

**CITY COUNCIL SPECIAL MEETING
300 WEST CROWELL STREET
MONROE, NORTH CAROLINA 28112
SEPTEMBER 3, 2024– 6:00 P.M.**

AGENDA

www.monroenc.org

1. King Oaks Townhomes



STAFF REPORT

TO: City Council

VIA: Mark Watson, City Manager

DATE: September 3, 2024

FROM: Lisa Stiwinter, Planning and Development Director

PREPARED BY: Keri Mendler, Planner

SUBJECT: King Oak Single Family Attached Townhome Project

SUMMARY STATEMENT

Planning staff was requested to provide a project summary of the King Oak single-family attached townhome project located off Lancaster Avenue and Ann Street.

REVIEW

The King Oak townhome project was submitted on March 8, 2023 as a by-right development. The development was required to meet the ordinance standards in place at the time of the submittal. The King Oak single-family attached townhome project has been issued an Erosion Control Permit and a Stormwater Permit.

The property is currently zoned RMD (Residential Medium Density). The property was rezoned from R-20 (Residential-Low Density) to RMD (Residential Medium Density) by City Council on April 12, 2022 as part of the city-wide rezoning. The city-wide rezoning followed the adopted Future Land Use Plan that was adopted by City Council on April 10, 2018. The Future Land Use Plan called for this area to consist of residential at 2-4 units per acre.

AREA CHARACTERISTICS

Adjoining Land Uses and Zoning District

	Existing Uses	Zoning District
--	---------------	-----------------

North	Institutional/Residential	Conditional District & Residential Medium Density RMD
East	Residential	Residential Low Density RLD
South	Residential	Residential Low Density RLD
West	Residential	Residential Low Density RLD

Proposal

The developer, Carolina Development Services is requesting to develop 74 single-family attached townhome lots on 24.89 acres with 16.11 acres or 64.7% of open space.

REQUIREMENTS

Density & Dimensional Standards

The density of the proposed project is 2.97 gross units per acre. The average lot size is 3,902 square feet with a minimum lot width of twenty-four feet. The data below is simply to provide the board with information to compare the proposed density being to what is allowed by the zoning ordinance in other residential districts in Monroe.

Zoning District	Maximum Allowable Density
Residential Low Density (RLD)	2 units per acre
Residential Medium Density (RMD)	3 units per acre

The minimum setbacks proposed are as follows:

Front: 20 feet

Side: 10 feet

Corner Lot Side: 15 feet

Rear: 20 feet

Landscaping

A 25-foot landscape buffer was required along the north, east and south property lines, these buffers have been provided and some include undisturbed areas. Additionally, there was a 10-foot landscape buffer required along Lancaster Avenue, which was provided as well.

The site was required to provide at least 10% in tree save area, which was also met

Open Space

The project is required to provide at least 10% open space, which would equal 2.49 acres. The total area of open space provided is 16.11 acres or 64.7%. The open space includes walking trails, a pickle ball court, and open play area.

Elevations

The project is not at the stage to have elevations submitted at this point.

Parking

Each lot will have a driveway that can accommodate at least 2 vehicles as required by the ordinance.

Sidewalk

A five foot (5') wide sidewalk will be provided along both sides of the interior roads throughout the development. There is not existing or proposed sidewalk along Lancaster Avenue.

Stormwater

The applicant has received a stormwater permit meeting all required ordinances. There are two stormwater features located on the northeastern property line.

Stream Buffer

All blue line streams on the site have been provided with a 35' buffer on both sides as required by the ordinances.

Schools

The development is located within the following school attendance areas:

Walter Bickett Elementary School
Monroe Middle School
Monroe High School

Transportation

The site will be accessed through Ann Street, which is an existing city street that was stubbed to the site. The developer is proposing for the project to have publicly maintained streets by the City of Monroe. The streets will be constructed and inspected to the City of Monroe street standards. The required transportation improvements for the project are as follows:

Lancaster Avenue

-Construct a southbound left-turn lane along Lancaster Avenue at Oak Hill Drive.

LAND DEVELOPMENT PLAN CONSISTENCY

The Land Development Plan indicates this area is Suburban. While residential uses typically take the form of neighborhoods with uniform housing types and densities, a mix of housing types and lot sizes is preferred in Suburban locations. Attached and multi-family housing is suitable in mixed-housing neighborhoods and activity centers. Commercial development mostly serves the needs of nearby residents and often locates along corridors with higher traffic volumes and near prominent intersections. Emphasis should be placed on integrating the design of commercial centers with surrounding neighborhoods. Multimodal connectivity between neighborhoods and to nearby center also should be emphasized. Strategic connections to the off-street multi-use trail network are preferred and open space should be preserved in both active and passive forms within neighborhoods. The density for suburban residential is 2-4 units per acre.

The property was rezoned to RMD (Residential Medium Density) on April 12, 2022. The RMD zoning district allows up to three units per acre

Changes to the Unified Development Ordinance

The following updates to the Unified Development Code have occurred since this project was submitted:

1. May 9, 2023: Change in the way density is calculated to remove existing and proposed right-of-way, utility easements, and stream buffers.
2. July 18, 2023: Require developments over 50 lots to be processed as a rezoning
3. July 18, 2023: Increased open space from 10% minimum to 20%

PUBLIC NOTIFICATION

This project was submitted as a by-project, there are no public notification requirements for projects submitted for by-right development.

Attachments:

Attachment 1- Ortho Map

Attachment 2- Zoning Map

Attachment 3- Future Lane Use Map

Attachment 4- Future Land Use Description

Attachment 5- Approval Letter Erosion and Sediment Control

Attachment 6- Approved Site and Road Improvement Plans King Oak

Attachment 7- Approval Documentation NCDOT Driveway Permit- King Oak

Attachment 8- Engineering Notice of Violation Letter

Aerial Map

**Existing: RMD
(Residential Medium Density)**

**Owner: Griffin Land
Holdings, LLC**

Acres: 29.98



0 400 800
Feet

Zoning Map

Legend

Centerlines

Parcels

Zoning Districts

CD

OM

RLD

RMD

Existing: RMD
(Residential Medium Density)

Owner: Griffin Land Holdings, LLC

Acres: 29.98



0 400 800
Feet

Future Land Use Map

Legend

-  Centerlines
-  City Limits
-  streams
-  Parcels

FLUM

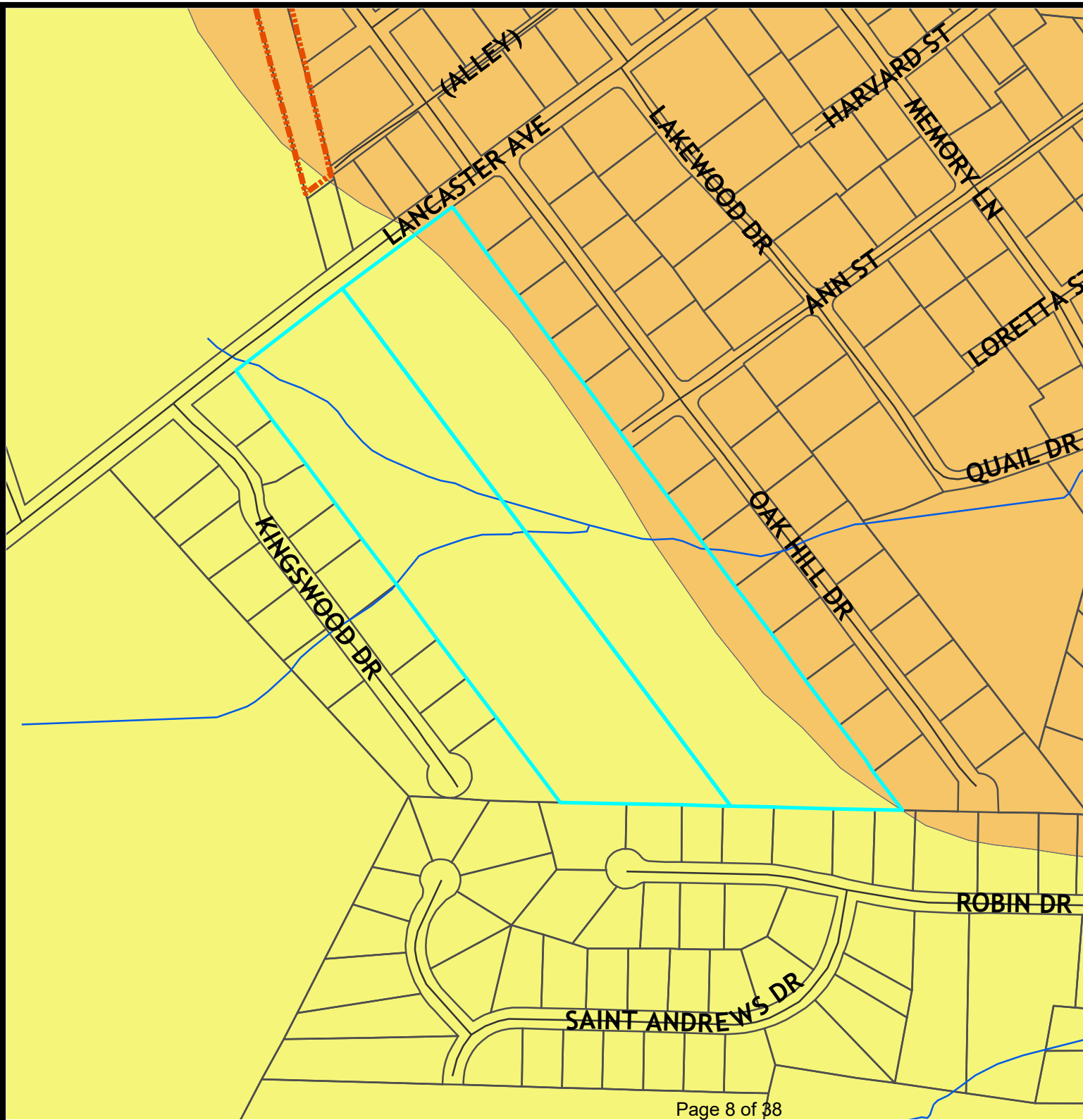
-  Suburban
-  Traditional Development

**Existing: Residential
Medium Density (RMD)**

**Owner: Griffin Land
Holdings, LLC**



0 290 580
Feet

Future Land Use Plan Consistency

The Future Land Use Plan indicates this area is Suburban. While residential uses typically take the form of neighborhoods with uniform housing types and densities, a mix of housing types and lot sizes is preferred in Suburban locations. Multimodal connectivity between neighborhoods and to nearby centers also should be emphasized. Strategic connections to the off-street multi-use trail network are preferred and open space should be preserved in both active and passive forms within neighborhoods. The density for suburban residential is 2-4 units per acre.

June 5, 2024

Caroline Development Services, LLC
ATTN: Johnathon McCall
2627 Brekonridge Centre Drive
Monroe, NC 28110

RE: **LETTER OF APPROVAL**
EROSION AND SEDIMENT CONTROL SUBMITTAL

Project Name: King Oak
Submittal No.: PREN202301922
Disturbed Area: 16.1 Acres
Location: 1530 Ann St.
Submitted by: Matthew Kirchner, PE
Date Received: May 15, 2024
New Submittal: ____ Revision: X

Dear Mr. McCall:

The City of Monroe Engineering Department has reviewed the subject erosion and sedimentation control plan. The noted plan has been reviewed and is found to be acceptable; therefore, you are issued this Letter of Approval and Certificate of Plan Approval. Plan approvals shall expire within three (3) years following the date of this approval if no land disturbing activity has been undertaken, as required by the City of Monroe Code of Ordinance Chapter 158.16 (G). The Certificate of Approval, NCG01 permit, Certificate of Coverage (COC) and record of inspections must be posted at a conspicuous location at the job site. If you proceed prior to approval of all plans you are doing so at your own risk. Please contact the Permit Center to ensure you have all approvals needed to begin.

Chapter 158.16 (H) of the City Ordinance requires that a copy of the approved erosion control plan be on file at the job site. In addition, the City maintains the right of entry for periodic inspection as indicated in Chapter 158.17 (D) of the City Ordinance and by the G.S. 113A-61.1 (a). This letter is due notice of such inspection.

As of April 1, 2019, all new construction activities are required to complete and submit an electronic Notice of Intent (eNOI) form requesting a Certificate of Coverage (COC) under the NCG010000 Construction General Permit. After the form is reviewed and found to be complete, you will receive a link with payment instructions for the applicable annual permit fee. After the fee is processed, you will receive the COC via email. As the Financially Responsible Party shown on the FRO form submitted for this project, you MUST obtain the COC prior to commencement of any land disturbing activity. The eNOI form and fee details may be accessed at deg.nc.gov/NCG01. Please direct questions about the eNOI form to the [Stormwater Program staff](#) in the Raleigh central office. If the owner/operator of this project changes in the future, the new responsible party must obtain a new COC.

Title 15A NCAC 4B .0118(a) and the NCG01 permit require that the following documentation be kept on file at the job site:

1. The approved E&SC plan as well as any approved deviation.
2. The NCG01 permit and the COC, once it is received.
3. Records of inspections made during the previous 30 days.

North Carolina's Sedimentation Pollution Control Act is performance-oriented, requiring protection of existing natural resources and adjoining properties. If, following the commencement of this project, the erosion and sedimentation control plan is inadequate to meet the requirements of the Sedimentation Pollution Control Act of 1973 (North Carolina General Statute 113A-51 through 66), this office may require revisions to the plan and implementation of the revisions to insure compliance with the Act.

The developer is responsible for obtaining any and all permits and approvals necessary for the development of this project prior to the commencement of this land disturbing activity. This could include agencies such as the Division of Water Quality's storm water regulations, their enforcement requirements within Section 401 of the Clean Water Act, the Environmental Protection Agency and/or the U.S. Army Corps of Engineers' jurisdiction of Section 404 of the Clean Water Act, the Division of Solid Waste Management's landfill regulations, local County or Municipalities' ordinances, or others that may be required. This approval cannot supersede any other permit or approval; however, in the case of a Cease and Desist Order from the Corps of Engineers, that Order would only apply to wetland areas. All upland areas would still have to be in compliance with the N.C. Sedimentation Pollution Control Act.

If any area on site falls within the jurisdiction of Section 401 or 404 of the Clean Water Act, the developer is responsible for compliance with the requirements of the Division of Water Quality, the Corps of Engineers and the Environmental Protection Agency (EPA) respectively. Any erosion control measures that fall within jurisdictional wetland areas must be approved by the aforementioned agencies prior to installation. The Land Quality Section must be notified of a relocation of the measures in question to the transition point between wetlands and the uplands to assure that the migration of sediment will not occur. If that relocation presents a problem or contradicts any requirements of DWQ, the Corps, or the EPA, it is the responsibility of the developer to inform the Land Quality Section regional office so that an adequate contingency plan can be made to assure sufficient erosion control remains on site. Failure to do so will be considered a violation of this approval.

Effective October 1, 2010, the Sedimentation Pollution Act requires that persons responsible for land disturbing activities self-inspect their project to make sure that the approved erosion control plan is being followed. Acceptance and approval of this plan is conditioned upon your compliance with Federal and State water quality laws, regulations, and rules. In addition, local city or county ordinances or rules may also apply to this land-disturbing activity. This approval does not supersede any other permit or approval.

Please note that this approval is based in part on the accuracy of the information provided in the Financial Responsibility Form, which you provided. You are requested to file an amended form if there is any change in the information included on the form. The erosion control permit can be issued prior to an approved Stormwater Management Permit once all erosion control requirements are met. Any changes to the plan during the Stormwater Management and Utility Permit approval process that significantly alters the erosion control plan shall be addressed through a revision submittal. The developer proceeds at their own risk prior to receiving all approvals associated with site development.

This site is required to have a storm water permit. This grading plan approval is issued based upon the plans as submitted, and may be revised should the storm water permit require it. The owner understands that any grading activity is at his own risk until a storm water permit is obtained.

Please notify us to set up a preconstruction meeting prior to disturbing any land. If a preconstruction is not set up it will be a violation. A copy of an approved Certificate of Coverage (COC) should be provided at this meeting.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Tonya Griffin'.

Tonya Griffin
Engineering Associate
Erosion Control

cc: Matthew Kirchner, PE, Eagle Engineering, 2013A Van Buren Avenue, Indian Trail, NC 28079
Wesley Hinson, Registered Agent, 309 Post Office Drive, Indian Trail, NC 28079
Zach Ross, City of Monroe-Erosion Control Inspector, 300 West Crowell St., Monroe, NC 28112
File

KING OAK 25

ROADWAY IMPROVEMENT PLANS

MONROE, NC

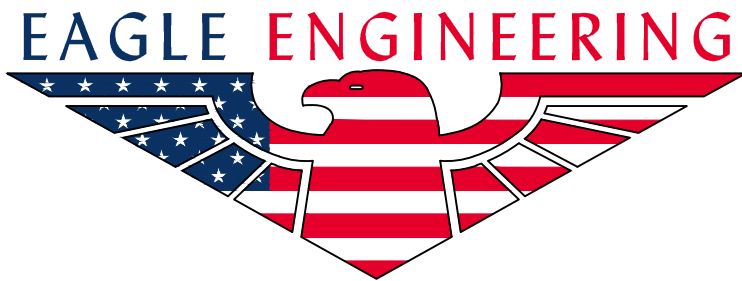
SITE AND DEVELOPMENT DATA	
JURISDICTION	MONROE, NC
TAX PARCEL(S):	09279043 & 09279044
SITE ADDRESS:	LANCASTER AVENUE
ZONING	RMD
USE CLASSIFICATION	RESIDENTIAL MEDIUM DENSITY



VICINITY MAP
NOT TO SCALE



Know what's below.
Call before you dig.
CALL 1-800-632-4949 OR 811
WWW.NC811.ORG
NC ONE-CALL CENTER
IT'S THE LAW!



FIRM LICENSE # C-0873
2013A VAN BUREN AVE.
INDIAN TRAIL, NC 28079
(704) 882-4222
www.eagleonline.net

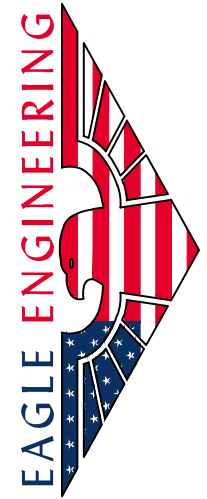


PROJECT ENGINEER: MATTHEW C. KIRCHNER, PE
STREET ADDRESS: 2013A VAN BUREN AVENUE
CITY, STATE, ZIP: INDIAN TRAIL, NC 28079
PHONE: 704-882-4222
EMAIL: MKIRCHNER@EAGLEONLINE.NET

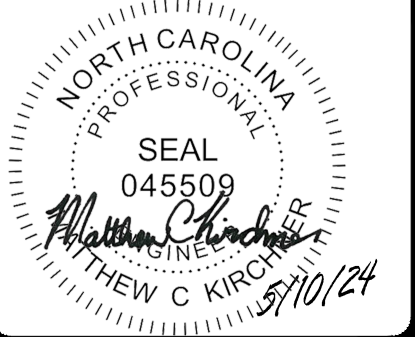
PREPARED FOR: CAROLINA DEVELOPMENT SERVICES, LLC
STREET ADDRESS: 2627 BREKONRIDGE CENTRE DR
CITY, STATE , ZIP: MONROE, NC 28110
PHONE: 704.401.7185
EMAIL: JOHNHROSSPE@GMAIL.COM
CONTACT: JOHN ROSS

SHEET LIST TABLE

SHEET NUMBER	SHEET TITLE	SHEET DESCRIPTION
RD-0.0	COVER SHEET	
S-1.0	EXISITING CONDITION	
RD-1.1	OVERALL SIGHT PLAN	
RD-2.0	STRIPING PLAN	
RD-3.0	GRADING PLAN	
RD-3.1	DRAINAGE CALCULATIONS	
RD-4.0	UTILITY PLAN	
RD-5.0	CROSS SECTIONS	STA. 2+00.00 - 3+50.00
RD-5.1	CROSS SECTIONS	STA. 4+00.00 - 5+50.00
RD-5.2	CROSS SECTIONS	STA. 6+12.82 - 7+50.00
RD-5.3	CROSS SECTIONS	STA. 8+00.00 - 9+50.00
RD-5.4	CROSS SECTIONS	STA. 9+81.93 - 10+00
RD-6.0	NCDOT DETAIL 1	
RD-6.1	NCDOT DETAIL 2	
RD-6.2	CONSTRUCTION NOTES	



FIRM LICENSE # C-0873
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NO.	DATE	BY	ISSUE
1	07/05/2023	JAH	ADDRESS NCDOT COMMENTS
2	07/19/2024	JAH	ARMORED SLOPE RTAP
3	05/10/2024	JAH	APPLICANT NAME CHANGE RTAP

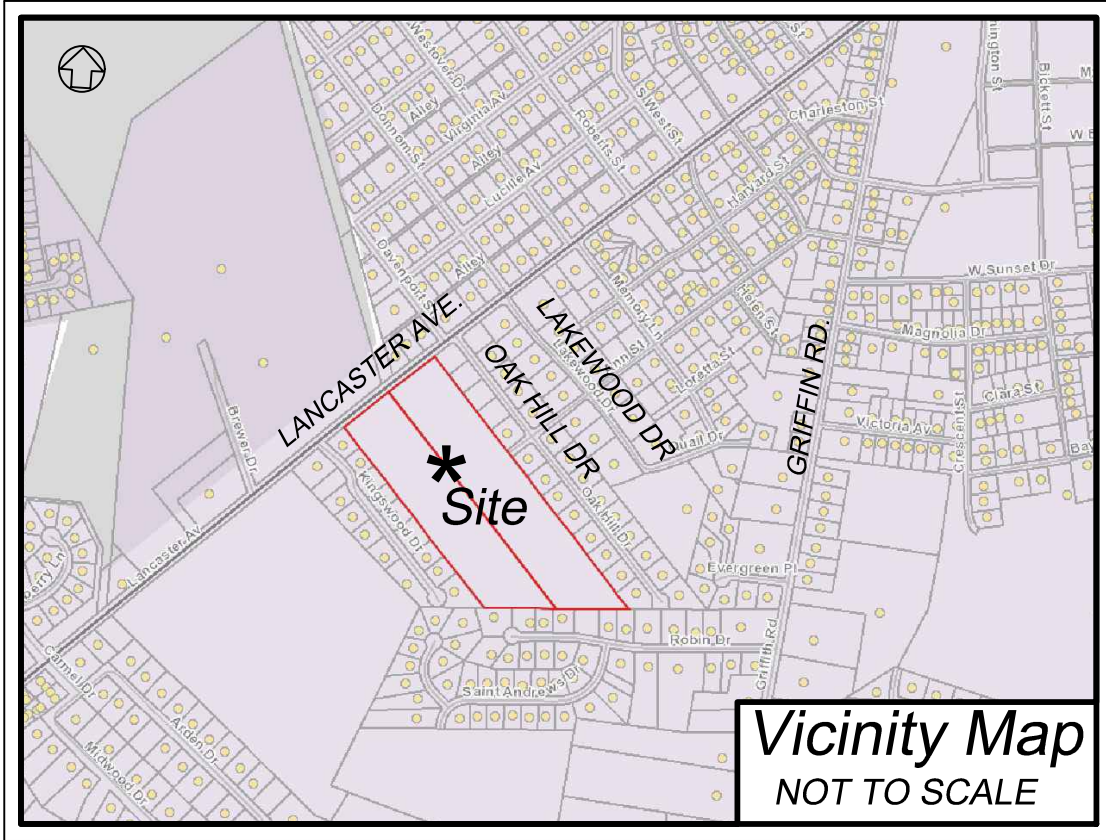
KING OAK 25
ROAD IMPROVEMENT PLANS
MONROE, NC

CAROLINA DEVELOPMENT SERVICES, LLC
2627 BREKONRIDGE CENTRE DR
MONROE, NC 28110

COVER SHEET			
DESIGNED BY	DRAWN BY	CHECKED BY	Scale
JAH	JAH	MCK	
DATE	DATE	JOB NUMBER	
02/24/2023		7848	
AS SHOWN			

Sheet

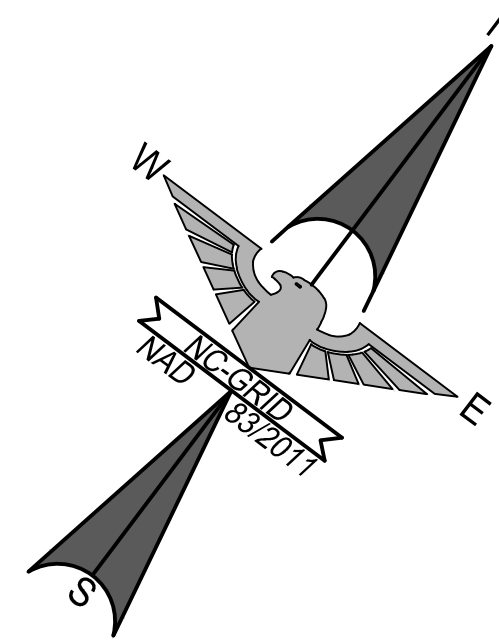
RD-0.0



Know what's below.
Call before you dig.
CALL 1-800-632-4949 OR 811
WWW.NC811.ORG
NC ONE-CALL CENTER
IT'S THE LAW!

UTILITY NOTES

THE LOCATION OF SUB SURFACE UTILITIES AS SHOWN HEREON ARE BASED ON LEVEL B UTILITY DESIGNATING BY EAGLE ENGINEERING INCORPORATED (EEI), FOLLOWING ASCE 38-02 STANDARDS THROUGH THE APPLICATION OF APPROPRIATE SURFACE GEOPHYSICAL METHODS TO DETERMINE THE EXISTENCE AND APPROXIMATE HORIZONTAL POSITION OF SUBSURFACE UTILITIES. THIS SURVEYOR MAKES NO GUARANTEE THAT THE UTILITIES SHOWN HEREON COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE OWNER, HIS CONSULTANTS AND HIS CONTRACTORS SHALL HEREBY DISTINCTLY UNDERSTAND THAT UTILITIES AND STRUCTURES NOT SHOWN MAY BE ENCOUNTERED. EEI CERTIFIES THAT THE UTILITIES LOCATED ARE DONE SO AS ACURATELY AS POSSIBLE FROM THE INFORMATION AVAILABLE.



MISCELLANEOUS NOTES

VERTICAL DATUM IS REFERENCED TO TO NAVD88.

CONTOUR INTERVAL = 1 FOOT.

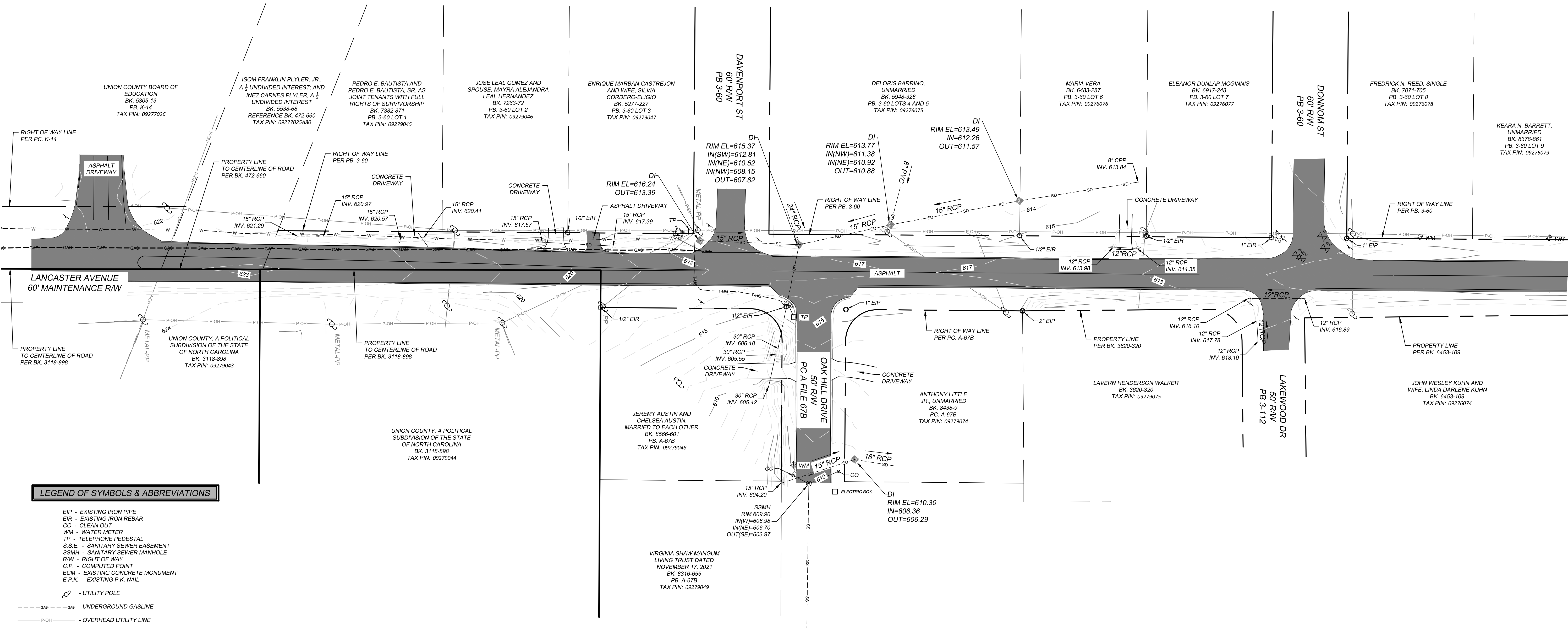
DEED REFERENCE: AS SHOWN.

ALL ADJOINER PROPERTY OWNER INFORMATION IS TAKEN FROM CURRENT DEEDS AND TAX RECORDS AND ARE CONSIDERED "NOW OR FORMERLY".

OTHER UNDERGROUND UTILITIES MAY EXIST BUT THEIR LOCATIONS ARE NOT KNOWN.

THE PROPERTY SHOWN HEREON IS NOT LOCATED WITHIN A SPECIAL FLOOD HAZARD AREA AS SHOWN ON F.E.M.A. FLOOD INSURANCE RATE MAP NO. 370543400J, EFFECTIVE DATE 10/16/2006.

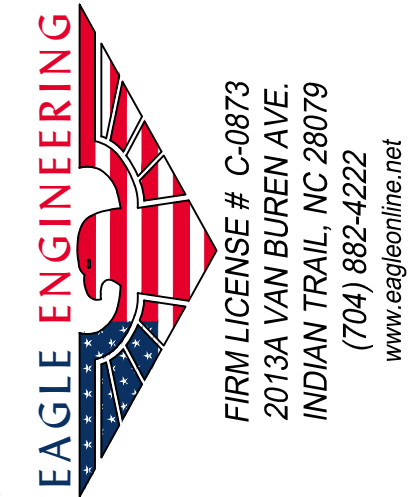
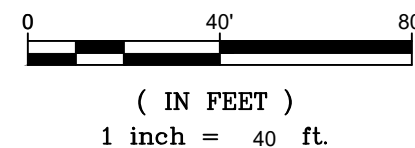
LOTS 1-9, ON THE NORTH SIDE OF LANCASTER AVE., THE RIGHT OF WAY LINE SHOWN IS PER PB. 3-60.



LEGEND OF SYMBOLS & ABBREVIATIONS

- EIP - EXISTING IRON PIPE
EIR - EXISTING IRON REBAR
CO - CLEAN OUT
WM - WATER METER
TP - TELEPHONE PEDESTAL
S.S.E. - SANITARY SEWER EASEMENT
SSMH - SANITARY SEWER MANHOLE
R/W - RIGHT OF WAY
C.P. - COMPUTED POINT
ECM - EXISTING CONCRETE MONUMENT
E.P.K. - EXISTING P.K. NAIL
U - UTILITY POLE
GAS - UNDERGROUND GASLINE
P-OH - OVERHEAD UTILITY LINE
SS - SANITARY SEWER LINE
SSMH - SANITARY SEWER MANHOLE
F - FIRE HYDRANT
W - WATER VALVE
W - WATER WELL
Y - YARD INLET / AREA DRAIN
S - SIGN
C - CURB INLET
SD - STORM DRAIN
W - WATER LINE
X - FENCE LINE
T-40 - UNDERGROUND TELEPHONE

GRAPHIC SCALE

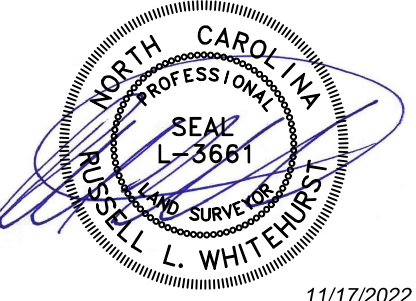


NO. 1
DATE 3/10/23
BY ASD
ISSUE ADDED RIGHT OF WAY REFERENCES

KING OAK SUBDIVISION
CITY OF MONROE, UNION CO., N.C.
For the Benefit of:
GRIFFIN LAND HOLDINGS, LLC
P.O. BOX 1561
MONROE, N.C. 28111

EXISTING CONDITIONS
SURVEY

DESIGNED BY	n/a	CHECKED BY	RLW
DRAWN BY	n/a	DATE	11/17/22
Scale	1" = 40'	JOB NUMBER	7648



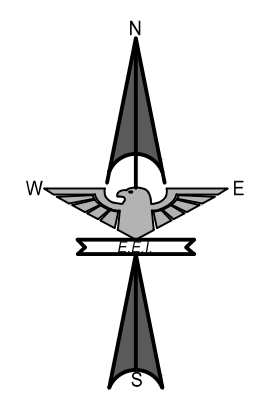
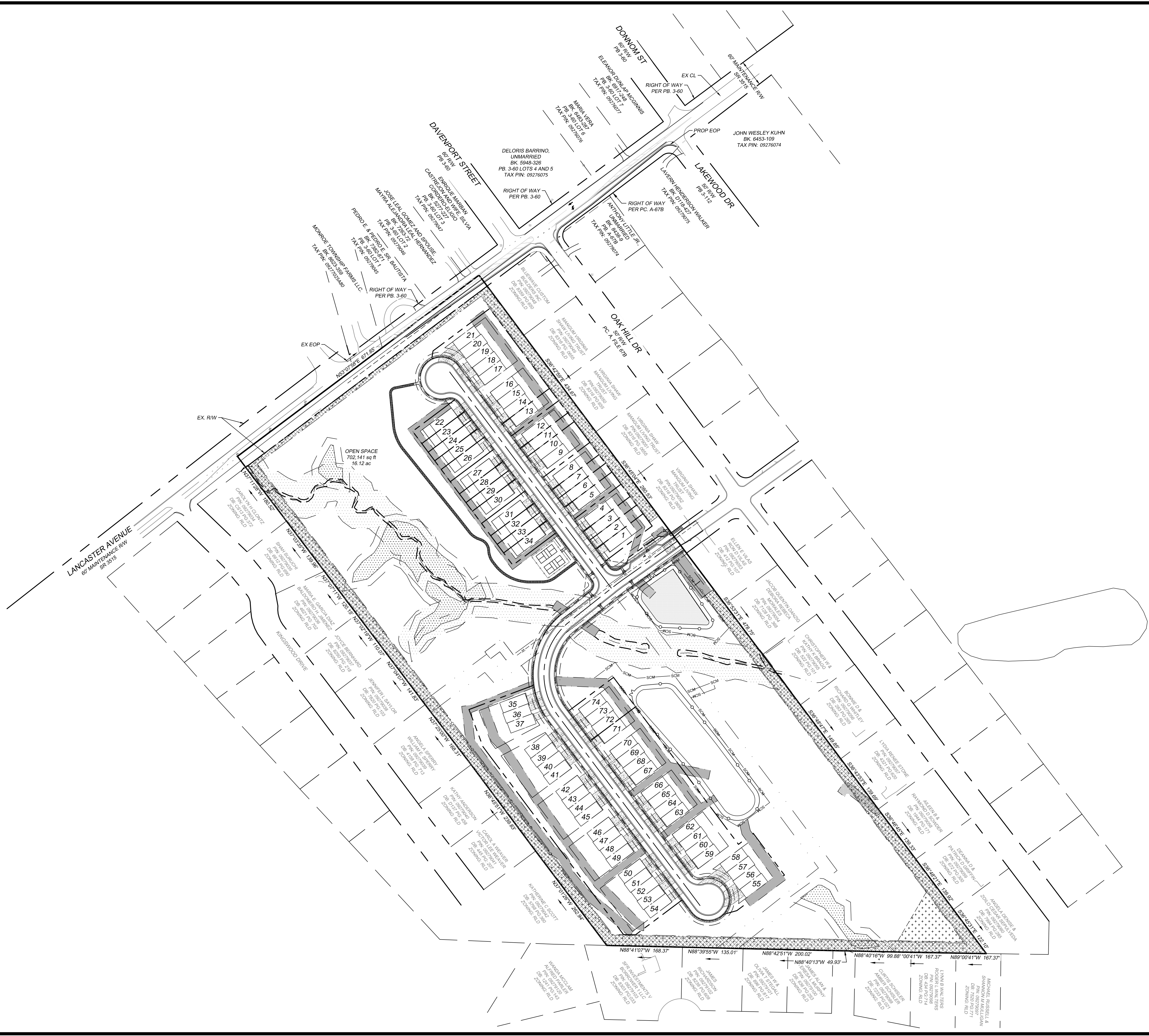
11/17/2022

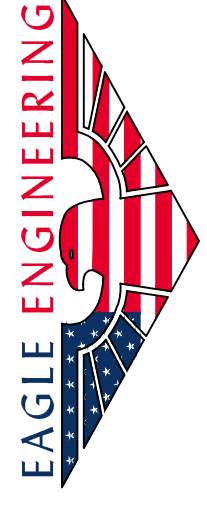
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S-1.0

THIS IS TO CERTIFY THAT ON THE 9TH DAY OF NOVEMBER, 2022, AN ACTUAL SURVEY WAS MADE UNDER MY SUPERVISION OF THE PROPERTY SHOWN ON THIS PLAT, AND THAT THE BOUNDARY LINES AND IMPROVEMENTS, IF ANY, ARE SHOWN HEREON, EXCEPT AS NOTED. THIS PLAT MEETS THE MINIMUM STANDARDS OF PRACTICE FOR LAND SURVEYING IN NORTH CAROLINA BOARD RULE 1000 (21 NCAC 56) AND THE ERROR OF CLOSURE FOR THIS PARCEL DOES NOT EXCEED ONE (1) FOOT PER 10,000 LINEAR FEET OF PERIMETER SURVEYED NOR 20 SECONDS TIMES THE SQUARE ROOT OF THE NUMBER OF ANGLES TURNED.

RUSSELL L. WHITEHURST, PLS
PROFESSIONAL LAND SURVEYOR
LICENSE NO. L-3661
DATE 11/17/2022





FIRM LICENSE # C-0873

2013A VAN BUREN AVE

INDIAN TRAIL, NC 28079

(704) 882-4222

www.eagleengineers.net

NORTH CAROLINA

PROFESSIONAL

SEAL

045509

Matthew C. Kiro

THEW C. KIRO

5/10/24

NO.	DATE	BY	ISSUE
1	07/05/2023	JAH	ADDRESS NCDOT COMMENTS
3	05/10/2024	JAH	APPLICANT NAME CHANGE RTAP

KING OAK 25

ROAD IMPROVEMENT PLANS

MONROE, NC

CAROLINA DEVELOPMENT SERVICES, LLC

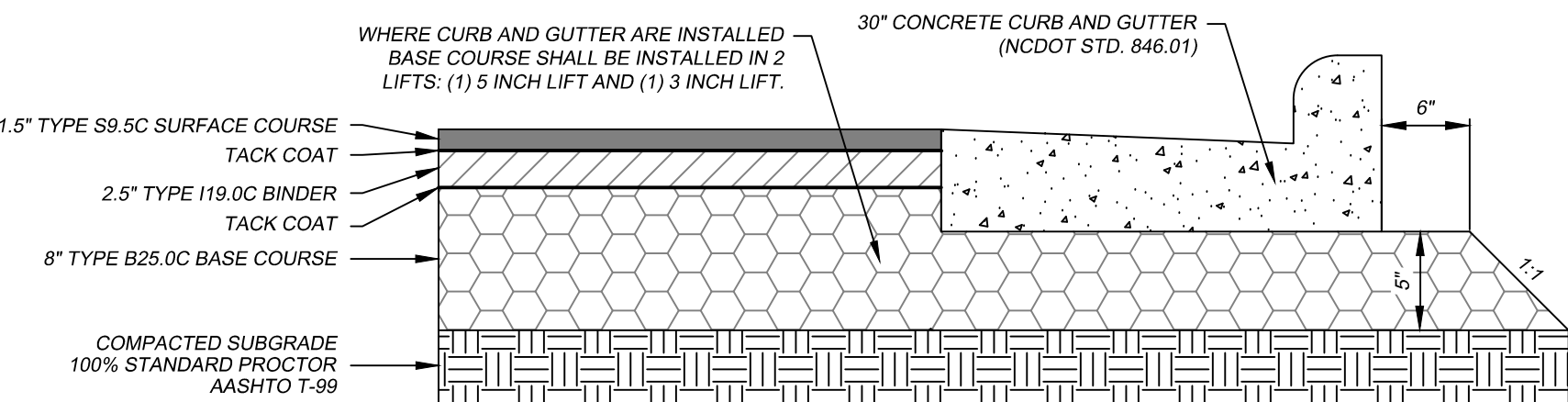
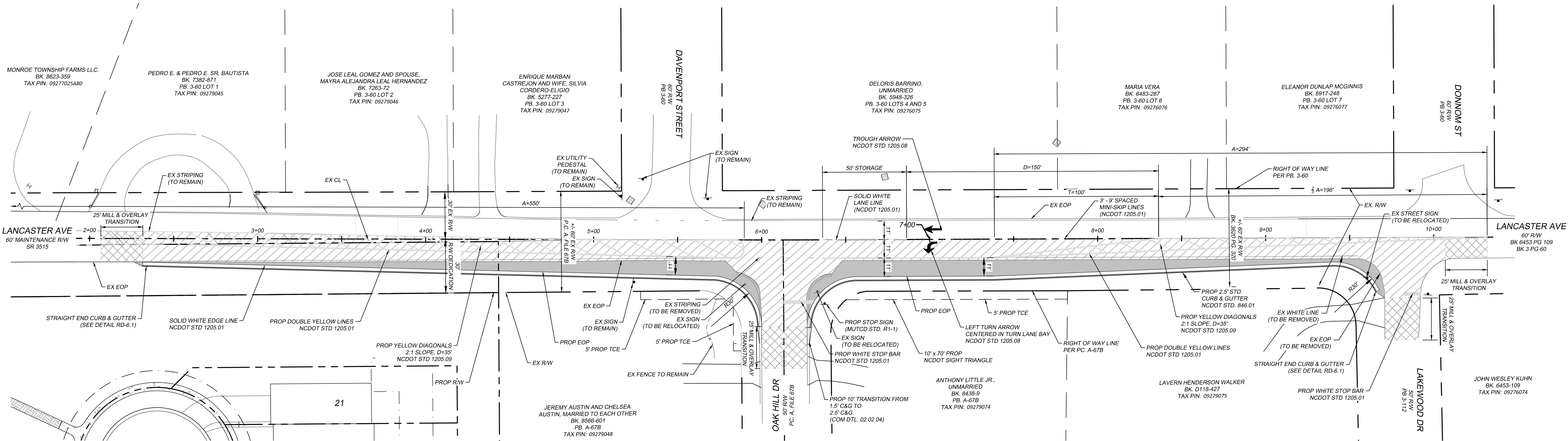
2627 BREKONRIDGE CENTRE DR

MONROE, NC 28110

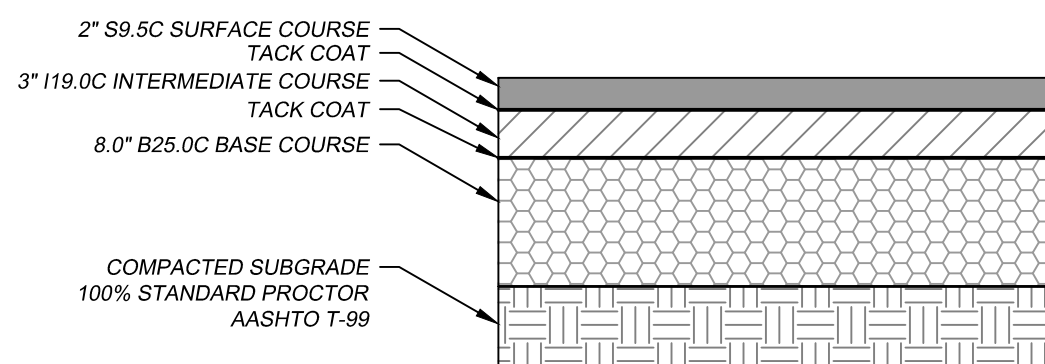
DESIGNED BY	DRAWN BY	CHECKED BY
JAH	JAH	MCK
AS SHOWN	DATE	JOB NUMBER
Scale	02/24/2023	7849

Sheet

RD-1.1



**NCDOT STREET
PAVEMENT SECTION**
(WITH CURB AND GUTTER)



NCDOT PAVEMENT SECTION
(WITHOUT CURB & GUTTER)

WIDENING CRITERIA

LANCASTER AVENUE

POSTED SPEED LIMIT = 35 MPH

DESIGN SPEED = 40 MPH

W = 11' A = 293.33' ~ 294' 2/3A = 195.56' ~ 196'

D = 150' T = 100' STORAGE = 50'

PROPOSED LANE WIDTH = 11'

PROPOSED TURN LANE WIDTH = 11'

SOUTH WEST AT INTERSECTION

POSTED SPEED LIMIT = 45 MPH

DESIGN SPEED = 50 MPH

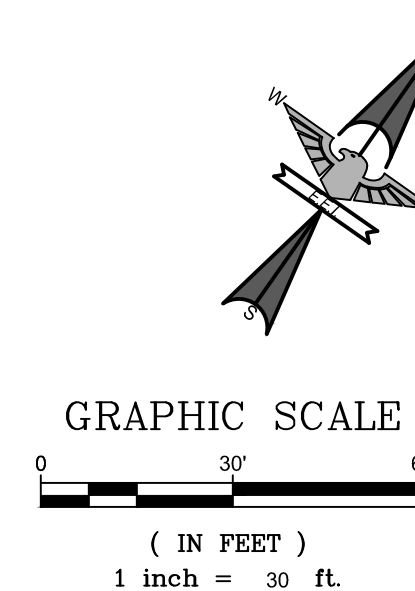
W=11' A=550'

NOTES:

- PATCHING & LEVELING MAY BE REQUIRED PRIOR TO RESURFACING THE ROAD.
- EXISTING ROAD STRIPING TO BE MILLED FROM EXISTING POINT OF TAPER TO NEW CONSTRUCTION AND RESTRIPE PER NCDOT STD. 1205.01 AS SHOWN. ALL PAVEMENT MARKINGS ARE REQUIRED TO BE THERMOPLASTIC.
- EXISTING PAVEMENT EDGE TO BE SAW CUT 1' WHEREVER FULL DEPTH PAVEMENT IS TO BE CONSTRUCTED.
- ALL WORK SHOWN ON THESE PLANS SHALL BE COMPLETED BETWEEN THE HOURS OF 9PM AND 6AM.
- ALL FIXED OBJECTS THAT ARE NOT CONSIDERED BREAKAWAY MUST BE REMOVED FROM THE CLEAR RECOVERY ZONE, 20' FROM EDGE OF TRAVEL LANE.

HATCH LEGEND

- WIDENING SECTION
(PROP. FULL DEPTH PAVEMENT)
- EXISTING ROADWAY
(1.5" MIN. MILL AND OVERLAY)
- MILL & OVERLAY
TRANSITION ZONE



EAGLE ENGINEERING
FIRM LICENSE # C-0873
2013A VAN BUREN AVE
INDIAN TRAIL, NC 28079
(704) 882-4222
www.eagleengr.com

NORTH CAROLINA
PROFESSIONAL
SEAL
045509
Matthew C. Kiro
5/10/24

NO.	DATE	BY	ISSUE	ADDRESS	NCDOT COMMENTS
1	07/05/2023	JAH			
3	05/10/2024	JAH			APPLICANT NAME CHANGE RTAP

KING OAK 25
ROAD IMPROVEMENT PLANS
MONROE, NC

CAROLINA DEVELOPMENT SERVICES, LLC
2627 BREKONRIDGE CENTRE DR
MONROE, NC 28110

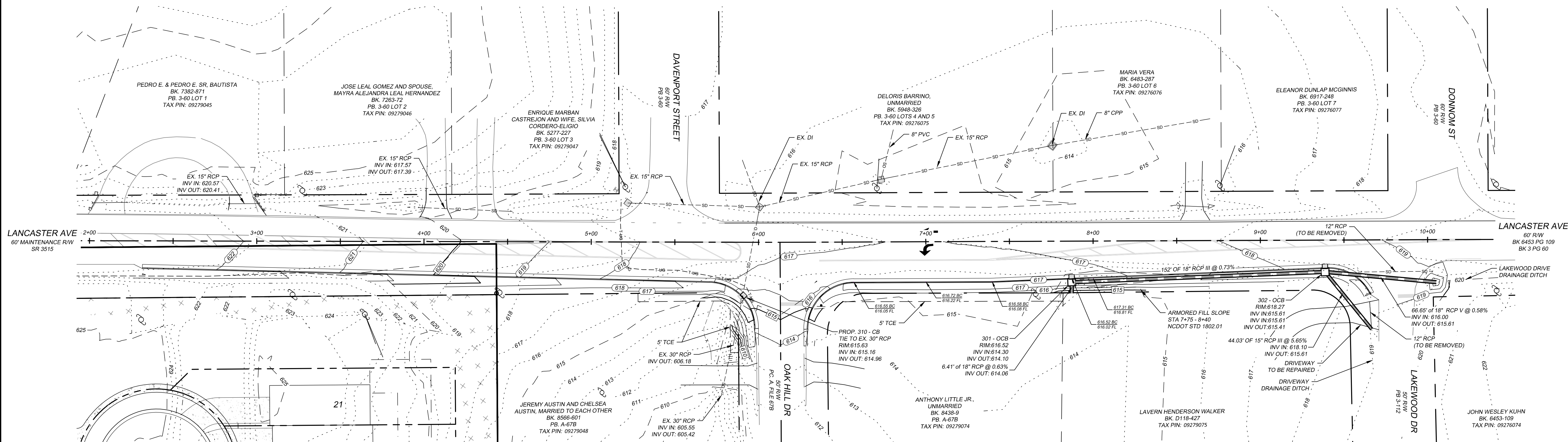
STRIPING PLAN

DESIGNED BY	JAH	CHECKED BY	MCK
DRAWN BY	JAH	DATE	02/24/2023
AS SHOWN		JOB NUMBER	7848

Scale

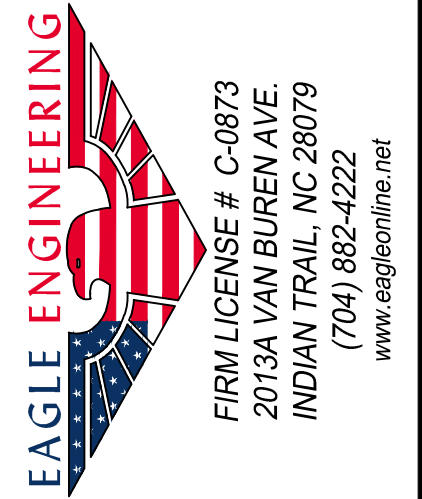
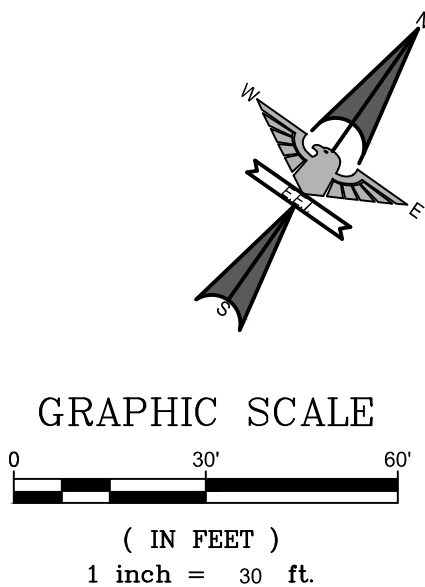
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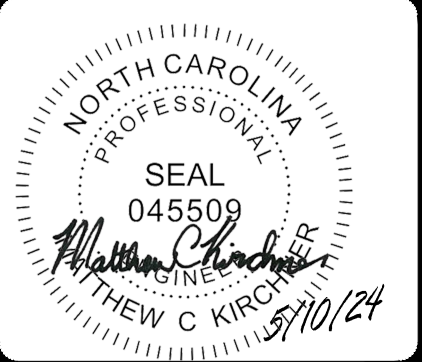


NOTES:

- PATCHING & LEVELING MAY BE REQUIRED PRIOR TO RESURFACING THE ROAD.
- EXISTING ROAD STRIPING TO BE MILLED FROM EXISTING POINT OF TAPER TO NEW CONSTRUCTION AND RESTRIPE PER NCDOT STD. 1205.01 AS SHOWN. ALL PAVEMENT MARKINGS ARE REQUIRED TO BE THERMOPLASTIC.
- EXISTING PAVEMENT EDGE TO BE SAW CUT 1" WHEREVER FULL DEPTH PAVEMENT IS TO BE CONSTRUCTED.
- ALL WORK SHOWN ON THESE PLANS SHALL BE COMPLETED BETWEEN THE HOURS OF 9PM AND 6AM.
- ALL FIXED OBJECTS THAT ARE NOT CONSIDERED BREAKAWAY MUST BE REMOVED FROM THE CLEAR RECOVERY ZONE, 20' FROM EDGE OF TRAVEL LANE.



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NO.	DATE	BY	ISSUE
1	07/05/2023	JAH	ADDRESS NCDOT COMMENTS
2	07/19/2024	JAH	ARMORED SLOPE RTAP
3	05/10/2024	JAH	APPLICANT NAME CHANGE RTAP

KING OAK 25
ROAD IMPROVEMENT PLANS
MONROE, NC
CAROLINA DEVELOPMENT SERVICES, LLC
2627 BREKONRIDGE CENTRE DR
MONROE, NC 28110

DESIGNED BY	DRAWN BY	CHECKED BY
JAH	JAH	MCK
DATE	DATE	JOB NUMBER
AS SHOWN	02/24/2023	7846

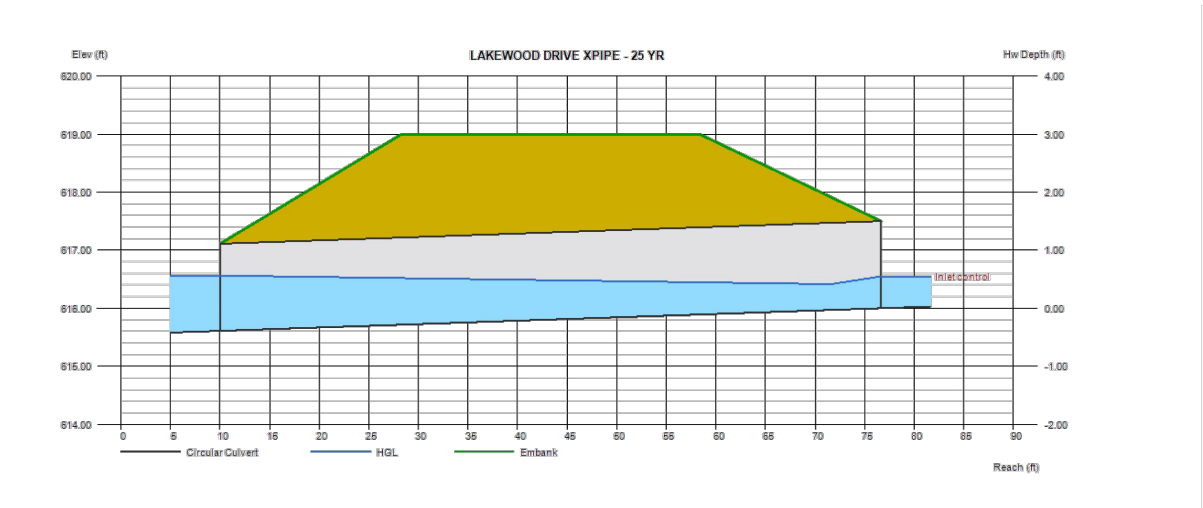
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Culvert Report

Hydraflo Express Extension for Autodesk® Civil 3D® by Autodesk, Inc. Tuesday, Jan 16 2024

LAKEWOOD DRIVE XPIPE - 25 YR

Invert Elev Dn (ft)	= 615.61	Calculations	
Pipe Length (ft)	= 66.65	Qmin (cfs)	= 1.17
Slope (%)	= 0.59	Qmax (cfs)	= 1.17
Invert Elev Up (ft)	= 616.00	Tailwater Elev (ft)	= (dc+D)/2
Rise (in)	= 18.0		
Shape	= Circular	Highlighted	
Span (in)	= 18.0	Qtotal (cfs)	= 1.17
No. Barrels	= 1	Qpipe (cfs)	= 1.17
n-Value	= 0.013	Qovertop (cfs)	= 0.00
Culvert Type	= Circular Concrete	Veloc Dn (ft/s)	= 0.99
Culvert Entrance	= Square edge w/headwall (C)	Veloc Up (ft/s)	= 3.05
Coeff. K,M,c,Y,k	= 0.0098, 2, 0.0398, 0.67, 0.5	HGL Dn (ft)	= 616.56
		HGL Up (ft)	= 616.40
Embankment		Hw Elev (ft)	= 616.55
Top Elevation (ft)	= 619.00	Hw/D (ft)	= 0.37
Top Width (ft)	= 30.00	Flow Regime	= Inlet Control
Crest Width (ft)	= 0.00		

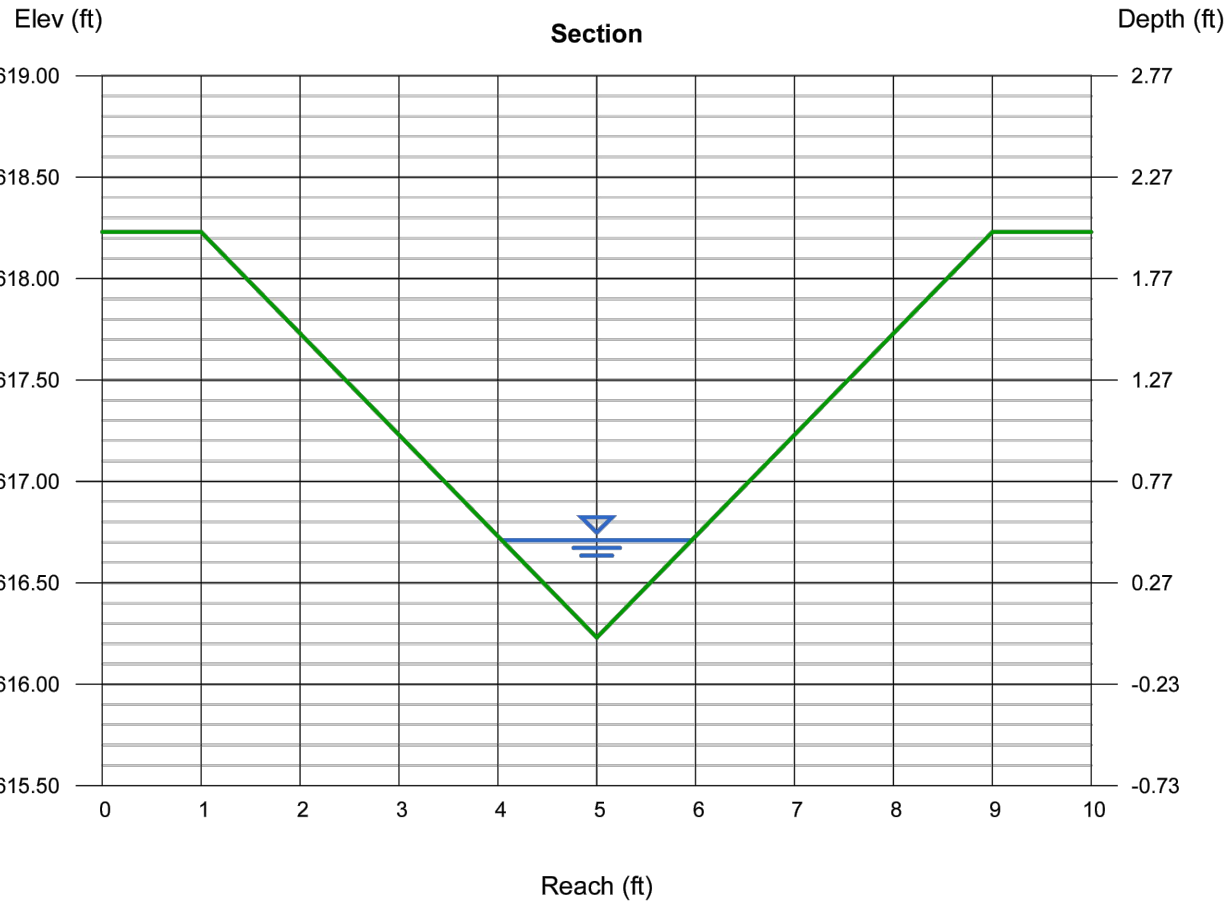


Channel Report

Hydraflo Express Extension for Autodesk® Civil 3D® by Autodesk, Inc. Tuesday, Jan 16 2024

LAKEWOOD DR DITCH - 25YR

Triangular		Highlighted	
Side Slopes (z:1)	= 2.00, 2.00	Depth (ft)	= 0.48
Total Depth (ft)	= 2.00	Q (cfs)	= 1.170
		Area (sqft)	= 0.46
Invert Elev (ft)	= 616.23	Velocity (ft/s)	= 2.54
Slope (%)	= 1.54	Wetted Perim (ft)	= 2.15
N-Value	= 0.025	Crit Depth, Yc (ft)	= 0.47
		Top Width (ft)	= 1.92
		EGL (ft)	= 0.58
Calculations			
Compute by:	Known Q		
Known Q (cfs)	= 1.17		

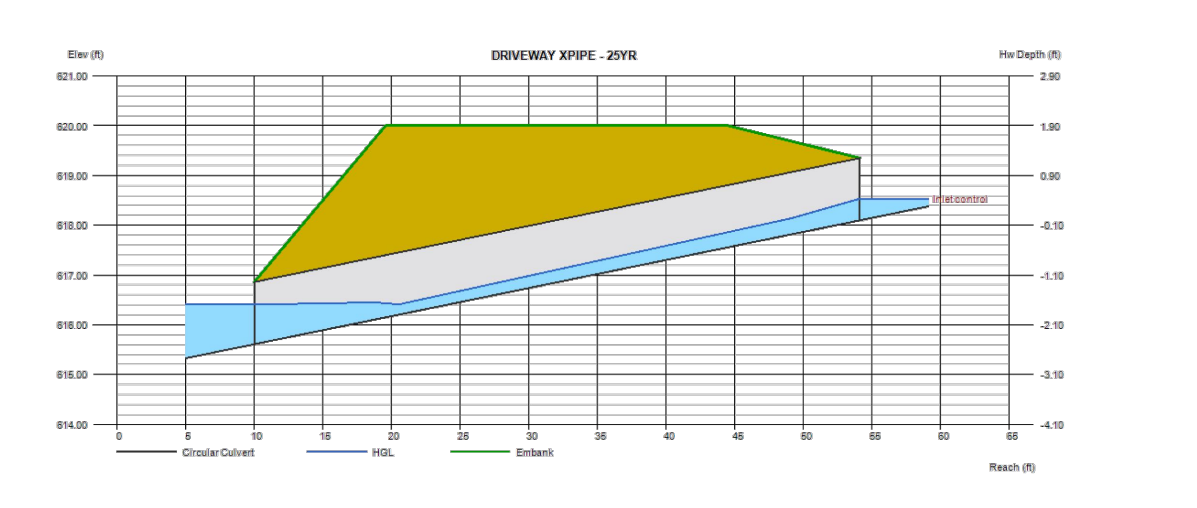


Culvert Report

Hydraflo Express Extension for Autodesk® Civil 3D® by Autodesk, Inc. Tuesday, Jan 16 2024

DRIVEWAY XPIPE - 25YR

Invert Elev Dn (ft)	= 615.61	Calculations	
Pipe Length (ft)	= 44.11	Qmin (cfs)	= 0.77
Slope (%)	= 5.64	Qmax (cfs)	= 0.77
Invert Elev Up (ft)	= 618.10	Tailwater Elev (ft)	= (dc+D)/2
Rise (in)	= 15.0		
Shape	= Circular	Highlighted	
Span (in)	= 15.0	Qtotal (cfs)	= 0.77
No. Barrels	= 1	Qpipe (cfs)	= 0.77
n-Value	= 0.013	Qovertop (cfs)	= 0.00
Culvert Type	= Circular Concrete	Veloc Dn (ft/s)	= 0.93
Culvert Entrance	= Square edge w/headwall (C)	Veloc Up (ft/s)	= 2.81
Coeff. K,M,c,Y,k	= 0.0098, 2, 0.0398, 0.67, 0.5	HGL Dn (ft)	= 616.41
		HGL Up (ft)	= 618.44
Embankment		Hw Elev (ft)	= 618.53
Top Elevation (ft)	= 620.00	Hw/D (ft)	= 0.35
Top Width (ft)	= 25.00	Flow Regime	= Inlet Control
Crest Width (ft)	= 0.00		

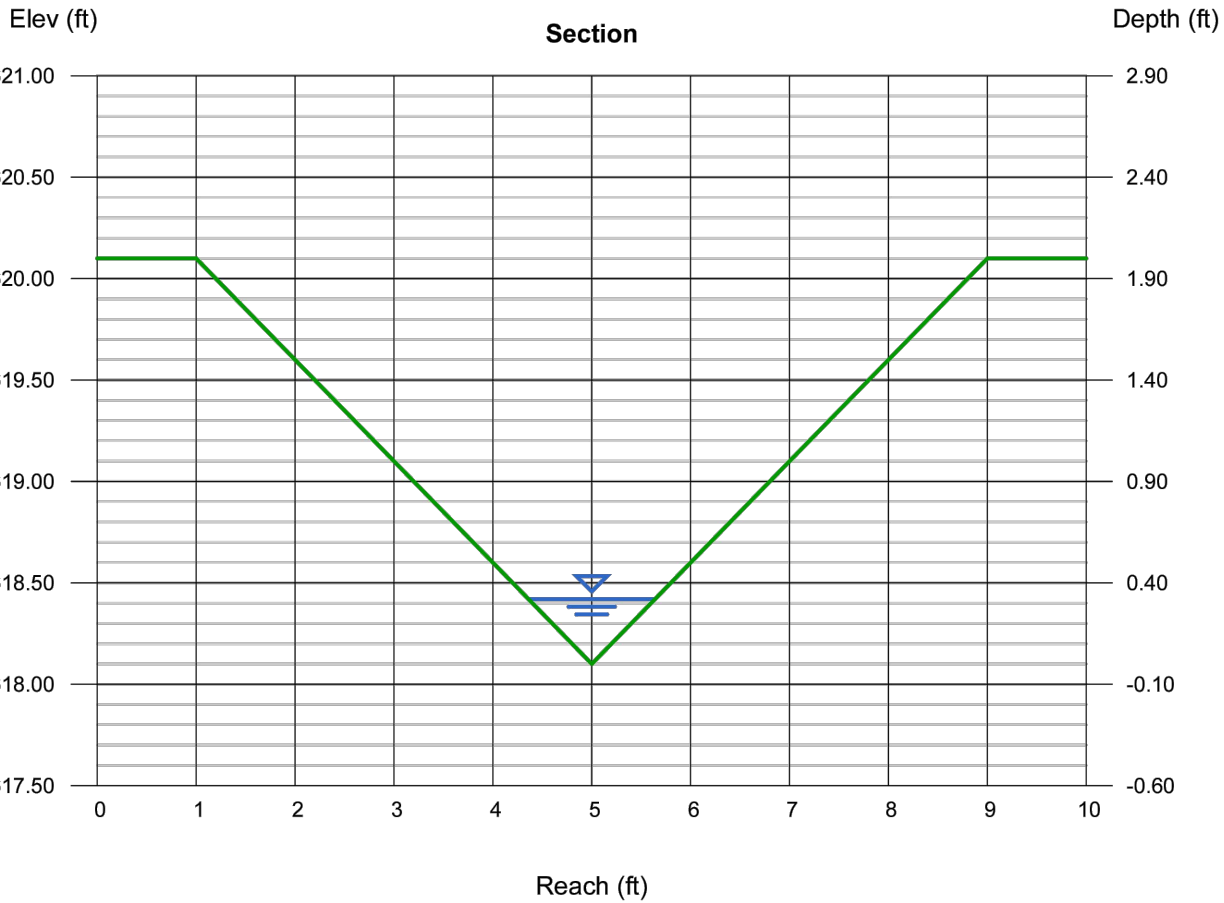


Channel Report

Hydraflo Express Extension for Autodesk® Civil 3D® by Autodesk, Inc. Tuesday, Jan 16 2024

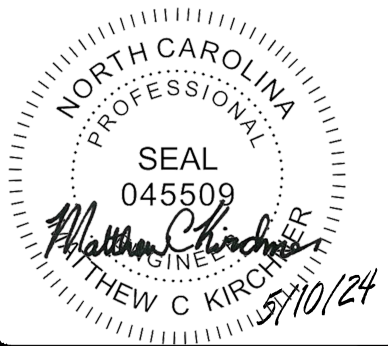
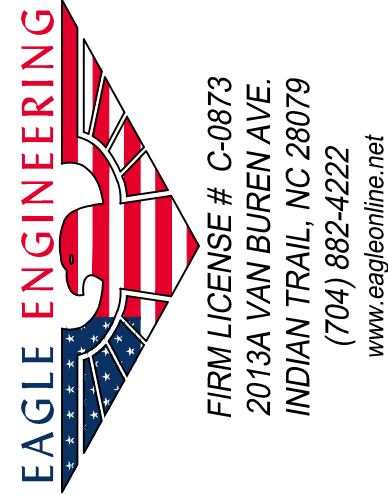
DRIVEWAY DITCH - 25YR

Triangular		Highlighted	
Side Slopes (z:1)	= 2.00, 2.00	Depth (ft)	= 0.32
Total Depth (ft)	= 2.00	Q (cfs)	= 0.770
		Area (sqft)	= 0.20
Invert Elev (ft)	= 618.10	Velocity (ft/s)	= 3.76
Slope (%)	= 6.19	Wetted Perim (ft)	= 1.43
N-Value	= 0.025	Crit Depth, Yc (ft)	= 0.40
		Top Width (ft)	= 1.28
		EGL (ft)	= 0.54
Calculations			
Compute by:	Known Q		
Known Q (cfs)	= 0.77		



Location		Inlet Areas		Storm Runoff					Pipe Sizing Calculations							Pipe Calculations						
From Structure	To Structure	(acres)	Percent Pervious (%)	Percent Impervious (%)	Composite Runoff Coeff. Cc	I (in/hr)	Inlet Discharge Q (cfs)	Combined Discharge Qpipe (cfs)	Material n	Pipe Slope (%)	Pipe Length (ft)	Size (in)	Q/Q-full	Actual Vpipe (fps)	Actual Pipe Time (min)	Pipe Inv. Out	Pipe Inv. In	Structure Rim Elevation	Upstream Depth of Cover (Based on Rim)	Downstream Depth of Cover (Based on Rim)	Pipe Material	Pipe Material Class
LAKEWOOD DRIVEWAY	302 - OCB	0.42	83%	17%	0.41	6.76	1.17	1.17	0.013	0.59%	66.65	18	0.15	2.50	0.44	616.00	615.61				RCP	V
	302 - OCB	0.18	48%	52%	0.64	6.76	0.77	0.77	0.013	5.64%	44.11	15	0.05	5.62	0.13	618.10	615.61				RCP	III
	301 - OCB	0.03	0%	100%	0.95	6.76	0.20	2.13	0.013	0.73%	151.60	18	0.24	3.76	0.67	615.41	614.30	618.27	1.19	0.55	RCP	III
	301 - OCB OUTLET	0.12	0%	100%	0.95	6.76	0.75	2.88	0.013	0.62%	6.41	18	0.35	3.85	0.70	614.10	614.06	616.52	0.71	-	RCP	III

Intensity: 6.76 in/hr		Lane Width: 11 ft		Proposed Gutter Width: 2 ft		S ₁ : 3.12 %									
Inlet	Drainage Area (acres)	Runoff Coeff. C	Runoff "Q" Total				Inlet Calculations				Bypass Calculations				
			Sub. Q _s (cfs)	Q _t (cfs)	S ₁ (%)	S ₂ (%)	K	Capacity Q _{cap} (cfs)	Spread T _{spread} (ft)	T _{bottom} (ft)	Depth D _{actual} (ft)	D _{base} (ft)	Flow Q _f (cfs)	To Inlet	Basin Type (Single or Double)
302 - OCB	0.03	0.95	0.20	0.20	1.10%	3.12%	18	0.33	2.9	7.5	0.09	0.23	0.00	301 - OCB	Single
301 - OCB	0.12	0.95	0.75	0.75	1.10%	3.12%	18	0.76	4.8	7.5	0.15	0.23	0.00		Single
310 - CB	0.19	0.95	1.22	1.22	1.48%	3.12%	18	0.94	5.5	7.5	0.17	0.33	0.28		Single



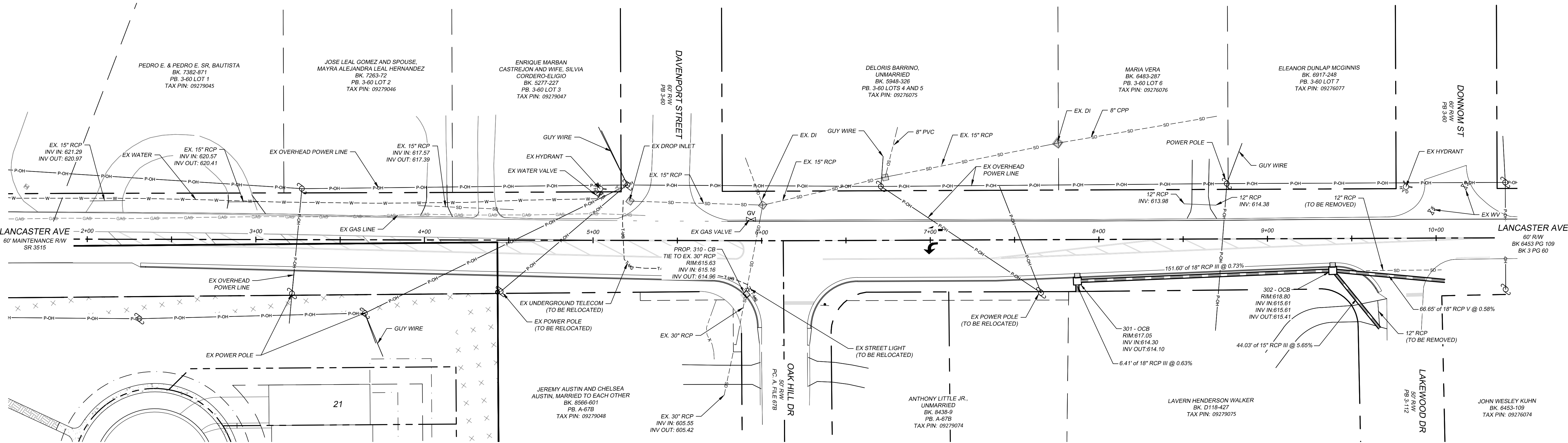
NO.	DATE	BY	ISSUE
2	01/19/2024	JAH	ARMORED SLOPE RTAP
3	05/10/2024	JAH	APPLICANT NAME CHANGE RTAP

KING OAK 25
ROAD IMPROVEMENT PLANS
MONROE, NC
CAROLINA DEVELOPMENT SERVICES, LLC
2627 BREKONRIDGE CENTRE DR
MONROE, NC 28110

DESIGNED BY		CHECKED BY	
JAH	JAH	JAH	MCK
DATE		JOB NUMBER	
AS SHOWN	02/24/2023	7846	

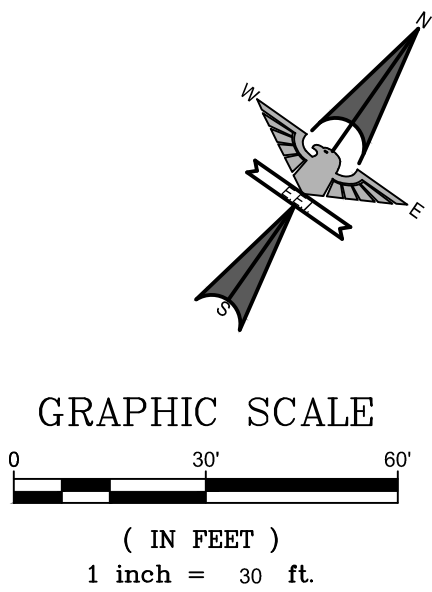
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RD-3.1



NOTES:

- ALL WORK SHOWN ON THESE PLANS SHALL BE COMPLETED BETWEEN THE HOURS OF 9PM AND 6AM.
- ALL FIXED OBJECTS THAT ARE NOT CONSIDERED BREAKAWAY MUST BE REMOVED FROM THE CLEAR RECOVERY ZONE, 20' FROM EDGE OF TRAVEL LANE OR MINIMUM OF 10' BEHIND CURB AND GUTTER.



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NO.	DATE	BY	ISSUE	ADDRESS	COMMENTS
1	07/05/2023	JAH			
2	07/19/2024	JAH			ARMORED SLOPE RTAP
3	05/10/2024	JAH			APPLICANT NAME CHANGE RTAP

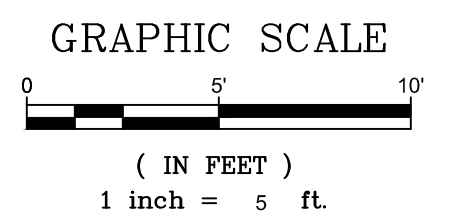
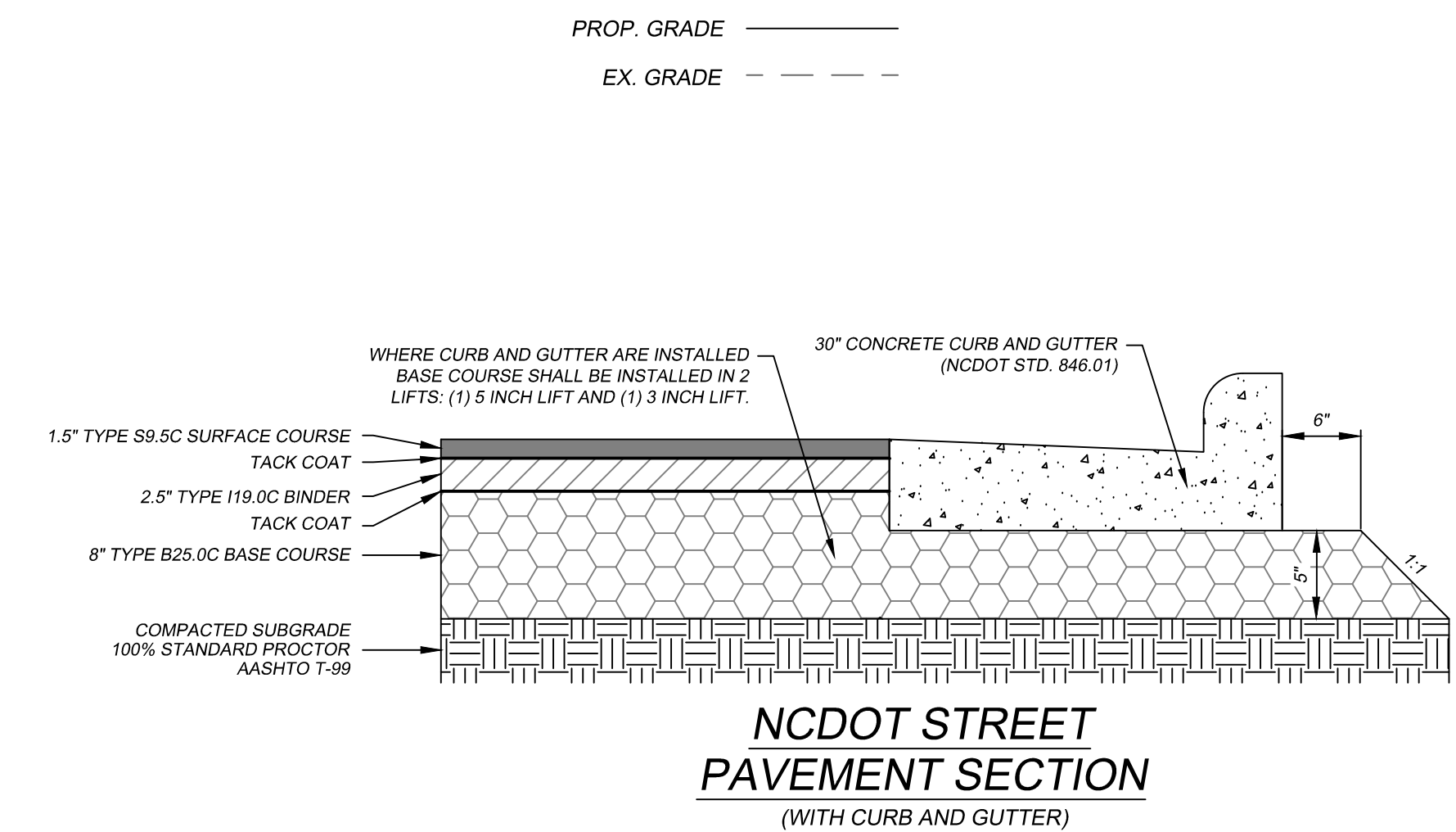
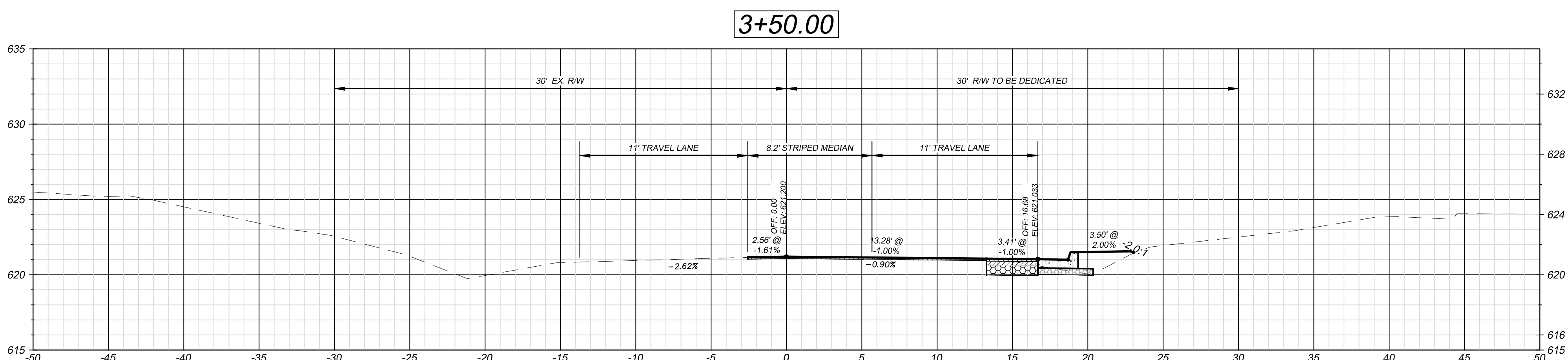
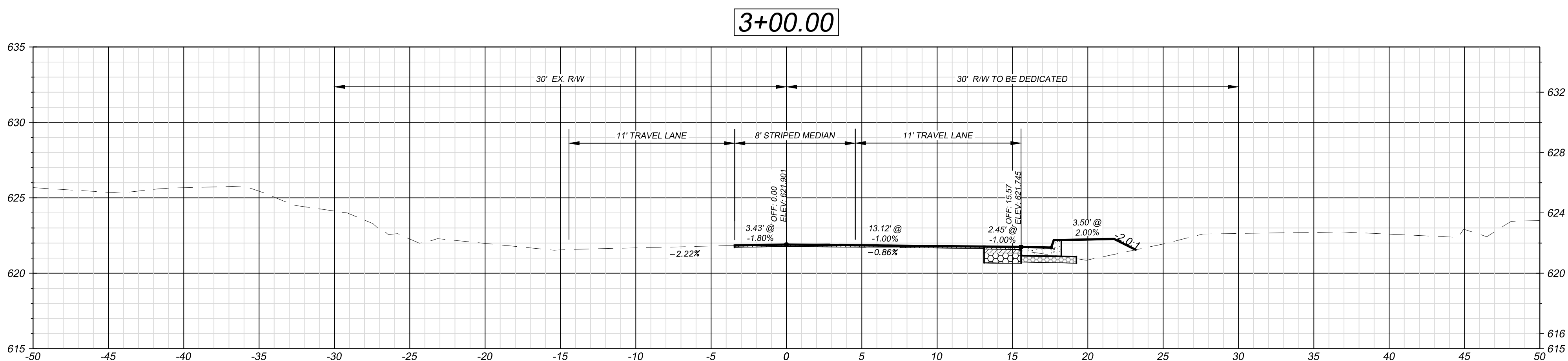
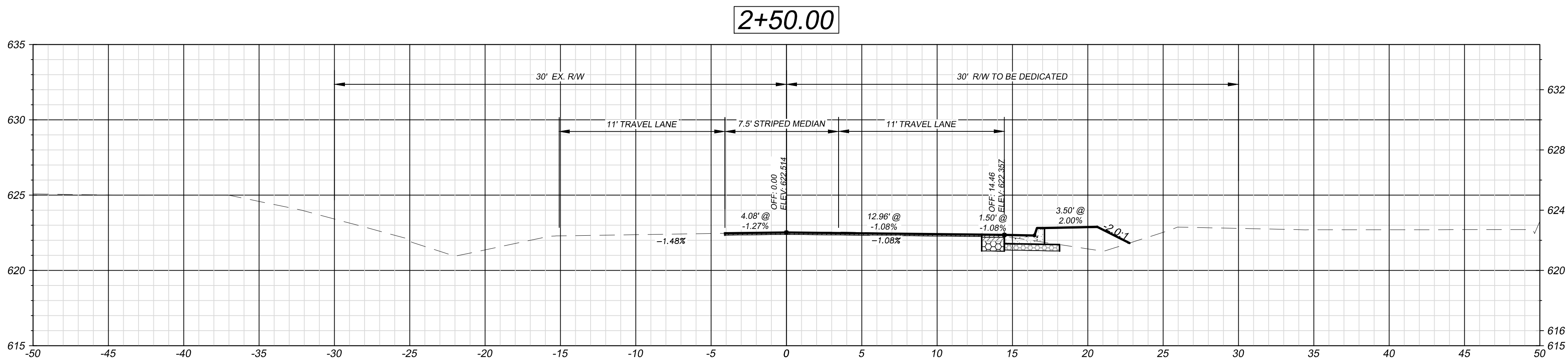
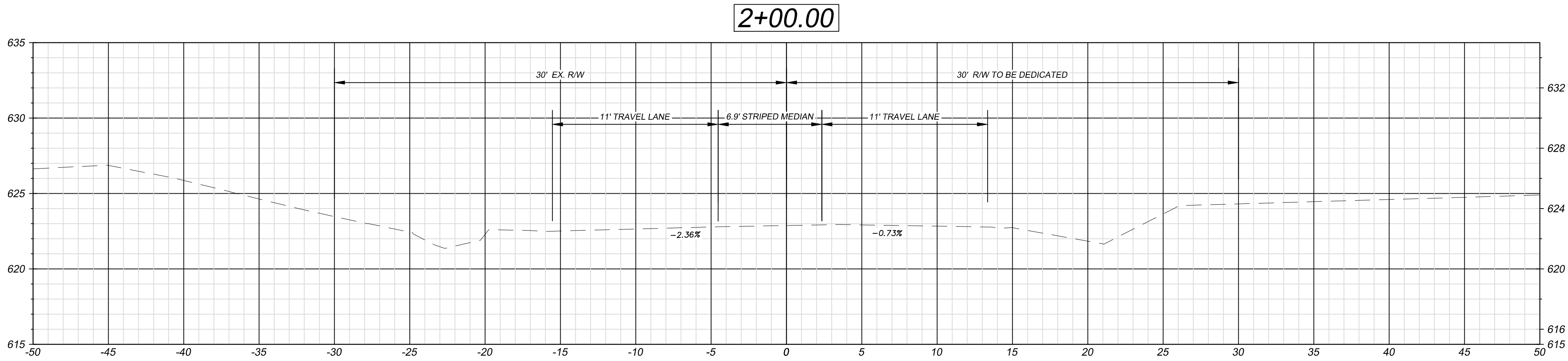
KING OAK 25
ROAD IMPROVEMENT PLANS
MONROE, NC

CAROLINA DEVELOPMENT SERVICES, LLC
2627 BREKONRIDGE CENTRE DR
MONROE, NC 28110

DESIGNED BY	DRAWN BY	CHECKED BY	Scale
JAH	JAH	MCK	7846
DATE	DATE	DATE	
AS SHOWN	02/24/2023		

Sheet

RD-4.0

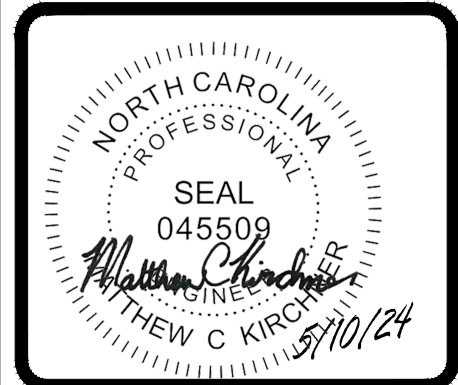
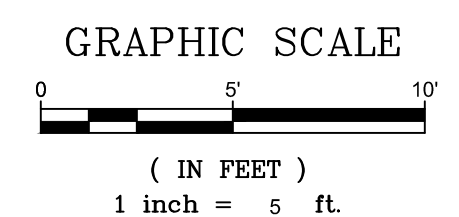
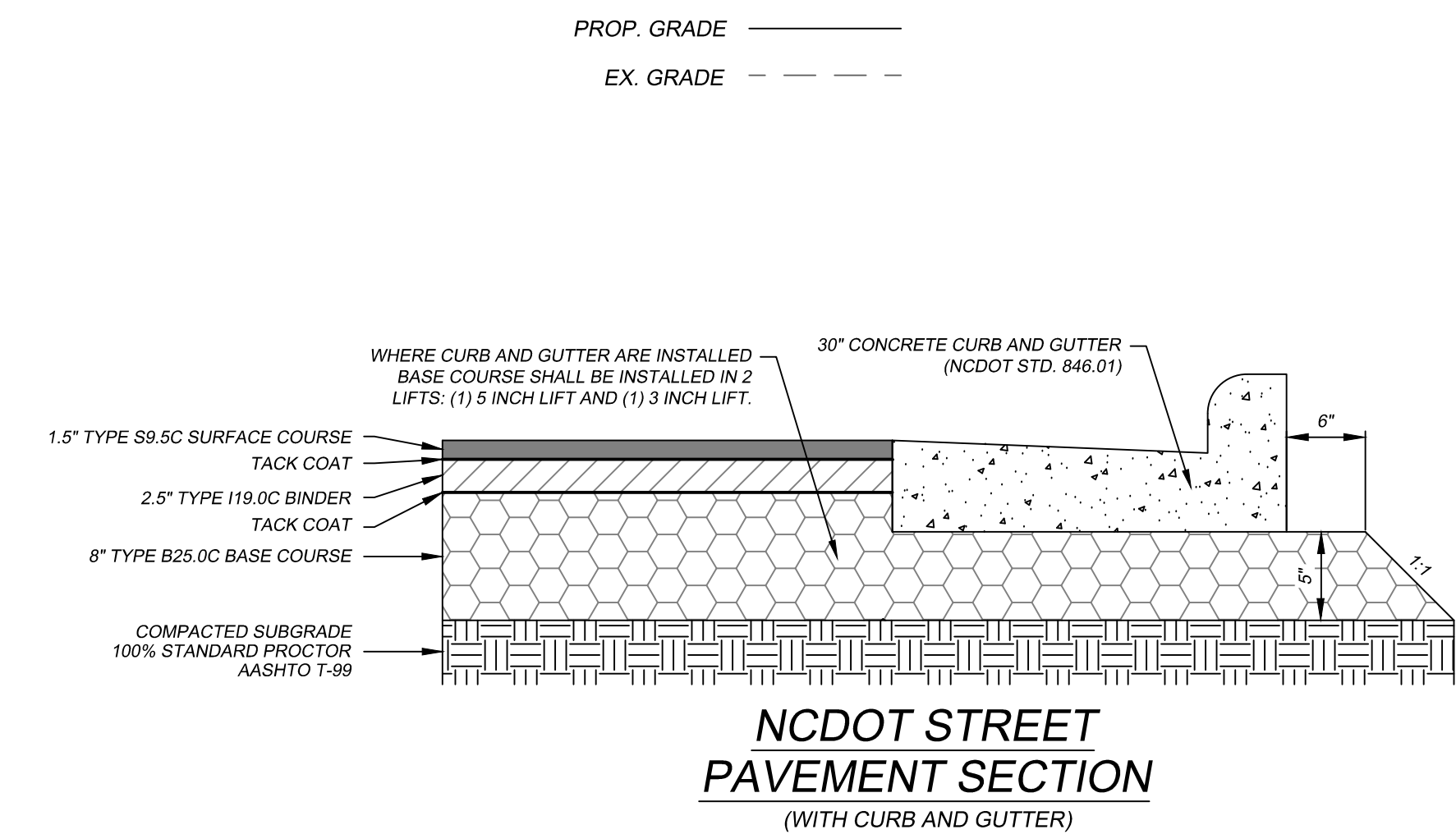
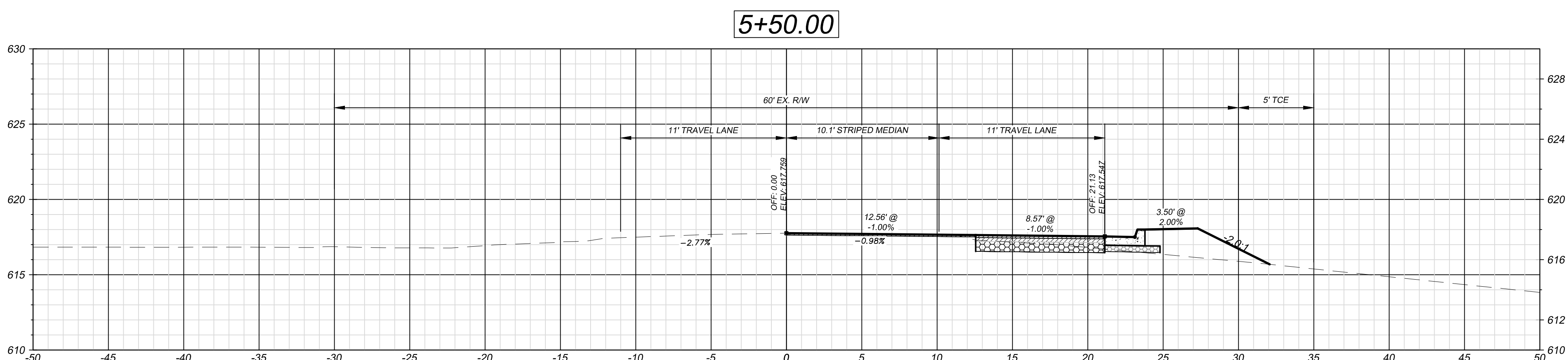
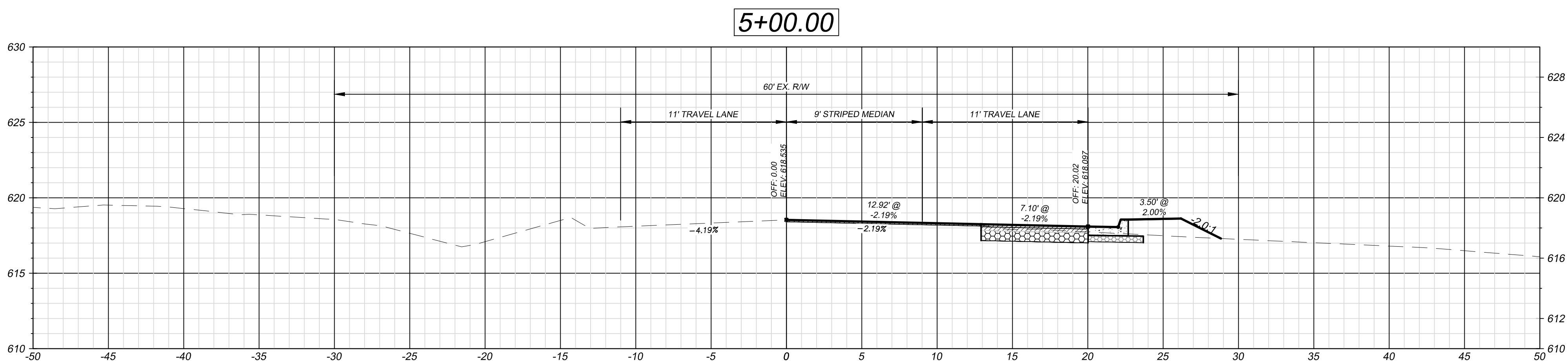
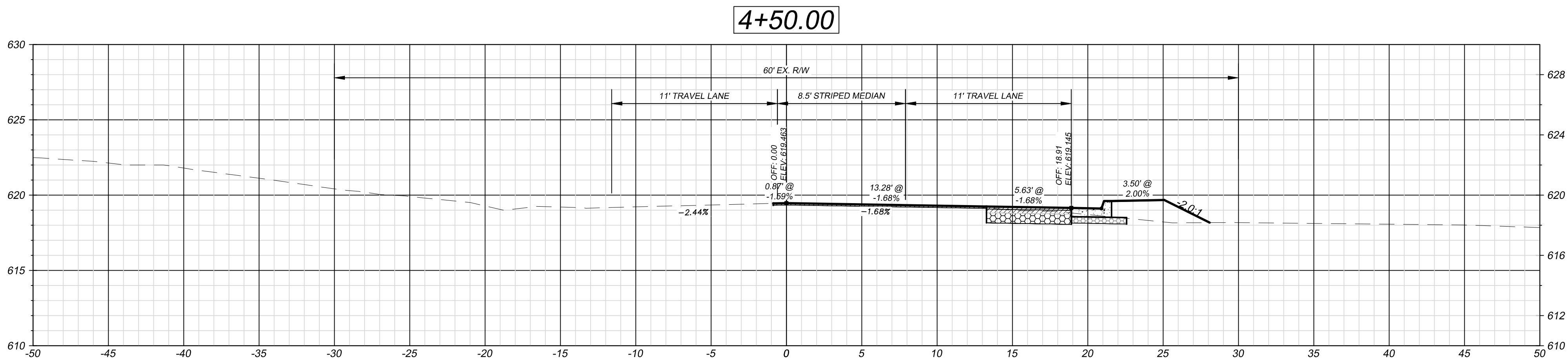
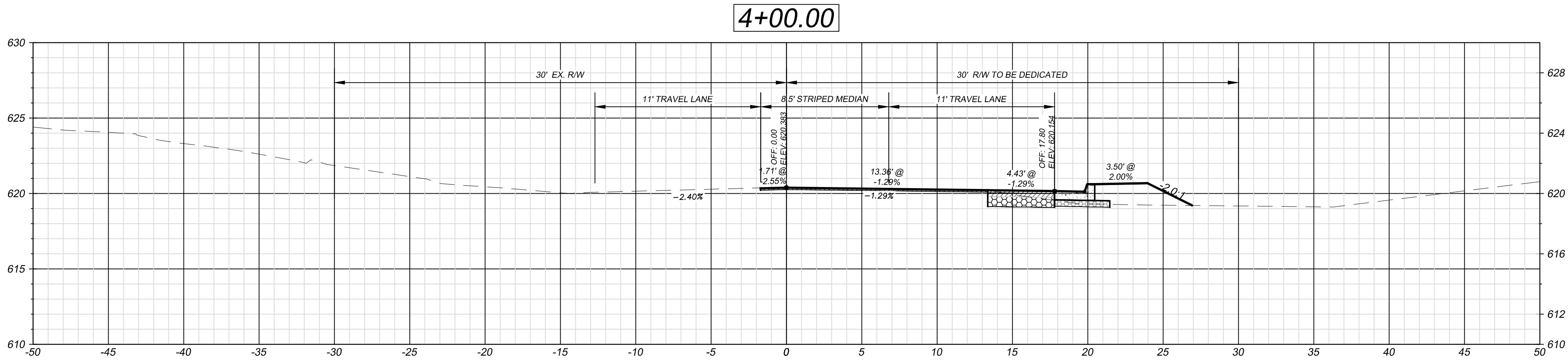


NO.	DATE	BY	ISSUE
1	07/05/2023	JAH	ADDRESS NCDOT COMMENTS
3	05/10/2024	JAH	APPLICANT NAME CHANGE RTAP

KING OAK 25
ROAD IMPROVEMENT PLANS
MONROE, NC
CAROLINA DEVELOPMENT SERVICES, LLC
2627 BREKONRIDGE CENTRE DR
MONROE, NC 28110

DESIGNED BY	DRAWN BY	CHECKED BY
JAH	JAH	MCK
DATE	DATE	JOB NUMBER
AS SHOWN	02/24/2023	7846

CROSS SECTIONS
STA. 2+00.00 - 3+50.00
RD-5.0

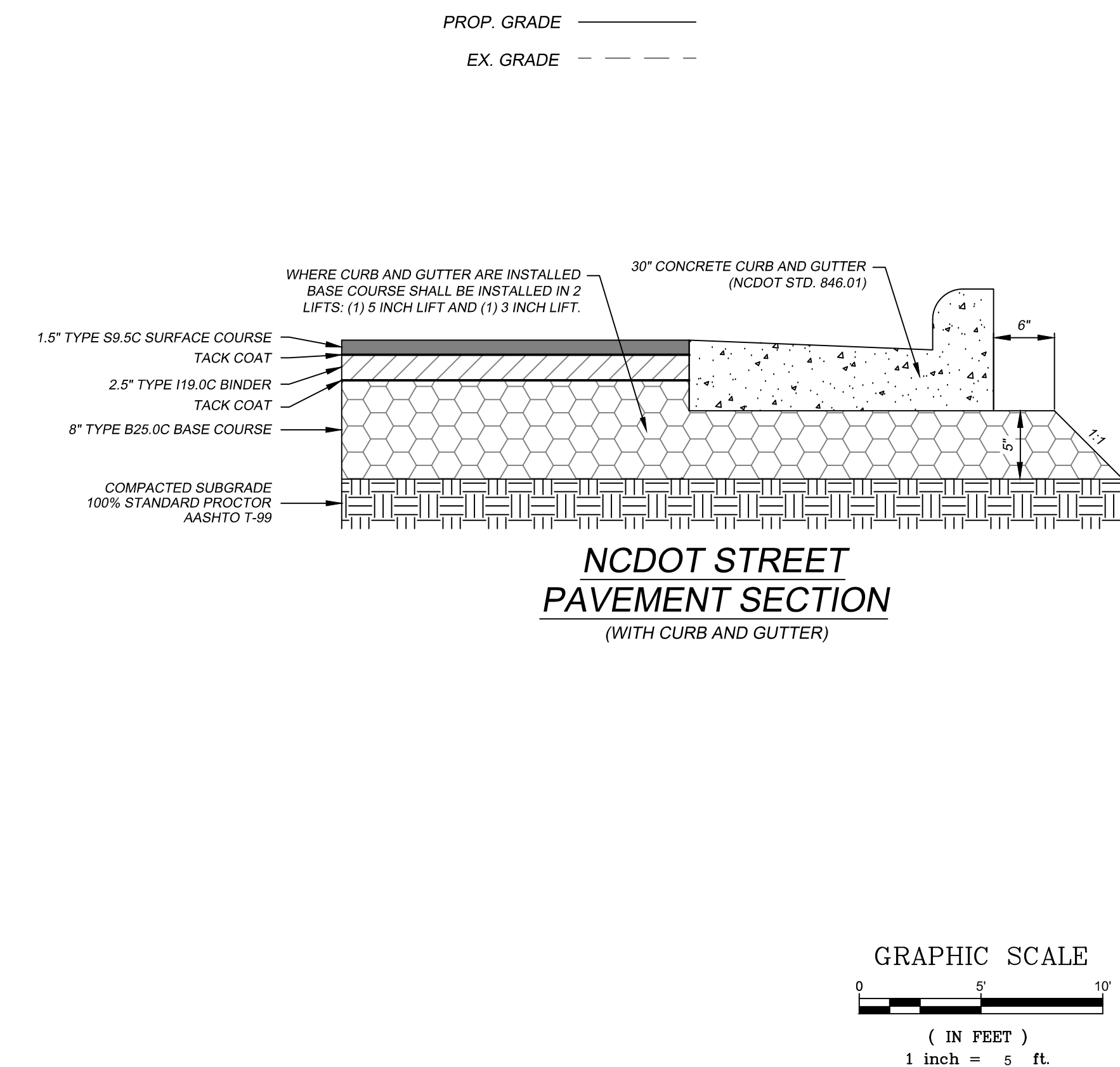
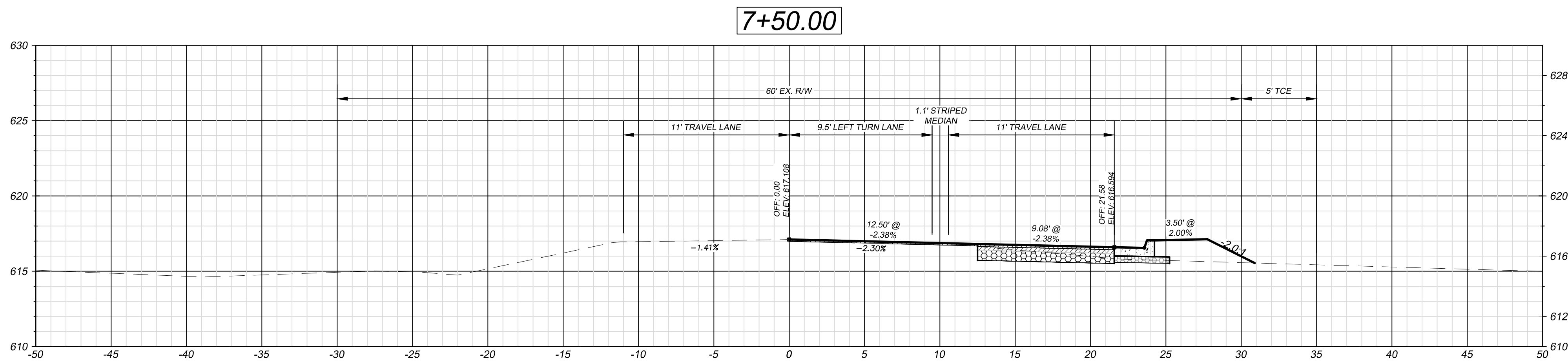
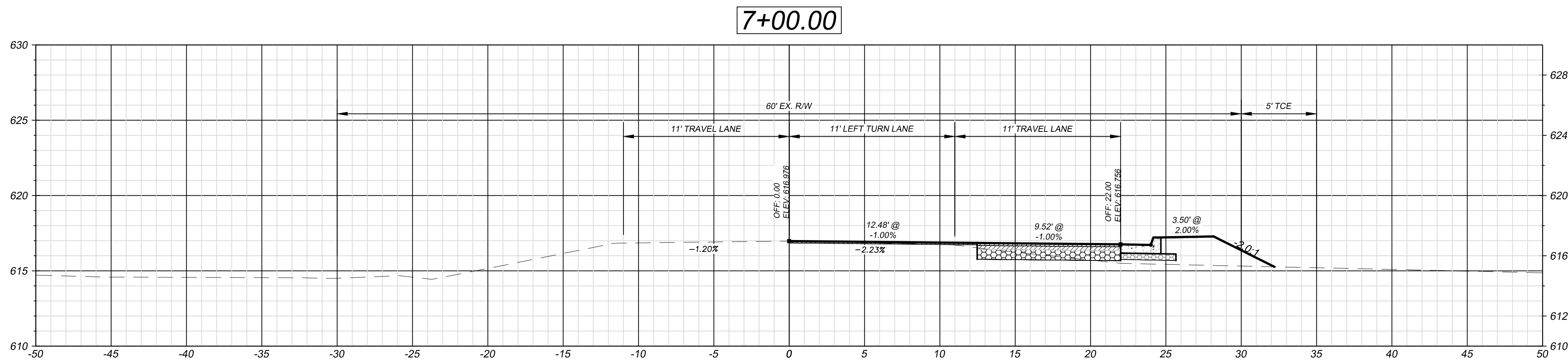
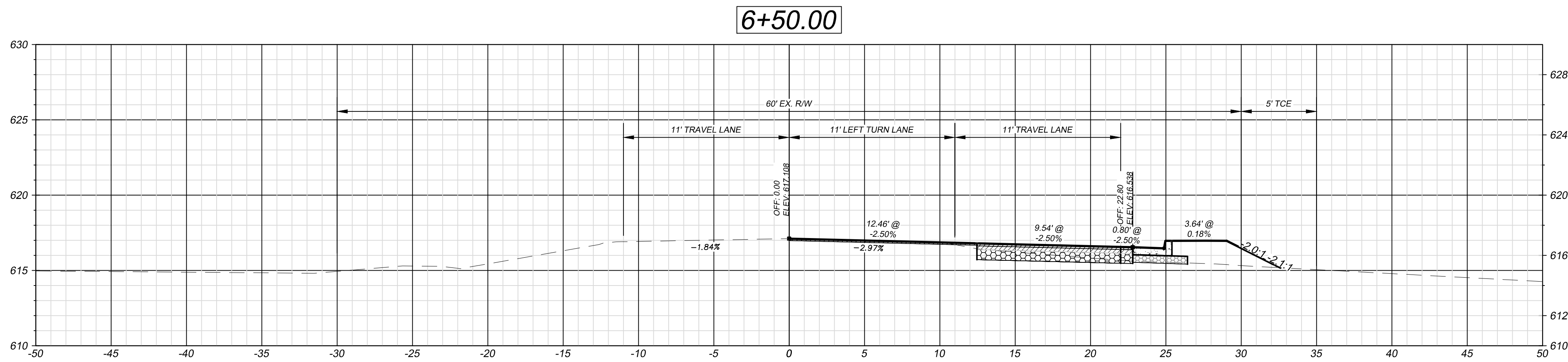
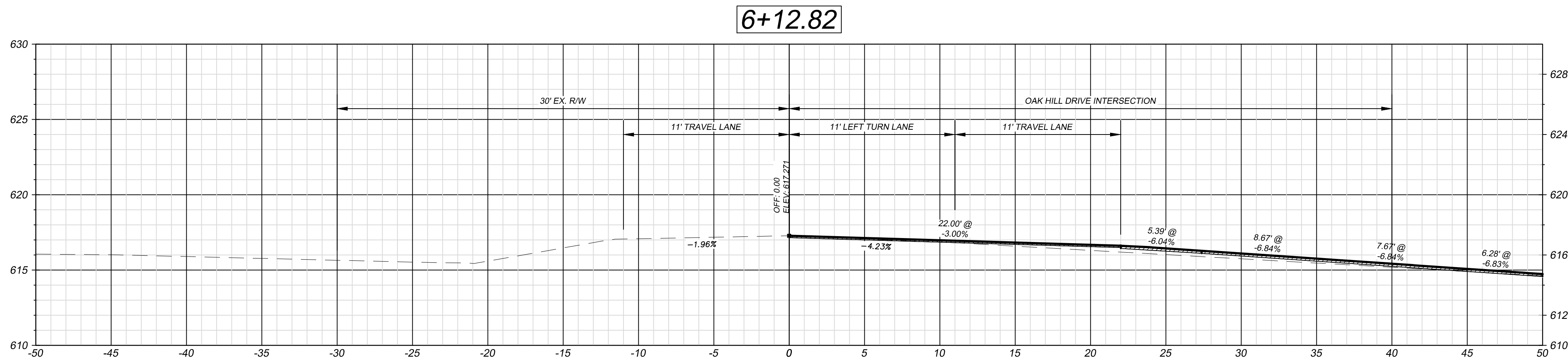


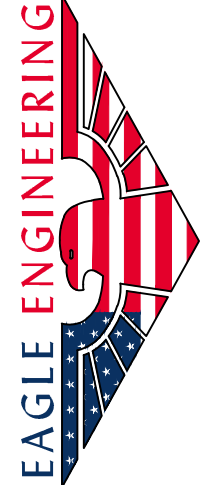
NO.	DATE	BY	ISSUE	ADDRESS	COMMENTS
1	07/05/2023	JAH		JAH	APPLICANT NAME CHANGE RTAP
3	05/10/2024	JAH			

KING OAK 25
ROAD IMPROVEMENT PLANS
MONROE, NC
CAROLINA DEVELOPMENT SERVICES, LLC
2627 BREKONRIDGE CENTRE DR
MONROE, NC 28110

DESIGNED BY	DRAWN BY	CHECKED BY	DATE	JOB NUMBER
JAH	JAH	MCK	02/24/2023	7846
AS SHOWN				

CROSS SECTIONS
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RD-5.1





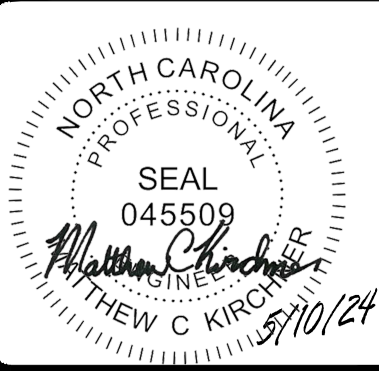
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INDIAN TRAIL, NC 28079

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SEAL

045509

Matthew C. Kiro

THEW C. KIRO

5/10/24

NO.	DATE	BY	ISSUE	APPLICANT NAME
3	05/10/2024	JAH		RTAP

KING OAK 25

ROAD IMPROVEMENT PLANS

MONROE, NC

CAROLINA DEVELOPMENT SERVICES, LLC

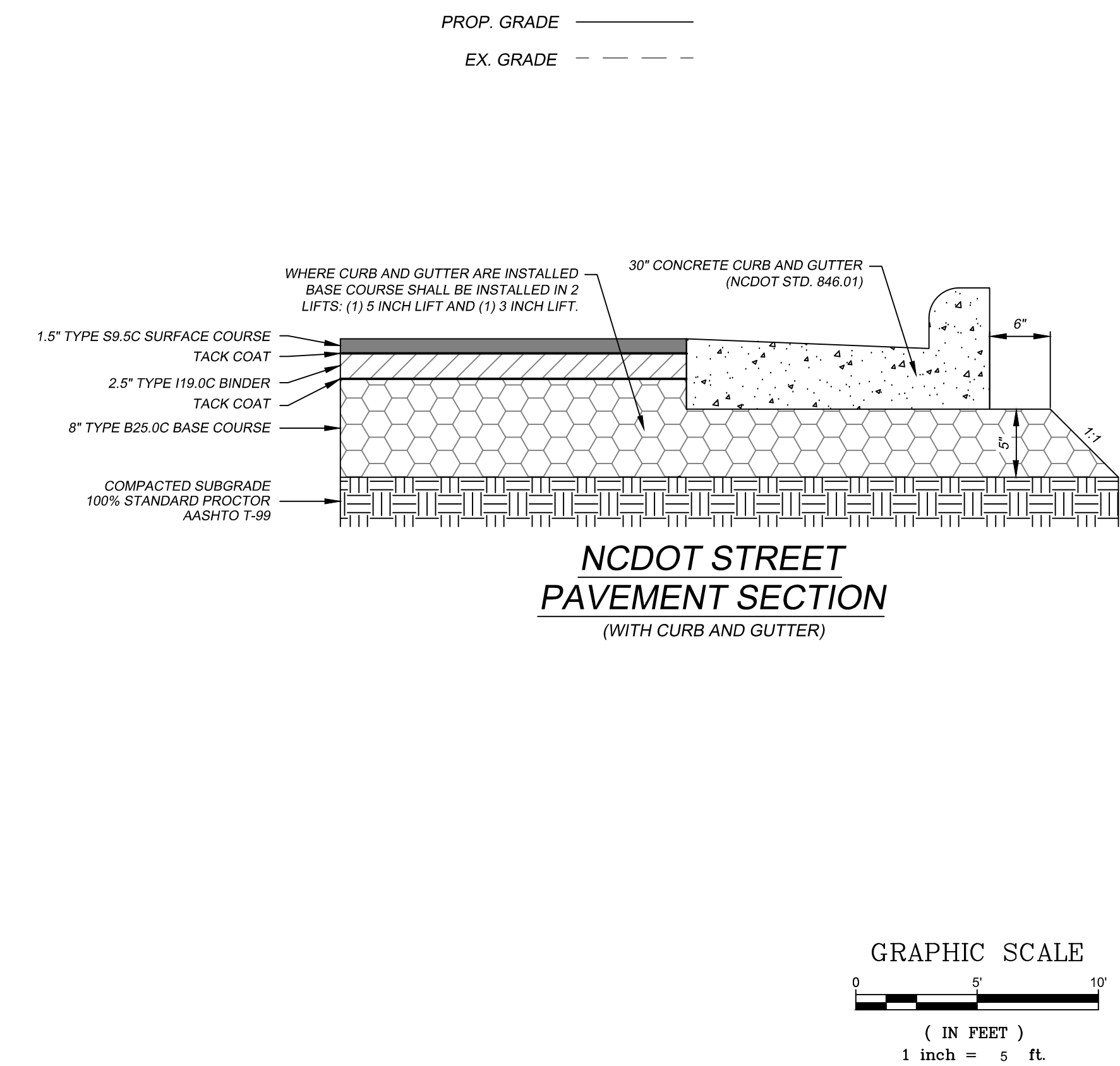
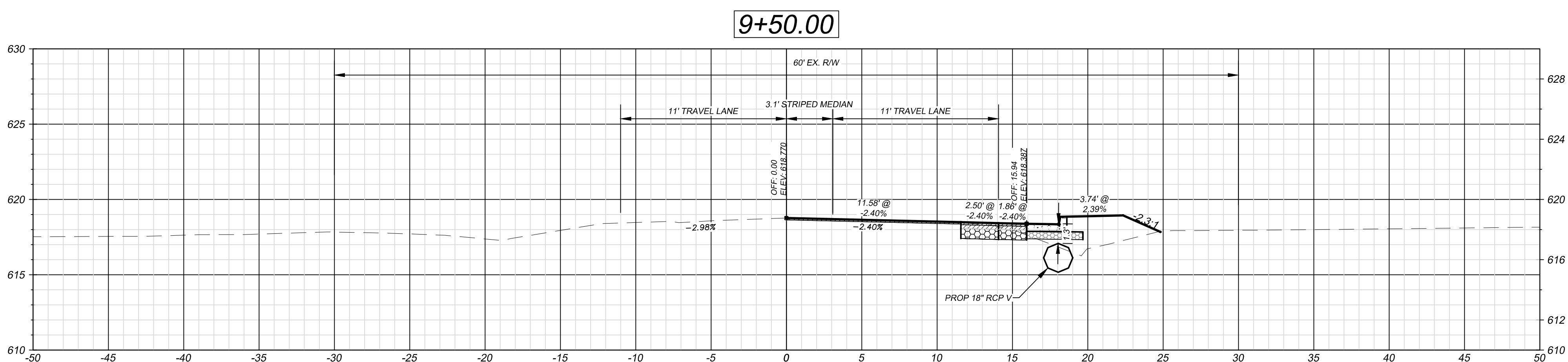
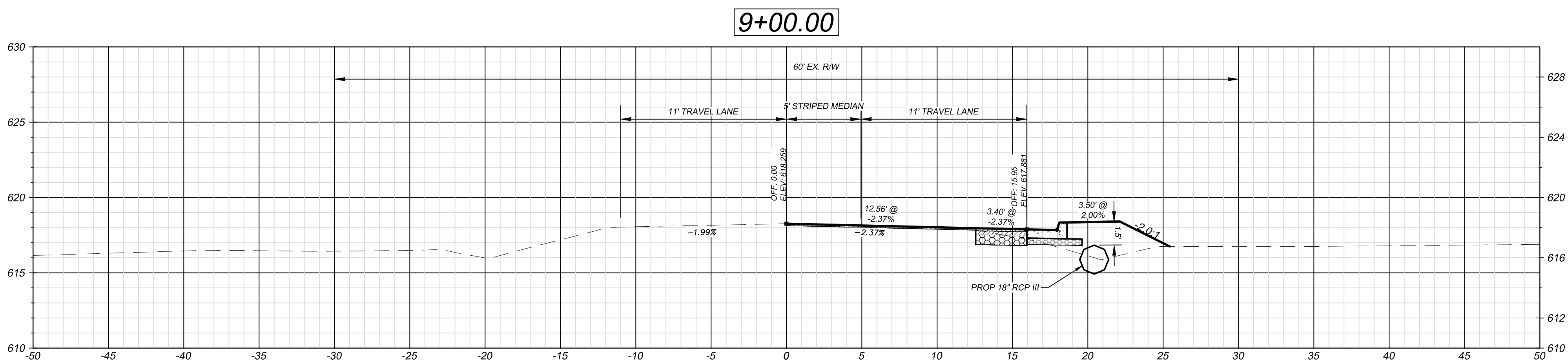
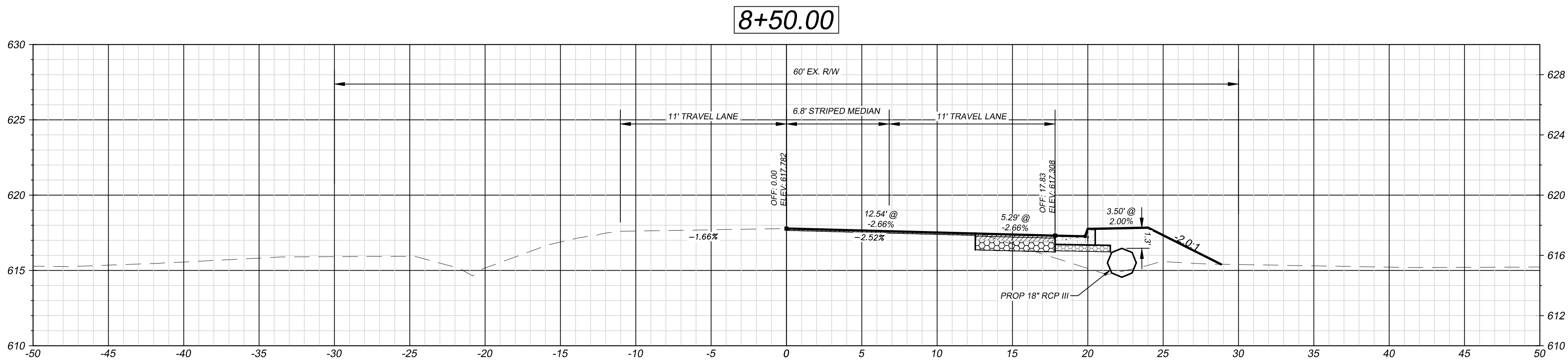
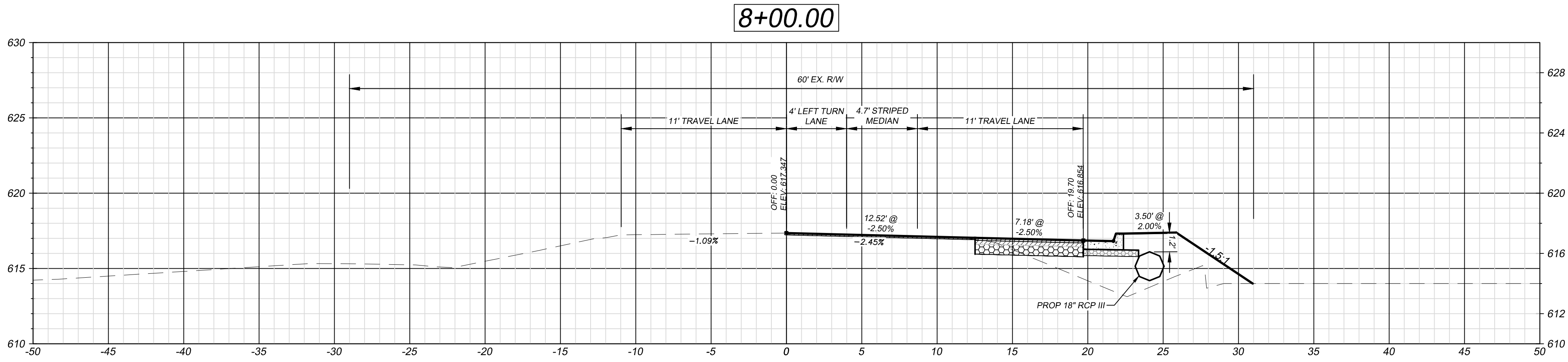
2627 BREKONRIDGE CENTRE DR

MONROE, NC 28110

DESIGNED BY	JAH	CHECKED BY	MCK
AS SHOWN		DATE	02/24/2023
Scale		JOB NUMBER	7846

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RD-5.2



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NORTH CAROLINA
PROFESSIONAL
SEAL
045509
Matthew C. Kiro
THEW C. KIRO
5/10/24

NO.	DATE	BY	ISSUE
2	01/19/2024	JAH	ARMORED SLOPE RTAP
3	05/10/2024	JAH	APPLICANT NAME CHANGE RTAP

KING OAK 25
ROAD IMPROVEMENT PLANS
MONROE, NC

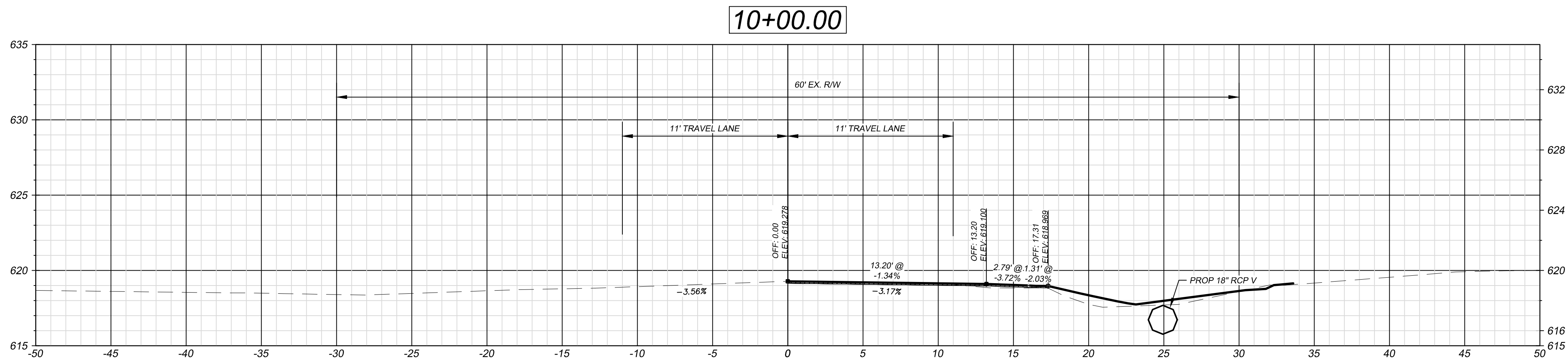
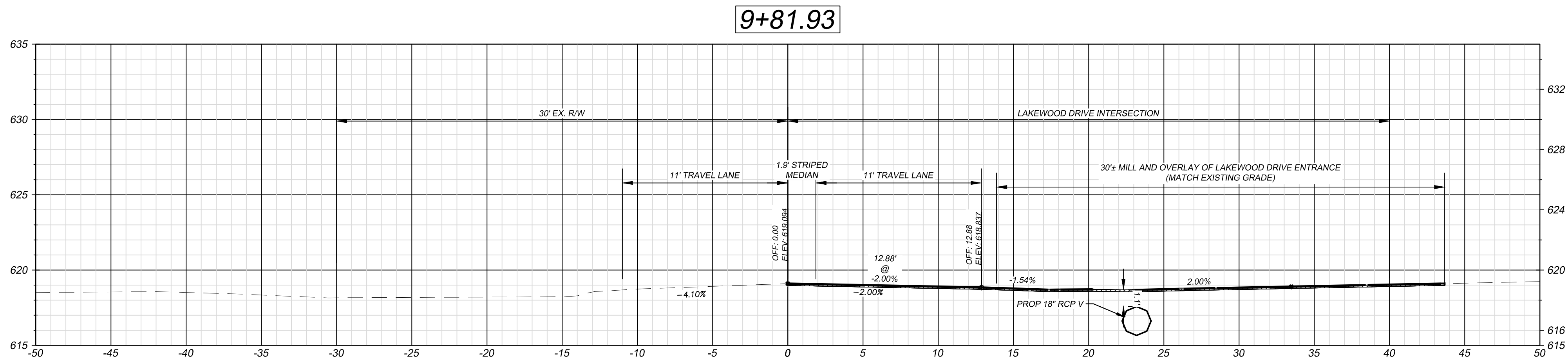
CAROLINA DEVELOPMENT SERVICES, LLC
2627 BREKONRIDGE CENTRE DR
MONROE, NC 28110

CROSS SECTIONS
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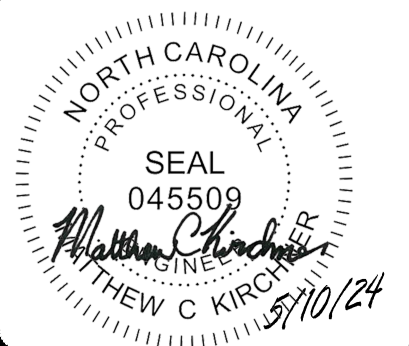
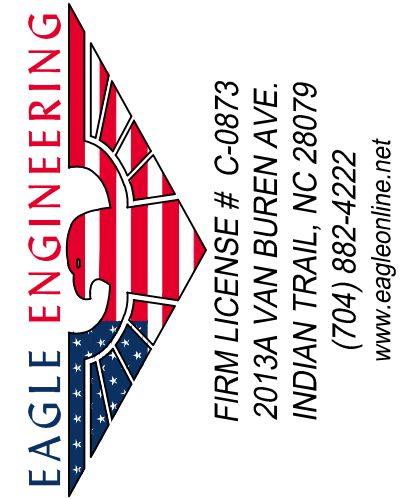
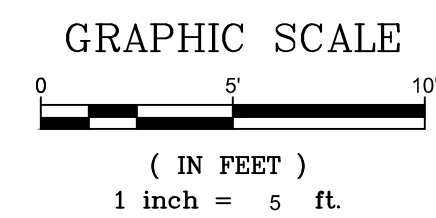
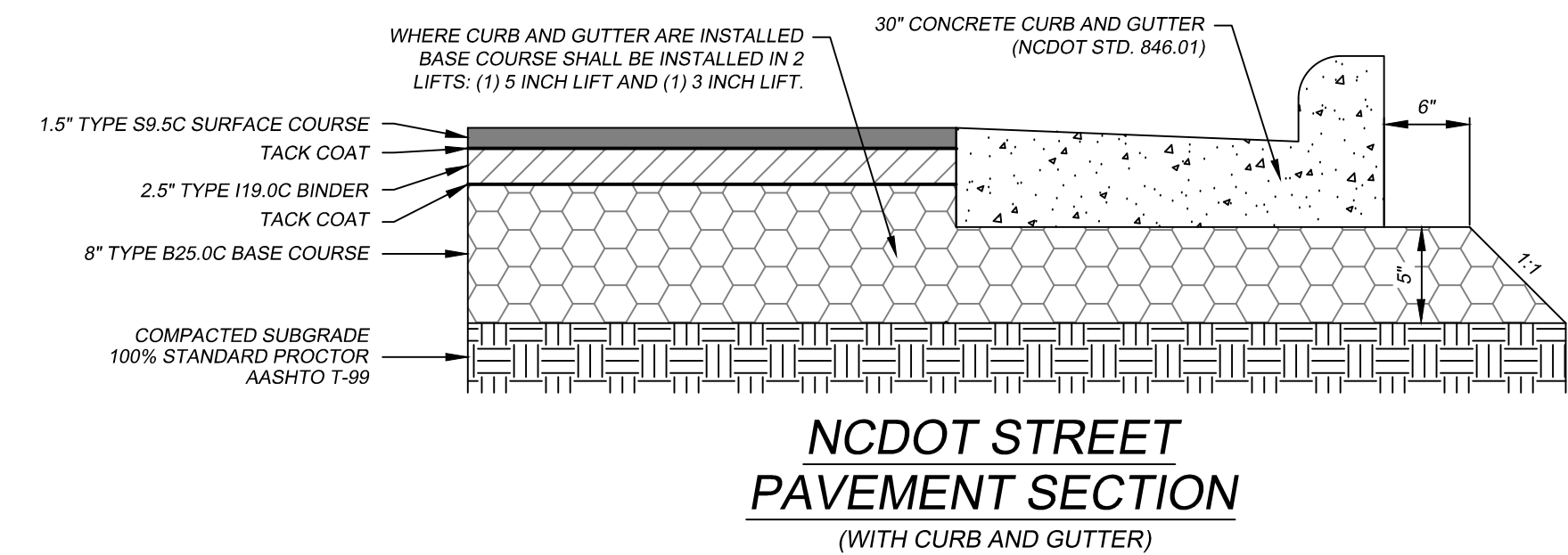
DESIGNED BY	DRAWN BY	CHECKED BY
JAH	JAH	MCK
AS SHOWN	DATE	JOB NUMBER
	02/24/2023	7846

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RD-5.3



PROP. GRADE —————
EX. GRADE - - - - -

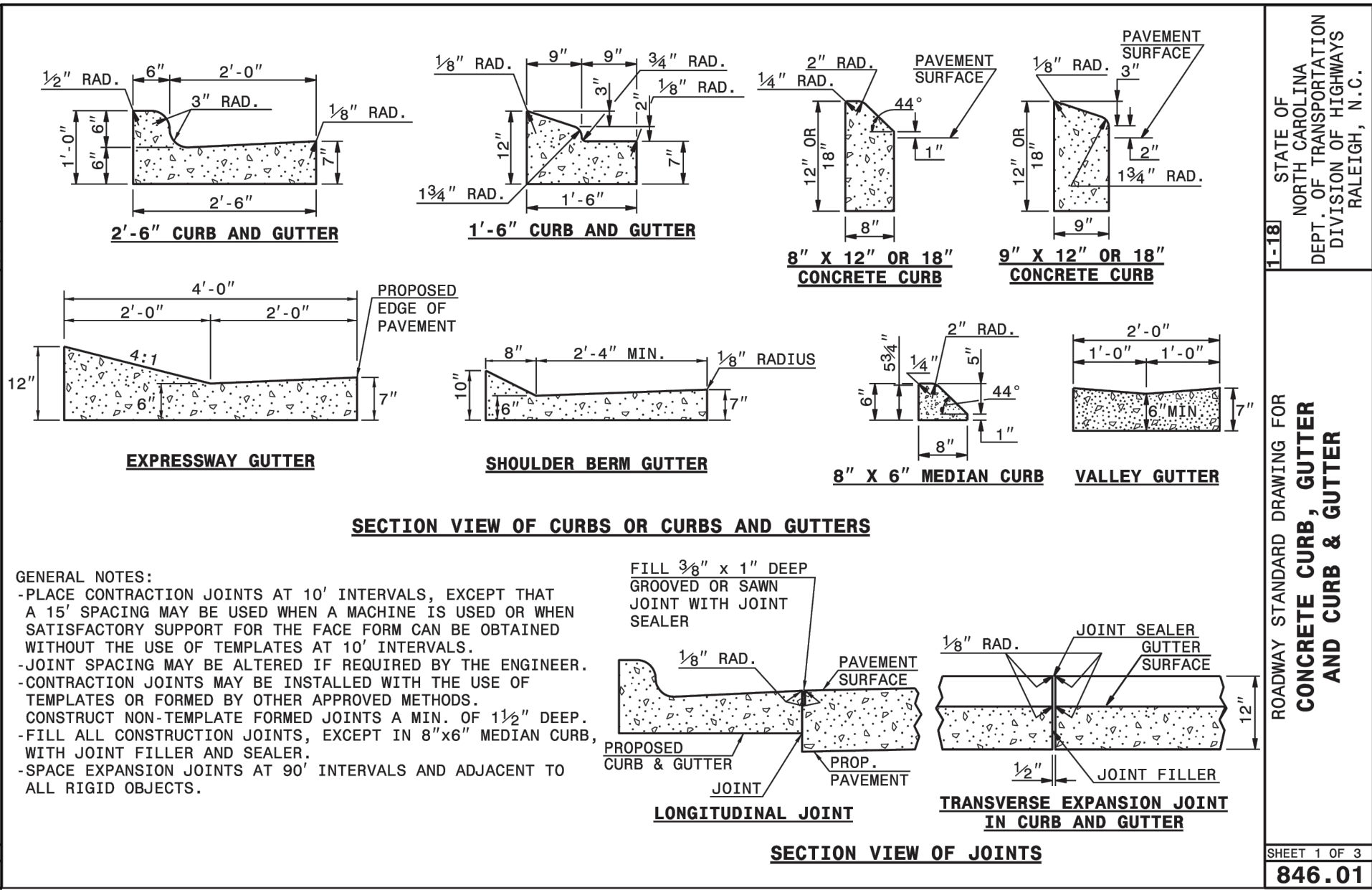


NO.	DATE	BY	ISSUE
3	05/10/2024	JAH	APPLICANT NAME CHANGE RTAP

KING OAK 25 ROAD IMPROVEMENT PLANS MONROE, NC	CAROLINA DEVELOPMENT SERVICES, LLC 2627 BREKONRIDGE CENTRE DR MONROE, NC 28110
---	--

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DESIGNED BY JAH	DRAWN BY JAH	DATE 02/24/2023
AS SHOWN	Scale	JOB NUMBER 7846

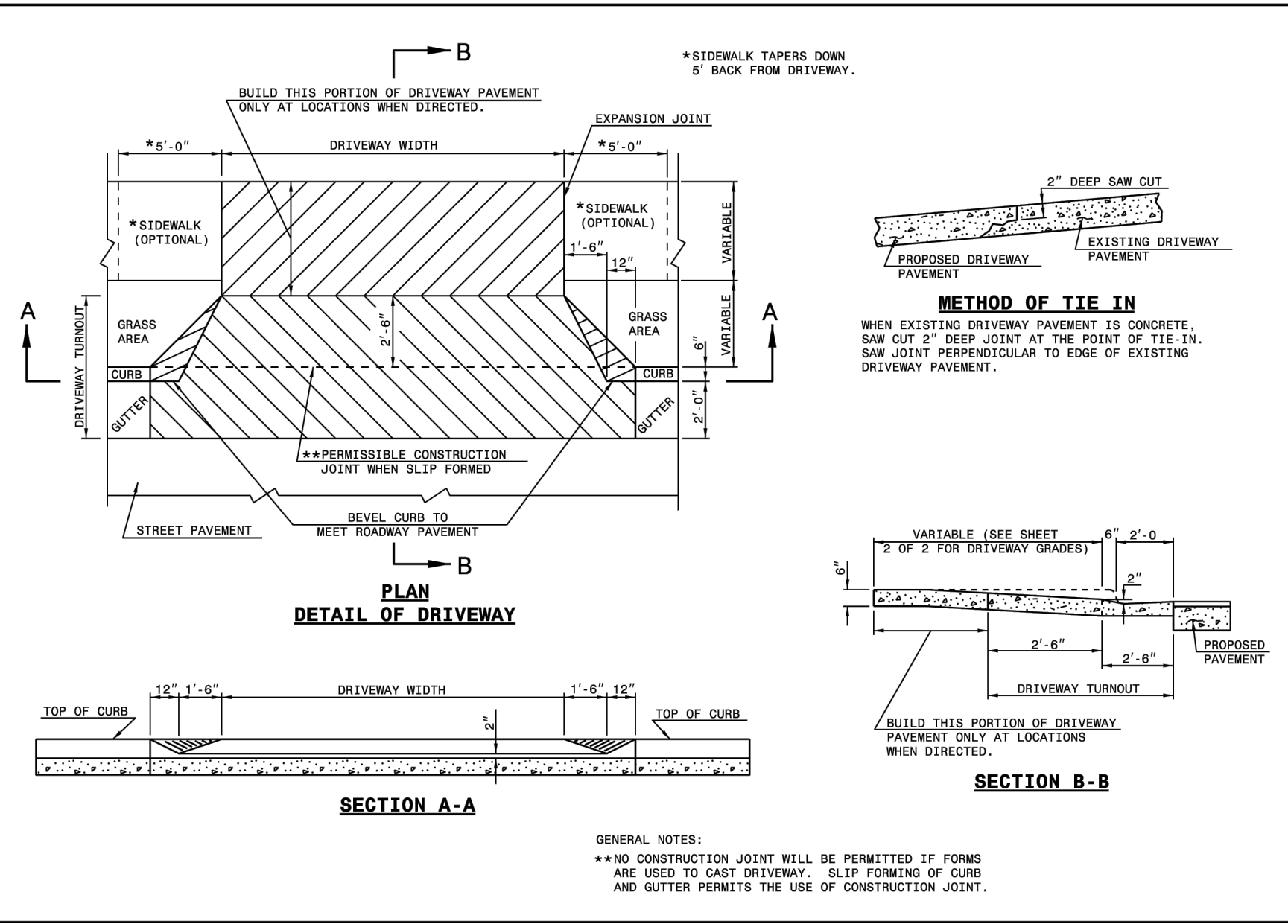
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STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

ROADWAY STANDARD DRAWING FOR
CONCRETE CURB, GUTTER
AND CURB & GUTTER

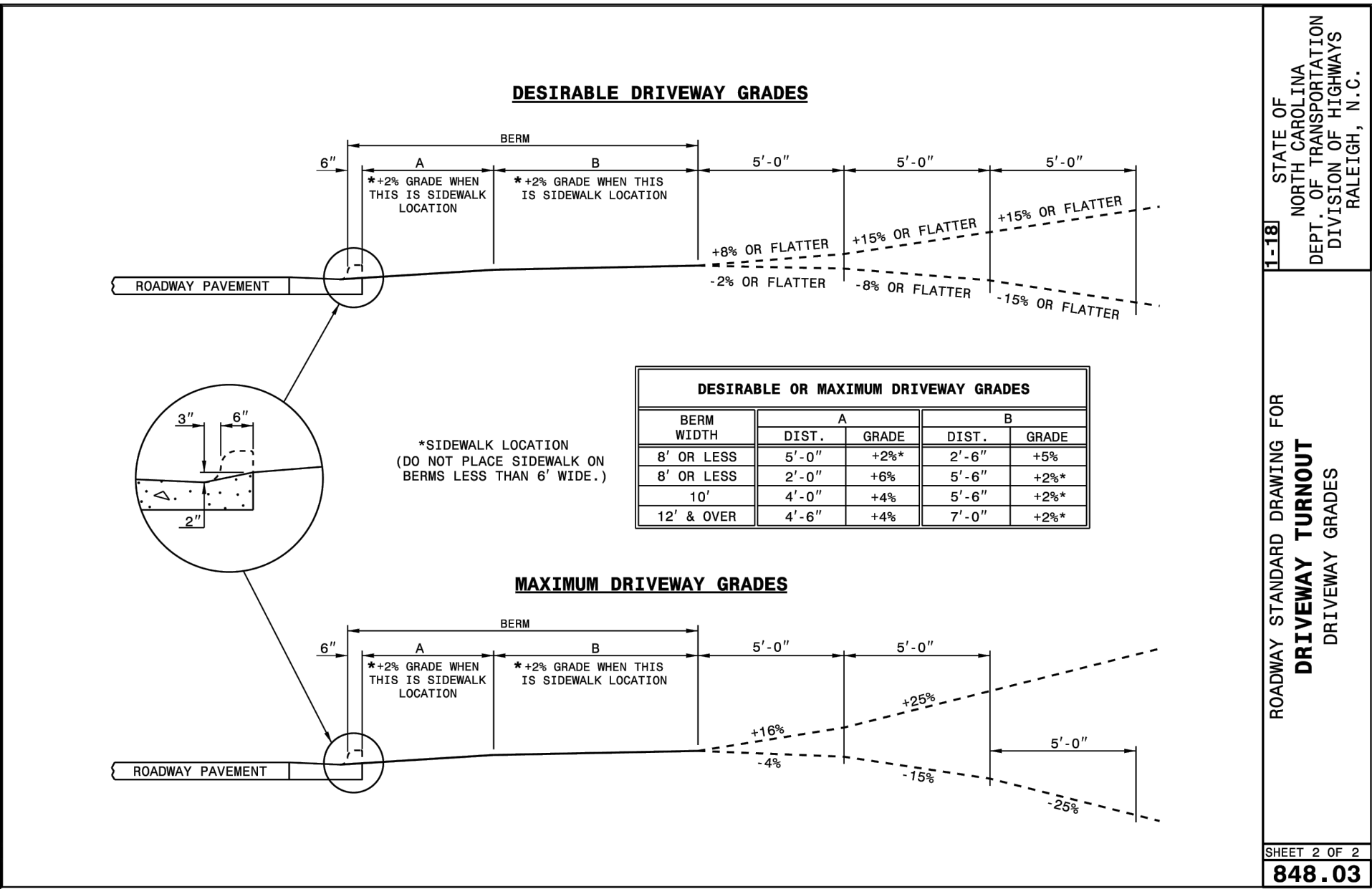
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846.01



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

ROADWAY STANDARD DRAWING FOR
DRIVEWAY TURNOUT
DROP CURB TYPE

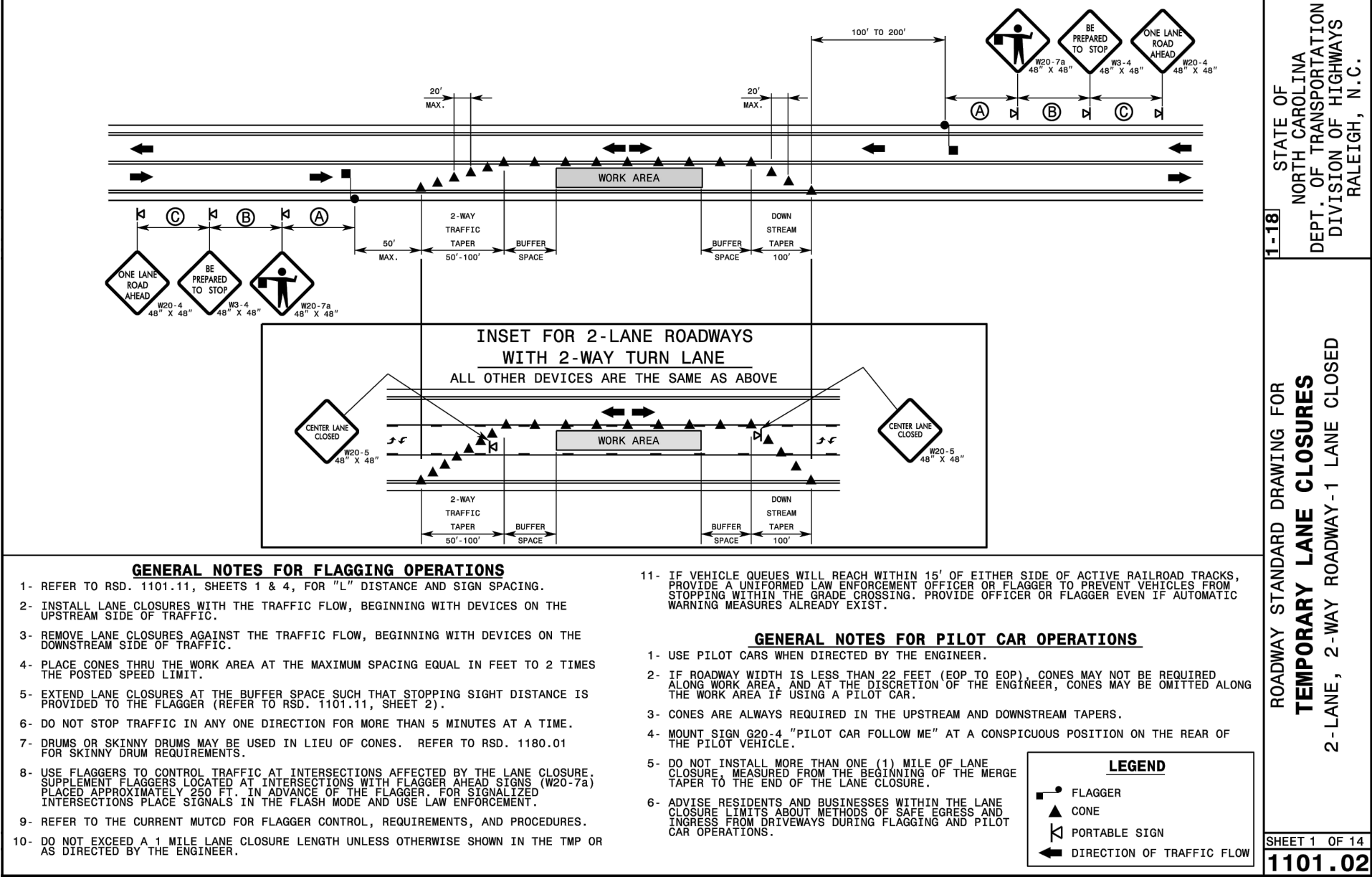
SHEET 1 OF 2
848.03



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

ROADWAY STANDARD DRAWING FOR
DRIVEWAY TURNOUT
DRIVEWAY GRADES

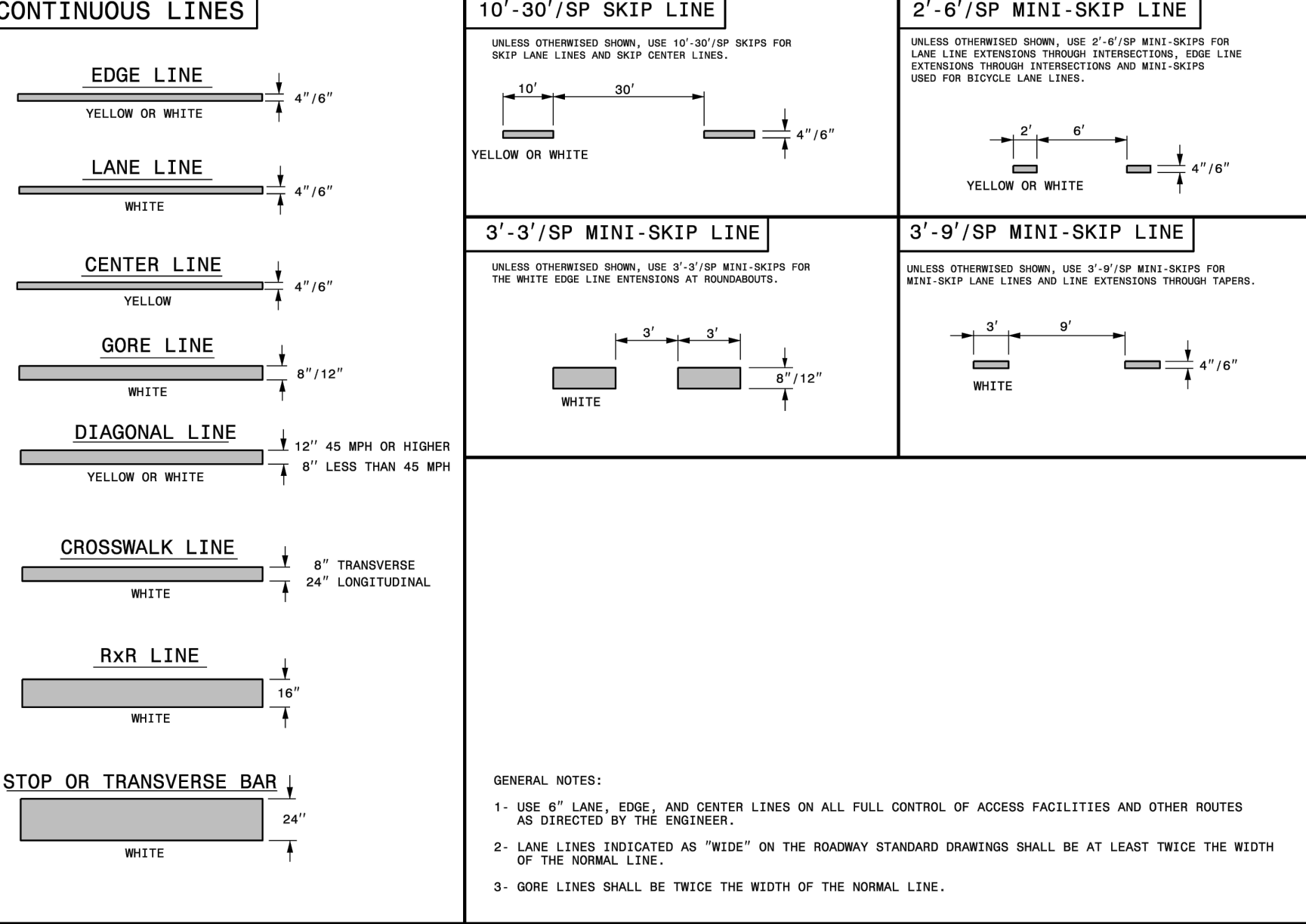
SHEET 2 OF 2
848.03



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

ROADWAY STANDARD DRAWING FOR
TEMPORARY LANE CLOSURES
2-LANE, 2-WAY ROADWAY, 1 LANE CLOSED

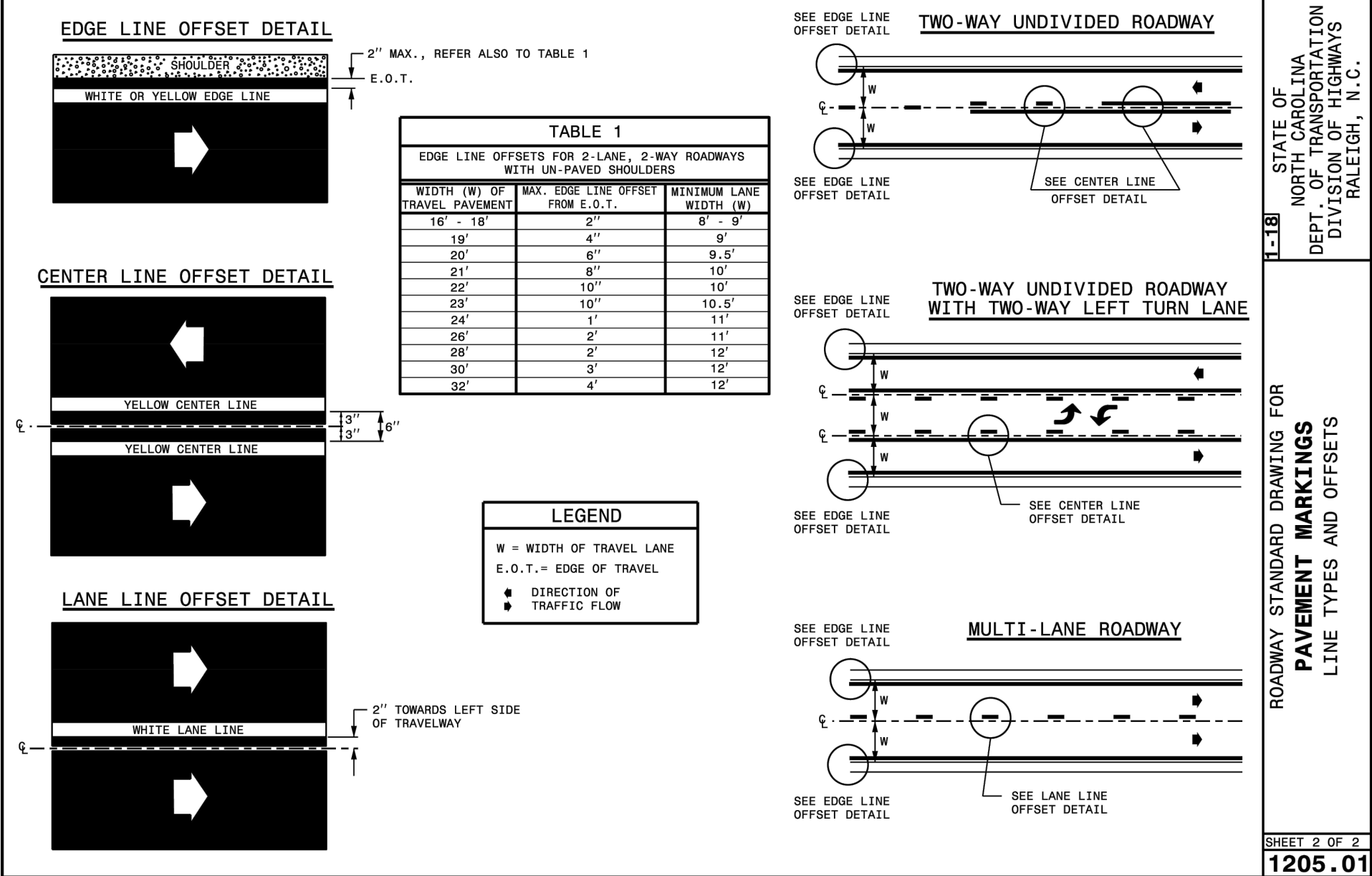
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STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

ROADWAY STANDARD DRAWING FOR
PAVEMENT MARKINGS
LINE TYPES AND OFFSETS

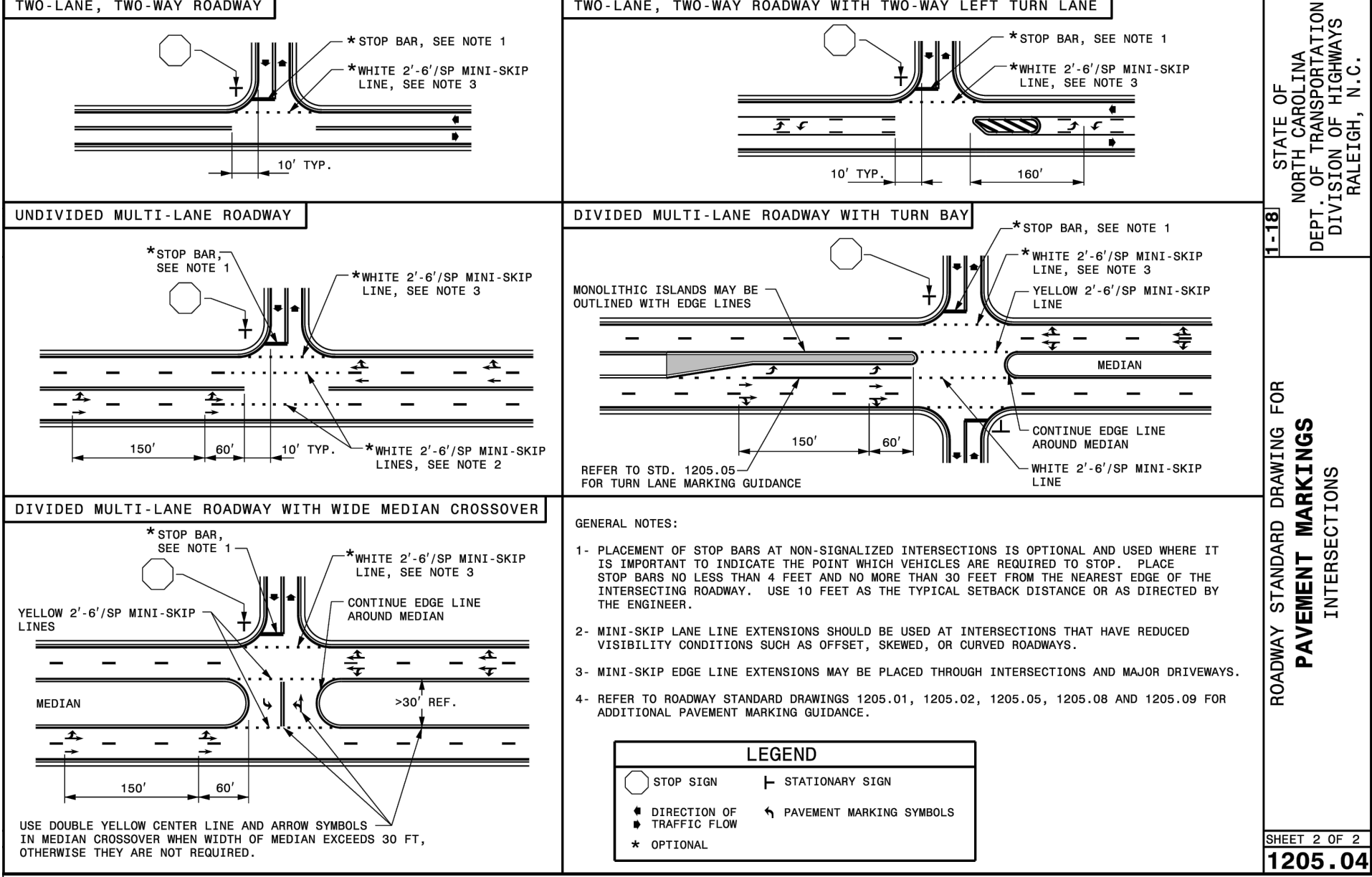
SHEET 1 OF 2
1205.01



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

ROADWAY STANDARD DRAWING FOR
PAVEMENT MARKINGS
LINE TYPES AND OFFSETS

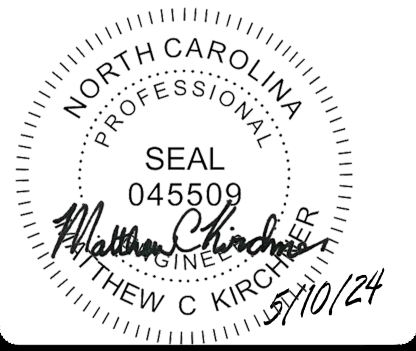
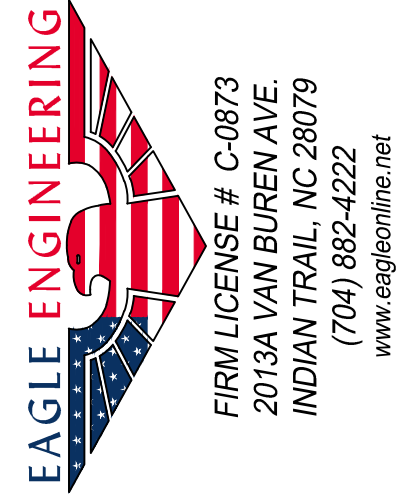
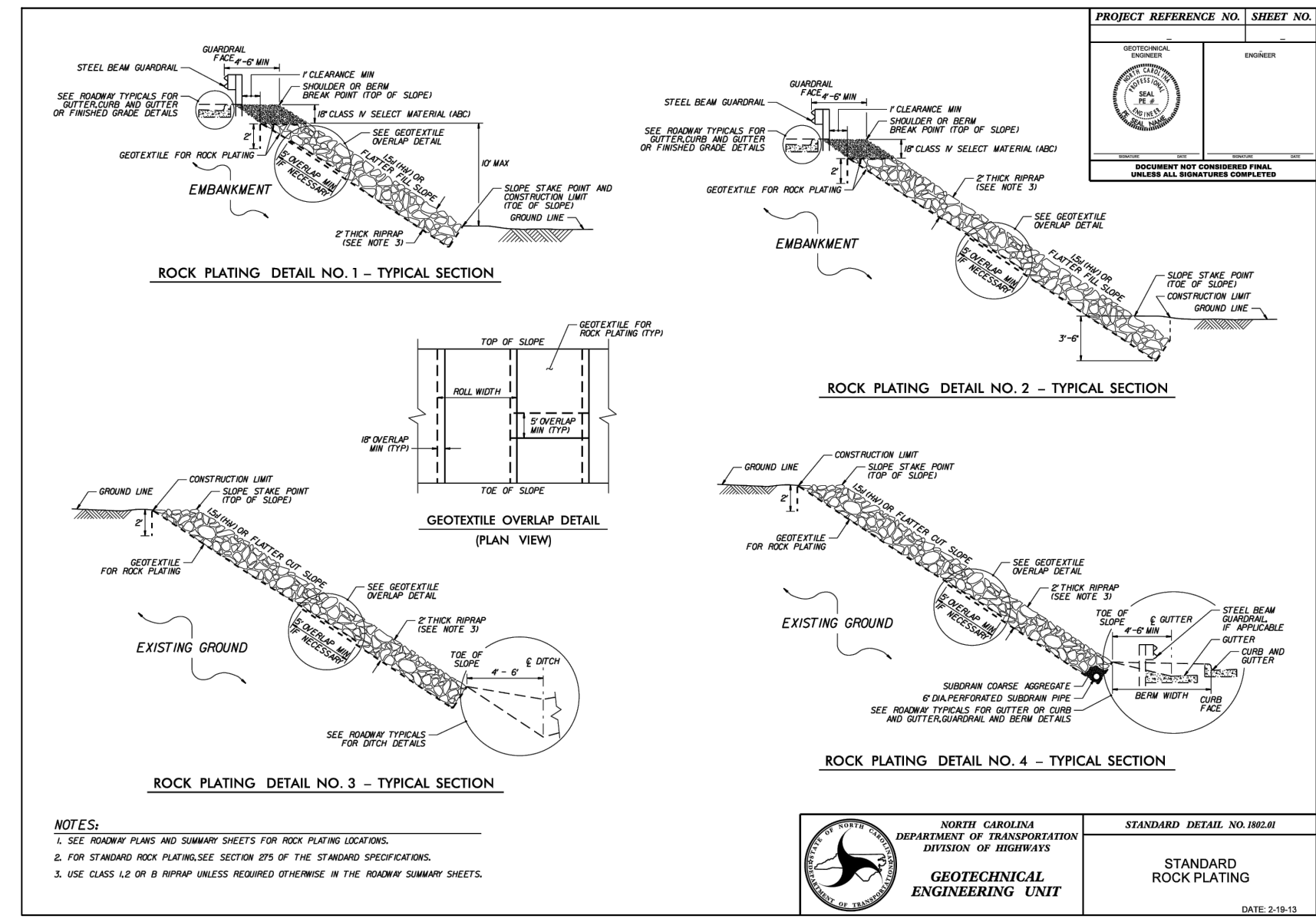
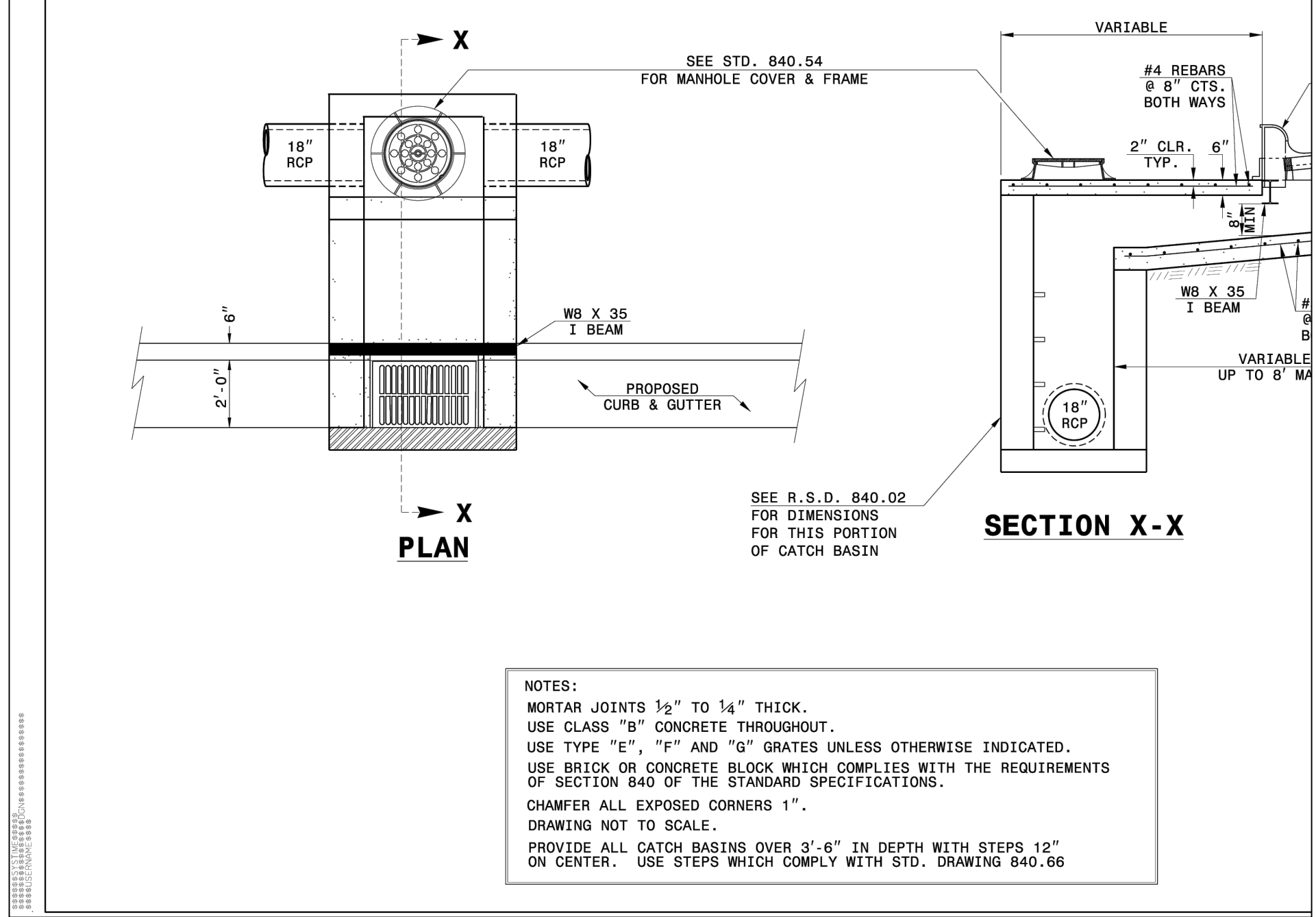
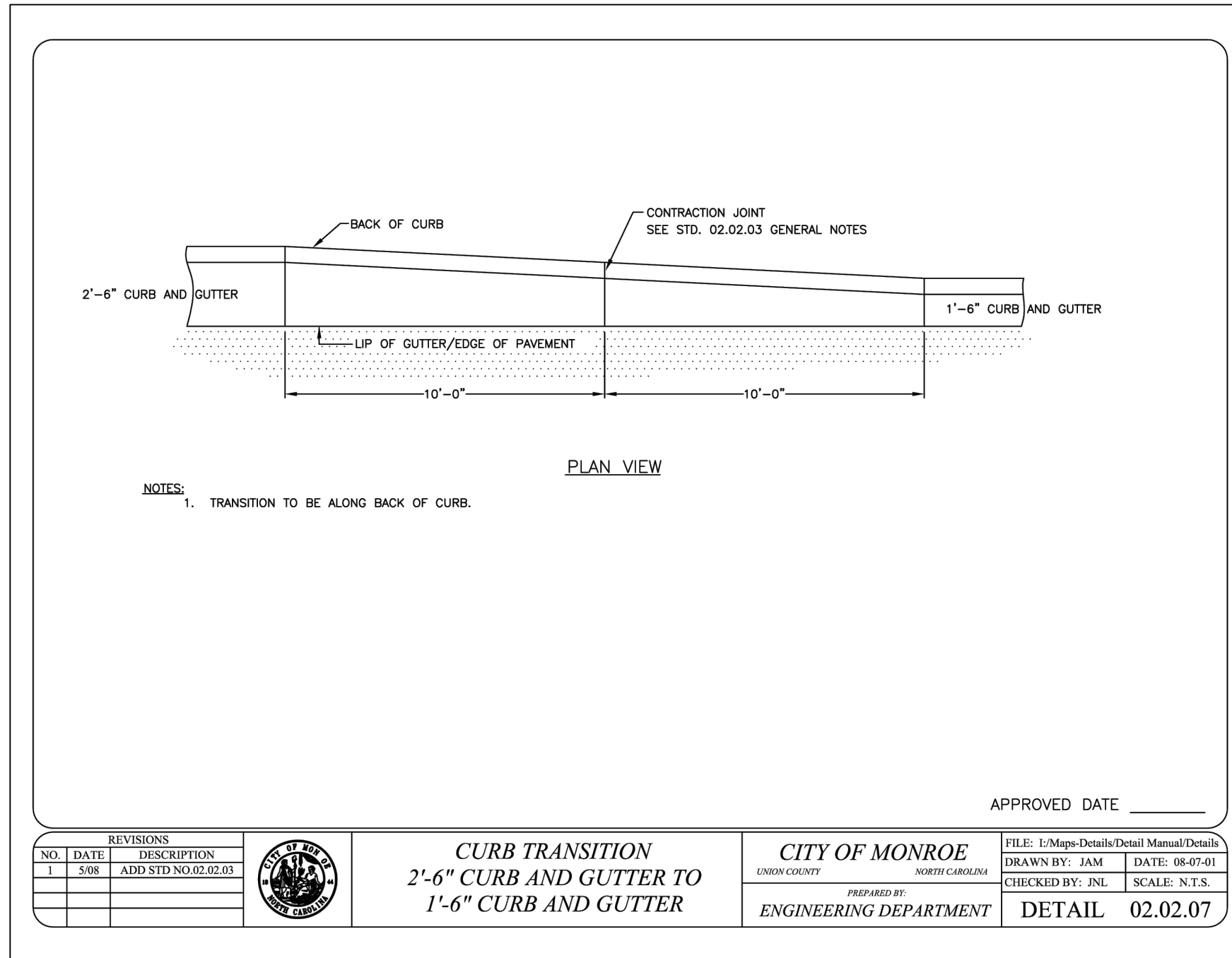
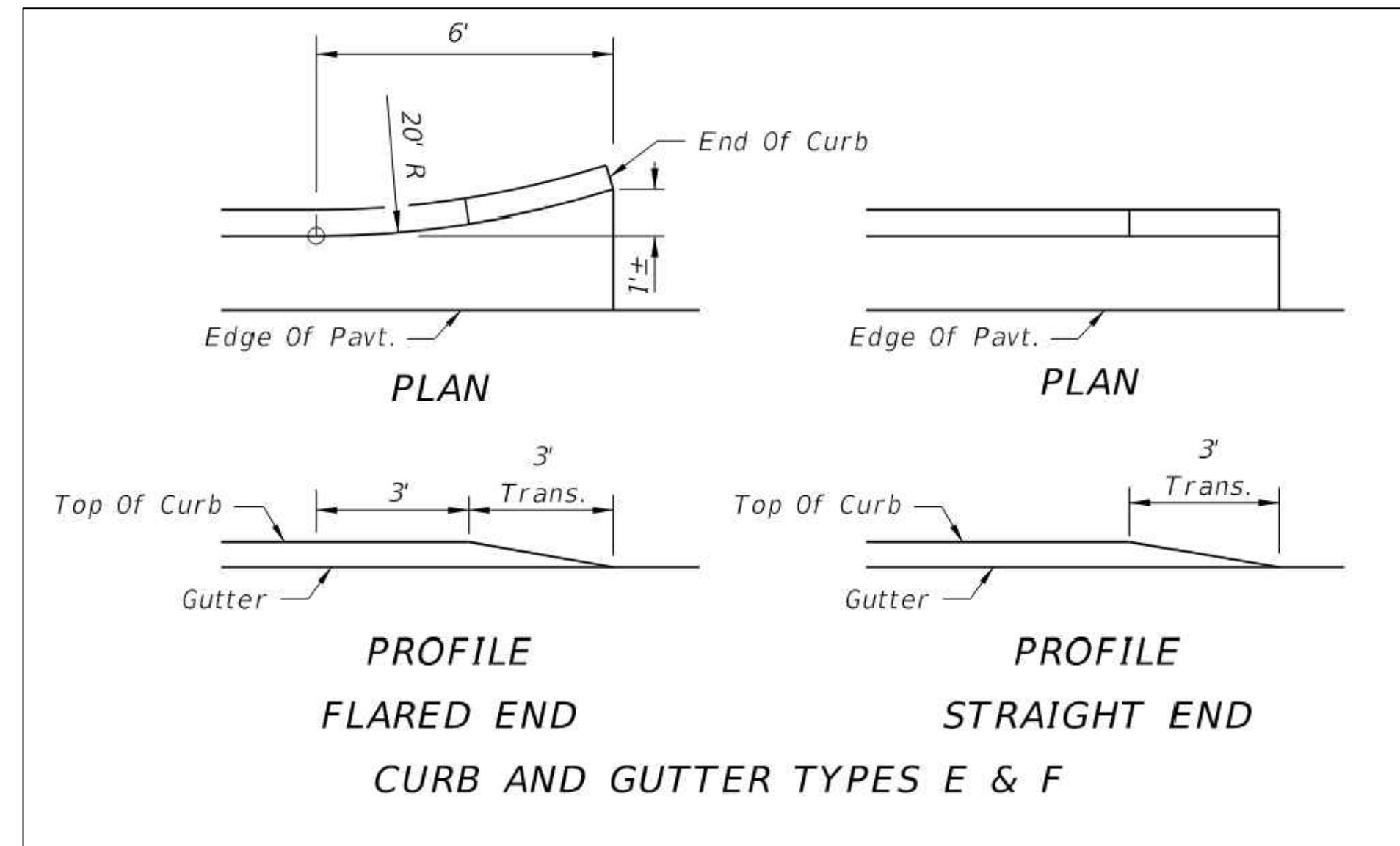
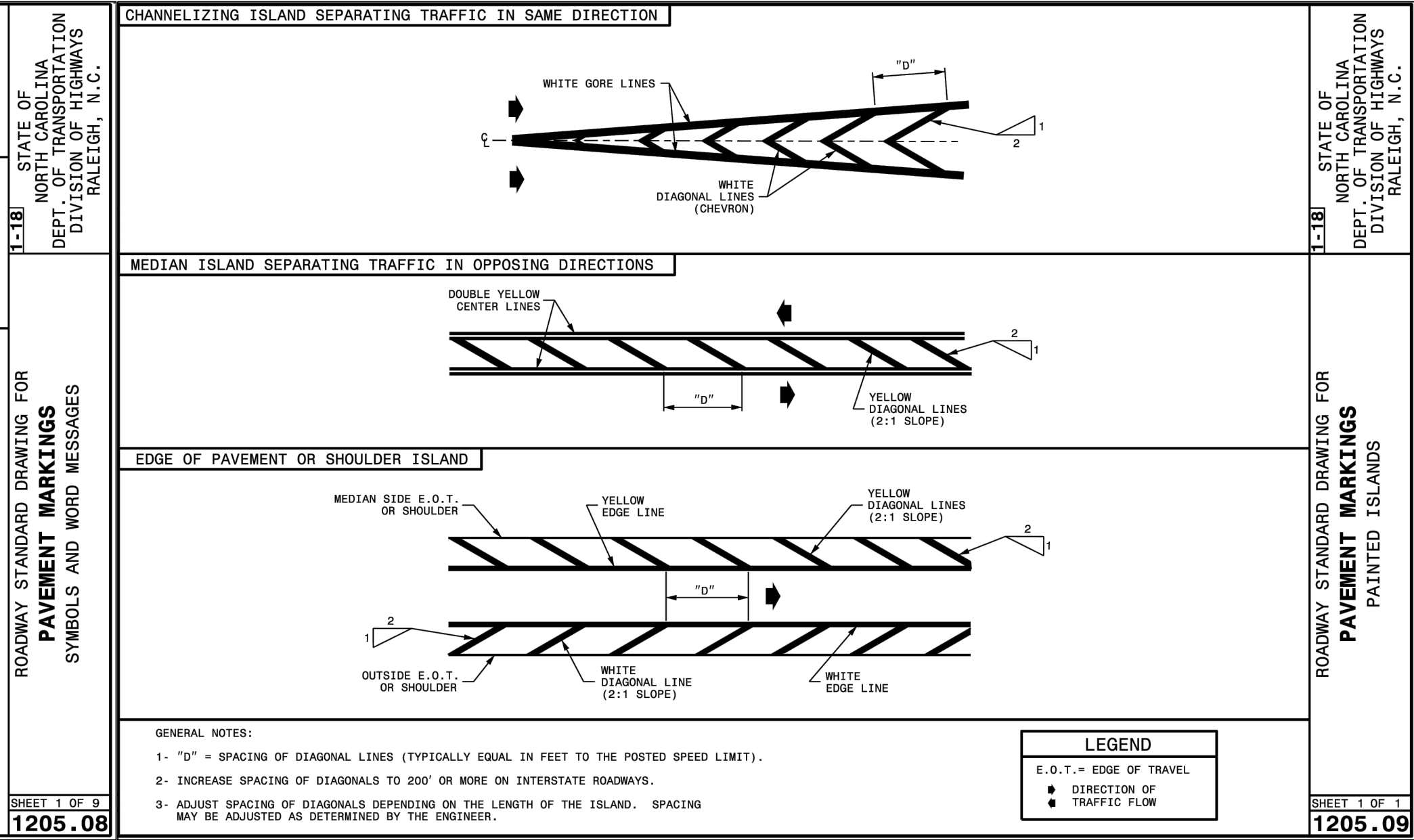
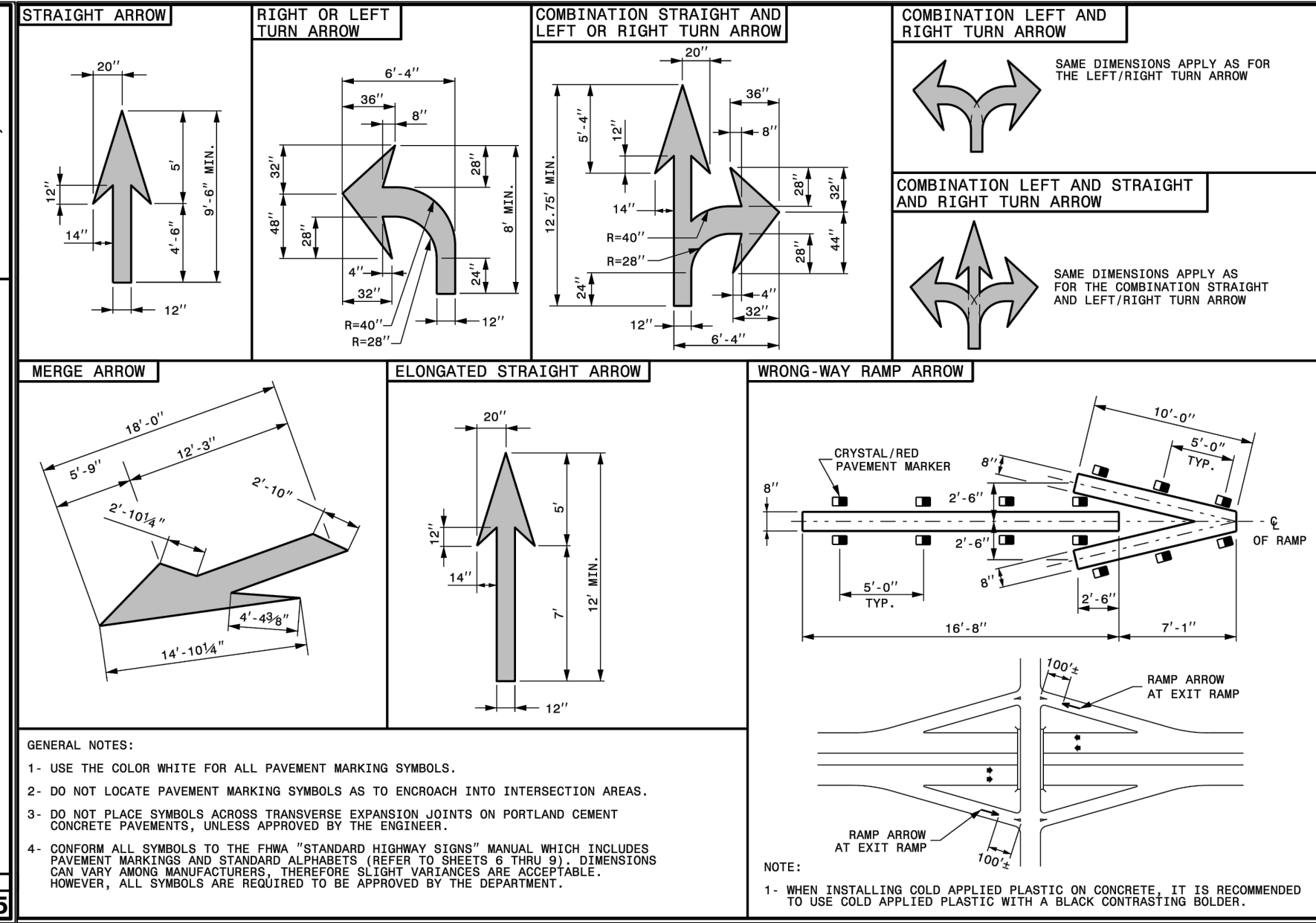
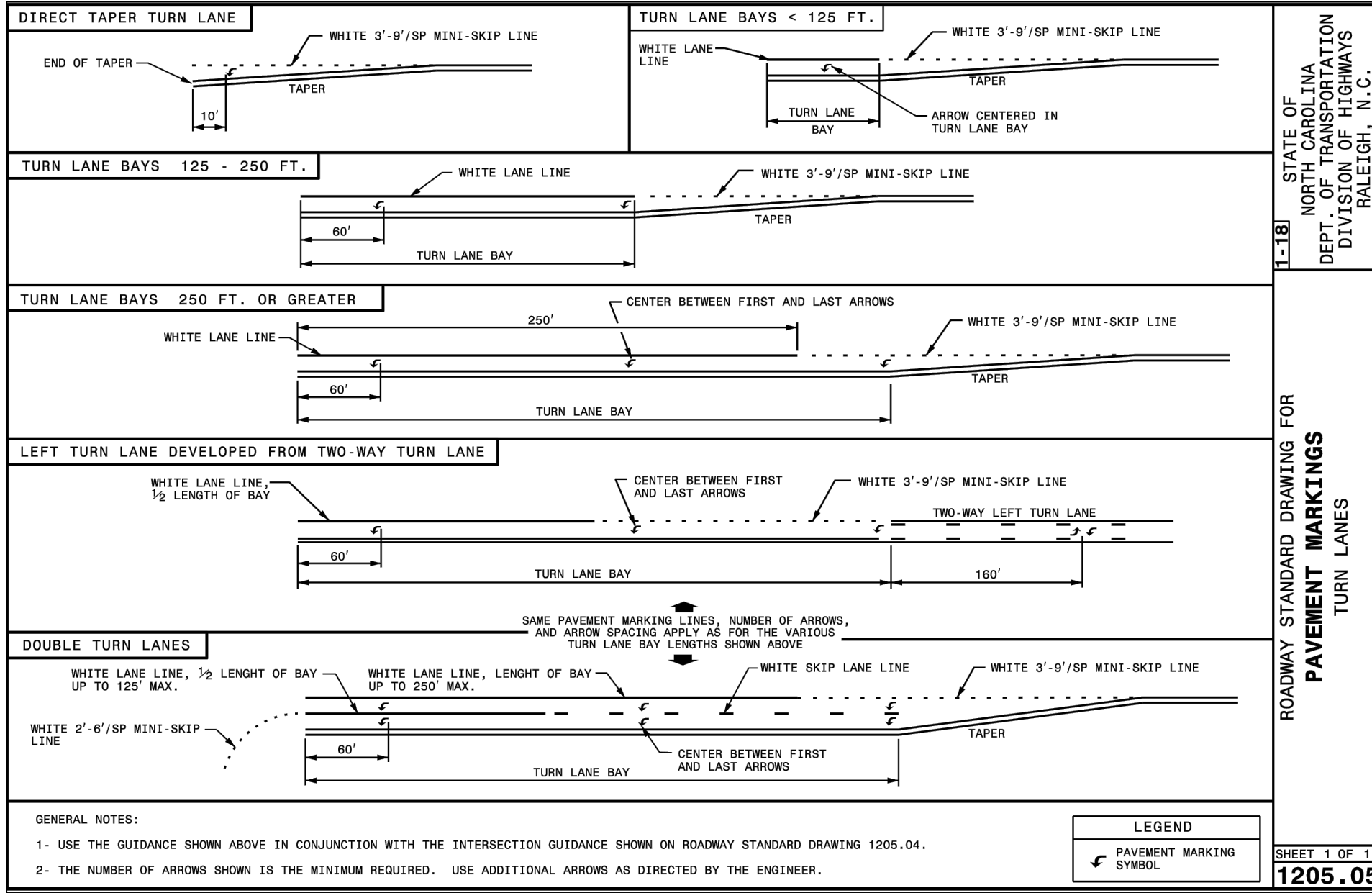
SHEET 2 OF 2
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STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

ROADWAY STANDARD DRAWING FOR
PAVEMENT MARKINGS
INTERSECTIONS

SHEET 2 OF 2
1205.04



NO.	DATE	BY	ISSUE
2	01/19/2024	JAH	ARMORED SLOPE RTAP
3	05/10/2024	JAH	APPLICANT NAME CHANGE RTAP

KING OAK 25
ROAD IMPROVEMENT PLANS
MONROE, NC
CAROLINA DEVELOPMENT SERVICES, LLC
2627 BREKONRIDGE CENTRE DR
MONROE, NC 28110

DESIGNED BY	DRAWN BY	CHECKED BY	DATE	JOB NUMBER
JAH	JAH	MCK	02/24/2023	7846
AS SHOWN				

Sheet
RD-6.1

I. MISCELLANEOUS

- A. CURRENT EDITIONS OF THE NORTH CAROLINA DOT ROADWAY STANDARD DRAWINGS AND SPECIFICATIONS MANUAL SHALL BE CONSIDERED PART OF THESE PLANS.
- B. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND INSPECTION REQUIREMENTS SPECIFIED BY THE VARIOUS GOVERNMENTAL AGENCIES, THE ENGINEER, AND THE ARCHITECT. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS PRIOR TO CONSTRUCTION, AND SHALL SCHEDULE ANY NECESSARY INSPECTIONS ACCORDING TO AGENCY INSTRUCTIONS.
- C. ALL SPECIFICATIONS AND DOCUMENTS REFERRED TO IN THESE PLANS SHALL BE OF THE LATEST REVISION.
- D. ALL WORK PERFORMED SHALL COMPLY WITH THE REGULATIONS AND ORDINANCES OF THE VARIOUS GOVERNMENTAL AGENCIES HAVING JURISDICTION OVER THE WORK.
- E. WORK PERFORMED UNDER THIS CONTRACT SHALL INTERFACE SMOOTHLY WITH OTHER WORK BEING PERFORMED ON SITE BY OTHER CONTRACTORS AND UTILITY COMPANIES. THE CONTRACTOR SHALL COORDINATE AND SCHEDULE HIS ACTIVITIES, WHERE NECESSARY, WITH OTHER CONTRACTORS AND UTILITY COMPANIES.
- F. THE WATER AND SANITARY SEWER FACILITIES ARE SUBJECT TO REVIEW BY CITY OF MONROE AND APPROVAL. STORM DRAINAGE FACILITIES ARE SUBJECT TO REVIEW AND APPROVAL OF THE CITY OF MONROE AND IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO OBTAIN THE REQUIRED PERMITS TO PERFORM WORK IN THE PUBLIC RIGHT-OF-WAY.
- G. GRADING OFF SITE WILL REQUIRE A LETTER OF PERMISSION FROM THE OWNER PRIOR TO ANY LAND DISTURBING ACTIVITIES.
- H. PLEASE REFER TO THE CITY OF MONROE LAND DEVELOPMENT STANDARDS FOR ALL SITE INSTALLATION STANDARDS.

II. SAFETY

- A. DURING THE CONSTRUCTION AND MAINTENANCE OF THIS PROJECT, ALL SAFETY REGULATIONS SHALL BE ENFORCED. THE CONTRACTOR OR HIS REPRESENTATIVE SHALL BE RESPONSIBLE FOR THE CONTROL AND SAFETY OF THE TRAVELING PUBLIC AND THE SAFETY OF HIS PERSONNEL.
- B. THE CONTRACTOR SHALL MAINTAIN AT TRAFFIC PLAN MUST BE SUBMITTED AND APPROVED BY THE CITY OF MONROE AND EAGLE ENGINEERING PRIOR TO BEGINNING ANY CONSTRUCTION ACTIVITIES.
- C. LABOR SAFETY REGULATIONS SHALL CONFORM TO THE PROVISIONS SET FORTH BY OSHA IN THE FEDERAL REGISTER OF THE DEPARTMENT OF TRANSPORTATION. THE CONTRACTOR SHALL PROVIDE AND MAINTAIN HIS OWN SAFETY EQUIPMENT IN ACCORDANCE WITH HIS HEALTH & SAFETY PROGRAM AND ALL OTHER APPLICABLE LEGAL AND HEALTH AND SAFETY REQUIREMENTS. THE CONTRACTOR IS ALSO RESPONSIBLE FOR PROVIDING ITS EMPLOYEES AND SUB CONTRACTORS WITH ADEQUATE INFORMATION AND TRAINING TO ENSURE THAT ALL EMPLOYEES AND SUB CONTRACTORS AND SUB CONTRACTOR'S EMPLOYEES COMPLY WITH ALL APPLICABLE REQUIREMENTS. CONTRACTOR SHALL REMAIN IN COMPLIANCE WITH ALL OCCUPATION SAFETY AND HEALTH REGULATIONS AS WELL AS THE ENVIRONMENTAL PROTECTION LAWS. THE FOLLOWING IS NOT TO BE PERCEIVED AS THE ENTIRE SAFETY PROGRAM BUT JUST BASIC REQUIREMENTS.
- E. ALL EXCAVATIONS BY THE CONTRACTOR SHALL CONFORM TO THE REQUIREMENTS OF THE DEPARTMENT OF LABOR'S OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION RULES AND REGULATIONS. PARTICULAR ATTENTION MUST BE PAID TO THE CONSTRUCTION STANDARDS FOR EXCAVATIONS, 29 CFR PART 1926, SUBPART P.
- F. THE MINIMUM STANDARDS AS SET FORTH IN THE CURRENT EDITION OF "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (U.S. DOT) SHALL BE FOLLOWED IN THE DESIGN APPLICATION, INSTALLATION, MAINTENANCE AND REMOVAL OF ALL TRAFFIC CONTROL DEVICES, WARNING DEVICES AND BARRIERS NECESSARY TO PROTECT THE PUBLIC AND WORKMEN FROM HAZARDS WITHIN THE PROJECT LIMITS.
- G. ALL TRAFFIC CONTROL MARKINGS AND DEVICES SHALL CONFORM TO THE PROVISIONS SET FORTH IN THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES PREPARED BY THE U.S. DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION.
- H. IT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO COMPLY AND ENFORCE ALL APPLICABLE SAFETY REGULATIONS. THE ABOVE INFORMATION HAS BEEN PROVIDED FOR THE CONTRACTOR'S INFORMATION ONLY AND DOES NOT IMPLY THAT THE OWNER OR ENGINEER WILL INSPECT AND/OR ENFORCE SAFETY REGULATIONS.
- I. THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION IN AREAS OF BURIED UTILITIES AND SHALL PROVIDE AT LEAST 48 HOURS NOTICE TO THE UTILITY COMPANIES PRIOR TO CONSTRUCTION TO OBTAIN FIELD LOCATIONS OF EXISTING UNDERGROUND UTILITIES.
- J. THE CONTRACTOR IS RESPONSIBLE FOR REPAIRING ANY DAMAGE TO EXISTING FACILITIES, ABOVE OR BELOW GROUND, THAT MAY BE THE RESULT OF THE WORK PERFORMED BY THE CONTRACTOR CALLED FOR IN THIS CONTRACT.
- K. ALL UNDERGROUND UTILITIES MUST BE IN PLACE AND TESTED OR INSPECTED PRIOR TO BASE AND PAVEMENT CONSTRUCTION.

III. SITE PLAN AND COORDINATE GEOMETRY

- A. PRELIMINARY ARCHITECTURAL BUILDING, AND PLUMBING PLANS HAVE NOT BEEN RECEIVED BY EEI.
- B. SITE PLAN PREPARED BY EEI.
- C. STRUCTURAL PLANS HAVE NOT BEEN RECEIVED BY EEI.
- D. ELECTRICAL, MECHANICAL, AND FIRE SAFETY PLANS HAVE NOT BEEN RECEIVED BY EEI.
- E. BOUNDARY SURVEY & TOPOGRAPHIC SURVEY PREPARED BY EAGLE ENGINEERING, INC.
- F. ALL POINTS AND MONUMENTS SHALL BE SURVEYED UPON MOBILIZATION TO VERIFY THEIR ACCURACY. ANY DISCREPANCIES DISCOVERED MUST BE BROUGHT TO THE ATTENTION OF THE ENGINEER IN WRITING.
- G. MONUMENTS AND OTHER SURVEY CONTROL POINTS SHALL BE PROTECTED FROM DAMAGE AND DISTURBANCE. IF ANY CONTROL POINTS ARE DAMAGED OR DISTURBED, IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO NOTIFY THE ENGINEER AND REPLACE THE CONTROL POINTS TO THEIR ORIGINAL CONDITION AT HIS OWN EXPENSE.
- H. ALL ELEVATIONS REFER TO THE NATIONAL GEODETIC VERTICAL DATUM.
- I. LOCATIONS, ELEVATIONS, AND DIMENSIONS OF EXISTING UTILITIES, STRUCTURES AND OTHER FEATURES ARE SHOWN ACCORDING TO THE BEST INFORMATION AVAILABLE AT THE TIME OF PREPARATION OF THESE PLANS. THE CONTRACTOR SHALL VERIFY THE LOCATIONS, ELEVATIONS AND DIMENSIONS OF ALL EXISTING UTILITIES, STRUCTURES AND OTHER FEATURES AFFECTING THIS WORK PRIOR TO CONSTRUCTION.
- J. UPON COMPLETION OF CONSTRUCTION, THE CONTRACTOR SHALL FURNISH OWNER'S ENGINEER WITH COMPLETE "AS-BUILT" INFORMATION CERTIFIED BY A REGISTERED LAND SURVEYOR. THIS "AS-BUILT" INFORMATION SHALL BE PRODUCED ON AUTOCAD VERSION 12, OR LATER, AND UPON COMPLETION, THE CONTRACTOR SHALL FURNISH EAGLE ENGINEERING WITH DISKS OF ALL DRAWINGS, ONE SET OF REPRODUCIBLE MYLARS, AND FIVE SETS OF BLUEPRINTS. THE "AS-BUILT" INFORMATION SHALL CLEARLY AND ACCURATELY REPRESENT ALL CONSTRUCTED ITEMS INCLUDING, BUT NOT LIMITED TO:
1. ELEVATIONS OF ALL STORM SEWER AND SANITARY SEWER STRUCTURE BOTTOMS, TOPS, AND INVERTS.
 2. FIELD MEASURED LENGTHS OF PIPES FOR ALL INSTALLED UTILITIES, CONDUITS, SLEEVES, ETC.
 3. LOCATIONS OF ALL STRUCTURES, PIPES, CONDUITS, SLEEVES, ETC.
 4. CALCULATED SLOPE OF ALL SANITARY SEWER AND STORM SEWER LINES.
 5. HORIZONTAL AND VERTICAL CONTROL, OF ALL WATER MAIN FITTINGS AND APPURTENANCES, AND HORIZONTAL AND VERTICAL CONTROL ON THE TOP OF WATER MAINS AT ALL CROSSINGS, AND A MINIMUM OF EVERY 200 LINEAR FEET OF PIPE.
 6. HORIZONTAL AND VERTICAL CONTROL OF ALL TOP OF BANKS, TOE OF SLOPES, ALL GRADE BREAKS, DRAININGS, PILES, ETC.
- K. ALL DIMENSIONS SHOWN ON PLAN ARE TO FACE OF BUILDING, EDGE OF PAVEMENT, CENTERLINE OF STRUCTURE, OR END OF PIPE UNLESS NOTED OTHERWISE.

IV. CLEARING/DEMOLITION

- A. THE CONTRACTOR SHALL CLEAR AND GRUB ONLY THOSE PORTIONS OF THE SITE NECESSARY FOR CONSTRUCTION. DISTURBED AREAS WILL BE SEEDED, MULCHED, SODDED OR PLANTED WITH OTHER APPROVED LANDSCAPE MATERIAL IMMEDIATELY FOLLOWING CONSTRUCTION.
- B. THE TOP 6" OF GROUND REMOVED DURING CLEARING AND GRUBBING SHALL BE STOCKPILED AT A SITE DESIGNATED BY THE OWNER OR THE OWNER'S ENGINEER TO BE USED FOR LANDSCAPING PURPOSES, UNLESS OTHERWISE DIRECTED BY THE OWNER OR THE OWNER'S ENGINEER. REMAINING EARTHWORK THAT RESULTS FROM CLEARING AND GRUBBING OR SITE EXCAVATION IS TO BE UTILIZED ON-SITE IF REQUIRED, PROVIDED THAT THE MATERIAL IS DEEMED SUITABLE FOR CONSTRUCTION BY THE OWNER'S SOILS TESTING COMPANY. EXCESS MATERIAL IS TO BE EITHER STOCKPILED ON SITE AS DIRECTED BY THE OWNER OR OWNER'S ENGINEER, OR REMOVED FROM THE SITE. THE CONTRACTOR IS RESPONSIBLE FOR ACQUIRING ANY PERMITS THAT ARE NECESSARY FOR REMOVING EXCESS EARTHWORK FROM THE SITE.
- C. ALL CONSTRUCTION DEBRIS AND OTHER WASTE MATERIALS SHALL BE DISPOSED OF OFF-SITE IN ACCORDANCE WITH APPLICABLE REGULATORY AGENCY REQUIREMENTS OR AS DIRECTED BY THE OWNER OR THE OWNER'S ENGINEER.

V. PAVING AND GRADING

- A. ALL DELETERIOUS SUBSURFACE MATERIAL (I.E. MUCK, PEAT, BURIED DEBRIS) IS TO BE EXCAVATED IN ACCORDANCE WITH THESE PLANS OR AS DIRECTED BY THE OWNER, THE OWNER'S ENGINEER, OR OWNER'S SOIL TESTING COMPANY. DELETERIOUS MATERIAL IS TO BE STOCKPILED OR REMOVED FROM THE SITE AS DIRECTED BY THE OWNER OR THE OWNER'S ENGINEER. EXCAVATED AREAS TO BE BACKFILLED WITH APPROVED MATERIALS AND COMPACTED AS SHOWN ON THESE PLANS. CONTRACTOR IS RESPONSIBLE FOR ACQUIRING ANY PERMITS THAT ARE NECESSARY FOR REMOVING DELETERIOUS MATERIAL FROM THE SITE.
- B. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING EXCAVATIONS AGAINST COLLAPSE AND WILL PROVIDE BRACING, SHEETING OR SHORING AS NECESSARY. Dewatering methods shall be used as required to keep trenches dry while pipe and appurtenances are being placed.
- C. ALL NECESSARY FILL AND EMBANKMENT THAT IS PLACED DURING CONSTRUCTION SHALL CONSIST OF MATERIAL SPECIFIED BY THE OWNER'S SOIL TESTING COMPANY OR ENGINEER AND BE PLACED AND COMPACTED ACCORDING TO THESE PLANS OR THE REFERENCED SOILS REPORT.
- D. PROPOSED SPOT ELEVATIONS REPRESENT FINISHED PAVEMENT OR GROUND SURFACE GRADE UNLESS OTHERWISE NOTED ON DRAWINGS.
- E. CONTRACTOR SHALL PROVIDE EROSION CONTROL AND SEDIMENTATION BARRIER (SILT FENCE OR OTHER MEASURES) TO PREVENT SILLTATION OF ADJACENT PROPERTY, STREETS, STORM SEWERS AND WATERWAYS.
- F. IF WIND EROSION BECOMES SIGNIFICANT DURING CONSTRUCTION, THE CONTRACTOR SHALL STABILIZE THE AFFECTED AREA USING SPRINKLING, IRRIGATION OR OTHER ACCEPTABLE METHODS.
- G. THE CONTRACTOR WILL STABILIZE BY SEED AND MULCH, SOD OR OTHER APPROVED MATERIALS AS REQUIRED BY ANY DISTURBED AREAS WITHIN ONE WEEK FOLLOWING CONSTRUCTION OF THE UTILITY SYSTEMS AND PAVEMENT AREAS. CONTRACTOR SHALL MAINTAIN SUCH AREAS UNTIL FINAL ACCEPTANCE BY OWNER.
- H. ENGINEERED FILL MATERIAL SHALL NOT CONTAIN ROCKS OR HARD LUMPS GREATER THAN 3 INCHES IN MAXIMUM DIMENSIONS AND SHALL BE FREE OF VEGETATION, ORGANIC MATTER, DEBRIS, RUBBLE, AND OTHER UNSUITABLE MATERIALS. SHALL BE IMPORTED SOILS FOR USE AS ENGINEERED FILL AND SHALL NOT CONTAIN ROCKS OR HARD LUMPS GREATER THAN 3 INCHES IN MAXIMUM DIMENSIONS AND SHALL BE FREE OF VEGETATION, ORGANIC MATTER, DEBRIS, RUBBLE, AND OTHER UNSUITABLE MATERIALS.
- J. AGGREGATE BASE MATERIAL SHALL MEET THE FOLLOWING GRADATION REQUIREMENTS.

SEIVE SIZE (PER ASTM D422)	% PASSING BY WEIGHT
1 INCH	100
3/4"	100
NO. 8	35 - 55
NO. 200	0 - 8

K. ALL AREAS TO RECEIVE FILL, AND AREAS OF STRUCTURES AND PAVEMENTS, SHALL BE STRIPPED OF VEGETATION, ORGANIC MATTER, DEBRIS, RUBBLE, AND OTHER UNSUITABLE MATERIALS. STRIPPED SOILS SHALL NOT BE USED IN ENGINEERED FILL, BUT MAY BE USED IN LANDSCAPE AREAS. ENGINEERED FILL MATERIAL SHALL BE COMPACTED TO AT LEAST THE FOLLOWING:

* PERCENTAGES OF MAXIMUM DRY DENSITY AND OPTIMUM MOISTURE CONTENT, PER ASTM D1557 (MODIFIED PROCTOR).

ENGINEERED FILL MATERIAL	MINIMUM % COMPACTION	MOISTURE CONTENT
NATIVE SOIL	92%	OPTIMUM TO OPTIMUM PLUS 3%
ENGINEERED FILL UNDER STRUCTURES AND BEHIND RETAINING WALLS	95%	OPTIMUM TO OPTIMUM PLUS 3%
ENGINEERED FILL UNDER PAVEMENT AREAS	100%	OPTIMUM PLUS OR MINUS 2%
FILL IN LANDSCAPE AREAS	92%	2 TO 5% ABOVE OPTIMUM

AGGREGATE BASE MATERIAL OR IMPORTED GRANULAR SOIL IN BUILDING AND PAVED AREAS SHALL BE COMPACTED TO AT LEAST THE FOLLOWING PERCENTAGES OF MAXIMUM DRY DENSITY AND OPTIMUM MOISTURE CONTENT, PER ASTM D-1557 MODIFIED OR AASHTO EQUIVALENT.

MATERIAL	COMPACTION	RANGE
AGGREGATE BASE MATERIAL OR IMPORTED GRANULAR SOIL IN BUILDING AND PAVEMENT AREAS	100%	OPTIMUM PLUS OR MINUS 2%

- L. IF SUB GRADE SOILS EXHIBIT PUMPING DURING COMPACTION, THE AREA SHALL BE ALLOWED TO DRY UNTIL THE SOILS BECOME WORKABLE WITHOUT PUMPING. THE MOISTURE CONTENT OF THE SOILS SHALL BE ADJUSTED TO PREVENT PUMPING.
- M. EXPOSURE TO THE ENVIRONMENT MAY REDUCE THE STRENGTH OF SOILS IN FOOTING, FLOOR SLAB, AND PAVED AREAS. IF THIS OCCURS, THE SOFTENED SOILS SHALL BE REMOVED AND REWORKED IMMEDIATELY PRIOR TO CONCRETE PLACEMENT. IF RAINFALL IS EXPECTED AT A TIME WHEN BEARING SOILS ARE EXPOSED, A 2 TO 4 INCH THICK LAYER OF LEAN CONCRETE MAY BE PLACED IN SUCH AREAS. THE SITE SHALL BE GRADED TO TRANSPORT SURFACE RUNOFF AWAY FROM THE STRUCTURES AND PAVED AREAS. WATER SHALL NOT BE ALLOWED TO ACCUMULATE (POND) AROUND BUILDING PERIMETERS OR ON PAVED AREAS.
- N. GENERAL ROCK EXCAVATION: ROCK SHALL BE DEFINED AS ANY MATERIAL WHICH CANNOT BE EXCAVATED WITH A SINGLE - TOOTH RIPPER DRAWN BY A CRAWLER TRACTOR HAVING A MINIMUM DRAWING CAPACITY OF NOT LESS THAN 55,000 POUNDS (CATERPILLAR D6K OR EQUIVALENT). THE VOLUME OF ROCK EXCAVATION SHALL BE DETERMINED BY A LICENSED SURVEYOR BY THE AVERAGE END AREA METHOD. THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER A SCALED PLAN WITH SUFFICIENT ELEVATION POINTS TO ACCURATELY DEFINE THE VOLUME OF ROCK EXCAVATED. THE DEPTH OF ROCK SHALL BE DEFINED AS FROM TOP OF ROCK TO THE CONTRACT SPECIFIED ELEVATION FOR EXCAVATION. CONTRACTOR SHALL BE COMPENSATED FOR ROCK EXCAVATION AS DEFINED HEREIN IN ACCORDANCE WITH CONTRACT UNIT PRICES.

TRENCH ROCK EXCAVATION:

- A. TRENCH ROCK SHALL BE DEFINED AS ANY MATERIAL WHICH CANNOT BE EXCAVATED WITH A BACKHOE HAVING A BUCKET CURLING FORCE RATE AT NOT LESS THAN 24,700 POUNDS (CATERPILLAR MODEL 225 OR EQUIVALENT).
- B. BASIS OF PAYMENT FOR TRENCH ROCK EXCAVATION:
1. PIPE TRENCH: THAT VOLUME DEFINED BY THE PIPE DIAMETER PLUS 18" AND THE DEPTH FROM TOP OF ROCK TO BOTTOM OF PIPE PLUS 6" MULTIPLIED BY THE ACTUAL LENGTH.
 2. WALL FOOTING, PIT: THAT VOLUME DEFINED BY THE WIDTH OF FOOTING PLUS 12" AND THE DEPTH FROM TOP OF ROCK TO BOTTOM OF FOOTING MULTIPLIED BY THE ACTUAL LENGTH OF WALL.
 3. COLUMN FOOTING: THE AREA OF THE COLUMN FOOTING MULTIPLIED BY THE DEPTH FROM TOP OF ROCK TO BOTTOM OF FOOTING. CONTRACTOR SHALL BE COMPENSATED FOR ROCK EXCAVATION AS DEFINED HEREIN IN ACCORDANCE WITH CONTRACT UNIT PRICES.

VI. DRAINAGE:

- A. ALL STORM DRAINAGE PIPE AND INSTALLATION SHALL ABIDE BY THE STANDARDS SET FORTH IN THE NCDOT STANDARD AND SPECIFICATIONS DETAIL MANUAL.
- B. ALL STORM SEWER PIPE SHALL BE REINFORCED CONCRETE PIPE UNLESS OTHERWISE NOTED ON PLANS. ALL DRAINAGE STRUCTURES SHALL BE IN ACCORDANCE WITH NCDOT STANDARDS UNLESS OTHERWISE NOTED.
- C. PIPE LENGTHS SHOWN ARE APPROXIMATE AND TO CENTER OF DRAINAGE STRUCTURE OR TO THE END OF THE PIPE. CONTRACTOR SHALL VERIFY ALL QUANTITIES PRIOR TO SUBMITTAL OF BID.
- D. ALL DRAINAGE STRUCTURE GRATES AND COVERS SHALL BE AS PER NCDOT STANDARDS UNLESS OTHERWISE NOTED.
- E. ALL STORM DRAINAGE PIPING SHALL BE SUBJECT TO A VISUAL INSPECTION BY THE OWNER'S ENGINEER PRIOR TO THE PLACEMENT OF BACKFILL. CONTRACTOR TO NOTIFY THE ENGINEER 48 HOURS IN ADVANCE TO SCHEDULE INSPECTIONS.
- F. THE CONTRACTOR SHALL MAINTAIN AND PROTECT FROM MUD, DIRT, DEBRIS, ETC. THE STORM DRAINAGE SYSTEM UNTIL FINAL ACCEPTANCE OF THE PROJECT. THE CONTRACTOR MAY BE REQUIRED TO RECLEAN PIPES AND INLETS FOR THESE PURPOSES.
- G. A REPRESENTATIVE FROM THE CITY OF MONROE SHALL BE ONSITE FOR BMP INSTALLATION AND TESTING.

VII. EROSION/TURBIDITY CONTROL

- A. THE INSTALLATION OF TEMPORARY EROSION CONTROL BARRIERS SHALL BE COORDINATED WITH THE CONSTRUCTION OF THE PERMANENT EROSION CONTROL FEATURES TO THE EXTENT NECESSARY TO ASSURE ECONOMICAL, EFFECTIVE AND CONTINUOUS CONTROL OF EROSION AND WATER POLLUTION THROUGHOUT THE LIFE OF THE CONSTRUCTION PHASE.
- B. THE TYPE OF EROSION CONTROL BARRIERS USED SHALL BE GOVERNED BY THE NATURE OF THE CONSTRUCTION OPERATION AND SOIL TYPE THAT WILL BE EXPOSED. SILTY AND CLAYEY MATERIAL USUALLY REQUIRE SOLID SEDIMENT BARRIERS TO PREVENT TURBID WATER DISCHARGE, WHILE SANDY MATERIAL MAY NEED ONLY SILT SILT FENCE TO PREVENT EROSION. FLOATING TURBIDITY CURTAINS SHALL BE USED IN OPEN WATER SITUATIONS. DIVERSION DITCHES OR SWALES MAY BE REQUIRED TO PREVENT TURBID STORM WATER RUNOFF FROM BEING DISCHARGED TO WETLANDS OR OTHER WATER BODIES. IT MAY BE NECESSARY TO EMPLOY A COMBINATION OF BARRIERS, DITCHES AND OTHER EROSION/TURBIDITY CONTROL MEASURES IF CONDITIONS WARRANT.
- C. CONSTRUCTION OPERATIONS IN OR ADJACENT TO WETLANDS SHALL BE RESTRICTED TO THOSE AREAS IDENTIFIED IN THE PLANS AND IN THE SPECIFICATIONS.
- D. EXCEPT AS NECESSARY FOR CONSTRUCTION, EXCAVATED MATERIAL SHALL NOT BE DEPOSITED IN WETLANDS OR IN A POSITION CLOSE ENOUGH THERETO TO BE WASHED AWAY BY HIGH WATER OR RUNOFF.
- E. THE CONTRACTOR SHALL SCHEDULE HIS OPERATIONS SUCH THAT THE AREA OF UNPROTECTED ERODIBLE EARTH EXPOSED AT ANY ONE TIME IS NOT LARGER THAN THE MINIMUM AREA NECESSARY FOR EFFICIENT CONSTRUCTION OPERATIONS, AND THE DURATION OF EXPOSED, UNCOMPLETED CONSTRUCTION TO THE ELEMENTS SHALL BE AS SHORT AS PRACTICABLE. CLEARING AND GRUBBING SHALL BE SO SCHEDULED AND PERFORMED THAT GRADING OPERATIONS CAN FOLLOW IMMEDIATELY THEREAFTER, AND GRADING OPERATIONS SHALL BE SCHEDULED AND PERFORMED THAT PERMANENT EROSION CONTROL FEATURES CAN FOLLOW IMMEDIATELY THEREAFTER IF CONDITIONS ON THE PROJECT PERMIT.
- F. THE CONTRACTOR AND/OR OWNER'S REPRESENTATIVE SHALL PROVIDE ROUTINE MAINTENANCE OF PERMANENT AND TEMPORARY EROSION CONTROL FEATURES UNTIL THE PROJECT IS COMPLETE AND ALL DISTURBED SOILS ARE STABILIZED.

NPDES NOTE:

REGULATIONS ADOPTED BY THE US ENVIRONMENTAL PROTECTION AGENCY (US EPA) AND BY THE NORTH CAROLINA DIVISION OF WATER QUALITY REQUIRE THAT A NATURAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT BE OBTAINED FOR STORM WATER DISCHARGES FROM CONSTRUCTION ACTIVITIES WITH LAND DISTURBANCE OF 1 ACRE OR MORE.

CONTRACTOR SHALL CHECK EROSION CONTROL MEASURES WEEKLY AND/OR AFTER A 1/2" OR MORE RAIN. CONTRACTOR SHALL KEEP RECORDS OF EVERY INSPECTION.

EROSION CONTROL NOTES:

1. CONTRACTOR SHALL STABILIZE EXPOSED GROUND AS SOON AS INDIVIDUAL AREAS ARE COMPLETED.
2. CONTRACTOR SHALL NOT REMOVE ANY BASIN UNTIL ALL SEDIMENT-PRODUCING AREAS UPSTREAM HAVE BEEN PERMANENTLY STABILIZED AND REMOVAL IS APPROVED BY EROSION CONTROL COORDINATOR.

3. STABILIZATION IS THE BEST FORM OF EROSION CONTROL. TEMPORARY SEEDING IS NECESSARY TO ACHIEVE EROSION CONTROL ON LARGE DENuded AREAS AND ESPECIALLY WHEN SPECIFICALLY REQUIRED AS PART OF THE CONSTRUCTION SEQUENCE SHOWN ON THE PLAN. ALL GRADED SLOPES MUST BE SEEDED AND MULCHED WITHIN 14 CALENDAR DAYS.

4. ADDITIONAL MEASURES TO CONTROL EROSION AND SEDIMENT MAY BE REQUIRED BY LOCAL AUTHORITY.

5. NO SLOPES SHALL EXCEED 2:1. FILL SLOPES GREATER THAN 10' REQUIRE ADEQUATE TERRACING.

6. GROUND COVER ON EXPOSED SLOPES SHOULD BE COMPLETED WITHIN 7 CALENDAR DAYS.

7. ALL SILT FENCE SHALL HAVE WIRE AND WASHED STONE.

8. A FILTER BERM SHALL BE PLACED TEMPORALLY AT THE END OF ALL FES UNTIL RIP RAP APRONS ARE INSTALLED.

9. THE CONTRACTOR SHALL DISPOSE OF ALL CONSTRUCTION DEBRIS OFF-SITE AT A PROPERLY PERMITTED LANDFILL. ON-SITE BURIAL OF TREES AND OTHER DEBRIS WILL NOT BE PERMITTED.

10. ANY GRADING BEYOND THE DENUDED LIMITS SHOWN ON THE PLAN IS A VIOLATION OF THE CITY OF MONROE EROSION CONTROL ORDINANCE AND IS SUBJECT TO A FINE.

11. GRADING MORE THAN ONE ACRE WITHOUT AN APPROVED EROSION CONTROL PLAN IS A VIOLATION OF NC LAW AND IS SUBJECT TO A FINE.

12. A GRADING PLAN MUST BE SUBMITTED FOR ANY LOT GRADING THAT WAS NOT PREVIOUSLY APPROVED.

13. APPROVAL OF THIS PLAN IS NOT AN AUTHORIZATION TO GRADE ADJACENT PROPERTIES. WHEN FIELD CONDITIONS WARRANT OFF-SITE GRADING, PERMISSION MUST BE OBTAINED FROM AFFECTED PROPERTY OWNERS.

14. ALL STD. NUMBERS REFER TO THE CITY OF MONROE STANDARD AND SPECIFICATIONS DETAIL MANUAL UNLESS OTHERWISE NOTED.

15. STEEL POST WITH WIRE FENCE BACKING SHOULD BE USED INSTEAD OF WOODEN POST, BURIED OR DRIVEN TO A DEPTH OF 18" IN THE GROUND. PREFABRICATED SILT FENCE IS NOT ACCEPTABLE ON THIS PROJECT.

16. SEDIMENT TRAP AND BASINS SHOULD BE SEEDED IMMEDIATE AFTER CONSTRUCTION TO PROMOTE STABLE SLOPES AS SOON AS POSSIBLE.

17. WHERE TEMPORARY DIVERSIONS ENTER SEDIMENT TRAPS AND BASINS, TEMPORARY SLOPE DRAINS MAY BE NECESSARY BASED ON FIELD CONDITIONS.

- MAINTENANCE PLAN:
1. ALL EROSION AND SEDIMENT CONTROL PRACTICES WILL BE CHECKED FOR STABILITY AND OPERATION FOLLOWING EVERY RUNOFF-PRODUCING RAINFALL, BUT IN NO CASE LESS THAN ONCE EVERY WEEK, ANY NEEDED REPAIRS WILL BE MADE IMMEDIATELY TO MAINTAIN ALL PRACTICES AS DESIGNATED.

2. THE SEDIMENT BASIN WILL BE CLEANED OUT WHEN THE LEVEL OF SEDIMENT REACHES 2.0 FT. BELOW THE TOP OF THE RISER. GRAVEL WILL BE CLEANED OR REPLACED WHEN THE SEDIMENT POOL NO LONGER DRAINS PROPERLY.

3. SEDIMENT WILL BE REMOVED FROM THE SEDIMENT TRAP AND THE INLET PROTECTION DEVICE WHEN STORAGE CAPACITY HAD BEEN APPROXIMATELY 50% FILLED. GRAVEL WILL BE CLEANED OR REPLACED WHEN THE SEDIMENT POOL NO LONGER DRAINS PROPERLY.

4. SEDIMENT WILL BE REMOVED FROM BEHIND THE SEDIMENT FENCE WHEN IT BECOMES ABOUT 0.5 FT DEEP AT THE FENCE. THE SEDIMENT FENCE WILL BE REPAIRED AS NECESSARY TO MAINTAIN A BARRIER.

5. ALL SEEDED AREAS WILL BE FERTILIZED, RESEEDDED AS NECESSARY, AND MULCHED ACCORDING TO SPECIFICATIONS IN THE VEGETATIVE PLAN TO MAINTAIN A VIGOROUS, DENSE VEGETATIVE COVER.

TEMPORARY SEEDING REQUIREMENTS PER NCDEQ EROSION AND SEDIMENT CONTROL PLANNING AND DESIGN MANUAL

SEEDING MIXTURE SPECIES	RATE (LB/ACRE)
RYE (GRAIN)	120
ANNUAL LESPEDEZA (KOBÉ IN PIEDMONT AND COASTAL PLAIN, KOREAN IN MOUNTAINS)	50
OMIT ANNUAL LESPEDEZA WHEN DURATION OF TEMPORARY COVER IS NOT TO EXCEED BEYOND ONE YEAR.	
SEEDING DATES	
MOUNTAINS	ABOVE 2500 FEET: FEB. 15 - MAY 15 BELOW 2500 FEET: FEB. 1 - MAY 1
PIEDMONT	JAN. 1 - MAY 1
COASTAL PLAIN	DEC. 1 - APR. 15

- SOIL AMENDMENTS
- FOLLOW RECOMMENDATIONS OF SOIL TESTS OR APPLY 2,000 LB/ACRE GROUND AGRICULTURAL LIMESTONE AND 750 LB/ACRE 10-10-10 FERTILIZER.
- MULCH
- APPLY 4,000 LB/ACRE STRAW. ANCHOR STRAW BY TACKING WITH ASPHALT, NETTING, OR A MULCH ANCHORING TOOL. A DISK WITH BLADES SET NEARLY STRAIGHT CAN BE USED AS A MULCH ANCHORING TOOL.

MAINTENANCE

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

SEEDING MIXTURE SPECIES	RATE (LB/ACRE)
GERMAN MILLET	40

- IN THE PIEDMONT AND MOUNTAINS, A SMALL-STEMMED SUDANGRASS MAY BE SUBSTITUTED AT A RATE OF 50 LB/ACRE.

- SEEDING DATES
- MOUNTAINS MAY 15 - AUG. 15
PIEDMONT MAY 1 - AUG. 15
COASTAL PLAIN APR. 15 - AUG. 15

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

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

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

SEEDING MIXTURE SPECIES	RATE (LB/ACRE)
RYE (GRAIN)	120

- SEEDING DATES
- MOUNTAINS AUG. 15 - DEC. 15
COASTAL PLAIN AUG. 15 - DEC. 30
AND PIEDMONT

- SOIL AMENDMENTS
- FOLLOW SOIL TESTS OR APPLY 2,000 LB/ACRE GROUND AGRICULTURAL LIMESTONE AND 1,000 LB/ACRE 10-10-10 FERTILIZER.

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

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

- REPAIR AND MAINTAIN TEMPORARY EROSION CONTROL FEATURES UNTIL THE PROJECT IS COMPLETE AND ALL DISTURBED SOILS ARE STABILIZED.

16. SEDIMENT TRAP AND BASINS SHOULD BE SEEDED IMMEDIATE AFTER CONSTRUCTION TO PROMOTE STABLE SLOPES AS SOON AS POSSIBLE.

17. WHERE TEMPORARY DIVERSIONS ENTER SEDIMENT TRAPS AND BASINS, TEMPORARY SLOPE DRAINS MAY BE NECESSARY BASED ON FIELD CONDITIONS.

- MAINTENANCE PLAN:
1. ALL EROSION AND SEDIMENT CONTROL PRACTICES WILL BE CHECKED FOR STABILITY AND OPERATION FOLLOWING EVERY RUNOFF-PRODUCING RAINFALL, BUT IN NO CASE LESS THAN ONCE EVERY WEEK, ANY NEEDED REPAIRS WILL BE MADE IMMEDIATELY TO MAINTAIN ALL PRACTICES AS DESIGNATED.

2. THE SEDIMENT BASIN WILL BE CLEANED OUT WHEN THE LEVEL OF SEDIMENT REACHES 2.0 FT. BELOW THE TOP OF THE RISER. GRAVEL WILL BE CLEANED OR REPLACED WHEN THE SEDIMENT POOL NO LONGER DRAINS PROPERLY.

3. SEDIMENT WILL BE REMOVED FROM THE SEDIMENT TRAP AND THE INLET PROTECTION DEVICE WHEN STORAGE CAPACITY HAD BEEN APPROXIMATELY 50% FILLED. GRAVEL WILL BE CLEANED OR REPLACED WHEN THE SEDIMENT POOL NO LONGER DRAINS PROPERLY.

4. SEDIMENT WILL BE REMOVED FROM BEHIND THE SEDIMENT FENCE WHEN IT BECOMES ABOUT 0.5 FT DEEP AT THE FENCE. THE SEDIMENT FENCE WILL BE REPAIRED AS NECESSARY TO MAINTAIN A BARRIER.

5. ALL SEEDED AREAS WILL BE FERTILIZED, RESEEDDED AS NECESSARY, AND MULCHED ACCORDING TO SPECIFICATIONS IN THE VEGETATIVE PLAN TO MAINTAIN A VIGOROUS, DENSE VEGETATIVE COVER.

- SEEDING DATES
- FALL: BEST AUG. 25 - SEPT. 15 POSSIBLE AUG. 20 - OCT. 25
LATE WINTER: FEB. 15 - MAR. 21 FEB. 1 - APR. 15

- FALL IS BEST FOR TALL FESCUE AND LATE WINTER LESPEDEZAS. OVERSEEDING OF KOBÉ LESPEDEZA OVER FALL-SEEDED TALL FESCUE IS VERY EFFECTIVE. USE UNHULLED BERMUDAGRASS SEED IN FALL.

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

- MULCH
- APPLY 4,000-5,000 LB/ACRE GRAIN STRAW, OR EQUIVALENT COVER OF ANOTHER SUITABLE MULCHING MATERIAL. ANCHOR MULCH BY TACKING WITH ASPHALT, ROVING, OR NETTING. NETTING IS THE PREFERRED ANCHORING METHOD ON STEEP SLOPES.

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

- NOTES
- DE-WATERING: THE CONTRACTOR SHALL AT ALL TIMES PROVIDE AND MAINTAIN AMPLE MEANS AND EQUIPMENT WITH WHICH TO REMOVE AND PROPERLY DISPOSE OF ANY AND ALL WATER ENTERING THE EXCAVATION OR OTHER PARTS OF THE WORK AND KEEP ALL EXCAVATIONS DRY UNTIL SUCH TIME AS PIPE LAYING AND GRADING IS COMPLETED AND STRUCTURES TO BE BUILT THEREIN ARE COMPLETED.

- NO WATER SHALL BE ALLOWED TO RISE AROUND THE PIPE IN UNBACKFILLED TRENCHES NOR SHALL IT BE ALLOWED TO RISE OVER MASONRY UNTIL THE CONCRETE OR MORTAR HAS SET (MINIMUM 24 HOURS). ALL WATER PUMPED OR DRAINED FROM THE WORK SHALL BE DISPOSED OF IN SUCH A MANNER AS TO PREVENT SILTATION AND EROSION TO ADJACENT PROPERTY OR OTHER CONSTRUCTION.

- A REPRESENTATIVE OF THE TOWN OF INDIAN TRAIL MUST BE PRESENT FOR WATER QUALITY WORK

VIII. PROTECTION OF EXISTING UTILITIES

THE CONTRACTOR SHALL CONTACT THE APPROPRIATE AGENCY FOR THE EXACT FIELD LOCATIONS OF ALL WATER, SEWER, ELECTRIC, TELEPHONE, TELEVISION AND ANY OTHER UNDERGROUND AND OVERHEAD UTILITY BEFORE STARTING CONSTRUCTION. THE OMISSION FROM OR THE INCLUSION OF UTILITY LOCATION ON THE CONTRACT DRAWINGS IS NOT TO BE CONSIDERED AS THE NON-EXISTENCE OF OR A DEFINITE LOCATION OF EXISTING UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE LOCATION AND DEPTH OF ALL UNDERGROUND UTILITIES ALONG THE ROUTE OF WORK.

THE FOLLOWING LISTING OF UTILITY COMPANIES (WHICH MAY OR MAY NOT BE COMPLETE) MAY HAVE EXISTING UNDERGROUND OR OVERHEAD UTILITIES IN THE CONTRACT VICINITY.

IX. SANITARY SEWER AND WATER DISTRIBUTION

- A. SANITARY SEWERS AND STORM SEWERS SHOULD ALWAYS CROSS UNDER WATER MAINS. SANITARY SEWERS AND STORM SEWERS SHALL BE CONSTRUCTED OF DUCTILE IRON PIPE (DIP) AT THE CROSSING. (DIP IS NOT REQUIRED FOR STORM SEWERS IF IT IS NOT AVAILABLE IN THE SIZE PROPOSED). SUFFICIENT LENGTHS OF DIP MUST BE USED TO PROVIDE A MINIMUM SEPARATION OF 10 FEET BETWEEN ANY TWO JOINTS. ALL JOINTS ON THE WATER MAIN WITHIN 20 FEET OF THE CROSSING MUST BE LEAK FREE AND MECHANICALLY RESTRAINED. A MINIMUM VERTICAL CLEARANCE OF 6 INCHES MUST BE MAINTAINED AT THE CROSSING.

- B. WHERE SANITARY SEWERS AND STORM SEWERS MUST CROSS A WATER MAIN WITH LESS THAN 18 INCHES VERTICAL DISTANCE, BOTH THE SEWER AND THE WATER MAIN SHALL BE CONSTRUCTED OF DUCTILE IRON PIPE (DIP) AT THE CROSSING. (DIP IS NOT REQUIRED FOR STORM SEWERS IF IT IS NOT AVAILABLE IN THE SIZE PROPOSED). SUFFICIENT LENGTHS OF DIP MUST BE USED TO PROVIDE A MINIMUM SEPARATION OF 10 FEET BETWEEN ANY TWO JOINTS. ALL JOINTS ON THE WATER MAIN WITHIN 20 FEET OF THE CROSSING MUST BE LEAK FREE AND MECHANICALLY RESTRAINED. A MINIMUM VERTICAL CLEARANCE OF 6 INCHES MUST BE MAINTAINED AT THE CROSSING.

- C. ALL CROSSINGS SHALL BE ARRANGED SO THAT THE SEWER PIPE JOINTS AND THE WATER MAIN PIPE JOINTS ARE EQUIDISTANT FROM THE POINT OF CROSSING (PIPES CENTERED ON THE CROSSING).

- D. WHERE A NEW PIPE CONFLICTS WITH AN EXISTING PIPE, THE NEW PIPE SHALL BE CONSTRUCTED OF DIP AND THE CROSSING SHALL BE ARRANGED TO MEET THE REQUIREMENTS ABOVE.

- E. A MINIMUM 10-FOOT HORIZONTAL SEPARATION SHALL BE MAINTAINED BETWEEN ANY TYPE OF SEWER AND WATER MAIN IN PARALLEL INSTALLATIONS.

- F. IN CASES WHERE IT IS NOT POSSIBLE TO MAINTAIN A 10-FOOT HORIZONTAL SEPARATION, THE WATER MAIN MUST BE LAID IN A SEPARATE TRENCH OR ON AN UNDISTURBED EARTH SHELF LOCATED ON ONE SIDE OF THE SEWER OR FORCE MAIN AT SUCH AN ELEVATION THAT THE BOTTOM OF THE WATER MAIN IS AT LEAST 18 INCHES ABOVE THE TOP OF THE SEWER.

- G. WHERE IT IS NOT POSSIBLE TO MAINTAIN A VERTICAL DISTANCE OF 18 INCHES IN PARALLEL INSTALLATIONS, THE WATER MAIN SHALL BE CONSTRUCTED OF DIP AND THE SEWER MAIN SHALL BE CONSTRUCTED OF DIP (IF AVAILABLE IN THE SIZE PROPOSED) WITH A MINIMUM VERTICAL SEPARATION OF 6 INCHES. THE WATER MAIN SHOULD ALWAYS BE ABOVE THE SEWER. JOINTS ON THE WATER MAIN SHALL BE LOCATED AS FAR APART AS POSSIBLE FROM THE JOINTS ON THE SEWER OR FORCE MAIN (STAGGERED JOINTS).

- H. ALL SANITARY SEWER MAINS, LATERALS AND FORCE MAINS SHALL HAVE A MINIMUM OF 36 INCHES OF COVER.

- I. ALL ON SITE P.V.C. GRAVITY SANITARY SEWER PIPE SHALL BE MADE OF MATERIAL HAVING A CELL CLASSIFICATION OF 12454 B, 12454 C OR 13354 B AS DEFINED IN ASTM D-1784



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

ROY COOPER
GOVERNOR

J.R. "JOEY" HOPKINS
SECRETARY

June 12, 2024

Carolina Development Services, LLC
2627 Brekonridge Centre Dr
Monroe, NC 28110

SUBJECT: Residential Access Permit—Left Turn Lanes – Onto Lancaster Ave (SR-3515),
towards The South, Union County.

PERMIT NUMBER: E103-090-23-00093

Dear Sirs:

The appropriate staff members of the Division of Highways have completed a review of the subject permit application. **The driveway permit is approved subject to the attached provisions. The person to whom this letter is addressed is responsible for ensuring the contractor installing the access receives a copy of this information.** The contractor installing the access shall be responsible for following the approved access permit provisions as well as all notes shown on the site plan and for providing a copy of the permit on the site at all times.

Adequate sight distances should be reserved at all proposed entrances. Attached is a copy of the approved driveway access permit application.

If you have any questions, please contact me at the number below.

Sincerely yours,

Brett Canipe, P.E.
Division Engineer

AH/ RCW

Attachments

cc: Sarah McAllister, City of Monroe

DEPARTMENT OF TRANSPORTATION

RIGHT OF WAY ENCROACHMENT AGREEMENT FOR
CURB AND GUTTER, PAVEMENT WIDENING AND
STORM DRAINAGE

-AND-

Carolina Development Services, LLC

2627 Brekonridge Centre Drive, Monroe NC, 28110

E103-090-23-00093

THIS AGREEMENT, made and entered into this the 12 day of June, 20 24, by and between the Department of Transportation, party of the first part; and Carolina Development Services, LLC

party of the second part,

WITNESSETH

THAT WHEREAS, the party of the second part desires to encroach on the right of way of the public road designated as Route(s) SR3515 (Lancaster Ave.), located in Monroe, NC near the intersection of SR3515 and Oak Hill Drive

with the construction and/or erection of: Road Widening for Left Turn Lane (for access to Oak Hill Drive) and associated striping

WHEREAS, it is to the material advantage of the party of the second part to effect this encroachment, and the party of the first part in the exercise of authority conferred upon it by statute, is willing to permit the encroachment within the limits of the right of way as indicated, subject to the conditions of this agreement;

NOW, THEREFORE, IT IS AGREED that the party of the first part hereby grants to the party of the second part the right and privilege to make this encroachment as shown on attached plan sheet(s), specifications and special provisions which are made a part hereof upon the following conditions, to wit:

That the said party of the second part binds and obligates himself to install the encroaching facility in such safe and proper condition that it will not interfere with or endanger travel upon said highway.

That the party of the second part agrees to provide during construction proper signs, signal lights, flagmen and other warning devices for the protection of traffic in conformance with the latest Manual on Uniform Traffic Control Devices for Streets and Highways and Amendments or Supplements thereto. Information as to the above rules and regulations may be obtained from the Division Engineer of the party of the first part.

That the party of the second part hereby agrees to indemnify and save harmless the party of the first part from all damages and claims for damage that may arise by reason of the installation and maintenance of this encroachment.

It is clearly understood by the party of the second part that the party of the first part will assume no responsibility for any damage that may be caused to such facilities, within the highway rights of way limits, in carrying out its construction.

That the party of the second part agrees to restore all areas disturbed during construction to the satisfaction of the Division Engineer of the party of the first part. The party of the second part agrees to exercise every reasonable precaution during construction and maintenance to prevent eroding of soil; silting or pollution of rivers, streams, lakes, reservoirs, other water impoundments, ground surfaces or other property; or pollution of the air. There shall be compliance with applicable rules and regulations of the North Carolina Division of Environmental Management, North Carolina Sedimentation Control Commission, and with ordinances and regulations of various counties, municipalities and other official agencies relating to pollution prevention and control. When any construction operation disturbs the ground surface and existing ground cover, the party of the second part agrees to remove and replace the sod or otherwise reestablish the grass cover to meet the satisfaction of the Division Engineer of the party of the first part.

That the party of the second part agrees to assume the actual cost of any inspection of the work considered to be necessary by the Division Engineer of the party of the first part.

That the party of the second part agrees to have available at the encroaching site, at all times during construction, a copy of this agreement showing evidence of approval by the party of the first part. The party of the first part reserves the right to stop all work unless evidence of approval can be shown.

Provided the work contained in this agreement is being performed on a completed highway open to traffic; the party of the second part agrees to give written notice to the Division Engineer of the party of the first part when all work contained herein has been completed. Unless specifically requested by the party of the first part, written notice of completion of work on highway projects under construction will not be required.

That in the case of noncompliance with the terms of this agreement by the party of the second part, the party of the first part reserves the right to stop all work until the facility has been brought into compliance or removed from the right of way at no cost to the party of the first part.

That it is agreed by both parties that this agreement shall become void if actual construction of the work contemplated herein is not begun within one (1) year from the date of authorization by the party of the first part unless written waiver is secured by the party of the second part from the party of the first part.

R/W (161B) : Party of the Second Part certifies that this agreement is true and accurate copy of the form

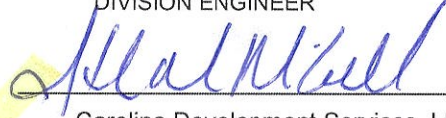
R/W (161B) incorporating all revisions to date.

IN WITNESS WHEREOF, each of the parties to this agreement has caused the same to be executed the day and year first above written.

DEPARTMENT OF TRANSPORTATION

BY: Brett Caspe, RCW

DIVISION ENGINEER



Carolina Development Services, LLC
Second Party

ATTEST OR WITNESS:

Butcher Presson
Gretchen Presson

INSTRUCTIONS

When the applicant is a corporation or a municipality, this agreement must have the corporate seal and be attested by the corporation secretary or by the empowered city official, unless a waiver of corporate seal and attestation by the secretary or by the empowered City official is on file in the Raleigh office of the State Utilities Manager. In the space provided in this agreement for execution, the name of the corporation or municipality shall be typed above the name, and title of all persons signing the agreement should be typed directly below their signature.

When the applicant is not a corporation, then his signature must be witnessed by one person. The address should be included in this agreement and the names of all persons signing the agreement should be typed directly below their signature.

This agreement must be accompanied, in the form of an attachment, by plans or drawings showing the following applicable information:

1. All roadways and ramps.
2. Right of way lines and where applicable, the control of access lines.
3. Location of the proposed encroachment.
4. Length and type of encroachment.
5. Location by highway survey station number. If station number cannot be obtained, location should be shown by distance from some identifiable point, such as a bridge, road, intersection, etc. (To assist in preparation of the encroachment plan, the Department's roadway plans may be seen at the various Highway Division Offices, or at the Raleigh office.)
6. Drainage structures or bridges if affected by encroachment.
7. Typical section indicating the pavement design and width, and the slopes, widths and details for either a curb and gutter or a shoulder and ditch section, whichever is applicable.
8. Horizontal alignment indicating general curve data, where applicable.
9. Vertical alignment indicated by percent grade, P.I. station and vertical curve length, where applicable.
10. Amount of material to be removed and/or placed on NCDOT right of way, if applicable.
11. Cross-sections of all grading operations, indicating slope ratio and reference by station where applicable.
12. All pertinent drainage structures proposed. Include all hydraulic data, pipe sizes, structure details and other related information.
13. Erosion and sediment control.
14. Any special provisions or specifications as to the performance of the work or the method of construction that may be required by the Department must be shown on a separate sheet attached to encroachment agreement provided that such information cannot be shown on plans or drawings.
15. The Department's Division Engineer should be given notice by the applicant prior to actual starting of installation included in this agreement.
16. Method of handling traffic during construction where applicable.
17. Scale of plans, north arrow, etc.

ACCESS PERMIT PROVISIONS

ALL SUBCONTRACTORS DOING WORK WITHIN THE STATE RIGHT OF WAY ARE TO HAVE A COPY OF THESE PLANS AND SPECIAL PROVISIONS ON THE JOB SITE. NCDOT SHALL IMMEDIATELY SUSPEND ANY WORK WITHIN THE RIGHT-OF-WAY WHENEVER IT IS DETERMINED THAT THE CONTRACTOR DOES NOT HAVE A COPY OF THESE PROVISIONS AND THE PERMIT ON THE SITE.

- YOU MUST NOTIFY **DENNIS EUDY** IN THE DISTRICT ENGINEER'S OFFICE AT (704) 218-5100 AT LEAST 72 HOURS PRIOR TO CONSTRUCTION. **MR. EUDY** IS TO BE NOTIFIED UPON COMPLETION SO AN INSPECTION CAN BE MADE.
- THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION **DOES NOT GUARANTEE THE RIGHT OF WAY** OF THE ROAD, NOR WILL IT BE RESPONSIBLE FOR ANY CLAIMS FOR DAMAGES BROUGHT BY ANY PROPERTY OWNER.
- ALL MATERIALS AND WORKMANSHIP SHALL CONFORM TO 2024 NCDOT STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES AND ROADWAY STANDARD DRAWINGS.
- PROPER TRAFFIC CONTROL DEVICES, SIGNS, ETC. SHALL BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH SECTION 1101 OF THE 2024 NCDOT ROADWAY STANDARD DRAWINGS AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
- ANY ROADWAY SIGNS THAT ARE REMOVED DURING CONSTRUCTION WILL BE REINSTALLED AS SOON AS POSSIBLE.
- TRAFFIC WILL BE MAINTAINED ON THE ROADWAY AT ALL TIMES.
- PROPER TEMPORARY AND PERMANENT MEASURES SHALL BE USED TO CONTROL EROSION AND SEDIMENTATION IN ACCORDANCE WITH ALL LOCAL, STATE, AND FEDERAL AGENCIES. EROSION CONTROL DEVICES ARE TO BE MAINTAINED AS NEEDED BY THE DEVELOPER.
- ANY DRAINAGE STRUCTURES DISTURBED OR DAMAGED SHALL BE RESTORED TO ORIGINAL CONDITIONS AS DIRECTED BY THE DISTRICT ENGINEER OR HIS REPRESENTATIVE.
- COMPLETE RESTORATION INCLUDING FERTILIZING, SEEDING AND MULCHING OF ALL AREAS DISTURBED DURING CONSTRUCTION WILL FOLLOW WITHIN A MAXIMUM OF THIRTY (30) WORKING DAYS OF THE INITIAL DISTURBING ACTIVITY.
- POSITIVE DRAINAGE SHALL BE MAINTAINED AT ALL TIMES.
- THE BACKFILL AROUND AND UNDER PIPES OR OTHER UTILITY INSTALLATIONS WITHIN CONSTRUCTION LIMITS SHALL BE MADE OF APPROVED MATERIAL AND COMPACTED TO AT LEAST 95% OF STANDARD DENSITY AS DETERMINED BY THE AASHTO METHOD T99.
- DIRT SHALL AT NO TIME BE PLACED ON ROADWAY PAVEMENT.
- NO TRENCHES, DROP-OFFS, EQUIPMENT, OR MATERIAL STOCKPILES ARE ALLOWED ON THE RIGHT OF WAY OVERNIGHT.
- ACCESS CONSTRUCTION MUST BE COMPLETED WITHIN (1) ONE YEAR AFTER THE APPROVAL DATE OF THIS PERMIT.

ACCESS PERMIT SPECIAL PROVISIONS

1. LANE CLOSURES ON Lancaster Ave (SR3515) SHALL BE BETWEEN THE HOURS OF 9:00 P.M. and 6:00 A.M.

IN ADDITION, THE CONTRACTOR SHALL NOT CLOSE OR NARROW A LANE OF TRAFFIC, DETAIN AND/OR ALTER THE TRAFFIC FLOW ON OR DURING HOLIDAYS, HOLIDAY WEEKENDS, SPECIAL EVENTS, OR ANY OTHER TIME WHEN TRAFFIC IS UNUSUALLY HEAVY, INCLUDING THE FOLLOWING SCHEDULES:

HOLIDAY AND HOLIDAY WEEKEND LANE CLOSURE RESTRICTIONS

- FOR UNEXPECTED OCCURRENCE THAT CREATES UNUSUALLY HIGH TRAFFIC VOLUMES, AS DIRECTED BY THE ENGINEER.
- FOR NEW YEAR'S DAY, BETWEEN THE HOURS OF 6:00 A.M. DECEMBER 31ST AND 9:00 A.M. JANUARY 2ND. IF NEW YEAR'S DAY IS ON A FRIDAY, SATURDAY, SUNDAY, OR MONDAY, THEN UNTIL 9:00 A.M. THE FOLLOWING TUESDAY.
- FOR EASTER, BETWEEN THE HOURS OF 6:00 A.M. THURSDAY AND 9:00 A.M. MONDAY.
- FOR MEMORIAL DAY, BETWEEN THE HOURS OF 6:00 A.M. FRIDAY AND 9:00 A.M. TUESDAY.
- FOR INDEPENDENCE DAY, BETWEEN THE HOURS OF 6:00 A.M. THE DAY BEFORE INDEPENDENCE DAY AND 9:00 A.M. THE DAY AFTER INDEPENDENCE DAY.
- IF INDEPENDENCE DAY IS ON A FRIDAY, SATURDAY, SUNDAY OR MONDAY, THEN BETWEEN THE HOURS OF 6:00 A.M. THE THURSDAY BEFORE INDEPENDENCE DAY AND 9:00 A.M. THE TUESDAY AFTER INDEPENDENCE DAY.
- FOR LABOR DAY, BETWEEN THE HOURS OF 6:00 A.M. FRIDAY AND 9:00 A.M. TUESDAY.
- FOR VETERAN'S DAY, BETWEEN THE HOURS OF 6:00 A.M. FRIDAY THROUGH 9:00 A.M. THE DAY AFTER.
- FOR THANKSGIVING DAY, BETWEEN THE HOURS OF 6:00 A.M. TUESDAY AND 9:00 A.M. MONDAY.
- FOR CHRISTMAS, BETWEEN THE HOURS OF 6:00 A.M. THE FRIDAY BEFORE THE WEEK OF CHRISTMAS DAY AND 9:00 A.M. THE FOLLOWING TUESDAY AFTER THE WEEK OF CHRISTMAS DAY.
- HOLIDAYS AND HOLIDAY WEEKENDS SHALL INCLUDE NEW YEAR'S, EASTER, MEMORIAL DAY, INDEPENDENCE DAY, LABOR DAY, THANKSGIVING, VETERAN'S DAY AND CHRISTMAS. THE CONTRACTOR SHALL SCHEDULE HIS WORK SO THAT LANE CLOSURES WILL NOT BE REQUIRED DURING THESE PERIODS, UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

2. THE PROPERTY OWNER OR LESSEE SHALL NOT PLACE OR ERECT ANY ADVERTISING SIGN, PRICE LIST, FLAG OR OTHER IDENTIFYING MARKER FOR THE PURPOSE OF ATTRACTING ATTENTION TO THE SITE, EITHER FIXED OR MOVABLE, ON OR EXTENDING OVER ANY PORTION OF THE HIGHWAY RIGHT OF WAY.
3. BEFORE CLEARING AND GRADING OPERATIONS MAY BEGIN A CONSTRUCTION ENTRANCE WITH A MINIMUM DEPTH OF 6" OF 2-3" COARSE AGGREGATE SHALL BE INSTALLED FOR A MINIMUM OF 50' IN LENGTH AND 12' IN WIDTH AT THE ENTRANCE TO THE PROPOSED DRIVEWAY/ROADWAY CONNECTION.
4. CONTACT MR. PJ COLEY, ENGINEERING TECHNICIAN, AT (704) 244-8270 IF ANY WORK IS TO BE DONE WITHIN 500 FEET OF ANY TRAFFIC SIGNALS WHERE LOOP DETECTORS MAY BE INVOLVED, **AT LEAST 48 HOURS PRIOR TO CONSTRUCTION.** ANY DAMAGE CAUSED TO ANY LOOP DETECTORS OR ANY OTHER SIGNAL RELATED EQUIPMENT WILL BE REPAIRED BY NCDOT AT THE EXPENSE OF THE ACCESS PERMIT APPLICANT.
5. THE ACCESS SHALL BE CONSTRUCTED AS SHOWN ON THE ATTACHED PLAN.
6. A MINIMUM OF 500 FEET OF SIGHT DISTANCE IS TO BE MAINTAINED AT ALL TIMES IN EACH DIRECTION.
7. AN APPROVED PLANTING PERMIT MUST BE OBTAINED FROM THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION BEFORE ANY PLANTING WILL BE PERMITTED WITHIN THE STATE RIGHT OF WAY. REQUESTS FOR PLANTING PERMITS SHOULD BE MADE TO MR. BRUCE MYERS, ROADSIDE ENVIRONMENTAL ENGINEER; 716 WEST MAIN STREET; ALBEMARLE, NC 28001.
8. MAXIMUM CUT AND FILL SLOPES SHOULD NOT EXCEED 2:1 WITHIN STATE RIGHT OF WAY.
9. PAVEMENT SECTION WITHIN NCDOT ROW SHALL BE:
1.5" S 9.5 C SURFACE COURSE,
2.5" I 19.0 C COURSE, AND
8" B 25.0 C BASE COURSE.

*All C&G WITHIN THE RIGHT OF WAY MUST BE SET ON 5" OF ASPHALT BASE COURSE.

NO SUBSTITUTION OF MIXES OR USE OF AGGREGATE BASE COURSE WILL BE PERMITTED UNLESS AUTHORIZED IN WRITING BY THE DISTRICT ENGINEER.

BE ADVISED QUALITY MANAGEMENT SYSTEMS FOR ASPHALT PAVEMENTS (MAINTENANCE VERSION) SHALL BE ADHERED TO. PLEASE FIND ATTACHED PERVISIONS LETTER IN THIS PROPOSAL.

10. NCDOT PERSONNEL MUST INSPECT EACH PHASE OF ROADWAY CONSTRUCTION. PLEASE CALL THE DISTRICT ENGINEER'S OFFICE AT (704) 218-5100 AT LEAST 24 HOURS PRIOR TO PLACEMENT OF ASPHALT BASE COURSE, PLACEMENT OF ASPHALT BINDER COURSE, AND PLACEMENT OF ASPHALT SURFACE COURSE.

11. PAVEMENT PLACEMENT SHALL BE WITHIN THE REQUIREMENTS OF SECTION 610-4 OF THE 2024 NCDOT STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES, WHICH OUTLINES AMBIENT AIR TEMPERATURE AND OTHER WEATHER LIMITATIONS FOR PAVEMENT PLACEMENT. NO PLACEMENT CAN BEGIN WHERE THESE REQUIREMENTS CANNOT BE SATISFIED. **PATCHING AND LEVELING MAY BE REQUIRED PRIOR TO RESURFACING THE ROADWAY.**
12. THE CROSS-SLOPE OF THE PROPOSED ROADWAY WIDENING SHALL BE BASED UPON CENTERLINE GRADE OR EXISTING ROADWAY WITH THE SLOPE OF THE EXISTING PAVEMENT TAKEN INTO CONSIDERATION. THE SLOPE OF THE ROAD SHALL BE MAINTAINED ACROSS THE WIDENING. NEW PAVEMENT TIES TO EXISTING PAVEMENT SHOULD MATCH THE EXISTING ROADWAY ELEVATION WITH NO DIPS OR HUMPS. IT WILL BE NECESSARY FOR THE CONTRACTOR TO PATCH OR LEVEL EXISTING DIPS TO RESTORE THE CROSS-SLOPE OF THE ROADWAY PRIOR TO PERFORMING THE PAVEMENT WIDENING OR OVERLAYING THE EXISTING ROADWAY.
13. THE PAVEMENT WIDENING IS TO BE STRIPED FOLLOWING RESURFACING IN A TIMELY MANNER TO RESTORE DELINEATION THROUGH THE PROJECT AREA. CONTACT MAC OUTEN IN THE DISTRICT ENGINEER'S OFFICE AT (704) 218-5100 FOR A PRE-PAVEMENT MARKING INSPECTION. THIS REQUIREMENT IS NEEDED SO NCDOT CAN REVIEW THE PAVEMENT MARKINGS TO BE INSTALLED BY THE CONTRACTOR PRIOR TO THE ACTUAL PLACEMENT OF THE MARKINGS. ALL PAVEMENT MARKINGS SHALL BE THERMOPLASTIC.
14. SHOULDERS ARE TO BE RECONSTRUCTED AFTER WIDENING AND RESURFACING. THE MATERIALS USED IN CONSTRUCTION OF EARTH SHOULDERS SHALL BE FREE FROM DEBRIS AND APPROVED BY THE DISTRICT ENGINEER'S REPRESENTATIVE.
15. ANY EXISTING DRAINPIPE THAT DOES NOT HAVE ADEQUATE SHOULDER WIDTH AFTER PAVEMENT WIDENING WILL NEED TO BE EXTENDED AS DIRECTED BY THE DISTRICT ENGINEER OR AS INDICATED ON THE APPROVED ACCESS PERMIT.
16. THE CONTRACTOR IS REQUIRED TO REPLACE OR RELOCATE ANY DRIVEWAY OR ROADWAY CULVERT, STRUCTURE, OR OTHER DRAINAGE SYSTEM ALONG THE SECTION OF STATE ROAD BEING WIDENED, SO AS TO MAINTAIN NOT ONLY THE REQUIRED ROADWAY TYPICAL SECTION (I.E., DITCH AND SHOULDER REQUIRED) BUT ALSO DRAINAGE. ANY DRAINAGE PIPE PARTIALLY OR COMPLETELY STOPPED UP SHALL BE CLEANED OUT BY THE CONTRACTOR. CULVERTS DAMAGED DURING RELOCATION OR CLEANING MAY REQUIRE REPLACEMENT AT THE CONTRACTOR'S EXPENSE, AS DETERMINED BY THE DISTRICT ENGINEER OR HIS REPRESENTATIVE. DRIVEWAY CULVERTS DETERMINED TO BE UNDERSIZED AS A RESULT OF THE DEVELOPMENT SHALL BE REPLACED WITH AN APPROPRIATE DIAMETER CULVERT AT THE DEVELOPER'S EXPENSE.
17. THIS OFFICE HAS RECEIVED A PERFORMANCE AND INDEMNITY BOND IN THE AMOUNT OF \$286,192.50. THESE BONDS WILL BE HELD AS WARRANTY FOR TWO (2) YEARS AFTER COMPLETION AND FINAL INSPECTION OF CONSTRUCTION.
18. ALL STORM DRAINPIPE SHALL BE CAMERAED 60 DAYS PRIOR TO NCDOT ACCEPTING THE SUBDIVISION STREETS FOR MAINTENANCE. CONTACT Dennis Eudy @ 704-218-5100 PRIOR TO VIDEOING THE STORM DRAIN SYSTEM.

19. SUBDIVISIONS WILL ONLY BE ALLOWED TO PLAT 50 LOTS OR HALF WHICHEVER IS LESS PRIOR TO COMPLETING ALL THE ROADWAY IMPROVEMENTS.

August 21, 2024

**NOTICE OF VIOLATIONS OF THE
SEDIMENTATION POLLUTION CONTROL ACT**

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Carolina Development Services, LLC
Attn: Jonathan McCall
2627 Brekonridge Centre Drive
Monroe, NC 28110

RE: Project Name: King Oak
Project ID: PREN202301922
County: Union
Compliance Deadline: 7 Days from receipt (unless otherwise noted).

Mr. McCall,

On August 16, 2024 personnel of this office inspected a site located on Ann Street, Monroe in Union County, North Carolina. This inspection was performed to determine compliance with the City of Monroe Ordinance (C. M. O.) Title XV, Chapter 158 and North Carolina Sedimentation Pollution Control Act (Act) of 1973.

It is our understanding that your firm owns the subject property and as such, your firm is responsible for this violation. If your firm does not own the property, or if there is another party that is conducting the land-disturbing activity, please notify this office immediately. The purpose of this letter is to inform you that this activity was found to be in violation of C. M. O. Title XV, Chapter 158 and the Act, G.S. 113A-50 to 66, Title 15A, North Carolina Administrative Code (NCAC), Chapter 4.

The violations that were found are:

§ 158.12 RESPONSIBILITY FOR MAINTENANCE

- a. Failure to install sedimentation and erosion control devices sufficient to retain the sediment generated by the land-disturbing activity within the boundaries of the tract during construction and upon development of the tract when the land disturbance is greater than 12,000 square feet or more. G.S. 113A-57(3) and C. M. O. Title XV, §158.12. **The site has no construction entrance or silt fence installed.**

§ 71.20 SPILLING OF CRUSHED ROCK, DIRT, GARBAGE, LIQUIDS, TRASH AND OTHER OBJECTIONABLE MATERIAL

- b. It shall be unlawful for the contractor in charge of a construction project, or for any person who undertakes the removal and conveyance of any dirt, mud, construction materials or other debris, to allow any dirt, mud, construction materials or other debris to be deposited upon any city street or sidewalk and then fail to immediately remove the dirt, mud, construction materials or other debris from the street or sidewalk. In addition, to the other sanctions authorized by G.S. § 160A-17, the contractor or person found in violation of this section (the responsible party) shall be issued a civil citation and assessed a civil penalty enforceable in the nature of a civil debt as follows:

First Civil Citation	\$50.00
Second Civil Citation	\$100.00
Third and Subsequent Civil Citation	\$500.00

('84 Code, § 16-63) (Am. Ord. O-2003-34, passed 6-17-03)

Additional Fees for Street Clean-up:

CHAPTER VII. ENGINEERING/PUBLIC WORKS ARTICLE A. FEES

Section 1. Street Cleaning/Street Division. Cleaning and Flushing of City Maintained Streets Due to Dirt/Debris Being Tracked into The Street Right-of-Way from Private Property.

Description:

- Cleaning and Flushing of City Maintained Streets Due to Dirt/Debris Being Tracked Into The Street Right-of-Way From Private Property. \$150 Mobilization Fee Plus \$125 Administration Fee
- Street Sweeping Fee – one hour minimum \$300 per hour

To correct these violations, you must adhere to the following requirements:

1. No further land-disturbing activity should place except that which is necessary to install all phase one erosion control measures per the approved plan.
 - **Install construction entrance off of Ann St per the approved plan**
 - **Install silt fence per the approved plan**
 - **Barricade off the Lancaster Ave entrance**

2. All sediment displaced off-site needs to be cleaned up immediately in order to not be in violation of ordinance § 71.20.
 - **Remove sediment off of Ann St and Lancaster Ave (Failure to do so will result in a civil citation)**

The violations cited herein will be referred to the City of Monroe Director of Engineering (Director) for appropriate enforcement action, including civil penalty assessments for an initial one-day violation and/or a continuing violation. The penalty for an initial one-day violation may be assessed in an amount not to exceed \$5,000.00. The City of Monroe is not required to provide a time period for compliance before assessing a penalty for the violations cited herein. Please be advised that a civil penalty may be assessed for the violations regardless of whether the violations are corrected within the time period set out below.

In addition, if our office is not contacted within **6 days** of receipt of this notice with a written, chronological plan for bringing the site into compliance, appropriate legal action will be taken against you for continuing violations pursuant to C. M. O. Title XV, Chapter 158 and NCGS 113A-61.1 and 113A-64. A penalty may be assessed from the date of the violation, pursuant to NCGS 113A-64(a)(1), and for each day of a continuing violation in an amount not to exceed \$5,000.00 per day.

Please be advised that any new land-disturbing activity associated with this project should not begin until the area presently disturbed is brought into compliance with the C.M.O. and Act. When corrective actions are complete, you should notify this office so that work can be inspected. You should not assume that the project is in compliance with the Act until we have notified you. After installation, all erosion control measures must be maintained in proper working order until the site is completely stabilized.

We solicit your cooperation, and would like to avoid taking further enforcement action. At the same time, it is your responsibility to understand and comply with the requirements of the C.M.O. and Act. Copies of the relevant statute and administrative rules may be examined at this office or will be sent to you upon request. Should you have questions concerning this notice or the requirements of the C.M.O. and/or Act please contact me by phone at 704-282-4583 or by e-mail at zross@monroenc.org.

Sincerely,

A handwritten signature in dark ink, appearing to read "Zach Ross". The signature is fluid and cursive, with the first name "Zach" and last name "Ross" clearly distinguishable.

Zach Ross
Construction Inspector II
City of Monroe

Enclosures:

Financial Responsibility Form
Erosion Control Plan Checklist
City Detail 03.01.01
City Detail 03.04.01

cc: **Sarah McAllister, Engineering Director**
Will Auret, Land Development and Infrastructure Manager
Chad Splawn, Engineering Associate
Tonya Griffin, Engineering Associate – Plan Reviewer
Lily Kay, Environmental Senior Specialist - Mooresville Regional Office