



# Administrative Approval Action

Case File / Name: SUB-0049-2022  
DSLCL - BARWELL ROAD TOWNHOMES

City of Raleigh  
Development Services Department  
One Exchange Plaza  
Raleigh, NC 27602  
(919) 996-2492  
currentplanning@raleighnc.gov  
www.raleighnc.gov

**LOCATION:** This site is located on the south side of Poole Road, north of Rock Quarry Road at 2801 Barwell Road.

**REQUEST:** Development of Tract 2, an 8.82 acre/384,359 sf tract, zoned R-4, on a vacant site, for a proposed Compact Development multi-unit townhomes subdivision. Tract 2 is a part of the preliminarily approved, "Barwell Road 2 Tract Subdivision", as shown on SUB-0019-2023, in which .56 acres/24,390 sf of the right-of-way was dedicated from an overall gross parent tract of 15.11 ac/658,201 sf, leaving a net area of 14.55 ac/633,811 sf for both tracts 1 & 2. This preliminary subdivision for "2801 Barwell Rd Townhomes" (SUB-0049-2022), on Tract 2, consists of 65 total lots, 64 multi-unit townhomes, and 1 HOA Common Lot on a gross site of 8.82 ac/384,359 sf.

**DESIGN  
ADJUSTMENT(S)/  
ALTERNATES, ETC:** SUR-0048-2023: DSENG - Surety/Infrastructure

**FINDINGS:** City Administration finds that this request, with the below conditions of approval being met, conforms to the Unified Development Ordinance. This approval is based on a preliminary plan dated November 28, 2023 by TMTLA Associates.

## **CONDITIONS OF APPROVAL and NEXT STEPS:**

*This document must be applied to the second sheet of all future submittals except for final plats. This is a preliminary plan and as such no permits have been issued with this approval. To obtain permits and/or completion of the project, the following steps are required:*

☒ **SITE PERMITTING REVIEW** - For land disturbance of 12,000 square feet or greater, public or private infrastructure, shared stormwater devices, etc. Site Permitting Review may be submitted upon receipt of this signed approval document.

***The following items are required prior to approval of Site Permitting Review plans:***

### **General**

1. Any proposed new lighting design demonstrates compliance with UDO Sec.7.4.1 and UDO Sec.7.1.7.G, if applicable.
2. ADA accessibility paths are shown and labeled on the subdivision plans sheet & a note is added to the subdivision sheet stating: "50% of amenity area must include an ADA accessibility path."
3. Landscaping sheet L3, additional evergreen shrub screening, per UDO Sec.7.2.6.C, will be required for SCM pond screening along the view from Barwell Rd.
4. The listed density calculation total, on the transposed coversheet application form, "6,165sf/du", shall be revised on the civil Site Permit Review application, per Sec.1.5.2.F & Sec.2.3.4.A (per SUB-0019-2023 for Lot 2) and subdivision sheet L-1.



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5. On the site data table, the wording reference of the "net" area for Tract 2 is revised, to read "gross" or existing land area conditions, per approved preliminary subdivision, SUB-0019-2023, and this development's approval.
6. Applicant revises & removes the "net" area acreage shown on the data table, under the 'gross tract area' data for PIN #1732-76-8557, to match that site data information for SUB-0019-2023. Site data information needs to be updated, revised and re-worded to match SUB-0019-2023.
7. Review and revise Open Space calculations for the "provided sf" as noted in the site data table, to match that listed in the data table, and clearly delineate those designated Open Space area & boundary.
8. Each lot frontage's width dimensions are labeled for each townhome lot, per SUB-0049-2022, along each proposed new public right-of-way, demonstrating compliance with UDO Sec.2.3.4.B.

## Engineering

9. Required NCDOT encroachment and/or driveway permits must be approved and copies provided to the City of Raleigh Transportation Department – Mobility Strategy and Infrastructure Division prior to Site Permit review approval.
10. A public infrastructure surety shall be provided to City of Raleigh Transportation – Development Engineering Division (UDO 8.1.3) in the amount of 100% of the improvement cost for the NCDOT portion and 125% of the improvement cost for the City of Raleigh infrastructure.

## Public Utilities

11. A deed shall be recorded prior to construction approval (SPR) for all necessary offsite City of Raleigh Sanitary Sewer Easements to accommodate future sewer line construction.

## Stormwater

12. The State of North Carolina shall approve any proposed disturbance within the riparian buffer prior to the issuance of any grading or site permit (UDO 9.2.3.E).
13. A stormwater control plan with a stormwater operations and maintenance manual and budget shall be approved (UDO 9.2).
14. A surety equal to the cost of clearing, grubbing and reseeding a site, shall be paid to the City (UDO 9.4.4).
15. If required, a nitrogen offset payment must be made to a qualifying mitigation bank (UDO 9.2.2.B).

## Urban Forestry

16. Submit a final tree conservation plan that includes metes and bounds descriptions of all tree conservation areas and tree protection fencing as required (UDO 9.1.5).



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17. Tree protection fence must be inspected by Urban Forestry staff prior to the issuance of a grading permit.

☒ **LEGAL DOCUMENTS** - Email to [legaldocumentreview@raleighnc.gov](mailto:legaldocumentreview@raleighnc.gov). Legal documents must be approved, executed, and recorded prior to or in conjunction with the recorded plat on which the associated easements are shown. Copies of recorded documents must be returned to the City within one business day of recording to avoid withholding of further permit issuance.

<input checked="" type="checkbox"/>	Right of Way Deed of Easement Required
<input checked="" type="checkbox"/>	Stormwater Maintenance Covenant Required

<input checked="" type="checkbox"/>	Utility Placement Deed of Easement Required
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☒ **RECORDED MAP(S)** - Submit plat to record new property lines, easements, tree conservation areas, etc.). Plats may be submitted for review when the Site Permitting Review plans, if required, have been deemed ready for mylar signature.

***The following items must be approved prior to recording the plat:***

## General

1. Preliminary subdivision for SUB-0019-2023, "Barwell Road 2 Tract Subdivision" is recorded creating tracts 1 & 2 before any recordation of lots for this subdivision, SUB-0049-2022, "2801 Barwell Road Townhomes." A copy of the SUB-0019-2023 shall be returned back to Planning and or inserted with the recordation and review of SUB-0049-2022.
2. Street names for this development shall be approved by the Raleigh GIS Division and by Wake County.
3. Provide documentation indicating a Property Owner's Association has been established for the subject development. A note shall be placed on the final subdivision map for recording which states "All open space areas are to be owned and maintained by the homeowner's association."

## Engineering

4. A 10.5' of public street right-of-way deed of easement, in addition to a plat showing the location of the easement, shall be submitted to the Planning and Development Services Department for review, and if acceptable, approved for recordation. Approved plats must be recorded at the Wake County Register of Deeds Office on or before the 14th day following approval by the City. The 14-day expiration date shall be clearly indicated on the plat. By the end of the next business day following recordation of the plat, all required legal instruments (including deeds of easement) shall be recorded, and recorded copies of the plat and all legal instruments required by the City in association with development approval shall be provided to the City. (Reference: UDO 8.1.7.A; 10.2.5.F.4.d)



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5. A 5' utility placement easement deed of easement, in addition to a plat showing the location of the easement, shall be submitted to the Planning and Development Services Department for review, and if acceptable, approved for recordation. Approved plats must be recorded at the Wake County Register of Deeds Office on or before the 14th day following approval by the City. The 14-day expiration date shall be clearly indicated on the plat. By the end of the next business day following recordation of the plat, all required legal instruments (including deeds of easement) shall be recorded, and recorded copies of the plat and all legal instruments required by the City in association with development approval shall be provided to the City. (Reference: UDO 8.1.7.A; 10.2.5.F.4.d)
6. A public street right-of-way deed of easement, in addition to a plat showing the location of the easement, shall be submitted to the Planning and Development Services Department for review, and if acceptable, approved for recordation. Approved plats must be recorded at the Wake County Register of Deeds Office on or before the 14th day following approval by the City. The 14-day expiration date shall be clearly indicated on the plat. By the end of the next business day following recordation of the plat, all required legal instruments (including deeds of easement) shall be recorded, and recorded copies of the plat and all legal instruments required by the City in association with development approval shall be provided to the City. (Reference: UDO 8.1.7.A; 10.2.5.F.4.d)

## **Public Utilities**

7. Infrastructure Construction Plans (concurrent submittal) must be approved by the City of Raleigh Public Utilities Department for all public water, public sewer and/or private sewer extensions.

## **Stormwater**

8. The riparian buffers, in accordance with the preliminary plan and the State of North Carolina regulations, shall be shown on plats for recording along with required buffer statement (Recorded Map Checklist).
9. A surety equal to 125% of the cost of the construction of a stormwater device shall be paid to the Engineering Services Department (UDO 9.2.2.D.1.d).
10. The City form document entitled Declaration of Maintenance Covenant and Grant of Protection Easement for Stormwater Control Facilities shall be approved by the City and recorded with the county register of deeds office (UDO 9.2.2.G).
11. All stormwater control measures and means of transporting stormwater runoff to and from any nitrogen and stormwater runoff control measures shall be shown on all plats for recording as private drainage easements (UDO 9.2).
12. The maximum allocated impervious area for all applicable lots in the subdivision, including any common open lots, should be identified on all maps for recording.

## **Urban Forestry**





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13. A public infrastructure surety for 16 street trees along Court A and 24 street trees along Drive A. shall be provided to City of Raleigh Transportation – Development Engineering Division (UDO 8.1.3) in the amount of 100% of the improvement cost for the NCDOT portion and 125% of the improvement cost for the City of Raleigh infrastructure.
14. A tree conservation plat shall be recorded with metes and bounds showing the designated tree conservation areas (UDO 9.1). This development proposes 1.47 acres of tree conservation area.

☒ **BUILDING PERMITS** - For buildings and structures shown on the approved plans. Commercial building permit plans must include the signed, approved Site Permitting Review plans attached, if applicable. Permit sets may be reviewed prior to the recordation of required plats, but cannot be approved.

***The following items must be approved prior to the issuance of building permits:***

## **General**

1. Preliminary subdivisions, SUB-0019-2023 and SUB-0049-2022, shall be recorded creating tracts 1 & 2, and also creating lots 1-65 on tract 2. A recorded copy, with book map/pg. # and signatures, for both subdivisions shall be presented before the issuance of any residential building permits on new tract 2. All permits shall be for townhome building types.
2. Building permits for the approved townhomes building types are issued in accordance with the approved subdivision plan SUB-0049-2022.

## **Public Utilities**

3. A plat must be recorded at the Wake County Register of Deeds office for all utility easement dedications.

## **Stormwater**

4. Impervious restrictions for each lot must be recorded on a plat prior to building permit issuance.
5. If total land disturbance will be over 12,000 sq. ft. for multiple houses, a separate site plan submittal & approval will be required. Site plans require an erosion control plan. (UDO 9.4.6.)

## **Urban Forestry**

6. A tree impact permit must be obtained for the approved streetscape tree installation in the right of way. This development proposes 16 street trees along Court A and 24 street trees along Drive A.
7. A tree conservation plat shall be recorded with metes and bounds showing the designated tree conservation areas (UDO 9.1).

***The following are required prior to issuance of building occupancy permit:***



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## General

1. All Water, Sanitary Sewer and Reuse facilities shall be installed, inspected, tested and accepted by the City of Raleigh Public Utilities Department for operations and maintenance.
2. All street lights and street signs required as part of the development approval are installed.
3. Final inspection of all tree conservation areas and right of way street trees by Urban Forestry Staff

## Stormwater

4. As-built impervious survey is accepted by the Engineering Services Department (UDO 9.2).
5. As-built drawings and associated forms for all Stormwater devices are accepted by the Engineering Services Department (UDO 9.2.2.D.3).

**EXPIRATION DATES:** If significant construction has not taken place on a project after preliminary subdivision approval, that approval may "sunset" and be declared void, requiring re-approval before permits may be issued. To avoid allowing this preliminary approval to "sunset", the following must take place by the following dates:

**3-Year Sunset Date: January 4, 2027**

**Record at least ½ of the land area approved.**

**5-Year Sunset Date: January 4, 2029**

**Record entire subdivision.**

I hereby certify this administrative decision.

**Signed:** *Daniel L. Stegall* **Date:** 01/04/2024  
Development Services Dir/Designee  
**Staff Coordinator: Jermont Purifoy**

# 2801 BARWELL RD TOWNHOMES

## RALEIGH, NORTH CAROLINA PRELIMINARY SUBDIVISION PLAN SUB-0049-2022

### SITE DATA- 2801 BARWELL RD

PIN	PORTION OF 1732-76-8557 (LOT 2 OF SUB-0019-2022)
ADDRESSES:	2801 BARWELL RD, RALEIGH, NC
TOTAL TRACT FOR PIN	1732-76-8557
GROSS TRACT AREA:	384.359 SF (8.82 AC)
THIS SUBDIVISION (LOT 2 OF SUB-0019-2022)	
GROSS AREA:	384.359 SF (8.82 AC)
NUMBER OF UNITS:	64
NUMBER OF LOTS:	65

TRIP GENERATION (8TH EDITION ITE)	
RESID. CONDO/TOWNHOMES (230)	64 UNITS
AVERAGE DAILY TRIPS	372

#### NOTES:

1. BLOCK PERIMETER SITE IS NOT SUBJECT TO BLOCK PERIMETER BECAUSE IT IS BELOW THE 11 ACRES MINIMUM SITE AREA FOR APPLICABILITY OF LOTS 10.0, 10.0, 10.0 IN THE R-4 ZONING DISTRICT. UDO SECTION 10.2.2.2.
2. ALL REQUIREMENTS NOT APPLICABLE. SITE OVER 5 ACRES FOR UDO SEC 10.2.2.2.2.2.
3. DEVELOPERS HAVE REVIEWED AND ARE IN COMPLIANCE WITH THE REQUIREMENTS SET FORTH IN THE SOLID WASTE DEBRIS MANUAL. SUBSCRIPTION WILL BE SERVED BY ROLL-OUT CENTER THAT WILL BE STORED INTERNAL TO THE BUILDINGS IN THE GARAGE.

#### CONDITIONS OF APPROVAL

Engineering - A public infrastructure survey shall be provided to the City of Raleigh Transportation - Development Engineering Division (UDO 6.2.1) in the amount of 100% of the improvement cost for the NCDOT portion and 125% of the improvement cost for the City of Raleigh infrastructure.

Public Utilities - A Petition for Annexation into the City limits shall be submitted in accordance with City Council policy for extension of utility service to properties currently outside of the City limits. This voluntary annexation in no way obligates the City to extend utility services to the property.

Public Utilities - A plat must be recorded at the Wake County Register of Deeds Office for all utility easement dedications.

Engineering - A public street right-of-way deed of easement, in addition to a plat showing the location of the easement, shall be submitted to the Planning and Development Services Department for review, and if acceptable, approved for recordation. Approved data must be recorded at the Wake County Register of Deeds Office on or before the 14th day following approval by the City. The 14-day expiration date shall be clearly indicated on the plat. By the end of the next business day following recordation of the plat, all required legal instruments (including deeds of easement) shall be recorded, and recorded copies of the plat and all legal instruments required by the City in association with development approval shall be provided to the City. (Reference: UDO 8.3.7.A, 10.2.5.F.4.4)

Engineering - A 10.0' of public street right-of-way deed of easement, in addition to a plat showing the location of the easement, shall be submitted to the Planning and Development Services Department for review, and if acceptable, approved for recordation. Approved data must be recorded at the Wake County Register of Deeds Office on or before the 14th day following approval by the City. The 14-day expiration date shall be clearly indicated on the plat. By the end of the next business day following recordation of the plat, all required legal instruments (including deeds of easement) shall be recorded, and recorded copies of the plat and all legal instruments required by the City in association with development approval shall be provided to the City. (Reference: UDO 8.3.7.A, 10.2.5.F.4.4)

Engineering - A 10' utility easement (deed of easement, in addition to a plat showing the location of the easement, shall be submitted to the Planning and Development Services Department for review, and if acceptable, approved for recordation. Approved data must be recorded at the Wake County Register of Deeds Office on or before the 14th day following approval by the City. The 14-day expiration date shall be clearly indicated on the plat. By the end of the next business day following recordation of the plat, all required legal instruments (including deeds of easement) shall be recorded, and recorded copies of the plat and all legal instruments required by the City in association with development approval shall be provided to the City. (Reference: UDO 8.3.7.A, 10.2.5.F.4.4)

Right of Way Deed of Easement Required - Right of Way Deed of Easement Required

Public Utilities - Infrastructure Construction Plans (concurrent submittal) must be approved by the City of Raleigh Public Utilities Department for all public water, public sewer and/or private sewer extensions.

General - All Water, Sanitary Sewer and Route facilities shall be installed, inspected, tested and accepted by the City of Raleigh Public Utilities Department for operations and maintenance.



### VICINITY MAP

1"=800'



### SUBMITTALS

FIRST SUBMITTAL	6/30/2022
SECOND SUBMITTAL	10/12/2022
THIRD SUBMITTAL	11/23/2022
FOURTH SUBMITTAL	2/23/2023
FIFTH SUBMITTAL	8/11/2023
SIXTH SUBMITTAL	10/25/2023
SEVENTH SUBMITTAL	11/28/2023

DEVELOPER  
F & B DEVELOPMENT COMPANY, LLC  
516 N EAST ST.  
RALEIGH, NC 27604

LANDSCAPE ARCHITECT  
TMTLA ASSOCIATES  
5011 SOUTHPARK DRIVE, STE 200  
DURHAM, NC 27713  
919-484-8880

CIVIL ENGINEER  
QUINITY, PA  
16 CONSULTANT PLACE, STE 201,  
DURHAM, NC 27707

SURVEYOR  
CAWTHORNE, MOSS, & PANCIERA, PC  
333 S. WHITE STREET,  
WAKE FOREST, NC 27588

### INDEX

EXISTING CONDITIONS	EX-1
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GRADING PLAN	C400 to C402
SCM PLANS & DETAILS	C450 to C452

### Preliminary Subdivision Application Planning and Development



CURRENT PROPERTY OWNER/DEVELOPER INFORMATION	
NOTE: Please attach purchase agreement when submitting this form.	
Company: F & B Development Company, LLC	Owner/Developer Name and Title: Grey Berry
Address: 516 N East St, Raleigh, NC 27604	
Phone #: 919-406-8956	Email: grey@fandbproperty.com
APPLICANT INFORMATION	
Company: TMTLA Associates	Contact Name and Title: Chris Rutkowski, PLA
Address: 5011 Southpark Dr, Suite 200, Durham, NC 27713	
Phone #: 919-484-8880	Email: chris@tmtla.com

Continue to page 2 >>>

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REVISION TO 10.12.22  
raleighnc.gov

### DEVELOPMENT TYPE - SITE DATA TABLE (Applicable to all developments)

#### ZONING INFORMATION

**TMTLA ASSOCIATES**  
LANDSCAPE ARCHITECTURE & LAND PLANNING  
5011 SOUTHPARK DRIVE, STE 200-DURHAM, NC 27713  
P: (919) 484-8880 E: info@tmtla.com



#### REVISIONS:

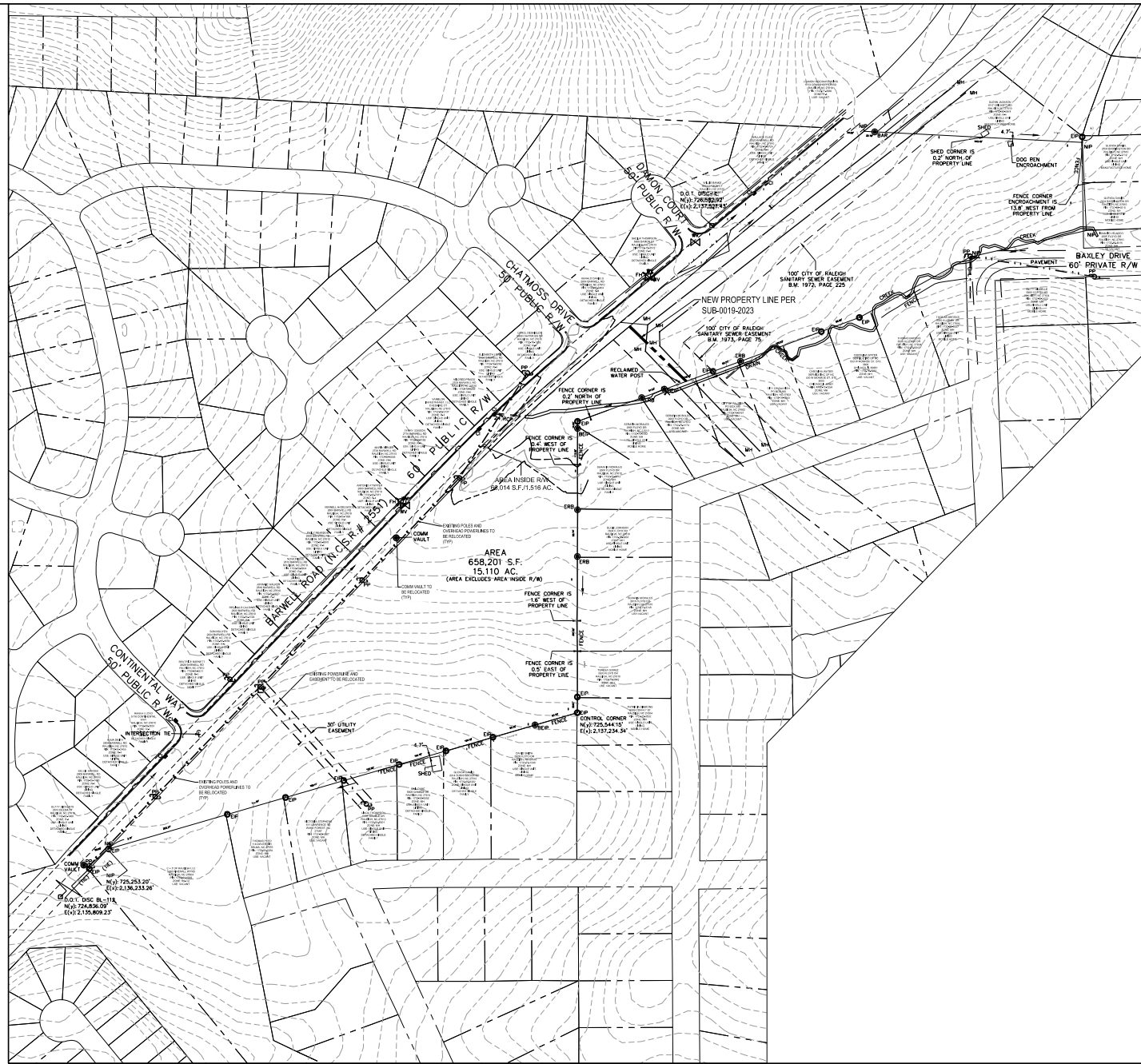
10/12/2022-PER COR COR COMMENTS
11/23/2022-PER COR COR COMMENTS
2/17/2023-PER COR COR COMMENTS
8/11/2023-PER COR COR COMMENTS

Cover  
Barwell Rd Townhomes  
2801 Barwell Rd  
Raleigh, NC

SCALE:  
AS NOTED  
DRAWN BY:  
CDR  
PROJECT #  
22104  
DATE:  
6/30/2022  
SHEET

COVER

T:\Projects\2021\Projects\2021-2022\Barwell Road - Ridge\Projects\Submittals\6-03\Barwell Road Townhomes DPT Final - Existing Conditions  
11/08/2022 11:52:22 AM DWG.T2.DWG



# SITE DATA- 2801 BARWELL RD

PIN: PORTION OF 1732-76-8557  
(LOT 2 OF SUB-0019-2023)

ADDRESSES: 2801 BARWELL RD, RALEIGH, NC

TOTAL TRACT FOR PIN 1732-76-8557  
GROSS TRACT AREA: 384,359 SF (8.82 AC)

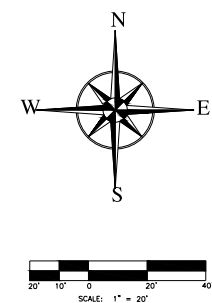
THIS SUBDIVISION (LOT 2 OF SUB-0019-2023)  
GROSS AREA: 384,359 SF (8.82 AC)  
NUMBER OF UNITS: 64  
NUMBER OF LOTS: 65

- Notes:
- Boundary, field topographic, building, and utility information taken from a digital file provided by Cawthorne, Moss & Panciera, PC dated 5/19/2022.
  - The site is located within Zone X (MINIMAL FLOOD RISK) on FEMA flood map panel 3720173200J dated 05/02/06.



REVISIONS:

11/23/2022- PER COR COMMENTS
8/11/2023- PER COR COMMENTS



Existing Conditions  
Barwell Rd Townhomes  
2801 Barwell Rd  
Raleigh, NC

SCALE:  
AS NOTED  
DRAWN BY:  
CDR  
PROJECT #  
22104  
DATE:  
6/30/2022  
SHEET

EX-1

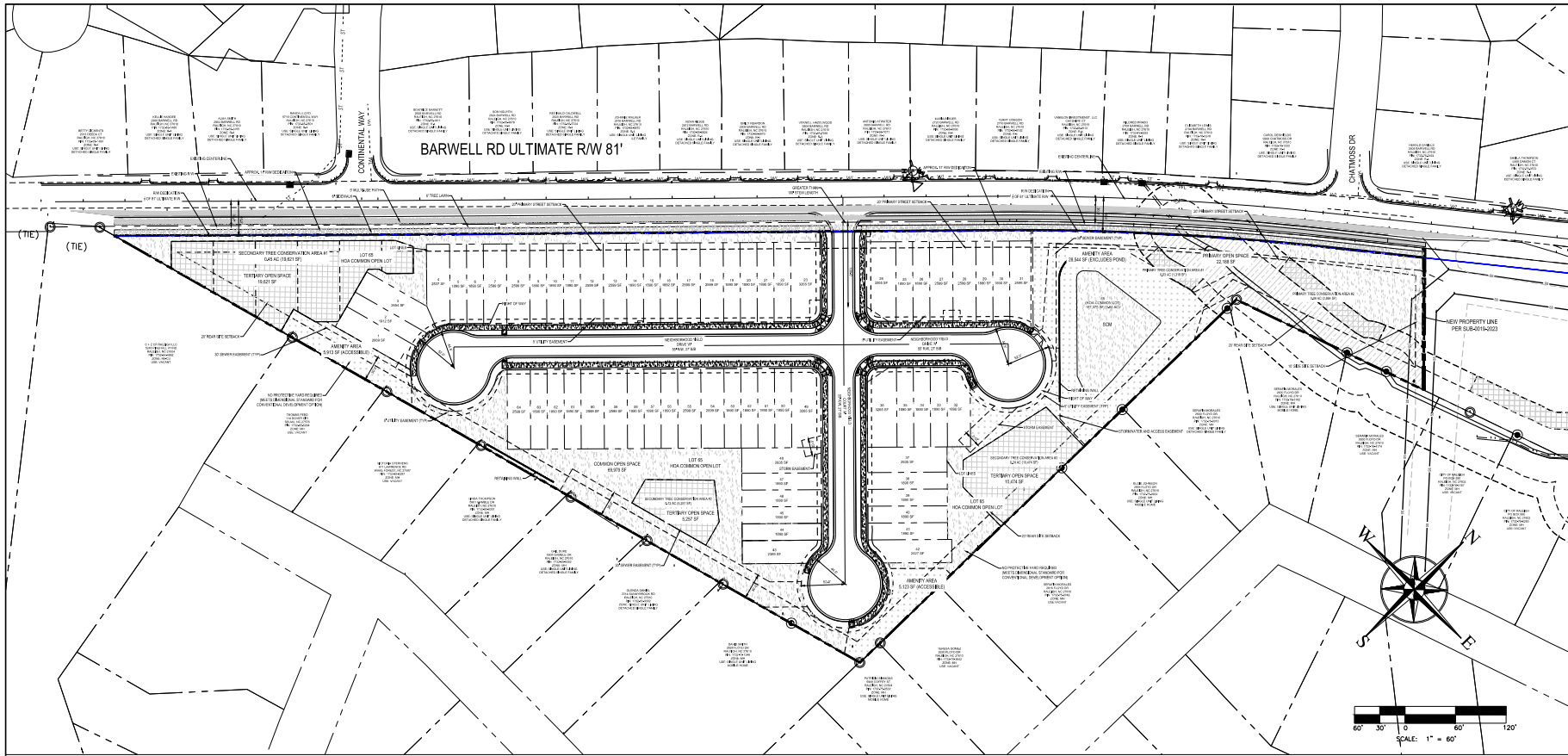




REVISIONS:  
10/12/2022-PER COR COMMENTS  
11/23/2022-PER COR COMMENTS  
9/17/2023-PER COR COMMENTS  
10/18/2023-TCA REVISION

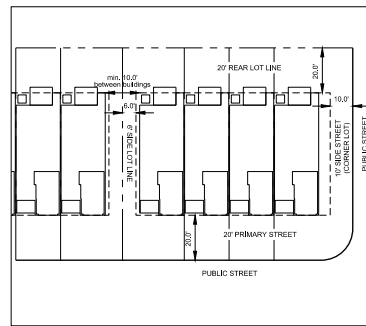
SITE PLAN  
Barwell Rd Townhomes  
2801 Barwell Rd  
Raleigh, NC

SCALE:  
1"=60'  
DRAWN BY:  
CDR  
PROJECT #  
22104  
DATE:  
6/10/2022  
SHEET  
L-1



SITE DATA- 2801 BARWELL RD	
FIN	PORTION OF 1732-76-8557 (LOT 2 OF SUB-0019-2023)
ADDRESSES:	2801 BARWELL RD, RALEIGH, NC
TOTAL TRACT FOR FIN 1732-76-8557	
GROSS TRACT AREA:	384,359 SF 8.82 AC
THIS SUBDIVISION (LOT 2 OF SUB-0019-2023)	
NET AREA:	384,359 SF (8.82 AC)
NUMBER OF UNITS:	64
NUMBER OF LOTS:	65
NET SITE AREA PER UNIT:	384,359 SF / 64 UNITS = 6,005 SF PER UNIT 6,000 SF MIN.
TONING:	R-COMPACT DEVELOPMENT
EXISTING USE:	VACANT
PROPOSED USE:	MULTI-UNIT LIVING (TOWNHOMES)
NUMBER OF UNITS:	64 UNITS
NUMBER OF LOTS:	65 LOTS (64 MULTI-UNIT LIVING LOTS, 1 HOA COMMON LOT)
OPEN SPACE	76,871 SF REQUIRED (20%) 167,375 SF PROVIDED (43%)
OUTDOOR AMENITY AREA:	19,218 SF REQUIRED (5%) 9,609 SF PROVIDED ACCESSIBLE 38,971 SF PROVIDED (TPS) 11,036 SF PROVIDED ACCESSIBLE
EXISTING IMPERVIOUS:	0 SF
PROPOSED IMPERVIOUS:	147,741 SF / 3.39 AC (38%)
MAXIMUM IMPERVIOUS (MSA):	38%

- Notes:
- Boundary, field topographic, building, and utility information taken from a digital file provided by Cawthorne, Moss & Panciera, PC dated 5/19/2022.
  - The site is located within Zone X (MINIMAL FLOOD RISK) on FEMA flood map panel 372073300 dated 05/02/06.
  - Contractor shall verify the location of all existing utilities and shall be responsible for any damage resulting from his activities. Call Utility locator service at least 48 hours prior to digging.
  - All construction shall be in accordance with all City of Raleigh standards and specifications.
  - All construction shall conform to all state and local standards and specifications and code requirements. Notify designer of any discrepancies. If discrepancies are found the more stringent requirements will prevail.
  - All utilities shall be located underground.
  - No changes may be made to the approved drawings without written permission from the issuing authority.
  - Do not scale the drawings. Digital information is provided for construction drawings.
  - Contractor shall coordinate all work with all construction trades prior to start of construction.
  - All dimensions are references from back-of-curb to back-of-curb.
  - Erosion control plans shall be approved prior to any grading on this site.
  - Boundary information shall be field verified by Professional Surveyor before construction staking begins.
  - Prior to the issuance of the Certificate of Occupancy the Owner shall record the site easement as shown. There shall be no site obstruction or party obstruction wall, fence, sign, foliage, berming, or parked vehicles between the heights of twenty four (24) inches and eight (8) feet above the curb line elevation or the nearest traveled way if no curbing exists.
  - Within the sight triangles shown on this plan, no obstruction between two (2) feet and eight (8) feet in height above the curb line elevation or the nearest traveled way, if no curbing exists.
  - All necessary HVAC units will be located at the rear of the buildings.
  - A final plat indicating right of way dedication, cross access easements and any other public easements shall be recorded.
  - Site Lighting: none required per City of Raleigh UDO Section 7.4.
  - Site Landscaping: no landscaping required for transitional protective yard or screening otherwise.



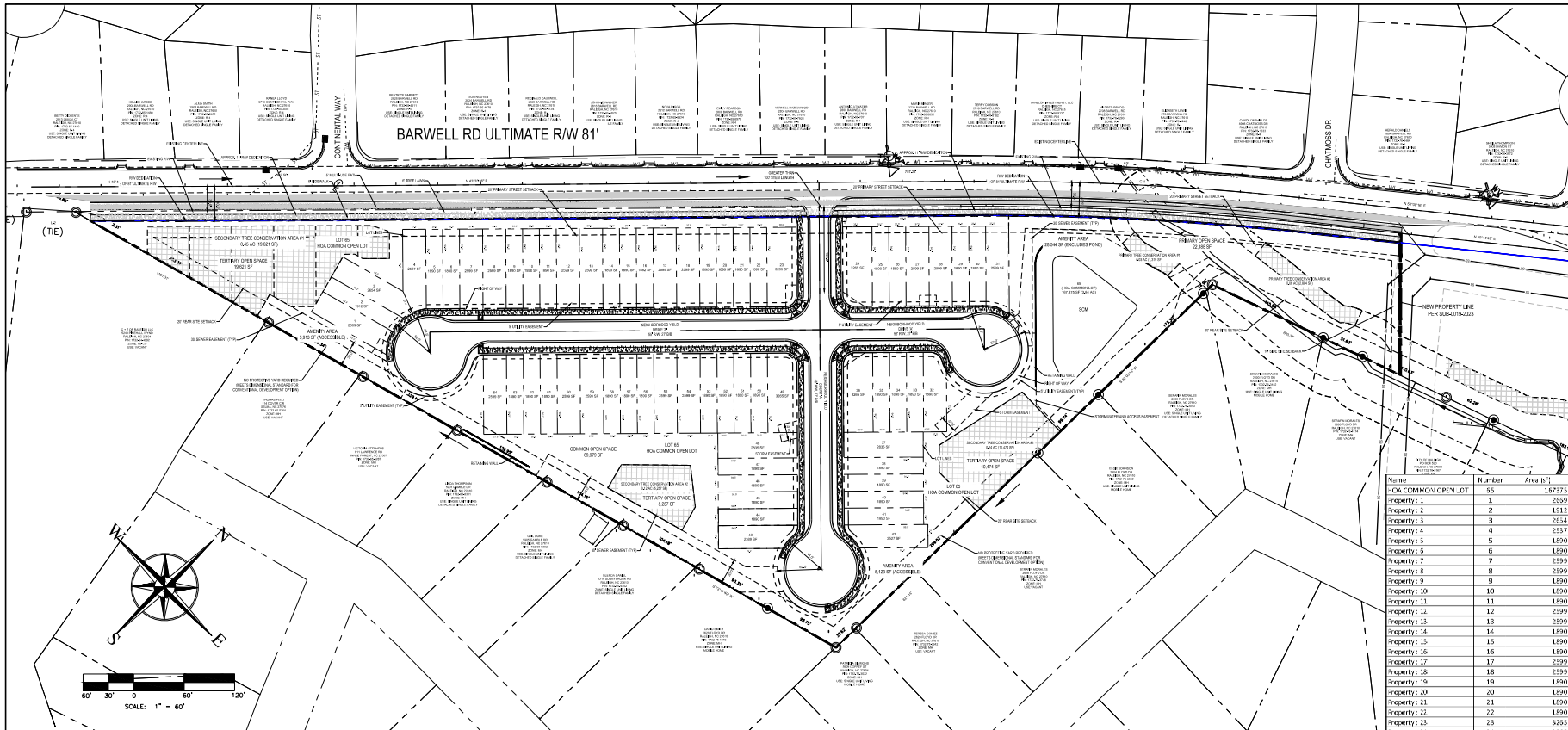
LOT SETBACK DETAIL (TYP)  
\*FOR REFERENCE ONLY

PARKING CALCULATIONS	
REQUIRED PARKING	NO MAXIMUM
PARKING PROVIDED	2 SPACES PER UNIT (1 IN GARAGE, 1 IN DRIVEWAY)
COMMON OPEN SPACE CALCULATIONS	
PRIMARY OPEN SPACE PROVIDED	22,188 SF
SECONDARY OPEN SPACE PROVIDED	0 SF
TERTIARY OPEN SPACE PROVIDED	33,270 SF
OTHER COMMON OPEN SPACE PROVIDED	70,337 SF
AMENITY AREA OPEN SPACE PROVIDED	39,580 SF
TOTAL OPEN SPACE PROVIDED	147,375 SF

PROVIDED TOWNHOME LOT TYPICALS	
LOT WIDTH (INTERIOR)	20
LOT WIDTH (END UNIT)	27.5
LOT DEPTH	94.5
TYPICAL BUILDING SEPARATION	15

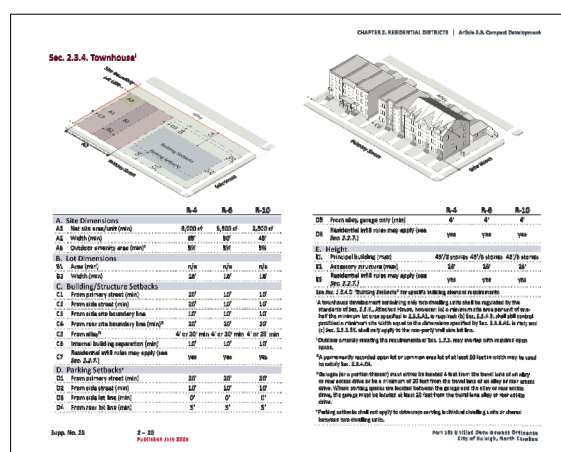
\*FOR REFERENCE ONLY

LEGEND	
	PROJECT BOUNDARY
	SITE BOUNDARY SETBACK
	5' UTILITY EASEMENT
	PROPOSED LOT LINES
	PROPOSED RIGHT OF WAY
	TREE CONSERVATION AREA/ TERTIARY OPEN SPACE
	AMENITY AREA
	OPEN SPACE



SITE DATA- 2801 BARWELL RD	
PIN	PORTION OF 1732-76-8557 (LOT 2 OF SUB-0019-20223)
ADDRESSES	2801 BARWELL RD, RALEIGH, NC
TOTAL TRACT FOR PIN 1732-76-8557	
NET AREA:	384,359 SF (8.82 AC)
GROSS TRACT AREA:	384,359 SF 8.82 AC
THIS SUBDIVISION (LOT 2 OF SUB-0019-20223)	
PROPOSED USE:	MULTI-UNIT LIVING (TOWNHOMES)
NUMBER OF UNITS:	64 UNITS
NUMBER OF LOTS:	65 LOTS (64 MULTI-UNIT LIVING LOTS, 1 HOA COMMON LOT)
OPEN SPACE	
384,359 SF X 20% =	76,871 SF REQUIRED (20%)
	167,375 SF PROVIDED (43%)
OUTDOOR AMENITY AREA:	
384,359 SF X 5% =	19,218 SF REQUIRED (5%)
	9,409 SF REQUIRED ACCESSIBLE
	38,971 SF PROVIDED (95%)
	11,036 SF PROVIDED ACCESSIBLE
EXISTING IMPERVIOUS: 0 SF	
PROPOSED IMPERVIOUS: 147,741 SF / 3.39 AC (38%)	
MAXIMUM IMPERVIOUS (MISA): 38%	

- Notes:
- Boundary, field topographic, building, and utility information taken from a digital file provided by Cavithome, Moss & Panceria, PC dated 5/19/2022.
  - The site is located within Zone X (MINIMAL FLOOD RISK) on FEMA flood map panel 3720173200J dated 05/02/06.
  - Contractor shall verify the location of all existing utilities and shall be responsible for any damage resulting from his activities. Call Utility locator service at least 48 hours prior to digging.
  - All construction shall be in accordance with all City of Raleigh standards and specifications.
  - All construction shall conform to all state and local standards and specifications and code requirements. Notify designer of any discrepancies. If discrepancies are found the more stringent requirements will prevail.
  - All utilities shall be located underground.
  - No changes may be made to the approved drawings without written permission from the issuing authority.
  - Do not scale the drawings. Digital information is provided for construction drawings.
  - Contractor shall coordinate all work with all construction trades prior to start of construction.
  - All dimensions are references from back-of-curb to back-of-curb.
  - Erosion control plans shall be approved prior to any grading on this site.
  - Boundary information shall be field verified by Professional Surveyor before construction staking begins.
  - Prior to the issuance of the Certificate of Occupancy the Owner shall record the site easement as shown. There shall be no site obstruction or party obstruction wall, fence, sign, foliage, berming, or parked vehicles between the heights of twenty four (24) inches and eight (8) feet above the curb line elevation or the nearest traveled way if no curbing exists.
  - Within the sight triangles shown on this plan, no obstruction between two (2) feet and eight (8) feet in height above the curb line elevation or the nearest traveled way, if no curbing exists.
  - All necessary HVAC units will be located at the rear of the buildings.
  - A final plat indicating right of way dedication, cross access easements and any other public easements shall be recorded.
  - Site Lighting: none required per City of Raleigh UDO Section 7.4.
  - Site Landscaping: no landscaping required for transitional protective yard or screening otherwise.



Property	Number	Area (sq. ft.)
HOA COMMON OPEN - OT	65	15,737
Property : 1	1	2,559
Property : 2	2	1,913
Property : 3	3	2,564
Property : 4	4	2,537
Property : 5	5	1,890
Property : 6	6	1,890
Property : 7	7	2,559
Property : 8	8	2,559
Property : 9	9	1,890
Property : 10	10	1,890
Property : 11	11	1,890
Property : 12	12	2,559
Property : 13	13	2,559
Property : 14	14	1,890
Property : 15	15	1,890
Property : 16	16	1,890
Property : 17	17	2,559
Property : 18	18	2,559
Property : 19	19	1,890
Property : 20	20	1,890
Property : 21	21	1,890
Property : 22	22	1,890
Property : 23	23	3,251
Property : 24	24	3,251
Property : 25	25	1,890
Property : 26	26	1,890
Property : 27	27	2,559
Property : 28	28	2,559
Property : 29	29	1,890
Property : 30	30	1,890
Property : 31	31	2,559
Property : 32	32	1,890
Property : 33	33	1,890
Property : 34	34	1,890
Property : 35	35	1,890
Property : 36	36	3,251
Property : 37	37	2,559
Property : 38	38	1,890
Property : 39	39	1,890
Property : 40	40	1,890
Property : 41	41	1,890
Property : 42	42	2,521
Property : 43	43	2,559
Property : 44	44	1,890
Property : 45	45	1,890
Property : 46	46	1,890
Property : 47	47	1,890
Property : 48	48	2,559
Property : 49	49	3,251
Property : 50	50	1,890
Property : 51	51	1,890
Property : 52	52	1,890
Property : 53	53	1,890
Property : 54	54	2,559
Property : 55	55	2,559
Property : 56	56	1,890
Property : 57	57	1,890
Property : 58	58	1,890
Property : 59	59	2,559
Property : 60	60	2,559
Property : 61	61	1,890
Property : 62	62	1,890
Property : 63	63	1,890
Property : 64	64	2,559

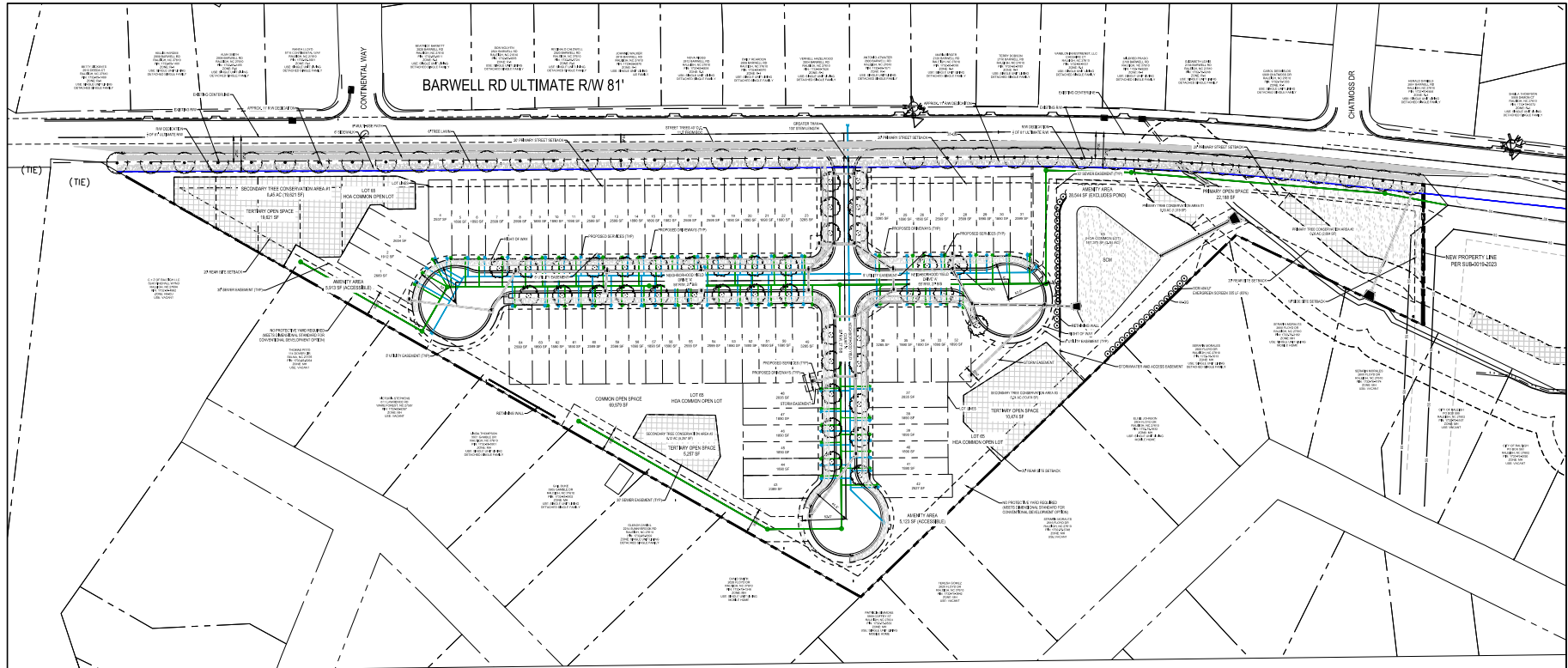


REVISIONS:
10/12/2022-PER COR COMMENTS
11/23/2022-PER COR COMMENTS
8/11/2023-PER COR COMMENTS
10/18/2023-TCA REVISION

SUBDIVISION PLAN  
Barwell Rd Townhomes  
2801 Barwell Rd  
Raleigh, NC

SCALE:  
1"=60'  
DRAWN BY:  
CDR  
PROJECT #  
22104  
DATE:  
6/10/2022

SHEET  
L-2



#### SITE DATA- 2801 BARWELL RD

FIN PORTION OF 1732-76-8557  
(LOT 2 OF SUB-0019-2023)

ADDRESSES: 2801 BARWELL RD, RALEIGH, NC

TOTAL TRACT FOR PIN 1732-76-8557  
GROSS TRACT AREA: 384,359 SF  
8.82 AC

THIS SUBDIVISION (LOT 2 OF SUB-0019-2023)

NET AREA: 384,359 SF (8.82 AC)  
NUMBER OF UNITS: 64  
NUMBER OF LOTS: 65

NET SITE AREA PER UNIT: 384,359 SF / 64 UNITS =  
6,005 SF PER UNIT  
6,000 SF MIN.

ZONING: R-4 COMPACT DEVELOPMENT  
EXISTING USE: VACANT  
PROPOSED USE: MULTI-UNIT LIVING (TOWNHOMES)  
NUMBER OF UNITS: 64  
NUMBER OF LOTS: 65 LOTS (64 MULTI-UNIT LIVING LOTS, 1 HOA COMMON LOT)

STREET TREES REQUIRED  
1 TREE 40' ON CENTER  
TREES REQUIRED: COURT 'A'-  
DRIVE 'A'- 320 LF/40' 8 TREES PER SIDE  
460 LF/40' 12 TREES PER SIDE

TREES PROVIDED: COURT 'A'-  
DRIVE 'A'- 16 TREES  
24 TREES

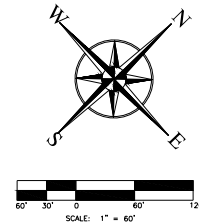
PLANT LIST				
ZK- ZELKOVA SERRATA	ZELKOVA	3" CAL	QTY: 40	
QIN- QUERCUS NUTALLI	NUTALL OAK	2.5" CAL	QTY: 37	
GG- THUJA STANDISHI X PLOCATA ARBORVITAE 'GREEN GIANT'	GREEN GIANT	5' HT	QTY: 44	

#### Notes:

- Boundary, field topographic, building, and utility information taken from a digital file provided by Cawthorne, Moss & Panchera, PC dated 5/9/2022.
- The site is located within Zone X (MINIMAL FLOOD RISK) on FEMA flood map panel 3720173200J dated 05/02/06.
- Contractor shall verify the location of all existing utilities and shall be responsible for any damage resulting from his activities. Call Utility locator service at least 48 hours prior to digging.
- All construction shall be in accordance with all City of Raleigh standards and specifications.
- All construction shall conform to all state and local standards and specifications and code requirements. Notify designer of any discrepancies. If discrepancies are found the more stringent requirements will prevail.
- All utilities shall be located underground.
- No changes may be made to the approved drawings without written permission from the issuing authority.
- Do not scale the drawings. Digital information is provided for construction drawings.
- Contractor shall coordinate all work with all construction trades prior to start of construction.
- All dimensions are references from back-of-curb to back-of-curb.
- Erosion control plans shall be approved prior to any grading on this site.
- Boundary information shall be field verified by Professional Surveyor before construction staking begins.
- Prior to the issuance of the Certificate of Occupancy the Owner shall record the site easement as shown. There shall be no site obstruction or party obstruction wall, fence, sign, foliage, berming, or parked vehicles between the heights of twenty four (24) inches and eight (8) feet above the curb line elevation or the nearest traveled way if no curbing exists.
- Within the sight triangles shown on this plan, no obstruction between two (2) feet and eight (8) feet in height above the curb line elevation or the nearest traveled way, if no curbing exists.
- All necessary HVAC units will be located at the rear of the buildings.
- A final plat indicating right of way dedication, cross access easements and any other public easements shall be recorded.
- Site Lighting: none required per City of Raleigh UDO Section 7.4.
- Site Landscaping: no landscaping required for transitional protective yard or screening otherwise.
- Street trees shall be installed and maintained in accordance with the requirements of Chapter 2 of the City Tree Manual.

#### LANDSCAPE NOTES

- All landscaping shall be installed and maintained in accordance with the City of Raleigh development code and the latest edition of nursery standards by the American Nursery and Landscape Association (ANLA).
- Call utility locator service prior to any disturbance on this site. Contractor shall be responsible for confirmation of marked utilities within the area of work.
- Do not change the design without approval from the the Owner and/or code compliance authority.
- All turf areas or areas not otherwise specified shall be seeded with Rebel IV or approved equal toll turf fescue and established per sediment and erosion control requirements.
- All exposed soils or areas of disturbance shall be mulched, seeded, covered with sod or stabilized per sediment and erosion control requirements.
- Hard fescue/wildflower mix shall be seeded in disturbed area not intended to be maintained as mowed turf or mulched landscape beds.
- Products: Delfant Hard Fescue or eqv, seed rate at 5 lbs / 1000 sf.
- Products: Native Southeast Wildflower Seed Mix by American Meadows Seed Company or eqv at a seeding rate of 1 lbs / 1000 sf.
- Planting areas shall be fine graded consisting of 8" of native topsoil or imported eqv and fertilized/limed per soil report.
- Seeded or turf areas shall be fine graded, consisting of 4" of native topsoil or imported eqv and fertilized/limed per soil report.
- Landscape contractor shall verify plant quantities. If discrepancy exists, use higher quantity.
- Sod or seeding areas shall be established per sediment and erosion control requirements for vegetative coverage.
- All newly installed trees and shrubs shall be guaranteed for one year and replaced at the owners request if plant is stressed, damaged, diseased or dead.



#### REVISIONS:

10/12/2022-PER COR COMMENTS
11/23/2022-PER COR COMMENTS
8/11/2023-PER COR COMMENTS
10/18/2023-TCA REVISION

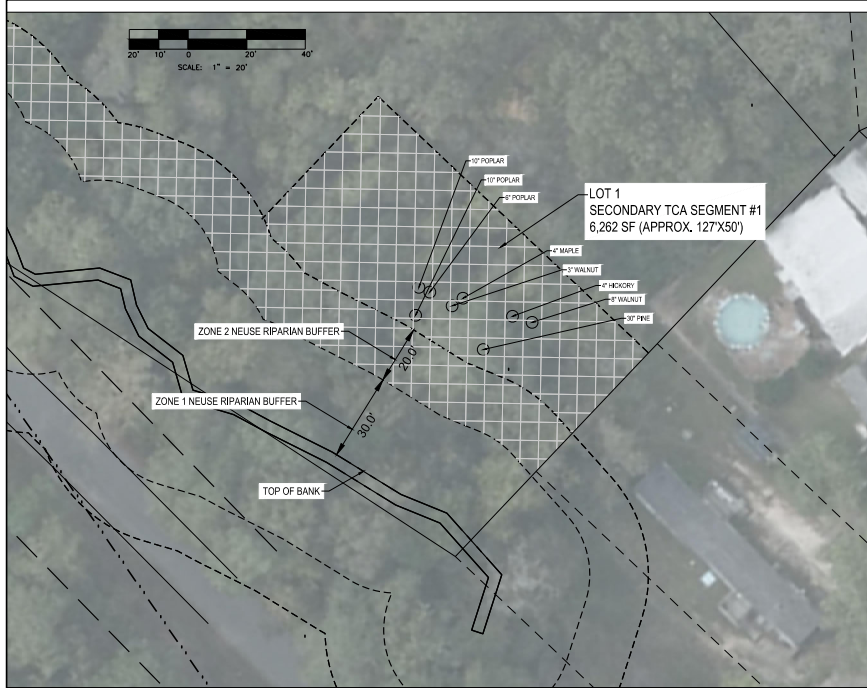
LANDSCAPE PLAN  
Barwell Rd Townhomes  
2801 Barwell Rd  
Raleigh, NC

SCALE:  
1"=60'  
DRAWN BY:  
CDR  
PROJECT #  
22104  
DATE:  
6/10/2022  
SHEET

L-3



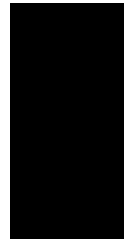
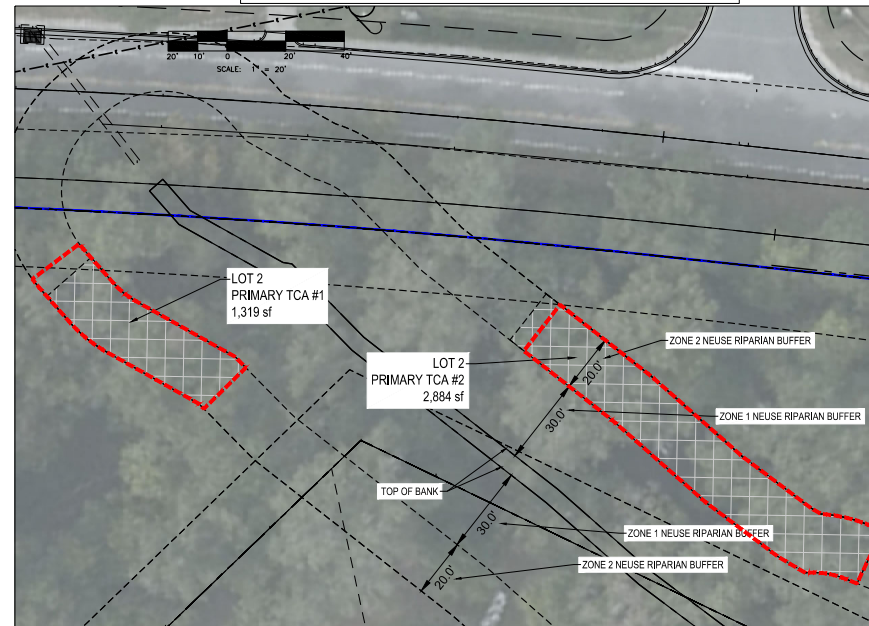
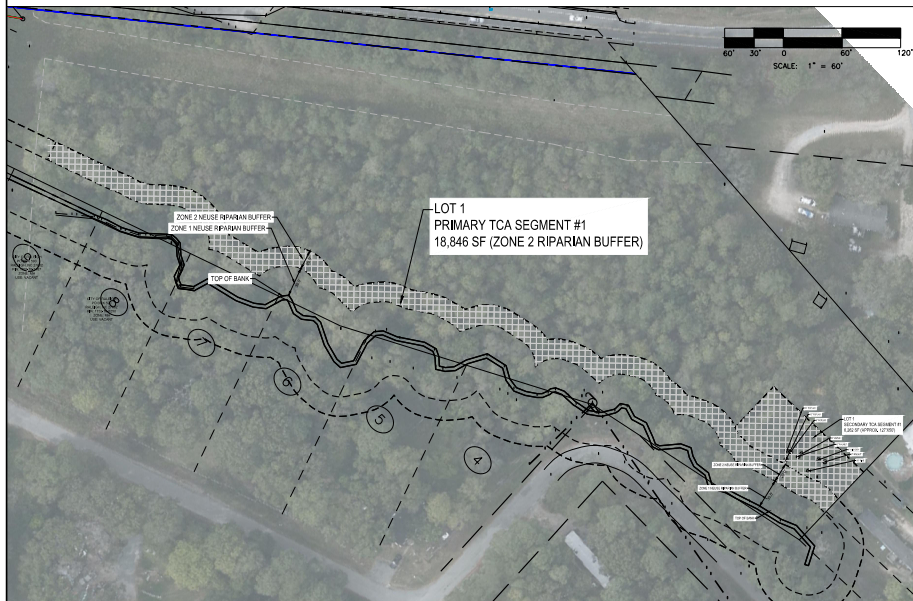




**Tree Conservation Plan Data Sheet**  
UDO Article 6.1 Tree Conservation  
(Include Appendix A information on the plan sheet)

Project Name: 2801 Barwell Road Townhomes

	Gross Area Acres	Number of Trees	Percent of Total
Right-of-Way to be dedicated with this project	0.09		
Net Site Area	14.00		
<b>UDO 6.1.A.1. Primary Tree Conservation Areas</b>			
1. Primary Tree Conservation Area - BICD 1	0.00	0	0%
2. Primary Tree Conservation Area - BICD 2	0.00	0	0%
3. Primary Tree Conservation Area - Parkway Frontage	0.00	0	0%
4. Primary Tree Conservation Area - CM	0.00	0	0%
5. Primary Tree Conservation Area - MPOD	0.00	0	0%
6. Primary Tree Conservation Area - Champion Tree 30" dbh species	0.00	0	0%
7. Primary Tree Conservation Area - Name Buffer Zone 2	0.00	0	0%
8. Primary Tree Conservation Area - 40% Slope	0.00	0	0%
9. Primary Tree Conservation Area - Throughway	0.00	0	0%
<b>Subtotal of Primary Tree Conservation Areas:</b>	<b>0.00</b>	<b>0</b>	<b>0%</b>
<b>UDO 6.1.A.2. Tree Conservation Area - Greenway</b>			
10. Primary Tree Conservation Area - Greenway	0.00	0	0%
<b>UDO 6.1.A.3. &amp; 4. Secondary Tree Conservation Areas</b> (Include perimeter buffers and their alternate compliance areas)	<b>0.06</b>	<b>0</b>	<b>0%</b>
<b>UDO 6.1.A.3. &amp; 4. Individual Tree Secondary Tree Conservation Areas</b> (Include individual trees and their alternate compliance areas)			
<b>Subtotal of Secondary Tree Conservation Areas:</b>	<b>0.06</b>	<b>0</b>	<b>0%</b>
<b>TOTAL ALL TREE CONSERVATION AREA PROVIDED:</b>	<b>0.06</b>	<b>0</b>	<b>0%</b>
<b>UDO 6.1.B. Wetland Protection Overlay Districts</b>			
Wetland Protection Overlay District - 1	0.00	0	0%
Wetland Protection Overlay District - 2	0.00	0	0%
Wetland Protection Overlay District - 3	0.00	0	0%
Wetland Protection Overlay District - 4	0.00	0	0%
Wetland Protection Overlay District - 5	0.00	0	0%
Wetland Protection Overlay District - 6	0.00	0	0%
Wetland Protection Overlay District - 7	0.00	0	0%
Wetland Protection Overlay District - 8	0.00	0	0%



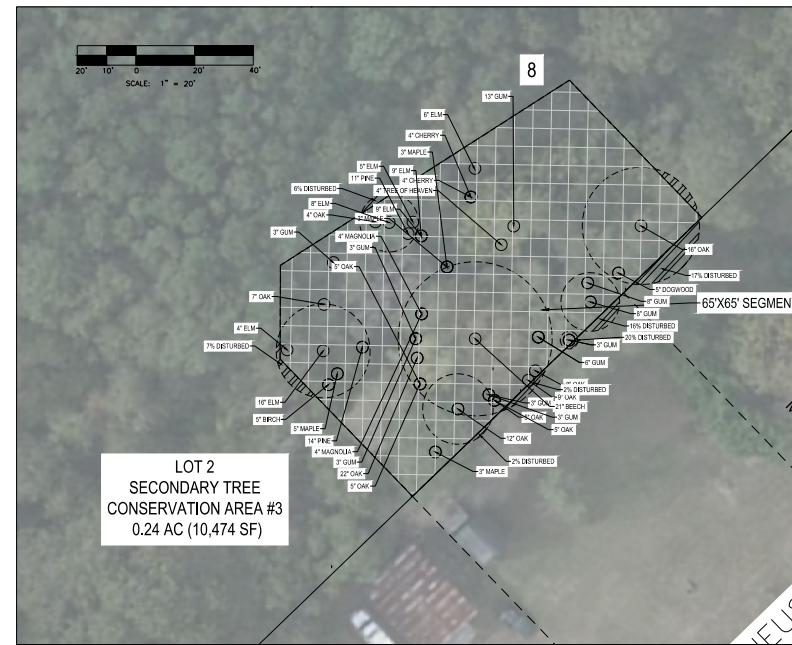
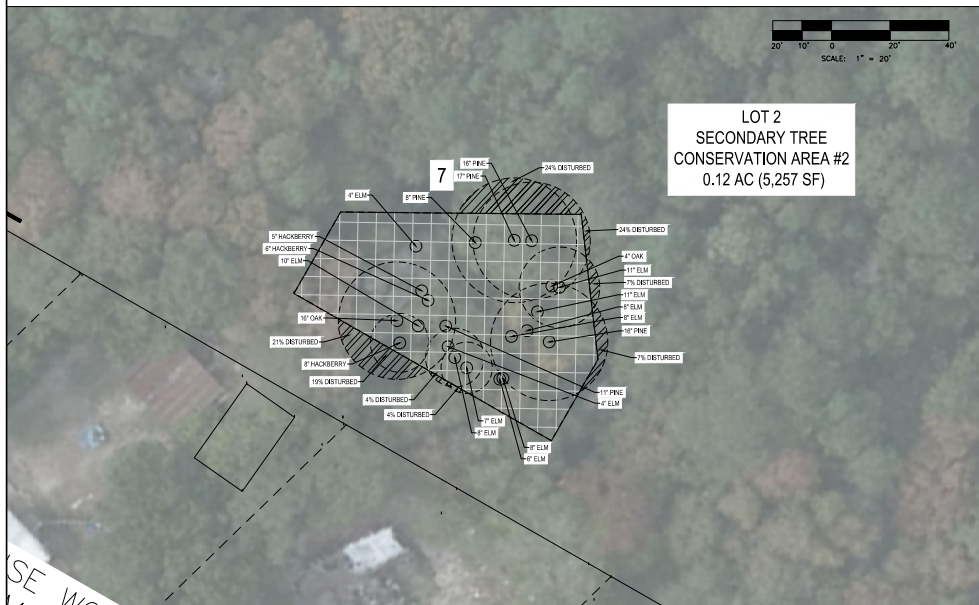
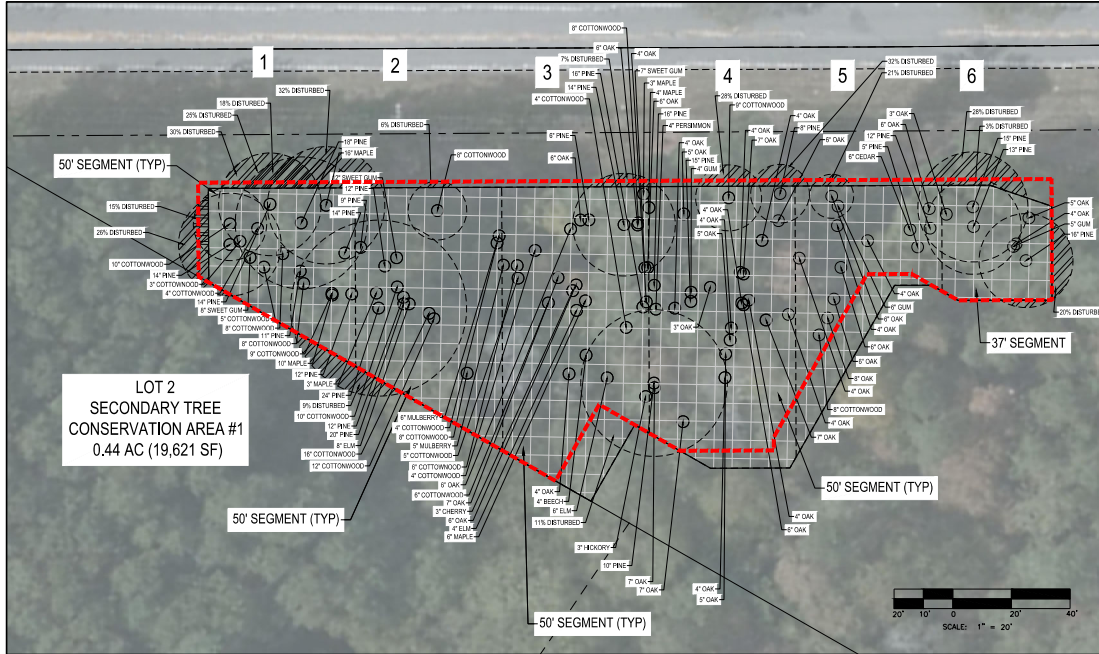
REVISIONS:

DATE	DESCRIPTION
8/11/2023	PER SUB-0019-2023
10/18/2023	TCA REVISION

TCA PLAN  
Barwell Rd Subdivision  
2801 Barwell Rd  
Raleigh, NC

SCALE:  
As Noted  
DRAWN BY:  
CDR  
PROJECT #  
22104  
DATE:  
4/4/2023

SHEET  
**L-4**



**Tree Conservation Plan Data Sheet**  
UDO Article 8.1 Tree Conservation  
(Include applicable information on the plan sheet)

Project Name: **2801 Barwell Road Townhomes**

Grass Site Acres: **15.11** ac  
Highway to be dedicated with this project: **2.00** ac  
Net Site Acres: **14.00** ac

	Number of Trees	Percent of Total
<b>UDO 8.1.4.A. Primary Tree Conservation Areas</b>		
1. Primary Tree Conservation Area - R-1000	0	0%
2. Primary Tree Conservation Area - R-1000	0	0%
3. Primary Tree Conservation Area - R-1000	0	0%
4. Primary Tree Conservation Area - R-1000	0	0%
5. Primary Tree Conservation Area - R-1000	0	0%
6. Primary Tree Conservation Area - R-1000	0	0%
7. Primary Tree Conservation Area - R-1000	0	0%
8. Primary Tree Conservation Area - R-1000	0	0%
<b>Subtotal of Primary Tree Conservation Areas:</b>	<b>0.00</b>	<b>0.00</b>
<b>UDO 8.1.4.B. Secondary Tree Conservation Areas</b>		
1. Secondary Tree Conservation Area - R-1000	0	0%
2. Secondary Tree Conservation Area - R-1000	0	0%
3. Secondary Tree Conservation Area - R-1000	0	0%
4. Secondary Tree Conservation Area - R-1000	0	0%
5. Secondary Tree Conservation Area - R-1000	0	0%
6. Secondary Tree Conservation Area - R-1000	0	0%
7. Secondary Tree Conservation Area - R-1000	0	0%
8. Secondary Tree Conservation Area - R-1000	0	0%
<b>Subtotal of Secondary Tree Conservation Areas:</b>	<b>0.00</b>	<b>0.00</b>
<b>TOTAL ALL TREE CONSERVATION AREAS PROVIDED:</b>	<b>0.00</b>	<b>0.00</b>



**REVISIONS:**

DATE	DESCRIPTION
7/27/2022	PER COR COMMENTS
8/17/2023	PER SUB-2019-2023
10/18/2023	TCA REVISION



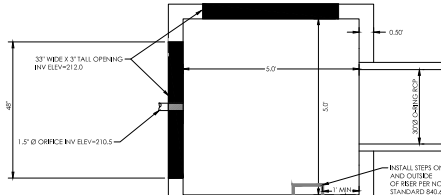
Part 12b Unified Development Ordinance  
City of Raleigh, North Carolina



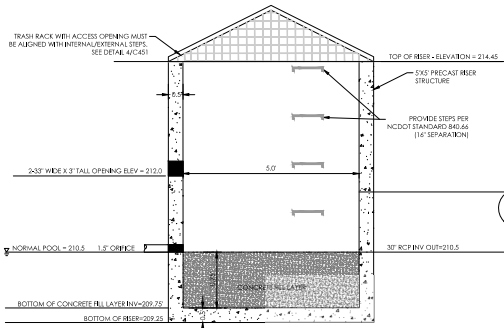








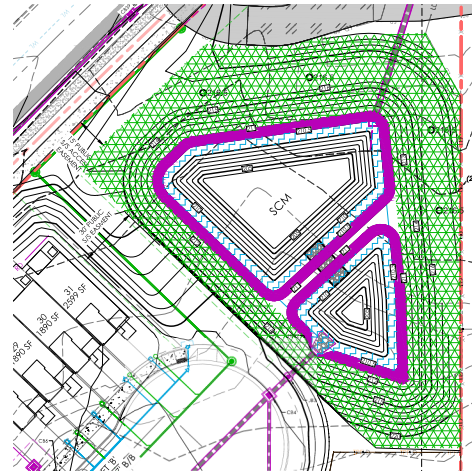
RISER PLAN



RISER SECTION

NOTES:  
• RISER SHALL BE CONSTRUCTED OF REINFORCED CONCRETE.

# 1 WDB A OUTLET STRUCTURE



## 2 WDB A PLANTING PLAN

SCALE: 1"=30'

**AQUATIC PLANTINGS**

EACH PLANT TYPE CAN BE A MIXTURE OF THE PLANTS LISTED IN THE TOTAL QUANTITY REQUIRED FOR EACH ZONE. EXAMPLE: SHALLOW WATER - HERBACEOUS PLANTS: FIVE PLANT TYPES ARE LISTED. YOU CHOOSE 3 PLANTS FROM THE PROVIDED LIST. YOU ARE ABLE TO CHOOSE 4 TYPES LISTED ON THE PLANT LIST SINCE SOME PLANT TYPES MAY NOT BE AVAILABLE.

NOTE: THERE CANNOT BE MORE THAN 40% OF A SINGLE PLANT TYPE PLANTED IN EITHER THE SHALLOW LAND OR THE SHALLOW WATER AQUATIC ZONES.

NOTE 1: DO NOT USE ONLY ONE PLANT TYPE IN THE PLANTING ZONE.

FIVE LISTED: USE A MINIMUM OF FOUR PLANT TYPES  
SK LISTED: USE A MINIMUM OF FOUR PLANT TYPES

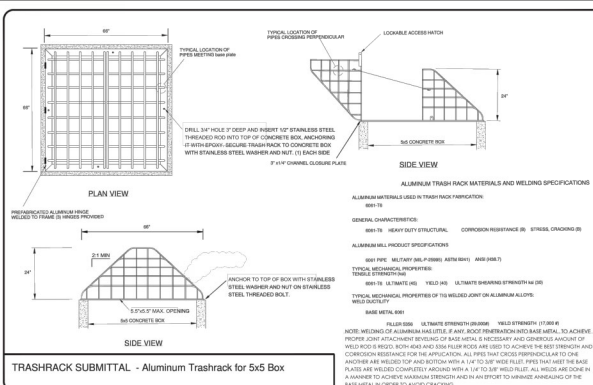
DIVIDE 1 BY NUMBER OF PLANT TYPES CHOSEN TO DETERMINE PROPORTION OF PLANT IN EACH ZONE. EXAMPLE: IF 4 PLANT TYPES ARE UTILIZED, NUMBER OF PLANTS OF EACH TYPE SHOULD BE 1/4 OF TOTAL REQUIRED PLANTINGS FOR THAT ZONE.

POSSIBLE SOURCE FOR ALL AQUATIC PLANTS:  
YELLOW MARSH FARMS  
1312 WOODY STORE ROAD  
SILER CITY, NORTH CAROLINA  
919-742-1200

NOTE: CONTRACTOR RESPONSIBLE FOR PREVENTING GEESE FROM EATING YOUNG AQUATIC PLANTS UNTIL THEY ARE WELL ESTABLISHED.



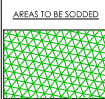
SOD NOTE: CONTRACTOR IS RESPONSIBLE FOR PROVIDING SOIL TESTS IN AREAS WITH SOD SPECIFIED. CONTRACTOR SHALL AVOID SOIL PER RECOMMENDATIONS OF THE SOIL TEST, INCLUDING ADDITION OF TOPSOIL AS REQUIRED.

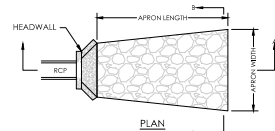
PLANTING PLAN ONLY



## 4 TRASH RACK

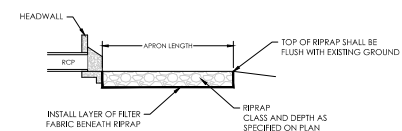
SCALE: N.T.S.

AQUATIC PLANT LIST						
ZONE	PLANT TYPE	BOTANICAL NAME	COMMON NAME	QUANTITY	SPACING O.C.	NOTES
 SHALLOW WATER 20' DEEP PLANTED ELEVATION: 210.0-210.5	HERBACEOUS			415 TOTAL		
		ACORUS SUBCORDATUM	SWEET FLAG	205	2'	4" POT
		SAGITTARIA LANOIFOLIA	BULLTONGUE	205	2'	4" POT
		SAURURUS CERNUIS	BEARDS TAIL	205	2'	4" POT
 SHALLOW LAND 20' DEEP PLANTED ELEVATION: 210.5-211.0	HERBACEOUS			465 TOTAL	2'	4" POT
		ASCELEPIAS INCARNATA	SWAMP MILK WEED	221	2'	4" POT
		LORELA CAROLINAE	CARDINAL FLOWER	221	2'	4" POT
		CAREX TENAX	OWEL SEDGE	221	2'	4" POT
		AREAS TO BE SOODED				
	THIS AREA SHALL BE SOODED WITH REUSE OR BERMUDA. THE AREA SHALL BE KEPT FREE OF ALL LANDSCAPING AND VEGETATION EXCEPT FOR GRASS. THE PLANTING PROHIBITION ZONE SHALL BE MARKED BY HOWING REGULARLY.					

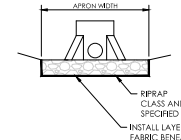


## 3 RIPRAP AT PIPE OUTLET

SCALE: N.T.S.



SECTION A-A



SECTION B-B

**GENERAL NOTES:**  
SEE SHEET C452 FOR GENERAL NOTES.

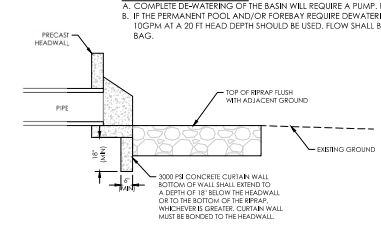
**AQUATIC PLANTING NOTES:**  
SEE SHEET C452 FOR AQUATIC PLANTING NOTES.

**OUTLET STRUCTURE NOTES:**  
SEE C452 FOR OUTLET STRUCTURE NOTES.

**BERM SOIL AND COMPACTION SPECIFICATIONS:**  
SEE SHEET C452 FOR BERM SOIL AND COMPACTION SPECIFICATION NOTES.

**CONSTRUCTION SEQUENCE:**  
SEE SHEET C452 FOR CONSTRUCTION SEQUENCE.

**PROCEDURE TO DE-WATER SCAM:**  
A. COMPLETE DE-WATERING OF THE BASIN WILL REQUIRE A PUMP. PUMP DISCHARGE LINE SHALL OUTLET IN RIVER STRUCTURE.  
B. IF THE PERMANENT POOL AND/OR FOREBAY REQUIRE DE-WATERING FOR MAINTENANCE PURPOSE. A PUMP WITH A CAPACITY OF 100GPM AT A 20 FT HEAD DEPTH SHOULD BE USED. FLOW SHALL BE PUMPED OUT AND DISCHARGED THROUGH A SEDIMENT FILTER BAG.



THIS DETAIL APPLIES TO ALL HEADWALLS AT SCM

## 5 HEADWALL WITH CURTAIN WALL

SCALE: N.T.S.

**Qunity**

CIVIL ENGINEERING | LANDSCAPE ARCHITECTURE

16 CONSULTANT PLACE, SUITE 201  
DURHAM, NORTH CAROLINA 27707  
P 919.450.4990  
WWW.QUNITY.COM

NORTH CAROLINA BOARD OF EXAMINERS FOR ENGINEERS AND SURVEYORS LICENSE NO. C-0674

**2801 BARWELL**  
2801 BARWELL ROAD  
WAKE COUNTY  
RALEIGH, NORTH CAROLINA

## SCM DETAILS



1	11/03/2021	2	PER COR COMMENTS	
2	8/11/2023	3	PER COR COMMENTS	AML
3	10/25/2023	4	PER COR COMMENTS	AML
4	11/08/2023	5	PER COR COMMENTS	JEW

11/11/2023 CALL BEFORE YOU DIG

DRAWN BY: AML  
CHECKED BY: MLJ

DATE: JUNE 10, 2022

PROJECT NO: 2221

SHEET NO:

C451

\*SITE PLAN\*





**CIVIL  
ENGINEERING** | **LANDSCAPE  
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NORTH CAROLINA BOARD OF  
EXAMINERS FOR ENGINEERS AND  
SURVEYORS LICENSE NO. C-0674

2801 BARWELL

2801 BARWELL ROAD  
WAKE COUNTY  
RALEIGH, NORTH CAROLINA

SCM NOTES



1	11/09/2023	PER COR COMMENTS	
2			
3	8/11/2023	PER COR COMMENTS	AML
4	10/25/2023		
5	11/09/2023	PER COR COMMENTS	JEW

8/11/24 CALL BEFORE YOU DIG	
DRAWN BY: AML	CHECKED BY: MLJ
DATE	JUNE 10, 2022
PROJECT NO.	2221
SHEET NO.	

C452

\*SITE PLAN\*

GENERAL NOTES:

- A. THE WET DETENTION BASINS AND ALL ASPECTS APPEARING ON THE CONSTRUCTION DRAWINGS ARE SUBJECT TO AS-BUILT SURVEY AND INSPECTION. ANY ASPECT OF CONSTRUCTION THAT DOES NOT CONFORM TO PLAN SHALL BE REBUILT OR REPAIRED AT THE CONTRACTOR'S EXPENSE.
- B. IF ANY DISCREPANCIES ARE FOUND BETWEEN THE SPECIFICATIONS AND THE CONSTRUCTION DRAWINGS, CONTACT THE DESIGN ENGINEER FOR CLARIFICATION.
- C. ALL ASPECTS OF CONSTRUCTION SHALL CONFORM TO CITY, STATE AND GENERAL INDUSTRY STANDARDS FOR MATERIALS AND CONSTRUCTION INCLUDING, BUT NOT LIMITED TO, NORTH CAROLINA BUILDING CODES. CONTRACTOR IS EXPECTED TO BE FAMILIAR WITH THESE STANDARDS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO INFORM THE DESIGN ENGINEER IN ANY SITUATION IN WHICH STANDARDS MAY CONFLICT WITH SPECIFICATIONS AND/OR PLANS.
- D. PRIOR TO COMMENCING GRADING ACTIVITIES FOR ANY DAM, THE GEOTECHNICAL ENGINEER SHALL BE RETAINED AND MEET WITH THE ENGINEER. WORK MAY COMMENCE ON THE DAM ONLY AFTER NOTICE TO PROCEED FROM THE ENGINEER.
- E. GEOTECHNICAL ENGINEER SHALL OBSERVE ALL ASPECTS OF THE CONSTRUCTION OF THE DAMS INCLUDING, BUT NOT LIMITED TO, PREPARATION OF THE FOUNDATION, INSTALLATION OF THE KEY TRENCH, INSTALLATION OF ANY CONDUIT THROUGH THE DAM, AND THE INSTALLATION OF COMPACTED FILL. THE FREQUENCY OF OBSERVATION MUST BE SUFFICIENT FOR THE GEOTECHNICAL ENGINEER TO STATE, IN HIS OR HER PROFESSIONAL OPINION, THAT THE SPECIFIC ITEMS OBSERVED AND TESTED WERE INSTALLED IN ACCORDANCE WITH THE APPROVED CONSTRUCTION DRAWINGS AND SPECIFICATIONS. GEOTECHNICAL ENGINEER SHALL PROVIDE GEOTECHNICAL CERTIFICATION IN ACCORDANCE WITH THE LATEST REQUIREMENTS OF THE CITY OF DURHAM'S AS-BUILT REQUIREMENTS. ALL ITEMS REQUIRED FOR THE CERTIFICATION SHALL BE PROVIDED INCLUDING BUT NOT LIMITED TO DAM EMBANKMENT MATERIAL COMPOSITION AND DENSITY TESTING PAPER WORK INCLUDING MAP SHOWING LOCATION OF TESTINGS, COPIES OF ALL CONCRETE COMPRESSIVE STRENGTH TESTING PAPERWORK FOR CAST IN PLACE ITEMS ASSOCIATED WITH THE CONSTRUCTION OF THE DAM, COPY OF THE MANUFACTURER'S CERTIFICATION THAT ANY ARMORING, OTHER TO ARMOCONCRETE, USED TO ARMOR THE SILLWAY WAS COMPLETED IN ACCORDANCE WITH THE MANUFACTURER'S PUBLISHED SPECIFICATIONS, COLOR DIGITAL PHOTOGRAPHS SHOWING THE DAM FOUNDATIONAL AREAS, THE REBER, THE PRINCIPAL SILLWAY PIPE AS THOSE ITEMS WERE BEING PREPARED AND INSTALLED.
- F. THE WETLAND SHALL BE CLEANED OF SEDIMENT, AND VEGETATION SHALL BE ESTABLISHED PRIOR TO FINALIZATION OF THE WETLAND.
- G. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IF EXISTING CONDITIONS ENCOUNTERED IN THE FIELD ARE DIFFERENT FROM CONDITIONS EXPECTED ON THE PLAN.
- H. FINE GRADING OF THE INTERIOR OF THE WETLAND, SOIL AMENDMENT, AND FINAL PLANTING OF WETLAND VEGETATION SHALL NOT BE COMPLETED UNTIL THE SITE IS FULLY STABILIZED.
- I. THE PERMANENT POOL ELEVATION (PPE) MUST BE MAINTAINED BY NATURAL CONDITIONS OR A NATURAL OR SYNTHETIC LINER. IF THE INFILTRATION RATE OF THE EXISTING SUBGRADE EXCEEDS 0.01 IN/HR, THEN A NATURAL OR SYNTHETIC LINER WITH A MAXIMUM INFILTRATION RATE OF 0.01 IN/HR SHALL BE INSTALLED BENEATH THE BOTTOM OF ALL DEEP POOL AND SHALLOW WATER AREAS.

AQUATIC SHELF PLANTING NOTES:

- A. THE TOP LANCES OF SOIL OF THE SHALLOW WATER AND SHALLOW LAND ZONES SHALL INCLUDE AT LEAST 50% MIX OF TOPSOIL AND/OR ORGANIC MATERIAL.
- B. A LETTER SHALL BE PROVIDED BY THE LANDSCAPE COMPANY THAT INSTALLS THE WETLAND PLANT CERTIFYING THAT THE NUMBER, TYPE, AND LOCATION OF ALL PLANTINGS AS INSTALLED IS IN ACCORDANCE WITH THE CONSTRUCTION DRAWINGS.
- C. A ONE-YEAR (1 YR) WARRANTY PERIOD IS REQUIRED FOR THE WETLAND PLANTS. THIS WARRANTY SHALL BE FULLY TRANSFERABLE TO ANY SUBSEQUENT OWNER UPON CONVEYANCE OF THE PROPERTY PRIOR TO ITS EXPIRATION. CONTRACTOR IS ALSO RESPONSIBLE FOR PREVENTING PREDATION OF THE WETLAND PLANTINGS. ANY PLANTINGS THAT DIE OR ARE EATEN DURING THE FIRST YEAR AFTER INSTALLATION SHALL BE REPLACED AT CONTRACTOR'S EXPENSE.

WET DETENTION BASIN OUTLET STRUCTURE NOTES:

- A. ANY POURED CONCRETE SHALL BE MINIMUM 3000 PSI (28-DAY STRENGTH) UNLESS OTHERWISE NOTED.
- B. ALL CONCRETE PIPE THAT IS PART OF THE POND OUTLET SHALL BE O-RING RCP CONFORMING WITH ASTM C-76. RUBBER GASKETS SHALL CONFORM TO ASTM C-445.
- C. ALL PIPES THROUGH THE DAM SHALL BE WRAPPED WITH A DOUBLE LAYER OF GEOTEXTILE FILTER FABRIC ON THE OUTSIDE OF THE PIPE AT EACH JOINT. THE FABRIC SHALL MEET MCDOT SPECIFICATIONS FOR FILTER FABRIC, SEE SECTION 1056 (TABLE 1056-1) IN THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION'S 2019 EDITION OF THE STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES. THE FABRIC WRAP SHALL BE BETWEEN TWO AND THREE FEET WIDE, SHALL BE CENTERED OVER EACH PIPE JOINT, AND SHALL COVER A MINIMUM OF ONE-FOOT LENGTH OF EACH PIPE SEGMENT.
- D. THE OUTLET REBER BASE SHALL BE PRECAST CONCRETE MEETING THE SPECIFICATIONS FOUND IN AASHTO M-19. TO THE TOP OF THE STRUCTURE WITH STAINLESS STEEL HARDWARE, MOUNTING THE TRASH RACK TO THE REBER IN SHEAR SHALL BE PROHIBITED. SHALL HAVE A LOCKING ACCESS HATCH WITH A MINIMUM CLEAR SPACE OPENING OF 2' BY 3' AND AN ACCEPTED DESIGN LIFE OF 75 YEARS.
- E. CONCRETE FILL LAYER SHALL BE POURED WITHIN THE INTERIOR OF PRECAST REBER

STRUCTURE TO THE DEPTH SPECIFIED ON THE DETAIL.

- F. ALL OTHER ASPECTS OF THE REBER/BARREL CONSTRUCTION SHALL CONFORM TO THE DETAILS AND DETAILS NOTES ON THE CONSTRUCTION DRAWINGS.

BERM SOILS AND COMPACTION SPECIFICATIONS:

- A. CONSTRUCTION OF THE DAMS MUST BE COMPLETED UNDER THE SUPERVISION OF A GEOTECHNICAL ENGINEER THAT IS A REGISTERED PROFESSIONAL ENGINEER IN THE STATE OF NORTH CAROLINA. IF GEOTECHNICAL ENGINEER ALREADY PROVIDED CERTIFICATION FOR ORIGINAL DAM, THEY SHALL PROVIDE NEW CERTIFICATION STATING THAT MODIFICATIONS TO THE DAM HAVE NOT ALTERED THEIR OPINION THAT THE DAM CONSTRUCTION IS SOUND.
- B. ON-SITE GEOTECHNICAL ENGINEER SHALL APPROVE CONTROLLED FILL FOR PLACEMENT WITHIN THE BERM SECTIONS. THE GEOTECHNICAL ENGINEER SHALL ALSO APPROVE THE METHODS THAT WILL BE USED FOR PLACEMENT OF FILL. GEOTECHNICAL ENGINEER SHALL EITHER CERTIFY THAT SUBGRADE IS SUITABLE FOR EACH BERM OR SPECIFY PREPARATION METHODS AND MATERIALS.
- C. CONTROLLED FILL AS SPECIFIED BY THE GEOTECHNICAL ENGINEER. IN THE DAM EMBANKMENTS SHALL BE PLACED IN 8-INCH LOOSE LIFTS (8-INCH LOOSE LIFTS WITHIN 3 FEET OF THE WEIR WALL) AND SHALL BE COMPACTED TO A DENSITY OF NO LESS THAN 95% OF THE STANDARD PROCTOR MAXIMUM DENSITY AT A MOISTURE CONTENT OF +2 PERCENTAGE POINTS OF THE OPTIMUM MOISTURE CONTENT IN ACCORDANCE WITH ASTM D698. EACH LIFT SHALL BE CONTINUOUS FOR THE ENTIRE LENGTH OF THE EMBANKMENT. NO BLASTED MATERIALS SHALL BE USED IN THE BERM CONSTRUCTION. SOILS THAT EXHIBIT SIGNIFICANT SHRINKAGE SWELLING, DISPERSIVE CHARACTERISTICS, OR ORGANIC CONTENT GREATER THAN 2% BY WEIGHT SHALL NOT BE USED.
- D. ALL VIBRILE 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 3% BY WEIGHT SHALL NOT BE USED.
- E. BEFORE PLACEMENT OF CONTROLLED FILL FOR THE BERM SECTIONS, ALL UNSUITABLE EXISTING MATERIAL SHALL BE REMOVED AND THE SURFACES PROPERLY PREPARED FOR FILL PLACEMENT. STONES LARGER THAN 3" SHALL BE REMOVED FROM FILL. NO TREES OR WOODY VEGETATION OF ANY TYPE MAY BE LOCATED IN OR ON THE BERM SECTIONS.
- F. ANY FILL LAYER THAT IS SMOOTH DRUM ROLLED TO REDUCE MOISTURE PENETRATION DURING A STORM EVENT SHALL BE PROPERLY SCARRIED PRIOR TO PLACEMENT OF THE NEXT SOIL LIFT.
- G. EARTHWORK COMPACTION WITHIN 3 FEET OF ANY STRUCTURES SHALL BE ACCOMPLISHED BY MEANS OF HAND TAMPERS, MANUALLY DIRECTED POWER TAMPERS OR PLATE COMPACTORS OR MINATURE SELF-PROPELLED ROLLERS. ALL COMPACTION BY HAND SHALL BE CONDUCTED IN 5' LIFTS. FILL ADJACENT TO THE REBER AND PRINCIPAL SILLWAY PIPE SHALL BE PLACED SO THAT LIFTS ARE THE SAME LEVEL ON BOTH SIDES OF THE STRUCTURES.
- H. TESTS FOR PERCENT COMPACTION OF THE PLACED FILL IN THE BERMS SHALL BE PERFORMED AS QC FOR THE CONSTRUCTION OF THE DAM. CONTRACTOR SHALL COORDINATE SO THAT THESE TESTS CAN BE DONE. ALL PORTIONS NOT CONFORMING TO THE SPECIFIED DEGREE OF COMPACTION SHALL BE REWORKED OR REBUILT. ALL PORTIONS MUST ACHIEVE SPECIFIED MINIMUM DEGREE OF COMPACTION. GEOTECHNICAL CERTIFICATION OF SOIL COMPACTION SHALL BE SUBMITTED WITH FINAL AS-BUILT OF THE WETLAND SYSTEM.
- I. A KEY TRENCH SHALL BE PROVIDED IN ALL FILL AREAS OF THE BERM. DEPTH OF THE TRENCH SHALL BE BASED ON THE DEPTH RECOMMENDATIONS PROVIDED BY THE GEOTECHNICAL ENGINEER AS DETERMINED FROM SOIL BORING LOGS PROVIDED ALONG THE AXIS OF THE PROPOSED DAM EMBANKMENT.
- J. TREATMENT OF SEEPAGE AREAS, SUBGRADE PREPARATION, FOUNDATION DEWATERING, AND ROCK FOUNDATION PREPARATION MAY BE REQUIRED AT THE DISCRETION OF THE GEOTECHNICAL ENGINEER. ALL ACTIVITIES SHALL BE CLOSELY MONITORED AND DOCUMENTED BY THE GEOTECHNICAL ENGINEER.
- K. SURFACE WATER AND STREAM FLOW SHALL BE CONTINUOUSLY CONTROLLED THROUGHOUT CONSTRUCTION AND PLACEMENT OF THE FILL.
- L. 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. NO PORTIONS OF THE FOUNDATION SOILS MAY BE STABILIZED WITH CRUSHED STONE.
- M. NO COMPACTION BY DROP WEIGHTS FROM A CRANE OR HOIST IS ALLOWED.

PROCEDURE TO DE-WATER WET DETENTION BASINS:

- N. COMPLETE DE-WATERING OF THE BASINS WILL REQUIRE A PUMP. PUMP DISCHARGE LINE SHALL OUTLET IN REBER STRUCTURE.

CONVERSION FROM SEDIMENT CONTROL DEVICE

- O. ALL WET DETENTION BASINS WILL BE UTILIZED AS SEDIMENT BASIN DURING CONSTRUCTION. PRIOR TO CONVERSION TO PERMANENT WET DETENTION BASINS, ALL ACCUMULATED SEDIMENT SHALL BE REMOVED AND DEPOSED OF.
- P. ALL DISTURBED GROUND AREAS SURROUNDING THE WET DETENTION BASINS SHALL HAVE PERMANENT GROUND COVER ESTABLISHED IN ACCORDANCE WITH DURHAM GUIDELINES PRIOR TO FINAL ACCEPTANCE. SPICEA (LEPRODEA), WEEPING LOVEGRASS AND CROWN VETCH SHALL NOT BE INCORPORATED INTO THE GROUND COVER FOR THE DAM EMBANKMENT, AS THESE TYPES OF VEGETATION ARE DIFFICULT TO MAINTAIN, ENCOURAGE BURROWING ANIMAL HABITATS, AND PREVENT A THOROUGH INSPECTION OF THE DAM EMBANKMENT.