWER LINE
- UG — CENTERLINE OF PROPOSED UNDERGROUND POWER LINE
- PL — PROPOSED PROPERTY LINE
- PL — APPARENT PROPERTY LINE, FIELD RECOVERED
- P L — APPARENT PROPERTY LINE FROM REFERENCES
- L O O — LIMIT OF DISTURBANCE
- PROPOSED SUBSTATION FENCE
- RESIDENTIAL FENCE
- CENTERLINE OF ROADSIDE DITCH
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- EDGE OF EXISTING EASEMENT/RIGHT-OF-WAY
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- EDGE OF WAKE COUNTY TREE/VEGETATION PROTECTION ZONE
- EXISTING WOODS LINE
- EDGE OF KNIGHTDALE PLANNING JURISDICTION
- EXISTING 5' INTERVAL CONTOURS
- EXISTING 1' INTERVAL CONTOURS
- KNIGHTDALE UDO TYPE 2 BUFFER
- TREE REMOVAL AREA
- TREE SAVE AREA
- PROPOSED GRAVEL DRIVE
- PROPOSED ASPHALT DRIVEWAY APRON

NOTES

1. A TYPE B BUFFER YARD IS PROPOSED TO SURROUND THE SITE AT THE PROPERTY EDGE PER KNIGHTDALE UDO 8.6.B.2. ALL EXISTING TREES, VEGETATION, AND SOIL IN THE PROPOSED BUFFER ARE CONSIDERED TO BE IN TREE SAVE AREA TIER 1 PER KNIGHTDALE UDO 8.5.A, AND ARE TO REMAIN UNDISTURBED.
2. SPECIES LISTED IN PLANT LIST TABLE ARE SUGGESTIONS AND NOT LIMITED TO THE USE OF ONLY THESE SPECIES OR VARIETIES OF PLANTS.
3. SEE SHEETS MP13 THROUGH MP16 FOR ALL RELEVANT DETAILS.



TYPE B BUFFER YARD DETAIL
SCALE: 1" = 10'

a. Town Certification. This design has been reviewed by the Engineer for the Town of Knightdale, and to the best of my knowledge and belief, it conforms to the requirements established in the Standard Specifications of the Town of Knightdale.

By: _____ Date: _____
Town Engineer

These plans are approved by the Town of Knightdale and serve as construction plans for this project.

By: _____ Date: _____
Administrator

PLANT LIST TABLE							
TYPE	COMMON NAME	BOTANICAL NAME	GROUP	SIZE AT TIME OF PLANTING	SIZE AT MATURITY	QUANTITY	SPACING
CANOPY	MAPLE, FREEMAN	<i>Acer x freemani (rubrum x saccharum)</i>	DECIDUOUS	HEIGHT: 8' WIDTH: 4'	HEIGHT: 40' WIDTH: 20'	1 PER 150' OF BUFFER 10 TOTAL	150' FROM NEAREST TREE OF ITS SPECIES 50' FROM NEAREST CANOPY TREE
	OAK, COLUMNAR ENGLISH	<i>Quercus robur Fastigiata</i>	DECIDUOUS	HEIGHT: 10' WIDTH: 2'	HEIGHT: 50' WIDTH: 10'	1 PER 150' OF BUFFER 9 TOTAL	
	PINE, LACEBARK	<i>Pinus bungeana</i>	EVERGREEN	HEIGHT: 6' WIDTH: 4'	HEIGHT: 30' WIDTH: 20'	1 PER 150' OF BUFFER 9 TOTAL	
UNDERSTORY	DOGWOOD, CHINESE	<i>Cornus x spp.</i>	DECIDUOUS	HEIGHT: 4' WIDTH: 3'	HEIGHT: 20' WIDTH: 15'	2 PER 100' OF BUFFER 28 TOTAL	50' FROM NEAREST TREE OF ITS SPECIES 12.5' FROM NEAREST UNDERSTORY TREE
	HOLLY, DAHOON	<i>Ilex cossine</i>	EVERGREEN	HEIGHT: 4' WIDTH: 2'	HEIGHT: 20' WIDTH: 10'	2 PER 100' OF BUFFER 28 TOTAL	
	MAGNOLIA, LITTLE GEM	<i>Magnolia grandiflora "Little Gem"</i>	EVERGREEN	HEIGHT: 3' WIDTH: 2'	HEIGHT: 15' WIDTH: 10'	2 PER 100' OF BUFFER 28 TOTAL	
SHRUB	ABELIA, GLOSSY	<i>Abelia grandiflora</i>	EVERGREEN	HEIGHT: 1' WIDTH: 1'	HEIGHT: 5' WIDTH: 4'	7 PER 100' OF BUFFER 98 TOTAL	6' FROM NEAREST SHRUB OF ITS SPECIES 6' FROM NEAREST SHRUB
	HOLLY, JAPANESE	<i>Ilex crenata</i>	EVERGREEN	HEIGHT: 1' WIDTH: 1'	HEIGHT: 5' WIDTH: 4'	7 PER 100' OF BUFFER 98 TOTAL	
	JUNIPER, CREEPING	<i>Juniperus horizontalis</i>	EVERGREEN	HEIGHT: 0.5' WIDTH: 1'	HEIGHT: 2' WIDTH: 4'	6 PER 100' OF BUFFER 84 TOTAL	

SCALE: 1" = 30'

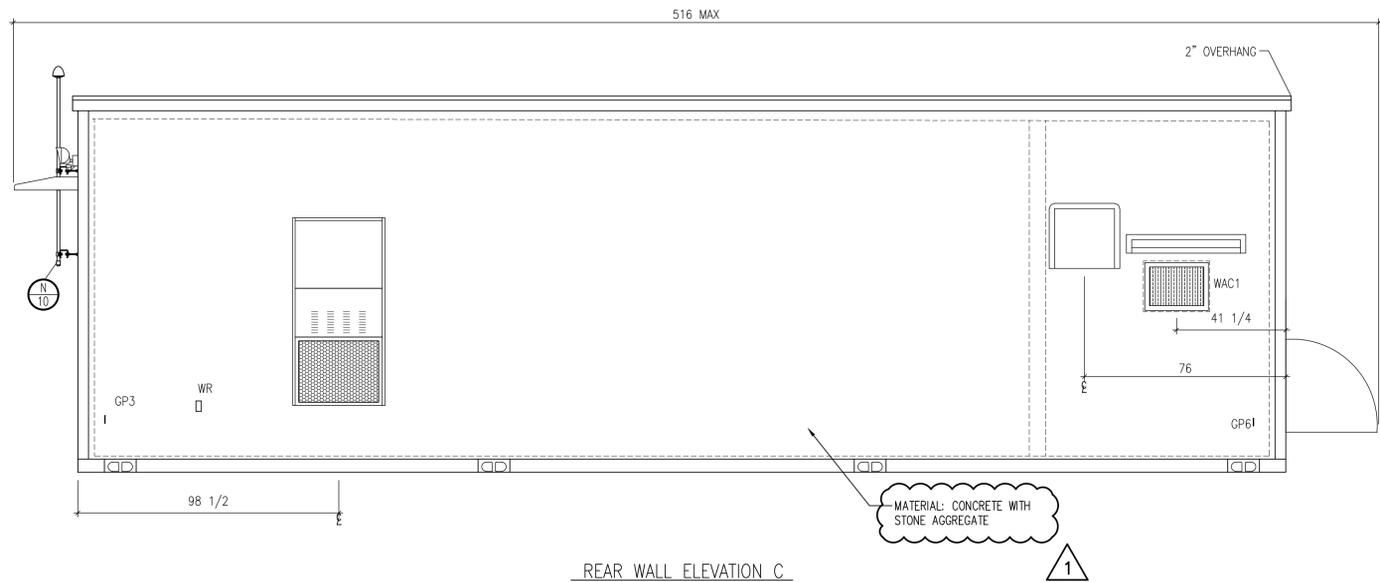
WAKE ELECTRIC MEMBERSHIP CORPORATION
WAKE FOREST, NORTH CAROLINA

KNIGHTDALE SUBSTATION
MASTER PLAN
LANDSCAPE PLAN

Booth & Associates, LLC
3801 Chathamwood Avenue, Raleigh, NC 27612

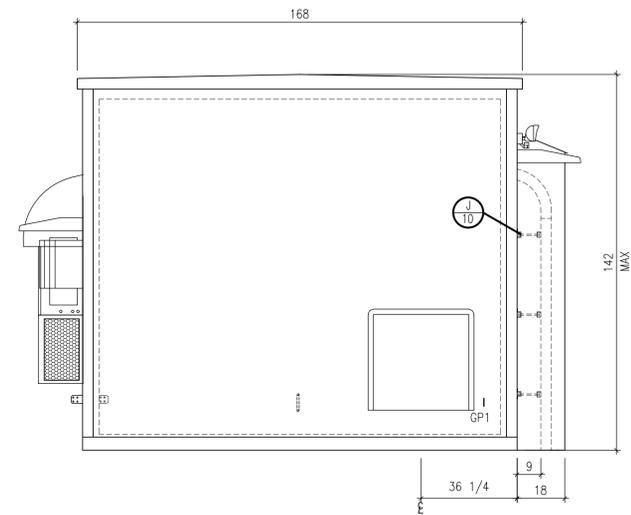
1	KNIGHTDALE COMMENTS	05/22/20	DWN: LRH	DATE: 12/13/19	DWG. NO.
0	ISSUED FOR PERMIT	02/26/20	CKD: BDE	APPD: RSY	MP05 OF 16
NO.	REVISIONS	DATE	SCALE: 1" = 30'	PLOT: 1:1	31803MP

© FEB. 2020

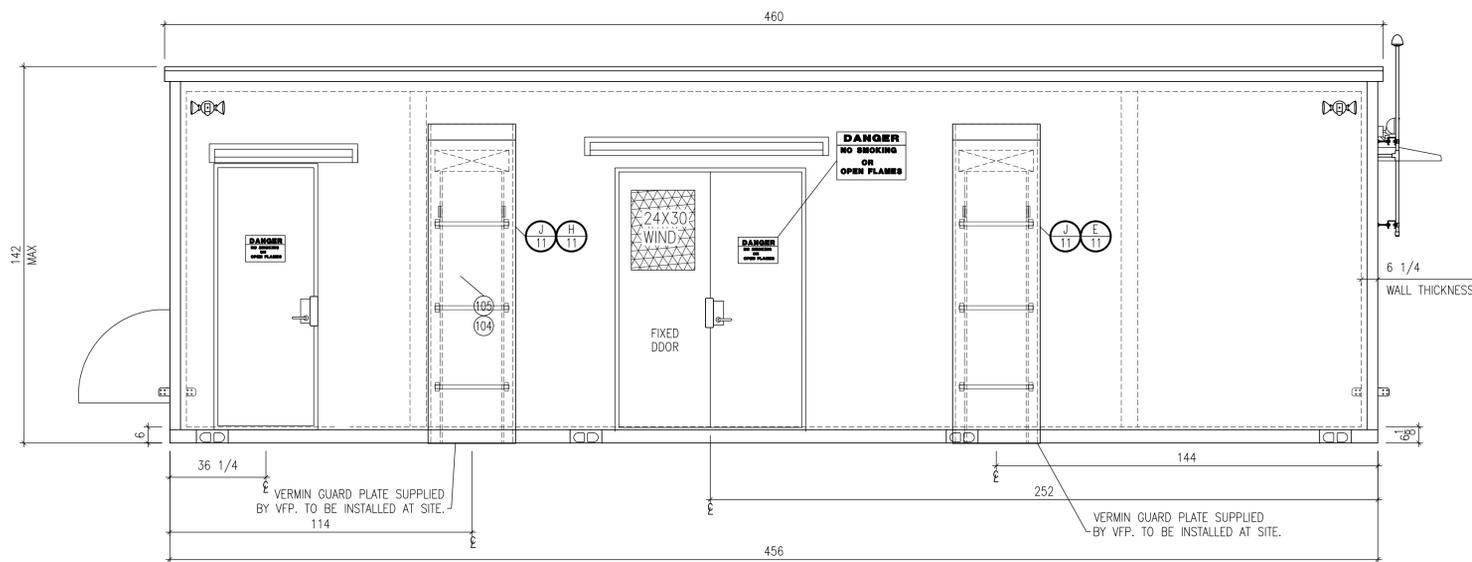


REAR WALL ELEVATION C

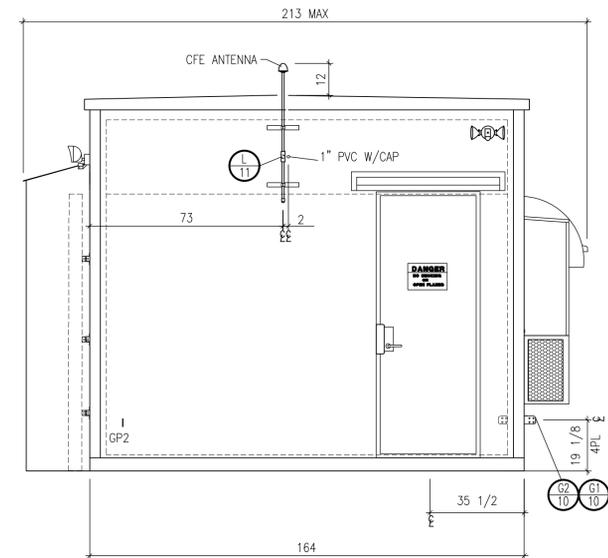
MATERIAL: CONCRETE WITH STONE AGGREGATE



LEFT WALL ELEVATION B



FRONT WALL ELEVATION A



RIGHT WALL ELEVATION D

a. Town Certification. This design has been reviewed by the Engineer for the Town of Knightdale, and to the best of my knowledge and belief, it conforms to the requirements established in the Standard Specifications of the Town of Knightdale.

By: _____ Date: _____
Town Engineer

These plans are approved by the Town of Knightdale and serve as construction plans for this project.

By: _____ Date: _____
Administrator

EXTERIOR ELEVATIONS
DIMENSIONS SHOWN ARE FOR REFERENCE ONLY

	WAKE ELECTRIC MEMBERSHIP CORPORATION WAKE FOREST, NORTH CAROLINA			
	KNIGHTDALE SUBSTATION MASTER PLAN CONTROL HOUSE			
	Booth & Associates, LLC <small>3011 Chatham Avenue, Raleigh, NC 27612</small>			
1 KNIGHTDALE COMMENTS 0 ISSUED FOR PERMIT	05/22/20 02/26/20	DWN. LRH CKD. BDE	DATE: 12/13/19 APPD. RSY	DWG. NO. MP07 OF 16 31803MP
© FEB. 2020	NO.	REVISIONS	DATE	SCALE: N.T.S. PLOT: 1:1

NOW OR FORMERLY
DARRIE STEVE HIGH
PIN 1765173550
DEED BOOK 3369, PAGE 334
LAND CLASS: VACANT
KNIGHTDALE ZONING: GR8

PROPOSED WAKE ELECTRIC
UNDERGROUND UTILITY
RIGHT-OF-WAY

NOW OR FORMERLY
ALENDA VAN DYKE JONES
PIN 1765183073
DEED BOOK 11877, PAGE 1023
LAND CLASS: RESIDENTIAL <10 ACRES
COUNTY ZONING R-30

LEGEND

- IRON MONUMENT FOUND
- IRON MONUMENT SET
- UTILITY POLE
- GUY AND ANCHOR COMBINATION
- CENTERLINE OF EXISTING PROGRESS ENERGY OVERHEAD POWER LINE
- EXISTING OVERHEAD RESIDENTIAL ELECTRICAL SERVICE LINE
- PROPOSED PROPERTY LINE
- APPARENT PROPERTY LINE, FIELD RECOVERED
- APPARENT PROPERTY LINE FROM REFERENCES
- RESIDENTIAL FENCE
- CENTERLINE OF ROADSIDE DITCH
- CENTERLINE OF NON-JURISDICTIONAL DRAINAGE CHANNEL WITH DIRECTION OF FLOW
- EDGE OF EXISTING EASEMENT/RIGHT-OF-WAY
- EDGE OF PROPOSED EASEMENT/RIGHT-OF-WAY
- EDGE OF EXISTING PAVEMENT
- TOWN OF KNIGHTDALE RURAL RESIDENTIAL (RR1) ZONING DISTRICT BUILDING SETBACK LINE
- EDGE OF WAKE COUNTY TREE/VEGETATION PROTECTION ZONE
- EXISTING WOODS LINE
- EDGE OF KNIGHTDALE PLANNING JURISDICTION
- EXISTING 5' INTERVAL CONTOURS
- EXISTING 1' INTERVAL CONTOURS
- DRAINAGE AREA BOUNDARY

DRAINAGE AREAS

- DRAINAGE AREA No. 1
- AREA (ACRES) 4.95

NOTES

1. SITE PLAN DESIGN WORK BY BOOTH & ASSOCIATES, LLC WITHIN THIS DRAWING CONSISTS OF THE PROPOSED SUBSTATION FENCE AND STRUCTURES WITHIN, THE PROPOSED SUBSTATION DRIVEWAY, THE PROPOSED 115 KV TRANSMISSION TAP WITH RIGHT-OF-WAY, AND THE PROPOSED PROPERTY LINES.
2. SITE DATA AND TOPOGRAPHY SHOWN DERIVED FROM A SURVEY CONDUCTED BY BOOTH & ASSOCIATES, LLC IN MAY 2018.
3. DISTANCES SHOWN ARE U.S. SURVEY FOOT GRID DISTANCES. (NC STATE PLANE, NAD 1983/2011)
4. PROPERTY OWNER/OWNER OF PROJECT:
DON BOWMAN - VICE PRESIDENT OF ENGINEERING & OPERATIONS
WAKE ELECTRIC MEMBERSHIP CORPORATION
228 PARK AVENUE - YOUNGSHVILLE, NORTH CAROLINA 27596
TELEPHONE: 919-863-6487
5. PER SITE SURVEY CONDUCTED ON 07/10/2018 BY CZR, INC., NO JURISDICTIONAL WETLANDS, WATERS, STREAMS OR DRAINAGES WERE FOUND IN THE PROJECT AREA.
6. PER SITE SURVEY CONDUCTED ON 07/10/2018 BY CZR, INC., NO SURFACE WATERS ARE PRESENT ONSITE AND, AS SUCH, NO NEUSE RIVER RIPARIAN BUFFERS. ALTHOUGH THE EXISTING SWALE THAT DRAINS UDNER HORTON ROAD (SR 2215) IS FEATURED IN THE USGS 7.5-MINUTE QUADRANGLE TOPOGRAPHIC MAP OF KNIGHTDALE, NORTH CAROLINA, PER THE CZR SURVEY, THIS SWALE IS A DITCH/MANMADE CONVEYANCE. ACCORDING TO 15 NCAC 02B .0233 (3)(c), THIS CATEGORIZATION OF THE SWALE EXEMPTS IT FROM NEUSE RIVER BASIN RIPARIAN BUFFER RULES.
7. THE SITE IS IN AN AREA OF MINIMAL FLOOD HAZARD PER FEMA FLOOD INSURANCE RATE MAP (FIRM) PANEL 3720176500A, DATED 05/02/2006.
8. ALL RELEVANT DETAILS ARE ON SHEET MP13 THROUGH MP16.

1

DRAINAGE AREAS
END AT PROPOSED
PROPERTY LINE

10.00'

25.00'

N 01°39'05" E - 427.83'

EDGE OF WAKE COUNTY
TREE/VEGETATION
PROTECTION ZONE

TOWN OF KNIGHTDALE
RURAL RESIDENTIAL
(RR1) ZONING DISTRICT
BUILDING SETBACK LINE

N 88°20'55" W - 300.00'

2
0.62

DRAINAGE AREA
BOUNDARY

3
2.59

PROPOSED PROPERTY
LINE

30.00'

25.00'

10.00'

25.00'

DRAINAGE AREAS
END AT PROPOSED
PROPERTY LINE

S 01°39'05" W - 539.25' (TOTAL)

CENTERLINE OF
NON-JURISDICTIONAL
DRAINAGE CHANNEL

EXISTING TREE LINE

WOODED AREA

EDNA P. COZART, WILLIAM DAVID COZART
& WIFE, EMMA STRICKLAND COZART
PIN 1765270347
FILE #72E PG. 117
FILE #83E PG. 1258
DEED BOOK 663, PAGE 12
MAP BOOK 1941, PAGE 20

110.2 Ac. BY DEED/MAP
(106.84 Ac. RESIDUAL)

KNIGHTDALE ZONING: RR1
LAND CLASS: AGRICULTURE
WATERSHED JURISDICTION: WAKE COUNTY
LOWER NEUSE RIVER WATERSHED

EXISTING PROGRESS ENERGY
OVERHEAD POWER LINE

PROPOSED WAKE
ELECTRIC OVERHEAD
POWER UTILITY
RIGHT-OF-WAY

EDNA P. COZART, WILLIAM DAVID COZART
& WIFE, EMMA STRICKLAND COZART
PIN 1765270347

SR 2421 - HORTON RD. (60' PUBLIC R/W)

CENTERLINE OF ROADSIDE DITCH

EXISTING 18" RCP

EXISTING DITCH

PROGRESS ENERGY CAROLINAS
D.B. 14380, PG. 1812

MIZE RD. (PRVT.) DEED BOOK 2628, PAGE 175

COMMUNICATIONS PEDESTAL

SCALE: 1" = 30'

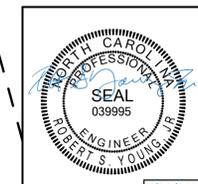
30 15 0 30 60 90 120

a. **Town Certification.** This design has been reviewed by the Engineer for the Town of Knightdale, and to the best of my knowledge and belief, it conforms to the requirements established in the Standard Specifications of the Town of Knightdale.

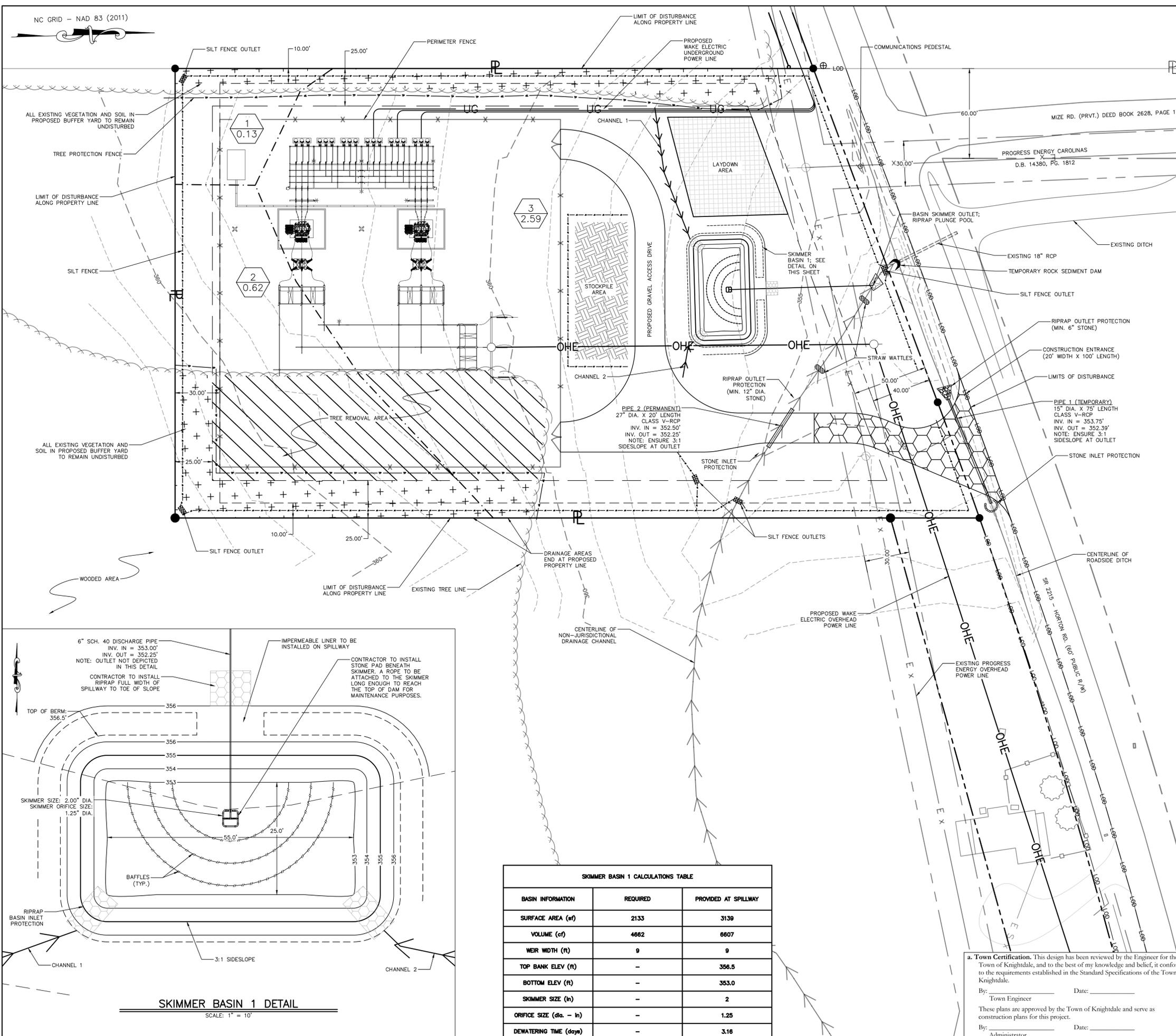
By: _____ Date: _____
Town Engineer

These plans are approved by the Town of Knightdale and serve as construction plans for this project.

By: _____ Date: _____
Administrator



WAKE ELECTRIC MEMBERSHIP CORPORATION WAKE FOREST, NORTH CAROLINA			
KNIGHTDALE SUBSTATION STORMWATER MANAGEMENT PLAN EXISTING SITE CONDITIONS			
Booth & Associates, LLC 3801 Chathamwood Avenue, Raleigh, NC 27612			
1	KNIGHTDALE COMMENTS	05/22/20	DWN. LRH
0	ISSUED FOR PERMIT	02/26/20	CKD. BDE
NO.	REVISIONS	DATE	SCALE: 1" = 30'
			DATE: 12/13/19
			APPD. RSY
			PLOT: 1:1
			DWG. NO. MP08 OF 16
			31803JMP



LEGEND

- IRON MONUMENT FOUND
- IRON MONUMENT SET
- UTILITY POLE
- GUY AND ANCHOR COMBINATION
- CENTERLINE OF EXISTING PROGRESS ENERGY OVERHEAD POWER LINE
- EXISTING OVERHEAD RESIDENTIAL ELECTRICAL SERVICE LINE
- CENTERLINE OF PROPOSED WAKE ELECTRIC OVERHEAD POWER LINE
- CENTERLINE OF PROPOSED UNDERGROUND POWER LINE
- PROPOSED PROPERTY LINE
- APPARENT PROPERTY LINE, FIELD RECOVERED
- APPARENT PROPERTY LINE FROM REFERENCES
- PROPOSED SUBSTATION FENCE
- RESIDENTIAL FENCE
- CENTERLINE OF ROADSIDE DITCH
- CENTERLINE OF NON-JURISDICTIONAL DRAINAGE CHANNEL WITH DIRECTION OF FLOW
- EDGE OF EXISTING EASEMENT/RIGHT-OF-WAY
- EDGE OF PROPOSED EASEMENT/RIGHT-OF-WAY
- EDGE OF EXISTING PAVEMENT
- TOWN OF KNIGHTDALE RURAL RESIDENTIAL (RR1) ZONING DISTRICT BUILDING SETBACK LINE
- EDGE OF WAKE COUNTY TREE/VEGETATION PROTECTION ZONE
- EXISTING WOODS LINE
- EDGE OF KNIGHTDALE PLANNING JURISDICTION
- EXISTING 5' INTERVAL CONTOURS
- EXISTING 1' INTERVAL CONTOURS
- KNIGHTDALE UDO TYPE 2 BUFFER
- TREE REMOVAL AREA
- TREE SAVE AREA

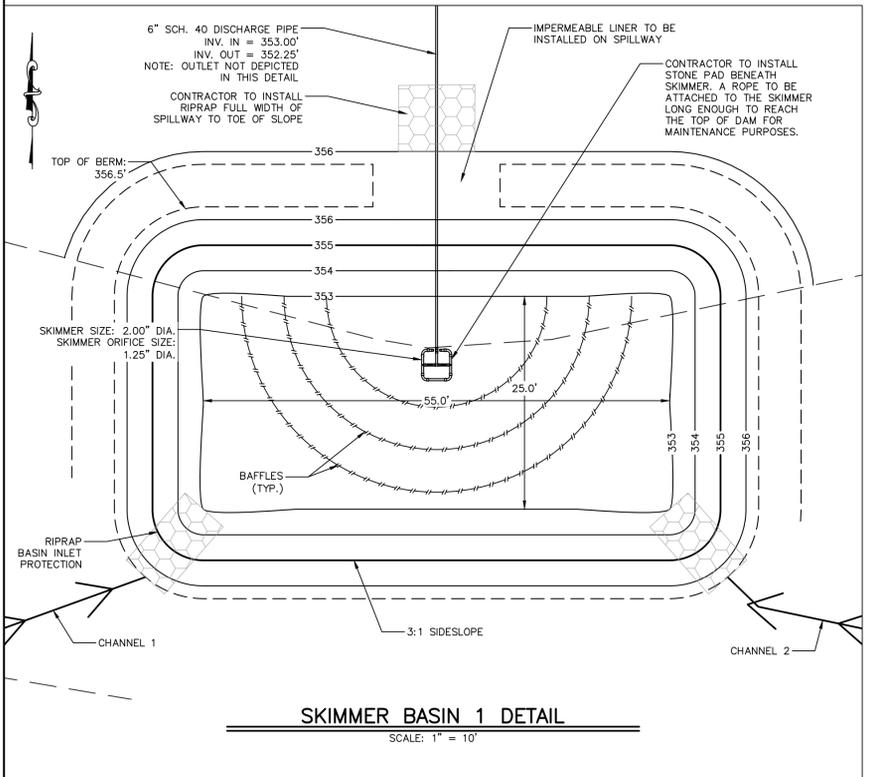
EROSION CONTROL MEASURES

- TREE PROTECTION FENCE
- LIMITS OF DISTURBANCE
- SILT FENCE
- DRAINAGE AREA
- SILT FENCE OUTLET
- TEMPORARY STONE CONSTRUCTION ENTRANCE (20'x100')
- OUTLET PROTECTION
- CULVERT INLET PROTECTION
- STRAW WATTLE
- PLUNGE POOL
- ROCK SEDIMENT DAM

DRAINAGE AREAS

- DRAINAGE AREA No. 1
- AREA (ACRES) 4.95

- ### NOTES
- SITE PLAN DESIGN WORK BY BOOTH & ASSOCIATES, LLC WITHIN THIS DRAWING CONSISTS OF THE PROPOSED SUBSTATION FENCE AND STRUCTURES WITHIN, THE PROPOSED SUBSTATION DRIVEWAY, THE PROPOSED 115 KV TRANSMISSION TAP WITH RIGHT-OF-WAY, AND THE PROPOSED PROPERTY LINES.
 - SITE DATA AND TOPOGRAPHY SHOWN DERIVED FROM A SURVEY CONDUCTED BY BOOTH & ASSOCIATES, LLC IN MAY 2018.
 - DISTANCES SHOWN ARE U.S. SURVEY FOOT GRID DISTANCES. (NC STATE PLANE, NAD 1983/2011)
 - PROPERTY OWNER/OWNER OF PROJECT:
DON BOWMAN - VICE PRESIDENT OF ENGINEERING & OPERATIONS
WAKE ELECTRIC MEMBERSHIP CORPORATION
228 PARK AVENUE - YOUNGSVILLE, NORTH CAROLINA 27596
TELEPHONE: 919-863-6487
 - ALL RELEVANT DETAILS ARE ON SHEETS MP13 THROUGH MP16.



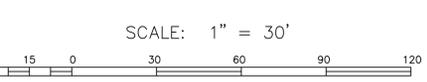
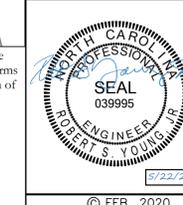
SKIMMER BASIN 1 CALCULATIONS TABLE		
BASIN INFORMATION	REQUIRED	PROVIDED AT SPILLWAY
SURFACE AREA (sf)	2133	3139
VOLUME (cf)	4682	6607
WEIR WIDTH (ft)	9	9
TOP BANK ELEV (ft)	-	356.5
BOTTOM ELEV (ft)	-	353.0
SKIMMER SIZE (ft)	-	2
ORIFICE SIZE (dia. - in)	-	1.25
DEWATERING TIME (days)	-	3.16

a. **Town Certification.** This design has been reviewed by the Engineer for the Town of Knightdale, and to the best of my knowledge and belief, it conforms to the requirements established in the Standard Specifications of the Town of Knightdale.

By: _____ Date: _____
Town Engineer

These plans are approved by the Town of Knightdale and serve as construction plans for this project.

By: _____ Date: _____
Administrator



WAKE ELECTRIC MEMBERSHIP CORPORATION WAKE FOREST, NORTH CAROLINA			
KNIGHTDALE SUBSTATION STORMWATER MANAGEMENT PLAN CONSTRUCTION SITE CONDITIONS			
Booth & Associates, LLC <small>3801 Chathamwood Avenue Raleigh, NC 27612 Telephone: 919-863-6487 Fax: 919-863-6488</small>			
1	KNIGHTDALE COMMENTS	05/22/20	DWN. LRH
0	ISSUED FOR PERMIT	02/26/20	CKD. BDE
NO.	REVISIONS	DATE	SCALE: 1" = 30'
			DATE: 12/13/19
			APPD. RSY
			PLOT: 1:1
			DWG. NO. MP09 OF 16
			31803MP

NOW OR FORMERLY
DARRIE STEVE HIGH
PIN 1765173550
DEED BOOK 3369, PAGE 334
LAND CLASS: VACANT
KNIGHTDALE ZONING: GR8

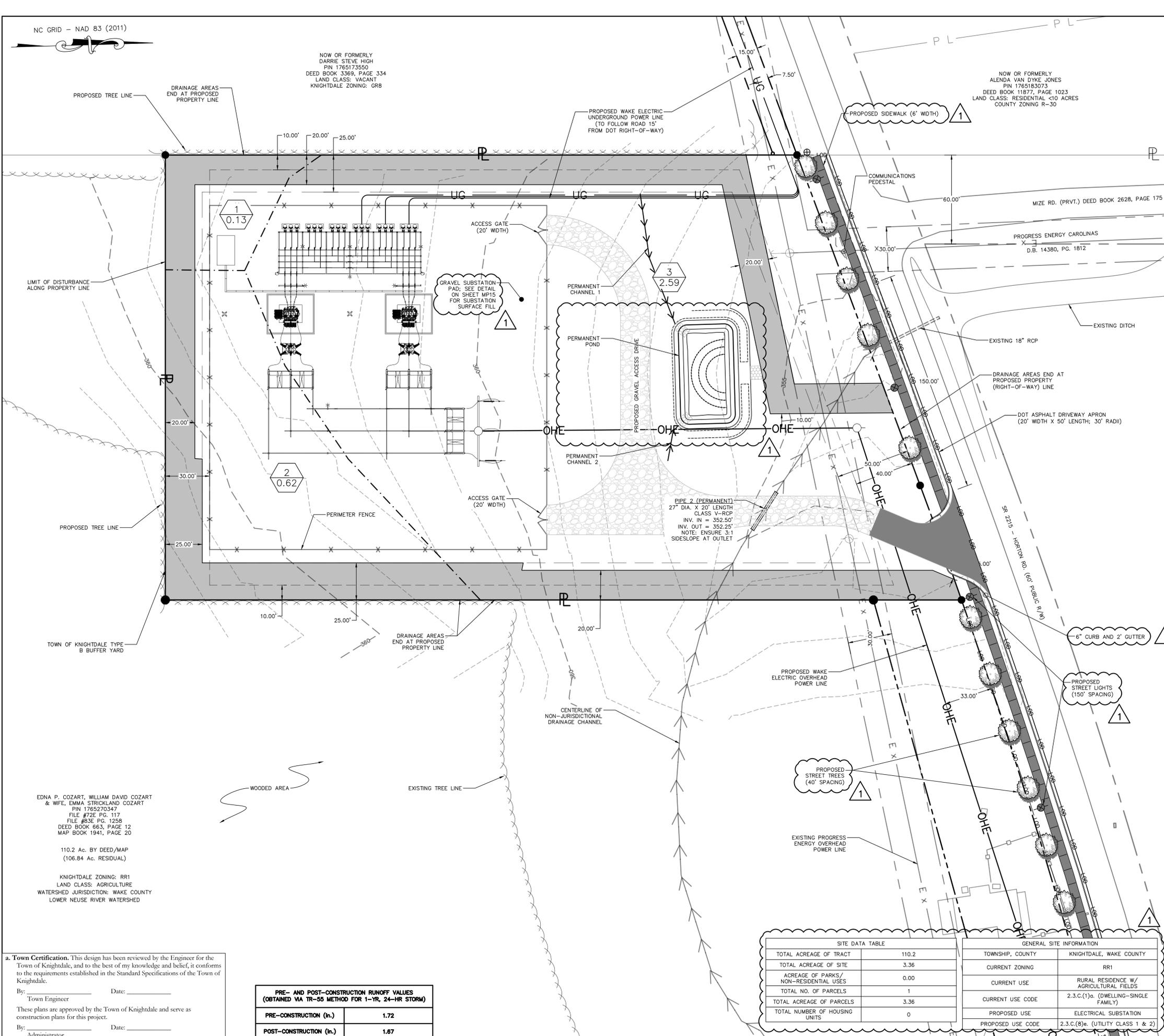
NOW OR FORMERLY
ALENDA VAN DYKE JONES
PIN 1765183073
DEED BOOK 11877, PAGE 1023
LAND CLASS: RESIDENTIAL-C10 ACRES
COUNTY ZONING R-30

LEGEND

- IRON MONUMENT FOUND
- IRON MONUMENT SET
- UTILITY POLE
- GUY AND ANCHOR COMBINATION
- CENTERLINE OF EXISTING PROGRESS ENERGY OVERHEAD POWER LINE
- EXISTING OVERHEAD RESIDENTIAL ELECTRICAL SERVICE LINE
- CENTERLINE OF PROPOSED WAKE ELECTRIC OVERHEAD POWER LINE
- CENTERLINE OF PROPOSED UNDERGROUND POWER LINE
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- EDGE OF KNIGHTDALE PLANNING JURISDICTION
- EXISTING 5' INTERVAL CONTOURS
- EXISTING 1' INTERVAL CONTOURS
- DRAINAGE AREA
- KNIGHTDALE UDO TYPE 2 BUFFER
- PROPOSED GRAVEL DRIVE
- PROPOSED ASPHALT DRIVEWAY APRON

NOTES

1. SITE PLAN DESIGN WORK BY BOOTH & ASSOCIATES, LLC WITHIN THIS DRAWING CONSISTS OF THE PROPOSED SUBSTATION FENCE AND STRUCTURES WITHIN, THE PROPOSED SUBSTATION DRIVEWAY, THE PROPOSED 115 kV TRANSMISSION TAP WITH RIGHT-OF-WAY, AND THE PROPOSED PROPERTY LINES.
2. SITE DATA AND TOPOGRAPHY SHOWN DERIVED FROM A SURVEY CONDUCTED BY BOOTH & ASSOCIATES, LLC IN MAY 2018.
3. DISTANCES SHOWN ARE U.S. SURVEY FOOT GRID DISTANCES. (NC STATE PLANE, NAD 1983/2011)
4. PROPERTY OWNER/OWNER OF PROJECT:
DON BOWMAN - VICE PRESIDENT OF ENGINEERING & OPERATIONS
WAKE ELECTRIC MEMBERSHIP CORPORATION
228 PARK AVENUE - YOUNGVILLE, NORTH CAROLINA 27596
TELEPHONE: 919-863-6487
5. ALL RELEVANT DETAILS ARE ON SHEETS MP13 THROUGH MP16.



EDNA P. COZART, WILLIAM DAVID COZART & WIFE, EMMA STRICKLAND COZART
PIN 1765270347
FILE #72E PG. 117
FILE #B3E PG. 125B
DEED BOOK 663, PAGE 12
MAP BOOK 1941, PAGE 20

110.2 Ac. BY DEED/MAP
(106.84 Ac. RESIDUAL)

KNIGHTDALE ZONING: RR1
LAND CLASS: AGRICULTURE
WATERSHED JURISDICTION: WAKE COUNTY
LOWER NEUSE RIVER WATERSHED

a. Town Certification. This design has been reviewed by the Engineer for the Town of Knightdale, and to the best of my knowledge and belief, it conforms to the requirements established in the Standard Specifications of the Town of Knightdale.

By: _____ Date: _____
Town Engineer

These plans are approved by the Town of Knightdale and serve as construction plans for this project.

By: _____ Date: _____
Administrator

PRE- AND POST-CONSTRUCTION RUNOFF VALUES (OBTAINED VIA TR-55 METHOD FOR 1-YR, 24-HR STORM)	
PRE-CONSTRUCTION (in.)	1.72
POST-CONSTRUCTION (in.)	1.87

SITE DATA TABLE		GENERAL SITE INFORMATION	
TOTAL ACREAGE OF TRACT	110.2	TOWNSHIP, COUNTY	KNIGHTDALE, WAKE COUNTY
TOTAL ACREAGE OF SITE	3.36	CURRENT ZONING	RR1
ACREAGE OF PARKS/ NON-RESIDENTIAL USES	0.00	CURRENT USE	RURAL RESIDENCE W/ AGRICULTURAL FIELDS
TOTAL NO. OF PARCELS	1	CURRENT USE CODE	2.3.C.(1)g. (DWELLING-SINGLE FAMILY)
TOTAL ACREAGE OF PARCELS	3.36	PROPOSED USE	ELECTRICAL SUBSTATION
TOTAL NUMBER OF HOUSING UNITS	0	PROPOSED USE CODE	2.3.C.(8)a. (UTILITY CLASS 1 & 2)

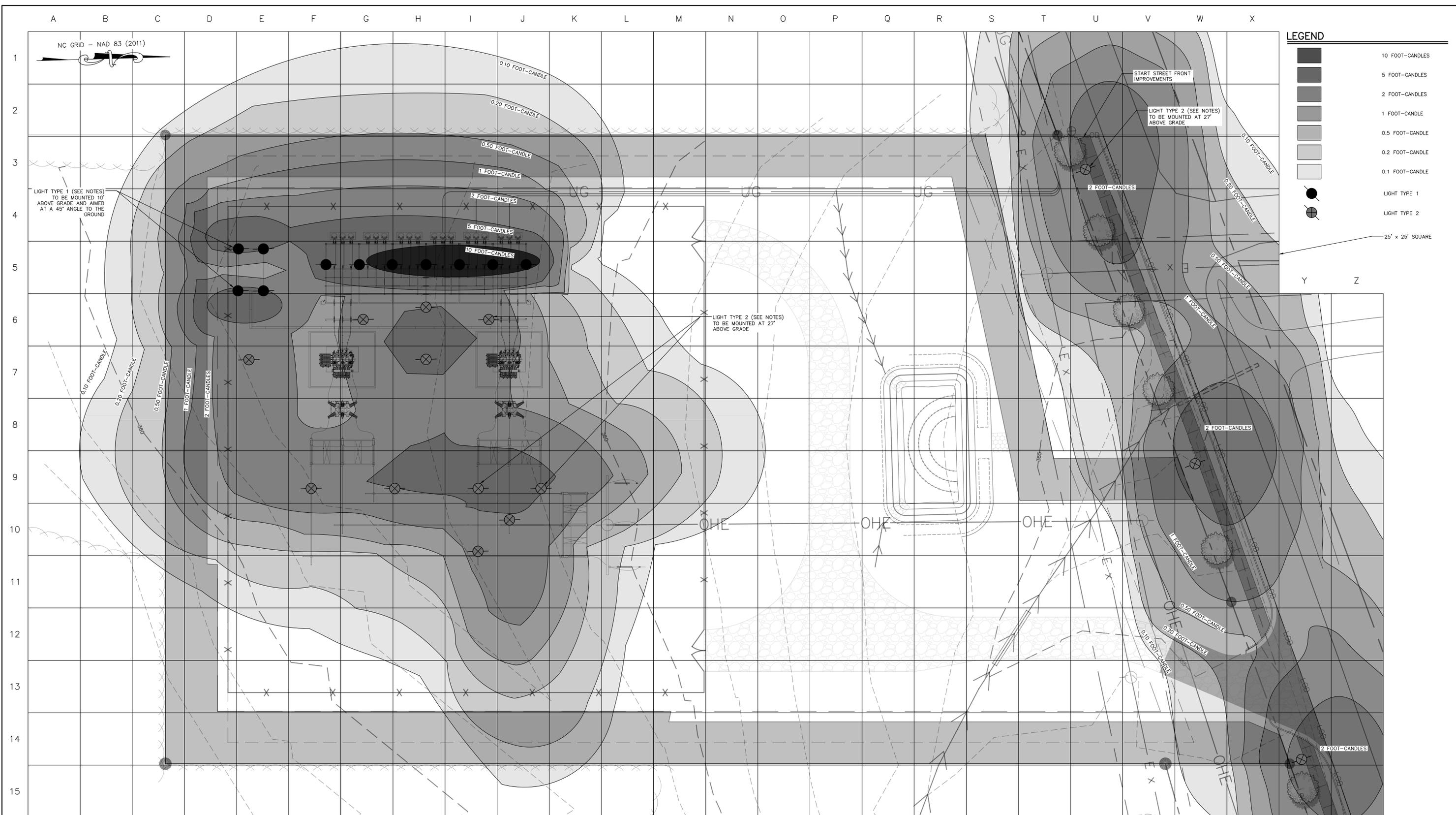
SEAL
039995
ENGINEER
ROBERT YOUNG, R.

WAKE ELECTRIC MEMBERSHIP CORPORATION
WAKE FOREST, NORTH CAROLINA

**KNIGHTDALE SUBSTATION
STORMWATER MANAGEMENT PLAN
FINAL SITE CONDITIONS**

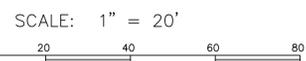
Booth & Associates, LLC
3801 Chathamwood Avenue, Raleigh, NC 27612

1	KNIGHTDALE COMMENTS	05/22/20	DWN. LRH	DATE: 12/13/19	DWG. NO.
0	ISSUED FOR PERMIT	02/26/20	CKD. BDE	APPD. RSY	MP10 OF 16
NO.	REVISIONS	DATE	SCALE: 1" = 30'	PLOT: 1:1	31803MP



LEGEND

[Dark Gray Box]	10 FOOT-CANDLES
[Medium-Dark Gray Box]	5 FOOT-CANDLES
[Medium Gray Box]	2 FOOT-CANDLES
[Light Gray Box]	1 FOOT-CANDLE
[Very Light Gray Box]	0.5 FOOT-CANDLE
[White Box]	0.2 FOOT-CANDLE
[White Box]	0.1 FOOT-CANDLE
[Circle with X]	LIGHT TYPE 1
[Circle with Dot]	LIGHT TYPE 2
[Square]	25' x 25' SQUARE



- NOTES**
1. THE DESIGNATION "LIGHT TYPE 1" REFERS TO A SOLID STATE LED FLOODLIGHT (SPEC ON SHEET MP16) WITH THE MODEL NUMBER UFLD-S-C70-E-U-66-KNC-AP-7030-TS2LW/NFLD-AP.
 2. THE DESIGNATION "LIGHT TYPE 2" REFERS TO A AN LED AREA/SITE/ROADWAY LUMINAIRE (SPEC ON SHEET MP16) WITH ONE OF THE TWO FOLLOWING MODEL NUMBERS:
 2.1. USSL-A01-D-U-T2-SA-AP-7030-0A/RA1014 (FOR THOSE IN THE SUBSTATION), OR
 2.2. USSL-H-A02-D-U-T2-SA-AP-7030-0A/RA1014 (FOR THOSE ON THE STREET).
 3. FOOT-CANDLE DIAGRAMS ARE FROM MANUFACTURER'S WEBSITE. SEE SHEET MP16 FOR MANUFACTURER SPECIFICATIONS.

SITE DATA TABLE		GENERAL SITE INFORMATION	
TOTAL ACREAGE OF TRACT	110.2	TOWNSHIP, COUNTY	KNIGHTDALE, WAKE COUNTY
TOTAL ACREAGE OF SITE	3.36	CURRENT ZONING	RR1
ACREAGE OF PARKS/ NON-RESIDENTIAL USES	0.00	CURRENT USE	RURAL RESIDENCE W/ AGRICULTURAL FIELDS
TOTAL NO. OF PARCELS	1	PROPOSED USE	ELECTRICAL SUBSTATION
TOTAL ACREAGE OF PARCELS	3.36	PROPOSED USE CODE	2.3.C.(1)a. (DWELLING-SINGLE FAMILY)
TOTAL NUMBER OF HOUSING UNITS	0	PROPOSED USE CODE	2.3.C.(8)e. (UTILITY CLASS 1 & 2)



MATCHLINE A-A
(SEE NEXT SHEET)

a. Town Certification. This design has been reviewed by the Engineer for the Town of Knightdale, and to the best of my knowledge and belief, it conforms to the requirements established in the Standard Specifications of the Town of Knightdale.

By: _____ Date: _____
Town Engineer

These plans are approved by the Town of Knightdale and serve as construction plans for this project.

By: _____ Date: _____
Administrator

FOOT-CANDLE LEVELS	
MAXIMUM	14.65
MINIMUM	0.00
AVERAGE	0.71
AVERAGE/MINIMUM	UNDEFINED

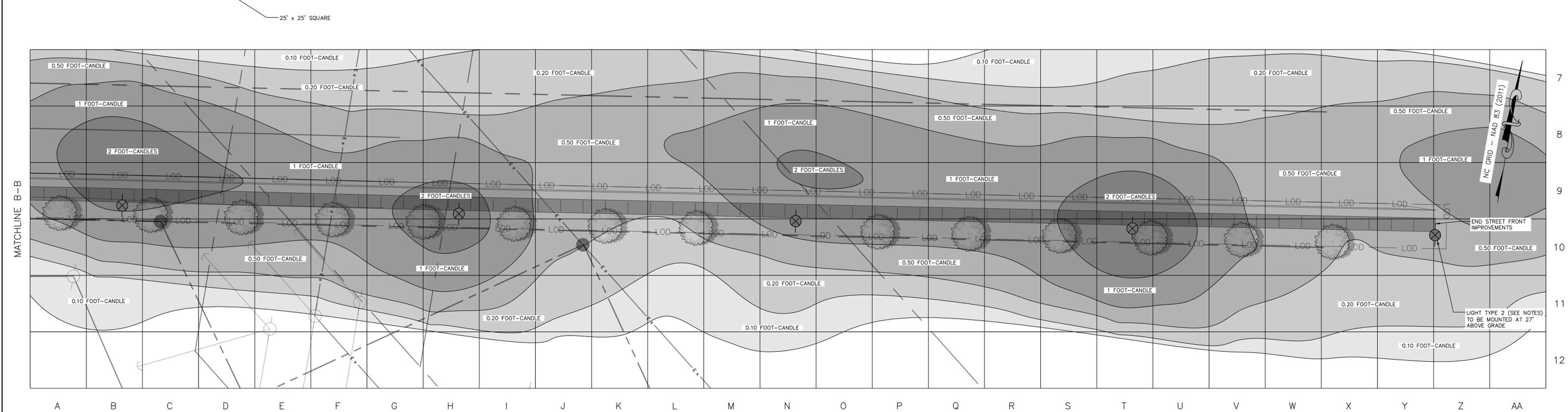
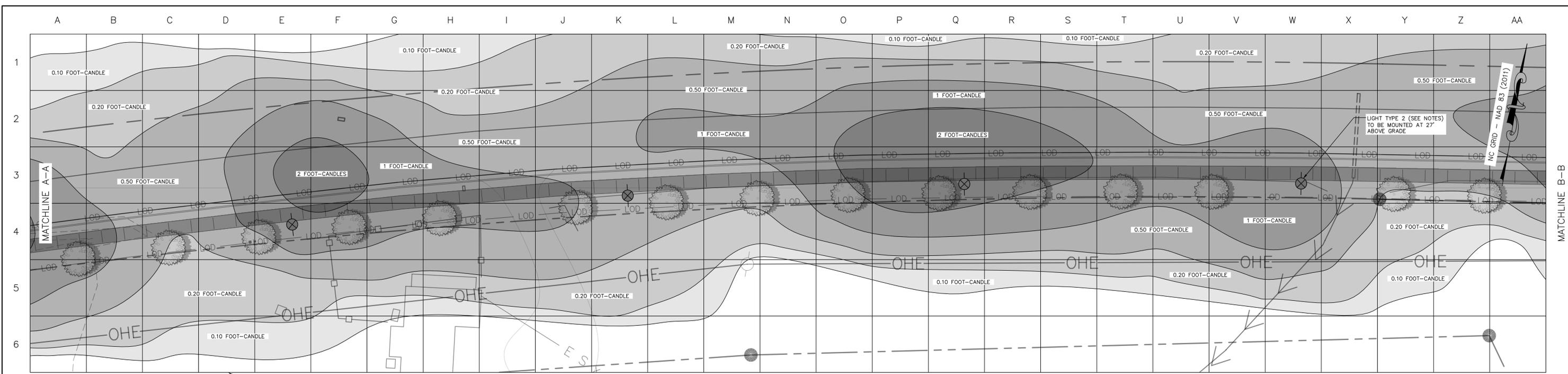
WAKE ELECTRIC MEMBERSHIP CORPORATION
WAKE FOREST, NORTH CAROLINA

KNIGHTDALE SUBSTATION
MASTER PLAN
LIGHTING PLAN - SUBSTATION

Booth & Associates, LLC
3801 Chenoweth Avenue, Raleigh, NC 27612

NO.	REVISIONS	DATE	DWN. LRH	DATE: 12/13/19	DWG. NO.
1	KNIGHTDALE COMMENTS	05/22/20	CKD. BDE	APPD. RSY	MP11 OF 16
0	ISSUED FOR PERMIT	02/26/20	SCALE: 1" = 20'	PLOT: 1:1	31803MP

© FEB. 2020



NOTES

1. THE DESIGNATION "LIGHT TYPE 1" REFERS TO A SOLID STATE LED FLOODLIGHT (SPEC ON SHEET MP16) WITH THE MODEL NUMBER UFLD-S-C70-E-U-66-KNC-AP-7030-TS2LW/NFFLD-AP.
2. THE DESIGNATION "LIGHT TYPE 2" REFERS TO AN LED AREA/SITE/ROADWAY LUMINAIRE (SPEC ON SHEET MP16) WITH ONE OF THE TWO FOLLOWING MODEL NUMBERS:
 - 2.1. USSL-A01-D-U-T2-SA-AP-7030-OA/RA1014 (FOR THOSE IN THE SUBSTATION), OR
 - 2.2. USSL-H-A02-D-U-T2-SA-AP-7030-OA/RA1014 (FOR THOSE ON THE STREET).
3. FOOT-CANDLE DIAGRAMS ARE FROM MANUFACTURER'S WEBSITE. SEE SHEET MP16 FOR MANUFACTURER SPECIFICATIONS.

LEGEND

- 10 FOOT-CANDLES
- 5 FOOT-CANDLES
- 2 FOOT-CANDLES
- 1 FOOT-CANDLE
- 0.5 FOOT-CANDLE
- 0.2 FOOT-CANDLE
- 0.1 FOOT-CANDLE
- LIGHT TYPE 1
- LIGHT TYPE 2

a. Town Certification. This design has been reviewed by the Engineer for the Town of Knightdale, and to the best of my knowledge and belief, it conforms to the requirements established in the Standard Specifications of the Town of Knightdale.

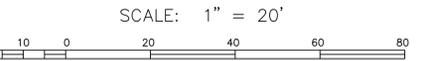
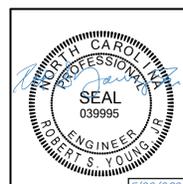
By: _____ Date: _____
Town Engineer

These plans are approved by the Town of Knightdale and serve as construction plans for this project.

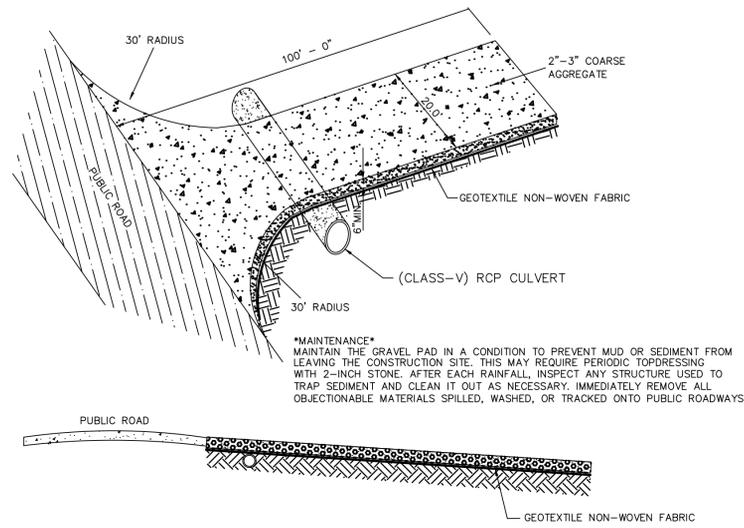
By: _____ Date: _____
Administrator

FOOT-CANDLE LEVELS	
MAXIMUM	14.65
MINIMUM	0.00
AVERAGE	0.71
AVERAGE/MINIMUM	UNDEFINED

SITE DATA TABLE		GENERAL SITE INFORMATION	
TOTAL ACREAGE OF TRACT	110.2	TOWNSHIP, COUNTY	KNIGHTDALE, WAKE COUNTY
TOTAL ACREAGE OF SITE	3.36	CURRENT ZONING	RR1
ACREAGE OF PARKS/ NON-RESIDENTIAL USES	0.00	CURRENT USE	RURAL RESIDENCE W/ AGRICULTURAL FIELDS
TOTAL NO. OF PARCELS	1	CURRENT USE CODE	2.3.C.(1)a. (DWELLING-SINGLE FAMILY)
TOTAL ACREAGE OF PARCELS	3.36	PROPOSED USE	ELECTRICAL SUBSTATION
TOTAL NUMBER OF HOUSING UNITS	0	PROPOSED USE CODE	2.3.C.(8)e. (UTILITY CLASS 1 & 2)

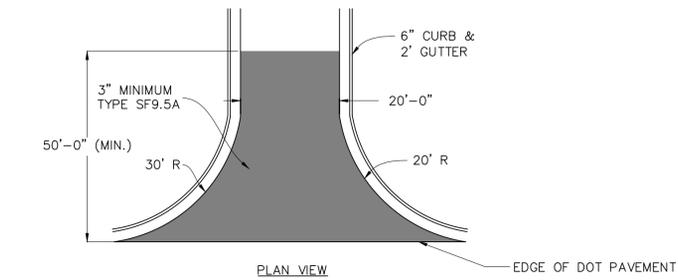


WAKE ELECTRIC MEMBERSHIP CORPORATION WAKE FOREST, NORTH CAROLINA			
KNIGHTDALE SUBSTATION MASTER PLAN LIGHTING PLAN - STREET FRONT			
Booth & Associates, LLC <small>3801 Chathamwood Avenue, Raleigh, NC 27612</small>			
1	KNIGHTDALE COMMENTS	05/22/20	DWN. LRH
0	ISSUED FOR PERMIT	02/26/20	CKD. BDE
NO.	REVISIONS	DATE	SCALE: 1" = 20'
			DATE: 12/13/19
			APPD. RSY
			PLOT: 1:1
			DWG. NO. MP12 OF 16
			31803MP



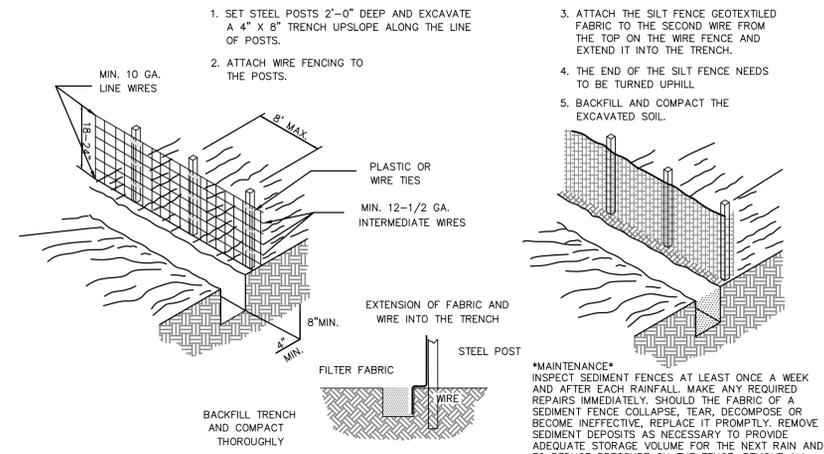
TEMPORARY CONSTRUCTION ENTRANCE DETAIL
SCALE: N.T.S.

MAINTENANCE
MAINTAIN THE GRAVEL PAD IN A CONDITION TO PREVENT MUD OR SEDIMENT FROM LEAVING THE CONSTRUCTION SITE. THIS MAY REQUIRE PERIODIC TOPDRESSING WITH 2-INCH STONE. AFTER EACH RAINFALL, INSPECT ANY STRUCTURE USED TO TRAP SEDIMENT AND CLEAN IT OUT AS NECESSARY. IMMEDIATELY REMOVE ALL OBJECTIONABLE MATERIALS SPILLED, WASHED, OR TRACKED ONTO PUBLIC ROADWAYS.



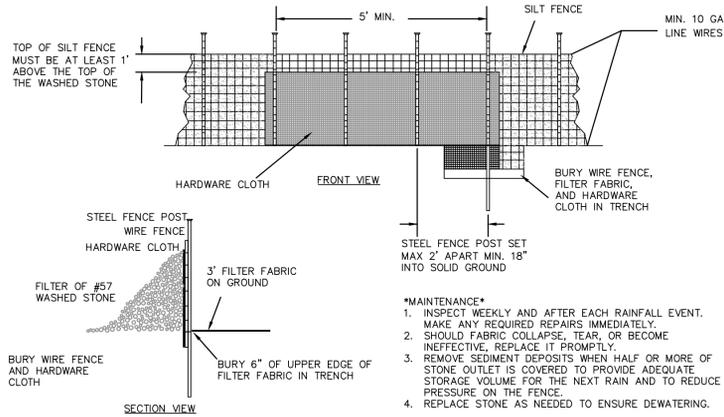
POST CONSTRUCTION DRIVEWAY DETAIL
SCALE: N.T.S.

MAINTENANCE
IF PAVED ENTRANCE WIDTH IS LESS THAN THE CONSTRUCTION ENTRANCE, EXCESS STONE AND PIPE IS TO BE REMOVED PER INSTRUCTION FROM NCDOT.



CONSTRUCTION OF A SILT FENCE
SCALE: N.T.S.

MAINTENANCE
INSPECT SEDIMENT FENCES AT LEAST ONCE A WEEK AND AFTER EACH RAINFALL. MAKE ANY REQUIRED REPAIRS IMMEDIATELY. SHOULD THE FABRIC OF A SEDIMENT FENCE COLLAPSE, TEAR, BECOME INEFFECTIVE, REPLACE IT PROMPTLY. REMOVE SEDIMENT DEPOSITS AS NECESSARY TO PROVIDE ADEQUATE STORAGE VOLUME FOR THE NEXT RAIN AND TO REDUCE PRESSURE ON THE FENCE. REMOVE ALL FENCING MATERIALS AND UNSTABLE SEDIMENT DEPOSITS AND BRING THE AREA TO GRADE AND STABILIZE IT AFTER THE CONTRIBUTING DRAINAGE AREA HAS BEEN PROPERLY STABILIZED.

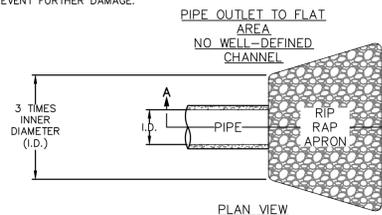


SILT FENCE OUTLET
SCALE: N.T.S.

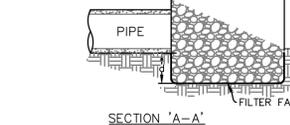
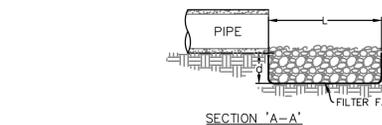
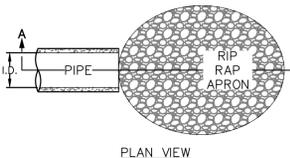
MAINTENANCE
1. INSPECT WEEKLY AND AFTER EACH RAINFALL EVENT. MAKE ANY REQUIRED REPAIRS IMMEDIATELY.
2. SHOULD FABRIC COLLAPSE, TEAR, OR BECOME INEFFECTIVE, REPLACE IT PROMPTLY.
3. REMOVE SEDIMENT DEPOSITS WHEN HALF OR MORE OF STONE OUTLET IS COVERED TO PROVIDE ADEQUATE STORAGE VOLUME FOR THE NEXT RAIN AND TO REDUCE PRESSURE ON THE FENCE.
4. REPLACE STONE AS NEEDED TO ENSURE DEWATERING.

PIPE OUTLET PROTECTION MAINTENANCE:

INSPECT RIPRAP STRUCTURES AFTER HEAVY RAINS TO SEE IF ANY EROSION AROUND OR BELOW THE RIPRAP HAS TAKEN PLACE OR IF STONES HAVE BEEN DISLOADED. IMMEDIATELY MAKE ALL NEEDED REPAIRS TO PREVENT FURTHER DAMAGE.



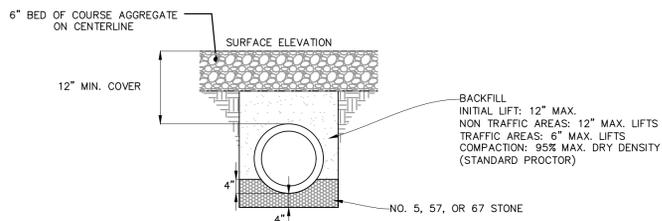
PIPE OUTLET TO WELL-DEFINED CHANNEL



NOTES:

- L = THE LENGTH OF THE RIPRAP APRON
- d = 1.5 TIMES THE MAXIMUM STONE DIAMETER BUT NOT LESS THAN 6 INCHES
- A FILTER BLANKET OR FILTER FABRIC SHOULD BE INSTALLED BETWEEN THE RIP RAP AND SOIL FOUNDATION.
- IN A WELL-DEFINED CHANNEL EXTEND THE APRON UP THE CHANNEL BANKS TO 6 INCHES ABOVE THE MAXIMUM TAILWATER DEPTH OR THE TOP OF THE BANK, WHICHEVER IS LESS.

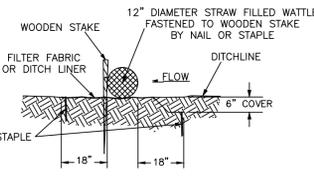
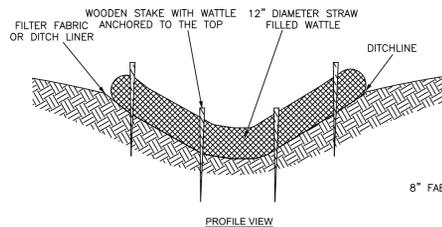
PIPE OUTLET PROTECTION (RIP-RAP)
SCALE: N.T.S.



NOTES:

- EXCAVATE TO 4 INCHES BELOW THE PROPOSED PIPE ELEVATION.
- PROVIDE 4 INCHES STONE BEDDING AND 4 INCHES STONE BACKFILL.
- WHERE BELL AND SPIGOT PIPE IS USED, PROVIDE RECESSES TO RECEIVE PIPE BELL.
- UNDERCUT UNSUITABLE MATERIAL AS DIRECTED BY THE ENGINEER AND BACKFILL WITH STONE OR OTHER APPROVED MATERIAL.
- WHERE NECESSARY, TEMPORARILY DIVERT SURFACE WATER TO MAINTAIN A DRY CONDITION IN THE PIPE FOUNDATION. DIRECT THIS TEMPORARY FLOW INTO SUITABLE EROSION CONTROL DEVICES.

CULVERT CROSSING FILL AND COVER SPECIFICATION
SCALE: N.T.S.

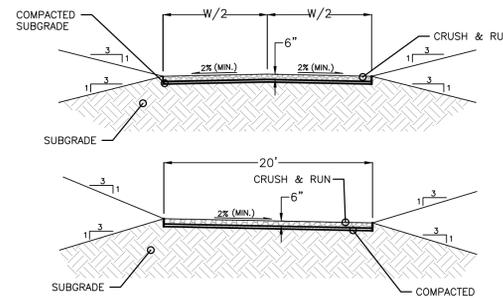


NOTES:

- WATTLES SHALL BE FILLED WITH STRAW OR OTHER APPROVED MATERIAL.
- SPACING FOR WATTLES SHALL BE DETERMINED BY THE SITE ENGINEER.
- WATTLES MAY BE USED FOR PROTECTION OF CATCH BASINS AND DROP INLETS WITH APPROVAL BY THE STORMWATER PROGRAM MANAGER OR DESIGNEE.

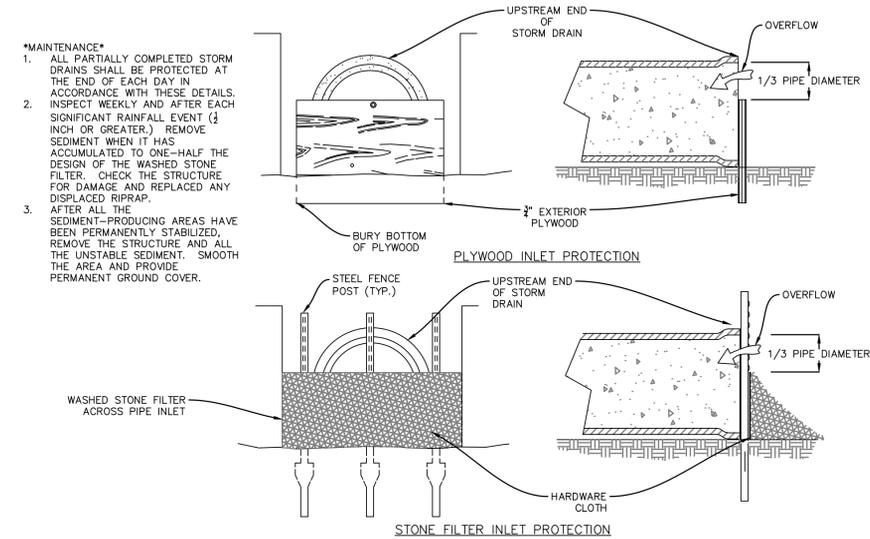
MAINTENANCE
INSPECT WEEKLY OR AFTER EACH SIGNIFICANT RAINFALL EVENT (1/2" OR GREATER). REMOVE ACCUMULATED SEDIMENT AND ANY DEBRIS. THE WATTLE MUST BE REPLACED IF CLOGGED OR TORN. IF PONDING BECOMES EXCESSIVE, THE WATTLE MAY NEED TO BE REPLACED WITH A LARGER DIAMETER OR A DIFFERENT MEASURE. THE WATTLE NEEDS TO BE REINSTALLED IS UNDERMINED OR DISLOADED. THE WATTLE WILL BE INSPECTED UNTIL LAND DISTURBANCE IS COMPLETE AND THE AREA ABOVE THE MEASURE HAS BEEN PERMANENTLY STABILIZED.

STRAW WATTLE DETAIL
SCALE: N.T.S.

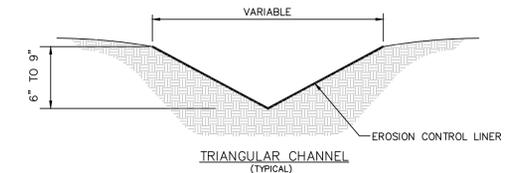


MAINTENANCE
INSPECT CONSTRUCTION ROADS AND PARKING AREAS PERIODICALLY FOR CONDITION OF SURFACE. TOPDRESS WITH NEW GRAVEL AS NEEDED. CHECK ROAD DITCHES AND OTHER SEEDED AREAS FOR EROSION AND SEDIMENTATION AFTER RUNOFF-PRODUCING RAINS. MAINTAIN A VEGETATION IN A HEALTHY, VIGOROUS CONDITION. SEDIMENT-PRODUCING AREAS SHOULD BE TREATED IMMEDIATELY.

20' WIDE GRAVEL ACCESS DRIVE DETAIL
SCALE: N.T.S.



PIPE INLET PROTECTION (PLYWOOD & STONE)
SCALE: N.T.S.



CHANNEL CROSS SECTION
SCALE: N.T.S.

MAINTENANCE
1. DURING THE ESTABLISHMENT PERIOD, CHECK CHANNEL AFTER EVERY RAINFALL. AFTER ESTABLISHMENT, CHECK CHANNEL AFTER EVERY SIGNIFICANT RAINFALL EVENT (1/2" OR GREATER). IMMEDIATELY MAKE REPAIRS.
2. CHECK THE CHANNEL OUTLET AND ALL ROAD CROSSINGS FOR BANK STABILITY AND EVIDENCE OF PIPING OR SCOUR HOLES.
3. REMOVE ALL SIGNIFICANT SEDIMENT ACCUMULATIONS TO MAINTAIN THE DESIGNED CARRYING CAPACITY.
4. SHOULD EROSION CONTROL LINER TEAR OR BECOME INEFFECTIVE, REPLACE IT PROMPTLY.

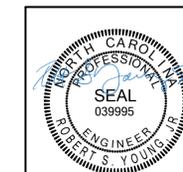
DESIGN OF CHANNELS						
CHANNEL #	MAX DEPTH (IN)	SIDE SLOPE (FT/FT)	BOTTOM WIDTH (FT)	LINER MATERIAL	ALLOWABLE SHEAR STRESS (LB/FT ²)	SHEAR STRESS (LB/FT ²)
1	9	3:1	0	6" ROCK RIPRAP	2.00	0.75
2	6	3:1	0	6" ROCK RIPRAP	2.00	0.44

a. Town Certification. This design has been reviewed by the Engineer for the Town of Knightdale, and to the best of my knowledge and belief, it conforms to the requirements established in the Standard Specifications of the Town of Knightdale.

By: _____ Date: _____
Town Engineer

These plans are approved by the Town of Knightdale and serve as construction plans for this project.

By: _____ Date: _____
Administrator



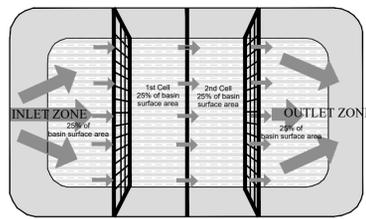
WAKE ELECTRIC MEMBERSHIP CORPORATION
WAKE FOREST, NORTH CAROLINA

KNIGHTDALE SUBSTATION MASTER PLAN DETAILS

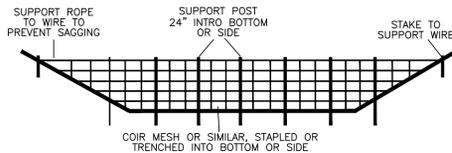
Booth & Associates, LLC
3801 Chathamwood Avenue, Raleigh, NC 27612

1	KNIGHTDALE COMMENTS	05/22/20	DWN.LRH	DATE: 12/13/19	DWG. NO.
0	ISSUED FOR PERMIT	02/26/20	CKD.BDE	APPD. RSY	MP13 OF 16
	NO. REVISIONS	DATE	SCALE: AS SHOWN	PLOT: 1:1	31803MP

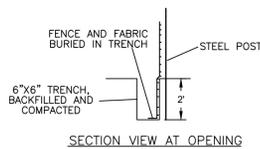
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PLAN VIEW



CROSS SECTION



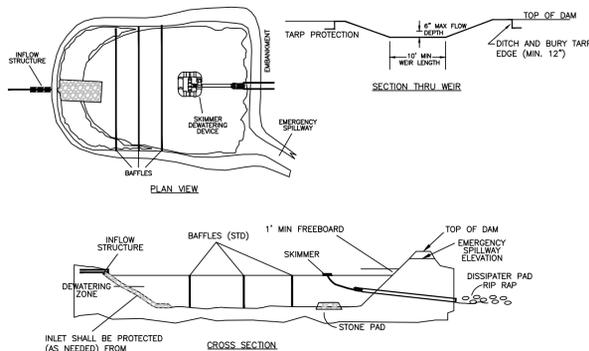
SECTION VIEW AT OPENING

NOTES:

1. BAFFLE MATERIAL SHOULD BE SECURED AT THE BOTTOM AND SIDES USING STAPLES OR BY TRENCING AS FOR SILT FENCE.
2. MOST OF THE SEDIMENT WILL ACCUMULATE IN THE 1ST BAY, WHICH SHOULD BE READILY ACCESSIBLE FOR MAINTENANCE.
3. PROVIDE 3 BAFFLES (USE TWO IF LESS THAN 20 FEET IN LENGTH), PROVIDE 5 BAFFLES FOR DRAINAGE AREAS GREATER THAN 10 ACRES.
4. BAFFLE SHALL BE 700 G/M² COIR EROSION BLANKET.
5. TOPS OF BAFFLES SHOULD BE 2 INCHES LOWER THAN THE TOP OF THE BERMS.
6. INSPECT BAFFLES FOR REPAIR ONCE A WEEK AND AFTER EACH RAINFALL.

SKIMMER BASIN

SCALE: N.T.S.



PLAN VIEW

CROSS SECTION

BASIN MAINTENANCE

1. BASIN SHOULD BE CLEANED OUT WHEN CAPACITY REACHES AN ELEVATION REPRESENTING THAT THE BASIN IS HALF-FULL.
2. THE SPILLWAY/WEIR SHALL BE LINED WITH AN IMPERMEABLE LINER/TARP TO PROTECT IT. THE WEIR SHALL BE THE WIDTH SPECIFIED. THE LENGTH OF THE TARP SHALL BE ACCORDING TO AVAILABLE SUPPLY. IF MULTIPLE TARPS ARE TO BE USED, THEN TARPS SHALL BE OVERLAPPED AT LEAST 12". THE UPSTREAM 12" TARP SHALL OVERLAP THE DOWNSTREAM TARP. THE TARP SHALL BE 50 MIL. HEAVY DUTY SILVER TARPAULIN OR EQUIVALENT FOR U.V. RESISTANCE.
3. PROVIDE A MINIMUM OF THREE POROUS BAFFLES TO EVENLY DISTRIBUTE FLOW ACROSS THE BASIN, REDUCING TURBULENCE.
4. BAFFLE MATERIAL MUST BE SECURED AT THE BOTTOM AND SIDES USING STAPLES OR BY TRENCING AS FOR A SILT FENCE.
5. MOST OF THE SEDIMENT WILL ACCUMULATE IN THE FIRST BAY, SO THIS SHOULD BE READILY AVAILABLE FOR MAINTENANCE.
6. DURING THE CONSTRUCTION PHASE OF THE PROJECT, PERMANENT STORMWATER RISER SHALL ONLY DEWATER FROM THE TOP OF PIPE.
7. A STONE PAD CONSTRUCTED OF RAILROAD BALLAST SHALL BE CONSTRUCTED BENEATH THE SKIMMER TO PREVENT IT FROM GETTING STUCK IN MUD AND A ROPE SHALL BE ATTACHED TO THE SKIMMER AND POSITIONED ON DRY LAND FOR MAINTENANCE ACCESS.

DAM EMBANKMENT CONSTRUCTION STANDARDS:

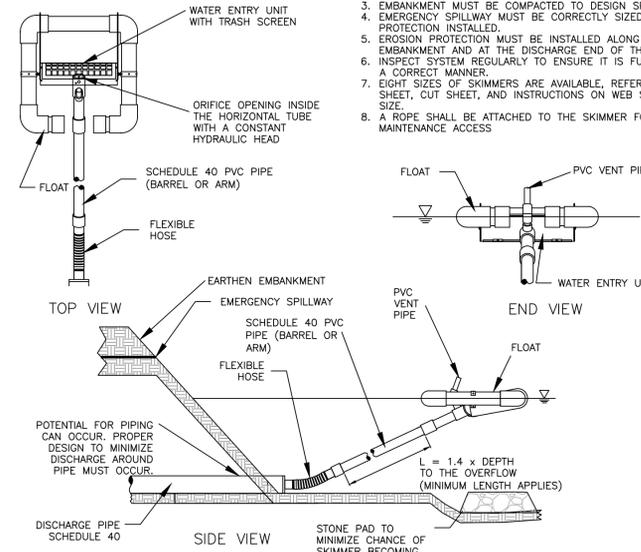
1. CONTROLLED FILL, AS SPECIFIED BY THE GEOTECHNICAL ENGINEER, IN THE DAM EMBANKMENT SHALL BE PLACED IN 6-INCH LOOSE LAYERS (3-INCH LOOSE LAYERS WITHIN 3- FEET OF EITHER SIDE OF THE PRINCIPAL SPILLWAY PIPE TO A DEPTH OF 2- FEET OVER THE PIPE) AND SHALL BE COMPACTED TO A DENSITY OF NO LESS THAN 95% OF THE STANDARD PROCTOR MAXIMUM DENSITY AT A MOISTURE CONTENT OF + OR - TWO PERCENTAGE POINTS OF THE OPTIMUM MOISTURE CONTENT IN ACCORDANCE WITH ASTM D698.
2. ALL VISIBLE ORGANIC DEBRIS SUCH AS ROOTS AND LIMBS SHALL BE REMOVED FROM THE FILL MATERIAL PRIOR TO COMPACTION TO THE REQUIRED DENSITY. SOILS WITH ORGANIC MATTER CONTENT EXCEEDING 5% BY WEIGHT SHALL NOT BE USED. STONES GREATER THAN 3-INCH (IN ANY DIRECTION) SHALL BE REMOVED FROM THE FILL PRIOR TO COMPACTION.
3. FILL MATERIAL PLACED AT DENSITIES LOWER THAN SPECIFIED MINIMUM DENSITIES OR AT MOISTURE CONTENTS OUTSIDE THE SPECIFIED RANGES OR OTHERWISE NOT CONFORMING TO SPECIFIED REQUIREMENTS SHALL BE REMOVED AND REPLACED WITH ACCEPTABLE MATERIALS.
4. ANY FILL LAYER THAT IS SMOOTH DRUM ROLLED TO REDUCE MOISTURE PENETRATION DURING A STORM EVENT SHALL BE PROPERLY SCARIFIED PRIOR TO THE PLACEMENT OF THE NEXT SOIL LIFT.
5. SURFACE WATER AND STREAM FLOW SHALL BE CONTINUOUSLY CONTROLLED THROUGHOUT CONSTRUCTION AND THE PLACEMENT OF CONTROLLED FILL.
6. FOUNDATION AREAS MAY REQUIRE UNDERCUTTING OF COMPRESSIBLE AND/OR UNSUITABLE SOILS IN ADDITION TO THAT INDICATED ON THE PLANS. ALL SUCH UNDERCUTTING SHALL BE PERFORMED AT THE DISCRETION OF THE GEOTECHNICAL ENGINEER AND SHALL BE MONITORED AND DOCUMENTED. IN NO CASE SHALL THERE BE AN ATTEMPT TO STABILIZE ANY PORTIONS OF THE FOUNDATION SOILS WITH CRUSHED STONE.
7. TREATMENT OF SEEPAGE AREAS, SUBGRADE PREPARATION, FOUNDATION DEWATERING AND ROCK FOUNDATION PREPARATION (I.E., TREATMENT WITH SLUSH GROUTING, DENTAL CONCRETE, ETC.) MAY BE REQUIRED AT THE DISCRETION OF THE GEOTECHNICAL ENGINEER. ALL SUCH ACTIVITIES SHALL BE CLOSELY MONITORED AND DOCUMENTED BY THE GEOTECHNICAL ENGINEER.
8. FILL ADJACENT TO THE RISER AND PRINCIPAL SPILLWAY PIPE SHALL BE PLACED SO THAT LIFTS ARE AT THE SAME LEVEL ON BOTH SIDES OF THE STRUCTURES.
9. EARTHWORK COMPACTION WITHIN 3- FEET OF ANY STRUCTURES SHALL BE ACCOMPLISHED BY MEANS OF HAND TAMPERS, MANUALLY DIRECTED POWER TAMPERS OR PLATE COMPACTORS OR MINIATURE SELF-PROPELLED ROLLERS.
10. COMPACTON BY MEANS OF DROP WEIGHTS FROM A CRANE OR HOIST SHALL NOT BE PERMITTED.
11. HEAVY EQUIPMENT SHALL NOT BE ALLOWED TO PASS OVER CAST-IN-PLACE STRUCTURES (INCLUDING THE CRADLE) UNTIL ADEQUATE CURING TIME HAS ELAPSED.

BAFFLE MAINTENANCE

1. INSPECT BAFFLES AT LEAST ONCE A WEEK AND AFTER EACH RAINFALL. MAKE ANY REQUIRED REPAIRS IMMEDIATELY. BE SURE TO MAINTAIN ACCESS TO THE BAFFLES. SHOULD THE FABRIC OF A BAFFLE COLLAPSE, TEAR, DECOMPOSE, OR BECOME INEFFECTIVE, REPLACE IT PROMPTLY. REMOVE SEDIMENT DEPOSITS WHEN IT REACHES HALF FULL, TO PROVIDE ADEQUATE STORAGE VOLUME FOR THE NEXT RAIN AND TO REDUCE PRESSURE ON THE BAFFLES. TAKE CARE TO AVOID DAMAGING THE BAFFLES DURING CLEANOUT, AND REPLACE IF DAMAGED DURING CLEANOUT OPERATIONS. SEDIMENT DEPTH SHOULD NEVER EXCEED HALF THE DESIGNED STORAGE DEPTH. AFTER THE CONTRIBUTING DRAINAGE AREA HAS BEEN PROPERLY STABILIZED, REMOVE ALL BAFFLE MATERIALS AND UNSTABLE SEDIMENT DEPOSITS, BRING THE AREA TO GRADE, AND STABILIZE IT.

SKIMMER MAINTENANCE

1. INSPECT SKIMMER AT LEAST ONCE A WEEK AND AFTER EACH SIGNIFICANT (1" OR GREATER) RAINFALL EVENT AND REPAIR IMMEDIATELY. PULL THE SKIMMER TO ONE SIDE SO THAT THE SEDIMENT UNDERNEATH IT CAN BE EXCAVATED. MAKE SURE VEGETATION GROWING IN THE BOTTOM OF THE BASIN DOES NOT HOLD DOWN THE SKIMMER. IF THE SKIMMER IS CLOGGED WITH TRASH AND THERE IS WATER IN THE BASIN, USUALLY JERKING ON THE ROPE WILL MAKE THE SKIMMER BOB UP AND DOWN AND DISLODGE THE DEBRIS AND RESTORE FLOW. IF THIS DOES NOT WORK, PULL THE SKIMMER OVER TO THE SIDE OF THE BASIN AND REMOVE THE DEBRIS. ALSO CHECK THE ORIFICE INSIDE THE SKIMMER TO SEE IF IT IS CLOGGED; IF SO REMOVE THE DEBRIS. IF THE SKIMMER ARM OR BARREL PIPE IS CLOGGED, THE ORIFICE CAN BE REMOVED AND THE OBSTRUCTION CLEARED WITH A PLUMBER'S SNAKE OR BY FLUSHING WITH WATER. BE SURE AND REPLACE THE ORIFICE BEFORE REPOSITIONING THE SKIMMER. FREEZING WEATHER CAN RESULT IN ICE FORMING IN THE BASIN. SOME SPECIAL PRECAUTIONS SHOULD BE TAKEN IN THE WINTER TO PREVENT THE SKIMMER FROM PLUGGING WITH ICE.



TOP VIEW

END VIEW

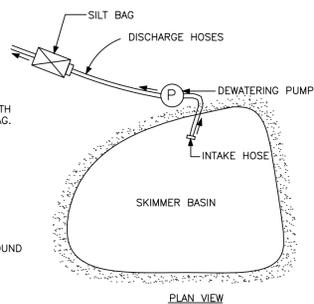
SIDE VIEW

SKIMMER

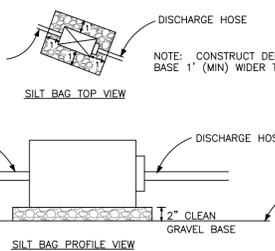
SCALE: N.T.S.

GENERAL NOTES:

1. PROPER DESIGN MUST BE COMPLETED TO MINIMIZE PIPING AROUND DISCHARGE PIPE.
2. PROPER ORIFICE OPENING MUST BE SELECTED TO ENSURE POND DRAINS IN CORRECT AMOUNT OF TIME. MODIFICATIONS MAY BE REQUIRED IF FIELD CONDITIONS WARRANT A CHANGE.
3. EMBANKMENT MUST BE COMPACTED TO DESIGN SPECIFICATIONS.
4. EMERGENCY SPILLWAY MUST BE CORRECTLY SIZED AND EROSION PROTECTION INSTALLED.
5. EROSION PROTECTION MUST BE INSTALLED ALONG THE EMBANKMENT AND AT THE DISCHARGE END OF THE PIPE.
6. INSPECT SYSTEM REGULARLY TO ENSURE IT IS FUNCTIONING IN A CORRECT MANNER.
7. EIGHT SIZES OF SKIMMERS ARE AVAILABLE. REFER TO THE FLOW SHEET, CUT SHEET, AND INSTRUCTIONS ON WEB SITE FOR EACH SIZE.
8. A ROPE SHALL BE ATTACHED TO THE SKIMMER FOR MAINTENANCE ACCESS.



PLAN VIEW



SILT BAG TOP VIEW

SILT BAG PROFILE VIEW

NOTE: CONSTRUCT DEPRESSION WITH BASE 1" (MIN) WIDER THAN SILT BAG.

NOTE: ESTIMATED MINIMUM PUMP SIZE NEEDED FOR BASE FLOW IS 2" PUMP. CONTRACTOR IS RESPONSIBLE FOR SIZING PUMP AND MAINTAINING WORK 'IN THE DRY'.

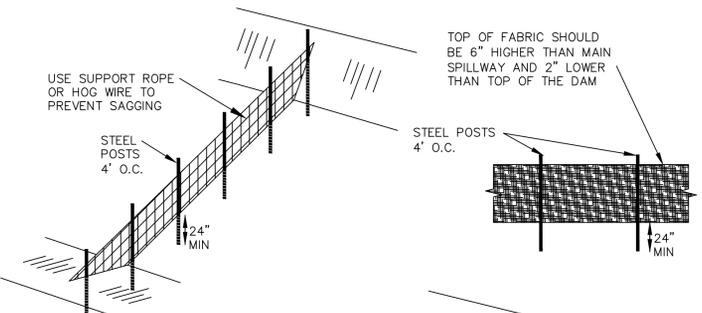
SILT BAG SPECIFICATIONS

1. TIGHTLY SEAL SLEEVE AROUND THE PUMP DISCHARGE HOSE WITH A STRAP OR SIMILAR DEVICE.
2. PLACE FILTER BAG ON BASE OF CLEAN GRAVEL 2" THICK, LOCATED ON A LEVEL OR 5% MAXIMUM SLOPING SURFACE. DISCHARGE TO A STABILIZED AREA. EXTEND BASE A MINIMUM OF 16 INCHES FROM EDGES OF BAG.
3. CONTROL PUMPING RATE TO PREVENT EXCESSIVE PRESSURE WITHIN THE FILTER BAG IN ACCORDANCE WITH THE MANUFACTURER RECOMMENDATIONS. AS THE BAG FILLS WITH SEDIMENT, REDUCE PUMPING RATE.
4. REMOVE AND PROPERLY DISPOSE OF FILTER BAG UPON COMPLETION OF PUMPING OPERATIONS OR AFTER BAG HAS REACHED CAPACITY, WHICHEVER OCCURS FIRST. SPREAD THE DEWATERED SEDIMENT FROM THE BAG IN AN APPROVED UPLAND AREA AND STABILIZE WITH SEED AND MULCH BY THE END OF THE WORK DAY. RESTORE THE SURFACE AREA BENEATH THE BAG TO ORIGINAL CONDITION UPON REMOVAL OF THE DEVICE.
5. USE NONWOVEN GEOTEXTILE WITH DOUBLE STITCHED SEAMS USING HIGH STRENGTH THREAD. SIZE SLEEVE TO ACCOMMODATE A MAXIMUM 4 INCH DIAMETER PUMP DISCHARGE HOSE. THE BAG MUST BE MANUFACTURED FROM A NONWOVEN GEOTEXTILE THAT MEETS OR EXCEEDS MINIMUM AVERAGE ROLL VALUES (MARV) FOR THE FOLLOWING:

GRAB TENSILE	250 LB	ASTM D-4632
PUNCTURE	150 LB	ASTM D-4833
FLOW RATE	70 GAL/MIN/FT ²	ASTM D-4491
PERMITTIVITY (SEC ⁻¹)	1.2 SEC ⁻¹	ASTM D-4491
UV RESISTANCE	70% STRENGTH @ 500 HOURS	ASTM D-4355
APPARENT OPENING SIZE (AOS)	0.15-0.18 MM	ASTM D-4751
SEAM STRENGTH	90%	ASTM D-4632
6. REPLACE FILTER BAG IF BAG CLOGS OR HAS RIPS, TEARS, OR PUNCTURES. DURING OPERATION KEEP CONNECTION BETWEEN PUMP HOSE AND FILTER BAG WATER TIGHT. REPLACE BEDDING IF IT BECOMES DISPLACED.

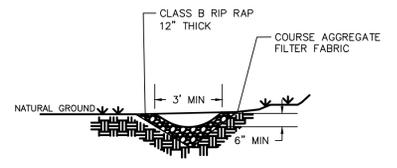
SKIMMER BASIN DEWATERING

SCALE: N.T.S.



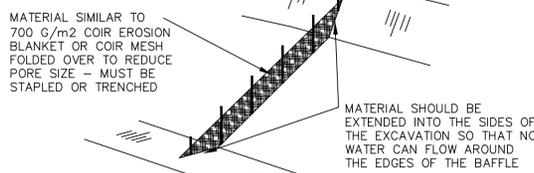
RIP RAP PLUNGE POOL

SCALE: N.T.S.



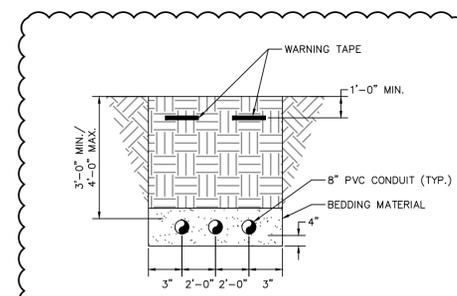
BASIN INLET PROTECTION RIP RAP CHANNEL

SCALE: N.T.S.



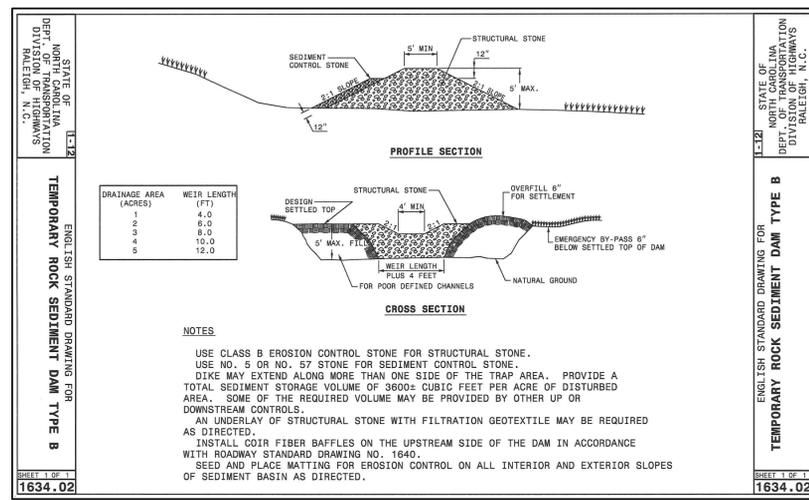
POROUS BAFFLES AND INSTALLATION

SCALE: N.T.S.



TRENCH-DIRECT BURY

SCALE: N.T.S.



ROCK SEDIMENT DAM DETAIL

SCALE: N.T.S.

NOTES:

1. USE CLASS B EROSION CONTROL STONE FOR STRUCTURAL STONE.
2. USE NO. 5 OR NO. 57 STONE FOR SEDIMENT CONTROL STONE.
3. DIKE MAY EXTEND ALONG MORE THAN ONE SIDE OF THE TRAP AREA. PROVIDE A TOTAL SEDIMENT STORAGE VOLUME OF 3600+ CUBIC FEET PER ACRE OF DISTURBED AREA. SOME OF THE REQUIRED VOLUME MAY BE PROVIDED BY OTHER UP OR DOWNSTREAM CONTROLS.
4. AN UNDERLAY OF STRUCTURAL STONE WITH FILTRATION GEOTEXTILE MAY BE REQUIRED AS DIRECTED.
5. INSTALL COIR FIBER BAFFLES ON THE UPSTREAM SIDE OF THE DAM IN ACCORDANCE WITH ROADWAY STANDARD DRAWING NO. 1640.
6. SEED AND PLACE MATTING FOR EROSION CONTROL ON ALL INTERIOR AND EXTERIOR SLOPES OF SEDIMENT BASIN AS DIRECTED.

DRAINAGE AREA (ACRES)	WEIR LENGTH (FT)
1	4.0
2	6.0
3	8.0
4	10.0
5	12.0

a. Town Certification. This design has been reviewed by the Engineer for the Town of Knightdale, and to the best of my knowledge and belief, it conforms to the requirements established in the Standard Specifications of the Town of Knightdale.

By: _____ Date: _____
Town Engineer

These plans are approved by the Town of Knightdale and serve as construction plans for this project.

By: _____ Date: _____
Administrator



WAKE ELECTRIC MEMBERSHIP CORPORATION WAKE FOREST, NORTH CAROLINA	
KNIGHTDALE SUBSTATION MASTER PLAN DETAILS	
Booth & Associates, LLC 3801 Chathamwood Avenue, Raleigh, NC 27612	
1 KNIGHTDALE COMMENTS	05/22/20
0 ISSUED FOR PERMIT	02/26/20
NO. REVISIONS	DATE
DWG. NO. MP14 OF 16 31803MP	
DATE: 12/13/19	
APPD. RSY	
SCALE: AS SHOWN	
PLOT: 1:1	

TEMPORARY SEEDING IN NORTH CAROLINA

SEEDING MIXTURE SPECIES	RATE (LB/ACRE)
RYE (GRAIN)	120
LATE WINTER & EARLY SPRING	ANNUAL LESPEDEZA (KOBÉ IN PIEDMONT AND COASTAL PLAIN, KOREAN IN MOUNTAINS)
	50
SUMMER	GERMAN MILLET
	OMIT ANNUAL LESPEDEZA WHEN DURATION OF TEMPORARY COVER IN THE PIEDMONT AND MOUNTAINS, A SMALL-STEMMED SUNDGRASS
FALL	RYE (GRAIN)
	IS NOT TO EXTEND BEYOND JUNE. MAY BE SUBSTITUTED AT A RATE OF 50 LB/ACRE.
LATE WINTER & EARLY SPRING	MOUNTAINS - ABOVE 2500 FT. FEB. 15 - MAY 15 BELOW 2500 FT. FEB. 1 - MAY 1 PIEDMONT - JAN. 1 - MAY 1 COASTAL PLAIN - DEC. 1 - APR. 15
SUMMER	MOUNTAINS - MAY 15 - AUG. 15 PIEDMONT - MAY 1 - AUG. 15 COASTAL PLAIN - APR. 15 - AUG. 15
FALL	MOUNTAINS - AUG. 15 - DEC. 15 COASTAL PLAIN AND PIEDMONT - AUG. 15 - DEC. 30

SOIL AMENDMENTS
FOLLOW RECOMMENDATIONS OF SOIL TESTS OR APPLY 2,000 LB/ACRE GROUND AGRICULTURAL LIMESTONE AND 750 LBS/ACRE 10-10-10 FERTILIZER

MULCH
APPLY 4,000 LB/ACRE STRAW, ANCHOR STRAW BY TACKING WITH ASPHALT, NETTING OR A MULCH ANCHORING TOOL. A DISK WITH BLADES SET NEARLY STRAIGHT CAN BE USED AS A MULCH ANCHORING TOOL.

MAINTENANCE
REFERTILIZE IF GROWTH IS NOT FULLY ADEQUATE, RESEED, FERTILIZE AND MULCH IMMEDIATELY FOLLOWING EROSION OR OTHER DAMAGE.

PERMANENT SEEDING IN NORTH CAROLINA (TABLE 6.11L)

SEEDING MIXTURE SPECIES	RATE (LB/ACRE)
TALL FESCUE	250
SERICEA LESPEDEZA	20
KOBÉ LESPEDEZA	50

SEEDING NOTES
1. AFTER AUGUST 15 USE UNSCARIFIED SERICEA SEED.
2. WHERE PERIODIC MOWING IS PLANNED OR A NEAR APPEARANCE IS DESIRED, OMIT SERICEA AND INCREASE KOBÉ LESPEDEZA TO 40 LB/ACRE.
3. TO EXTEND SPRING SEEDING DATES INTO JUNE, ADD 15LB/ACRE HULLED BERMUDAGRASS. HOWEVER, AFTER MID-APRIL IT IS PREFERABLE TO SEED TEMPORARY COVER.

NURSE PLANTS
BETWEEN MAY 1 AND AUGUST 15, ADD 10 LB/ACRE GERMAN MILLET OR 15LB/ACRE SUDAGRASS. PRIOR TO MAY 1 OR AFTER AUGUST 15 ADD 40 LB/ACRE RYE (GRAIN).

SEEDING DATES

	BEST	POSSIBLE
FALL:	AUGUST 25 - SEPTEMBER 15	AUGUST 20 - OCTOBER 25
LATE WINTER:	FEBRUARY 15 - MARCH 21	FEBRUARY 1 - APRIL 15

FALL IS BEST FOR ALL FESCUE AND LATE WINTER FOR LESPEDEZAS. OVER SEEDING OF KOBÉ LESPEDEZA OVER FALL-SEEDED TALL FESCUE IS VERY EFFECTIVE.

SOIL AMENDMENTS
APPLY LIME AND FERTILIZER ACCORDING TO SOIL TESTS, OR APPLY 4,000 LB/ACRE GROUND AGRICULTURAL LIMESTONE AND 1,000 LB/ACRE 10-10-10 FERTILIZER.

MULCH
APPLY 4,000 LB/ACRE GRAIN STRAW OR EQUIVALENT COVER OF ANOTHER SUITABLE MULCH. ANCHOR STRAW TACKING WITH ASPHALT, NETTING OR ROVING OR BY CRIMPING WITH A MULCH ANCHORING TOOL. A DISK WITH BLADES SET NEARLY STRAIGHT CAN BE USED AS A MULCH ANCHORING TOOL.

MAINTENANCE
REFERTILIZE IN THE SECOND YEAR UNLESS GROWTH IS FULLY ADEQUATE. MAY BE MOWED ONCE OR TWICE A YEAR, BUT MOWING IS NOT NECESSARY. RESEED, FERTILIZE AND MULCH DAMAGED AREAS IMMEDIATELY.

SEEDING SCHEDULE

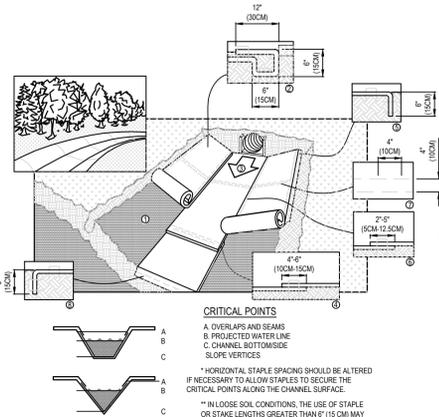
- CHISEL COMPACTED AREAS AND SPREAD TOPSOIL 3 INCHES DEEP OVER ADVERSE SOIL CONDITIONS, IF AVAILABLE.
- RIP THE ENTIRE AREA TO 6 INCHES DEPTH.
- REMOVE ALL LOSE ROCK, ROOTS, AND OTHER OBSTRUCTIONS LEAVING SURFACE REASONABLY SMOOTH AND UNIFORM.
- APPLY AGRICULTURAL LIME, FERTILIZER, AND UNIFORMLY AND MIX WITH SOIL (SEE BELOW).
- CONTINUE TILLAGE UNTIL A WELL-PULVERIZED, FIRM REASONABLY UNIFORM SEEDBED IS PREPARED 4 TO 6
- SEED ON A FRESHLY PREPARED SEEDBED AND SEED LIGHTLY WITH SEEDING EQUIPMENT OR CULTIPACK
- MULCH IMMEDIATELY AFTER SEEDING AND
- INSPECT ALL SEEDED AREAS AND MAKE NECESSARY RESEEDINGS WITHIN THE PLANTING SEASON, IF POSSIBLE. STAND SHOULD BE OVER 60% DAMAGED, REESTABLISH ORIGINAL LIME, FERTILIZER AND SEEDING RATES.
- CONSULT CONSERVATION INSPECTOR ON MAINTENANCE AND FERTILIZATION AFTER PERMANENT COVER IS

* APPLY:
AGRICULTURAL LIMESTONE - 2 TONS/ACRES (3 TONS/ACRE IN CLAY SOILS)
FERTILIZER - 1,000 lbs./ACRE -10-10-10
SUPERPHOSPHATE - 500 lbs>/ACRE -20% ANALYSIS
MULCH - 2 TONS / ACRE (5000 LBS/AC FOR STEEP SLOPES) - SMALL GRAIN STRAW
ANOTHER - ASPHALT EMULSION @ 300 GAL./ACRE

SEEDBED PREPARATION

"MAINTENANCE"
NEW SEEDLINGS SHOULD BE INSPECTED FREQUENTLY AND MAINTENANCE PERFORMED AS NEEDED. IF RILLS AND GULLIES DEVELOP, THEY MUST BE FILLED, RE-SEEDED, AND MULCHED AS SOON AS POSSIBLE. DIVERSIONS MAY BE NEEDED UNTIL NEW PLANTS TAKE HOLD. DAMAGE TO VEGETATION FROM DISEASE, INSECTS, TRAFFIC, ETC., CAN OCCUR AT ANY TIME. HERBICIDES AND REGULAR MOWING MAY BE NEEDED TO CONTROL WEEDS. DUST AND SPRAYS MAY BE NEEDED TO CONTROL INSECTS. WEEK OR DAMAGED SPOTS MUST BE RELIED, FERTILIZED, MULCHED, AND RESEEDED AS PROMPTLY AS POSSIBLE.

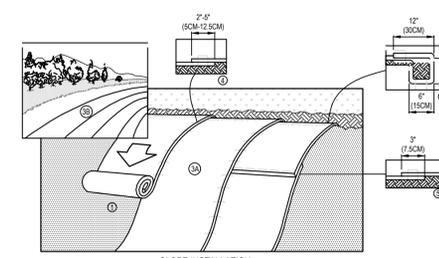
a. Town Certification. This design has been reviewed by the Engineer for the Town of Knightdale, and to the best of my knowledge and belief, it conforms to the requirements established in the Standard Specifications of the Town of Knightdale.
By: _____ Date: _____
Town Engineer
These plans are approved by the Town of Knightdale and serve as construction plans for this project.
By: _____ Date: _____
Administrator



CRITICAL POINTS
A. OVERLAPS AND SEAMS
B. PROTECTED WATERLINE
C. CHANNEL BOTTOMSIDE SLOPE SIDINGS
*HORIZONTAL STAPLE SPACING SHOULD BE ALTERED IF NECESSARY TO ALLOW STAPLES TO SECURE THE CRITICAL POINTS ALONG THE CHANNEL SURFACE.
*IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" (15CM) MAY BE NECESSARY TO PROPERLY ANCHOR THE BLANKETS.

NOTES:
1. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.

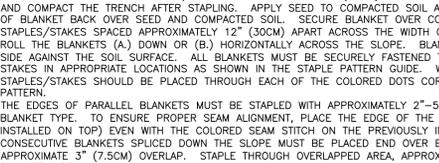
ROLLED EROSION CONTROL PRODUCT CHANNEL INSTALLATION



NOTES:
1. PREPARE SOIL BEFORE INSTALLING BLANKETS, INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED. NOTE: WHEN USING CELL-O-SEED DO NOT SEED PREPARED AREA. CELL-O-SEED MUST BE INSTALLED WITH PAPER SIDE DOWN.
2. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE BLANKET IN A 6" (15CM) DEEP X 6" (15CM) WIDE TRENCH WITH APPROXIMATELY 12" (30CM) OF BLANKET EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. ANCHOR THE BLANKET WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" (30CM) APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" (30CM) PORTION OF BLANKET BACK OVER SEED AND COMPACTED SOIL. SECURE BLANKET OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" (30CM) APART ACROSS THE WIDTH OF THE BLANKET.
3. ROLL THE BLANKETS (A) DOWN OR (B) HORIZONTALLY ACROSS THE SLOPE. BLANKETS WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL BLANKETS MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAPLES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE. WHEN USING OPTIONAL DOT SYSTEM, STAPLES/STAKES SHOULD BE PLACED THROUGH EACH OF THE COLORED DOTS CORRESPONDING TO THE APPROPRIATE STAPLE PATTERN.
4. THE EDGES OF PARALLEL BLANKETS MUST BE STAPLED WITH APPROXIMATELY 2"-5" (5CM-12.5CM) OVERLAP DEPENDING ON BLANKET TYPE. TO ENSURE PROPER SEAM ALIGNMENT, PLACE THE EDGE OF THE OVERLAPPING BLANKET (BLANKET BEING INSTALLED ON TOP) EVEN WITH THE COLORED SEAM STITCH ON THE PREVIOUSLY INSTALLED BLANKET.
5. CONSECUTIVE BLANKETS SPLICED DOWN THE SLOPE MUST BE PLACED END OVER END (SHINGLE STYLE) WITH AN APPROXIMATE 3" (7.5CM) OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" (30CM) APART ACROSS ENTIRE BLANKET WIDTH.

NOTES:
1. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
2. IN LOOSE SOIL CONDITIONS THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" (15CM) MAY BE NECESSARY TO PROPERLY SECURE THE BLANKETS.

ROLLED EROSION CONTROL PRODUCT SLOPE INSTALLATION



NOTES:
1. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
2. IN LOOSE SOIL CONDITIONS THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" (15CM) MAY BE NECESSARY TO PROPERLY SECURE THE BLANKETS.

EROSION CONTROL MATTING INSTALLATION

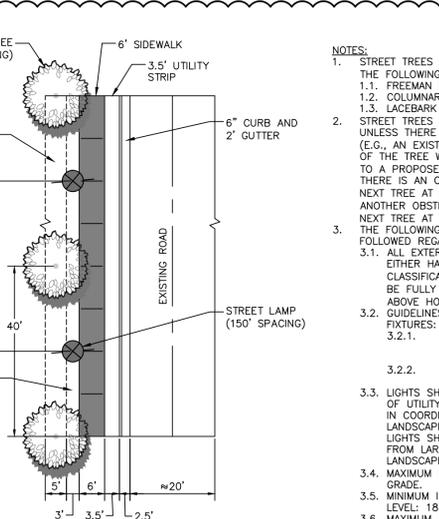
SCALE: N.T.S.

STREET-FRONT IMPROVEMENTS DETAIL

SCALE: N.T.S.

STREET-FRONT IMPROVEMENTS DETAIL

SCALE: N.T.S.

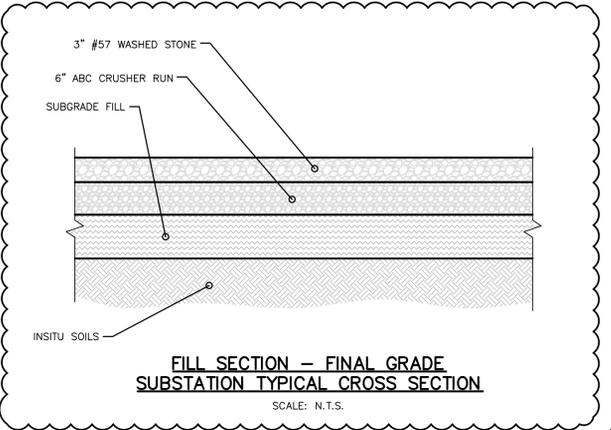


STREET-FRONT IMPROVEMENTS DETAIL

SCALE: N.T.S.

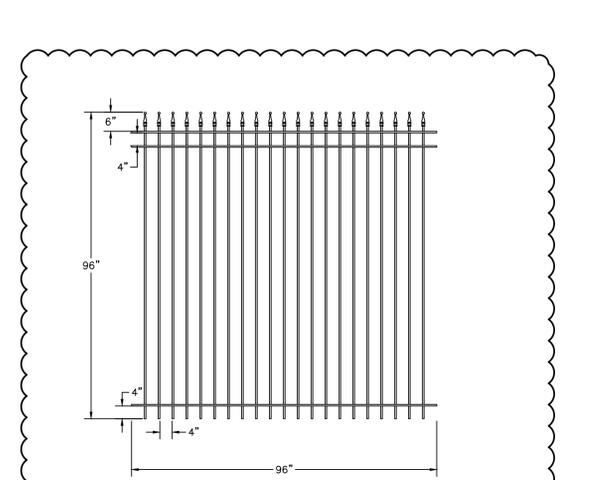
STREET-FRONT IMPROVEMENTS DETAIL

SCALE: N.T.S.



FILL SECTION - FINAL GRADE

SCALE: N.T.S.



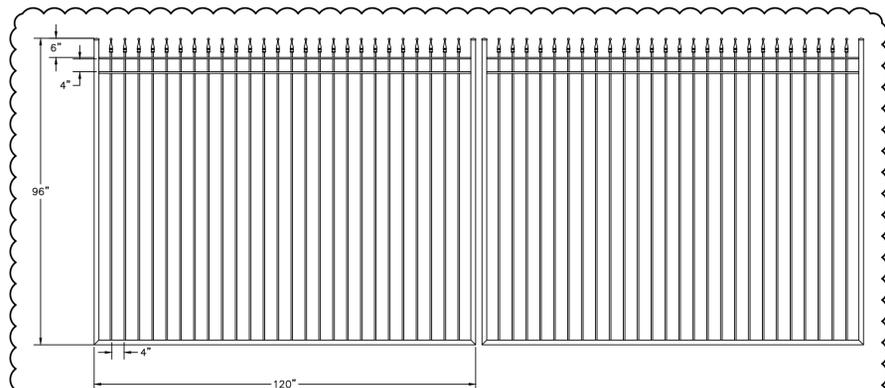
TYPICAL WROUGHT IRON FENCE PANEL DETAIL

SCALE: N.T.S.

NO.	MATERIAL	QTY
1	CAST IRON FINIAL	21
2	1"x1/2"x1/8"	3
3	1/2"x1/2"x1/8ga	21

TYPICAL WROUGHT IRON FENCE PANEL DETAIL

SCALE: N.T.S.



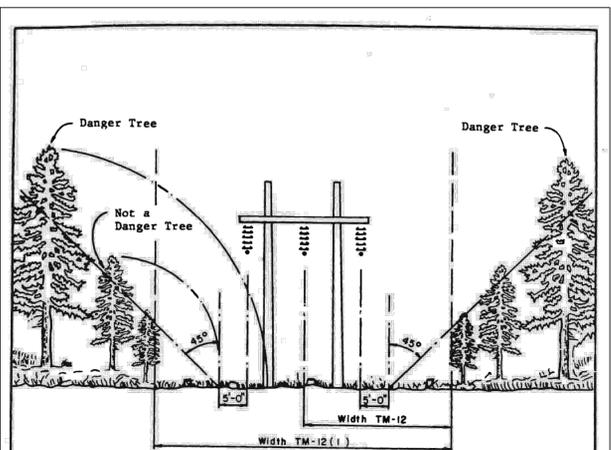
TYPICAL WROUGHT IRON GATE DETAIL

SCALE: N.T.S.

NO.	MATERIAL	QTY
1	CAST IRON CAP	4
2	1"x1/2"x1/8"	4
3	1/2"x1/2"x1/8ga	52
4	CAST IRON FINIAL	52
5	1-1/2"x1-1/2"x1/4GA	6

TYPICAL WROUGHT IRON GATE DETAIL

SCALE: N.T.S.



TRANSMISSION ROW CLEARING

SCALE: N.T.S.

- NOTES:**
- Engineer will designate all danger trees which shall be removed or topped at option of contractor. In approximately level terrain, trees which would reach within 5 feet of a point underneath the outside conductor in falling are examples of danger trees.
 - As directed by the engineer, portions of the right-of-way (ROW) must be cut so that stumps will not prevent the passage of tractor and trucks along the ROW.
 - The unit for clearing one-half of the ROW is "WIDTH TM-12."
 - The unit for clearing the full ROW is "WIDTH TM-12(1)."
 - The unit for clearing danger trees is "TM-13."

NO.	REVISION	DATE

TRANSMISSION ROW CLEARING

SCALE: N.T.S.

RIGHT-OF-WAY CLEARING GUIDE

Reissued 03/98

Aug., 1986

TM-12, -12(1), -13

TRANSMISSION ROW CLEARING

SCALE: N.T.S.

DANGER TREE DETAIL

SCALE: N.T.S.

DESIGN CRITERIA:

- LEAVE CRITICAL AREAS (SUCH AS FLOODPLAINS, STEEP SLOPES, AND WETLANDS) WITH DESIRABLE TREES IN THEIR NATURAL CONDITIONS OR ONLY PARTIALLY CLEARED.
- DO NOT EXCAVATE, TRAVERSE, OR FILL CLOSER THAN THE DRIP LINE, OR PERIMETER OF THE CANOPY, OF TREES TO BE SAVED.
- MATURE TREE PROTECTION ZONE (TPZ) RADIUS:
TRUNK DIAMETER TPZ RADIUS
8 INCHES 10 - 20 FT
12 INCHES 15 - 30 FT
16 INCHES 20 - 40 FT
20 INCHES 25 - 50 FT

CONSTRUCTION SPECIFICATIONS:

- ERECT TREE PROTECTION ZONE (TPZ) FENCES. USE TALL, BRIGHT, PROTECTIVE FENCING. FENCING SHOULD BE ERRECTED BEFORE CLEARING, DELIVERIES, AND OTHER CONSTRUCTION ACTIVITIES BEING ONSITE.
- PROHIBIT OR RESTRICT ACCESS TO TPZs.
- POST "KEEP OUT" SIGNS ON ALL SIDES OF FENCING. DO NOT STORE CONSTRUCTION EQUIPMENT OR MATERIALS IN TPZs.
- PROHIBIT CONSTRUCTION ACTIVITIES NEAR THE MOST VALUABLE TREES, AND RESTRICT ACTIVITIES AROUND OTHERS.
- ASSESS CREW AND CONTRACTOR PENALTIES, IF NECESSARY, TO KEEP TPZs INTACT.
- MONITOR TREES. USE A TREE EXPERT OR TRAIN YOUR STAFF TO MONITOR TREE HEALTH DURING AND AFTER CONSTRUCTION ON A REGULAR, FREQUENT BASIS. WATCH FOR SIGNS OF TREE STRESS, SUCH AS DIEBACK, LEAF LOSS, OR GENERAL DECLINE IN TREE HEALTH OR APPEARANCE.
- MONITOR TPZ FENCES. ASSIGN A CREWMEMBER THE WEEKLY RESPONSIBILITY OF CHECKING THE INTEGRITY OF TPZ FENCES. REPAIR AND REPLACE TPZ FENCING AS NEEDED.
- OPTIMIZE TREE HEALTH. SURVIVAL OF PROTECTED TREES WILL INCREASE IF THESE PRACTICES ARE CONTINUED DURING CONSTRUCTION. HEALTHY TREES REQUIRE UNDISTURBED HEALTHY SOILS. DO NOT CAUSE INJURIES TO TREES AND ROOTS. DO NOT CHANGE THE SOIL, GRADE, DRAINAGE, OR AERATION WITHOUT PROTECTING PRIORITY TREES.

TREE PROTECTION ZONE (TPZ) FENCE

SCALE: N.T.S.

TREE PROTECTION ZONE (TPZ) FENCE

SCALE: N.T.S.

WAKE ELECTRIC MEMBERSHIP CORPORATION
WAKE FOREST, NORTH CAROLINA

KNIGHTDALE SUBSTATION MASTER PLAN DETAILS

Booth & Associates, LLC
3801 Chathamwood Avenue, Raleigh, NC 27612

NO.	REVISIONS	DATE	SCALE	AS SHOWN
1	KNIGHTDALE COMMENTS	05/22/20	DWN.LRH	DATE: 12/13/19
0	ISSUED FOR PERMIT	02/26/20	CKD.BDE	APPD. RSY

5/22/2020

© FEB. 2020

DWG. NO. MP15 OF 16 31803MP



Town of Knightdale

Staff Report Cover Sheet

Title: ZMA-8-19: Parkstone Townhomes

Staff: Donna Tierney, Planner

Date: June 8, 2020

PURPOSE

- The purpose of this staff report is to provide an overview of a Zoning Map Amendment request for the 26.68 acre vacant parcel within the Parkstone Development, located at the intersection of Village Park Drive and Parkstone Towne Blvd. and identified by the Wake County PIN 1744-84-3799. The request is to rezone 15.68 acres of the property from Highway Business Conditional District (HB-CD) to Residential Mixed Use with a Planned Unit Development (RMX-PUD) to allow for a 148-unit townhome development. This request would amend the original Parkstone Master Plan, resulting in a net reduction of the current commercial area (HB-CD) from 26.68 to 11.0 acres.
- This staff report contains much of the same information presented at the Public Hearing. However, revisions have been made to the Proposed Alternative Standards and Open Space Plan sections. Please see Section XI for applicant proposed changes in response to the concerns voiced at the Public Hearing.

STRATEGIC PLAN PRIORITY AREA(S)

- Connected & Inclusive
- Sustainable

GENERAL STATUTE REFERENCE(S), *if applicable*

- N.C.G.S. 160A-381

TYPE OF PUBLIC HEARING, *if applicable*

- N/A

FUNDING SOURCE(S), *if applicable*

- N/A

ATTACHMENT(S)

- Staff Report
- ZMA-7-16 Approved Conditions
- Application Packet
- PUD Document
- Neighborhood Meeting Information
- Site Plan

STAFF RECOMMENDATION

- After reviewing the request, forward the recommended advisory statement to Town Council, and recommend approval of ZMA-8-19, Parkstone Phase 2, pending all comments and recommendations are addressed.

Knightsdale Strategic Priorities



Safe



Connected & Inclusive



Sustainable



Active & Healthy



Organizational Excellence



Town of Knightdale

Staff Report

Title: ZMA-8-19: Parkstone Townhome
Planned Unit Development Rezoning

Staff: Donna Tierney, Planner

Date: June 8, 2020

Director Signature: CH

Asst. Town Manger Signature:

Town Manager Signature:

I. REQUEST:

Knightdale Development Ownership, LLC submitted an application to rezone and develop the existing 26.68 acre vacant parcel within the Parkstone Development. The parcel is located at the intersection of Village Park Drive and Parkstone Towne Blvd. and identified by the Wake County PIN 1744-84-3799. The Planned Unit Development request is to rezone 15.68 acres of the property from Highway Business Conditional District (HB-CD) to Residential Mixed Use with a Planned Unit Development (RMX-PUD) to allow for a 148-unit townhome development. The applicant is requesting that the 11.0 acre balance of the site remain the existing HB-CD, and the provisions and conditions approved under the original Parkstone Master Plan (ZMA-7-16) remain applicable to this portion of the parcel.

II. PROJECT PROFILE:

PROPERTY LOCATION:	901 Parkstone Towne Blvd.
WAKE COUNTY PIN:	1744.04-84-3799
CURRENT ZONING DISTRICT	Highway Business Conditional District (HB-CD)
PROPOSED ZONING DISTRICT:	Residential Mixed Use (RMX-PUD) & Highway Business Conditional District (HB-CD)
NAME OF PROJECT:	Parkstone Phase 2 (Towns at Parkstone)
APPLICANT:	Knightdale Development Ownership, LLC
PROPERTY OWNER:	Knightdale Development Ownership, LLC
DEVELOPER:	Knightdale Development Ownership, LLC
PROPERTY SIZE:	26.68 acres
PROPOSED DENSITY:	9.44 units per acre (148 Townhomes, 102,200 Sq. Ft. of Commercial)
CURRENT LAND USE:	Vacant/Undeveloped
PROPOSED LAND USE:	Dwelling – Single Family (Use 2.3.C.1.a) Shopping Center – Community Center (Use 2.3.C.4.j)
PROPOSED OPEN SPACE:	205,825 SF (4.73 acres)

III. BACKGROUND INFORMATION:

In 2016, Town Council approved ZMA-7-16 which rezoned the entire subject property to Highway Business Conditional District. Within the original Parkstone Master Plan approval, there were certain conditions including but not limited to building architecture and allowed uses. The applicant is requesting that the originally approved site plan be amended to show a reduction in commercial retail space from ~260,000 square feet to 102,200 square



Town of Knightdale

Staff Report

feet. The applicant is also requesting that the previously approved conditions, including but not limited to retail building architecture and Allowable Uses remain intact.

The original conditions granted under ZMA-7-16 may be viewed in full in **Exhibit A**, attached at the end of this staff report.

IV. PLANNED UNIT DEVELOPMENT INFORMATION:

The Planned Unit Development District (PUD) is a rezoning process which is designed to encourage master planning of development. The PUD encourages creativity and innovation in new development design. With this flexibility, the expectation is for new development to provide exceptional design, character, and quality; provide high quality community amenities; incorporate creative design in the layout of buildings; ensure compatibility with surrounding land uses and neighborhood character; encourage the creation of mixed density neighborhoods, neighborhood nodes, and mixed use centers; further the goals of the KnightdaleNext 2035 Comprehensive Plan including the Growth Framework and Growth & Conservation maps; and provide greater efficiency in the layout and provision of roads, utilities, and other infrastructure.

The applicant must address several provisions, which include but are not limited to design guidelines and dimensional standards, public facilities, recreational open space, and Comprehensive Plan consistency. The applicant is also allowed to proposed alternative standards to certain UDO standards. The applicant's specific proposal for alternative standards is detailed in **Section VIII** of this staff report.

V. PROJECT SETTING – SURROUNDING ZONING DISTRICTS AND LAND USES:

The proposed rezoning includes one (1) parcel, located south of Knightdale Blvd. and Village Park Dr. and east of Parkstone Towne Blvd. The parcel is already located within the Town limits and does not require annexation.

DIRECTION	LAND USE	ZONING
North	Gas station & Undeveloped	HB-CD
South	Multifamily	RMX-CD
East	Single Family Homes	GR-8
West	Shopping Center/Retail Multifamily	HB UR-12



Town of Knightdale

Staff Report

VI. LEGISLATIVE CASE PROCEDURES:

A Planned Unit Development rezoning is a legislative public hearing, which requires a robust public input and development review process. Staff started working with the development team in early 2019 and since that time, staff has reviewed several preliminary sketch plans and held various project meetings. Below is a timeline of the required elements.

- Pre-application Meeting: May 2019
- Neighborhood Meeting Notices Mailed: September 20, 2019
- Neighborhood Meeting: October 1, 2019

The neighborhood meeting was held at the Knightdale Recreation Center located at 100 Bryan Chalk Lane. A copy of the mailed notice, list of recipients, and summary of the meeting are attached as part of the application packet. The meeting was attended by two citizens. They had general questions about the type of retail users and the potential for more entertainment options in Town.

Following the formal submittal and review of the proposed master plan, the applicant met with the Development Review Committee (DRC) on October 31, 2019 to discuss the technical comments and details associated with the proposed subdivision plan. The issues associated with the proposed plan included the following:

- Location of dumpster enclosures for the retail sites
- Orientation of Retail Building B
- Architecture of townhomes
- Fire apparatus access on alleys
- On-street guest parking accommodations

The DRC voted unanimously to **continue** ZMA-9-19 pending the applicant addressing the review comments and Town Council taking action on the rezoning request.

Due to the nature of the comments needing to be addressed, the applicant withdrew the original submittal in order to make changes to the Master Plan and PUD document and resubmitted in February 2020. A second DRC meeting was held on March 4, 2020 and the following issues were discussed:

- Landscape buffer and fence configuration
- Building elevations and architectural elements
- Open space amenities and activation

Once again, the DRC voted unanimously to **continue** ZMA-9-19 pending the applicant addressing the review comments and Town Council taking action on the rezoning request.

The joint public hearing for the rezoning request was initially scheduled for the March 18, 2020 Town Council meeting; however, due to the COVID-19 pandemic, the meeting was canceled, and the joint public hearing was postponed until May 20, 2020. The Town of Knightdale re-advertised the case in accordance with public hearing notice requirements as prescribed in the North Carolina State Statutes:



Town of Knightdale

Staff Report

- First Class Letters Mailed: April 27, 2020
- Sign Posted on Property: Sign Remained on Property Since February 28, 2020
- Legal Ad Published in N&O: May 1 and May 8, 2020

VII. PROPOSED MASTER PLAN:

The applicant has submitted a full Master Plan and PUD document in accordance with UDO Sections 16.5 and 16.6. As shown on the following site plans, the RMX-PUD portion of the plan consists of 148 townhomes. Proposed amenities include a mail kiosk, on street visitor parking, and a north-south green corridor, and multiple large open space areas. The balance of the site plan is a retail center, consisting of 6 buildings and 102,200 square feet of space. The future tenants are undefined at this time. *full size site plans and townhome type exhibit are provided within the staff report attachments*

The applicant is proposing the following unit mix of townhome product and an exhibit is provided after the site plan:

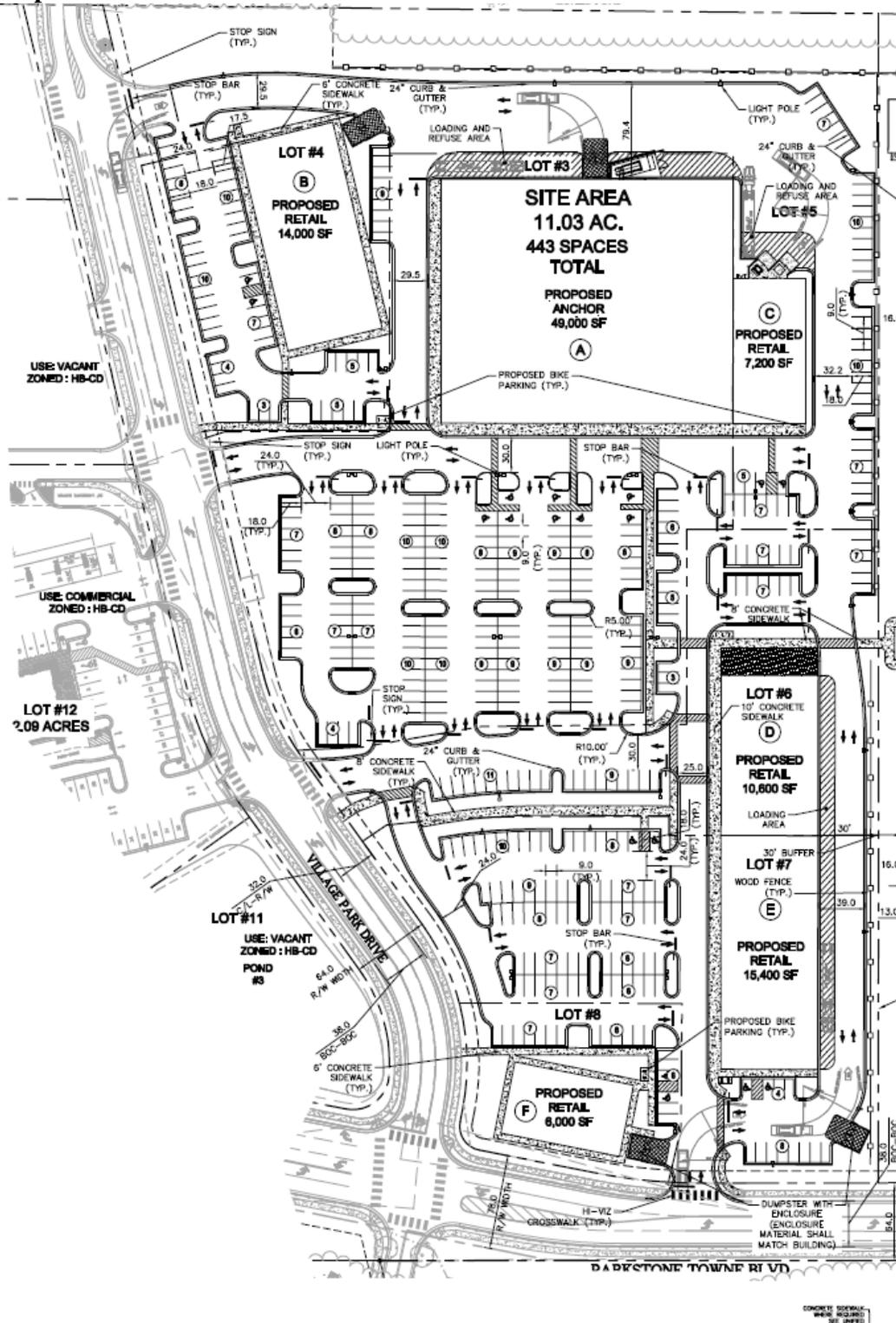
Front Loaded Townhomes	18	1,826-1,845 sq. ft.
Rear Loaded Townhomes	130	2,340-2,400 sq. ft.
○ 3 Story	64	
○ 2 Story	66	



Town of Knightdale

Staff Report

Proposed Commercial/Retail Site Plan:

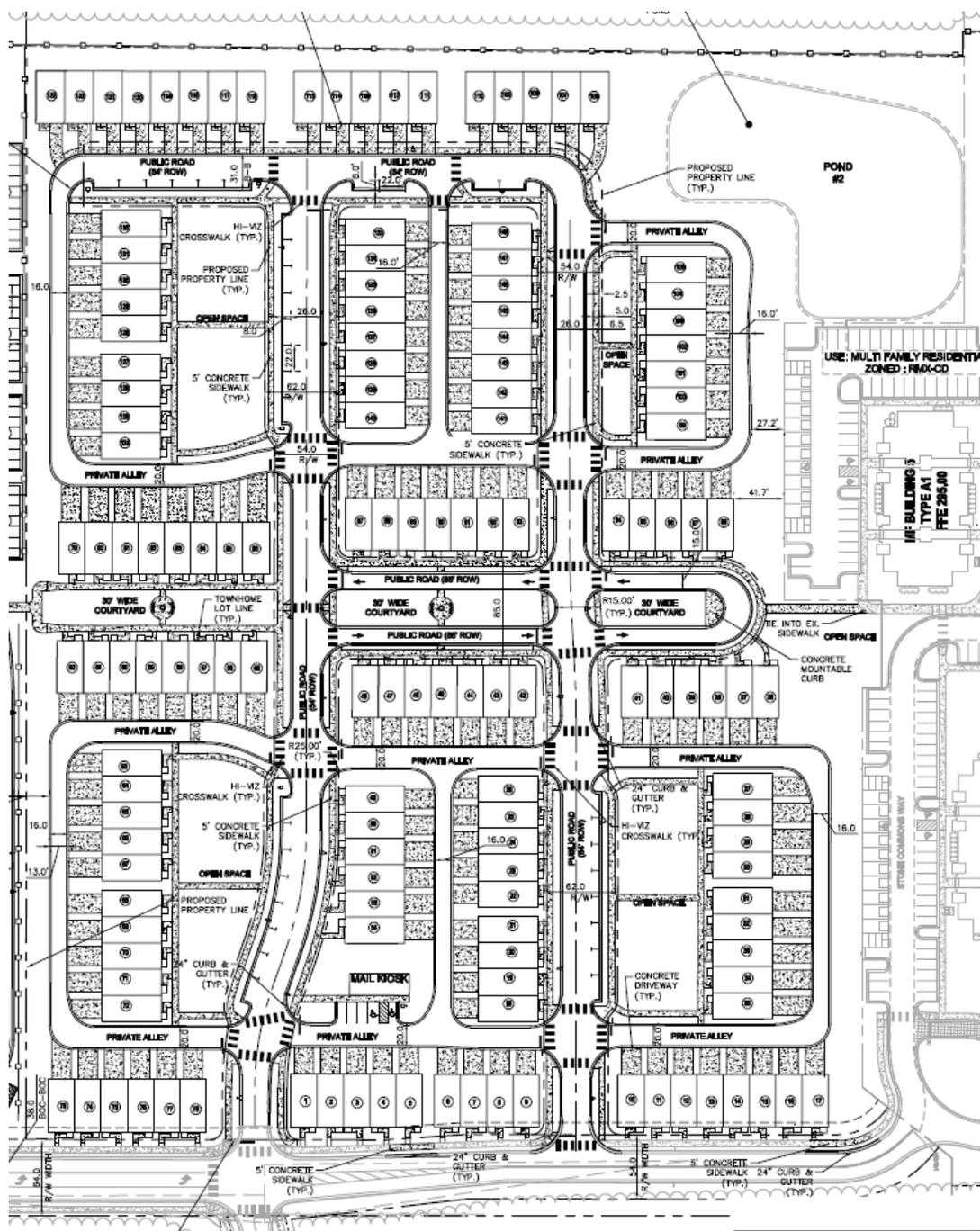




Town of Knightdale

Staff Report

Proposed Residential Site Plan:





Town of Knightdale

Staff Report

VIII. PROPOSED PLANNED UNIT DEVELOPMENT CONDITIONS & PUD DOCUMENT:

In support of their Master Plan, the applicant submitted a PUD document that includes a vision for their proposed development, statements of plan consistency, architectural design standards, proposed alternative standards, and open space information. Additionally, the applicant included proposed housing and the previously approved commercial building elevations (ZMA-7-16).

Staff has reviewed the submittal in accordance with UDO Sections 2.15.C and 16.5 and found that all submittal requirements have been met. In addition to the specific provisions and plan sheets required by the abovementioned sections, staff also reviewed the plans for conformance with the Residential Mixed Use zoning district and other applicable UDO sections. The majority of site elements met the requirements and their compliance statements are listed below.

- A. **Parking:** The applicant is not proposing any deviations from the parking requirements as found in UDO Section 10.3. Within the residential development, each townhome will have the required parking for two vehicles, and the applicant is proposing 34 on street parking spaces and a parking lot with five spaces at the mail kiosk. The applicant is providing the required amount of parking for the retail portion of the development.
- B. **Signage:** All site signage will be reviewed under a separate zoning review; however, the applicant is not proposing any deviations from the standards as found in UDO Section 12 for the RMX zoning district.
- C. **Stormwater** – The applicant is not proposing any deviations from the stormwater management of the site as required in UDO Section 6. The proposed townhome development and amended commercial site proposes less impervious area than was allotted during the original approved Parkstone Master Plan. Therefore, no additional stormwater detention/treatment is required.
- D. **Lighting:** The applicant is not proposing any deviations from the lighting standards as found in UDO Section 11.4.
- E. **Public Utilities/Water Allocation Policy:** The applicant is proposing to connect to public water and sewer. The required bonus points from the Town of Knightdale Water Allocation Policy (WAP) were acquired via the recorded Parkstone Development Utility Allocation Agreement (Wake County Register of Deeds, Book: 016667, Page: 02285-02315).

RESIDENTIAL DESIGN STANDARDS:

The applicant has provided proposed building elevations, which are provided below and in the attached PUD document at the end of this staff report.

The proposed elevations for the commercial space have not changed from the original Parkstone Master Plan approval. Full elevations are included at the end of this staff report.



Town of Knightdale

Staff Report

Proposed 3-story, rear-loaded elevation:



Proposed 2-story, rear-loaded elevation:





Town of Knightdale

Staff Report

Proposed 2-story, front-loaded elevation:



In addition to the elevations, the applicant has provided the design guidelines listed below:

1. All front entries will be covered (either recessed or with a roof overhead)
2. All buildings will have front façade or roofline offsets
3. Front facades of each unit will include at least one of the following: masonry, metal roof accents, shakes, or board and batten. Each grouping of attached townhomes will include at least two of these items.
4. All front windows will either be set in brick, include 4" window trim, shutters, or decorative pediments.
5. All units will have changes in rooflines with either gables, dormers, or shed bump outs.
6. All building end gables and front and rear gables will have 12" overhangs.
7. All plank siding shall be cementitious.
8. Garage doors on front-loaded townhomes will be decorative with decorative carriage style hardware with glass.
9. Patios or decks will be provided on a minimum of 15% of the 2-story rear loaded units.
10. For 3-story townhome types, a minimum of one balcony will be provided on the front façade for attached townhomes that are four units or less. Townhomes with more than four units will provide a minimum of two balconies on the front facade.
11. Townhomes will be on monoslab foundations. Steps up to the front entry will be provided in accordance with the following exhibit. In summary, two-steps up to the front entry will be provided for 88 units, including those units facing Parkstone Towne Blvd. Due to site grades, 26 units will have one step, and the remaining 34 units will have no steps.



Town of Knightdale

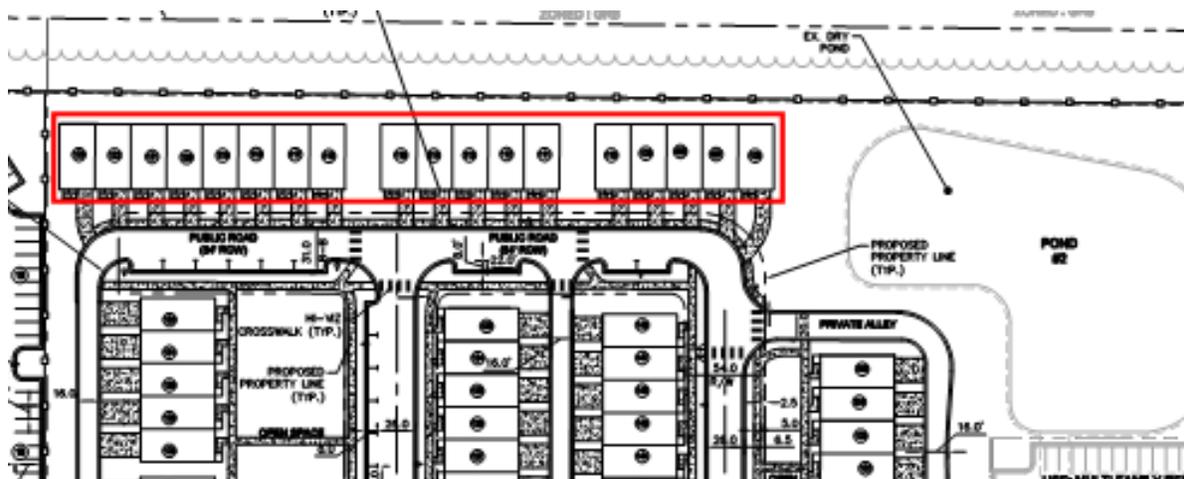
Staff Report

PROPOSED ALTERNATIVE STANDARDS:

In accordance with UDO Section 15.C.5, a Planned Unit Development rezoning allows the applicant to request exceptions to certain standards identified in the underlying zoning district (Residential Mixed Use). These requests should be fair and reasonable, and the proposed alternate means of compliance should meet the spirit and intent of the UDO. The applicant has proposed the following alternative standards:

A. **Lot & Building Dimensional Requirements:** The applicant is proposing three deviations from the dimensional standards as found in UDO Section 2.9.B.2 for the RMX zoning district.

- **Required:** Lots less than 80 ft. in width require alley/rear lane access
- **Requested:** Allow 18 townhome units to have driveway access from the front street (Units 106-123). As shown below, these units are on the eastern side of the development, adjacent to the Woods of Parkside.

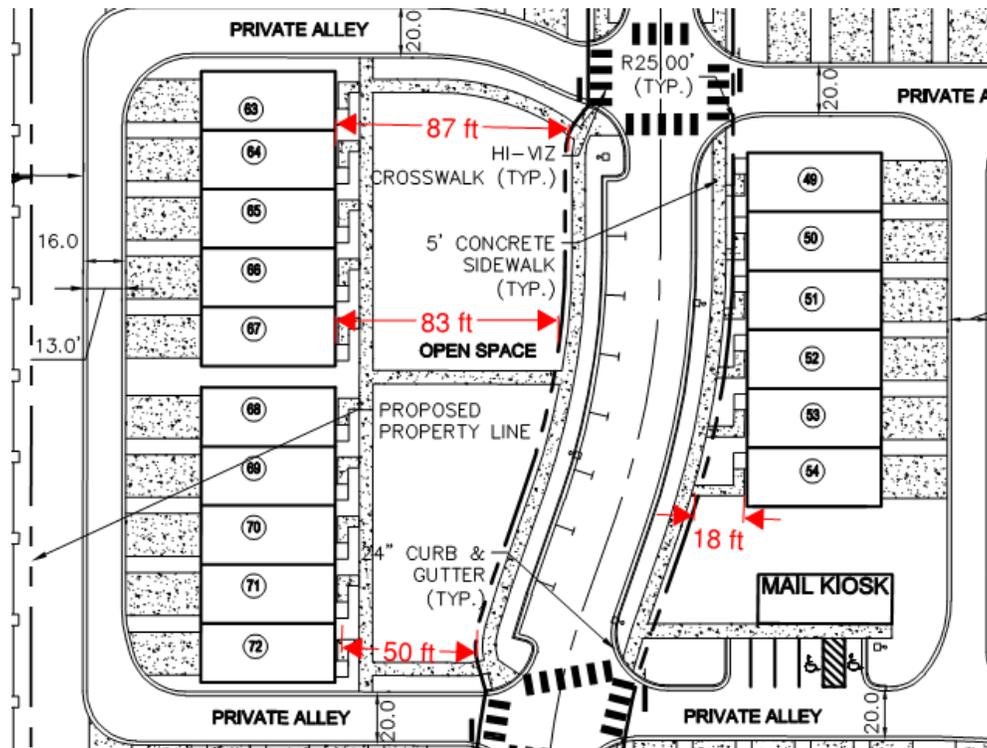




Town of Knightdale

Staff Report

- **Required:** Townhomes require a maximum front setback of 25 ft.
- **Requested:** Allow larger variable front setbacks as depicted on the Master Plan (site plan) to allow townhomes to front on the large open space areas



- **Required:** Townhomes requires a minimum of 10 ft. between buildings
- **Requested:** Allow for a minimum of 6 ft. between townhome buildings

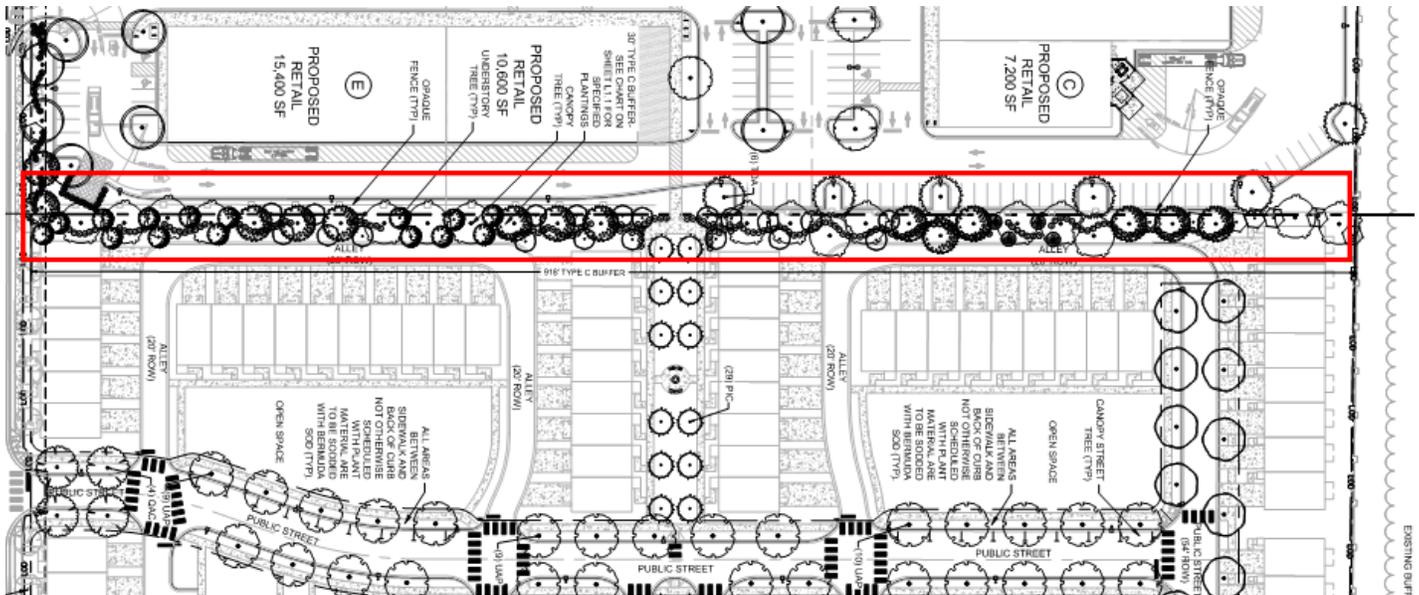
B. Landscaping Buffer:

- **Required:** In accordance with UDO Section 8.6.A, a 50 ft. Type C landscape buffer is required between the RMX (proposed) and Highway Business (adjacent commercial) zoning districts.
- **Requested:** Provide the required Type C Buffer plantings within a variable width buffer between the zoning districts. The buffer width will be a minimum of 19 ft. wide on the PUD property. See next page for proposed buffer plan.



Town of Knightdale

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C. Programmed Open Space:

- **Required:** In accordance with UDO Section 7.3, 214,600 square feet of open spaces is required for the proposed 148 residential units with 370 bedrooms.
- **Requested:** Allow for a 4% reduction in the required recreational open space. The applicant is proposing to provide 4.73 acres of open space when 4.93 acres is required.

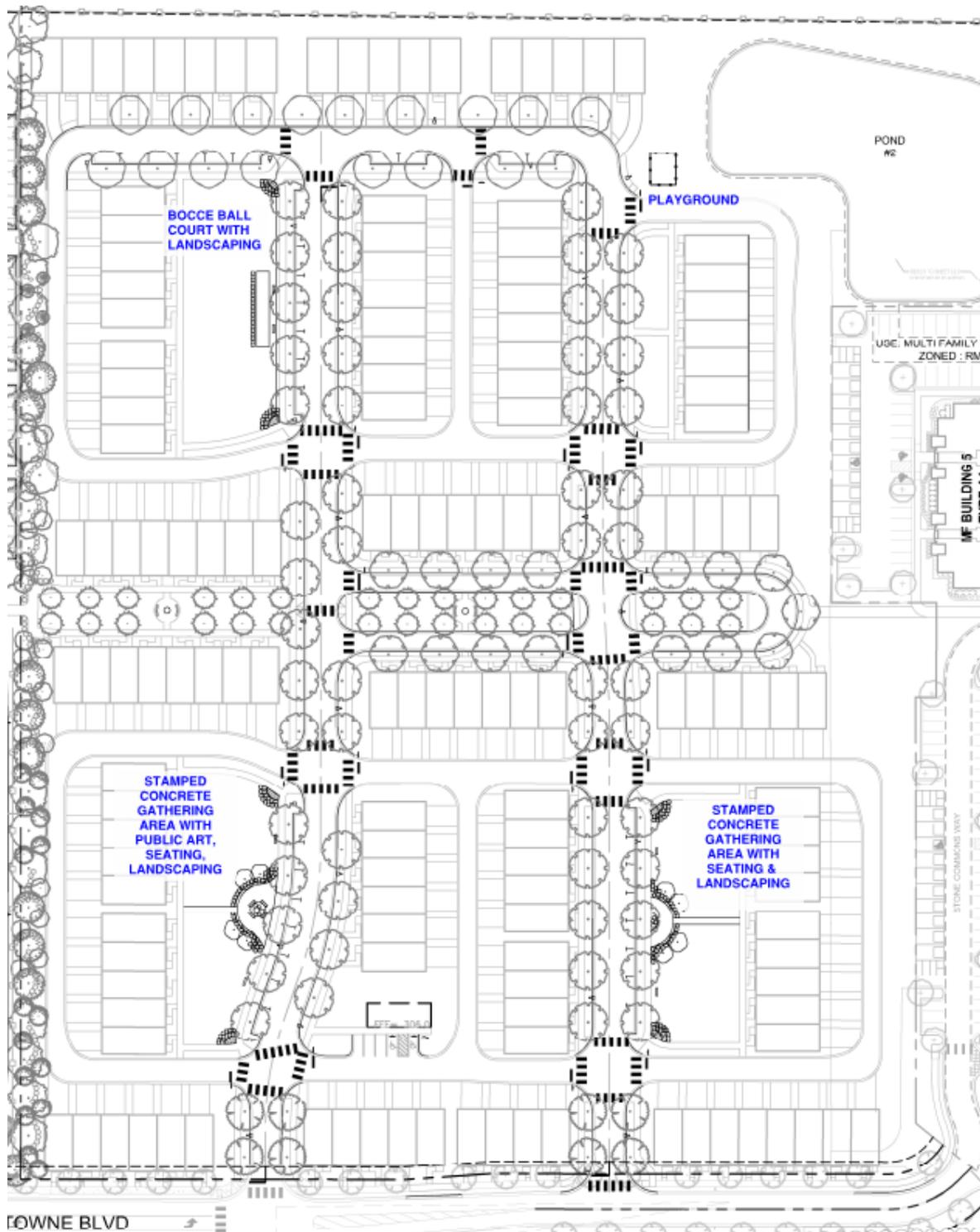
Following the Joint Public Hearing, the applicant has revised the open space plan but is still asking for a reduction in required size. The new plan includes two stamped concrete gathering areas that will include public art, benches, seat walls, and enhanced landscaping. A bocce ball court is proposed on one of the open space areas in front of the townhomes. It has been pulled to the street, away from the residences to provide more privacy, and a landscaping hedge has been added. The applicant has also added a fenced playground to the southeast corner near the stormwater pond and apartment complex. The applicant's overall open space plan is shown on the next page. Staff has analyzed the revised open space plan and believes the proposed enhancements meet the spirit and intent of the UDO and the development will include great public spaces and plazas for future residents to enjoy.



Town of Knightdale

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Proposed Open Space Plan:





Town of Knightdale

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IX. TRANSPORTATION ANALYSIS

According to UDO Section 9.4, a Traffic Impact Analysis (TIA) is required for any “proposed rezoning or Master Plan...if the nature of the proposed rezoning or development is such that the number of trips it can be expected to generate equals or exceeds 150 new peak hour trips.” The trips generated by the proposed development are less than were anticipated with the original TIA for Parkstone; therefore, a new TIA was not required and staff did not request any further analysis.

The applicant is also required to conform to the Connectivity Index (UDO Section 9.5.G), which is used “to determine the adequacy of street layout design” and compares the links (road sections between intersections) and nodes (intersections) of the proposed development. A perfect grid has a Connectivity Index of 2.00. Proposed developments in the RMX zoning district are required to have a minimum index of 1.40; this proposal has an index of 1.63.

X. COMPREHENSIVE PLAN:

During the drafting of the 2035 KnightdaleNext Comprehensive Plan, it was determined that the document should take a playbook approach that would be based on existing conditions that might change over time. As such, the categories as part of the Growth and Conservation Map were based on particular characteristics that would be likely in 2035. The subject property is designated to be “Mixed-Use Center” as a placetype.

PLACETYPE CATEGORIES

 Preserved Open Space	 Business Office
 Rural Living	 Light Industrial
 Recreation Open Space	 Heavy Industrial
 Single Family Neighborhood	 Civic & Institutional
 Mixed-Density Neighborhood	 Old Town
 Multifamily Community	 Mixed-Use Center
 Neighborhood Node	 Mixed-Use Center (Suburba
 Retail	 Transit-Oriented Developme
	 Regional Mixed-Use Center



The Mixed-Use Center placetype is defined as follows:

“A mixed-use center offers the opportunity to live, shop, work, and play in one community. Uses and buildings are located on small blocks with streets designed to encourage pedestrian movement and active public spaces. Buildings in the core of the center may stand three or more stories tall. Residential units or office space are found above storefronts. Homes surrounding the core offer several choices to live and experience the center. Parking is satisfied using on-street parking, structured parking, and shared rear-lot parking strategies. The compact, walkable environment and mix of residential and nonresidential uses in the center supports multiple modes of transportation. A large-scale mixed-use center may be surrounded by one or more neighborhoods that provide additional nearby home choices and encourage active living with a comprehensive and interconnected network of walkable streets.”



Town of Knightdale

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CONSISTENCY WITH THE COMPREHENSIVE PLAN:

North Carolina General Statute 160A-383 requires that **prior to** adoption or rejecting any zoning amendment, the governing board shall adopt a statement describing whether its action is consistent with an adopted comprehensive plan and explaining why the board considers the action to be reasonable and in the public interest.

It is staff's opinion that the following guiding principle categories would be applicable to this request.

- **Community Design** – The townhome development provides transition and connection from the southern multi-family development to the northern retail parcels. The north-south green corridor provides excellent pedestrian connectivity within the entire Parkstone development.
- **Unique Activity Centers** - The proposed development includes many unique gathering spaces and encourages pedestrian movements within the site. Large open space areas and courtyards will provide places for residents to gather and relax, and being adjacent to the future retail center will allow walkable shopping and eating opportunities.
- **Compact Development Patterns** – This project provides a transition to a higher density from the larger lots that exist to the east. The retail site aids in creating a mixture of uses at the site to further achieve the goals of the Comprehensive Plan.
- **Great Neighborhoods and Expanded Home Choices** – The proposed 148-unit townhome development includes a mix of both front and rear loaded and two and three-story product. This is a different housing choice from the multi-family to the south and the single family detached to the east. Additionally, the majority of the townhomes will front on large open space areas that will be programmed with various features for all prospective residents to enjoy.

PROPOSED WRITTEN ADVISORY STATEMENT REGARDING PLAN CONSISTENCY:

“The proposed Zoning Map Amendment is consistent with the KnightdaleNext 2035 Comprehensive Plan as it addresses several of the guiding principles such as encouraging great design and compact development patterns while creating great neighborhoods with expanded home choices. The townhome development transitions smoothly to a future retail site that is walkable, includes gathering spots, and creates a unique activity center. Further, it is consistent with the General Growth Framework and Growth & Conservation Map’s designation as a “Mixed Use Center” placetype. The request is reasonable and in the public interest as it aids in developing a vibrant, sustainable, and safe community design in which people not only desire to visit, but to also live, work, and play.”

XI. JOINT PUBLIC HEARING SUMMARY:

A joint public hearing with the Land Use Review Board and Town Council was held at the May 20, 2020 Town Council meeting. On behalf of the applicant/owner, Brian Long provided a short presentation and spoke in favor of the project. The Town received four electronic comments from citizens who were in opposition to the project. Citizen concerns were primarily related to the desire for more commercial, retail, and entertainment options instead of additional housing options.



Town of Knightdale

Staff Report

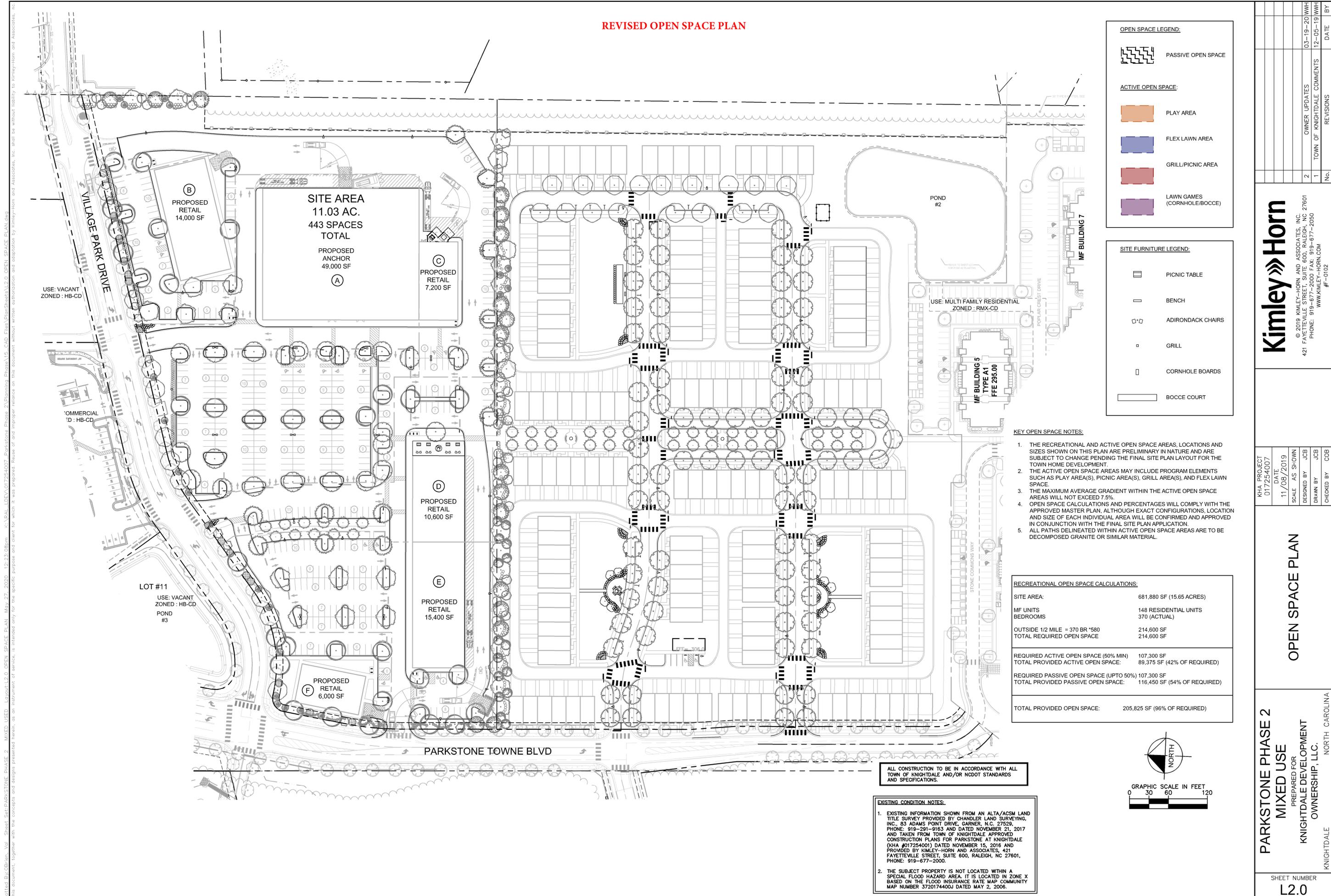
The following concerns were voiced by members of the Town Council and Land Use Review Board. Staff has discussed each item with the applicant and their response is included.

1. **Fencing Material:** Concerns were voiced about the proposed wooden fence between the townhomes and future retail center. The applicant has agreed to use a vinyl material instead of wood and would like to propose a condition that the fence will be installed when construction begins on the alley loaded townhomes along the northern shared property line.
2. **Open Space Amenities:** Multiple concerns were voiced regarding the proposed open space plan and amenities. The applicant has since revised the open space plan, which is detailed in Section VIII above.
3. **“Village Feel” of Village Park Drive:** The applicant has agreed to add additional hardscaping features along Village Park Drive, and to provide an easement for a future transit stop/bus shelter.
4. **Dumpster Location:** Concerns were heard regarding the location of the dumpster west of Retail Building E and its proximity to the townhome development. The applicant has suggested that the townhouse building can be shifted approximately 10 feet to the south toward the entrance on Parkstone Towne Blvd., which will increase the distance from the dumpster and allow more room for increased landscape screening.
5. **Outdoor Plaza in Retail Center:** There was interest in providing an outdoor gathering area in the retail center, directly adjacent to the north-south pedestrian corridor in the townhouse development. While the original master plan showed an outdoor plaza, the applicant has since added a stamped asphalt crosswalk treatment, pedestrian scaled landscaping, and seating options.

XII. STAFF RECOMMENDATION:

Review the request, forward the preceding advisory statement to Town Council, and recommend approval of ZMA-8-19, Parkstone Phase 2, pending all comments and recommendations are addressed.

REVISED OPEN SPACE PLAN



OPEN SPACE LEGEND:

- PASSIVE OPEN SPACE
- ACTIVE OPEN SPACE:
 - PLAY AREA
 - FLEX LAWN AREA
 - GRILL/PICNIC AREA
 - LAWN GAMES (CORNHOLE/BOCCE)

SITE FURNITURE LEGEND:

- PICNIC TABLE
- BENCH
- ADIRONDACK CHAIRS
- GRILL
- CORNHOLE BOARDS
- BOCCE COURT

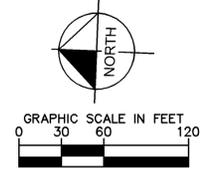
- KEY OPEN SPACE NOTES:**
- THE RECREATIONAL AND ACTIVE OPEN SPACE AREAS, LOCATIONS AND SIZES SHOWN ON THIS PLAN ARE PRELIMINARY IN NATURE AND ARE SUBJECT TO CHANGE PENDING THE FINAL SITE PLAN LAYOUT FOR THE TOWN HOME DEVELOPMENT.
 - THE ACTIVE OPEN SPACE AREAS MAY INCLUDE PROGRAM ELEMENTS SUCH AS PLAY AREA(S), PICNIC AREA(S), GRILL AREA(S), AND FLEX LAWN SPACE.
 - THE MAXIMUM AVERAGE GRADIENT WITHIN THE ACTIVE OPEN SPACE AREAS WILL NOT EXCEED 7.5%.
 - OPEN SPACE CALCULATIONS AND PERCENTAGES WILL COMPLY WITH THE APPROVED MASTER PLAN, ALTHOUGH EXACT CONFIGURATIONS, LOCATION AND SIZE OF EACH INDIVIDUAL AREA WILL BE CONFIRMED AND APPROVED IN CONJUNCTION WITH THE FINAL SITE PLAN APPLICATION.
 - ALL PATHS DELINEATED WITHIN ACTIVE OPEN SPACE AREAS ARE TO BE DECOMPOSED GRANITE OR SIMILAR MATERIAL.

RECREATIONAL OPEN SPACE CALCULATIONS:

SITE AREA:	681,880 SF (15.65 ACRES)
MF UNITS	148 RESIDENTIAL UNITS
BEDROOMS	370 (ACTUAL)
OUTSIDE 1/2 MILE = 370 BR *580	214,600 SF
TOTAL REQUIRED OPEN SPACE	214,600 SF
REQUIRED ACTIVE OPEN SPACE (50% MIN)	107,300 SF
TOTAL PROVIDED ACTIVE OPEN SPACE:	89,375 SF (42% OF REQUIRED)
REQUIRED PASSIVE OPEN SPACE (UPTO 50%)	107,300 SF
TOTAL PROVIDED PASSIVE OPEN SPACE:	116,450 SF (54% OF REQUIRED)
TOTAL PROVIDED OPEN SPACE:	205,825 SF (96% OF REQUIRED)

ALL CONSTRUCTION TO BE IN ACCORDANCE WITH ALL TOWN OF KNIGHTDALE AND/OR NCDOT STANDARDS AND SPECIFICATIONS.

- EXISTING CONDITION NOTES:**
- EXISTING INFORMATION SHOWN FROM AN ALTA/ACSM LAND TITLE SURVEY PROVIDED BY CHANDLER LAND SURVEYING, INC., 83 ADAMS POINT DRIVE, GARNER, N.C. 27529. PHONE: 919-291-9163 AND DATED NOVEMBER 21, 2017 AND TAKEN FROM TOWN OF KNIGHTDALE APPROVED CONSTRUCTION PLANS FOR PARKSTONE AT KNIGHTDALE (KHA #017254001) DATED NOVEMBER 15, 2016 AND PROVIDED BY KIMLEY-HORN AND ASSOCIATES, 421 FAYETTEVILLE STREET, SUITE 600, RALEIGH, NC 27601, PHONE: 919-677-2000.
 - THE SUBJECT PROPERTY IS NOT LOCATED WITHIN A SPECIAL FLOOD HAZARD AREA. IT IS LOCATED IN ZONE X BASED ON THE FLOOD INSURANCE RATE MAP COMMUNITY MAP NUMBER 3720174400J DATED MAY 2, 2006.



Kimley»Horn

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WWW.KIMLEY-HORN.COM

PARKSTONE PHASE 2
MIXED USE

OPEN SPACE PLAN

PREPARED FOR
KNIGHTDALE DEVELOPMENT
OWNERSHIP, LLC.

NORTH CAROLINA
KNIGHTDALE

KHA PROJECT	D17254007
DATE	11/08/2019
SCALE AS SHOWN	
DESIGNED BY	JCB
DRAWN BY	JCB
CHECKED BY	COB

OWNER UPDATES	03-19-2019	COMMENTS	
TOWN OF KNIGHTDALE	12-05-19	REVISIONS	
No.			

SHEET NUMBER

L2.0

Plotfile: B:\c\Brien_Vol_Sheet_Site-PARKSTONE PHASE 2 - MIXED USE - Layout\L2.0_OPEN SPACE PLAN - May 27, 2020 - 12:23:08pm - c:\aval\LEDA\017254007 - Parkstone Phase 2\Planning Phase\15_CAD Files\SitePlan\Sheet\L2.0_OPEN SPACE PLAN.dwg
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EXHIBIT A
ZMA-7-16

Applicant's Application

MASTER PLAN
PARKSTONE PROPOSED CONDITIONAL DISTRICT

57 ± ACRES

U.S. HIGHWAY 64 BUSINESS (KNIGHTDALE BOULEVARD)

DEVELOPER:

KNIGHTDALE DEVELOPMENT OWNERSHIP, LLC.

CONSULTANTS:

K&L Gates -- Attorneys

Kimley-Horn and Associates, Inc. -- Civil and Traffic Engineers, and Landscape Architects

Finley Design PA – Architects

Submitted: June 13, 2016

Revised: August 1, 2016

Revised: August 15, 2016

I. INTRODUCTION

This document and the accompanying plan sheets (collectively, the “*Master Plan*”) are provided pursuant to provisions of the Knightdale Unified Development Ordinance (the “*UDO*”) pertaining to the Conditional District proposed for ParkStone (the “*Development*”), a shopping center and multi-family residential development proposed by Knightdale Development Ownership, LLC (“*Developer*”). The Development will be developed in a fashion that is appropriate for the location of the Development, the nature of adjoining and nearby land uses, and the Town of Knightdale’s investment in existing infrastructure.

II. LOCATION, CURRENT ZONING, AND COMPREHENSIVE PLAN CONTEXT

The Master Plan addresses approximately 57 acres abutting U.S. Highway 64 Business (Knightdale Boulevard) designated as Lot #1 through Lot #14, inclusive, as shown on the attached Sheets C2.0 and C2.1 (the “*Property*”). The Town’s 2027 Comprehensive Plan designates Lot #1 as a Neighborhood Design area and Lots #2 through #14 as a Highway Design area, including a portion of a Primary Activity Center. Lots #2 through #14 and a portion of Lot #1 are currently zoned Highway Business-Conditional District, and a portion of Lot #1 is currently zoned Urban Residential-12.

III. THE DEVELOPMENT CONCEPT

For purposes of the Master Plan, there will be approximately ten buildings developed on Lots #2 through #14 for retail and commercial uses, as well as thirteen multifamily residential buildings and a clubhouse/amenity structure on Lot #1. Pedestrian elements, including an open green and extensive sidewalks, will connect the two sections of the Development.

As shown on Sheets C2.0 and C2.1, public street access to the Development will be provided by a new street to be extended from Knightdale Boulevard into the residential portion of the Development, running from north to south and vice versa (the “*North-South Street*”). Additional public street access is provided by Village Park Drive, which will be extended through the Property, providing access to and from the eastern and western boundaries of the Property. The Development will also be served by a private, right-in/right-out joint access from Knightdale Boulevard located on Lot #12 and Lot #13. With the additional extensions of the North-South Street and Village Park Drive as shown on Sheets C2.0 and C2.1, the Development will be served by public street access points on three sides of the Property.

The Development may be served by at least two curb cuts onto the North-South Street and by at least eight (8) curb cuts onto Village Park Drive, which curb cuts may be established as shown on Sheets C2.0 and C2.1. The owner(s) of lot(s) within the Development may request curb cuts in addition to those shown on Sheets C2.0 and C2.1.

IV. PARKSTONE MASTER PLAN

The Property will be developed as described in this document and as shown on the Master Plan attached as Sheets C2.0 and C2.1.

A. Permitted and Prohibited Uses for the Development

For purposes of the Master Plan, the term “*Allowable Commercial Uses*” shall mean and refer to those uses identified in Section 2.3.C. of the UDO, including all of the following: Hotels/Motels/Inns; Animal Services (subject to additional standards in UDO Chapter 3); ATM; Banks, Credit Unions, Financial Services; Business Support Services; Community Service Organization; Cremation Facilities; Drive Thru Service (subject to additional standards in UDO

Chapter 3); Equipment Rental (subject to additional standards in UDO Chapter 3); Funeral Homes; Government Services; Medical Services; Personal Services (subject to additional standards in UDO Chapter 3); Professional Services; Studio – Art, dance, martial arts, music; Tattoo Shop; Vehicle Services – Maintenance/Body Work/Repair (subject to additional standards in UDO Chapter 3); Auto Parts Sales; Bar/Tavern/Night Club; Drive-Thru Retail/Restaurants (subject to additional standards in UDO Chapter 3); Gas Station with Convenience Store (subject to additional standards in UDO Chapter 3); Neighborhood Retail/Restaurant – 2,000 sf or less; General Retail – 10,000 sf or less; General Retail – 10,001 sf to 50,000 sf; General Retail – Greater than 50,000 sf; Restaurant; Shopping Center – Community Center; Shopping Center – Neighborhood Center; Amusements, Indoor – 5,000 sf or less; Amusements, Indoor – 5,001 sf – 20,000 sf; Amusements, Indoor – Greater than 20,000 sf; Amusements, Outdoor (subject to additional standards in UDO Chapter 3); Cultural or Community Facility; Recreation Facilities, Indoor; Recreation Facilities, Outdoor; Theater, Movie; Laboratory – Medical, analytical, research & development; Laundry, dry cleaning plant; Media Production; Mini-Warehouses (subject to additional standards in UDO Chapter 3); Research and Development; Public Safety Facility; Religious Institutions; Schools – Vocational/Technical; Wireless Telecommunication Facility – Stealth; Child/Adult Day Care Center (6 or more people).

For purposes of the Master Plan, “*Allowable Residential Uses*” shall mean and refer to those uses identified in Section 2.3.C. of the UDO, including all of the following: Dwelling-Multifamily more than 4 units/bldg; Child/Adult Day Care Home (Fewer than 6 people) (subject to additional standards in UDO Chapter 3); Home Occupation.

For purposes of the Master Plan, “*Prohibited Uses*” shall mean and refer to the following uses identified in Section 2.3.C of the UDO: Bed and Breakfast Inns; Vehicle/Heavy Equipment

Sales; Manufacturing, Light; Manufacturing, Neighborhood; Campground; Cemeteries; Transit, Road & Ground Passenger Services; Theater, Live Performance; Storage – Warehouse, indoor storage; Wholesaling and distribution; Hospital; Utilities-Class 1 & 2; and Utilities-Class 3; Dwelling-Single Family; Dwelling-Duplex; Dwelling-Multifamily 4 units/bldg or less; Family Care Home (6 or Less residents); Housing Service for the Elderly; Live-Work Units; Rooming or Boarding House; Child/Adult Day Care Home (6 or more people); Post Office; Meeting Facilities.

Except as otherwise expressly limited herein, the Allowable Commercial Uses shall be permitted by-right on Lots #2 through #14 and shall not require a special use permit. Except as otherwise expressly limited herein, the Allowable Residential Uses shall be permitted by-right on Lot #1 and shall not require a special use permit. The Prohibited Uses shall not be permitted within the Development.

The development criteria of the buildings and lots within the Development as shown on Sheets C2.0 and C2.1 are as follows:

B. Lot #1

Uses: Lot #1 may be developed with the uses described below:

a. Stormwater Pond. Lot #1 may be permitted to be developed in part as a stormwater facility as shown generally on Sheet C2.1, which stormwater facility is shown for illustrative purposes only.

b. Multifamily Residential. Lot #1 as shown on Sheet C2.1 may be developed as apartments or as any other use permitted in the Allowable Residential Uses. Unless developed in accordance with the attached Sheet C2.1, the orientation of the buildings shall be agreed upon by

Town Administration and the owner of Lot #1, and the Town Administration shall be permitted to approve site plans for Lot #1 that deviate from the plan for Lot #1 as shown on Sheet C2.1, provided that such deviations do not constitute Substantial Changes as contemplated by Section IX.A.1 hereof and the UDO.

C. Buildings A, B, and H through K / Lots #3 through #6, #8, and #9

Uses: Buildings A, B, and H through K as shown on Sheet C2.0 may be developed as a combination of Retail/Restaurant uses, as well as any other use permitted in the Allowable Commercial Uses. Unless developed in accordance with the attached Sheet C2.0, the orientation of the above buildings shall be agreed upon by Town Administration and the owner of the respective Lot, and the Town Administration shall be permitted to approve site plans for each Lot that deviate from the plan for such Lot as shown on Sheet C2.0, provided that such deviations do not constitute Substantial Changes as contemplated by Section X.A.1 hereof and the UDO.

D. Building D / Lot #7

Uses: Building D as shown on Sheet C2.0 may be developed as a Movie Theater or as any other use permitted in the Allowable Commercial Uses. Unless developed in accordance with the attached Sheet C2.0, the orientation of Building D shall be agreed upon by Town Administration and the owner of Lot #7, and the Town Administration shall be permitted to approve site plans for Lot #7 that deviate from the plan for Lot #7 as shown on Sheet C2.0 provided that such deviations do not constitute Substantial Changes as contemplated by Section IX.A.1 hereof and the UDO.

E. Buildings C, E, F, and G / Lot #2

Uses: Lot #2 may be developed with the uses described below:

a. Stormwater Pond. Lot #2 may be permitted to be developed in part as a stormwater facility as shown generally on Sheets C2.0 and C2.1, which stormwater facility is shown for illustrative purposes only.

b. Retail. Buildings C, E, F, and G on Lot #2 as shown on Sheet C2.0 may be developed as a combination of Retail/Restaurant uses, as well as any other use permitted in the Allowable Commercial Uses. Unless developed in accordance with the attached Sheet C2.0, orientation of Buildings C, E, F, and G on Lot #2 shall be agreed upon by Town Administration and the owner of Lot #2 and the Town Administration shall be permitted to approve site plans for Lot #2 that deviate from the plan for Lot #2 as shown on Sheet C2.0 provided that such deviations do not constitute Substantial Changes as contemplated by Section X.A.1 hereof and the UDO.

F. Lots #10 and 11

Uses: At the option of the owner of each of Lots #10 and #11 (the "Buffer Lots"), each Buffer Lot shall be permitted to be developed as follows:

a. Stormwater Pond. The Buffer Lots may be permitted to be developed as stormwater facilities as shown generally on Sheet C2.0, which stormwater facility is shown for illustrative purposes only.

b. Open Space. The Buffer Lots may be permitted to be developed as stormwater facilities as shown generally on Sheet C2.0.

c. Commercial Use. The Buffer Lots, as shown on Sheet C2.0, may be developed for Retail/Restaurants uses, as well as any other Allowable Commercial Uses. Orientation of any building located on a Buffer Lot shall be agreed upon by Town Administration and the owner of

the Buffer Lot, and the Town Administration may approve site plans for Buffer Lots that deviate from the plan for the Buffer Lots as shown on Sheet C2.0 if all ordinances and policies are met. Buffer Lots may be developed in any combination of the aforementioned uses, including without limitation Allowable Commercial Uses, stormwater facilities, and open space.

2. Access/Curb Cut. In the event that a Buffer Lot is developed for a commercial use as contemplated by subsection IV.F.c above, that Buffer Lot shall be entitled to be served by at least one (1) curb cut onto an adjacent public street, subject to Town policies and standards, and to review and approval by the Town Technical Review Committee as such lot is developed.

G. Lots #12 through #14

Uses: Lots #12 through #14, inclusive (the "Outparcels"), as shown on Sheet C2.0 may be developed for Retail/Restaurants uses, as well as any other uses permitted in the Allowable Commercial Uses.

Access/Curb Cuts. Each Outparcel shall be entitled to be served by at least one (1) curb cut onto Village Park Drive per developed lot. The location of curb cuts for the Outparcels shall be reviewed and approved by the Town Technical Review Committee as each Outparcel develops.

V. REDUCTIONS IN TOWN ORDINANCE REQUIREMENTS

Pursuant to the provisions of Section 2.15.C of the UDO, the Town Council has the authority to approve a master plan as part of a required conditional district zoning that reduces certain standards of the UDO.

In light of the mixed use character of the Development; its substantial addition to the tax base; and the improvements Developer has proposed that exceed the minimum requirements

under the UDO, including for example additional buffers, landscaping, transportation improvements, and fencing; the following items are expressly approved as alternatives to UDO provisions otherwise applicable, notwithstanding any UDO provisions to the contrary:

A. Transparency and Clear Glazing:

1. All buildings shall meet the transparency requirements of Section 5.11.C.2.a., except as shown on the approved elevations attached to the Master Plan.

2. For areas used for kitchens, storage, restrooms, utility, or similar service areas, spandrel glass may be used in place of clear glass in order to satisfy the requirements of UDO Section 5.11.C.2.a.

B. Neon: Any movie theater within the development may include neon signs in excess of the limitations of Sections 12.3.D. and 12.4.K., as approved by Town Development Services staff.

C. Building materials:

1. Rear of Buildings G through J: Notwithstanding Section 5.11.C.4 of the UDO, any cementitious product may be used for the rear (east-facing) wall of buildings G through J.

2. Quick Brik or similar: Notwithstanding Section 5.11.C.4 of the UDO, buildings with a gross floor area of greater than 20,000 square feet may be permitted to include Quick Brik or a substantially similar product as an acceptable building finish in addition to those finishes contained in the UDO.

D. Flag lots: Notwithstanding the provisions of Section 4.2.K of the UDO, all Lots within the Development may be developed as shown on Sheets C2.0 and C2.1. Each lot shall meet the minimum lot width at a point not to exceed 400 feet from the right of way.

E. Setbacks:

1. Notwithstanding Section 2.11.B. of the UDO, Building K must be set back from the nearest public right-of-way generally as shown on Sheet C2.0, but in no case farther than 180 feet.

F. Parking:

1. Off-street vehicle accommodation areas, including but not limited to parking areas, are to be located in accordance with UDO Sections 10.4.A and 10.6.A, except as shown on Sheets C2.0 and C2.1.

2. Parking areas on Lots #2 through #9 shall be permitted to be developed with parking areas divided into modules containing up to 50 parking spaces per module, generally as shown on Sheets C2.0 and C2.1, notwithstanding the provisions of Section 10.6 of the UDO related to the same.

3. On-Street Parking: Notwithstanding Section 17.3 of the UDO, on-street parking shall not be provided on roadways within the Development.

G. Park and Ride spaces: Notwithstanding §10.3.B of the UDO, park and ride parking spaces shall not be required within the Development.

H. Buffers: The Development is planned for a mix of uses and includes the North-South Street between commercial uses and adjoining property to the west. Consequently, notwithstanding Sections 2.11.B and 8.6 of the UDO, (a) no buffer or setback shall be required between the commercial (zoned HBCD) and residential (zoned RMXCD) portions of the Development, nor between the multifamily (RMXCD) portion of the development and the adjacent UR12 zoning district to the west; and (b) all other setbacks and buffers between zoning districts shall be as shown on the attached Sheets C2.0 and C2.1. Land disturbance activities are permitted within any buffer in the Development, generally as depicted in Sheets C3.0 and C3.1.

I. Bicycle parking: Notwithstanding § 10.3.C. of the UDO, the Development shall include a minimum of 50 bicycle parking spaces on the Highway Business / retail portion of the Development.

J. Signage:

1. Notwithstanding the provisions of UDO Section 12.5.B, in addition to signage otherwise permitted by the UDO, one off-premise monument sign of up to 20' in height and 200 sq. ft. in area per side shall be permitted along Knightdale Boulevard for the benefit of Lots #1 through #9.

2. Notwithstanding the provisions of UDO Section 12.5.B, in addition to signage otherwise permitted by the UDO, a project branding sign of up to 4' in height and 50 sq. ft. in area shall be permitted on a decorative wall of no more than 5' in height, which wall shall be located at the southeast corner of the intersection of Village Park Drive and the North-South Street for the benefit of Lots #1 through #9. The sign base and structure shall include architectural elements similar to the approved elevations for the Development.

K. Landscaping of Parking Areas: Notwithstanding the provisions of Section 8.8 of the UDO, no more than one shade tree shall be required to be planted within any parking island in the Development. Shade trees shall be provided as indicated on the attached Sheets L2.0, L2.1, and L5.0.

L. **Street Walls and Roof Lines:**

1. For any movie theater within the Development, the façade articulation requirements of UDO Section 5.4.G. shall be met by any elevation similar to that shown for Building D on Sheet A2.

2. All roof lines of commercial buildings within the Development shall comply with Section 5.11.C.5, except as shown on the approved elevations.

M. **Tree Protection:** The tree protection provisions of the UDO shall not apply to any areas within the Property for which tree removal is consistent with a state or federal permit allowing for the impacting of jurisdictional streams, wetlands, or riparian buffer zones. Further, the standard of Section 8.5.A of the UDO shall be modified such that the standard for tree replacement in Tier 2 areas shall be that all trees greater than 15" DBH shall remain undisturbed or be replaced at a rate of 1 tree per 15" DBH.

N. **Fencing:** Notwithstanding Section 4.8.B of the UDO, the fence near the eastern boundary of the Development shown on Sheets C2.0 and C2.1 may be constructed of wood.

VI. ADDITIONAL CONDITIONS

A. **Utility Allocation Agreement**

The developer and owners of the Property shall agree to a Utility Allocation Agreement.

The Town shall have no obligation to provide public water and sewer service to the Property until the Owners and Developer enter a Utility Allocation Agreement with the Town.

B. **Buffers**

Developer will provide Type B and/or D buffer yards between the Property and the residential uses to the east and south of the Property, as shown on Sheets C2.0, C2.1, L2.0, and L2.1. Upon completion of clearing and grading activities, the existing vegetation will be assessed by Town staff to confirm that it is sufficient to meet the performance standard per Chapter 8 of the Town of Knightdale UDO. Should the standard not be met, the developer will work with Town staff to identify supplemental vegetation necessary to achieve the performance standard of UDO Section 8.6.B.

A six-foot-high wooden fence shall be installed within the buffers along portions of the eastern and southern boundaries of the Property, as shown on the attached Sheets C2.0 and C2.1.

C. Unity of Development

All buildings will generally exhibit architectural compatibility with the illustrative Elevations attached to the Master Plan application through integrated design features, common building materials and appropriate scale of development; provided that color shall not be required to be one of the design elements unifying the Development. Because the Elevations are illustrative in nature, the unity of development standards for each individual lot comprising the Property may be modified and determined on a site specific basis.

D. Landscape Maintenance and Location

Either the Developer or a designated operator under an operating agreement for the Development or a property owners' association for the Development shall maintain the common areas within the Development, including the stormwater detention ponds as shown on Sheets C2.0 and C2.1. For clarity, common areas that the Developer or a property owners' association must maintain do not include undisturbed buffer areas that meet applicable standards.

Landscaping of the Development shall be in accordance with the Landscape Plan attached hereto as Sheets L2.0 and L2.1.

E. Stormwater Management

Stormwater management for the Development shall be provided in accordance with Sheets C3.0 and C3.1 and the Stormwater Plan included with the Master Plan application submittal.

Stormwater management infrastructure may change in size or shape at the time of

submission of construction drawings. Stormwater collection systems in public rights-of-way shall conform to the Town's standards and specifications. Collection systems on private property may utilize storage devices, bioretention areas or rain gardens, and other alternative design concepts.

F. Road Construction

1. The North-South Street and Village Park Drive through the Development shall be constructed in accordance with the street sections shown on Sheet C5.0 and the Town's Arterial and Collector Plan. These streets shall be public roads upon completion and dedication to the Town. In connection with the construction of any public roads within the Development as shown on Sheets C2.0 and C2.1, the Town may be identified as the applicant on any permit(s) to cross or otherwise impact jurisdictional wetlands and/or stream buffers if such permits are required by the State of North Carolina or the United States Army Corps of Engineers. Developer and/or the owner of the lot requiring any permit to cross or otherwise impact jurisdictional wetlands and/or stream buffers shall bear the sole cost and expense associated with any permits to be procured hereunder.

2. Developer also shall construct one additional right turn lane within eastbound Knightdale Boulevard onto the North-South Street and lengthen the left turn lane within westbound Knightdale Boulevard, as recommended by the Traffic Impact Analysis prepared by Kimley-Horn and Associates, Inc. for the Development. The above recommended traffic and roadway improvements for the Development are described in the Traffic Impact Analysis submitted herewith and will be constructed, provided such

improvements are approved by the North Carolina Department of Transportation and the Town of Knightdale.

3. In addition to the above required and recommended improvements, as further provided on Sheets C2.0 and C2.1 and subject to North Carolina Department of Transportation approval, Developer agrees to make the following additional improvements in accordance with the UDO requirements: (a) re-stripe Knightdale Boulevard from its intersection with the North-South Street northward to its intersection with Smithfield Road; (b) install signal heads at the intersection of Knightdale Boulevard and the North-South Street; (c) improvements to the north side of Knightdale Boulevard relating to the signalization of the intersection of Knightdale Boulevard and the North-South Street; and (d) improvements to the driveway entrance of the Wake Stone quarry property across Knightdale Boulevard from the Development, generally as shown in the Utility Allocation Agreement referenced in condition A, above.

G. Pedestrian Orientation

Sidewalks of five feet (5') in width shall be constructed along both sides of the North-South Street (except where necessary to accommodate additional landscaping on the western portion of the Property where the HB zone abuts adjacent UR12 zoning), Village Park Drive, and the private right-in, right-out entrance to the Development along Knightdale Boulevard; between the multifamily residential buildings and parking areas on Lot #1; and between each building on Lots #2 through #14 and the adjoining parking areas, all as shown on Sheets C2.0 and C2.1. As individual lots within the Development are submitted for site plan approval, only those portions

of the sidewalks that are contained within each lot must be constructed prior to issuance of a building permit for such lot.

VII. VESTED RIGHTS

This Master Plan shall constitute a Site Specific Development Plan establishing vested rights for the Development for a period of five (5) years.

VIII. CONDITIONS OF DEVELOPMENT AND OCCUPANCY

The following are the conditions of development and occupancy that shall apply to any lot within the Property:

A. Conditions to be met prior to issuance of a Construction Improvements Permit

1. That the construction plans reflect the technical recommendations of the Technical Review Committee, the City of Raleigh Public Utilities Department and all other regulating agencies.
2. That street names be approved by the Town and Wake County.
3. That the Town and the owners and developers of the Property have agreed to and executed a Utility Allocation Agreement.

B. Conditions to be met prior to a Certificate of Occupancy

1. That all improvements be constructed as required by the approved construction plans for each lot; and
2. That road improvements and the traffic signal at Knightdale Boulevard shall be constructed as approved by NCDOT.

IX. AMENDMENTS AND APPROVALS

A. Amendments

Subject to the terms of any overall operating and reciprocal easement and maintenance agreement recorded as part of development of the Property, all of the owners of Property within the Development shall join in any amendment to this Master Plan and the exhibits hereto.

B. Approvals

Unless otherwise provided herein, the Town Manager or his or her designee shall have the authority to approve site plans and any other development plans as development occurs on the Property.

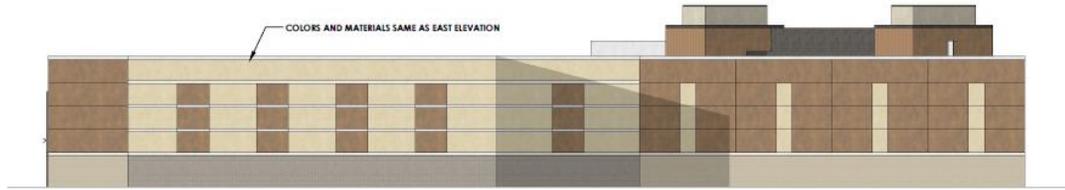
1. Substantial Changes. As provided for in Section 15.6.C. of the UDO, any change to this Master Plan that results in a net increase in the number of lots or a net increase of more than 10% of a building's heated floor area shall be considered a "*Substantial Change*" and shall be reviewed by the Land Use Review Board and approved or denied by the Town Council as an amended conditional district.

2. Administrative Changes. Except for Substantial Changes as described above, the Town Manager or his or her designee may approve minor alterations to this Master Plan as "*Administrative Changes.*" All changes to the Master Plan that are not Substantial Changes shall be considered Administrative Changes. Such minor alterations include, without limitation, minor or non material changes in lot lines, driveway access points, and changes in public street locations, lot lines, driveway access points, and changes in street or sidewalk construction standards that do not affect the traffic-carrying

capacity of the respective streets or sidewalks. Appeals of administrative changes shall be made to the Land Use Review Board.



8 WEST ELEVATION - BUILDING C
 1/16" = 1'-0"
 GLAZING CALCULATIONS:
 70'L X 14'H = 980 SF X 0.4 = 392 SF REQUIRED (40%)
 ACTUAL GLAZING PROVIDED: 370 SF (38%)



4 SOUTH ELEVATION - BUILDING D
 1/16" = 1'-0" GLAZING CALCULATIONS:
 NONE



7 NORTH ELEVATION - BUILDING C
 1/16" = 1'-0"
 GLAZING CALCULATIONS:
 60'L X 14'H = 840 SF X 0.4 = 336 SF REQUIRED (40%)
 ACTUAL GLAZING PROVIDED: 390 SF (46%)



3 WEST ELEVATION - BUILDING D
 1/16" = 1'-0" GLAZING CALCULATIONS:
 NONE



6 SOUTH ELEVATION - BUILDING C
 1/16" = 1'-0"
 GLAZING CALCULATIONS:
 58'L X 14'H = 812 SF X 0.4 = 325 SF REQUIRED (40%)
 ACTUAL GLAZING PROVIDED: 310 SF (38%)



2 EAST ELEVATION - BUILDING D
 1/16" = 1'-0"
 GLAZING CALCULATIONS:
 236'L X 14'H = 3,304 SF X 0.4 = 1,322 SF REQUIRED (40%)
 ACTUAL GLAZING PROVIDED: 1,556 SF (47%)



5 EAST ELEVATION - BUILDING C
 1/16" = 1'-0" GLAZING CALCULATIONS:
 70'L X 14'H = 980 SF X 0.4 = 392 SF REQUIRED (40%)
 ACTUAL GLAZING PROVIDED: 540 SF (55%)



1 NORTH ELEVATION - BUILDING D
 1/16" = 1'-0" GLAZING CALCULATIONS:
 NONE



8 NORTH ELEVATION - BUILDING A
 1/16" = 1'-0" GLAZING CALCULATIONS:
 NONE



7 EAST ELEVATION - BUILDING A
 1/16" = 1'-0" GLAZING CALCULATIONS:
 60'L X 14'H = 840 SF X 0.4 = 336 SF REQUIRED (40%)
 ACTUAL GLAZING PROVIDED: 160 SF (19%)



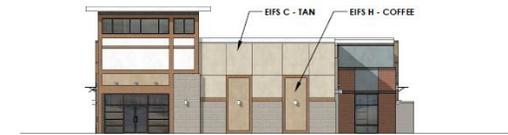
6 WEST ELEVATION - BUILDING A
 1/16" = 1'-0" GLAZING CALCULATIONS:
 59'L X 14'H = 826 SF X 0.4 = 330 SF REQUIRED (40%)
 ACTUAL GLAZING PROVIDED: 124 SF (15%)



5 SOUTH ELEVATION - BUILDING A
 1/16" = 1'-0" GLAZING CALCULATIONS:
 69'L X 14'H = 966 SF X 0.4 = 386 SF REQUIRED (40%)
 ACTUAL GLAZING PROVIDED: 480 SF (50%)



4 WEST ELEVATION - BUILDING B
 1/16" = 1'-0" GLAZING CALCULATIONS:
 312'L X 14'H = 4,368 SF X 0.4 = 1,747 SF REQUIRED (40%)
 ACTUAL GLAZING PROVIDED: 1,412 SF (32%)



3 NORTH ELEVATION - BUILDING B
 1/16" = 1'-0" GLAZING CALCULATIONS:
 72'L X 14'H = 1,008 SF X 0.4 = 403 SF REQUIRED (40%)
 ACTUAL GLAZING PROVIDED: 264 SF (26%)



2 SOUTH ELEVATION - BUILDING B
 1/16" = 1'-0" GLAZING CALCULATIONS:
 75'L X 14'H = 1,050 SF X 0.4 = 420 SF REQUIRED (40%)
 ACTUAL GLAZING PROVIDED: 430 SF (41%)



1 EAST ELEVATION - BUILDING B
 1/16" = 1'-0" GLAZING CALCULATIONS:
 312'L X 14'H = 4,368 SF X 0.4 = 1,747 SF REQUIRED (40%)
 ACTUAL GLAZING PROVIDED: 2,364 SF (54%)



TOWN OF KNIGHTDALE

www.knightdalenc.gov

DEVELOPMENT SERVICES DEPARTMENT

950 Steeple Square Court
Knightdale, NC 27545
(v) 919.217.2243
(f) 919.217.2249

MASTER PLAN

In accordance with Development Process outlined in Chapter 15 of the Unified Development Ordinance, Master Plan submittals are required for all Site Plans, Major Subdivisions, Special Use Permits, and Conditional Districts. Completed applications shall include all of the submittal requirements included on Page 2 of this package, and must be submitted in accordance with the schedule established by the Development Services Department. Approval of the Master Plan is not an authorization to begin site construction.

PROJECT INFORMATION

PROJECT NAME: Parkstone Phase 2

PROJECT ADDRESS: 901 Parkstone Towne Boulevard, Knightdale, NC 27545

WAKE COUNTY PIN(S): 1744843799

PROPOSED USE: Mix of Commercial / Retail Uses and Residential

PROPOSED SQ. FT.: 102,200 sf Commercial PROPOSED LOTS: 156 DENSITY (DWELLING/ACRE): 148/15.68 = 9.44
148 Townhomes

ZONING DISTRICT: HBCD SITE ACRES: 26.68 INSIDE CORPORATE LIMITS: YES
 (11.00 Commercial & 15.68 Residential)

CONTACT INFORMATION

APPLICANT: Knightdale Development Ownership, LLC PHONE: (704) 248-7838 FAX: _____

ADDRESS: PO Box 3
Dewitt, NY 13214

Brian Long EMAIL: blong@widewaters.com

SIGNATURE: 

PROPERTY OWNER: Knightdale Development Ownership, LLC PHONE: (704) 248-7838 FAX: _____

ADDRESS: PO Box 3
Dewitt, NY 13214

Brian Long EMAIL: blong@widewaters.com

SIGNATURE: 

DEVELOPER: Knightdale Development Ownership, LLC PHONE: (704) 248-7838 FAX: _____

ADDRESS: PO Box 3
Dewitt, NY 13214

Brian Long EMAIL: blong@widewaters.com

SIGNATURE: 

THIS SPACE FOR DEVELOPMENT SERVICES STAFF ONLY

CASE NUMBER: _____ SUBMITTAL DATE: _____ X-REFERENCE(S): _____

FILING FEE: _____ SKETCH PLAN MEETING DATE: _____



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DEVELOPMENT SERVICES DEPARTMENT

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SUBMITTAL REQUIREMENTS

NO APPLICATION SHALL BE ACCEPTED BY THE LAND USE ADMINSTRATOR UNLESS IT CONTAINS ALL OF THE INFORMATION NECESSARY TO DETERMINE IF THE DEVELOPMENT, IF COMPLETED AS PROPOSED, WILL COMPLY WITH ALL OF THE REQUIREMENTS OF THE UNIFIED DEVELOPMENT ORDINANCE. APPLICATIONS WHICH ARE NOT COMPLETE WILL BE RETURNED TO THE APPLICANT WITH A NOTATION OF DEFICIENCIES.

THE FOLLOWING ARE TO BE SUBMITTED AT THE TIME OF INITIAL SUBMITTAL. FAILURE TO SUBMIT ALL ITEMS WILL RESULT IN DELAY OF YOUR APPLICATION. APPLICATIONS ARE TO BE RECEIVED BY 5 PM ON THE SUBMITTAL DEADLINE DATES ESTABLISHED BY THE DEVELOPMENT SERVICES DEPARTMENT.

- COMPLETED APPLICATION FORM. Application must be signed by the applicant and the property owner.
- PROCESSING FEE: The fees below are for the Master Plan based on the type of permit being requested. Fees are exact and not rounded up. Master Plans that accompany a request for conditional district will require a separate application and filing fee for Zoning Map Amendment (Re-zoning):

	<u>SITE PLAN:</u>	<u>SPECIAL USE PERMIT or</u> <u>CONDITIONAL DISTRICT:</u>
NON-RESIDENTIAL	\$300 plus \$50 per acre	\$600
RESIDENTIAL	\$300 plus \$50 per acre	See Master Plan fee
MODIFICATION		\$600

Master Plan submittals are fully electronic. Please send all documentation electronically.

- Site/civil/landscape plans must be to engineering scale (1" = 20', 1" =50', etc.). Lighting and Landscaping should be included within the Master Plan set, if required. See Page 3 of this application package for data to be included on the Master Plan.
- Please include any proposed or existing deed restrictions or owners association documents.
- MASTER PLANS REQUIRING PUBLIC HEARINGS (SPECIAL USE PERMITS OR CONDITIONAL DISTRICTS):
 - LIST OF PARCEL IDENTIFICATION NUMBERS AND OWNERS (with their mailing addresses) of all parcels adjoining, including across the street from, and within 200 feet, the parcel(s) making up the proposed development site.
 - STAMPED, PRE-ADDRESSED BUSINESS ENVELOPES for the applicant, the property owner and each owner on above list with return address reading: Town of Knightdale Development Services Department, 950 Steeple Square Court, Knightdale, NC 27545.

The Master Plan shall be drawn to the following specifications and must contain or be accompanied by the information listed below. All plans shall be submitted at a scale not less than one (1) inch = 50 feet unless otherwise authorized by the Administrator. No processing or review of a Master Plan will proceed without all of the following information:

- The boundary, as determined by survey, of the area to be developed with all bearings and distances shown and the location within the area, or contiguous to it, of any existing streets, railroad lines, perennial streams, wetlands, easements or other significant features of the tract.
- Scale denoted both graphically and numerically with north arrow.
- A vicinity map at a scale no smaller than one (1) inch equals 1,200 feet showing the location of the subdivision with respect to adjacent streets and properties.



TOWN OF KNIGHTDALE

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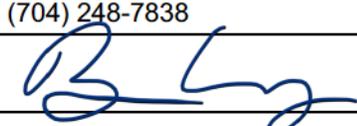
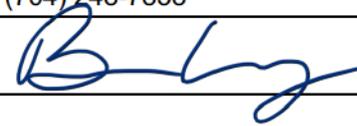
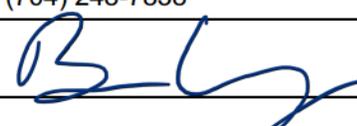
- The location of proposed buildings, parking and loading areas, streets, alleys, easements, lots, parks or other open spaces, site reservations (i.e. school sites), property lines and building setback lines with street dimensions, tentative lot dimensions and the location of any building restriction areas (i.e. flood hazard areas, buffer locations, watershed protection districts, and/or jurisdictional wetlands). Site calculations shall include total acreage of tract, acreage in parks and other non-residential uses, total number and acreage of parcels and the total number of housing units.
- Calculations for required and proposed Recreational Open Space.
- The proposed name of the development; street names; the owner's name and address; the names of adjoining subdivisions or property owners; the name of the Township, county, and state in which the development is located; the date of plan preparation and the zoning classification of the tract to be developed along with those of adjoining properties.
- Corporate limits and extra-territorial jurisdiction boundaries (where applicable).
- Typical cross-sections of proposed streets. Where a proposed street is an extension of an existing street, the profile of the street shall include 300 feet of the existing roadway with a cross-section of the existing street. Where a proposed street within the development abuts a tract of land that adjoins the development and where said street may be expected to extend into said adjoining tract of land, the profile shall be extended to include 300 feet of the said adjoining tract.
- The proposed limits of construction for all proposed development activity.
- A timetable for estimated project completion for each phase proposed.
- Original contours at intervals of not greater than two (2) feet for the entire area to be subdivided and extending into adjoining property for a distance of 300 feet at all points where street rights-of-way connect to the adjoining property and 50 feet at all other points of common project boundaries. Wake County or Town of Knightdale digital topography may be used to satisfy this requirement but should be field-verified to ensure accuracy. This requirement may be waived for developments smaller than one (1) acre or where insufficient topographic changes warrant such information.
- 2-D utility plan showing location of sanitary sewer lines, water distribution lines, storm sewer lines, manholes, clean-outs, fire hydrants, fire lines, valves, underground private utilities, backflow prevention devices showing make and model, meters and pipe sizes. If applicable, also well and septic locations, force mains, and pump stations.
- Supplemental Plans as applicable:
 - **Landscape Plan** in accordance with Section 16.8(A)
 - **Lighting Plan** in accordance with Section 16.8(B)
 - **Traffic Signs & Markings Plan** in accordance with Section 16.8(C)
 - **Architectural Plans** in accordance with Section 16.8(D)
 - **Stormwater Management Plan** in accordance with Section 16.8(E)
 - **Traffic Impact Analysis (if required)** in accordance with Section 16.9
 - **Wake County Public Schools - Residential Development Notification Submission** <https://arcg.is/CKbv5>

In addition to the above required information, the following additional information may be required by the Administrator, the Land Use Review Board or the Town Council on a discretionary site-specific basis:

- Environmental Impact Statement, pursuant to Article 113A of the North Carolina General Statutes if: (i) the development exceeds 2 acres in area; and (ii) the Land Use Review Board deems it necessary due to the nature of the land or peculiarities in the proposed design.
- Development Permit and Certification application with supporting documentation as required by the Knightdale Flood Damage Prevention Ordinance in Chapter 6.

PLANNED UNIT DEVELOPMENT APPLICATION

In accordance with Unified Development Ordinance Section 2.16, a Planned Unit Development (PUD) is a type of Planned Development District (PDD) that encourages master planning of development and to manage such development with the impacts of the development on the provision of Town services and infrastructure. Completed applications shall include all of the submittal requirements included on Page 2 of this application and on the corresponding application checklist. Applications must be submitted in accordance with the schedule established by the Development Services Department.

<u>PROJECT INFORMATION</u>			
TYPE OF APPLICATION:	<u>PLANNED UNIT DEVELOPMENT</u>		
PROJECT ADDRESS:	<u>901 Parkstone Towne Boulevard, Knightdale, NC 27545</u>		
WAKE COUNTY PIN(s):	<u>1744843799</u>		
PROPOSED PROJECT NAME:	<u>Parkstone Phase 2</u>		
PROPOSED USE:	<u>Mix of Commercial / Retail Uses and Residential</u>		
PROPOSED SQ. FT.:	<u>148 Townhomes</u>	TOWN LIMITS/ETJ:	<u>ETJ</u>
CURRENT ZONING DISTRICT:	<u>HBCD</u>	PROPOSED ZONING DISTRICT:	<u>RMX + PUD Overlay</u>
PROPOSED LOTS:	<u>149</u>	DENSITY (DWELLING/ACRE):	<u>148 units/15.68 ac = 9.44</u>
<u>CONTACT INFORMATION</u>			
APPLICANT:	<u>Knightdale Development Ownership, LLC</u>		
ADDRESS:	<u>PO Box 3, Dewitt, NY 13214</u>		
PHONE:	<u>(704) 248-7838</u>	EMAIL:	<u>blong@widewaters.com</u>
SIGNATURE:			
PROPERTY OWNER:	<u>Knightdale Development Ownership, LLC</u>		
ADDRESS:	<u>PO Box 3, Dewitt, NY 13214</u>		
PHONE:	<u>(704) 248-7838</u>	EMAIL:	<u>blong@widewaters.com</u>
SIGNATURE:			
DEVELOPER:	<u>Knightdale Development Ownership, LLC</u>	<u>(704) 248-7838</u>	
ADDRESS:	<u>PO Box 3, Dewitt, NY 13214</u>		
PHONE:	<u>(704) 248-7838</u>	EMAIL:	<u>blong@widewaters.com</u>
SIGNATURE:			
THIS SPACE FOR DEVELOPMENT SERVICES STAFF ONLY			
CASE NUMBER:	<u>PUD - _____ - _____</u>	SUBMITTAL DATE:	X-REFERENCE(s):
FILING FEE:	SKETCH PLAN MEETING DATE:		

SUBMITTAL REQUIREMENTS

NO APPLICATION SHALL BE ACCEPTED BY THE LAND USE ADMINSTRATOR UNLESS IT CONTAINS ALL OF THE INFORMATION NECESSARY TO DETERMINE IF THE DEVELOPMENT, IF COMPLETED AS PROPOSED, WILL COMPLY WITH ALL OF THE REQUIREMENTS OF THE UNIFIED DEVELOPMENT ORDINANCE. APPLICATIONS WHICH ARE NOT COMPLETE WILL BE RETURNED TO THE APPLICANT WITH A NOTATION OF DEFICIENCIES.

THE FOLLOWING ARE TO BE SUBMITTED AT THE TIME OF INITIAL SUBMITTAL. FAILURE TO SUBMIT ALL ITEMS WILL RESULT IN DELAY OF YOUR APPLICATION. APPLICATIONS ARE TO BE RECEIVED BY 5 PM ON THE SUBMITTAL DEADLINE DATES ESTABLISHED BY THE DEVELOPMENT SERVICES DEPARTMENT.

- **COMPLETED APPLICATION FORM.** Application must be signed by the applicant and the property owner.
- **PROCESSING FEE:** The fees below are based on the type of application being submitted. Fees are exact and not rounded up. Master Plans that accompany a request for conditional district will require a separate application and filing fee for Zoning Map Amendment (Re-zoning). Fee are subject to change July 1 of each year.

	MASTER PLAN:	SPECIAL USE PERMIT or CONDITIONAL DISTRICT:	PLANNED UNIT DEVELOPMENT:	COMMERCIAL SITE PLAN
NON-RESIDENTIAL	\$300 plus \$50 per acre	\$600	\$600	\$250 plus \$50 per acre
RESIDENTIAL	\$300 plus \$50 per acre	See Master Plan fee	\$600	

- All plan submittals are **electronic**. Please send all documentation via email or a file sharing service.
- For additional submittal requirements, refer to the corresponding checklist based on application type.

**PLANNED UNIT DEVELOPMENT
APPLICATION CHECKLIST**

TO BE COMPLETED BY APPLICANT	YES	N/A
PRE-SUBMITTAL REQUIREMENTS		
1. Pre-Application Conference	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2. Sketch Plan Approval	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3. Neighborhood Meeting in accordance with UDO Ch.15.3.C	<input checked="" type="checkbox"/>	<input type="checkbox"/>
SUBMITTAL REQUIREMENTS		
1. Completed Application	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2. Processing Fee	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3. Public Hearing Postage Fees	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4. Wake County Public Schools Residential Development Notification , if applicable	<input checked="" type="checkbox"/>	<input type="checkbox"/>
5. Traffic Impact Analysis, if applicable	<input checked="" type="checkbox"/>	<input type="checkbox"/>
SUBMITTAL SPECIFICATIONS		
1. Neighborhood Meeting Report: The report must include a list of those persons and organizations contacted about the neighborhood meeting, the date, time, and location of the meeting, a roster of the persons in attendance at the meeting, and a summary of issues discussed at the meeting; including a description of how the applicant proposes to respond to neighborhood concerns or changes made as a result of the meeting.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2. Vision and Intent Statement: (reference UDO Ch. 2.15.C)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3. Unified Development Ordinance Consistency: Provide a statement of consistency with the UDO. Any variation from the UDO must be explained and alternate means of compliance provided.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4. Comprehensive Plan Consistency: Provide a statement of consistency with the adopted KnightdaleNext 2035 Comprehensive Plan	<input checked="" type="checkbox"/>	<input type="checkbox"/>
5. Design Guidelines: Provide a comprehensive list of proposed design guidelines that demonstrate the project will be appropriate within the context of the surrounding properties and the larger community. This includes architectural elevations representative of the proposed structures.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
6. Zoning Designation: Include a request for a zoning designation that matches the proposed density (reference UDO Ch. 2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
7. Boundary & Significant Feature Survey: The boundary, as determined by survey, of the area to be developed with all bearings and distances shown and the location within the area, or contiguous to it, of any existing streets, railroad lines, perennial streams, wetlands, easements or other significant features of the tract	<input checked="" type="checkbox"/>	<input type="checkbox"/>
8. Scale & North Arrow: Scale denoted both graphically and numerically with north arrow	<input checked="" type="checkbox"/>	<input type="checkbox"/>
9. Vicinity Map: A vicinity map at a scale no smaller than 1 inch equals 1,200 feet showing the location of the PUD with respect to adjacent streets and properties	<input checked="" type="checkbox"/>	<input type="checkbox"/>
10. Site Data: Calculations must Include total acreage, acreage in parks and other non-residential uses,	<input checked="" type="checkbox"/>	<input type="checkbox"/>

total number and acreage of parcels, and the total number of housing units		
11. General Layout Map: A map delineating the boundaries of proposed uses and building types. This map should include descriptive conditions indicating the use, density, and building type of each distinct area of the proposed district.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
12. Dimensional Standards: Description of dimensional standards and any modifications to the general use regulations (reference UDO Ch. 2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
13. Transportation: Show all major streets and any collector/arterials required, as well as connectivity to adjacent parcels. Any modifications to street sections or request for modified street sections shall be included (reference: UDO Ch. 9 and Ch. 17)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
14. Recreational Open Space: All open space shall be provided as required in UDO Ch. 7. Any variation shall provide the same area of open space and must be consistent with the general spirit and intent of the UDO.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
15. Landscaping: Tree protection and landscaping shall meet the criteria of UDO Ch. 8, except in cases where variations would meet the general spirit and intent of the UDO.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
16. Signs: Signs shall meet the criteria of UDO Ch. 12, except in cases where variations would meet the general spirit and intent of the UDO.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
17. Public Facilities: PUDs require all necessary infrastructure improvements to provide adequate transportation, water, sewer, and all other infrastructure improvements required by UDO Ch. 17.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
18. Phasing Plan: This is required if more than one phase is proposed. In mixed-use proposals the non-residential component shall be phased in association with a percentage of the total residential units not to exceed 75%. Phasing must be consistent with the installation of public infrastructure improvements.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
19. Stormwater Management: A generalized stormwater management plan (reference UDO Ch. 6)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ADDITIONAL REQUIREMENTS		
1. Water Allocation Policy Compliance	<input checked="" type="checkbox"/>	<input type="checkbox"/>

See UDO Chapters 2.15 and 16.5 for additional description of all requirements

Planned Unit Development

Town of Knightdale Project #ZMA-8-19

This PUD document has not been updated to show the revised open space plans

Parkstone Townhomes
901 Parkstone Towne Boulevard

Knightdale, North Carolina
KHA Project ID No. 017254007

Prepared for:
Widewaters
Knightdale Development Ownership, LLC
Submitted: October 17, 2019
Resubmitted: February 14, 2020
Revised: March 6, 2020
Revised: April 30, 2020

PLANNED UNIT DEVELOPMENT

PARKSTONE TOWNHOMES
901 PARKSTONE TOWNE BOULEVARD
KNIGHTDALE, NORTH CAROLINA

PREPARED FOR:
WIDEWATERS
KNIGHTDALE DEVELOPMENT OWNERSHIP, LLC
PO BOX 3
DEWITT, NY 13214

PREPARED BY:
KIMLEY-HORN AND ASSOCIATES, INC.
421 FAYETTEVILLE ST. SUITE 600
RALEIGH, NORTH CAROLINA 27601
NC CERT. OF AUTH: F-0102

SUBMITTED: OCTOBER 17, 2019
RESUBMITTED: FEBRUARY 14, 2020
REVISED: MARCH 6, 2020
REVISED: APRIL 30, 2020

KHA #017254007

Disclosure Statement:

This document, together with the concepts and designs presented herein, as an instrument of service, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.

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6. **LANDSCAPING AND OPEN SPACE**
7. **ROADS AND UTILITIES**
8. **NEIGHBORHOOD MEETING REPORT**

1. VISIONING STATEMENT

The Parkstone Master Plan incorporates a mix of retail and residential uses. Widewaters is proposing 148 townhomes adjacent to the recently constructed apartment community. The proposed townhomes will be within a Planned Unit Development District. This district is designed to encourage master planning of the development so as to manage the impacts of the development on the provision of Town Services and infrastructure. The Planned Unit Development encourages creativity and innovation in the design of development. The subject project addresses the following goals as stated below:

- Provide exceptional design, character, and quality;
 - The stated architectural building elements located proximately to other residential communities and retail will provide a high-quality work-play experience.
- Provide high quality community amenities;
 - Open space amenities in extreme proximity to the Townhomes will provide opportunities for relaxation, congregation, and exercise. Additionally, the adjacency of retail will provide for walkable shopping and eating.
- Incorporate creative design in the layout of buildings;
 - The Townhomes front walkable streets and expansive green areas at the heart of the Parkstone development.
- Ensure compatibility with surrounding land uses and neighborhood character;
 - The Townhomes are an excellent transition from the apartments to the south and retail to the north while providing an avenue for pedestrian connection to each. An existing undisturbed buffer and fence is already providing for the adjacent lower density residential to the east.
- Ensure the creation of mixed density neighborhood nodes, and mixed-use centers;
 - The Townhomes are the nucleus of the Parkstone Mixed Use development ensuring the connection of the southern residential areas to the northern retail.
- Further the goals of the Comprehensive Plan including the growth framework and growth and conservation map;
 - The Townhomes are an infill project in a priority investment and activity center. The residential area contributes to the mix of uses and is appropriately located in the Mixed-Use area of the Growth and Conservation map.
- Provide greater efficiency in the layout and provision of roads, utilities, and other infrastructure.
 - Major infrastructure already exists at the property limits. The looped street network provides for good circulation and an excellent grid network providing all residents convenient opportunities to the open spaces and other residents.

PARKSTONE MASTER PLAN



2. EXISTING CONDITIONS

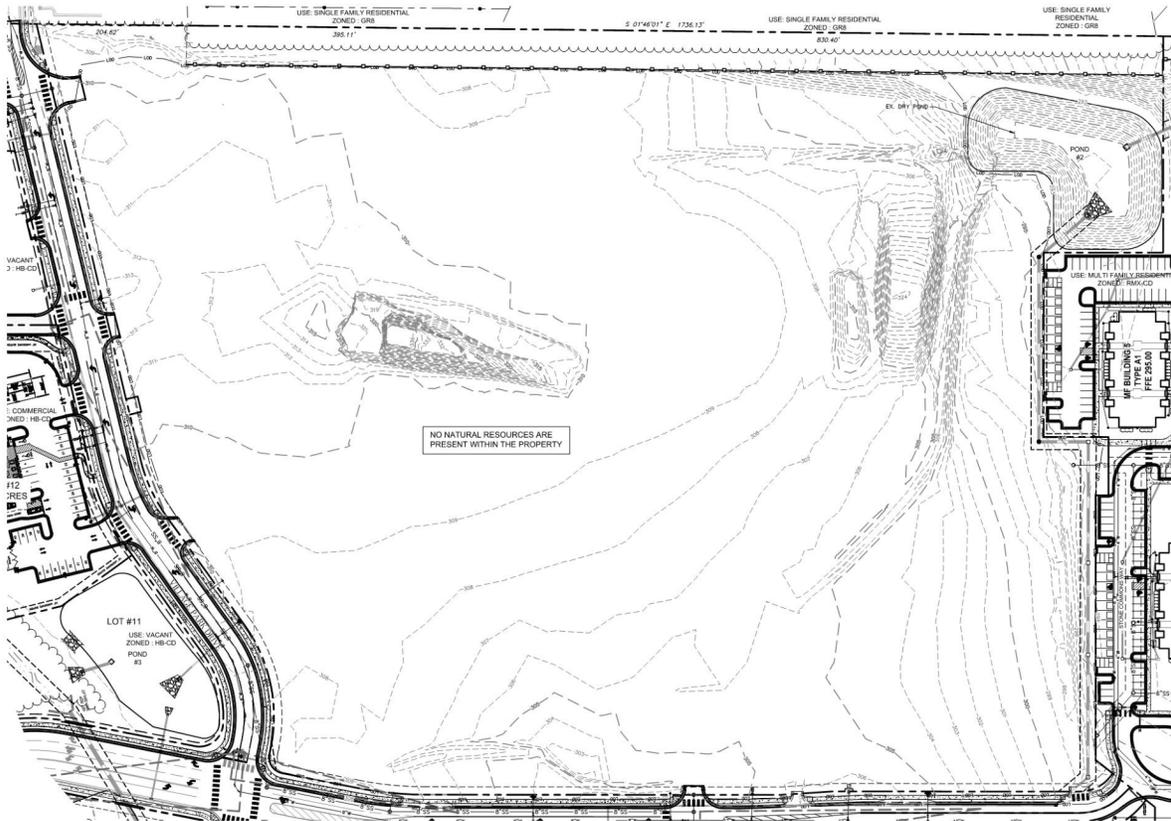
EXISTING CONDITIONS SUMMARY

Parkstone Townhomes is located on a parcel to the south of the intersection of Parkstone Towne Blvd. and Village Park Dr. The parcel is identified with the Wake County Property Identification Number: 1744843799. The parcel comprising Parkstone Townhomes slopes to the south and west from the north east. There is an existing dry detention pond on site and no other natural resources present. The land was previously cleared.

EXISTING AERIAL PHOTO



EXISTING TOPOGRAPHY



3. PARKSTONE TOWNHOMES MASTER PLAN

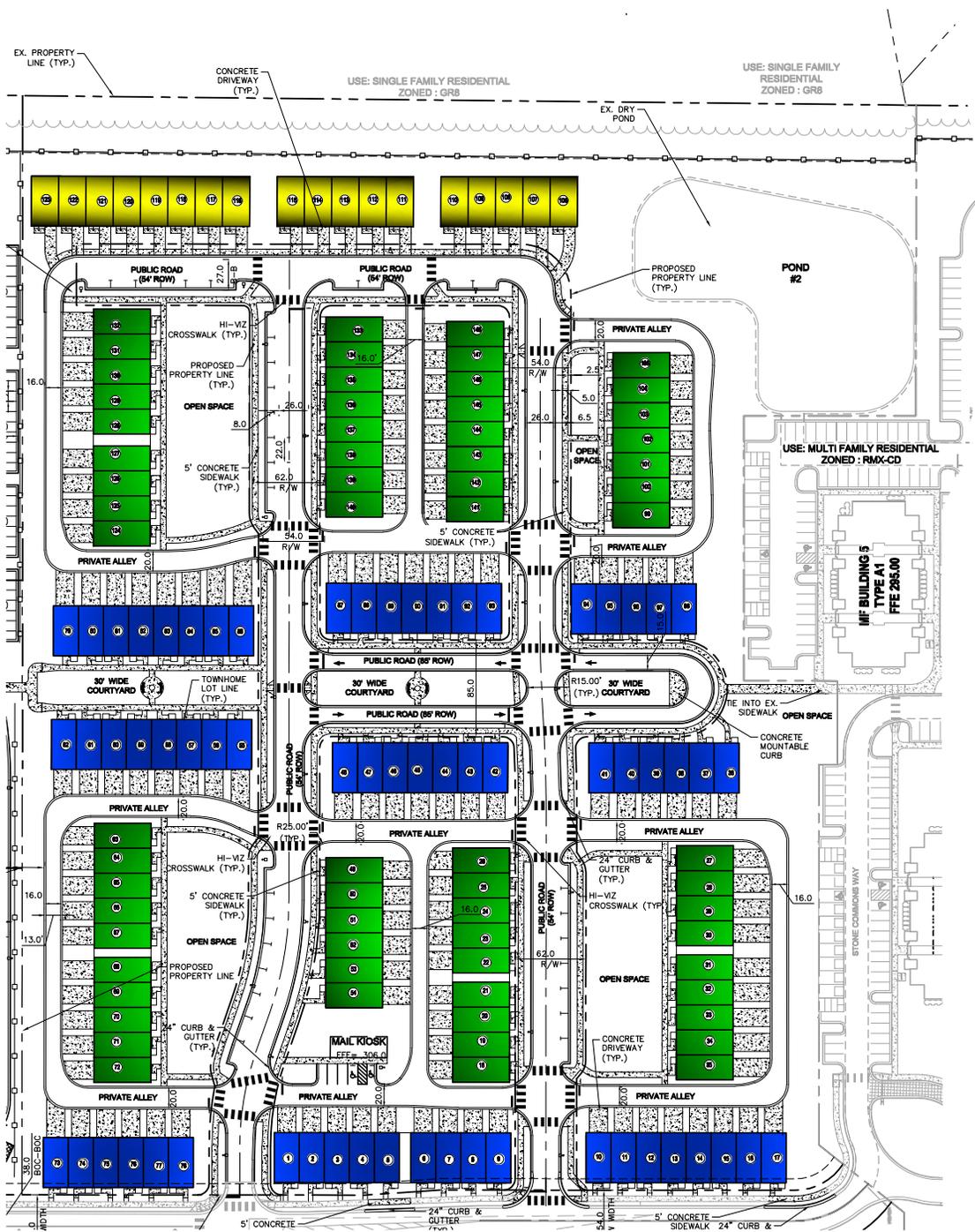
DEVELOPMENT DETAILS

Parkstone Townhomes will consist of 148 units on 15.68 acres designed to the RMX and Planned Unit Development standards of the Town of Knightdale Unified Development Ordinance. Parkstone Townhomes will provide a unique housing choice conveniently located to existing retailers and immediately adjacent to future retail. The community is also located on the periphery of an existing residential node. Parkstone Townhomes will have convenient outdoor space with a central pedestrian connection to both existing residential and future retail.

DEVELOPMENT MIX

	Number of units	Percentage of Development
• Front-loaded Townhouses	18	12.2%
• Rear-loaded Townhouses	130	87.8%
○ 3-Story	64	43.2%
○ 2-Story	66	44.6%

TOWNHOME MAP



LEGEND

- PAINTED TRAFFIC ARROW
- CONCRETE SIDEWALK
- HEAVY DUTY CONCRETE (8" @ 4000PSI)
- PROPOSED PARKING COUNT
- LIGHT DUTY ASPHALT
- DETECTABLE WARNING SURFACE

- NOTE:
1. ALL DISTANCES SHOWN ARE HORIZONTAL GROUND DISTANCES IN U.S. SURVEY FEET. (UNLESS OTHERWISE STATED)
 2. DIMENSIONS ARE TO FACE OF CURB UNLESS OTHERWISE NOTED.
 3. THERMOPLASTIC STRIPING TO BE USED FOR ALL PAVEMENT STRIPING EXCEPT PARKING STALLS.

	18 UNITS	2 STORY FRONT LOAD
	84 UNITS	3 STORY ALLEY ACCESS
	86 UNITS	2 STORY ALLEY ACCESS

USE: MULTI FAMILY RESIDENTIAL
ZONED : RMX-CD

MF BUILDING 5
TYPE A1
FFE 295.00

USE: SINGLE FAMILY RESIDENTIAL
ZONED : GR8

USE: SINGLE FAMILY RESIDENTIAL
ZONED : GR8

OPEN SPACE

CONCRETE MOUNTABLE CURB

HI-VZ CROSSWALK (TYP.)

OPEN SPACE

CONCRETE DRIVEWAY (TYP.)

PRIVATE ALLEY

5' CONCRETE SIDEWALK 24" CURB & GUTTER

MAIL ROOM

PRIVATE ALLEY

5' CONCRETE

24" CURB & GUTTER

CONCRETE DRIVEWAY (TYP.)

CROSSWALK (TYP.)

PROPOSED PROPERTY LINE (TYP.)

OPEN SPACE

5' CONCRETE SIDEWALK (TYP.)

PRIVATE ALLEY

30' WIDE COURTYARD

TOWNHOME LOT LINE (TYP.)

PRIVATE ALLEY

PRIVATE ALLEY

CROSSWALK (TYP.)

5' CONCRETE SIDEWALK (TYP.)

OPEN SPACE

PROPOSED PROPERTY LINE (TYP.)

PRIVATE ALLEY

PRIVATE ALLEY

5' CONCRETE

24" CURB & GUTTER

EX. DRY POND

PROPOSED PROPERTY LINE (TYP.)

PRIVATE ALLEY

OPEN SPACE

PRIVATE ALLEY

REAR-LOADED TOWNHOMES

Modifications to UDO Standards

Rear-Loaded Townhouses within Parkstone Townhomes will comprise 87.8% of the total number of dwelling units. Elevations and architectural standards are proposed as part of this PUD document. All townhouses will have garages and are located in close vicinity to site amenities. The proposed density will not exceed RMX standards.

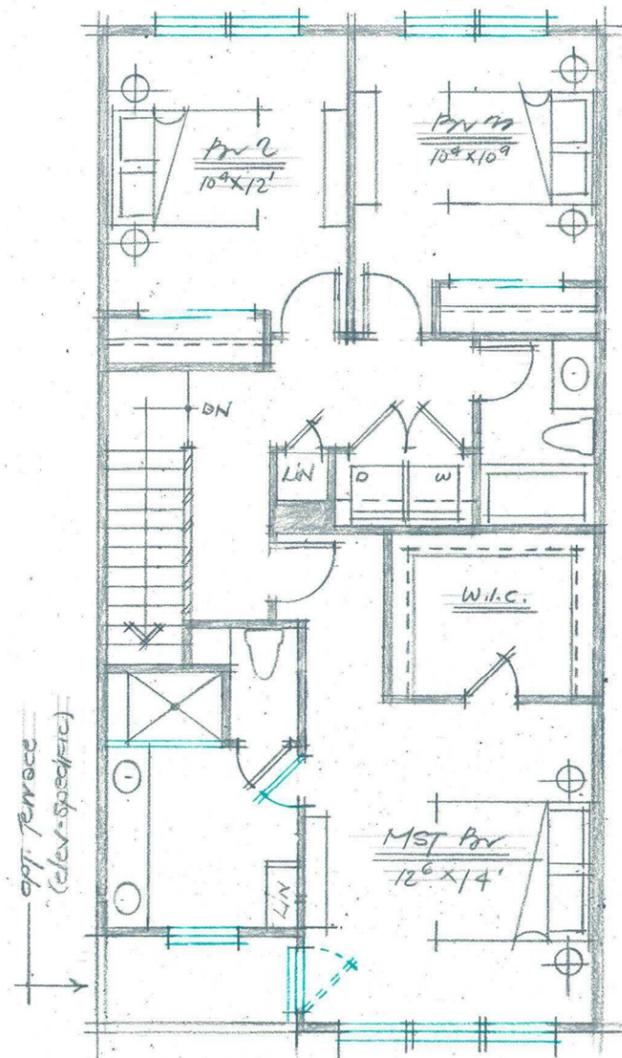
Townhouse Dwelling Standards

- Front setback (min) 0'
- Front setback (max) 25'
- Minimum building separation 6'
- Rear setback from rear lane/alley(min) 15' (exclusive of optional decks)
- Maximum building height 3 stories
- Minimum driveway length 20'

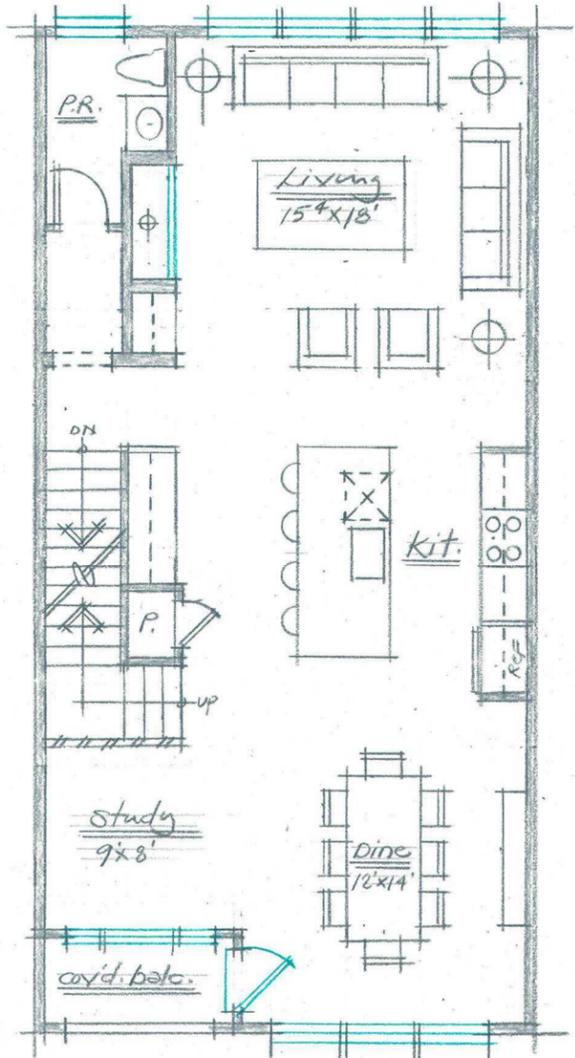
See attached elevations sheets for more details. For architectural variety, features noted as “optional” will be installed within each run of townhome units but not necessarily on each unit within the run.



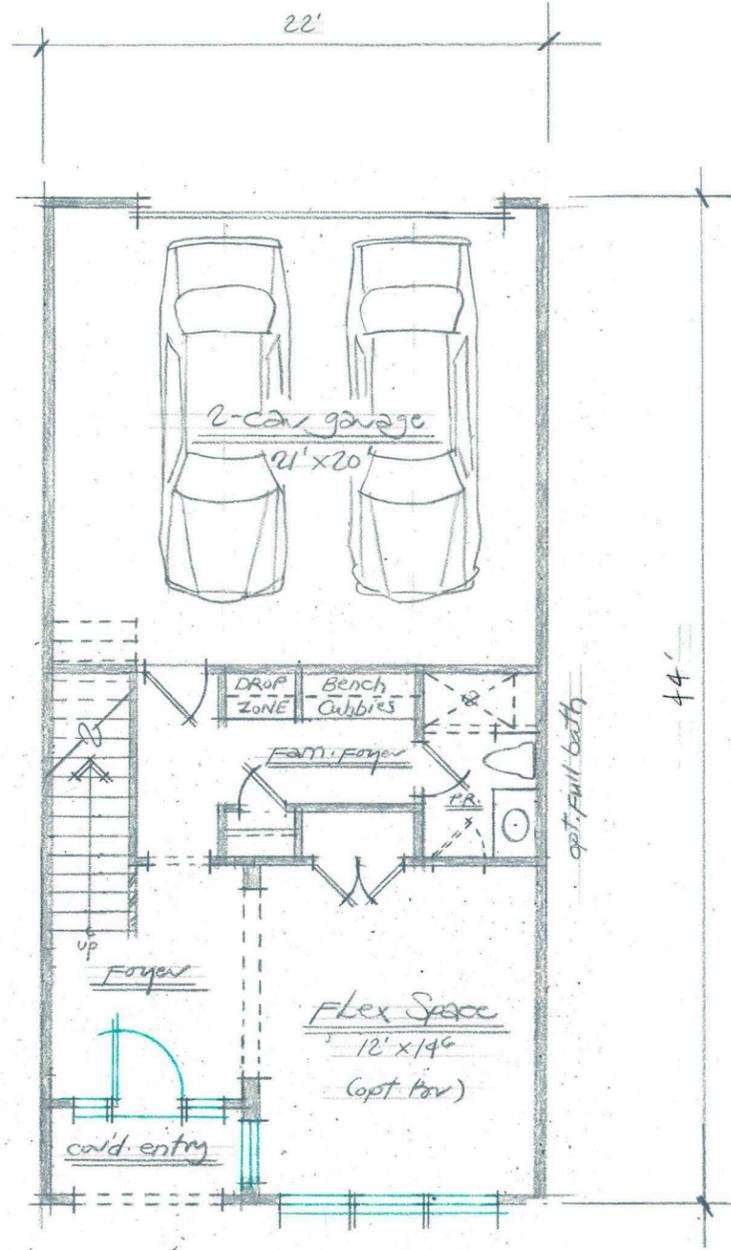




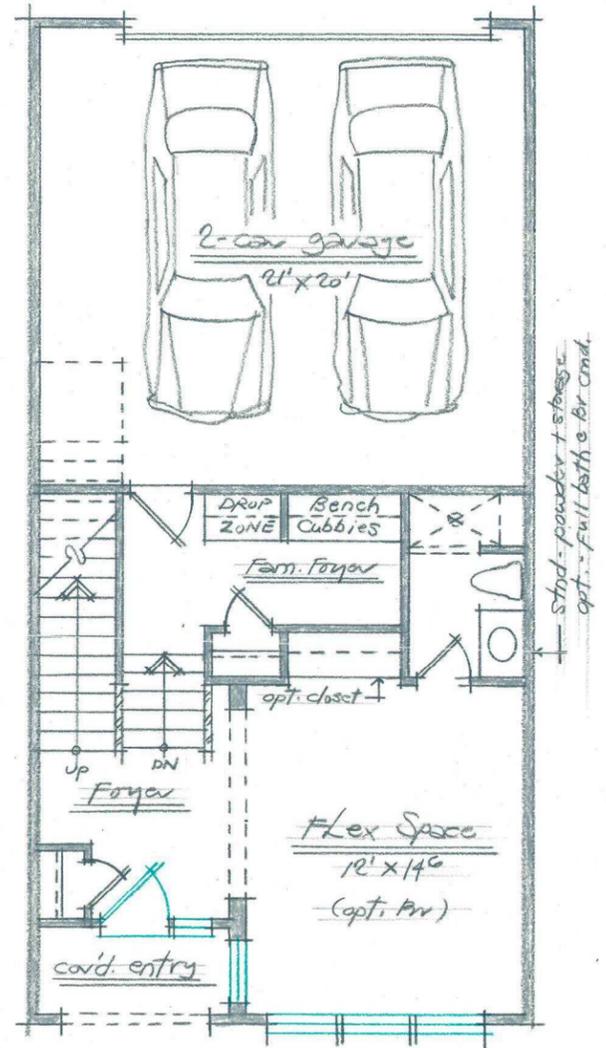
THIRD FLOOR PLAN
9'30" φ ± 9'0" φ ±



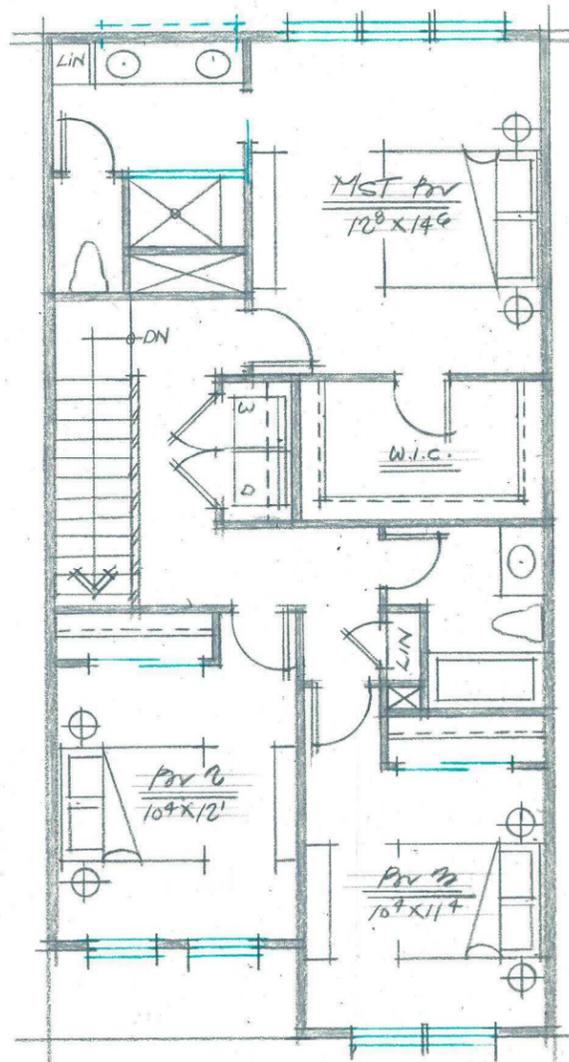
SECOND FLOOR PLAN
9'30" φ ± 9'0" φ ±



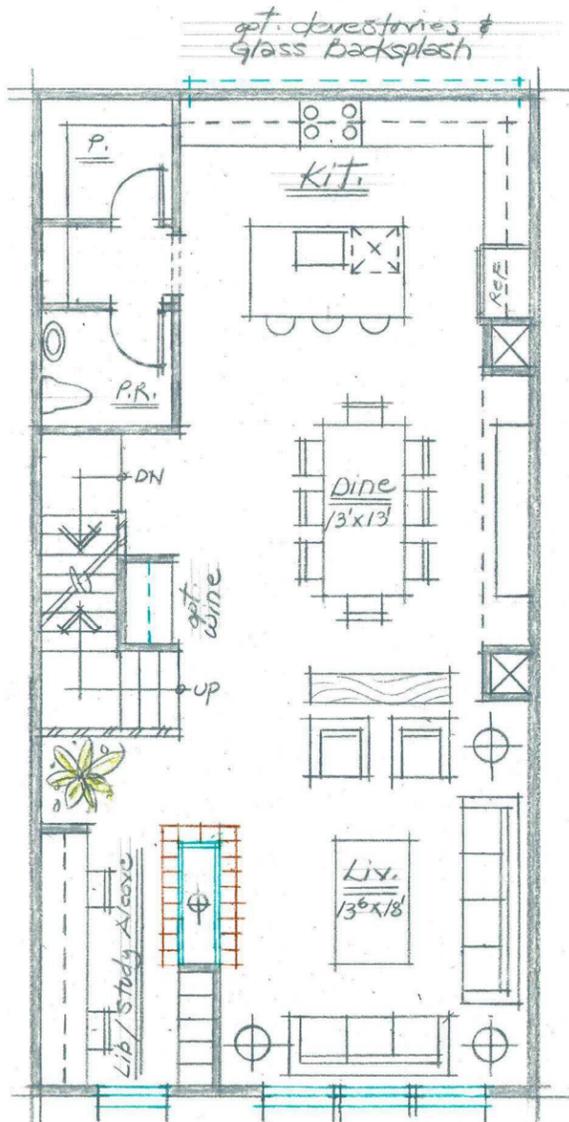
FIRST FLOOR PLAN
4'30" φ ± TOT = 23'40" φ ± 9'0" φ ±



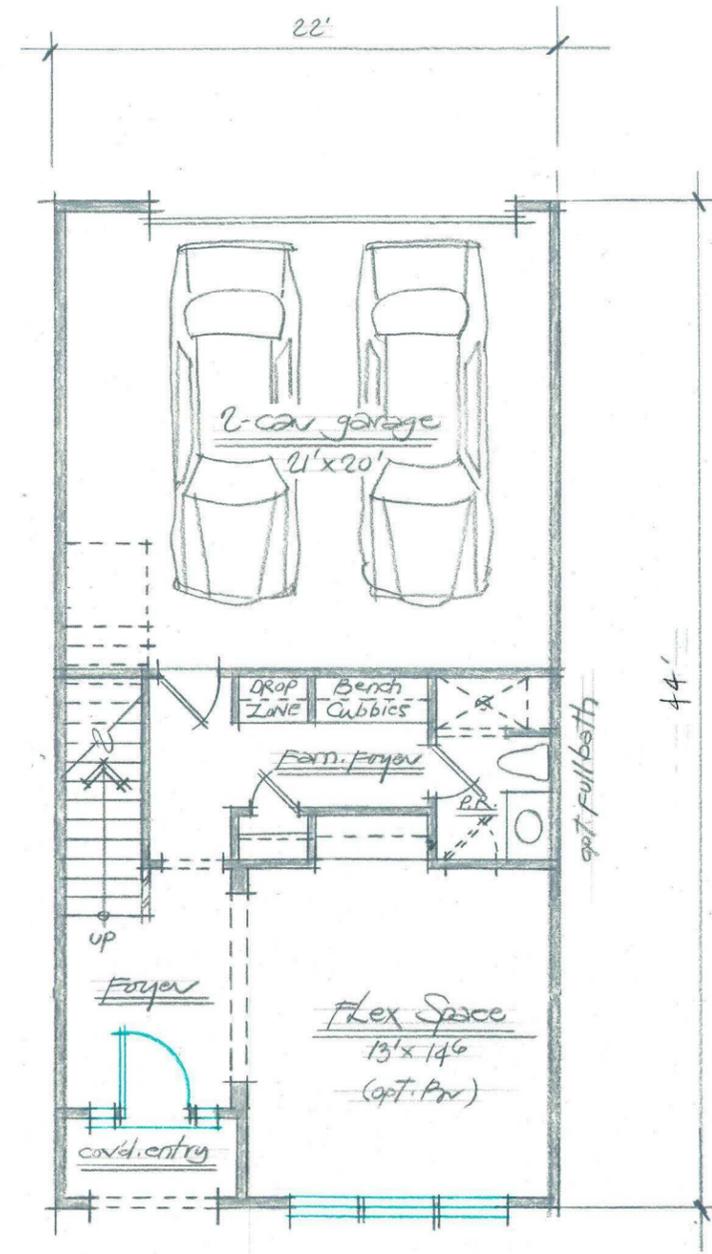
ALT. FIRST FLOOR PLAN
W/ DROPPED GARAGE



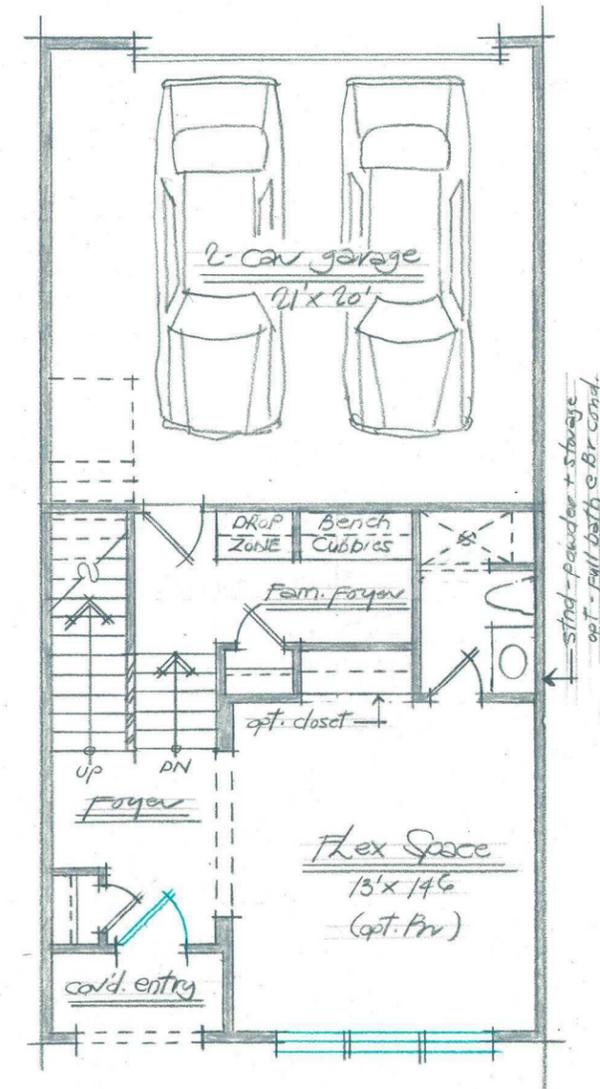
THIRD FLOOR PLAN
925 sq ft 9'6" deep



SECOND FLOOR PLAN
990 sq ft 9'6" deep



FIRST FLOOR PLAN
485 sq ft 707 = 2400 sq ft 9' deep



ALT. FIRST FLOOR PLAN
W. DROPPED GARAGE



UNIT C
ELEV 2

UNIT C
ELEV 3

UNIT D
ELEV 1

UNIT C
ELEV 1

UNIT D
ELEV 3

UNIT D
ELEV 2



UNIT C
ELEV 2

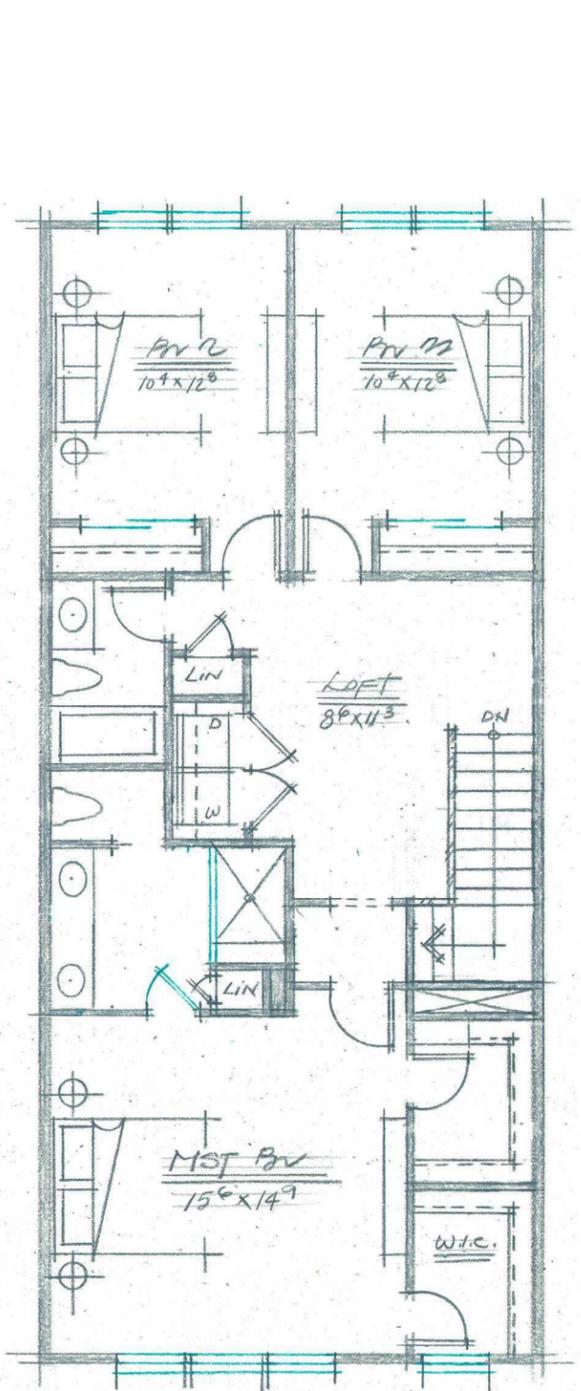
UNIT C
ELEV 3

UNIT D
ELEV 1

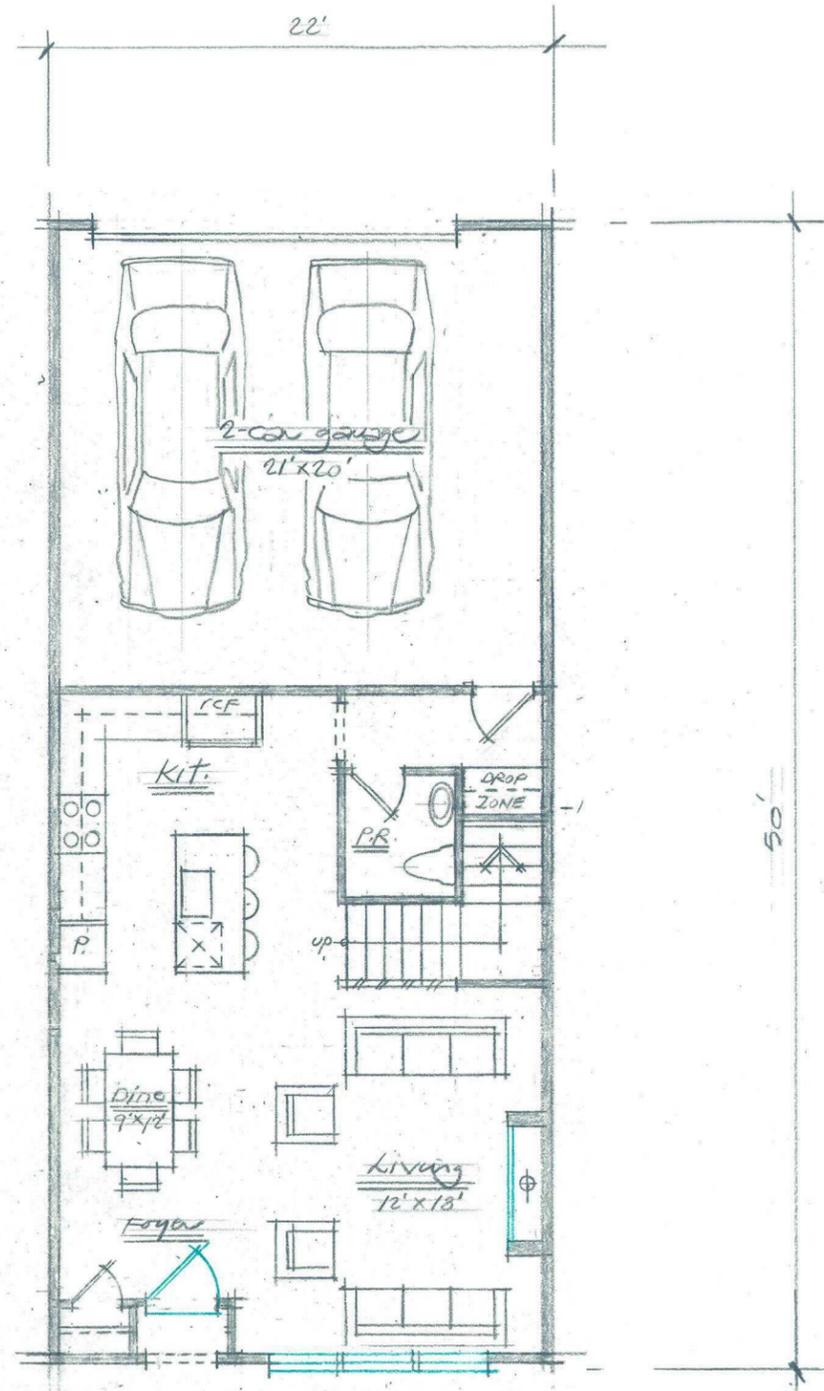
UNIT C
ELEV 1

UNIT D
ELEV 3

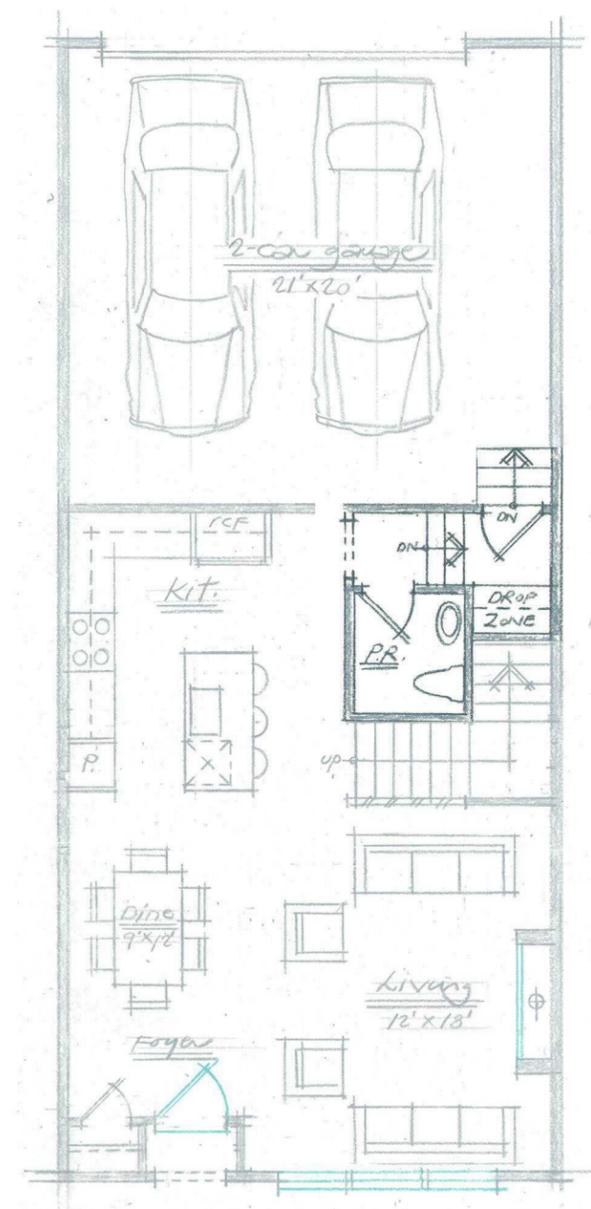
UNIT D
ELEV 2



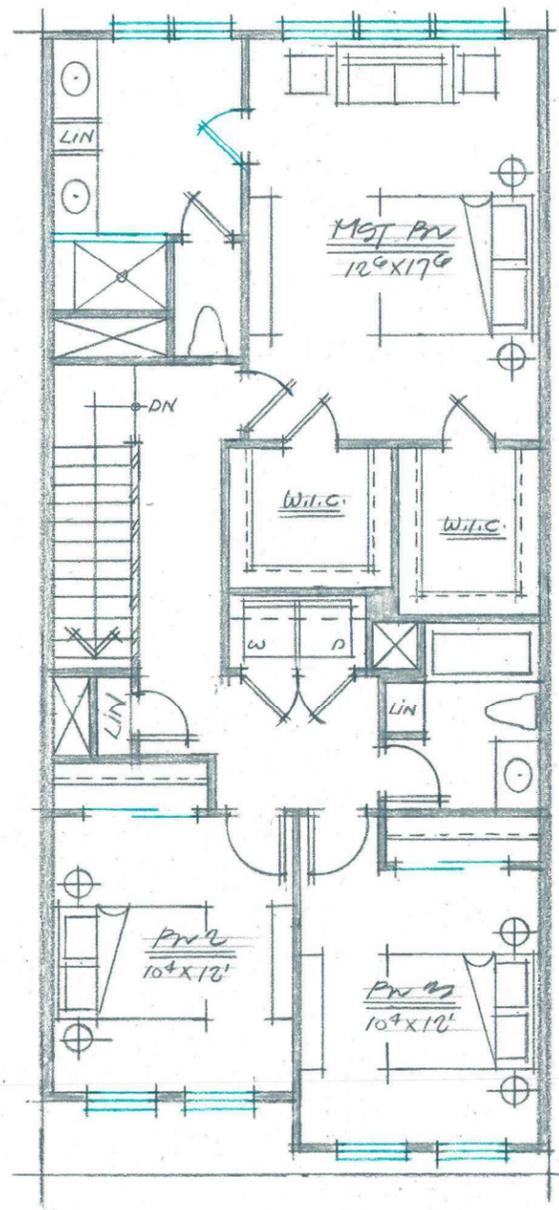
SECOND FLOOR PLAN
1100 sq ft 965



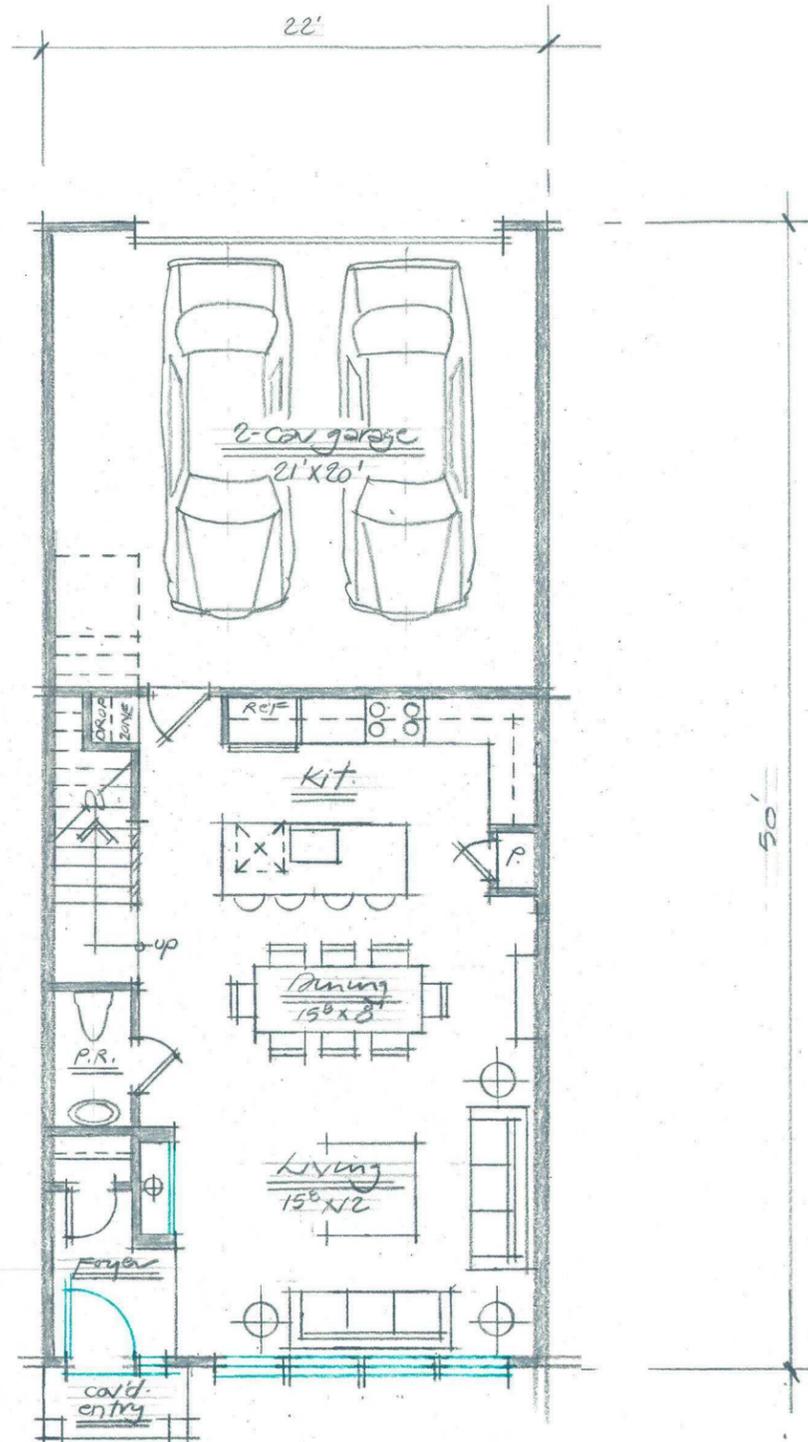
FIRST FLOOR PLAN
849 sq ft TOT = 1750 sq ft 965



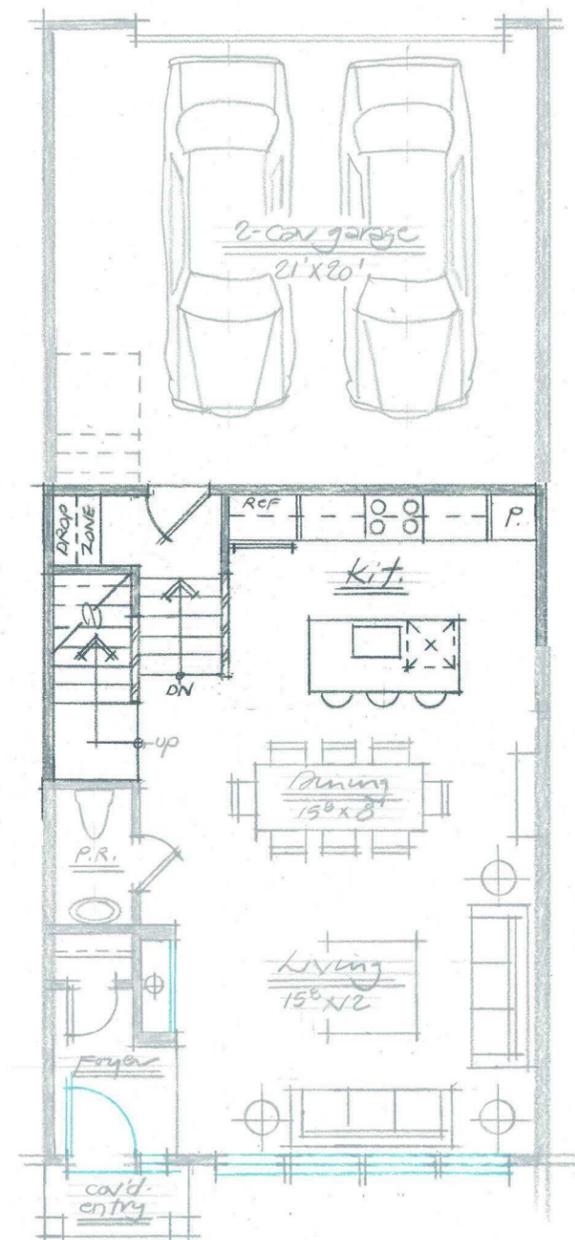
ALT. FIRST FLOOR PLAN
W/ DROPPED GARAGE



SECOND FLOOR PLAN
1051 ft² 9'clg



FIRST FLOOR PLAN
649 ft² TOT = 1700 ft² 9'clg



ALT. FIRST FLOOR PLAN
W/ DROPPED GARAGE

FRONT-LOADED TOWNHOMES

Modifications to UDO Standards

Front-Loaded Townhouses within Parkstone Townhomes will comprise 12.2% of the total number of dwelling units. Elevations and architectural standards are proposed as part of this PUD document. All townhouses will have garages and are located in close vicinity to site amenities. The proposed density will not exceed RMX standards.

Townhouse Dwelling Standards

- Front setback (min) 0'
- Front setback (max) Per master plan
- Minimum building separation 6'
- Rear setback from rear lane/alley(min) N/A
- Maximum building height 3 stories
- Minimum driveway length 20'

See attached elevations sheets for more details. For architectural variety, features noted as “optional” will be installed within each run of townhome units but not necessarily on each unit within the run.



UNIT B
ELEV 3

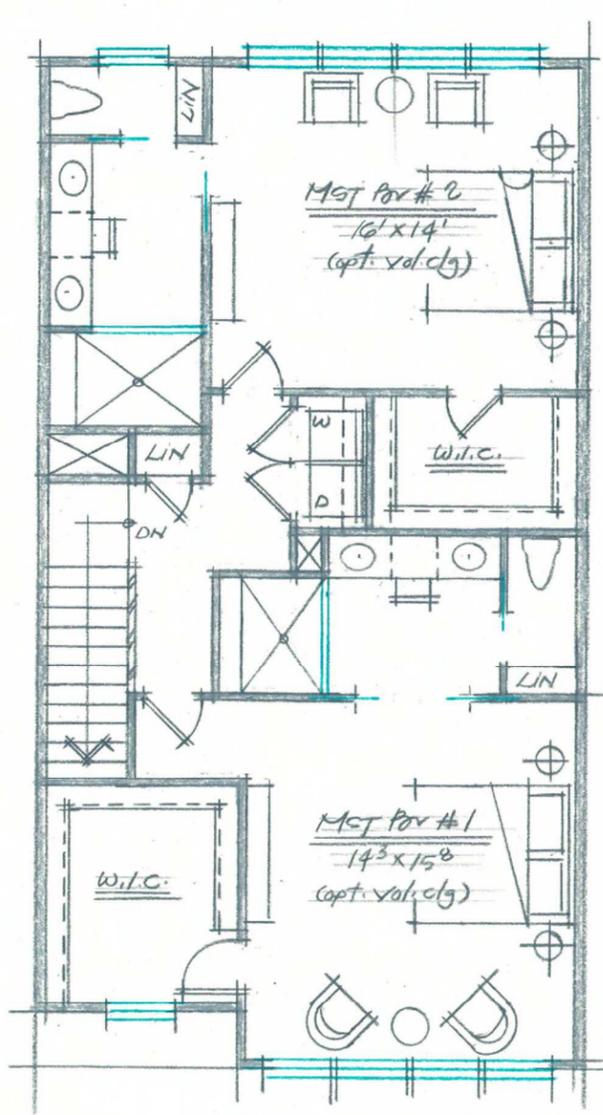
UNIT A
ELEV 1

UNIT B
ELEV 2

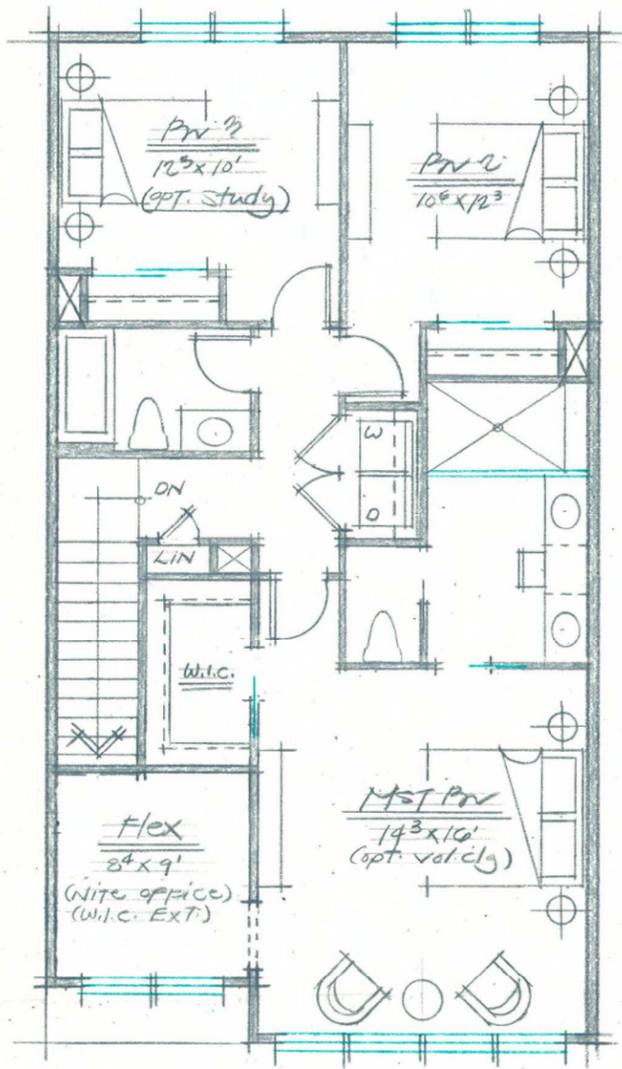
UNIT A
ELEV 2

UNIT B
ELEV 1

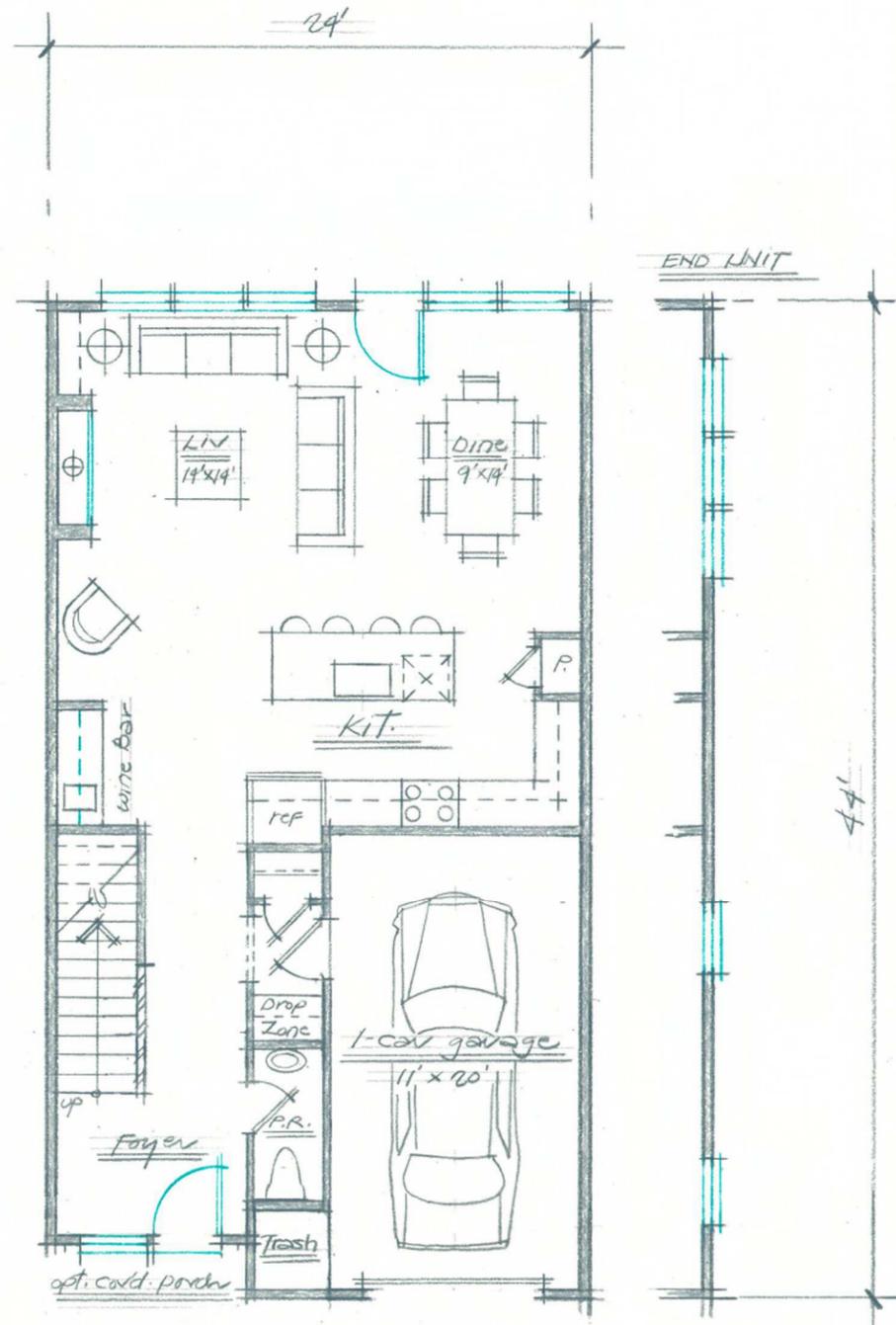
UNIT A
ELEV 3



END UNIT



END UNIT

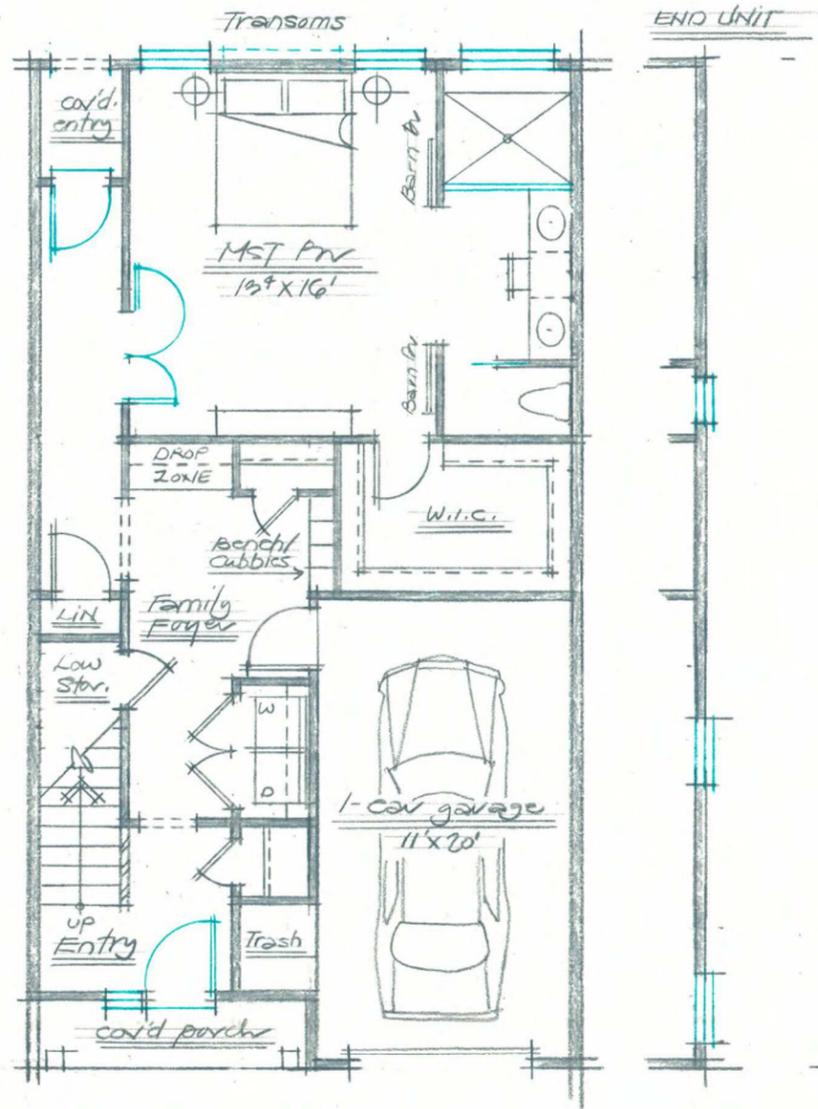


END UNIT

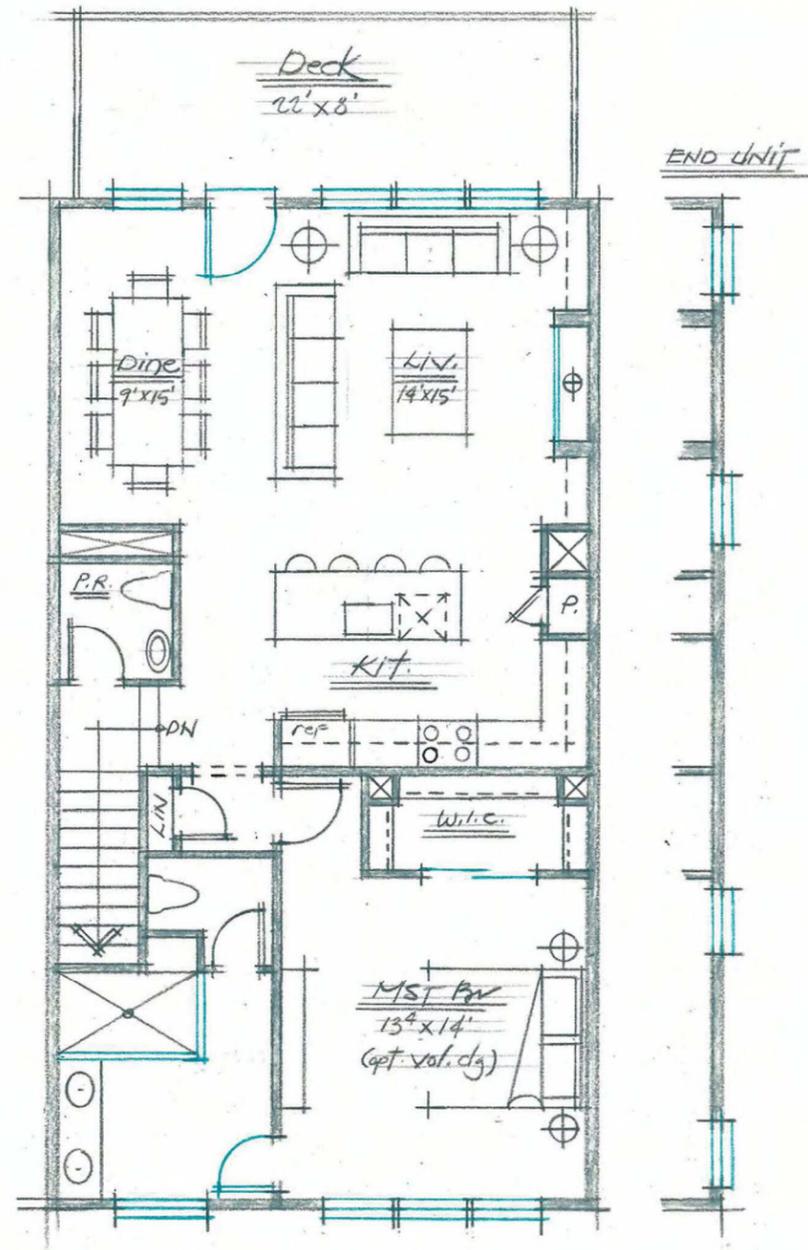
OPT. DUAL MEST BRCS
SECOND FLOOR PLAN
1056 ±

SECOND FLOOR PLAN
1056 ±

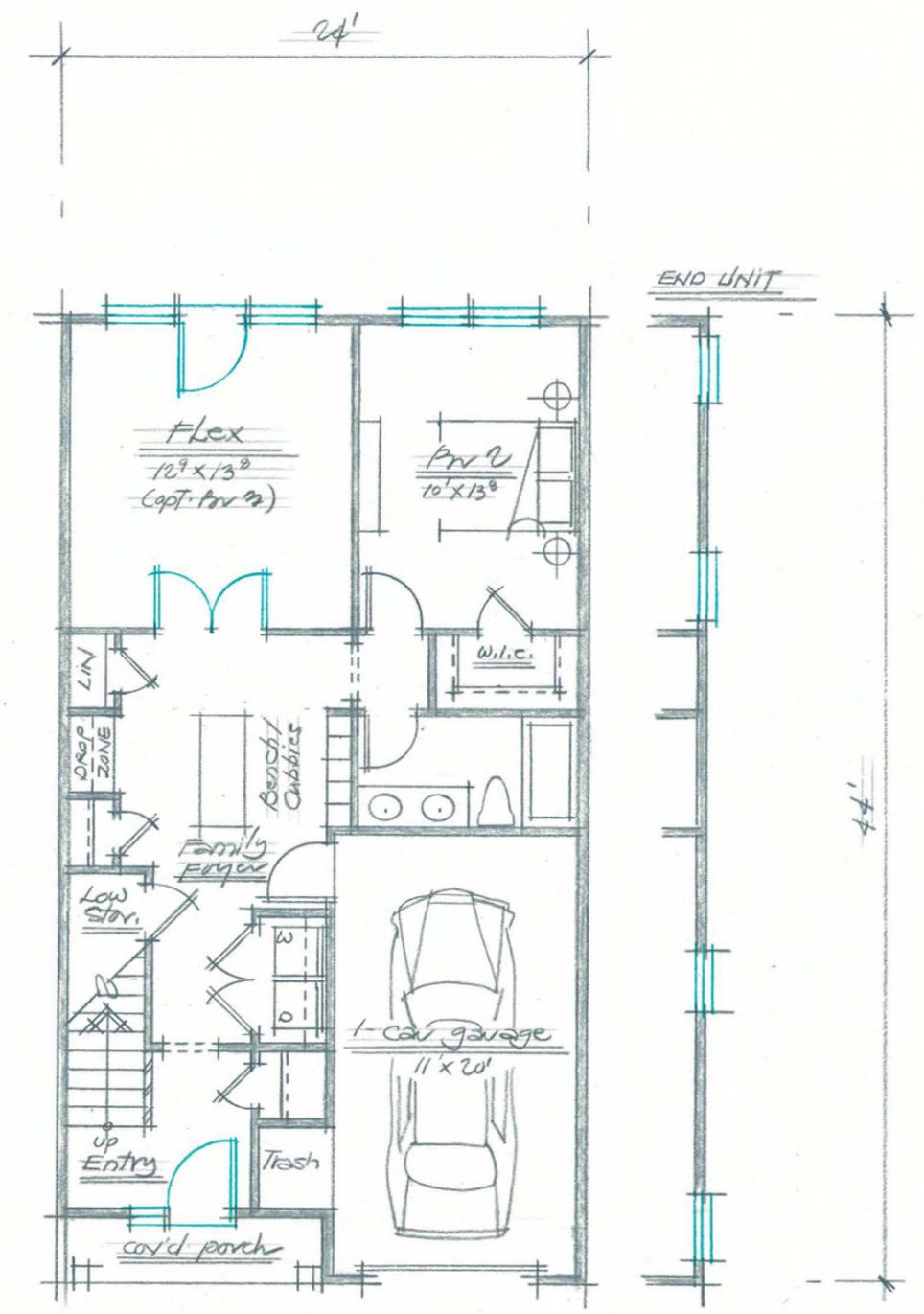
GROUND FLOOR PLAN
789 ± TOTAL = 1845 ± 9 cly



OPT. DUAL Mast Bps
 GROUND FLOOR PLAN
 750ft² TOTAL = 1800ft² 9'clg



SECOND FLOOR PLAN
 1050ft²

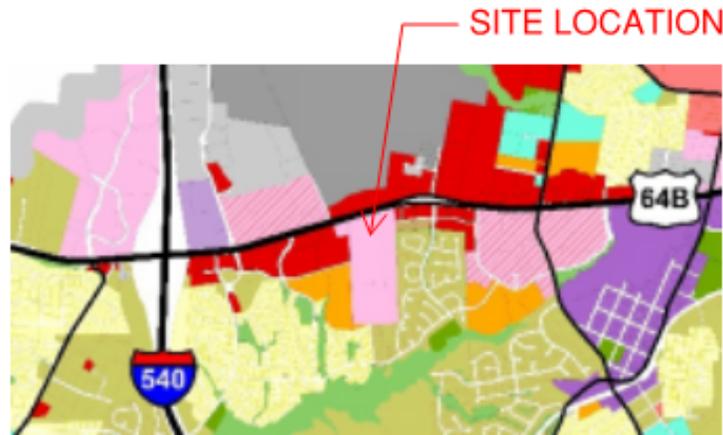


GROUND FLOOR PLAN
 770ft² TOTAL = 1820ft² 9'clg

4. 2035 COMPREHENSIVE PLAN CONSISTENCY

The Growth and Conservation Map designates this site as being a Mixed-Use Center (p49). The single family residential proposed in tandem with the existing and proposed retail in the immediate vicinity will address the goals of the mixed-use center. In conjunction with the apartments, the Townhomes form a mixed density neighborhood, are oriented to the interior of the site and are buffered from surrounding development. Consistent with this concept, Parkstone Townhomes has housing units and gathering spaces oriented to the center and a street grid to form a compact community.

GROWTH AND CONSERVATION MAP



The site is located in a Priority Investment area per the Growth Framework map (p40) and provides for infill development (p15). The Townhome type development is a higher density development based on anticipated Town growth. The site is also part of a unique activity center providing easy access to retail and restaurants (p14).

GROWTH FRAMEWORK MAP



The development provides minimal impact to the natural environment. The entire portion of the Townhome development is located in an upland area with no impacts to streams or wetlands (p14).

The development incorporates guiding principles associated with Parks and Recreation. The open spaces provide numerous opportunities for outdoor congregation and recreation. The development also is connected via sidewalk to the greenway to the south and is within walking distance to other Wellness opportunities. (p15)

Compact development patterns are also incorporated (p16). The Townhomes are single family residential type that provide density and proximity to retail and restaurants, but at the same time provide ample open space.

CONSISTENCY WITH THE UNIFIED DEVELOPMENT ORDINANCE

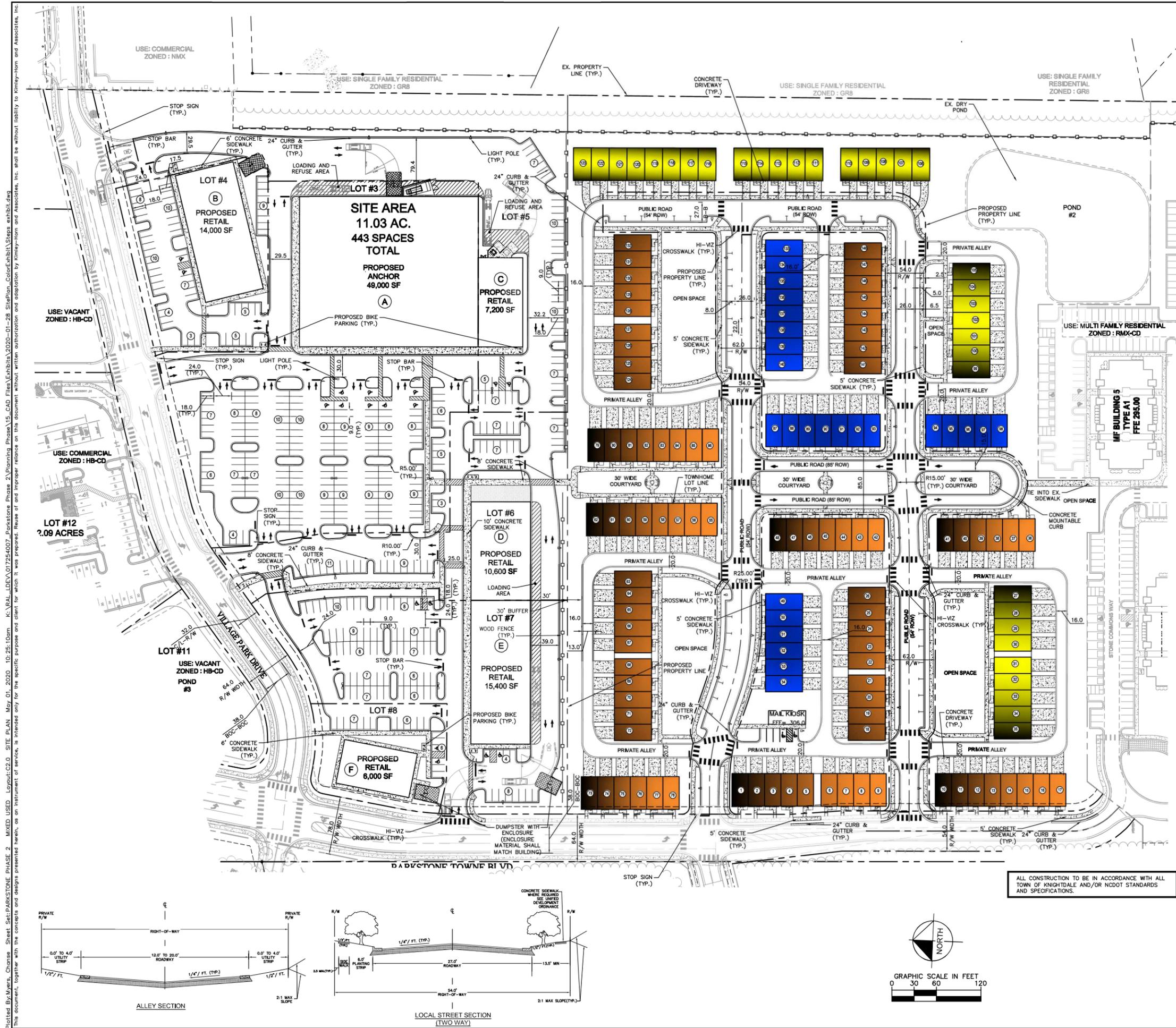
Parkstone Townhomes meet the majority of the UDO guidelines. A very limited amount of exceptions are noted in this document and are listed below:

- UDO Section 2.9.B.2.a for RMX requires that lots 80' wide or greater gain access from an alley. 18 Townhome lots less than 80' wide will have driveway access from the front street.
- An exception from UDO Section 4.9.B.3.c for Commercial is requested as wood fencing will be provided on the north perimeter within the 30' buffer, the fence will be constructed in conjunction with the retail project.
- Per UDO Section 8.6.A, a 50-foot Type C buffer is required between RMX and HB zoning districts. The required Type C Buffer materials are proposed in the variable width buffer (19' in width on the PUD property) provided on the north side of the PUD as depicted on Master Plan.
- Open space is required per section 7.3 of the UDO. 96% of the required open space will be provided as shown on sheet L2.0 of the Master Plan
- UDO Section 2.9.B.2 for RMX requires a maximum front setback of 25'. Front maximum building setbacks shall be in general accordance with the Master Plan.
- UDO Section 2.9.B.2 for RMX lists side setbacks as 10'. Minimum distance between buildings shall be 6'.

5. DESIGN GUIDELINES

TOWNHOUSE ARCHITECTURAL STANDARDS

1. Townhomes will be on monoslab foundations.
2. All front entries will be covered (either recessed or with a roof overhead)
3. All buildings will have front façade or roofline offsets.
4. Front facades of each unit will include at least one of the following: masonry, metal roof accents, shakes or board and batten. Each grouping of attached townhomes will include at least two of these items.
5. All front windows will either be set in brick, include 4” window trim, shutters or decorative pediments.
6. All units will have changes in rooflines with either gables, dormers or shed bump outs.
7. All building end gables and front and rear gables will have 12” overhangs.
8. All plank siding shall be cementitious.
9. Garage doors on front loaded units will be decorative with decorative carriage style hardware with glass.
10. Patios or decks will be provided on a minimum of 15% of the 2-story rear loaded units.
11. For 3-Story townhome types, a minimum of one balcony will be provided for attached townhomes that are 4 units or less. Townhomes with more than 4 units will provided a minimum of 2 balconies.
12. Steps will be provided at the front entry to the units in accordance with the Steps Exhibit on the following page.



LEGEND

- PAINTED TRAFFIC ARROW
- CONCRETE SIDEWALK
- HEAVY DUTY CONCRETE (8" @ 4000PSI)
- PROPOSED PARKING COUNT
- LIGHT DUTY ASPHALT
- DETECTABLE WARNING SURFACE

NOTE:

- ALL DISTANCES SHOWN ARE HORIZONTAL GROUND DISTANCES IN U.S. SURVEY FEET. (UNLESS OTHERWISE STATED)
- DIMENSIONS ARE TO FACE OF CURB UNLESS OTHERWISE NOTED.
- THERMOPLASTIC STRIPING TO BE USED FOR ALL PAVEMENT STRIPING EXCEPT PARKING STALLS.

	88 UNITS	2 STEPS
	28 UNITS	1 STEP
	34 UNITS	0 STEPS

Kimley»Horn		© 2019 KIMLEY-HORN AND ASSOCIATES, INC. 421 FAYETTEVILLE STREET, SUITE 600, RALEIGH, NC 27601 PHONE: 919-677-2000 FAX: 919-677-2050 WWW.KIMLEY-HORN.COM
STEPS EXHIBIT	KHA PROJECT 017254007	DATE 4/30/2020
PARKSTONE PHASE 2 MIXED USE	SCALE AS SHOWN	DESIGNED BY JCB
PREPARED FOR KNIGHTDALE DEVELOPMENT OWNERSHIP, L.L.C.	DRAWN BY JCB	CHECKED BY COB
NORTH CAROLINA	SHEET NUMBER C2.0	OWNER UPDATES 03-19-20 NWH
KNIGHTDALE	TOWN OF KNIGHTDALE COMMENTS	REVISIONS
NO. 1	DATE	BY

6. LANDSCAPING AND OPEN SPACE

Parkstone Townhomes will provide both active and passive recreation areas within the development. Additionally, a natural buffer was previously reserved on the east side of the property in conjunction with the Parkstone master plan approval.

Open spaces include a dog park, grill/picnic areas, a play field, lawn games and generous flexible lawn space border a significant north-south pedestrian corridor bisecting the property.

OPEN SPACE STANDARDS

• Total recreation open space required:	214,600 SF	4.93 AC
• Active recreation space required:	107,300 SF	2.46 AC
• Active recreation space provided:	89,375 SF	2.05 AC
• Passive recreation space required:	107,300 SF	2.46 AC
• Passive recreation space provided:	116,450 SF	2.67 AC
• Total open space provided:	205,825 SF	4.73 AC

CHARCOAL GRILL AREA



PLAY AREA



FLEX LAWN AREA



PICNIC/SEATING AREA



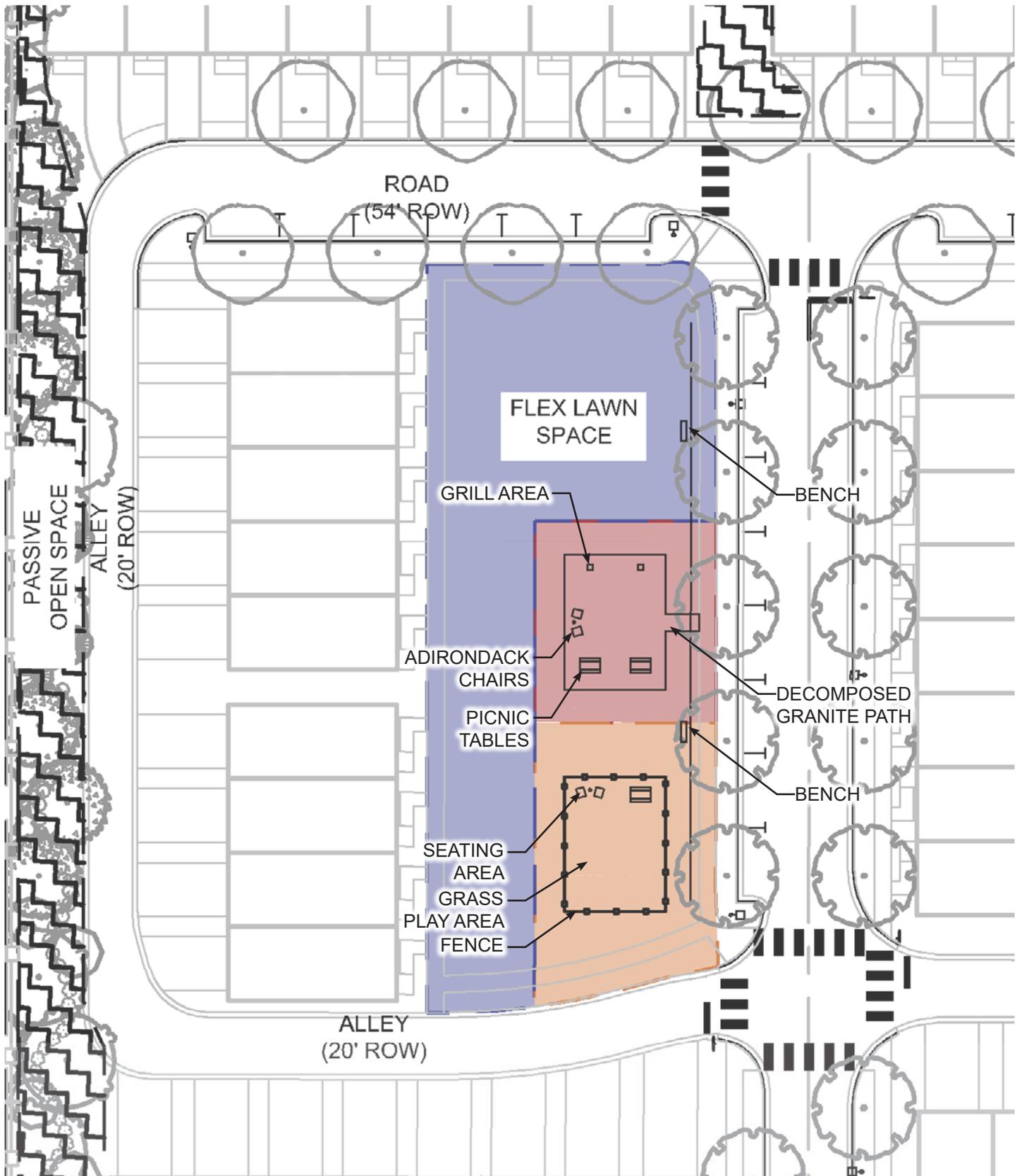
LAWN GAMES (CORNHOLE/BOCCE)



OPEN SPACE PLAN

PRECEDENT IMAGES

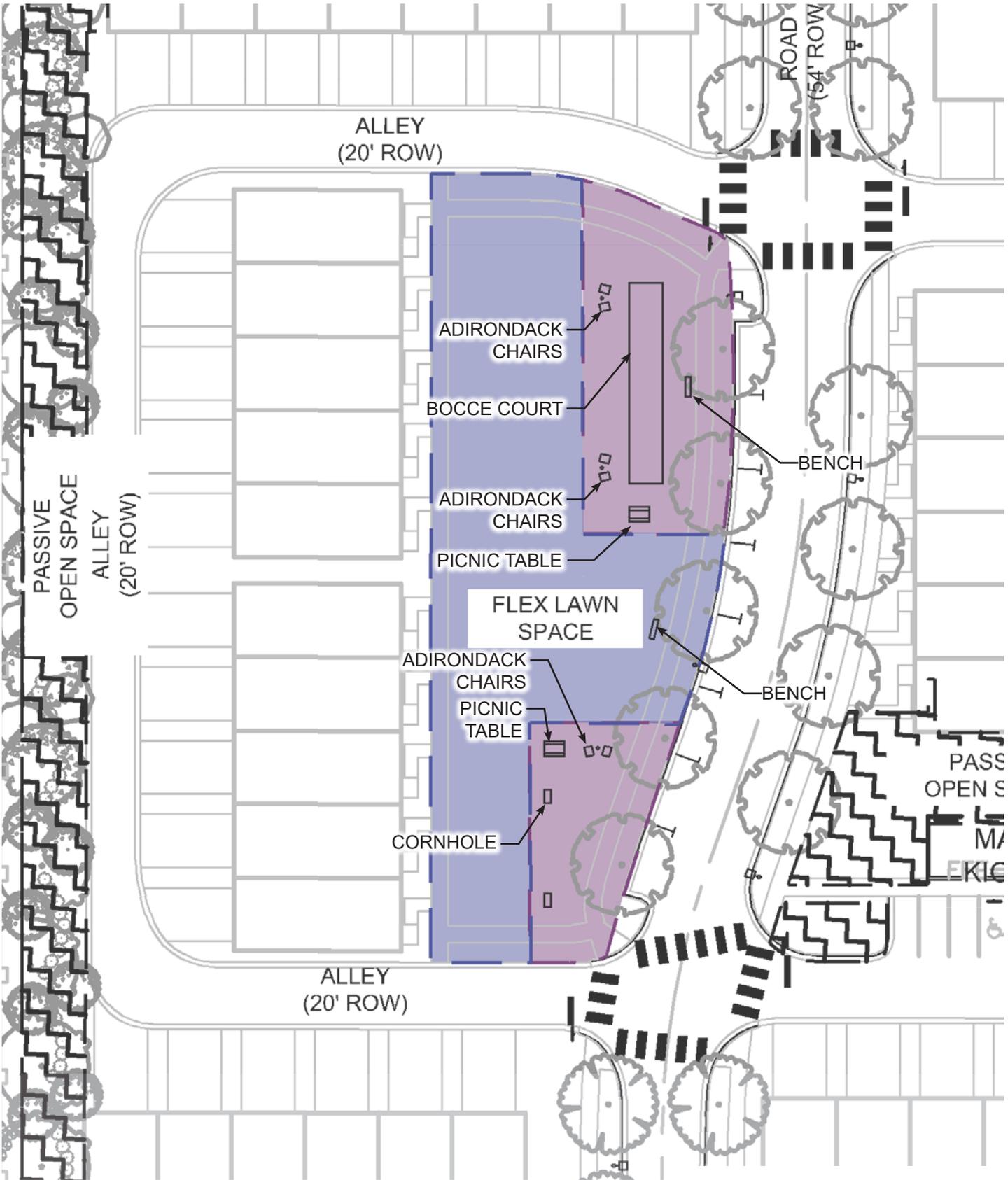
APRIL 2020



**OPEN SPACE PLAN
ENARGEMENT 1**

APRIL 2020

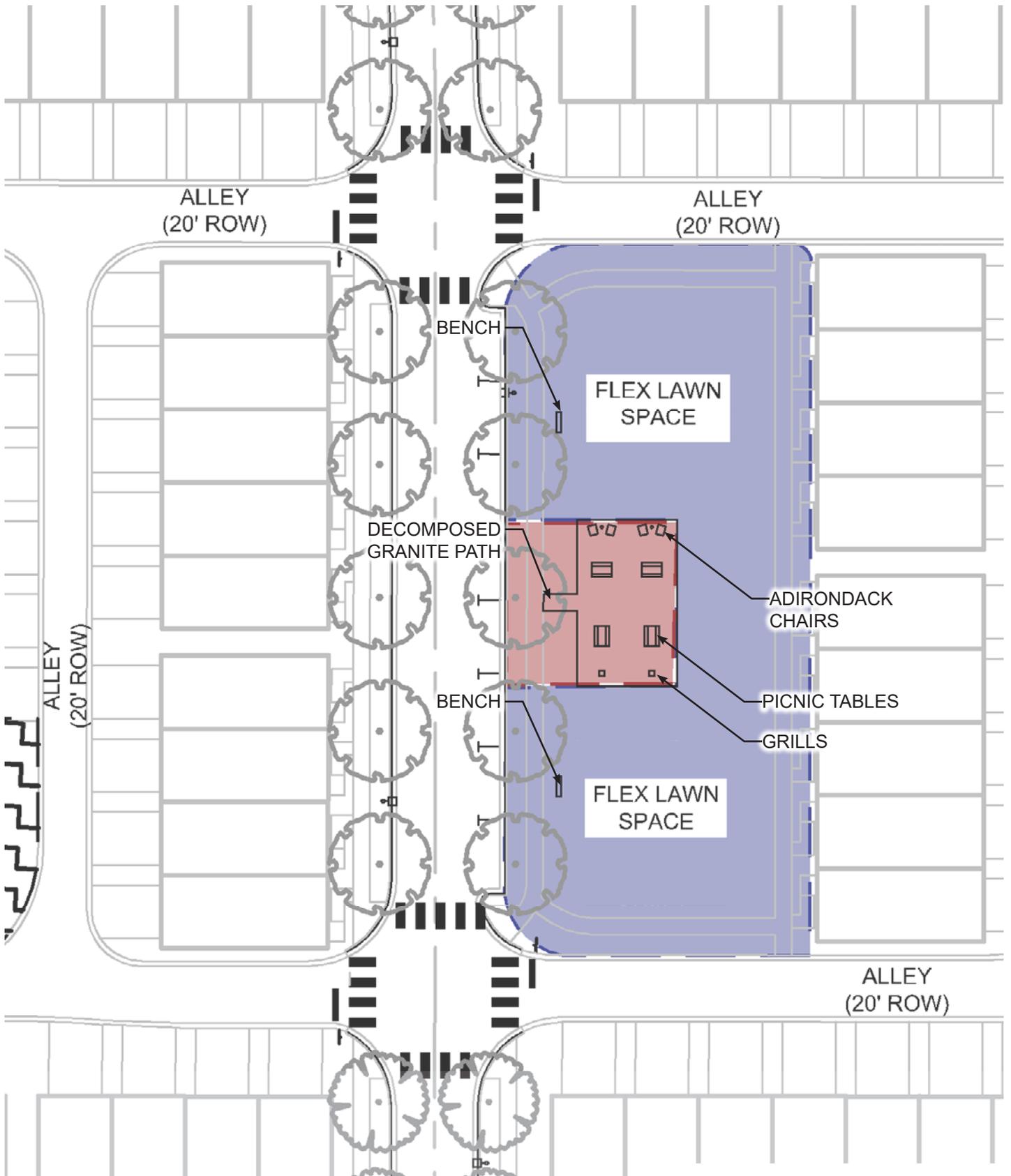




**OPEN SPACE PLAN
ENARGEMENT 2**

APRIL 2020





**OPEN SPACE PLAN
ENARGEMENT 3**

APRIL 2020



7. ROADS AND UTILITIES

STORMWATER

The approved Parkstone Master plan allocates 22.28 acres of impervious area to the Townhomes and future retail at full build-out. The proposed retail and townhome program proposes 18.38 acres of impervious area. Less impervious area than was allocated than during the approved Parkstone Master plan. As a result, the existing stormwater detention/treatment is more than sufficient.

STREETS

Streets and alleys within Parkstone Townhomes are designed to meet the standards of the Town of Knightdale. The subject development will utilize street infrastructure constructed during Phase 1 of project.

EXISTING STREETS



The trips generated by the subject development are less than were anticipated with the original Traffic Impact Analysis for Parkstone.

TRIP GENERATION ANALYSIS

ParkStone													
Table 1 - Trip Generation													
Land Use	Intensity		Daily			AM Peak Hour			PM Peak Hour				
			Total	In	Out	Total	In	Out	Total	In	Out		
220 Apartment	350	d.u.	2,246	1,123	1,123	175	35	140	210	137	73		
230 Residential Condominium/Townhouse	148	d.u.	906	453	453	71	12	59	83	56	27		
310 Hotel	130	rooms	1,062	531	531	69	41	28	78	40	38		
820 Shopping Center	102,200	s.f.	6,888	3,444	3,444	158	98	60	608	292	316		
843 Automobile Parts Sales	8,000	s.f.	498	249	249	18	9	9	48	24	24		
934 Fast-Food Restaurant with Drive-Through Window	3,500	s.f.	1,736	868	868	159	81	78	114	59	55		
945 Gasoline/Service Station with Convenience Market	12	f.p.	1,954	977	977	122	61	61	162	81	81		
Subtotal			15,290	7,645	7,645	772	337	435	1,303	689	614		
<i>Internal Capture</i>													
Apartment			701	337	364	15	2	13	107	70	37		
Residential Condominium/Townhouse			283	136	147	6	1	5	43	29	14		
Hotel			240	112	128	9	2	7	23	14	9		
Shopping Center			1,050	485	565	18	10	8	136	51	85		
Automobile Parts Sales			76	35	41	2	1	1	11	4	6		
Fast-Food Restaurant with Drive-Through Window			916	539	377	51	36	15	65	28	37		
Gasoline/Service Station with Convenience Market			298	138	160	15	6	8	36	14	22		
Internal Capture Total			3,564	1,782	1,782	116	58	58	420	210	210		
Total External Trips			11,726	5,863	5,863	656	279	377	883	479	404		
<i>Pass-By Traffic (ITE)</i>													
			<u>AM</u>	<u>PM</u>									
820 Shopping Center			0%	34%	1,610	805	805	0	0	0	161	82	79
934 Fast-Food Restaurant with Drive-Through Window			49%	50%	250	125	125	53	22	31	25	16	9
945 Gasoline/Service Station with Convenience Market			62%	56%	700	350	350	67	34	33	70	37	33
Pass-By Total:			19.65%		2,560	1,280	1,280	120	56	64	256	135	121
Total Net New External Trips - Proposed					9,166	4,583	4,583	536	223	313	627	344	283
Total Net New External Trips - From TIA					12,712	6,356	6,356	549	264	285	939	475	464
Difference - Proposed vs. TIA					-3,546	-1,773	-1,773	-13	-41	28	-312	-131	-181

UTILITIES

- Water and sewer within Parkstone Phase 2 are designed to meet the standards of the City of Raleigh and will tie into infrastructure constructed in the first phase of Parkstone.
- A water system analysis will be provided at the of construction drawing submittal.

8. NEIGHBORHOOD MEETING REPORT

Subject: Minutes from Neighborhood Meeting – Site Plan Rezoning

To: Donna Tierney (Town of Knightdale Planning)

CC: Chris Hills

Date: October 14, 2019

Completed by: Chris Bostic

Attendees:

Brian Long	Widewaters
Chris Bostic	Kimley-Horn
Wes Hall	Kimley-Horn
Stacey Crute	Neighbor (staceycrute7@gmail.com)
Craig Stepney	Neighbor (castepney@gmail.com)
Jason Brown	Town of Knightdale

This memorandum summarizes the author's understanding of the discussions from the above referenced meeting.

General: The purpose of the neighborhood meeting was to discuss the proposed rezoning application for Parkstone Phase 2 Mixed Use in Knightdale, NC with adjacent property owners. All property owners within 200 feet of the property were mailed the attached notification letter. The neighborhood meeting was held at the Knightdale Recreation Center (Room 404) at 6:30 PM on October 1, 2019. The neighbors who attended the meeting were Stacey Crute, owner of 119 Autumn Ridge Drive and Craig Stepney, owner of 121 Autumn Ridge Drive. The following is a summary of key discussion points resulting from this meeting:

- Kimley-Horn presented the residents with a copy of the current site and landscape plan for discussion.
- The group reviewed building and driveway locations and oriented the neighbors to those locations on the property.
- Ms. Crute inquired about the type of retail and was interested in a movie theater. She also asked about the process moving forward. Mr. Long indicated that a lease had not been secured with a theater. Mr. Long and Mr. Bostic explained the retail would be a mix of restaurants and service and that the next step was working with the townhome developer and taking the new retail layout back to retailers to secure leases.
- Ms. Crute also asked about the pricing of the townhomes and Mr. Long told her that, although its not set in stone, they should be mid to upper \$200's.
- Ms. Crute asked about the buffers and Mr. Bostic explained that those would not change between the proposed site and her residence. He also explained that the increase in residential units would help bring retailers, but that the rezoning we are seeking will generate less traffic overall than the previous plan.
- Mr. Stepney shared that the fence at the edge of the buffer stopped at a point where he can see Sheetz from his house. This causes pedestrians to cut between his house and his neighbors house to walk directly through.
- Mr Long informed Mr. Stepney that the requested zoning change to add townhomes and the change to the retail master plan layout does have any adverse impact as it relates to orientation of buildings and fence near his home

End of Meeting

Parkstone Neighborhood Meeting 10/1/19

Name

Email

Stacey Crute

staceycrute1@gmail.com

Craig Stepney

cstepney@gmail.com

Owner	Mail Address 1	Mail Address 2	Mail Address 3	PIN
GREYSTONE WW CO LLC	4805 DORSET AVE	CHEVY CHASE MD 20815-5443		1744736807
WW KNIGHTDALE PROPERTY LLC	PO BOX 3	DE WITT NY 13214-0003		1744744952
WIDEWATERS KNIGHTDALE II COMPANY	PO BOX 3	DE WITT NY 13214-0003		1744756480
KNIGHTDALE MULTIFAMILY OWNERSHIP, LLC	ATTN: LEGAL DEPARTMENT	PO BOX 3	DE WITT NY 13214-1865	1744833775
KEATING, JOHN & JULIANNE M	13176 KENSINGTON DR	GRAFTON OH 44044-1075		1744839819
DOLL, JANET M	118 MINGOCREST DR	KNIGHTDALE NC 27545-7667		1744839926
KNIGHTDALE DEVELOPMENT OWNERSHIP LLC	THE WIDEWATERS GROUP INC	PO BOX 3	DE WITT NY 13214-0003	1744843799
NEWSON, TIMMY	604 PINE FOREST TRL	KNIGHTDALE NC 27545-9278		1744848790
FORTIN, DIANNE C	603 PINE FOREST TRL	KNIGHTDALE NC 27545-9278		1744848793
BULLOCK, KENNICE J	602 PINE FOREST TRL	KNIGHTDALE NC 27545-9278		1744848795
WHONDER-GENUS, HILLARY GENUS, DEVON	601 PINE FOREST TRL	KNIGHTDALE NC 27545-9278		1744848798
KEARNEY, ANNA KATHRYN	116 MINGOCREST DR	KNIGHTDALE NC 27545-7667		1744849024
FORBES, PARRILL D & BETTY MARIE	902 PINE FOREST TRL	KNIGHTDALE NC 27545-7928		1744849217
PEOPLES, MAURINE	904 PINE FOREST TRL	KNIGHTDALE NC 27545-7928		1744849222
JOHNSON, JERMAINE	903 PINE FOREST TRL	KNIGHTDALE NC 27545-7928		1744849225
MCDANIEL, KENT D	5909 SANDPIPER FARM LN	WENDELL NC 27591-9724		1744849290
CONREAL LLC	9032 CONCORD HILL CT	RALEIGH NC 27613-5480		1744849310
PRUETT, SCOTT & ROBERTA A	7368 CIRCLEBANK DR	RALEIGH NC 27615-5646		1744849316
TELLECHEA, STEWART & NEREIDA	5766 SPRINGFISH PL	WALDORF MD 20603-4234		1744849329
BROWN, LOUIS C & VIRGINIA G	803 PINE FOREST TRL	KNIGHTDALE NC 27545-9279		1744849441
HANDON, CLARETTA	802 PINE FOREST TRL	KNIGHTDALE NC 27545-9279		1744849444
RUCKOLDT, BARBARA	801 PINE FOREST TRL	KNIGHTDALE NC 27545-9279		1744849467
LENTZEN, ROSEMARY	303 S DOGWOOD AVE	SILER CITY NC 27344-3819		1744849527
ROGERS, SHELBY L	703 PINE FOREST TRL	KNIGHTDALE NC 27545-7931		1744849545
WOODS OF PARKSIDE HOMEOWNERS ASSOC	4112 BLUE RIDGE RD STE 100	RALEIGH NC 27612-4652		1744849582
SEPULVEDA, LYNDA R	701 PINE FOREST TRL	KNIGHTDALE NC 27545-7931		1744849600
VAUGHAN, CRYSTAL MARY & MICHAEL GORDON	605 PINE FOREST TRL	KNIGHTDALE NC 27545-9278		1744849607
VEREEN, MICHAEL	PO BOX 1194	ZEBULON NC 27597-1194		1744849844
CAPPS, KATHREN ANN	503 PINE FOREST TRL	KNIGHTDALE NC 27545-7930		1744849874
OHNESORGE, LAUREN K	115 AUTUMN RIDGE DR	KNIGHTDALE NC 27545-9203		1744849936
KNIGHTDALE DEVELOPMENT OWNERSHIP LLC	THE WIDEWATERS GROUP INC	PO BOX 3	DE WITT NY 13214-0003	1744850425
KNIGHTDALE DEVELOPMENT OWNERSHIP LLC	THE WIDEWATERS GROUP INC	PO BOX 3	DE WITT NY 13214-0003	1744852568
KNIGHTDALE DEVELOPMENT OWNERSHIP LLC	THE WIDEWATERS GROUP INC	PO BOX 3	DE WITT NY 13214-0003	1744856629
RCP INVESTMENTS IV LLC	11415 ROSE BOWL DR	GLEN ALLEN VA 23059-4838		1744858784
KING, CHARLENE	117 AUTUMN RIDGE DR	KNIGHTDALE NC 27545-9203		1744859017
CRUTE, STACEY L	119 AUTUMN RIDGE DR	KNIGHTDALE NC 27545-9203		1744859114
STEPNEY, CRAIG A & YVONNE C	121 AUTUMN RIDGE DR	KNIGHTDALE NC 27545-9203		1744859211
ELKINTON, RICHARD E & RACHEL W	123 AUTUMN RIDGE DR	KNIGHTDALE NC 27545-9203		1744859248
SALKHADI, MAMOUN KHEZZAR, ANWAR	114 MINGOCREST DR	KNIGHTDALE NC 27545-7667		1744940008
ROBERSON, SAMUEL, TAKEISHA	112 MINGOCREST DR	KNIGHTDALE NC 27545-7667		1744940161
WRIGHT, LORETTA N	1002 PINE FOREST TRL	KNIGHTDALE NC 27545-7929		1744940220
SAGADA, QUIRINO SANCHEZ DE SANCHEZ, REINA ISABEL AYALA	1003 PINE FOREST TRL	KNIGHTDALE NC 27545-7929		1744940251
LOGAN, TERESA A	1004 PINE FOREST TRL	KNIGHTDALE NC 27545-7929		1744940282
YERKE, FRANKLIN A, THELMA R	502 PINE FOREST TRL	KNIGHTDALE NC 27545-7930		1744940804
HUGHES, MATILDA W	501 PINE FOREST TRL	KNIGHTDALE NC 27545-7930		1744940833
MITCHELL, JON B MITCHELL, REBECCA L	113 AUTUMN RIDGE DR	KNIGHTDALE NC 27545-9203		1744940915
BROOKS, DONALD J JR, MILLICENT H	111 AUTUMN RIDGE DR	KNIGHTDALE NC 27545-9203		1744940983
STELMACH, NICHOLAS E	112 AUTUMN RIDGE DR	KNIGHTDALE NC 27545-9203		1744950088
BLEVINS, RICKY A LUI, YU CHI	110 KENNETH RIDGE CT	APEX NC 27523-9370		1744950175
JONES, WALTER RICHARD II, MICHELLE F	125 AUTUMN RIDGE DR	KNIGHTDALE NC 27545-9203		1744950320
PARKSIDE COMMONS CONDOMINIUMS	1003 DRESSER CT	RALEIGH NC 27609-7323		1744950427
G A T T LLC	PO BOX 80084	RALEIGH NC 27623-0084		1744950427
RENAISSANCE VENTURES LLC	112 HIGHCLERE LN	CARY NC 27518-8723		1744950427
CAH HOLDINGS LLC	1521 E 3RD ST	CHARLOTTE NC 28204-3231		1744950756
PARKSIDE HOMEOWNERS ASSOCIATION INC	4112 BLUE RIDGE RD STE 100	RALEIGH NC 27612-4652		1744952338

September 20, 2019

Kimley-Horn & Associates, Inc.
421 Fayetteville Street, Suite 600
Raleigh, NC 27601

Subject: Neighborhood Meeting Notification Letter – Rezoning
901 Parkstone Towne Boulevard
Knightdale, NC 27545

Dear Neighbor:

On **Tuesday, October 1, 2019**, a neighborhood meeting will be held regarding a proposed rezoning application for the property identified by the following address and property identification number: 901 Parkstone Towne Boulevard, Knightdale, NC 27545; PIN# 1744843799 near property that you own.

The meeting will be held at the Knightdale Recreation Center (Room 404) located at 102 Lawson Ridge Road, Knightdale, NC 27545 at **6:30 P.M. on October 1, 2019**. This is a public meeting and all are invited to attend.

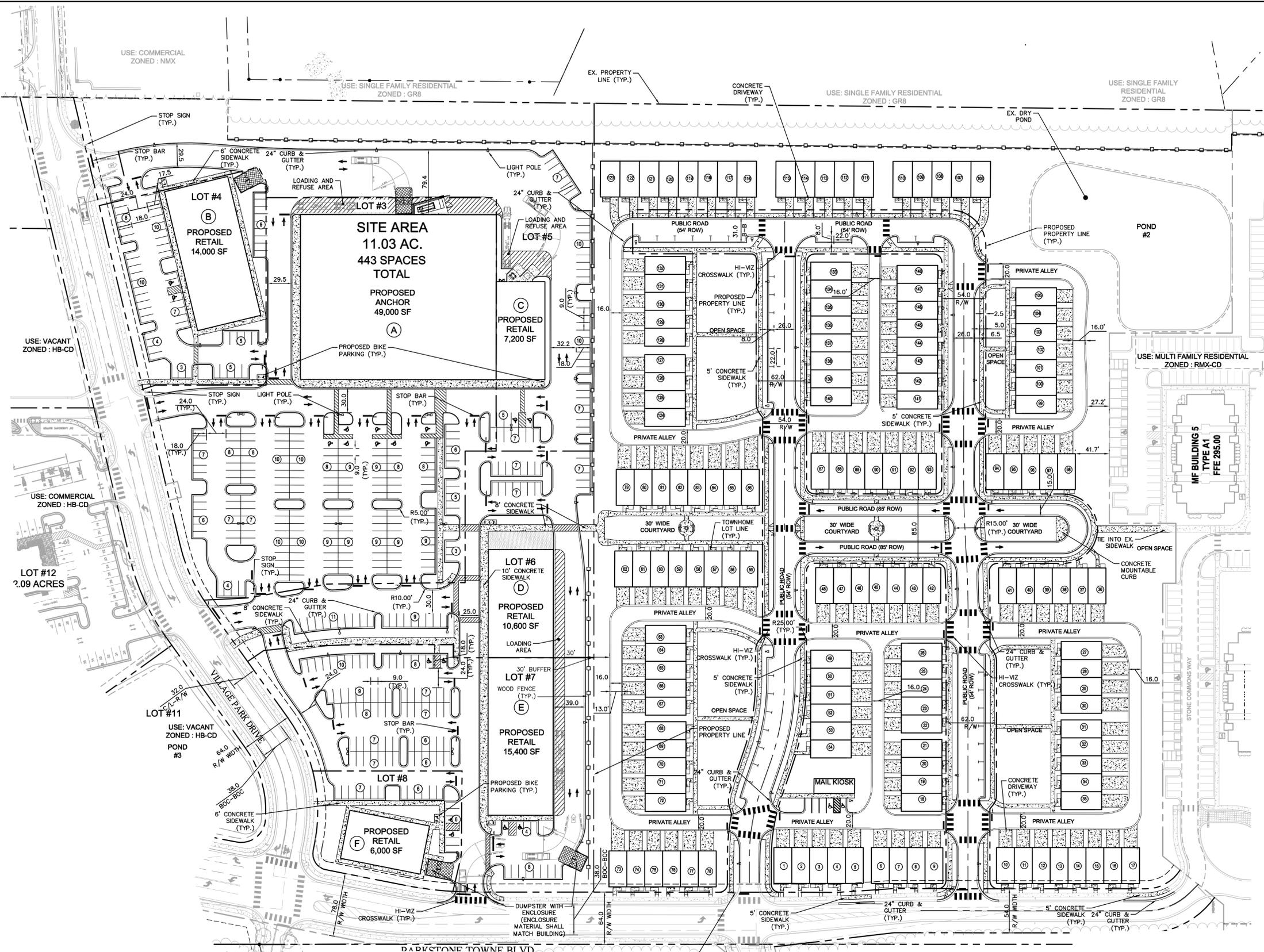
If you wish to contact us, please call (919) 653-2927 and ask for Chris Bostic. You may also email me at the following address: Chris.Bostic@kimley-horn.com. The purpose of the meeting is to ensure that adjacent property owners are aware of the proposal and have an opportunity to provide input prior to the Town of Knightdale public hearing.

Sincerely,



Chris Bostic, P.E.
Project Manager

Plotted By: Bell, J.J. Sheet: Set: PARKSTONE PHASE 2 MIXED USE Layout: C2.0 SITE PLAN March 09, 2020 12:09:51pm K:\RAL\DEVA\017254007-Parkstone Phase 2\Planning Phase\15_CAD Files\PlanSheets\C2.0 SITE PLAN.dwg
 This document, together with the concepts and designs presented herein, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.

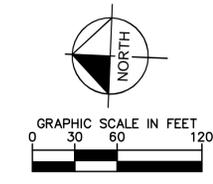
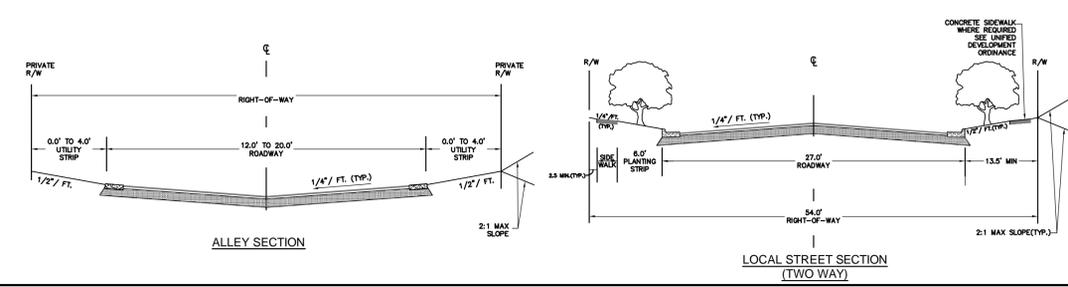


LEGEND

- PAINTED TRAFFIC ARROW
- CONCRETE SIDEWALK
- HEAVY DUTY CONCRETE (8" @ 4000PSI)
- PROPOSED PARKING COUNT
- LIGHT DUTY ASPHALT
- DETECTABLE WARNING SURFACE

NOTE:

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- DIMENSIONS ARE TO FACE OF CURB UNLESS OTHERWISE NOTED.
- THERMOPLASTIC STRIPING TO BE USED FOR ALL PAVEMENT STRIPING EXCEPT PARKING STALLS.



ALL CONSTRUCTION TO BE IN ACCORDANCE WITH ALL TOWN OF KNIGHTDALE AND/OR NCDOT STANDARDS AND SPECIFICATIONS.

NO.	REVISIONS	DATE	BY
1	TOWN OF KNIGHTDALE COMMENTS	12-05-19	IMH

Kimley»Horn
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 421 FAYETTEVILLE STREET, SUITE 600, RALEIGH, NC 27601
 PHONE: 919-677-2000 FAX: 919-677-2050
 WWW.KIMLEY-HORN.COM # - 0102

KHA PROJECT	017254007
DATE	11/08/2019
SCALE	AS SHOWN
DESIGNED BY	JCB
DRAWN BY	JCB
CHECKED BY	COB

SITE PLAN

PARKSTONE PHASE 2 MIXED USE
 PREPARED FOR
 KNIGHTDALE DEVELOPMENT OWNERSHIP, LLC.
 NORTH CAROLINA

SHEET NUMBER
C2.0



13 SOUTHWEST ELEVATION - BUILDING E
1/16" = 1'-0" NONE



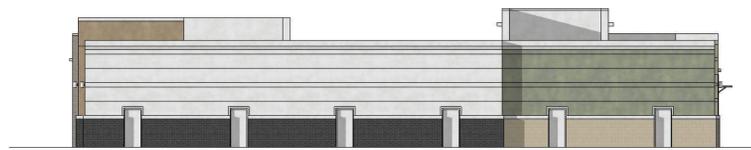
12 NORTHWEST ELEVATION - BUILDING E
1/16" = 1'-0" GLAZING CALCULATIONS:
60'L X 14'H = 842 SF X 0.4 = 336 SF REQUIRED (40%)
ACTUAL GLAZING PROVIDED: 160 SF (19%)



11 SOUTHEAST ELEVATION - BUILDING E
1/16" = 1'-0" GLAZING CALCULATIONS:
60'L X 14'H = 840 SF X 0.4 = 336 SF REQUIRED (40%)
ACTUAL GLAZING PROVIDED: 130 SF (15%)



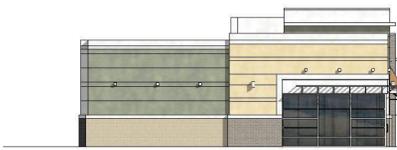
10 NORTHEAST ELEVATION - BUILDING E
1/16" = 1'-0" GLAZING CALCULATIONS:
86'L X 14'H = 1,204 SF X 0.4 = 482 SF REQUIRED (40%)
ACTUAL GLAZING PROVIDED: 610 SF (51%)



9 SOUTH ELEVATION - BUILDING F
1/16" = 1'-0" GLAZING CALCULATIONS:
NONE



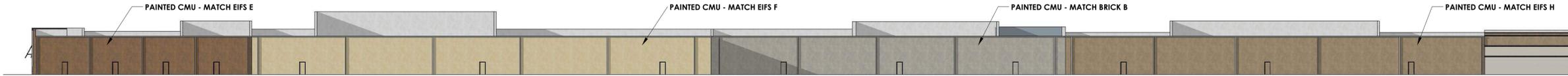
8 WEST ELEVATION - BUILDING F
1/16" = 1'-0" GLAZING CALCULATIONS:
59'L X 14'H = 826 SF X 0.4 = 330 SF REQUIRED (40%)
ACTUAL GLAZING PROVIDED: 160 SF (19%)



7 EAST ELEVATION - BUILDING F
1/16" = 1'-0" GLAZING CALCULATIONS:
56'L X 14'H = 784 SF X 0.4 = 314 SF REQUIRED (40%)
ACTUAL GLAZING PROVIDED: 190 SF (24%)



6 NORTH ELEVATION - BUILDING F
1/16" = 1'-0" GLAZING CALCULATIONS:
120'L X 14'H = 1,680 SF X 0.4 = 672 SF REQUIRED (40%)
ACTUAL GLAZING PROVIDED: 880 SF (52%)



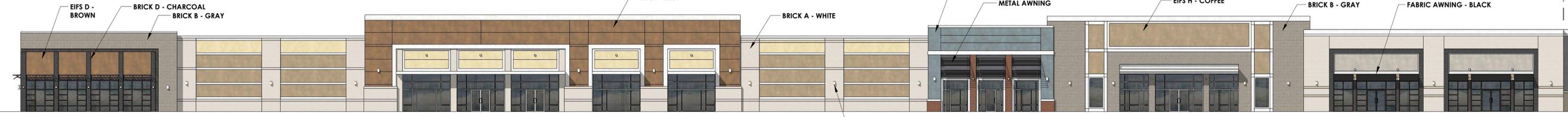
5 EAST ELEVATION - BUILDING G-K
1/32" = 1'-0" GLAZING CALCULATIONS:
NONE



4 SOUTH ELEVATION - BUILDING G-H
1/16" = 1'-0" GLAZING CALCULATIONS:
100'L X 14'H = 1,400 SF X 0.4 = 560 SF REQUIRED (40%)
ACTUAL GLAZING PROVIDED: 190 SF (14%)

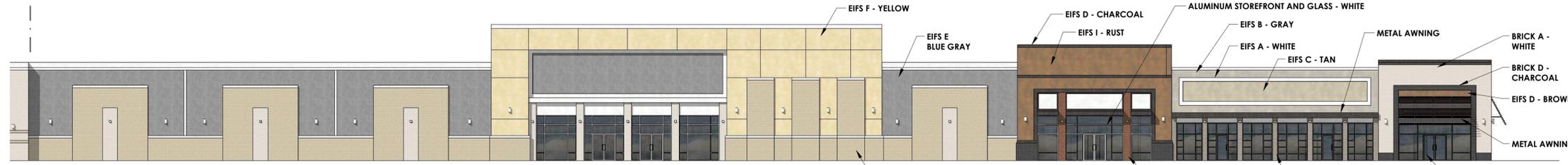


3 NORTH ELEVATION - BUILDING I-K
1/16" = 1'-0" GLAZING CALCULATIONS:
222'L X 14'H = 3,108 SF X 0.4 = 1,243 SF REQUIRED (40%)
ACTUAL GLAZING PROVIDED: 1,720 SF (55%)



2 WEST ELEVATION - BUILDING I-K
1/16" = 1'-0" GLAZING CALCULATIONS:
SEE 1/A2

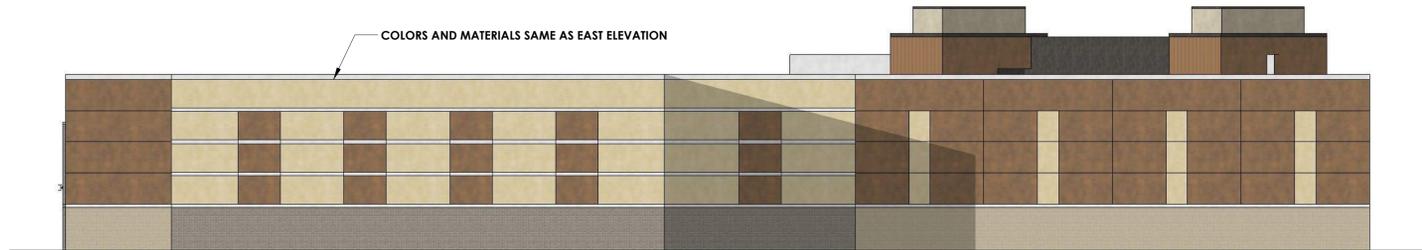
NOTE: THE BACKSIDE OF ALL PARAPETS VISIBLE FROM
PARKING LOTS TO BE CLAD IN BUILDING MATERIALS
MATCHING EXTERIOR ELEVATIONS



1 WEST ELEVATION - BUILDING G-H
1/16" = 1'-0" GLAZING CALCULATIONS:
870'L X 14'H = 12,180 SF X 0.4 = 4,872 SF REQUIRED (40%)
ACTUAL GLAZING PROVIDED: 4,002 SF (33%)



8 WEST ELEVATION - BUILDING C
1/16" = 1'-0"
GLAZING CALCULATIONS:
70'L X 14'H = 980 SF X 0.4 = 392 SF REQUIRED (40%)
ACTUAL GLAZING PROVIDED: 370 SF (38%)



4 SOUTH ELEVATION - BUILDING D
1/16" = 1'-0" GLAZING CALCULATIONS:
NONE



7 NORTH ELEVATION - BUILDING C
1/16" = 1'-0"
GLAZING CALCULATIONS:
60'L X 14'H = 840 SF X 0.4 = 336 SF REQUIRED (40%)
ACTUAL GLAZING PROVIDED: 390 SF (46%)



3 WEST ELEVATION - BUILDING D
1/16" = 1'-0" GLAZING CALCULATIONS:
NONE



6 SOUTH ELEVATION - BUILDING C
1/16" = 1'-0"
GLAZING CALCULATIONS:
58'L X 14'H = 812 SF X 0.4 = 325 SF REQUIRED (40%)
ACTUAL GLAZING PROVIDED: 310 SF (38%)



2 EAST ELEVATION - BUILDING D
1/16" = 1'-0"
GLAZING CALCULATIONS:
236'L X 14'H = 3,304 SF X 0.4 = 1,322 SF REQUIRED (40%)
ACTUAL GLAZING PROVIDED: 1,556 SF (47%)



5 EAST ELEVATION - BUILDING C
1/16" = 1'-0"
GLAZING CALCULATIONS:
70'L X 14'H = 980 SF X 0.4 = 392 SF REQUIRED (40%)
ACTUAL GLAZING PROVIDED: 540 SF (55%)



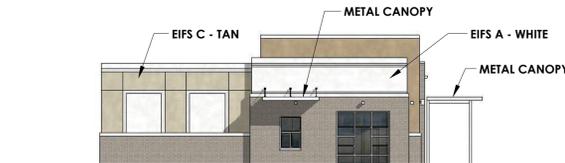
1 NORTH ELEVATION - BUILDING D
1/16" = 1'-0" GLAZING CALCULATIONS:
NONE



8 NORTH ELEVATION - BUILDING A
1/16" = 1'-0" GLAZING CALCULATIONS:
NONE



7 EAST ELEVATION - BUILDING A
1/16" = 1'-0" GLAZING CALCULATIONS:
60'L X 14'H = 840 SF X 0.4 = 336 SF REQUIRED (40%)
ACTUAL GLAZING PROVIDED: 160 SF (19%)



6 WEST ELEVATION - BUILDING A
1/16" = 1'-0" GLAZING CALCULATIONS:
59'L X 14'H = 826 SF X 0.4 = 330 SF REQUIRED (40%)
ACTUAL GLAZING PROVIDED: 124 SF (15%)



5 SOUTH ELEVATION - BUILDING A
1/16" = 1'-0" GLAZING CALCULATIONS:
49'L X 14'H = 966 SF X 0.4 = 386 SF REQUIRED (40%)
ACTUAL GLAZING PROVIDED: 480 SF (50%)



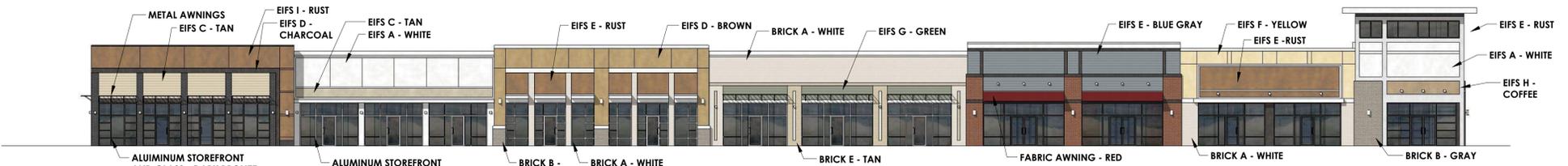
4 WEST ELEVATION - BUILDING B
1/16" = 1'-0" GLAZING CALCULATIONS:
312'L X 14'H = 4,368 SF X 0.4 = 1,747 SF REQUIRED (40%)
ACTUAL GLAZING PROVIDED: 1,412 SF (32%)



3 NORTH ELEVATION - BUILDING B
1/16" = 1'-0" GLAZING CALCULATIONS:
72'L X 14'H = 1,008 SF X 0.4 = 403 SF REQUIRED (40%)
ACTUAL GLAZING PROVIDED: 264 SF (26%)



2 SOUTH ELEVATION - BUILDING B
1/16" = 1'-0" GLAZING CALCULATIONS:
75'L X 14'H = 1,050 SF X 0.4 = 420 SF REQUIRED (40%)
ACTUAL GLAZING PROVIDED: 430 SF (41%)



1 EAST ELEVATION - BUILDING B
1/16" = 1'-0" GLAZING CALCULATIONS:
312'L X 14'H = 4,368 SF X 0.4 = 1,747 SF REQUIRED (40%)
ACTUAL GLAZING PROVIDED: 2,364 SF (54%)



Town of Knightdale

Staff Report Cover Sheet

Title: ZMA-7-19: Poplar Creek Village Phase 4 Planned Unit Development Rezoning

Staff: Kevin Lewis, AICP, Senior Planner – Current

Date: June 8, 2020

PURPOSE

The purpose of this staff report is to provide an overview of a Zoning Map Amendment request for a Planned Unit Development (PUD) to allow for a major subdivision in accordance with Sections 2.15.C and 15.6.C of the Unified Development Ordinance (UDO). This report reflects an updated plan from the applicant. A revised site plan and details will be made available prior to the June 8 meeting. The LURB considered this item at the January 13, 2020 meeting, and forwarded an advisory statement to Town Council recommending approval of the proposal.

STRATEGIC PLAN PRIORITY AREA(S)

- Connected & Inclusive

GENERAL STATUTE REFERENCE(S), if applicable

- North Carolina General Statutes § 160A-381

TYPE OF PUBLIC HEARING, if applicable

- Legislative

FUNDING SOURCE(S), if applicable

- N/A

ATTACHMENT(S)

- Application Packet
- Architectural Elevations
- Neighborhood Meeting Information

STAFF RECOMMENDATION

Since the previous LURB meeting, the applicant has made significant changes to the application and supporting materials. These changes include the elimination of the 27 rear-loaded single-family lots and the addition of 30 front-loaded single-family lots, a new road alignment with two cul-de-sacs and no on-street parking, and reduced active open space. The LURB and Staff recommended condition no longer applies, due to the removal of on-street parking. Staff recommends the LURB review the request, forward the preceding advisory statement to Town Council, and recommend approval of ZMA-7-19, Poplar Creek Village Phase 4 PUD.

Knightsdale Strategic Priorities



Safe



Connected & Inclusive



Sustainable



Active & Healthy



Organizational Excellence



Town of Knightdale

Staff Report

Title: ZMA-7-19: Poplar Creek Village
Phase 4 Planned Unit Development
Staff : Kevin Lewis, AICP, Senior Planner
– Current
Date: June 8, 2020

Director Signature: CH
Asst. Town Manger Signature: DT
Town Manager Signature: WRS

I. REQUEST:

Mr. Stuart Poulsen of Blackridge Properties, LLC has submitted an application to rezone and develop the vacant parcels west of Clifton Road, identified by the Wake County PIN 1743-82-2816, from Rural Transition (RT) to General Residential-3 (GR-3) with a PUD. The applicant has proposed to develop the 17.49 acre parcel into a 50-lot single-family residential subdivision.

II. PROJECT PROFILE:

PROPERTY LOCATION:	0 Clifton Road, between existing phase 3 of Poplar Creek and Clifton Road.
WAKE COUNTY PINs:	1743-82-2816
CURRENT ZONING DISTRICT	Rural Transition (RT)
PROPOSED ZONING DISTRICT:	General Residential-3 (GR-3) Planned Unit Development (PUD)
NAME OF PROJECT:	Poplar Creek Village Phase 4
APPLICANT:	Stuart Poulsen of Blackridge Properties
PROPERTY OWNER:	Billy Royce Liles
PROPERTY SIZE:	17.49 acres
PROPOSED DENSITY:	2.8 units per acre
CURRENT LAND USE:	Vacant/Formerly Agricultural
PROPOSED LAND USE:	50 Single-Family Residential Units
PROPOSED OPEN SPACE:	108,029 ft ² /2.59 acres (50,586 ft ² /1.16 acre required)

III. BACKGROUND INFORMATION:

The Planned Unit Development District (PUD), is a re-zoning process which is designed to encourage master planning of development and to coordinate such development so as to manage the impacts of the development on the provision of Town Services and infrastructure. The PUD encourages creativity and innovation in the design of developments, but in return for this flexibility the expectation is for communities to provide exceptional design, character, and quality; provide high quality community amenities; incorporate creative design in the layout of buildings; ensure compatibility with surrounding land uses and neighborhood character; encourage the creation of mixed density neighborhoods, neighborhood nodes, and mixed use centers; further the goals of the KnightdaleNext 2035 Comprehensive Plan including the Growth Framework and Growth & Conservation maps; and provide greater efficiency in the layout and provision of roads, utilities, and other infrastructure.

There are several provisions which are required to be addressed by the applicant, including, but not limited to design guidelines and dimensional standards, public facilities, recreational open space, and Comprehensive Plan consistency. The applicant’s specific exceptions are detailed in **Section VII** of this staff report.



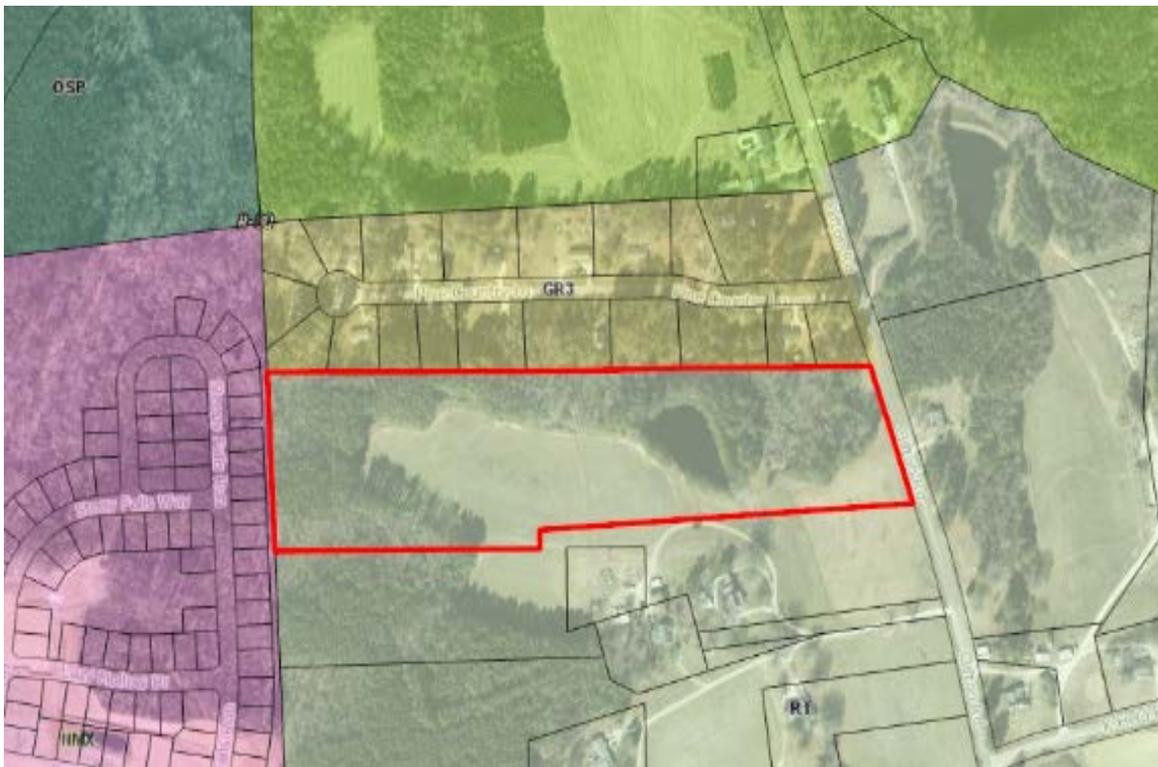
Town of Knightdale

Staff Report

IV. PROJECT SETTING – SURROUNDING ZONING DISTRICTS AND LAND USES:

The proposed rezoning includes one (1) parcel, located directly west of Clifton Road and north of Poole Road. The parcel is located within the Town's Extra Territorial Jurisdiction and requires annexation into Corporate Limits, if approved.

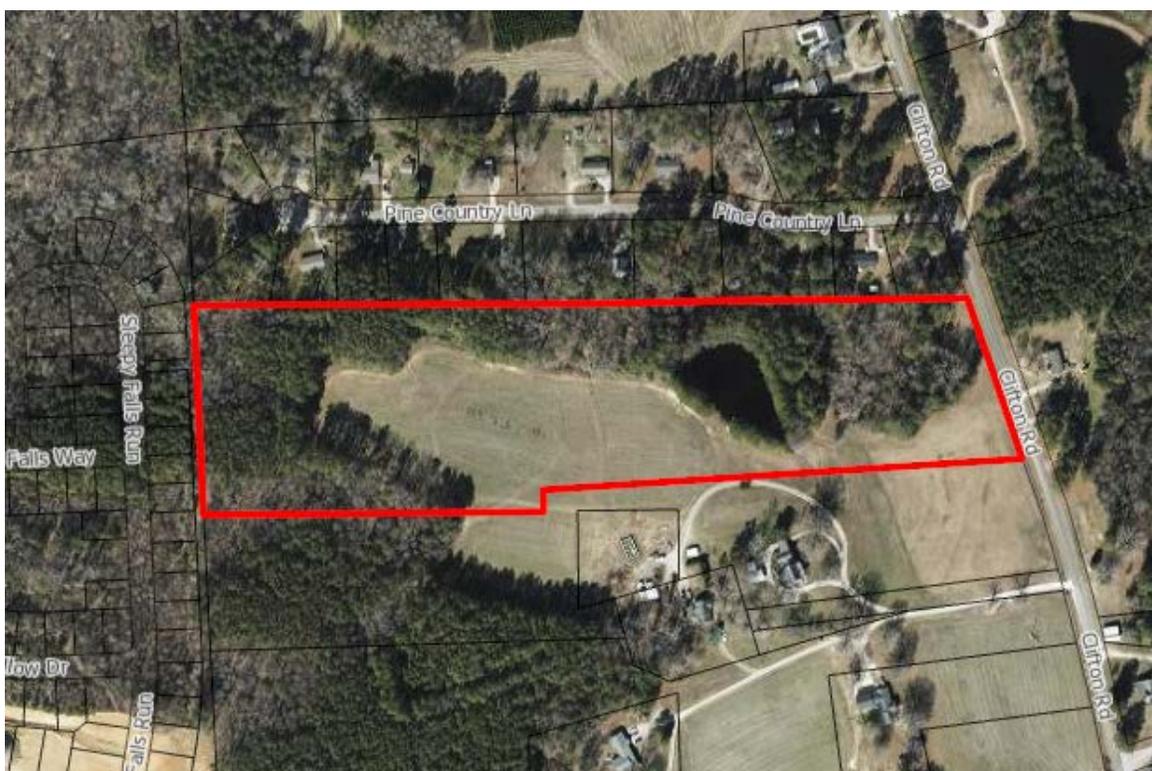
DIRECTION	LAND USE	ZONING
North	Pine Country Estates Subdivision	GR-8
South	Residential	RT
East	Residential	RT
West	Poplar Creek Ph 1-3	NMX





Town of Knightdale

Staff Report





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Staff Report



View from Stony Falls Way within the Existing Poplar Creek Village neighborhood looking east.



Town of Knightdale

Staff Report



View from Clifton Road looking west.

V. PROPOSED MASTER PLAN:

The applicant has submitted a full Master Plan and PUD Document in accordance Section 16.6 of the UDO. The applicant is proposing an extension of the existing Poplar Creek Village neighborhood with the addition of 54 single-family residential lots. These will be front-loaded units 57' in width. The plan shows the extension of Stony Falls Way eastward to Clifton Road, which will provide residents within Poplar Creek Village with an alternative entry and exit to the neighborhood, in addition to easier access to Old Town and point of interest along Knightdale Blvd. Also included are five-foot wide sidewalks on both sides of each public road, walking trails, street trees, and seven on-street parking spaces. Please see the next page for a copy of the site plan.

VI. LEGISLATIVE CASE PROCEDURES:

Staff met with the development team in August 2019 to discuss the potential of a project at this location and worked with them through several preliminary sketch plan details. A Planned Unit Development rezoning is a legislative public hearing, which requires certain application procedures including having a pre-application meeting with staff, and holding a neighborhood meeting with any property owners within 200 feet of the outer boundaries of the subject development. Below is a timeline of the required elements.

- Pre-application meeting: August 27, 2019
- Neighborhood Meeting Notices Mailed: September 18, 2019
- Neighborhood Meeting: October 2, 2019



Town of Knightdale

Staff Report

The neighborhood meeting was held at the Knightdale Recreation Center located at 102 Lawson Ridge Road. Three interested neighbors attended the meeting, and inquired about stormwater impacts, phasing, buffers, traffic, and lot dimensions. No one spoke in opposition to the project. A copy of the mailed notice, list of recipients, and summary of the meeting are attached as part of the application packet.

Additionally, the Town of Knightdale followed public hearing notice requirements as prescribed in the North Carolina state statutes.

- First Class Letters Mailed: November 6, 2019
- Sign Posted On Property: November 8, 2019
- Legal Ad Published in N&O: November 8 & 15, 2019

Following the formal submittal and review of the proposed master plan, the applicant met with the Development Review Committee (DRC) on October 31, 2019 to discuss the technical comments and details associated with the proposed subdivision plan. There were some minor issues associated with the proposed plan, including driveway length, parking, landscaping, elevations, and building materials. The DRC requested that the applicant provide a revised copy of the Master Plan and PUD Document, which is included as part of the enclosed application packet.

The DRC voted unanimously to **continue** the Poplar Creek Phase 4 Planned Unit Development pending the applicant addressing the review comments and Town Council approving the Rezoning request.

VII. PROPOSED PLANNED UNIT DEVELOPMENT:

In accordance with Section 6.5 of the UDO, all standards and requirements of the corresponding General District shall be met. Staff has reviewed the major site elements and found the majority to be in compliance with all requirements of the General Residential-3 zoning district and UDO. Major site elements and their compliance statements are listed below.

- A. Parking:** Denser residential development patterns often require additional on-street parking to serve residents and visitors. Approximately 7 on-street parking spaces are provided throughout the development. Staff will continue to work with the developer to find appropriate locations for additional spaces.
- B. Public Utilities/Water Allocation Policy:** The proposed development is an extension of the existing Poplar Creek Village subdivision, and maintains
- C. Residential Architectural Standards:** The proposed alternative architectural standards are listed below. In addition to the proposed standards, the applicant is agreeing to adhere to the architectural standards in Sections 5.4 and 5.7 of the UDO by including it in their WAP bonus point breakdown. The applicant has also included architectural elevations, found in the attached PUD document.
 1. The front elevation of all residential dwellings shall have at least one (1) of the following features: Board and Batten, Shake Siding, or Second Story Porch and at least one (1) of the following features: Gable Window, Dormer(s), Decorative Window Cap/Pediment, Front Door Transom or Sidelight Window. Having two (2) items from the first list in lieu of one from each list will meet this architectural requirement.



Town of Knightdale

Staff Report

2. Vinyl siding is permitted and shall be a minimum of .045 in in thickness.
3. Side and rear elevations are not required to have additional materials, and can be 100% vinyl materials.
4. All pitched roofs shall be profiled by eaves projecting a minimum of 10 inches from the building face which may include gutters.
5. Front-loaded garage doors shall utilize a carriage style or similarly stylistic garage door that is architecturally compatible with the housing style (paneled garage doors are not permitted).
6. The crawlspace of buildings shall be enclosed with brick, stone, or stucco. Slabs shall be covered on all sides with brick, stone or stucco no less than the height equivalent of three (3) courses of brick (eight [8] inches) visible above grade. Areas under porches may be enclosed with lattice.
7. Porches and stoops should be used as a primary architectural element of the building design and be located on the primary façade or other elevation fronting a public right-of-way. Front porches shall be a minimum of 6' in depth on at least 50% of the elevations, but in no case shall the front porch be less than a 5' average with the narrowest portion being 4'.

Staff Analysis

The proposed architectural standards are generally in line with other standard which have been approved by Town Council. In addition, the elevations provided in the PUD document adhere to those approved in phases 1-3 of Poplar Creek Village. Staff believes that this proposal is consistent with the established phases of Poplar Creek Village.

- D. **Open Space:** A number of proposed WAP bonus point items are addressed in the applicants Open Space plan. According to the applicant's PUD document, passive Open Space will include a multi-use trail and dock surrounding the existing pond, as well as. Active Open Space amenities include a large half acre-plus open-play field and gathering space. Pedestrian pathways through the site allow for resident use and access to these spaces.
- E. **Stormwater Management:** The applicant is not proposing any deviation from the UDO requirements, found in Chapter 6, related to stormwater management of the site, which shall meet town standards.
- F. **Lighting:** The applicant is not proposing any deviations from the lighting standards as found in Section 11.4 of the UDO.
- G. **Signage:** All site signage will be reviewed under a separate zoning review; however, the applicant is not proposing any deviations from the standards as found in UDO Chapter 12 for the GR-3 Zoning District.



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PROPOSED UDO EXCEPTIONS:

In accordance with UDO Section 15.5.N, “any section of the UDO that is proposed to be modified shall be included as an additional section of the PDD plan”. The applicant’s exception requests are as follows:

A. **Dimensional Requirements:** The applicant is proposing deviations from the dimensional standards as found in Section 2.7.B of the UDO for the GR-3 Zoning District. The proposals are highlighted below:

- **Required:** In accordance with UDO section 2.7B, lots less than 80 ft. in width require alley/rear lane access, side setbacks should be 20% of lot width and a minimum of 3 ft., and driveways are required to be at least 35 feet long.
- **Requested:** Due to site constraints, single-family dwelling units less than 80’ in width will be accessed via a driveway that connects to the fronting public right-of-way. Side setbacks are requested to be 6’ for front-loaded units instead of 20% of lot width. Additionally, front-loaded single-family dwellings will be served by driveways that are a minimum length of 25’, rather than the UDO requirement of 35’.

B. **Mass Grading** (Section 6.2.B):

- **Required:** In accordance with UDO Section 6.2B, the initial clearing and grading is limited in new major subdivisions to “dedicated public rights-of-way and easements to installation of streets, utilities, and other infrastructure”, except for subdivisions or sections of subdivisions lots less than 60’ wide.
- **Requested:** The ability to mass grade the proposed lots dwellings which are 60’ wide.

C. **Connectivity Index:**

- **Required:** In accordance with Section 9.5.G of the UDO, the minimum index of links to nodes for proposals in the GR zoning district is 1.4
- **Requested:** Due to the small size of this proposed development, its lack of cul-de-sacs, and few nodes, the applicant requests an index of 1.3.

VIII. PUD DOCUMENT ANALYSIS

The applicant submitted a PUD document to support their Master Plan. The attached document gives the applicant an opportunity to describe the proposed development in more detail. The applicant included a description of their proposed architectural standards, conditions, and detailed open space programming, as seen above. Additionally, the applicant included proposed elevations for both types of housing. The elevations for the front-loaded units are consistent with what has been approved previously, while the elevations for the rear-loaded units meet the spirit and intent of the UDO and Comprehensive Plan, while also continuing the character of phases 1-3. It is staff’s opinion that the document is well written, descriptive, and achieves the goal of promoting the overall vision of their proposed development.



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IX. TRANSPORTATION ANALYSIS

As required by the UDO, a Traffic Impact Analysis (TIA) is required for any “proposed rezoning or Master Plan...if the nature of the proposed rezoning or development is such that the number of trips it can be expected to generate equals or exceeds 150 new peak hour trips (Sec 9.4.B.1)”. Staff requested the applicant conduct an initial Trip Generation report to determine the number of peak hour trips this proposal is expected to generate. That report indicated the weekday AM peak hour trips to be 44 and PM trips to be 58. Based on these numbers, staff did not request any further analysis.

The applicant is also required to conform to the Connectivity Index (9.5.G), which is used “to determine the adequacy of street layout design”, and compares the links (road sections between intersections) and nodes (intersections) of the proposed development. A perfect grid has a Connectivity Index of 2.00. Proposed developments in the GR zoning district are required to have a minimum index of 1.40; Poplar Creek Village Phase 4 has an index of 1.14. As previously noted, due to the small size of this proposed development, its lack of cul-de-sacs, and few nodes, the applicant requests a reduced index of 1.14.

Staff review of the proposed development and supplemental information find a number of transportation improvements which have the potential to improve conditions off-site and provide for safe movement within the neighborhood. The construction of this development provides an alternative ingress and egress point for phases 1-3, which should allow for easier access towards major points of interest in Knightdale, including Old Town and retail along Knightdale Blvd. Pedestrian improvements on-site include sidewalks or multi-use paths on both sides of the proposed roads, with high-visibility crosswalks at all intersections, and connections to the greenway in phases 1-3. On-street parking is provided in tow locations, and staff will work with the developer to add additional spaces.

X: COMPREHENSIVE PLAN:

When the 2035 Comprehensive Plan was being drafted, it was determined that the document should take a playbook approach that would be based on existing conditions that might change over time. As such, the categories as part of the Growth and Conservation Map were based on particular characteristics that would be likely in 2035, however those items may evolve over time as conditions change that were not contemplated at the time of adoption. Those changes should be evaluated against the community vision, guiding principles, and Growth Framework Map to determine if they are in the best long-term interests of the Town and all those involved in the process. The subject property is designated to be “Rural Living” as a placetype.

PLACETYPE CATEGORIES

 Preserved Open Space	 Business Office
 Rural Living	 Light Industrial
 Recreation Open Space	 Heavy Industrial
 Single Family Neighborhood	 Civic & Institutional
 Mixed-Density Neighborhood	 Old Town
 Multifamily Community	 Mixed-Use Center
 Neighborhood Node	 Mixed-Use Center (Suburba
 Retail	 Transit-Oriented Developme
	 Regional Mixed-Use Center





Town of Knightdale

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The Rural Living placetype is defined as follows:

“Rural living areas are characterized by large lots, abundant open space, and a high degree of separation between buildings. Homes are scattered throughout the countryside and often integrated into the rural landscape. The lot size and distance between dwelling units decreases with greater development densities. Buildings are generally oriented toward the road and have direct access from private driveways. One or more out-buildings on a property may support farm activities.”

It is staff’s opinion that the proposed Master Plan and PUD is not consistent with the KnightdaleNext 2035 Comprehensive Plan, however it is reasonable based on the previously described playbook approach. Staff believes the continuation of the existing Poplar Creek Village neighborhood, transportation improvements including a secondary access point for residents, and water & sewer infrastructure improvements made by the developer to an unserved portion of the ETJ meets the intent of the Comprehensive Plan’s playbook approach.

The applicant acknowledges that the request is not consistent and therefore is requesting an update to the Growth and Conservation map to modify this area from Rural Living to Single Family Neighborhood, which is consistent as a continuation of the existing Poplar Creek Village neighborhood.

CONSISTENCY WITH THE COMPREHENSIVE PLAN:

North Carolina General Statute 160A-383 requires that **prior to** adoption or rejecting any zoning amendment, the governing board shall adopt a statement describing whether its action is consistent with an adopted comprehensive plan and explaining why the board considers the action to be reasonable and in the public interest.

As previously mentioned, it is staff’s opinion that the proposed Master Plan and PUD is not consistent with the KnightdaleNext 2035 Comprehensive Plan; however, staff finds the applicant’s request to amend the map consistent with the Comprehensive Plan guiding principles and believe it is reasonable and in the public interest. Should council approve this, the Comprehensive Plan will be updated to reflect the change in consistency, in accordance with NCGS 160A-383.3, which states:

- a. A declaration that the approval is also deemed an amendment to the comprehensive plan. The governing board shall not require any additional request or application for amendment to the comprehensive plan.
- b. An explanation of the change in conditions the governing board took into account in amending the zoning ordinance to meet the development needs of the community.
- c. Why the action was reasonable and in the public interest.



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The following guiding principle categories would be applicable to this request.

COMMUNITY DESIGN



Celebrate a distinct brand and sense of place that is uniquely Knightdale, while still tapping into the talent and creativity of the people that shape its residents, business owners, property owners, developers, planning and design professionals, etc. to keep things relevant and authentic. Prioritize Town investments in the spaces around, between, and within buildings (the “public realm”) that create a certain vibe, identity, and reputation for Knightdale as a place for pedestrians and active public spaces. Use investments in the public realm—street improvements, public spaces, lighting, landscaping, artwork, etc.—to leverage greater private investment in terms of building use, scale, placement, materials and interactions with the public realm.

Community Design – This phase continues the general design guidelines approved for previous phases, as well as providing amenities and enhanced landscaping.

GREAT NEIGHBORHOODS AND EXPANDED HOME CHOICES



Promote distinct, safe, and vibrant neighborhoods throughout Knightdale that provide greater access to a range of housing choices people need at different stages of their life, including young adults, families, empty-nesters, retirees, seniors, and people of different income levels. Housing opportunities should include single family homes of all sizes, townhomes, apartments, condominiums, senior living units, live-work units, and accessory dwelling units. New neighborhoods should mix two or more housing choices into one community. Strong neighborhoods and a diverse housing strategy will make Knightdale a more livable community—one where residents can live their entire lives.

Great Neighborhoods and Expanded Home Choices – The proposed development will be a continuation of the existing Poplar Creek Village neighborhood, which is nearing full buildout.



Town of Knightdale

Staff Report

COMMUNITY FACILITIES AND SERVICES



Continue to improve quality-of-life for all residents of Knightdale by maintaining and expanding community facilities and services (infrastructure) while ensuring that elected officials are good stewards of Town finances. Plan for, finance, and develop efficient infrastructure capacity to accommodate future growth and stimulate economic development. This includes focusing infrastructure investment in identified growth activity centers and maintaining a strong partnership with Wake County, the Wake County School District, NCDOT, CAMPO, the City of Raleigh Public Utilities Department, Wake Tech and other major universities and institutions of higher learning, and surrounding towns and cities. Do this work while embracing an expanded approach to open governance that includes creative outreach and effectively solicits community involvement, collaborative partnerships, and resource sharing.

Community Facilities and Services – This phase will extend public water and sewer eastward towards Clifton Road, as well as provide an alternative entry and exist to the existing neighborhood.

PROPOSED WRITTEN ADVISORY STATEMENT REGARDING PLAN CONSISTENCY:

“The proposed Zoning Map Amendment is not consistent with the KnightdaleNext 2035 Comprehensive Plan, however it is reasonable as it addresses several of the guiding principles including: encouraging compact development patterns, continuing community design, creating great neighborhoods and expanding home choices, and enhancing community facilities and services. It is inconsistent with the General Growth Framework and Growth & Conservation Map, however reasonable when applying the playbook approach. The request is also reasonable and in the public interest as it aids in developing a vibrant, sustainable, and safe community design in which people desire to live, work and visit.”

XI. JOINT PUBLIC HEARING SUMMARY:

A Joint Public Hearing was held at the December 18, 2019 Town Council meeting, where staff introduced the case. A representative from the development team also gave a short presentation, however no one from the general public spoke in favor or against the project.

XII. LAND USE REVIEW BOARD SUMMARY:

The LURB considered this item at the January 13, 2020 meeting. After staff presented an overview of the proposed rezoning request, LURB members asked questions regarding siding materials, architectural standards, elevations, on-street parking, buffer maintenance, street curve radii and speed limits, and mass grading. The LURB then voted unanimously, 6-0, to recommend approval of ZMA-7-19 with staff recommended condition (see below) and forwarded the following advisory statement.



Town of Knightdale

Staff Report

“The proposed Zoning Map Amendment is not consistent with the KnightdaleNext 2035 Comprehensive Plan, however it is reasonable as it addresses several of the guiding principles including: encouraging compact development patterns, continuing community design, creating great neighborhoods and expanding home choices, and enhancing community facilities and services. It is inconsistent with the General Growth Framework and Growth & Conservation Map, however reasonable when applying the playbook approach. The request is also reasonable and in the public interest as it aids in developing a vibrant, sustainable, and safe community design in which people desire to live, work and visit.”

LURB Recommended Condition:

Consolidate on-street parking along “R001” across from lots 12-25.

The applicant has agreed to this condition and will be amending their application to reflect the change.

XIII. STAFF RECOMMENDATION:

Since the previous LURB meeting, the applicant has made significant changes to the application and supporting materials. These changes include the elimination of the 27 rear-loaded single-family lots and the addition of 30 front-loaded single-family lots, a new road alignment with two cul-de-sacs and no on-street parking, and reduced active open space. The LURB and Staff recommended condition no longer applies, due to the removal of on-street parking. Staff recommends the LURB review the request, forward the preceding advisory statement to Town Council, and recommend approval of ZMA-7-19, Poplar Creek Village Phase 4 PUD.

XIV. ATTACHMENTS:

Application Packet, Architectural Elevations, and Neighborhood Meeting Information.

RECOMMENDED ACTION

1. Motion to recommend approval of ZMA-7-19 and forward the preceding advisory statement to Town Council.

PLANNED UNIT DEVELOPMENT APPLICATION

In accordance with Unified Development Ordinance Section 2.16, a Planned Unit Development (PUD) is a type of Planned Development District (PDD) that encourages master planning of development and to manage such development with the impacts of the development on the provision of Town services and infrastructure. Completed applications shall include all of the submittal requirements included on Page 2 of this application and on the corresponding application checklist. Applications must be submitted in accordance with the schedule established by the Development Services Department.

PROJECT INFORMATION

TYPE OF APPLICATION:	PLANNED UNIT DEVELOPMENT		
PROJECT ADDRESS:	0 Clifton Road, Knightdale, NC 27545		
WAKE COUNTY PIN(s):	1743822316		
PROPOSED PROJECT NAME:	Poplar Creek Village Phase 4		
PROPOSED USE:	Single-Family Subdivision		
PROPOSED SQ. FT.:		TOWN LIMITS/ETJ:	Knightdale ETJ
CURRENT ZONING DISTRICT:	RT	PROPOSED ZONING DISTRICT:	GR3/PUD
PROPOSED LOTS:	50	DENSITY (DWELLING/ACRE):	2.86

CONTACT INFORMATION

APPLICANT:	Blackridge Properties, LLC		
ADDRESS:	414 Forsyth Street, Raleigh, NC 27609		
PHONE:	019.624.5458	EMAIL:	stuartpoulsen@gmail.com

SIGNATURE: 

PROPERTY OWNER:	Billy Royce Liles		
ADDRESS:	550 Fiddlers Ridge, Pine Knoll Shores, NC 28512		
PHONE:	252-726-0206	EMAIL:	

SIGNATURE: 

DEVELOPER:	Blackridge Properties, LLC		
ADDRESS:	414 Forsyth Street, Raleigh, NC 27609		
PHONE:	919.624.5458	EMAIL:	stuartpoulsen@gmail.com

SIGNATURE: 

THIS SPACE FOR DEVELOPMENT SERVICES STAFF ONLY

CASE NUMBER:	PUD - _____	SUBMITTAL DATE:	X-REFERENCE(s):
FILING FEE:		SKETCH PLAN MEETING DATE:	



TOWN OF KNIGHTDALE

DEVELOPMENT SERVICES DEPARTMENT

www.knightdalenc.gov

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Knightdale, NC 27545
(P) 919.217.2243
(F) 919.217.2249

MASTER PLAN

In accordance with Development Process outlined in Chapter 15 of the Unified Development Ordinance, Master Plan submittals are required for all Site Plans, Major Subdivisions, Special Use Permits, and Conditional Districts. Completed applications shall include all of the submittal requirements included on Page 2 of this package, and must be submitted in accordance with the schedule established by the Development Services Department. Approval of the Master Plan is not an authorization to begin site construction.

PROJECT INFORMATION

PROJECT NAME:	Poplar Creek Village Phase 4		
PROJECT ADDRESS:	0 Clifton Road, Knightdale, NC 27545		
WAKE COUNTY PIN(s):	1743822316		
PROPOSED USE:	Single-Family Subdivision		
PROPOSED SQ. FT.:	PROPOSED LOTS:	50	DENSITY (DWELLING/ACRE): 2.86
ZONING DISTRICT:	RT	SITE ACRES: 17.49	INSIDE CORPORATE LIMITS: Yes

CONTACT INFORMATION

APPLICANT:	Blackridge Properties, LLC	PHONE:	919.624.5458	FAX:	
ADDRESS:	414 Forsyth Street, Raleigh, NC 27609				
		EMAIL:	stuartpoulsen@gmail.com		

SIGNATURE:

PROPERTY OWNER:

Billy Royce Liles PHONE: 252-726-0200 FAX:

ADDRESS:

550 Fiddlers Ridge, Pine Knoll Shores, NC 28512

EMAIL:

SIGNATURE:

DEVELOPER:

Blackridge Properties, LLC PHONE: 919.624.5458 FAX:

ADDRESS:

414 Forsyth Street, Raleigh, NC 27609

EMAIL:

stuartpoulsen@gmail.com

SIGNATURE:

THIS SPACE FOR DEVELOPMENT SERVICES STAFF ONLY

CASE NUMBER:

SUBMITTAL DATE:

X-REFERENCE(S):

FILING FEE:

SKETCH PLAN MEETING DATE:



Jamison A (with
brick or stone)



Jamison B



Jamison C



Langford C



Palmer A



Palmer B



Palmer C



Richardson B



Richardson C



Roland A



Roland C



Victor A



Victor B



Victor C



Warwick B (enclosed
3rd bay garage)



Warwick C (enclosed
3rd bay garage)



Warwick D (enclosed 3rd bay garage)



Warwick E (enclosed
3rd bay garage)



Warwick F (enclosed
3rd bay garage)



Webster C



Webster F



Worthing A



Worthing B



Worthing C



Yates A



Yates B



Yates C



September 18, 2019

Dear Knightdale Area Property Owner:

The purpose of this letter is to notify you of our client's intent to file an application for a Planned Unit Development Conditional District Rezoning and Master Subdivision Plan with the Town of Knightdale for property located adjacent to, or in close proximity to, property shown in your ownership by Wake County tax records. Per Town of Knightdale standards, a Neighborhood Meeting will be held to provide information to area residents about the nature of the proposal. A representative of the applicant will be present to explain their application, answer questions, and solicit comments.

Meeting Date: October 2, 2019
Meeting Time: 6:30 pm
Meeting Location: Knightdale Recreation Center, Room 404
102 Lawson Ridge Road Knightdale, NC 27545
Types of Applications: Conditional Rezoning with Subdivision Master Plan

Parcel/Pin #: 1743822316
Addresses: 0 Clifton Road, Knightdale, NC 27545

Description of project/proposal: Proposed annexation into Knightdale's corporate limits and proposed rezoning of site from Wake County residential zoning to Knightdale GR3/ PUD Conditional Zoning with a Master Subdivision Plan.

At a minimum, the following will be available for your inspection at the Neighborhood Meeting:

1. A copy of the project application.
2. A map at a scale that is appropriate to the project and shows neighboring properties and roads.
3. A map, drawing, or other depiction of the proposed subdivision.

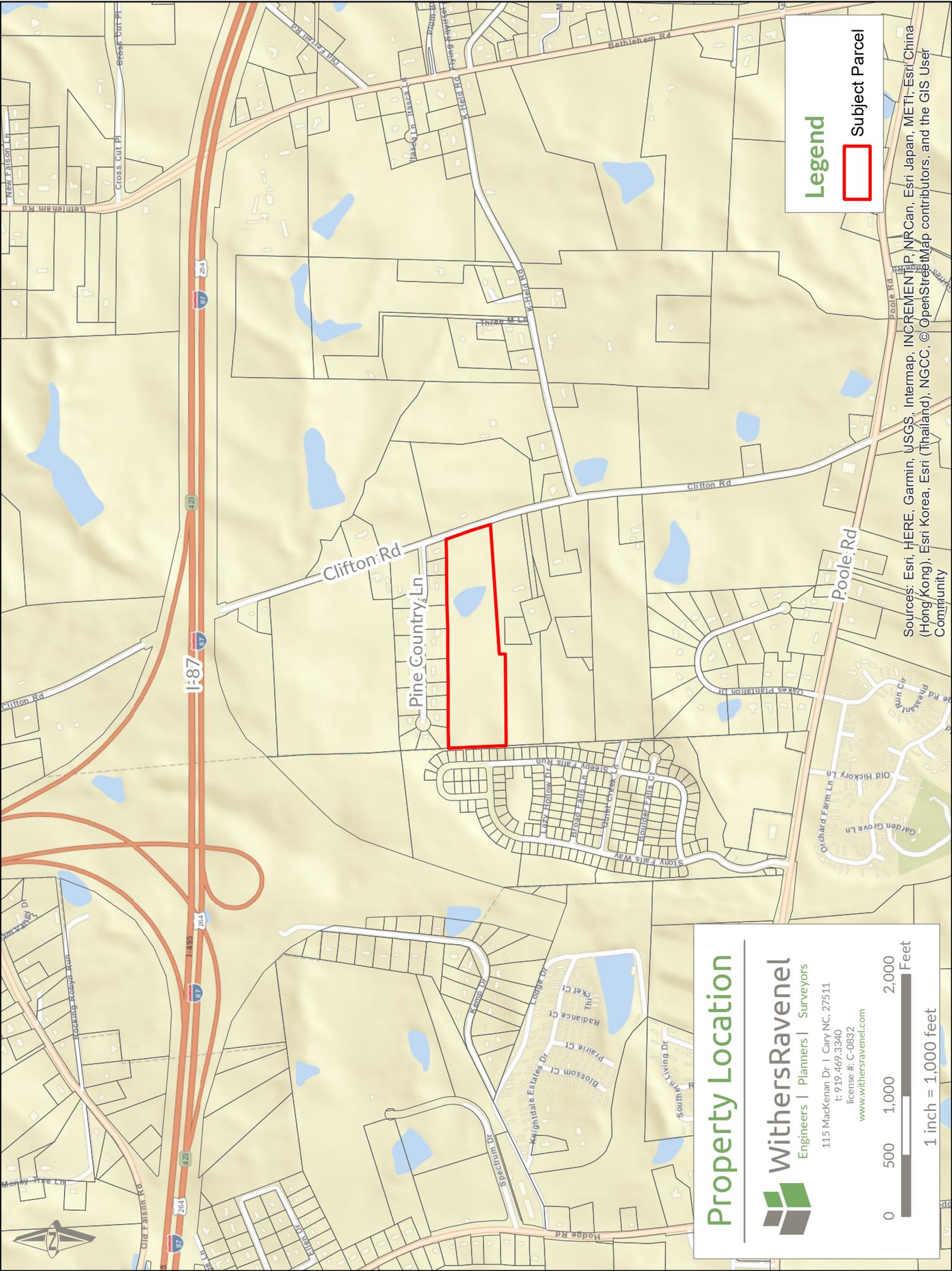
A map is enclosed with this letter showing the location of the property that is subject to this application for rezoning.

If you have any questions prior to or after this meeting, you may contact us at 919-535-5212 or at bvega@withersravenel.com. You may also contact the Town of Knightdale Development Services Department at 919-217-2244.

Sincerely,

Brendie Vega
WithersRavenel

Cc: Town of Knightdale Development Services Department



Property Location

WithersRavenel
 Engineers | Planners | Surveyors
 115 MacKenan Dr | Cary, NC, 27511
 t: 919.469.3340
 license #: C-0832
 www.withersravenel.com

0 500 1,000 2,000 Feet
 1 inch = 1,000 feet

Legend

Subject Parcel

Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, © OpenStreetMap contributors, and the GIS User Community

Poplar Creek Phase 4 – Clifton Road/ PUD Rezoning with Subdivision Plan

Neighborhood Meeting Minutes 10/2/19

Neighbor requests:

- Privacy fence/buffer behind lots that back up to neighborhood near Clifton Road?
- Proposed timeline for construction?
- Tree cutting process? Will they just fall and disrupt close by properties? Don't want to disrupt house foundations.
- Will there be rock blasting?
- Stream that runs through property? Can we alleviate impacts downstream?
- Neighbor wants gravity sewer. Troy?

1. Introductions – Brendie & Brad

2. Brendie

- a. process of rezoning
- b. PUD/GR3
- c. conditional zoning
- d. schedule – public hearing, LURB, town council

3. Brad addresses earlier question

- a. Tree removal concerns, can't answer that at the time, but will talk to developer/builder to find out their process.
- b. Stream floods the property
 - i. stream regulations and building process for "softer" dirt
 - ii. town has regulations for stormwater and to not create additional problems downstream
- c. Timeline? The rezoning timeline was explained with a possible approval date in December. Would still need to go through construction plan process, permitting, and
- d. Keep ponds
- e. Buffer & trees are requested, any tree removal should be done carefully
- f. Lot sizes and products and prices, 2000-2500 sf, traditional 2200-3200 SF, poplar creek in low 300s
- g. Phase IV of Poplar Creek – curb&gutter, sewer, connection to greenway trail, extend water main to Clifton, sewer extends to natural basin, where to stub sewer, turn lane on Clifton Rd, discuss NCDOT meeting, not anticipating sewer but not confirmed
- h. Catching stormwater runoff? Will need to conform to standards
- i. Traffic anticipation to Clifton Road? – no traffic study, trip generation study for Clifton
 - i. Worries about more traffic and the continued cut throughs that will now come out on
- j. Street lights? Yes.



- k. Trespassing? Current quiet area. Hopefully there will be more of a police presence since it will be in Town limits
- l. Will there be anything in the pocket park? Open play field, playground? Benches.
- m. Fenced yards? HOA of Poplar Creek guidelines
- n. Accurate surveying, please make sure surveyors stay on correct lines.

Open discussion:

Concern with drainage and flooding

Earthquake in 2011 caused foundation damage, would like to ensure that construction or tree removal does not cause additional foundation damage.

Would like to see a privacy fence for lots near Clifton Road

Do not like the sound of kids, this project will be disruptive to the peaceful environment they now enjoy.

Concerned about the wildlife and where they will go.

POPLAR CREEK PHASE 4 NEIGHBORHOOD NOTICE OF MEETING
MAILING LIST

PIN	Owner	Owner 2	Mail Address 1	Mail Address 2	Site Address
n/a	Daniel Rauh		424 Gallimore Dairy Road Ste. C	Greensboro NC 27409	n/a
n/a	Chris Hills, ACP, CZO	Development Services Director, Town of Knightdale	950 Steeple Square Ct.	Knightdale NC 27545	n/a
1743617995	POPLAR CREEK VILLAGE COMMUNITY ASSC INC	CHARLESTON MGT CORP	PO BOX 97243	RALEIGH NC 27624-7243	0 SLEEPY FALLS RUN
1743629296	MATIVO, PATRICK K BERGAN, PRUDENCE		4722 SLEEPY FALLS RUN	KNIGHTDALE NC 27545-5139	4722 SLEEPY FALLS RUN
1743629392	DAVIS, RYAN BRADLEY DAVIS, TAMARA G		4720 SLEEPY FALLS RUN	KNIGHTDALE NC 27545-5139	4720 SLEEPY FALLS RUN
1743629399	CLAYTON PROPERTIES GROUP INC		441 WESTERN LN	IRMO SC 29063-9230	4718 SLEEPY FALLS RUN
1743711873	CIL, SOAI BONDING, RUIJUN		4811 SLEEPY FALLS RUN	KNIGHTDALE NC 27545-5140	4811 SLEEPY FALLS RUN
1743711970	WELLS, SIMONE GUEVARA-MCLEOD, MATTHEW		4809 SLEEPY FALLS RUN	KNIGHTDALE NC 27545-5140	4809 SLEEPY FALLS RUN
1743720014	BUKASE, KALONGA KAYEMBE, BIBICHE MULANGA		4804 SLEEPY FALLS RUN	KNIGHTDALE NC 27545-5140	4804 SLEEPY FALLS RUN
1743720122	VILLAGREZ, BENITO ANGEL		4502 STONY FALLS WAY	KNIGHTDALE NC 27545-5141	4502 STONY FALLS WAY
1743720694	COLLINS, PHYLLIS M COLLINS, TYRONE L		4711 SLEEPY FALLS RUN	KNIGHTDALE NC 27545-5139	4711 SLEEPY FALLS RUN
1743721445	BROWN, WILLIAM R JR BROWN, GWENDOLYN JACKSON		4717 SLEEPY FALLS RUN	KNIGHTDALE NC 27545-5139	4717 SLEEPY FALLS RUN
1743722752	SAULT, CAROLYN		120 PINE COUNTRY LN	KNIGHTDALE NC 27545-9764	120 PINE COUNTRY LN
1743723622	MAXWELL, MICHAEL B		119 PINE COUNTRY LN	KNIGHTDALE NC 27545-9764	119 PINE COUNTRY LN
1743724662	MOLINA, SALVADOR MOLINA, MARIA GUEVARA		117 PINE COUNTRY LN	KNIGHTDALE NC 27545-9764	117 PINE COUNTRY LN
1743725684	CARDONZO-DIAZ, GONZALO CARDONZO CASTELLANO, BLANCA ROSA ESCOB		115 PINE COUNTRY LN	KNIGHTDALE NC 27545-9764	115 PINE COUNTRY LN
1743727604	BIRCH, HOWARD REGINALD III		113 PINE COUNTRY LN	KNIGHTDALE NC 27545-9764	113 PINE COUNTRY LN
1743728644	KEETER, JOHN		111 PINE COUNTRY LN	KNIGHTDALE NC 27545-9764	111 PINE COUNTRY LN
1743811957	HARRIS, NORMA L LILES, BILLY R		4616 CLIFTON RD	KNIGHTDALE NC 27545-9132	0 CLIFTON RD
1743813811	TAYLOR, KENNETH GREY TAYLOR, BONNIE S		4524 CLIFTON RD	KNIGHTDALE NC 27545-9130	4524 CLIFTON RD
1743820675	SHORNOCK, JEFFREY J		109 PINE COUNTRY LN	KNIGHTDALE NC 27545-9764	109 PINE COUNTRY LN
1743822316	LILES, BILLY ROYCE		550 FIDDLERS RDG	PINE KNOLL SHORES NC 28512-7000	0 CLIFTON RD
1743822685	AQUA NORTH CAROLINA INC		202 MACKENAN DR	CARY NC 27511-6447	0 PINE COUNTRY LN
1743825043	TAYLOR, FRANCES L TAYLOR, KENNETH EARL		4516 CLIFTON RD	KNIGHTDALE NC 27545-9130	4516 CLIFTON RD
1743825614	TEUSCHER, RICHARD DALE		105 PINE COUNTRY LN	KNIGHTDALE NC 27545-9764	105 PINE COUNTRY LN
1743827605	WRIGHT, GREGORY H WRIGHT, RAFFAELA M		103 PINE COUNTRY LN	KNIGHTDALE NC 27545-9764	103 PINE COUNTRY LN
1743828644	NIXON, DORIS LEWTER		4500 CLIFTON RD	KNIGHTDALE NC 27545-9130	4500 CLIFTON RD
1743922906	EARLY, TROY O EARLY, RHONDA B		4425 CLIFTON RD	KNIGHTDALE NC 27545-9129	4449 CLIFTON RD



Town of Knightdale

Staff Report Cover Sheet

Title: Unified Development Ordinance (UDO) Update

Staff: Jason S. Brown, AICP, CZO

Date: June 8, 2020

PURPOSE

- To provide an update on the status of the Unified Development Ordinance Update process.

STRATEGIC PLAN PRIORITY AREA(S)

- Connected & Inclusive
- Sustainable

GENERAL STATUTE REFERENCE(S), if applicable

- N/A

TYPE OF PUBLIC HEARING, if applicable

- N/A

FUNDING SOURCE(S), if applicable

- FY '20-'21 Adopted Budget

ATTACHMENT(S)

- Staff Report
- Project Scope and Approach
- Diagnostic Memorandum

STAFF RECOMMENDATION

- Receive as information

Knightsdale Strategic Priorities



Safe



Connected & Inclusive



Sustainable



Active & Healthy



Organizational Excellence



Town of Knightdale

Staff Report

Title: UDO Update

Staff: Jason S. Brown, Assistant
Development Services Director

Date: June 8, 2020

Director Signature:

Asst. Town Manger Signature:

Town Manager Signature:

BACKGROUND INFORMATION

- The next phase of implementing the KnightdaleNext 2035 Comprehensive Plan is to update the UDO to ensure it is consistent and has the capabilities to deliver the community vision. The Town has retained the consulting services of Houseal Lavigne & Associates (HLA) and currently is in the first phase of the process.

SUMMARY

- The UDO Update is a seven-step process. The project approach and process are outlined as an attachment to this staff report. The first phase was project initiation and community outreach. This phase is substantially complete, but there are still two opportunities to provide input. The project website has a link to a questionnaire as well as the map.social interactive mapping tool. The second phase of issue identification and Comprehensive Plan alignment is wrapping up with the Diagnostic Memorandum.

This memo provides a framework for the UDO Update process and clarifies how the update will align the UDO to the KnightdaleNext 2035 Comprehensive Plan. It is not meant to identify every text edit or change, but to focus the effort on comprehensive plan alignment, legislative/judicial changes, and staff identified areas for improvement. The Council provided feedback on the diagnostic memo and the consultant is going to finalize this document to move to the next phase of the process. This is intended to provide the Land Use Review Board an update on the process and answer any questions.

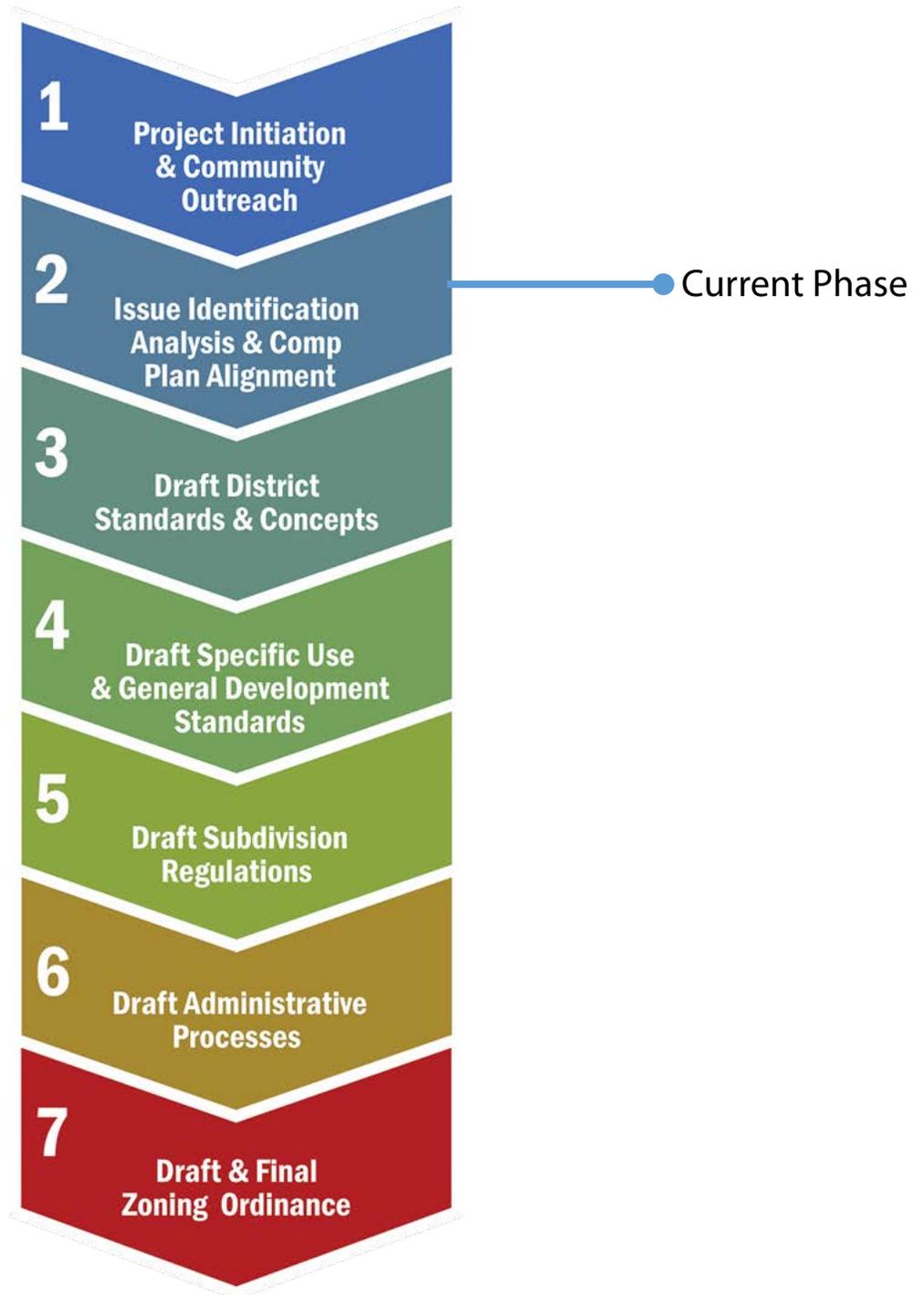
RECOMMENDED ACTION

- Receive as information



Town of Knightdale

Staff Report





Memorandum

Date: April 3, 2020

SENT VIA EMAIL

To: Jason Brown, AICP, CZO
Town of Knightdale

From: Houseal Lavigne
Nik Davis, AICP
Jackie Wells, AICP

**Re: Diagnostic Report
Unified Development Ordinance Update**

This memorandum is delivered in support of the Unified Development Ordinance (UDO) Update project for the Town of Knightdale. It presents the accumulated research of Step 2: Issue Identification Analysis, as described in the project scope of work.

The memo contains Houseal Lavigne's initial assessment of Knightdale's existing Unified Development Ordinance in comparison to the vision, goals, and recommendations established in the recently adopted Knightdale Next 2035 Comprehensive Plan. Related best practices are provided throughout the memorandum for potential application in the updated document. The recommendations of this report are preliminary, based upon the information and community input available to date. Future engagement with Town staff, the project steering committee, and the community may result in revisions.

This memorandum includes:

- An approach for alignment with the Knightdale Next 2035 Comprehensive Plan;
- A summary of issues identified during the public outreach process;
- Recommendations for compliance with 2019 North Carolina legislation related to planning and development regulations; and
- Responses to staff requested revisions.

HOUSEAL LAVIGNE

CHICAGO, IL
188 West Randolph Street, Suite 200
Chicago, Illinois 60601
(312) 372-1008

www.hlplanning.com
info@hlplanning.com

WORKING DRAFT

Comprehensive Plan Alignment

The Knightdale Next 2035 Comprehensive Plan, adopted in August 2018, includes recommendations and zoning considerations for code changes. The Comprehensive Plan Alignment is the additional analysis of these recommendations needed to guide the development of the new UDO. The strategies outlined below relate to the implementation actions detailed on pages 116-119 of the Plan that will be addressed wholly or in part through updates to the UDO.

Comprehensive Plan Recommendation 1: Promote distinctive districts within the community.

The UDO will increase the number of building types established in Chapter 5 to better distinguish the desired character of the Town's various non-single-family residential zoning districts. Currently, there are five non-single-family residential use building types including institutional, civic, apartment, mixed-use, and commercial. The architectural standards associated with these building types do not vary based on the zoning district or character area in which they are located. To ensure that the Town's architectural standards help to create distinctive districts within the community it is recommended that new building types with varied architectural standards be established for applicable non-single-family residential neighborhoods.

Comprehensive Plan Recommendation 2, 3, and 4: Promote infill development within the downtown area; Create incentives for appropriate infill development in Old Town; and Establish site, street, streetscape, and building design standards for redevelopment sites.

The UDO will offer developers expedited processing, to incentivize development in certain districts by processing development proposals more quickly. In the Downtown and Old Town areas, a fast-tracked review process could be achieved by offering streamlined applications and administrative approval for development proposals that comply with all regulations of the UDO. This can help to reduce risk and financing costs by allowing developers to bring their product to the market more quickly. In addition, Chapter 5 – Building Types will be enhanced to include additional or different standards for redevelopment or infill development of the varying building types. The distinct standards will incentivize development by offering greater flexibility while not lowering the Town's high standards for design and architecture.

Comprehensive Plan Recommendation 5: Preserve land in the 100-year floodplain.

The Town's Flood Damage Prevention provisions (Section 6.6) help to prevent potential flood losses by restricting development in Special Flood Hazard Areas (SFHA). SFHAs are areas identified by the Federal Emergency Management Agency (FEMA) as an area with a special flood hazard, or areas within the 100 year floodplain. Development in these areas can be protected by the National Flood Insurance Program, the rates of which are dependent on a community's rating in the Community Rating System. To improve Knightdale's rating, the UDO include higher regulatory standards such as requiring freeboard, soil tests or engineered foundations, or compensatory storage.

Comprehensive Plan Recommendation 6: Preserve and protect meaningful quantities of open space.

The UDO will establish a new Planned Unit Development (PUD) approval process. Currently, PUDs are only included in Chapter 2: District Provisions where they are intended to encourage creativity and innovation in the master planning of development. Additionally, the UDO establishes specific provisions which must be addressed in PUD District Master Plans. The current PUD approval process is unclear. To improve it, the UDO will establish modification standards, which are similar to standards of review, for the consideration of site development allowances, or deviations from underlying zoning controls. The preservation and protection of meaningful quantities of open space, such as tree stands or critical sensitive areas, will be made a modification

standard in the PUD process. This would encourage developers to request site development allowances that would cluster smaller residential parcels on areas of a site that are more suitable for development and preserve contiguous areas of open space. Additionally, the UDO will establish a menu of open space activation options to ensure that new development is adequately served by park space.

Comprehensive Plan Recommendation 7, 8, and 9: Encourage mixed-density development; Encourage a mix of residential types within a single development; and Ensure housing for all income levels.

The UDO can address these recommendations in a variety of ways including but not limited to expanding the types of housing permitted in residential zoning districts, enhancing the PUD process to encourage mixed density development, or establishing residential subdivision standards which require a mix of housing types and densities in subdivisions over a certain size. These strategies will be further discussed and refined as a part of Step 6: Draft Administrative Processes of the UDO Update scope of work.

Comprehensive Plan Recommendation 10 and 11: Develop a complete and integrated grid street network; Adopt different street design standards for suburban and urban conditions.

The UDO will increase the connectivity index requirement found in Chapter 9: Circulation and Connectivity to allow fewer cul-de-sacs in new residential development. Additionally, the Town should eliminate the allowance for Administrator-Awarded Modifications when pedestrian greenways are provided to link any cul-de-sac to another street or cul-de-sac. The Town should also require developers to post permanent signs at any street stubs notifying residents of its eventual continuation or connection in order to clearly communicate the intent of the roadway. Further, the General Infrastructure Design Guidelines found in Section 17.3 of the UDO will be revised to align with the Town's Complete Streets goals.

Comprehensive Plan Recommendation 12 and 13: Encourage a network of connected sidewalks, side paths, and pedestrian and cycling passages; and Require the incorporation of bike and pedestrian facilities within new development.

Currently the UDO only requires internal connection of sidewalks, side paths, and pedestrian and cycling passages. The UDO will revise the pedestrian circulation and connectivity standards in Chapter 9 to require connections to existing public sidewalks, side paths, and pedestrian passages that are located outside of a development. By expanding this requirement to require external connections, the Town will begin to develop a more connected pedestrian network. Further, the Town should update Appendix C: Bicycle Route and Greenway Plan to align with all relevant plans of the Town or county.

Comprehensive Plan Recommendation 14: Support rezoning requests that create neighborhood commercial nodes.

The Use Matrix found in Chapter 2: District Provisions of the UDO will be revised to allow for the "neighborhood retail/restaurant 2,000 square feet or less" use type as a special use in the General Residential and Urban Residential districts. By making this use category a special use in these districts the Town can encourage the development of commercial nodes. The special use process also provides the Town with the opportunity to hold the development to certain conditions that would ensure that the proposed non-residential use(s) would not negatively impact existing or future residential neighborhoods. Conditions will address the location and screening of off-street parking, the size and type of permitted signs, and building orientation and bulk to ensure that they are not out of scale with the surrounding neighborhood. The UDO update will also ensure that the special use permitting process is well defined and clear to encourage special use applications for desired uses.

Comprehensive Plan Recommendation 15 and 16: Reduce parking requirements within redevelopment sites; and Incorporate bus facilities during redesign of existing sites.

The UDO will allow for reductions to required parking when developers are able to meet certain criteria. Criteria could include distance from an established transit route, incorporation of bus facilities on site, access to public parking, or the availability of on-street parking.

Comprehensive Plan Recommendation 17 and 18: Encourage schools and institutions as anchors in neighborhoods and in mixed-use centers; Ensure appropriate infrastructure when new schools are sited and built to encourage multi-modal transportation and to increase accessibility from neighborhoods on all sides.

The UDO will be revised to make “schools – elementary and secondary” permitted subject to additional standards in all zoning districts. Additional standards will include required on site improvements to support multimodal transportation such as school bus loading zone requirements and bicycle parking requirements as well as neighborhood access requirements such as sidewalk connections.

Comprehensive Plan Recommendation 19: Continue to leverage the Town’s location along major transportation corridors to attract a variety of industries – particularly clean, low-impact, knowledge intensive, higher wage industries.

The UDO will establish a new Tech / Flex zoning district to better accommodate desirable light industrial uses throughout the Town. The district will allow for a variety of uses that provide employment opportunities for office, institutional, research and development, and artisan manufacturing uses. The district will allow for flex space, where different combinations of uses are permitted to occur on a site simultaneously or over time.

Comprehensive Plan Recommendation 20: Prepare for new technology and trends such as ride-hailing services, autonomous vehicles, and electric vehicles.

Chapter 10 – Vehicle Accommodation Areas of the UDO will be revised to require a specified percent of required parking be reserved for ride-hailing service and autonomous vehicle loading and unloading. Additionally, the provision of electric vehicle charging stations will be incentivized through a reduction of the required amount of internal parking lot landscaping or other design standard.

Comprehensive Plan Recommendation 21: Create attractive and accessible transit stop location.

Chapter 17 – Infrastructure Improvement Requirements of the UDO will be revised to require Transit Station / Stop easement dedications for development along a planned transit route.

Summary of Issues from Public Outreach Events

Through outreach events, the Knightdale community provided input on the issues and challenges with the existing Knightdale Unified Development Ordinance (UDO). Outreach events took place on November 20, 21, and 22, 2019 and included meetings with the Planning and Engineering Committee, Development Services Department staff, Department Directors, Council members, as well as two meetings open to all residents and business owners in the community. Participants provided their input to the consultant team (Houseal Lavigne) on all aspects of the UDO including its ease of use, development standards and regulations, district specific issues, permit processes, and the strengths of the ordinance. The most prevalent and pressing issues are summarized and presented below.

NOTE: The following is intended to summarize input received from the community and does not represent a list of recommendations for the UDO update.

1. Ease of Use. How could the UDO be made more user friendly?

- A. More graphics and illustrations are needed to clearly communicate the intent of regulations.
- B. The UDO should be reorganized to more linearly walk people through the development process and clean up sections that were amended.
- C. The updated UDO should be made more user friendly with online tools that allow for hyperlinks, search functions, cross-references, and flow charts or guides that walk a user through the development process.
- D. The Town's Water Allocation Policy should be more closely tied to the UDO.

2. Development Standards and Regulations. Are there specific development standards or land use regulations in the existing UDO that should be updated?

- A. Cross-access between commercial uses should be required.
- B. Subdivisions should be required to connect to one another to encourage more people to walk rather than drive.
- C. Street cross sections and other transportation design standards should be updated and clarified.
- D. The sign ordinance needs to be clarified in regard to sign measurement and permitted locations.
- E. Emerging technologies like 5G infrastructure, self-driving cars, and alternative energy systems should be addressed.
- F. The maximum size of accessory structures needs to be more flexible when being proposed for larger lots.
- G. Bicycle and pedestrian needs should be a priority.
- H. Development standards for mixed use development and infill development should be updated and enhanced.
- I. Residential parking requirements should be examined to ensure that neighborhoods are not burdened with excessive on-street parking.
- J. Stormwater management standards should be updated to include enhanced and clarified easement requirements and standards for on- and off-site collection.
- K. Open space standards should be updated to accommodate requirements in more dense areas, including allowing rooftop recreation areas and other in-building options.
- L. Maximum building heights surrounding Knightdale Station should be increased.

3. District Specific Issues. Are there any zoning issues unique to specific district or areas that need to be addressed?

- A. Areas that have zero-lot line development should have higher standards for building materials to decrease the likelihood of house fires jumping from building to building.
- B. The UDO should continue to protect rural areas from development.
- C. The update should explore eliminating zoning districts that allow for only single-family detached development.
- D. Gateways to the community should have different and more prescriptive design standards to ensure that these areas adequately represent Knightdale to surrounding communities and visitors.
- E. The Highway Business District (HBD) should prioritize pedestrian safety and circulation.
- F. The Neighborhood Mixed Use (NMX) and Residential Mixed Use (RMX) zoning districts need to be made more distinct and should better align with the Neighborhood Node place type in the Comprehensive Plan.
- G. Aspects of the Transit Oriented Development place type included in the Comprehensive Plan should be incorporated into the UDO.
- H. Large residential developments should be required to have more access points to main or primary roads and a grid system of streets instead of cul-de-sacs.

4. Permit Decision Making Process. Are there any process-related issues that should be examined as a part of the update?

- A. The UDO should explore opportunities for administrative approval and relief.
- B. Permit processes are distributed throughout the Code and should be streamlined.
- C. Requirements for plat submittals and other applications should be updated and clarified.
- D. The approval process for new residential subdivisions should be streamlined and clarified. What is required for approval, in terms of design standards, changes frequently.
- E. The Town should have an online dashboard that keeps track of the permitting process for increased transparency with applicants and residents.

5. Other Issues.

- A. The UDO should address traffic and circulation concerns where possible.
- B. More as-of-right development should be permitted.

6. Strengths of the existing UDO. What aspects of the UDO are working well?

- A. The design standards included in the UDO deliver the attractive, functional, and successful development that the Town would like to see.

2019 State Legislation Compliance

In 2019, the North Carolina General Assembly passed a number of bills affecting planning and development in the State. In addition to the reorganization of the statutes related to planning and development regulation into a consolidated Chapter 160-D the bills enacted also revised the law on:

- A. Third-party requests to downzone property,
- B. Permit choice,
- C. Vested rights,
- D. Judicial review of zoning decisions,
- E. Short term rentals, and
- F. Performance guarantees for subdivision improvement.

All municipalities in North Carolina must update their land development regulations to comply with the new legislation by January 1, 2021. In order to bring the Knightdale UDO into compliance with the new legislation it is recommended that the Town:

- A. Update all references to state legislation to reflect reorganization of Chapter 160-D.
- B. Align ordinance terminology and definitions with Chapter 160-D terminology and definitions.
- C. Adopt broadened conflict-of-interest standards for governing, advisory boards, and staff.
- D. Update Notice of Violation issue requirements.
- E. Update development approval revocation procedures.
- F. Revise subdivision performance guarantee requirements.
- G. Establish expedited review procedures for certain minor subdivisions.
- H. Allow concurrent review of development agreements with rezoning, subdivision, or conditional zoning review.
- I. Revise public notification requirements to require notice to properties separated from the subject property by street, railroad, or other transportation corridors.
- J. Revise Conditional District and Special Use Permit approval procedures to clarify that written consent to conditions related to approval must be received from the applicant / landowner.
- K. Update quasi-judicial decision-making procedures.
- L. Remove all building design element standards for all housing types that are built to the single-family building code from the UDO and establish a standalone 'residential pattern book'.

Note: Houseal Lavigne will continue to evaluate General Statutes Chapter 160-D and recommendations in this memo are subject to change based on on-going research, precedence, local interpretation, and future legal review of the legislative changes.

Staff Requested Revisions

As the administrators of the UDO, Knightdale Development Services staff are keenly aware of the shortcomings of existing ordinance text. To ensure that the UDO update resolves these issues and serves the Town for years to come, staff compiled a list of UDO revisions they would like to see addressed during the update process. The following section is organized by UDO chapter and includes Houseal Lavigne's recommendations on how to address some of the concerns raised by staff. UDO revisions included in the staff compiled list that are not addressed below are direct requests for revisions that do not require additional consideration or guidance from staff.

Chapter 2: District Provisions

The District Provisions chapter establishes the Town's zoning districts, details what and how uses are permitted in each district, as well as sets forth the bulk and site dimensional standards for each district. The first issue raised by staff concerns the lot and building dimensional requirements for the GR3, GR8, and UR12 districts and the need for greater clarity about which requirements apply to infill development versus new development. Currently, the standards for both infill and new development are included in the same subsection, making it unclear as to what types of development the requirements apply to. To resolve this issue, the requirements for infill development should be separated from the requirements for new development. Subsection headers should clearly state what type of development the requirements apply to. Additionally, the requirements for infill development should be reorganized to be easier to understand. Further, the applicability of requirements for minimum driveway length for new development should be clarified to eliminate confusion as to whether the requirements apply to properties that are required to have rear or alley access for off-street parking. The next topic raised by staff concerns issues with sight distance triangles and easements in corner side yard setbacks. Currently the code treats side yards that abut roadways in the same way as side yards that abut other side yards, resulting in inefficient space to accommodate for sight distance triangles and easements. To resolve this, the definition of a front yard should be revised to include all street facing yards.

The final issue raised by staff is about an inconsistency between the Use Matrix included in Section 2.3(C) and the UDO definitions. Currently, there is a definition and use code number for "Medical Services – Outpatient/Urgent Care Center" however it is not included in the Use Matrix. The Use Matrix should be revised to include this use. Staff should consider how it should be permitted and in which districts it should be allowed. To ensure that all inconsistencies such as this are resolved in the updated UDO, all definitions will be reviewed and revised as necessary.

Chapter 12: Signs

These regulations need to be thoroughly revised given the Supreme Court of the United States (SCOTUS) decision in *Reed v. The Town of Gilbert, Arizona* (2015). Knightdale is among municipalities nation-wide that are affected by the SCOTUS ruling. The Court determined that signs cannot be regulated differently based on the content of the sign's message. This applies to the size, location, and duration of noncommercial and commercial signage. Several instances of content-based regulations exist in the Knightdale sign ordinance, including varying regulations for real estate signs, murals or wall art, and flags. Although staff raised several concerns about existing sign regulations, they primarily concern sign content or regulations based on sign content. To address these concerns, Houseal Lavigne will work closely with staff on the update of this chapter to ensure that it resolves them and brings the ordinance into compliance with current case law.

Other Staff Requested Revisions

In addition to the revisions requested for Chapter 2 and Chapter 12 detailed above, Town of Knightdale staff have identified the following topics to address as a part of the UDO update.

- A. DRC Membership
- B. Affordable Housing
- C. Street Cross Sections
- D. Collector Street Standards/Roundabouts
- E. Public Hearing Notices (160D Changes + best practices)
- F. Stormwater
- G. Fences
- H. Performance Guarantees
- I. Accessory Structures (Infill and Large Lots)
- J. Definitions