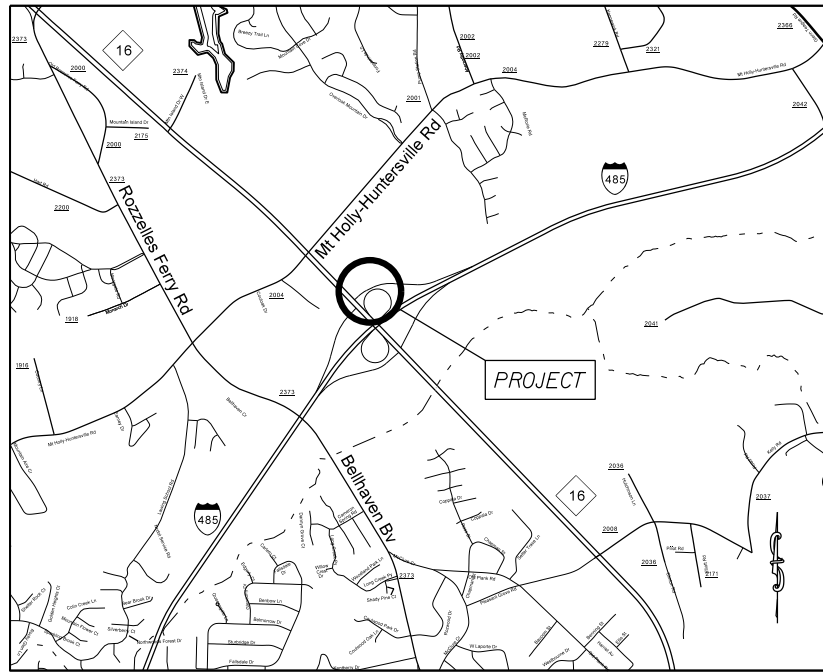


**PROJECT: 50138.3.246 TIP: W-5601IK**



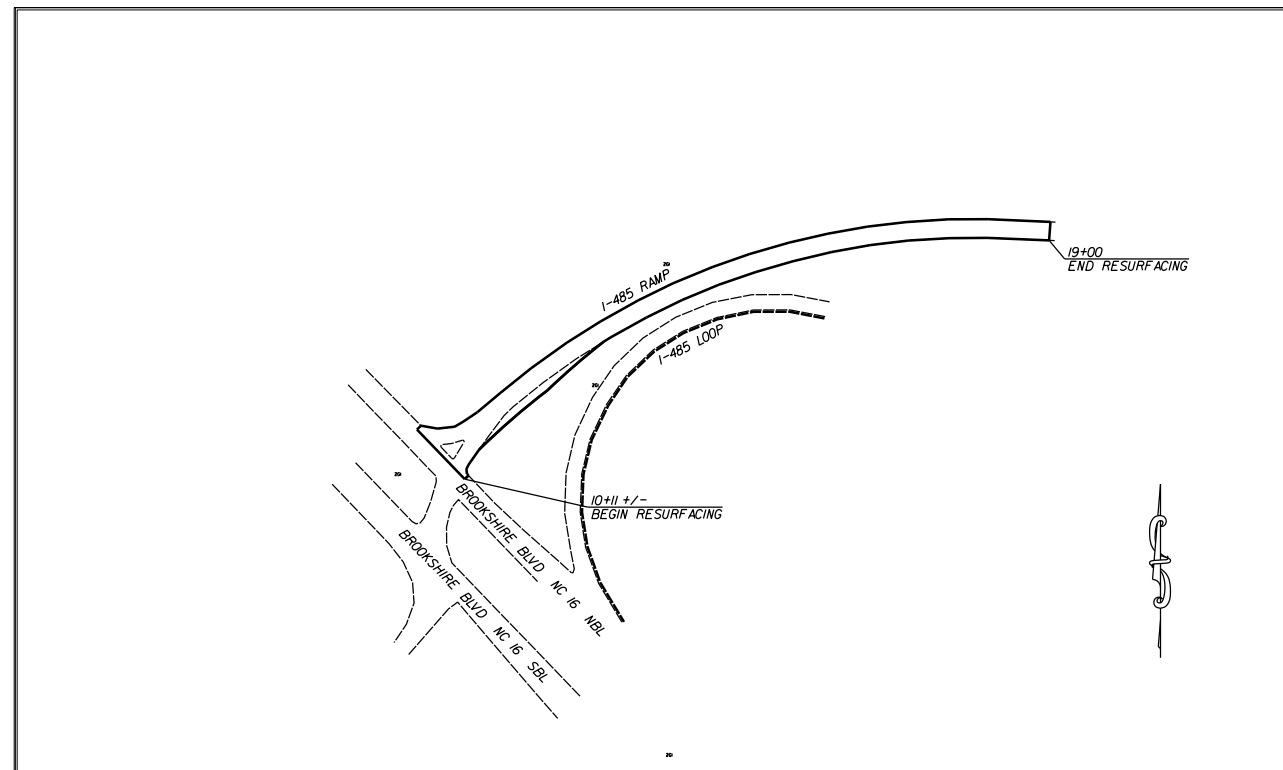
VICINITY MAP

STATE OF NORTH CAROLINA  
 DIVISION OF HIGHWAYS  
**MECKLENBURG**

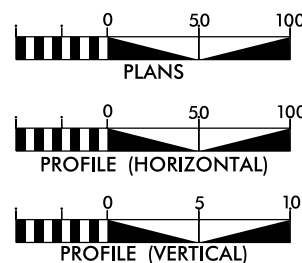
**LOCATION:** I-485 OUTER LOOP RAMP AT NC 16 (BROOKSHIRE BLVD.)

**TYPE OF WORK:** GRADING, PAVING, AND THERMOPLASTIC PAVEMENT MARKINGS

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	50138.3.246	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
50138.1.246	HSIP-0485(045)	P.E.	
50138.3.246	HSIP-0485(045)	R/W	
		CONST.	



**GRAPHIC SCALES**



**DESIGN DATA**

ADT =  
 ADT =  
 DHV = %  
 D = %  
 T = %  
 V = MPH

**PROJECT LENGTH**

LENGTH OF ROADWAY PROJECT 50138.3.246 = 0.170 MILES  
 TOTAL LENGTH OF STATE PROJECT 50138.3.246 = 0.170 MILES

Prepared in the Office of:  
**DIVISION OF HIGHWAYS**  
 DIVISION TEN  
 DIVISION DESIGN / CONSTRUCT UNIT

RIGHT OF WAY DATE:

DONALD GRIFFITH  
 PROJECT ENGINEER

LETTING DATE:  
 October 4, 2017

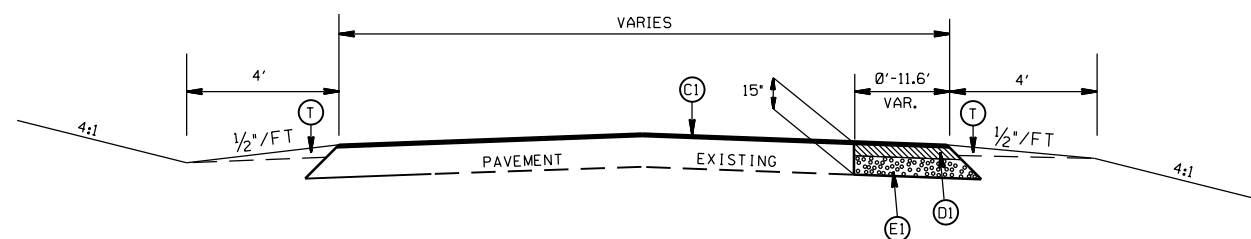
DONALD HARWARD  
 PROJECT DESIGN ENGINEER



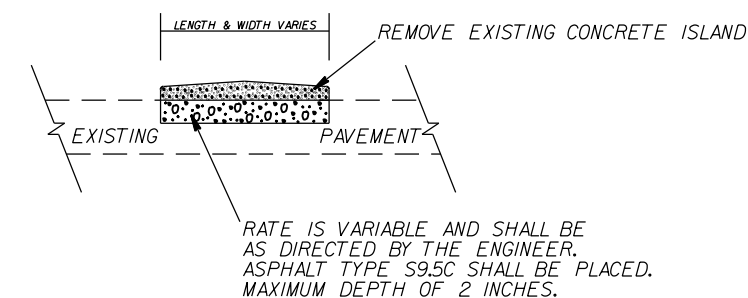
DIVISION OF HIGHWAYS  
 STATE OF NORTH CAROLINA

DocuSigned by:  
Donald Griffith 9/7/2017  
 APPROVED BY: 7153CE23F21843F...  
 DDC ENGINEER DATE

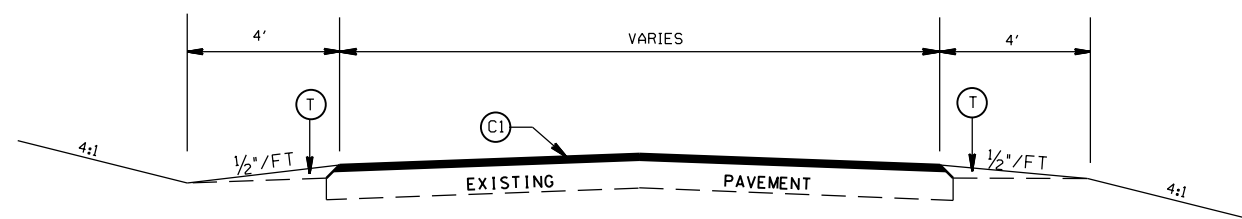
STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
N.C.	50138.3.246	2	
F.A. PROJECT NO.			



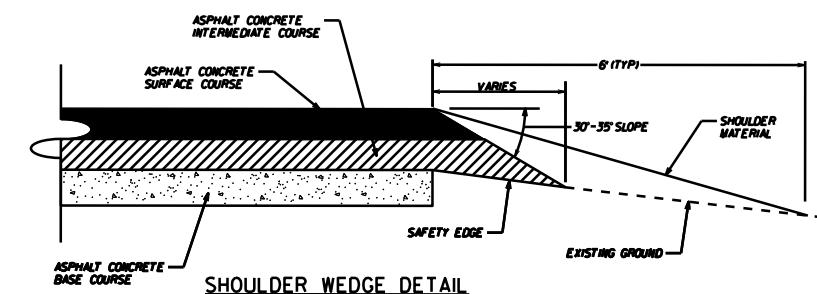
TYPICAL SECTION NO. 2  
STA. 10+51.70 TO 12+75.00 -L-



ISLAND PATCHING DETAIL



TYPICAL SECTION NO. 1  
STA. 10+11.00 TO 10+51.70 -L-  
STA. 12+75.00 TO 19+00.00 -L-



SHOULDER WEDGE DETAIL

PAVEMENT SCHEDULE

(C1)	PROP. APPROX. 1.5" ASPHALT CONC. SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
(D1)	PROP. APPROX. 2.5" ASPHALT CONC. INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 285 LBS. PER SQ. YD.
(E1)	PROP. APPROX. 11.0" ASPHALT CONC. BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 627 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
(T)	EARTH MATERIAL

WIDNING FOR TURN LANE ON  
I-485 OUTER LOOP RAMP AT  
NC 16 (BROOKSHIRE BLVD)

SCALE	N/A
DATE	JUNE 2017
DWG. BY	TBL
DESIGN BY	JDH
APPROVED	DCG

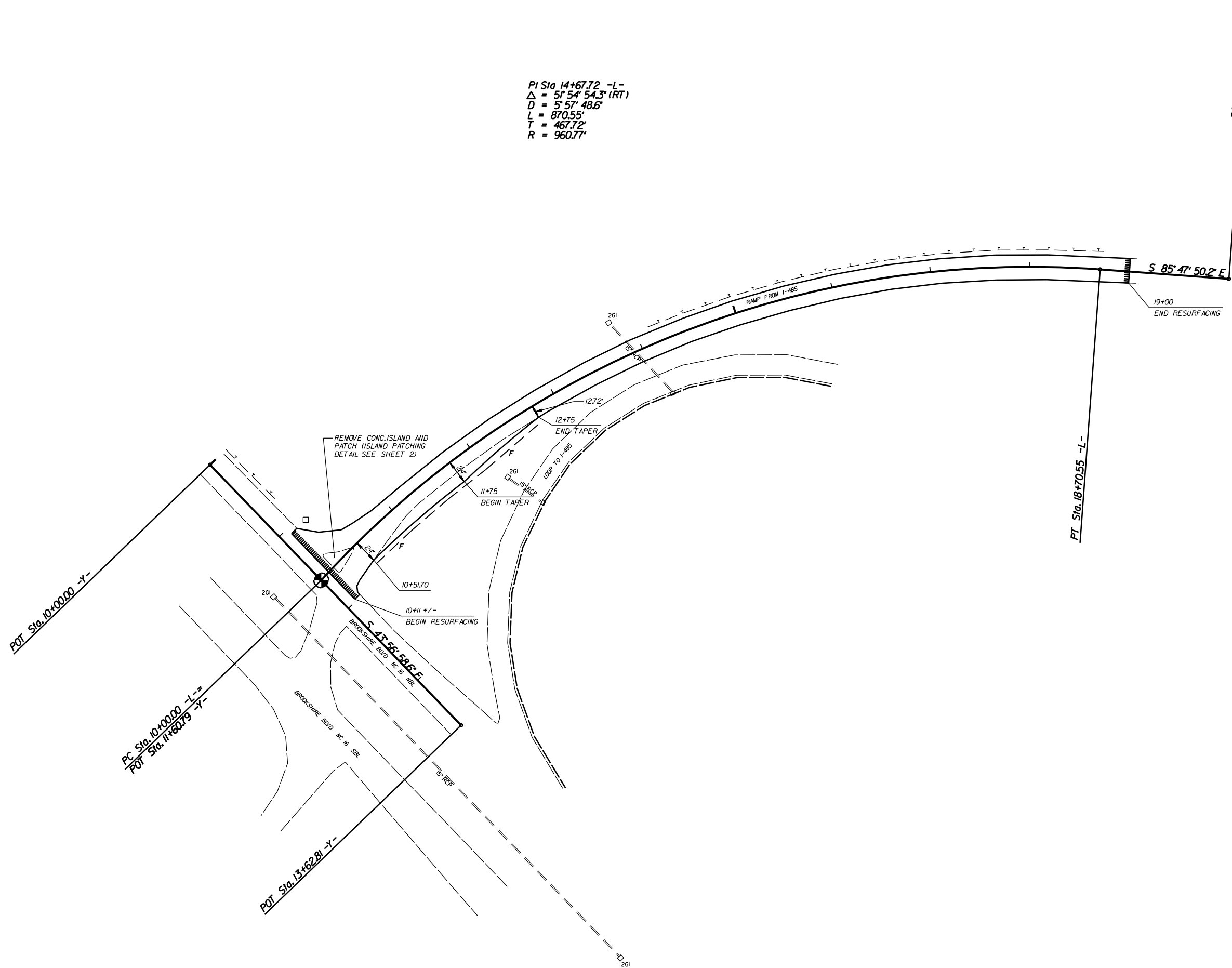


REVISIONS


STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
N.C.	50138.3246	3	
F.A. PROJECT NO.			



PI Sta 14+67.72 -L-  
 $\Delta = 5^\circ 54' 54.3''$  (RT)  
 $D = 5^\circ 57' 48.6''$   
 $L = 870.55'$   
 $T = 467.72'$   
 $R = 960.77'$



NOTE: INCIDENTAL MILL APPROX. 25' AT EACH TIE IN TO PROVIDE A SMOOTH TRANSITION TO THE EXISTING ASPHALT PAVEMENT.

WIDNING FOR TURN LANE ON I-485 OUTER LOOP RAMP AT NC 16 (BROOKSHIRE BLVD)

SCALE	r=50'
DATE	JULY 2017
DWG. BY	JDH
DESIGN BY	JDH
APPROVED	DCG



REVISIONS	

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	50138.3.246	EC-1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
50138.1.246	HSIP-0485(045)	P.E.	
50138.2.246	HSIP-0485(045)	R/W	
50138.3.246	HSIP-0485(045)	CONST.	

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS  

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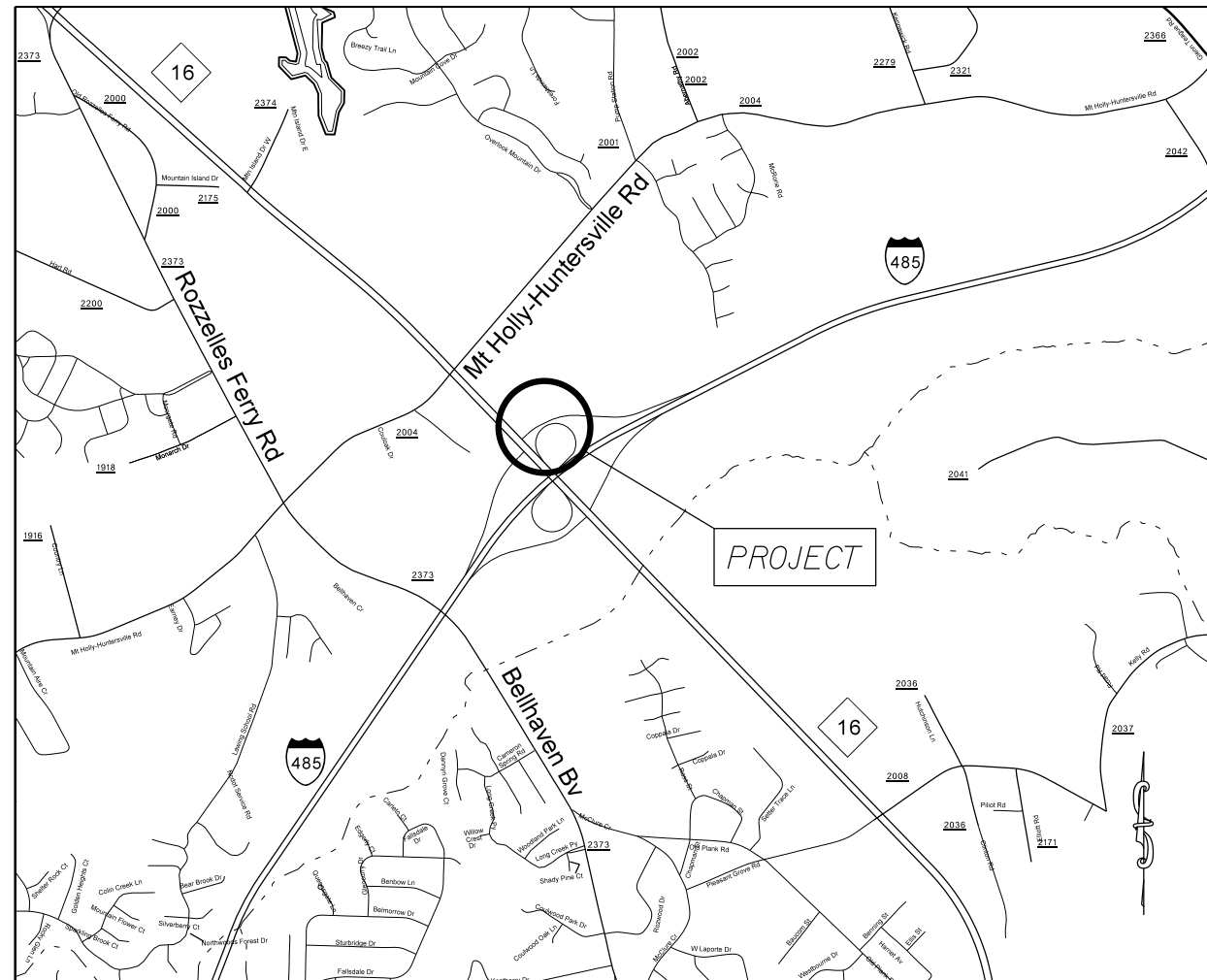
**PLAN FOR PROPOSED  
HIGHWAY EROSION CONTROL**

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**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	

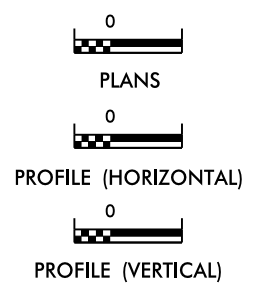


VICINITY MAP NOT TO SCALE

**PROJECT: 50138.3.246 TIP: W-5601IK**

I:\JULY-2017\116\50138.3.246\16\Revision\1-485 outer loop.nc 16.mel\EC title.dgn  
5:outer\_log.dwg  
4/10/2017 10:27:25

**GRAPHIC SCALE**



ROADSIDE ENVIRONMENTAL UNIT  
DIVISION OF HIGHWAYS  
STATE OF NORTH CAROLINA

THESE EROSION AND SEDIMENT CONTROL PLANS COMPLY  
WITH THE REGULATIONS SET FORTH BY THE  
NCG-010000 GENERAL CONSTRUCTION PERMIT EFFECTIVE AUGUST 3, 2011  
ISSUED BY THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND  
NATURAL RESOURCES DIVISION OF WATER QUALITY.

Prepared In the Office of:  
**DDC UNIT DIVISION 10**  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS  
**2012 STANDARD SPECIFICATIONS**  
TRAVIS LOWDER 3742  
EROSION CONTROL DESIGNER LEVEL III CERTIFICATION #

Roadway Standard Drawings

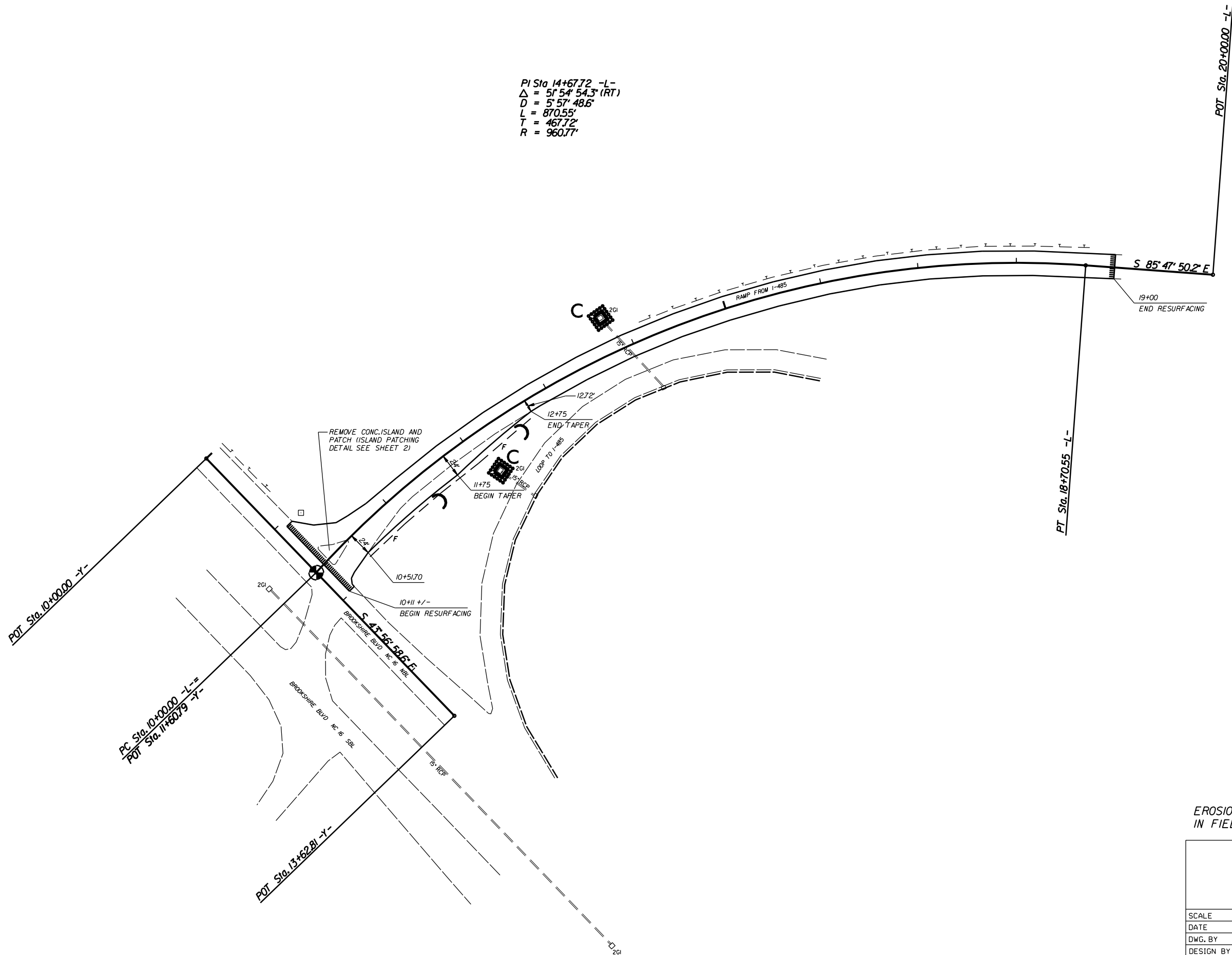
The following roadway english standards as appear in "Roadway Standard Drawings"- Roadway Design Unit - N. C. Department of Transportation - Raleigh, N. C., dated January 2012 and the latest revision thereto are applicable to this project and by reference hereby are considered a part of these plans.

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	

STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
N.C.	50138.3.246	EC-2	
F.A. PROJECT NO.			



PI Sta 14+67.72 -L-  
 $\Delta = 51^{\circ} 54' 54.3''$  (RT)  
 D = 57' 57.486"  
 L = 870.55'  
 T = 467.72'  
 R = 960.77'



EROSION CONTROL MEASURES MAY BE CHANGED IN FIELD AS DIRECTED BY THE ENGINEER.

WIDNING FOR TURN LANE ON  
 I-485 OUTER LOOP RAMP AT  
 NC 16 (BROOKSHIRE BLVD)

SCALE	1"=50'
DATE	JULY 2017
DWG. BY	TBL
DESIGN BY	JDH
APPROVED	DCG



REVISIONS	

PAVEMENT MARKING SCHEDULE

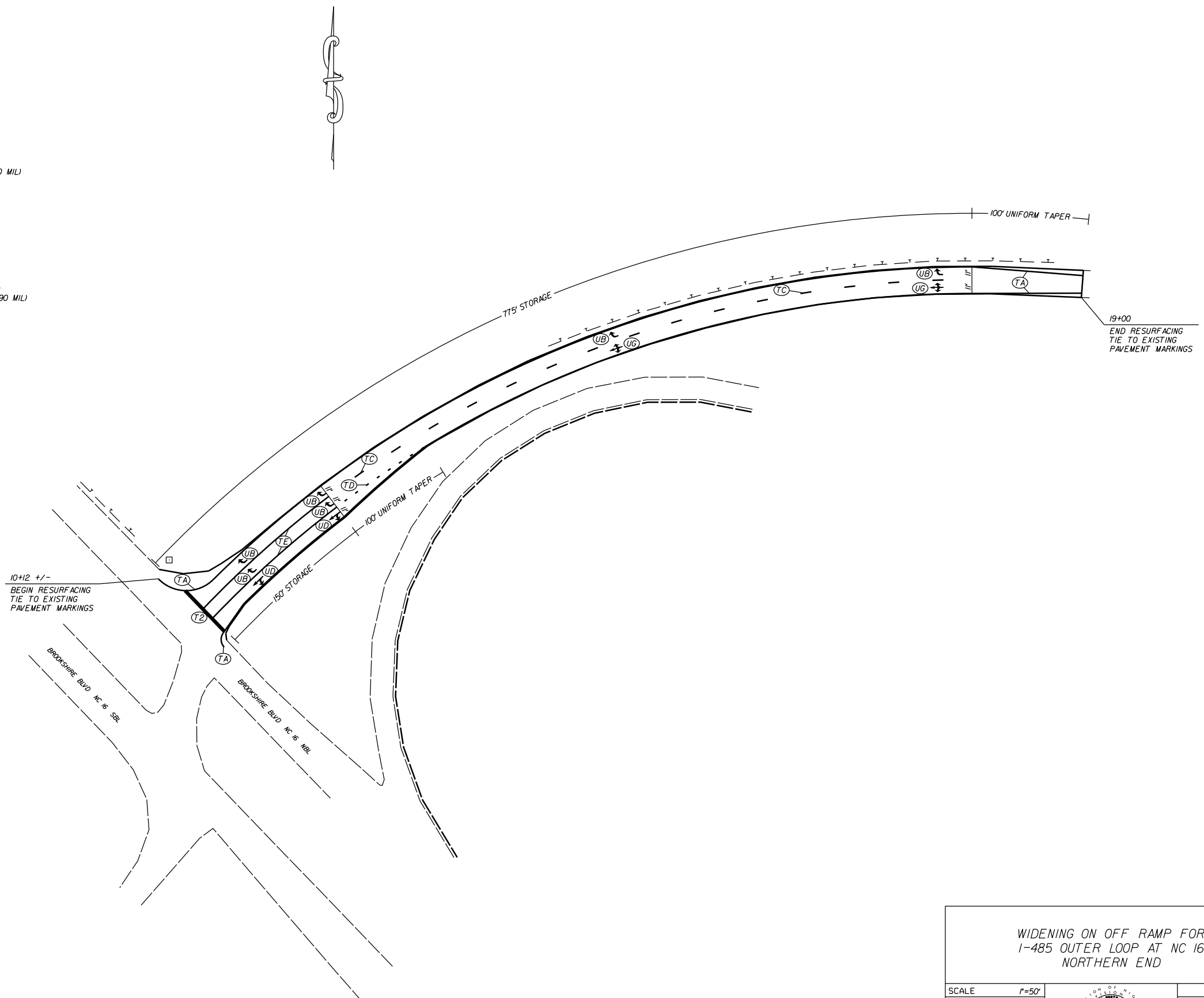
STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
N.C.	50138.3.246	PMP-1	
F.A. PROJECT NO.			

PAVEMENT MARKING LINES


- TA - WHITE EDGELINE (4',.90 MIL)
- TB - YELLOW EDGELINE (4',.90 MIL)
- TC - 10FT. WHITE SKIP (4',.120 MIL)
- TD - 3FT.-9FT./SP WHITE MINISKIP (4',.120 MIL)
- TE - WHITE SOLID LANE LINE (4',.120 MIL)
- TF - 10FT. YELLOW SKIP (4',.120 MIL)
- TH - YELLOW SINGLE CENTER (4',.120 MIL)
- TJ - YELLOW DOUBLE CENTER (4',.120 MIL)
- TK - 10FT. WHITE SKIP (6',.120 MIL)
- TL - 3FT.-9FT./SP WHITE MINISKIP (6',.120 MIL)
- TM - WHITE SOLID LANE LINE (6',.120 MIL)
- TN - 10FT. YELLOW SKIP (6',.120 MIL)
- TO - WHITE GORELINE (8',.90 MIL)
- TP - WHITE DIAGONAL (8',.90 MIL)
- TQ - YELLOW DIAGONAL (8',.90 MIL)
- TR - WHITE CROSSWALK LINE (8',.120 MIL)
- TS - WHITE SOLID LANE LINE (8',.120 MIL)
- TT - WHITE GORELINE (12',.90 MIL)
- TU - WHITE DIAGONAL (12',.90 MIL)
- TV - YELLOW DIAGONAL (12',.90 MIL)
- T1 - WHITE LINE, RR X (16',.120 MIL)
- T2 - WHITE STOPBAR (24',.120 MIL)
- T3 - WHITE CROSSWALK LINE (24',.120 MIL)
- T4 - WHITE RUMBLE STRIP (4',.240 MIL)
- T5 - YELLOW RUMBLE STRIP (4',.240 MIL)
- T6 - WHITE EDGELINE (6',.90 MIL)
- T7 - YELLOW EDGELINE (6',.90 MIL)
- T8 - 2FT.-6FT./SP WHITE MINISKIP (4',.120 MIL)
- T9 - 2FT.-6FT./SP YELLOW MINISKIP (4',.120 MIL)
- T10 - 3FT.-3FT./SP WHITE MINISKIP (12',.120 MIL)
- T11 - 2FT.-6FT./SP WHITE MINISKIP (6',.120 MIL)
- T12 - 2FT.-6FT./SP YELLOW MINISKIP (6',.120 MIL)
- T13 - 3FT.-9FT./SP WHITE MINISKIP (8',.120 MIL)
- T14 - 3FT.-9FT./SP WHITE MINISKIP (12',.120 MIL)
- T15 - YELLOW SINGLE CENTER (6',.120 MIL)
- T16 - YELLOW DOUBLE CENTER (6',.120 MIL)
- T17 - 3FT.-3FT./SP WHITE MINISKIP ENTRANCE LINE (8',.120 MIL)

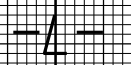
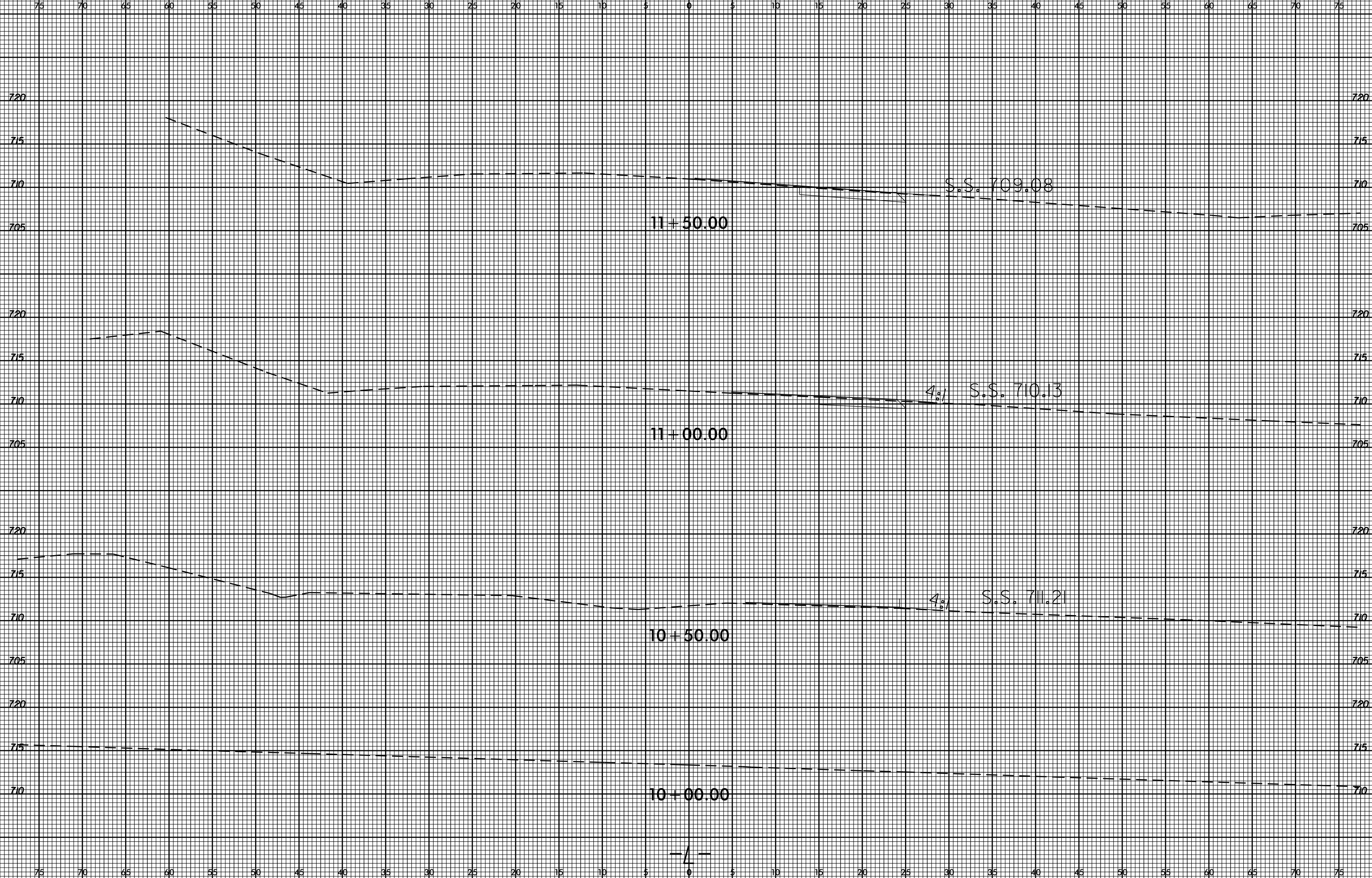
PAVEMENT MARKING SYMBOLS

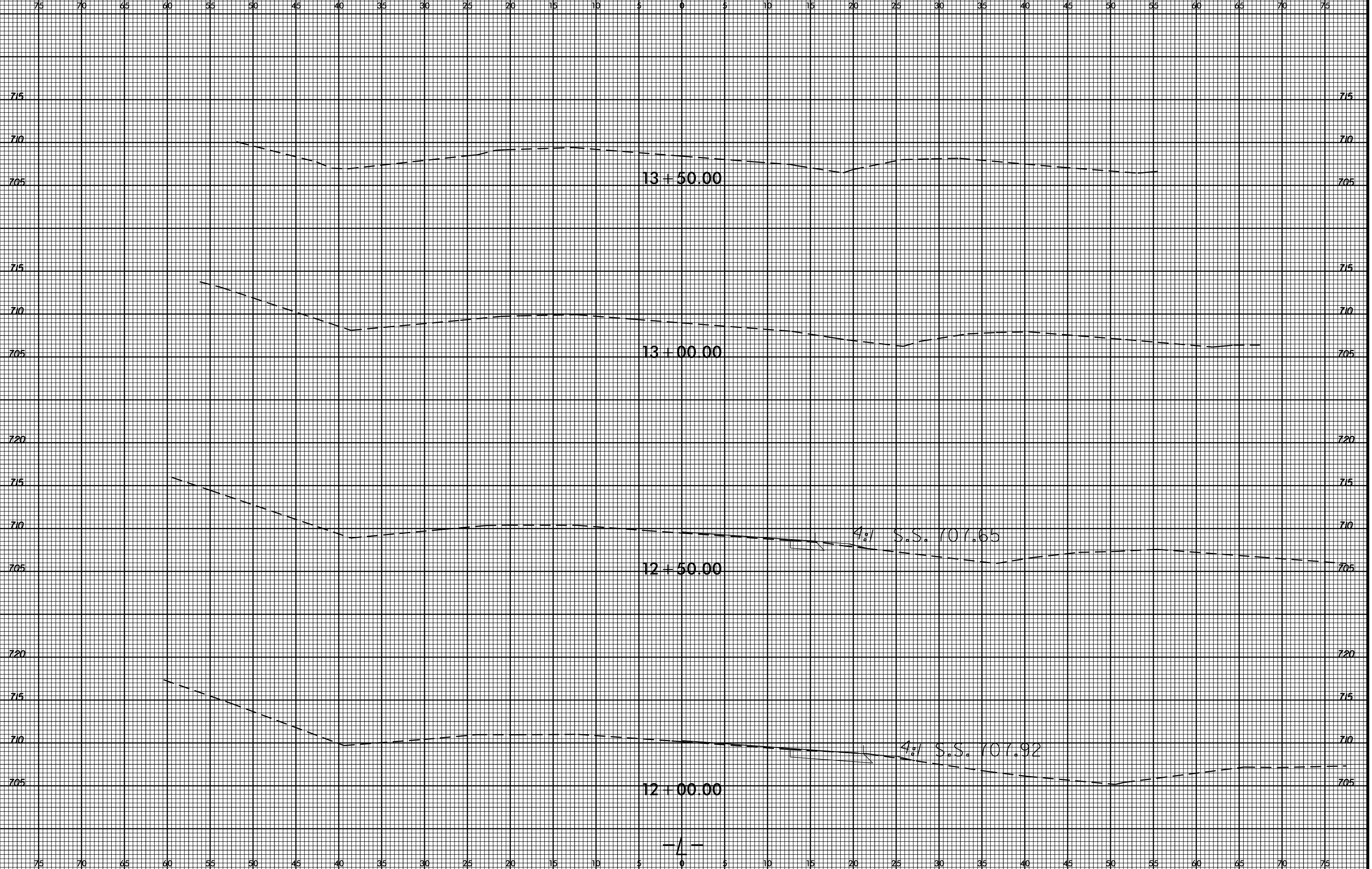
- UA - LEFT TURN ARROW (90 MIL)
- UB - RIGHT TURN ARROW (90 MIL)
- UC - STRAIGHT ARROW (90 MIL)
- UD - COMBO. LEFT/STRAIGHT ARROW (90 MIL)
- UE - COMBO. RIGHT/STRAIGHT ARROW (90 MIL)
- UF - COMBO. LEFT/RIGHT ARROW (90 MIL)
- UG - COMBO. LEFT/RIGHT/STRAIGHT ARROW (90 MIL)
- UH - HANDICAP PARKING (90 MIL)
- UI - ALPHANUMERIC CHAR. (120 MIL)
- UJ - BICYCLE SYMBOL (90 MIL)
- UK - BICYCLE STRAIGHT ARROW (90 MIL)
- UL - BICYCLE CHAR. (120 MIL)
- UM - 12" YIELD LINE TRIANGLE (90 MIL)
- UN - 24" YIELD LINE TRIANGLE (90 MIL)
- UO - BICYCLE LEFT ARROW (90 MIL)
- UP - MERGE ARROW (90 MIL)
- UQ - RAMP ARROW SYMBOL (90 MIL)
- UR - SHARROW (90 MIL)
- US - BICYCLE LOOP DETECTOR (90 MIL)
- UT - U-TURN ARROW (90 MIL)
- UU - FISH-HOOK STRAIGHT ARROW (90 MIL)
- UV - FISH-HOOK LEFT/STRAIGHT ARROW (90 MIL)
- UW - FISH-HOOK RIGHT/STRAIGHT ARROW (90 MIL)
- UX - FISH-HOOK LEFT/RIGHT ARROW (90 MIL)
- UY - FISH-HOOK LEFT/RIGHT/STRAIGHT ARROW (90 MIL)
- UZ - FISH-HOOK W/CIRCLE STRAIGHT ARROW (90 MIL)
- WA - FISH-HOOK W/CIRCLE LEFT ARROW (90 MIL)
- WB - FISH-HOOK W/CIRCLE LEFT/STRAIGHT ARROW (90 MIL)
- WC - FISH-HOOK W/CIRCLE LEFT/RIGHT/STRAIGHT ARROW (90 MIL)
- MA - PERMANENT RAISED MARKER (YELLOW & YELLOW)
- MB - PERMANENT RAISED MARKER (CRYSTAL & RED)
- MC - PERMANENT RAISED MARKER (YELLOW & RED)
- MD - PERMANENT RAISED MARKER (YELLOW)
- ME - SNOWPLOWABLE MARKER (YELLOW & YELLOW)
- MF - SNOWPLOWABLE MARKER (CRYSTAL & RED)
- MG - SNOWPLOWABLE MARKER (YELLOW & RED)
- ML - PERMANENT RAISED MARKER (CRYSTAL & CRYSTAL)
- MO - SNOWPLOWABLE MARKER (CRYSTAL & CRYSTAL)



WIDENING ON OFF RAMP FOR  
I-485 OUTER LOOP AT NC 16  
NORTHERN END

SCALE	r=50'		REVISIONS
DATE	5-2017		
DWG. BY	JDH		
DESIGN BY	JDH		
APPROVED	DCG		





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