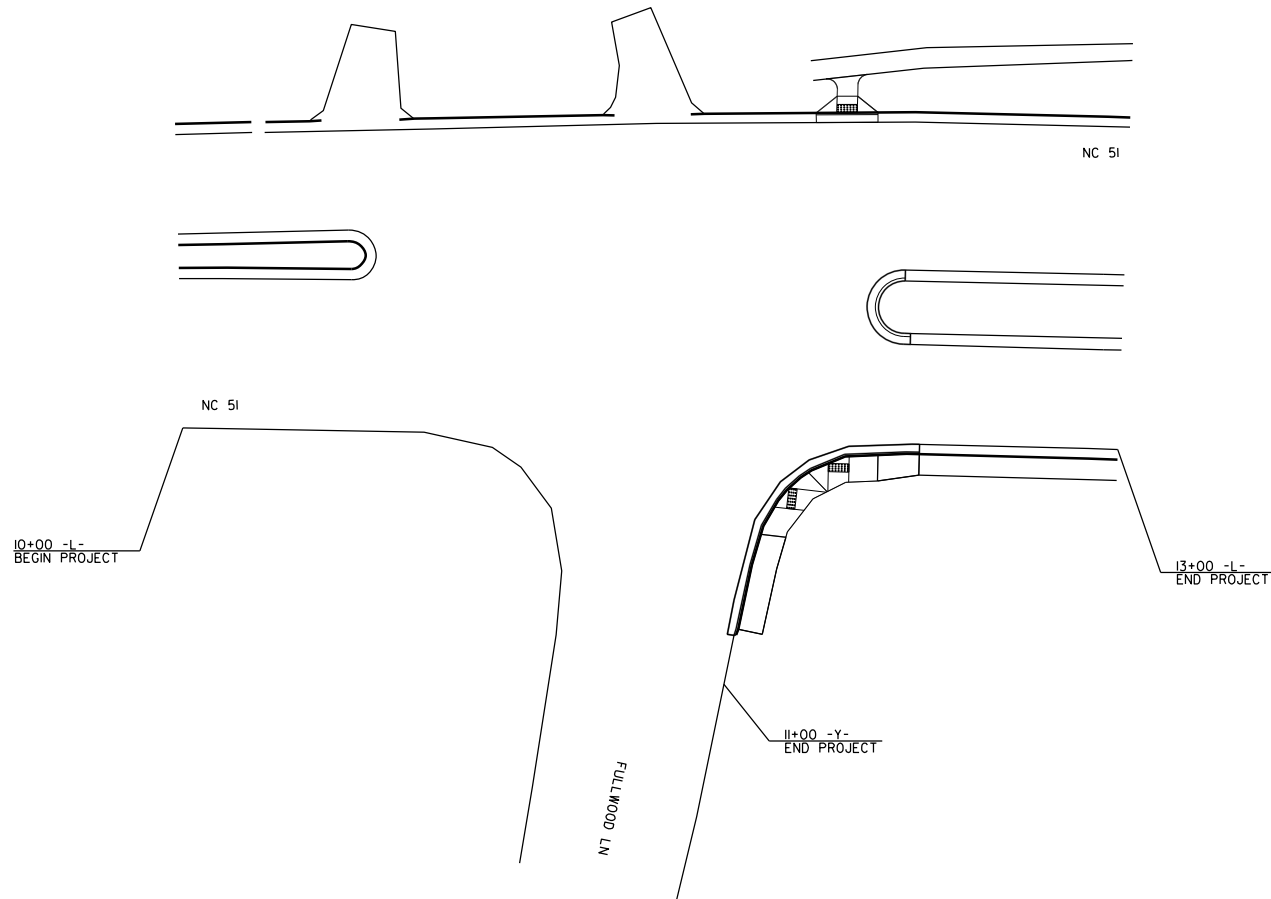


MECKLENBURG COUNTY

TYPE OF WORK: *GRADING, PAVING, CURB RAMPS, CURB AND GUTTER, SIDEWALKS, CROSSWALKS, AND SIGNALS.*



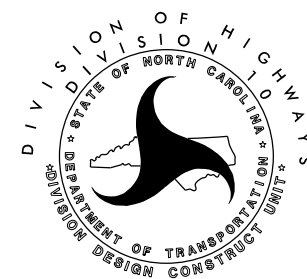
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	50982.3.11	11	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
50982.1.11	N/A	P.E.	
50982.2.11	N/A	R/W	
50982.3.11	N/A	CONST.	

ADT =
ADT =
K = %
D = %
T = % *
V = MPH
* TTST = DUAL
FUNC CLASS =
TIER

LENGTH OF ROADWAY PROJECT = 0.03 MILES
TOTAL LENGTH OF STATE PROJECT = 0.03 MILES

LETTING DATE:
JULY 15, 2026

DONALD HARWARD
NCDOT CONTACT



APPROVED BY: [Signature] P.E.
DIVISION PROJECT TEAM LEAD: A5301AC751FF47B... DATE: _____

Note: Not to Scale

BOUNDARIES AND PROPERTY:

State Line	
County Line	
Township Line	
City Line	
Reservation Line	
Property Line	
Existing Iron Pin (EIP)	
Computed Property Corner	
Existing Concrete Monument (ECM)	
Parcel / Sequence Number	
Existing Fence Line	
Proposed Woven Wire Fence	
Proposed Chain Link Fence	
Proposed Barbed Wire Fence	
Existing Wetland Boundary	
Proposed Wetland Boundary	
Existing Endangered Animal Boundary	
Existing Endangered Plant Boundary	
Existing Historic Property Boundary	
Known Contamination Area: Soil	
Potential Contamination Area: Soil	
Known Contamination Area: Water	
Potential Contamination Area: Water	
Contaminated Site: Known or Potential	

BUILDINGS AND OTHER CULTURE:

Gas Pump Vent or U/G Tank Cap	
Sign	
Well	
Small Mine	
Foundation	
Area Outline	
Cemetery	
Building	
School	
Church	
Dam	

HYDROLOGY:

Stream or Body of Water	
Hydro, Pool or Reservoir	
Jurisdictional Stream	
Buffer Zone 1	
Buffer Zone 2	
Flow Arrow	
Disappearing Stream	
Spring	
Wetland	
Proposed Lateral, Tail, Head Ditch	
False Sump	

RAILROADS:

Standard Gauge	
RR Signal Milepost	
Switch	
RR Abandoned	
RR Dismantled	

RIGHT OF WAY & PROJECT CONTROL:

Primary Horiz Control Point	
Primary Horiz and Vert Control Point	
Secondary Horiz and Vert Control Point	
Vertical Benchmark	
Existing Right of Way Monument	
Proposed Right of Way Monument (Rebar and Cap)	
Proposed Right of Way Monument (Concrete)	
Existing Permanent Easement Monument	
Proposed Permanent Easement Monument (Rebar and Cap)	
Existing C/A Monument	
Proposed C/A Monument (Rebar and Cap)	
Proposed C/A Monument (Concrete)	
Existing Right of Way Line	
Proposed Right of Way Line	
Existing Control of Access Line	
Proposed Control of Access Line	
Proposed ROW and CA Line	
Existing Easement Line	
Proposed Temporary Construction Easement	
Proposed Temporary Drainage Easement	
Proposed Permanent Drainage Easement	
Proposed Permanent Drainage/Utility Easement	
Proposed Permanent Utility Easement	
Proposed Temporary Utility Easement	
Proposed Aerial Utility Easement	

ROADS AND RELATED FEATURES:

Existing Edge of Pavement	
Existing Curb	
Proposed Slope Stakes Cut	
Proposed Slope Stakes Fill	
Proposed Curb Ramp	
Existing Metal Guardrail	
Proposed Guardrail	
Existing Cable Guiderail	
Proposed Cable Guiderail	
Equality Symbol	
Pavement Removal	
VEGETATION:	
Single Tree	
Single Shrub	
Hedge	

CONVENTIONAL PLAN SHEET SYMBOLS

Woods Line	
Orchard	
Vineyard	

EXISTING STRUCTURES:

MAJOR:	
Bridge, Tunnel or Box Culvert	
Bridge Wing Wall, Head Wall and End Wall	
MINOR:	
Head and End Wall	
Pipe Culvert	
Footbridge	
Drainage Box: Catch Basin, DI or JB	
Paved Ditch Gutter	
Storm Sewer Manhole	
Storm Sewer	

UTILITIES:

* SUE - Subsurface Utility Engineering
LOS - Level of Service - A,B,C or D (Accuracy)

POWER:

Existing Power Pole	
Proposed Power Pole	
Existing Joint Use Pole	
Proposed Joint Use Pole	
Power Manhole	
Power Line Tower	
Power Transformer	
U/G Power Cable Hand Hole	
H-Frame Pole	
U/G Power Line Test Hole (SUE - LOS A)*	
U/G Power Line (SUE - LOS B)*	
U/G Power Line (SUE - LOS C)*	
U/G Power Line (SUE - LOS D)*	

TELEPHONE:

Existing Telephone Pole	
Proposed Telephone Pole	
Telephone Manhole	
Telephone Pedestal	
Telephone Cell Tower	
U/G Telephone Cable Hand Hole	
U/G Telephone Test Hole (SUE - LOS A)*	
U/G Telephone Cable (SUE - LOS B)*	
U/G Telephone Cable (SUE - LOS C)*	
U/G Telephone Cable (SUE - LOS D)*	
U/G Telephone Conduit (SUE - LOS B)*	
U/G Telephone Conduit (SUE - LOS C)*	
U/G Telephone Conduit (SUE - LOS D)*	
U/G Fiber Optics Cable (SUE - LOS B)*	
U/G Fiber Optics Cable (SUE - LOS C)*	
U/G Fiber Optics Cable (SUE - LOS D)*	

WATER:

Water Manhole	
Water Meter	
Water Valve	
Water Hydrant	
U/G Water Line Test Hole (SUE - LOS A)*	
U/G Water Line (SUE - LOS B)*	
U/G Water Line (SUE - LOS C)*	
U/G Water Line (SUE - LOS D)*	
Above Ground Water Line	

TV:

TV Pedestal	
TV Tower	
U/G TV Cable Hand Hole	
U/G TV Test Hole (SUE - LOS A)*	
U/G TV Cable (SUE - LOS B)*	
U/G TV Cable (SUE - LOS C)*	
U/G TV Cable (SUE - LOS D)*	
U/G Fiber Optic Cable (SUE - LOS B)*	
U/G Fiber Optic Cable (SUE - LOS C)*	
U/G Fiber Optic Cable (SUE - LOS D)*	

GAS:

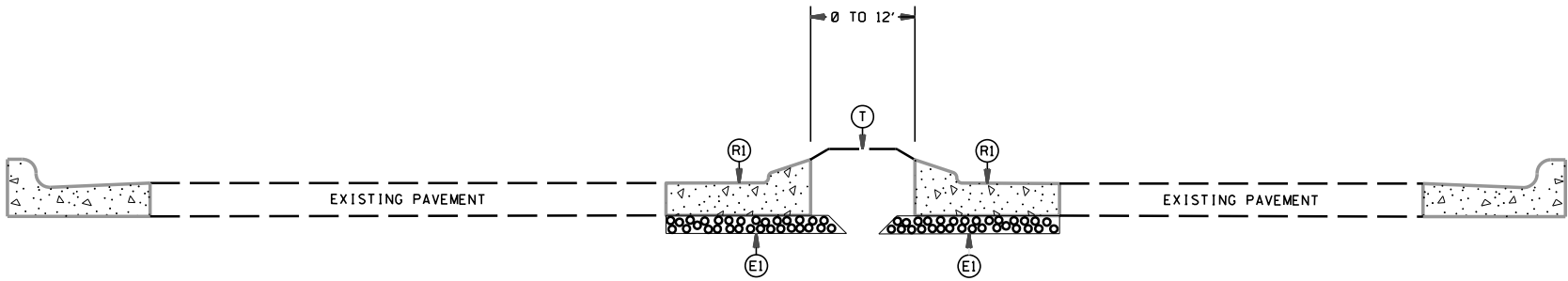
Gas Valve	
Gas Meter	
U/G Gas Line Test Hole (SUE - LOS A)*	
U/G Gas Line (SUE - LOS B)*	
U/G Gas Line (SUE - LOS C)*	
U/G Gas Line (SUE - LOS D)*	
Above Ground Gas Line	

SANITARY SEWER:

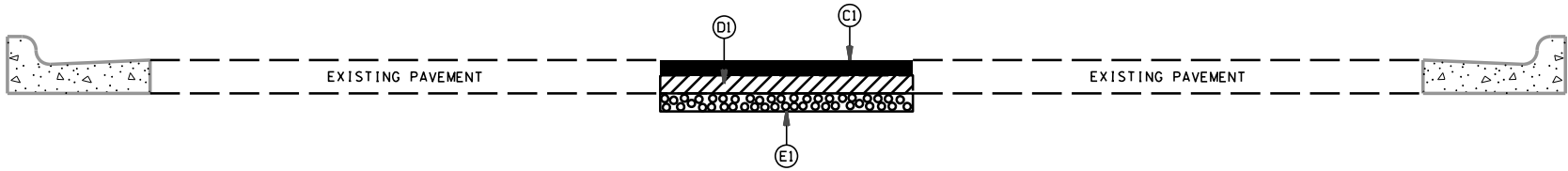
Sanitary Sewer Manhole	
Sanitary Sewer Cleanout	
U/G Sanitary Sewer Line	
Above Ground Sanitary Sewer	
SS Force Main Line Test Hole (SUE - LOS A)*	
SS Force Main Line (SUE - LOS B)*	
SS Force Main Line (SUE - LOS C)*	
SS Force Main Line (SUE - LOS D)*	

MISCELLANEOUS:

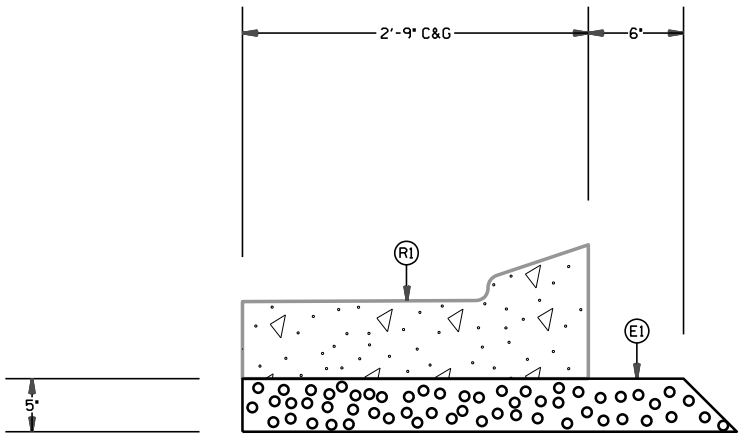
Utility Pole	
Utility Pole with Base	
Utility Located Object	
Utility Traffic Signal Box	
Utility Unknown U/G Line (SUE - LOS B)*	
U/G Tank; Water, Gas, Oil	
Underground Storage Tank, Approx. Loc.	
A/G Tank; Water, Gas, Oil	
Geoenviromental Boring	
Abandoned According to Utility Records	
End of Information	



TYPICAL SECTION NO.2
STA. 12+04.75 TO 12+15.42 -L-



TYPICAL SECTION NO.1
STA. 11+95.46 TO 12+04.75 -L-



2'-9" CURB & GUTTER DETAIL

C1	PROP. APPROX. 3" ASPHALT CONC. SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS
D1	PROP. APPROX. 4" ASPHALT CONC. INTERMEDIATE COURSE, TYPE B119.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
E1	PROP. APPROX. 5" ASPHALT CONC. BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 570 LBS. PER SQ. YD.
R1	PROP. 2'-9" CONC. CURB & GUTTER
T	EARTH MATERIAL

PAVEMENT SCHEDULE

PEDESTRIAN IMPROVEMENTS

SCALE	1"=20'
DATE	01-2026
DWG. BY	BAC
DESIGN BY	JDH
APPROVED	JDH



REVISIONS	

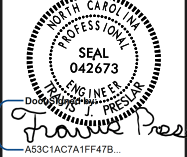
50982.3.11
TYP 002

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
UNION COUNTY



DIVISION 10 DESIGN UNIT

ROADWAY DESIGN
05/26/2026

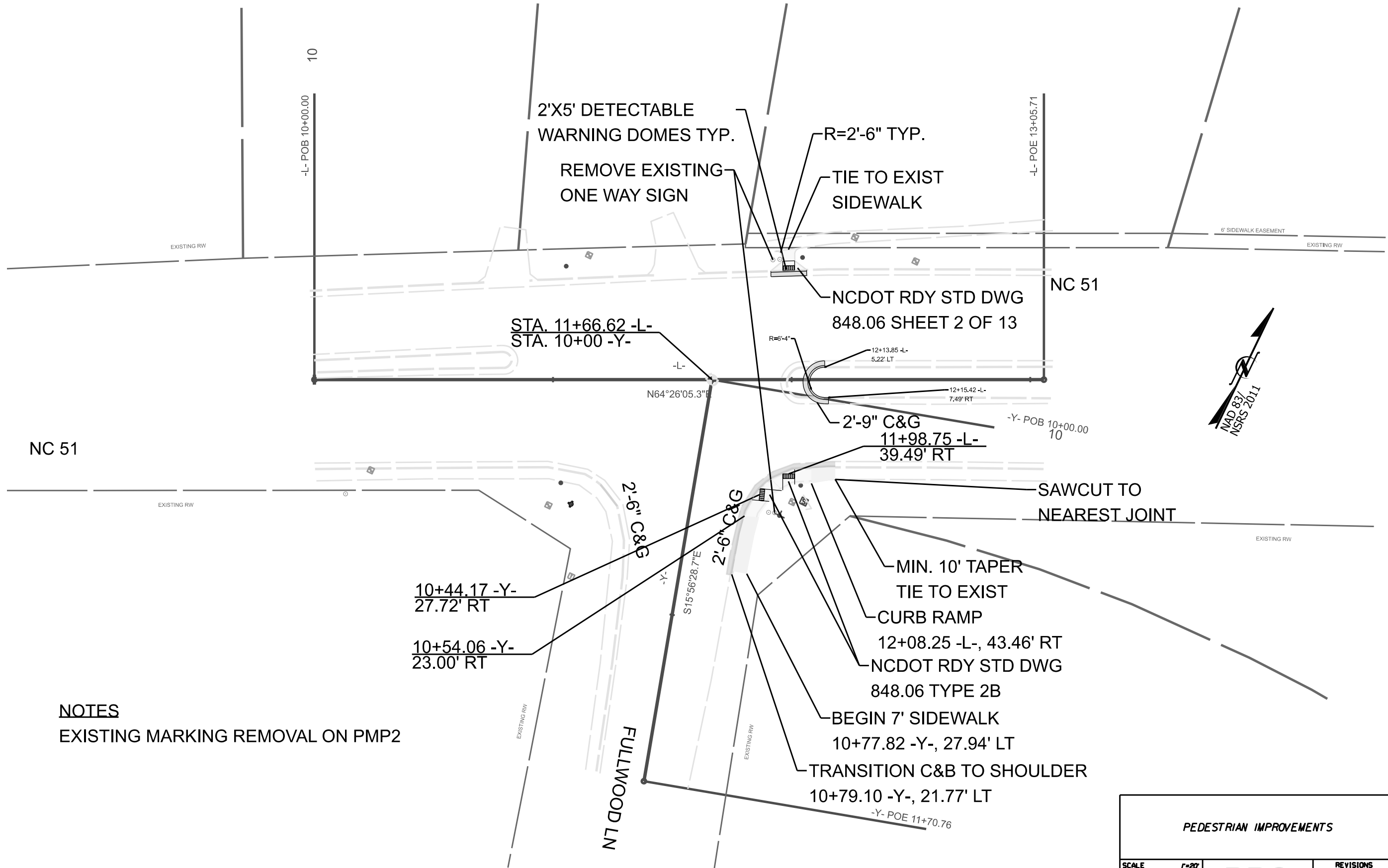


DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

TIP PROJECT: HS-2410J
County: Mecklenburg



PREPARED BY
DDC UNIT
DIVISION 10
716 W. MAIN STREET
ALBEMARLE, NC 28001



NOTES

EXISTING MARKING REMOVAL ON PMP2

50982.3.11
PSH 004

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
UNION COUNTY



DIVISION 10 DESIGN UNIT

ROADWAY DESIGN
ENGINEER
05/26/2026



DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETE

TIP PROJECT: HS-2410J
County: Mecklenburg



PREPARED BY
DDC UNIT
DIVISION 10
716 W. MAIN STREET
ALBEMARLE, NC 28001

PEDESTRIAN IMPROVEMENTS

SCALE	1"=20'
DATE	01-2026
DWG. BY	BAC
DESIGN BY	JDM
APPROVED	JDM



REVISIONS	

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PAVEMENT MARKING PLAN
MECKLENBURG COUNTY

LOCATION: INTERSECTION OF NC-51 (MATTHEWS
TOWNSHIP PKWY) & FULLWOOD LN

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	50982.3.11	11	
STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION	
50982.1.11	N/A	P.E.	
50982.2.11	N/A	R/W	
50982.3.11	N/A	CONST.	

INDEX OF SHEETS

SHEET NO.	TITLE
PMP-1	PAVEMENT MARKING PLAN TITLE AND SCHEDULE SHEET.
PMP-2	PAVEMENT MARKING REMOVAL:

ROADWAY STANDARD DRAWINGS

THE FOLLOWING STANARDS APPEAR IN "ROADWAY STANDARD DRAWINGS" - N.C. DEPARTMENT OF TRANSPORTATION - RALEIGH, N.C. DATED JANUARY 2024 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS.

STD. NO.	TITLE
1205.01	PAVEMENT MARKINGS - LINE TYPES AND OFFSETS
1205.4	PAVEMENT MARKINGS - INTERSECTIONS

PAVEMENT
MARKING SCHEDULE

SYMBOL	DESCRIPTION
T2	WHITE SOLID LANE LINE (4", 90 MIL)
T13	YELLOW DOUBLE CENTER (4", 90 MIL)
T46	WHITE CROSSWALK LINE (8", 90 MIL)
T62	WHITE STOPBAR (24", 90 MIL)

GENERAL NOTES

THE FOLLOWING GENERAL NOTES APPLY AT ALL TIMES FOR THE DURATION OF THE CONSTRUCTION PROJECT, EXCEPT WHEN OTHERWISE NOTED IN THE PLAN. OR DIRECTED BY THE ENGINEER.

A.) INSTALL PAVEMENT MARKINGS ON THE FINAL SURFACE AS FOLLOWS:

ROAD NAME	MARKING	MARKER
-L-	THERMOPLASTIC	NONE
-Y-	THERMOPLASTIC	NONE

B.) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.

C.) REMOVE/REPLACE AND CONFLICTING/DAMAGED PAVEMENT MARKINGS.

GRAPHIC SCALES



DESIGN DATA

ADT =
ADT =
K = %
D = %
T = % *
V = MPH
* TTST = DUAL
FUNC CLASS =

TIER

PLAN REVIEWED BY:

DIVISION OF HIGHWAYS

NCDOT SIGNING AND
DELINEATION UNIT

KELVIN JORDAN SIGNING AND DELINEATION ENGINEER



Prepared in the Office of:

DIVISION OF HIGHWAYS

DIVISION TEN
DIVISION DESIGN AND CONSTRUCT

BRADLEY COLEY PROJECT DESIGN ENGINEER

DONALD HARWARD PROJECT ENGINEER

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA
05/26/2026



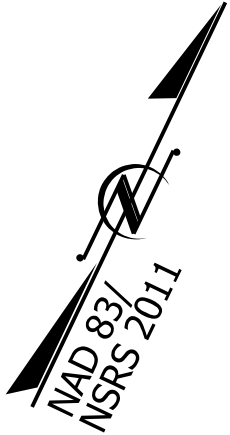
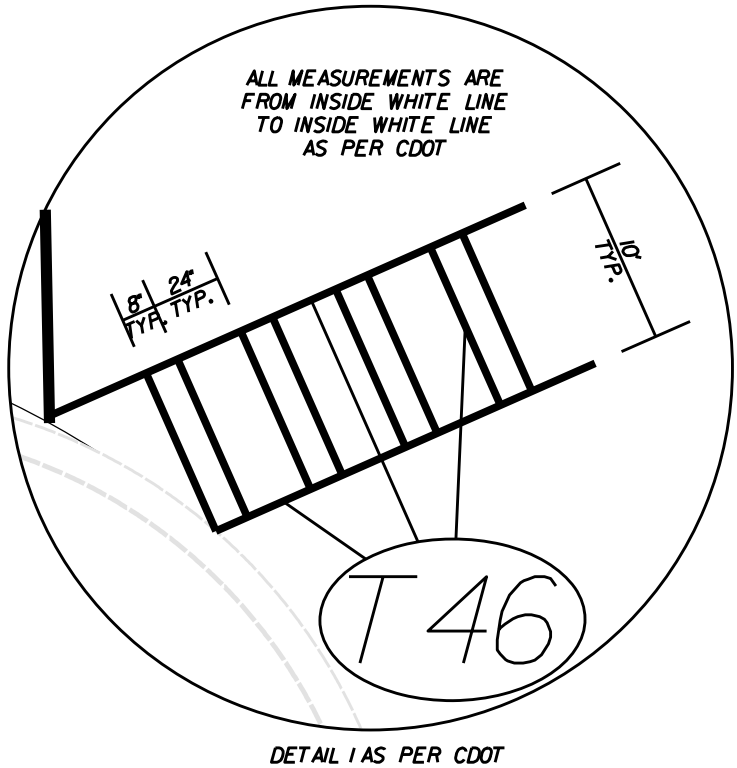
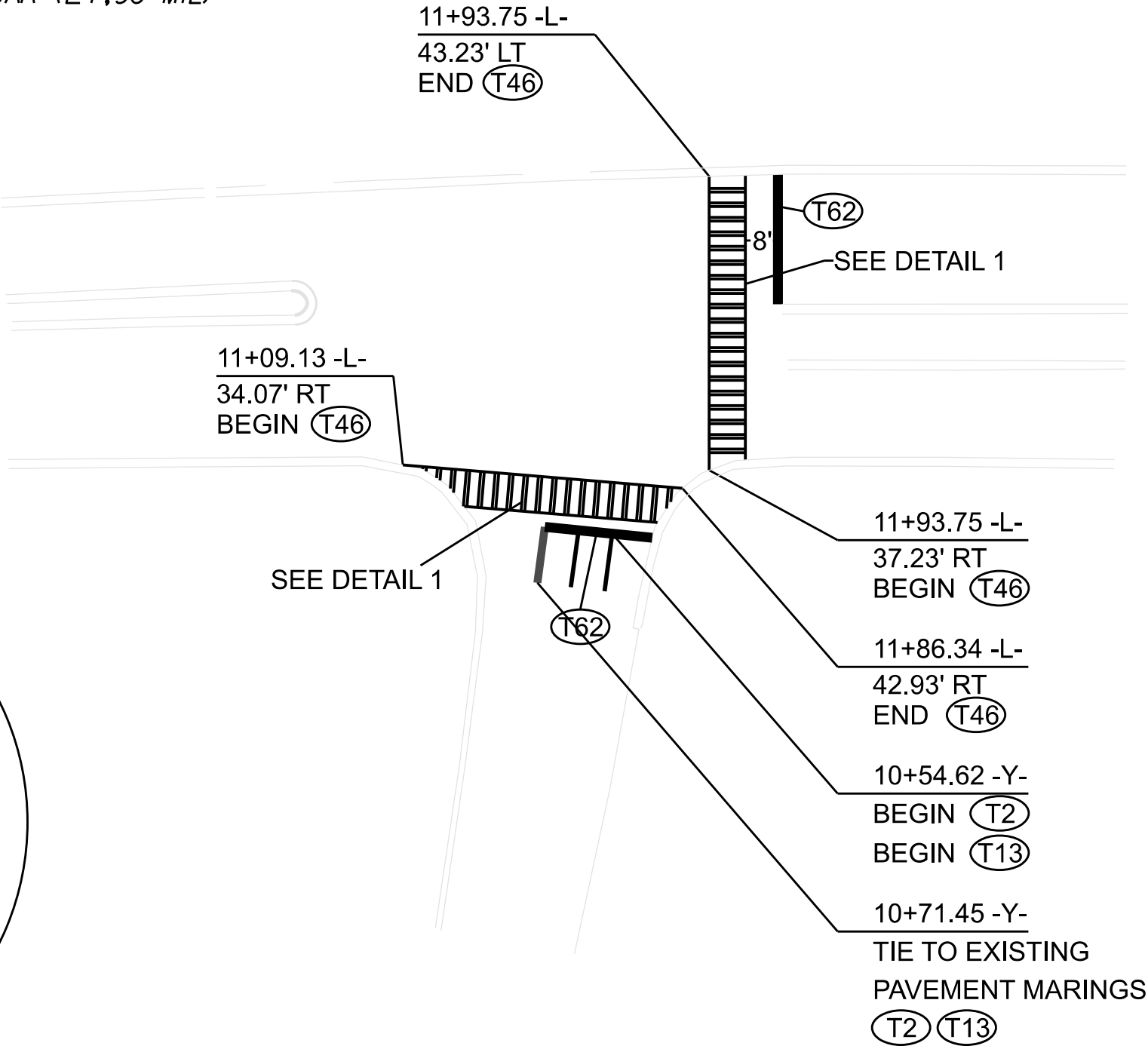
APPROVED BY: DATE: 05/26/2026
DIVISION PROJECT TEAM LEAD

PAVEMENT MARKING SCHEDULE

PAVEMENT MARKING LINES

- T2 - WHITE SOLID LANE LINE (4",90 MIL)
- T13 - YELLOW DOUBLE CENTER (4",90 MIL)
- T46 - WHITE CROSSWALK LINE (8",90 MIL)
- T62 - WHITE STOPBAR (24",90 MIL)

NOTES
EXISTING PAVEMENT MARKING REMOVAL ON PMP-2



PEDESTRIAN IMPROVEMENTS			
SCALE	1"=20'	REVISIONS	
DATE	01-2026		
DWG. BY	BAC		
DESIGN BY	JDM		
APPROVED	JDM		

50982.3.11

PMP 001

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
UNION COUNTY

DIVISION 10 DESIGN UNIT

ROADWAY DESIGN
05/26/2026

SEAL
042673
ENGINEER
TRANSPORTATION
J. PRESTON
TRANSPORTATION

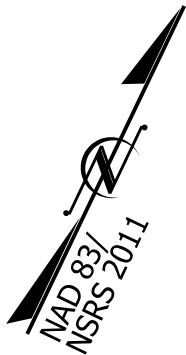
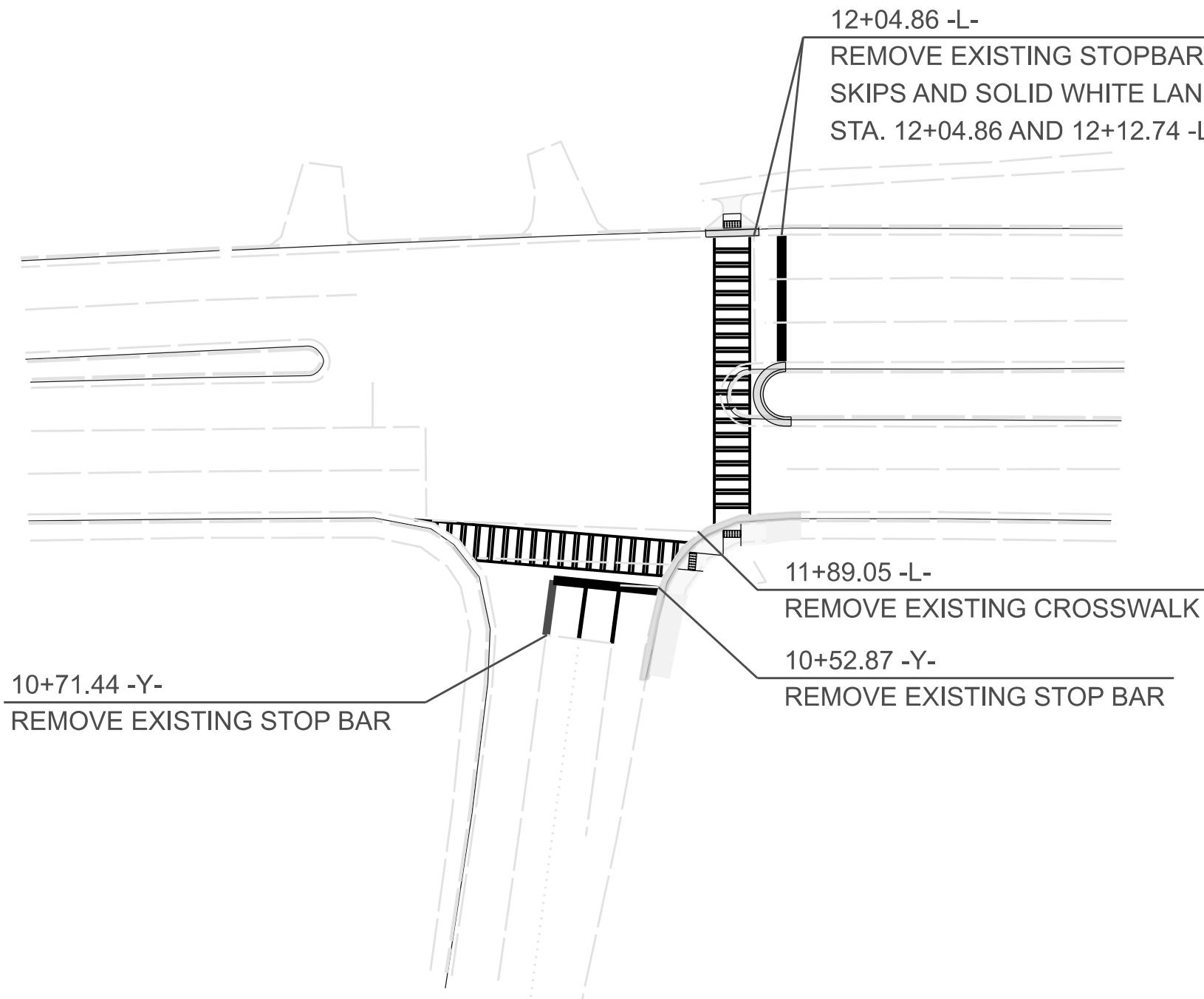
DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETE

TIP PROJECT: HS-2410J
County: Mecklenburg

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
DESIGN CONSTRUCTION UNIT

PREPARED BY
DDC UNIT
DIVISION 10
716 W. MAIN STREET
ALBEMARLE, NC 28001

EXISTING PAVEMENT MARKING REMOVAL



PEDESTRIAN IMPROVEMENTS

SCALE	1"=20'
DATE	05-2026
DWG. BY	BAC
DESIGN BY	BAC
APPROVED	JCH



REVISIONS	

50982.3.11
PMP 002

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
UNION COUNTY



DIVISION 10 DESIGN UNIT

ROADWAY DESIGN
ENGINEER
05/26/2026



THOMAS J. PRESLEY
A53C1AC7A1FF47B...

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETE

TIP PROJECT: HS-2410J
County: Mecklenburg

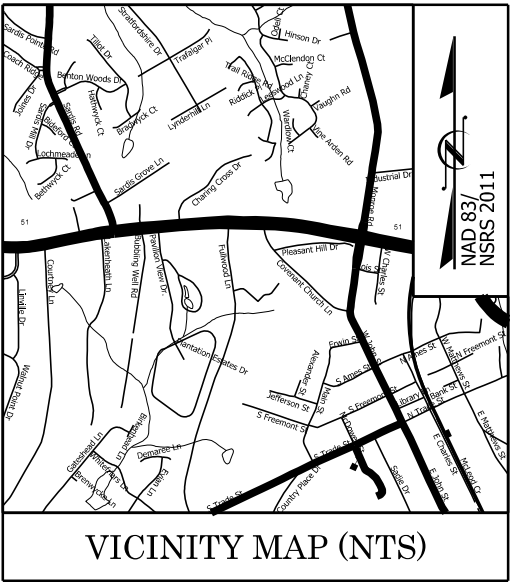


PREPARED BY
DDC UNIT
DIVISION 10
716 W. MAIN STREET
ALBEMARLE, NC 28001

09/08/09

CONTRACT: 50982.3.11 TIP PROJECT: HS-2410J

See Sheet 1A For Index of Sheets

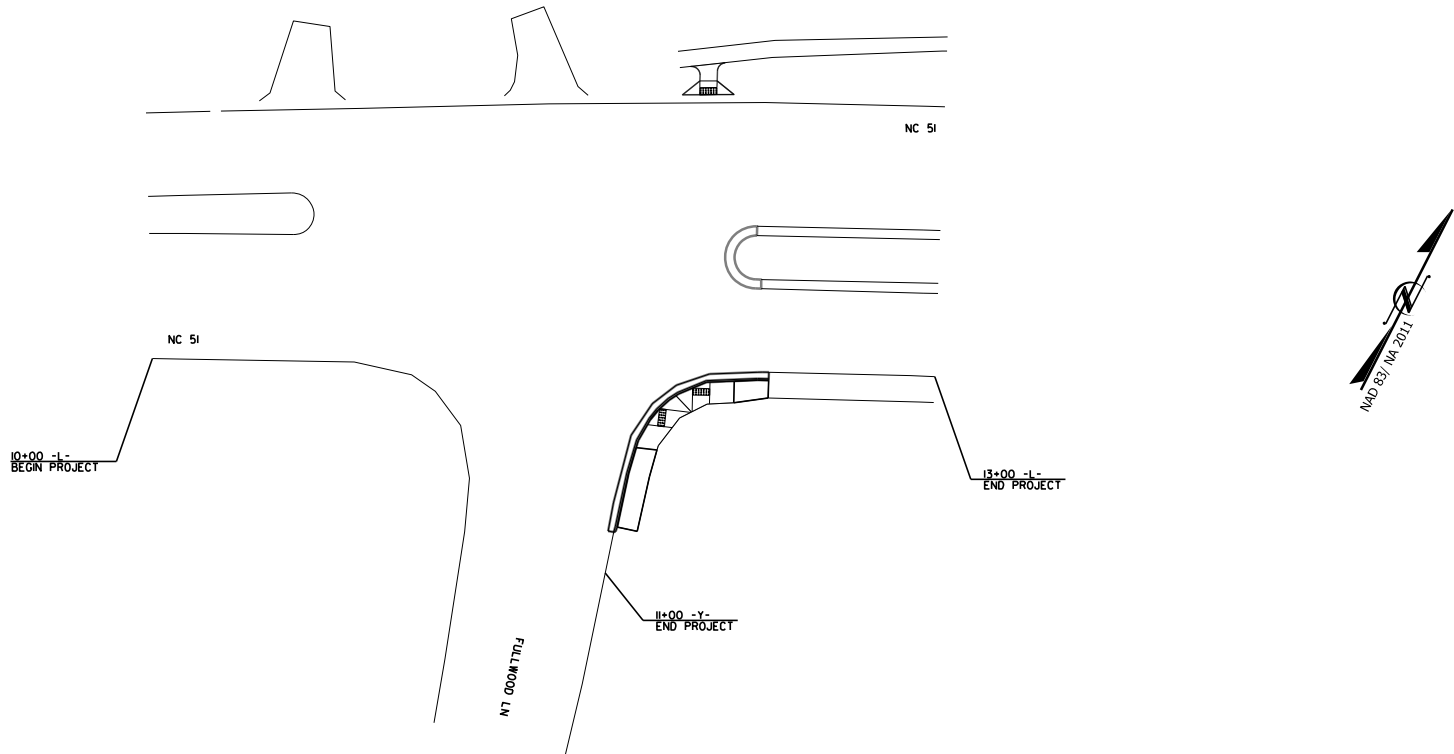


VICINITY MAP (NTS)

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
PLAN FOR PROPOSED
HIGHWAY EROSION CONTROL
MECKLENBURG COUNTY

LOCATION: *INTERSECTION OF NC-51 (MATTHEWS
TOWNSHIP PKWY) & FULLWOOD LN*

TYPE OF WORK: *SIGNALS, RESURFACING
& SHOULDER RECONSTRUCTION*



STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	50982.3.11	1	
STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION	
50982.1.11		PE	
50982.2.11		RW	
50982.3.11		CON	

EROSION AND SEDIMENT CONTROL MEASURES

Std. #	Description	Symbol
1630.03	Temporary Silt Ditch	
1630.05	Temporary Diversion	
1605.01	Temporary Silt Fence	
1606.01	Special Sediment Control Fence	
1622.01	Temporary Berms and Slope Drains	
1630.02	Silt Basin Type B	
1633.01	Temporary Rock Silt Check Type-A	
	Temporary Rock Silt Check Type-A with Matting and Polyacrylamide (PAM)	
1633.02	Temporary Rock Silt Check Type-B	
	Wattle/ Coir Fiber Wattle	
	Wattle/ Coir Fiber Wattle with Polyacrylamide (PAM)	
1634.01	Temporary Rock Sediment Dam Type-A	
1634.02	Temporary Rock Sediment Dam Type-B	
1635.01	Rock Pipe Inlet Sediment Trap Type-A	
1635.02	Rock Pipe Inlet Sediment Trap Type-B	
1630.04	Stilling Basin	
1630.06	Special Stilling Basin	
	Rock Inlet Sediment Trap:	
1632.01	Type A	
1632.02	Type B	
1632.03	Type C	
	Skimmer Basin	
	Tiered Skimmer Basin	
	Infiltration Basin	

GRAPHIC SCALES



THESE EROSION AND SEDIMENT CONTROL PLANS COMPLY
WITH THE REGULATIONS SET FORTH BY THE
NCG-010000 GENERAL CONSTRUCTION PERMIT EFFECTIVE APRIL 1, 2019
ISSUED BY THE NORTH CAROLINA DEPARTMENT OF
ENVIRONMENTAL QUALITY DIVISION OF WATER RESOURCES.



Prepared in the Office of:

DDC UNIT DIVISION 10
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

Designed by:

CHAD BURRIS

NAME

4159

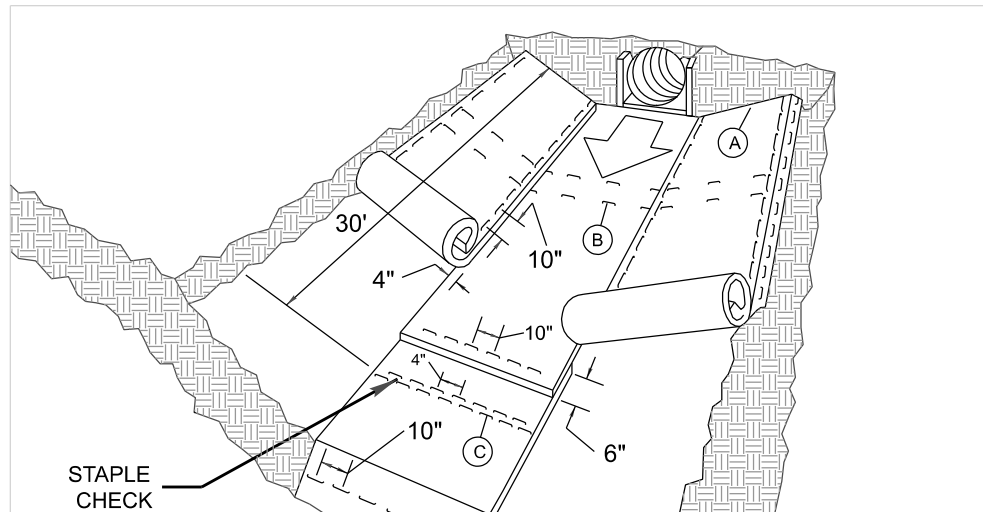
LEVEL III CERTIFICATION NO.

Roadway Standard Drawings

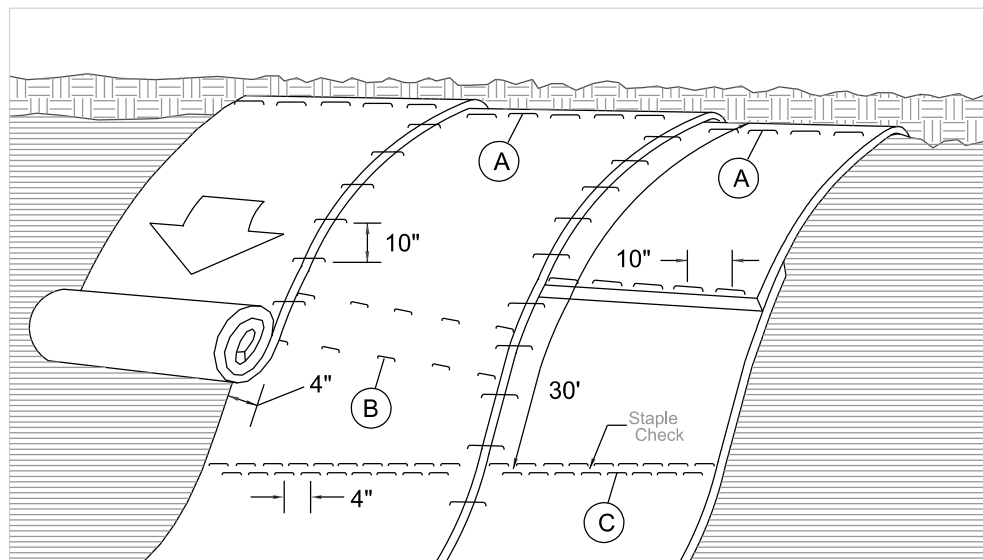
The following roadway english standards as appear in "Roadway Standard Drawings"-- Roadway Design Unit - N. C. Department of Transportation - Raleigh, N. C., dated January 2024 and the latest revision thereto are applicable to this project and by reference hereby are considered a part of these plans.

1604.01	Railroad Erosion Control Detail	1632.01	Rock Inlet Sediment Trap Type A
1605.01	Temporary Silt Fence	1632.02	Rock Inlet Sediment Trap Type B
1606.01	Special Sediment Control Fence	1632.03	Rock Inlet Sediment Trap Type C
1607.01	Gravel Construction Entrance	1633.01	Temporary Rock Silt Check Type A
1622.01	Temporary Berms and Slope Drains	1633.02	Temporary Rock Silt Check Type B
1630.01	Riser Basin	1634.01	Temporary Rock Sediment Dam Type A
1630.02	Silt Basin Type B	1634.02	Temporary Rock Sediment Dam Type B
1630.03	Temporary Silt Ditch	1635.01	Rock Pipe Inlet Sediment Trap Type A
1630.04	Stilling Basin	1635.02	Rock Pipe Inlet Sediment Trap Type B
1630.05	Temporary Diversion	1640.01	Coir Fiber Baffle
1630.06	Special Stilling Basin	1645.01	Temporary Stream Crossing
1631.01	Matting Installation		

MATTING INSTALLATION DETAIL



MATTING IN DITCHES



MATTING ON SLOPES

NOTES:

THIS DETAIL APPLIES TO STRAW, EXCELSIOR, AND PERMANENT SOIL REINFORCEMENT MAT (PSRM) INSTALLATION.

STAPLES SHALL BE NO. 11 GAUGE STEEL WIRE FORMED INTO A "U" SHAPE WITH A MINIMUM THROAT WIDTH OF 1 INCH AND NOT LESS THAN 6 INCHES IN LENGTH.

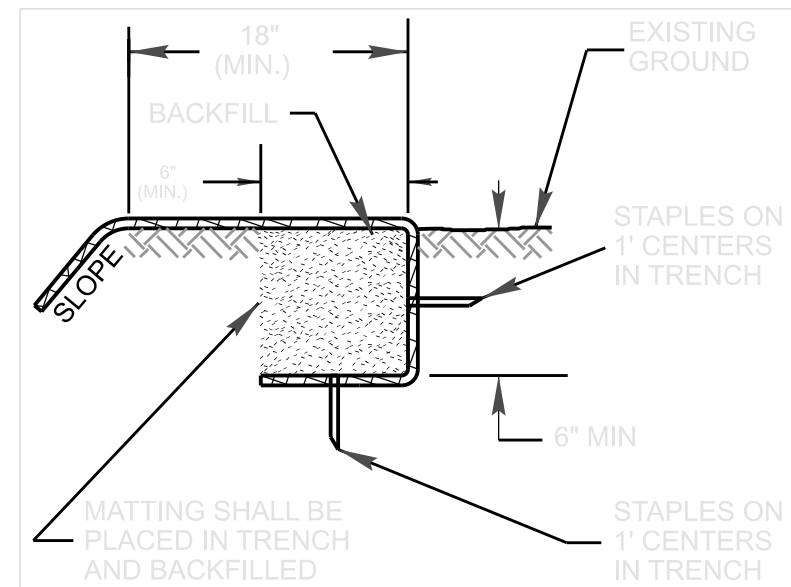


DIAGRAM A

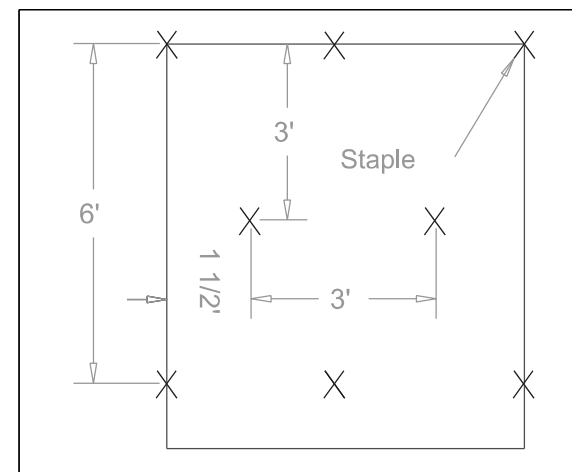


DIAGRAM B

Staple Check Pattern

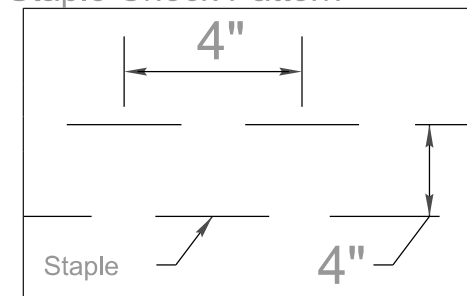
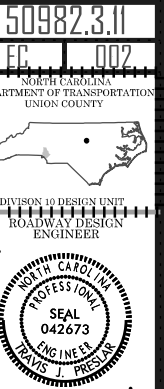


DIAGRAM C

PEDESTRIAN IMPROVEMENTS

SCALE	1"=50'	REVISIONS
DATE	01-2026	
DWG. BY	BAC	
DESIGN BY	JDH	
APPROVED	JDH	



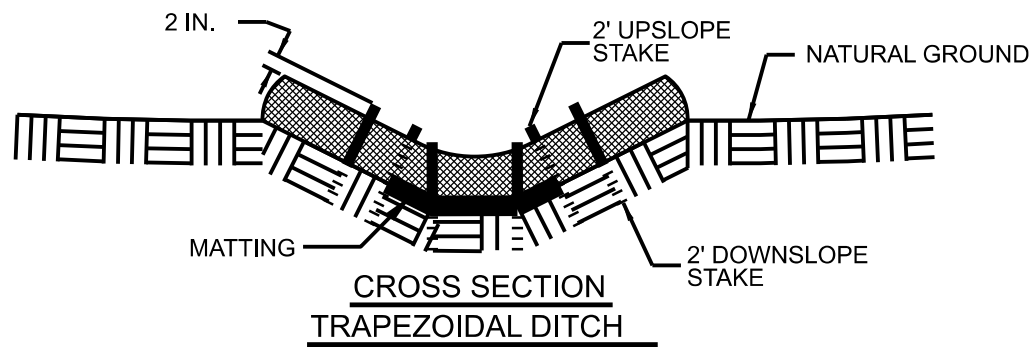
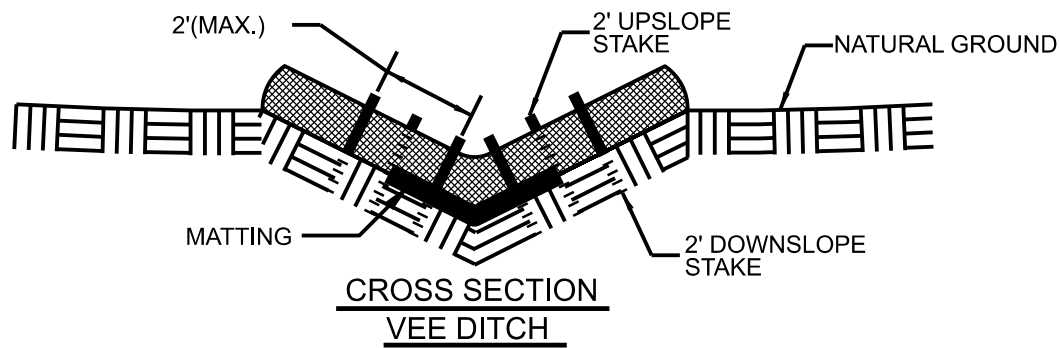
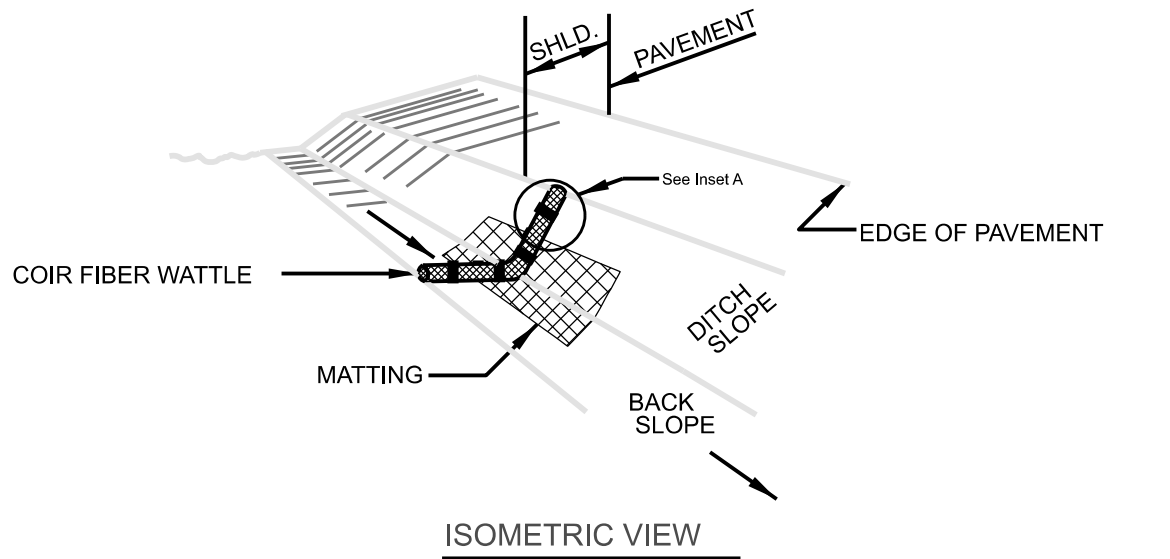
DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETE

TIP PROJECT: HS-2410J
County: Mecklenburg

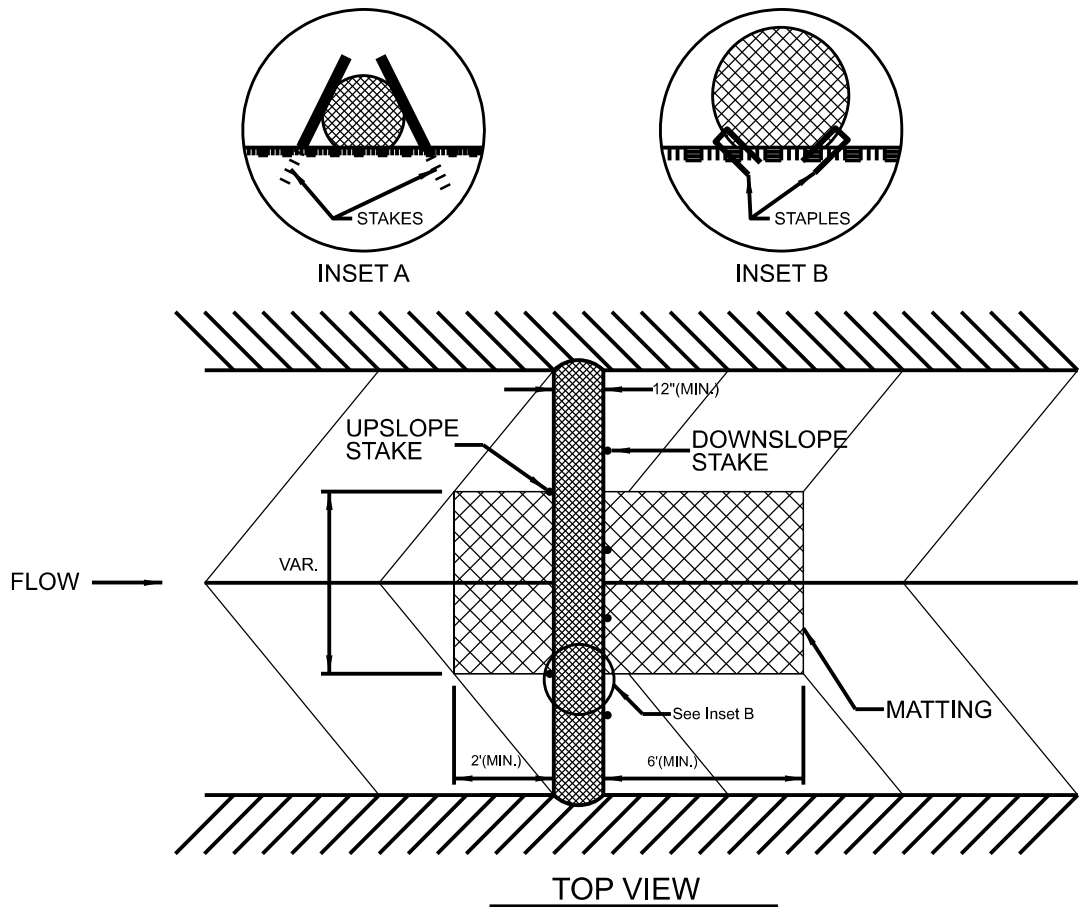


PREPARED BY
DDC UNIT
DIVISION 10
716 W. MAIN STREET
ALBEMARLE, NC 28001

COIR FIBER WATTLE DETAIL



- NOTES:
- USE MINIMUM 12 IN. DIAMETER COIR FIBER (COCONUT FIBER) WATTLE.
 - USE 2 FT. WOODEN STAKES WITH A 2 IN. BY 2 IN. NOMINAL CROSS SECTION.
 - ONLY INSTALL WATTLE(S) TO A HEIGHT IN DITCH SO FLOW WILL NOT WASH AROUND WATTLE AND SCOUR DITCH SLOPES AND AS DIRECTED.
 - INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO BOTTOM OF DITCH.
 - PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12" IN LENGTH.
 - INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.
 - INSTALL MATTING IN ACCORDANCE WITH SECTION 1631 OF THE STANDARD SPECIFICATIONS.



PEDESTRIAN IMPROVEMENTS			
SCALE	1"=50'		REVISIONS
DATE	01-2026		
DWG. BY	BAC		
DESIGN BY	JDH		
APPROVED	JDH		

50982.3.11

EC 02A

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
UNION COUNTY

DIVISION 10 DESIGN UNIT
ROADWAY DESIGN
ENGINEER

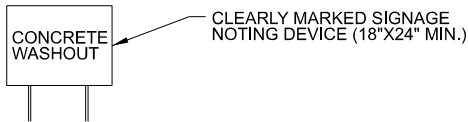
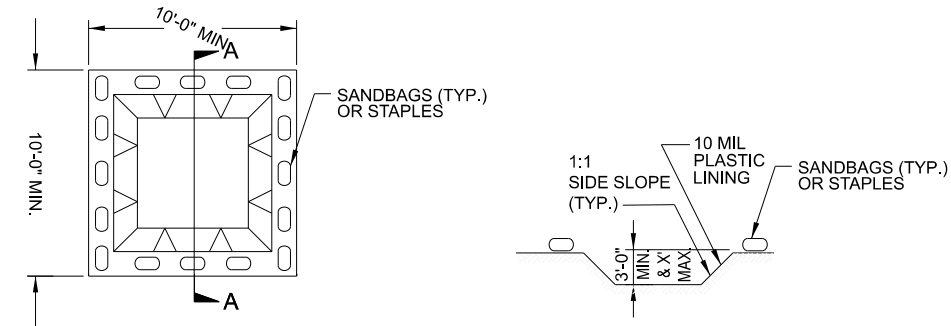
DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETE

TIP PROJECT: HS-2410J
County: Mecklenburg



PREPARED BY
DDC UNIT
DIVISION 10
716 W. MAIN STREET
ALBEMARLE, NC 28001

ONSITE CONCRETE WASHOUT
STRUCTURE WITH LINER

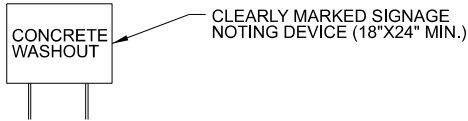
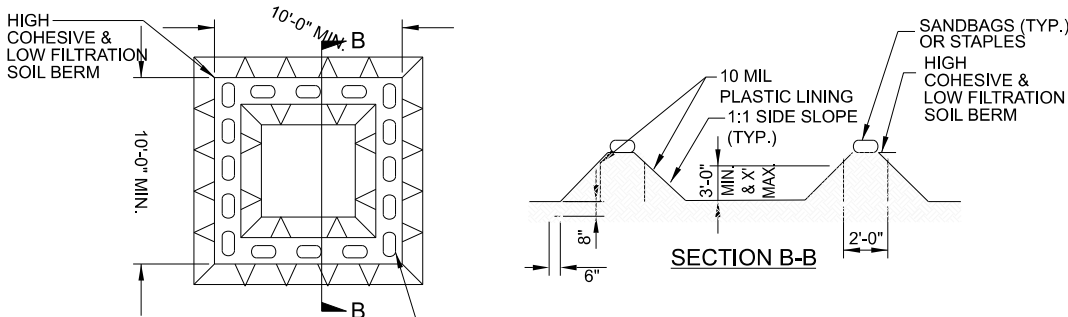


PLAN

SECTION A-A

- NOTES:
1. ACTUAL LOCATION DETERMINED IN FIELD
 2. THE CONCRETE WASHOUT STRUCTURES SHALL BE MAINTAINED WHEN THE LIQUID AND/OR SOLID REACHES 75% OF THE STRUCTURES CAPACITY.
 3. CONCRETE WASHOUT STRUCTURE NEEDS TO BE CLEARLY MARKED WITH SIGNAGE NOTING DEVICE.

BELOW GRADE WASHOUT STRUCTURE
NOT TO SCALE



PLAN

- NOTES:
1. ACTUAL LOCATION DETERMINED IN FIELD
 2. THE CONCRETE WASHOUT STRUCTURES SHALL BE MAINTAINED WHEN THE LIQUID AND/OR SOLID REACHES 75% OF THE STRUCTURES CAPACITY TO PROVIDE ADEQUATE HOLDING CAPACITY WITH A MINIMUM 12 INCHES OF FREEBOARD.
 3. CONCRETE WASHOUT STRUCTURE NEEDS TO BE CLEARLY MARKED WITH SIGNAGE NOTING DEVICE.

ABOVE GRADE WASHOUT STRUCTURE
NOT TO SCALE

PEDESTRIAN IMPROVEMENTS

SCALE	1"=50'		REVISIONS	
DATE	01-2026			
DWG. BY	BAC			
DESIGN BY	JDH			
APPROVED	JDH			

50982.3.11

EC 028

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
UNION COUNTY

DIVISION 10 DESIGN UNIT
ROADWAY DESIGN
ENGINEER

TIP PROJECT: HS-2410J
County: Mecklenburg



PREPARED BY
DDC UNIT
DIVISION 10
716 W. MAIN STREET
ALBEMARLE, NC 28001

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

SOIL STABILIZATION TIMEFRAMES

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

PEDESTRIAN IMPROVEMENTS

SCALE	1"=50'		REVISIONS	
DATE	01-2026			
DWG. BY	BAC			
DESIGN BY	JDH			
APPROVED	JDH			

50982.3.11

EC 003



NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
UNION COUNTY

DIVISION 10 DESIGN UNIT
ROADWAY DESIGN
ENGINEER



SEAL
042673
ENGINEER
DAVIS J. PRELL

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TIP PROJECT: HS-2410J
County: Mecklenburg



DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
DIVISION 10 DESIGN CONSTRUCTION UNIT

PREPARED BY
DDC UNIT
DIVISION 10
716 W. MAIN STREET
ALBEMARLE, NC 28001

50982.3.11

EC004

NORTH CAROLINA

DEPARTMENT OF TRANSPORTATION

UNION COUNTY



DIVISION 10-DESIGN UNIT

ROADWAY DESIGN ENGINEER



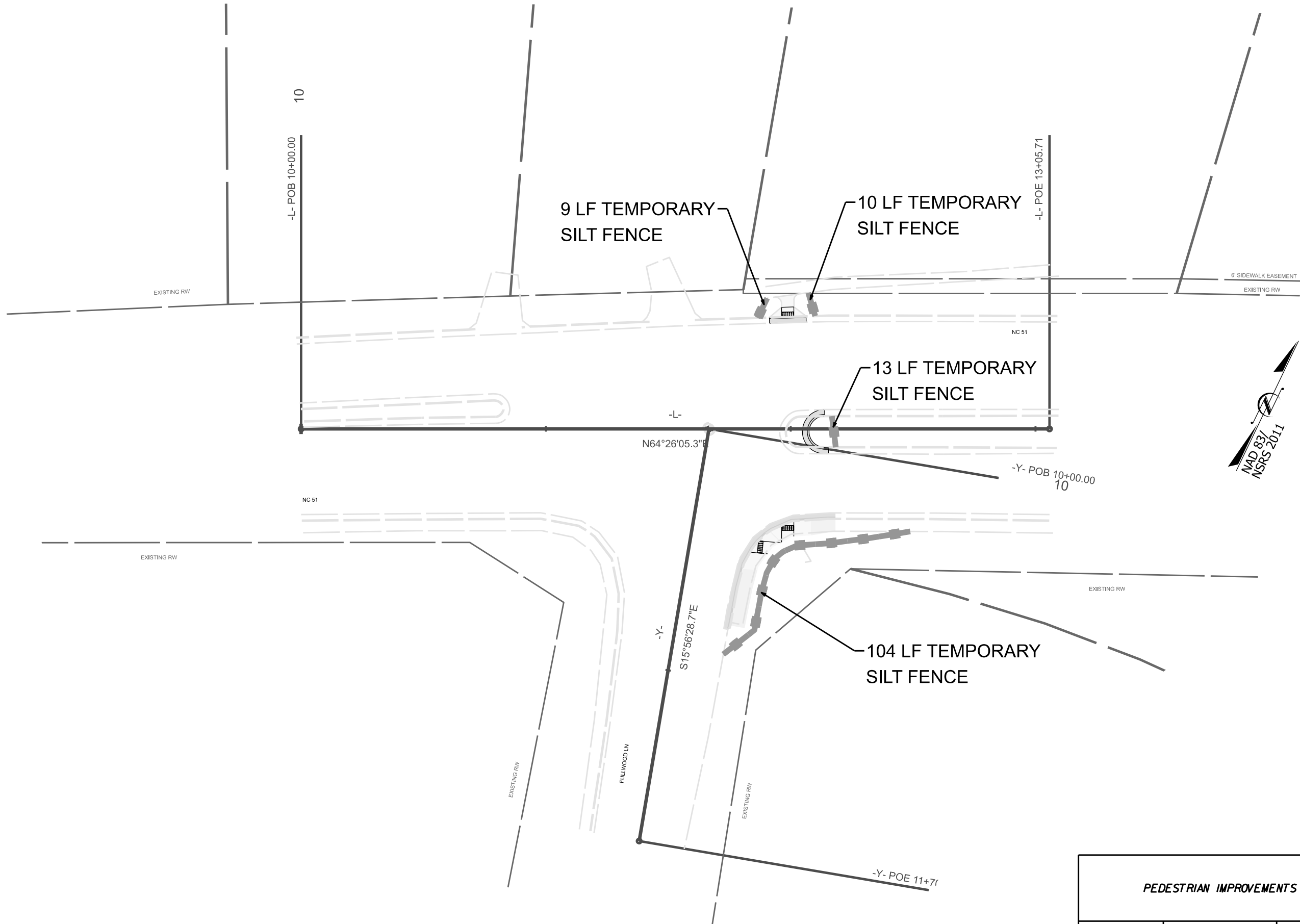
DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

TIP PROJECT: HS-2410J

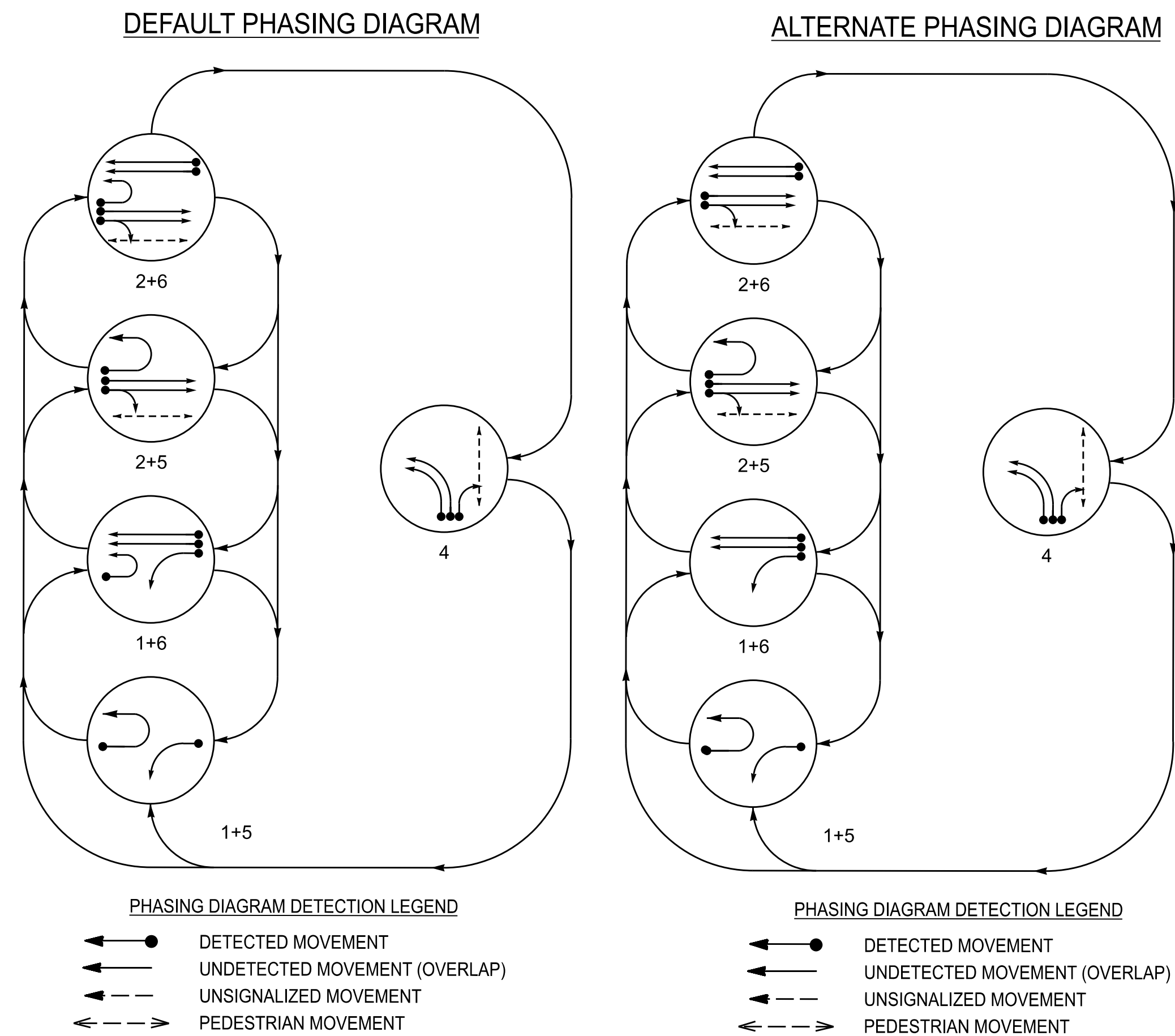
County: Mecklenburg



PREPARED BY
DDC UNIT
DIVISION 10
716 W. MAIN STREET
ALBEMARLE, NC 28001



PEDESTRIAN IMPROVEMENTS			
SCALE	1"=20'		
DATE	01-2026		
DWG. BY	BAC		
DESIGN BY	JDH		
APPROVED	JDH		
REVISIONS			

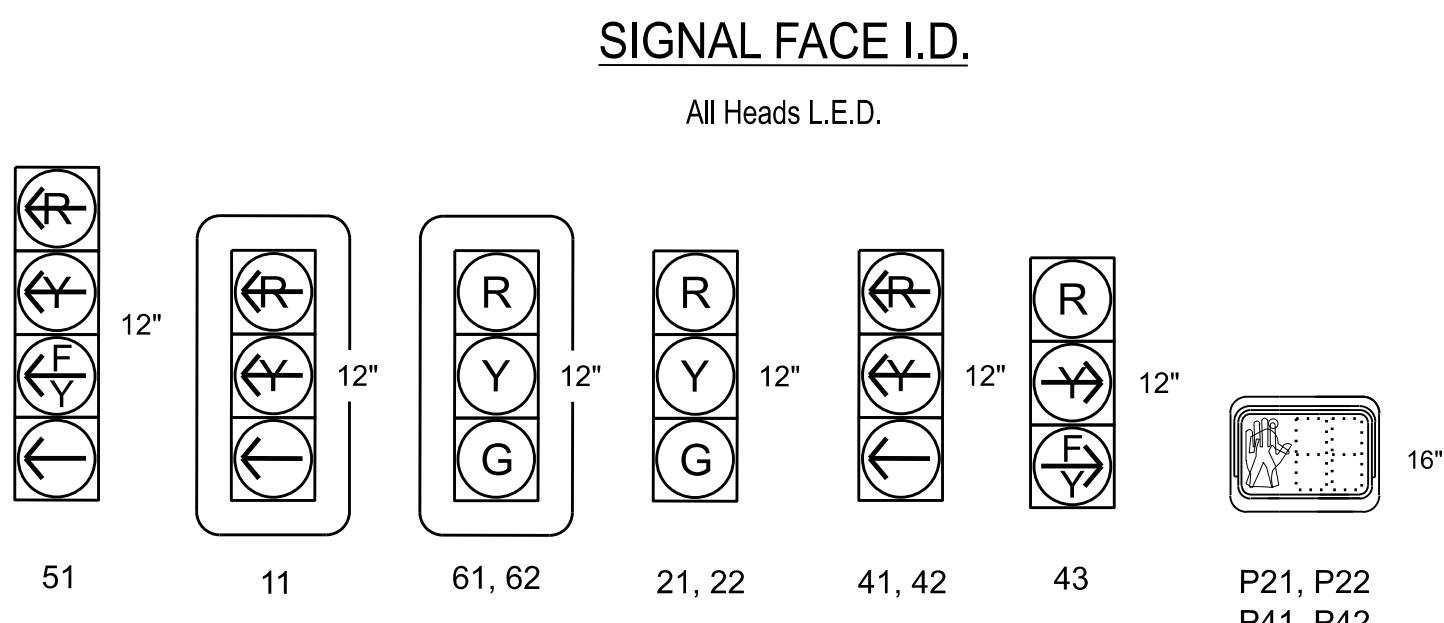


DEFAULT PHASING TABLE OF OPERATION						
SIGNAL FACE	PHASE					
	1 + 5	1 + 6	2 + 5	2 + 6	4	F L A S H
11	←	←	→	→	→	→
21, 22	R	R	G	G	R	R
41, 42	→	→	→	→	←	→
43	R	R	R	R	←	R
51	←	↘		↘	→	→
61, 62	R	G	R	G	R	R
P21, P22	DW	DW	W	W	DW	DRK
P41, P42	DW	DW	DW	DW	W	DRK

ALTERNATE PHASING TABLE OF OPERATION						
SIGNAL FACE	PHASE					
	1 + 5	1 + 6	2 + 5	2 + 6	4	F L A S H
11	←	←	←	←	←	←
21, 22	R	R	G	G	R	R
41, 42	←	←	←	←	←	←
43	R	R	R	R	←	R
51	←	←	←	←	←	←
61, 62	R	G	R	G	R	R
P21, P22	DW	DW	W	W	DW	DRK
P41, P42	DW	DW	DW	DW	W	DRK

MAXTIME DETECTOR INSTALLATION CHART												
DETECTOR					PROGRAMMING							
LOOP	SIZE (FT)	DISTANCE FROM STOP LINE (FT)	TURNS	NEW LOOP	CALL PHASE	DELAY TIME	EXTEND TIME	EXTEND	ADDED INITIAL	CALL DURING GREEN	NEW CARD	
1A	6X40	+10	2-4-2	-	1	-	-	X	-	X	-	
2A	6X6	300	4	-	2	-	-	X	X	X	-	
2B	6X6	300	4	-	2	-	-	X	X	X	-	
4A	6X60	0	2-4-2	-	4	3.0	-	X	-	X	-	
4B	6X60	0	2-4-2	-	4	3.0	-	X	-	X	-	
4C	6X60	+3	2-4-2	-	4	15.0	-	X	-	X	-	
5A	6X60	0	2-4-2	-	5	15.0*	-	X	-	X	-	
					2**	3.0	-	X	-	X	-	
6A	6X6	300	4	-	6	-	-	X	X	X	-	
6B	6X6	300	4	-	6	-	-	X	X	X	-	

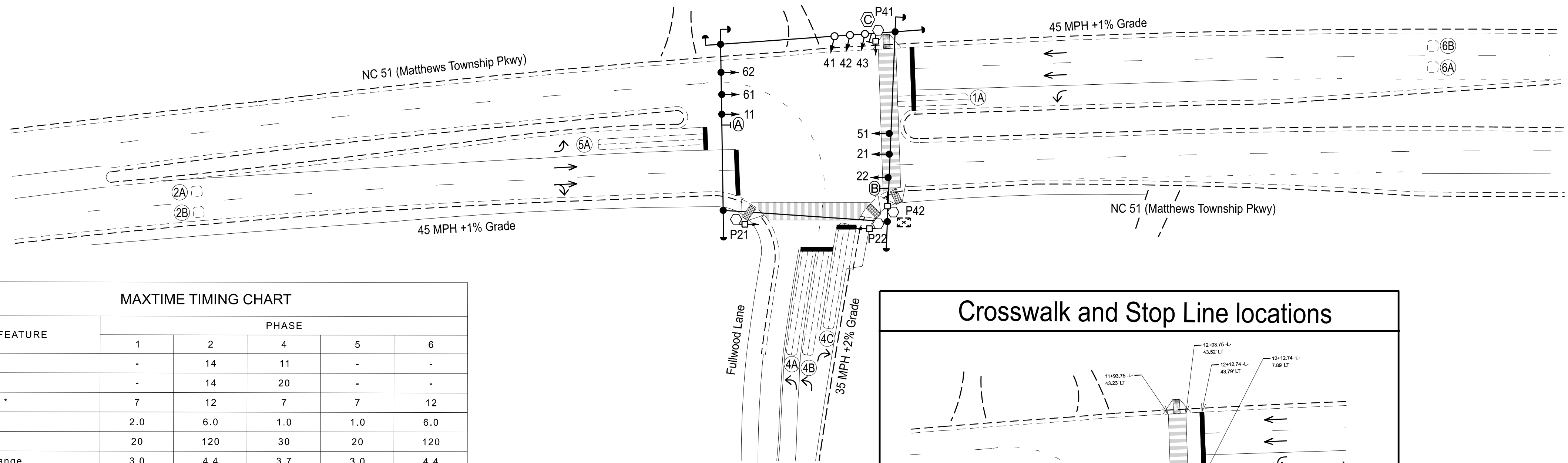
- * Disable Delay During Alternate Phasing Operation.
- ** Disable Phase Call for Loop During Alternate Phasing Operation.



- 5 Phase
With Alternate Phasing
Fully Actuated
D10-05_Matthews

NOTES

 1. Refer to "Roadway Standard Drawings NCDOT" dated January 2024 and "Standard Specifications for Roads and Structures" dated January 2024.
 2. Do not program signal for late night flashing operation unless otherwise directed by the Engineer.
 3. Phase 1 and/or phase 5 may be lagged.
 4. Set all detector units to presence mode.
 5. Remove existing Left Arrow "ONLY" (R3-5L) Sign.
 6. Remove existing Right Arrow "ONLY" (R3-5R) Sign.
 7. Renumber existing loop number 1B to 4C.
 8. In the event of loop replacement, refer to the current TSMO Design Manual and submit a Plan of Record to the Signal Design Section.
 9. Omit "WALK" and flashing "DON'T WALK" with no pedestrian calls.
 10. Program pedestrian heads to countdown the flashing "Don't Walk" time only.
 11. Pavement markings are existing.
 12. To provide a leading pedestrian interval on phase 4, program FYA head(s) numbered 43 to delay for 4 seconds after the start of the phase 4 walk interval. See Electrical Details for programming.
 13. The Division Traffic Engineer will determine the hours of use for each phasing plan.
 14. Maximum times shown in timing chart are for free-run operation only.
Coordinated signal system timing values supersede these values.

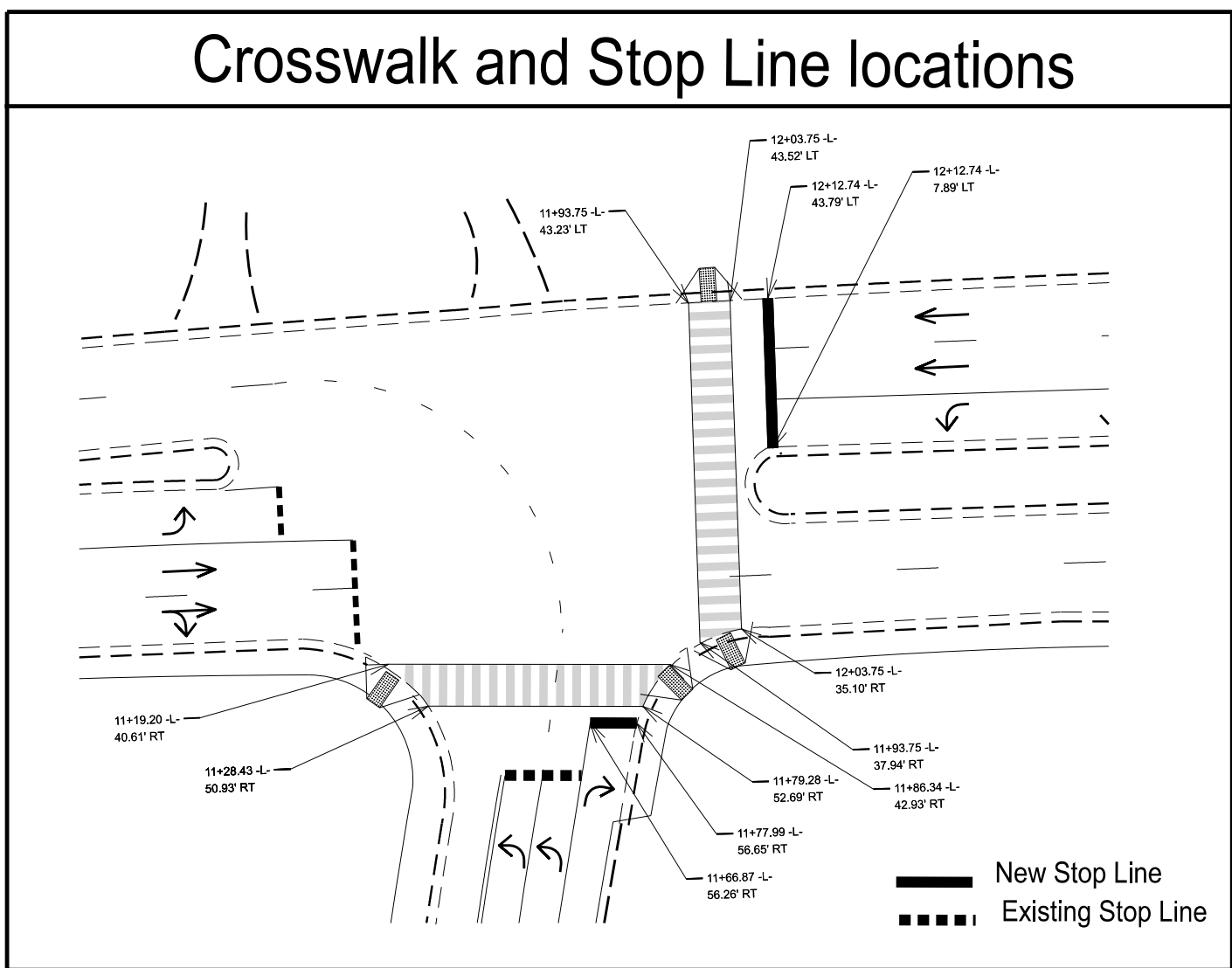


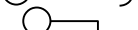
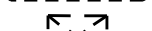
MAXTIME TIMING CHART					
FEATURE	PHASE				
	1	2	4	5	6
Walk *	-	14	11	-	-
Ped Clear	-	14	20	-	-
Min Green *	7	12	7	7	12
Passage *	2.0	6.0	1.0	1.0	6.0
Max 1 *	20	120	30	20	120
Yellow Change	3.0	4.4	3.7	3.0	4.4
Red Clear	3.1	1.7	3.3	3.1	1.7
Added Initial *	-	1.5	-	-	1.5
Maximum Initial *	-	34	-	-	34
Time Before Reduction *	-	15	-	-	15
Time To Reduce *	-	30	-	-	30
Minimum Gap	-	3.0	-	-	3.0
Advance Walk	-	7	**	-	-
Non Lock Detector	X	-	X	X	-
Vehicle Recall	-	MIN RECALL	-	-	MIN RECALL
Dual Entry	-	-	-	-	-

* These values may be field adjusted. Do not adjust Min Green and Passage times for phases 2 and 6 lower than what is shown. Min Green for all other phases should not be lower than 4 seconds.

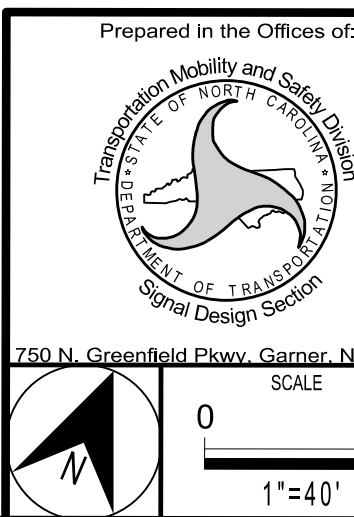
** See note 12.

** See note 12.



<u>PROPOSED</u>		<u>EXISTING</u>
	Traffic Signal Head	
	Modified Signal Head	N/A
	Signal	
	Pedestrian Signal Head	
	With Push Button & Sign	
	Signal Pole with Guy	
	Signal Pole with Sidewalk Guy	
	Inductive Loop Detector	
	Controller & Cabinet	
	Junction Box	
	3-in Underground Conduit	
N/A	Right of Way with Marker	
	Directional Arrow	
N/A	Curb Ramp	
	"U-TURN YIELD TO RIGHT TURN" Sign (R10-16)	
	Right "TURNING VEHICLES" Yield "To" Pedestrians Sign (R10-15R)	
	"RIGHT TURN SIGNAL" Sign (R10-10R)	

Signal Upgrade



NC 51 (Matthews Township Pkwy)
at
Fullwood Lane

Division 10 Mecklenburg County Matthews

PLAN DATE:	August 2025	REVIEWED BY:	R.N. Zinser
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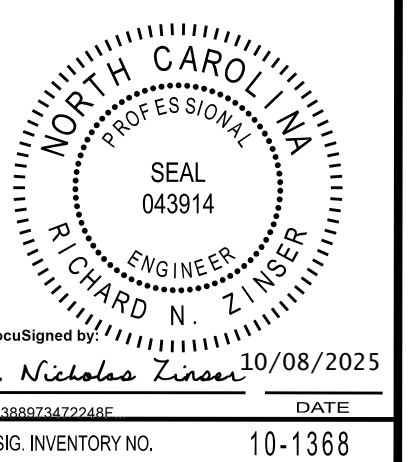
PREPARED BY:	Adja Fall	REVIEWED BY:
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REVISIONS	INIT.	DATE

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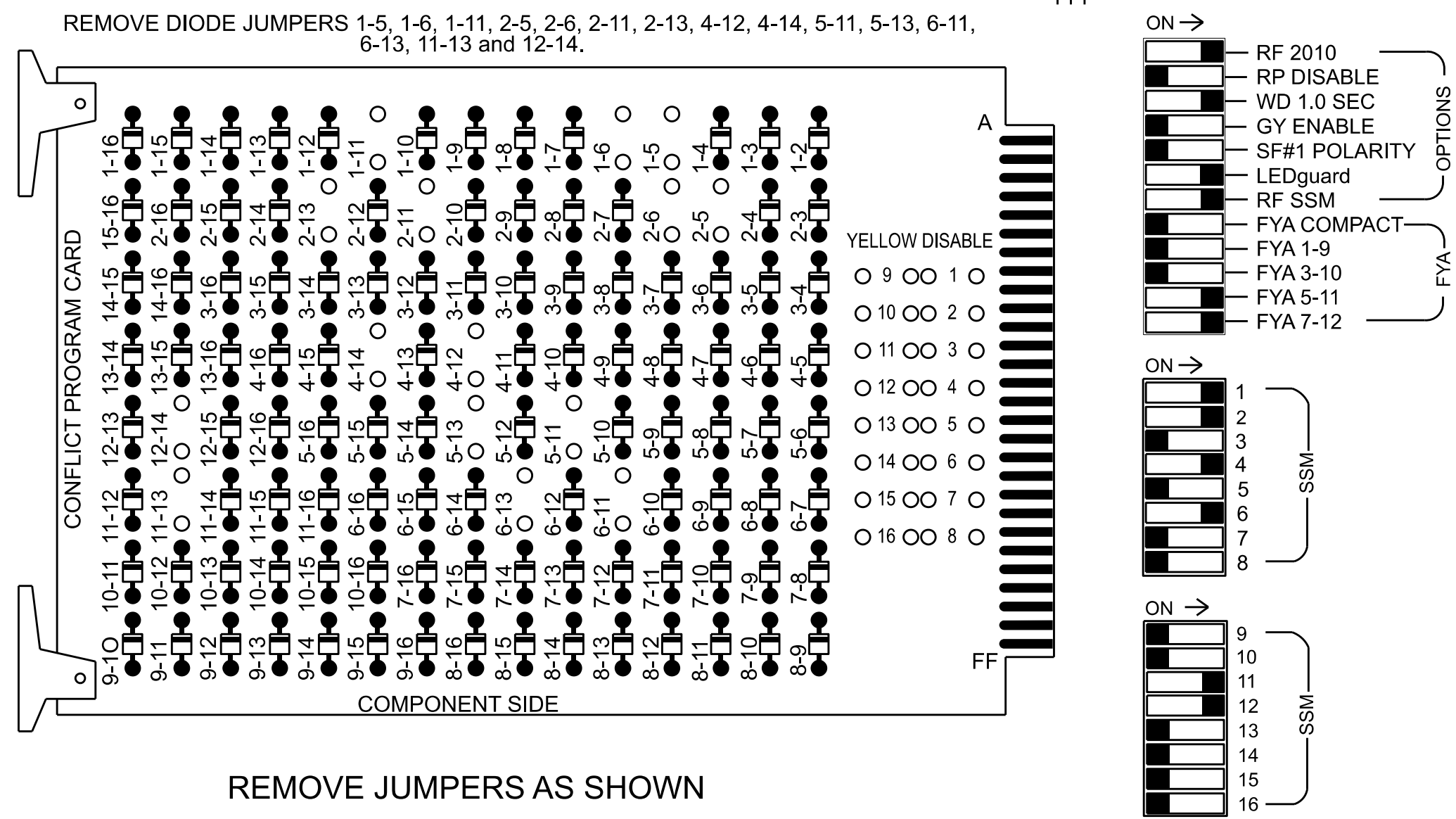
DOCUMENT NOT CONSIDERED
FINAL UNLESS ALL
SIGNATURES COMPLETED

SEA



16 CHANNEL CONFLICT MONITOR PROGRAMMING DETAIL

(remove jumpers and set switches as shown)



REMOVE JUMPERS AS SHOWN

NOTES:

1. Card is provided with all diode jumpers in place. Removal of any jumper allows its channels to run concurrently.
2. Make sure jumpers SEL2-SEL5 are present on the monitor board.

NOTES

1. To prevent "flash-conflict" problems, insert red flash program blocks for all vehicle load switches in the output file. The installer shall verify that signal heads flash in accordance with the signal plan.
2. Ensure that Red Enable is active at all times during normal operation. To prevent Red Failures on unused monitor channels, tie unused red monitor inputs 3, 5, 7, 8, 9, 10, 13, 14, 15 & 16 to load switch AC+ per the cabinet manufacturer's instructions.
3. Program controller to start up in phase 2 Green No Walk and 6 Green No Walk.
4. If this signal will be managed by an ATMS software, enable controller and detector logging for all detectors used at this location.
5. The cabinet and controller are part of the D10-05 Matthews System.

EQUIPMENT INFORMATION

Controller.....	2070LX
Cabinet.....	332 w/ Aux
Software.....	Q-Free MAXTIME
Cabinet Mount.....	Base
Output File Positions.....	18 With Aux. Output File
Load Switches Used.....	S1, S2, S2P, S4, S4P, S5, S6, S12, S13
Phases Used.....	1, 2, 2PED, 4, 4PED, 5, 6
Overlap "1".....	Not Used
Overlap "2".....	Not Used
Overlap "3".....	*
Overlap "4".....	*

*See overlap programming detail on sheet 2

SIGNAL HEAD HOOK-UP CHART

[illegible]

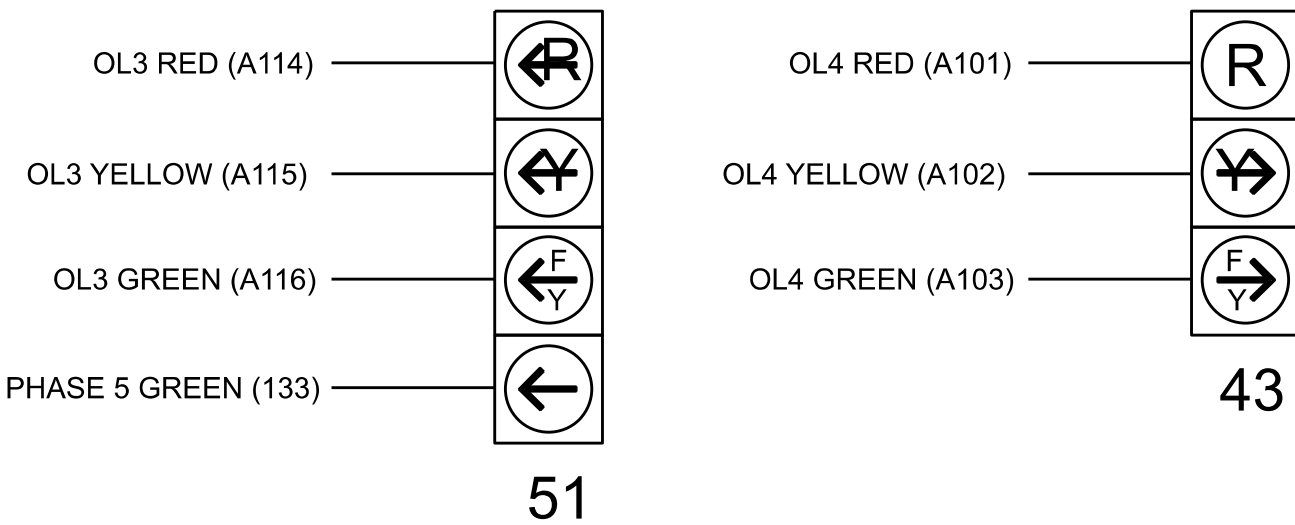
NU = Not Used

* Denotes install load resistor. See load resistor installation detail this sheet.

★ See pictorial of head wiring in detail this sheet.

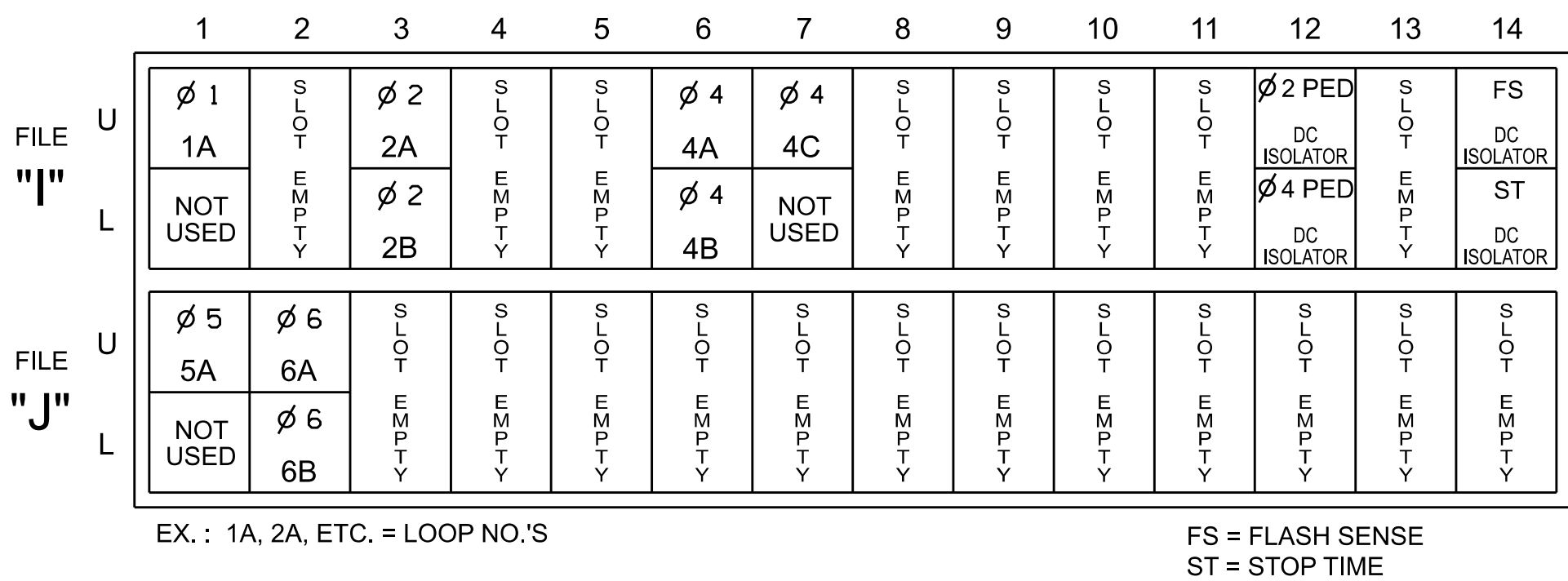
FYA SIGNAL WIRING DETAIL

(wire signal heads as shown)



INPUT FILE POSITION LAYOUT

(front view)



INPUT FILE CONNECTION & PROGRAMMING CHART

LOOP NO.	LOOP TERMINAL	INPUT FILE POS.	PIN NO.	INPUT POINT	DETECTOR NO.	CALL PHASE	DELAY TIME	EXTEND TIME	EXTEND	ADDED INITIAL	CALL	DELAY DURING GREEN
1A	TB2-1,2	I1U	56	18	1	1			X		X	
2A	TB2-9,10	I3U	63	29	4	2			X	X	X	
2B	TB2-11,12	I3L	76	42	5	2			X	X	X	
4A	TB4-9,10	I6U	41	3	8	4	3.0		X		X	
4B	TB4-11,12	I6L	45	7	9	4	3.0		X		X	
4C	TB6-1,2	I7U	65	31	10	4	15.0		X		X	
5A	TB3-1,2	J1U	55	17	15 ★	5	15.0		X		X	
				-	31 ★	2	3.0		X		X	X
6A	TB3-5,6	J2U	40	2	16	6			X	X	X	
6B	TB3-7,8	J2L	44	6	17	6			X	X	X	
PED PUSH BUTTONS												
P21,P22	TB8-4,6	I12U	67	33	2	PED 2	NOTE: INSTALL DC ISOLATORS IN THE FIELD					
P41,P42	TB8-5,6	I12L	69	35	4	PED 4						

★ For the detectors to work as shown on the signal plan see the Detector Programming Detail for Alternate Phasing on Sheet 2 of this plan.

FLASHER CIRCUIT MODIFICATION DETAIL

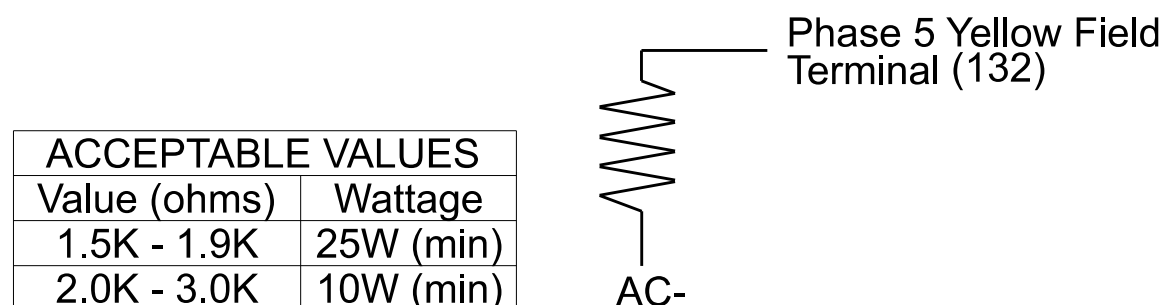
IN ORDER TO INSURE THAT SIGNALS FLASH CONCURRENTLY ON THE SAME APPROACH, MAKE THE FOLLOWING FLASHER CIRCUIT CHANGES:

1. ON REAR OF PDA - REMOVE WIRE FROM TERM. T2-4 AND TERMINATE ON T2-2.
2. ON REAR OF PDA - REMOVE WIRE FROM TERM. T2-5 AND TERMINATE ON T2-3.
3. REMOVE FLASHER UNIT 2.

THE CHANGES LISTED ABOVE TIES ALL PHASES AND OVERLAPS TO FLASHER UNIT 1.

LOAD RESISTOR INSTALLATION DETAIL

(install resistors as shown)



COUNTDOWN PEDESTRIAN SIGNAL OPERATION

Countdown Ped Signals are required to display timing only during Ped Clearance Interval. Consult Ped Signal Module user's manual for instructions on selecting this feature.

THIS ELECTRICAL DETAIL IS FOR
THE SIGNAL DESIGN: 10-1368
DESIGNED: August 2025
SEALED: 10/08/2025
REVISED: N/A

Electrical Detail - Sheet 1 of 2

DOCUMENT NOT CONSIDERED
FINAL UNLESS ALL
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Electrical and Programming
Details For:

NC 51 (Matthews Township Pkwy)
at
Fullwood Lane

Division 10 Mecklenburg County Matthews

PLAN DATE: August 2025	REVIEWED BY:
------------------------	--------------

PREPARED BY: Sarah Kirkpatrick	REVIEWED BY:
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REVISIONS	INIT.	DATE
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Seal of the Professional Engineer, State of North Carolina. The seal is circular with the text "NORTH CAROLINA" at the top, "PROFESSIONAL" at the top, "ENGINEER" at the bottom, and "RYAN W. HOUGH" at the bottom. The center contains the text "SEAL" and "036833".

