Wendell Board of Adjustment

Board Room

409 Landing View Drive, Wendell, NC 27591

Special-Called Meeting Agenda

Monday, April 29, 2024 @ 7:00 PM

1. CALL TO ORDER

A quorum of three members of the Board of Adjustment is required before taking official action.

- Welcome by Chairman Mark Etheridge

2. ADJUSTMENT AND APPROVAL OF THE MINUTES

2a. Wendell Board of Adjustment January 18, 2024 Minutes

Staff Contact: Stephany Brantley
Planning Technician

sbrantley@townofwendellnc.gov

3. PUBLIC HEARING

3a.
V24-01**-** Neuse River Vet Hospital Fence Variance Request

Staff Contact: Bryan Coates
Planning Director

bcoates@townofwendellnc.gov

4. ADJOURN

AGENDA ITEM NO. 2a.

Item Cover Page

BOARD OF ADJUSTMENT AGENDA ITEM REPORT

DATE:	April 29, 2024
SUBMITTED BY:	Jeannine Ngwira
ITEM TYPE:	Minutes
AGENDA SECTION:	ADJUSTMENT AND APPROVAL OF THE MINUTES
SUBJECT:	Wendell Board of Adjustment January 18, 2024 Minutes

ATTACHMENTS:
1.18.24 BOA Minutes.pdf

Town of Wendell
Board of Adjustment
Thursday, January 18 @ 7:00 PM
Town Board Room

MINUTES

Members Present: Chip Barnes, Dustin Reed, Mark Etheridge, Brianna Eddy

Members Absent: Pamela Wills Gibbs, Nicole Bills

Staff Present: Bryan Coates, Planning Director; Stacy Griffin, Assistant Planning Director; Stephany Brantley, Planning Technician; Holly Brazell, Planning Administrative Assistant

Others Present: None

1. **Adjustment and Approval of Agenda**

Chairman Etheridge made the motion to approve the agenda. Mr. Barnes seconded the motion, and all are in favor.

2. **Adjustment and Approval of Minutes from the November 14, 2023 meeting**

Chairman Etheridge made the motion to approve the agenda. Mr. Barnes seconded the motion, and all are in favor.

3. **Adopt the Order**

Mr. Coates said the attorney that represented the Board of Adjustment was comfortable with the order. Mr. Barnes made the motion to adopt the order. Chairman Etheridge seconded the motion, all are in favor.

Mr. Barnes made the motion to adjourn the meeting. Chairman Etheridge seconded the motion, all are in favor. The meeting adjourned at 7:08 p.m.

AGENDA ITEM NO. 3a.

Item Cover Page

BOARD OF ADJUSTMENT AGENDA ITEM REPORT

DATE: April 29, 2024

SUBMITTED BY: Jeannine Ngwira , Planning

ITEM TYPE: Planning

AGENDA SECTION: PUBLIC HEARING

SUBJECT:

V24-01**-** Neuse River Vet Hospital Fence Variance Request

ITEM SUMMARY:

Dr. Connie Jones, owner of Neuse River Vet Hospital located at 1936 Wendell Falls Parkway, has submitted a variance request to Section 4.5 – Fences and Walls of the Town of Wendell Unified Development Ordinance (UDO) as it relates to fence height and materials.

Specifically, the applicant is requesting a variance from UDO 4.5.B.1 Commercial, Mixed-Use, Civic and Institutional fences which states “fences and garden/decorative walls shall be no greater than three feet in height in the front yard.”

The application submitted is for a variance from the terms of the Wendell Zoning Ordinance to allow a 6-foot-high privacy fence in the established front yard of the business along Wendell Falls Parkway.

ATTACHMENTS:

V24-01 Neuse River Vet Staff Report-FINAL.doc
Attachment A - application for zoning variance.pdf
Attachment B - Findings of Fact.pdf
Attachment C- UDO Fences and Walls.pdf
Attachment D - initial site plan submittal 01222021.pdf
Attachment E - site plan approved 09272021.pdf
Attachment F - vet approved CDs 03312022.pdf
Attachment G - emails and proposals from contractor.pdf
Attachment H - letter from Town Attorney.pdf

Planning

Staff Analysis

Item Title:

V24-01- Neuse River Vet Hospital Fence Variance Request

Petition:

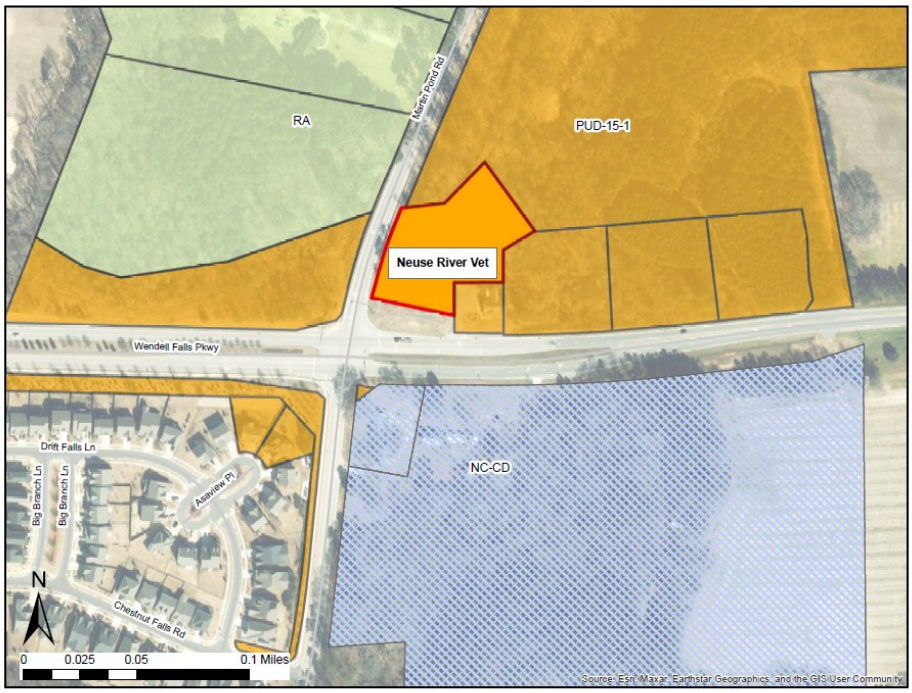
Dr. Connie Jones, owner of Neuse River Vet Hospital located at 1936 Wendell Falls Parkway, has submitted a variance request to Section 4.5 – Fences and Walls of the Town of Wendell Unified Development Ordinance (UDO) as it relates to fence height and materials.

Specifically, the applicant is requesting a variance from UDO 4.5.B.1 Commercial, Mixed-Use, Civic and Institutional fences which states "fences and garden/decorative walls shall be no greater than three feet in height in the front yard."

The application submitted is for a variance from the terms of the Wendell Zoning Ordinance to allow a 6-foot-high privacy fence in the established front yard of the business along Wendell Falls Parkway.

Location

The subject property is located at the corner of Wendell Falls Parkway and Martin Pond Road and is within the Wendell Falls Development. Zoning for the property falls under the Wendell Falls Planned Unit Development document and is designated as PUD15-1.



Staff Analysis:

UDO 4.2.C.1 establishes the frontage with Wendell Falls Parkway as the front yard by defining front yard as "a space extending the full width of the lot between the architectural front of a building (the front setback) and the front lot line, or the fronting street right-of-way measured perpendicular to the building at the closest point to the front lot line."

The fronting street right-of-way that exists for this parcel is along Wendell Falls Parkway. The business has vehicular and pedestrian access for customers through a private drive and parking lot.

Contrary to statements made in the application for the variance, the UDO would have allowed the building to be oriented toward Wendell Falls Parkway. The Planned Unit Development (PUD) document for Wendell Falls sets forth restrictive covenants for commercial parcels as well as lot dimensions, setbacks, parking locations, etc. The developer of Wendell Falls requires that site plans be submitted and approved by the developer's representative as well as the town. The town is not involved in these discussions between the developer and a proposed business and has no knowledge of conversations about building orientation.

The parcel, located within the Wendell Falls development, submitted an initial site plan (Attachment D) in January 2021 showing an exercise yard in the side yard of the proposed building. An opaque wooden fence, 6 feet in height, was shown around that

exercise area. The UDO allows for 6-foot fences in the side yard. A fence was not shown on that site plan in the front yard.

The site plan was approved in September 2021 (Attachment E) showing an exercise area in the side and rear yard of the building. The UDO allows for 6-foot fences in both the side and rear yards.

Construction drawings were submitted and subsequently approved (Attachment F) on March 30, 2022. The approved construction document for this site showed an exercise area in the side and rear yard of the building. No exercise area or fence was shown in the front yard of the building.

In February 2023, a representative of G&G Builders, the contractor for the project, submitted a 'turf and fence plan' via email (Attachment G) to staff asking about the installation of additional fencing including a 6-foot-tall white privacy fence in the front yard. Staff responded the same day, telling G&G Builders that fences could "only go up to 3 feet in front of the building along the parkway."

The Town does not require a fence permit or a building permit for a fence that is 6 feet tall or less; however, commercial development must abide by the approved plans for the parcel. In developments with restrictive covenants, it is the responsibility of the business to consult with the developer to ensure compliance. In this case the developer representative, Tanya Matzen of Brookfield Properties, was unaware of the 3-foot fence being installed on the property. Staff reached out to the developer to determine if they would allow a 6-foot fence if the variance was granted. Ms. Matzen stated that typically front yard fencing was not allowed and that she wanted to talk to the applicant about the request. Subsequently, Ms. Matzen and the Wendell Falls DRC have approved installation of a 6-foot white vinyl privacy fence if the variance is granted by the Board of Adjustment.

If the variance request is denied, the town would allow the 3-foot fence that is currently installed.

The application makes assertions about the Town's liability if the variance request is denied. The Town Attorney has provided a statement negating those assertions. That statement is included in this report as Attachment H.

Applicant's Justification:

See Attachment A –Variance Request Application.

Board Review:

The Board of Adjustment is asked to review the details of this case and apply the findings of fact to determine if there are extenuating circumstances which justify the granting of a variance request. A copy of the findings of fact which must be addressed is included as Attachment B.

Attachments:

A. Application for Zoning Variance
B. Findings of Fact
C. UDO Fences and Walls
D. Initial Site Plan Submittal January 2021
E. Approved Site Plan September 2021
F. Approved Construction Drawing March 2022
G. Emails and proposal from contractor
H. Statement from Town Attorney

Variance Request Application

Print

Submitted by:

Submitted On: 2024-02-21 11:15:04

Submission IP: (24.199.179.186)
proxy-IP (raw-IP)

Status: Open

Priority: Normal

Assigned To: Planning Email

Due Date: Open

Variance Request Application

(To be reviewed by the Board of Adjustment)

*** Date**

02/21/2024

Format: MM/DD/YYYY

Application #V-

(For Town Staff to fill out)

*** Applicant's Name:**

Neuse River Vet Hospital and Doggy Daycare and Boarding

*** Phone**

919-365-9001

*** Mailing Address:**

PO Box 2004 Wendell, NC 27591

*** Owner's Name:**

Dr. Connie Jones

*** Phone**

919-365-9001

*** Mailing Address:**

PO Box 2004 Wendell, NC 27591

*** Address of Variance Request:**

1936 Wendell Falls Parkway Wendell, NC 27591

*** Zoning District of Variance Request:**

1936 Wendell Falls Parkway Wendell, NC 27591

*** Wake County PIN Number:**

Not Known

*** This application is submitted for a variance from the terms of the Wendell Zoning Ordinance to allow:**

Reconstruction and exemption from the current ordinance for our fencing area to be upgraded to at least a 6 ft. privacy and protection fence for our doggie daycare and boarding facility. Because of the initial Wendell Zoning Ordinance, we were not allowed to have a higher fence constructed. Our initial concern is to prevent client dogs from jumping the fence and fencing restraints. We have had two instances where dogs (both small and large) have jumped over the current, 3 ft restraining systems and into our parking lot or on to Wendell Falls Parkway. We have had several occasions, including reports from the Wendell Police Department, where accidents have nearly occurred due to the distraction from drivers viewing our employees in the playard with animals. To prevent this, the construction of a 6 ft privacy fence would minimize these driver distractions, collisions, along with the potential injury to our cared for pets and employees. The city required our business to shift how we view the front and back of our facility. As we are not a residential construct, we do not feel this ordinance should apply to our business. Where the town views our play area as our front yard, it is essentially our backyard facing an extremely busy road facing an extremely busy parkway with daily, excessive speed and aggressive drivers. We have also had two instances of drivers being run off of the road into our yard. These were our initial concerns upon opening our business in this area. We respectfully ask that we be exempt from this ordinance from a safety perspective for pets and people.

(Please label as Attachment A if you can't fit the information in the lines, below.)

Attachment A

Choose File No file chosen

*** What mitigating condition(s) justify this application?**

Our primary concern is for the safety of the animals we are entrusted to provide care. Of next concern is the significant liability, not just to our business and reputation, but the liability this could cause the City of Wendell if we are named in any type of lawsuit for death or harm to an animal or human because of the limitations on the fence size. Based on industry standards for facilities of our type, a 6 ft fence is standard for proper enclosement and safety of these animals. As stated, we've had multiple complaints from drivers, input from the Wendell Police Department, Wendell town employees, and clients indicating distraction and near-miss accidents based on the visibility of employees at work through the current fencing system. This level of legal and physical liability would be transferred to the Town of Wendell based on this zoning ordinance if we were named in a lawsuit. We have also had feedback from town employees and clients that they will not use our facility based on the visibility of this low fence and perception of potential harm to their pets. This negatively affects our future earnings and revenue. If we lose revenue, this affects our ability to pay taxes to the Town of Wendell. As stated, this is a liability for our business, potential harm to entrusted pets and to our employees. The ongoing legal concerns would implicate the Town of Wendell, based on input from legal counsel, if a pet owner filed negligence against our business. A 6 ft fence, constructed with the aesthetics to support continuity with our business and the surrounding area, would prevent the harm to our animals, maximize safety needs, and provide better protection against liability to our business and the Town of Wendell.

(Please label as Attachment B if you can't fit the information in the lines, below.)

Attachment B

Choose File No file chosen

*** Intended use of the land or structure:**

Upgrade to fence to allow for needed safety to properly enclose doggie daycare and boarding area. The current safety netting fence is not able to properly restrain dogs from escaping. Multiple companies have been contacted to find solutions and the only solution deemed appropriate for the safety of the pets we are entrusted, as well as to minimize legal liability for ourselves and the town of Wendell, is to request permission for a variance for a 6ft fence.

Please label as Attachment C if you can't fit the information in the lines, below)

Attachment C

Choose File No file chosen

Note: The Board of Adjustment does not have the power to grant a variance permitting the use of land or structures not permitted by the Town of Wendell Zoning Ordinance in the district in which the land or structure is located.

I certify that I am the owner or have the consent of the owner and act in his behalf in applying for this variance. I agree that this variance, if granted, is authorized on the presentation made herein and may be revoked in the event of any breach of representation of conditions which may be attached. It is further understood that if said variance is not exercised within six (6) months from the date of approval, it shall become invalid. Fees are nonrefundable. It is the responsibility of the applicant to present their position to the town.

*** Applicant Electronic Signature**

Kimberley Murray

*** Date**

02/21/2024

Format: MM/DD/YYYY

OFFICE USE ONLY Fee Paid: _____ Date Paid: _____

BOARD OF ADJUSTMENT Date Public Hearing Scheduled: _____ Date Sign Erected: _____

Dates Public Hearing Advertised: (#1): _____ in _____ *AND* (#2): _____ in _____

Board of Adjustment Decision : Approval ☐ Denial ☐

Reasons and Conditions (if none listed then see associated order granting/denying the conditional use permit) _____

_____

_____

_____

_____ _____

Chairperson of Board of Adjustment's Signature Date

Findings of Fact

1. It is the Board's CONCLUSION that there are/are not real, substantial, and unnecessaryhardships in the way of carrying out the strict letter of the Ordinance (A self-created hardship cannot be the basis for a variance. The hardship must result from conditions *peculiar to the property* (such as location, size, or topography), not the personal circumstances of the applicant).

2. It is the Board's CONCLUSION that in granting the variance, the public safety and welfare have/have not been assured and substantial justice has/has not been done.

3. It is the Board's CONCLUSION that, if granted, the variance will/will not be in harmonywith the general purpose and intent of the ordinance and will/will not preserve its spirit.

The granting of the variance requires an affirmative response to the underlined text in 1, 2, &3.

- The following are not cause for a variance:
    - The citing of other nonconforming or conforming uses of land or structures inthe same or other districts.
    - The request for a particular use expressly, or by inference, prohibited in thedistrict involved.
    - Economic hardship or the fact that property may be utilized more profitably witha variance

4.5 - Fences and Walls

A. Residential Fences:

1. Front Yard: Fences or garden/decorative walls shall be no greater than four feet in height in the front yard. (Refer to Section 9.E.3 for height requirements of fences placed within sight triangles on corner lots.)
2. Side/Rear Yard: Fences or garden/decorative walls shall be no greater than six feet in height in the side or rear yard.
3. Materials: Garden/decorative walls may be of brick, stone, wrought iron, or stucco matching the principal building. Retaining walls shall be wood, brick, stone or stucco. Front yard fences shall be wood picket, wrought iron or materials similar in appearance and durability. Side and rear yard fences may be green or black chain link, wood, wrought iron, or similar material.
4. Exceptions: Engineered retaining walls that may be needed due to topography are not subject to height limitations.

B. Commercial, Mixed-Use, Civic and Institutional Fences.

1. Front Yard: Fences and garden/decorative walls shall be no greater than three feet in height in the front yard.
2. Side/Rear Yard: Fences or garden/decorative walls shall be no greater than eight feet in the side or rear yard.
3. Materials: Front yard fences shall be wrought iron or similar looking material only. Fence piers may be brick or stone. Side and rear yard fences shall be brick, stucco, wrought iron, stone, or wood maintained in a like-new manner. Decorative walls and retaining walls shall be brick, stone, stucco, or similar materials.
4. Exceptions: Engineered retaining walls that may be needed due to topography are not subject to height limitations.

C. Industrial Fences:

1. Front Yard: Fences shall be no greater than six feet in height in the front yard.
2. Side/Rear Yard: Fences or decorative walls shall be no greater than eight feet in height in the side or rear yard unless topography necessitates additional height. The Administrator may approve fences or walls no greater than nine feet. Requests for heights above nine feet are subject to approval from the Board of Commissioners.
3. Materials: Barbed wire fences are permitted in rear yards not visible from a street and are not permitted adjacent to any lot in residential use or zoning. Retaining walls shall be brick, stone or stucco or similar materials.
4. Exceptions: Engineered retaining walls that may be needed due to topography are not subject to height limitations.

(Ord. No. O-10-2017, § 1, 3-13-2017)

VICINITY MAP 1"=1,000'

SITE DATA

PROPERTY ADDRESS	WENDELL FALLS PARKWAY WENDELL, NC 27312
PROPERTY OWNER STREET CITY	NASH WENDELL FALLS LLC 13777 BALLANTYNE CORPORATE PL STE 250 CHARLOTTE, NC 28277-3427
PROPERTY DEVELOPER STREET CITY	NEUSE RIVER VETERINARY HOSPITAL 2961 WENDELL BLVD WENDELL, NC 27591
DESIGNER: EMAIL ADDRESS: PHONE NUMBER:	BOBBITT DESIGN BUILD ATTN: BLAIR PITTMAN BPITTMAN@BOBBITT.COM (919) 851-1980
TAX MAP OR PIN NUMBER: REAL ESTATE ID NUMBER: DEED TOTAL SITE ACREAGE:	1773257639 0481079 BOOK 015478 PG 01623 1.85 AC (80,715 SF)
ACREAGE TO BE DISTURBED: ZONING: WATERSHED: RIVER BASIN:	1.77 AC PUD (15-1) MARKS CREEK NEUSE RIVER
EXISTING USE: GENERAL BUILDING USE: BUILDING AREA:	VACANT VETERINARY CLINIC ±5,000 SF

SETBACKS:

STREET:	0'
SIDE:	0'
REAR:	0'

PARKING SETBACKS:

ZONE 2	MAX 4 BAYS BETWEEN R/W AND BUILDING NO PARKING PROPOSED

USE AREAS:

VEHICLE PVMT. AREA: NON-VEHICLE PVMT. AREA: BUILDING AREA	11,810 SF 2,185 SF 5,065 SF
TOTAL IMPERVIOUS: % IMPERVIOUS :	19,060 SF 23.6%

BUILT UPON AREA DOES NOT EXCEED 24%, THEREFORE THIS DEVELOPMENT QUALIFIES AS A LOW-DENSITY PROJECT. TSS REMOVAL NOT REQUIRED

PARKING:

REQUIRED	
OFFICE/SERVICE USE	
5,000 SF OFFICE/SERVICE USE (2-3 SPACES PER 1,000 SF)	10-15 SPACES REQUIRED
TOTAL PROPOSED - (INCLUDES HANDICAP)	22 SPACES (147% OF REQUIRED)
HANDICAP SPACES REQUIRED/PROPOSED	1/1
BICYCLE PARKING	
1 PER 20 AUTO SPACES	2 SPACES PROVIDED (1 RACK)

BOUNDARY AND TOPOGRAPHIC SURVEY BY McKIM & CREED, 1730 VARSITY DRIVE SUITE 500, RALEIGH, NC 27606. PHONE: (919) 233-8091, FAX: (919) 233-8031. NC FIRM #: F-12222. DATED: 24 JULY 2020

FLOODPLAIN INFORMATION
THIS SITE DOES NOT CONTAIN A 100-YR FLOOD PLAIN
AREA AS SHOWN ON FIRM PANEL 3720177300J DATED 05/02/2006

INDEX OF SHEETS

SHEET NUMBER	DESCRIPTION
C0.0	COVER SHEET
C0.1	EXISTING CONDITIONS
C1.0	STAKING PLAN
C2.0	PHASE 1 EROSION CONTROL PLAN (RESERVED)
C2.1	PHASE 2 EROSION CONTROL PLAN (RESERVED)
C2.2	NPDES PLAN (RESERVED)
C2.3	NPDES PLAN (RESERVED)
C3.0	GRADING PLAN
C4.0	UTILITY PLAN
C5.0	LANDSCAPE PLAN
C6.0	LIGHTING PLAN (RESERVED)
C7.0	DETAILS (RESERVED)
C7.1	DETAILS
C7.2	DETAILS
C7.3	DETAILS
C7.4	DETAILS
SD1	ARCHITECTURAL FOOTPRINT
SD2	ARCHITECTURAL ELEVATIONS

EROSION CONTROL, STORMWATER AND FLOODPLAIN MANAGEMENT

APPROVED

EROSION CONTROL ☐ S-_____

STORMWATER MGMT. ☐ S-_____

FLOOD STUDY ☐ S-_____

DATE_____

WAKE COUNTY NORTH CAROLINA EFFECTIVE 06/30/06

ENVIRONMENTAL CONSULTANT SIGNATURE

NEUSE RIVER VETERINARY HOSPITAL

SITE PLAN

APPROVED FOR PERMITTING
NOT FOR CONSTRUCTION

REVISIONS			
No.	DATE	DESCRIPTION	REV. BY
1			
2			
3			
4			

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think, design, build

NORTH CAROLINA PROFESSIONAL SEAL 24438 ENGINEER BLAIR P. PITTMAN
01/21/2021

BOBBITT DESIGN · BUILD
600 Germantown Road | Raleigh, North Carolina 27607
Ph (919) 851-1980 | Fx (919) 851-1982 | design@bobbitt.com
Bobbitt Construction, Inc. Firm Lic. # 0-0191

COORDINATOR: Blair Pittman

DRAWN BY: Jason Galloway

CHK BY: BPP

NEUSE RIVER VETERINARY HOSPITAL
WENDELL FALLS PARKWAY
WENDELL, NORTH CAROLINA

24 X 36

20 JANUARY 2021

20-0307

COVER

C0.0

BOUNDARY AND TOPOGRAPHIC SURVEY BY McKIM & CREED, 1730 VARSITY DRIVE SUITE 500, RALEIGH, NC 27606. PHONE: (919) 233-8091, FAX: (919) 233-8031. NC FIRM #: F-12222. DATED: 24 JULY 2020

FLOODPLAIN INFORMATION

NO 100 YR FLOOD PLAIN LOCATED WITHIN THIS SITE AS PER FEMA MAP NUMBER 3720177300J DATED MAY 2, 2006.

CURVE TABLE						
CURVE #	RADIUS	LENGTH	TANGENT	CHORD BEARING	CH LENGTH	DELTA
C1	354.05'	60.73'	30.44'	N13°14'05"E	60.66'	009°49'42"
C2	5320.27'	189.20'	94.61'	N19°10'04"E	189.19'	002°02'15"

SSMH
TOP=280.68'
INV=264.34'(S)

PP

50' STREAM BUFFER

N14°24'45"E 135.45'

S36°03'48"W 209.35'

72"RCP
INV=268.57'(W)

N83°27'28"E 102.22'

72"RCP
INV=265.74'(E)

EX. GUARDRAIL

EX. 12" PVC SANITARY SEWER

EXISTING 30' UTILITY EASEMENT
BM2007 PG1099

EX. SSMH
TOP=285.24'
INV IN=262.93'(N)
INV OUT=262.86'(SW)

EXISTING OVERHEAD POWERLINE TO BE RELOCATED BY OTHERS

S38°40'12"W 86.80'

NASH WENDELL FALLS, LLC DB 17478 PG. 1623
BM 2007 PG 1099
PIN# 1773-16-2352

EX. 12" PVC SANITARY SEWER

MARTIN POND ROAD
60' PUBLIC R/W

15"CMP
INV=281.71'(S)

REMOVE EXISTING STORMWATER CMP (TYP OF HATCH)

IPF

S88°51'53"W 102.67'

IPF

N/F
SHEREE L. HEDRICK
DB 17584 PG. 2428
BM 2017 PG 1535
PIN# 1773-25-8506

EX. ASPHALT PARKING LOT

EXISTING 1-STORY BUILDING

25' ACCESS ESMT
DB-14166 PG 1807

EX. CONC. WALK

EX. GW

EX. PP

EX. TRAFFIC HAND HOLE

EX. TRAFFIC LIGHT MAST

EX. TRAFFIC HAND HOLE

EX. FIBER OPTIC HAND HOLE

EX. DEPRESSED CURB

EX. CB
TOP=291.72'
INV=287.06'(S)
INV=286.81'(E)
INV=286.74'(N)

N73°43'38"W 269.66'

EX. CONCRETE HANDICAP RAMP

EX. DEPRESSED CURB

EX. 15"RCP

EX. TRAFFIC SIGNAL HAND HOLE

EX. 12" DIP WATERLINE

EXISTING TREELINE

EASEMENT TO BE ABANDONED
DB 12671 PG 1021

EXISTING OVERHEAD POWERLINE TO BE RELOCATED. COORDINATE NEW LOCATION WITH DUKE POWER

6 GRAVE STONES

3' WOODEN FENCE

EXISTING OVERHEAD POWERLINE TO BE RELOCATED. COORDINATE NEW LOCATION WITH DUKE POWER

EX. CONCRETE CURB RAMP

EXISTING ASPHALT GREENWAY

CB
TOP=297.45'
INV=294.19'(W)

EX. 15"RCP

EX. CB
TOP=294.57'
INV=290.72'(E)
INV=290.62'(S)
INV=290.57'(W)

REMOVE EXISTING CURB AND GUTTER (TYP OF HATCH)

EX. CB
TOP=295.56'
INV=292.30'(E)
INV=292.24'(W)

EX. 15"RCP

EX. 15"RCP

WENDELL FALLS PARKWAY
VARIABLE PUBLIC WIDTH R/W
(BM 2008 PG 1602)

CALL BEFORE YOU DIG!
NORTH CAROLINA LAW REQUIRES NOTIFICATION OF THE UNDERGROUND FACILITY OWNER NOT LESS THAN TWO (2) BUT NO MORE THAN TEN (10) WORKING DAYS PRIOR TO EXCAVATION OR DEMOLITION

NORTH CAROLINA 811
www.nc811.org
1-800-632-4949
North Carolina One-Call Center, Inc.

0 10 20 40 60

APPROVED FOR PERMITTING
NOT FOR CONSTRUCTION

REVISIONS			
No.	DATE	DESCRIPTION	REV. BY
1			
2			
3			
4			

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think. design. build

BOBBITT DESIGN. BUILD.
600 Germantown Road | Raleigh, North Carolina 27607
Ph (919) 851-1880 | Fx (919) 851-1882 | design@bobbitt.com
Bobbitt Construction, Inc., Firm Lic # EA-7191

COORDINATOR: Blair Pittman

DRAWN BY: Jason Galloway

CHK BY: BPP

NEUSE RIVER VETERINARY HOSPITAL
WENDELL FALLS PARKWAY
WENDELL, NORTH CAROLINA

24 X 36
1" = 20'

20 JANUARY 2021

20-0307

EXISTING CONDITIONS

C0.1

CURVE TABLE						
CURVE #	RADIUS	LENGTH	TANGENT	CHORD BEARING	CH LENGTH	DELTA
C1	354.05'	60.73'	30.44'	N13°14'05"E	60.66'	009°49'42"
C2	5320.27'	189.20'	94.61'	N19°10'04"E	189.19'	002°02'15"

GENERAL NOTES: STAKING PLAN

1. BOUNDARY AND TOPOGRAPHIC SURVEY BY McKIM & CREED, 1730 VARSITY DRIVE SUITE 500, RALEIGH, NC 27606. PHONE: (919) 233-8091, FAX: (919) 233-8031. NC FIRM #: F-12222. DATED: 24 JULY 2020
2. NO FREE STANDING SIGNS ARE PROPOSED AS PART OF THE DESIGN. IF NEW FREE STANDING SIGNS ARE REQUIRED IN THE FUTURE, IT WILL BE PERMITTED SEPARATELY.
3. ALL DENUDED AREAS NOT COVERED WITH IMPERVIOUS SURFACE OR NOTED LANDSCAPING TO BE PERMANENTLY SEEDED.
4. CONTRACTOR SHALL SECURE ALL NECESSARY PERMITS FOR CONSTRUCTION SHOWN ON THESE PLANS.
5. ALL DIMENSIONS AND STAKING POINT LOCATIONS ARE TO BACK OF CURB/EDGE OF PAVEMENT UNLESS OTHERWISE NOTED.
6. ANY WORK SHOWN ON THESE PLANS THAT IS FOUND TO BE IN CONFLICT WITH LOCAL ZONING SETBACK REQUIREMENTS SHALL BE IMMEDIATELY REPORTED TO THE CIVIL ENGINEER FOR ADJUSTMENT.
7. LOCATIONS FOR EXISTING UTILITIES SHOWN ON THESE PLANS ARE APPROXIMATE, CONTRACTOR SHALL CALL UTILITY LOCATOR TO VERIFY THE LOCATION OF ALL EXISTING UTILITIES.
8. CONTRACTOR SHALL AT ALL TIMES MAINTAIN ADEQUATE SAFETY MEASURES, ACTIVITIES, AND BARRICADES FOR THE PROTECTION OF ALL PERSONS ON OR ABOUT THE LOCATION OF THE SITE.
9. CONTRACTOR SHALL INSTALL SIGNS, AND CONSTRUCT NECESSARY RAMPS, AS PER THE NORTH CAROLINA STATE BUILDING CODE, FOR ALL HANDICAP PARKING SPACES NOTED ON THE PLANS.
10. FOR ALL HANDICAPPED PARKING SPACES, AS PER ADA CODE: 1)REGARDLESS OF AGE, ALL ACCESSIBLE SPACES SHALL BE IDENTIFIED BY ABOVE GROUND SIGNS ONLY; 2) NEW SPACES SHALL NOT USE GROUND-PAINTED SYMBOLS; 3) ACCESSIBLE SPACES ARE REQUIRED TO BE STRIPED OFF ONLY. 4) STRIPING IS WHITE ON DARK PAVEMENT; BLACK ON LIGHT PAVEMENT.
11. INSTALL DIRECTIONAL ARROWS, LANE MARKINGS, "STOP" MESSAGES, ETC. AS SHOWN ON THE PLANS WITH TRAFFIC MARKING PAINT ACCORDING TO THE MANUFACTURER'S SPECIFICATIONS. USE WHITE PAINT.
12. ALL CONSTRUCTION TO BE PERFORMED TO TOWN OF WENDELL SPECIFICATIONS AND DETAILS.

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NORTH CAROLINA PROFESSIONAL SEAL 24438 ENGINEER BLAIR P. PITTMAN
01/21/2021

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Bobbitt Construction, Inc., Firm Lic # 2421191

COORDINATOR: Blair Pittman

DRAWN BY: Jason Galloway

CHK BY: BPP

NEUSE RIVER VETERINARY HOSPITAL
WENDELL FALLS PARKWAY
WENDELL, NORTH CAROLINA

24 X 36
1" = 20'

20 JANUARY 2021

20-0307

STAKING PLAN

C1.0

LEGEND:

EIP – EXISTING IRON PIPE
EPK – EXISTING PK NAIL
NIP – NEW IRON PIPE SET
R/W – RIGHT OF WAY
CATV – CABLE TV BOX
EB – ELECTRIC BOX
TEL – TELEPHONE PEDESTAL
PP – POWER POLE
OHL – OVERHEAD LINE
LP – LIGHT POLE
WM – WATER METER
WV – WATER VALVE
CO – SEWER CLEAN-OUT

LINE TYPE LEGEND

PROPERTY LINE – LINE SURVEYED
RIGHT-OF-WAY
ADJOINING LINE – LINE NOT SURVEYED
EXISTING FENCE
EXITING WATER LINE
EXISTING SEWER LINE
MAJOR TOPOGRAPHY LINE
MINOR TOPOGRAPHY LINE
EXISTING EDGE OF PAVEMENT
STREAM BUFFER

CALL BEFORE YOU DIG!
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NORTH CAROLINA 811 www.nc811.org 1-800-632-4949
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0 10 20 40 60

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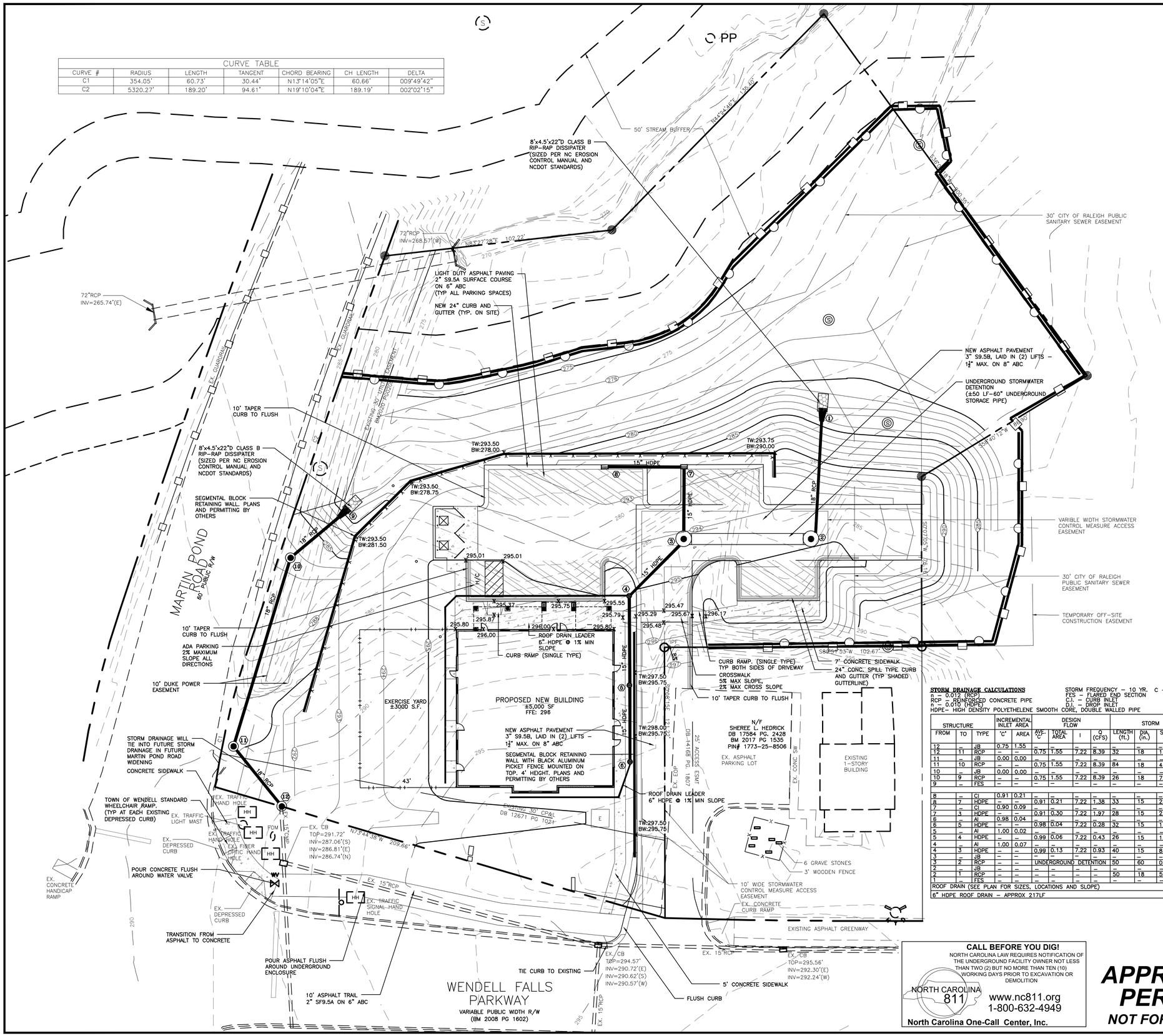
REVISIONS			
No.	DATE	DESCRIPTION	REV. BY
1			
2			
3			
4			

PP
50' STREAM BUFFER
N44°24'46"E 139.40'
S39°03'48"W 209.35'
30' CITY OF RALEIGH PUBLIC SANITARY SEWER EASEMENT
N8°52'28"E 109.22'
LIGHT DUTY ASPHALT PAVING 2" S9.5A SURFACE COURSE ON 6" ABC (TYP ALL PARKING SPACES)
NEW 24" CURB AND GUTTER (TYP. ON SITE)
EX. GUARDRAIL
EXISTING 30' UTILITY EASEMENT BM2007 PG2038
NEW ASPHALT PAVEMENT 3" S9.5B, LAID IN (2) LIFTS – 1½" MAX. ON 8" ABC
S38°40'12"W 86.80'
10' TAPER CURB TO FLUSH
4' TALL BLACK ALUMINUM PICKET FENCE AT TOP OF WALL.
MASONRY DUMPSTER SCREEN WITH TREX CLAD DOORS. COLOR AND FINISH TO MATCH ARCHITECTURAL
SEGMENTAL BLOCK RETAINING WALL. PLANS AND PERMITTING BY OTHERS
MARTIN POND ROAD 60' PUBLIC R/W
73'
9' (TYP.)
8 SPACES
37'
18'
4 SPACES
S89°51'45"W 83.35
S89°51'45"W 115.59
6 SPACES
8.5'
18'
9' (TYP.)
H/C
62'
R15'
R25'
N00°08'15"W 51.28
N00°08'15"W 76.15'
12.5'
4 SPACES
37'
7'
LP
VARIBLE WIDTH STORMWATER CONTROL MEASURE ACCESS EASEMENT
30' CITY OF RALEIGH PUBLIC SANITARY SEWER EASEMENT
TEMPORARY OFF-SITE CONSTRUCTION EASEMENT
IPF
S89°51'53"W 102.67'
IPF
10' TAPER CURB TO FLUSH
ADA PARKING 2% MAXIMUM SLOPE ALL DIRECTIONS
10' DUKE POWER EASEMENT
OPAQUE WOOD FENCE 6' HEIGHT
ARTIFICIAL TURF IN EXERCISE YARD
EXERCISE YARD ±3000 S.F.
CURB RAMP (SINGLE TYPE)
MUTCD R7-8 & R7-8D HANDICAP SIGNS WITH VAN ACCESSIBLE SIGN MOUNTED ON THE BUILDING
INVERTED U BIKE RACK
PROPOSED NEW BUILDING ±5,000 SF FFE: 296
5'
5'
12.5'
NEW ASPHALT PAVEMENT 3" S9.5B, LAID IN (2) LIFTS – 1½" MAX. ON 8" ABC
SEGMENTAL BLOCK RETAINING WALL WITH BLACK ALUMINUM PICKET FENCE MOUNTED ON TOP, 4' HEIGHT. PLANS AND PERMITTING BY OTHERS
CURB RAMP. (SINGLE TYPE) TYP BOTH SIDES OF DRIVEWAY CROSSWALK 5% MAX SLOPE, 2% MAX CROSS SLOPE
7' CONCRETE SIDEWALK
24" CONC. SPILL TYPE CURB AND GUTTER (TYP SHADED GUTTERLINE)
10' TAPER CURB TO FLUSH
N/F SHEREE L. HEDRICK DB 17584 PG. 2428 BM 2017 PG 1535 PIN# 1773-25-8506
EX. ASPHALT PARKING LOT
EX. CONC. SW
EXISTING 1-STORY BUILDING
25' ACCESS ESMT
DB 14168 PG. 1807
EX. EOP
S02°08'15"E 121.27'
CONCRETE SIDEWALK
TOWN OF WENDELL STANDARD WHEELCHAIR RAMP. (TYP AT EACH EXISTING DEPRESSED CURB)
EX. DEPRESSED CURB
EX. CONCRETE HANDICAP RAMP
POUR CONCRETE FLUSH AROUND WATER VALVE
TRANSITION FROM ASPHALT TO CONCRETE
EX. DEPRESSED CURB
POUR ASPHALT FLUSH AROUND UNDERGROUND ENCLOSURE
10' ASPHALT TRAIL 2" SF9.5A ON 6" ABC
43'
103.6'
N73°44'38"W 209.66'
30.0'
EXISTING 30' CP&L DB 12671 PG 1021
22.5'
49.97'
67.9'
6 GRAVE STONES
3' WOODEN FENCE
10' WIDE STORMWATER CONTROL MEASURE ACCESS EASEMENT
EX. CONCRETE CURB RAMP
EXISTING ASPHALT GREENWAY
FUTURE SIGN (BY OTHERS)
TIE CURB TO EXISTING
8'x8' CONCRETE TRANSFORMER PAD
5' CONCRETE SIDEWALK
FLUSH CURB
WENDELL FALLS PARKWAY
VARIABLE PUBLIC WIDTH R/W
(BM 2008 PG 1602)

CURVE TABLE						
CURVE #	RADIUS	LENGTH	TANGENT	CHORD BEARING	CH LENGTH	DELTA
C1	354.05'	60.73'	30.44'	N13°14'05"E	60.66'	009°49'42"
C2	5320.27'	189.20'	94.61'	N19°10'04"E	189.19'	002°02'15"



GENERAL NOTES: GRADING PLAN

1. BOUNDARY AND TOPOGRAPHIC SURVEY BY McKIM & CREED, 1730 VARSITY DRIVE SUITE 500, RALEIGH, NC 27606. PHONE: (919) 233-8091, FAX: (919) 233-8031. NC FIRM #: F-12222. DATED: 24 JULY 2020
2. THE REFERENCED BMPS SHOWN AND LOCAL ORDINANCES IMPOSE CERTAIN CONTINUING INSPECTION, MAINTENANCE REPAIR AND OTHER REQUIREMENTS UPON THE OWNER, AFTER INITIAL CERTIFICATION OR CERTIFICATE OF OCCUPANCY. THESE PLANS DO NOT INCLUDE ANY RESPONSIBILITY ON THE PART OF THE CONTRACTOR TO COMPLY WITH THOSE REQUIREMENTS ON THE OWNER'S BEHALF.
3. CONTRACTOR SHALL SECURE ALL NECESSARY PERMITS FOR CONSTRUCTION SHOWN ON THESE PLANS.
4. CONTRACTOR SHALL AT ALL TIMES MAINTAIN ADEQUATE SAFETY MEASURES, ACTIVITIES, AND BARRICADES FOR THE PROTECTION OF ALL PERSONS ON OR ABOUT THE LOCATION OF THE SITE.
5. CONTRACTOR SHALL VERIFY EXISTING CONDITIONS PRIOR TO BEGINNING CONSTRUCTION. NOTIFY ENGINEER OF ANY DISCREPANCIES.
6. GRADING MORE THAN ONE ACRE WITHOUT AN APPROVED EROSION CONTROL PLAN IS A VIOLATION AND IS SUBJECT TO A FINE.
7. TREE PROTECTION FENCING MUST BE IN PLACE PRIOR TO ANY LAND DISTURBANCE AND SHALL INCLUDE WARNING SIGNS POSTED IN BOTH ENGLISH AND SPANISH, AS FOLLOWS: "NO TRESPASSING/TREE PROTECTION AREA/PROHIBIDO ENTRAR/ZONA PROTECTORA PARA LOS ARBOLES."
8. GRADING BEYOND THE DENUDED LIMITS INDICATED ON CONSTRUCTION DOCUMENTS IS A VIOLATION AND IS SUBJECT TO A FINE.
9. ALL EXISTING UTILITIES AND STORM STRUCTURES ARE SHOWN PER SURVEY DATA AND ARE APPROXIMATE. CONTRACTOR IS FULLY RESPONSIBLE TO FIELD VERIFY ACTUAL LOCATION AND DEPTH OF EXISTING UTILITIES PRIOR TO THE START OF CONSTRUCTION AND SHALL CALL UTILITY LOCATOR TO VERIFY LOCATION OF ALL EXISTING UTILITIES.
10. ALL SIDEWALKS, STOOPS, TERRACES AND OTHER PAVED AREAS SHALL SLOPE AWAY FROM BUILDING(S) AT 2%(MIN).
11. THE CONTRACTOR SHALL MAINTAIN EACH DITCH IN AN UNOBSTRUCTED CONDITION AND SHALL REMOVE FROM THESE AREAS ALL DEBRIS, LOGS, TIMBER, TRASH, JUNK AND OTHER ACCUMULATIONS.
12. TOPSOIL STRIPPED FROM THE SITE IS TO BE STOCKPILED AND USED FOR BACKFILLING ALL LANDSCAPE ISLANDS, BEDS AND LAWN AREAS. TOPSOIL IS TO BE SPREAD TO A DEPTH OF AT LEAST 6" AS SOIL IS AVAILABLE.
13. ALL AREAS NOT COVERED WITH PAVING, GRAVEL, BUILDING OR PLANTING BEDS SHALL BE SEEDED AS SHOWN IN THE SEEDBED PREP. AND SEEDING SCHEDULE NOTES. (SEE THE LANDSCAPE PLAN FOR SPECIFIC LAWN AREAS)
14. ALL CONSTRUCTION TO BE PERFORMED TO TOWN OF WENDELL DESIGN AND CONSTRUCTION STANDARDS.

GENERAL NOTES: STORMWATER

BUILT UPON AREA DOES NOT EXCEED 24%, THEREFORE THIS DEVELOPMENT QUALIFIES AS A LOW-DENSITY PROJECT. DESIGN CRITERIA ARE AS FOLLOWS:

- STORMWATER RUNOFF FROM THE DEVELOPMENT SHALL BE TRANSPORTED FROM THE DEVELOPMENT BY VEGETATED CONVEYANCES TO THE MAXIMUM EXTENT PRACTICABLE.
- ALL DEVELOPMENT AND REDEVELOPMENT SHALL BE LOCATED OUTSIDE THE RIPARIAN BUFFER ZONE AND FLOOD PROTECTION ZONE.
- THE APPROVAL OF THE STORMWATER PERMIT SHALL REQUIRE AN ENFORCEABLE RESTRICTION ON PROPERTY USAGE THAT RUNS WITH THE LAND, SUCH AS A RECORDED DEED RESTRICTION OR PROTECTIVE COVENANTS, TO ENSURE THAT FUTURE DEVELOPMENT AND REDEVELOPMENT MAINTAINS THE SITE CONSISTENT WITH THE APPROVED PROJECT PLANS.
- FOR LOW-DENSITY PROJECTS ONLY, STRUCTURAL AND NON-STRUCTURAL BMPS SHALL CONTROL AND TREAT THE DIFFERENCE IN THE STORMWATER RUNOFF PEAK DISCHARGE RATE LEAVING THE PROJECT SITE BETWEEN THE PRE- AND POST-DEVELOPMENT CONDITIONS FOR, AT A MINIMUM, THE ONE-YEAR, 24-HOUR STORM. RUNOFF VOLUME DRAWDOWN TIME SHALL BE A MINIMUM OF 48 HOURS, BUT NOT MORE THAN 120 HOURS.
- GENERAL ENGINEERING DESIGN CRITERIA FOR ALL PROJECTS SHALL BE IN ACCORDANCE WITH 15A NCAC 2H .1008(C), AS EXPLAINED IN THE DESIGN MANUAL.

TSS REMOVAL IS NOT REQUIRED

STORM DRAINAGE CALCULATIONS

n = 0.012 (RCP)
RCP – REINFORCED CONCRETE PIPE
n = 0.010 (HDPE)
HDPE– HIGH DENSITY POLYETHELENE SMOOTH CORE, DOUBLE WALLED PIPE

STORM FREQUENCY – 10 YR. C – AS NOTED
FES – FLARED END SECTION
C.I. – CURB INLET
D.I. – DROP INLET

STRUCTURE			INCREMENTAL INLET AREA		DESIGN FLOW				STORM SEWER DESIGN						STORM PIPE INVERTS		GRATE ELEV.	HEADWATER		COMMENTS
FROM	TO	TYPE	"C"	AREA	AVE. "C"	TOTAL AREA	I	Q (CFS)	LENGTH (ft.)	DIA. (in.)	SLOPE (%)	DEPTH OF FLOW (FT)	VELOCITY (F/S)	CAPACITY FULL (CFS)	INV. IN	INV. OUT		REQ'D	AVAIL. (<6.6 DI/HD)	
12	–	JB	0.75	1.55	–	–	–	–	–	–	–	–	–	–	–	–	292.00	1.25	6.50	DOGHOUSE ON EX. 15" CMP
12	11	RCP	–	–	0.75	1.55	7.22	8.39	32	18	1.0	1.15	5.6	9.9	285.00	284.68	–	–	–	–
11	–	JB	0.00	0.00	–	–	–	–	–	–	–	–	–	–	–	–	289.90	1.25	4.92	–
11	10	RCP	–	–	0.75	1.55	7.22	8.39	84	18	4.0	0.72	10.0	19.0	284.48	281.12	–	–	–	–
10	–	JB	0.00	0.00	–	–	–	–	–	–	–	–	–	–	–	–	286.50	1.25	5.08	–
10	9	RCP	–	–	0.75	1.55	7.22	8.39	26	18	7.0	0.63	12.0	25.0	280.92	279.10	–	–	–	–
9	–	FES	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
8	–	CI	0.91	0.21	–	–	–	–	–	–	–	–	–	–	–	–	292.22	0.45	2.50	–
8	7	HDPE	–	–	0.91	0.21	7.22	1.38	33	15	2.0	0.28	6.6	12.8	289.22	288.56	–	–	–	–
7	–	CI	0.90	0.09	–	–	–	–	–	–	–	–	–	–	–	–	292.65	0.60	3.79	–
7	3	HDPE	–	–	0.91	0.30	7.22	1.97	28	15	2.0	0.34	7.2	12.8	288.36	287.80	–	–	–	–
6	–	AI	0.98	0.04	–	–	–	–	–	–	–	–	–	–	–	–	295.70	–	2.50	NYOPLAST BASIN-STANDARD GRATE
6	5	HDPE	–	–	0.98	0.04	7.22	0.28	32	15	1.0	0.17	3.3	9.0	292.70	292.38	–	–	–	–
5	–	AI	1.00	0.02	–	–	–	–	–	–	–	–	–	–	–	–	295.70	–	3.02	NYOPLAST BASIN-STANDARD GRATE
5	4	HDPE	–	–	0.99	0.06	7.22	0.43	26	15	1.0	0.18	3.6	9.0	292.18	291.92	–	–	–	–
4	–	AI	1.00	0.07	–	–	–	–	–	–	–	–	–	–	–	–	295.65	–	3.43	NYOPLAST BASIN-STANDARD GRATE
4	3	HDPE	–	–	0.99	0.13	7.22	0.93	40	15	8.0	0.17	9.2	24.0	291.72	288.52	–	–	–	–
3	–	JB	–	–	–	–	–	–	–	–	–	–	–	–	–	–	294.15	–	–	–
3	2	RCP	–	–	UNDERGROUND DETENTION				50	60	0.01	–	–	–	284.55	284.50	–	–	–	SEE DETAIL SHT C7.4
2	–	JB	–	–	–	–	–	–	–	–	–	–	–	–	–	–	294.82	–	–	OUTLET STRUCTURE WITH WEIR
2	1	RCP	–	–	–	–	–	–	50	18	5.0	–	–	–	284.50	282.00	–	–	–	RUBBER GASKETS AT JOINTS
1	–	FES	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	OUTLETS TO EXISTING GRADE
ROOF DRAIN (SEE PLAN FOR SIZES, LOCATIONS AND SLOPE)																				
6" HDPE ROOF DRAIN – APPROX 217LF																				

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DRAWN BY: Jason Galloway
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NEUSE RIVER VETERINARY HOSPITAL
WENDELL FALLS PARKWAY
WENDELL, NORTH CAROLINA

24 X 36
1" = 20'
20 JANUARY 2021
20-0307
GRADING PLAN
C3.0

CURVE TABLE						
CURVE #	RADIUS	LENGTH	TANGENT	CHORD BEARING	CH LENGTH	DELTA
C1	354.05'	60.73'	30.44'	N13°14'05"E	60.66'	009°49'42"
C2	5320.27'	189.20'	94.61'	N19°10'04"E	189.19'	002°02'15"

SSMH
TOP=280.68'
INV=264.34'(S)

PP

50' STREAM BUFFER

N84°24'48"E 195.40'

N8°32'28"E 102.22'

NEW S.S. MANHOLE
RIM=276.00
INV. OUT=268.20

S38°41'59"W 200.35'

30' CITY OF RALEIGH PUBLIC SANITARY SEWER EASEMENT

8" PVC SANITARY SEWER 1% SLOPE

NEW S.S. MANHOLE
RIM=277.75
INV. IN (NE)=267.37
INV. IN (S)=267.67
INV. OUT=267.17

8" PVC SANITARY SEWER 10% SLOPE

NEW S.S. MANHOLE
RIM=284.00
INV. IN (NE)=273.97
INV. OUT=272.47

S38°40'12"W 86.30'

8" PVC SANITARY SEWER 8% SLOPE

VARIBLE WIDTH STORMWATER CONTROL MEASURE ACCESS EASEMENT

S51°41'E ALSO LOUDS

30' CITY OF RALEIGH PUBLIC SANITARY SEWER EASEMENT

TEMPORARY OFF-SITE CONSTRUCTION EASEMENT

IPF

S89°51'53"W 102.67'

IPF

NEW S.S. MANHOLE
RIM=292.00
INV. OUT (NE)=281.57

S.S. LATERAL SADDLE

EX. GUARDRAIL

EX. 12" PVC SANITARY SEWER

EXISTING 30' UTILITY EASEMENT BM2008 PG0016

8" PVC SANITARY SEWER 1% SLOPE

ASSUMED NEW LOCATION FOR EXISTING POWER SERVICE. TO BE REVIEWED AND CONFIRMED BY DUKE POWER

EX. SSMH
TOP=285.24'
INV IN=262.93'(N)
INV OUT=262.86'(SW)

NEW SS INVERT IN = 264.86

EX. 12" PVC SANITARY SEWER

MARTIN POND ROAD
60' PUBLIC R/W

NEW SANITARY SEWER SERVICE
4" SCH. 40 PVC @2% MIN. SLOPE. CLEANOUTS EVERY 50' MAX. USE HEAVY DUTY CLEAN-OUTS WITH BRASS CAPS IN TRAFFIC AREAS

EXERCISE YARD
±3000 S.F.

PROPOSED NEW BUILDING
±5,000 SF
FFE: 296

(2) 4" SCH. 40 PVC TELEPHONE CONDUITS

43'

N/F
SHEREE L. HEDRICK
DB 17584 PG. 2428
BM 2017 PG 1535
PIN# 1773-25-8506

S70°31'58"E 121.27'

DB 14168 PG. 1807

25' ACCESS ESMT

EX. ASPHALT PARKING LOT

EX. CONC SW

EXISTING 1-STORY BUILDING

EX. TRAFFIC HAND HOLE

EX. TRAFFIC LIGHT MAST

EX. TRAFFIC HAND HOLE

EX. FIBER OPTIC HAND HOLE

EX. DEPRESSED CURB

EX. CONCRETE HANDICAP RAMP

EX. DEPRESSED CURB

1" DOMESTIC SERVICE

EXISTING 30' CP&L DB 12671 PG 1021

N78°43'38"W 209.66'

ELECTRIC SERVICE

6 GRAVE STONES

3' WOODEN FENCE

10' WIDE STORMWATER CONTROL MEASURE ACCESS EASEMENT

EX. CONCRETE CURB RAMP

EXISTING ASPHALT GREENWAY

EX. TRAFFIC SIGNAL HAND HOLE

EX. 12" DIP WATERLINE

1" NEW WATTS 009 (OR EQUAL) LEAD FREE REDUCED PRESSURE BACKFLOW PREVENTER IN HEATED ENCLOSURE

NEW 1" WATER METER (DOMESTIC SERVICE)

1" TAP

1" PVC CONDUIT FOR POWER TO HOT BOX

TRANSFORMER. COORDINATE FINAL LOCATION WITH DUKE POWER

1" CONDUIT FOR FUTURE SIGN (BY OTHERS)

WENDELL FALLS PARKWAY
VARIABLE PUBLIC WIDTH R/W
(BM 2008 PG 1602)

GENERAL NOTES: UTILITY PLAN

1. BOUNDARY AND TOPOGRAPHIC SURVEY BY McKIM & CREED, 1730 VARSITY DRIVE SUITE 500, RALEIGH, NC 27606. PHONE: (919) 233-8091, FAX: (919) 233-8031. NC FIRM #: F-12222. DATED: 24 JULY 2020
2. ALL MATERIALS AND METHODS OF CONSTRUCTION SHALL BE IN ACCORDANCE WITH CHATHAM COUNTY AND THE STATE OF NORTH CAROLINA STANDARDS AND SPECIFICATIONS.
3. CONTRACTOR SHALL HAVE NORTH CAROLINA ONE CALL (1-800-632-4949) LOCATE ALL EXISTING UTILITIES PRIOR TO BEGINNING CONSTRUCTION.
4. CONTRACTOR SHALL VERIFY THE LOCATION AND DEPTH OF ALL EXISTING UTILITIES AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES OR CONFLICTS PRIOR TO BEGINNING CONSTRUCTION.
5. CONTRACTOR SHALL COORDINATE THE LOCATION OF THE ELECTRIC, GAS, AND TELEPHONE SERVICE WITH THE APPROPRIATE UTILITY COMPANY PRIOR TO BEGINNING CONSTRUCTION. CONTRACTOR SHALL PROVIDE CONDUITS AS REQUIRED FOR THESE UTILITIES UNDER PAVED AREAS.
6. CONTRACTOR SHALL COORDINATE THE LOCATION OF THE CONDUITS NECESSARY FOR THE IRRIGATION SYSTEM, SITE LIGHTING, AND SIGNAGE PRIOR TO BEGINNING CONSTRUCTION.
7. THIS PLAN IS DIAGRAMMATIC AND REPRESENTS THE APPROXIMATE LOCATION OF UTILITIES UNLESS SPECIFICALLY DIMENSIONED. THE CONTRACTOR SHALL COORDINATE THE ACTUAL AND PROPOSED LOCATION OF UTILITIES TO AVOID CONFLICTS.
8. REFER TO SHEET. NO. C6.0 FOR SITE LIGHTING PLAN (BY OTHERS)
9. REFER TO SHEET. NO. C7.0 THRU C7.1 FOR SITE CONSTRUCTION DETAILS.
10. CONTRACTOR SHALL COORDINATE THE LOCATION OF THE WATER AND SEWER SERVICE TO THE BUILDING WITH THE BUILDING PLUMBING CONTRACTOR AND THE BUILDING PLANS. NOTIFY ENGINEER OF ANY DISCREPANCIES.

CALL BEFORE YOU DIG!
NORTH CAROLINA LAW REQUIRES NOTIFICATION OF THE UNDERGROUND FACILITY OWNER NOT LESS THAN TWO (2) BUT NO MORE THAN TEN (10) WORKING DAYS PRIOR TO EXCAVATION OR DEMOLITION
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NORTH CAROLINA PROFESSIONAL SEAL 24438 ENGINEER BLAIR P. PITTMAN
01/21/2021

BOBBITT DESIGN · BUILD
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Bobbitt Construction, Inc. Firm Lic. # 0-0191

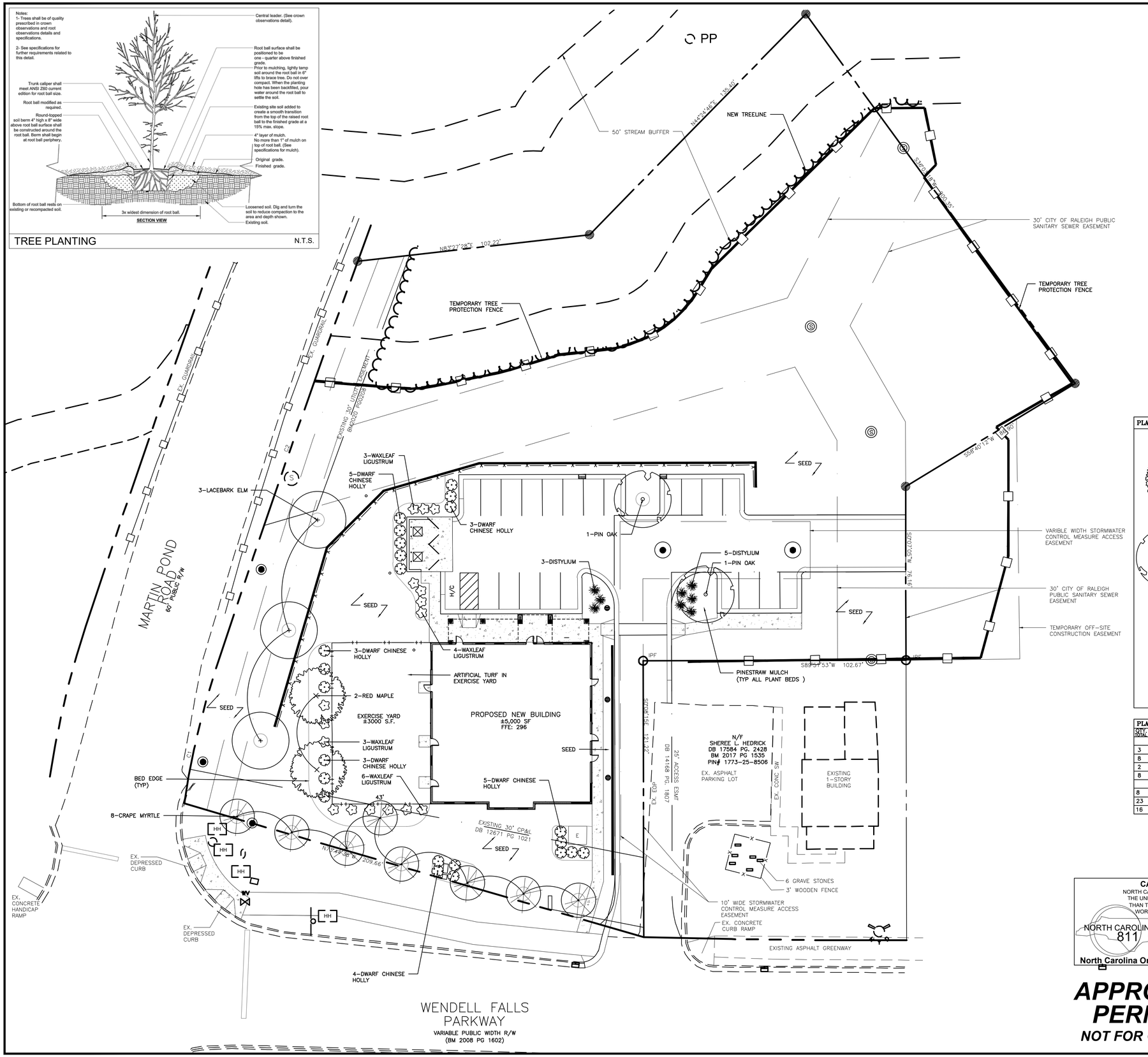
COORDINATOR: Blair Pittman
DRAWN BY: Jason Galloway
CHK BY: BPP

NEUSE RIVER VETERINARY HOSPITAL
WENDELL FALLS PARKWAY
WENDELL, NORTH CAROLINA

24 X 36
1" = 20'
20 JANUARY 2021
20-0307
UTILITY PLAN

C4.0

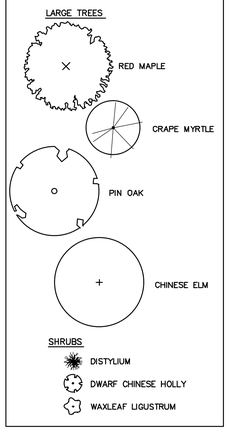
TREE PLANTING N.T.S.



LANDSCAPE NOTES

1. BOUNDARY AND TOPOGRAPHIC SURVEY BY McKIM & CREED, 1730 VARSITY DRIVE SUITE 500, RALEIGH, NC 27606. PHONE: (919) 233-8091, FAX: (919) 233-8031. NC FIRM #: F-12222. DATED: 24 JULY 2020
2. THIS PLAN IS FOR PLANTING PURPOSES ONLY. FOR INFORMATION RELATING TO GRADING, REFER TO GRADING PLAN.
3. VERIFICATION OF TOTAL QUANTITIES AS SHOWN IN THE PLANT LIST SHALL BE THE RESPONSIBILITY OF THE LANDSCAPE CONTRACTOR.
4. ALL PLANTS AND PLANTING PROCEDURES SHALL CONFORM TO ACCEPTED STANDARDS ESTABLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMEN LATEST EDITION.
5. ALL SAUCERS SHALL BE SOAKED WITH WATER AND MULCHED IMMEDIATELY FOLLOWING PLANTING.
6. ALL TREES AND SHRUBS SHALL BE FULL-WELL BRANCHED PLANTS WHICH ARE CHARACTERISTIC OF THE SPECIES.
7. ALL GRASS IS TO BE TALL FESCUE, OR BETTER QUALITY.
8. ALL ROOT BALLS REMOVED FROM CONTAINERS SHALL BE SCARIFIED PRIOR TO BACKFILLING.
9. REMOVE ALL STRING AND WIRE FROM BASE OF ALL PLANT MATERIAL.
10. MULCH ALL BEDS WITH 3" OF CLEAN PINE NEEDLES, UNLESS OTHERWISE NOTED.
11. ALL PLANT BED AREAS ARE TO RECEIVE A MINIMUM OF 6" OF APPROVED TOPSOIL.
12. ALL AREAS NOT COVERED WITH PAVING, GRAVEL, BUILDINGS OR PLANTING BEDS SHALL BE SEEDED AS SHOWN IN THE SEEDBED PREP. AND SEEDING SCHEDULE.
13. LAWN AREAS SHALL BE RAKED TO REMOVE ROCKS, STICKS, ROOTS AND OTHER TRASH AND DEBRIS AND SHALL BE SMOOTH FOR EASE OF MOWING.
14. ALL TREES SHALL BE A MINIMUM OF 5' BEHIND ALL CURBS. WHERE NO CURB AND GUTTER IS PROPOSED BORDERING PARKING SPACES, WHEEL STOPS MUST BE PROVIDED TO PREVENT DAMAGE TO PLANT MATERIAL.
15. TREE PROTECTION NOTE: TREE PROTECTION FENCING MUST BE IN PLACE PRIOR TO ANY DEMOLITION, LAND DISTURBANCE OR ISSUANCE OF A GRADING PERMIT AND SHALL INCLUDE WARNING SIGNS POSTED IN BOTH ENGLISH AND SPANISH, AS FOLLOWS: "NO TRESPASSING/TREE PROTECTION AREA/PROHIBIDO ENTRAR / ZONA PROTECTORA PARA LOS ARBOLES."
16. ALL TREE PROTECTION FENCING SHALL BE MAINTAINED UNTIL ALL SITE WORK IS COMPLETED. THE FENCING SHALL BE REMOVED PRIOR TO THE FINAL SITE INSPECTION FOR THE CERTIFICATE OF OCCUPANCY (CO).
17. UTILITY EQUIPMENT AND FACILITIES ASSOCIATED WITH ON-SITE ELECTRIC, CABLE, TELEPHONE, GAS OR OTHER SIMILAR UTILITY SHALL BE SCREENED, TO THE EXTENT POSSIBLE, WITH EVERGREEN PLANTINGS. PLANTINGS SHALL ALLOW FOR A MINIMUM OF A 5' CLEARANCE AROUND THE STRUCTURE TO ALLOW FOR ACCESS. ADDITIONALLY, ANY SIDE OF THE STRUCTURE HAVING A DOOR OR LOCK, THE PLANTINGS SHALL ALLOW FOR A 10' CLEARANCE. THE AMOUNT OF CLEARANCE SHALL ACCOUNT FOR THE PLANT MATERIAL AT MATURITY.
18. ALL CONSTRUCTION TO BE PERFORMED TO TOWN OF WENDELL DESIGN AND CONSTRUCTION STANDARDS.

PLANT LEGEND



STREET TREES

COLLECTOR STREET (WENDELL FALLS PARKWAY)
UTILITY EASEMENT ALONG FRONTAGE
UNDERSTORY TREES SPACED 25' BETWEEN TRUNKS

210 LF - 13 LF (DRIVEWAY) - 10 (EASEMENT) =187 LF

	REQUIRED/PROVIDED TREES
STREET TREES	7

RESIDENTIAL STREET (MARTIN POND ROAD)
TREE SPACING 50' BETWEEN TRUNKS

267 LF - 123 LF = 144 LF

	REQUIRED/PROVIDED TREES
STREET TREES	3

PARKING LOT

1 TREE PER 12 SPACES AND 4 SHRUBS PER 12 SPACE
22 SPACES

	REQUIRED/PROVIDED TREES	REQUIRED/PROVIDED SHRUBS
	2	8

EXERCISE AREA BUFFER

114 LF STREET FRONTAGE
TYPE C BUFFER: TREES 40' O.C. & SHRUBS 8' O.C.

	REQUIRED/PROVIDED TREES	REQUIRED/PROVIDED SHRUBS
STREET TREES	3	15

SEEDING SCHEDULE

*** NOTE: ALL AREAS NOT DESIGNATED TO RECEIVE SOD OR PLANTS SHALL BE SEEDED ACCORDING TO THE PERMANENT SEEDING SCHEDULE BELOW. CONTRACTOR TO PROVIDE SOIL TEST PRIOR TO PERMANENT SEEDING.

TEMPORARY COVER
REFER TO EROSION CONTROL PLAN

PERMANENT SEEDING
LATE SUMMER-EARLY FALL (AIR TEMPS BETWEEN 70°F-80°F)
AMEND SOIL ACCORDING TO SOIL TEST RECOMMENDATIONS
TALL FESCUE BLEND 5-6 LBS./1000 SF
STRAW MULCH - 1 BALE/1000 SF

RAKE OR DRAG PLANTED AREAS TO PROVIDE SOIL COVERAGE OVER SEEDS. NO MORE THAN ¼ INCH OF SOIL COVERING THE SEED.

PLANT LIST

QTY. TOTAL	BOTANICAL NAME	COMMON NAME	ROOT	CAL./HT.	COMMENTS
	TREES				
3	ACER RUBRUM 'BOWHALL'	RED MAPLE	B&B	2" MIN / 8' HT	EXERCISE YARD BUFFER
8	LAGERSTROEMIA 'TUSCARORA'	CRAPE MYRTLE	B&B	1" MIN / 6' HT	STREET TREE
2	QUERCUS PALUSTRIS	PIN OAK	B&B	2" MIN / 8' HT	PARKING LOT
8	ULMUS PARVIFOLIA	CHINESE ELM	B&B	2" MIN / 8' HT	STREET TREE
	SHRUBS				
8	DISTYLIUM 'COPPERTONE'	DISTYLIUM	CONT	18" MIN	SCREENING
23	ILEX CORNUTA 'ROTUNDA'	DWARF CHINESE HOLLY	CONT	18" MIN	SCREENING AND BUFFER
16	LIGUSTRUM JAPONICUM 'RECURVIFOLIUM'	WAXLEAF LIGUSTRUM	CONT	18" MIN	BUFFER

CALL BEFORE YOU DIG!
NORTH CAROLINA LAW REQUIRES NOTIFICATION OF THE UNDERGROUND FACILITY OWNER NOT LESS THAN TWO (2) BUT NO MORE THAN TEN (10) WORKING DAYS PRIOR TO EXCAVATION OR DEMOLITION
NORTH CAROLINA 811 www.nc811.org 1-800-632-4949
North Carolina One-Call Center, Inc.

APPROVED FOR PERMITTING
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0 10 20 40 60

REVISIONS			
No.	DATE	DESCRIPTION	REV. BY

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NORTH CAROLINA REGISTERED LANDSCAPE ARCHITECT 1716 JASON B. GALLOWAY

BOBBITT DESIGN. BUILD.
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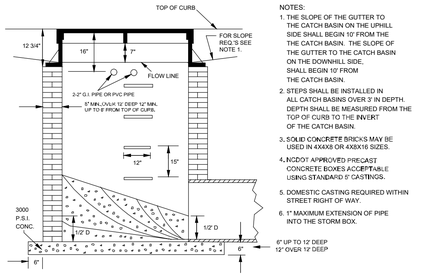
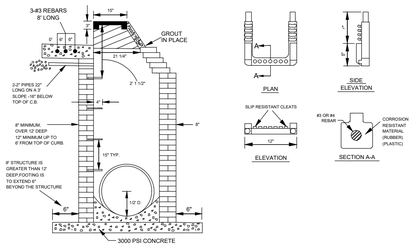


NOTES:
1. THE SLOPE OF THE GUTTER TO THE CATCH BASIN ON THE UPHILL SIDE SHALL BEGIN 10' FROM THE THE CATCH BASIN. THE SLOPE OF THE GUTTER TO THE CATCH BASIN ON THE DOWNHILL SIDE, SHALL BEGIN 10' FROM THE CATCH BASIN.
2. STEPS SHALL BE INSTALLED IN ALL CATCH BASINS OVER 3' IN DEPTH. DEPTH SHALL BE MEASURED FROM THE TOP OF CURB TO THE INVERT OF THE CATCH BASIN
3. SOLID CONCRETE BRICKS MAY BE USED IN 4X4X8 OR 4X8X16 SIZES.
4. NCDOT APPROVED PRECAST CONCRETE BOXES ACCEPTABLE USING STANDARD 5' CASTINGS.
5. DOMESTIC CASTING REQUIRED WITHIN STREET RIGHT OF WAY.
6. 1" MAXIMUM EXTENSION OF PIPE INTO THE STORM BOX.

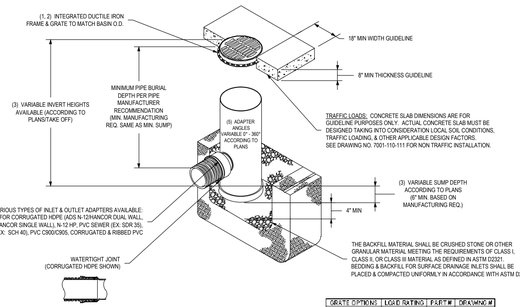
STANDARD C.B. STEP



CATCH BASIN

N.T.S.

NYLOPLAST 24" DRAIN BASIN: 2824AG _ _X



GRATE OPTIONS	LOAD RATING	PART #	DRAWING #
STD 24" x 24"	UNITS 1-20	2-080-C-S	7001-ID-217

1 - GRATES/SOLID COVER SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05.
2 - FRAMES SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05.
3 - DRAIN BASIN TO BE CUSTOM MANUFACTURED ACCORDING TO PLAN DETAILS. RISERS ARE NEEDED FOR BASINS OVER 84" DUE TO SHIPPING RESTRICTIONS. SEE DRAWING NO. 7001-110-080.
4 - DRAINAGE CONNECTION STUB JOINT: TIGHTNESS SHALL CONFORM TO ASTM D3212 FOR CORRUGATED HDPE (ADS N-12/HANCOR DUAL WALL), N-12 HP & PVC SEWER.
5 - ADAPTERS CAN BE MOUNTED ON ANY ANGLE 0° TO 360°. TO DETERMINE MINIMUM ANGLE BETWEEN ADAPTERS SEE DRAWING NO. 7001-110-012

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DRAWN BY	ESC	MATERIAL	
DATE	04-03-06		
REVISED BY	NMH	PROJECT NO./NAME	
DATE	03-14-16		
DWG SIZE	A	SCALE 1:40	SHEET 1 OF 1

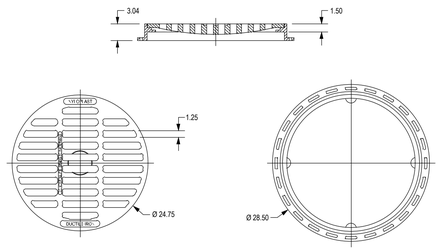
Nyloplast
3126 VERONA AVE
BUFORD, GA 30518
PHN (770) 932-2443
FAX (770) 932-2490
www.nyloplast-us.com

TITLE: 24 IN DRAIN BASIN QUICK SPEC INSTALLATION DETAIL

DWG NO. 7001-110-102 REV E

2499CGS

APPROX. DRAIN AREA = 194.60 SQ IN
APPROX. WEIGHT WITH FRAME = 124.00 LBS



DIMENSIONS ARE FOR REFERENCE ONLY
ACTUAL DIMENSIONS MAY VARY
DIMENSIONS ARE IN INCHES
GRATE MEETS H-20 LOAD RATING
QUALITY - MATERIALS SHALL CONFORM TO ASTM A536 GRADE 70-50-05
PAINT - CASTINGS ARE FURNISHED WITH A BLACK PAINT
LOOKING DEVICE AVAILABLE UPON REQUEST SEE DRAWING NO. 7001-110-024

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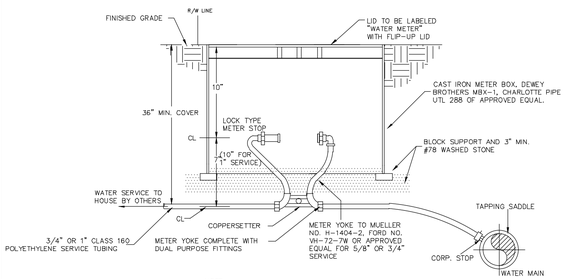
DRAWN BY	ESC	MATERIAL	DUCTILE IRON
DATE	3-8-06		
REVISED BY	ESC	PROJECT NO./NAME	
DATE	3-13-10		
DWG SIZE	A	SCALE 1:10	SHEET 1 OF 1

Nyloplast
3126 VERONA AVE
BUFORD, GA 30518
PHN (770) 932-2443
FAX (770) 932-2490
www.nyloplast-us.com

TITLE: 24 IN STANDARD GRATE ASSEMBLY - TYPE D

DWG NO. 7001-110-217 REV C

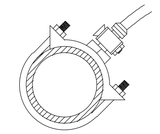


NOTE:
1) METER BOX TO BE PLACED IN NON TRAFFIC AREA ONLY.
2) CENTER METER YOKE IN METER BOX.
3) BLOCK SUPPORTS TO BE POSITIONED SO AS NOT TO BE PLACED OVER SERVICE LINE.

3/4" & 1" WATER METER SERVICE DETAIL

NTS

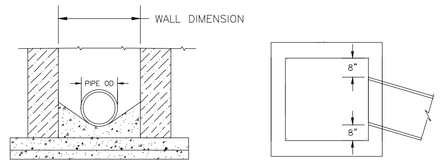
ALL TAPS 2" AND LARGER SHALL BE MADE WITH TAPPING SLEEVE AND VALVE. ALL 3/4", 1", AND 1-1/2" TAPS SHALL BE MADE WITH TAPPING SADDLE ONLY.
TAPPING SADDLE TO BE BRASS OR BRONZE FOR "CC" THREADS WITH DOUBLE STRAPS, FORD 202B, MUELLER H-161 OR APPROVED EQUAL.



NOTE: ALL TAPS TO BE MADE ON TOP QUARTER OF MAIN.

STANDARD WATER SERVICE DETAIL

NOT TO SCALE



PIPE DIAMETER	MINIMUM WALL DIMENSION
15"	3'-0"
18"	3'-2"
24"	3'-10"
30"	4'-5"
36"	5'-1"
42"	5'-8"
48"	6'-4"
54"	6'-10"
60"	7'-6"

NOTE: THE ABOVE DIMENSIONS ARE APPLICABLE ONLY FOR PIPE INSTALLED AT RIGHT ANGLES TO BOX. FOR PIPES ENTERING AT AN ANGLE, THE INSIDE DIMENSION OF THE WALL SHALL BE THE DISTANCE ACROSS THE PIPE (OUTSIDE TO OUTSIDE) PLUS 8" ON EACH SIDE. SEE SKETCH ABOVE.

INSIDE DIMENSIONS FOR CATCH BASINS, JUNCTION BOXES, AND DROP INLETS

APPROVED FOR PERMITTING
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REVISIONS			
No.	DATE	DESCRIPTION	REV. BY
1			
2			
3			
4			

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WENDELL, NORTH CAROLINA

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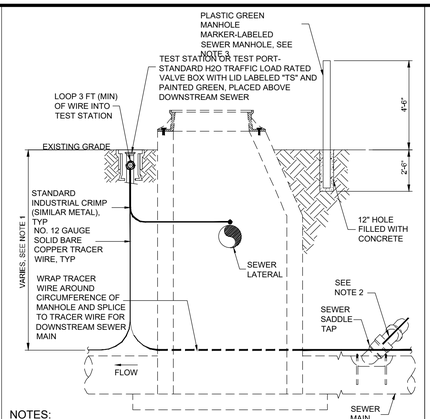
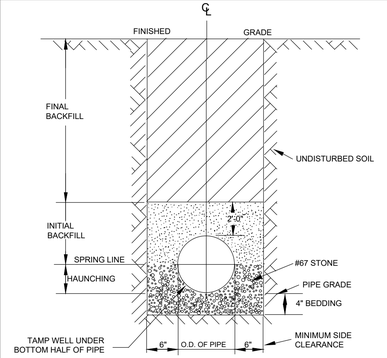
DETAILS

C7.1



NOTES:
1. THE TRACER WIRE SHALL BE CONTINUOUS TO THE GREATEST EXTENT POSSIBLE. FOR GRAVITY MAIN AND OR LATERAL INSTALLATIONS LESS THAN 8 FT, THE TRACING WIRE SHALL BE ATTACHED TO THE PIPE. TRACER WIRE SHALL BE LAID FLAT AND SECURELY AFFIXED TO THE PIPE AT 10 FOOT INTERVALS. FOR GRAVITY MAIN AND OR LATERAL INSTALLATION DEEPER THAN 8 FT, THE TRACING WIRE SHALL BE INSTALLED AT A DEPTH OF 7-8 FT. THE WIRE SHALL BE PROTECTED FROM DAMAGE DURING THE EXECUTION OF THE WORK. NO BREAKS OF CUTS IN THE TRACER WIRE SHALL BE PERMITTED.
2. WHERE LATERAL TAPS ARE MADE BY SERVICE SADDLES, THE TRACER WIRE SHALL NOT BE ALLOWED TO TO BE PLACED BETWEEN THE SADDLE AND MAIN.
3. MANHOLE MARKERS SHALL BE PLACED ADJACENT TO MANHOLES AT THE DISCRETION OF OWNER OR OWNER'S REPRESENTATIVE.

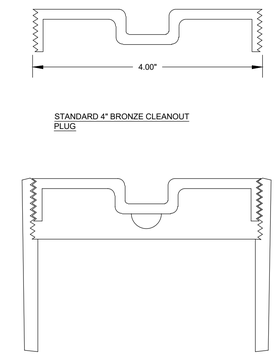
CITY OF RALEIGH				
DEPARTMENT OF PUBLIC UTILITIES				
GRAVITY SEWER MAIN TRACER WIRE AND MANHOLE MARKER				
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
S-20A	WKD	09-14		



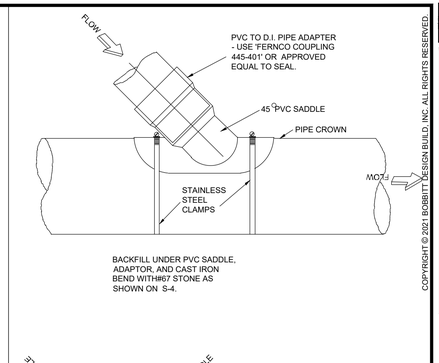
TYPICAL TRENCH BOTTOM DIMENSIONS FOR SDR 35 PVC GRAVITY PIPE

NOTES:
1. FOR TRENCHES REQUIRING SHORING AND BRACING, DIMENSIONS SHALL BE TAKEN FROM THE INSIDE FACE OF THE SHORING AND BRACING.
2. NO ROCKS OR BOULDERS 4" OR LARGER TO BE USED IN INITIAL BACKFILL.
3. ALL BACKFILL MATERIAL SHALL BE SUITABLE NATIVE MATERIAL.
4. BACKFILL SHALL BE TAMPED IN 6" LIFTS IN TRAFFIC AREAS, 12" IN NON-TRAFFIC AREAS.

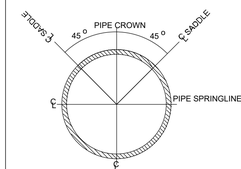
CITY OF RALEIGH				
DEPARTMENT OF PUBLIC UTILITIES				
TRENCH BOTTOM DIMENSIONS AND BACKFILLING REQUIREMENTS FOR PVC GRAVITY SEWER MAIN				
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
S-5	TO NOTES	3-1-87	D.W.C.	9-3-99
		7-2-82	RRH	3-30-00



CITY OF RALEIGH				
DEPARTMENT OF PUBLIC UTILITIES				
4" CLEANOUT PLUG				
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
S-34	D.W.C.	3-1-87	RRH	3-30-00
		3-27-98		

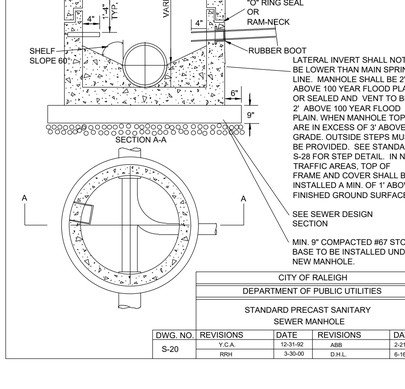


BACKFILL UNDER PVC SADDLE, ADAPTOR, AND CAST IRON BEND WITH#67 STONE AS SHOWN ON S-4.

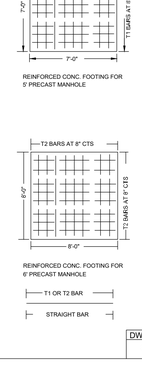


SADDLE INSTALLATION LIMITS

CITY OF RALEIGH				
DEPARTMENT OF PUBLIC UTILITIES				
LATERAL SADDLE INSTALLATION DETAIL FOR PVC PIPE				
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
S-31		3-1-87		
	RRH	3-30-00		



CITY OF RALEIGH				
DEPARTMENT OF PUBLIC UTILITIES				
STANDARD PRECAST SANITARY SEWER MANHOLE				
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
S-20	Y.C.A.	12-31-92	ABB	2-21-05
	RRH	3-30-00	D.H.L.	6-16-08



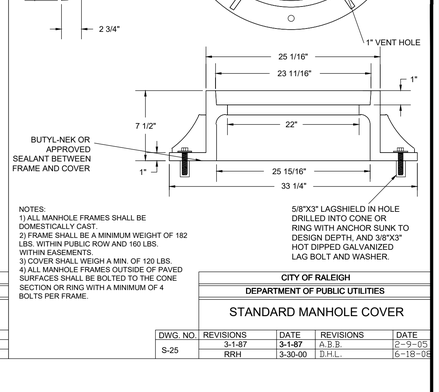
BILL OF MATERIAL FOR 4' MANHOLE				
BAR	SIZE	LENGTH	NO.	WT. LBS.
T2	#5	5'-6"	18	103
CL. "A" CONCRETE TOTAL CU. YDS.				1.000

BILL OF MATERIAL FOR 4' MANHOLE				
BAR	SIZE	LENGTH	NO.	WT. LBS.
T1	#5	6'-6"	20	136
CL. "A" CONCRETE TOTAL CU. YDS.				1.361

BILL OF MATERIAL FOR 4' MANHOLE				
BAR	SIZE	LENGTH	NO.	WT. LBS.
T2	#5	7'-6"	24	165
CL. "A" CONCRETE TOTAL CU. YDS.				1.778

* ALL BASES ARE MINIMUM 9" THICK

CITY OF RALEIGH				
DEPARTMENT OF PUBLIC UTILITIES				
EXTENDED BASE OR CAST-IN-PLACE REINFORCED CONCRETE BASE				
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
S-21		3-1-87	ABB	2-9-05
	RRH	3-30-00		



NOTES:
1) ALL MANHOLE FRAMES SHALL BE DOMESTICALLY CAST.
2) FRAME SHALL BE A MINIMUM WEIGHT OF 182 LBS. WITHIN PUBLIC ROW AND 160 LBS. WITHIN EASEMENTS.
3) COVER SHALL WEIGH A MIN. OF 120 LBS.
4) ALL MANHOLE FRAMES OUTSIDE OF PAVED SURFACES SHALL BE BOLTED TO THE CONE SECTION OR RING WITH A MINIMUM OF 4 BOLTS PER FRAME.

CITY OF RALEIGH				
DEPARTMENT OF PUBLIC UTILITIES				
STANDARD MANHOLE COVER				
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
S-25	3-1-87	3-1-87	A.B.B.	2-9-05
	RRH	3-30-00	D.H.L.	6-18-08

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REVISIONS			
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Bobbitt Construction, Inc., Firm Lic.# BC-7191

COORDINATOR: Blair Pittman

DRAWN BY: Jason Galloway

CHK BY: BPP

NEUSE RIVER VETERINARY HOSPITAL
WENDELL FALLS PARKWAY
WENDELL, NORTH CAROLINA

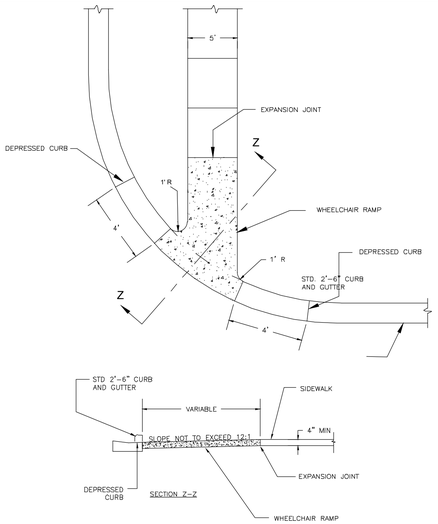
24 X 36

20 JANUARY 2021

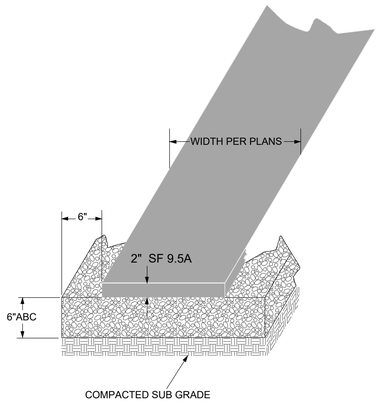
20-0307

DETAILS

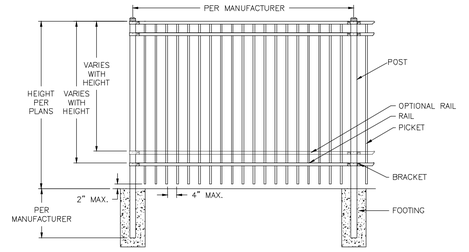
C7.2



HANDICAP RAMP - SINGLE TYPE N.T.S.

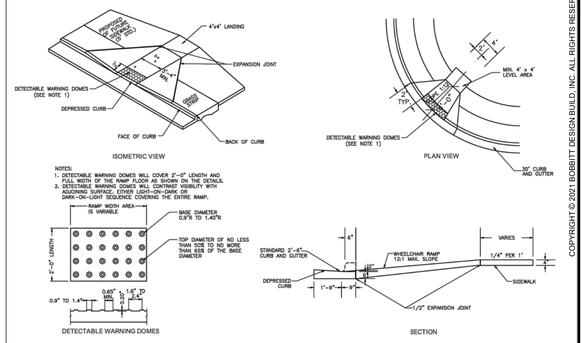


DECORATIVE FENCE ON RETAINING WALL N.T.S.



NOTE:
1. FENCE MATERIAL TO BE ALUMINUM
2. FENCE TO BE BLACK IN COLOR.

DECORATIVE FENCE ON RETAINING WALL N.T.S.



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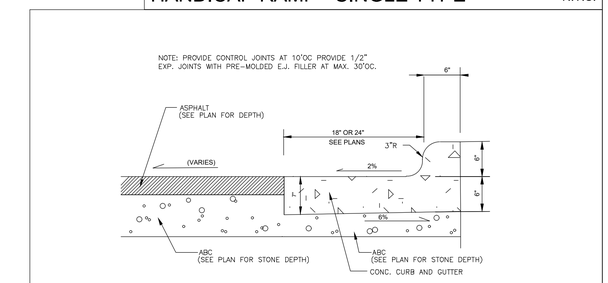
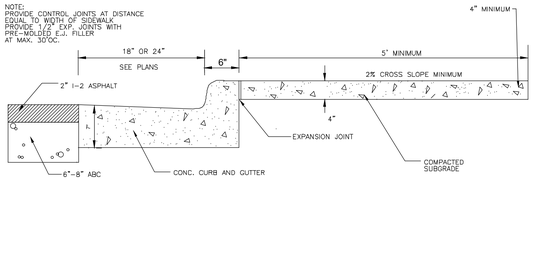
REVISIONS	
DATE	DESCRIPTION

TOWN OF WENDELL
STANDARD DETAILS

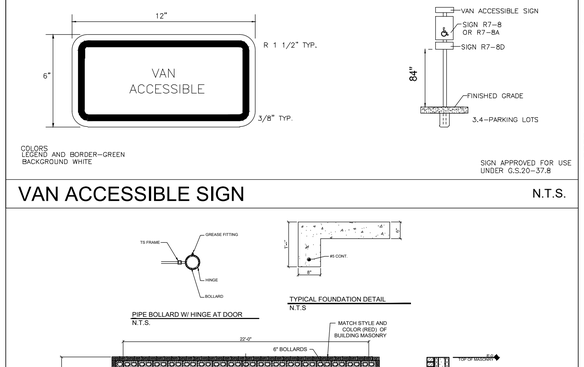
STANDARD WHEELCHAIR RAMP — XX — XXXX



TYPICAL 24" OR 30" SPILL TYPE CONCRETE CURB AND GUTTER N.T.S.



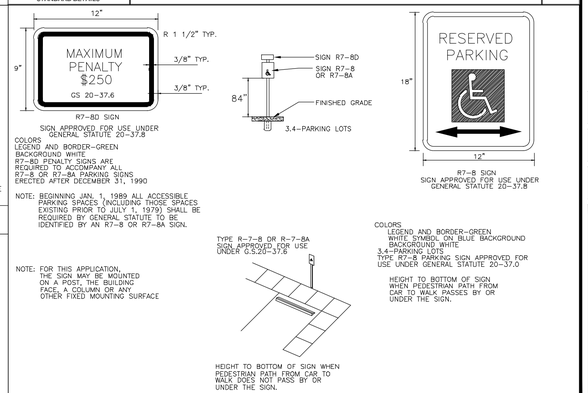
SIDEWALK WITH CURB & GUTTER N.T.S.



COLORS
LEGEND AND BORDER-GREEN
BACKGROUND WHITE

SIGN APPROVED FOR USE UNDER G.S.20-37.8

VAN ACCESSIBLE SIGN N.T.S.



SIGN APPROVED FOR USE UNDER GENERAL STATUTE 20-37.8

COLORS
LEGEND AND BORDER-GREEN
BACKGROUND WHITE
R7-8D PENALTY SIGNS ARE REQUIRED TO ACCOMPANY ALL R7-8 OR R7-8A PARKING SIGNS ERECTED AFTER DECEMBER 31, 1990

NOTE: BEGINNING JAN. 1, 1989 ALL ACCESSIBLE PARKING SPACES (INCLUDING THOSE SPACES EXISTING PRIOR TO JULY 1, 1979) SHALL BE REQUIRED BY GENERAL STATUTE TO BE IDENTIFIED BY AN R7-8 OR R7-8A SIGN.

NOTE: FOR THIS APPLICATION, THE SIGN MAY BE MOUNTED ON A POST, THE BUILDING FACE, A COLUMN, OR ANY OTHER FIXED MOUNTING SURFACE

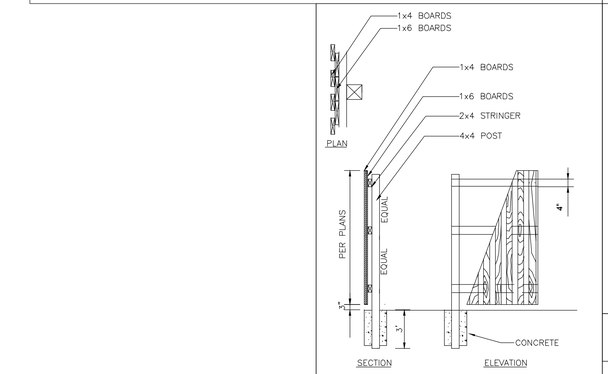
TYPE R-7-8 OR R-7-8A SIGN APPROVED FOR USE UNDER G.S.20-37.8

HEIGHT TO BOTTOM OF SIGN WHEN PEDESTRIAN PATH FROM CAR TO WALK DOES NOT PASS BY OR UNDER THE SIGN.

COLORS
LEGEND AND BORDER-GREEN
WHITE SYMBOL ON BLUE BACKGROUND
BACKGROUND WHITE
3.4-PARKING LOTS
TYPE R7-8 PARKING SIGN APPROVED FOR USE UNDER GENERAL STATUTE 20-37.6

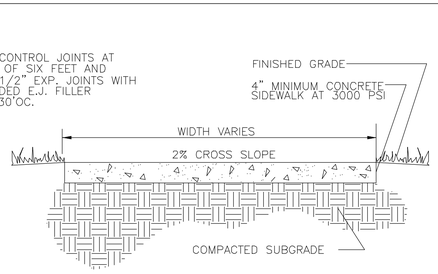
HEIGHT TO BOTTOM OF SIGN WHEN PEDESTRIAN PATH FROM CAR TO WALK DOES NOT PASS BY OR UNDER THE SIGN.

R7-8 & R7-8D SIGNS N.T.S.

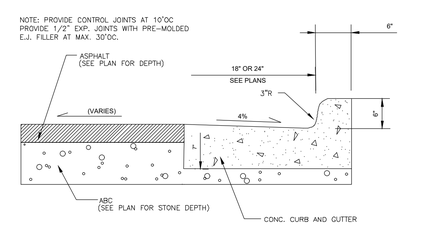


NOTE: ALL WOOD TO BE PRESSURE TREATED WITH 4x4 POSTS TREATED FOR GROUND CONTACT.

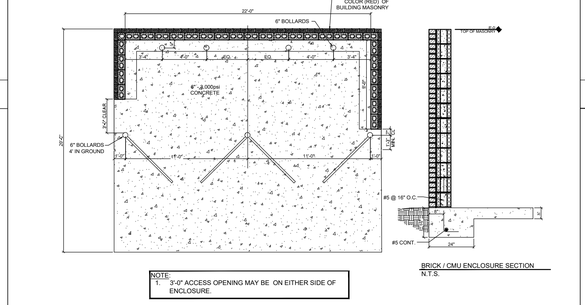
SOLID WOOD FENCE N.T.S.



CONCRETE SIDEWALK N.T.S.

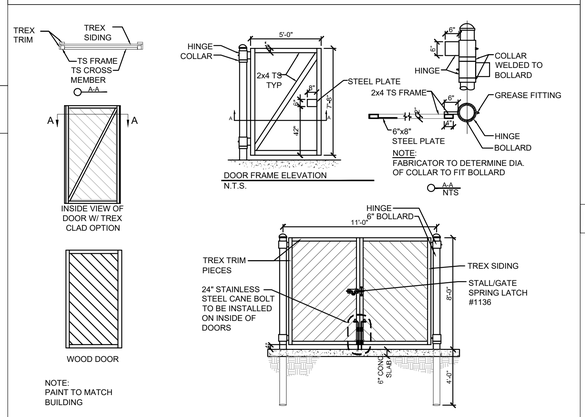


TYPICAL 24" OR 30" CONCRETE CURB AND GUTTER N.T.S.

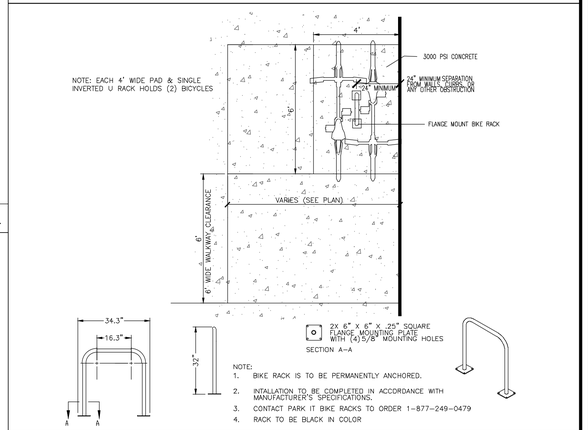


NOTE:
1. 3'-0" ACCESS OPENING MAY BE ON EITHER SIDE OF ENCLOSURE

CMU & BRICK DUMPSTER ENCLOSURE N.T.S.



TREX CLAD GATES N.T.S.



INVERTED U BIKE PARKING RACK N.T.S.

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DRAWN BY: Jason Galloway
CHK BY: BPP

NEUSE RIVER VETERINARY HOSPITAL
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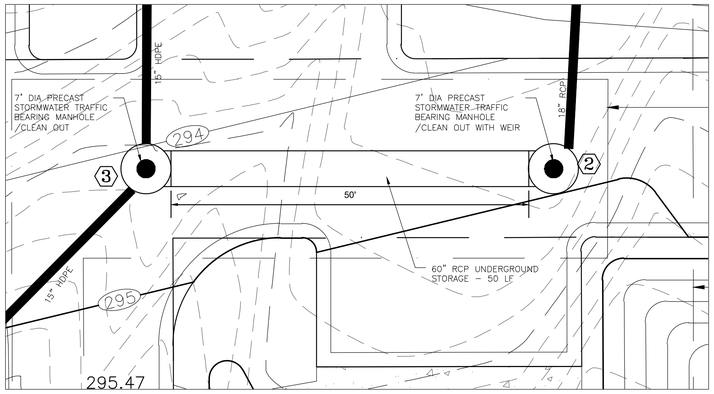
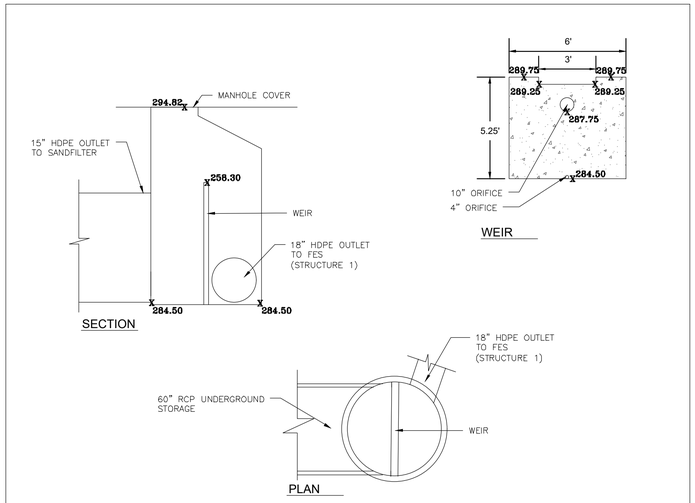
C7.3

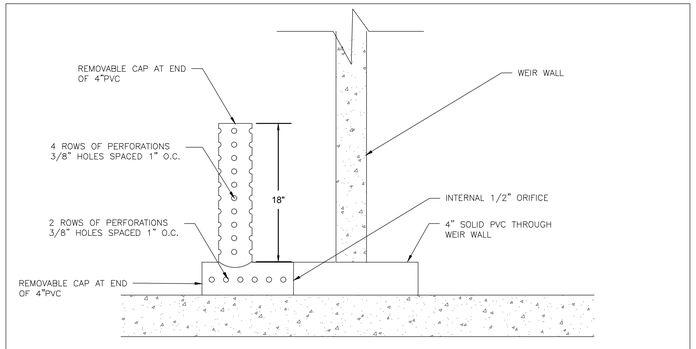


UNDERGROUND DETENTION PLAN VIEW
SCALE 1" = 10'



UG DETENTION WEIR STRUCTURE

N.T.S.



SECTION

LOW FLOW ORIFICE PROTECTION

N.T.S.

TRENCHING, BEDDING AND COMPACTION FOR UNDERGROUND DETENTION

1. MATERIALS EXCAVATED FOR THE INSTALLATION OF THE 60" PIPE, WHICH ARE DEEMED SUITABLE SHALL BE UTILIZED IN THE CONSTRUCTION.

2. IF TRENCH BACKFILL IS DETERMINED TO BE INADEQUATELY COMPACTED IT SHALL BE REPAIRED AS DIRECTED PRIOR TO THE REPLACEMENT OF ANY BASE COURSE MATERIAL.

3. THE TRENCH SHALL BE EXCAVATED TO THE LINE AND GRADE INDICATED ON THE DRAWINGS. THE TRENCH BOTTOM SHALL PROVIDE A FIRM AND UNIFORM SUPPORT FOR THE PIPE. WHERE THE FOUNDATION IS FOUND TO BE OF POOR SUPPORTING VALUE, THE PIPE FOUNDATION SHALL BE CONDITIONED BY UNDERCUTTING THE UNACCEPTABLE MATERIAL TO THE REQUIRED DEPTH AND BACKFILLED WITH STONE OR OTHER APPROVED MATERIAL. WHERE NECESSARY, SURFACE WATER SHALL BE TEMPORARILY DIVERTED IN ORDER TO MAINTAIN THE PIPE FOUNDATION IN A DRY CONDITION. THE FLOW OF WATER FROM SUCH TEMPORARY DIVERSIONS SHALL BE DIRECTED INTO SUITABLE EROSION CONTROL DEVICES. THE WIDTH OF THE TRENCH AT THE TOP OF THE PIPE SHALL BE NO GREATER THAN IS NECESSARY TO PERMIT SATISFACTORY JOINTING OF THE PIPE AND TAMPING OF THE APPROVED BACKFILL MATERIAL UNDER AND AROUND THE PIPE.

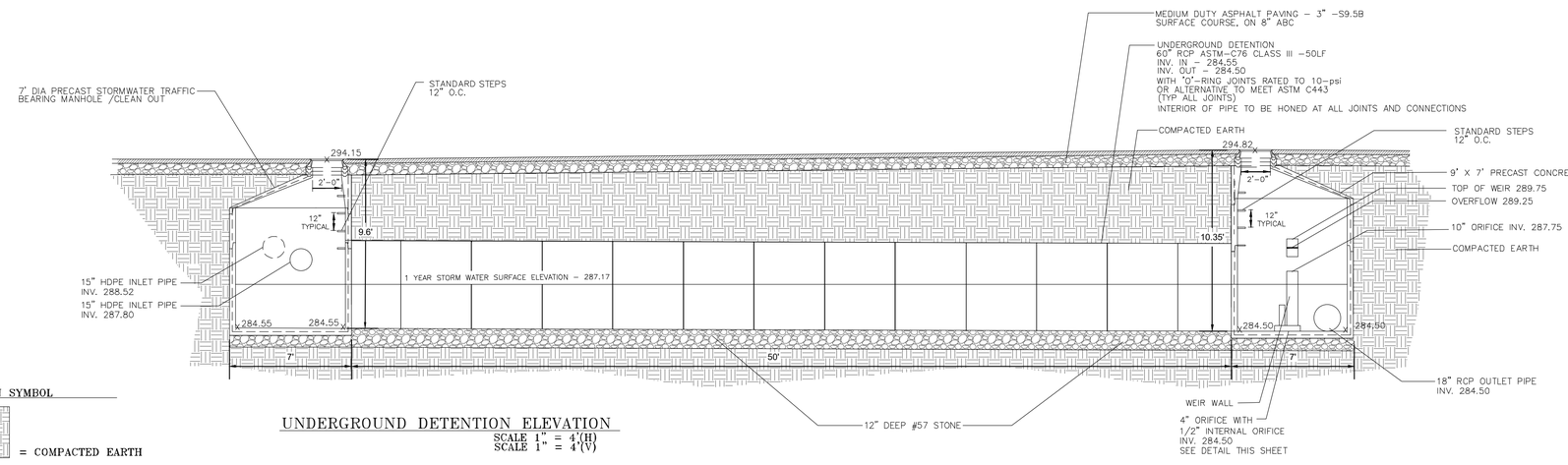
4. PRECAST CONCRETE STRUCTURES SHALL BE INSTALLED LEVEL, PLUMB AND UPON A FIRM, DRY FOUNDATION.

5. STRUCTURES SHALL BE BACKFILLED WITH SUITABLE MATERIALS, SYMMETRICALLY PLACED AND THOROUGHLY COMPACTED SO AS TO PREVENT DISPLACEMENT AND SETTLEMENT. CASTINGS SHALL BE SET IN FULL MORTAR BEDS TO THE REQUIRED FINISHED GRADE. THE STORM SEWER TRENCH SHALL BE BACKFILLED WITH APPROVED MATERIAL FREE FROM LARGE STONES OR CLODS IN 6-INCH LAYERS, LOOSE MEASUREMENT, AND COMPACTED TO 95% OF MAXIMUM DRY DENSITY (AASHTO T-99).

6. ALL BACKFILL MATERIAL IS REQUIRED TO BE CERTIFIED BY A GEOTECHNICAL ENGINEER.

7. THE BACKFILL MATERIALS SHALL BE MOISTENED WHEN NECESSARY IN THE OPINION OF THE ENGINEER TO OBTAIN MAXIMUM COMPACTION. WATER SETTLING OR PUDDLING SHALL NOT BE PERMITTED. BACKFILL IN TRENCHES NOT WITHIN THE LIMITS TO BE PAVED MAY BE COMPACTED IN 12-INCH LAYERS AFTER BACKFILL IS ONE FOOT ABOVE THE TOP OF THE PIPE.

8. ALL TRASH, FORMS, DEBRIS, ETC., SHALL BE CLEARED FROM AROUND ALL PIPES AND STRUCTURES BEFORE BACKFILLING. BACKFILLING AROUND STRUCTURES SHALL BE DONE SYMMETRICALLY AND THOROUGHLY COMPACTED IN 6-INCH LAYERS WITH MECHANICAL TAMPERS TO THE SPECIFIED 95% DENSITY.



UNDERGROUND DETENTION ELEVATION
SCALE 1" = 4'(H)
SCALE 1" = 4'(V)

ELEVATION SYMBOL

= COMPACTED EARTH

= GRAVEL

NOTE:
1. ALL PRECAST CONCRETE STRUCTURES SHALL CONFORM TO THE LATEST REVISION OF ASTM C478.
2. CONCRETE SHALL BE 4000 PSI AT 28 DAYS, MINIMUM.
3. STEEL REINFORCEMENT SHALL BE GRADE 40 BILLET STEEL CONFORMING TO THE LATEST REVISION OF ASTM-A-185 FOR WALL REINFORCEMENT, AND THE LATEST REVISION ASTM-615 FOR THE BASE REINFORCEMENT.

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NORTH CAROLINA PROFESSIONAL SEAL 24438 ENGINEER BLAIR P. PITTMAN
01/21/2021

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Bobbitt Construction, Inc., Firm Lic. # 2421191

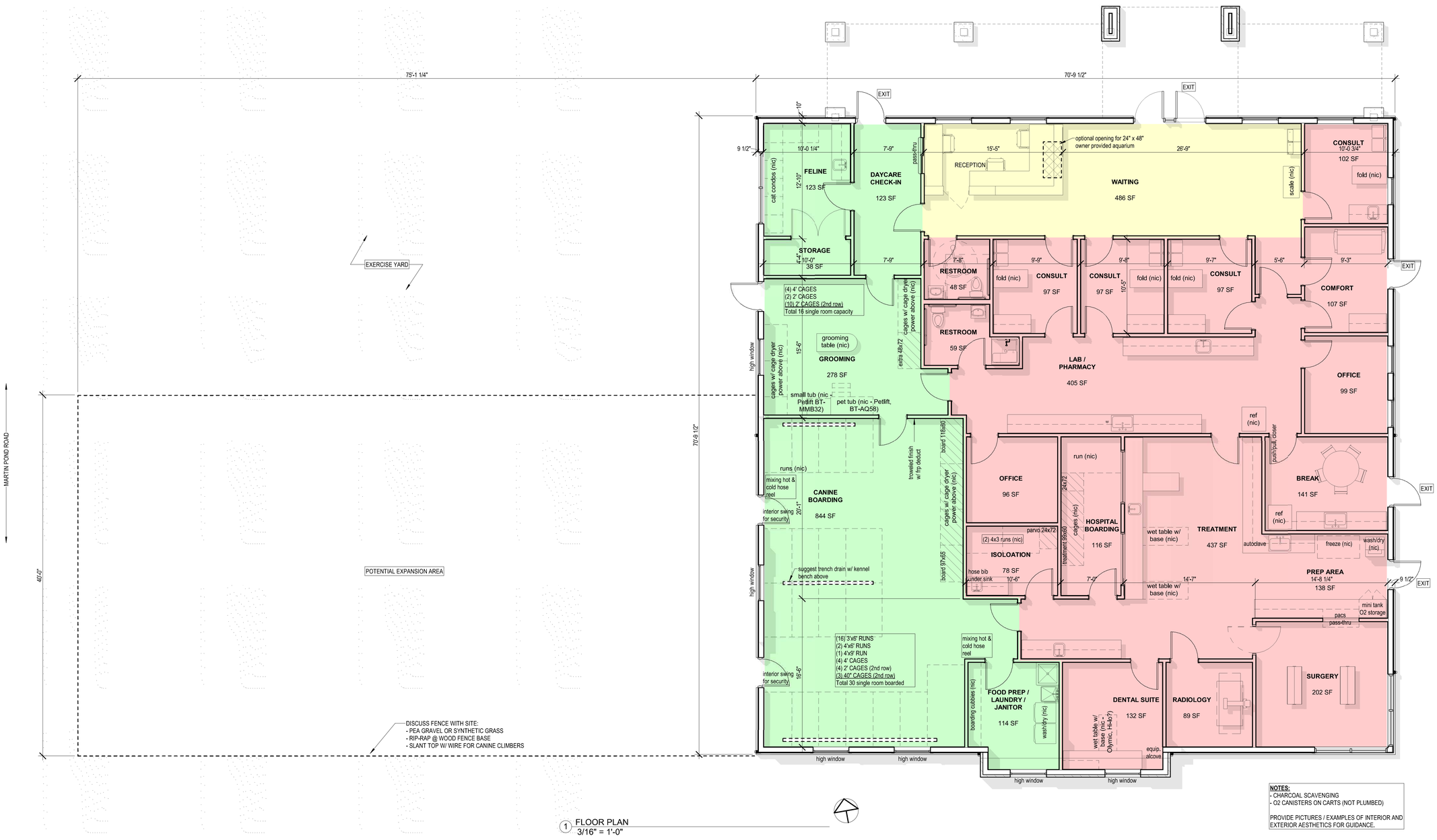
COORDINATOR: Blair Pittman
DRAWN BY: Jason Galloway
CHK BY: BPP

NEUSE RIVER VETERINARY HOSPITAL
WENDELL FALLS PARKWAY
WENDELL, NORTH CAROLINA

24 X 36
20 JANUARY 2021
20-0307
DETAILS

C7.4

SCHEMATIC CODE REVIEW NOT COMPLETE



1 FLOOR PLAN
3/16" = 1'-0"

NOTES:
- CHARCOAL SCAVENGING
- O2 CANISTERS ON CARTS (NOT PLUMBED)

PROVIDE PICTURES / EXAMPLES OF INTERIOR AND EXTERIOR AESTHETICS FOR GUIDANCE.

APPROVAL:
DATE:

SCHEMATIC DESIGN
DRAWINGS ARE DIAGRAMMATIC ONLY AND HAVE NOT BEEN REVIEWED FOR CODE

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Raleigh, North Carolina 27607

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COORDINATOR: B. GRIFFITH
DRAWN BY: BDG
CHK BY: -

NEUSE RIVER VETERINARY HOSPITAL
WENDELL FALLS PARKWAY
WENDELL, NORTH CAROLINA

24 X 36
3/16" = 1'-0"
01/14/2021
20-0307
FLOOR PLAN

A1.1
OF 2

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1 HOSPITAL ENTRANCE SKETCH

2 SITE ENTRY SKETCH

SCHEMATIC DESIGN

DRAWINGS ARE DIAGRAMMATIC ONLY AND HAVE NOT BEEN REVIEWED FOR CODE

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COORDINATOR: B. GRIFFITH
DRAWN BY: BDG
CHK BY: -

NEUSE RIVER VETERINARY HOSPITAL
WENDELL FALLS PARKWAY
WENDELL, NORTH CAROLINA

24 X 36
01/14/2021
20-0307
ELEVATION SKETCHES

A4.2
OF 2

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GENERAL NOTES:

1. THIS MAP IS NOT FOR CONVEYANCE, RECORDATION OR SALES.
2. BOUNDARY & TOPOGRAPHIC SURVEY WAS PERFORMED BY McKIM & CREED; PROVIDED TO G&G BUILDERS ON 4/8/2021.
3. STORMWATER DRAINS TO UT TO BUFFALO CREEK (C;NSW); RIVER BASIN: NEUSE; STREAM INDEX: XX-XX-XX.
4. THERE NO JURISDICTIONAL STREAMS OR WETLANDS ON SITE.
5. WATER AND SEWER WILL BE PUBLIC; CITY OF RALEIGH PUBLIC UTILITIES.
6. THE SITE IS NOT LOCATED IN A FEMA DESIGNATED SPECIAL FLOOD HAZARD ZONE (100-YEAR FLOODPLAIN).

PLAN NOTES:

1. THESE PLANS ARE FOR CONSTRUCTION WITHIN THE PARCEL(S) TO BE OCCUPIED BY NEUSE RIVER VETERINARY HOSPITAL AND THE CONTRACTOR SHALL PERFORM ALL WORK NECESSARY TO COMPLETE THE WORK SHOWN ON THE PLANS OR DESCRIBED IN THE SPECIFICATIONS IN A SATISFACTORY MANNER UNLESS OTHERWISE PROVIDED. THE CONTRACTOR SHALL FURNISH ALL MATERIALS, EQUIPMENT, TOOLS, LABOR, AND INCIDENTALS TO COMPLETE THE WORK.
2. WHERE DISCREPANCIES ARE FOUND ON PLANS OR DETAILS, OR BETWEEN THESE PLANS AND AVAILABLE RECORDS PROVIDED BY OTHERS, THE CONTRACTOR SHALL NOTIFY THE DESIGN ENGINEER PRIOR TO BEGINNING CONSTRUCTION. THE CONTRACTOR SHALL BEAR THE FULL COST OF REMOVAL, REPLACEMENT, DELAY, AND MOBILIZATION RELATED TO FAILURE TO REVIEW ALL PLANS.
3. ALL CONSTRUCTION SHALL CONFORM TO TOWN OF WENDELL AND APPLICABLE WAKE COUNTY AND STATE CODES.
4. LOCATION AND ELEVATION OF EXISTING STORM DRAINAGE STRUCTURES AND PIPES SHOWN ON THESE PLANS WERE OBTAINED FROM AVAILABLE RECORDS AND SURVEY DATA. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO DETERMINE THE EXACT LOCATIONS AND ELEVATIONS OF EXISTING STORM DRAINAGE STRUCTURES AND PIPES PIPES PRIOR TO COMMENCING CONSTRUCTION.
5. INFORMATION CONCERNING UNDERGROUND UTILITIES WAS OBTAINED FROM AVAILABLE RECORDS. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO DETERMINE THE EXACT LOCATIONS AND ELEVATIONS OF ALL EXISTING UTILITIES ON PARCEL AND WITHIN ADJACENT RIGHT-OF-WAY PRIOR TO CONSTRUCTION.
6. IF EXISTING UTILITY CONFLICTS WITH PROPOSED IMPROVEMENT INSTALLATION, THE CONTRACTOR SHALL CONTACT THE DESIGN ENGINEER BEFORE PROCEEDING WITH CONSTRUCTION.
7. ANY CONDITIONS DISCOVERED AND/OR EXISTING THAT WOULD NECESSITATE A MODIFICATION OF THESE PLANS SHALL BE BROUGHT TO THE ATTENTION OF THE DESIGN ENGINEER BEFORE PROCEEDING WITH CONSTRUCTION.
8. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATION OF ANY RELOCATIONS, RE-ALIGNMENTS, DISCONNECTIONS OR CONNECTIONS OF EXISTING UTILITIES WITH APPLICABLE AUTHORITIES/OWNERS.
9. NO CONSTRUCTION IS TO BEGIN BEFORE LOCATION OF EXISTING UTILITIES HAS BEEN DETERMINED. CALL "NC ONE CALL" AT LEAST 48 HOURS BEFORE COMMENCING CONSTRUCTION.
10. THE CONTRACTOR SHALL BEAR THE FULL COST OF REMOVAL, REPLACEMENT, AND DELAY RELATED TO UNVERIFIED EXISTING CONDITIONS.
11. THE CONTRACTOR SHALL COORDINATE ANY REQUIRED TRAFFIC CONTROL WITH TOWN OF WENDELL AND/OR NCDOT.
12. LIMITS OF CONSTRUCTION EASEMENTS AND RIGHTS-OF-WAY SHALL BE DELINEATED WITH TEMPORARY STAKING BY THE CONTRACTOR. SAFETY FENCING SHALL BE UTILIZED WHERE WORK IS IN CLOSE PROXIMITY TO RESIDENCES, TRAILS, OR OTHER PUBLIC AREAS.
13. CLEARING AND GRUBBING OF THE SITE TO INCLUDE REMOVAL OF CURB, ASPHALT, INLETS, AND ANY OTHER STRUCTURES INCLUDING TREES, SHRUBS, STUMPS, AND DEBRIS. LANDSCAPE FEATURES NOT REQUIRED TO BE CLEARED FOR CONSTRUCTION SHALL REMAIN UNLESS OTHERWISE DIRECTED.
14. WHERE EXCAVATION IS REQUIRED UNDER EXISTING ASPHALT OR CONCRETE PAVEMENT, THE EXISTING PAVEMENT SHALL BE SAW CUT IN A MANNER TO EFFECT A SMOOTH, STRAIGHT-CUT EDGE.
15. THE CONTRACTOR SHALL ADJUST ALL MANHOLES, VALVE & CURB BOXES TO FINAL GRADE DURING CONSTRUCTION. ANY BOXES DAMAGED OR OTHERWISE DISTURBED BY THE CONTRACTOR SHALL BE REPAIRED AT THE EXPENSE OF THE CONTRACTOR.
16. THE CONTRACTOR IS RESPONSIBLE FOR CONTROLLING DUST AND EROSION DURING CONSTRUCTION AT HIS EXPENSE. PARKING AREAS SHALL BE WATERED TO CONTROL DUST WHEN DIRECTED BY THE ENGINEER.
17. NO WARRANTY IS MADE FOR THE SUITABILITY OF THE SUBGRADE. UNDERCUT AND ANY REQUIRED REPLACEMENT WITH SUITABLE MATERIAL SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
18. THE CONTRACTOR IS TO ENSURE THAT PAVEMENT AND OTHER FINISHED SURFACES ARE PLACED SO AS TO DRAIN POSITIVELY AWAY FROM ALL BUILDINGS.
19. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING REQUIRED BUILDING PERMITS.

PROJECT DATA:

1. PROJECT ADDRESS: 1932 WENDELL FALLS PARKWAY, WENDELL, NC 27591
2. PARCEL ID NO: 1: 1773258506 2: 1773257639
3. CONSULTANT: CSD ENGINEERING, JOHN F. OGLESBY, PE, 919-624-0997 -M, 910-791-1551 -O, 910-791-1501 -F, john@csd-engineering.com
4. PROPERTY OWNER: 1: N/F CONNIE L. JONES, 2364 SWINSON FARM ROAD, WENDELL, NC 27591; 2: N/F CONNIE L. JONES, 2364 SWINSON FARM ROAD, WENDELL, NC 27591
5. PROJECT ZONING: PUD-1S-1
6. LAND CLASSIFICATION: PLANNED URBAN DEVELOPMENT (MIXED USE)
7. PARCEL AREA = (1) 0.322 AC, (2) 1.853 AC = 94,780 SQ. FT. (TOTAL MEASURED)
8. REQUIRED SETBACKS: = 0 FEET (STREET) = 0 FEET (SIDE) = 0 FEET (REAR)
9. MAX. LOT COVERAGE = 85% (SQ. FT.)
10. ACTUAL LOT COVERAGE = 28.1% (SQ. FT.)
11. REQUIRED OPEN SPACE =
12. OPEN SPACE PROVIDED =

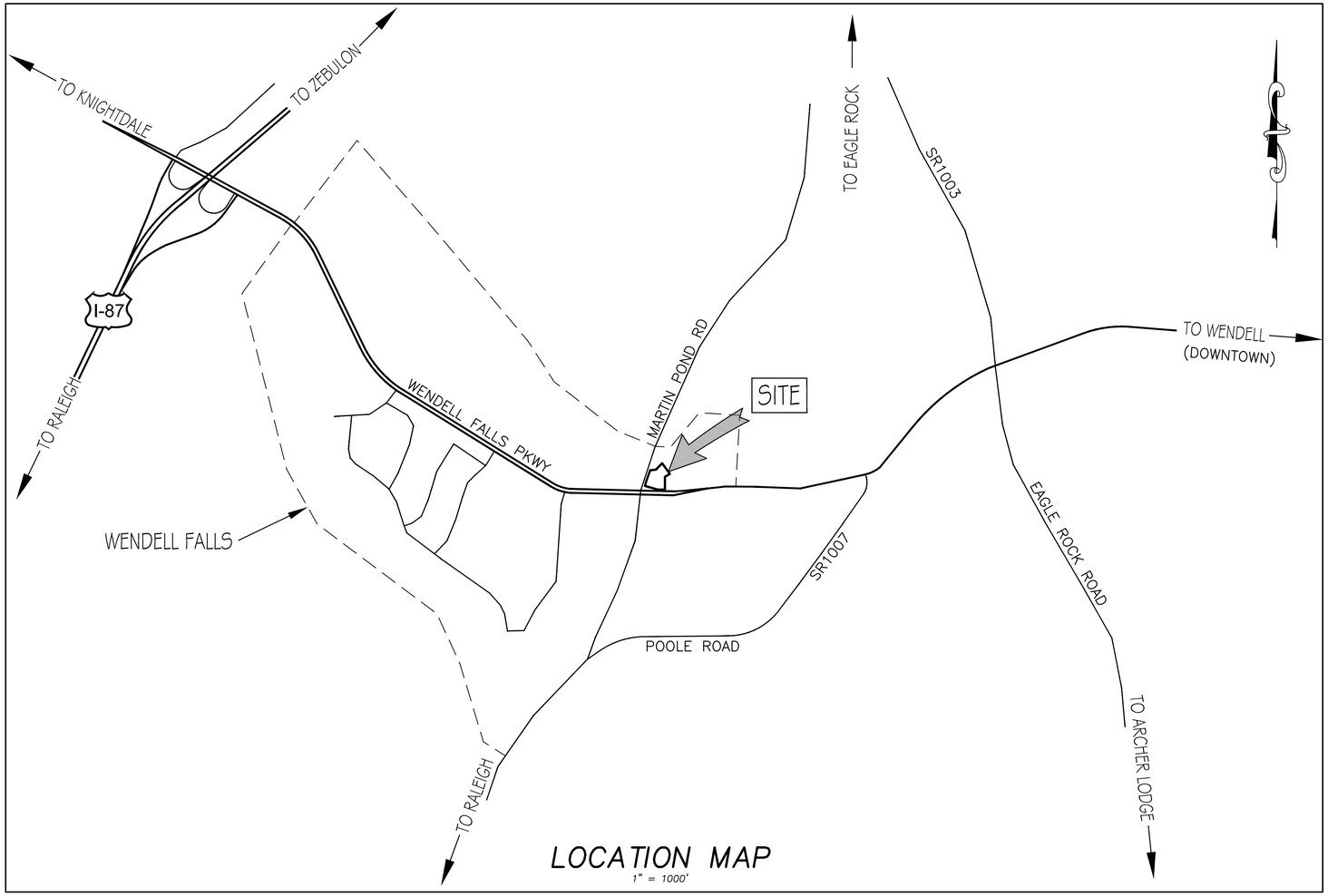
SITE PLAN DRAWINGS FOR

NEUSE RIVER VETERINARY HOSPITAL

WENDELL FALLS PARKWAY
WENDELL, NORTH CAROLINA 27591

I HEREBY CERTIFY THAT THIS PLAN WAS APPROVED BY THE (ADMINISTRATOR) OR (TRC) OF THE TOWN OF WENDELL ON THE 26th DAY OF September 2021.

ADMINISTRATOR



LOCATION MAP
1" = 1000'

PUBLIC IMPROVEMENT DATA:

TOTAL LF OF SANITARY SEWER MAIN EXTENSION:
- 12" PVC = 360 LF
- 8" PVC = 60 LF
- 8" DIP = 104 LF

NUMBER OF SANITARY SEWER STUBS:
- CONNECTION TO EXISTING MAIN = 1 (EX. MANHOLE)
- END OF CONSTRUCTION = 20 LF STICK OF 12" PVC FOR FUTURE EXTENSION
- END OF CONSTRUCTION = 20 LF STICK OF 8" PVC FOR FUTURE EXTENSION

NOTE: STUB-OUT PIPES ARE SHOWN AT MH-2 ON UTILITY PLAN

TOTAL LF OF NEW MULTI-PURPOSE TRAIL = 170 LF
TOTAL NUMBER OF ADA ACCESS RAMPS = 2 EA

INDEX TO DRAWINGS

SHEET No.	DESCRIPTION	DRAWING No.
1 OF X	COVER SHEET & LOCATION MAP	C1.0
2 OF X	EXISTING CONDITIONS & DEMOLITION PLAN	C2.0
3 OF X	SITE PLAN	C3.0
4 OF X	PAVEMENT MARKING & SIGN PLAN	C3.1
5 OF X	OVERALL GRADING & DRAINAGE PLAN	C4.0
6 OF X	DETAIL GRADING & DRAINAGE PLAN	C4.1
7 OF X	RETAINING WALL PLAN & PROFILE	C4.2
8 OF X	PRIVATE STREET / PARKING PLAN & PROFILE	C4.3
9 OF X	GRADING & DRAINAGE DETAILS	C4.4
10 OF X	OVERALL UTILITY PLAN	C5.0
11 OF X	RESERVED FOR SANITARY SEWER MAIN PLAN & PROFILE	C5.1
12 OF X	WATER & SEWER STANDARD DETAILS	C5.2
13 OF X	LANDSCAPE PLAN	C6.0
14 OF X	RESERVED FOR EROSION & SEDIMENT CONTROL PLAN	C7.0
15 OF X	RESERVED FOR EROSION & SEDIMENT CONTROL PLAN	C7.1
16 OF X	RESERVED FOR EROSION & SEDIMENT CONTROL PLAN	C7.2
17 OF X	RESERVED FOR EROSION & SEDIMENT CONTROL PLAN	C7.3

ATTENTION CONTRACTORS

The *Construction Contractor* responsible for the extension of water, sewer, and/or reuse, as approved in these plans, is responsible for *contacting* the *Public Works Department* at *(919) 996-2409* and, the *Public Utilities Department* at *(919) 996-4540* at least *twenty four hours* prior to beginning of any of their construction.

Failure to notify both *City Departments* in advance of beginning construction, will result in the issuance of *monetary fines*, and require reinstallation of any water or sewer facilities not inspected as a result of this notification failure.

Failure to call for *Inspection, Install a Downstream Plug,* have *Permitted Plans* on the *Jobsite.* of any other *Violation* of *City of Raleigh Standards* will result in a *Fine and Possible Exclusion* from future work in the *City of Raleigh.*

CITY OF RALEIGH UTILITY NOTES:

1. ALL MATERIALS & CONSTRUCTION METHODS SHALL BE IN ACCORDANCE WITH CITY OF RALEIGH DESIGN STANDARDS, DETAILS & SPECIFICATIONS (REFERENCE: CORPUD HANDBOOK, CURRENT EDITION).
2. UTILITY SEPARATION REQUIREMENTS:
   A) A DISTANCE OF 100 FEET SHALL BE MAINTAINED BETWEEN SANITARY SEWER & ANY PRIVATE OR PUBLIC WATER SUPPLY SOURCE SUCH AS AN IMPOUNDED RESERVOIR USED AS A SOURCE OF DRINKING WATER. IF ADEQUATE LATERAL SEPARATION CANNOT BE ACHIEVED, FERROUS SANITARY SEWER PIPE SHALL BE SPECIFIED & INSTALLED TO WATERLINE SPECIFICATIONS. HOWEVER, THE MINIMUM SEPARATION SHALL NOT BE LESS THAN 25'FROM A PRIVATE WELL OR 50' FROM A PUBLIC WELL.
   B) WHEN INSTALLING WATER &/OR SEWER MAINS, THE HORIZONTAL SEPARATION BETWEEN UTILITIES SHALL BE 10 FEET. IF THIS SEPARATION CANNOT BE MAINTAINED DUE TO EXISTING CONDITIONS, THE VARIATION ALLOWED IS THE WATER MAIN IN A SEPARATE TRENCH WITH THE ELEVATION OF THE WATER MAIN AT LEAST 18" ABOVE THE TOP OF THE SEWER & MUST BE APPROVED BY THE PUBLIC UTILITIES DIRECTOR. ALL DISTANCES ARE MEASURED FROM OUTSIDE DIAMETER TO OUTSIDE DIAMETER.
   C) WHERE IT IS IMPOSSIBLE TO OBTAIN PROPER SEPARATION, OR ANYTIME A SANITARY SEWER PASSES OVER A WATERMAIN, DIP MATERIALS OR STEEL ENCASEMENT EXTENDED 10'ON EACH SIDE OF CROSSING MUST BE SPECIFIED & INSTALLED TO WATERLINE SPECIFICATIONS.
   D) 5.0 FEET MINIMUM HORIZONTAL SEPARATION IS REQUIRED BETWEEN ALL SANITARY SEWER & STORM SEWER FACILITIES, UNLESS DIP MATERIAL IS SPECIFIED FOR SANITARY SEWER.
   E) MAINTAIN 18" MIN. VERTICAL SEPARATION AT ALL WATERMAIN & RCP STORM DRAIN CROSSINGS; MAINTAIN 18 IN. MIN. VERTICAL SEPARATION AT ALL SANITARY SEWER & RCP STORM DRAIN CROSSINGS. WHERE ADEQUATE SEPARATIONS CANNOT BE ACHIEVED, SPECIFY DIP MATERIALS & A CONCRETE CRADLE HAVING 6" MIN. CLEARANCE (PER CORPUD DETAILS W-41 & S-49).
   F) ALL OTHER UNDERGROUND UTILITIES SHALL CROSS WATER & SEWER FACILITIES WITH 18"MIN. VERTICAL SEPARATION REQUIRED.
3. ANY NECESSARY FIELD REVISIONS ARE SUBJECT TO REVIEW & APPROVAL OF AN AMENDED PLAN AND PROFILE BY THE CITY OF RALEIGH PUBLIC UTILITIES DEPARTMENT PRIOR TO CONSTRUCTION.
4. DEVELOPER SHALL PROVIDE 30 DAYS ADVANCE WRITTEN NOTICE TO OWNER FOR ANY WORK REQUIRED WITHIN AN EXISTING CITY OF RALEIGH PUBLIC UTILITY EASEMENT TRAVERSING PRIVATE PROPERTY.
5. CONTRACTOR SHALL MAINTAIN CONTINUOUS WATER & SEWER SERVICE TO EXISTING RESIDENCES & BUSINESSES THROUGHOUT CONSTRUCTION OF PROJECT. ANY NECESSARY SERVICE INTERRUPTIONS SHALL BE PRECEDED BY A 24 HOUR ADVANCE NOTICE TO THE CITY OF RALEIGH PUBLIC UTILITIES DEPARTMENT.
6. 3.0 FEET MINIMUM COVER IS REQUIRED ON ALL WATER MAINS & SEWER FORCEMAINS. 4.0'MINIMUM COVER IS REQUIRED ON ALL REUSE MAINS.
7. IT IS THE DEVELOPER'S RESPONSIBILITY TO ABANDON OR REMOVE EXISTING WATER & SEWER SERVICES NOT BEING USED IN REDEVELOPMENT OF A SITE UNLESS OTHERWISE DIRECTED BY THE CITY OF RALEIGH PUBLIC UTILITIES DEPARTMENT. THIS INCLUDES ABANDONING TAP AT MAIN & REMOVAL OF SERVICE FROM ROW OR EASEMENT PER CORPUD HANDBOOK PROCEDURE.
8. INSTALL 2" COPPER WATER SERVICES WITH METERS LOCATED AT ROW OR WITHIN A 2-FT X 2-FT WATERLINE EASEMENT IMMEDIATELY ADJACENT. NOTE: IT IS THE APPLICANT'S RESPONSIBILITY TO PROPERLY SIZE THE WATER SERVICE FOR EACH CONNECTION TO PROVIDE ADEQUATE FLOW & PRESSURE.
9. INSTALL 4-INCH PVC SEWER SERVICES @ 1.0% MINIMUM GRADE WITH CLEANOUTS LOCATED AT ROW OR EASEMENT LINE & SPACED EVERY 75 LINEAR FEET MAXIMUM.
10. PRESSURE REDUCING VALVES ARE REQUIRED ON ALL WATER SERVICES EXCEEDING 80 PSI; BACKWATER VALVES ARE REQUIRED ON ALL SANITARY SEWER SERVICES HAVING BUILDING DRAINS LOWER THAN 1.0' ABOVE THE NEXT UPSTREAM MANHOLE.
11. ALL ENVIRONMENTAL PERMITS APPLICABLE TO THE PROJECT MUST BE OBTAINED FROM NCDWQ, USACE &/OR FEMA FOR ANY RIPARIAN BUFFER, WETLAND &/OR FLOODPLAIN IMPACTS (RESPECTIVELY) PRIOR TO CONSTRUCTION.
12. NCDOT / RAILROAD ENCROACHMENT AGREEMENTS ARE REQUIRED FOR ANY UTILITY WORK (INCLUDING MAIN EXTENSIONS & SERVICE TAPS) WITHIN STATE OR RAILROAD ROW PRIOR TO CONSTRUCTION
13. GREASE INTERCEPTOR / OIL WATER SEPARATOR SIZING CALCULATIONS & INSTALLATION SPECIFICATIONS SHALL BE APPROVED BY THE CORPUD FOG PROGRAM COORDINATOR PRIOR TO ISSUANCE OF A BUILDING PERMIT. CONTACT STEPHEN CALVERLEY AT (919) 996-2334 FOR STEPHEN.CALVERLEY@RALEIGHNC.GOV FOR MORE INFORMATION.
14. CROSS-CONNECTION CONTROL PROTECTION DEVICES ARE REQUIRED BASED ON DEGREE OF HEALTH HAZARD INVOLVED AS LISTED IN APPENDIX-B OF THE RULES GOVERNING PUBLIC WATER SYSTEMS IN NORTH CAROLINA. THESE GUIDELINES ARE THE MINIMUM REQUIREMENTS. THE DEVICES SHALL MEET AMERICAN SOCIETY OF SANITARY ENGINEERING (ASSE) STANDARDS OR BE ON THE UNIVERSITY OF SOUTHERN CALIFORNIA APPROVAL LIST. THE DEVICES SHALL BE INSTALLED AND TESTED (BOTH INITIAL AND PERIODIC TESTING THEREAFTER) IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS OR THE LOCAL CROSS-CONNECTION CONTROL PROGRAM, WHICHEVER IS MORE STRINGENT. A CERTIFICATE OF COMPLIANCE SHALL ALSO BE OBTAINED FOR EACH DEVICE PRIOR TO ISSUANCE OF A BUILDING PERMIT. CONTACT JOANIE HARTLEY AT (919) 996-5923 OR JOANIE.HARTLEY@RALEIGHNC.GOV FOR MORE INFORMATION.
15. GRADING SHALL NOT EXCEED 3:1 SLOPES ACROSS CITY OF RALEIGH SANITARY SEWER EASEMENT (SEE GRADING PLAN).

ADDITIONAL NOTES (CONDITIONS FOR APPROVAL):

16. OFFSITE CORWLE AND CORSSE AQUISITIONS SHALL BE RECORDED BY DEED PRIOR TO CONSTRUCTION DRAWING APPROVAL.
17. THIS PROJECT REQUIRES CONSTRUCTION DRAWING APPROVAL FOR PUBLIC WATER AND SEWER PERMITS PRIOR TO PLAT RECORDATION.
18. EASEMENT PLAT RECORDATION IS REQUIRED PRIOR TO ISSUANCE OF UTILITY CONNECTION AND BUILDING PERMIT.
19. ACCEPTANCE OF UTILITIES BY CITY OF RALEIGH FOR MAINTENANCE IS REQUIRED PRIOR TO RELEASE OF CERTIFICATE OF OCCUPANCY.

CITY OF RALEIGH - PUBLIC UTILITIES DEPARTMENT

PRELIMINARY APPROVAL ONLY: THIS DOES NOT CONSTITUTE CONSTRUCTION APPROVAL FOR ANY PROPOSED WATER OR SEWER MAIN EXTENSIONS. VALID ONLY WITH SIGNATURE OF A CITY OF RALEIGH REVIEW OFFICER. THIS ELECTRONIC APPROVAL MAY NOT BE EDITED ONCE ISSUED. ANY MODIFICATION TO THIS APPROVAL ONCE ISSUED WILL INVALIDATE THIS APPROVAL

Keith A. Tew, PE

RALEIGH WATER REVIEW OFFICER

Digitally signed by Keith A. Tew, PE
DN: cn=US, o=Utilities, ou=Engineering, email=keith.tew@raleighnc.gov
Reason: I am approving this document
Date: 2021.10.27 11:39:33-04'00'

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ENGINEERING
LAND PLANNING
COMMERCIAL / RESIDENTIAL
P.O. BOX 1250
WENDELL, NC 27591
(910) 791-4441

COVER SHEET & LOCATION MAP

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SITE PLAN DRAWINGS FOR
NEUSE RIVER VETERINARY HOSPITAL
LOCATED IN TOWN OF WENDELL
WAKE COUNTY, NORTH CAROLINA
OWNER: CONNIE L. JONES
2364 SWINSON FARM ROAD
WENDELL, NC 27591

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 032721 JOHN F. OGLESBY

PLAN NOT RELEASED FOR CONSTRUCTION

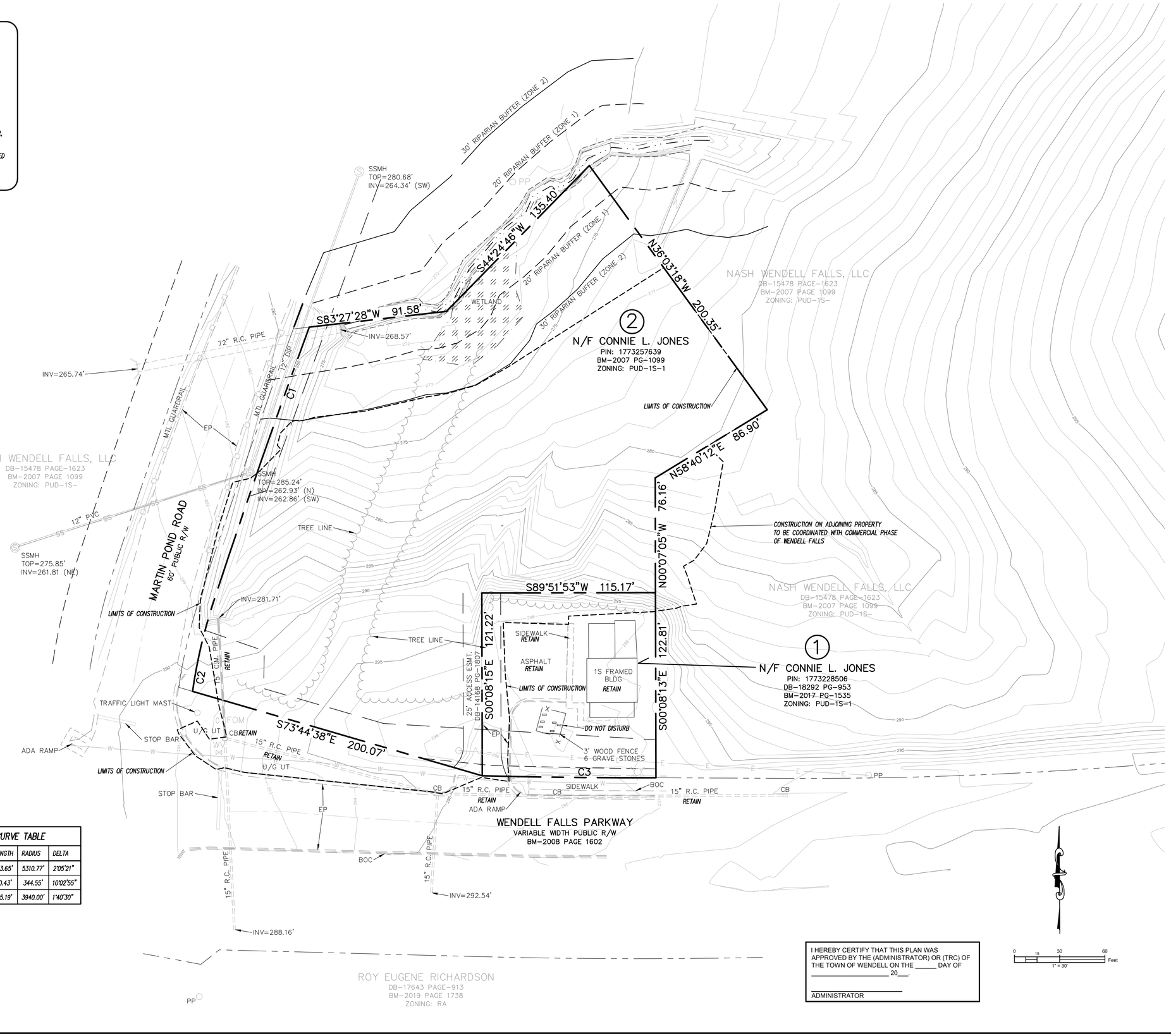
REV. NO.	REMARKS	BY	DATE

DATE: 9/22/2021
HORZ. SCALE: 1" = 1000'
VERT. SCALE: N/A
DRAWN BY: JFO
CHECKED BY: HSR
PROJECT NO.: 20-0525

Sheet C1.0
Sheet No. 1 OF X

EXISTING CONDTION & DEMOLITION NOTES

1. SITE ADDRESS: 1932 WENDELL FALLS PARKWAY WENDELL, NC 27591
2. BOUNDARY & TOPOGRAPHIC SURVEY PROVIDED BY
   McKIM & CREED (NC FIRM NO. F-12222)
   1730 VARSITY DRIVE, SUITE 500
   RALEIGH, NC 27606
   919-233-8091
   SURVEY DATED: JULY 24, 2020
3. EXISTING OFF-SITE TOPOGRAPHY IS FROM LIDAR DATA DOWNLOAD FROM THE N.C. FLOOD RISK INFORMATION SYSTEM.
4. PRIMARY STRUCTURE ON PARCEL 1 WITH BE RETAINED; CURB & GUTTER, SIDEWALK, ASPHALT PAVEMENT WILL BE REMOVED AS NECESSARY FOR NEW BUILD.
5. PORTION OF EXISTING PARKING AREA WILL BE RETAINED; ASPHALT MILLED FOR OVERLAY.
6. GREAT CARE SHALL BE TAKEN TO PRESERVE EXISTING GRAVE SITE, VEGETATION AND LANDSCAPE FEATURES ON PARCEL 1.



CURVE TABLE			
Curve #	LENGTH	RADIUS	DELTA
C1	193.65'	5310.77'	2°05'21"
C2	60.43'	344.55'	10°02'55"
C3	115.19'	3940.00'	1°40'30"

I HEREBY CERTIFY THAT THIS PLAN WAS APPROVED BY THE (ADMINISTRATOR) OR (TRC) OF THE TOWN OF WENDELL ON THE _____ DAY OF _____ 20___.

_____
ADMINISTRATOR

0 15 30 60 Feet
1" = 30'

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EXISTING CONDITIONS & DEMOLITION PLAN

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SITE PLAN DRAWINGS FOR
NEUSE RIVER VETERINARY HOSPITAL
LOCATED IN TOWN OF WENDELL
WAKE COUNTY, NORTH CAROLINA
OWNER: CONNIE L. JONES
2384 SIMPSON FARM ROAD
WENDELL, NC 27591

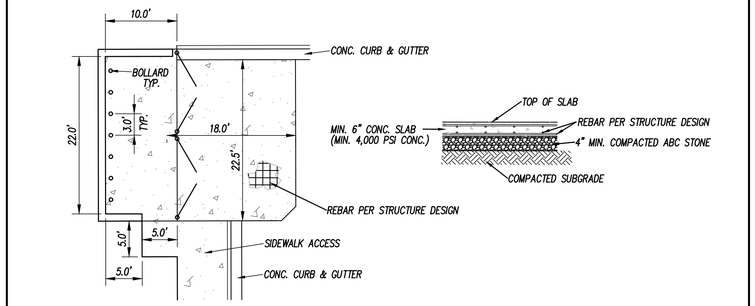
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 032721 JOHN E. LOFLIN

PLAN NOT RELEASED FOR CONSTRUCTION

REV. NO.	REMARKS	BY	DATE

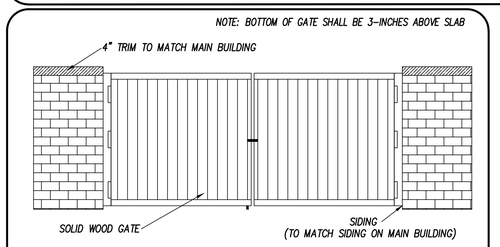
DATE: 7/21/2021
HORZ. SCALE: 1" = 30'
VERT. SCALE: N/A
DRAWN BY: JFO
CHECKED BY: HSR
PROJECT NO.: 20-0525

Sheet C2.0
Sheet No. 2 OF X



DUMPSTER CORRAL DETAIL

N.T.S.



DUMPSTER ENCLOSURE GATE

N.T.S.

PARKING CALCULATIONS:

COMMERCIAL - OFFICE/SERVICE USES

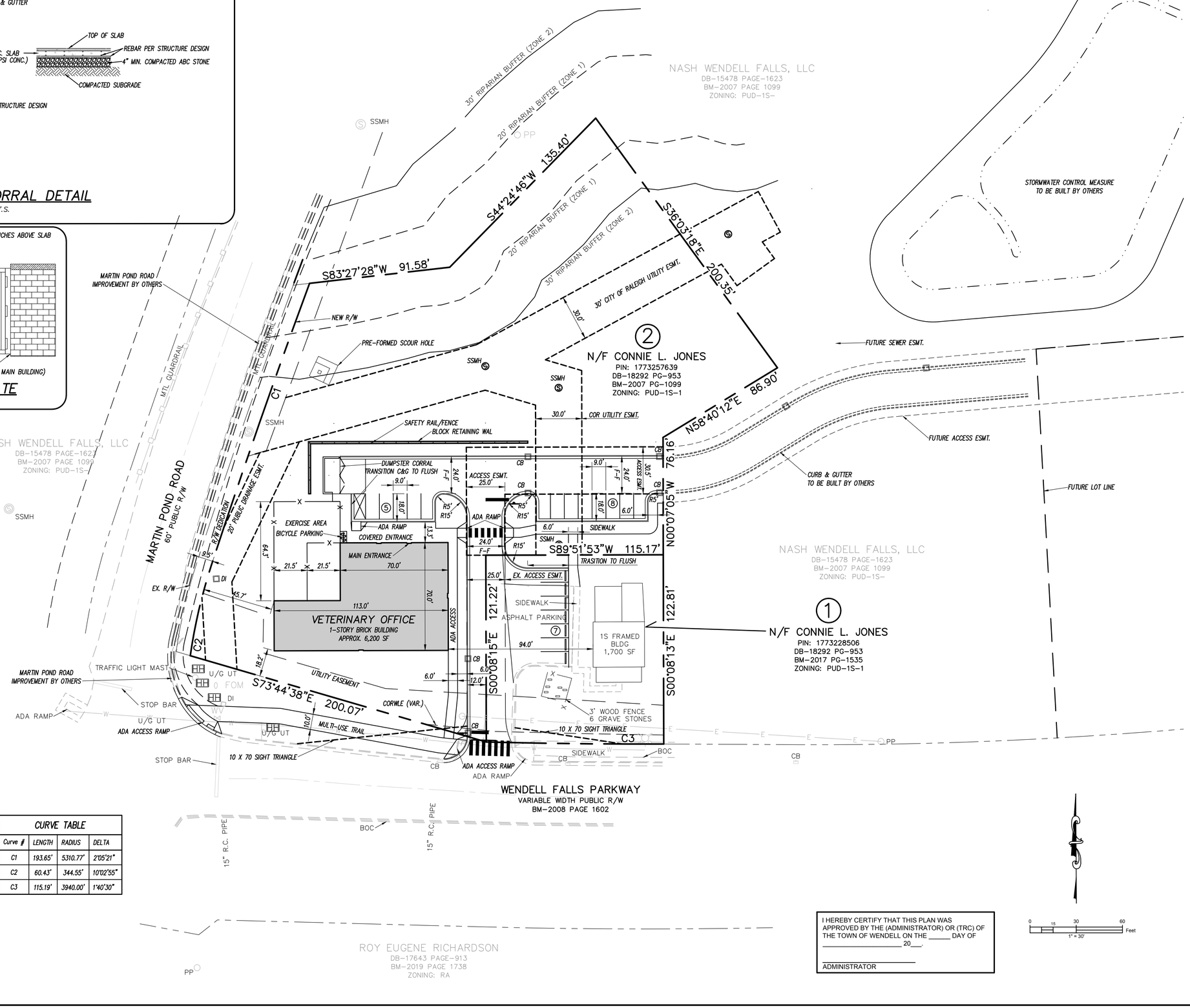
AUTO PARKING SPACES:	2-3 SPACES PER 1,000 SQ. FT.
EXISTING BUILDING SQUARE FOOTAGE:	1,700 SQ. FT.
PROPOSED BUILDING SQUARE FOOTAGE:	6,200 SQ FT
REQUIRED PARKING CALCULATION:	7,900 SQ. FT. / 1,000 X 2-3 = 15.8 - 23.7 SPACES SAY 16 - 24 SPACES REQUIRED
EXISTING PARKING SPACES PROVIDED:	5 SPACES
EXISTING PARKING SPACES RETAINED:	5 SPACES
PROPOSED NEW PARKING SPACES:	15 SPACES (INCLUDING 1 ADA CAR/VAN SPACE)
MIN. PARKING SPACES REQUIRED:	16 SPACES
TOTAL PARKING SPACES PROVIDED:	20 SPACES

PROPOSED BICYCLE PARKING:

NUMBER OF AUTO PARKING SPACES:	20 SPACES
REQUIRED BICYCLE PARKING:	1 SPACE PER 20 AUTO SPACES
BICYCLE PARKING PROVIDED:	2 SPACES

LOT COVERAGE:

PARCEL 1:	
PARCEL AREA	= 14,065 SQ. FT.
EXISTING ON-SITE IMPERVIOUS	= 6,184 SQ. FT
PROPOSED ON-SITE IMPERVIOUS	= 1,106 SQ. FT.
PARCEL 1 IMPERVIOUS	= 7,290 SQ. FT.
LOT COVERAGE	= 51.8 %
PARCEL 2:	
PARCEL AREA	= 80,715 SQ. FT.
NET AREA AFTER R/W DEDICATION	= 78,321 SQ. FT.
EXISTING ON-SITE IMPERVIOUS =	= 0 SQ. FT.
PROPOSED ON-SITE IMPERVIOUS	= 19,416 SQ. FT.
PARCEL 2 IMPERVIOUS	= 19,416 SQ. FT.
LOT COVERAGE	= 24.1 %
COMBINED PARCEL AREA	= 94,780 SQ. FT.
TOTAL IMPERVIOUS	= 26,706 SQ. FT.
COMBINED LOT COVERAGE	= 28.2 %



CURVE TABLE			
Curve #	LENGTH	RADIUS	DELTA
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C2	60.43'	344.55'	10°02'55"
C3	115.19'	3940.00'	1°40'30"

I HEREBY CERTIFY THAT THIS PLAN WAS APPROVED BY THE (ADMINISTRATOR) OR (TRC) OF THE TOWN OF WENDELL ON THE _____ DAY OF _____ 20___.

_____
ADMINISTRATOR

0 15 30 60 Feet
1" = 30'

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COMMERCIAL SITE PLAN

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SITE PLAN DRAWINGS FOR
NEUSE RIVER VETERINARY HOSPITAL
LOCATED IN TOWN OF WENDELL
WAKE COUNTY, NORTH CAROLINA
OWNER: CONNIE L. JONES
2364 SIMMSON FARM ROAD
WENDELL, NC 27591

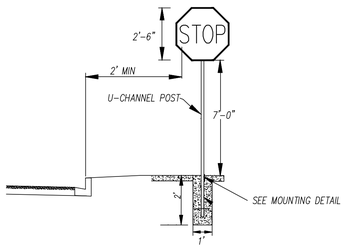
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 032721 JOHN E. HOLESKI

PLAN NOT RELEASED FOR CONSTRUCTION

REV. NO.	REMARKS	BY	DATE

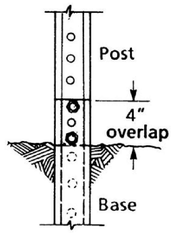
DATE: 8/19/2021
HORZ. SCALE: 1" = 30'
VERT. SCALE: N/A
DRAWN BY: JFO
CHECKED BY: HSR
PROJECT NO.: 20-0559

Sheet C3.0
Sheet No. 3 OF X



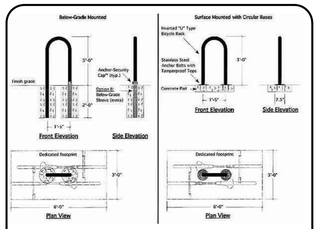
STOP SIGN INSTALLATION

NOT TO SCALE

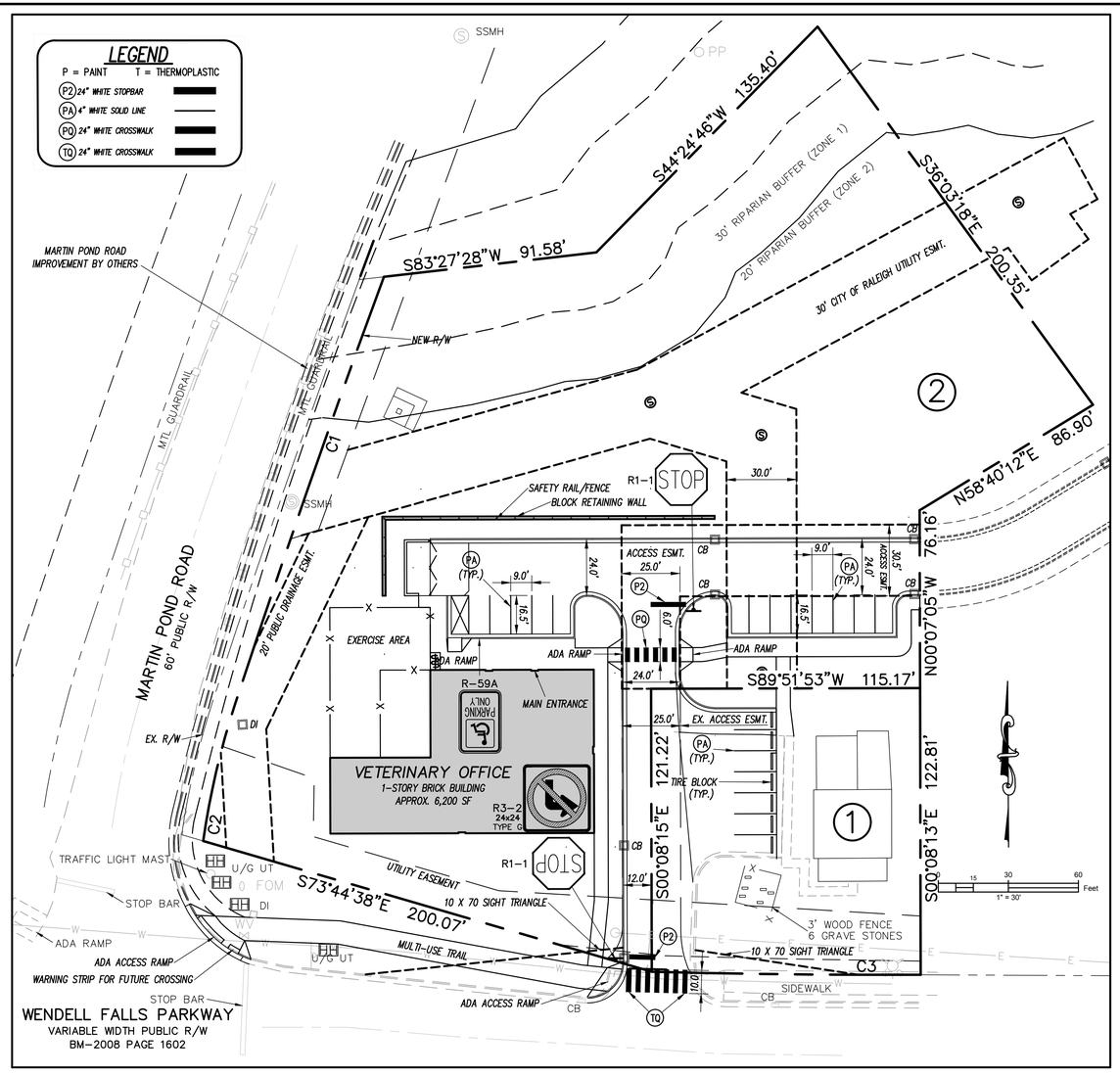


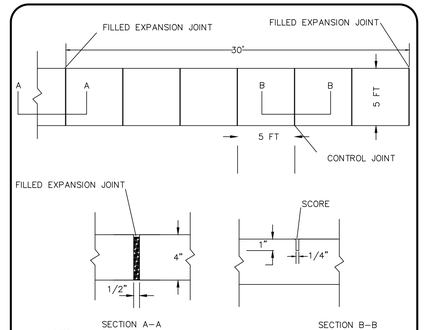
BREAKAWAY TREATMENTS

NOT TO SCALE



BIKE RACK DETAIL



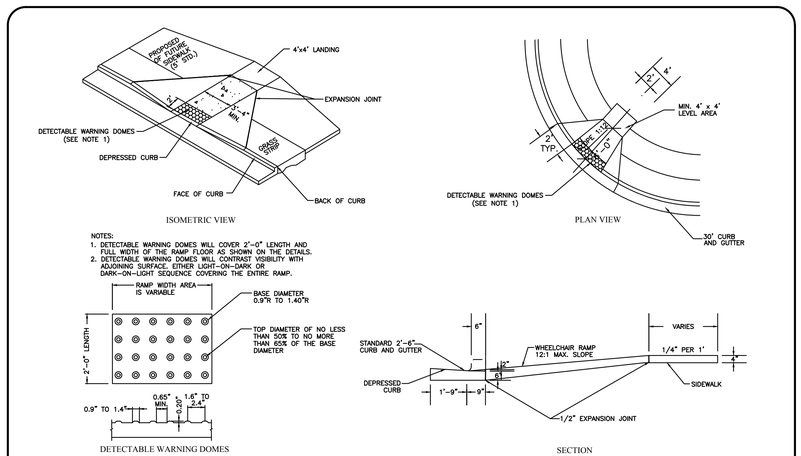


NOTES

1. JOINT MATERIAL TO COMPLY WITH CURRENT NCDOT STANDARDS.
2. SANITARY SEWER CLEAN-OUTS, WATER METERS, MANHOLES, AND VALVE LIDS TO BE LOCATED OUTSIDE SIDEWALK WHERE FEASIBLE
3. CONCRETE FOR ALL SIDEWALKS (EXCEPT ANY PORTION CONTAIN WITHIN A DRIVEWAY APRON) SHALL BE CLASS "A" – 3,000 PSI.
4. MINIMUM REPLACEMENT FOR REPAIRS IS A 5' X 5' PANEL
5. 4" STONE BASE MAY BE REQUIRED FOR POOR SOIL CONDITIONS
6. MINIMUM DEPTH FOR TUNNELING BELOW SIDEWALK IS 12"
7. MAX ADJACENT GROUND SLOPE WITHOUT RAILING IS 2:1
8. MIN GRADE FOR PROPER DRAINAGE IS 1% IN AT LEAST 1 DIRECTION. MAX CROSS SLOPE IS 2% ,MAX LONGITUDINAL SLOPE IS 8.3%, 10% IF LIMITED BY EXISTING CONDITIONS, OR NO GREATER THAN THE SLOPE OF THE EXISTING ADJACENT ROAD.

STANDARD SIDEWALK DETAIL

NOT TO SCALE



STANDARD "ADA" RAMP DETAIL

NOT TO SCALE

I HEREBY CERTIFY THAT THIS PLAN WAS APPROVED BY THE (ADMINISTRATOR) OR (TRC) OF THE TOWN OF WENDELL ON THE _____ DAY OF _____ 20___.

_____
ADMINISTRATOR

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PAVEMENT MARKING & SIGN PLAN
SITE PLAN DETAILS

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SITE PLAN DRAWINGS FOR
NEUSE RIVER VETERINARY HOSPITAL
LOCATED IN TOWN OF WENDELL
WAKE COUNTY, NORTH CAROLINA

OWNER: CONNIE L. JONES
2364 SIMPSON FARM ROAD
WENDELL, NC 27591

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 032721 JOHN F. OGLESBY
PLAN NOT RELEASED FOR CONSTRUCTION

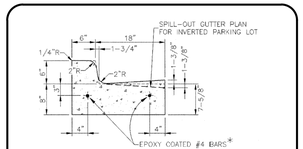
REV. NO.	REMARKS	BY	DATE

DATE: 8/19/2021
HORZ. SCALE: 1" = 30'
VERT. SCALE: N/A
DRAWN BY: JFO
CHECKED BY: HSR
PROJECT NO.: 20-0559

Sheet C3.1
Sheet No. 4 OF X

GRADING PLAN NOTES:

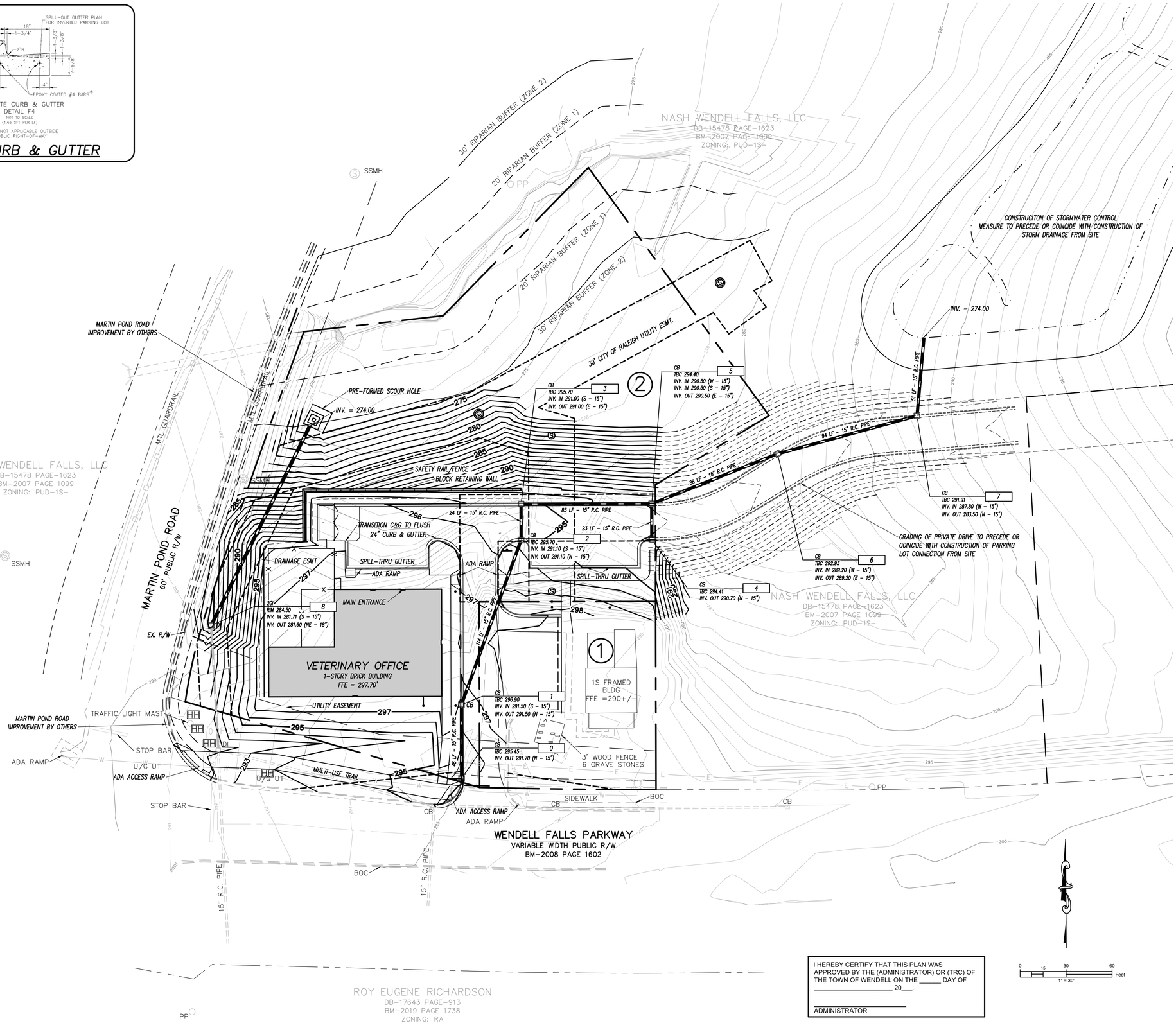
1. CONSTRUCT AND MAINTAIN ALL EROSION AND SEDIMENTATION CONTROL PRACTICES AND MEASURES IN ACCORDANCE WITH THE APPROVED EROSION & SEDIMENT CONTROL PLAN AND CONSTRUCTION SCHEDULE.
2. REMOVE GOOD TOPSOIL FROM AREAS TO BE GRADED AND FILLED, AND PRESERVE IT FOR USE IN FINISHING THE GRADING OF ALL CRITICAL AREAS.
3. REFER TO SPOT ELEVATIONS AND PROPOSED CONTOURS SHOWN ON PLANS; SLOPES ACROSS SANITARY SEWER EASEMENT SHALL NOT BE STEEPER THAN 3:1.
4. SCARIFY AREAS TO BE COVERED WITH TOPSOIL TO A MINIMUM DEPTH OF 2 INCHES BEFORE PLACING TOPSOIL.
5. CLEAR AND GRUB AREAS TO BE FILLED TO REMOVE TREES, VEGETATION, ROOTS, OR OTHER OBJECTIONABLE MATERIAL THAT WOULD AFFECT THE PLANNED STABILITY OF THE FILL.
6. ENSURE THAT FILL MATERIAL IS FREE OF BRUSH, RUBBISH, ROCKS, LOGS, STUMPS, BUILDING DEBRIS, AND OTHER MATERIALS INAPPROPRIATE FOR CONSTRUCTING STABLE FILLS.
7. PLACE ALL FILL IN LAYERS NOT TO EXCEED 8 INCHES IN THICKNESS, AND COMPACT THE LAYERS AS REQUIRED TO REDUCE EROSION, SLIPPAGE, SETTLEMENT, OR OTHER RELATED PROBLEMS.
8. SLOPES STEEPER THAN 3:1 WILL BE STABILIZED WITH PERMANENT SOIL REINFORCING MATTING; NAG P300 SPECIFICATION OR EQUIVALENT.
9. PLACEMENT OF FILL MATERIAL MUST BE CONDUCTED UNDER THE OBSERVATION OF A QUALIFIED LICENSED GEOTECHNICAL ENGINEER.
10. DO NOT INCORPORATE FROZEN MATERIAL OR SOFT, MUCKY, OR HIGHLY COMPRESSIBLE MATERIALS INTO FILL SLOPES.
11. DO NOT PLACE FILL ON A FROZEN FOUNDATION, DUE TO POSSIBLE SUBSIDENCE AND SLIPPAGE.
12. KEEP DIVERSIONS AND OTHER WATER CONVEYANCE MEASURES FREE OF SEDIMENT DURING ALL PHASES OF DEVELOPMENT.
13. HANDLE SEEPS OR SPRINGS ENCOUNTERED DURING CONSTRUCTION IN ACCORDANCE WITH APPROVED NCDEQ-LAND QUALITY METHODS (PRACTICE 6.81, SUBSURFACE DRAIN).
14. PERMANENTLY STABILIZE ALL GRADED AREAS IMMEDIATELY AFTER FINAL GRADING IS COMPLETED ON EACH AREA IN THE GRADING PLAN. APPLY TEMPORARY STABILIZATION MEASURES ON ALL GRADED AREAS WHEN WORK IS TO BE INTERRUPTED OR DELAYED FOR 14 WORKING DAYS OR LONGER.
15. ENSURE THAT TOPSOIL STOCKPILES, BORROW AREAS, AND SPOIL AREAS ARE ADEQUATELY PROTECTED FROM EROSION WITH TEMPORARY AND FINAL STABILIZATION MEASURES, INCLUDING SEDIMENT FENCING AND TEMPORARY SEEDING AS NECESSARY.
16. MAINTENANCE: PERIODICALLY CHECK ALL GRADED AREAS AND THE SUPPORTING EROSION AND SEDIMENTATION CONTROL PRACTICES, ESPECIALLY AFTER HEAVY RAINFALLS.
17. PROMPTLY REMOVE ALL SEDIMENT FROM DIVERSIONS AND OTHER WATER-DISPOSAL PRACTICES. IF WASHOUTS OR BREAKS OCCUR, REPAIR THEM IMMEDIATELY.
18. PROMPT MAINTENANCE OF SMALL ERODED AREAS BEFORE THEY BECOME SIGNIFICANT GULLIES IS AN ESSENTIAL PART OF AN EFFECTIVE EROSION & SEDIMENT CONTROL PLAN.
19. UPON COMPLETION OF EARTHWORK ACTIVITIES, THE TOWN OF WENDELL MUST BE PROVIDED A FINAL GRADING REPORT THAT INCLUDES CORRESPONDING COMPACTION TEST RESULTS AND CERTIFICATIONS OF THE TYPES OF FILL MATERIAL AND ITS PROPER PLACEMENT.



CONCRETE CURB & GUTTER
DETAIL F4
NOT TO SCALE
(1.65 SFT PER LF)

*BARS NOT APPLICABLE OUTSIDE OF PUBLIC RIGHT-OF-WAY

CURB & GUTTER



I HEREBY CERTIFY THAT THIS PLAN WAS APPROVED BY THE (ADMINISTRATOR) OR (TRC) OF THE TOWN OF WENDELL ON THE _____ DAY OF _____ 20___.

_____
ADMINISTRATOR

0 15 30 60 Feet
1" = 30'

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ENGINEERING
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COMMERCIAL / RESIDENTIAL
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WENDELL, NC 27591
(910) 791-4441

GRADING & DRAINAGE PLAN
OVERALL FINISHED GRADE

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SITE PLAN DRAWINGS FOR
NEUSE RIVER VETERINARY HOSPITAL
LOCATED IN TOWN OF WENDELL, WAKE COUNTY, NORTH CAROLINA
OWNER: CONNIE L. JONES
2364 SIMPSON FARM ROAD
WENDELL, NC 27591

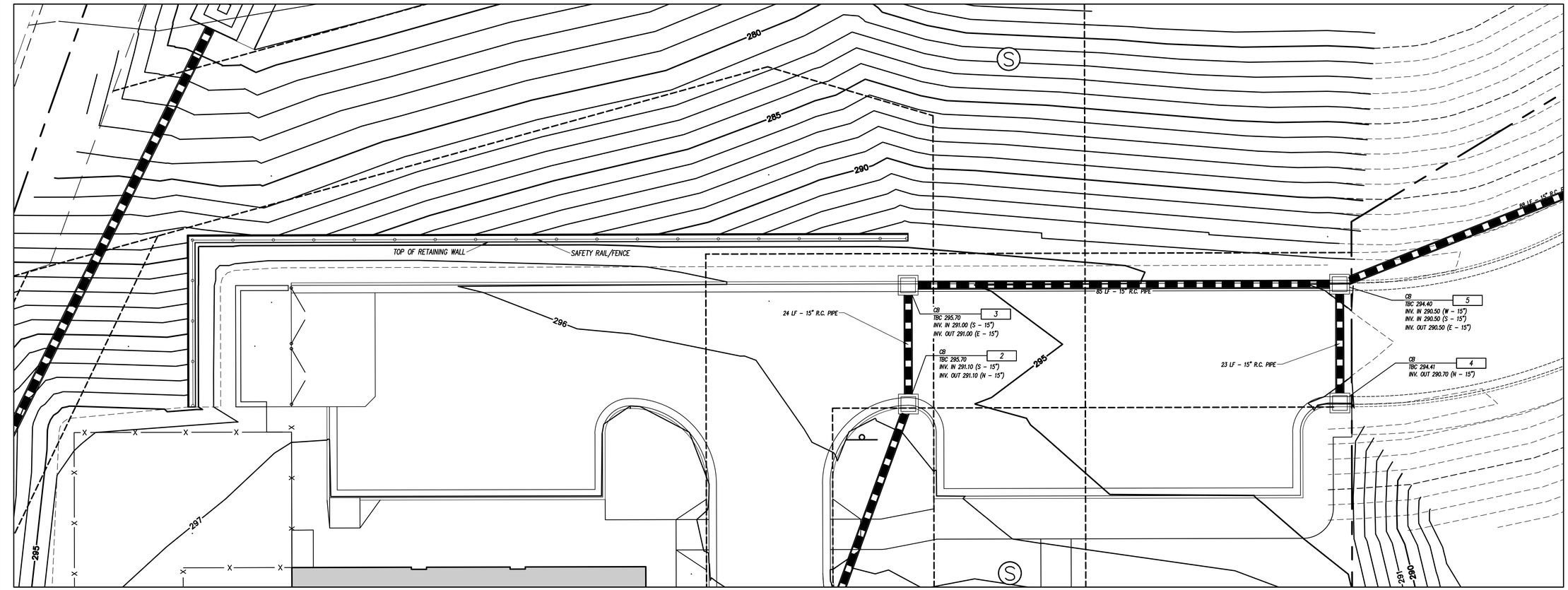
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 032721 JOHN F. OGLESBY

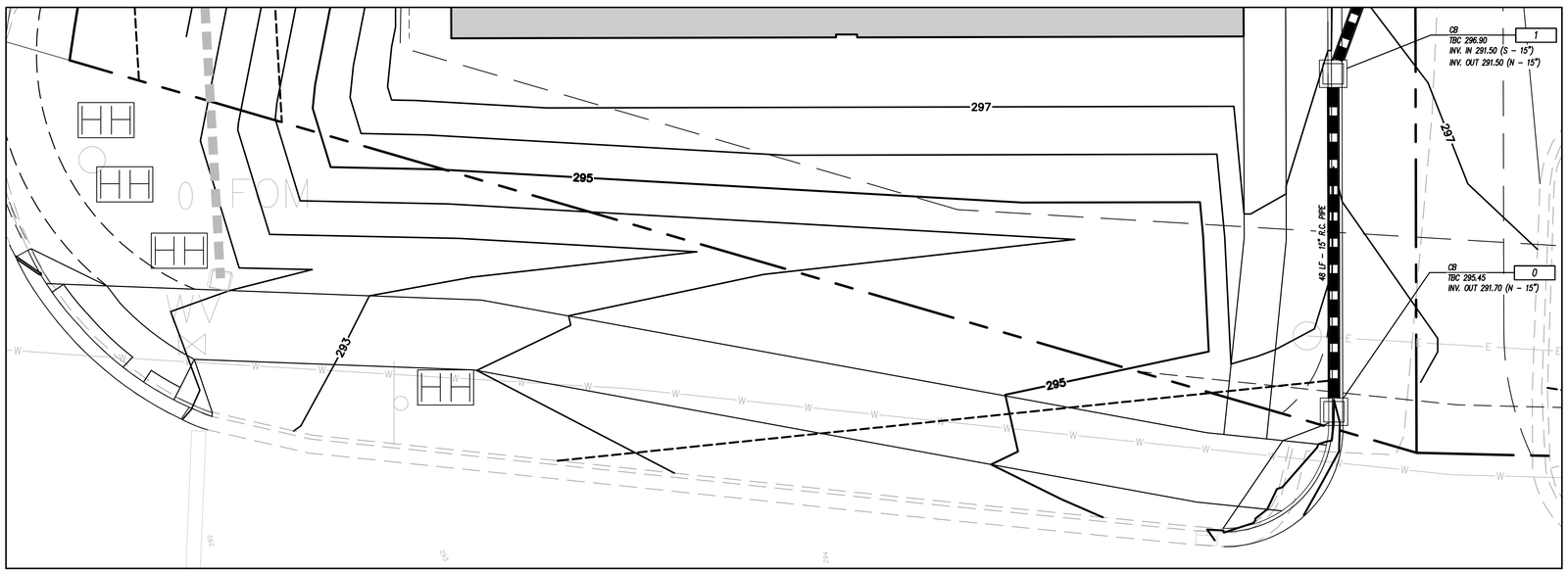
PLAN NOT RELEASED FOR CONSTRUCTION

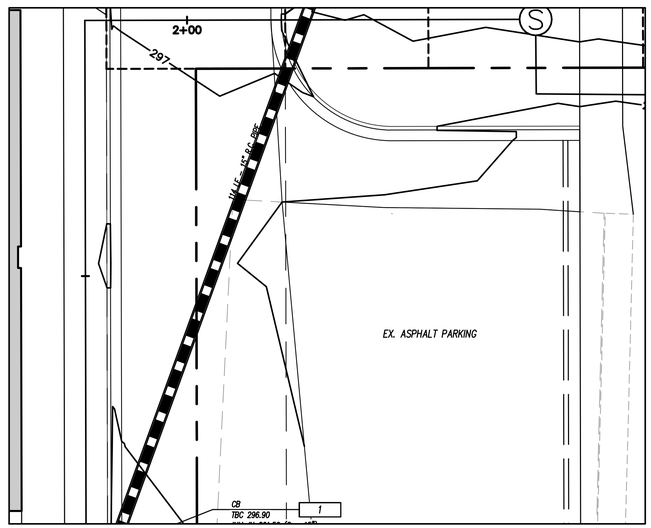
REV. NO.	REMARKS	BY	DATE

DATE: 8/12/2021
HORZ. SCALE: 1" = 30'
VERT. SCALE: N/A
DRAWN BY: JFO
CHECKED BY: HSR
PROJECT NO.: 20-0559

Sheet C4.0
Sheet No. 5 OF X







I HEREBY CERTIFY THAT THIS PLAN WAS APPROVED BY THE (ADMINISTRATOR) OR (TRC) OF THE TOWN OF WENDELL ON THE _____ DAY OF _____ 20___.

_____
ADMINISTRATOR

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WENDELL, NC 27591
(910) 791-4441

GRADING & DRAINAGE PLAN
DETAILED GRADING PLAN - FINISHED GRADE

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SITE PLAN DRAWINGS FOR
NEUSE RIVER VETERINARY HOSPITAL
LOCATED IN TOWN OF WENDELL
WAKE COUNTY, NORTH CAROLINA
OWNER: CONNIE L. JONES
2364 SIMPSON FARM ROAD
WENDELL, NC 27591

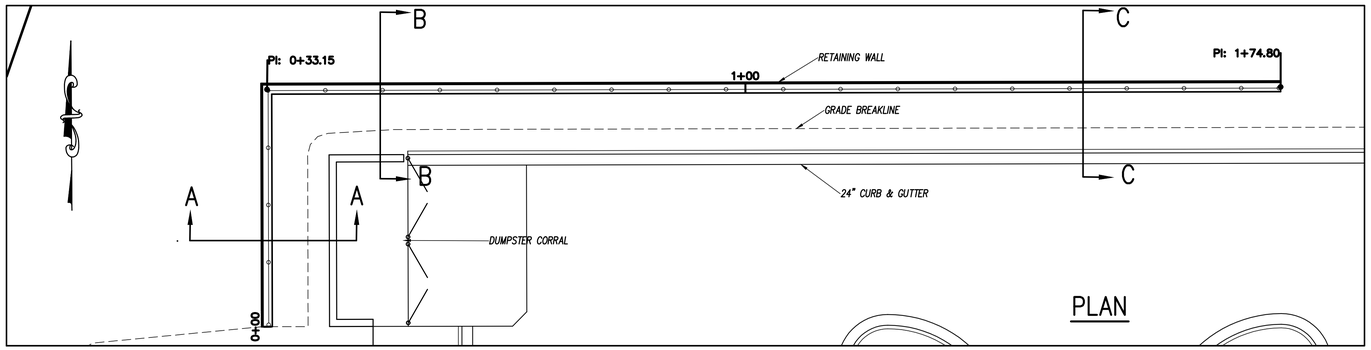
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 032721 JOHN F. OGLESBY

PLAN NOT RELEASED FOR CONSTRUCTION

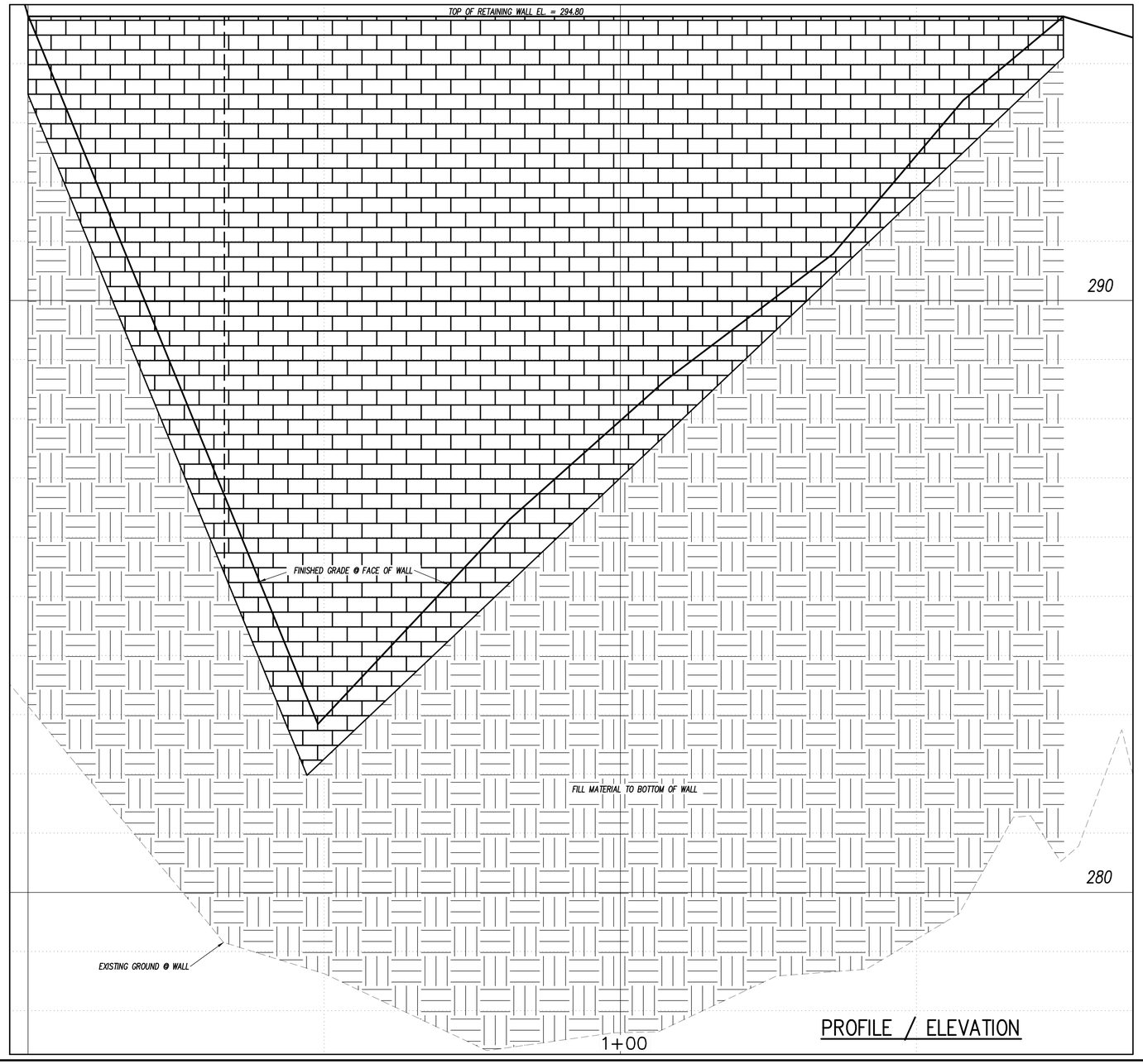
REV. NO.	REMARKS	BY	DATE

DATE: 8/12/2021
HORZ. SCALE: 1" = 10'
VERT. SCALE: N/A
DRAWN BY: JFO
CHECKED BY: HSR
PROJECT NO.: 20-0559

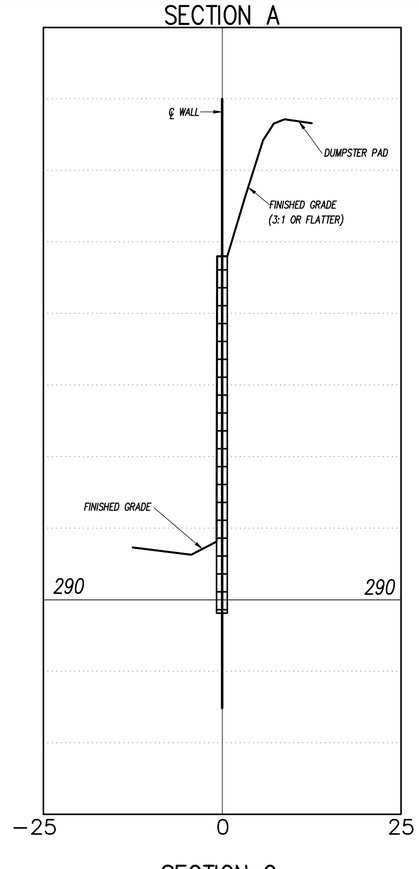
Sheet C4.1
Sheet No. 6 OF X

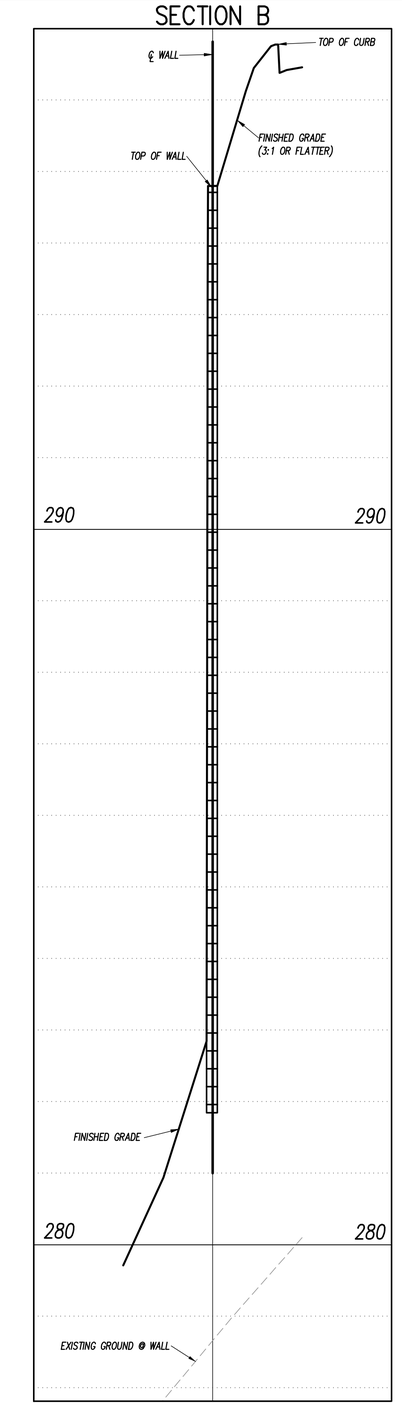


PLAN



PROFILE / ELEVATION





I HEREBY CERTIFY THAT THIS PLAN WAS APPROVED BY THE (ADMINISTRATOR) OR (TRC) OF THE TOWN OF WENDELL ON THE _____ DAY OF _____ 20___.

_____
ADMINISTRATOR

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RETAINING WALL PLAN & PROFILE

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SITE PLAN DRAWINGS FOR
NEUSE RIVER VETERINARY HOSPITAL
LOCATED IN TOWN OF WENDELL
WAKE COUNTY, NORTH CAROLINA
OWNER: CONNIE L. JONES
2364 SIMPSON FARM ROAD
WENDELL, NC 27591

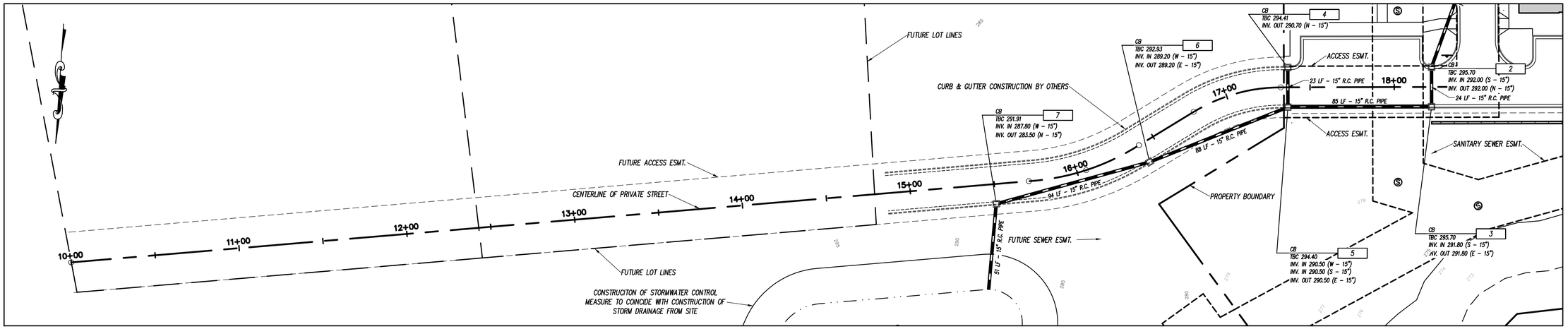
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 032721 JOHN F. OGLESBY

PLAN NOT RELEASED FOR CONSTRUCTION

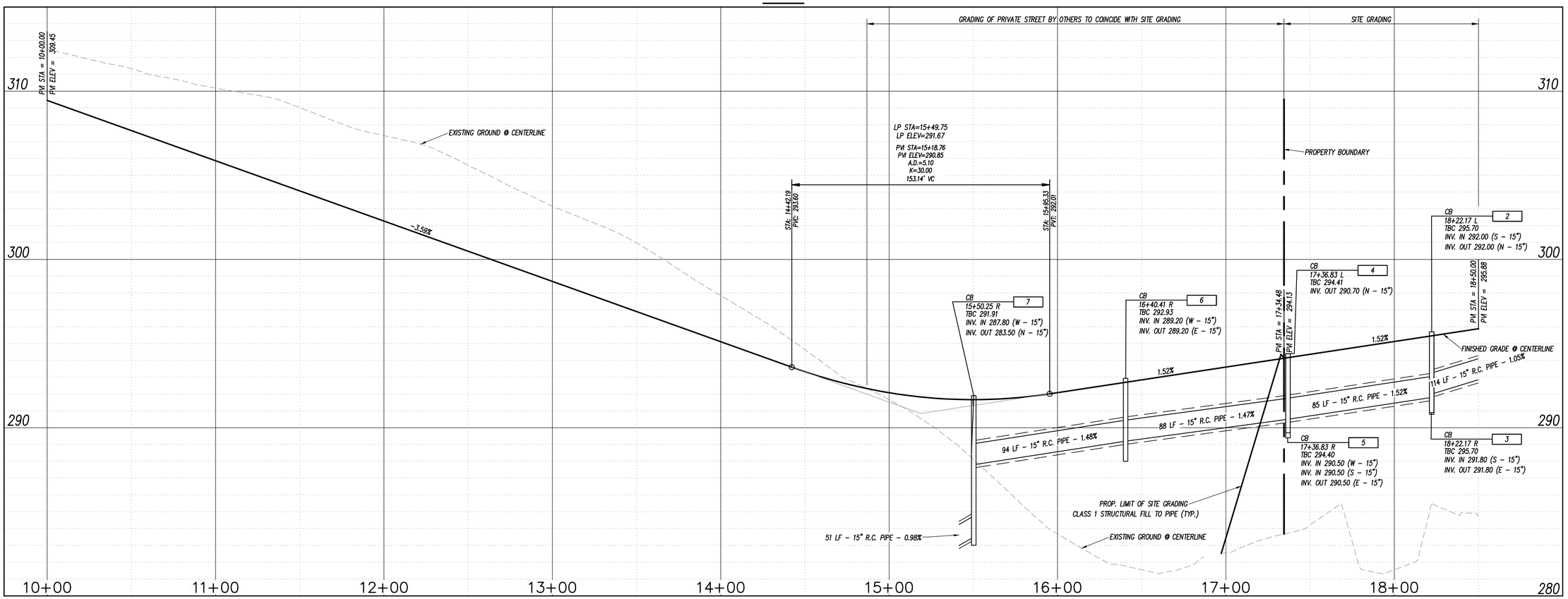
REV. NO.	REMARKS	BY	DATE

DATE: 7/21/2021
HORZ. SCALE: 1" = 10'
VERT. SCALE: 1" = 1'
DRAWN BY: JFO
CHECKED BY: HSR
PROJECT NO.: 20-0559

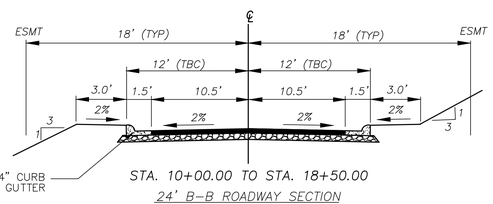
Sheet C4.2
Sheet No. 7 OF X



PLAN



PROFILE / ELEVATION

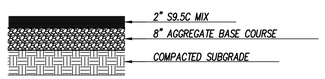


STA. 10+00.00 TO STA. 18+50.00

24' B–B ROADWAY SECTION

PROPOSED SECTION – PRIVATE STREET

NOT TO SCALE



PAVEMENT DESIGN

(NTS)

I HEREBY CERTIFY THAT THIS PLAN WAS APPROVED BY THE (ADMINISTRATOR) OR (TRC) OF THE TOWN OF WENDELL ON THE _____ DAY OF _____ 20___.

_____

ADMINISTRATOR

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PRIVATE STREET / PARKING PLAN & PROFILE

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SITE PLAN DRAWINGS FOR
NEUSE RIVER VETERINARY HOSPITAL
LOCATED IN TOWN OF WENDELL
WAKE COUNTY, NORTH CAROLINA

OWNER: CONNIE L. JONES
2364 SIMPSON FARM ROAD
WENDELL, NC 27591

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 032721 JOHN F. OGLESBY

PLAN NOT RELEASED FOR CONSTRUCTION

REV. NO.	REMARKS	BY	DATE

DATE: 7/21/2021
HORZ. SCALE: 1" = 30'
VERT. SCALE: 1" = 3'
DRAWN BY: JFO
CHECKED BY: HSR
PROJECT NO.: 20-0559

Sheet C4.3
Sheet No. 8 OF X

NASH WENDELL FALLS, LLC
DB-15478 PAGE-1623
BM-2007 PAGE 1099
ZONING: PUD-1S-

30' RIPARIAN BUFFER (ZONE 2)
20' RIPARIAN BUFFER (ZONE 1)
20' RIPARIAN BUFFER (ZONE 1)
30' RIPARIAN BUFFER (ZONE 2)

30' COR SEWER ESMT.

UTILITY WORK ON ADJACENT SITE SHALL PRECEDE OR COINCIDE WITH WORK ON SUBJECT SITE

STORMWATER CONTROL MEASURE

End sewer main at SSMH 10' inside property. No offsite CORSSE required (note: permission to revise utilities granted by John Oglesby, PE on 9/27/21 ~ 10:50am)

SSMH
PP

MARTIN POND ROAD IMPROVEMENT BY OTHERS

EXMH
2+13.29
RIM 285.24
INV. IN 265.00 (E - 12")
INV. OUT 262.86 (W - 12")
E2

MTL. GUARDRAIL

PRE-FORMED SCOUR HOLE (OUTSIDE OF ESMT.)

GRADING SHALL NOT EXCEED 3:1 SLOPES ACROSS CITY OF RALEIGH SANITARY SEWER EASEMENT (SEE GRADING PLAN)

159 LF - 12" PVC Pipe

SSMH
3+72.76
RIM 280.12
INV. IN 268.50 (NE - 12")
INV. OUT 268.30 (W - 12")
MH-1

30' CITY OF RALEIGH UTILITY ESMT.

12" PVC Pipe

SSMH

SSMH-HV
0+49.57
RIM 283.75
INV. IN 272.70 (S - 8")
INV. OUT 272.50 (W - 8")
MH-3

47 LF - 8" PVC

30.0' COR UTILITY ESMT.

BLOCK RETAINING WAL

NASH WENDELL FALLS, LLC
DB-15478 PAGE-1623
BM-2007 PAGE 1099
ZONING: PUD-1S-

PROP. 24" DIP WATERLINE

SSMH

24" DIP WATERLINE
TO BE DESIGNED & CONSTRUCTED BY THE CITY OF RALEIGH
(TO INCLUDE ALL NECESSARY CORWLE AQUISITIONS)

MARTIN POND ROAD
60' PUBLIC R/W

145 LF - 18" C.P. PIPE

ACCESS ESMT.
24" CURB & GUTTER
DRAINAGE ESMT.
ADA RAMP
MAIN ENTRANCE
EX. R/W
DI
CB
CO

VETERINARY OFFICE
1-STORY BRICK BUILDING

21 LF - 4" PVC
75 LF - 4" PVC
63 LF - 4" PVC
102 LF - 8" DIP
10 LF - 4" PVC
38 LF - 4" PVC
4.7%
INV. EL. = 293.0

SEWER ESMT.
ACCESS ESMT.

SSMH
1+51.28
RIM 296.76
INV. IN 287.80 (W - 4")
INV. IN 287.80 (S - 4")
INV. OUT 285.30 (N - 8")
MH-4

FUTURE ACCESS ESMT.

CURB & GUTTER TO BE BUILT BY OTHERS

NASH WENDELL FALLS, LLC
DB-15478 PAGE-1623
BM-2007 PAGE 1099
ZONING: PUD-1S-

MARTIN POND ROAD IMPROVEMENT BY OTHERS

TRAFFIC LIGHT MAST
U/G UT
UTILITY EASEMENT (U/G POWER)
2" AMES RPZ IN HOT-BOX (HB2)
2" WATER METER
2" CORWLE
MULTI-USE TRAIL
STOP BAR
ADA RAMP
12" EIP W/L
2" TAPPING SLEEVE W/ VALVE
12" DIP W/L
3' WOOD FENCE
6 GRAVE STONES
CORWLE
FIRE HYDRANT
SIDEWALK
BOC
10.0'

WENDELL FALLS PARKWAY
VARIABLE WIDTH PUBLIC R/W
BM-2008 PAGE 1602

15" R.C. PIPE
15" R.C. PIPE
BOC

ROY EUGENE RICHARDSON
DB-17643 PAGE-913
BM-2019 PAGE 1738
ZONING: RA

CITY OF RALEIGH - PUBLIC UTILITIES DEPARTMENT

PRELIMINARY APPROVAL ONLY: THIS DOES NOT CONSTITUTE CONSTRUCTION APPROVAL FOR ANY PROPOSED WATER OR SEWER MAIN EXTENSIONS. VALID ONLY WITH SIGNATURE OF A CITY OF RALEIGH REVIEW OFFICER. THIS ELECTRONIC APPROVAL MAY NOT BE EDITED ONCE ISSUED. ANY MODIFICATION TO THIS APPROVAL ONCE ISSUED WILL INVALIDATE THIS APPROVAL

Digitally signed by Keith A. Tew, PE
DN: c=US, o=City of Raleigh, ou=Public Utilities, cn=Keith A. Tew, PE, email=keith.tew@raleighnc.gov
Reason: I am the author of this document
Date: 2021.09.27 11:29:25-04'00'

Keith A. Tew, PE
RALEIGH WATER REVIEW OFFICER

I HEREBY CERTIFY THAT THIS PLAN WAS APPROVED BY THE (ADMINISTRATOR) OR (TRC) OF THE TOWN OF WENDELL ON THE _____ DAY OF _____, 20__.

ADMINISTRATOR

0 15 30 60 Feet
1" = 30'

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OVERALL UTILITY PLAN

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SITE PLAN DRAWINGS FOR
NEUSE RIVER VETERINARY HOSPITAL
LOCATED IN TOWN OF WENDELL
WAKE COUNTY, NORTH CAROLINA
OWNER: CONNIE L. JONES
2364 SIMPSON FARM ROAD
WENDELL, NC 27591

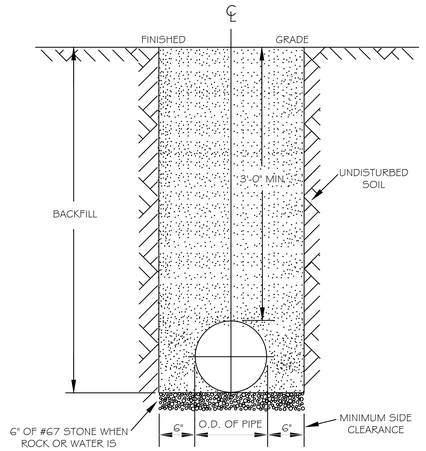
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 032721 JOHN F. OGLESBY

PLAN NOT RELEASED FOR CONSTRUCTION

REV. NO.	REMARKS	BY	DATE

DATE: 9/22/2021
HORZ. SCALE: 1" = 30'
VERT. SCALE: N/A
DRAWN BY: JFO
CHECKED BY: HSR
PROJECT NO.: 20-0559

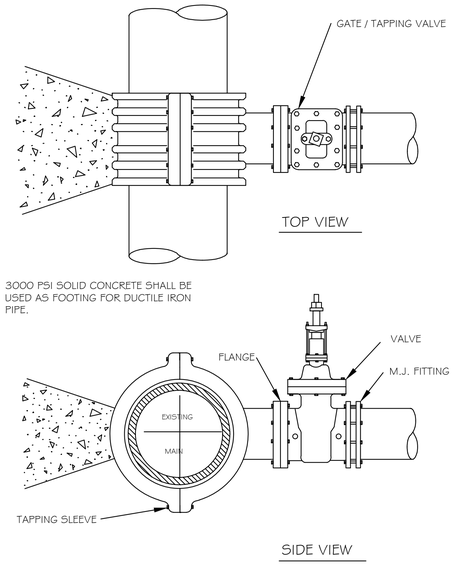
Sheet C5.0
Sheet No. 10 OF X



NOTES:
1. TRENCHES REQUIRING SHORING AND BRACING, DIMENSIONS SHALL BE TAKEN FROM THE INSIDE FACE OF THE SHORING AND BRACING.
2. NO ROCKS OR BOULDERS 4" OR LARGER TO BE USED IN BACKFILL.
3. ALL BACKFILL MATERIAL SHALL BE SUITABLE NATIVE MATERIAL.
4. BACKFILL SHALL BE TAMPED IN 6" LIFTS.
5. ACHIEVE 95% COMPACTION IN BACKFILL.

CITY OF RALEIGH
DEPARTMENT OF PUBLIC UTILITIES
TRENCH BOTTOM DIMENSIONS & BACKFILLING REQUIREMENTS FOR DUCTILE IRON

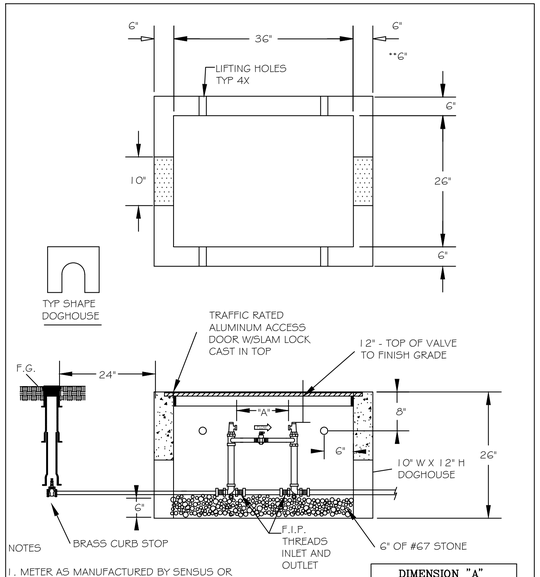
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
W-3	D.W.C.	9-3-99	ABB	2-15-05
	RRH	3-31-00	J.P.S.	10-29-10



NOTES:
1. CONCRETE SHALL NOT CONTACT BOLTS OR ENDS OF MECHANICAL JOINT FITTINGS.
2. SEE STANDARD REACTION BLOCK TABLES, W-10 AND W-11 FOR AREA OF CONCRETE REQUIRED.

CITY OF RALEIGH
DEPARTMENT OF PUBLIC UTILITIES
4" - 24" STANDARD TAPPING SLEEVE AND VALVE ASSEMBLY

DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
W-14	Y.C.A.	12-31-91	RRH	3-31-00
	D.W.C.	9-7-99	J.P.S.	11-1-10



NOTES
1. METER AS MANUFACTURED BY SENSUS OR NEPTUNE.
2. BACKFILL TAMPED IN 6" LIFTS.
3. REINFORCEMENT: #4 @ 6" OCEW
4. CONCRETE: 4,000 PSI @ 28 DAYS
5. ALL RPZ BACKFLOW PREVENTION DEVICES MUST BE INSTALLED PRIOR TO METER BEING SET.
6) ALL COPPER SETTERS ARE TO HAVE A BALL TYPE SHUT OFF VALVE ON BOTH SIDES OF COPPER SETTER WITH HIGH RISE BYPASS THAT IS MANUFACTURED BY FORD, MUELLER, OR AY McDONALD. (NO EXCEPTIONS)

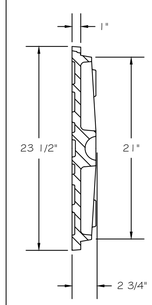
DIMENSION "A"	
1½" METER	13½"
2" METER	17½"

** TRAFFIC RATED VAULT WALL THICKNESS

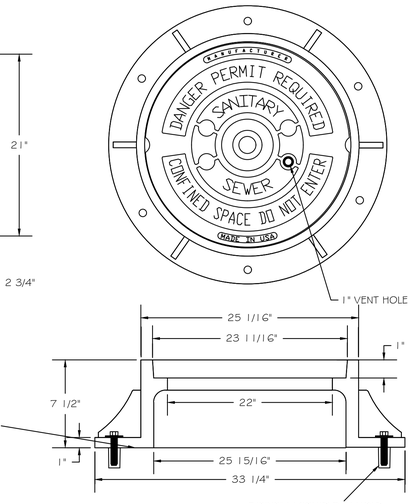
CITY OF RALEIGH
DEPARTMENT OF PUBLIC UTILITIES
TYPICAL 1 1/2"- 2" WATER METER BOX INSTALLATION

DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
W-31	A.B.B.	8-17-04	J.P.S.	11-4-10
	D.H.L	6-18-08		

COVER 120 LBS. MINIMUM



MANHOLE FRAME AND COVER

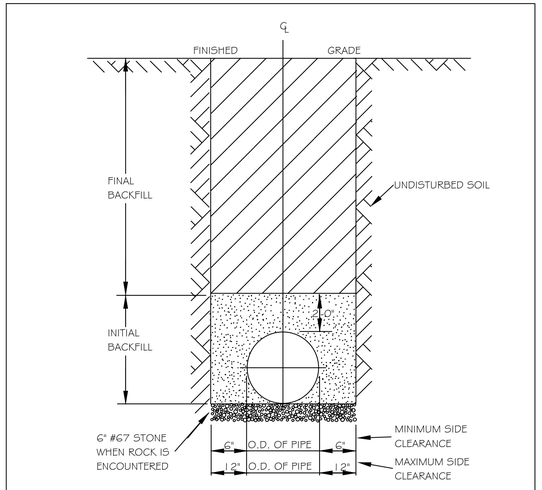


NOTES:
1) ALL MANHOLE FRAMES SHALL BE DOMESTICALLY CAST.
2) FRAME SHALL BE A MINIMUM WEIGHT OF 182 LBS. WITHIN PUBLIC ROW AND 160 LBS. WITHIN EASEMENTS.
3) COVER SHALL WEIGH A MIN. OF 120 LBS.
4) ALL MANHOLE FRAMES OUTSIDE OF PAVED SURFACES SHALL BE BOLTED TO THE CONE SECTION OR RING WITH A MINIMUM OF 4 BOLTS PER FRAME.

5/8"X3" LAGSHIELD IN HOLE DRILLED INTO CONE OR RING WITH ANCHOR SUNK TO DESIGN DEPTH, AND 3/8"X3" HOT DIPPED GALVANIZED LAG BOLT AND WASHER.

CITY OF RALEIGH
DEPARTMENT OF PUBLIC UTILITIES
STANDARD MANHOLE COVER

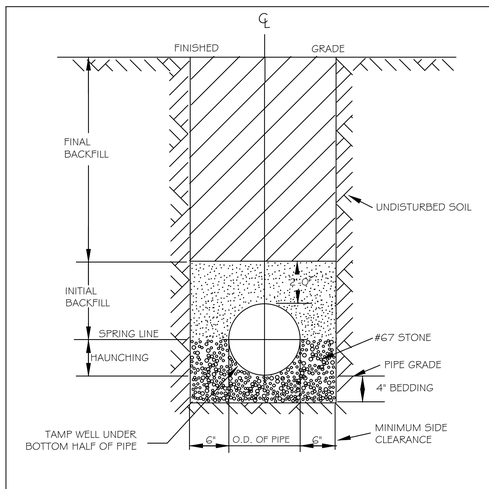
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
5-25	3-1-87	3-1-87	A.B.B.	2-9-05
	RRH	3-30-00	D.H.L.	6-18-08



NOTES:
1. TRENCHES REQUIRING SHORING AND BRACING, DIMENSIONS SHALL BE TAKEN FROM THE INSIDE FACE OF THE SHORING AND BRACING.
2. NO ROCKS OR BOULDERS 4" OR LARGER TO BE USED IN INITIAL BACKFILL.
3. ALL BACKFILL MATERIAL SHALL BE SUITABLE NATIVE MATERIAL.
4. BACKFILL SHALL BE TAMPED IN 6" LIFTS IN TRAFFIC AREAS, 12" IN NON-TRAFFIC AREAS.
5. ACHIEVE 80% COMPACTION IN NON-TRAFFIC AREAS, AND 95% COMPACTION IN TRAFFIC AREAS.
6. IF IN EASEMENT 4" TOPSOIL AND 12" CLEAN SELECT FILL MAY BE REQUIRED.
7. NO BOULDERS 8" IN DIAMETER OR GREATER ALLOWED IN FINAL BACKFILL.

CITY OF RALEIGH
DEPARTMENT OF PUBLIC UTILITIES
TRENCH BOTTOM DIMENSIONS & BACKFILLING REQUIREMENTS FOR DUCTILE IRON

DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
S-4	D.W.C.	9-3-99		
	RRH	3-30-00		

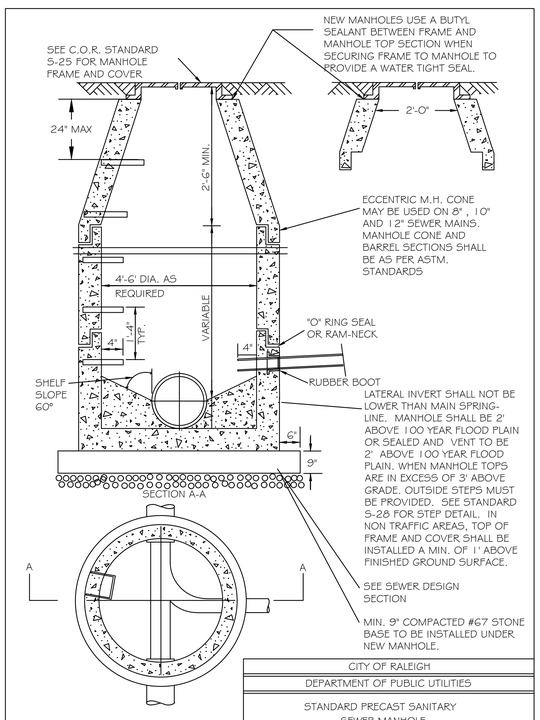


TYPICAL TRENCH BOTTOM DIMENSIONS FOR SDR 35 PVC GRAVITY PIPE

NOTES:
1. FOR TRENCHES REQUIRING SHORING AND BRACING, DIMENSIONS SHALL BE TAKEN FROM THE INSIDE FACE OF THE SHORING AND BRACING.
2. NO ROCKS OR BOULDERS 4" OR LARGER TO BE USED IN INITIAL BACKFILL.
3. ALL BACKFILL MATERIAL SHALL BE SUITABLE NATIVE MATERIAL.
4. BACKFILL SHALL BE TAMPED IN 6" LIFTS IN TRAFFIC AREAS, 12" IN NON-TRAFFIC AREAS.

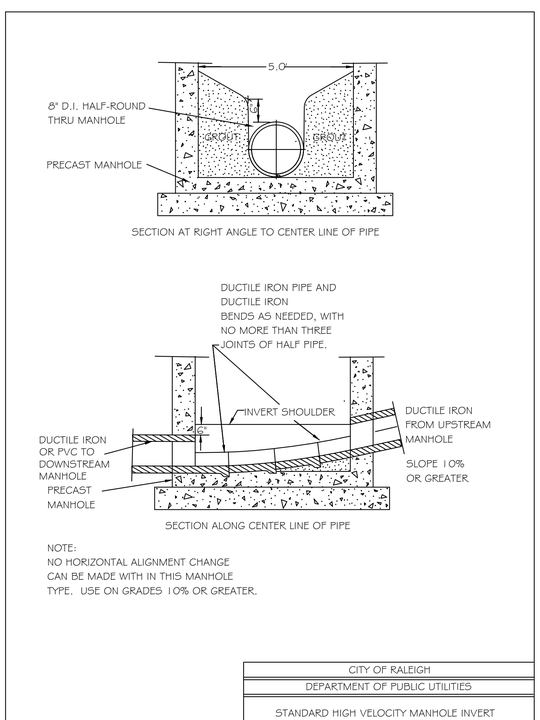
CITY OF RALEIGH
DEPARTMENT OF PUBLIC UTILITIES
TRENCH BOTTOM DIMENSIONS AND BACKFILLING REQUIREMENTS FOR PVC GRAVITY SEWER MAIN

DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
S-5	TO NOTES	3-1-87	D.W.C.	9-3-99
		7-2-52	RRH	3-30-00



CITY OF RALEIGH
DEPARTMENT OF PUBLIC UTILITIES
STANDARD PRECAST SANITARY SEWER MANHOLE

DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
S-20	Y.C.A.	12-31-92	ABB	2-21-05
	RRH	3-30-00	D.H.L.	6-16-08



NOTE:
NO HORIZONTAL ALIGNMENT CHANGE CAN BE MADE WITH IN THIS MANHOLE TYPE. USE ON GRADES 10% OR GREATER.

CITY OF RALEIGH
DEPARTMENT OF PUBLIC UTILITIES
STANDARD HIGH VELOCITY MANHOLE INVERT

DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
S-23		3-1-87	RRH	3-30-00
	Y.C.A.	12-31-91		

CSD ENGINEERING
LICENSE # C-2710
ENGINEERING
LAND PLANNING
COMMERCIAL / RESIDENTIAL
P.O. BOX 1250
WENDELL, NC 27591
(910) 791-4441

WATER & SEWER STANDARD DETAILS

No sources is granted to CSD ENGINEERING, etc of any drawings, specifications or other documents prepared by it for this project. Such documents are not to be used by the Owner, Owner's employees or others on projects other than for which they were prepared or adapted by the Engineer. Owner shall indemnify and hold harmless the Engineer from all claims, damages, losses and expenses including attorney's fees arising out of or resulting therefrom.

SITE PLAN DRAWINGS FOR
NEUSE RIVER VETERINARY HOSPITAL
LOCATED IN TOWN OF WENDELL
WAKE COUNTY, NORTH CAROLINA
OWNER: CONNIE L. JONES
2364 SIMMSON FARM ROAD
WENDELL, NC 27591

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 032721 JOHN F. OGLESBY

PLAN NOT RELEASED FOR CONSTRUCTION

REV. NO.	REMARKS	BY	DATE

DATE: 7/21/2021
HORZ SCALE: N/A
VERT. SCALE: N/A
DRAWN BY: JFO
CHECKED BY: HSR
PROJECT NO.: 20-0559

Sheet C5.2
Sheet No. 12 OF X

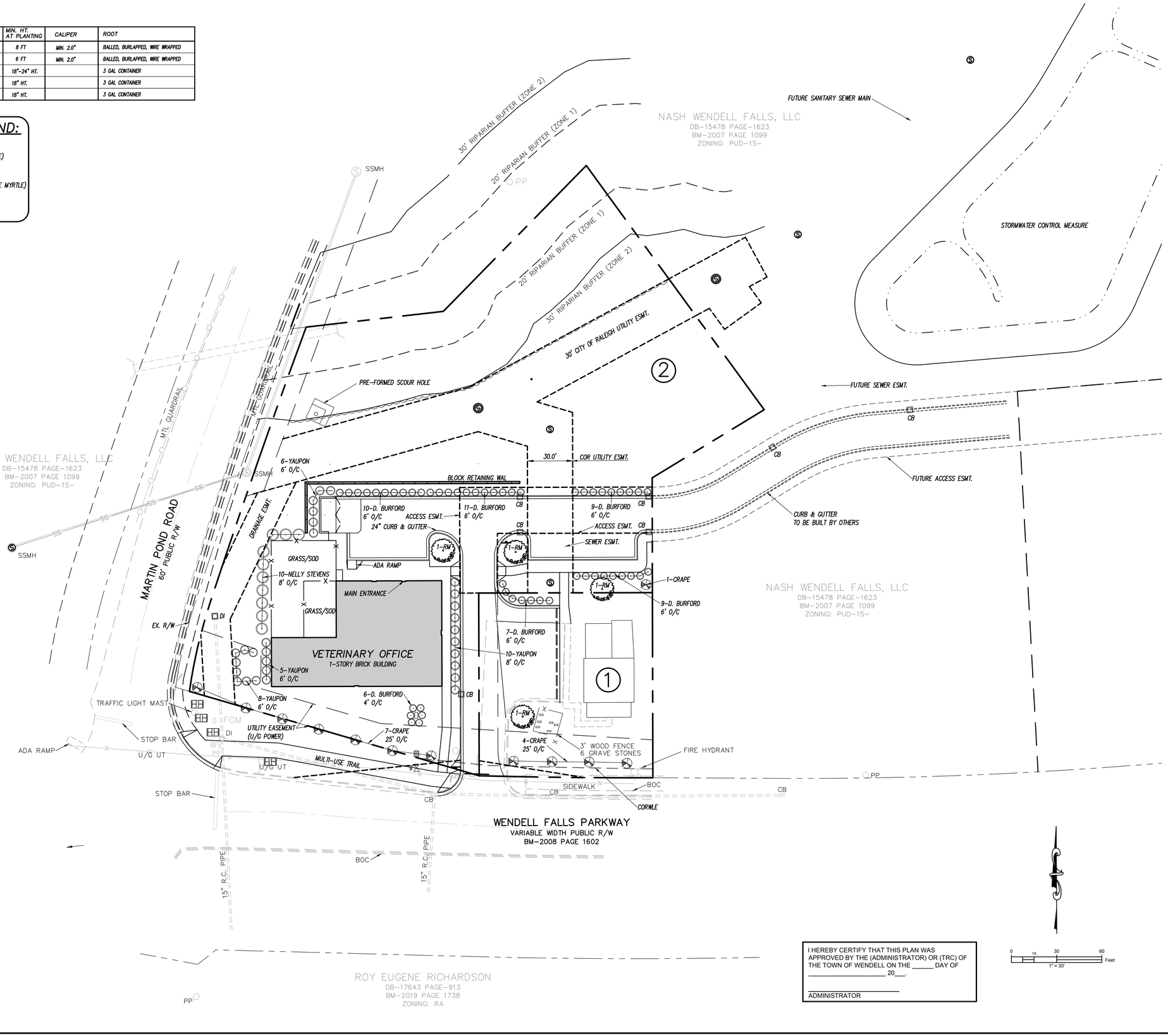
QUANTITY	COMMON NAME	BOTANICAL NAME	MIN. HT. AT PLANTING	CALIPER	ROOT
4	RED MAPLE	ACER RUBRUM	8 FT	MIN. 2.0"	BALLED, BURLAPPED, WIRE WRAPPED
13	CRAPEMYRTLE	LAGERSTROEMIA INDICA	6 FT	MIN. 2.0"	BALLED, BURLAPPED, WIRE WRAPPED
10	NELLY STEVENS HOLLY	ILEX X 'NELLY R. STEVENS'	18"-24" HT.		3 GAL CONTAINER
51	DWARF BURFORD HOLLY	ILEX CORNUTA 'BURFORDII NANA'	18" HT.		3 GAL CONTAINER
29	DWARF YAUPON HOLLY	ILEX VOMITORIA 'NANA'	18" HT.		3 GAL CONTAINER

LANDSCAPE PLAN LEGEND:

PROPOSED CANOPY TREE (RED MAPLE)

PROPOSED UNDERSTORY TREE (CRAPE MYRTLE)

PROPOSED SHRUB (EVERGREEN)



I HEREBY CERTIFY THAT THIS PLAN WAS APPROVED BY THE (ADMINISTRATOR) OR (TRC) OF THE TOWN OF WENDELL ON THE _____ DAY OF _____ 20___.

_____
ADMINISTRATOR

0 15 30 60 Feet
1" = 30'

CSD ENGINEERING
LICENSE # C-2710
ENGINEERING
LAND PLANNING
COMMERCIAL / RESIDENTIAL
P.O. BOX 1250
WENDELL, NC 27591
(910) 791-4441

LANDSCAPE PLAN

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SITE PLAN DRAWINGS FOR
NEUSE RIVER VETERINARY HOSPITAL
LOCATED IN TOWN OF WENDELL
WAKE COUNTY, NORTH CAROLINA
OWNER: CONNIE L. JONES
2384 SIMPSON FARM ROAD
WENDELL, NC 27591

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 032721 JOHN F. OGLESBY

PLAN NOT RELEASED FOR CONSTRUCTION

REV. NO.	REMARKS	BY	DATE

DATE: 7/21/2021
HORZ. SCALE: 1" = 30'
VERT. SCALE: N/A
DRAWN BY: JFO
CHECKED BY: HSR
PROJECT NO.: 20-0559

Sheet C6.0
Sheet No. 13 OF X

GENERAL NOTES:

1. THIS MAP IS NOT FOR CONVEYANCE, RECORDATION OR SALES.
2. BOUNDARY & TOPOGRAPHIC SURVEY WAS PERFORMED BY McKIM & CREED; PROVIDED TO C&G BUILDERS ON 4/8/2021.
3. STORMWATER DRAINS TO UT TO MARKS CREEK (C;NSW); RIVER BASIN: NEUSE; STREAM INDEX: 27-38.
4. THERE ARE JURISDICTIONAL STREAMS OR WETLANDS ON SITE.
5. WATER AND SEWER WILL BE PUBLIC; CITY OF RALEIGH PUBLIC UTILITIES.
6. THE SITE IS NOT LOCATED IN A FEMA DESIGNATED SPECIAL FLOOD HAZARD ZONE (100-YEAR FLOODPLAIN).

PLAN NOTES:

1. THESE PLANS ARE FOR CONSTRUCTION WITHIN THE PARCEL(S) TO BE OCCUPIED BY NEUSE RIVER VETERINARY HOSPITAL AND THE CONTRACTOR SHALL PERFORM ALL WORK NECESSARY TO COMPLETE THE WORK SHOWN ON THE PLANS OR DESCRIBED IN THE SPECIFICATIONS IN A SATISFACTORY MANNER UNLESS OTHERWISE PROVIDED. THE CONTRACTOR SHALL FURNISH ALL MATERIALS, EQUIPMENT, TOOLS, LABOR, AND INCIDENTALS TO COMPLETE THE WORK.
2. WHERE DISCREPANCIES ARE FOUND ON PLANS OR DETAILS, OR BETWEEN THESE PLANS AND AVAILABLE RECORDS PROVIDED BY OTHERS, THE CONTRACTOR SHALL NOTIFY THE DESIGN ENGINEER PRIOR TO BEGINNING CONSTRUCTION. THE CONTRACTOR SHALL BEAR THE FULL COST OF REMOVAL, REPLACEMENT, DELAY, AND MOBILIZATION RELATED TO FAILURE TO REVIEW ALL PLANS.
3. ALL CONSTRUCTION SHALL CONFORM TO TOWN OF WENDELL AND APPLICABLE WAKE COUNTY AND STATE CODES.
4. LOCATION AND ELEVATION OF EXISTING STORM DRAINAGE STRUCTURES AND PIPES SHOWN ON THESE PLANS WERE OBTAINED FROM AVAILABLE RECORDS AND SURVEY DATA. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO DETERMINE THE EXACT LOCATIONS AND ELEVATIONS OF EXISTING STORM DRAINAGE STRUCTURES AND PIPES PIPES PRIOR TO COMMENCING CONSTRUCTION.
5. INFORMATION CONCERNING UNDERGROUND UTILITIES WAS OBTAINED FROM AVAILABLE RECORDS. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO DETERMINE THE EXACT LOCATIONS AND ELEVATIONS OF ALL EXISTING UTILITIES ON PARCEL AND WITHIN ADJACENT RIGHT-OF-WAY PRIOR TO CONSTRUCTION.
6. IF EXISTING UTILITY CONFLICTS WITH PROPOSED IMPROVEMENT INSTALLATION, THE CONTRACTOR SHALL CONTACT THE DESIGN ENGINEER BEFORE PROCEEDING WITH CONSTRUCTION.
7. ANY CONDITIONS DISCOVERED AND/OR EXISTING THAT WOULD NECESSITATE A MODIFICATION OF THESE PLANS SHALL BE BROUGHT TO THE ATTENTION OF THE DESIGN ENGINEER BEFORE PROCEEDING WITH CONSTRUCTION.
8. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATION OF ANY RELOCATIONS, RE-ALIGNMENTS, DISCONNECTIONS OR CONNECTIONS OF EXISTING UTILITIES WITH APPLICABLE AUTHORITIES/OWNERS.
9. NO CONSTRUCTION IS TO BEGIN BEFORE LOCATION OF EXISTING UTILITIES HAS BEEN DETERMINED. CALL "NC ONE CALL" AT LEAST 48 HOURS BEFORE COMMENCING CONSTRUCTION.
10. THE CONTRACTOR SHALL BEAR THE FULL COST OF REMOVAL, REPLACEMENT, AND DELAY RELATED TO UNVERIFIED EXISTING CONDITIONS.
11. THE CONTRACTOR SHALL COORDINATE ANY REQUIRED TRAFFIC CONTROL WITH TOWN OF WENDELL AND/OR NCDOT.
12. LIMITS OF CONSTRUCTION EASEMENTS AND RIGHTS-OF-WAY SHALL BE DELINEATED WITH TEMPORARY STAKING BY THE CONTRACTOR. SAFETY FENCING SHALL BE UTILIZED WHERE WORK IS IN CLOSE PROXIMITY TO RESIDENCES, TRAILS, OR OTHER PUBLIC AREAS.
13. CLEARING AND GRUBBING OF THE SITE TO INCLUDE REMOVAL OF CURB, ASPHALT, INLETS, AND ANY OTHER STRUCTURES INCLUDING TREES, SHRUBS, STUMPS, AND DEBRIS. LANDSCAPE FEATURES NOT REQUIRED TO BE CLEARED FOR CONSTRUCTION SHALL REMAIN UNLESS OTHERWISE DIRECTED.
14. WHERE EXCAVATION IS REQUIRED UNDER EXISTING ASPHALT OR CONCRETE PAVEMENT, THE EXISTING PAVEMENT SHALL BE SAW CUT IN A MANNER TO EFFECT A SMOOTH, STRAIGHT-CUT EDGE.
15. THE CONTRACTOR SHALL ADJUST ALL MANHOLES, VALVE & CURB BOXES TO FINAL GRADE DURING CONSTRUCTION. ANY BOXES DAMAGED OR OTHERWISE DISTURBED BY THE CONTRACTOR SHALL BE REPAIRED AT THE EXPENSE OF THE CONTRACTOR.
16. THE CONTRACTOR IS RESPONSIBLE FOR CONTROLLING DUST AND EROSION DURING CONSTRUCTION AT HIS EXPENSE. PARKING AREAS SHALL BE WATERED TO CONTROL DUST WHEN DIRECTED BY THE ENGINEER.
17. NO WARRANTY IS MADE FOR THE SUITABILITY OF THE SUBGRADE. UNDERCUT AND ANY REQUIRED REPLACEMENT WITH SUITABLE MATERIAL SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
18. THE CONTRACTOR IS TO ENSURE THAT PAVEMENT AND OTHER FINISHED SURFACES ARE PLACED SO AS TO DRAIN POSITIVELY AWAY FROM ALL BUILDINGS.
19. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING REQUIRED BUILDING PERMITS.

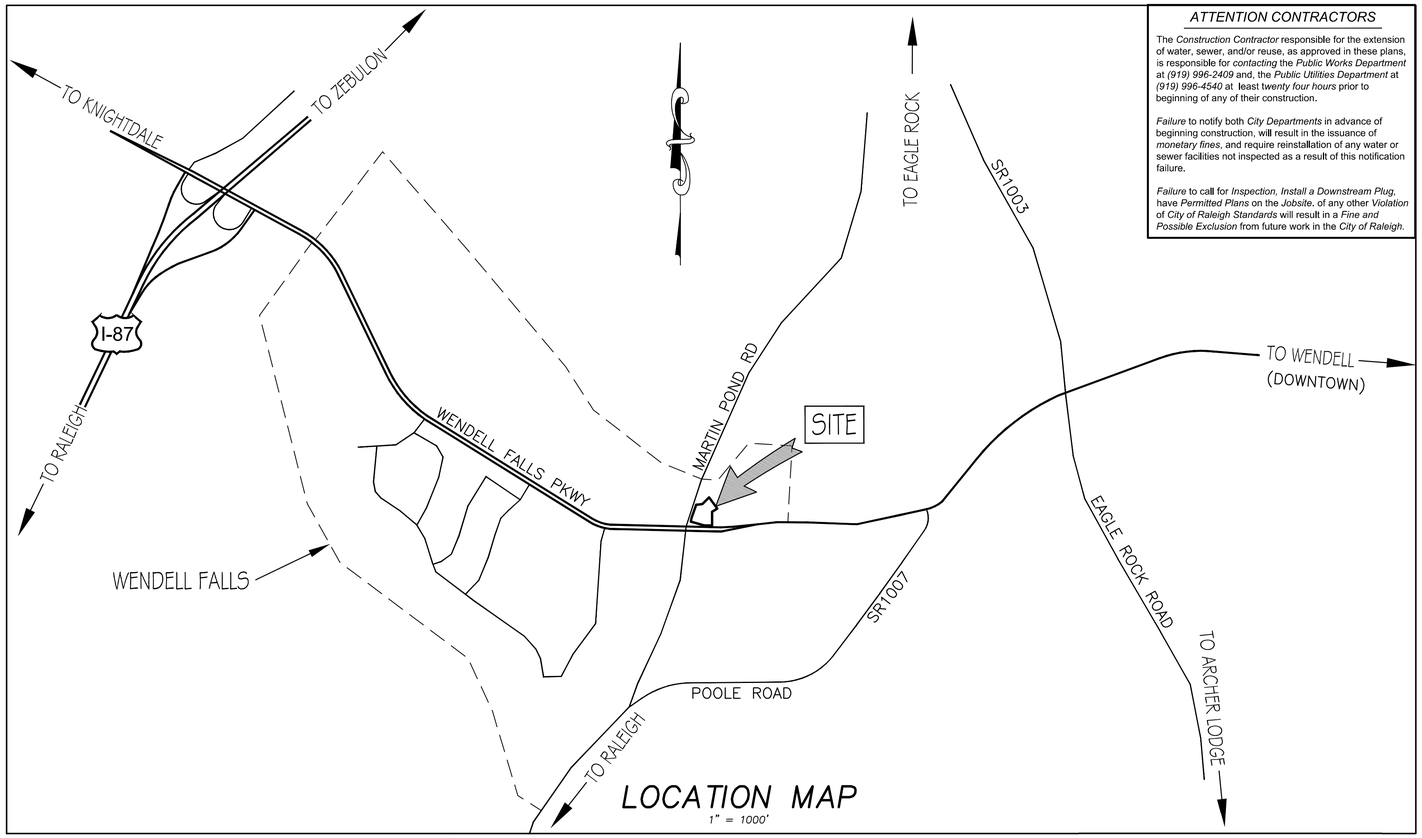
PROJECT DATA:

1. PROJECT ADDRESS: 1932 WENDELL FALLS PARKWAY, WENDELL, NC 27591
2. PARCEL ID NO: 1: 1773258506 2: 1773257639
3. CONSULTANT: CSD ENGINEERING, JOHN F. OGLESBY, PE, 919-624-0997 -M, 910-791-1551 -O, 910-791-1501 -F, john@csd-engineering.com
4. PROPERTY OWNER: 1-N/F CONNIE L. JONES, 2364 SIMNSON FARM ROAD, WENDELL, NC 27591; 2-N/F CSSNC LLC (CONNIE JONES), 2364 SIMNSON FARM ROAD, WENDELL, NC 27591
5. PROJECT ZONING: PUD-1S-1
6. LAND CLASSIFICATION: PLANNED URBAN DEVELOPMENT (MIXED USE)
7. PARCEL AREA = (1) 0.322 AC, (2) 1.853 AC = 94,780 SQ. FT. (TOTAL MEASURED)
8. REQUIRED SETBACKS: = 0 FEET (STREET) = 0 FEET (SIDE) = 0 FEET (REAR)
9. MAX. LOT COVERAGE = 85% (SQ. FT.)
10. ACTUAL LOT COVERAGE = 28.1% (SQ. FT.)

CONSTRUCTION DRAWINGS FOR

NEUSE RIVER VETERINARY HOSPITAL

1932 WENDELL FALLS PARKWAY
WENDELL, NORTH CAROLINA 27591



LOCATION MAP
1" = 1000'

ATTENTION CONTRACTORS

The *Construction Contractor* responsible for the extension of water, sewer, and/or reuse, as approved in these plans, is responsible for *contacting* the *Public Works Department* at *(919) 996-2409* and, the *Public Utilities Department* at *(919) 996-4540* at least *twenty four hours* prior to beginning of any of their construction.

Failure to notify both *City Departments* in advance of beginning construction, will result in the issuance of *monetary fines*, and require reinstallation of any water or sewer facilities not inspected as a result of this notification failure.

Failure to call for *Inspection, Install a Downstream Plug,* have *Permitted Plans* on the *Jobsite*, of any other *Violation* of *City of Raleigh Standards* will result in a *Fine and Possible Exclusion* from future work in the *City of Raleigh.*

SITE PERMITTING APPROVAL

WATER AND SEWER PERMITS

THE CITY OF RALEIGH CONSENTS TO THE CONNECTION AND EXTENSION OF THE CITY'S **PUBLIC SEWER SYSTEM** AS SHOWN ON THIS PLAN. THE MATERIAL AND CONSTRUCTIONS METHODS USED FOR THIS PROJECT SHALL CONFORM TO THE STANDARDS AND SPECIFICATIONS OF THE CITY'S PUBLIC UTILITIES HANDBOOK.

CITY OF RALEIGH PUBLIC UTILITIES DEPARTMENT PERMIT #____S-4946____

CITY OF RALEIGH

PLANS AUTHORIZED FOR CONSTRUCTION

ELECTRONIC APPROVAL: THIS APPROVAL IS BEING ISSUED ELECTRONICALLY. THIS APPROVAL IS VALID ONLY UPON THE SIGNATURE OF A CITY OF RALEIGH REVIEW OFFICER BELOW. THE CITY WITH RETAIN A COPY OF THE APPROVED PLANS. ANY WORK AUTHORIZED BY THIS APPROVE MUST PROCEED IN ACCORDANCE WITH THE PLANS KEPT ON FILE WITH THE CITY. THIS ELECTRONIC APPROVAL MAY NOT BE EDITED ONCE ISSUED. ANY MODIFICATION TO THIS APPROVAL ONCE ISSUED WILL INVALIDATE THIS APPROVAL

CITY OF RALEIGH DEVELOPMENT APPROVAL:_____

Keith A. Tew, PE

RALEIGH REVIEW OFFICER

PUBLIC IMPROVEMENT DATA:

1. TOTAL LINEAR FEET PUBLIC WATER MAIN: N/A
2. TOTAL LINEAR FEET PUBLIC SEWER MAIN:
   300.5 LF - 12-INCH DIP (LINED*)
   102.0 LF - 8-INCH DIP
   47.0 LF - 8-INCH PVC
3. TOTAL WATER STUBS: 1 (PRIVATE SERVICE TAP)
4. TOTAL SEWER STUBS: 3 (1 PUBLIC MAIN TAP; 2 PRIVATE SERVICE TAPS)

INDEX TO DRAWINGS

SHEET No.	DESCRIPTION	DRAWING No.
1 OF 21	COVER SHEET & LOCATION MAP	C1.0
2 OF 21	EXISTING CONDITIONS & DEMOLITION NOTES	C2.0
3 OF 21	SITE PLAN	C3.0
4 OF 21	PAVEMENT MARKING & SIGN PLAN	C3.1
5 OF 21	GRADING & DRAINAGE PLAN - OVERALL FINISHED GRADE	C4.0
6 OF 21	GRADING & DRAINAGE PLAN - FINISHED GRADE DETAIL	C4.1
7 OF 21	GRADING & DRAINAGE PLAN - FINISHED GRADE DETAIL	C4.2
8 OF 21	RETAINING WALL PLAN, PROFILE & SECTIONS	C4.3
9 OF 21	PRIVATE STREET PLAN, PROFILE & SECTION	C4.4
10 OF 21	GRADING & DRAINAGE PLAN - DETAILS	C4.5
11 OF 21	WATER & SEWER UTILITY PLAN - OVERALL UTILITY PLAN	C5.0
12 OF 21	WATER & SEWER UTILITY PLAN - SEWER PLAN & PROFILE	C5.1
13 OF 21	WATER & SEWER UTILITY PLAN - DETAILS	C5.2
14 OF 21	LANDSCAPE PLAN	C6.0
15 OF 21	EROSION & SEDIMENT CONTROL PLAN - CLEARING & GRUBBING	C7.0
16 OF 21	EROSION & SEDIMENT CONTROL PLAN - STAGE 1 GRADING	C7.1
17 OF 21	EROSION & SEDIMENT CONTROL PLAN - STAGE 2 UTILITY	C7.2
18 OF 21	EROSION & SEDIMENT CONTROL PLAN - STAGE 3 FINAL	C7.3
19 OF 21	EROSION & SEDIMENT CONTROL PLAN - STANDARD DETAILS	C7.4
20 OF 21	EROSION & SEDIMENT CONTROL PLAN - DETAILS & NOTES	C7.5
21 OF 21	EROSION & SEDIMENT CONTROL PLAN - NCG01 REQUIREMENTS	C7.6

EROSION CONTROL, STORMWATER AND FLOODPLAIN MANAGEMENT

APPROVED

EROSION CONTROL [X] SEC-068092-2021
STORMWATER MGMT. [X] SWF-073975-2021
FLOOD STUDY [ ] S-_____
DATE 3/22/2022

Barney Blackburn
ENVIRONMENTAL CONSULTANT SIGNATURE

INDEX TO DRAWINGS BY OTHERS (FOR REF.)

DESCRIPTION	DRAWING No.
BUILDING ARCHITECTURE PLANS - COVER SHEET	A-0.00
BUILDING ARCHITECTURE PLANS - EXTERIOR ELEVATIONS	A-1.01
BUILDING ARCHITECTURE PLANS - BUILDING SECTIONS	A-4.01
RETAINING WALL CONSTRUCTION DRAWINGS - TITLE SHEET	RW-1.0
RETAINING WALL CONSTRUCTION DRAWINGS - SITE LAYOUT	RW-2.0
RETAINING WALL CONSTRUCTION DRAWINGS - WALL PROFILE	RW-3.0
RETAINING WALL CONSTRUCTION DRAWINGS - DETAILS	RW-4.0
RETAINING WALL CONSTRUCTION DRAWINGS - DETAILS	RW-4.1
RETAINING WALL CONSTRUCTION DRAWINGS - SPECIFICATINS	RW-5.0
DEP LIGHTING PLAN	21-0032B
DEP LIGHTING PLAN - CLEAN	21-0032B

CITY OF RALEIGH UTILITY NOTES:

1. ALL MATERIALS & CONSTRUCTION METHODS SHALL BE IN ACCORDANCE WITH CITY OF RALEIGH DESIGN STANDARDS, DETAILS & SPECIFICATIONS (REFERENCE: CORPUD HANDBOOK, CURRENT EDITION).
   NOTE: THIS PROJECT INCLUDES INSTALLATION OF 12" SEWER PIPE THAT SHALL BE DUCTILE IRON PIPE LINED WITH AMINE CURED NOVALC CERAMIC EPOXY CONTAINING AT LEAST 20% BY VOLUME OF CRAMIC QUARTZ PIGMENT. THE GASKET AREA AND SPIGOT END MUST BE COATED WITH 6 MILS NOMINAL, 10 MILS MAXIMUM OF PROTECTO JOINT COMPOUND OR APPROVED EQUAL. THE JOINT COMPOUND SHALL BE APPLIED BY BRUSH TO ENSURE COVERAGE. CARE SHALL BE TAKEN THAT THE JOINT COMPOUND IS SMOOTH WITH OUT EXCESS BUILDUP IN THE GASKET SEAT OR ON THE SPIGOT ENDS.
2. UTILITY SEPARATION REQUIREMENTS:
   A) A DISTANCE OF 100 FEET SHALL BE MAINTAINED BETWEEN SANITARY SEWER & ANY PRIVATE OR PUBLIC WATER SUPPLY SOURCE SUCH AS AN IMPOUNDED RESERVOIR USED AS A SOURCE OF DRINKING WATER. IF ADEQUATE LATERAL SEPARATION CANNOT BE ACHIEVED, FERROUS SANITARY SEWER PIPE SHALL BE SPECIFIED & INSTALLED TO WATERLINE SPECIFICATIONS. HOWEVER, THE MINIMUM SEPARATION SHALL NOT BE LESS THAN 25'FROM A PRIVATE WELL OR 50' FROM A PUBLIC WELL.
   B) WHEN INSTALLING WATER &/OR SEWER MAINS, THE HORIZONTAL SEPARATION BETWEEN UTILITIES SHALL BE 10 FEET. IF THIS SEPARATION CANNOT BE MAINTAINED DUE TO EXISTING CONDITIONS, THE VARIATION ALLOWED IS THE WATER MAIN IN A SEPARATE TRENCH WITH THE ELEVATION OF THE WATER MAIN AT LEAST 18" ABOVE THE TOP OF THE SEWER & MUST BE APPROVED BY THE PUBLIC UTILITIES DIRECTOR. ALL DISTANCES ARE MEASURED FROM OUTSIDE DIAMETER TO OUTSIDE DIAMETER.
   C) WHERE IT IS IMPOSSIBLE TO OBTAIN PROPER SEPARATION, OR ANYTIME A SANITARY SEWER PASSES OVER A WATERMAIN, DIP MATERIALS OR STEEL ENCASEMENT EXTENDED 10'ON EACH SIDE OF CROSSING MUST BE SPECIFIED & INSTALLED TO WATERLINE SPECIFICATIONS.
   D) 5.0 FEET MINIMUM HORIZONTAL SEPARATION IS REQUIRED BETWEEN ALL SANITARY SEWER & STORM SEWER FACILITIES, UNLESS DIP MATERIAL IS SPECIFIED FOR SANITARY SEWER.
   E) MAINTAIN 18" MIN. VERTICAL SEPARATION AT ALL WATERMAIN & RCP STORM DRAIN CROSSINGS; MAINTAIN 18 IN. MIN. VERTICAL SEPARATION AT ALL SANITARY SEWER & RCP STORM DRAIN CROSSINGS. WHERE ADEQUATE SEPARATIONS CANNOT BE ACHIEVED, SPECIFY DIP MATERIALS & A CONCRETE CRADLE HAVING 6" MIN. CLEARANCE (PER CORPUD DETAILS W-41 & S-49).
   F) ALL OTHER UNDERGROUND UTILITIES SHALL CROSS WATER & SEWER FACILITIES WITH 18" MIN. VERTICAL SEPARATION REQUIRED.
3. ANY NECESSARY FIELD REVISIONS ARE SUBJECT TO REVIEW & APPROVAL OF AN AMENDED PLAN AND PROFILE BY THE CITY OF RALEIGH PUBLIC UTILITIES DEPARTMENT PRIOR TO CONSTRUCTION.
4. DEVELOPER SHALL PROVIDE 30 DAYS ADVANCE WRITTEN NOTICE TO OWNER FOR ANY WORK REQUIRED WITHIN AN EXISTING CITY OF RALEIGH PUBLIC UTILITY EASEMENT TRAVERSING PRIVATE PROPERTY.
5. CONTRACTOR SHALL MAINTAIN CONTINUOUS WATER & SEWER SERVICE TO EXISTING RESIDENCES & BUSINESSES THROUGHOUT CONSTRUCTION OF PROJECT. ANY NECESSARY SERVICE INTERRUPTIONS SHALL BE PRECEDED BY A 24 HOUR ADVANCE NOTICE TO THE CITY OF RALEIGH PUBLIC UTILITIES DEPARTMENT.
6. 3.0 FEET MINIMUM COVER IS REQUIRED ON ALL WATER MAINS & SEWER FORCEMAINS. 4.0'MINIMUM COVER IS REQUIRED ON ALL REUSE MAINS.
7. IT IS THE DEVELOPER'S RESPONSIBILITY TO ABANDON OR REMOVE EXISTING WATER & SEWER SERVICES NOT BEING USED IN REDEVELOPMENT OF A SITE UNLESS OTHERWISE DIRECTED BY THE CITY OF RALEIGH PUBLIC UTILITIES DEPARTMENT. THIS INCLUDES ABANDONING TAP AT MAIN & REMOVAL OF SERVICE FROM ROW OR EASEMENT PER CORPUD HANDBOOK PROCEDURE.
8. INSTALL 2" COPPER WATER SERVICES WITH METERS LOCATED AT ROW OR WITHIN A 2-FT X 2-FT WATERLINE EASEMENT IMMEDIATELY ADJACENT. NOTE: IT IS THE APPLICANT'S RESPONSIBILITY TO PROPERLY SIZE THE WATER SERVICE FOR EACH CONNECTION TO PROVIDE ADEQUATE FLOW & PRESSURE.
9. INSTALL 4-INCH PVC SEWER SERVICES @ 1.0% MINIMUM GRADE WITH CLEANOUTS LOCATED AT ROW OR EASEMENT LINE & SPACED EVERY 75 LINEAR FEET MAXIMUM.
10. PRESSURE REDUCING VALVES ARE REQUIRED ON ALL WATER SERVICES EXCEEDING 80 PSI; BACKWATER VALVES ARE REQUIRED ON ALL SANITARY SEWER SERVICES HAVING BUILDING DRAINS LOWER THAN 1.0' ABOVE THE NEXT UPSTREAM MANHOLE.
11. ALL ENVIRONMENTAL PERMITS APPLICABLE TO THE PROJECT MUST BE OBTAINED FROM NCDWQ, USACE &/OR FEMA FOR ANY RIPARIAN BUFFER, WETLAND &/OR FLOODPLAIN IMPACTS (RESPECTIVELY) PRIOR TO CONSTRUCTION.
12. NCDOT / RAILROAD ENCROACHMENT AGREEMENTS ARE REQUIRED FOR ANY UTILITY WORK (INCLUDING MAIN EXTENSIONS & SERVICE TAPS) WITHIN STATE OR RAILROAD ROW PRIOR TO CONSTRUCTION
13. GREASE INTERCEPTOR / OIL WATER SEPARATOR SIZING CALCULATIONS & INSTALLATION SPECIFICATIONS SHALL BE APPROVED BY THE CORPUD FOG PROGRAM COORDINATOR PRIOR TO ISSUANCE OF A BUILDING PERMIT. CONTACT STEPHEN CALVERLEY AT (919) 996-2334 FOR STEPHEN.CALVERLEY@RALEIGHNC.GOV FOR MORE INFORMATION.
14. CROSS-CONNECTION CONTROL PROTECTION DEVICES ARE REQUIRED BASED ON DEGREE OF HEALTH HAZARD INVOLVED AS LISTED IN APPENDIX-B OF THE RULES GOVERNING PUBLIC WATER SYSTEMS IN NORTH CAROLINA. THESE GUIDELINES ARE THE MINIMUM REQUIREMENTS. THE DEVICES SHALL MEET AMERICAN SOCIETY OF SANITARY ENGINEERING (ASSE) STANDARDS OR BE ON THE UNIVERSITY OF SOUTHERN CALIFORNIA APPROVAL LIST. THE DEVICES SHALL BE INSTALLED AND TESTED (BOTH INITIAL AND PERIODIC TESTING THEREAFTER) IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS OR THE LOCAL CROSS-CONNECTION CONTROL PROGRAM, WHICHEVER IS MORE STRINGENT. A CERTIFICATE OF COMPLIANCE SHALL ALSO BE OBTAINED FOR EACH DEVICE PRIOR TO ISSUANCE OF A BUILDING PERMIT. CONTACT JOANIE HARTLEY AT (919) 996-5923 OR JOANIE.HARTLEY@RALEIGHNC.GOV FOR MORE INFORMATION.
15. GRADING SHALL NOT EXCEED 3:1 SLOPES ACROSS CITY OF RALEIGH SANITARY SEWER EASEMENT (SEE GRADING PLAN).

ADDITIONAL NOTES (CONDITIONS FOR APPROVAL):

16. OFFSITE CORWLE AND CORSSE AQUISITIONS SHALL BE RECORDED BY DEED PRIOR TO CONSTRUCTION DRAWING APPROVAL.
17. THIS PROJECT REQUIRES CONSTRUCTION DRAWING APPROVAL FOR PUBLIC WATER AND SEWER PERMITS PRIOR TO PLAT RECORDATION.
18. EASEMENT PLAT RECORDATION IS REQUIRED PRIOR TO ISSUANCE OF UTILITY CONNECTION AND BUILDING PERMIT.
19. ACCEPTANCE OF UTILITIES BY CITY OF RALEIGH FOR MAINTENANCE IS REQUIRED PRIOR TO RELEASE OF CERTIFICATE OF OCCUPANCY.

I HEREBY CERTIFY THAT THIS PLAN WAS APPROVED BY THE (ADMINISTRATOR) OR (TRC) OF THE TOWN OF WENDELL ON THE 22nd DAY OF March 2022.

_____ Stacy Sutton
ADMINISTRATOR

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COVER SHEET
LOCATION MAP

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CONSTRUCTION DRAWINGS FOR
NEUSE RIVER VETERINARY HOSPITAL
LOCATED IN TOWN OF WENDELL
WAKE COUNTY, NORTH CAROLINA

OWNER: CONNIE L. JONES (919) 365-5001, 2364 SIMNSON FARM ROAD, WENDELL, NC 27591
BUILDER: C&G BUILDERS - AMOS GREENE (919) 365-7488, 1603 HOLLYBROOK ROAD, WENDELL, NC 27591

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 032721 JOHN F. OGLESBY
3/1/22

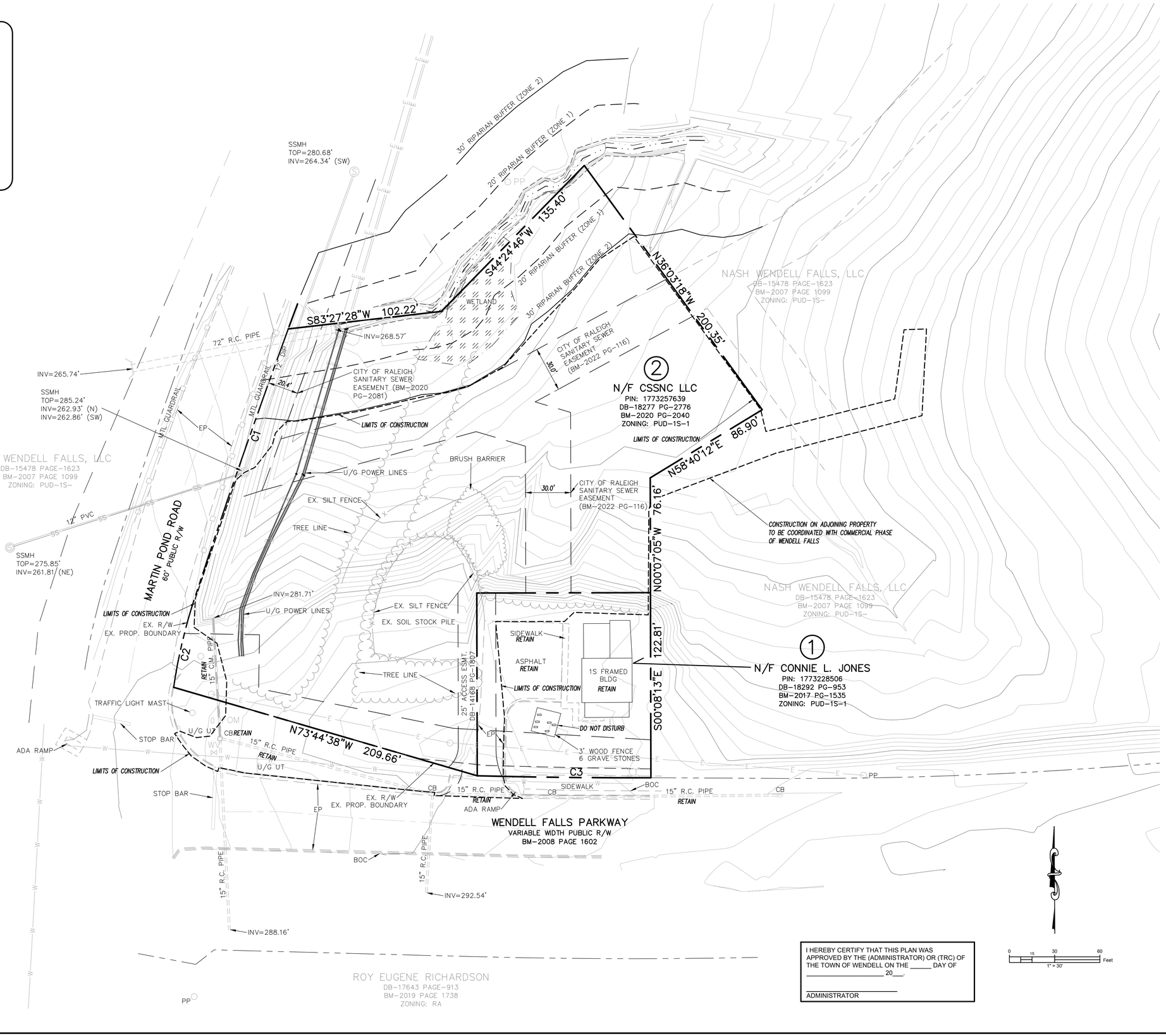
REV. NO.	REMARKS	BY	DATE

DATE: 3/16/2022
HORZ. SCALE: 1" = 1000'
VERT. SCALE: N/A
DRAWN BY: JFO
CHECKED BY: HSR
PROJECT NO.: 21-0559

Sheet C1.0
Sheet No. 1 OF 21

EXISTING CONDTION & DEMOLITION NOTES

1. SITE ADDRESS: 1932 WENDELL FALLS PARKWAY WENDELL, NC 27591
2. BOUNDARY & TOPOGRAPHIC SURVEY PROVIDED BY
   McKIM & CREED (NC FIRM NO. F-12222)
   1730 VARSITY DRIVE, SUITE 500
   RALEIGH, NC 27606
   919-233-8091
   SURVEY DATED: JULY 24, 2020
3. EXISTING OFF-SITE TOPOGRAPHY IS FROM LIDAR DATA DOWNLOAD FROM THE N.C. FLOOD RISK INFORMATION SYSTEM.
4. PRIMARY STRUCTURE ON PARCEL 1 WITH BE RETAINED; CURB & GUTTER, SIDEWALK, ASPHALT PAVEMENT WILL BE REMOVED AS NECESSARY FOR NEW BUILD.
5. PORTION OF EXISTING PARKING AREA WILL BE RETAINED; ASPHALT MILLED FOR OVERLAY.
6. GREAT CARE SHALL BE TAKEN TO PRESERVE EXISTING GRAVE SITE, VEGETATION AND LANDSCAPE FEATURES ON PARCEL 1.



CURVE TABLE			
Curve #	LENGTH	RADIUS	DELTA
C1	189.20'	5320.27'	2°02'15"
C2	60.73'	354.05'	9°49'42"
C3	115.19'	3940.00'	1°40'30"

I HEREBY CERTIFY THAT THIS PLAN WAS APPROVED BY THE (ADMINISTRATOR) OR (TRC) OF THE TOWN OF WENDELL ON THE _____ DAY OF _____ 20___.

_____
ADMINISTRATOR

0 15 30 60 Feet
1" = 30'

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WENDELL, NC 27591
(910) 791-4441

EXISTING CONDITIONS
LIMITS OF CONSTRUCTION

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CONSTRUCTION DRAWINGS FOR
NEUSE RIVER VETERINARY HOSPITAL
LOCATED IN TOWN OF WENDELL
WAKE COUNTY, NORTH CAROLINA

OWNER: CONNIE L. JONES (919) 365-9001
2364 SWINSON FARM ROAD
WENDELL, NC 27591

BUILDER: GAS BUILDERS AMOS GREENE (919) 365-7488
6241 LOUISBURG ROAD
WENDELL, NC 27591

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 032721 MARTIN F. OGLESBY 3/16/22

REV. NO.	REMARKS	BY	DATE

DATE: 3/16/2022
HORZ. SCALE: 1" = 30'
VERT. SCALE: N/A
DRAWN BY: JFO
CHECKED BY: HSR
PROJECT NO.: 20-0525

Sheet C2.0
Sheet No. 2 OF 21

PARKING CALCULATIONS:

COMMERCIAL – OFFICE/SERVICE USES

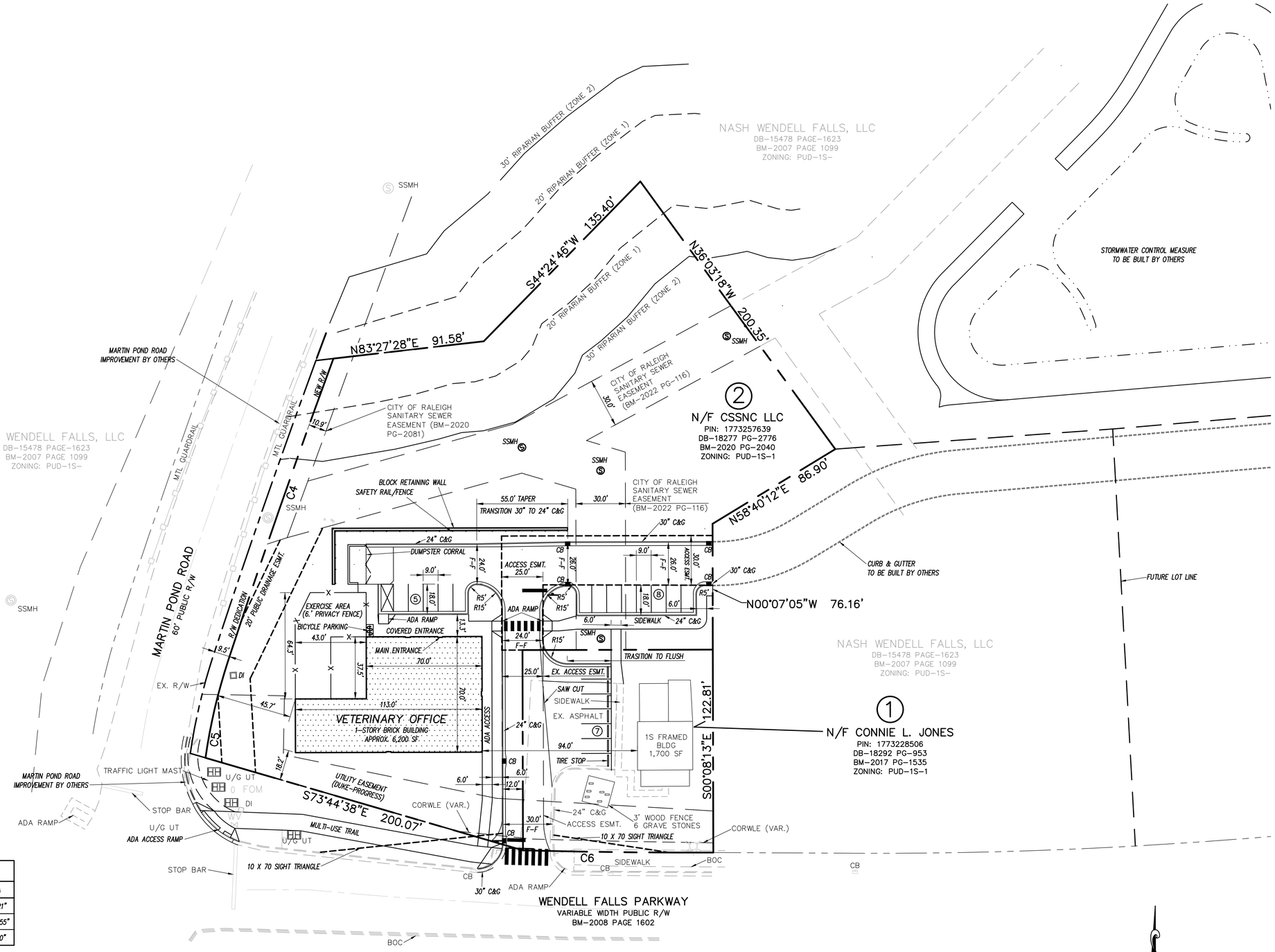
AUTO PARKING SPACES:	2–3 SPACES PER 1,000 SQ. FT.
EXISTING BUILDING SQUARE FOOTAGE:	1,700 SQ. FT
PROPOSED BUILDING SQUARE FOOTAGE:	6,200 SQ. FT
REQUIRED PARKING CALCULATION:	7,900 SQ. FT. / 1,000 X 2–3 = 15.8 – 23.7 SPACES SAY 16 – 24 SPACES REQUIRED
EXISTING PARKING SPACES PROVIDED:	5 SPACES
EXISTING PARKING SPACES RETAINED:	5 SPACES
PROPOSED NEW PARKING SPACES:	15 SPACES (INCLUDING 1 ADA CAR/VAN SPACE)
MIN. PARKING SPACES REQUIRED:	16 SPACES
TOTAL PARKING SPACES PROVIDED:	20 SPACES

PROPOSED BICYCLE PARKING:

NUMBER OF AUTO PARKING SPACES:	20 SPACES
REQUIRED BICYCLE PARKING:	1 SPACE PER 20 AUTO SPACES
BICYCLE PARKING PROVIDED:	2 SPACES

LOT COVERAGE:

PARCEL 1:	
PARCEL AREA	= 14,065 SQ. FT.
EXISTING ON–SITE IMPERVIOUS	= 6,184 SQ. FT
PROPOSED ON–SITE IMPERVIOUS	= 1,106 SQ. FT.
PARCEL 1 IMPERVIOUS	= 7,290 SQ. FT.
LOT COVERAGE	= 51.8 %
PARCEL 2:	
PARCEL AREA	= 80,715 SQ. FT.
NET AREA AFTER R/W DEDICATION	= 78,321 SQ. FT.
EXISTING ON–SITE IMPERVIOUS =	= 0 SQ. FT.
PROPOSED ON–SITE IMPERVIOUS	= 19,450 SQ. FT.
PARCEL 2 IMPERVIOUS	= 19,450 SQ. FT.
LOT COVERAGE	= 24.8 %
COMBINED NEW PARCEL AREA	= 92,386 SQ. FT.
TOTAL IMPERVIOUS	= 26,740 SQ. FT.
COMBINED LOT COVERAGE	= 28.9 %



CURVE TABLE			
Curve #	LENGTH	RADIUS	DELTA
C4	193.65'	5310.77'	2°05'21"
C5	60.43'	344.55'	10°02'55"
C6	115.19'	3940.00'	1°40'30"

I HEREBY CERTIFY THAT THIS PLAN WAS APPROVED BY THE (ADMINISTRATOR) OR (TRC) OF THE TOWN OF WENDELL ON THE _____ DAY OF _____ 20___.

_____
ADMINISTRATOR

0 15 30 60 Feet
1" = 30'

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COMMERCIAL SITE PLAN

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CONSTRUCTION DRAWINGS FOR
NEUSE RIVER VETERINARY HOSPITAL
LOCATED IN TOWN OF WENDELL
WAKE COUNTY, NORTH CAROLINA

OWNER: CONNIE L. JONES (919) 365–9001
2364 SWINSON FARM ROAD
WENDELL, NC 27591

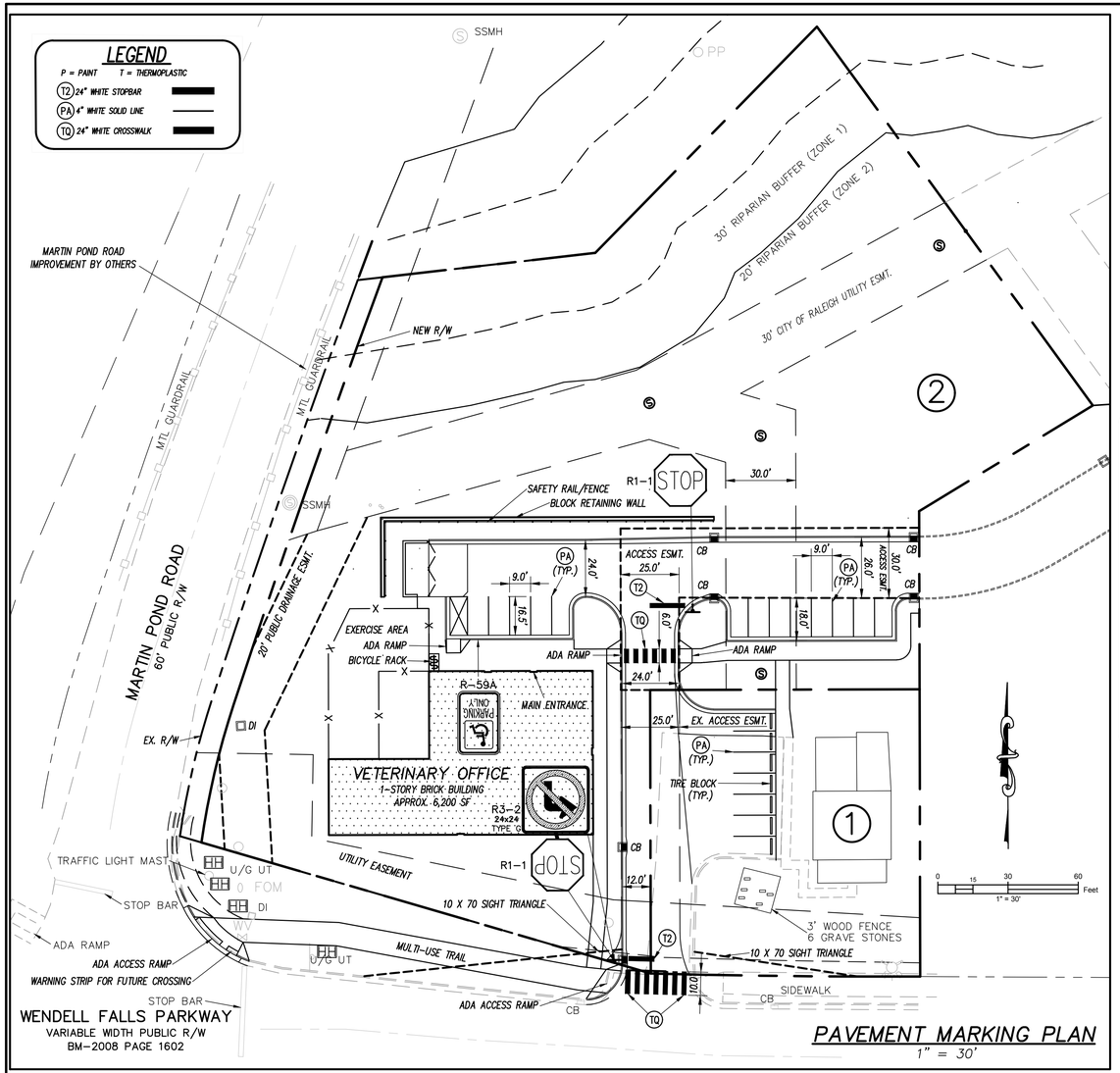
BUILDER: C&C BUILDERS, AMOS GREENE (919) 365–7488
1101 HILLSBOROUGH ROAD
WENDELL, NC 27591

NORTH CAROLINA PROFESSIONAL ENGINEER JOHN F. OGLESBY SEAL 032721
3/16/22

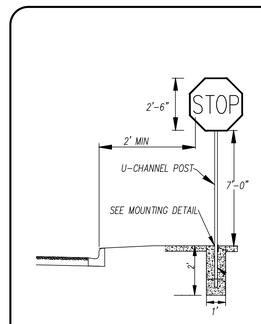
REV. NO.	REMARKS	BY	DATE

DATE: 3/16/2022
HORZ. SCALE: 1" = 30'
VERT. SCALE: N/A
DRAWN BY: JFO
CHECKED BY: HSR
PROJECT NO.: 21–0559

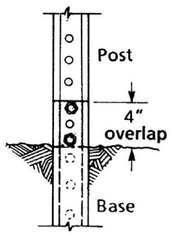
Sheet C3.0
Sheet No. 3 OF 21



PAVEMENT MARKING PLAN
1" = 30'



STOP SIGN INSTALLATION
NOT TO SCALE



BREAKAWAY TREATMENTS
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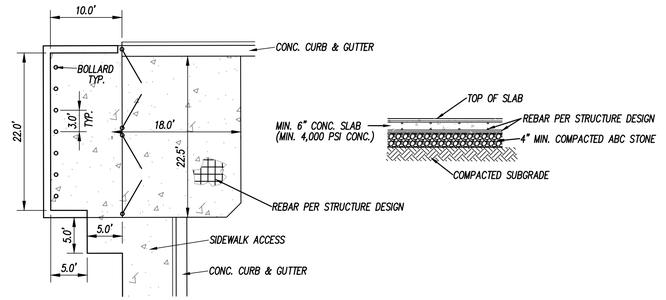
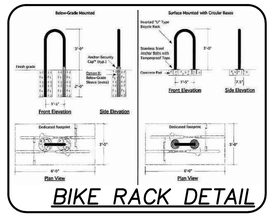
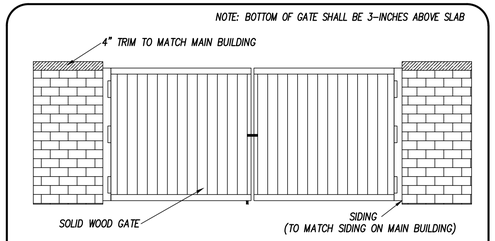


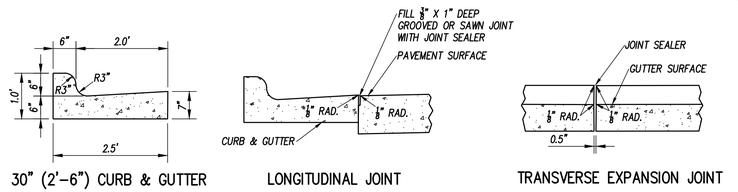
DUMPSTER CORRAL DETAIL
N.T.S.



BIKE RACK DETAIL



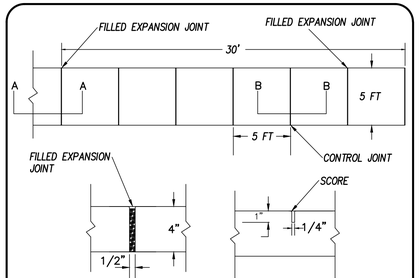
DUMPSTER ENCLOSURE GATE
N.T.S.



30" (2'-6") CURB & GUTTER | LONGITUDINAL JOINT | TRANSVERSE EXPANSION JOINT

GENERAL NOTES:
1. USE NCDOT CLASS B CONCRETE (MIN. 3000 PSI).
2. PLACE CONSTRUCTION JOINTS AT 10' INTERVALS, EXCEPT THAT A 15" SPACING MAY BE USED WHEN A MACHINE IS USED OR WHEN SATISFACTORY SUPPORT FOR THE FACE FORM CAN BE OBTAINED WITHOUT THE USE OF TEMPLATES AT 10' INTERVALS.
3. JOINT SPACING MAY BE ALTERED IF REQUIRED BY ENGINEER.
4. CONTRACTION JOINTS MAY BE INSTALLED WITH THE USE OF TEMPLATES OR FORMED BY OTHER APPROVED METHODS; CONSTRUCT NON-TEMPLATE FORMED JOINTS A MIN. OF 1.5" DEEP.
5. FILL ALL CONSTRUCTION JOINTS, EXCEPT IN 8" X 6" MEDIAN CURB, WITH JOINT FILLER AND SEALER.
6. SPACE EXPANSION JOINTS AT 90' INTERVALS AND ADJACENT TO A RIGID OBJECTS (I.E. CATCH BASIN).

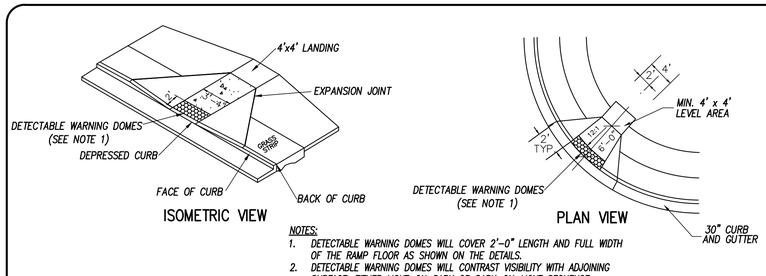
CONCRETE CURB & GUTTER
WITHIN R/W; FROM NCDOT STD. DWG. 846.01
NTS



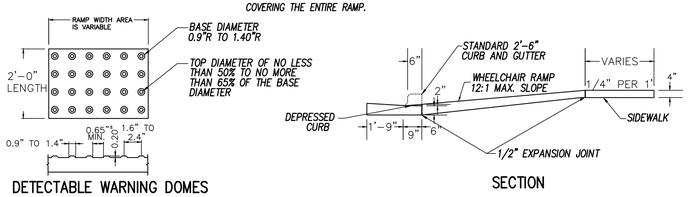
SECTION A-A SECTION B-B

GENERAL NOTES:
1. JOINT MATERIAL TO COMPLY WITH CURRENT NCDOT STANDARDS.
2. SANITARY SEWER CLEAN-OUTS, WATER METERS, MANHOLES, AND VALVE LIDS TO BE LOCATED OUTSIDE SIDEWALK WHERE FEASIBLE
3. CONCRETE FOR ALL SIDEWALKS (EXCEPT ANY PORTION CONTAIN WITHIN A DRIVEWAY APRON) SHALL BE CLASS "A" - 3,000 PSI.
4. MINIMUM REPLACEMENT FOR REPAIRS IS A 5' X 5' PANEL
5. 4" STONE BASE MAY BE REQUIRED FOR POOR SOIL CONDITIONS
6. MINIMUM DEPTH FOR TUNNELING BELOW SIDEWALK IS 12"
7. MAX ADJACENT GROUND SLOPE WITHOUT RAILING IS 2:1
8. MIN GRADE FOR PROPER DRAINAGE IS 1% IN AT LEAST 1 DIRECTION. MAX CROSS SLOPE IS 2% .MAX LONGITUDINAL SLOPE IS 8.3%, 10% IF LIMITED BY EXISTING CONDITIONS, OR NO GREATER THAN THE SLOPE OF THE EXISTING ADJACENT ROAD.

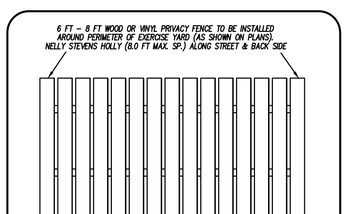
STANDARD SIDEWALK DETAIL
NOT TO SCALE



NOTES:
1. DETECTABLE WARNING DOMES WILL COVER 2'-0" LENGTH AND FULL WIDTH OF THE RAMP FLOOR AS SHOWN ON THE DETAILS.
2. DETECTABLE WARNING DOMES WILL CONTRAST VISIBILITY WITH ADJOINING SURFACE. EITHER LIGHT-ON-DARK OR DARK-ON-LIGHT SEQUENCE COVERING THE ENTIRE RAMP.



STANDARD "ADA" RAMP DETAIL
NOT TO SCALE



EXERCISE YARD SCREENING
N.T.S.

I HEREBY CERTIFY THAT THIS PLAN WAS APPROVED BY THE (ADMINISTRATOR) OR (TRC) OF THE TOWN OF WENDELL ON THE _____ DAY OF _____ 20___.

_____
ADMINISTRATOR

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COMMERCIAL SITE PLAN
PAVEMENT MARKING, SIGNS & DETAILS

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CONSTRUCTION DRAWINGS FOR
NEUSE RIVER VETERINARY HOSPITAL
LOCATED IN TOWN OF WENDELL
WAKE COUNTY, NORTH CAROLINA
OWNER: CONNIE L. JONES (919) 365-9001
2364 SWINSON FARM ROAD
WENDELL, NC 27591
BUILDER: GREG BUILDERS, AMOS GREENE (919) 365-7488
1053 BUFFALOCK ROAD
WENDELL, NC 27591

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 032721 JOHN F. OGLESBY
3/16/22

REV. NO.	REMARKS	BY	DATE

DATE: 3/16/2022
HORZ. SCALE: 1" = 30'
VERT. SCALE: N/A
DRAWN BY: JFO
CHECKED BY: HSR
PROJECT NO.: 21-0559

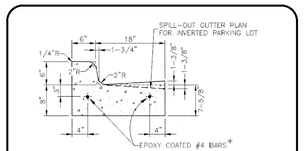
Sheet C3.1
Sheet No. 4 OF 21

GRADING PLAN NOTES:

1. REFER TO SPOT ELEVATIONS AND PROPOSED CONTOURS SHOWN ON PLANS; SLOPES ACROSS SANITARY SEWER EASEMENT SHALL NOT BE STEEPER THAN 3:1.
2. CONSTRUCT AND MAINTAIN ALL EROSION AND SEDIMENTATION CONTROL PRACTICES AND MEASURES IN ACCORDANCE WITH THE APPROVED EROSION & SEDIMENT CONTROL PLAN AND CONSTRUCTION SCHEDULE.
3. REMOVE GOOD TOPSOIL FROM AREAS TO BE GRADED AND FILLED, AND PRESERVE IT FOR USE IN FINISHING THE GRADING OF ALL CRITICAL AREAS.
4. SCARIFY AREAS TO BE COVERED WITH TOPSOIL TO A MINIMUM DEPTH OF 2 INCHES BEFORE PLACING TOPSOIL.
5. CLEAR AND GRUB AREAS TO BE FILLED TO REMOVE TREES, VEGETATION, ROOTS, OR OTHER OBJECTIONABLE MATERIAL THAT WOULD AFFECT THE PLANNED STABILITY OF THE FILL.
6. ENSURE THAT FILL MATERIAL IS FREE OF BRUSH, RUBBISH, ROCKS, LOGS, STUMPS, BUILDING DEBRIS, AND OTHER MATERIALS INAPPROPRIATE FOR CONSTRUCTING STABLE FILLS.
7. PLACE ALL FILL IN LAYERS NOT TO EXCEED 8 INCHES IN THICKNESS, AND COMPACT THE LAYERS AS REQUIRED TO REDUCE EROSION, SLIPPAGE, SETTLEMENT, OR OTHER RELATED PROBLEMS.
8. SLOPES STEEPER THAN 3:1 WILL BE STABILIZED WITH PERMANENT SOIL REINFORCING MATTING; NAG P300 SPECIFICATION OR EQUIVALENT.
9. PLACEMENT OF FILL MATERIAL MUST BE CONDUCTED UNDER THE OBSERVATION OF A QUALIFIED LICENSED GEOTECHNICAL ENGINEER.
10. DO NOT INCORPORATE FROZEN MATERIAL OR SOFT, MUCKY, OR HIGHLY COMPRESSIBLE MATERIALS INTO FILL SLOPES.
11. DO NOT PLACE FILL ON A FROZEN FOUNDATION, DUE TO POSSIBLE SUBSIDENCE AND SLIPPAGE.
12. KEEP DIVERSIONS AND OTHER WATER CONVEYANCE MEASURES FREE OF SEDIMENT DURING ALL PHASES OF DEVELOPMENT.
13. HANDLE SEEPS OR SPRINGS ENCOUNTERED DURING CONSTRUCTION IN ACCORDANCE WITH APPROVED NCDEQ-LAND QUALITY METHODS (PRACTICE 6.81, SUBSURFACE DRAIN).
14. PERMANENTLY STABILIZE ALL GRADED AREAS IMMEDIATELY AFTER FINAL GRADING IS COMPLETED ON EACH AREA IN THE GRADING PLAN. APPLY TEMPORARY STABILIZATION MEASURES ON ALL GRADED AREAS WHEN WORK IS TO BE INTERRUPTED OR DELAYED FOR 14 WORKING DAYS OR LONGER.
15. ENSURE THAT TOPSOIL STOCKPILES, BORROW AREAS, AND SPOIL AREAS ARE ADEQUATELY PROTECTED FROM EROSION WITH TEMPORARY AND FINAL STABILIZATION MEASURES, INCLUDING SEDIMENT FENCING AND TEMPORARY SEEDING AS NECESSARY.
16. MAINTENANCE: PERIODICALLY CHECK ALL GRADED AREAS AND THE SUPPORTING EROSION AND SEDIMENTATION CONTROL PRACTICES, ESPECIALLY AFTER HEAVY RAINFALLS.
17. PROMPTLY REMOVE ALL SEDIMENT FROM DIVERSIONS AND OTHER WATER-DISPOSAL PRACTICES. IF WASHOUTS OR BREAKS OCCUR, REPAIR THEM IMMEDIATELY.
18. PROMPT MAINTENANCE OF SMALL ERODED AREAS BEFORE THEY BECOME SIGNIFICANT GULLIES IS AN ESSENTIAL PART OF AN EFFECTIVE EROSION & SEDIMENT CONTROL PLAN.
19. UPON COMPLETION OF EARTHWORK ACTIVITIES, THE RECORD ENGINEER AND THE TOWN OF WENDELL MUST BE PROVIDED A FINAL GRADING REPORT THAT INCLUDES CORRESPONDING COMPACTION TEST RESULTS AND CERTIFICATIONS OF THE TYPES OF FILL MATERIAL AND ITS PROPER PLACEMENT.

STAGE 1 GRADING NOTES:

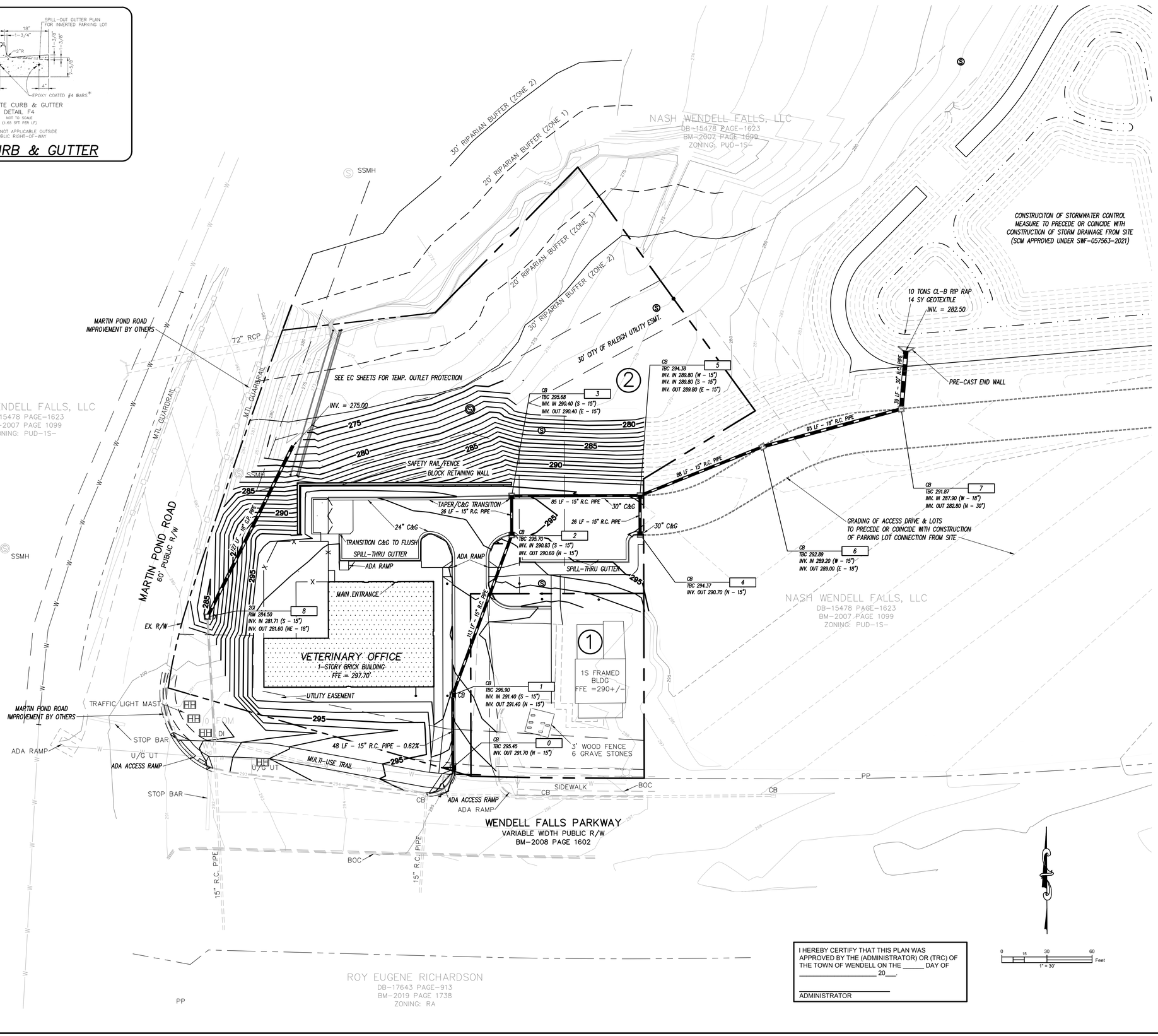
1. FOR STAGED GRADING PLAN, SEE SHEET C7.1 – STAGE 1 EROSION & SEDIMENT CONTROL PLAN.
2. STAGE 1 GRADING IS FOR BUILDING PAD AND TEMPORARY DAYLIGHT ONLY; FINAL GRADING SHALL COMMENCE AFTER BUILDING CONSTRUCTION HAS STARTED.
3. REFER TO OVERALL GRADING PLAN AND EROSION AND SEDIMENT CONTROL PLAN NOTES.
4. REFER TO FINISHED FLOOR ELEVATION OF NEW BUILDING AND PROPOSED CONTOURS SHOWN ON SHEET C7.1.
5. ONLY INSTALL APPROX. 80 LINEAR FEET OF PERMANENT CORR. PLASTIC PIPE ON DESIGN SLOPE; GRADE TEMPORARY CHANNEL TO PRE-FORMED SCOUR HOLE AND INSTALL SCOUR HOLE AS SHOWN ON STAGE 1 AND FINAL GRADING PLAN.
6. SLOPES STEEPER THAN 3:1 WILL BE STABILIZED WITH TEMPORARY MATTING; NAG P150 SPECIFICATION OR EQUIVALENT.
7. STABILIZE ALL GRADED AREAS IMMEDIATELY AFTER STAGE 1 GRADING IS COMPLETED ON EACH AREA IN THE GRADING PLAN. APPLY TEMPORARY STABILIZATION MEASURES ON ALL GRADED AREAS WHEN WORK IS TO BE INTERRUPTED OR DELAYED FOR 14 WORKING DAYS OR LONGER.



CONCRETE CURB & GUTTER
DETAIL F4
NOT TO SCALE
(1.65 SFT PER LF)

*BARS NOT APPLICABLE OUTSIDE OF PUBLIC RIGHT-OF-WAY

CURB & GUTTER



I HEREBY CERTIFY THAT THIS PLAN WAS APPROVED BY THE (ADMINISTRATOR) OR (TRC) OF THE TOWN OF WENDELL ON THE _____ DAY OF _____ 20___.

_____
ADMINISTRATOR

0 15 30 60 Feet
1" = 30'

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LICENSE # C-2710
ENGINEERING
LAND PLANNING
COMMERCIAL / RESIDENTIAL
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WENDELL, NC 27591
(910) 791-4441

GRADING & DRAINAGE PLAN
OVERALL FINISHED GRADE

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CONSTRUCTION DRAWINGS FOR
NEUSE RIVER VETERINARY HOSPITAL
LOCATED IN TOWN OF WENDELL
WAKE COUNTY, NORTH CAROLINA

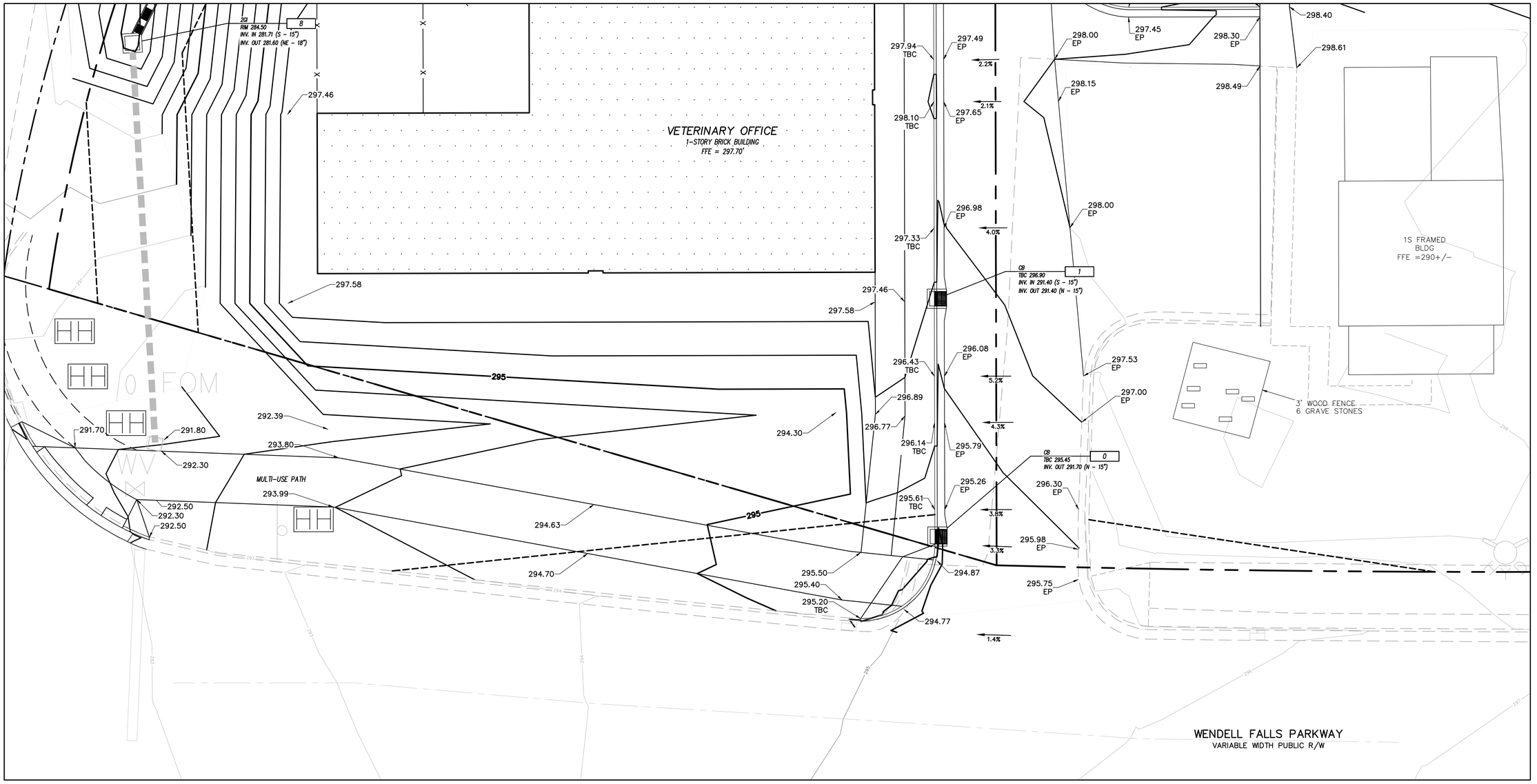
OWNER: CONNIE L. JONES (919) 365-9001
2364 SWINSON FARM ROAD
WENDELL, NC 27591
BUILDER: GAKS BUILDERS, AMOS GREENE (919) 365-7488
1633 LOCUST HOLLOW ROAD
WENDELL, NC 27591

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 032721 MARTIN F. OGLESBY 3/16/22

DATE	BY	REMARKS	REV. NO.

DATE: 3/16/2022
HORZ. SCALE: 1" = 30'
VERT. SCALE: N/A
DRAWN BY: JFO
CHECKED BY: HSR
PROJECT NO.: 21-0559

Sheet C4.0
Sheet No. 5 OF 21



I HEREBY CERTIFY THAT THIS PLAN WAS APPROVED BY THE (ADMINISTRATOR) OR (TRC) OF THE TOWN OF WENDELL ON THE _____ DAY OF _____ 20___.

_____
ADMINISTRATOR

0 5 10 20 Feet
1" = 10'

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ENGINEERING
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GRADING & DRAINAGE PLAN
FINISHED GRADE DETAIL

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CONSTRUCTION DRAWINGS FOR
NEUSE RIVER VETERINARY HOSPITAL
LOCATED IN TOWN OF WENDELL
WAKE COUNTY, NORTH CAROLINA

OWNER: CONNIE L. JONES (919) 365-9001
2364 SWINSON FARM ROAD
WENDELL, NC 27591

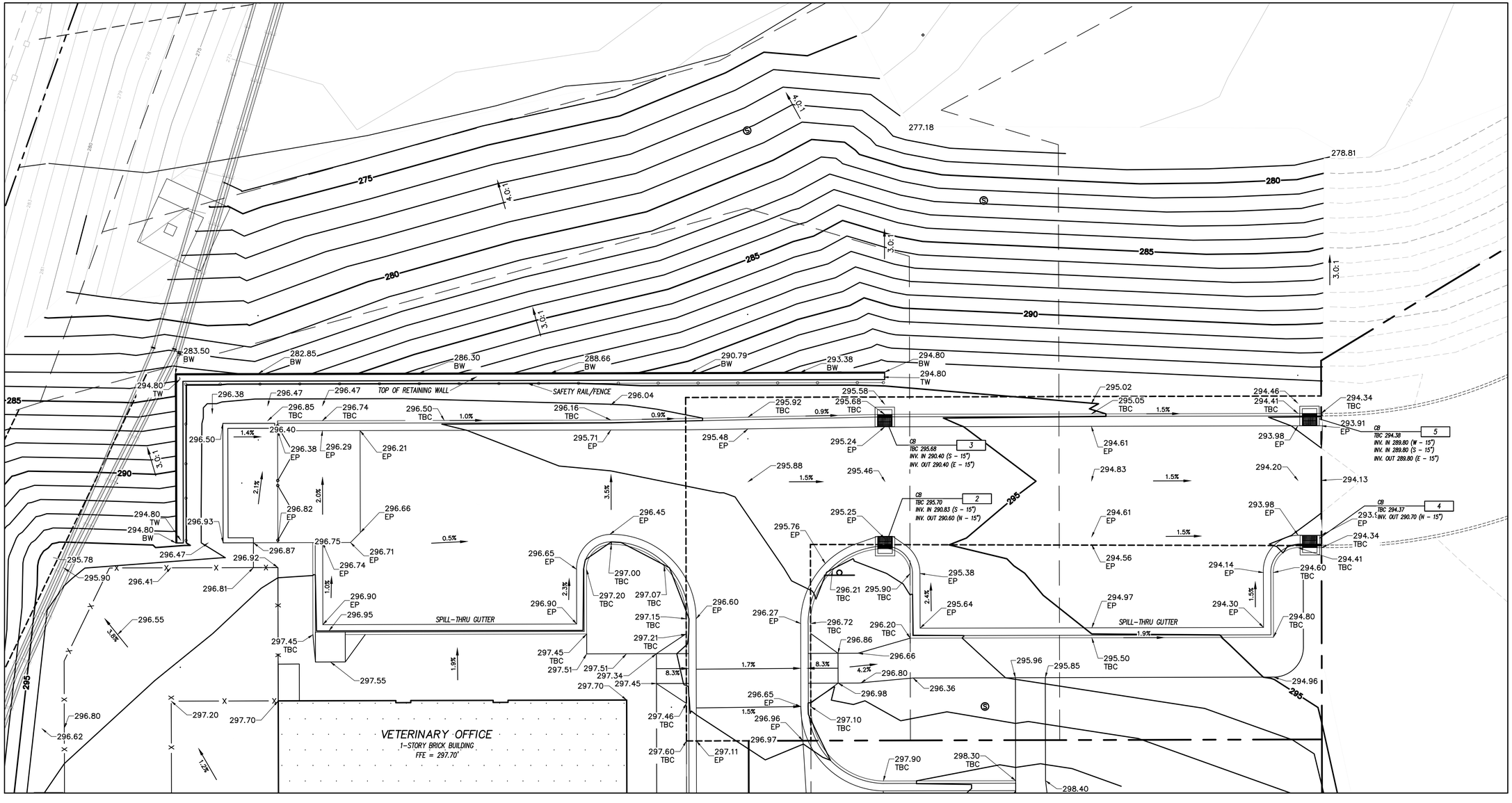
BUILDER: G&S BUILDERS, AMOS GREENE (919) 365-7488
1051 HOLDING ROCK ROAD
WENDELL, NC 27591

NORTH CAROLINA
PROFESSIONAL
SEAL
032721
ENGINEER
JOHN C. OGLESBY
3/16/22

REV. NO.	REMARKS	BY	DATE

DATE: 3/16/2022
HORZ. SCALE: 1" = 10'
VERT. SCALE: N/A
DRAWN BY: JFO
CHECKED BY: HSR
PROJECT NO.: 21-0559

Sheet C4.1
Sheet No. 6 OF 21



I HEREBY CERTIFY THAT THIS PLAN WAS APPROVED BY THE (ADMINISTRATOR) OR (TRC) OF THE TOWN OF WENDELL ON THE _____ DAY OF _____ 20___.

_____
ADMINISTRATOR

0 5 10 20 Feet
1" = 10'

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GRADING & DRAINAGE PLAN
FINISHED GRADE DETAIL

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CONSTRUCTION DRAWINGS FOR
NEUSE RIVER VETERINARY HOSPITAL
LOCATED IN TOWN OF WENDELL
WAKE COUNTY, NORTH CAROLINA

OWNER: CONNIE L. JONES (919) 365-9001
2364 SWINSON FARM ROAD
WENDELL, NC 27591

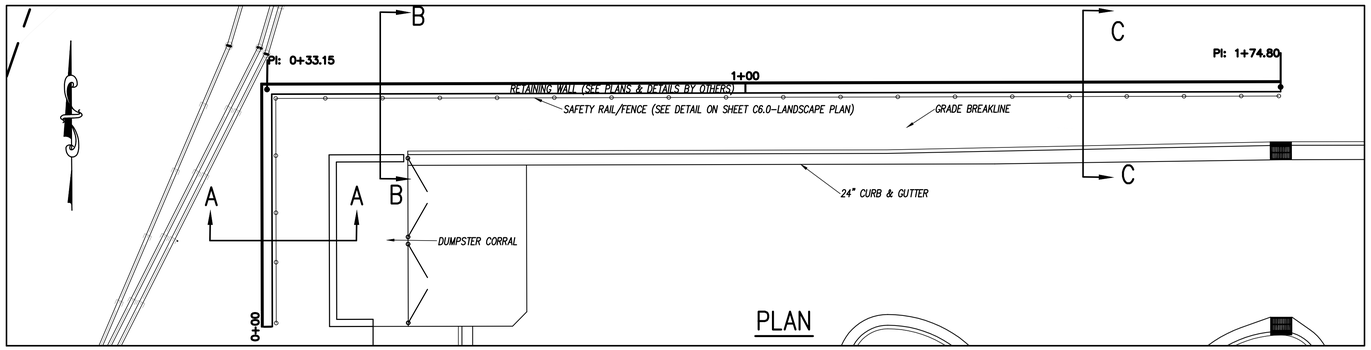
BUILDER: OAKS BUILDERS, AMOS GREENE (919) 365-7488
1013 BULLOCK ROAD
WENDELL, NC 27591

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 032721 JOHN F. OGLESBY
3/16/22

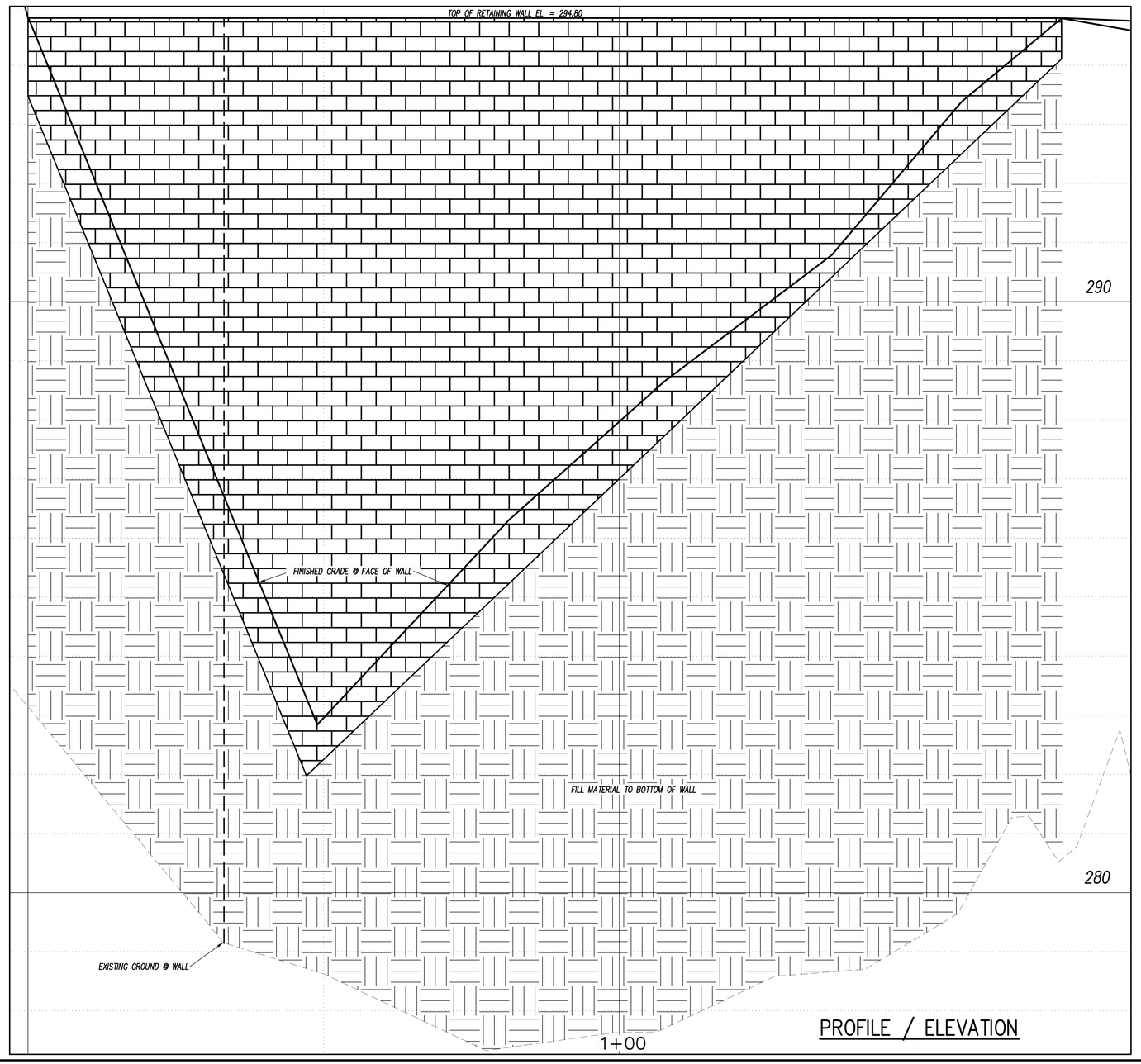
REV. NO.	REMARKS	BY	DATE

DATE: 3/16/2022
HORZ. SCALE: 1" = 10'
VERT. SCALE: N/A
DRAWN BY: JFO
CHECKED BY: HSR
PROJECT NO.: 21-0559

Sheet C4.2
Sheet No. 7 OF 21

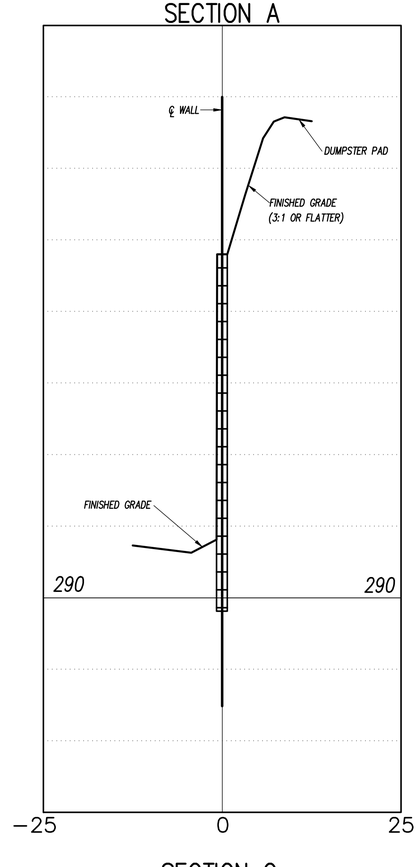


PLAN

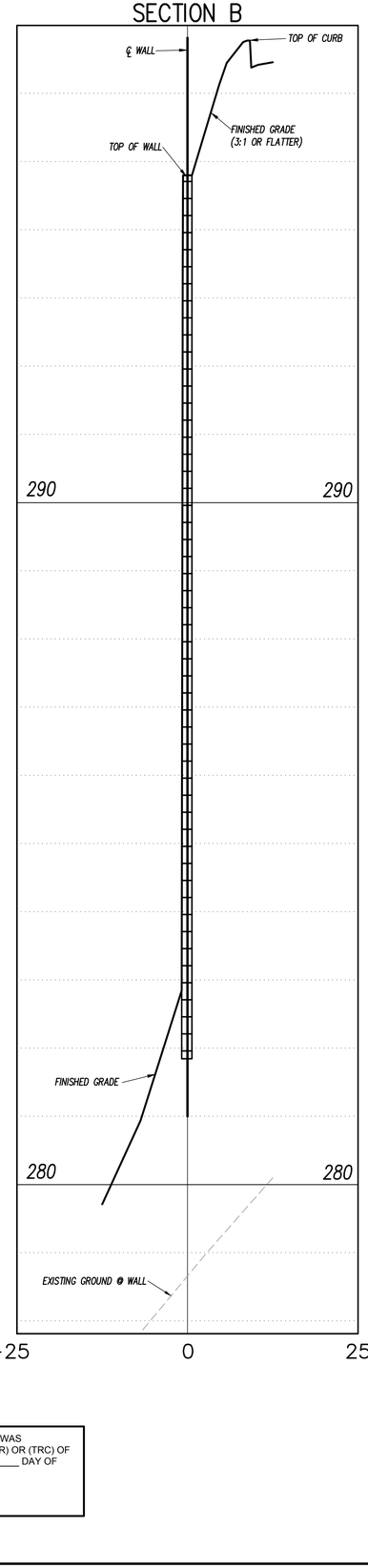


PROFILE / ELEVATION

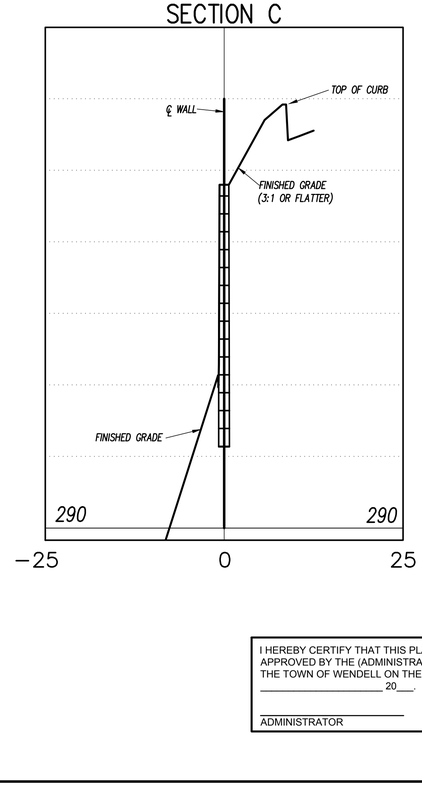
SECTION A



SECTION B



SECTION C



I HEREBY CERTIFY THAT THIS PLAN WAS APPROVED BY THE (ADMINISTRATOR) OR (TRC) OF THE TOWN OF WENDELL ON THE _____ DAY OF _____ 20___.

_____
ADMINISTRATOR

CSD ENGINEERING

LICENSE # C-2710
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GRADING & DRAINAGE PLAN
RETAINING WALL PLAN, PROFILE & SECTIONS

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CONSTRUCTION DRAWINGS FOR
NEUSE RIVER VETERINARY HOSPITAL
LOCATED IN TOWN OF WENDELL
WAKE COUNTY, NORTH CAROLINA

OWNER: CONNIE L. JONES (919) 365-9001
2364 SWINSON FARM ROAD
WENDELL, NC 27591

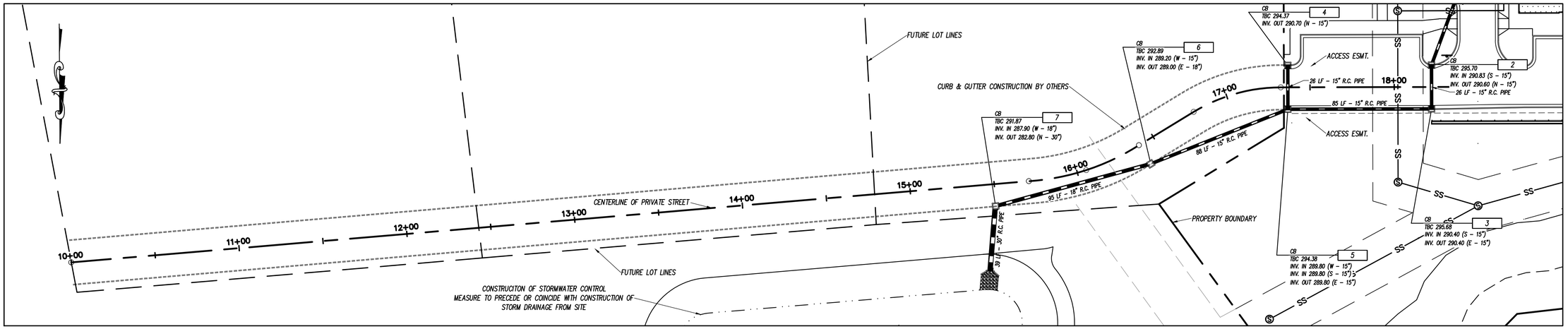
BUILDER: GAS BUILDERS, AMOS GREENE (919) 365-7488
6513 HILLSBOROUGH ROAD
WENDELL, NC 27591

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 032721 JOHN F. OGLESBY
3/16/22

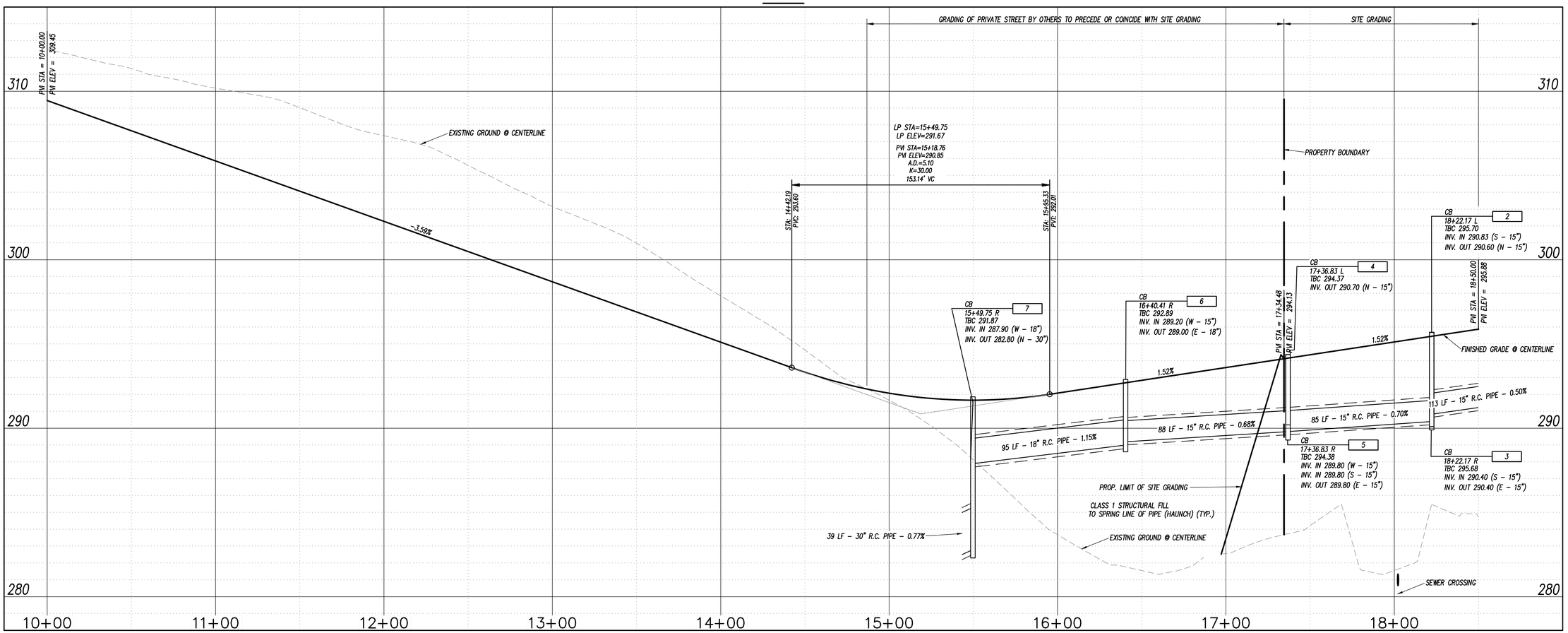
REV. NO.	REMARKS	BY	DATE

DATE: 3/16/2022
HORZ. SCALE: 1" = 10'
VERT. SCALE: 1" = 1'
DRAWN BY: JFO
CHECKED BY: HSR
PROJECT NO.: 21-0559

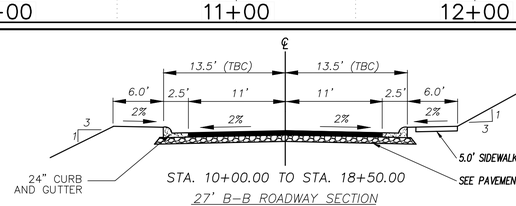
Sheet C4.3
Sheet No. 8 OF 21



PLAN

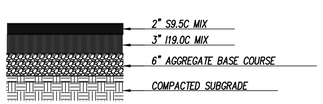


PROFILE / ELEVATION



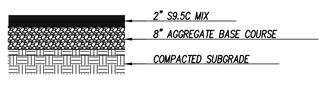
PROPOSED SECTION – PRIVATE STREET

NOT TO SCALE



PAVEMENT DESIGN–STREET

(NTS)



PAVEMENT DESIGN–PARKING

(NTS)

I HEREBY CERTIFY THAT THIS PLAN WAS APPROVED BY THE (ADMINISTRATOR) OR (TRC) OF THE TOWN OF WENDELL ON THE _____ DAY OF _____ 20___.

_____

ADMINISTRATOR

CSD ENGINEERING

LICENSE # C-2710
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GRADING & DRAINAGE PLAN
PRIVATE STREET PLAN, PROFILE, & SECTION

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CONSTRUCTION DRAWINGS FOR
NEUSE RIVER VETERINARY HOSPITAL
LOCATED IN TOWN OF WENDELL
WAKE COUNTY, NORTH CAROLINA

OWNER: CONNIE L. JONES (919) 365-9001
2364 SWINSON FARM ROAD
WENDELL, NC 27591

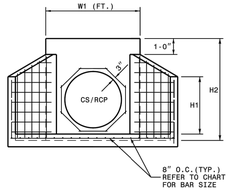
BUILDER: GAKS BUILDERS, AMOS GREENE (919) 365-7488
1013 HOLDEN BROOK ROAD
WENDELL, NC 27591

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 032721 JOHN F. OGLESBY
3/16/22

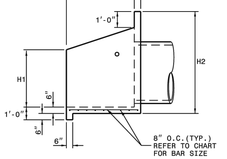
NO.	REVISIONS	BY	DATE

DATE: 3/16/2022
HORZ. SCALE: 1" = 30'
VERT. SCALE: 1" = 3'
DRAWN BY: JFO
CHECKED BY: HSR
PROJECT NO.: 21-0559

C4.4
Sheet No. 9 OF 21



ELEVATION

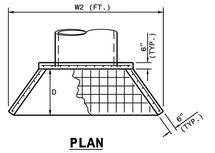


SIDE

NOTES:

* THIS PRECAST ENDWALL MAY BE USED FOR THE FOLLOWING STANDARDS: 838.01, 838.11, 838.21, 838.27, 838.33, 838.39, 838.51, 838.57, 838.63 AND 838.69.
* INSTALL PRECAST ENDWALLS WITH WINGS AND PAY FOR IN ACCORDANCE WITH SPECIFICATION SECTION 838.
* USE 4000 PSI CONCRETE.
* PROVIDE ALL REINFORCING STEEL WHICH MEETS ASTM A615 FOR GRADE 60 AND WELDED WIRE FABRIC CONFORMING TO ASTM A185 WITH 2" MIN. CLEARANCE.
* PLACE LIFT HOLES OR PINS IN ACCORDANCE WITH OSHA STANDARD 1926.704.
* PIPE TO BE GROUTED INTO HEADWALL AT JOB SITE BY CONTRACTOR
* ALL ELEMENTS PRECAST TO MEET ASTM C913.
* WELDED WIRE FABRIC MAY BE SUBSTITUTED FOR REBAR AS LONG AS THE SAME AREA OF STEEL IS PROVIDED.
* CHAMFER ALL CORNERS 1" OR HAVE A RADIUS OF 1".

NOTE: THE MINIMUM BAR SIZE SHALL BE #5 BARS AT 8" CTS.THE CONTRACTOR WILL HAVE THE OPTION TO INCREASE THIS BAR SIZE AS NEEDED.



PLAN

ENDWALL DIMENSIONS

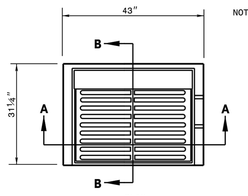
FT.	MINIMUM	MIN./MAX.	MIN./MAX.	MIN./MAX.	MIN./MAX.	MIN./MAX.
PIPE DIA.	BAR SIZE	H1(FT.)	H2(FT.)	D (FT.)	W1	W2
1.0	#5 @ 8"	1.25/2.00	2.00/3.75	1.25/1.75	3.00/3.75	5.50/6.00
1.25	#5 @ 8"	1.25/2.00	3.00/3.75	1.25/2.00	3.50/3.75	6.50/6.75
1.50	#5 @ 8"	1.25/2.00	3.00/4.25	1.50/2.50	3.50/3.75	6.50/6.75
2.0	#5 @ 8"	1.50/2.50	4.00/4.75	1.75/2.50	4.00/4.25	7.50/8.25
2.5	#5 @ 8"	2.50/3.50	4.00/6.00	2.00/3.00	4.50/5.50	10.00/11.50
3.0	#5 @ 8"	3.00/3.50	5.00/6.00	2.75/3.50	5.25/5.75	11.50/11.75
3.5	#5 @ 8"	3.25/4.50	6.00/6.75	3.25/3.50	6.00/6.75	12.00/13.25
4.0	#5 @ 8"	3.50/4.50	6.50/7.00	3.25/3.50	6.50/6.75	13.00/13.25
4.5	#5 @ 8"	4.00/5.00	6.50/8.50	3.25/4.00	7.00/9.25	13.50/15.75
5.0	#5 @ 8"	4.50/5.00	7.00/8.50	3.25/4.00	7.25/9.25	13.75/15.75
5.5	#5 @ 8"	4.50/5.00	7.50/8.50	3.25/4.00	7.25/9.25	14.00/15.75
6.0	#5 @ 8"	4.50/5.00	7.50/8.50	3.25/4.00	7.75/9.25	14.75/16.75

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

1-18

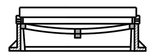
ROADWAY STANDARD DRAWING FOR
PRECAST CONCRETE ENDWALL
FOR SINGLE 12" THRU 72" PIPE - 90° SKEW

SHEET 1 OF 1
838.80

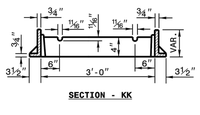


PLAN

FRAME,GRATE, & HOOD ASS'Y

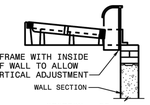


SECTION - AA

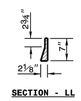


SECTION - KK

NOTE: USE TYPE "E", "F" AND "G" GRATE UNLESS OTHERWISE NOTED.

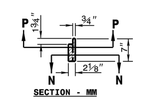


SECTION - BB

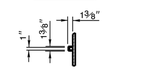


SECTION - LL

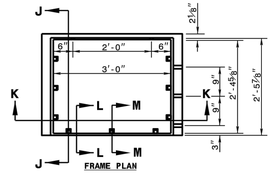
SECTION - PP



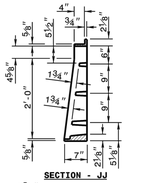
SECTION - MM



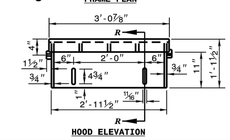
SECTION - NN



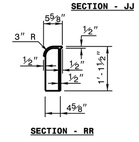
FRAME PLAN



SECTION - JJ



HOOD ELEVATION



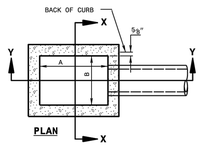
SECTION - RR

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

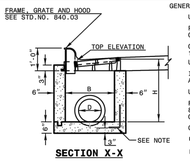
1-18

ROADWAY STANDARD DRAWING FOR
FRAME, GRATES, AND HOOD
FOR USE ON STANDARD CATCH BASIN

SHEET 1 OF 2
840.03



PLAN



SECTION X-X

GENERAL NOTES:

USE CLASS "B" CONCRETE THROUGHOUT.

PROVIDE ALL CATCH BASINS OVER 3'-6" IN DEPTH WITH STEPS 12" ON CENTER. USE STEPS WHICH COMPLY WITH STD. DRAWING 840.66.

OPTIONAL CONSTRUCTION - MONOLITHIC POUR, 2" KEYWAY, OR #4 BAR DOWELS AT 12" CENTERS AS DIRECTED BY THE ENGINEER.

USE FORMS FOR THE CONSTRUCTION OF THE BOTTOM SLAB.

IF REINFORCED CONCRETE PIPE IS SET IN BOTTOM SLAB OF BOX, ADD TO SLAB AS SHOWN ON STD. NO. 840.00.

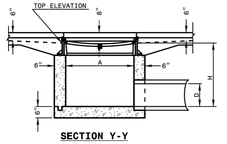
USE TYPE "E", "F" AND "G" GRATES UNLESS OTHERWISE INDICATED.

FOR 8'-0" IN HEIGHT OR LESS USE 6" WALLS AND BOTTOM SLAB. OVER 8'-0" TO 16'-0" IN HEIGHT USE 8" WALLS AND BOTTOM SLAB. ADJUST QUANTITIES ACCORDINGLY.

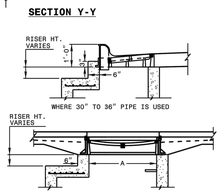
CONSTRUCT WITH PIPE CROWNS MATCHING.

CHAMFER ALL EXPOSED CORNERS 1".

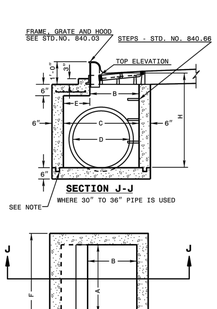
DRAWING NOT TO SCALE.



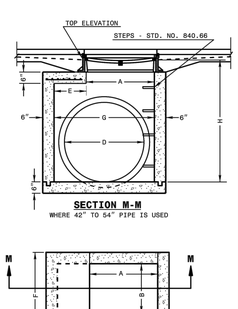
SECTION Y-Y



DETAIL SHOWING METHOD OF RISER CONSTRUCTION



SECTION J-J



SECTION M-M

PLAN

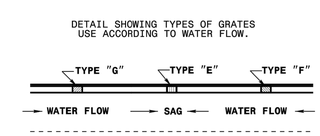
PLAN

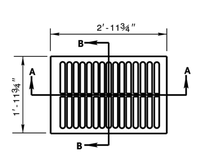
STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

1-18

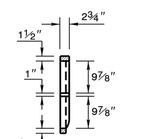
ROADWAY STANDARD DRAWING FOR
CONCRETE CATCH BASIN
12" THRU 54" PIPE

SHEET 1 OF 2
840.02



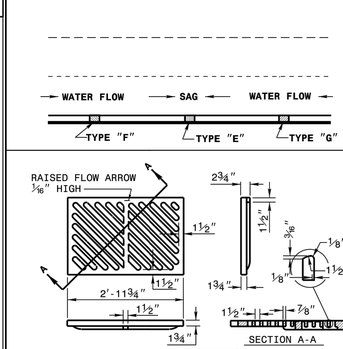


SECTION A-A

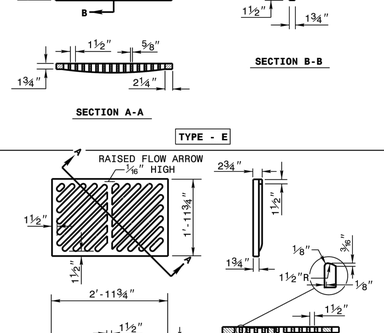


SECTION B-B

TYPE - E



TYPE - F



TYPE G

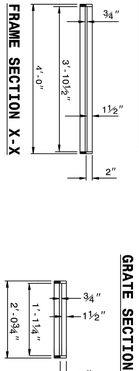
SECTION A-A

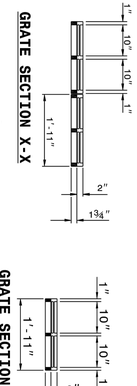
STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

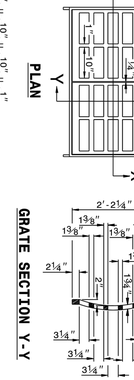
1-18

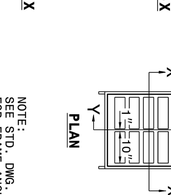
ROADWAY STANDARD DRAWING FOR
FRAME, GRATES, AND HOOD
FOR USE ON STANDARD CATCH BASIN

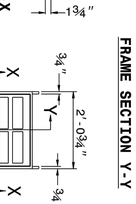
SHEET 2 OF 2
840.03









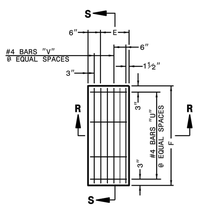


NOTE: SEE STD. DWG. 840.25 FOR FRAME ANCHORAGE.

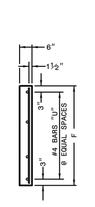
ROADWAY STANDARD DRAWING FOR
FRAMES AND WIDE SLOT SAG GRATES

1-18 STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

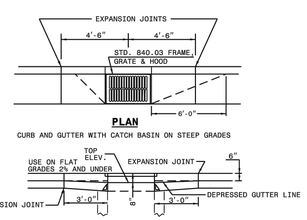
SHEET 1 OF 1
840.22



PLAN OF TOP SLAB

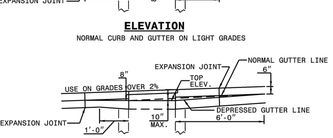


SECTION S-S



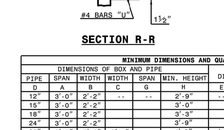
PLAN

CURB AND GUTTER WITH CATCH BASIN ON STEEP GRADES

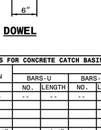


ELEVATION

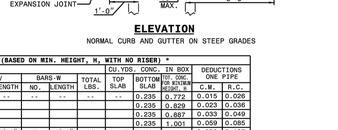
NORMAL CURB AND GUTTER ON LIGHT GRADES



SECTION R-R



DOWEL



ELEVATION

NORMAL CURB AND GUTTER ON STEEP GRADES

MINIMUM DIMENSIONS AND QUANTITIES FOR CONCRETE CATCH BASIN(BASED ON MIN. HEIGHT, H, WITH NO RISER) *

DIMENSIONS OF BOX AND PIPE						COVER DIMENSION		BARS-U		BARS-V		BARS-W			CU.YDS. CONC. IN BOX		DEDUCTIONS ONE PIPE	
PIPE	SPAN	WIDTH	WIDTH	SPAN	MIN. HEIGHT			NO.	LENGTH	NO.	LENGTH	NO.	LENGTH	TOTAL LBS.	TOP SLAB	BOTTOM SLAB	C.Y. CONC. IN BOTTOM SLAB	C.W.	R.C.
D	A	B	C	G	H	E	F												
12"	3'-0"	2'-2"	--	--	2'-9"	--	--	--	--	--	--	--	--	--	0.235	0.772	0.015	0.026
15"	3'-0"	2'-2"			3'-0"										0.235	0.829	0.023	0.036
18"	3'-0"	2'-2"			3'-3"										0.235	0.887	0.033	0.049
24"	3'-0"	2'-2"			3'-9"										0.235	1.001	0.059	0.085
30"	3'-0"	2'-2"	3'-4"		4'-3"	1'-2"	4'-0"	4	1'-5"	2	3'-9"	3	3'-9"	39	0.123	0.321	1.433	0.092	0.127
36"	3'-0"	2'-2"	3'-10"		4'-9"	1'-8"	4'-0"	4	1'-11"	3	3'-9"	3	3'-9"	43	0.161	0.358	1.714	0.132	0.178
42"	3'-0"	2'-2"		4'-5"	5'-3"	1'-5"	3'-2"	4	1'-8"	2	2'-11"	3	2'-11"	32	0.112	0.318	1.738	0.180	0.243
48"	3'-0"	2'-2"		5'-0"	5'-9"	2'-0"	3'-2"	4	2'-3"	3	2'-11"	3	2'-11"	35	0.145	0.352	2.052	0.235	0.317
54"	3'-0"	2'-2"		5'-7"	6'-3"	2'-7"	3'-2"	4	2'-10"	5	2'-11"	3	2'-11"	41	0.180	0.386	2.387	0.297	0.401

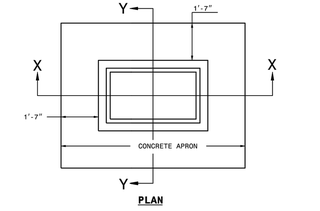
* RISER HAS .228 CUBIC YARDS OF CONCRETE PER FOOT HEIGHT

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

1-18

ROADWAY STANDARD DRAWING FOR
CONCRETE CATCH BASIN
12" THRU 54" PIPE

SHEET 2 OF 2
840.02



PLAN

GENERAL NOTES:

USE CLASS "B" CONCRETE THROUGHOUT.

PROVIDE ALL GRATED DROP INLETS OVER 3'-6" IN DEPTH WITH STEPS 12" ON CENTER. USE STEPS WHICH COMPLY WITH STD. DRAWING 840.66.

OPTIONAL CONSTRUCTION - MONOLITHIC POUR, 2" KEYWAY, OR #4 BAR DOWELS AT 12" CENTERS AS DIRECTED BY THE ENGINEER.

USE FORMS FOR THE CONSTRUCTION OF THE BOTTOM SLAB.

IF REINFORCED CONCRETE PIPE IS SET IN BOTTOM SLAB OF BOX, ADD TO SLAB AS SHOWN ON STD. NO. 840.00.

CONSTRUCT WITH PIPE CROWNS MATCHING.

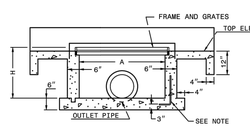
MAX. DEPTH OF THIS STRUCTURE FROM TOP OF BOTTOM SLAB TO TOP ELEVATION IS 12 FEET.

USE STANDARD FRAMES AND GRATES 840.22 (SHOWN), 840.24(SHOWN), 840.20, 840.28, AND 840.33.

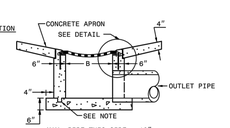
SEE STANDARD DRAWING 840.25 FOR ATTACHMENT OF FRAMES AND GRATES NOT SHOWN.

CHAMFER ALL EXPOSED CORNERS 1".

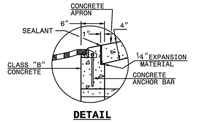
DRAWING NOT TO SCALE.



SECTION X-X



SECTION Y-Y

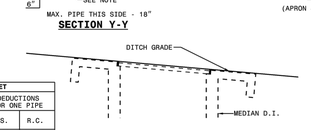


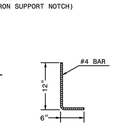
DETAIL

(APRON SUPPORT NOTCH)

MINIMUM DIMENSIONS AND QUANTITIES FOR CONCRETE GRATED DROP INLET

PIPE	SPAN	WIDTH	HEIGHT	CUBIC YARDS OF CONCRETE IN BOX				DEDUCTIONS FOR ONE PIPE	
D	A	B	H	BOTTOM SLAB	M PER FT. HT.	M MIN. TOTAL	TOTAL	C.S.	R.C.
12"	3'-8"	2'-0"	2'-6"	0.362	0.247	0.597	0.958	0.020	0.032
15"	3'-8"	2'-0"	2'-9"	0.362	0.247	0.659	1.021	0.023	0.036
18"	3'-8"	2'-0"	3'-0"	0.362	0.247	0.720	1.082	0.033	0.049
24"	3'-8"	2'-0"	3'-6"	0.362	0.247	0.865	1.227	0.059	0.085
30"	3'-8"	2'-0"	4'-0"	0.362	0.247	0.988	1.350	0.092	0.127
36"	3'-8"	2'-0"	4'-6"	0.362	0.247	1.112	1.474	0.132	0.178





DOWEL "A"

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

1-18

ROADWAY STANDARD DRAWING FOR
CONCRETE GRATED DROP INLET TYPE 'B'
12" THRU 36" PIPE

SHEET 1 OF 1
840.18

CSD ENGINEERING
LICENSE # C-2710
ENGINEERING
LAND PLANNING
COMMERCIAL / RESIDENTIAL
P.O. BOX 1250
WENDELL, NC 27591
(910) 791-4441

GRADING & DRAINAGE PLAN
DRAINAGE DETAILS

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SITE PLAN DRAWINGS FOR
NEUSE RIVER VETERINARY HOSPITAL
LOCATED IN TOWN OF WENDELL
WAKE COUNTY, NORTH CAROLINA
OWNER: CONNIE L. JONES
2364 SIMPSON FARM ROAD
WENDELL, NC 27591

NORTH CAROLINA
PROFESSIONAL ENGINEER
SEAL
032721
JOHN F. OGLESBY
3/16/22

REV. NO.	REMARKS	BY	DATE

DATE: 3/16/2022
HORZ. SCALE: 1" = 30'
VERT. SCALE: 1" = 3'
DRAWN BY: JFO
CHECKED BY: HSR
PROJECT NO.: 21-0559

Sheet **C4.5**
Sheet No. 10 OF 21

I HEREBY CERTIFY THAT THIS PLAN WAS APPROVED BY THE (ADMINISTRATOR) OR (TRC) OF THE TOWN OF WENDELL ON THE _____ DAY OF _____ 20___.

_____
ADMINISTRATOR

NASH WENDELL FALLS, LLC
DB-15478 PAGE-1623
BM-2007 PAGE 1099
ZONING: PUD-1S-

30' RIPARIAN BUFFER (ZONE 2)
20' RIPARIAN BUFFER (ZONE 1)
20' RIPARIAN BUFFER (ZONE 1)
30' RIPARIAN BUFFER (ZONE 2)

30' COR SEWER ESMT.

STORMWATER CONTROL MEASURE

SSMH
PP

MARTIN POND ROAD IMPROVEMENT BY OTHERS

CITY OF RALEIGH SANITARY SEWER EASEMENT (BM-2020 PG-2081)

10.9'

M/L GUARDRAIL

EXMH E2
2+13.29
RIM 285.24
INV. IN 265.00 (E - 12")
INV. OUT 262.86 (W - 12")
INV. IN 262.93 (N-12")

SSMH MH-1
3+72.76
RIM 279.12
INV. IN 268.50 (NE - 12")
INV. OUT 268.30 (W - 12")
INV. IN 270.80 (E - 8")

30' CITY OF RALEIGH UTILITY ESMT. (BM-2022 PG-166)

141 LF - 12" PVC

SEWER MAIN

SSMH 5+13.76 R MH-2
RIM 278.93
INV. OUT 271.40 (SW - 12")

UTILITY WORK ON ADJACENT SITE SHALL PRECEDE OR COINCIDE WITH WORK ON SUBJECT SITE

SSMH-I.D. 0+49.57 MH-3
RIM 282.75
INV. IN 275.70 (S - 8")
INV. OUT 273.20 (W - 8")

45

47 LF - 8" PVC

SEWER SPUR

GRADING SHALL NOT EXCEED 3:1 SLOPES ACROSS CITY OF RALEIGH SANITARY SEWER EASEMENT (SEE GRADING PLAN)

159 LF - 12" DIP (LINED)
*SEE CORPUD UTILITY NOTE 1 ON SHEET C1.0

106°36'52"

30.0'

COR UTILITY ESMT. (BM-2022 PG-166)
3:1 MAX. SLOPE

BLOCK RETAINING WAL

CB

FUTURE ACCESS ESMT.

CURB & GUTTER TO BE BUILT BY OTHERS

NASH WENDELL FALLS, LLC
DB-15478 PAGE-1623
BM-2007 PAGE 1099
ZONING: PUD-1S-

PROP. 24" DIP WATERLINE

24" DIP WATERLINE
TO BE DESIGNED & CONSTRUCTED BY THE CITY OF RALEIGH
(TO INCLUDE ALL NECESSARY CORWLE AQUISITIONS)

MARTIN POND ROAD
60' PUBLIC R/W

127 LF - 18" C.P. PIPE

ACCESS ESMT.

24" CURB & GUTTER

BRAINAGE ESMT.

ADA RAMP

MAIN ENTRANCE

EX. R/W

DI

VETERINARY OFFICE
1-STORY BRICK BUILDING

21 LF - 4" PVC

75 LF - 4" PVC

102 LF - 8" DIP

SEWER ESMT.

ACCESS ESMT.

10 LF - 4" PVC

INV. EL. = 289.6

10%

38 LF - 4" PVC

63 LF - 4" PVC

SSMH MH-4
1+51.28
RIM 296.73
INV. IN 284.65 (W - 4")
INV. IN 284.65 (S - 4")
INV. OUT 284.65 (N - 8")

MARTIN POND ROAD IMPROVEMENT BY OTHERS

TRAFFIC LIGHT MAST

U/G UT

UTILITY EASEMENT (DUKE-PROGRESS)

2" AMES RPZ IN HOT-BOX (HB2)

2" WATER METER

2' CORWLE

MULTI-USE TRAIL

3' WOOD FENCE
6 GRAVE STONES

FIRE HYDRANT

CORWLE

SIDEWALK

BOC

STOP BAR

ADA RAMP

12" EIP W/L

2" TAPPING SLEEVE W/ VALVE

12" DIP W/L

WENDELL FALLS PARKWAY
VARIABLE WIDTH PUBLIC R/W
BM-2008 PAGE 1602

15" R.C. PIPE

ROY EUGENE RICHARDSON
DB-17643 PAGE-913
BM-2019 PAGE 1738
ZONING: RA

NASH WENDELL FALLS, LLC
DB-15478 PAGE-1623
BM-2007 PAGE 1099
ZONING: PUD-1S-

SITE PERMITTING APPROVAL

WATER AND SEWER PERMITS

THE CITY OF RALEIGH CONSENTS TO THE CONNECTION AND EXTENSION OF THE CITY'S **PUBLIC SEWER SYSTEM** AS SHOWN ON THIS PLAN. THE MATERIAL AND CONSTRUCTIONS METHODS USED FOR THIS PROJECT SHALL CONFORM TO THE STANDARDS AND SPECIFICATIONS OF THE CITY'S PUBLIC UTILITIES HANDBOOK.

CITY OF RALEIGH PUBLIC UTILITIES DEPARTMENT PERMIT # S-4946

CITY OF RALEIGH

PLANS AUTHORIZED FOR CONSTRUCTION

ELECTRONIC APPROVAL: THIS APPROVAL IS BEING ISSUED ELECTRONICALLY. THIS APPROVAL IS VALID ONLY UPON THE SIGNATURE OF A CITY OF RALEIGH REVIEW OFFICER BELOW. THE CITY WITH RETAIN A COPY OF THE APPROVED PLANS. ANY WORK AUTHORIZED BY THIS APPROVE MUST PROCEED IN ACCORDANCE WITH THE PLANS KEPT ON FILE WITH THE CITY. THIS ELECTRONIC APPROVAL MAY NOT BE EDITED ONCE ISSUED. ANY MODIFICATION TO THIS APPROVAL ONCE ISSUED WILL INVALIDATE THIS APPROVAL

CITY OF RALEIGH DEVELOPMENT APPROVAL: _____

Digitally signed by Keith A. Tine, PE
Date: 2022.03.16 15:37:05 -04'00'
Adobe Acrobat version: 2020.013.20074

Keith A. Tine, PE

RALEIGH REVIEW OFFICER

I HEREBY CERTIFY THAT THIS PLAN WAS APPROVED BY THE (ADMINISTRATOR) OR (TRC) OF THE TOWN OF WENDELL ON THE _____ DAY OF _____ 20___.

_____
ADMINISTRATOR

0 15 30 60 Feet
1" = 30'

CSD ENGINEERING

LICENSE # C-2710
ENGINEERING
LAND PLANNING
COMMERCIAL / RESIDENTIAL

P.O. BOX 1250
WENDELL, NC 27591
(910) 791-4441

WATER & SEWER UTILITY PLAN
OVERALL UTILITY PLAN

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CONSTRUCTION DRAWINGS FOR
NEUSE RIVER VETERINARY HOSPITAL
LOCATED IN TOWN OF WENDELL
WAKE COUNTY, NORTH CAROLINA

OWNER: CONNIE L. JONES (919) 365-9001
2364 SWINSON FARM ROAD
WENDELL, NC 27591

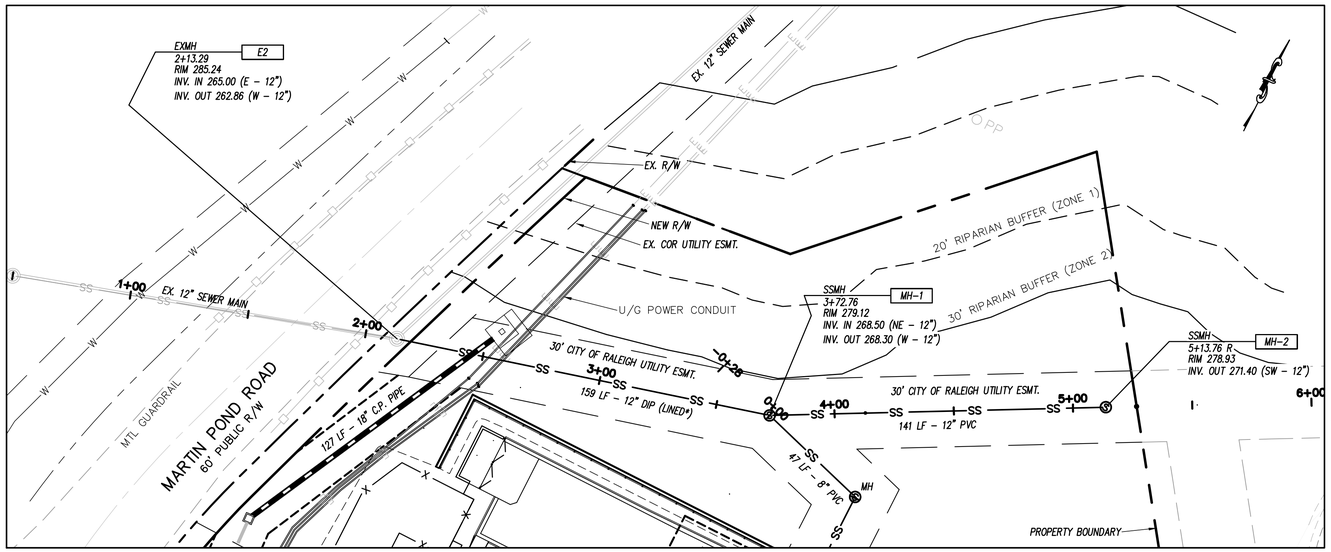
BUILDER: GREG BUILDERS, AMOS GREENE (919) 365-7488
6513 HOLLOWAY LOCK ROAD
WENDELL, NC 27591

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 032721 JOHN F. OGLESBY
3/16/22

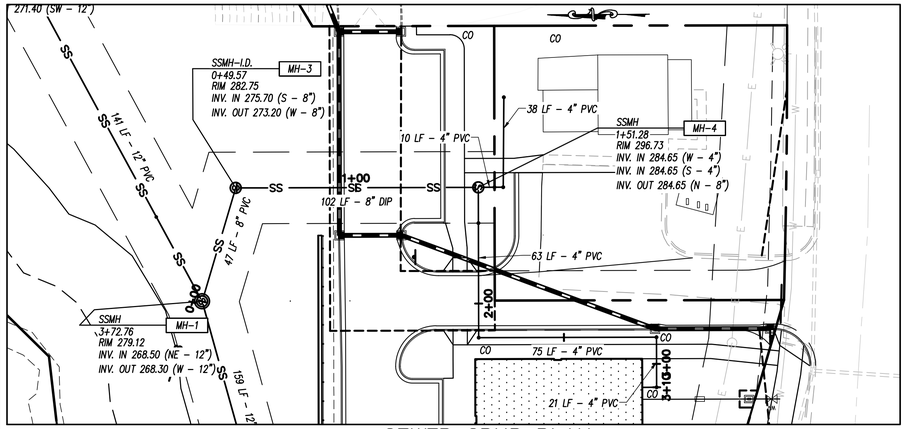
REV. NO.	REMARKS	BY	DATE

DATE: 3/16/2022
HORZ. SCALE: 1" = 30'
VERT. SCALE: N/A
DRAWN BY: JFO
CHECKED BY: HSR
PROJECT NO.: 21-0559

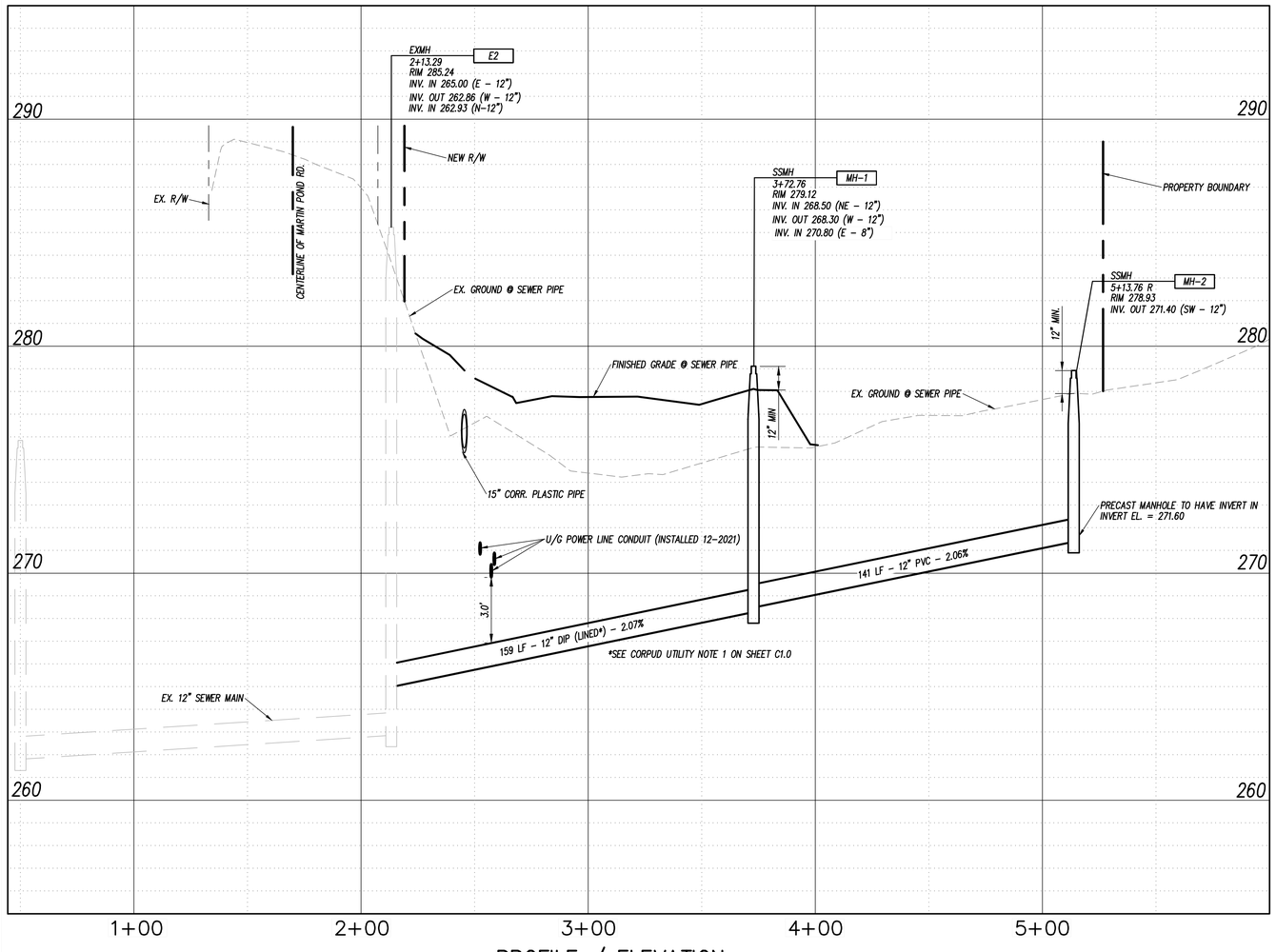
Sheet C5.0
Sheet No. 11 OF 21



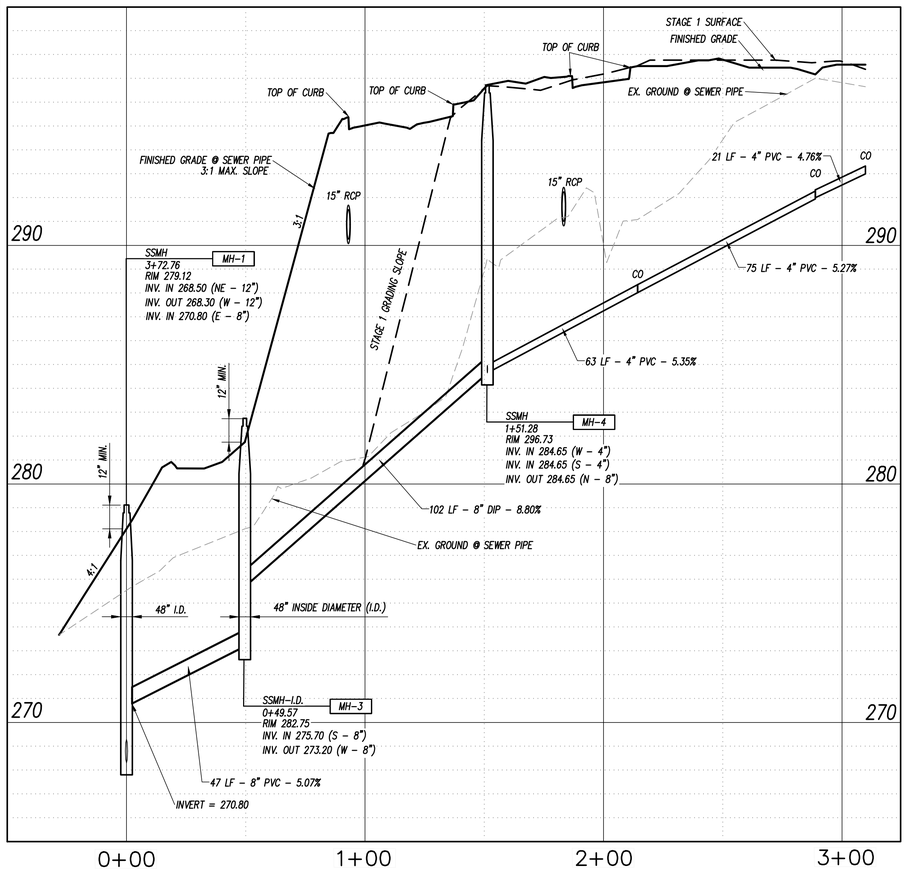
SEWER MAIN PLAN



SEWER SPUR PLAN



PROFILE / ELEVATION



PROFILE / ELEVATION

I HEREBY CERTIFY THAT THIS PLAN WAS APPROVED BY THE (ADMINISTRATOR) OR (TRC) OF THE TOWN OF WENDELL ON THE _____ DAY OF _____ 20___.

_____
ADMINISTRATOR

SITE PERMITTING APPROVAL

WATER AND SEWER PERMITS

THE CITY OF RALEIGH CONSENTS TO THE CONNECTION AND EXTENSION OF THE CITY'S **PUBLIC SEWER SYSTEM** AS SHOWN ON THIS PLAN. THE MATERIAL AND CONSTRUCTIONS METHODS USED FOR THIS PROJECT SHALL CONFORM TO THE STANDARDS AND SPECIFICATIONS OF THE CITY'S PUBLIC UTILITIES HANDBOOK.

CITY OF RALEIGH PUBLIC UTILITIES DEPARTMENT PERMIT #**S-4946**

CITY OF RALEIGH

PLANS AUTHORIZED FOR CONSTRUCTION

ELECTRONIC APPROVAL: THIS APPROVAL IS BEING ISSUED ELECTRONICALLY. THIS APPROVAL IS VALID ONLY UPON THE SIGNATURE OF A CITY OF RALEIGH REVIEW OFFICER BELOW. THE CITY WITH RETAIN A COPY OF THE APPROVED PLANS. ANY WORK AUTHORIZED BY THIS APPROVE MUST PROCEED IN ACCORDANCE WITH THE PLANS KEPT ON FILE WITH THE CITY. THIS ELECTRONIC APPROVAL MAY NOT BE EDITED ONCE ISSUED. ANY MODIFICATION TO THIS APPROVAL ONCE ISSUED WILL INVALIDATE THIS APPROVAL

CITY OF RALEIGH DEVELOPMENT APPROVAL:_____

Keith A. Tew, PE

RALEIGH REVIEW OFFICER

CSD ENGINEERING

LICENSE # C-2710
ENGINEERING
LAND PLANNING
COMMERCIAL / RESIDENTIAL

P.O. BOX 1250
WENDELL, NC 27591
(910) 791-4441

WATER & SEWER UTILITY PLAN
SANITARY SEWER PLAN & PROFILE

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CONSTRUCTION DRAWINGS FOR
NEUSE RIVER VETERINARY HOSPITAL
LOCATED IN TOWN OF WENDELL
WAKE COUNTY, NORTH CAROLINA

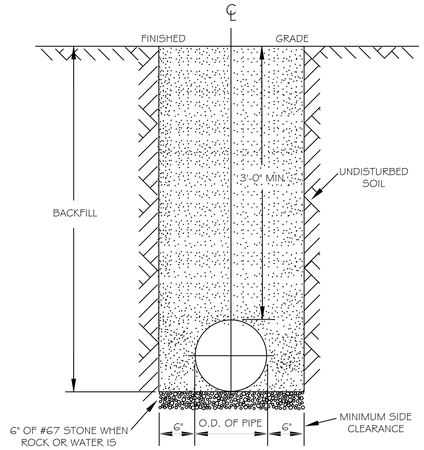
OWNER: CONNIE L. JONES
2364 SIMPSON FARM ROAD
WENDELL, NC 27591

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 032721 JOHN F. OGLESBY
3/16/22

REV. NO.	REMARKS	BY	DATE

DATE: 3/16/2022
HORZ. SCALE: 1" = 30'
VERT. SCALE: 1" = 3'
DRAWN BY: JFO
CHECKED BY: HSR
PROJECT NO.: 21-0559

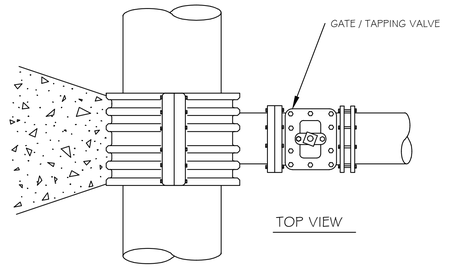
Sheet **C5.1**
Sheet No. 12 OF 21



NOTES:
1. TRENCHES REQUIRING SHORING AND BRACING, DIMENSIONS SHALL BE TAKEN FROM THE INSIDE FACE OF THE SHORING AND BRACING.
2. NO ROCKS OR BOULDERS 4" OR LARGER TO BE USED IN BACKFILL.
3. ALL BACKFILL MATERIAL SHALL BE SUITABLE NATIVE MATERIAL.
4. BACKFILL SHALL BE TAMPED IN 6" LIFTS.
5. ACHIEVE 95% COMPACTION IN BACKFILL.

CITY OF RALEIGH
DEPARTMENT OF PUBLIC UTILITIES
TRENCH BOTTOM DIMENSIONS & BACKFILLING REQUIREMENTS FOR DUCTILE IRON

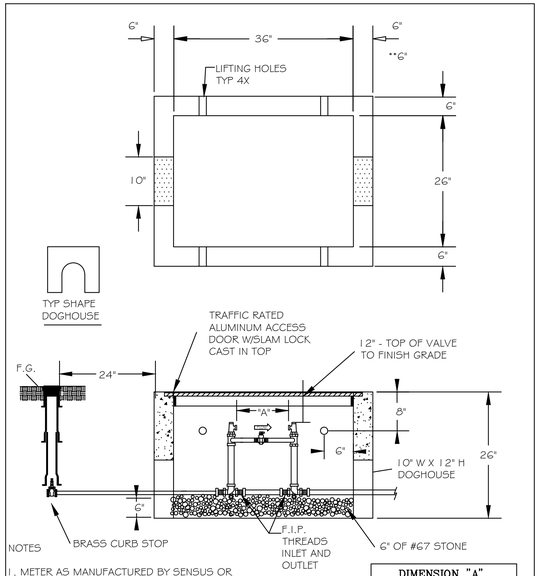
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
W-3	D.W.C.	9-3-99	ABB	2-15-05
	RRH	3-31-00	J.P.S.	10-29-10



NOTES:
1. CONCRETE SHALL NOT CONTACT BOLTS OR ENDS OF MECHANICAL JOINT FITTINGS.
2. SEE STANDARD REACTION BLOCK TABLES, W-10 AND W-11 FOR AREA OF CONCRETE REQUIRED.

CITY OF RALEIGH
DEPARTMENT OF PUBLIC UTILITIES
4" - 24" STANDARD TAPPING SLEEVE AND VALVE ASSEMBLY

DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
W-14	Y.C.A.	12-31-91	RRH	3-31-00
	D.W.C.	9-7-99	J.P.S.	11-1-10



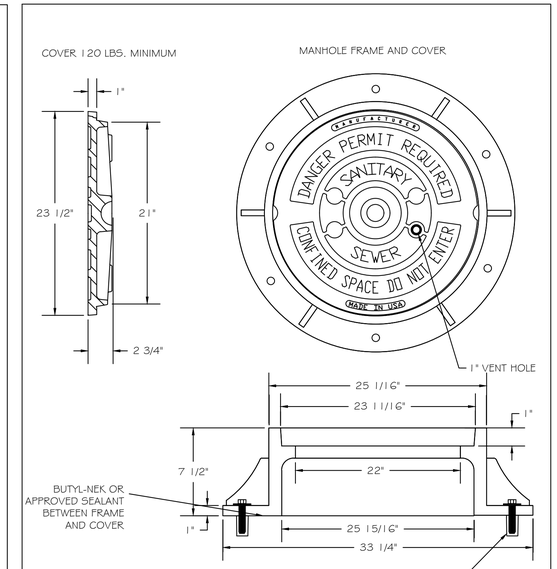
NOTES
1. METER AS MANUFACTURED BY SENSUS OR NEPTUNE.
2. BACKFILL TAMPED IN 6" LIFTS.
3. REINFORCEMENT: #4 @ 6" OCEW
4. CONCRETE: 4,000 PSI @ 28 DAYS
5. ALL RPZ BACKFLOW PREVENTION DEVICES MUST BE INSTALLED PRIOR TO METER BEING SET.
6) ALL COPPER SETTERS ARE TO HAVE A BALL TYPE SHUT OFF VALVE ON BOTH SIDES OF COPPER SETTER WITH HIGH RISE BYPASS THAT IS MANUFACTURED BY FORD, MUELLER, OR AY McDONALD. (NO EXCEPTIONS)

DIMENSION "A"	
1½" METER	13½"
2" METER	17½"

** TRAFFIC RATED VAULT WALL THICKNESS

CITY OF RALEIGH
DEPARTMENT OF PUBLIC UTILITIES
TYPICAL 1 1/2"- 2" WATER METER BOX INSTALLATION

DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
W-31	A.B.B.	8-17-04	J.P.S.	11-4-10
	D.H.L	6-18-08		

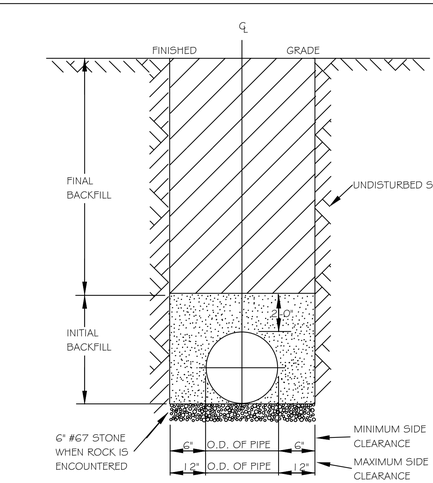


NOTES:
1) ALL MANHOLE FRAMES SHALL BE DOMESTICALLY CAST.
2) FRAME SHALL BE A MINIMUM WEIGHT OF 182 LBS. WITHIN PUBLIC ROW AND 160 LBS. WITHIN EASEMENTS.
3) COVER SHALL WEIGH A MIN. OF 120 LBS.
4) ALL MANHOLE FRAMES OUTSIDE OF PAVED SURFACES SHALL BE BOLTED TO THE CONE SECTION OR RING WITH A MINIMUM OF 4 BOLTS PER FRAME.

5/8"X3" LAGSHIELD IN HOLE DRILLED INTO CONE OR RING WITH ANCHOR SUNK TO DESIGN DEPTH, AND 3/8"X3" HOT DIPPED GALVANIZED LAG BOLT AND WASHER.

CITY OF RALEIGH
DEPARTMENT OF PUBLIC UTILITIES
STANDARD MANHOLE COVER

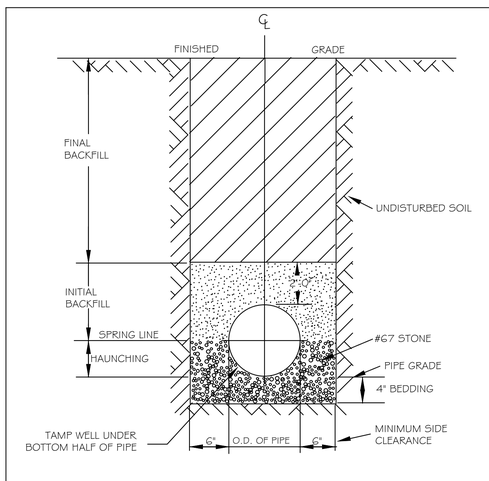
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
S-25	3-1-87	3-1-87	A.B.B.	2-9-05
	RRH	3-30-00	D.H.L.	6-18-08



NOTES:
1. TRENCHES REQUIRING SHORING AND BRACING, DIMENSIONS SHALL BE TAKEN FROM THE INSIDE FACE OF THE SHORING AND BRACING.
2. NO ROCKS OR BOULDERS 4" OR LARGER TO BE USED IN INITIAL BACKFILL.
3. ALL BACKFILL MATERIAL SHALL BE SUITABLE NATIVE MATERIAL.
4. BACKFILL SHALL BE TAMPED IN 6" LIFTS IN TRAFFIC AREAS, 12" IN NON-TRAFFIC AREAS.
5. ACHIEVE 80% COMPACTION IN NON-TRAFFIC AREAS, AND 95% COMPACTION IN TRAFFIC AREAS.
6. IF IN EASEMENT 4" TOPSOIL, AND 12" CLEAN SELECT FILL MAY BE REQUIRED.
7. NO BOULDERS 8" IN DIAMETER OR GREATER ALLOWED IN FINAL BACKFILL.

CITY OF RALEIGH
DEPARTMENT OF PUBLIC UTILITIES
TRENCH BOTTOM DIMENSIONS & BACKFILLING REQUIREMENTS FOR DUCTILE IRON

DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
S-4	D.W.C.	9-3-99		
	RRH	3-30-00		

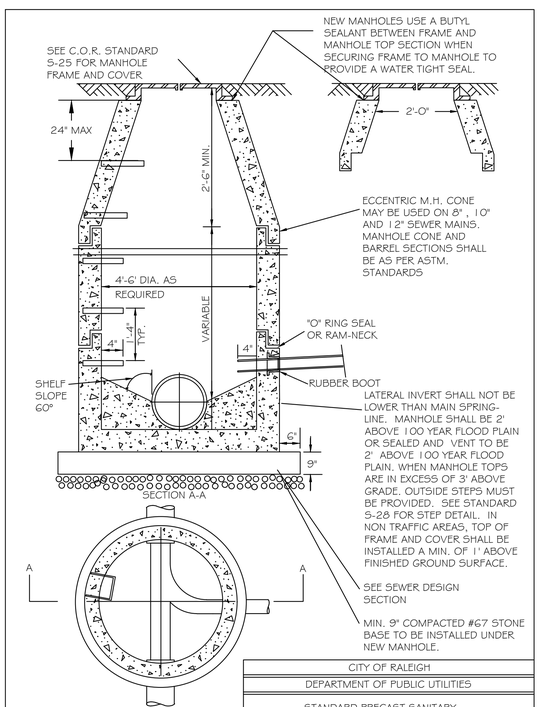


TYPICAL TRENCH BOTTOM DIMENSIONS FOR SDR 35 PVC GRAVITY PIPE

NOTES:
1. FOR TRENCHES REQUIRING SHORING AND BRACING, DIMENSIONS SHALL BE TAKEN FROM THE INSIDE FACE OF THE SHORING AND BRACING.
2. NO ROCKS OR BOULDERS 4" OR LARGER TO BE USED IN INITIAL BACKFILL.
3. ALL BACKFILL MATERIAL SHALL BE SUITABLE NATIVE MATERIAL.
4. BACKFILL SHALL BE TAMPED IN 6" LIFTS IN TRAFFIC AREAS, 12" IN NON-TRAFFIC AREAS.

CITY OF RALEIGH
DEPARTMENT OF PUBLIC UTILITIES
TRENCH BOTTOM DIMENSIONS AND BACKFILLING REQUIREMENTS FOR PVC GRAVITY SEWER MAIN

DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
S-5	TO NOTES	3-1-87	D.W.C.	9-3-99
		7-2-82	RRH	3-30-00



CITY OF RALEIGH
DEPARTMENT OF PUBLIC UTILITIES
STANDARD PRECAST SANITARY SEWER MANHOLE

DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
S-20	Y.C.A.	12-31-92	ABB	2-21-05
	RRH	3-30-00	D.H.L.	6-16-08

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WATER & SEWER UTILITY PLAN
DETAILS

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LOCATED IN TOWN OF WENDELL
WAKE COUNTY, NORTH CAROLINA

OWNER: CONNIE L. JONES (910) 365-9001
2364 SWINSON FARM ROAD
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BUILDER: C&L BUILDERS, AMOS GREENE (919) 365-7488
1061 HOLLY SPRINGS ROAD
WENDELL, NC 27591

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 032721 JOHN F. OGLESBY
3/16/22

DATE	BY	REMARKS	REV. NO.

DATE: 3/16/2022
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VERT. SCALE: N/A
DRAWN BY: JFO
CHECKED BY: HSR
PROJECT NO.: 21-0559

Sheet C5.2
Sheet No. 13 OF 21

QUANTITY	COMMON NAME	BOTANICAL NAME	MIN. HT. AT PLANTING	CALIPER	ROOT
4	RED MAPLE	ACER RUBRUM	8 FT	MIN. 2.0"	BALLED, BURLAPPED, WIRE WRAPPED
13	CRAPEMYRTLE	LAGERSTROEMIA INDICA	6 FT	MIN. 2.0"	BALLED, BURLAPPED, WIRE WRAPPED
20	NELLY STEVENS HOLLY	ILEX X 'NELLY R. STEVENS'	18"-24" HT.		3 GAL CONTAINER
51	DWARF BURFORD HOLLY	ILEX CORNUTA 'BURFORDII NANA'	18" HT.		3 GAL CONTAINER
29	DWARF YAUPON HOLLY	ILEX VOMITORIA 'NANA'	18" HT.		3 GAL CONTAINER

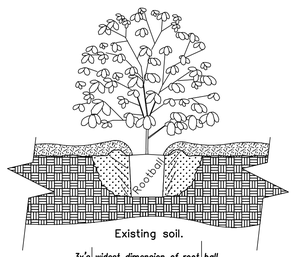
4" layer of mulch. No more than 1" of mulch on top of root ball. (See specifications for mulch).

Finished grade.

Slope sides of loosened soil.

Loosened soil. Dig and turn the soil to reduce the compaction to the area and depth shown.

Root ball rests on existing or recompacted soil.



SECTION VIEW

4" high x 8" wide round – topped soil berm above root ball surface shall be constructed around the root ball. Berm shall begin at root ball periphery.

Prior to mulching, lightly tamp soil around the root ball in 6" lifts to brace shrub. Do not over compact. When the planting hole has been backfilled, pour water around the root ball to settle the soil.

URBAN TREE FOUNDATION ©2014
OPEN SOURCE FREE TO USE

Notes:
1– Shrubs shall be of quality prescribed in the root observations detail and specifications.
2– See specifications for further requirements related to this detail.

PLANTING DETAIL
N.T.S.

LANDSCAPE PLAN NOTES:

1. FOR FULL DEVELOPMENT SUMMARY SEE PROJECT DATA ON SHEET C1.0, DENSITY AND PARKING CALCULATIONS ON SHEET C3.0.
2. FOR SITE PLAN, PAVEMENT MARKING & SIGN PLAN DETAILS, SEE SHEETS C3.0 & C3.1.
3. ALL TREES AND SHRUBS SHALL MEET OR EXCEED STANDARDS ESTABLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMEN FOR SIZE AND QUALITY.
4. EXISTING MATURE LANDSCAPING TO BE RETAINED WHERE POSSIBLE AND USED TO MEET LANDSCAPE REQUIREMENTS OF CHAPTER 8 AND CHAPTER 16, SECTION 8 OF THE TOWN OF WENDELL UDO.
5. THE STREETSCAPE BUFFER YARD SHALL MEET REQUIREMENTS OF WENDELL FALLS COMMUNITY LANDSCAPING STANDARDS.
6. PROPOSED LIGHTING FIXTURES (INSTALLED BY OTHERS) SHALL BE INSTALLED AT LEAST 20 FEET FROM A TREE. MOUNTING OR FIXTURE LOCATION SHALL BE MADE IN STRICT COMPLIANCE OF THE UDO.
7. LIGHTING PLAN WILL BE DESIGNED BY OTHERS.

LANDSCAPE PLAN LEGEND:

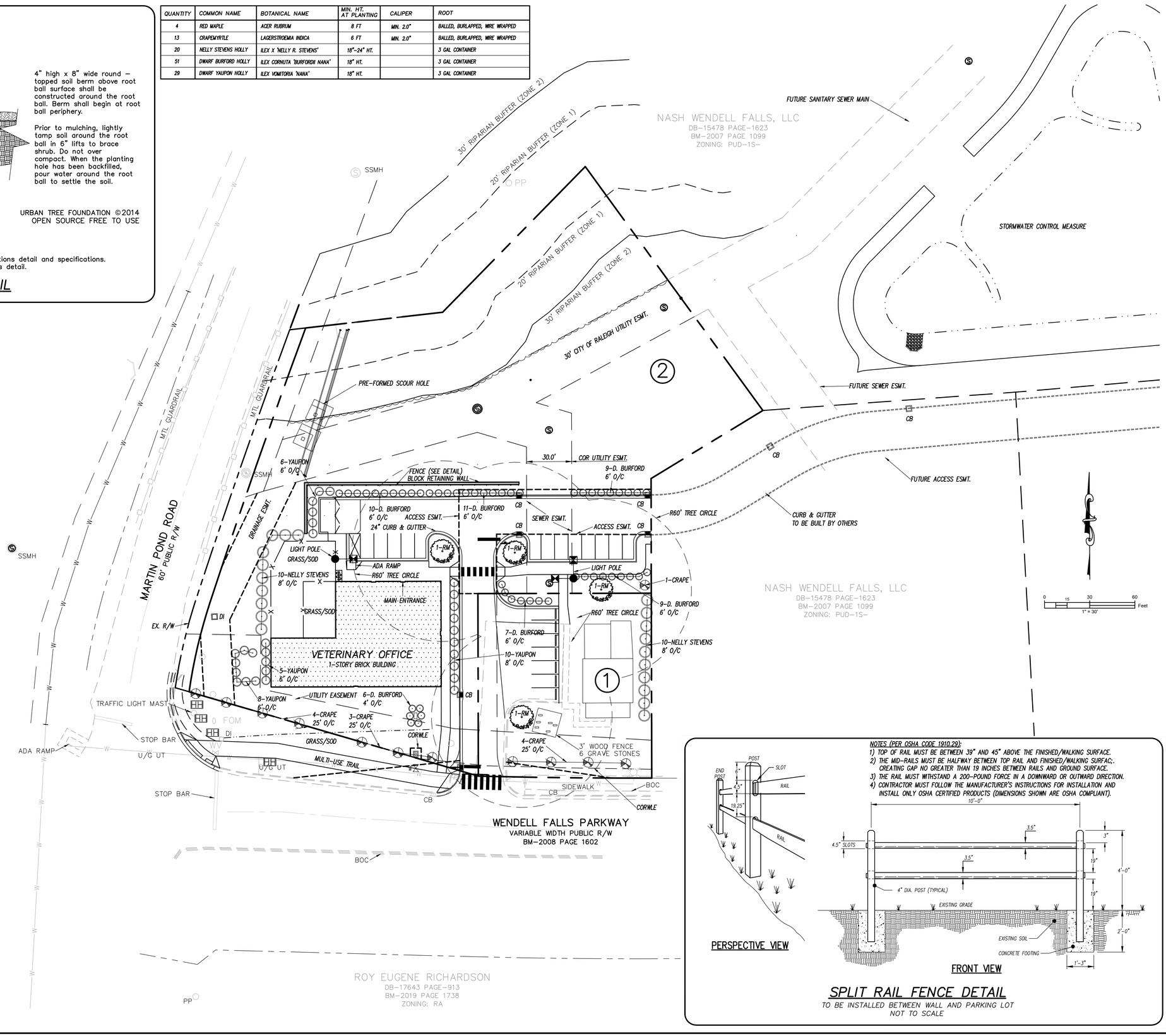
PROPOSED CANOPY TREE (RED MAPLE)

PROPOSED UNDERSTORY TREE (CRAPE MYRTLE)

PROPOSED SHRUB (EVERGREEN)

I HEREBY CERTIFY THAT THIS PLAN WAS APPROVED BY THE (ADMINISTRATOR) OR (TRC) OF THE TOWN OF WENDELL ON THE _____ DAY OF _____ 20___.

_____
ADMINISTRATOR



PERSPECTIVE VIEW

FRONT VIEW

NOTES (PER OSHA CODE 1910.29):
1) TOP OF RAIL MUST BE BETWEEN 39" AND 45" ABOVE THE FINISHED/WALKING SURFACE.
2) THE MID-RAILS MUST BE HALFWAY BETWEEN TOP RAIL AND FINISHED/WALKING SURFAC:. CREATING GAP NO GREATER THAN 19 INCHES BETWEEN RAILS AND GROUND SURFACE.
3) THE RAIL MUST WITHSTAND A 200-POUND FORCE IN A DOWNWARD OR OUTWARD DIRECTION.
4) CONTRACTOR MUST FOLLOW THE MANUFACTURER'S INSTRUCTIONS FOR INSTALLATION AND INSTALL ONLY OSHA CERTIFIED PRODUCTS (DIMENSIONS SHOWN ARE OSHA COMPLIANT).

SPLIT RAIL FENCE DETAIL
TO BE INSTALLED BETWEEN WALL AND PARKING LOT
NOT TO SCALE

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LANDSCAPE PLAN

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LOCATED IN TOWN OF WENDELL,
WAKE COUNTY, NORTH CAROLINA

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BUILDER: C&G BUILDERS, AMOS GREENE (919) 365-7488
2364 SWINSON FARM ROAD
WENDELL, NC 27591

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 032721 JOHN F. OGLESBY
3/16/22

REV. NO.	REMARKS	BY	DATE

DATE: 3/16/2022
HORZ. SCALE: 1" = 30'
VERT. SCALE: N/A
DRAWN BY: JFO
CHECKED BY: HSR
PROJECT NO.: 20-0559

Sheet C6.0
Sheet No. 14 OF 21

CONSTRUCTION SEQUENCE (CLEAR/GRUB)

1. OBTAIN APPROVAL OF PLAN, GRADING PERMIT, AND NCG01 PERMIT.
2. STAKE OUT TREE PROTECTION FENCE, SILT FENCE, SEDIMENT BASINS, AND BOUNDARIES.
3. HOLD PRE-CONSTRUCTION CONFERENCE PRIOR TO COMMENCING ANY LAND DISTURBING WORK.
4. INSTALL GRAVEL CONSTRUCTION ENTRANCES.
5. INSTALL TREE PROTECTION FENCE.
6. INSTALL SILT FENCE, TEMPORARY DIVERSIONS, INLET PROTECTION, SEDIMENT BASINS, AND OTHER EROSION AND SEDIMENT CONTROL PRACTICES SHOWN PRIOR TO DEMOLITION, CLEARING, STRIPPING OF TOPSOIL AND ROUGH GRADING.
7. STAGE EQUIPMENT AND MATERIALS AND STOCKPILE TOPSOIL IN THE AREA SHOWN WHILE MAINTAINING A 25' CLEAR AREA AROUND STOCK PILES.
8. STABILIZE TEMPORARY DIVERSIONS WITH TEMPORARY SEEDING AND MULCHING MATTING.
9. ALL EROSION AND SEDIMENT CONTROL PRACTICES ARE TO BE INSPECTED WEEKLY AND AFTER ANY RAINFALL; REPAIR AS NECESSARY.
10. COMMENCE WITH STAGE 1 OF GRADING PLAN FOR BUILDING PAD.

SHEET INDEX NOTES:

1. FOR CLEAR & GRUBBING STAGE, SEE SHEET C7.0.
2. FOR STAGE 1 GRADING PLAN, SEE SHEET C7.1-C7.2.
3. FOR FINAL STAGE GRADING PLAN, SEE SHEET C7.3.
4. FOR STANDARD DETAILS SEE SHEET C7.4.
5. FOR PROJECT NOTES & DETAILS SEE SHEETS C7.5.
6. FOR NCG01 REQUIREMENTS & SPECIFICATIONS, SEE SHEET C7.6.

EROSION AND SEDIMENT CONTROL

APPROVED PLAN

DATE_____

PERMIT NO. S-_____

Wake County Environmental Services
Sedimentation & Erosion Control
919-856-7400

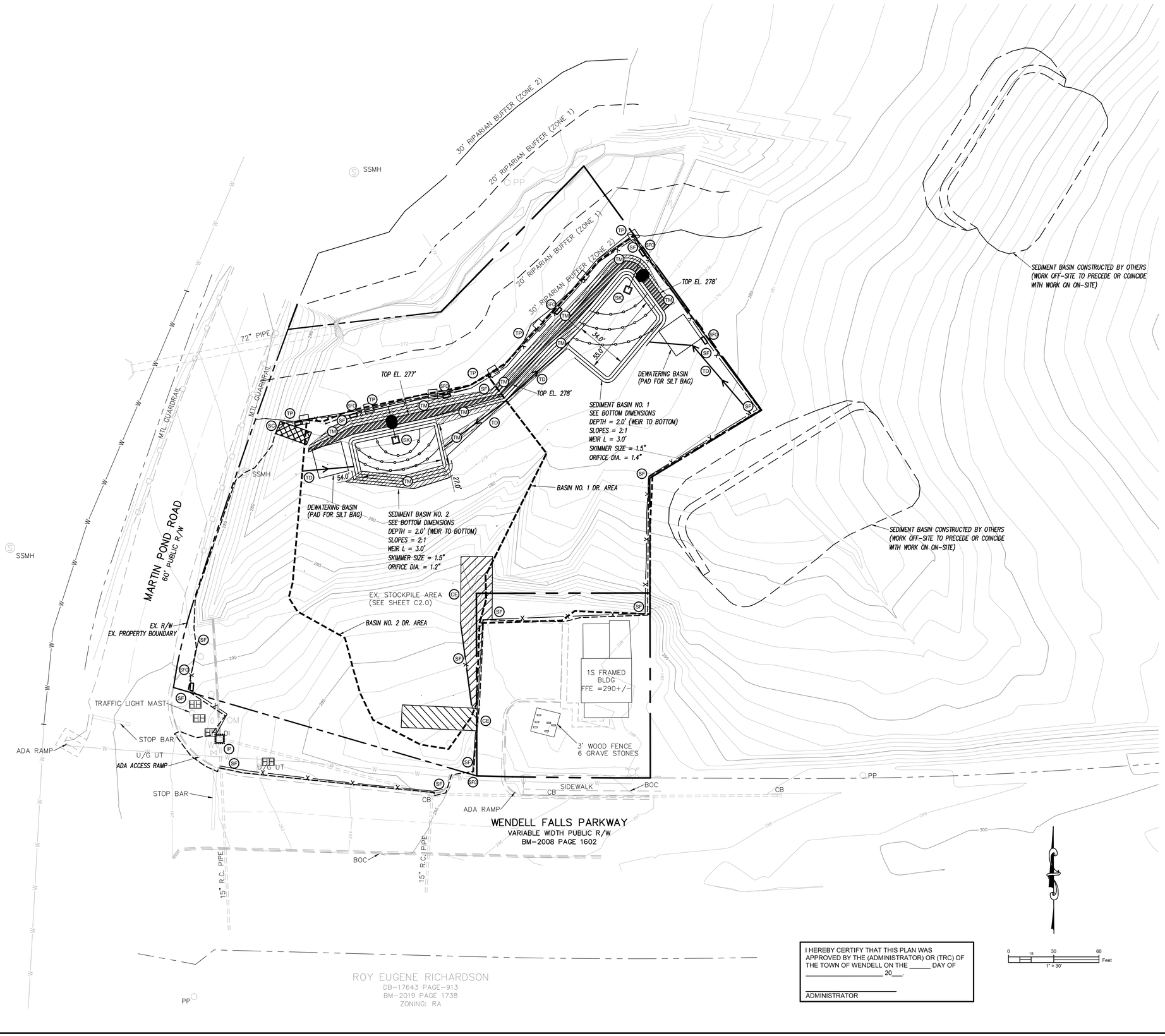
ENVIRONMENTAL CONSULTANT SIGNATURE

WAKE CO. CONSTRUCTION SEQUENCE

1. SCHEDULE A PRECONSTRUCTION CONFERENCE WITH THE ENVIRONMENTAL CONSULTANT. OBTAIN A LAND DISTURBING PERMIT. ENVIRONMENTAL CONSULTANT: KARYN PAGEAU (919) 796-8769
2. INSTALL GRAVEL CONSTRUCTION PAD, TEMPORARY DIVERSIONS, SILT FENCE, SEDIMENT BASINS OR OTHER MEASURES AS SHOWN ON THE APPROVED PLAN. CLEAR ONLY AS NECESSARY TO INSTALL THESE DEVICES. SEED TEMPORARY DIVERSIONS, BERMS AND BASINS IMMEDIATELY AFTER CONSTRUCTION.
3. CALL ENVIRONMENTAL CONSULTANT FOR AN ONSITE INSPECTION BY THE ENVIRONMENTAL CONSULTANT TO OBTAIN A CERTIFICATE OF COMPLIANCE.
4. BEGIN CLEARING AND GRUBBING. MAINTAIN DEVICES AS NEEDED. ROUGH GRADE SITE (SEE SITE SPECIFIC CONSTRUCTION SEQUENCE(S) FOR EACH STAGE OF GRADING AND CONSTRUCTION)
5. INSTALL UTILITIES AND STORM SEWER AT APPROPRIATE STAGES AND PROTECT INLETS WITH BLOCK AND GRAVEL INLET CONTROLS, SEDIMENT TRAPS OR OTHER APPROVED MEASURES AS SHOWN ON THE PLAN. BEGIN CONSTRUCTION, BUILDING, ETC. AT APPROPRIATE STAGES OF GRADING (SEE STAGED GRADING PLAN AND SITE SPECIFIC CONSTRUCTION SEQUENCE(S) FOR EACH STAGE).
6. STABILIZE SITE AS AREAS ARE BROUGHT UP TO FINISH GRADE WITH VEGETATION, PAVING, DITCH LININGS, ETC. SEED AND MULCH DENUDED AREAS PER GROUND STABILIZATION TIME FRAMES.
7. WHEN CONSTRUCTION IS COMPLETE AND ALL AREAS ARE STABILIZED COMPLETELY, CALL ENVIRONMENTAL CONSULTANT FOR AN INSPECTION.
8. IF SITE IS APPROVED, REMOVE TEMPORARY DIVERSIONS, SILT FENCE, SEDIMENT BASINS, ETC., AND SEED OUT OR STABILIZE ANY RESULTING BARE AREAS. ALL REMAINING PERMANENT EROSION CONTROL DEVICES, SUCH AS VELOCITY DISSIPATORS, SHOULD NOW BE INSTALLED.
9. WHEN VEGETATION HAS BECOME ESTABLISHED, CALL FOR A FINAL SITE INSPECTION BY THE ENVIRONMENTAL CONSULTANT. OBTAIN A CERTIFICATE OF COMPLETION.

ESC PLAN LEGEND

- EXISTING BOUNDARY
- LIMITS OF CONSTRUCTION/ DISTURBANCE
- EXISTING CULVERT
- CE — CONSTRUCTION ENTRANCE
- SF / SFO — SILT FENCE/SILT FENCE OUTLET
- PROPOSED CULVERT
- TP — TREE PROTECTION FENCING
- SC — STANDARD ROCK CHECK DAM
- W — WATTLE
- SK — SEDIMENT BASIN SKIMMER
- IP — ROCK INLET PROTECTION
- TD — TEMP. DIVERSION
- TM — TEMP. EC MATTING
- PM — PERMANENT SOIL REINFORCEMENT MATTING



I HEREBY CERTIFY THAT THIS PLAN WAS APPROVED BY THE (ADMINISTRATOR) OR (TRC) OF THE TOWN OF WENDELL ON THE _____ DAY OF _____ 20____.

_____
ADMINISTRATOR

0 15 30 60 Feet
1" = 30'

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EROSION & SEDIMENT CONTROL PLAN
CLEARING & GRUBBING

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CONSTRUCTION DRAWINGS FOR
NEUSE RIVER VETERINARY HOSPITAL
LOCATED IN TOWN OF WENDELL
WAKE COUNTY, NORTH CAROLINA

OWNER: CONNIE L. JONES (919) 365-9001
2364 SWINSON FARM ROAD
WENDELL, NC 27591
BUILDER: GAS BUILDERS AMOS GREENE (919) 365-7488
1243 LOUISBURG ROAD
WENDELL, NC 27591

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 032721 JOHN F. OGLESBY
3/16/22

DATE	BY	REMARKS	REV. NO.

DATE: 3/16/2022
HORZ. SCALE: 1" = 30'
VERT. SCALE: N/A
DRAWN BY: JFO
CHECKED BY: HSR
PROJECT NO.: 21-0559

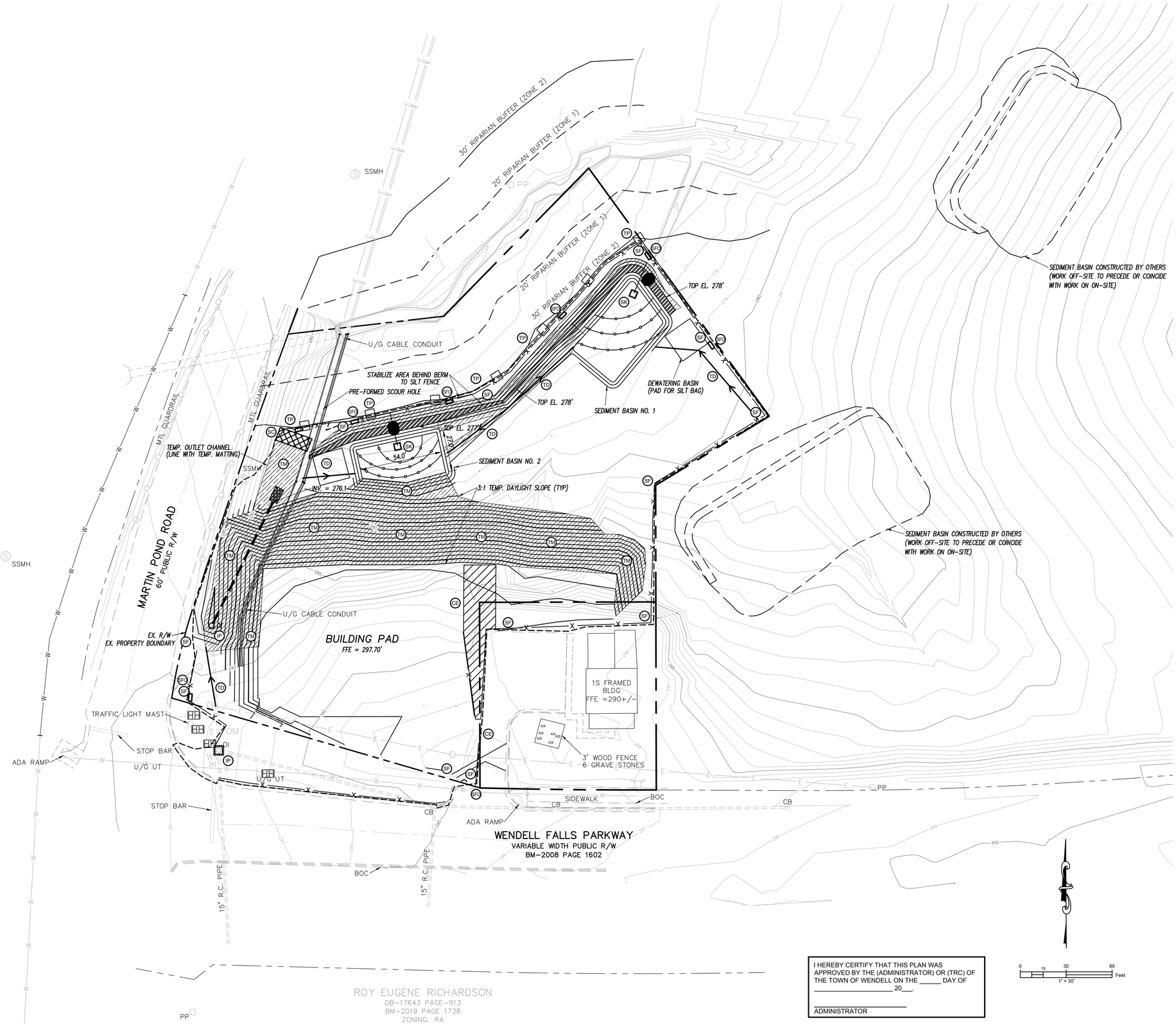
Sheet C7.0
Sheet No. 15 OF 21

CONSTRUCTION SEQUENCE (STAGE 1)

1. UNDERCUT SUBGRADE TO SUITABLE IN-SITU SOILS; HAVE INSPECTED BY LICENSED GEOTECHNICAL ENGINEER PRIOR TO INSTALLING FILL.
2. ESTABLISH ROUGH GRADES AND DAYLIGHT SLOPES (3:1 OR FLATTER) TO WITHIN 1.0 FOOT OF FFE OF PROPOSED BUILDING.
3. ADJUST CONSTRUCTION ENTRANCES AS NECESSARY TO KEEP MUD FROM TRACKING ONTO EXISTING ASPHALT AND PUBLIC STREETS.
4. INSTALL APPROX. 80 FEET OF PERMANENT STORM DRAIN PIPE ALONG MARTIN POND ROAD; STABILIZE OUTLET CHANNEL WITH TEMPORARY MATTING.
5. DAYLIGHT SLOPES SHALL BE STABILIZED WITH TEMPORARY SEEDING, MULCHING AND MATTING (10 FEET IN HEIGH OR GREATER) ACCORDING TO THE STABILIZATION TIME FRAMES.
6. AREAS THAT ARE BROUGHT TO FINISHED GRADE DURING STAGE 1 GRADING ARE TO BE PERMANENTLY STABILIZED; TOP DRESSING TO FINAL GRADE; SEED, MULCH, AND LINE WITH TEMPORARY MATTING (SEE SOIL STABILIZATION GUIDELINES INCLUDED IN THESE PLANS).
7. INSTALL WATTLES IN CHANNELS AND DIVERSIONS AS NEEDED.
8. ONCE STAGE 1 GRADING HAS REACHED APPROXIMATE GRADES SHOWN ON PLANS AND EXPOSED SOIL HAS BEEN STABILIZED, REMOVE SEDIMENT BASINS AND COMMENCE STAGE 2 INSTALLATION OF SANITARY SEWER.

STAGE 1 GRADING NOTES:

1. STAGE 1 GRADING IS FOR BUILDING PAD AND TEMPORARY DAYLIGHT ONLY; FINAL GRADING SHALL COMMENCE AFTER BUILDING CONSTRUCTION HAS STARTED.
2. REFER TO OVERALL GRADING PLAN AND EROSION AND SEDIMENT CONTROL PLAN NOTES.
3. REFER TO FINISHED FLOOR ELEVATION OF NEW BUILDING AND PROPOSED CONTOURS SHOWN ON THIS PLAN SHEET.
4. ONLY INSTALL APPROX. 80 LINEAR FEET OF PERMANENT CORR. PLASTIC PIPE ON DESIGN SLOPE; GRADE TEMPORARY CHANNEL TO ROCK CHECK DAM.
5. SLOPES STEEPER THAN 3:1 WILL BE STABILIZED WITH TEMPORARY MATTING; NAG P150 SPECIFICATION OR EQUIVALENT.
6. PLACEMENT OF FILL MATERIAL MUST BE CONDUCTED UNDER THE OBSERVATION OF A QUALIFIED LICENSED GEOTECHNICAL ENGINEER.
7. PERMANENTLY STABILIZE ALL GRADED AREAS IMMEDIATELY AFTER STAGE 1 GRADING IS COMPLETED ON EACH AREA IN THE GRADING PLAN. APPLY TEMPORARY STABILIZATION MEASURES ON ALL GRADED AREAS WHEN WORK IS TO BE INTERRUPTED OR DELAYED FOR 14 WORKING DAYS OR LONGER.



ESC PLAN LEGEND

- EXISTING BOUNDARY
- LIMITS OF CONSTRUCTION/ DISTURBANCE
- EXISTING CULVERT
- (CE) CONSTRUCTION ENTRANCE
- (SF) SILT FENCE/SILT FENCE OUTLET (SFO)
- PROPOSED CULVERT
- (TP) TREE PROTECTION FENCING
- (SC) STANDARD ROCK CHECK DAM
- (W) WATTLE
- (SK) SEDIMENT BASIN SKIMMER
- (IP) ROCK INLET PROTECTION
- (TD) TEMP. DIVERSION
- (TM) TEMP. EC MATTING
- (PM) PERMANENT SOIL REINFORCEMENT MATTING

I HEREBY CERTIFY THAT THIS PLAN WAS APPROVED BY THE (ADMINISTRATOR) OR (TRC) OF THE TOWN OF WENDELL ON THE _____ DAY OF _____ 20___.

_____
ADMINISTRATOR

0 15 30 60 Feet
1" = 30'

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EROSION & SEDIMENT CONTROL PLAN
STAGE 1 GRADING

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CONSTRUCTION DRAWINGS FOR
NEUSE RIVER VETERINARY HOSPITAL
LOCATED IN TOWN OF WENDELL, WAKE COUNTY, NORTH CAROLINA

OWNER: CONNIE L. JONES (919) 365-9001
2364 SWINSON FARM ROAD
WENDELL, NC 27591

BUILDER: CAKE BUILDERS, ANGIS GREENE (919) 365-7488
1610 KILLIAN ROAD
WENDELL, NC 27591

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 032721 JOHN F. OGLESBY
3/16/22

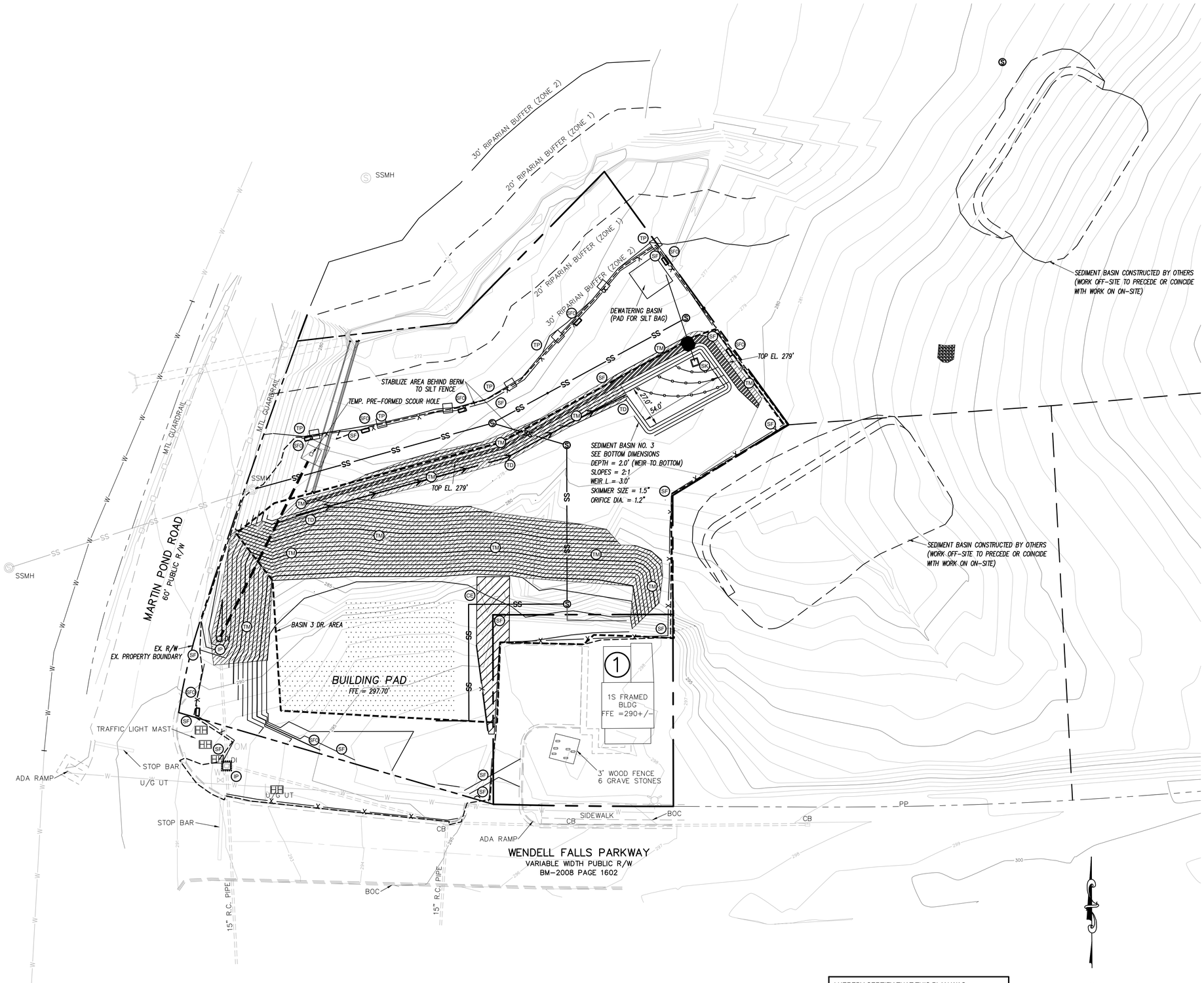
REV. NO.	REMARKS	BY	DATE

DATE: 3/16/2022
HORZ. SCALE: 1" = 30'
VERT. SCALE: N/A
DRAWN BY: JFO
CHECKED BY: HSR
PROJECT NO.: 21-0559

Sheet C7.1
Sheet No. 16 OF 21

CONSTRUCTION SEQUENCE (STAGE 2)

1. INSTALL NEW SEDIMENT BASIN, SILT FENCE, TEMPORARY DIVERSION AND BERM PRIOR TO PREPARING AREA FOR SEWER PIPE AND MANHOLE INSTALLATION.
2. INSPECT ALL SILT FENCE, SILT FENCE OUTLETS, AND OTHER MEASURES PREVIOUSLY INSTALLED TO INSURE THEY ARE FUNCTIONING PROPERLY; MAINTAIN MEASURE AS OUTLINED IN THE MAINTENANCE PLAN ON SHEET C7.0.
3. ADJUST CONSTRUCTION ENTRANCE AS NECESSARY FOR ADEQUATE ACCESS FOR EQUIPMENT AND MATERIALS FOR SEWER INSTALLATION.
4. INSTALL PIPE AND MANHOLES FOR SANITARY SEWER MAIN AS SHOWN AND APPROVED IN THESE PLANS; INSTALL PIPE, MANHOLES AND CLEANOUTS FOR SEWER SPUR AND SERVICES.
5. INSTALL ACCORDING TO THE CITY OF RALEIGH UTILITY HANDBOOK; BACKFILL TO MIN. 3 FEET OF COVER, FULLY COMPACTED (CALL FOR NECESSARY INSPECTIONS PRIOR TO BACKFILLING).
6. PROVIDE PERMANENT SOIL STABILIZATION IN AREAS THAT DO NOT REQUIRE ADDITIONAL FILL FOR FINAL STAGE OF GRADING PLAN.
7. EXTEND STORM PIPE OVER SEWER AND INSTALL TEMP. PREFORMED SCOUR HOLE.
8. ONCE SEWER HAS BEEN INSTALLED, COMMENCE GRADING SITE PER STAGE 3 (FINAL) GRADING PLAN.



ESC PLAN LEGEND

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ADMINISTRATOR

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EROSION & SEDIMENT CONTROL PLAN
STAGE 2 UTILITY CONSTRUCTION

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CONSTRUCTION DRAWINGS FOR
NEUSE RIVER VETERINARY HOSPITAL
LOCATED IN TOWN OF WENDELL
WAKE COUNTY, NORTH CAROLINA

OWNER: CONNIE L. JONES (919) 365-9001
2364 SWINSON FARM ROAD
WENDELL, NC 27591

BUILDER: D&G BUILDERS, AMOS GREENE (919) 365-7488
1001 BUCK JONES ROAD
WENDELL, NC 27591

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 032721 JOHN F. OGLESBY
3/16/22

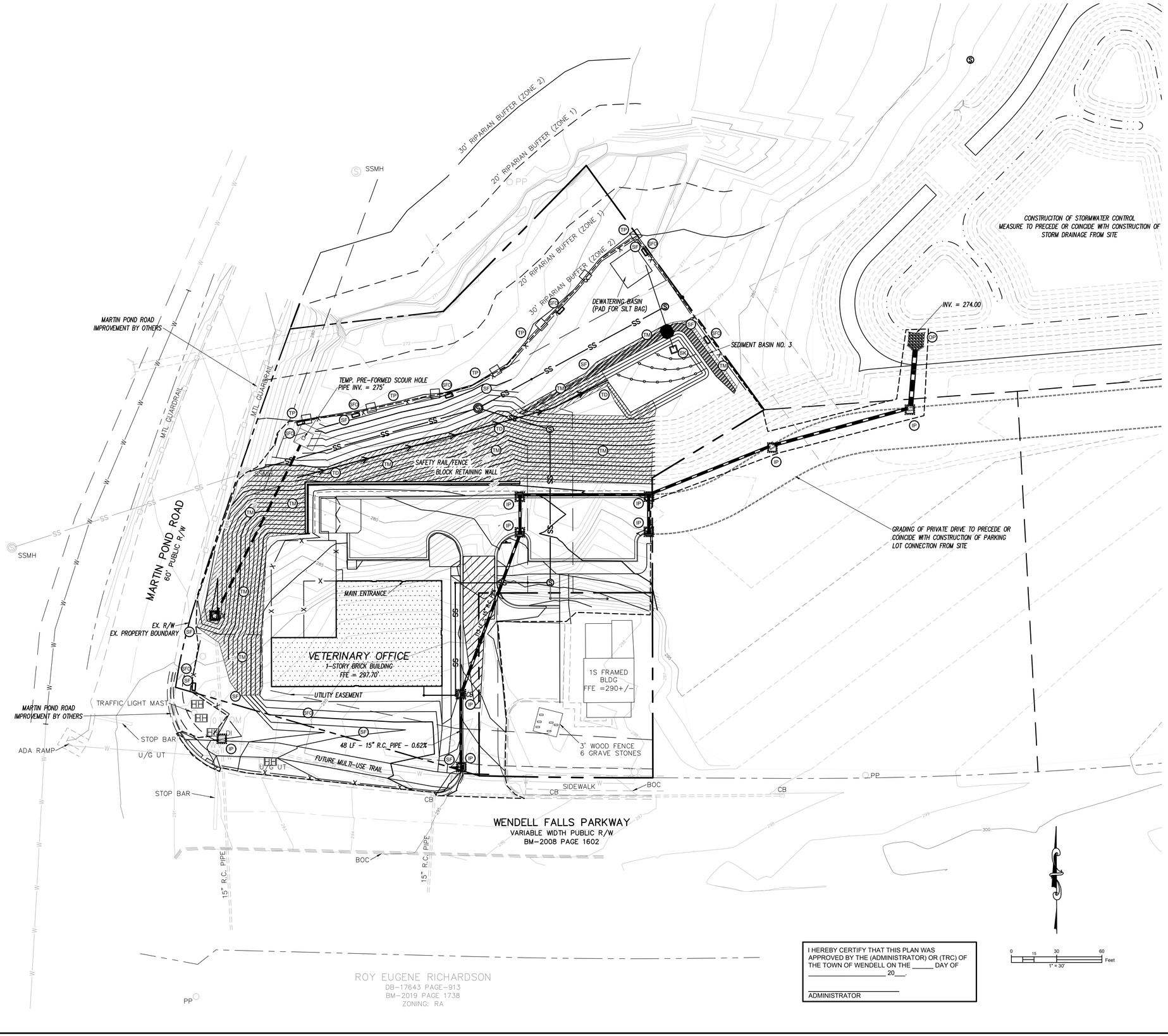
DATE	BY	REMARKS	REV. NO.

DATE: 3/16/2022
HORZ. SCALE: 1" = 30'
VERT. SCALE: N/A
DRAWN BY: JFO
CHECKED BY: HSR
PROJECT NO.: 21-0559

Sheet C7.2
Sheet No. 17 OF 21

CONSTRUCTION SEQUENCE (STAGE 3)

1. INSPECT ALL SILT FENCE, SILT FENCE OUTLETS, AND OTHER MEASURES PREVIOUSLY INSTALLED TO INSURE THEY ARE FUNCTIONING PROPERLY; MAINTAIN MEASURE AS OUTLINED IN THE MAINTENANCE PLAN ON SHEET C7.0.
2. ADJUST CONSTRUCTION ENTRANCE AS NECESSARY FOR ADEQUATE ACCESS FOR EQUIPMENT AND MATERIALS FOR FINAL GRADING, INSTALLATION OF RETAINING WALL, CONSTRUCTION OF BUILDING, AND FINAL PARKING LOT AND ACCESS.
3. STRIP TEMPORARY VEGETATION AND UNSUITABLE MATERIAL FROM TEMPORARY DAYLIGHT SLOPES AND OTHER AREAS THAT REQUIRE ADDITIONAL FILL; HAVE SLOPES AND FILL INSPECTED BY LICENSED GEOTECHNICAL ENGINEER PRIOR TO INSTALLING ADDITIONAL FILL.
4. ESTABLISH ROUGH GRADES ADEQUATE FOR CONSTRUCTION OF RETAINING WALL; INSTALL RETAINING WALL AS DESIGNED AND SPECIFIED BY GEOTECHNICAL ENGINEER.
5. BACKFILL RETAINING WALL AS NECESSARY AND ESTABLISH SUBGRADES FOR ACCESS DRIVES, PARKING, SIDEWALKS, AND PERMANENT SLOPES (WORK ON ADJACENT SITE SHALL PRECEDE OR COINCIDE WITH FINAL GRADING ON THIS SITE).
6. INSTALL STORM DRAINAGE PIPES AND CATCH BASINS AS SHOWN ON FINAL GRADING AND DRAINAGE PLAN; INSTALL INLET PROTECTION AND PERMANENT RIP RAP OUTLET PROTECTION; MAINTAIN ADEQUATE INLET PROTECTION UNTIL INSTALLATION OF CURB AND GUTTER AND PAVEMENT (WATTLES MAY BE USED AFTER CURB AND GUTTER IS INSTALLED.
7. INSTALL WATER SERVICE, BACK FLOW PREVENTER, AND METER PRIOR TO INSTALLATION OF CURB AND GUTTER, PAVEMENT AND SIDEWALKS.
8. INSTALL CURB AND GUTTER, ABC STONE, AND INTERMEDIATE LAYER OF ASPHALT; FINISH PAVING ONCE BUILDING CONSTRUCTION IS COMPLETE.
9. STABILIZE SLOPES IMMEDIATELY UPON REACHING FINAL GRADE ACCORDING TO THE SOIL STABILIZATION GUIDELINES; ALWAYS TOP DRESS WITH GOOD SOIL TO ESTABLISH HEALTHY VEGETATION.
10. ONCE SITE IS FULLY STABILIZED, REMOVE SEDIMENT BASIN AS SPECIFIED.
11. CALL FOR FINAL INSPECTION BY WAKE COUNTY AND OBTAIN CERTIFICATE OF COMPLETION.



ESC PLAN LEGEND

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EROSION & SEDIMENT CONTROL PLAN
STAGE 3 FINAL

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CONSTRUCTION DRAWINGS FOR
NEUSE RIVER VETERINARY HOSPITAL
LOCATED IN TOWN OF WENDELL
WAKE COUNTY, NORTH CAROLINA

OWNER: CONNIE L. JONES (919) 365-9001
2364 SWINSON FARM ROAD
WENDELL, NC 27591

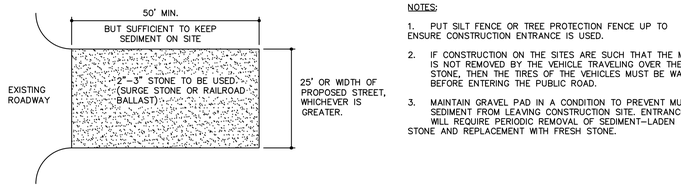
BUILDER: GAS BUILDERS AMOS GREENE (919) 365-7488
6513 NEUSE PARK ROAD
WENDELL, NC 27591

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 032721 JOHN F. OGLESBY
3/16/22

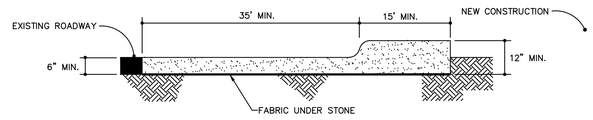
BY	DATE	REMARKS	REV. NO.

DATE: 3/16/2022
HORZ. SCALE: 1" = 30'
VERT. SCALE: N/A
DRAWN BY: JFO
CHECKED BY: HSR
PROJECT NO.: 21-0559

Sheet C7.3
Sheet No. 18 OF 21



PLAN VIEW



CROSS SECTION

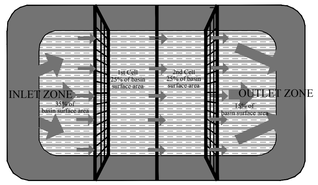
NOTES:

1. PUT SILT FENCE OR TREE PROTECTION FENCE UP TO ENSURE CONSTRUCTION ENTRANCE IS USED.
2. IF CONSTRUCTION ON THE SITES ARE SUCH THAT THE MUD IS NOT REMOVED BY THE VEHICLE TRAVELING OVER THE STONE, THEN THE TIRES OF THE VEHICLES MUST BE WASHED BEFORE ENTERING THE PUBLIC ROAD.
3. MAINTAIN GRAVEL PAD IN A CONDITION TO PREVENT MUD OR SEDIMENT FROM LEAVING CONSTRUCTION SITE. ENTRANCE WILL REQUIRE PERIODIC REMOVAL OF SEDIMENT–LADEN STONE AND REPLACEMENT WITH FRESH STONE.

WAKE COUNTY NORTH CAROLINA

EFFECTIVE: 01/31/08

(CE) STANDARD CONSTRUCTION ENTRANCE

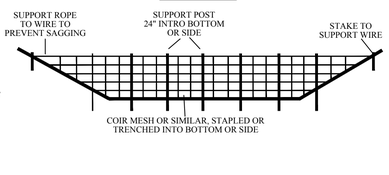


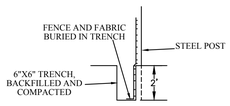
PLAN VIEW

NOTES:

1. BAFFLE MATERIAL SHOULD BE SECURED AT THE BOTTOM AND SIDES USING STAPLES OR BY TRENCHING 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

CROSS SECTION



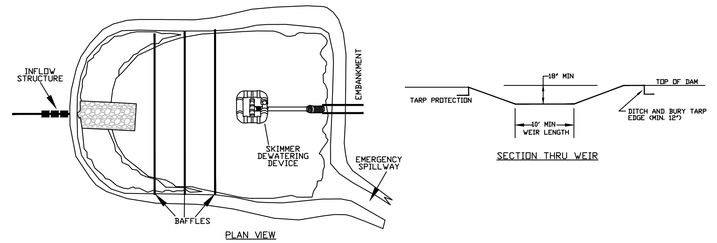


SECTION VIEW AT OPENING

WAKE COUNTY NORTH CAROLINA

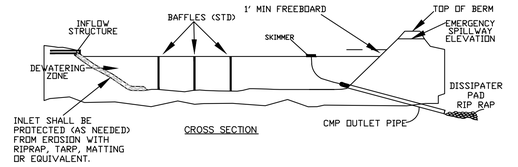
EFFECTIVE: 01/31/08

(SK) STANDARD BAFFLES DETAIL



PLAN VIEW

SECTION THRU WEIR



CROSS SECTION

NOTES:

1) BASIN SHOULD BE CLEANED OUT WHEN CAPACITY REACHES AN ELEVATION REPRESENTING THAT THE BASIN IS HALF–FULL.
2) THE TARP USED TO PROTECT 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 TARPAULINS 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 TRENCHING 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) POND SHALL NOT BE CONVERTED FOR STORMWATER USE UNTIL APPROVED BY ENVIRONMENTAL ENGINEER.

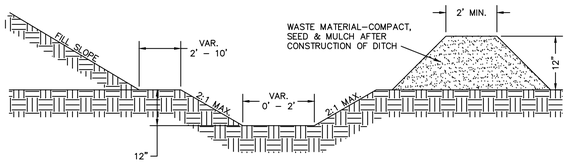
WAKE COUNTY NORTH CAROLINA

EFFECTIVE: 01/31/08

(SK) STANDARD SKIMMER BASIN

NOTES:

1. TEMPORARY DIVERSION DITCH TO BE USED TO INTERCEPT FLOW AND/OR DIVERT TO A SEDIMENT CONTROL MEASURE OR BMP.
2. SILT SHALL BE REMOVED WHEN DITCH IS ONE–HALF FULL.
3. DITCH SHALL BE RECONSTRUCTED WHEN DAMAGED BY EQUIPMENT OR COVERED BY FILL.
4. STABILIZE DIVERSION DITCH BERM WITH TEMPORARY SEEDING, MULCH WITH TAC, AND/OR EROSION CONTROL NETTING.



CROSS SECTIONAL VIEW

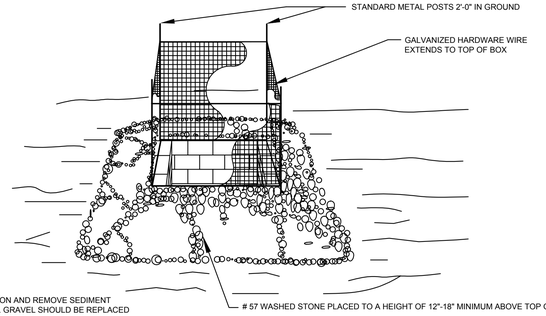
NOTES:

1. SIDE SLOPES OF TEMPORARY DIVERSION BERMS SHALL BE 2:1.
2. SIDE SLOPES OF CHANNEL AT BERM SHALL BE 2:1 WITH NO BASE (0 FEET); AT A DEPTH OF APPROX. 1.0 FEET BELOW EXISTING GROUND.
3. HEIGHT OF BERMS SHALL BE 2 FEET MINIMUM.

WAKE COUNTY NORTH CAROLINA

EFFECTIVE: 01/31/08

(TD) STANDARD TEMPORARY DIVERSION DITCH



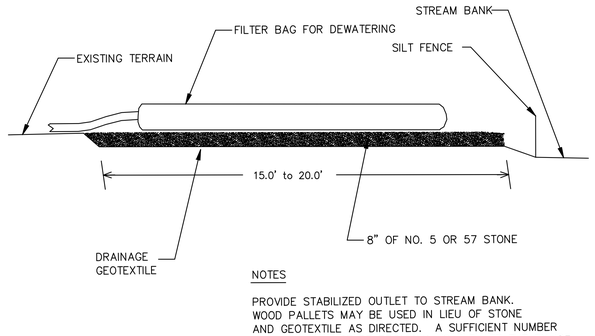
NOTE:

1. INSPECT INLET PROTECTION AND REMOVE SEDIMENT AFTER EACH RAIN EVENT. GRAVEL SHOULD BE REPLACED AND REPAIRS MADE AS NEEDED.

WAKE COUNTY NORTH CAROLINA

EFFECTIVE: 01/31/08

(IP) STANDARD GRAVEL YARD INLET PROTECTION



NOTES

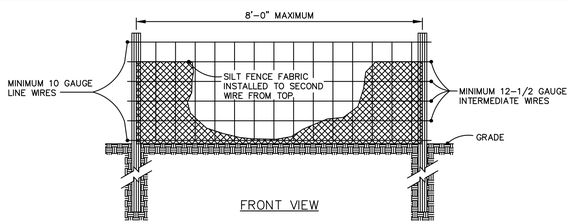
PROVIDE STABILIZED OUTLET TO STREAM BANK. WOOD PALLETS MAY BE USED IN LIEU OF STONE AND GEOTEXTILE AS DIRECTED. A SUFFICIENT NUMBER OF PALLETS MUST BE PROVIDED TO ELEVATE THE ENTIRE FILTER BAG FOR DEWATERING ABOVE NATURAL GROUND.

NOT TO SCALE

WAKE COUNTY NORTH CAROLINA

EFFECTIVE: 01/31/08

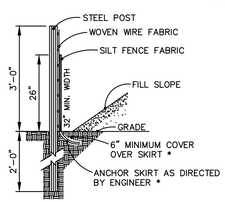
STANDARD FILTER BAG FOR DEWATERING ACTIVITIES



FRONT VIEW

NOTE:

1. USE SILT FENCE ONLY WHEN DRAINAGE AREA DOES NOT EXCEED 1/4 ACRE AND NEVER IN AREAS OF CONCENTRATED FLOW.
2. REMOVE SEDIMENT DEPOSITED AS NEEDED TO PROVIDE STORAGE VOLUME FOR THE NEXT RAIN AND TO REMOVE PRESSURE ON THE SILT FENCE.

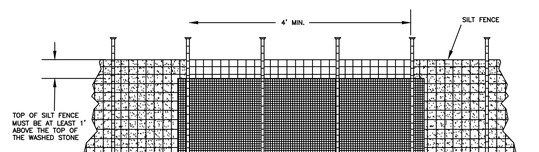


SIDE VIEW

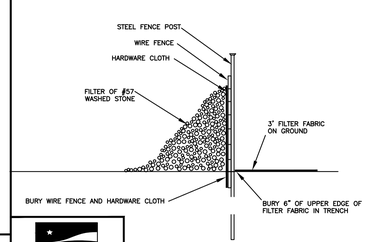
WAKE COUNTY NORTH CAROLINA

EFFECTIVE: 01/31/08

(SF) STANDARD TEMPORARY SILT FENCE



FRONT VIEW



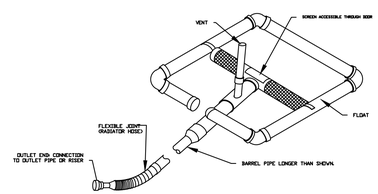
SECTION VIEW

NOTES:
1. REMOVE SEDIMENT WHEN HALF OF STONE OUTLET IS COVERED.
2. REPLACE STONE AS NEEDED TO ENSURE DEWATERING.

WAKE COUNTY NORTH CAROLINA

EFFECTIVE: 01/31/08

(SFO) STANDARD SILT FENCE OUTLET



WAKE COUNTY NORTH CAROLINA

EFFECTIVE: 01/31/08

(SK) STANDARD SKIMMER DETAIL

CSD ENGINEERING
LICENSE # C–2710
ENGINEERING
LAND PLANNING
COMMERCIAL / RESIDENTIAL
P.O. BOX 1250
WENDELL, NC 27591
(910) 791–4441

EROSION & SEDIMENT CONTROL PLAN DETAILS

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CONSTRUCTION DRAWINGS FOR
NEUSE RIVER VETERINARY HOSPITAL
LOCATED IN TOWN OF WENDELL
WAKE COUNTY, NORTH CAROLINA

OWNER: CONNIE L. JONES (919) 365–9001
2364 SWINSON FARM ROAD
WENDELL, NC 27591

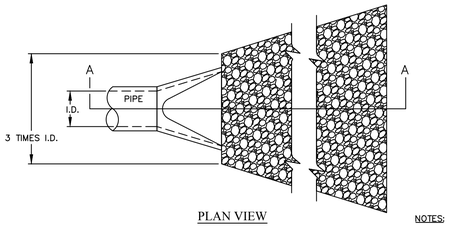
BUILDER: GAS BUILDERS, AMOS GREENE (919) 365–7488
6613 HOLLOWBROOK ROAD
WENDELL, NC 27591

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 032721 JOHN F. OGLESBY
3/16/22

REV. NO.	REMARKS	BY	DATE

DATE: 3/16/2022
HORZ. SCALE: 1" = 30'
VERT. SCALE: N/A
DRAWN BY: JFO
CHECKED BY: HSR
PROJECT NO.: 21–0559

Sheet C7.4
Sheet No. 19 OF 21

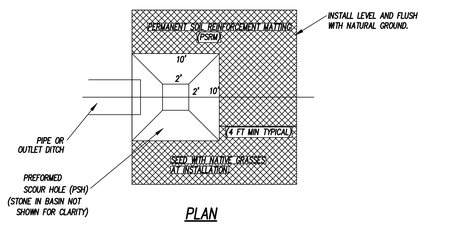


NOTES:

1. L = THE LENGTH OF THE RIPRAP APRON.
2. d = 1.5 TIMES THE MAXIMUM STONE DIAMETER BUT NOT LESS THAN 6" (INCHES).
3. A FILTER BLANKET OR FILTER FABRIC SHOULD BE INSTALLED BETWEEN THE RIPRAP AND SOIL FOUNDATION.

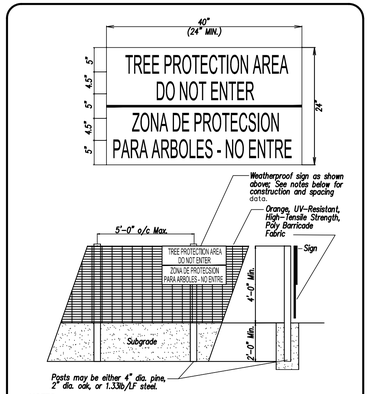
WAKE COUNTY NORTH CAROLINA
EFFECTIVE: 01/31/08

DP STANDARD PIPE OUTLET TO FLAT AREA
NO WELL-DEFINED CHANNEL



PRE-FORMED SCOUR HOLE

NTS



NOTES:

1. INSTALL TREE PROTECTION FENCE AND SIGNAGE PRIOR TO CALLING FOR THE INITIAL ON-SITE INSPECTION.
2. WARNING SIGNS TO BE MADE OF DURABLE, WEATHERPROOF MATERIAL.
3. LETTERS ARE TO BE 3" HIGH MINIMUM, CLEARLY LEGIBLE AND SPACED AS DETAILED.
4. SIGNS ARE TO BE PLACED NO GREATER THAN 150' ON-CENTER.
5. PLACE SIGN AT EACH END OF LINEAR TREE PROTECTION AREAS AND 150' ON-CENTER THEREAFTER.
6. ATTACH SIGNS SECURELY TO FENCE POSTS AND FABRIC.
7. MAINTAIN TREE PROTECTION FENCE THROUGHOUT DURATION OF PROJECT.

TP TREE PROTECTION FENCE

NTS

PROJECT DATA AND GENERAL NOTES

PROJECT NAME AND LOCATION
NEUSE RIVER VETERINARY HOSPITAL
1932 WENDELL FALL PARKWAY
WENDELL, NC 27591
WAKE COUNTY, NORTH CAROLINA
LAT: 35° 46' 11" N LONG: 78° 25' 03" W

PROJECT OWNER / DEVELOPER	PROJECT CONSULTANT / ENGINEER
CONNIE L. JONES	CSD ENGINEERING
2364 SWINSON FARM ROAD	JOHN F. OGLESBY, PE
WENDELL, NC 27591	115 W. THIRD STREET / PO BOX 1250
(919) 365-9001	WENDELL, NC 27591
AGENT: AMOS GREENE	(919) 624-0997
(919) 365-7488	

WAKE COUNTY ENVIRONMENTAL CONSULTANT
KARYN PAGEAU
336 FAYETTVILLE STREET
RALEIGH, NC 27602
(919) 796-8769

GENERAL NOTES

1. TOTAL DISTURBED AREA = 1.8 ACRES.
2. PROPOSED LAND USE IS VETERINARY OFFICE AND HOSPITAL.
3. PROJECT CONSISTS OF A NEW BUILDING, ACCESS DRIVE, PARKING, SIDEWALKS, SANITARY SEWER MAIN EXTENSION, AND SITE STORM DRAINAGE.
4. SITE STORMWATER WILL DRAIN TO STORMWATER CONTROL MEASURE ON ADJACENT SITE; SHARED STORMWATER MANAGEMENT AGREEMENT HAS BEEN REACHED; STORWATER PERMIT NO. SWF-057563-2021.
5. WETLANDS AND JURISDICTIONAL STREAMS HAVE BEEN PREVIOUSLY VERIFIED BY THE STATE AND THE U.S. ARMY CORPS OF ENGINEERS (SEE ENVIRONMENTAL NOTES BELOW).
6. ELEVATION DATUM IS NAVD 88.
7. CONNIE L. JONES IS RESPONSIBLE FOR MAINTENANCE OF THE SITE INCLUDING EROSION AND SEDIMENT CONTROL MEASURES, AND STORMWATER CONVEYANCE MEASURES.

ENVIRONMENTAL NOTES:

1. THE EXISTING STREAM, BUFFERS AND WETLANDS ON-SITE WERE DELINEATED AND RECORDED BY WITHERS & RAVENEL FOR THE OVERALL DEVELOPMENT OF WENDELL FALLS (2007).
2. PERMIT DRAWINGS FOR IMPACTS SHOW STREAM, BUFFER, AND WETLANDS AS SITE 11 ("S11"); SITE SHOWS IMPACTS FOR SANITARY SEWER CROSSING.
3. THE LOCATION OF THE SEWER HAS BEEN CHANGED TO AVOID AND MINIMIZE IMPACTS AT SITE 11; HOWEVER, IMPACTS ARE PERMITTED UNDER THE INDIVIDUAL CLEAN WATER ACT PERMIT FOR WENDELL FALLS.
4. NO IMPACTS TO STREAM AND WETLAND ARE ANTICIPATED FOR THE DEVELOPMENT OF THIS SITE.
5. MINOR BUFFER IMPACTS DUE TO LOCATION OF PRE-FORMED SCOUR HOLE ARE MUCH LESS THAN THE BUFFER AREA IMPACTS PERMITTED.
6. THE SITE DOES NOT INCLUDE SIGNIFICANT OR ENDANGERED SPECIES.
7. THE SITE INCLUDES VEGETATION THAT IS PART OF THE NATIVE LANDSCAPING; INCLUDING BUT NOT LIMITED TO UNDER-STORY TREES AND SHRUBS.
8. THE SITE ALSO INCLUDES STANDS OF VOLUNTEER/NATIVE CANOPY TREES THAT ARE GREATER THAN 6-INCHES IN DBH.
9. CARE SHALL BE TAKEN TO ENSURE THE PRESERVATION OF EXISTING VEGETATION WITHIN STREAM BUFFER.

MAINTENANCE PLAN

1. ALL MEASURES ARE TO BE INSPECTED WEEKLY AND AFTER ANY RAINFALL; REPAIRS MADE IMMEDIATELY IF NECESSARY.
2. SEDIMENT IS TO BE REMOVED FROM SWALES AND DIVERSIONS WHEN THEY ARE APPROX. 50% FILLED OR WHEN SEDIMENT LEVEL IS WITHIN 1.0' OF TOP OF BANK.
3. SEDIMENT IS TO BE REMOVED FROM SILT FENCE AND INLET PROTECTION MEASURES WHEN 0.5' DEEP; FABRIC AND STONE TO BE REPAIRED AS NEEDED TO MAINTAIN A SEDIMENT BARRIER.
4. SEEDED AREAS SHALL BE FERTILIZED, MULCHED, AND RE-SEEDED AS NECESSARY, ACCORDING TO THE SPECIFICATIONS PROVIDED, TO MAINTAIN A SUITABLE VEGETATIVE COVER.
5. THE CONSTRUCTION ENTRANCE SHALL BE MAINTAINED IN SUCH A MANNER AS TO PREVENT MUD OR SEDIMENT FROM LEAVING THE CONSTRUCTION SITE; TOP DRESSING WITH 2-INCH STONE MAY BE REQUIRED.
6. IMMEDIATELY REMOVE SEDIMENT SPILLED, WASHED, OR TRACKED ONTO PUBLIC ROADWAYS.
7. INSPECT SEDIMENT BASINS AS DIRECTED; REMOVE SEDIMENT FROM ENTIRE BASIN AND RESTORE BASIN TO ORIGINAL DIMENSIONS WHEN SEDIMENT ACCUMULATES TO ONE-HALF THE BASIN DEPTH; INSPECT OUTLET TO ENSURE IT IS PROPERLY FUNCTIONING.
8. IF SKIMMER/OUTLET IS CLOGGED WITH TRASH, DISLODGE BY JERKING THE ROPE UP AND DOWN OR PULL SKIMMER TO SIDE OF BASIN AND REMOVE DEBRIS BY HAND; INSPECT ORIFICE.
9. REMOVE SEDIMENT FROM BEHIND BAFFLES ONCE ACCUMULATION HAS REACHED ONE-HALF THE HEIGHT OF THE FIRST BAFFLE; REPLACE BAFFLES PROMPTLY IF THEY COLLAPSE, TEAR, DECOMPOSE, OR BECOME INEFFECTIVE.
10. INSPECT CHECK DAMS AS DIRECTED AND CLEAR STONE OF DEBRIS AND ACCUMULATED SEDIMENT; TAKE CARE NOT TO DAMAGE OR UNDERCUT THE STRUCTURAL STONE DURING SEDIMENT REMOVAL; REPLACE SEDIMENT STONE AS NEEDED.
11. REFER TO MAINTENANCE SPECIFICATIONS AND REQUIREMENTS IN THE NORTH CAROLINA "EROSION AND SEDIMENT CONTROL PLANNING AND DESIGN MANUAL."

STOCKPILE NOTES

1. A 25-FOOT TEMPORARY MAINTENANCE AND ACCESS EASEMENT SHALL BE MAINTAINED AROUND ALL PROPOSED STOCKPILES; EROSION CONTROL MEASURES SURROUNDING THE STOCKPILE SHALL BE SHOWN AT THE OUTER LIMIT OF THE EASEMENT.
2. STOCKPILE FOOTPRINTS SHALL BE SETBACK A MINIMUM OF 25' FROM ADJACENT PROPERTY LINES.
3. STOCKPILE HEIGHT SHALL NOT EXCEED 35 FEET.
4. STOCKPILE SLOPES SHALL BE 2:1 OR FLATTER.
5. APPROVED MEASURES SHALL BE USED TO CONTROL SEDIMENT LOSS FROM STOCKPILE.
6. STOCKPILING OF MATERIALS ADJACENT TO A CHANNEL, DRAINAGEWAY, WATERCOURSE, WETLAND, STREAM BUFFER, OR OTHER BODY OF WATER SHALL BE AVOIDED UNLESS AN ALTERNATIVE LOCATION IS DEMONSTRATED TO BE UNAVAILABLE.
7. ANY CONCENTRATED FLOW LIKELY TO AFFECT THE STOCKPILE SHALL BE DIVERTED TO AN APPROVED MEASURE.
8. OFF-SITE SPOIL OR BORROW AREAS MUST BE IN COMPLIANCE WITH WAKE COUNTY ORDINANCES AND STATE REGULATIONS; ALL SPOIL AREAS OVER ONE ACRE ARE REQUIRED TO HAVE AN APPROVED SEDIMENT CONTROL PLAN. THE DEVELOPER/CONTRACTOR SHALL NOTIFY WAKE COUNTY OF OFFSITE DISPOSAL OF SOIL PRIOR TO DISPOSAL. FILL OF FEMA FLOODWAYS AND NON-ENCROACHMENT AREAS ARE PROHIBITED EXCEPT AS OTHERWISE PROVIDED BY SUBSECTION 14-19-2 OF THE WAKE COUNTY UNIFIED DEVELOPMENT ORDINANCE (CERTIFICATIONS AND PERMITS REQUIRED).

WAKE CO. BASIN REMOVAL SEQUENCE:

1. SCHEDULE A SITE MEETING WITH THE ENVIRONMENTAL CONSULTANT TO DETERMINE IF A BASIN CAN BE REMOVED. INSTALL SILT FENCING OR OTHER TEMPORARY EROSION CONTROL MEASURES AS NEEDED PRIOR TO REMOVAL OF THE BASIN.
2. CONTACT NCDEQ RALEIGH REGIONAL OFFICE (919) 791-4200 TO DETERMINE THE DIVISION OF ENERGY, MINERAL AND LAND RESOURCES CONTACT PERSON TO RECEIVE DEWATERING NOTIFICATIONS. AT LEAST 10 DAYS PRIOR TO BEGINNING DEWATERING ACTIVITY, SEND EMAIL TO NCDEQ-DEMLR CONTACT PERSON AND COPY ENVIRONMENTAL CONSULTANT THAT MET YOU ONSITE. THE EMAIL SHOULD INCLUDE E&SC JURISDICTION; WAKE COUNTY, WAKE COUNTY PROJECT NAME, NUMBER, AND LOCATION (CITY/TOWN), ENVIRONMENTAL CONSULTANT NAME; AND ADDRESS THE FOLLOWING: A)REASON FOR CONVERSION, B)BASIN #, C)DEWATERING METHOD, AND D) ALL OTHER NECESSARY INFO FROM PART II, SECTION G, ITEM 4 OF THE NCG01. (KEEP EMAIL FOR YOUR NPDES MONITORING DOCUMENTATION)
3. AFTER RECEIVING POSITIVE CONFIRMATION FROM NCDEQ-DEMLR THAT YOU MAY REMOVE THE BASIN OR ON > DAY 11, WHICHEVER IS SOONER. REMOVE BASIN(S) AND ASSOCIATED TEMPORARY DIVERSION DITCHES. IF PIPES NEED TO BE EXTENDED, PERFORM THIS OPERATION AT THIS TIME. FINE GRADE AREA IN PREPARATION FOR SEEDING.
4. PERFORM SEEDBED PREPARATION, SEED, MULCH AND ANCHOR ANY RESULTING BARE AREAS IMMEDIATELY.
5. INSTALL VELOCITY DISSIPATORS AND/OR LEVEL SPREADERS AS REQUIRED ON THE EROSION CONTROL PLAN.
6. WHEN SITE IS FULLY STABILIZED, CALL ENVIRONMENTAL CONSULTANT FOR APPROVAL OF REMOVING REMAINING TEMPORARY EROSION CONTROL MEASURES AND ADVICE ON WHEN SITE CAN BE ISSUED A CERTIFICATE OF COMPLETION.

NOTE: A MEETING SHOULD ALSO BE SCHEDULED WITH THE ENVIRONMENTAL CONSULTANT TO DETERMINE WHEN A BASIN MAY BE CONVERTED FOR STORMWATER USE. SOME MUNICIPALITIES MAY ALSO REQUIRE THIS.

SOIL STABILIZATION NOTES

1. SOIL STABILIZATION TIMEFRAMES:

SITE AREA DESCRIPTION	STABILIZATION	TIMEFRAME EXCEPTIONS
PERIMETER DIKES,SWALES DITCHES AND SLOPES	7 DAYS	NONE
HIGH QUALITY ZONES (HQW)	7 DAYS	NONE
SLOPES STEEPER THAN 3:1	7 DAYS	IF SLOPES ARE 10 FT OR LESS IN LENGTH AND ARE NOT STEEPER THAN 2:1, 14 DAYS ARE ALLOWED
SLOPES 3:1 OR FLATTER	14 DAYS	7 DAYS FOR SLOPES GREATER THAN 50 FT IN LENGTH
ALL OTHER AREAS WITH SLOPES FLATTER THAN 4:1	14 DAYS	NONE, EXCEPT FOR PERIMETER AND HQW ZONES

2. DENUDED AREAS MUST BE STABILIZED WITHIN FIFTEEN (15) WORKING DAYS OF CEASE OF ANY PHASE OF ACTIVITY. ALL SLOPES MUST BE STABILIZED WITHIN TWENTY-ONE (21) CALENDAR DAYS OF CEASE OF ANY PHASE OF ACTIVITY. THIS INCLUDES SLOPES, SWALES, CHANNELS AND STOCKPILES.
3. THIS PLAN IS TO BE UTILIZED AND REVIEWED ONLY IN CONJUNCTION WITH THE WRITTEN NARRATIVE, WHICH IS AN INTEGRAL PART OF THIS EROSION AND SEDIMENT CONTROL PLAN.
4. ALL FINISHED SLOPES SHALL BE 3:1 OR FLATTER.
5. NO WETLANDS EXIST WITHIN LIMITS OF DISTURBANCE.
6. SEE STABILIZATION GUIDELINES ON SHEET EC7.

SOIL STABILIZATION GUIDELINES

SEEDBED PREPARATION

1. CHISEL COMPACTED AREAS AND SPREAD TOPSOIL THREE INCHES DEEP OVER ADVERSE SOIL CONDITIONS, IF AVAILABLE.
2. RIP THE ENTIRE AREA TO SIX INCHES DEEP.
3. REMOVE ALL LOOSE ROCK, ROOTS AND OTHER OBSTRUCTIONS, LEAVING SURFACE REASONABLY SMOOTH AND UNIFORM.
4. APPLY AGRICULTURAL LIME, FERTILIZER AND SUPER-PHOSPHATE UNIFORMLY AND MIX WITH SOIL (SEE MIXTURE BELOW).
5. CONTINUE TILLAGE UNTIL A WELL-PULVERIZED, FIRM, REASONABLY UNIFORM SEEDBED IS PREPARED FOUR TO SIX INCHES DEEP.
6. SEED ON A FRESHLY PREPARED SEEDBED AND COVER SEED LIGHTLY WITH SEEDING EQUIPMENT OR CULTI-PACK AFTER SEEDING.
7. MULCH IMMEDIATELY AFTER SEEDING AND ANCHOR MULCH.
8. INSPECT ALL SEEDED AREAS AND MAKE NECESSARY REPAIRS OR RESEEDINGS WITHIN THE PLANTING SEASON, IF POSSIBLE. IF STAND SHOULD BE MORE THAN 60% DAMAGED, RE-ESTABLISH FOLLOWING THE ORIGINAL LIME, FERTILIZER AND SEEDING RATES.
9. CONSULT N.C. STATE COOPERATIVE EXTENSION SERVICE ON MAINTENANCE TREATMENT AND FERTILIZATION AFTER PERMANENT COVER IS ESTABLISHED.
10. CONSULT N.C. STATE COOPERATIVE EXTENSION SERVICE FOR ADDITIONAL INFORMATION CONCERNING OTHER ALTERNATIVES FOR VEGETATION OF DENUDED AREAS. THE VEGETATION RATES OUTLINED BELOW ARE THOSE THAT DO WELL UNDER LOCAL CONDITIONS; OTHER SEEDING RATE COMBINATIONS ARE POSSIBLE.

MIXTURE

AGRICULTURAL LIMESTONE SOILS)	2 TONS/ACRE (3 TONS/ACRE IN CLAY
FERTILIZER	1,000 LBS/ACRE - 10-10-10
SUPER-PHOSPHATE	500 LBS/ACRE - 20% ANALYSIS
MULCH	2 TONS/ACRE - SMALL GRAIN STRAW
ANCHOR	ASPHALT EMULSION AT 300 GALS/ACRE

SEEDING SCHEDULE

FOR SHOULDERS, SLOPES (3:1 MAX):

DATE	TYPE	PLANTING RATE
AUG 15-NOV 1	TALL FESCUE	300 LBS/ACRE
NOV 1-MAR 1	TALL FESCUE & ABRUZZI RYE	300 LBS/ACRE
AUG 15-MAR 1	NON-HULLED BERMUDAGRASS AND ABRUZZI RYE	25 LBS/ACRE

FOR SHOULDERS, SLOPES (3:1 TO 2:1):

DATE	TYPE	PLANTING RATE
MAR 1-JUN 30	WEEPING LOVE GRASS	8 LBS/ACRE
MAR 1-JUN 30	ADD HULLED COMMON BERMUDAGRAS	25 LBS/ACRE
JUN 1-SEPT 1	TALL FESCUE AND BROWNTOP MULLET ***	120 LBS/ACRE 35 LBS/ACRE
NOV 1-MAR 1	NON-HULLED BERMUDAGRASS AND ABRUZZI RYE	25 LBS/ACRE

***TEMPORARY: RESEED ACCORDING TO OPTIMUM SEASON FOR DESIRED PERMANENT VEGETATION. DO NOT ALLOW TEMPORARY COVER TO GROW MORE THAN 12" IN HEIGHT BEFORE MOWING; OTHERWISE, FESCUE MAY BE SHADED OUT.

FOR WELL-KEPT HIGH-VISIBILITY AREAS (INCLUDING BUT NOT LIMITED TO DRY DETENTION BASINS, LAWNS, AND/OR SIDEWALK BERMS:

DATE	TYPE	PLANTING RATE
AUG 15-NOV 1	CENTIPEDEGRASS	10-20 LBS/ACRE
APR 15-JUN 30	HULLED COMMON BERMUDAGRASS	25 LBS/ACRE

SPRIGGING: PLANT SPRIGS IN FURROWS WITH A TRACTOR-DRAWN TRANSPLANTOR, OR BROADCAST BY HAND. FURROWS SHOULD BE 4-6 INCHES DEEP AND 2 FEET APART. PLACE SPRIGS ABOUT 2 FEET APART IN THE ROW WITH ONE END AT OR ABOVE GROUND LEVEL. BROADCAST AT RATES SHOWN ABOVE, AND PRESS SPRIGS INTO THE TOP ONE-HALF TO 2 INCHES OF SOIL WITH A DISK SET STRAIGHT SO THAT SPRIGS ARE NOT BROUGHT BACK TOWARD SURFACE. DO NOT MULCH. FERTILIZE VERY SPARINGLY WITH 20 LBS/ACRE NITROGEN IN SPRING WITH NO PHOSPHORUS. SODDING IS ANOTHER OPTION.

CSD ENGINEERING
LICENSE # C-2710
ENGINEERING
LAND PLANNING
COMMERCIAL / RESIDENTIAL
P.O. BOX 1250
WENDELL, NC 27591
(919) 791-4441

EROSION & SEDIMENT CONTROL PLAN
DETAILS & NOTES

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CONSTRUCTION DRAWINGS FOR
NEUSE RIVER VETERINARY HOSPITAL
LOCATED IN TOWN OF WENDELL
WAKE COUNTY, NORTH CAROLINA
OWNER: CONNIE L. JONES (919) 365-9001
2364 SWINSON FARM ROAD
WENDELL, NC 27591
BUILDER: GMS BUILDERS AMOS GREENE (919) 365-7488
1245 BUFFALOE ROAD
WENDELL, NC 27591

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 032721 JOHN F. OGLESBY
3/16/22

DATE	BY	REMARKS	REV. NO.

DATE: 3/16/2022
HORZ. SCALE: 1" = 30'
VERT. SCALE: N/A
DRAWN BY: JFO
CHECKED BY: HSR
PROJECT NO.: 21-0559

Sheet C7.5
Sheet No. 20 OF 21

GROUND STABILIZATION AND MATERIALS HANDLING PRACTICES FOR COMPLIANCE WITH THE NCG01 CONSTRUCTION GENERAL PERMIT

Implementing the details and specifications on this plan sheet will result in the construction activity being considered compliant with the Ground Stabilization and Materials Handling sections of the NCG01 Construction General Permit (Sections E and F, respectively). The permittee shall comply with the Erosion and Sediment Control plan approved by the delegated authority having jurisdiction. All details and specifications shown on this sheet may not apply depending on site conditions and the delegated authority having jurisdiction.

SECTION E: GROUND STABILIZATION

Required Ground Stabilization Timeframes

Site Area Description	Stabilize within this many calendar days after ceasing land disturbance	Timeframe variations
(a) Perimeter dikes, swales, ditches, and perimeter slopes	7	None
(b) High Quality Water (HQW) Zones	7	None
(c) Slopes steeper than 3:1	7	If slopes are 10' or less in length and are not steeper than 2:1, 14 days are allowed
(d) Slopes 3:1 to 4:1	14	-7 days for slopes greater than 50' in length and with slopes steeper than 4:1 -7 days for perimeter dikes, swales, ditches, perimeter slopes and HQW Zones -10 days for Falls Lake Watershed
(e) Areas with slopes flatter than 4:1	14	-7 days for perimeter dikes, swales, ditches, perimeter slopes and HQW Zones -10 days for Falls Lake Watershed unless there is zero slope

Note: After the permanent cessation of construction activities, any areas with temporary ground stabilization shall be converted to permanent ground stabilization as soon as practicable but in no case longer than 90 calendar days after the last land disturbing activity. Temporary ground stabilization shall be maintained in a manner to render the surface stable against accelerated erosion until permanent ground stabilization is achieved.

GROUND STABILIZATION SPECIFICATION

Stabilize the ground sufficiently so that rain will not dislodge the soil. Use one of the techniques in the table below:

Temporary Stabilization	Permanent Stabilization
• Temporary grass seed covered with straw or other mulches and tackifiers • Hydroseeding • Rolled erosion control products with or without temporary grass seed • Appropriately applied straw or other mulch • Plastic sheeting	• Permanent grass seed covered with straw or other mulches and tackifiers • Geotextile fabrics such as permanent soil reinforcement matting • Hydroseeding • Shrubs or other permanent plantings covered with mulch • Uniform and evenly distributed ground cover sufficient to restrain erosion • Structural methods such as concrete, asphalt or retaining walls • Rolled erosion control products with grass seed

POLYACRYLAMIDES (PAMS) AND FLOCCULANTS

1. Select flocculants that are appropriate for the soils being exposed during construction, selecting from the *NC DWR List of Approved PAMS/Flocculants*.
2. Apply flocculants at or before the inlets to Erosion and Sediment Control Measures.
3. Apply flocculants at the concentrations specified in the *NC DWR List of Approved PAMS/Flocculants* and in accordance with the manufacturer's instructions.
4. Provide ponding area for containment of treated Stormwater before discharging offsite.
5. Store flocculants in leak-proof containers that are kept under storm-resistant cover or surrounded by secondary containment structures.

EQUIPMENT AND VEHICLE MAINTENANCE

1. Maintain vehicles and equipment to prevent discharge of fluids.
2. Provide drip pans under any stored equipment.
3. Identify leaks and repair as soon as feasible, or remove leaking equipment from the project.
4. Collect all spent fluids, store in separate containers and properly dispose as hazardous waste (recycle when possible).
5. Remove leaking vehicles and construction equipment from service until the problem has been corrected.
6. Bring used fuels, lubricants, coolants, hydraulic fluids and other petroleum products to a recycling or disposal center that handles these materials.

LITTER, BUILDING MATERIAL AND LAND CLEARING WASTE

1. Never bury or burn waste. Place litter and debris in approved waste containers.
2. Provide a sufficient number and size of waste containers (e.g dumpster, trash receptacle) on site to contain construction and domestic wastes.
3. Locate waste containers at least 50 feet away from storm drain inlets and surface waters unless no other alternatives are reasonably available.
4. Locate waste containers on areas that do not receive substantial amounts of runoff from upland areas and does not drain directly to a storm drain, stream or wetland.
5. Cover waste containers at the end of each workday and before storm events or provide secondary containment. Repair or replace damaged waste containers.
6. Anchor all lightweight items in waste containers during times of high winds.
7. Empty waste containers as needed to prevent overflow. Clean up immediately if containers overflow.
8. Dispose waste off-site at an approved disposal facility.
9. On business days, clean up and dispose of waste in designated waste containers.

PAINT AND OTHER LIQUID WASTE

1. Do not dump paint and other liquid waste into storm drains, streams or wetlands.
2. Locate paint washouts at least 50 feet away from storm drain inlets and surface waters unless no other alternatives are reasonably available.
3. Contain liquid wastes in a controlled area.
4. Containment must be labeled, sized and placed appropriately for the needs of site.
5. Prevent the discharge of soaps, solvents, detergents and other liquid wastes from construction sites.

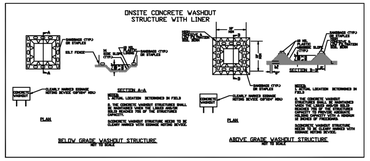
PORTABLE TOILETS

1. Install portable toilets on level ground, at least 50 feet away from storm drains, streams or wetlands unless there is no alternative reasonably available. If 50 foot offset is not attainable, provide relocation of portable toilet behind silt fence or place on a gravel pad and surround with sand bags.
2. Provide staking or anchoring of portable toilets during periods of high winds or in high foot traffic areas.
3. Monitor portable toilets for leaking and properly dispose of any leaked material. Utilize a licensed sanitary waste hauler to remove leaking portable toilets and replace with properly operating unit.

EARTHEN STOCKPILE MANAGEMENT

1. Show stockpile locations on plans. Locate earthen-material stockpile areas at least 50 feet away from storm drain inlets, sediment basins, perimeter sediment controls and surface waters unless it can be shown no other alternatives are reasonably available.
2. Protect stockpile with silt fence installed along toe of slope with a minimum offset of five feet from the toe of stockpile.
3. Provide stable stone access point when feasible.
4. Stabilize stockpile within the timeframes provided on this sheet and in accordance with the approved plan and any additional requirements. Soil stabilization is defined as vegetative, physical or chemical coverage techniques that will restrain accelerated erosion on disturbed soils for temporary or permanent control needs.

NORTH CAROLINA Environmental Quality



CONCRETE WASHOUTS

1. Do not discharge concrete or cement slurry from the site.
2. Dispose of, or recycle settled, hardened concrete residue in accordance with local and state solid waste regulations and at an approved facility.
3. Manage washout from mortar mixers in accordance with the above item and in addition place the mixer and associated materials on impervious barrier and within lot perimeter silt fence.
4. Install temporary concrete washouts per local requirements, where applicable. If an alternate method or product is to be used, contact your approval authority for review and approval. If local standard details are not available, use one of the two types of temporary concrete washouts provided on this detail.
5. Do not use concrete washouts for dewatering or storing defective curb or sidewalk sections. Stormwater accumulated within the washout may not be pumped into or discharged to the storm drain system or receiving surface waters. Liquid waste must be pumped out and removed from project.
6. Locate washouts at least 50 feet from storm drain inlets and surface waters unless it can be shown that no other alternatives are reasonably available. At a minimum, install protection of storm drain inlet(s) closest to the washout which could receive spills or overflow.
7. Locate washouts in an easily accessible area, on level ground and install a stone entrance pad in front of the washout. Additional controls may be required by the approving authority.
8. Install at least one sign directing concrete trucks to the washout within the project limits. Post signage on the washout itself to identify this location.
9. Remove leavings from the washout when at approximately 75% capacity to limit overflow events. Replace the tarp, sand bags or other temporary structural components when no longer functional. When utilizing alternative or proprietary products, follow manufacturer's instructions.
10. At the completion of the concrete work, remove remaining leavings and dispose of in an approved disposal facility. Fill pit, if applicable, and stabilize any disturbance caused by removal of washout.

HERBICIDES, PESTICIDES AND RODENTICIDES

1. Store and apply herbicides, pesticides and rodenticides in accordance with label restrictions.
2. Store herbicides, pesticides and rodenticides in their original containers with the label, which lists directions for use, ingredients and first aid steps in case of accidental poisoning.
3. Do not store herbicides, pesticides and rodenticides in areas where flooding is possible or where they may spill or leak into wells, stormwater drains, ground water or surface water. If a spill occurs, clean area immediately.
4. Do not stockpile these materials onsite.

HAZARDOUS AND TOXIC WASTE

1. Create designated hazardous waste collection areas on-site.
2. Place hazardous waste containers under cover or in secondary containment.
3. Do not store hazardous chemicals, drums or bagged materials directly on the ground.

NCG01 GROUND STABILIZATION AND MATERIALS HANDLING | EFFECTIVE: 04/01/19

PART III
SELF-INSPECTION, RECORDKEEPING AND REPORTING

SECTION A: SELF-INSPECTION

Self-inspections are required during normal business hours in accordance with the table below. When adverse weather or site conditions would cause the safety of the inspection personnel to be in jeopardy, the inspection may be delayed until the next business day on which it is safe to perform the inspection. In addition, when a storm event of equal to or greater than 1.0 inch occurs outside of normal business hours, the self-inspection shall be performed upon the commencement of the next business day. Any time when inspections were delayed shall be noted in the Inspection Record.

Inspect	Frequency (during normal business hours)	Inspection records must include:
(1) Rain gauge maintained in good working order	Daily	Daily rainfall amounts. If no daily rain gauge observations are made during weekend or holiday periods, and no individual-day rainfall information is available, record the cumulative rain measurement for those un-attended days (anc this will determine if a site inspection is needed). Days on which no rainfall occurred shall be recorded as "zero." The permittee may use another rain-monitoring device approved by the Division.
(2) E&SC Measures	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours	1. Identification of the measures inspected, 2. Date and time of the inspection, 3. Name of the person performing the inspection, 4. Indication of whether the measures were operating properly, 5. Description of maintenance needs for the measure, 6. Description, evidence, and date of corrective actions taken.
(3) Stormwaiver discharge outfalls (SDOs)	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours	1. Identification of the discharge outfalls inspected, 2. Date and time of the inspection, 3. Name of the person performing the inspection, 4. Evidence of indicators of stormwater pollution such as oil sheen, floating or suspended solids or discoloration, 5. Indication of visible sediment leaving the site, 6. Description, evidence, and date of corrective actions taken.
(4) Perimeter of site	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours	If visible sedimentation is found outside site limits, then a record of the following shall be made: 1. Actions taken to clean up or stabilize the sediment that has left the site limits, 2. Description, evidence, and date of corrective actions taken, and 3. An explanation as to the actions taken to control future releases.
(5) Streams or wetlands onsite or offsite (where accessible)	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours	If the stream or wetbnd has increased visible sedimenxtation or a stream has visible increased turbidity from the construction activity, then a record of the following shall be made: 1. Description, evidence and date of corrective actions taken, and 2. Records of the required reports to the appropriate Division Regional Office per Part III, Section C, Item (2)(a) of this permit.
(6) Ground stabilization measures	After each phase of grading	1. The phase of grading (installation of perimeter E&SC measures, clearing and grubbing, installation of storm drainage facilities, completion of all land-disturbing activity, construction or redevelopment, permanent ground cover). 2. Documentation that the required ground stabilization measures have been provided within the required timeframe or an assurance that they will be provided as soon as possible.

NOTE: The rain inspection resets the required 7 calendar day inspection requirement.

PART III
SELF-INSPECTION, RECORDKEEPING AND REPORTING

SECTION B: RECORDKEEPING

1. E&SC Plan Documentation

The approved E&SC plan as well as any approved deviation shall be kept on the site. The approved E&SC plan must be kept up-to-date throughout the coverage under this permit. The following items pertaining to the E&SC plan shall be kept on site and available for inspection at all times during normal business hours.

Item to Document	Documentation Requirements
(a) Each E&SC measure has been installed and does not significantly deviate from the locations, dimensions and relative elevations shown on the approved E&SC plan.	Initial and date each E&SC measure on a copy of the approved E&SC plan or complete, date and sign an inspection report that lists each E&SC measure shown on the approved E&SC plan. This documentation is required upon the initial installation of the E&SC measures or if the E&SC measures are modified after initial installation.
(b) A phase of grading has been completed.	Initial and date a copy of the approved E&SC plan or complete, date and sign an inspection report to indicate completion of the construction phase.
(c) Ground cover is located and installed in accordance with the approved E&SC plan.	Initial and date a copy of the approved E&SC plan or complete, date and sign an inspection report to indicate compliance with approved ground cover specifications.
(d) The maintenance and repair requirements for all E&SC measures have been performed.	Complete, date and sign an inspection report.
(e) Corrective actions have been taken to E&SC measures.	Initial and date a copy of the approved E&SC plan or complete, date and sign an inspection report to indicate the completion of the corrective action.

2. Additional Documentation to be Kept on Site

In addition to the E&SC plan documents above, the following items shall be kept on the site and available for inspectors at all times during normal business hours, unless the Division provides a site-specific exemption based on unique site conditions that make this requirement not practical:

(a) This General Permit as well as the Certificate of Coverage, after it is received.

(b) Records of inspections made during the previous twelve months. The permittee shall record the required observations on the Inspection Record Form provided by the Division or a similar inspection form that includes all the required elements. Use of electronically-available records in lieu of the required paper copies will be allowed if shown to provide equal access and utility as the hard-copy records.

3. Documentation to be Retained for Three Years

All data used to complete the e-NOI and all inspection records shall be maintained for a period of three years after project completion and made available upon request. [40 CFR 122.41]

PART III
SELF-INSPECTION, RECORDKEEPING AND REPORTING

SECTION C: REPORTING

1. Occurrences that Must be Reported

Permittees shall report the following occurrences:

(a) Visible sediment deposition in a stream or wetland.

(b) Oil spills if:
- They are 25 gallons or more,
- They are less than 25 gallons but cannot be cleaned up within 24 hours,
- They cause sheen on surface waters (regardless of volume), or
- They are within 100 feet of surface waters (regardless of volume).

(c) Releases of hazardous substances in excess of reportable quantities under Section 311 of the Clean Water Act (Ref: 40 CFR 110.3 and 40 CFR 117.3) or Section 102 of CERCLA (Ref: 40 CFR 302.4) or G.S. 143-215.85.

(d) Anticipated bypasses and unanticipated bypasses.

(e) Noncompliance with the conditions of this permit that may endanger health or the environment.

2. Reporting Timeframes and Other Requirements

After a permittee becomes aware of an occurrence that must be reported, he shall contact the appropriate Division regional office within the timeframes and in accordance with the other requirements listed below. Occurrences outside normal business hours may also be reported to the Department's Environmental Emergency Center personnel at (800) 858-0368.

Occurrence	Reporting Timeframes [After Discovery) and Other Requirements
(a) Visible sediment deposition in a stream or wetland	• ***Within 24 hours***, an oral or electronic notification. • ***Within 7 calendar days***, a report that contains a description of the sediment and actions taken to address the cause of the deposition. Division staff may waive the requirement for a written report on a case-by-case basis. • If the stream is named on the NC 303(d) list as impaired for sediment-related causes, the permittee may be required to perform additional monitoring, inspections or apply more stringent practices if staff determine that additional requirements are needed to assure compliance with the federal or state impaired-waters conditions.
(b) Oil spills and release of hazardous substances per Item 1(b)-(c) above	• ***Within 24 hours***, an oral or electronic notification. The notification shall include information about the date, time, nature, volume and location of the spill cr release.
(c) Anticipated bypasses [40 CFR 122.41(m)(3)]	• ***A report at least ten days before the date of the bypass, if possible.*** The report shall include an evaluation of the anticipated quality and effect of the bypass.
(d) Unanticipated bypasses [40 CFR 122.41(m)(3)]	• ***Within 24 hours***, an oral or electronic notification. • ***Within 7 calendar days,*** a report that includes an evaluation of the quality and effect of the bypass.
(e) Noncompliance with the conditions of this permit that may endanger health or the environment[40 CFR 122.41(l)(7)]	• ***Within 24 hours***, an oral or electronic notification. • ***Within 7 calendar days***, a report that contains a description of the noncompliance, and its causes; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time noncompliance is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance. [40 CFR 122.41(l)(6). • Division staff may waive the requirement for a written report on a case-by-case basis.

PART II, SECTION G, ITEM (4)
DRAW DOWN OF SEDIMENT BASINS FOR MAINTENANCE OR CLOSE OUT

Sediment basins and traps that receive runoff from drainage areas of one acre or more shall use outlet structures that withdraw water from the surface when these devices need to be drawn down for maintenance or close out unless this is infeasible. The circumstances in which it is not feasible to withdraw water from the surface shall be rare (for example, times with extended cold weather). Non-surface withdrawals from sediment basins shall be allowed only when all of the following criteria have been met:

(a) The E&SC plan authority has been provided with documentation of the non-surface withdrawal and the specific time periods or conditions in which it will occur. The non-surface withdrawal shall not commence until the E&SC plan authority has approved these items,
(b) The non-surface withdrawal has been reported as an anticipated bypass in accordance with Part III, Section C, Item (2)(c) and (d) of this permit,
(c) Dewatering discharges are treated with controls to minimize discharges of pollutants from stormwater that is removed from the sediment basin. Examples of appropriate controls include properly sited, designed and maintained dewatering tanks, weir tanks, and filtration systems,
(d) Vegetated, upland areas of the sites or a properly designed stone pad is used to the extent feasible at the outlet of the dewatering treatment devices described in Item (c) above,
(e) Velocity dissipation devices such as check dams, sediment traps, and riprap are provided at the discharge points of all dewatering devices, and
(f) Sediment removed from the dewatering treatment devices described in Item (c) above is disposed of in a manner that does not cause deposition of sediment into waters of the United States.

NORTH CAROLINA Environmental Quality

NCG01 SELF-INSPECTION, RECORDKEEPING AND REPORTING | EFFECTIVE: 04/01/19

CSD ENGINEERING

LICENSE # C-2710
ENGINEERING
LAND PLANNING
COMMERCIAL / RESIDENTIAL

P.O. BOX 1250
WENDELL, NC 27591
(910) 791-4441

EROSION & SEDIMENT CONTROL PLAN
NCG01 REQUIREMENTS & SPECIFICATIONS

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CONSTRUCTION DRAWINGS FOR
NEUSE RIVER VETERINARY HOSPITAL
LOCATED IN TOWN OF WENDELL
WAKE COUNTY, NORTH CAROLINA

OWNER: CONNIE L. JONES (919) 365-9001
2364 SWINSON FARM ROAD
WENDELL, NC 27591
BUILDER: G&S BUILDERS, AMOS GREENE (919) 365-7488
6613 HOLDING ROCK ROAD
WENDELL, NC 27591

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 032721 JOHN F. OGLESBY
3/16/22

DATE	BY	REMARKS	REV. NO.

DATE: 3/16/2022
HORZ. SCALE: 1" = 30'
VERT. SCALE: N/A
DRAWN BY: JFO
CHECKED BY: HSR
PROJECT NO.: 21-0559

Sheet C7.6
Sheet No. 21 OF 21

ABBREVIATION LEGEND:

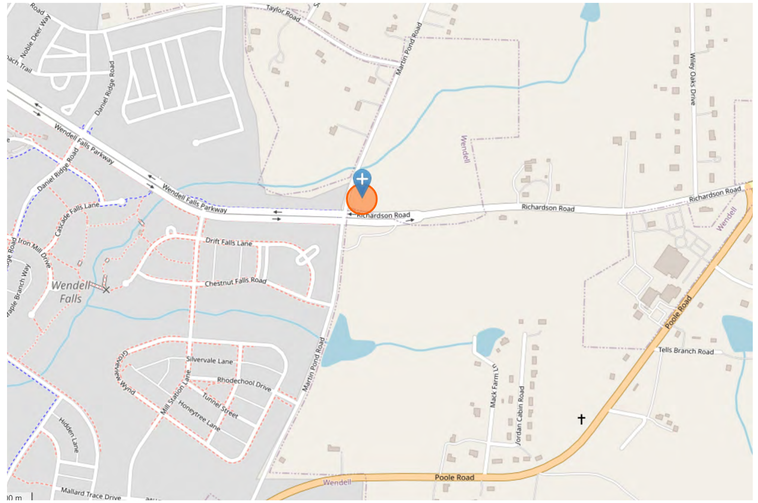
ACT	ACOUSTICAL CEILING TILE
AFF	ABOVE FINISHED FLOOR
CLG HGT	CEILING HEIGHT
CMU	CONCRETE MASONRY UNIT
FE	FIRE EXTINGUISHER
FR	FIRE RETARDANT
GC	GENERAL CONTRACTOR
GWB	GYPSUM WALL BOARD
HSS	HOLLOW STRUCTURAL SECTION
INFO	INFORMATION
MIN.	MINIMUM OR MINIMAL
MRGWB	MOISTURE RESISTANT GYPSUM WALL BOARD
OC	ON CENTER
OH	OPPOSITE HAND
PLWD	PLYWOOD
RCP	REFLECTED CEILING PLAN
REQ'D	REQUIRED
RPZ	REDUCED PRESSURE ZONE/ BACK FLOW PROTECTION
SF	SQUARE FEET
SS	STAINLESS STEEL
THRU	THROUGH
TYP	TYPICAL
W/	WITH

SYMBOLS LEGEND

SF#	WINDOW TAG
EA##	EXTERIOR WALL ASSEMBLY TAG
#	WALL TAG
#	DOOR TAG
#	KEYNOTE

GENERAL NOTES:

- VERIFY ALL DIMENSIONS AND EXISTING CONDITIONS IN FIELD PRIOR TO CONSTRUCTION.
- DESIGN BUILD CONTRACTOR TO PROVIDE ALL SITE, STRUCTURAL, MECHANICAL, ELECTRICAL, AND PLUMBING CALCULATIONS AND DRAWINGS.
- DIMENSIONS ARE TO FINISHED FACE OF WALL UNLESS NOTED OTHERWISE



LOCATION

DRAWING INDEX

#	Sheet Name
A-0.00	COVER SHEET
A-0.01	BUILDING CODE SUMMARY
A-0.02	LIFE SAFETY PLAN
A-1.01	EXTERIOR ELEVATIONS
A-2.01	FIRST FLOOR PLAN
A-2.02	FIRST FLOOR REFLECTED CEILING PLAN
A-3.01	ROOF PLAN
A-4.01	BUILDING SECTION
A-4.02	WALL SECTIONS
A-5.01	OPENING SCHEDULE
A-6.01	INTERIOR DETAILS, RESTROOMS AND ACCESSIBLITY

TONY LEE JOHNSON
REGISTERED ARCHITECT
4296
NORTH CAROLINA
CLAYTON, NC
09-14-21

TONY L. JOHNSON ARCHITECT P.A.
REGISTERED ARCHITECTURAL CORPORATION
51220
NORTH CAROLINA
CLAYTON, NC

NEUSE RIVER
VETERINARY
HOSPITAL

MARTIN POND ROAD AND
WENDELL FALLS PARKWAY
WENDELL, NC 27591

G&G BUILDERS, INC.

919-550-7717
Tony@TonyJohnsonArchitect.com
104 North Lombard St
Clayton, NC 27520
TonyJohnsonArchitect.com

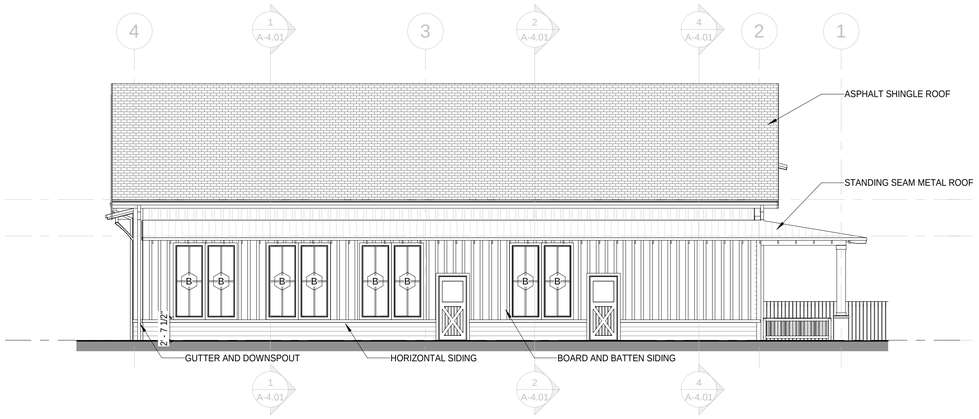
TONY JOHNSON ARCHITECTURE

ISSUE DATE	09-14-21
REVISION	
PROJECT #	2021-067

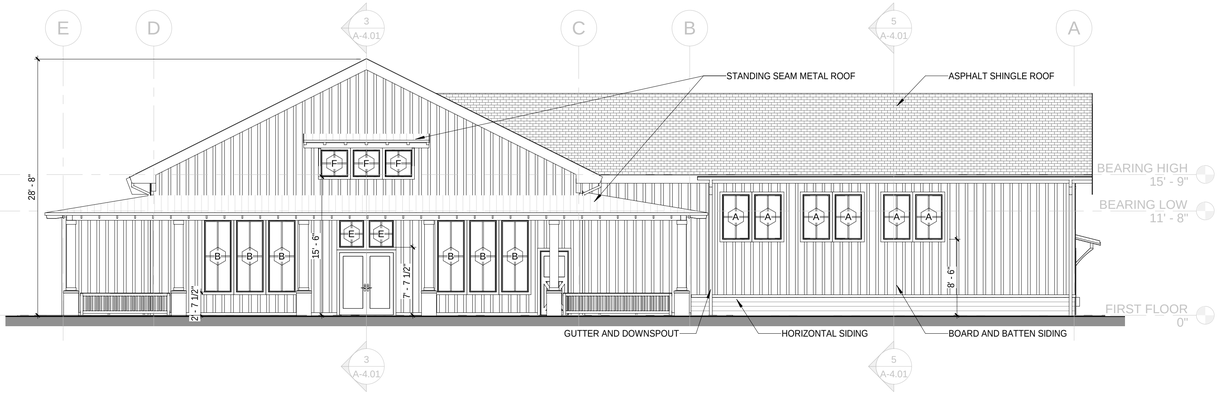
COVER SHEET

SHEET

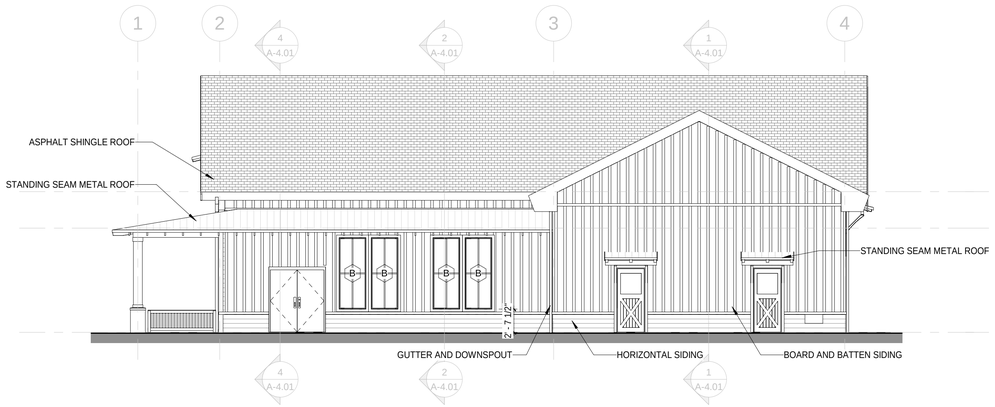
A-0.00



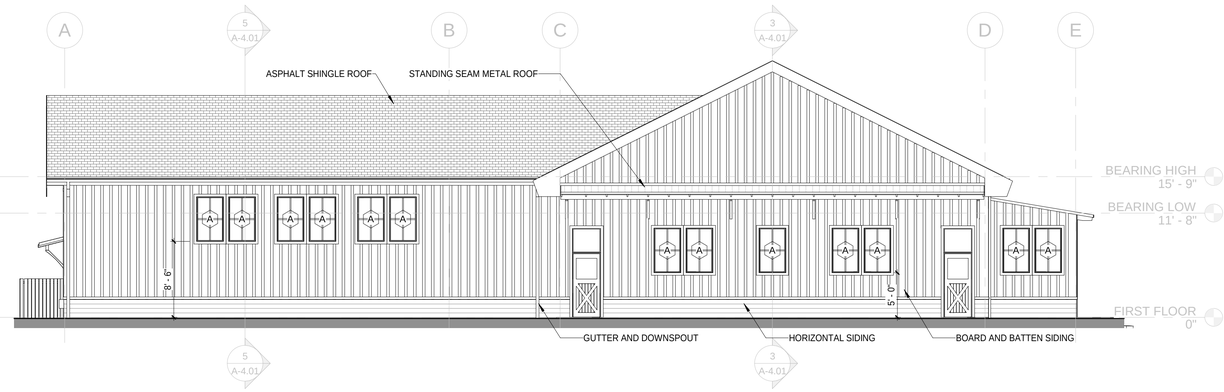
2 EAST ELEVATION
1/8" = 1'-0"



1 NORTH ELEVATION
1/8" = 1'-0"



4 WEST ELEVATION
1/8" = 1'-0"



3 SOUTH ELEVATION
1/8" = 1'-0"

COMcheck Software Version 4.1.5.3
Envelope Compliance Certificate

Project Information

Energy Code:	2015 IECC
Project Title:	NEUSE RIVER VETERINARY HOSPITAL
Location:	Wendell, North Carolina
Climate Zone:	4a
Project Type:	New Construction
Vertical Glazing / Wall Area:	17%

Construction Site:
WENDELL FALLS PARKWAY AT
MARTIN POND ROAD
WENDELL, NC 27591

Owner/Agent:
G & G BUILDERS
1603 S. HOLLYBROOK ROAD
WENDELL, NC 27591
919-365-7488
amos@ggbuildersnc.com

Designer/Contractor:
TONY JOHNSON
TONY JOHNSON ARCHITECTURE
104 N. LOMBARD STREET
CLAYTON, NC 27520
919-550-7717
tony@tonyjohnsonarchitect.com

Additional Efficiency Package(s)

Credits: 1.0 Required 1.0 Proposed
High Performance HVAC, 1.0 credit

Building Area	Floor Area
1-VETERINARY OFFICE (Office) : Nonresidential	6104

Envelope Assemblies

Assembly	Gross Area or Perimeter	Cavity R-Value	Cont. R-Value	Proposed U-Factor	Budget U-Factor(a)
Roof 1: Attic Roof with Wood Joists, [Bldg. Use 1 - VETERINARY OFFICE]	6104	42.0	0.0	0.024	0.027
Floor 1: Slab-On-Grade:Unheated, [Bldg. Use 1 - VETERINARY OFFICE] (d)	386	---	---	0.730	0.540
NORTH					
ENTRANCE ELEVATION: Wood-Framed, 16" o.c., [Bldg. Use 1 - VETERINARY OFFICE]	1896	19.0	0.0	0.067	0.064
(6) WINDOW "A": Wood Frame:Fixed, Perf. Specs.: Product ID WINDOW A, SHGC 0.25, PF 3.19, [Bldg. Use 1 - VETERINARY OFFICE] (c)	90	---	---	0.350	0.380
(6) WINDOW "B": Wood Frame:Fixed, Perf. Specs.: Product ID WINDOW B, SHGC 0.25, PF 1.48, [Bldg. Use 1 - VETERINARY OFFICE] (c)	144	---	---	0.350	0.380
(2) TRANSOM "E": Wood Frame:Fixed, Perf. Specs.: Product ID WINDOW E, SHGC 0.25, PF 4.00, [Bldg. Use 1 - VETERINARY OFFICE] (c)	17	---	---	0.350	0.380
(3) WINDOW "F": Wood Frame:Fixed, Perf. Specs.: Product ID WINDOW F, SHGC 0.25, PF 0.79, [Bldg. Use 1 - VETERINARY OFFICE] (c)	25	---	---	0.350	0.380
DOUBLE ENTRANCE DOORS (TYPE 4): Glass (> 50% glazing) Nonmetal Frame, Entrance Door, Perf. Specs.: Product ID FULL LITE, WOOD FRAME, SHGC 0.25, PF 1.12, [Bldg. Use 1 - VETERINARY OFFICE] (c)	42	---	---	0.350	0.770

Project Title: NEUSE RIVER VETERINARY HOSPITAL — Report date: 08/25/21

Assembly	Gross Area or Perimeter	Cavity R-Value	Cont. R-Value	Proposed U-Factor	Budget U-Factor(a)
CHECK IN ENTRANCE (TYPE 1): Other Door, Swinging, [Bldg. Use 1 - VETERINARY OFFICE]	21	---	---	0.450	0.610
EAST					
LEFT SIDE ELEVATION: Wood-Framed, 16" o.c., [Bldg. Use 1 - VETERINARY OFFICE]	1101	19.0	0.0	0.067	0.064
(8) WINDOW "B": Wood Frame:Fixed, Perf. Specs.: Product ID WINDOW B, SHGC 0.25, PF 0.23, [Bldg. Use 1 - VETERINARY OFFICE] (c)	192	---	---	0.350	0.380
(2) DOOR (TYPE 1): Other Door, Swinging, [Bldg. Use 1 - VETERINARY OFFICE]	42	---	---	0.450	0.610
SOUTH					
WENDELL FALLS PARKWAY ELEVATION: Wood-Framed, 16" o.c., [Bldg. Use 1 - VETERINARY OFFICE]	1742	19.0	0.0	0.067	0.064
(6) WINDOW "A" - KENNEL AREA: Wood Frame:Fixed, Perf. Specs.: Product ID WINDOW A, SHGC 0.25, PF 0.29, [Bldg. Use 1 - VETERINARY OFFICE] (c)	90	---	---	0.350	0.380
(5) WINDOW "A" - TREATMENT AREA: Wood Frame:Fixed, Perf. Specs.: Product ID WINDOW A, SHGC 0.25, PF 0.37, [Bldg. Use 1 - VETERINARY OFFICE] (c)	75	---	---	0.350	0.380
(2) WINDOW "A" - CAT BOARDING: Wood Frame:Fixed, Perf. Specs.: Product ID WINDOW A, SHGC 0.25, [Bldg. Use 1 - VETERINARY OFFICE] (c)	30	---	---	0.350	0.380
(2) TRANSOM OVER DOOR TYPE 2: Wood Frame:Fixed, Perf. Specs.: Product ID TRANSOM OVER DOOR TYPE 2, SHGC 0.25, PF 0.50, [Bldg. Use 1 - VETERINARY OFFICE] (c)	18	---	---	0.350	0.380
(2) DOOR (TYPE 2): Other Door, Swinging, [Bldg. Use 1 - VETERINARY OFFICE]	42	---	---	0.450	0.610
WEST					
MARTIN POND ROAD ELEVATION: Wood-Framed, 16" o.c., [Bldg. Use 1 - VETERINARY OFFICE]	1101	19.0	0.0	0.067	0.064
(4) WINDOW "B": Wood Frame:Fixed, Perf. Specs.: Product ID WINDOW B, SHGC 0.25, PF 0.23, [Bldg. Use 1 - VETERINARY OFFICE] (c)	96	---	---	0.350	0.380
DOUBLE DOORS (TYPE 5): Other Door, Swinging, [Bldg. Use 1 - VETERINARY OFFICE]	42	---	---	0.450	0.610
(2) DOOR (TYPE 1): Other Door, Swinging, [Bldg. Use 1 - VETERINARY OFFICE]	42	---	---	0.450	0.610

(a) Budget U-factors are used for software baseline calculations ONLY, and are not code requirements.
(b) "Other" components require supporting documentation for proposed U-factors.
(c) Fenestration product performance must be certified in accordance with NFRC and requires supporting documentation.
(d) Slab-On-Grade proposed and budget U-factors shown in table are F-factors.

Envelope PASSES: Design 1% better than code

Envelope Compliance Statement

Compliance Statement: The proposed envelope design represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed envelope systems have been designed to meet the 2015 IECC requirements in COMcheck Vers ... mply with any applicable mandatory requirements listed in the Inspection Checklist.

TONY JOHNSON - ARCHITECT — Name - Title
Signature
08-25-2021 — Date

Project Title: NEUSE RIVER VETERINARY HOSPITAL — Report date: 08/25/21

TONY LEE JOHNSON
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CLAYTON, NC

NEUSE RIVER
VETERINARY
HOSPITAL

MARTIN POND ROAD AND
WENDELL FALLS PARKWAY
WENDELL, NC 27591

G&G BUILDERS, INC.

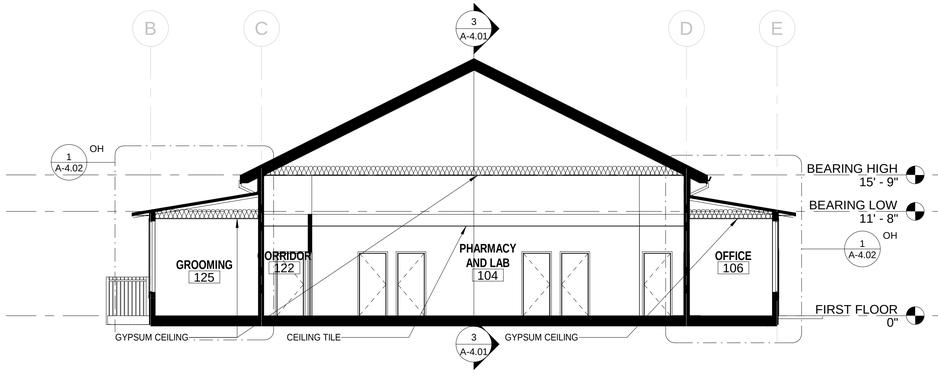
919-550-7717
TonyJohnsonArchitect.com
104 North Lombard St
Clayton, NC 27520
TonyJohnsonArchitect.com

TONY JOHNSON ARCHITECTURE

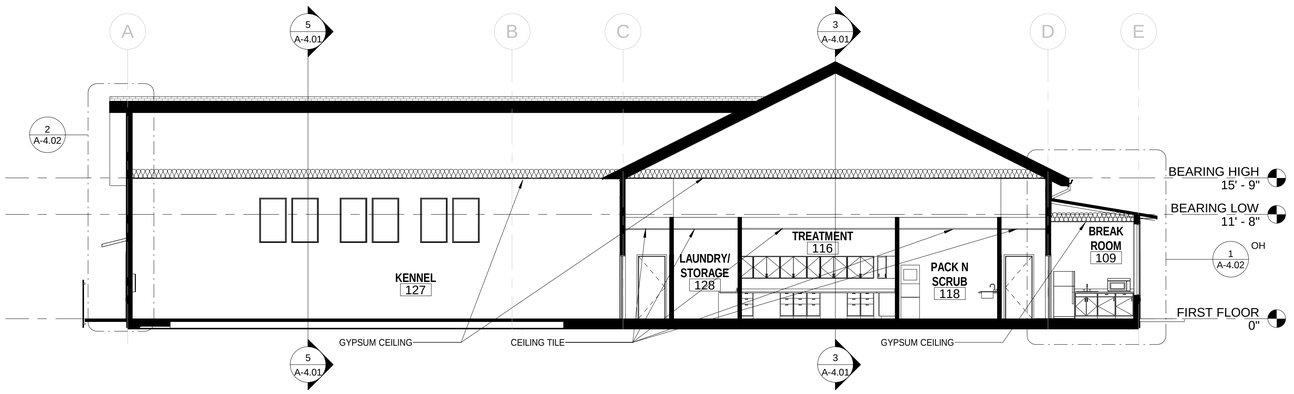
ISSUE DATE	09-14-21
REVISION	
PROJECT #	2021-067

EXTERIOR ELEVATIONS

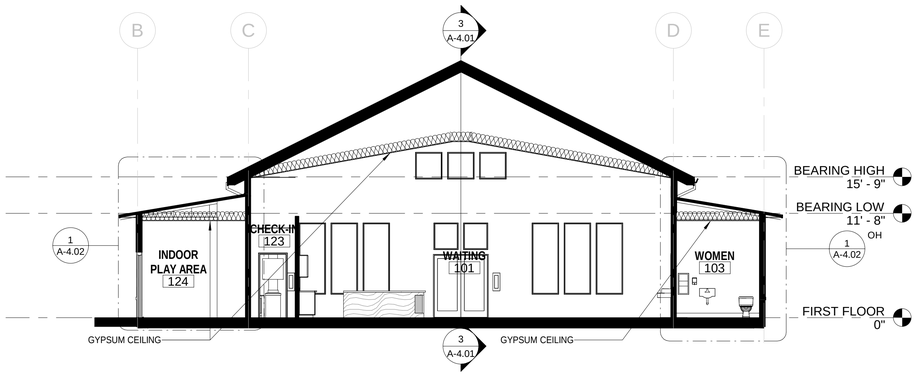
SHEET
A-1.01



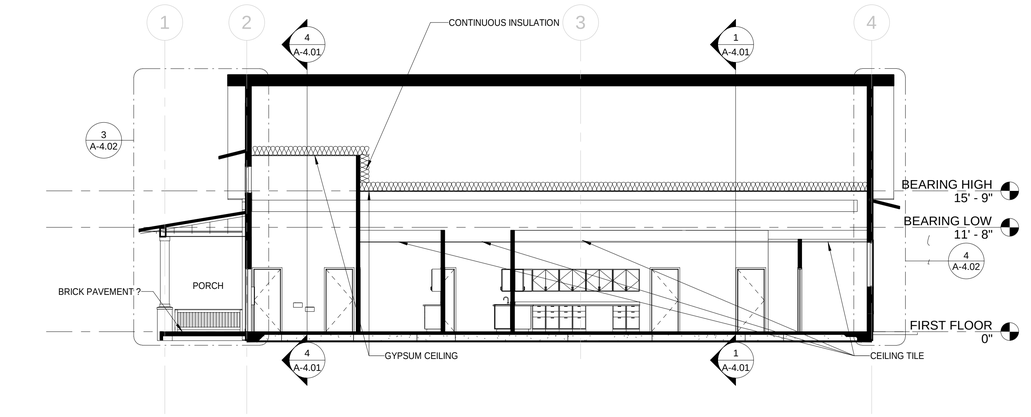
2 SECTION 2
1/8" = 1'-0"



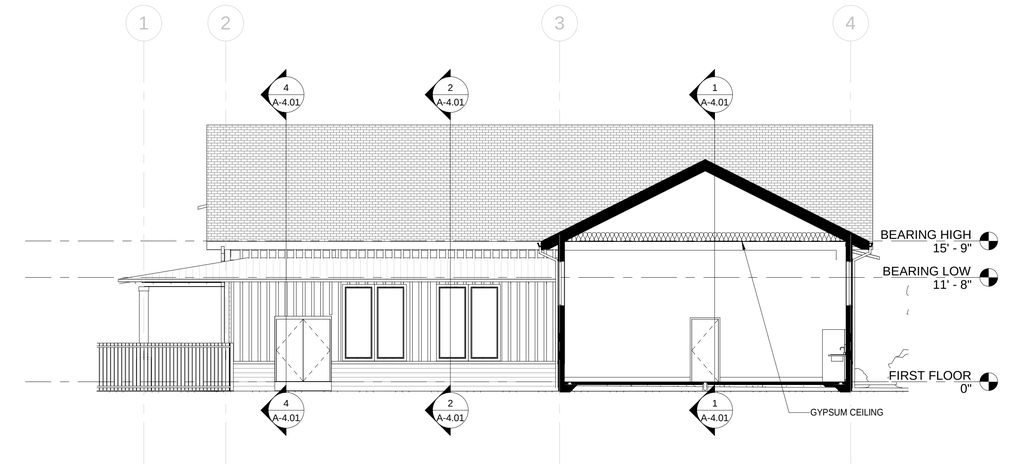
1 SECTION 1
1/8" = 1'-0"



4 SECTION 4
1/8" = 1'-0"



3 SECTION 3
1/8" = 1'-0"



5 SECTION 5
1/8" = 1'-0"

TONY LEE JOHNSON
REGISTERED ARCHITECT
4296
NORTH CAROLINA
CLAYTON, NC
09-14-21

TONY L. JOHNSON ARCHITECT P.A.
REGISTERED ARCHITECTURAL CORPORATION
51220
NORTH CAROLINA INDUSTRY
CLAYTON, NC

NEUSE RIVER
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TONY JOHNSON ARCHITECTURE

ISSUE DATE	09-14-21
REVISION	
PROJECT #	2021-067

BUILDING SECTION

SHEET

A-4.01

RETAINING WALL CONSTRUCTION DOCUMENTS FOR

NEUSE RIVER VETERINARY HOSPITAL

1932 WENDELL FALLS PARKWAY
WENDELL, NORTH CAROLINA

SCHEDULE OF SPECIAL INSPECTIONS

IT-4 MODULAR RETAINING WALLS (NCBC SECTION 1704 AND 1807.2.5)

ITEM	MONITORING	NOTES AND SCOPE
MATERIAL VERIFICATION	PERIODIC	• *PERFORM SOIL TESTING OF THE RETAINED, FOUNDATION AND PROPOSED FILL MATERIALS TO DETERMINE IF PROPERTIES MEET ASSUMED VALUES SPECIFIED.*
	PERIODIC	• *VERIFY BLOCK TYPE, GRID TYPE, DRAINAGE MATERIALS, AND/OR FILTER FABRIC.*
FOUNDATIONS	PERIODIC	• *PERFORM SOIL TESTING OF FOUNDATION AREA (FOOTING FOR BLOCK AND REINFORCED ZONE) TO VERIFY ADEQUATE BEARING CAPACITY.*
	CONTINUOUS	• *VERIFY THICKNESS AND WIDTH OF RETAINING WALL LEVELING PAD.*
STRUCTURAL FILL	CONTINUOUS	• *VERIFY USE OF PROPER SOIL, DENSITIES, MOISTURE CONTENT, AND LIFT THICKNESSES DURING PLACEMENT AND COMPACTION OF STRUCTURAL FILL.*
WALL CONSTRUCTION	CONTINUOUS	• *VERIFY INSTALLATION OF BLOCK INFILL, DRAINAGE LAYER, DRAIN PIPE, AND DRAIN OUTLETS.*
	PERIODIC	• *VERIFY BLOCK TO BLOCK AND BLOCK TO GRID CONNECTION METHODS, AND SPECIFIED SETBACK REQUIREMENTS.*
	CONTINUOUS	• *VERIFY GRID ELEVATION, LENGTH, AND PROPER INSTALLATION.*
	PERIODIC	• *VERIFY INSTALLATION OF CAP BLOCK AND LOW PERMEABLE SOIL AT TOP OF WALL.*

IN ACCORDANCE WITH SECTION 1704 OF THE NORTH CAROLINA BUILDING CODE, RETAINING WALLS WITH A CUMULATIVE VERTICAL RELIEF GREATER THAN 5 FEET IN HEIGHT WITHIN A HORIZONTAL SEPARATION DISTANCE OF 50 FEET OR RETAINING WALLS LESS THAN 5 FEET IN CUMULATIVE VERTICAL RELIEF AND ADJACENT TO STRUCTURES LOCATED CLOSER THAN THE VERTICAL RELIEF REQUIRE SPECIAL INSPECTION TESTING. THE OWNER SHALL ENGAGE A QUALIFIED 3RD PARTY INDEPENDENT TESTING AGENCY TO CONDUCT SPECIAL INSPECTIONS IN ACCORDANCE WITH SECTION 1807.2.5 OF THE NORTH CAROLINA BUILDING CODE FOR THE SITE RETAINING WALL(S) PROVIDED ON THESE PLANS. AFTER CONSTRUCTION, A SUMMARY OF THE SPECIAL INSPECTION TESTING SHALL BE PROVIDED BY THE TESTING AGENCY TO THE BUILDING OFFICIAL AND THE DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE FOR FINAL REVIEW.

SHEET INDEX

RW-1.0 TITLE SHEET
RW-2.0 SITE LAYOUT
RW-3.0 RETAINING WALL NO. 1 PROFILE
RW-4.0 RIDGEROCK UNIT DETAILS
RW-4.1 GENERAL SEGMENTAL DETAILS
RW-5.0 RETAINING WALL SPECIFICATIONS

Submittal Provided by:

JENNS HARDSCAPE CONSTRUCTION

TITLE SHEET

REV	DATE	DESCRIPTION

ISSUED FOR CONSTRUCTION 11-4-2021

DRAWN BY:	BDH
DESIGNED BY:	BDH
REVIEWED BY:	

NEUSE RIVER VETERINARY HOSPITAL
1932 WENDELL FALLS PARKWAY
WENDELL, NORTH CAROLINA
MARVEL PROJECT NO. 21-12480

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 042925 ENGINEER BRIAN D. HALL
11/4/2021 3:31 PM DocuSigned by:

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PO BOX 1955
GARNER, NORTH CAROLINA 27529
(919) 812-1375 • LICENSE NO. P-1332

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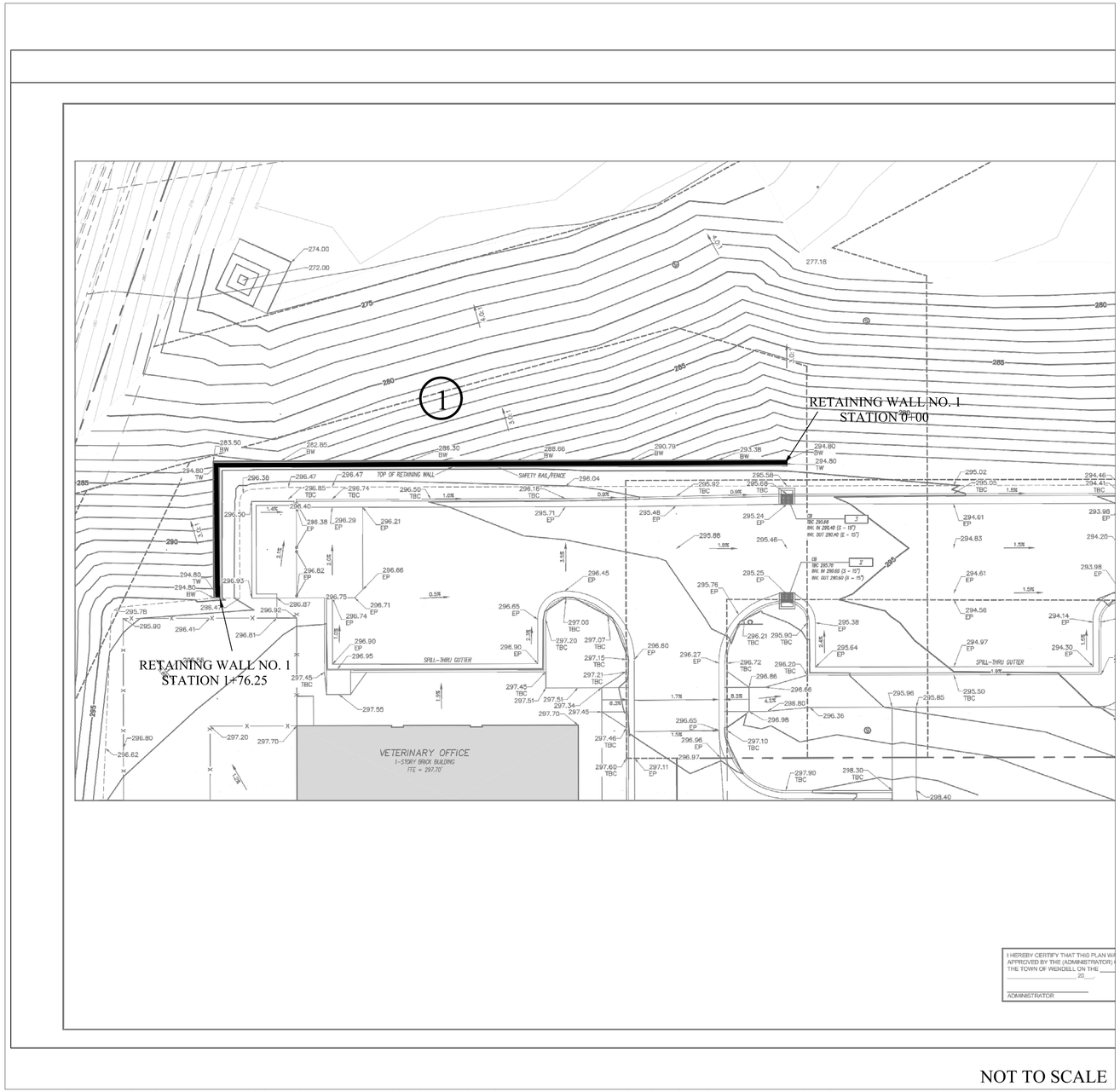

Note: The site plan used in the development of these plans was prepared by CSD Engineering on 9-27-2021. The site plan above has been modified to show a general location and orientation of the retaining wall(s) on the site. This modified site plan is not intended to be used for locating or staking of the retaining wall(s) and should not be relied on by other parties. Please refer to the original site plan prepared by CSD Engineering for the location and layout of the retaining wall(s).

Construction Notes

Prior to Construction:

1. A pre-construction meeting should be scheduled by the owner/owners' representative and/or general contractor prior to the start of construction and include all pertinent parties involved in the construction and testing of the retaining wall. This should also include any contractors that will be installing utilities in the reinforced zone of the retaining wall.
2. Confirmation of the location of property lines, limits of disturbances, watersheds, wetlands, easements, buffers, curb and gutter, and/or buildings to the proposed retaining wall should be performed by the general contractor to verify that the distances shown on the provided site plan are available.
3. Confirmation of existing utility line locations (Stormwater, Sewer, Water, Electrical, and Gas) and the locations of future utility lines that are in close proximity of the planned retaining wall(s) shall be performed by the general contractor to verify that proper clearances are available.
4. Confirmation of the in-situ and proposed grades shall be performed to verify that site grades shown on the provided site plan are accurate. The Retaining Wall Design Engineer shall be notified if the actual grades differ than those on the provided site plan.

During Construction:

5. Structures located in close proximity to the excavation area of the retaining wall shall be properly supported so as not to undermine or cause damage to the structure. If existing structures do not allow the proper installation of the retaining wall design specified, the Retaining Wall Design Engineer shall be notified to review the impact to the retaining wall design.
6. Utility structures and underground utility lines located within the reinforced zone of the retaining wall(s) shall be installed prior to or during construction of the retaining wall(s) to prevent damage to the reinforcement layers. If the presence of utility structures interfere with the integrity of the reinforcement, the Retaining Wall Design Engineer shall be notified during construction to review the impact to the retaining wall design.

Post Construction

7. Construction activities in the vicinity of the retaining walls should be monitored by the general contractor to verify that it does not result in damage to the retaining wall. Heavy equipment should not be allowed operate within 3 feet of the retaining wall(s) to prevent from impacting the structural integrity of the retaining wall(s). The Retaining Wall Design Engineer shall be notified if any damage to the retaining wall or wall units occurs during post construction activities.
8. Construction activities in the vicinity of the reinforced zone of the retaining wall(s) should be monitored by the general contractor to verify that it does not result in damage to the retaining wall geogrid. Installation of light poles, signs, handrails, guardrails, shrubs, or trees (etc) in the reinforced zone of the retaining wall(s) shall not damage the upper layers of reinforcement. The Retaining Wall Design Engineer shall be notified if any damage to the reinforcement occurs during post construction activities.
9. Placement of low permeable soil at the top and in front of the retaining wall(s) should be performed by the site contractor immediately after final construction activities. Proper erosion control at the top and bottom portions of the retaining wall(s) is critical to wall performance. Any portion of the retaining wall(s) where geogrid or wall units are exposed due to excessive erosion shall be removed and reconstructed in accordance with the retaining wall plans.
10. Excessive surface water flowing towards the top of the retaining wall(s) should be properly managed or diverted by permanent diversion ditches to prevent overtopping the front face of the retaining wall. Excessive surface water that flows over the top of retaining walls can lead to undermining of the foundation system over time. Catch inlets can be installed as needed in low areas of the retaining wall to help collect and channel surface water from the retaining wall.
11. Since segmental retaining walls are flexible reinforced soil masses, differential movement and strain of the reinforced and retained soil matrix could result in minor cracking of the ground surface. This cracking can lead to reflective cracks in pavement sections and/or separation of concrete curbs and aprons that are located in the vicinity of the retaining wall. In addition, cracking and gapping of the segmental wall units, especially in cut corners and curves may also occur during post construction activities. High quality backfill with low fine contents, proper backfill compaction, and firm foundations can limit the amount of post construction movement of retaining walls. Any cracks that develop in soil or pavement areas should be sealed as soon as possible to prevent the infiltration of surface water. Cracking or gapping observed in wall units should be sealed with grout as soon as possible to prevent the loss of drainage aggregate from behind the wall(s).

SITE LAYOUT

REV	DATE	DESCRIPTION

ISSUED FOR CONSTRUCTION 11-4-2021

DRAWN BY:	BDH
DESIGNED BY:	BDH
REVIEWED BY:	

NEUSE RIVER VETERINARY HOSPITAL

1932 WENDELL FALLS PARKWAY
WENDELL, NORTH CAROLINA
MARVEL PROJECT NO. 21-12480

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 049756 ENGINEER BRIAN D. HALL
Nov 04 2021 3:30 PM EST
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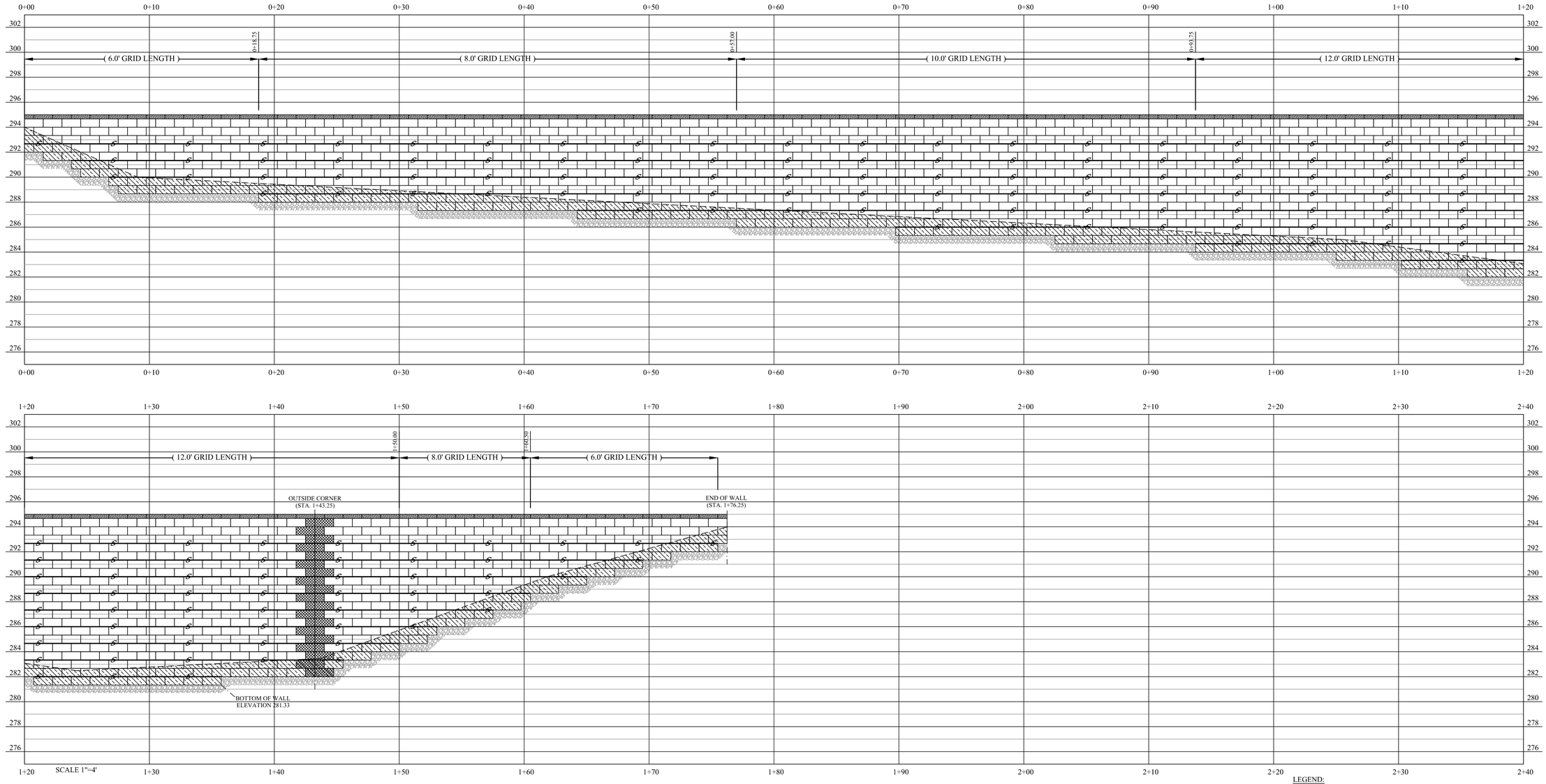

RETAINING WALL 1

RETAINING WALL NO. 1 PROFILE

REV	DATE	DESCRIPTION

ISSUED FOR CONSTRUCTION 11-4-2021

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DESIGNED BY:	BDH
REVIEWED BY:	

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WENDELL, NORTH CAROLINA
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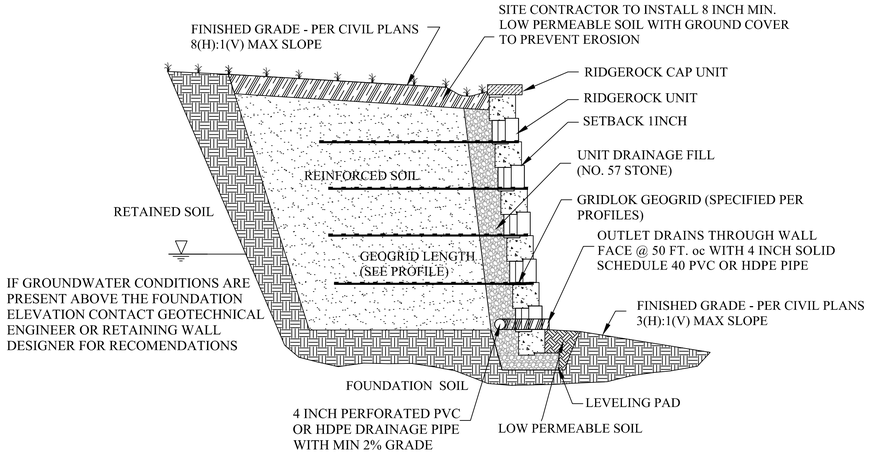
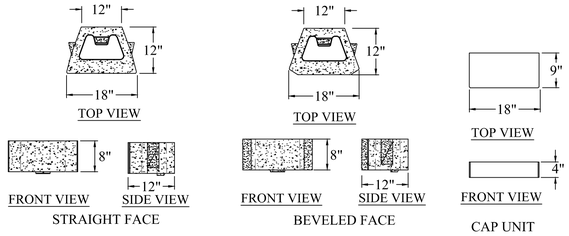


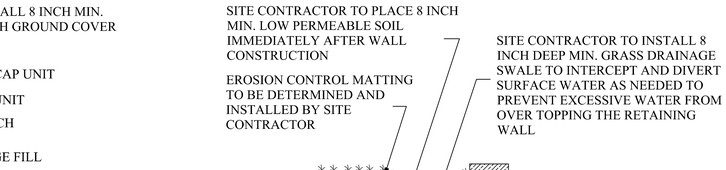
RIDGEROCK RETAINING WALL DETAIL

SCALE: NONE



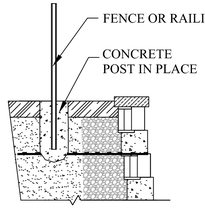
RIDGEROCK BLOCK DETAILS

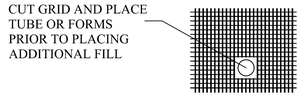
SCALE: NONE



DRAINAGE SWALE DETAIL (AS NEEDED)

SCALE: NONE

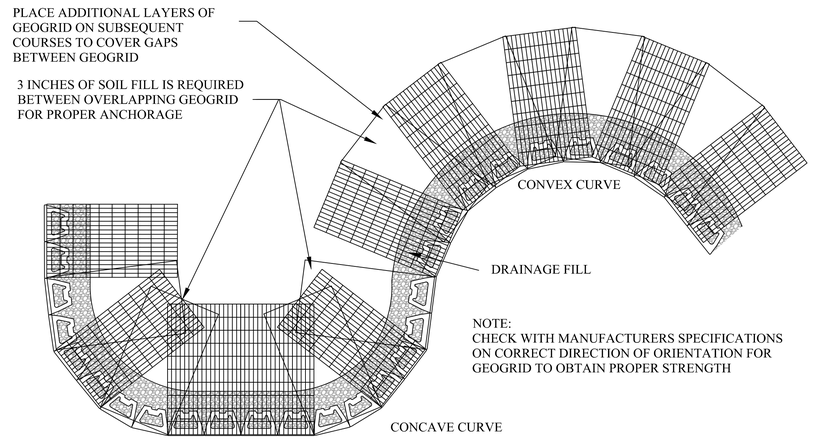




RAILING REQUIREMENTS FOR THE RETAINING WALL SHALL BE DETERMINED BY THE SITE CIVIL ENGINEER AND OWNER. THE RAILING SHOULD BE DESIGNED IN ACCORDANCE WITH THE NORTH CAROLINA BUILDING CODE BY A REGISTERED DESIGN PROFESSIONAL, SUCH THAT IT DOES NOT ADD ANY ADDITIONAL LATERAL FORCES TO THE RETAINING WALL. THE CONCRETE TUBES OR SLEEVE-IT FORMS FOR THE RAILINGS SHALL BE INSTALLED BY THE SITE CONTRACTOR AND COORDINATED WITH THE RETAINING WALL CONTRACTOR DURING CONSTRUCTION OF THE RETAINING WALL.

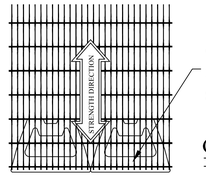
TYPICAL HAND RAILING DETAIL

SCALE: NONE



GEOGRID INSTALLATION AT CURVES

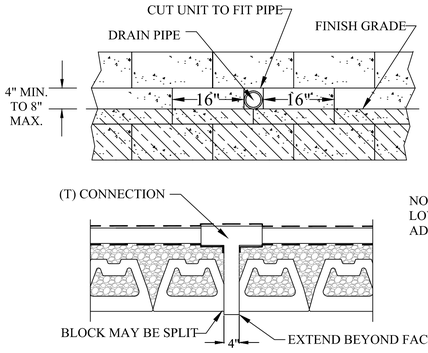
SCALE: NONE



GEOGRID IS TO BE PLACED ON LEVEL BACKFILL AND EXTENDED TO FRONT FACE OF UNITS. PLACE NEXT UNIT. PULL GRID TAUGHT AND BACKFILL. STAKE AS REQUIRED.

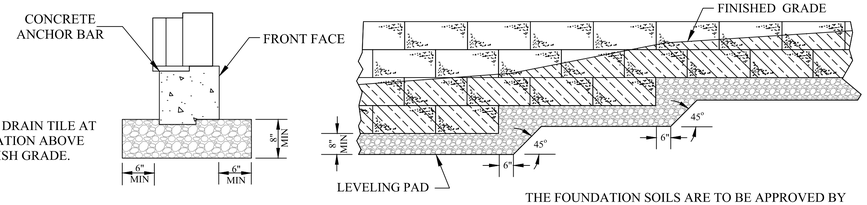
GRID CONNECTION

SCALE: NONE



FACE OUTLET DRAIN DETAIL

SCALE: NONE

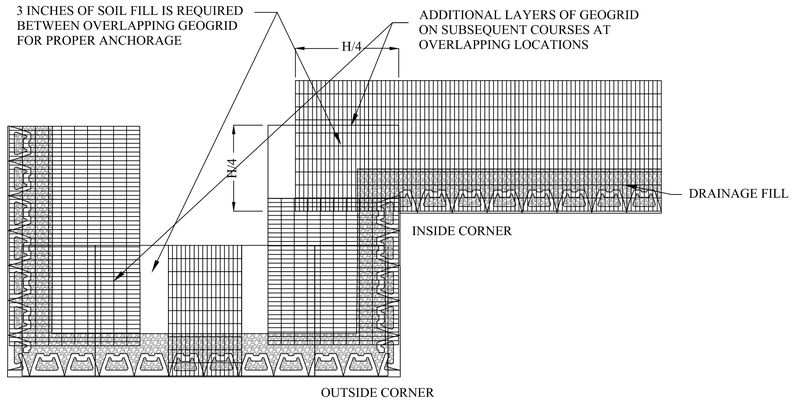


THE LEVELING PAD IS TO BE CONSTRUCTED OF TAMPED NO. 57 STONE, COMPACTED ABC STONE, OR UNREINFORCED CONCRETE.

THE FOUNDATION SOILS ARE TO BE APPROVED BY THE SITE GEOTECHNICAL ENGINEER PRIOR TO THE PLACEMENT OF THE LEVELING PAD

LEVELING PAD DETAILS

SCALE: NONE



GEOGRID INSTALLATION AT CORNERS

SCALE: NONE

RIDGEROCK UNIT DETAILS

REV	DATE	DESCRIPTION

ISSUED FOR CONSTRUCTION 11-4-2021

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DESIGNED BY:	BDH
REVIEWED BY:	

NEUSE RIVER VETERINARY HOSPITAL

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WENDELL, NORTH CAROLINA
MARVEL PROJECT NO. 21-12480

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NORTH CAROLINA PROFESSIONAL SEAL 049108 ENGINEER BRIAN D. HALL
Nov 04 2021 3:30 PM
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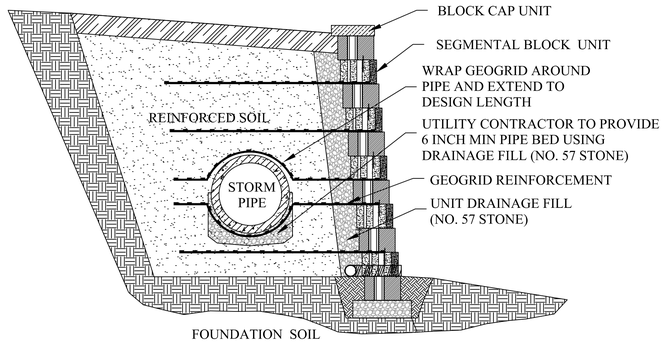
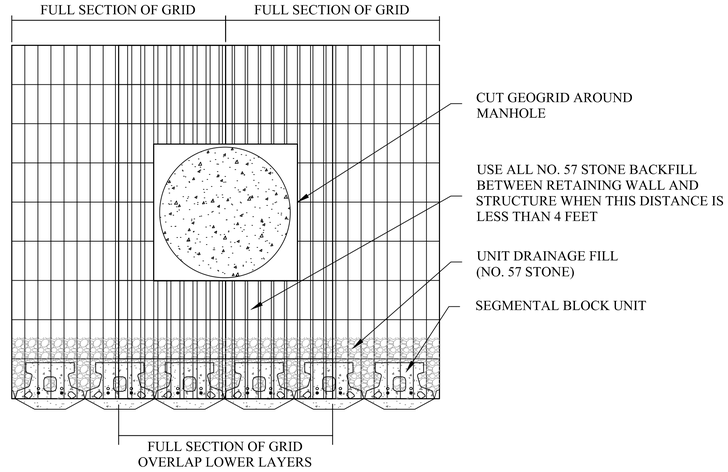
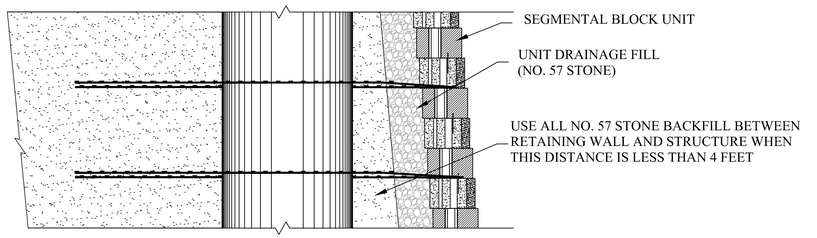


SEGMENTAL WALL WITH PIPE IN REINFORCED ZONE

SCALE: NONE





SEGMENTAL WALL AT PIER / MANHOLE

SCALE: NONE

GENERAL SEGMENTAL WALL DETAILS

REV	DATE	DESCRIPTION

ISSUED FOR CONSTRUCTION 11-4-2021

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DESIGNED BY:	BDH
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WENDELL, NORTH CAROLINA
MARVEL PROJECT NO. 21-12480

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1.0 GENERAL

REINFORCED SOIL SEGMENTAL RETAINING WALLS (SRW'S) ARE GRAVITY WALLS WITH AN EXPANDED WIDTH CREATED BY A GEOSYNTHETIC REINFORCED SOIL MASS LOCATED BEHIND A COLUMN OF DRY STACKED SRW CONCRETE UNITS. THE DRY-STACKED COLUMN OF SRW UNITS AND GEOSYNTHETIC REINFORCED SOIL ZONE ACT TOGETHER TO RESIST THE DESTABILIZING FORCES GENERATED BY THE RETAINED SOIL AND SURCHARGE LOADS.

1.1 DESIGN

THE DESIGN FOR THE RETAINING WALL(S) PRESENTED IN THESE PLANS WAS PRIMARILY DEVELOPED USING THE METHODS OUTLINED IN THE *DESIGN MANUAL FOR SEGMENTAL RETAINING WALLS - 3RD EDITION* FROM THE NATIONAL CONCRETE MASONRY ASSOCIATION (NCMA). THE NCMA METHOD USES COULOMB'S GENERAL EQUATION FOR THE ACTIVE EARTH PRESSURE COEFFICIENT (Ka) WITH SPECIFIC INTERPRETATIONS TO ANALYZE THE EXTERNAL, INTERNAL, AND FACING STABILITY OF SEGMENTAL RETAINING WALLS. IN CERTAIN CIRCUMSTANCES, WE HAVE UTILIZED THE METHODS OUTLINED IN THE *MECHANICALLY STABILIZED EARTH WALLS AND REINFORCED SOIL SLOPES DESIGN & CONSTRUCTION GUIDELINES (PUBLICATION NO. FHWA-NHI-00-043)* FROM THE U.S. DEPARTMENT OF TRANSPORTATION - FEDERAL HIGHWAY ADMINISTRATION. THE FHWA METHOD USES RANKINE'S GENERAL EQUATION FOR THE ACTIVE EARTH PRESSURE COEFFICIENT (Ka) WITH SPECIFIC INTERPRETATIONS TO ANALYZE THE EXTERNAL, INTERNAL, AND FACING STABILITY OF SEGMENTAL RETAINING WALLS.

1.2 SOIL ASSUMPTIONS

THE SOIL PARAMETERS USED IN THE DESIGN OF THE RETAINING WALL(S) ARE ASSUMED VALUES BASED ON OUR EXPERIENCE WITH THE PROPERTIES OF LOCAL MATERIALS AND LOCALLY AVAILABLE FILL MATERIALS. ADEQUATE LABORATORY TESTING, AS DETERMINED BY THE PROJECT GEOTECHNICAL ENGINEER, SHOULD BE PERFORMED ON THE EXISTING SOILS IN THE AREA OF THE PROPOSED RETAINING WALL(S) AND OF THE PROPOSED BACKFILL MATERIAL TO DETERMINE IF THE ASSUMED SOIL PARAMETERS REPRESENT THE ACTUAL ONSITE CONDITIONS. THE RESULTS OF THE SOIL TESTING SHALL BE PROVIDED TO THE RETAINING WALL DESIGN ENGINEER FOR REVIEW PRIOR TO CONSTRUCTION OF THE RETAINING WALL. THE TESTED SOILS SHALL, AT A MINIMUM, HAVE THE FOLLOWING PROPERTIES:

1) REINFORCED SOILS **ϕ = 30 DEGREES; COHESION = 0 PSF; WET UNIT WEIGHT = 120 LBS/CU.FT**

2) RETAINED SOILS **ϕ = 28 DEGREES; COHESION = 50 PSF; WET UNIT WEIGHT = 115 LBS/CU.FT**

3) FOUNDATION SOILS **ϕ = 28 DEGREES; COHESION = 50 PSF; WET UNIT WEIGHT = 115 LBS/CU.FT**

IF THE SOIL MATERIALS DO NOT MEET THESE MINIMUM VALUES, THE RETAINING WALL DESIGN ENGINEER SHALL BE NOTIFIED IMMEDIATELY FOR REVIEW WITH REGARDS TO THE FINAL RETAINING WALL DESIGN.

1.3 GROUNDWATER CONDITIONS

THIS RETAINING WALL DESIGN ASSUMES THAT GROUNDWATER IS PRESENT AT A DEPTH THAT WILL NOT AFFECT THE SUPPORT CHARACTERISTICS OF THE RETAINING WALL(S). DUE TO THE POTENTIAL FOR ADVERSE EFFECTS OF HYDROSTATIC PRESSURE ON THE RETAINING WALL SYSTEM, THE RETAINING WALL DESIGN ENGINEER SHALL BE NOTIFIED IMMEDIATELY IF GROUNDWATER IS ENCOUNTERED ABOVE THE FOUNDATION LEVEL OF THE RETAINING WALL, WATER OR WETNESS IS OBSERVED DURING CONSTRUCTION FROM OR IN A CUT SOIL BANK, OR IF LOCAL SPRINGS ARE ENCOUNTERED BELOW OR BEHIND THE RETAINING WALL(S).

1.4 LOADING CONDITIONS

THIS RETAINING WALL DESIGN TAKES INTO ACCOUNT THE ASSUMED LOADING CONDITIONS THAT ARE LOCATED WITHIN THE PLANE OF INFLUENCE OF THE RETAINING WALL(S). FOR THIS DESIGN, WE HAVE INCLUDED A LIVE LOAD SURCHARGE OF 120 POUNDS PER SQUARE FOOT(PSF), NO DEAD LOAD SURCHARGE CONDITIONS, AND NO LATERAL LOAD SURCHARGE CONDITIONS. ALTERATIONS TO THE PROVIDED SITE DESIGN, AND/OR STRUCTURES SUCH AS LIGHT POLES, GUARDRAILS, HANDRAILS, UTILITY STRUCTURES, AND LANDSCAPING INSTALLED IN CLOSE PROXIMITY TO THE RETAINING WALL CAN SIGNIFICANTLY ALTER THE ASSUMED LOADING CONDITIONS. THE PROJECT STRUCTURAL ENGINEER SHALL REVIEW THE ASSUMED LOADING CONDITIONS, AND NOTIFY THE RETAINING WALL DESIGN ENGINEER REGARDING LOADING CONDITIONS CONCERNS WITH THE FINAL RETAINING WALL DESIGN. ADDITIONALLY, IF FUTURE CONDITIONS ARISE THAT MAY ALTER THE ASSUMED LOADING CONDITIONS, THE RETAINING WALL ENGINEER SHALL BE NOTIFIED FOR REVIEW.

1.5 RETAINING WALL SETBACK

THE SETBACK ASSUMED FOR THE RETAINING WALL(S) IS **1 INCH PER BLOCK**. THE SITE CIVIL ENGINEER SHALL DETERMINE THE FINAL RETAINING WALL LOCATION BASED ON THE TOTAL HORIZONTAL DISTANCE BETWEEN THE TOP AND BOTTOM UNITS OF THE RETAINING WALL.

1.6 FOUNDATION REQUIREMENTS

BASED ON THE CALCULATIONS PERFORMED FOR THE RETAINING WALL(S) PROVIDED IN THESE PLANS, THE MAXIMUM BEARING PRESSURE EXERTED BY THE RETAINING WALL(S) ON THE FOUNDATION SOIL IS **2,000** POUNDS PER SQUARE FOOT (PSF). THE ALLOWABLE SOIL BEARING CAPACITY SHOULD BE DETERMINED BY THE PROJECT GEOTECHNICAL ENGINEER USING THE ULTIMATE BEARING CAPACITY OF THE FOUNDATION SOILS DIVIDED BY A MINIMUM FACTOR OF SAFETY OF 2.0. THE BEARING CAPACITY, SETTLEMENT, AND OVERALL GLOBAL STABILITY SHOULD BE ADDRESSED BY A QUALIFIED GEOTECHNICAL ENGINEER.

2.0 MATERIALS

2.1 CONCRETE MASONRY WALL UNITS

THE CONCRETE WALL UNITS SHALL BE SEGMENTAL UNITS MANUFACTURED IN ACCORDANCE WITH ASTM C-1372 AND ASTM C-140. THE UNITS SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 3,000 PSI. THE UNITS SHALL BE INTERLOCKED IN ACCORDANCE WITH THE MANUFACTURERS SPECIFICATIONS. THE UNITS SHALL BE USED AND KEPT FREE OF DEFECTS THAT WOULD INTERFERE WITH THE PLACING OR POSITIONING OF THE UNIT OR IMPAIR ITS STRENGTH. THE CONTRACTOR SHALL PREVENT EXCESS MUD, WET CEMENT, EPOXY, AND THE LIKE MATERIALS FROM COMING IN CONTACT WITH AND AFFIXING TO THE UNITS. MINOR CRACKS INCIDENTAL TO THE USUAL METHOD MANUFACTURING OR MINOR CHIPPING RESULTING FROM SHIPMENT AND DELIVERY ARE NOT GROUNDS FOR REJECTION.

2.2 GEOGRID REINFORCEMENT

GEOGRID REINFORCEMENT SHALL CONSIST OF HIGH TENACITY GEOGRID MANUFACTURED FOR THE SOIL REINFORCEMENT APPLICATIONS. THE TYPE, LENGTH, AND PLACEMENT OF THE REINFORCING GEOSYNTHETIC SHALL BE AS SHOWN ON THE RETAINING WALL PROFILE. GEOGRID SHALL BE REJECTED IF 20% OR MORE OF A STRUCTURAL RIB HAS BEEN CUT OR DAMAGED. THE CONTRACTOR SHALL INSPECT ALL GEOGRID DELIVERED TO THE JOBSITE AND REJECT MATERIALS THAT MEET THIS CRITERIA. THE CONTRACTOR SHALL PREVENT EXCESS MUD, WET CEMENT, EPOXY, AND THE LIKE MATERIALS FROM COMING IN CONTACT WITH AND AFFIXING TO THE GEOGRID MATERIAL. IF THE GEOGRID IS DAMAGED ONSITE OR DURING PLACEMENT, IT SHALL BE REPLACED.

2.3 DRAINAGE PIPE

THE DRAINAGE COLLECTION PIPE SHALL BE A MINIMUM OF 4 INCH DIAMETER PERFORATED OR SLOTTED, PVC OR CORRUGATED HDPE PIPE. THE PIPE MAY BE COVERED WITH A KNITTED OR NON-WOVEN GEOTEXTILE SOCK TO FUNCTION AS A FILTER. DRAINAGE PIPE SHALL BE MANUFACTURED IN ACCORDANCE WITH ASTM D-3034 OR AASHTO M 252.

2.4 GEOTEXTILE FILTER FABRIC / GEOCOMPOSITE DRAIN (IF REQUIRED)

GEOTEXTILE FILTER FABRIC SHALL CONSIST OF NEEDLE PUNCHED NON-WOVEN POLYPROPYLENE MATERIAL WHICH MEETS THE AASHTO M288-2006 CLASS 3 STRENGTH CRITERIA. IT SHALL HAVE A MAXIMUM AVERAGE ROLL VALUE OF 0.30 MM FOR ITS APPARENT OPENING SIZE AND PERMITIVITY OF AT LEAST 0.2/SEC. PRE-APPROVED NON-WOVEN GEOTEXTILES INCLUDE AMOCO 4546, CARTHAGE MILLS FX-40HS, HANES GEO TERRATEX N04, AND TENCATE MIRAFI 140N. GEOCOMPOSITE DRAINS SHALL CONSIST OF A FORMED POLYSTYRENE CORE COVERED ON ONE SIDE WITH A NON-WOVEN NEEDLE-PUNCHED POLYPROPYLENE FILTER FABRIC. PRE-APPROVED GEOCOMPOSITE DRAINS INCLUDE TENCATE MIRAFI G200N, HAYNES GEO TERRADRAIN 101, AND STRATA SYSTEMS STRATADRAIN.

2.5 STRUCTURAL FILL SOILS IN THE REINFORCED ZONE

THE STRUCTURAL FILL USED IN THE REINFORCED ZONE OF THE RETAINING WALL(S) SHALL HAVE A USCS CLASSIFICATION OF GW, GP, GM, SW, SP, SP-SM, SP-SC, OR SM. SILTS AND CLAYS (ML, MH, CL OR CH) ARE NOT ACCEPTABLE. IF AGGREGATE BASE COURSE (ABC) OR NO. 57 STONE IS SPECIFIED, IT SHALL MEET THE CLASSIFICATION AND GRADATION REQUIREMENTS OF THE NCDOT. STRUCTURAL FILL MATERIALS SHALL HAVE A MAXIMUM PARTICLE SIZE NOT EXCEEDING 1.5 INCH, AND AN ORGANIC CONTENT LESS THAN 0.5 PERCENT. AT A MINIMUM, THESE MATERIALS SHALL HAVE NO MORE THAN 35 PERCENT FINES PASSING THE NO. 200 SIEVE, AND SHALL NOT HAVE A LIQUID LIMIT GREATER THAN 40 AND A PLASTICITY INDEX GREATER THAN 15, UNLESS APPROVED BY THE DESIGN ENGINEER. SELECT GRANULAR FILL SHALL BE USED FOR ALL RETAINING WALLS IF SPECIFIED, WALLS EXCEEDING 20 FEET IN HEIGHT, AND/OR WALLS SUPPORTING STRUCTURES. SELECT GRANULAR FILL SHALL HAVE NO MORE THAN 15 PERCENT FINES PASSING THE NO. 200 SIEVE AND SHALL HAVE A PLASTICITY INDEX OF LESS THAN 6 UNLESS WRITTEN CONSENT IS OBTAINED FROM THE RETAINING WALL DESIGN ENGINEER PRIOR TO PLACEMENT. THE MINIMUM INTERNAL ANGLE OF FRICTION, COHESION, AND WET UNIT WEIGHT SHALL BE EQUAL TO OR GREATER THAN THE DESIGN VALUES PROVIDED IN SECTION 1.2, AS DETERMINED BY THE ONSITE GEOTECHNICAL ENGINEER. SOILS CONTAINING ROOTS, BRUSH, SOD, OR OTHER ORGANIC MATERIAL OR FROZEN SOILS, SNOW, ICE, HEAVY CLAYS, OR WET SOILS SHALL ALSO NOT BE PERMITTED AS STRUCTURAL FILL. ONSITE MATERIALS MAY BE UTILIZED PROVIDED IT COMPLIES WITH THESE SPECIFICATIONS AS DETERMINED BY THE ONSITE GEOTECHNICAL ENGINEER.

3.0 INSTALLATION NOTES

3.1 LEVELING PAD

THE LEVELING PAD SHALL CONSIST OF COMPACTED AGGREGATE BASE COURSE (ABC) STONE, TAMPED NO. 57 STONE, OR UNREINFORCED CONCRETE. THE PAD SHALL BE A MINIMUM OF 8 INCHES THICK (UNO). THE ABC STONE SHALL BE COMPACTED TO 95 % OF THE STANDARD PROCTOR (ASTM D-698) MAXIMUM DRY DENSITY. AGGREGATE MATERIAL SHALL RECEIVE A MINIMUM OF ONE PASS OF THE COMPACTION EQUIPMENT. THE TOP OF THE LEVELING PAD FOR THE WALL SECTIONS SHALL BE MAINTAINED AT A MINIMUM DEPTH OF 10% OF THE TOTAL WALL HEIGHT, UNLESS OTHERWISE SHOWN ON THE PROFILE SHEETS. THE RETAINING WALL ENGINEER SHALL BE NOTIFIED IMMEDIATELY IF THE LEVELING PAD DEPTH OF THE RETAINING WALL IS FOUND TO BE 6 INCHES OR LESS BELOW THE PLANNED FINAL SUBGRADE ELEVATION.

3.2 FIRST BLOCK COURSE

THE FIRST COURSE OF BLOCK SHALL BE PLACED ON TOP OF AND IN FULL CONTACT WITH THE LEVELING PAD. THE UNITS SHALL MAINTAIN A MINIMUM DISTANCE OF 6 INCHES FROM THE FRONT AND BACK OF THE LEVELING PAD. PROPER ALIGNMENT MAY BE ACHIEVED WITH THE AID OF A STRING LINE. PROCEED TO THE NEXT COURSE OF BLOCK. EACH UNIT SHALL BE IN CONTACT WITH THE UNITS ON BOTH SIDES AS WELL AS ABOVE AND BELOW. SOME ADJUSTMENTS MAY BE REQUIRED FOR WALLS WITH CURVES AND A BATTER.

3.3 UNIT FILL

THE VOID WITHIN EACH UNIT AND BETWEEN THE UNITS SHALL BE COMPLETELY FILLED WITH COURSE AGGREGATE MEETING THE GRADATION REQUIREMENTS FOR NO. 57 OR NO. 67 STONE IN ACCORDANCE WITH ASTM C-33. A MINIMUM THICKNESS OF 12 INCHES OF NO. 57 STONE SHALL BE PLACED AT THE BACK OF EACH BLOCK AS INDICATED ON THE DETAILS. EACH COURSE SHALL BE COMPLETELY FILLED AND EXCESS MATERIAL SWEPT CLEAN FROM THE TOP BLOCK BEFORE INSTALLING THE SUBSEQUENT GEOGRID LAYER.

3.4 GEOGRID INSTALLATION

THE GEOGRID REINFORCEMENT SHALL BE LAID HORIZONTALLY ON NATIVE MATERIAL OR COMPACTED BACK FILL AND CONNECTED TO THE CONCRETE WALL UNITS IN ACCORDANCE WITH THE MANUFACTURERS SPECIFICATIONS. GEOGRID SHALL BE ROLLED OUT WITH THE MACHINE DIRECTION (MD) DESIGN STRENGTH PERPENDICULAR TO THE WALL FACE. GEOGRID SHALL BE PULLED TAUT REMOVING ALL SLACK FROM THE MATERIAL AND ANCHORED BEFORE ADDING FILL. GEOGRID SHALL BE INSTALLED AT THE ELEVATIONS AND LENGTHS REQUIRED AS SHOWN ON THE WALL PROFILE(S). THE SOIL SURFACE SHALL BE SMOOTH AND LEVEL AND HAVE BEEN COMPACTED BEFORE INSTALLING THE GEOGRID.

3.5 STRUCTURAL FILL PLACEMENT

STRUCTURAL FILL MATERIAL SHALL BE PLACED IN LIFTS NOT EXCEEDING 8 INCHES IN COMPACTED THICKNESS. THE REINFORCED STRUCTURAL FILL SHALL BE COMPACTED TO **95% OF THE STANDARD PROCTOR (ASTM D-698)** MAXIMUM DRY DENSITY AT A MOISTURE CONTENT OF **+/- 3% OF THE OPTIMUM MOISTURE CONTENT**. ONLY HAND OPERATED EQUIPMENT SHALL BE ALLOWED WITHIN 3 FEET OF THE SEGMENTAL UNITS. STRUCTURAL FILL SHALL BE PLACED FROM THE WALL UNITS REARWARD TO INSURE TAUTNESS OF THE GEOGRID. CONSTRUCTION EQUIPMENT SHALL NOT BE OPERATED DIRECTLY ON THE GEOGRID.

3.6 RETAINING WALL CAPS

APPLY A CONSTRUCTION ADHESIVE TO THE RETAINING WALL UNITS AND CAPS TO PREVENT THEIR REMOVAL.

4.0 QUALITY ASSURANCE

IN ACCORDANCE WITH SECTION 1704 OF THE NORTH CAROLINA BUILDING CODE, THE OWNER SHALL CONTRACT WITH A QUALIFIED CONSTRUCTION MATERIALS TESTING AGENCY CAPABLE OF PROVIDING THE REQUIRED SPECIAL INSPECTIONS DURING CONSTRUCTION OF THE RETAINING WALL(S). THE TESTING AGENCY SHALL PROVIDE QUALIFIED PERSONNEL TO PERFORM CONTINUOUS MONITORING AS NECESSARY TO ENSURE COMPLIANCE WITH THE RETAINING WALL PLANS. THE SPECIAL INSPECTION TESTING AGENCY SHALL COMPLY WITH SECTION 1807.2.5 OF THE NORTH CAROLINA BUILDING CODE AND AT A MINIMUM PROVIDE THE FOLLOWING:

1. SOIL BEARING CAPACITY TESTING OF THE FOUNDATION AREA, INCLUDING THE AREA IN THE REINFORCING ZONE, TO VERIFY THAT THE FOUNDATION SOILS ARE ACCEPTABLE FOR THE SPECIFIED SOIL BEARING PRESSURE IN SECTION 1.6 PRIOR TO PLACEMENT OF THE LEVELING BASE COURSE. IF THE SOIL BEARING CAPACITY IS NOT ADEQUATE, THE TESTING AGENCY SHALL PROVIDE RECOMMENDATIONS TO REMEDIATE THE SUBGRADE SOILS TO ACHIEVE THE REQUIRED BEARING CAPACITY.,
2. COMPACTION TESTING SHALL BE PERFORMED IN ACCORDANCE WITH THE PROVISIONS OF THE NORTH CAROLINA BUILDING CODE AND AS DETERMINED BY THE SPECIAL INSPECTION TESTING AGENCY. AT A MINIMUM , TESTING SHALL BE PERFORMED AT EACH SPECIFIED GRID LAYER ELEVATION, AND NO MORE THAN 100 FEET INTERVALS ALONG THE LENGTH OF THE RETAINING WALL(S). COMPACTION TESTS THAT DO NOT MEET THE MINIMUM REQUIREMENTS ABOVE, SHALL BE REMEDIATED IN ACCORDANCE WITH THE SPECIAL INSPECTION TESTING AGENCY'S RECOMMENDATIONS.
3. MONITORING DURING THE INSTALLATION OF THE GEOGRID REINFORCEMENT FOR TYPE, LENGTH, AND ELEVATION TO VERIFY COMPLIANCE WITH THE RETAINING WALL PROFILES.
4. MONITORING DURING THE INSTALLATION OF THE DRAINAGE PIPE / LAYER OR BACKDRAIN TO VERIFY PROPER INSTALLATION WITH THE PROJECT PLANS.
5. THE RETAINING WALL DESIGN ENGINEER SHALL BE NOTIFIED IMMEDIATELY PRIOR TO MODIFYING WALL CONSTRUCTION IF THE EXISTING SITE CONDITIONS DEVIATE FROM THE CONDITIONS OR ASSUMPTIONS PROVIDED FOR IN THE RETAINING WALL PLANS.

AS REQUIRED BY SECTION 1704.1.2 OF THE NORTH CAROLINA BUILDING CODE, THE RESULTS OF THE SPECIAL INSPECTION TESTING SHOULD BE PROVIDED TO THE LOCAL BUILDING OFFICIAL AND THE RETAINING WALL DESIGN ENGINEER AFTER CONSTRUCTION OF THE RETAINING WALL(S) IS COMPLETE FOR A FINAL REVIEW. THE RETAINING WALL DESIGN ENGINEER SHALL NOT SIGN ANY DOCUMENT, NO MATTER BY WHOM REQUESTED, IN WHICH HE IS REQUIRED TO CERTIFY, GUARANTEE, OR WARRANT CONDITIONS OF WHICH THAT HE HAS NOT OR CANNOT ASCERTAIN.

5.0 ADDITIONAL CONSIDERATIONS

1. A BUILDING PERMIT MAY BE REQUIRED PRIOR TO CONSTRUCTION OF THE RETAINING WALL(S). THE OWNER / CONTRACTOR SHALL OBTAIN ALL REQUIRED PERMITS PRIOR TO BEGINNING CONSTRUCTION OF THE RETAINING WALL(S) IN ACCORDANCE WITH THE NORTH CAROLINA BUILDING CODE.
2. STABILITY OF ANY EXCAVATIONS OR TEMPORARY SLOPES REQUIRED BY THE INSTALLATION OF RETAINING WALL(S) SHALL BE ADDRESSED BY A QUALIFIED GEOTECHNICAL ENGINEER. RESPONSIBILITY OF THESE TEMPORARY MEASURES RESTS WITH THE OWNER AND/OR THE GENERAL CONTRACTOR. ALL SLOPES AND EXCAVATIONS SHALL MEET CURRENT OSHA STANDARDS.
3. HANDRAILS/GUARDRAILS SHALL BE INSTALLED AS REQUIRED BY SECTION 1013 OF THE NORTH CAROLINA BUILDING CODE. THE TYPE AND LOCATION OF THE HANDRAIL/GUARDRAIL SHALL BE DETERMINED BY THE OWNER AND/OR GENERAL CONTRACTOR AND INSTALLED IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATIONS.
4. THE RETAINING WALL HAS BEEN DESIGNED WITH THE ASSUMPTION THAT THE REINFORCED STRUCTURAL FILL MATERIAL SHALL BE FREE OF SUBSURFACE DRAINAGE OR WATER SEEPAGE. TEMPORARY OR LONG TERM SURFACE DRAINAGE, SITE GRADING, AND/OR SURFACE OR SUBSURFACE WATER COLLECTION OR DIVERSION SYSTEMS SHALL BE DETERMINED AND INSTALLED BY THE OWNER AND/OR GENERAL CONTRACTOR.
5. THIS RETAINING WALL DESIGN IS BASED UPON THE PROPERTIES OF THE MATERIALS SPECIFICALLY SPECIFIED IN THESE RETAINING WALL PLANS. THE RETAINING WALL DESIGN ENGINEER SHALL BE NOTIFIED IMMEDIATELY OF ANY CHANGES TO THE SPECIFIED MATERIALS FOR REVIEW WITH THE FINAL RETAINING WALL DESIGN.

Submittal Provided by:

JENNS HARDSCAPE CONSTRUCTION

RETAINING WALL SPECIFICATIONS

REV	DATE	DESCRIPTION

ISSUED FOR CONSTRUCTION 11-4-2021	
DRAWN BY:	BDH
DESIGNED BY:	BDH
REVIEWED BY:	

NEUSE RIVER VETERINARY HOSPITAL

1932 WENDELL FALLS PARKWAY
WENDELL, NORTH CAROLINA
MARVEL PROJECT NO. 21-12480

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 049706 ENGINEER BRIAN D. HALL
Nov 04 2021 3:30 PM
DocuSigned

MARVEL ENGINEERING & CONSULTING
PO BOX 1955
GARNER, NORTH CAROLINA 27529
(919) 812-1375 • LICENSE NO. P-1332

SHEET
RW-5.0

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Outdoor Lighting

Shoebox LED

The energy-efficient Shoebox LED combines a decorative, contemporary style with versatility and ample lighting effect that is perfect for streets, parking lots, commercial buildings and residential communities. The Shoebox LED provides excellent color rendition along with a controlled light pattern that reduces glare and keeps the light directed only where you want it. Available in black, dark bronze, gray or white with one to four fixtures per pole.

LED *(Light Emitting Diode)*	150, 220, 420, 530 watts
Mounting heights	25', 30', 35'
Colors	Black Bronze Gray White
Poles	Fiberglass *(1 or 2 fixtures per pole)* Decorative tapered metal Decorative square metal

Note: 35' pole available in black or bronze only.

For additional information, visit us at **duke-energy.com/OutdoorLighting** or call us toll free at **866.769.6417**.

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BUILDING A SMARTER ENERGY FUTURE®

Outdoor Lighting

Shoebox LED

Light source: LED *(white)*

Replacement for:* LED Wattage 150 – 250-watt HPS and metal halide; LED Wattage 205 – up to 400-watt metal halide; LED Wattage 530 – 1,000-watt metal halide

Warm-up and restrike time: Instant on *(no warm-up or restrike time)*.

Wattage	BUG Rating	Light Pattern	Lumens	Color Temp
LED 150	B5-U0-G3	IESNA Type V *(circular)*	19580	4,000K
LED 150	B3-U0-G4	IESNA Type IV *(forward throw)*	18459	
LED 150	B2-U0-G3	IESNA Type III *(oval)*	19006	
LED 220	B5-U0-G3	IESNA Type V *(circular)*	25870	
LED 220	B3-U0-G4	IESNA Type IV *(forward throw)*	24390	
LED 220	B2-U0-G4	IESNA Type III *(oval)*	25114	
LED 420	B5-U0-G5	IESNA Type V *(circular)*	48514	
LED 420	B3-U0-G5	IESNA Type IV *(forward throw)*	43765	
LED 530	B5-U0-G5	IESNA Type V *(circular)*	60296	
LED 530	B3-U0-G5	IESNA Type IV *(forward throw)*	54395	

** These are approximate replacement suggestions; actual conditions could be different.*

light distribution pattern

Poles available:

Name	*Mounting height*	*Color*
Round tapered decorative metal*	35'	Black Bronze
Decorative square metal*	25' and 30'	Black Gray Bronze White
Fiberglass	30'	Black *(1 or 2 fixtures per pole)* Gray *(1 or 2 fixtures per pole)*

Features	Benefits
Little or no installation cost	Frees up capital for other projects
Design services by lighting professionals included	Meets industry standards and lighting ordinances
Maintenance included	Eliminates high and unexpected repair bills
Electricity included	Less expensive than metered service
Warranty included	Worry-free
One low monthly cost on your electric bill	Convenience and savings for you
Turnkey operation	Provides hassle-free installation and service
Backed by over 40 years of experience	A name you can trust today … and tomorrow

**2' raised foundation available when required on metal poles only.*

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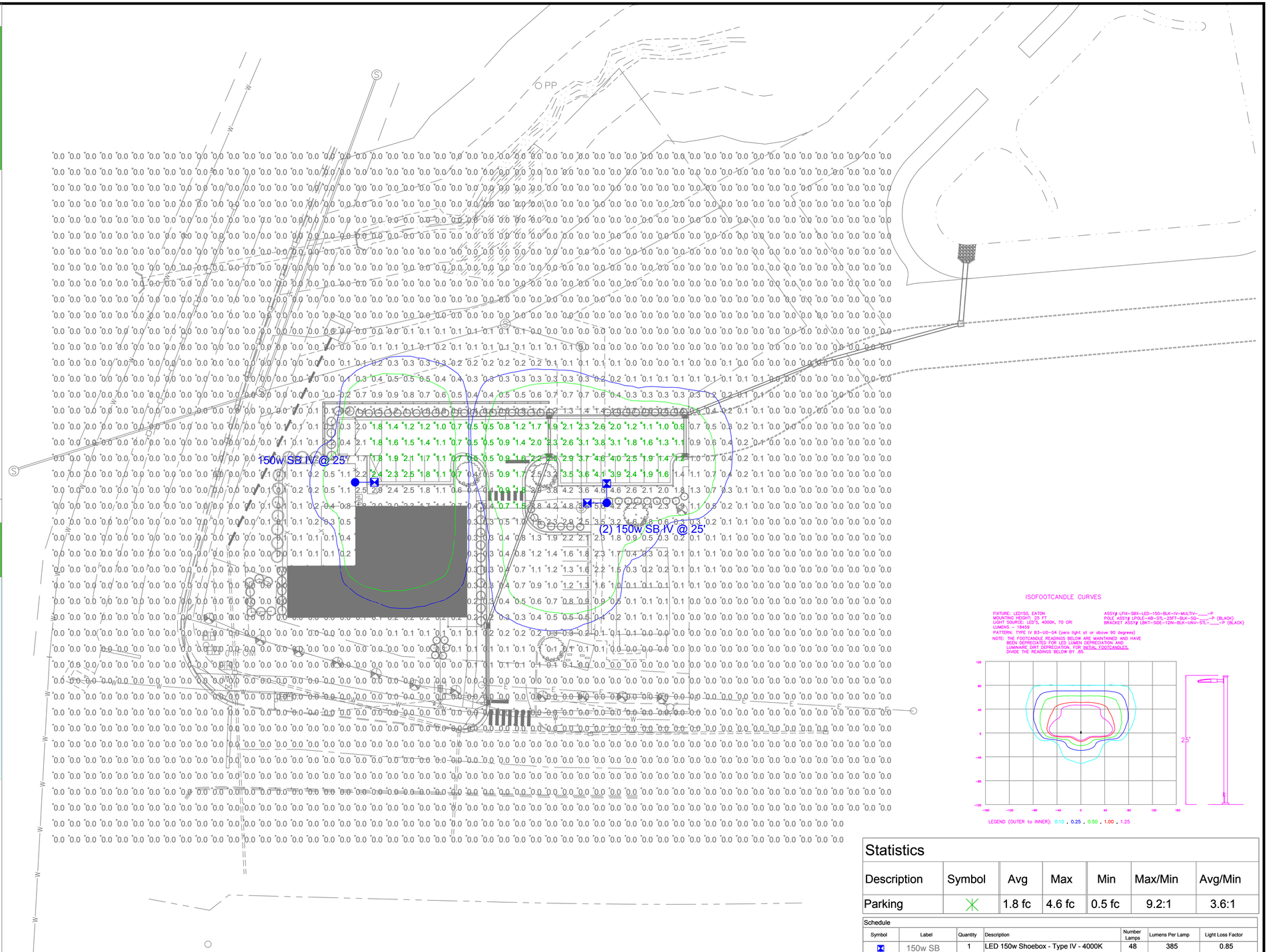

ISOFOOTCANDLE CURVES

FIXTURE: LED150, EATON
MOUNTING HEIGHT: 25 FT
LIGHT SOURCE: LED'S, 4000K, 70 CRI
LUMENS = 18459
PATTERN: TYPE IV B3-U0-G4 (zero light at or above 90 degrees)
NOTE: THE FOOTCANDLE READINGS BELOW ARE MAINTAINED AND HAVE BEEN DEPRECIATED FOR LED LUMEN DEPRECIATION AND LUMINAIRE DIRT DEPRECIATION FOR INITIAL FOOTCANDLES. DIVIDE THE READINGS BELOW BY .85.

4SSYW LFIX-SBX-LED-150-BLK-IV-MULTIV-____-P
POLE AS5Y@ LPOLE-AB-STL-25FT-BLK-SQ-____-P (BLACK)
BRACKET AS5Y@ LBKT-SIDE-12IN-BLK-UNIV-STL-____-P (BLACK)

LEGEND (OUTER to INNER): 0.10 , 0.25 , 0.50 , 1.00 , 1.25

Statistics

Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
Parking	✳	1.8 fc	4.6 fc	0.5 fc	9.2:1	3.6:1

Schedule

Symbol	Label	Quantity	Description	Number Lamps	Lumens Per Lamp	Light Loss Factor
	150w SB IV	1	LED 150w Shoebox - Type IV - 4000K	48	385	0.85
	(2) 150w SB IV	1	(2) LED 150w Shoebox - Type IV - 4000K	48	385	0.85

REV#	DATE	REVISION	BY
Rev B	10/04/2021	LED 150w Shoebox	NJ
Rev A	02/02/2021	LED 50w Open Mitchell	NJ

Customer approval_____
Date_____

DISTANCE CALIBRATION (INCHES)

0 0.5 1.0 2.0 3.0 4.0

LIGHTING DESIGN TOLERANCE

The calculated footcandle light levels in this lighting design are predicted values and are based on specific information that has been supplied to Duke Energy. Any inaccuracies in the supplied information, differences in luminaire installation, lighted area geometry including elevation differences, reflective properties of surrounding surfaces, obstructions (foliage or otherwise) in the lighted area, or lighting from sources other than listed in this design may produce different results from the predicted values. Normal tolerances of voltage, lamp output, and ballast and luminaire manufacture will also affect results.

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NEUSE RIVER VET
Wendell, NC
SITE LIGHTING PLAN

Designed by DEP LIGHTING SOLUTIONS
Reviewed by T. Ferguson Scale 1" = 30'
Date 10/04/2021 Size "Arch D"
Description LED 150w Shoebox
Drawing No. 21-0032B Sht. 1 OF 1

Outdoor Lighting

Shoebox LED

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Note: 35' pole available in black or bronze only.

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LED 150	B3-U0-G4	IESNA Type IV (forward throw)	18459	
LED 150	B2-U0-G3	IESNA Type III (oval)	19006	
LED 220	B5-U0-G3	IESNA Type V *(circular)*	25870	
LED 220	B3-U0-G4	IESNA Type IV *(forward throw)*	24390	
LED 220	B2-U0-G4	IESNA Type III *(oval)*	25114	
LED 420	B5-U0-G5	IESNA Type V *(circular)*	48514	
LED 420	B3-U0-G5	IESNA Type IV *(forward throw)*	43765	
LED 530	B5-U0-G5	IESNA Type V *(circular)*	60296	
LED 530	B3-U0-G5	IESNA Type IV *(forward throw)*	54395	

** These are approximate replacement suggestions; actual conditions could be different.*

light distribution pattern

Poles available:

Name	*Mounting height*	*Color*
Round tapered decorative metal*	35'	Black Bronze
Decorative square metal*	25' and 30'	Black Gray Bronze White
Fiberglass	30'	Black *(1 or 2 fixtures per pole)* Gray *(1 or 2 fixtures per pole)*

Features	Benefits
Little or no installation cost	Frees up capital for other projects
Design services by lighting professionals included	Meets industry standards and lighting ordinances
Maintenance included	Eliminates high and unexpected repair bills
Electricity included	Less expensive than metered service
Warranty included	Worry-free
One low monthly cost on your electric bill	Convenience and savings for you
Turnkey operation	Provides hassle-free installation and service
Backed by over 40 years of experience	A name you can trust today … and tomorrow

**2' raised foundation available when required on metal poles only.*

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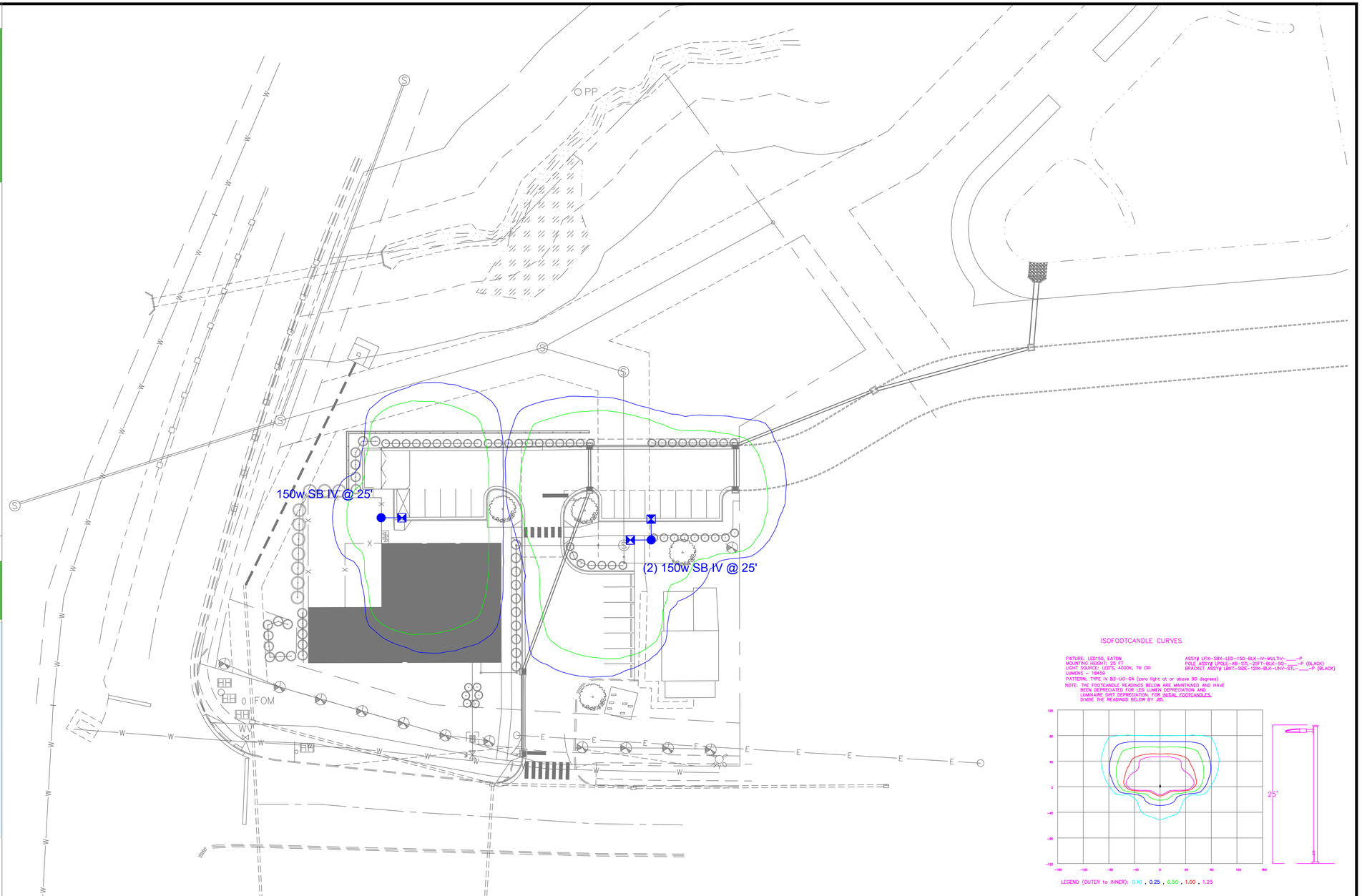

ISOFOOTCANDLE CURVES

FIXTURE: LED150, EATON.
MOUNTING HEIGHT: 25 FT
LIGHT SOURCE: LED'S, 4000K, 70 CRI
LUMENS = 18459
PATTERN: TYPE IV B3-U0-G4 (zero light at or above 90 degrees)
NOTE: THE FOOTCANDLE READINGS BELOW ARE MAINTAINED AND HAVE BEEN DEPRECIATED FOR LED LUMEN DEPRECIATION AND LUMINAIRE DIRT DEPRECIATION FOR INITIAL FOOTCANDLES. DIVIDE THE READINGS BELOW BY .85.

4SSY# LFIX-SBX-LED-150-BLK-IV-MULTIV-____-P
POLE ASSY# LPOLE-AB-STL-25FT-BLK-SQ-____-P (BLACK)
BRACKET 4SSY# LBKT-SDE-12IN-BLK-UNIV-STL-____-P (BLACK)

LEGEND (OUTER to INNER): 0.10 , 0.25 , 0.50 , 1.00 , 1.25

Statistics

Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
Parking	✳	1.8 fc	4.6 fc	0.5 fc	9.2:1	3.6:1

Schedule

Symbol	Label	Quantity	Description	Number Lamps	Lumens Per Lamp	Light Loss Factor
	150w SB IV	1	LED 150w Shoebox - Type IV - 4000K	48	385	0.85
	(2) 150w SB IV	1	(2) LED 150w Shoebox - Type IV - 4000K	48	385	0.85

REV#	DATE	REVISION	BY
Rev B	10/04/2021	LED 150w Shoebox	NJ
Rev A	02/02/2021	LED 50w Open Mitchell	NJ

Customer approval_____
Date_____

DISTANCE CALIBRATION (INCHES)
0 0.5 1.0 2.0 3.0 4.0

LIGHTING DESIGN TOLERANCE

The calculated footcandle light levels in this lighting design are predicted values and are based on specific information that has been supplied to Duke Energy. Any inaccuracies in the supplied information, differences in luminaire installation, lighted area geometry including elevation differences, reflective properties of surrounding surfaces, obstructions (foliage or otherwise) in the lighted area, or lighting from sources other than listed in this design may produce different results from the predicted values. Normal tolerances of voltage, lamp output, and ballast and luminaire manufacture, will also affect results.

DUKE ENERGY. PROGRESS

PROPRIETARY & CONFIDENTIAL

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NEUSE RIVER VET
Wendell, NC
SITE LIGHTING PLAN
Designed by DEP LIGHTING SOLUTIONS
Reviewed by T. Ferguson Scale 1" = 30'
Date 10/04/2021 Size "Arch D"
Description LED 150w Shoebox
Drawing No. 21-0032B Sht. 1 OF 1

PARKING CALCULATIONS:

COMMERCIAL – OFFICE/SERVICE USES

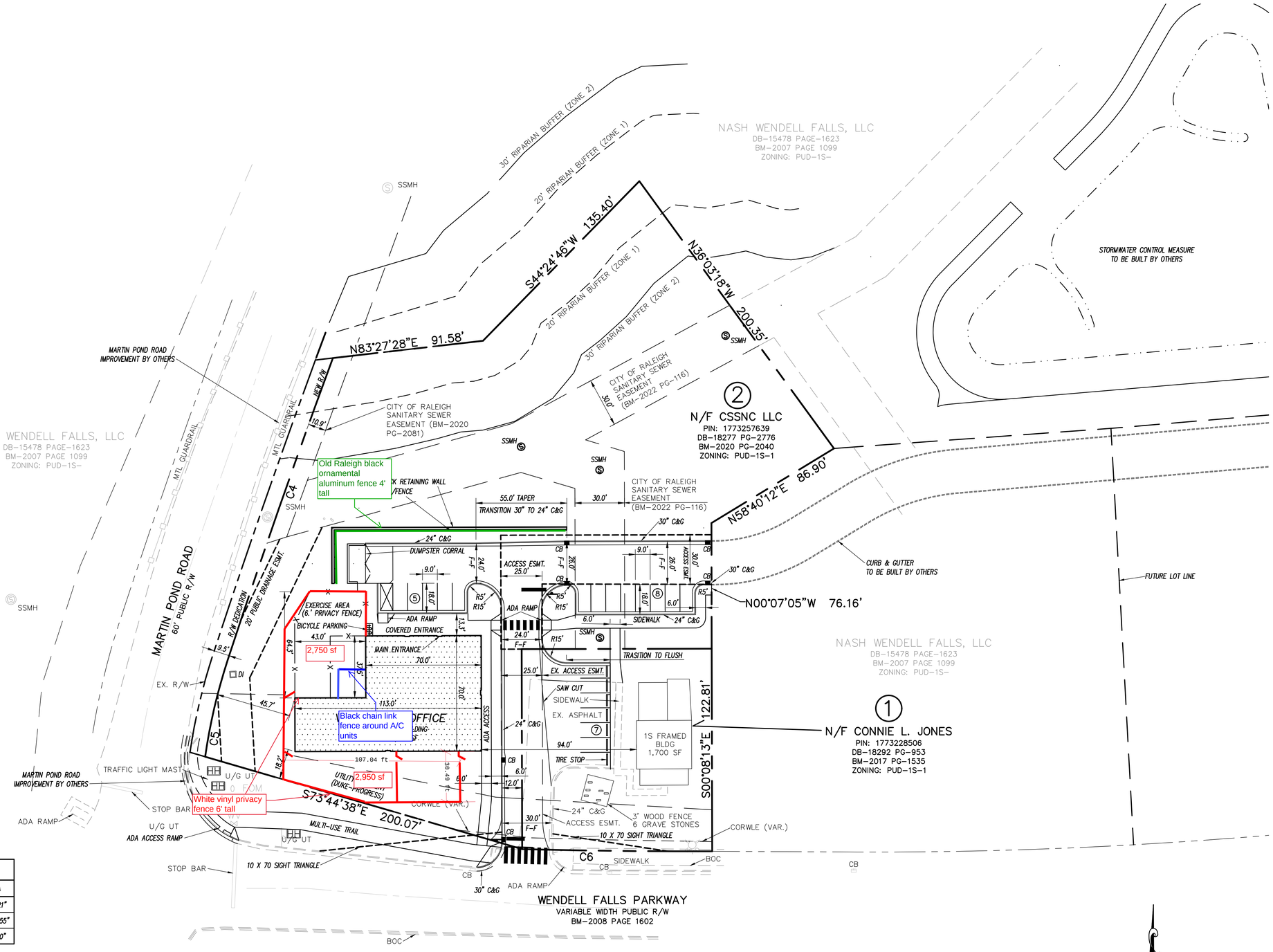
AUTO PARKING SPACES:	2–3 SPACES PER 1,000 SQ. FT.
EXISTING BUILDING SQUARE FOOTAGE:	1,700 SQ. FT
PROPOSED BUILDING SQUARE FOOTAGE:	6,200 SQ. FT
REQUIRED PARKING CALCULATION:	7,900 SQ. FT. / 1,000 X 2–3 = 15.8 – 23.7 SPACES SAY 16 – 24 SPACES REQUIRED
EXISTING PARKING SPACES PROVIDED:	5 SPACES
EXISTING PARKING SPACES RETAINED:	5 SPACES
PROPOSED NEW PARKING SPACES:	15 SPACES (INCLUDING 1 ADA CAR/VAN SPACE)
MIN. PARKING SPACES REQUIRED:	16 SPACES
TOTAL PARKING SPACES PROVIDED:	20 SPACES

PROPOSED BICYCLE PARKING:

NUMBER OF AUTO PARKING SPACES:	20 SPACES
REQUIRED BICYCLE PARKING:	1 SPACE PER 20 AUTO SPACES
BICYCLE PARKING PROVIDED:	2 SPACES

LOT COVERAGE:

PARCEL 1:	
PARCEL AREA	= 14,065 SQ. FT.
EXISTING ON–SITE IMPERVIOUS	= 6,184 SQ. FT
PROPOSED ON–SITE IMPERVIOUS	= 1,106 SQ. FT.
PARCEL 1 IMPERVIOUS	= 7,290 SQ. FT.
LOT COVERAGE	= 51.8 %
PARCEL 2:	
PARCEL AREA	= 80,715 SQ. FT.
NET AREA AFTER R/W DEDICATION	= 78,321 SQ. FT.
EXISTING ON–SITE IMPERVIOUS =	= 0 SQ. FT.
PROPOSED ON–SITE IMPERVIOUS	= 19,450 SQ. FT.
PARCEL 2 IMPERVIOUS	= 19,450 SQ. FT.
LOT COVERAGE	= 24.8 %
COMBINED NEW PARCEL AREA	= 92,386 SQ. FT.
TOTAL IMPERVIOUS	= 26,740 SQ. FT.
COMBINED LOT COVERAGE	= 28.9 %



CURVE TABLE			
Curve #	LENGTH	RADIUS	DELTA
C4	193.65'	5310.77'	2°05'21"
C5	60.43'	344.55'	10°02'55"
C6	115.19'	3940.00'	1°40'30"

I HEREBY CERTIFY THAT THIS PLAN WAS APPROVED BY THE (ADMINISTRATOR) OR (TRC) OF THE TOWN OF WENDELL ON THE _____ DAY OF _____ 20___.

_____
ADMINISTRATOR

0 15 30 60 Feet
1" = 30'

CSD ENGINEERING
LICENSE # C–2710
ENGINEERING
LAND PLANNING
COMMERCIAL / RESIDENTIAL
P.O. BOX 1250
WENDELL, NC 27591
(910) 791–4441

COMMERCIAL SITE PLAN

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CONSTRUCTION DRAWINGS FOR
NEUSE RIVER VETERINARY HOSPITAL
LOCATED IN TOWN OF WENDELL
WAKE COUNTY, NORTH CAROLINA

OWNER: CONNIE L. JONES (919) 365–9001
2364 SWINSON FARM ROAD
WENDELL, NC 27591

BUILDER: C&C BUILDERS, AMOS GREENE (919) 365–7488
1101 HILLSBOROUGH ROAD
WENDELL, NC 27591

NORTH CAROLINA PROFESSIONAL ENGINEER JOHN F. OGLESBY SEAL 032721
3/16/22

REV. NO.	REMARKS	BY	DATE

DATE: 3/16/2022
HORZ. SCALE: 1" = 30'
VERT. SCALE: N/A
DRAWN BY: JFO
CHECKED BY: HSR
PROJECT NO.: 21–0559

Sheet C3.0
Sheet No. 3 OF 21

Cauley Pridgen P.A. LAWYERS

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2500 Nash Street N, Ste C
Wilson, NC 27896-1394

April 18, 2024

Ms. Stacy Griffin
Assistant Planning Director
Town of Wendell
409 Landing View Dr.,
Wendell, North Carolina, 27591

Re: Variance Request Application Analysis: V24-01-Neuse River Vet Hospital Fence Request

Dear Ms. Griffin,

I reviewed the variance application submitted by Neuse River Vet Hospital and Doggy Daycare and Boarding (hereinafter the "Applicant") on February 21, 2024 (hereinafter the "Variance Application"). In the Variance Application, the Applicant asserts that the Town of Wendell (hereinafter the "Town") would have legal liability if the Variance Application is not granted and subsequently, an animal or human is injured due to the height of the fence located in the Applicant's "play yard" not being increased. In support of this assertion, the Applicant states that there have been "two instances where dogs have jumped over the current, 3 ft restraining systems" and accidents have "nearly occurred due to the distraction from drivers viewing our employees in the play yard with animals." The Applicant assertions about the Town's potential liability if the Variance Application is rejected are not supported by North Carolina law.

I. It is unlikely that the Town will be liable if a negligence action is brought by a driver under either theory of alleged liability asserted by Applicant in the Variance Applicant.

To establish a prima facie case of negligence, a plaintiff must show: (1) the defendant owed plaintiff a duty of care; (2) the defendant's conduct breached that duty of care; (3) the breach was the actual and proximate cause of the plaintiff's injury; and (4) the damages resulted from the injury. *Parker v. Town of Erwin*, 243 N.C. App. 84, 110, 776 S.E.2d 710, 729-30 (2015). North Carolina courts have consistently held that a municipality's duty to keep roadways clear does not extend to obstructions located on private property. *Est. of Ladd v. Funderburk*, 286 N.C. App. 46, 49, 879 S.E.2d 731, 735 (2022); see also *Bowman v. Town of Granite Falls*, 21 N.C. App. 333, 204 S.E.2d 239 (1974) (the Court of Appeals held that a town was not liable when a tree located on a private property fell on a vehicle while traveling on a public street) ; *Lavelle v. Schultz*, 120 N.C. App. 857, 861, 463 S.E.2d 567, 570 (1995) (the Court of Appeals held that a town had no affirmative duty to exercise control over a landowner's private property to remove a tree that obstructed a traveling motorist's view on a public road and led to accident).

.

Here, it is unlikely an injured driver would be able to establish that the Town owed them a duty of care to prevent dogs jumping from over the fence located on the Applicant's property in

the play yard area because the fence is under the exclusive control of the Applicant and is located solely on Applicant's property. Therefore, it is unlikely that an injured driver could successfully assert a negligence action against the Town based on the hypothetical scenarios asserted by Applicant in the Variance Application.

II. The Town will likely not be liable if a negligence action is brought by a dog owner whose dog was injured after jumping over the current fence located in the play yard of Applicant's property.

In state of North Carolina, "[a] landowner owes to those on its land the duty to exercise reasonable care in the maintenance of its premises." *Parker at* 243 N.C. App. at 111, 776 S.E.2d at 730. Moreover, the duty to protect from a condition on property arises from a person's control of the property, and in the absence of control, there is no duty to exercise reasonable care. *Id*. Here, Applicant, as the property owner, has exclusive control over the maintenance and upkeep of the fence located on its property in the play yard area. Outside of enforcing its zoning ordinances, the Town does not have any right to exercise control over the Applicant's property. Additionally, North Carolina courts have consistently ruled that "traffic on a crossing street is not a type of obstruction against which a municipality has a duty to protect citizens [from], since it is not something over which a municipality has control [of] and [it] is not a fixture alongside a public road." *Parker*, 243 N.C. App. at 107, 776 S.E.2d at 727; see also *Sisk v. City of Greensboro*, 183 N.C. App. 657, 660, 645 S.E.2d 176, 179 (2007) ("In short, a moving car that is being operated, if negligently, cannot be considered an obstruction [.]"). Therefore, it is unlikely that the Town will be liable for damages sustained by a pet owner whose pet is injured after jumping over the current fence located on Applicant's property.

For reasons stated, it is unlikely the Town will be liable if a negligence action is brought by a pet owner or injured motorists under any of the hypothetical factual scenarios asserted by the Applicant in the Variance Application. Please do not hesitate to contact this office if you have any further questions.

Very truly yours,

CAULEY PRIDGEN, P.A.

Clayton Davis

Clayton H. Davis

Cc: Jim Cauley, Town Attorney