PROJECT REFERENCE NO.		SHEET NO.
I-5922 I-5923		1
STATE PROJECT	F.A. PROJECT NO.	DESCRIPTION

HAYWOOD COUNTY

MAP 1

BEG END

MAP 2

BEG END

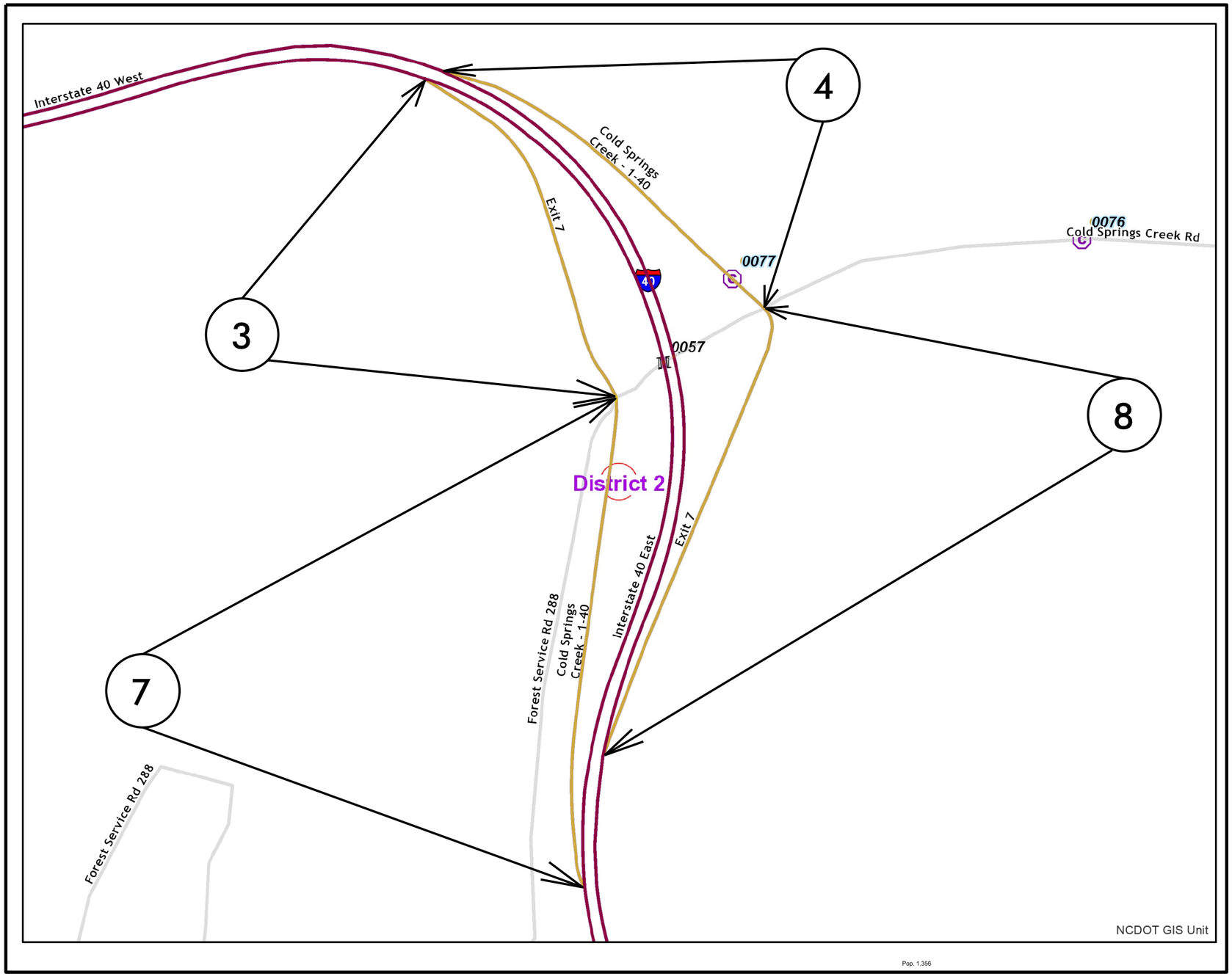
CONTRACT: C204286 TIP PROJECT: I-5922 I-5923

HAYWOOD COUNTY

PROJECT REFERENCE NO.		SHEET NO.
I-5922 / I-5923		1A
STATE PROJECT	F.A. PROJECT NO.	DESCRIPTION

TIP PROJECT: I-5922 I-5923

CONTRACT: C204286



MAP 3

BEG MAP 4 END

BEG END
MAP 7

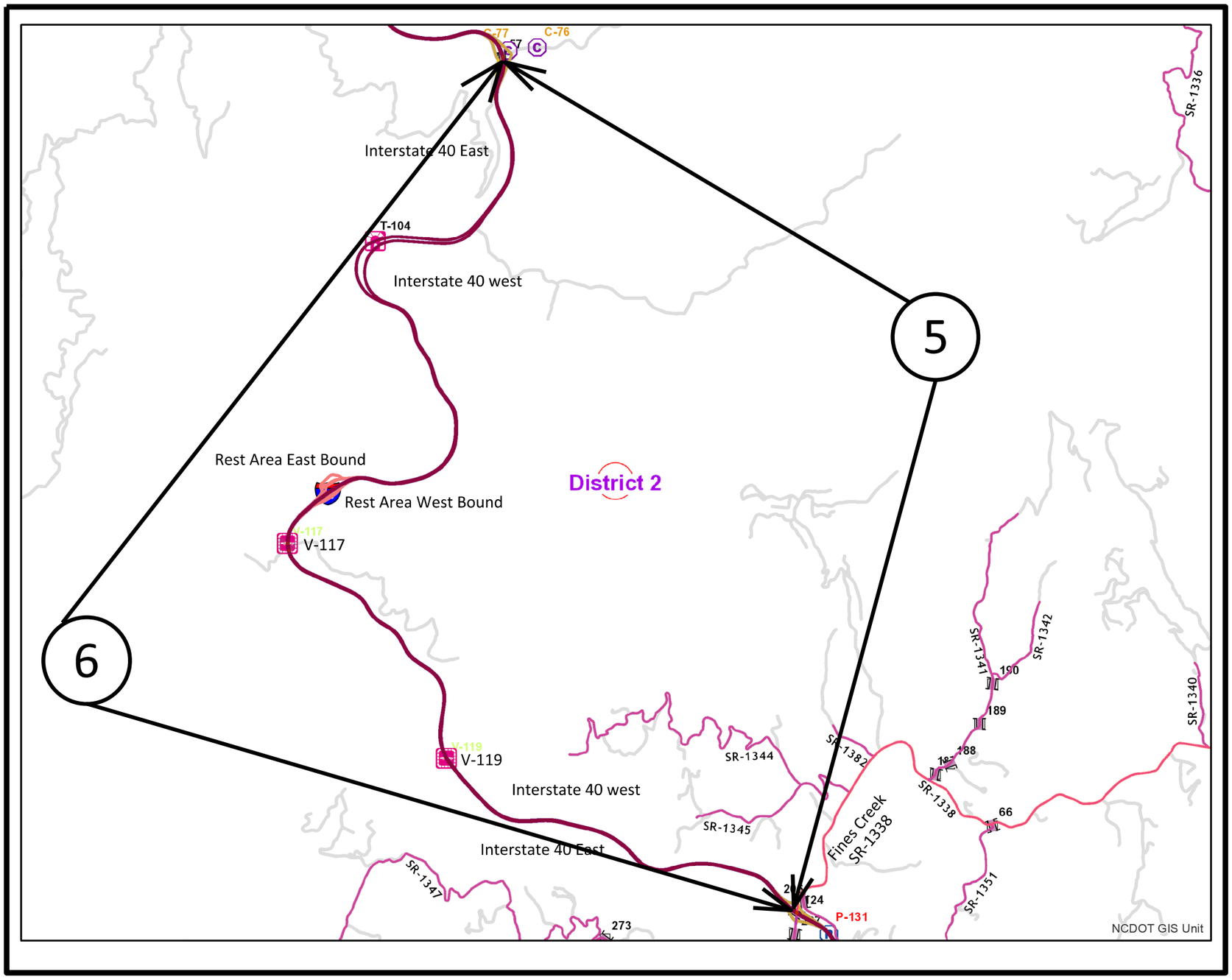
BEG MAP 8 END

PROJECT REFERENCE NO.		SHEET NO.
I-5922 I-5923		1B
STATE PROJECT	F.A. PROJECT NO.	DESCRIPTION

HAYWOOD COUNTY

TIP PROJECT: I–5922 I–5923

CONTRACT: C204286



MAP 5

BEG END

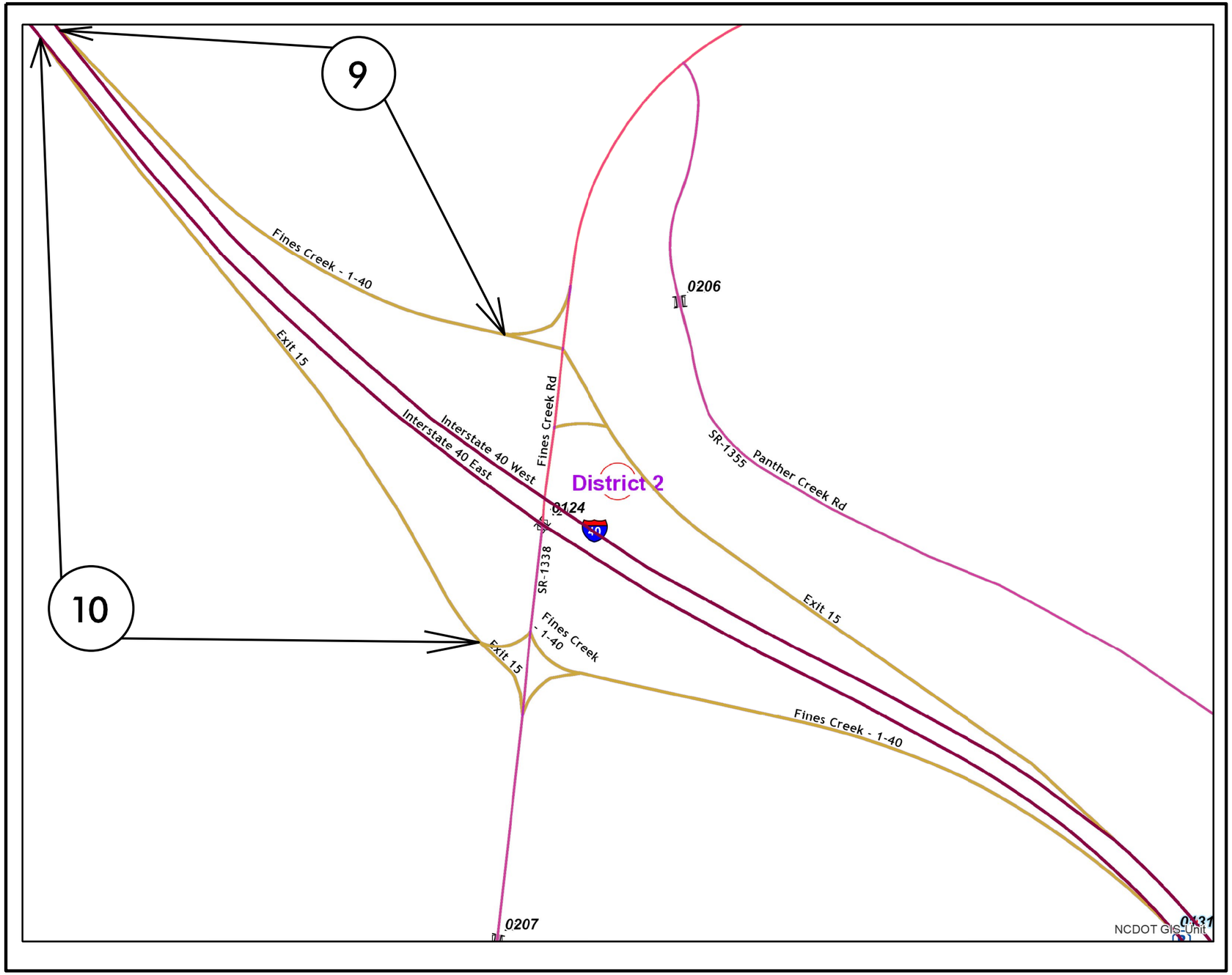
MAP 6

BEG END

PROJECT REFERENCE NO.		SHEET NO.
I-5922 / I-5923		1C
STATE PROJECT	F.A. PROJECT NO.	DESCRIPTION

HAYWOOD COUNTY

CONTRACT: C204286 TIP PROJECT: I-5922 I-5923



MAP 9

BEG END

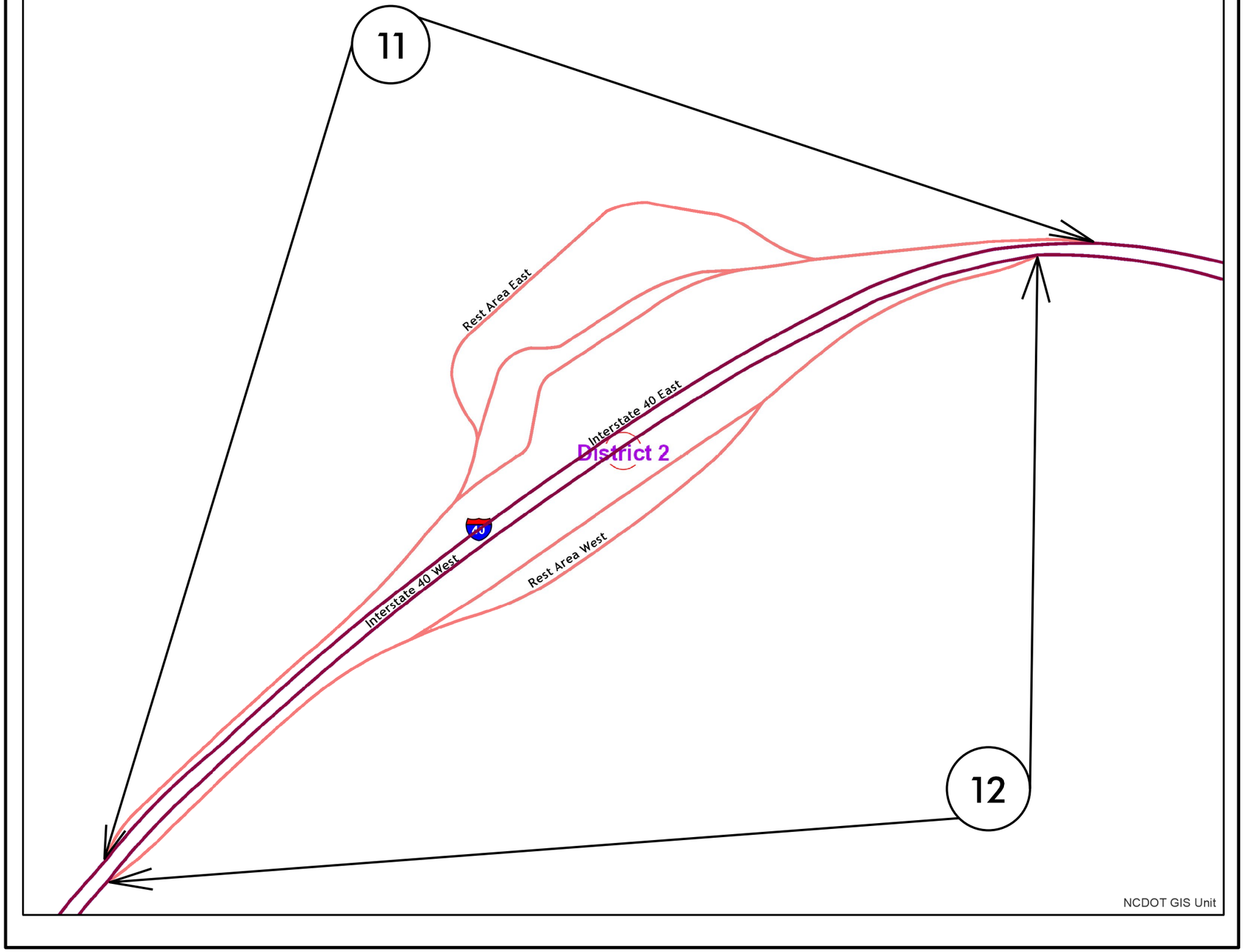
MAP 10

BEG END

PROJECT REFERENCE NO.		SHEET NO.
I-5922 / I-5923		1D
STATE PROJECT	F.A. PROJECT NO.	DESCRIPTION

HAYWOOD COUNTY

CONTRACT: C204286 TIP PROJECT: I-5922 I-5923



MAP 11

BEG END

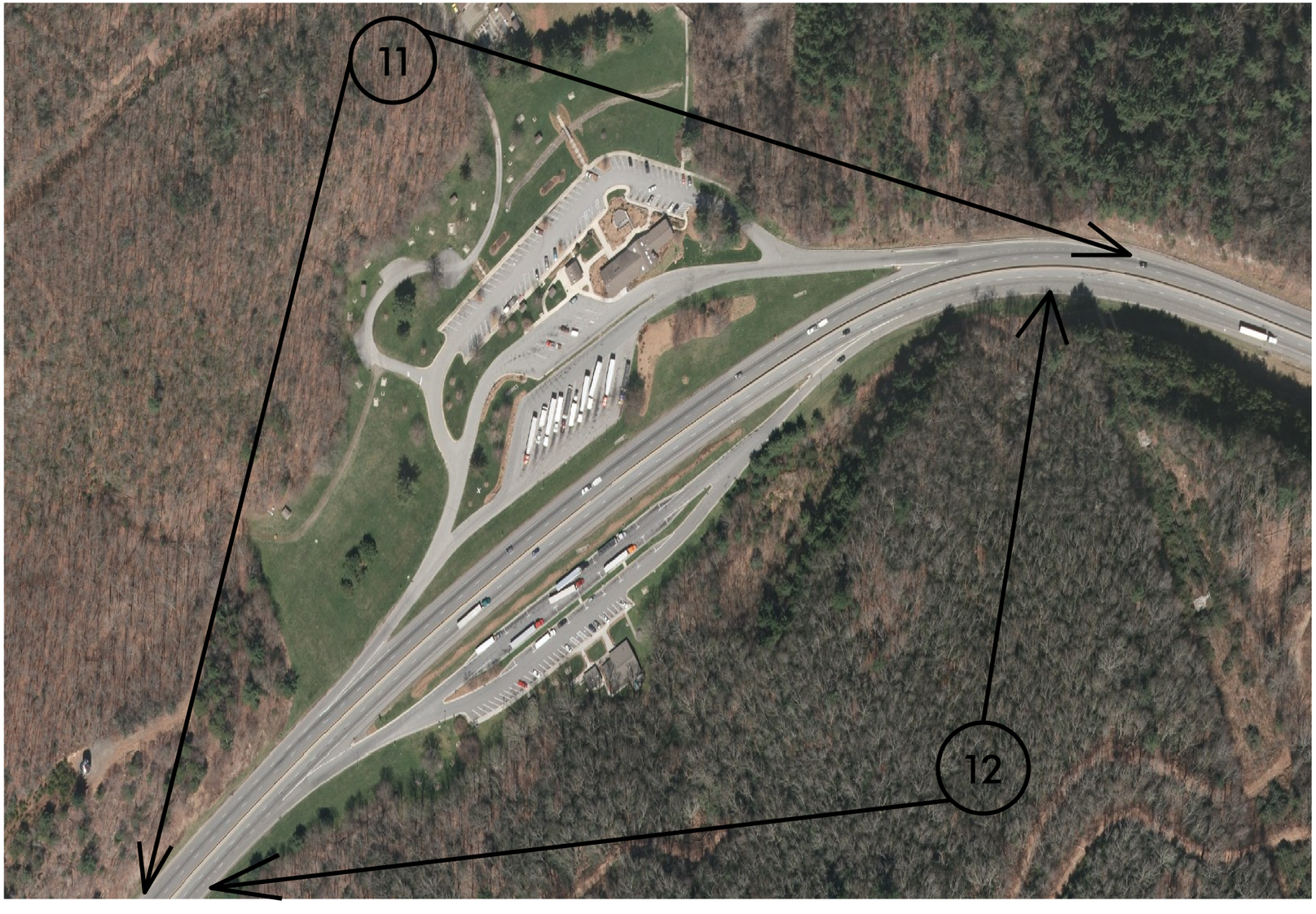
MAP 12

BEG END

PROJECT REFERENCE NO.		SHEET NO.
I-5922 I-5923		1E
STATE PROJECT	F.A. PROJECT NO.	DESCRIPTION

HAYWOOD COUNTY

CONTRACT: C204286 TIP PROJECT: I-5922 I-5923



MAP 11

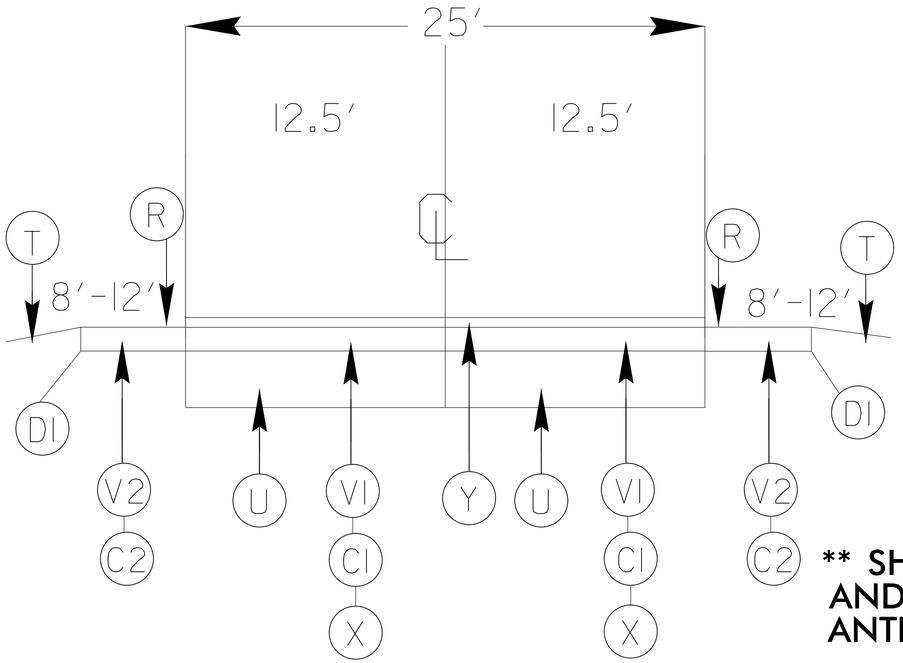
BEG END

MAP 12

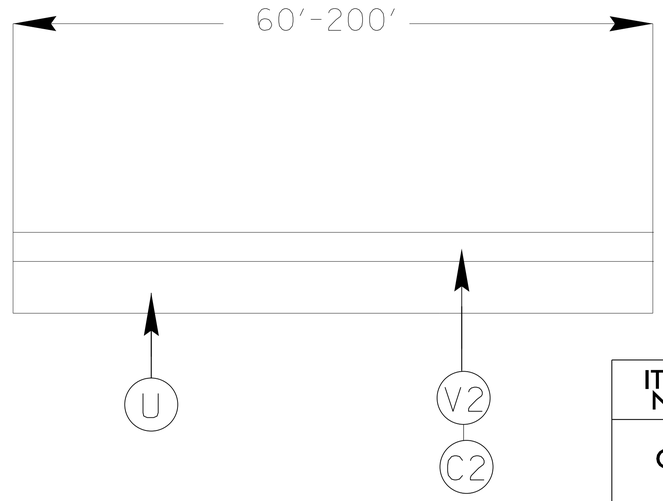
BEG END

PROJECT REFERENCE NO.		SHEET NO.
I–5922 I–5923		2A–1
STATE PROJECT	F.A. PROJECT NO.	DESCRIPTION

TYPICAL 1

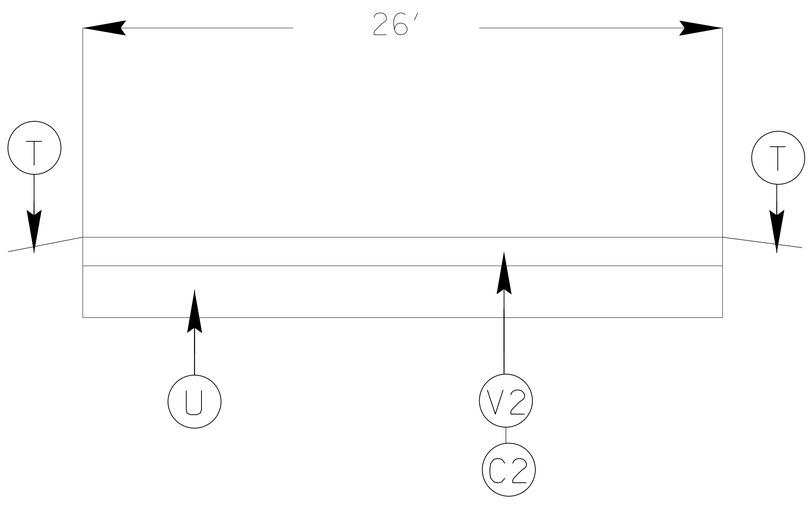


TYPICAL 3



**** SHOULDER MILLING, PAVING, AND RUMBLE STRIPS ARE NOT ANTICIPATED ON MAPS 5 & 6.**

TYPICAL 2



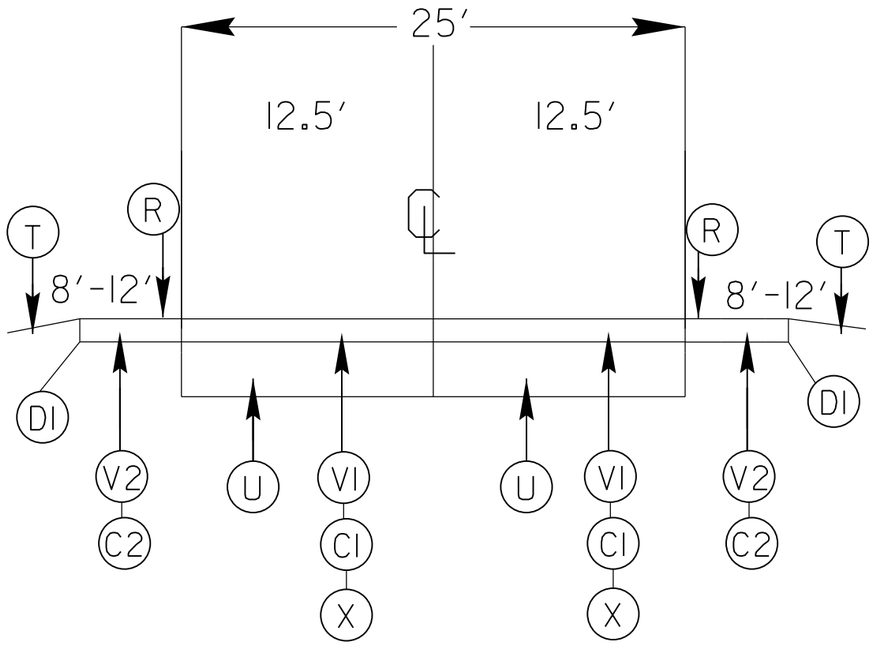
SURFACING SCHEDULE

ITEM NO	DESCRIPTION
C1	PROP. APPROX. 1 1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5D AT AN AVERAGE RATE OF 168 LBS.PER.SQ.YD
C2	PROP. APPROX. 1 1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C AT AN AVERAGE RATE OF 168 LBS.PER.SQ.YD
D1	PROP. APPROX. VARIABLE DEPTH ASPHALT CONCRETE INTERMEDIATE COURSE,TYPE I19.0C PLACED AT AVERAGE DEPTH OF 114 LBS PER SQ YD. PER 1" DEPTH. TO BE DETERMIED BY PROJECT ENGINEER IN AREAS OF LOW SHOULDER ROLLOVER RATE
R	MILLED RUMBLE STRIPS AS DIRECTED BY THE ENGINEER
T	SHOULDER RECONSTRUCTION AS DIRECTED BY THE ENGINEER
V1	MILLED ASPHALT PAVEMENT 2 1/4" IN DEPTH IN LOCATIONS AS DIRECTED BY PROJECT ENGINEER
V2	MILLED ASPHALT PAVEMENT 1 1/2" IN DEPTH IN LOCATIONS AS DIRECTED BY PROJECT ENGINEER
U	EXISTING ASPHALT
X	OPEN GRADED ASPHALT FRICTION COURSE TYPE FC-1 MODIFIED AT AN AVERAGE RATE OF 90 LBS.PER.SQ.YD
Y	EXISTING 3/4" OGAFC

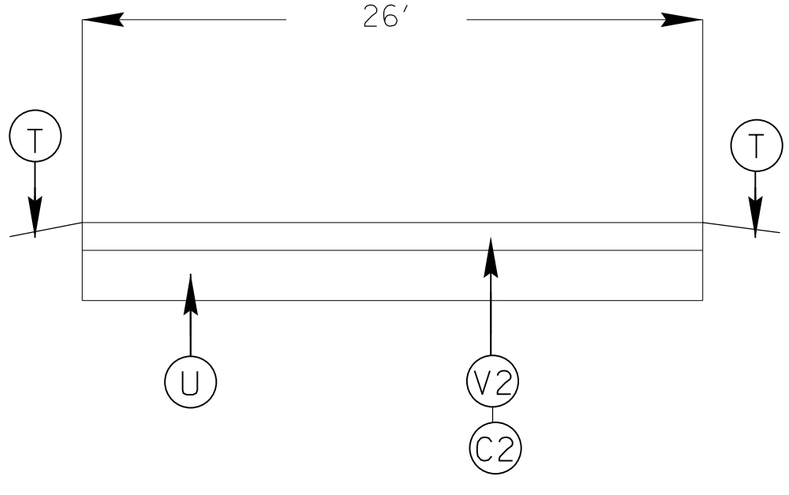
*** NOTE Quantity Included Entrance & Exit Area of Rest Area. ***

PROJECT REFERENCE NO.		SHEET NO.
I–5922 I–5923		2A–1
STATE PROJECT	F.A. PROJECT NO.	DESCRIPTION

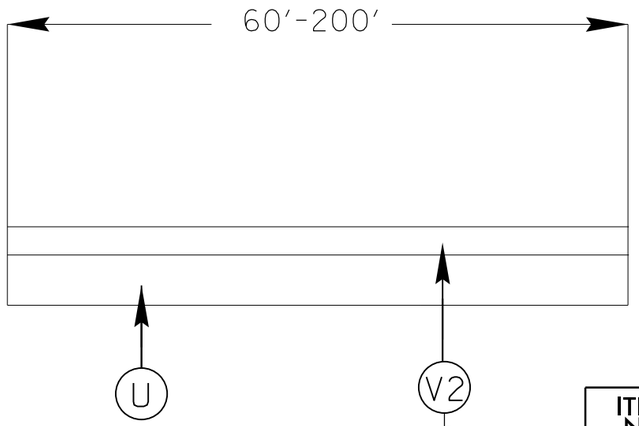
TYPICAL 1



TYPICAL 2



TYPICAL 3



SURFACING SCHEDULE

ITEM NO	DESCRIPTION
C1	PROP. APPROX. 1 1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5D AT AN AVERAGE RATE OF 168 LBS.PER.SQ.YD
C2	PROP. APPROX. 1 1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C AT AN AVERAGE RATE OF 168 LBS.PER.SQ.YD
D1	PROP. APPROX. VARIABLE DEPTH ASPHALT CONCRETE INTERMEDIATE COURSE,TYPE I19.0C PLACED AT AVERAGE DEPTH OF 114 LBS PER SQ YD. PER 1" DEPTH. TO BE DETERMIED BY PROJECT ENGINEER IN AREAS OF LOW SHOULDER ROLLOVER RATE
R	MILLED RUMBLE STRIPS AS DIRECTED BY THE ENGINEER
T	SHOULDER RECONSTRUCTION AS DIRECTED BY THE ENGINEER
V1	MILLED ASPHALT PAVEMENT 2 1/4" IN DEPTH IN LOCATIONS AS DIRECTED BY PROJECT ENGINEER
V2	MILLED ASPHALT PAVEMENT 1 1/2" IN DEPTH IN LOCATIONS AS DIRECTED BY PROJECT ENGINEER
U	EXISTING ASPHALT
X	OPEN GRADED ASPHALT FRICTION COURSE TYPE FC-1 MODIFIED AT AN AVERAGE RATE OF 90 LBS.PER.SQ.YD

* NOTE Quantity Included Entrance & Exit Area of Rest Area. *

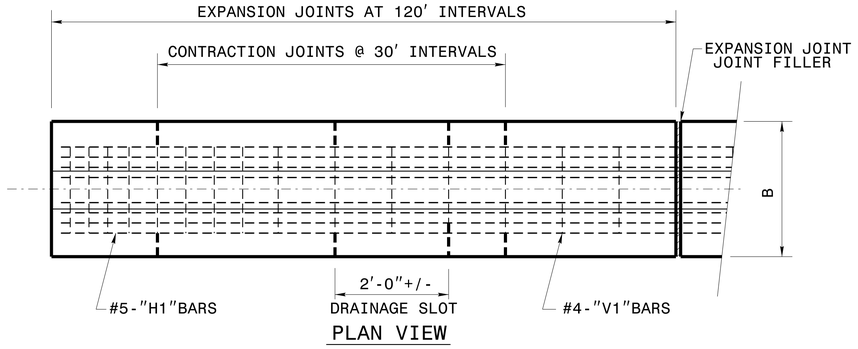
5/14/99

PROJECT REFERENCE NO.	SHEET NO.
I-5922 / I-5923	2C-1

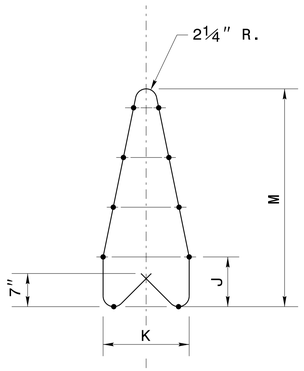
GENERAL NOTES:

1. USE CLASS "AA" CONCRETE.
2. MAINTAIN 2" OF COVER OVER ALL REBAR. CHAMFER TOP AND ENDS OF BARRIER ½ INCH.
3. USE BAR SPLICE LENGTHS A MINIMUM OF 20 TIMES THE NORMAL DIAMETER OF THE BAR. ANY METHOD DEVISED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER THAT WILL ASSURE THE LONGITUDINAL ROADWAY STEEL WILL BE POSITIONED +/-½INCH AS DIMENSIONED WILL BE SATISFACTORY.

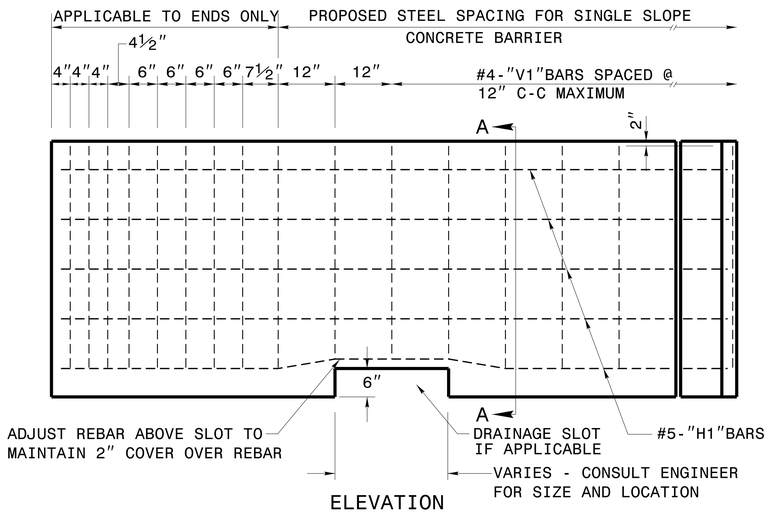
   WELDED WIRE FABRIC MAY BE USED AS AN OPTION TO CONVENTIONAL REINFORCMENT FOR CAST-IN-PLACE BARRIER. WELDED WIRE FABRIC SHALL BE MADE IN ACCORDANCE WITH ASTM A497. CONDUIT TO BE PROVIDED ONLY WHEN CALLED FOR ELSEWHERE IN THE PLANS. POSITION OF THE CONDUITOR CONDUIT PASSAGEWAY MAY BE ADJUSTED TO FACILITATE CONSTRUCTION, SUBJECT TO APPROVAL BY THE ENGINEER.
4. REFER TO ROADWAY STANDARD DRAWING NO.854.01 FOR EXPANSION AND CONTRACTION JOINT, FILLER AND OTHER SPECIFICATIONS.



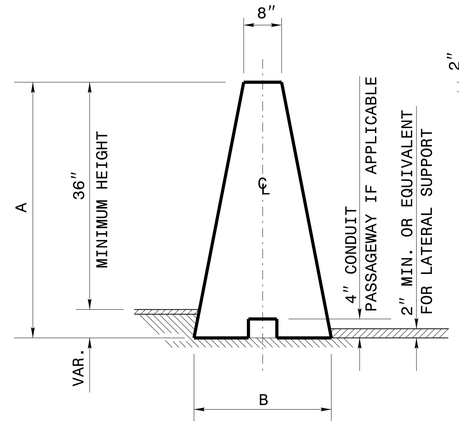
PLAN VIEW



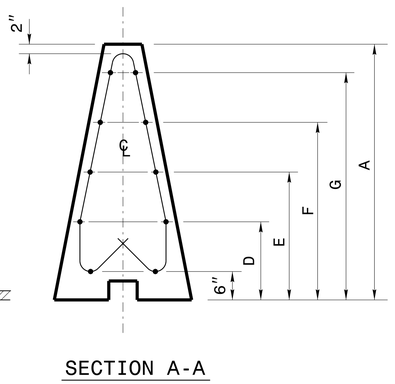
#4-"V1" BAR
REINFORCING DETAIL



ELEVATION



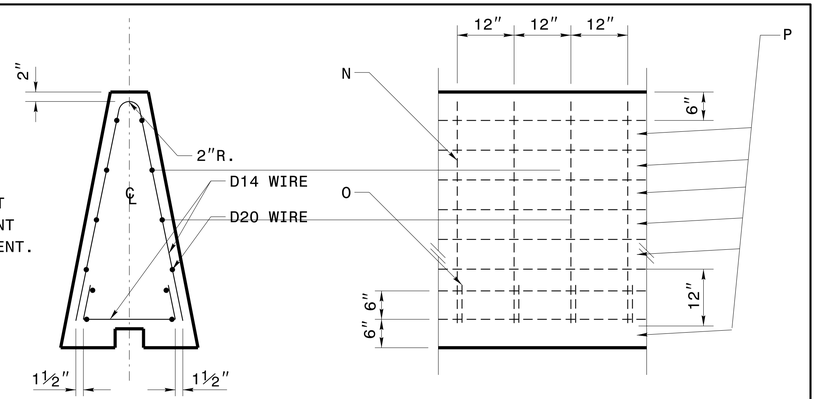
TYPICAL SECTION



SECTION A-A

WHEN BARRIER IS TO BE USED WITH THE WELDED WIRE FABRIC, OPTION CONVENTIONAL BAR REINFORCMENT WILL BE REQUIRED WITHIN 2 FEET, PLUS A DEVELOPMENT LENGTH OF 18" FROM THE ENDS OF EACH BARRIER SEGMENT.

WELDED WIRE FABRIC
4 X 12 - C20 % D14
60 X S1 MINIMUM YIELD STRENGTH



END VIEW SIDE VIEW

WELDED WIRE FABRIC OPTIONAL REINFORCING

BARRIER HEIGHT (IN.)	DIMENSIONS											
	A	B	D	E	F	G	K	L	M	N	O	P
42"	42	24	13½	21	28½	36	15	9¼	36	72	28	4

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NORTH CAROLINA PROFESSIONAL SEAL 022966 ENGINEER Joel S. Howerton

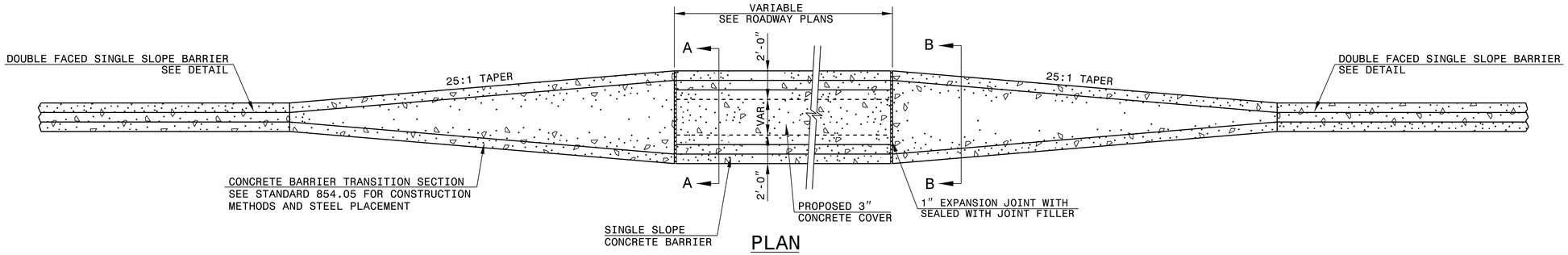
Joel S. Howerton
873F3D17DCDC45F...
1/16/2019

CONTRACT SERVICES & DEVELOPMENT UNIT
STANDARDS AND SPECIAL DESIGN
Office 919-707-6950 FAX 919-250-4119

SINGLE SLOPE CONCRETE BARRIER

ORIGINAL BY: _____ DATE: _____
MODIFIED BY: rnbritt DATE: 08-18-06
CHECKED BY: _____ DATE: _____
FILE SPEC.: details/nbritt/english/gurardrail/single slope concrete barrier.dgn

PROJECT REFERENCE NO.	SHEET NO.
I-5922/I-5923	2C-2



PLAN

GENERAL NOTES:

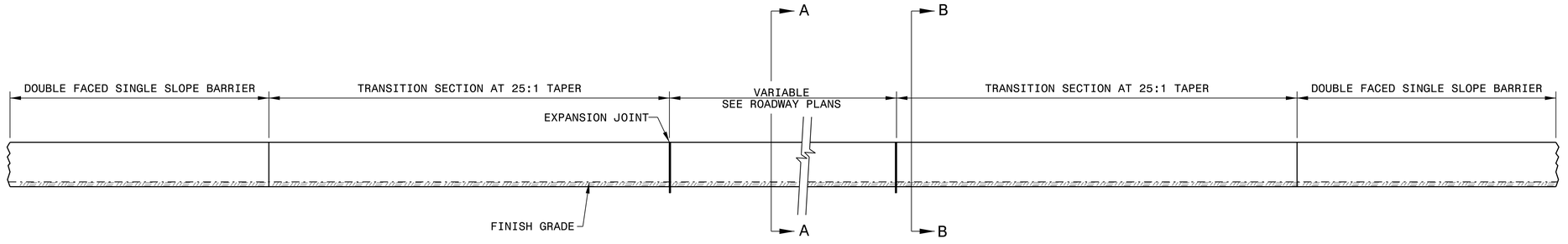
CONSTRUCT CONCRETE BARRIER WITH CLASS 'AA' CONCRETE. (SEE SPECIFICATIONS SECTION 854).

CONSTRUCT EXPANSION AND CONTRACTION JOINTS AS SHOWN IN STANDARD DRAWING 854.01.

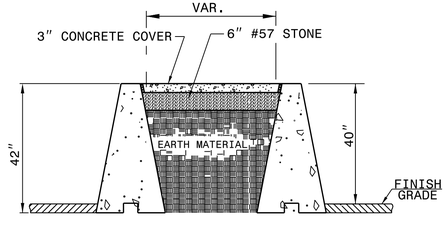
SEAL EXPANSION JOINTS WITH JOINT FILLER. (SEE SECTION 1028 OF THE SPECIFICATIONS).

SEE DETAIL 2C-1 FOR STEEL LAYOUT OF TRANSITION BARRIER.

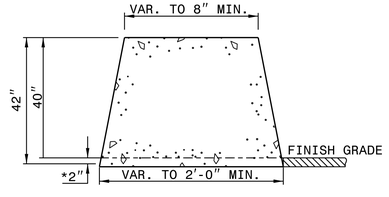
*THE 2" DIMENSION FROM FINSIH GRADE TO THE BASE IS A MINIMUM DIMENSION.



ELEVATION



SECTION A-A



SECTION B-B

NORTH CAROLINA PROFESSIONAL SEAL 022966 ENGINEER JOEL S. HOUVERTON

Joel S. Houverton
873F3D17DCDC45F...
1/16/2019

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

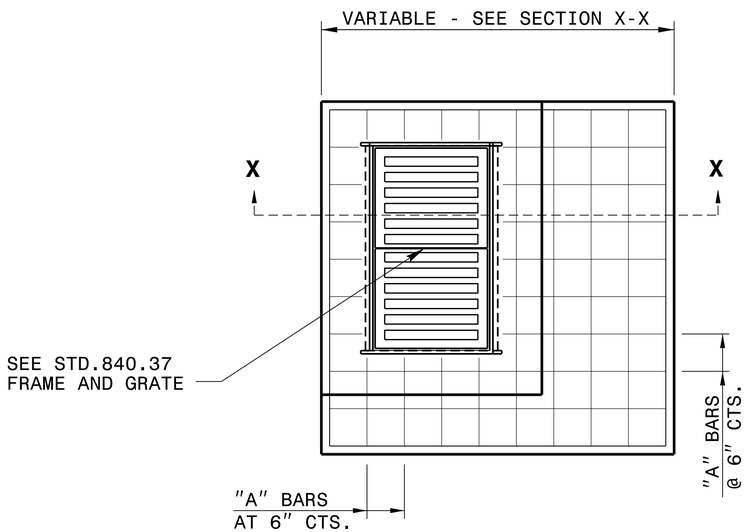
CONTRACT STANDARDS AND DEVELOPMENT UNIT
Office 919-707-6950 FAX 919-250-4119

DETAIL OF SINGLE SLOPE CONCRETE BARRIER TRANSITION

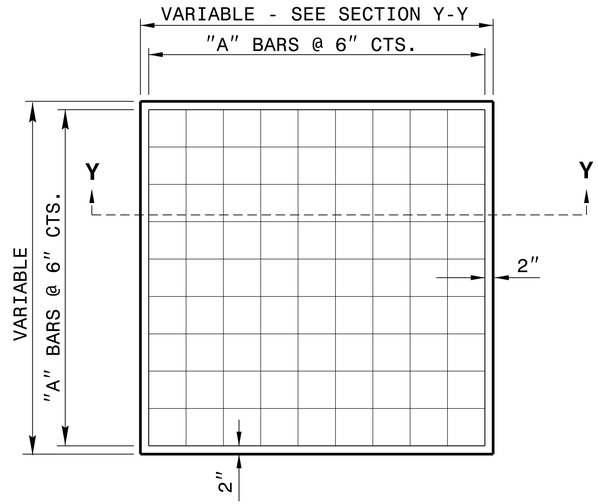
ORIGINAL BY: E.E. WARD DATE: 7-28-03
MODIFIED BY: K.A. KEMPF DATE: 11-13-18
CHECKED BY: DATE:
FILE SPEC.: details\english\transition single slope barrier.dgn

21-NOV-2018 13:23
S:\Contracts\Contracts\Special Details\kkempf\english\transition single slope barrier.dgn
kkempf AT CSD-292596

PROJECT REFERENCE NO.	SHEET NO.
I-5922 / I-5923	2C-3



PLAN



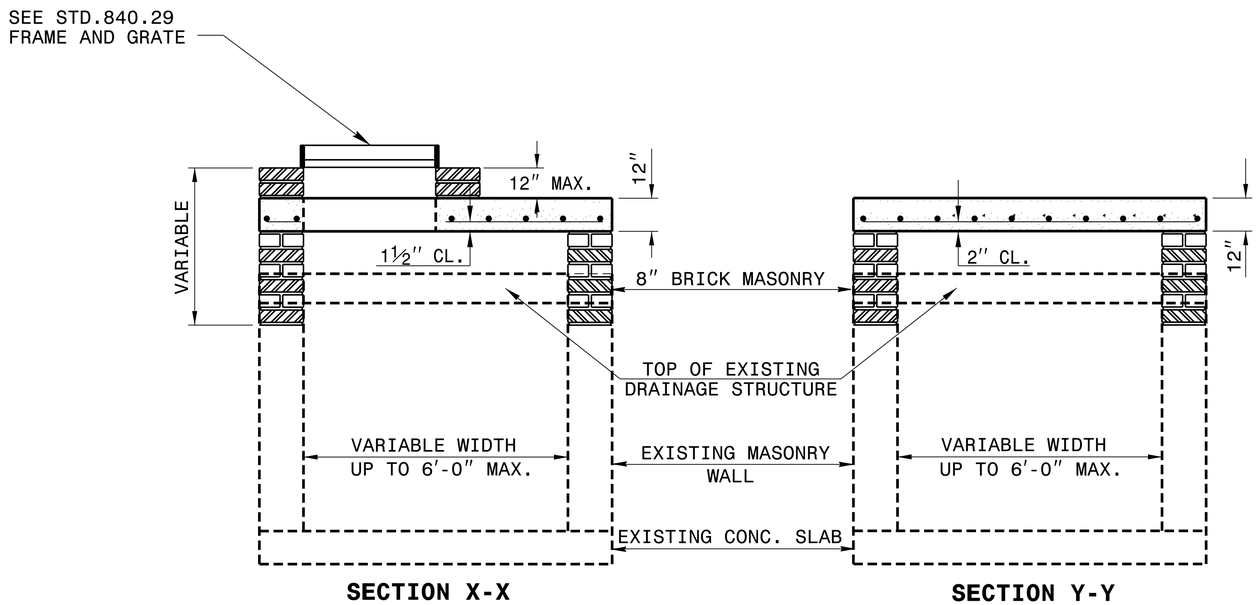
PLAN

GENERAL NOTES:

CONSTRUCT IN ACCORDANCE WITH SECTION 859 OF THE STANDARD SPECIFICATIONS.

FIELD VERIFY THE DIMENSIONS FOR THE EXISTING BOXES

DETAIL INTENDED FOR TRAFFIC BEARING DRAINAGE STRUCTURES.



SECTION X-X **SECTION Y-Y**

BILL OF MATERIALS

REINFORCING STEEL

CODE	SIZE	QTY.	LENGTH	REINF. STEEL LBS.
A	#4	20	4'-6"	60.12
B	#4	8	1'-1"	5.79
TOTAL				65.91 *

MASONRY	CU YDS
TOP SLAB CONCRETE CLASS "B"	.433 *
BRICK MASONRY PER FT HT (MIN)	.4111

* NOTE:
QUANTITIES BASED ON 3'-6" X 3'-6" DRAINAGE STRUCTURE. ADJUST QUANTITIES FOR LARGER STRUCTURES AND MANHOLE CONSTRUCTION.

NORTH CAROLINA PROFESSIONAL SEAL 022966 ENGINEER Joel S. Howerton
Joel S. Howerton
1/16/2019

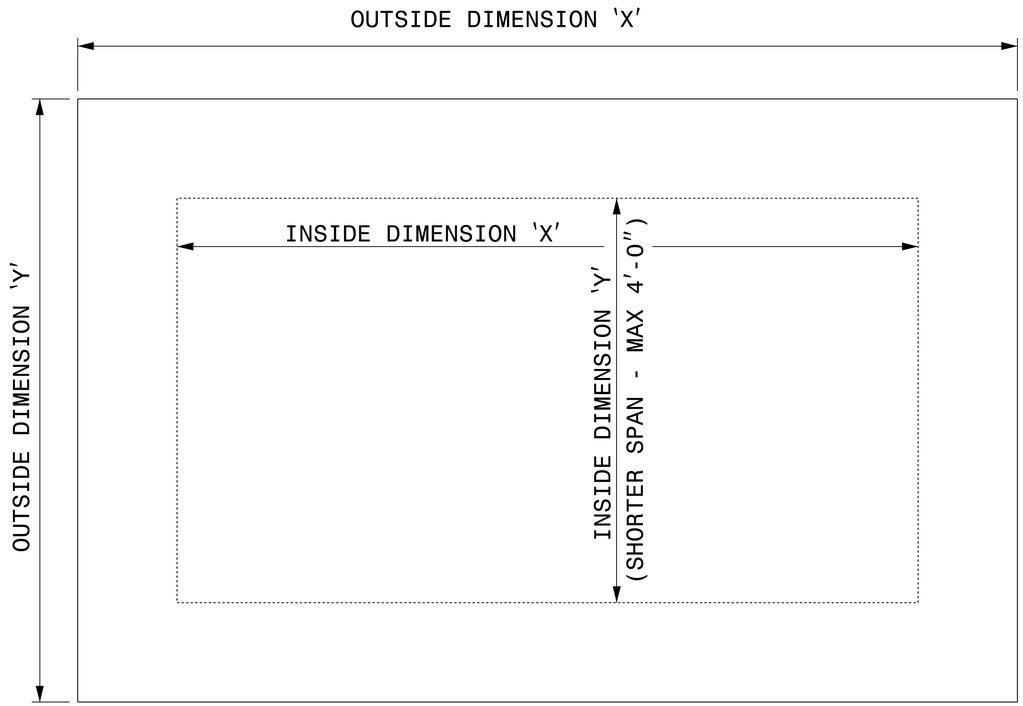
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

CONTRACT STANDARDS AND DEVELOPMENT UNIT
Office 919-707-6950 FAX 919-250-4119

DETAIL TO CONVERT EXISTING DRAINAGE STRUCTURE TO TRAFFIC BEARING 2-GI

ORIGINAL BY: _____ DATE: _____
MODIFIED BY: _____ DATE: _____
CHECKED BY: _____ DATE:
FILE SPEC.: details/rnbritt/english/hydro/convjbto2gi.dgn

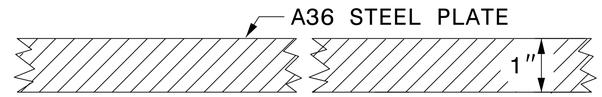
PROJECT REFERENCE NO.	SHEET NO.
I-5922 / I-5923	2C-4



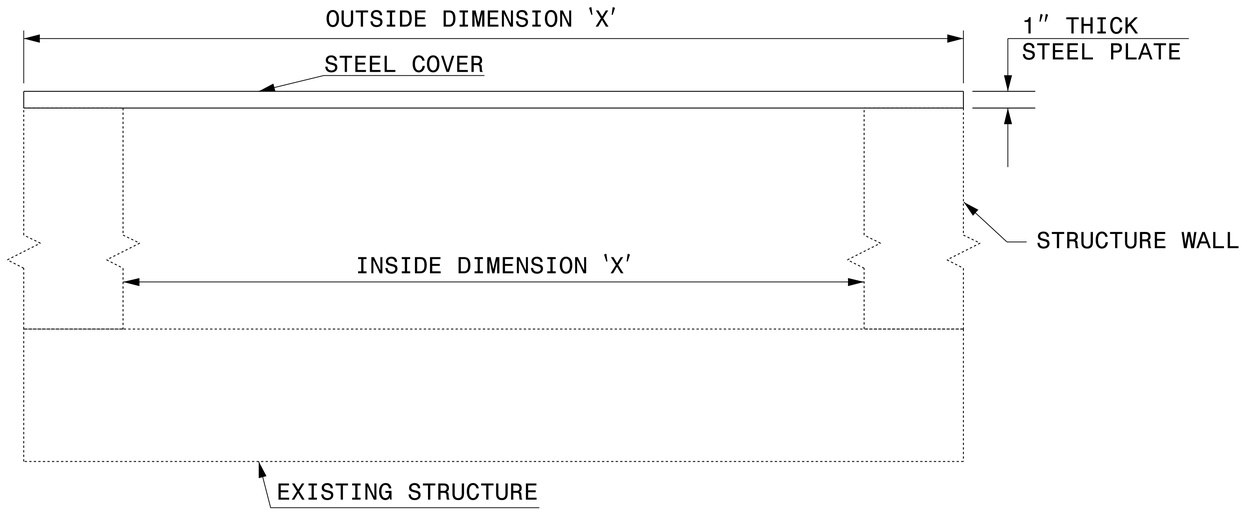
PLAN VIEWS

GENERAL NOTES:

-USE GRADE A36 STEEL
-STEEL COVERS ARE FOR TEMPORARY USE DURING PHASE CONSTRUCTION.
-FILL SHALL BE PLACED DIRECTLY OVER THE STEEL PLATES.
-SEE ROADWAY PLANS AND PROVISIONS FOR LOCATIONS
-QUANTITES TO BE PAID FOR AT THE UNIT PRICE BID PER EACH.



SECTION VIEW OF STEEL TOP PLATE



ELEVATION VIEWS

NORTH CAROLINA PROFESSIONAL SEAL 022966 ENGINEER Joel S. Howerton
Joel S. Howerton
1/16/2019

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

CONTRACT STANDARDS AND DEVELOPMENT UNIT
Office 919-707-6950 FAX 919-250-4119

DETAIL OF TEMPORARY 1" STEEL COVER

ORIGINAL BY: E.E. WARD DATE: 2-2-98
MODIFIED BY: _____ DATE: _____
CHECKED BY: _____ DATE: _____
FILE SPEC.: eric:/usr/details/metric/stand/stlcvr2.dgn

07-DEC-2018 09:57
S:\Contracts\Contracts\Special Details\jhowerton\Steel Cover.dgn
jhowerton AT CSD-292595

5/14/99

PROJECT REFERENCE NO.	SHEET NO.
I-5922 / I-5923	2C-5

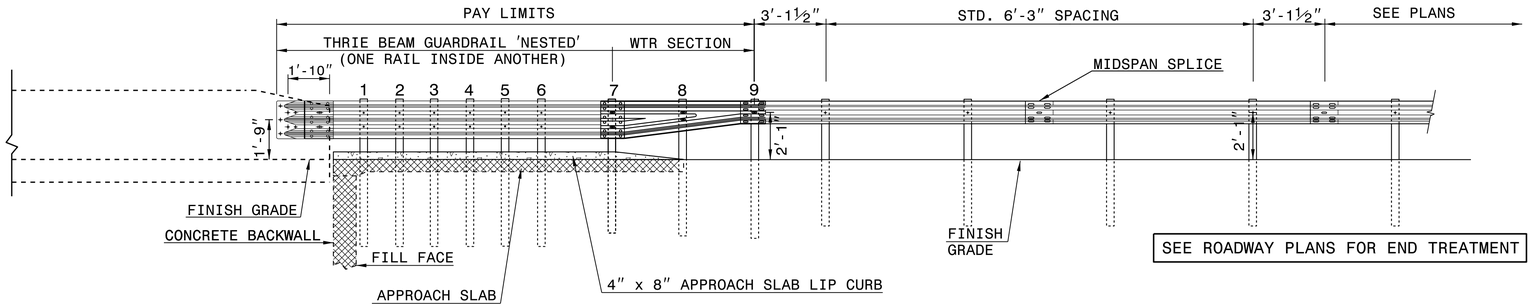
STATE OF
NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

ENGLISH DETAIL DRAWING FOR

TYPE III - SHOP CURVED STRUCTURE ANCHOR UNIT

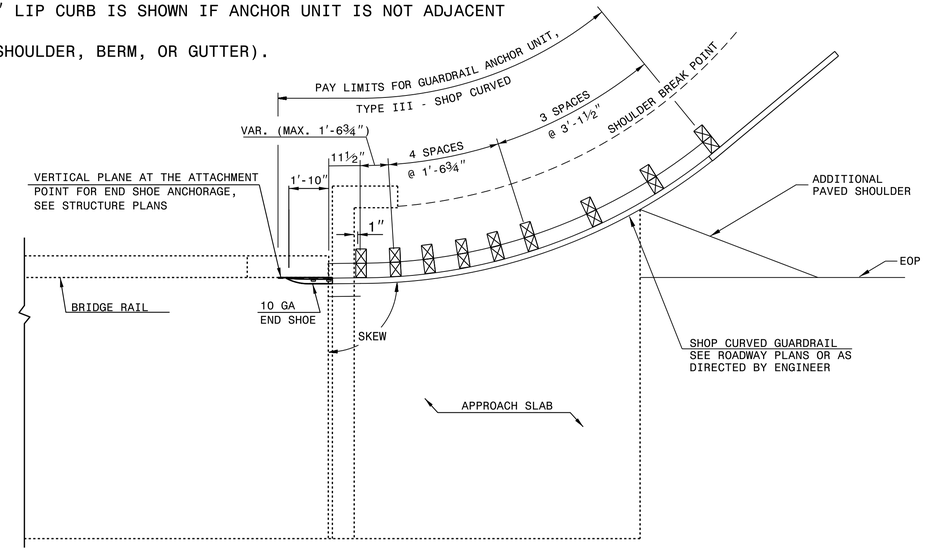
SHEET 1 OF 1

TYPE III SC



ELEVATION

NOTE:
**POST NOT REQUIRED FOR SKEW ANGLES GREATER THAN 150° OR LESS THAN 30° UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
*THE DISTANCE FROM END OF BRIDGE RAIL TO CENTER LINE OF THE FIRST POST SHOULD BE 11½" IF CONCRETE BACKWALL IS NOT PRESENT.
-SHOULDER BERM GUTTER MUST BE INSTALLED TO THE LIMITS 8" x 4" LIP CURB IS SHOWN IF ANCHOR UNIT IS NOT ADJACENT TO AN APPROACH SLAB.
-MEASURE GUARDRAIL HEIGHT FROM THE TOP OF ADJACENT SURFACE (SHOULDER, BERM, OR GUTTER).
-USE NO STEEL POSTS WITHIN THE GUARDRAIL ANCHOR UNIT LIMITS.
-LAP JOINTS IN THE DIRECTION OF TRAFFIC FLOW.
-SEE STANDARD 862.03 SHEET 4 FOR POST SECTIONS 1 THRU 9.



PLAN VIEW

GUARDRAIL ANCHOR UNIT, TYPE III - SHOP CURVED FOR ATTACHMENT TO RAIL ON BRIDGE

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

ENGLISH DETAIL DRAWING FOR

TYPE III - SHOP CURVED STRUCTURE ANCHOR UNIT

SHEET 1 OF 1

TYPE III SC

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

NORTH CAROLINA PROFESSIONAL SEAL 022966 ENGINEER Joel S. Howerton
Joel S. Howerton
1/16/2019

CONTRACT STANDARDS
AND DEVELOPMENT UNIT
Office 919-707-6950 FAX 919-250-4119

SEE PLATE FOR TITLE

ORIGINAL BY: E.E.Ward DATE: 4-4-02
MODIFIED BY: T.S.Spell DATE: 2-01-18
CHECKED BY: DATE:
FILE SPEC.: \jhowerton\guardrail\31inguardrail\typeiiisc.dgn

01-FEB-2018 09:09
S:\Contracts\Contracts\Special Details\jhowerton\Guardrail\31 inch Guardrail\type_iii_sc.dgn
jhowerton AT CSD-232595

COMPUTED BY: KLR DATE: 11/15/18

CHECKED BY: DATE:

PROJECT REFERENCE NO.	SHEET NO.
I-5922 I-5923	3B-1

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA
GUARDRAIL SUMMARY

"N" = DISTANCE FROM EDGE OF LANE TO FACE OF GUARDRAIL
TOTAL SHOULDER WIDTH = DISTANCE FROM EDGE OF TRAVEL LANE TO SHOULDER BREAK POINT.
FLARE LENGTH = DISTANCE FROM LAST SECTION OF PARALLEL GUARDRAIL TO END OF GUARDRAIL
W = TOTAL WIDTH OF FLARE FROM BEGINNING OF TAPER TO END OF GUARDRAIL

G = GATING IMPACT ATTENUATOR TYPE 350
NG = NON-GATING IMPACT ATTENUATOR TYPE 350

SURVEY LINE	BEG. STA.	END STA.	LOCATION	LENGTH			WARRANT POINT		"N" DIST. FROM E.O.L.	TOTAL SHOUL WIDTH	FLARE LENGTH		W		ANCHORS								IMPACT ATTENUATOR TYPE 350		SINGLE SLOPE, DOUBLE FACED CONCRETE BARRIER	CONCRETE BARRIER SINGLE SLOPE	REMOVE EXISTING GUARDRAIL	REMOVE & STOCKPILE EXISTING GUARDRAIL	REMARKS
				STRAIGHT	SHOP CURVED	DOUBLE FACED	APPROACH END	TRAILING END			APPROACH END	TRAILING END	APPROACH END	TRAILING END	Type III	B-77	GREU, TL-3	GREU, TL-2	CAT-1	AT-1	Type III SC	B-77 SC		G	NG				
I-40	137+25	138+25	MEDIAN			100																						REMOVALE GATE
I-40	175+06		EB RT												1													
I-40	175+25	190+75	EB RT	1,550																							1,550	
I-40	190+95		EB RT												1													
I-40	196+00		EB RT												1													
I-40	196+20	206+70	EB RT	1050																							1,050	
I-40	199+75	200+75	MEDIAN												1													REMOVABLE GATE
I-40	206+90		EB RT												1													
I-40	210+50		EB RT												1													
I-40	211+00	211+75	EB RT	75																							900	
I-40	211+95		EB RT														1											
I-40	237+45		EB RT												1													
I-40	237+95	246+95	EB RT	900																							250	
I-40	247+45		EB RT														1											
I-40	251+30		EB RT														1											
I-40	251+80	254+30	EB RT	250																							250	
I-40	254+80		EB RT														1											
I-40	262+95		EB RT														1											
I-40	263+45	265+95	EB RT	250																							1,350	
I-40	266+45		EB RT														1											
I-40	276+55		EB RT														1											
I-40	277+05	290+55	EB RT	1,350																							1,050	
I-40	291+05		EB RT														1											
I-40	336+70		EB RT														1											
I-40	337+20	374+70	EB RT	1,050																							175	
I-40	348+75		EB RT														1											
I-40	349+25	351+00	EB RT	175													1											
I-40	0+00	221+76	MEDIAN																								22,176	
I-40	281+18		WB RT														1											
I-40	280+68	279+93	WB RT	75																								
I-40	279+43		WB RT														1											
I-40	267+67		WB RT														1											
I-40	267+17	265+67	WB RT	150																								
I-40	265+17		WB RT														1											
I-40	256+55		WB RT														1											
I-40	256+05	241+30	WB RT	1,475																								
I-40	240+80		WB RT														1											
I-40	228+45		WB RT														1											
I-40	228+25	226+00	WB RT	225																								
I-40	225+50		WB RT														1											
I-40	5+50	11+25	EB RT EXIT 7	575																								Tie to Existing Guardrail Sta. 5+50
I-40	11+75		EB RT EXIT 7														1											
I-40	8+25		EB LT EXIT 7														1											
I-40	8+75	12+50	EB LT EXIT 7	375																								Tie to Existing Guardrail Sta. 12+50
I-40	13+15		WB LT ENT RP 7														1											
I-40	13+65	15+40	WB LT ENT RP 7	175																								Tie to Existing Guardrail Sta. 15+40
I-40	13+00		WB RT ENT RP 7														1											
I-40	13+50	15+25	WB RT ENT RP 7	175																								Tie to Existing Guardrail Sta. 15+25
I-40	211+75	199+75	WB MEDIAN																								1,200	Tie to Tunnel
I-40	199+75	211+75	EB MEDIAN																								1,200	Tie to Tunnel
			PAGE TOTAL	9875		100									7		23										22,176	2,400	6,650		

COMPUTED BY: *KLR* DATE: *11/15/18*

CHECKED BY: DATE:

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

GUARDRAIL SUMMARY

PROJECT REFERENCE NO.	SHEET NO.
I-5922 I-5923	3B-2

"N" = DISTANCE FROM EDGE OF LANE TO FACE OF GUARDRAIL
TOTAL SHOULDER WIDTH = DISTANCE FROM EDGE OF TRAVEL LANE TO SHOULDER BREAK POINT.
FLARE LENGTH = DISTANCE FROM LAST SECTION OF PARALLEL GUARDRAIL TO END OF GUARDRAIL
W = TOTAL WIDTH OF FLARE FROM BEGINNING OF TAPER TO END OF GUARDRAIL

G = GATING IMPACT ATTENUATOR TYPE 350
NG = NON-GATING IMPACT ATTENUATOR TYPE 350

SURVEY LINE	BEG. STA.	END STA.	LOCATION	LENGTH			WARRANT POINT		"N" DIST. FROM E.O.L.	TOTAL SHOUL WIDTH	FLARE LENGTH		W		ANCHORS								IMPACT ATTENUATOR TYPE 350		DOUBLE FACED CONCRETE BARRIER	REMOVE EXISTING GUARDRAIL	REMOVE & STOCKPILE EXISTING GUARDRAIL	REMARKS
				STRAIGHT	SHOP CURVED	DOUBLE FACED	APPROACH END	TRAILING END			APPROACH END	TRAILING END	APPROACH END	TRAILING END	Type III	B-77	GREU, TL-3	GREU, TL-2	CAT-1	AT-1	Type III SC	B-77 SC		G	NG			
I-40	312+00	312+50	Median Gate																								REMOVALE GATE
I-40	328+60		EB RT														1										
I-40	329+10	331+10	EB RT	250																						250	
I-40	331+56		EB RT														1										
I-40	333+60		EB RT																								
I-40	334+10	337+85	EB RT	375													1									375	
I-40	338+35		EB RT														1										
I-40	342+10		EB RT																								
I-40	342+60	356+35	EB RT	1,375													1									1,375	
I-40	356+85		EB RT														1										
I-40	360+30		EB RT														1										
I-40	360+80	375+30	EB RT	1,450																						1,450	
I-40	375+48.75		EB RT														1										
I-40	388+75		EB RT												1												
I-40	388+93.75	396+43.75	EB RT	750																						750	
I-40	396+93.75		EB RT														1										
I-40	414+80		EB RT																								
I-40	415+30	417+80	EB RT	250													1									250	Tie to Existing Guardrail Sta. 417+80
I-40	427+45		EB RT														1										
I-40	427+95	429+45	EB RT														1										
I-40	429+63.75		EB RT												1												
I-40	333+70		WB RT														1										
I-40	333+20	331+95	WB RT	195																						195	
I-40	331+45		WB RT														1										
I-40	347+80		WB RT														1										
I-40	347+30	343+30	WB RT	400																						400	
I-40	342+80		WB RT														1										
I-40	351+90		WB RT														1										
I-40	351+40	351+15	WB RT	25																						25	
I-40	350+65		WB RT														1										
I-40	361+50		WB RT														1										
I-40	361+00	357+50	WB RT	350																						350	
I-40	357+00		WB RT														1										
I-40	378+75		WB RT														1										
I-40	378+25	373+25	WB RT	500																						500	
I-40	372+75		WB RT												1		1										
I-40	387+18		WB RT														1										
I-40	386+68	382+93	WB RT	375																						375	
I-40	382+43		WB RT												1		1										
I-40	400+50		WB RT														1										
I-40	400+00	394+00	WB RT	600																						600	Tie to Existing Guardrail Sta. 5+50
I-40	393+50		WB RT														1										
I-40	405+35		WB RT														1										
I-40	404+85	404+60	WB RT	25																						25	Tie to Existing Guardrail Sta. 12+50
I-40	404+10		WB RT														1										
I-40	413+54		WB RT														1										Tie to Existing Guardrail Sta. 15+40
I-40	413+04	411+29	WB RT	175																						175	
I-40	410+79		WB RT														1										Tie to Existing Guardrail Sta. 15+25
I-40	321+95		WB RT														1										
I-40	321+45	312+45	WB RT	900																						900	Tie to Existing Guardrail 204+55
I-40	311+95		WB RT														1										
I-40	306+60	304+20	WB RT	240																						240	Tie to Existing Guardrail Sta. 306+60
I-40	303+70		WB RT														1										
I-40	295+90		WB RT														1										
I-40	295+40	294+90	WB RT	50																						50	
I-40	294+40		WB RT														1										
I-40	291+30		WB RT														1										
I-40	290+80	272+10	WB RT	1,870																						1,870	
I-40	271+60		WB RT														1										
I-40	261+55		WB RT														1										
I-40	261+05	260+55	WB RT	25																						25	
I-40	260+05		WB RT														1										
I-40	220+17		WB RT														1										
I-40	219+67	218+42	WB RT	125																						125	
I-40	217+92		WB RT														1										
I-40	149+75		WB RT														1										
I-40	149+25	149+00	WB RT	25																						25	
I-40	148+75		WB RT														1										
			PAGE TOTAL	10330											4		43									10330	

COMPUTED BY: *KLR* DATE: *11/15/18*

CHECKED BY: DATE:

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

GUARDRAIL SUMMARY

PROJECT REFERENCE NO.	SHEET NO.
I-5922 I-5923	3B-3

"N" = DISTANCE FROM EDGE OF LANE TO FACE OF GUARDRAIL
TOTAL SHOULDER WIDTH = DISTANCE FROM EDGE OF TRAVEL LANE TO SHOULDER BREAK POINT.
FLARE LENGTH = DISTANCE FROM LAST SECTION OF PARALLEL GUARDRAIL TO END OF GUARDRAIL
W = TOTAL WIDTH OF FLARE FROM BEGINNING OF TAPER TO END OF GUARDRAIL

G = GATING IMPACT ATTENUATOR TYPE 350
NG = NON-GATING IMPACT ATTENUATOR TYPE 350

SURVEY LINE	BEG. STA.	END STA.	LOCATION	LENGTH			WARRANT POINT		"N" DIST. FROM E.O.L.	TOTAL SHOUL WIDTH	FLARE LENGTH		W		ANCHORS							IMPACT ATTENUATOR TYPE 350		DOUBLE FACED CONCRETE BARRIER	REMOVE EXISTING GUARDRAIL	REMOVE & STOCKPILE EXISTING GUARDRAIL	REMARKS
				STRAIGHT	SHOP CURVED	DOUBLE FACED	APPROACH END	TRAILING END			APPROACH END	TRAILING END	APPROACH END	TRAILING END	Type III	B-77	GREU, TL-3	GREU, TL-2	CAT-1	AT-1	Type III SC	B-77 SC		G	NG				
I-40	0+00		EB RT														1											REMOVALE GATE
I-40	0+50	7+50	EB RT	750																						750		
I-40	8+00		EB RT														1											
I-40	28+35		EB RT														1											
I-40	28+85	29+85	EB RT	100																						100		
I-40	29+35		EB RT														1											
I-40	31+40		EB RT														1											REMOVABLE GATE
I-40	31+90	37+00	EB RT	510													1									510		
I-40	37+00	38+00	MEDIAN			100																				100		
I-40	40+85																1											
I-40	41+35	46+35	EB RT	500																						500		
I-40	46+85		EB RT														1											
I-40	48+60		EB RT												1													
I-40	48+78.75	50+53.75	EB RT	175																						175		
I-40	51+03.75		EB RT														1											
I-40	54+90		EB RT																									
I-40	55+40	67+80	EB RT	1,240																						1,240		
I-40	68+30		EB RT														1											
I-40	71+75		EB RT																									
I-40	72+25	78+25	EB RT	600													1									600		
I-40	78+43.75		EB RT												1													
I-40	74+00		EB LT														1											
I-40	74+50	78+25	EB LT	375																						375		
I-40	78+43.75		EB LT												1													
I-40	90+65		EB RT																									
I-40	91+15	93+65	EB RT	250																						250		
I-40	94+15		EB RT														1											
I-40	90+65		EB LT														1											
I-40	91+15	92+40	EB LT	125																						125		
I-40	92+90		EB LT														1											
I-40	94+50		EB RT														1											
I-40	95+00	116+75	EB RT	2,175													1									2,175		
I-40	117+25		EB RT																									
I-40	106+50		EB LT														1				1							
I-40	107+00	109+50	EB LT	250													1									250		
I-40	109+68.75		EB LT												1						1							
I-40	121+35		EB RT														1											
I-40	121+85	132+60	EB RT	1,075																						1,075		
I-40	132+78.75		EB RT												1						1							
I-40	141+15		EB RT														1											
I-40	141+65	152+90	EB RT	1,125																						1,125		Tie to Existing Guardrail Sta. 5+50
I-40	153+40		EB RT														1											
I-40	155+50		EB RT														1											
I-40	156+00	157+00	EB RT	100																						100		Tie to Existing Guardrail Sta. 12+50
I-40	157+50		EB RT														1											
I-40	161+25		EB RT																									Tie to Existing Guardrail Sta. 15+40
I-40	161+75	166+75	EB RT	500													1									500		
I-40	167+25		EB RT																									Tie to Existing Guardrail Sta. 15+25
I-40	176+55		EB RT																									
I-40	177+05	204+55	EB RT	2,750																						2,750		Tie to Existing Guardrail 204+55
I-40	220+25		EB RT																									
I-40	220+75	228+50	EB RT	775																						775		
I-40	229+00		EB RT																									
I-40	231+80		EB RT																									
	232+30	236+05	EB RT	375																						375		
	236+23.75		EB RT																									
I-40	239+00		EB RT																									
I-40	239+18.75	245+93.75	EB RT	675																						675		
I-40	246+43.75		EB RT												1													
	249+00		EB RT																									
	249+50	283+50	EB RT	3,400																						3,400		
I-40	284+00		EB RT																									
I-40	300+30		EB RT																									
I-40	300+80	302+80	EB RT	200																						200		
I-40	303+30		EB RT																									
I-40	303+50		EB RT																									
I-40	304+00	325+50	EB RT	2,200																						2,200		
I-40	326+00		EB RT																									
				20225		100									6		25				3					20325		

COMPUTED BY: *KLR* DATE: *11/15/18*

CHECKED BY: DATE:

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

GUARDRAIL SUMMARY

PROJECT REFERENCE NO.	SHEET NO.
I-5922 I-5923	3B-4

"N" = DISTANCE FROM EDGE OF LANE TO FACE OF GUARDRAIL
TOTAL SHOULDER WIDTH = DISTANCE FROM EDGE OF TRAVEL LANE TO SHOULDER BREAK POINT.
FLARE LENGTH = DISTANCE FROM LAST SECTION OF PARALLEL GUARDRAIL TO END OF GUARDRAIL
W = TOTAL WIDTH OF FLARE FROM BEGINNING OF TAPER TO END OF GUARDRAIL

G = GATING IMPACT ATTENUATOR TYPE 350
NG = NON-GATING IMPACT ATTENUATOR TYPE 350

SURVEY LINE	BEG. STA.	END STA.	LOCATION	LENGTH			WARRANT POINT		"N" DIST. FROM E.O.L.	TOTAL SHOUL WIDTH	FLARE LENGTH		W		ANCHORS								IMPACT ATTENUATOR TYPE 350		SINGLE SLOPE, DOUBLE FACED CONCRETE BARRIER	REMOVE EXISTING GUARDRAIL	CONCRETE BARRIER SINGLE SLOPE	REMARKS
				STRAIGHT	SHOP CURVED	DOUBLE FACED	APPROACH END	TRAILING END			APPROACH END	TRAILING END	APPROACH END	TRAILING END	Type III	B-77	GREU, TL-3	GREU, TL-2	CAT-1	AT-1	Type III SC	B-77 SC		G	NG				
I-40	105+50		WB RT														1											
I-40	105+31.25	88+68.75	WB RT	1,681																						1,681		
I-40	88+50		WB RT														1											
I-40	85+95		WB RT														1											
I-40	85+76.25	49+70	WB RT	3,606.25																						3,606.25		
I-40	71+95		WB RT														1											
I-40	71+45	55+20	WB RT	1,625																						1,625		
I-40	54+70		WB RT														1											
I-40	36+60		WB RT														1											
I-40	36+10	35+10		100																						100		
I-40	34+60		WB RT														1											
I-40	2+25		WB RT														1											
I-40	1+75	0+18.75	WB RT	156.25																						156.25		
I-40	0+00		WB RT														1				1							
I-40	0+00		EB ENT RAMP 7														1											
I-40	0+50	15+75	EB ENT RAMP 7	1,525																						1,525		
I-40	16+25		EB ENT RAMP 7														1											
I-40	0+00	13+75	EB EXIT RAMP 15	1,375																						1,375		Tie to Existing Guardrail
	Contingency														8						3					3,426.5		
	Project Totals			**50,500**		**200**									**25**		**102**				**7**					**22,176**	**50,800**	**2,400**	
I-40																												
I-40																												
I-40																												
I-40																												
I-40																												
I-40																												

D14HQ5028171IL

COMPUTED BY: KLR
DATE: 7/16/2018
CHECKED BY:
DATE:

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PROJECT NO.	SHEET NO.
I-5922 I-5923	3D-1

Note: Invert Elevations indicated are for Bid Purposes only and shall not be used for project construction stakeout. See "Standard Specifications For Roads and Structures, Section 300-5".

LIST OF PIPES, ENDWALLS, ETC. (FOR PIPES 48 INCHES & UNDER)

STATION	LOCATION (LT, RT, OR CL)	STRUCTURE NO.		TOP ELEVATION	INVERT ELEVATION	INVERT ELEVATION	SLOPE CRITICAL	SIDE DRAIN PIPE (RCP, CSP, CAAP, HDPE, or PVC)												C.S. PIPE								R.C. PIPE CLASS III								R.C. PIPE CLASS IV								** " R.C. PIPE (CLASS V)	***" RC PIPE CULVERTS, CONTRACTOR DESIGN	***" RC PIPE CULVERTS, CONTRACTOR DESIGN	15" SIDE DRAIN PIPE	18" SIDE DRAIN PIPE	ENDWALLS STD. 838.01 OR STD. 838.11 (UNLESS NOTED OTHERWISE)		QUANTITIES FOR DRAINAGE STRUCTURES	*TOTAL L.F. FOR PAY QUANTITY SHALL BE COL. 'A' + (1.3 X COL.'B')		C.B. STD. 840.01 OR STD. 840.02	FRAME, GRATES, AND HOOD STANDARD 840.03			CONCRETE TRANSITIONAL SECTION		D.I. STD. 840.14 OR STD. 840.15	D.I. FRAME AND GRATE STD. 840.16	G.D.I. TYPE "A" STD. 840.17 OR 840.26	G.D.I. TYPE "B" STD. 840.18 OR 840.27	G.D.I. TYPE "D" STD. 840.19 OR 840.28	G.D.I. FRAME WITH GRATE STD. 840.20	G.D.I. FRAME WITH TWO GRATES STD. 840.22	G.D.I. (N.S.) FRAME WITH GRATE STD. 840.24	G.D.I. (N.S.) FRAME WITH TWO GRATES STD. 840.24	J.B. STD. 840.31 OR 840.32	ADJUSTMENT OF D.I.	T.B.D.I. STD. 840.37 Steel Grate and Frame	Pipe Clean Out		SIDE DRAIN PIPE ELBOWS NO. & SIZE	CONC. & BRICK PIPE PLUG, C.Y. STD. 840.71	CONC. COLLARS CL. "B" C.Y. STD. 840.72	PIPE REMOVAL LIN. FT.	REMARKS
SIZE								12"	15"	18"	24"	30"	36"	42"	48"					12"	15"	18"	24"	30"	36"	42"	48"	12"	15"	18"	24"	30"	36"	42"	48"	12"	15"	18"	24"	30"	36"	42"	48"						CU. YARDS			LIN. FT. A	B		TYPE OF GRATE																							
THICKNESS OR GAUGE		FROM	TO													DO NOT USE RCP	DO NOT USE CSP	DO NOT USE CAAP	DO NOT USE HDPE	.064	.064	.064	.064	.079	.079	.109	.109																						R.C.P.	C.S.P.	PER EACH (0' THRU 5.0')	5.0' THRU 10.0'	10.0' AND ABOVE		E	F	G	DROP INLET	CATCH BASIN																			
EAST SHOULDER																																																																															
4+75	RT																																																																						1							Convert to T.B.D.I.
6+90	RT																																																																						1							Convert to T.B.D.I.
8+39	RT																																																																						1							Convert to T.B.D.I.
12+26	RT																																																																						1							Convert to T.B.D.I.
15+28	RT																																																																						1							Convert to T.B.D.I.
17+90	RT																																																																						1	1						Pipe Clean Out/ Convert to T.B.D.I.
20+90	RT																																																																						1							Convert to T.B.D.I.
28+35	RT																																																																						1	1						Pipe Clean Out/ Convert to T.B.D.I.
32+60	RT																																																																						1	1						Pipe Clean Out/ Convert to T.B.D.I.
35+60	RT																																																																						1							Convert to T.B.D.I.
42+16	RT																																																																						1	1						Pipe Clean Out/ Convert to T.B.D.I.
44+20	RT																																																																						1							Convert to T.B.D.I.
48+30	RT																																																																						1							Convert to T.B.D.I.
52+00	RT																																																																						1							Convert to T.B.D.I.
55+00	RT																																																																						1							Convert to T.B.D.I.
57+10	RT																																																																						1							Convert to T.B.D.I.
59+40	RT																																																																						1	1						Pipe Clean Out/ Convert to T.B.D.I.
63+10	RT																																																																						1							Convert to T.B.D.I.
78+25	RT																																																																						1							Convert to T.B.D.I.
81+00	RT																																																																						1							Convert to T.B.D.I.
86+25	RT																																																																						1							Convert to T.B.D.I.
92+70	RT																																																																						1							Convert to T.B.D.I.
96+50	RT																																																																						1							Convert to T.B.D.I.
100+75	RT																																																																						1							Convert to T.B.D.I.
104+95	RT																																																																						1	1						Pipe Clean Out/ Convert to T.B.D.I.
110+00	RT																																																																						1	1						Pipe Clean Out/ Convert to T.B.D.I.
122+40	RT																																																																						1							Pipe Clean Out/ Convert to T.B.D.I.
124+60	RT																																																																						1							Convert to T.B.D.I.
131+80	RT																																																																						1							Convert to T.B.D.I.
134+85	RT																																																																						1	1						Pipe Clean Out/ Convert to T.B.D.I.
163+50	RT																																																																						1	1						Pipe Clean Out/ Convert to T.B.D.I.
170+05	RT																																																																						1							Convert to T.B.D.I.
190+25	RT																																																																						1							Convert to T.B.D.I.
191+20	RT																																																																						1							Convert to T.B.D.I.
191+80	RT																																																																						1							Convert to T.B.D.I.
206+80	RT																																																																						1							Convert to T.B.D.I.
208+25	RT																																																																						1							Convert to T.B.D.I.
340+55	RT																																																																						1							Convert to T.B.D.I.
341+05	RT																																																																						1							Convert to T.B.D.I.
342+55	RT																																																																						1							Convert to T.B.D.I.
																																																																								111						Contingency
SHEET TOTALS																																																																							40	120						

ABBREVIATIONS

C.B.	CATCH BASIN
N.D.I.	NARROW DROP INLET
D.I.	DROP INLET
G.D.I.	GRATED DROP INLET
G.D.I.(N.S.)	(NARROW SLOT)
J.B.	JUNCTION BOX
M.H.	MANHOLE
T.B.D.I.	TRAFFIC BEARING DROP INLET
T.B.J.B.	TRAFFIC BEARING JUNCTION BOX

RD244542

COMPUTED BY: KLR DATE: 7/16/2018

CHECKED BY: DATE:

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PROJECT NO.	SHEET NO.
I-5922 I-5923	3D-2

Note: Invert Elevations indicated are for Bid Purposes only and shall not be used for project construction stakeout.
See "Standard Specifications For Roads and Structures, Section 300-5".

LIST OF PIPES, ENDWALLS, ETC. (FOR PIPES 48 INCHES & UNDER)

STATION / SIZE / THICKNESS OR GAUGE / West Bound	LOCATION (LT, RT, OR CL)'	STRUCTURE NO. FROM	STRUCTURE NO. TO	TOP ELEVATION	INVERT ELEVATION	INVERT ELEVATION	SLOPE CRITICAL	SIDE DRAIN PIPE (RCP, CSP, CAAP, HDPE, or PVC) 12"	15"	18"	24"	30"	36"	42"	48"	DO NOT USE RCP	DO NOT USE CSP	DO NOT USE CAAP	DO NOT USE HDPE	C.S. PIPE 12" .064	15" .064	18" .064	24" .064	30" .079	36" .079	42" .109	48" .109	R.C. PIPE CLASS III 12"	15"	18"	24"	30"	36"	42"	48"	R.C. PIPE CLASS IV 12"	15"	18"	24"	30"	36"	42"	48"	** " R.C. PIPE (CLASS V)	***" RC PIPE CULVERTS, CONTRACTOR DESIGN	***" RC PIPE CULVERTS, CONTRACTOR DESIGN	15" SIDE DRAIN PIPE	18" SIDE DRAIN PIPE	ENDWALLS STD. 838.01 OR STD. 838.11 (UNLESS NOTED OTHERWISE) CU. YARDS R.C.P.	C.S.P.	QUANTITIES FOR DRAINAGE STRUCTURES PER EACH (0' THRU 5.0')	*TOTAL L.F. FOR PAY QUANTITY SHALL BE COL. 'A' + (1.3 X COL.'B') LIN. FT. A 5.0' THRU 10.0'	B 10.0' AND ABOVE	C.B. STD. 840.01 OR STD. 840.02	FRAME, GRATES, AND HOOD STANDARD 840.03 TYPE OF GRATE E	F	G	CONCRETE TRANSITIONAL SECTION DROP INLET	CATCH BASIN	D.I. STD. 840.14 OR STD. 840.15	D.I. FRAME AND GRATE STD. 840.16	G.D.I. TYPE "A" STD. 840.17 OR 840.26	G.D.I. TYPE "B" STD. 840.18 OR 840.27	G.D.I. TYPE "D" STD. 840.19 OR 840.28	G.D.I. FRAME WITH GRATE STD. 840.20	G.D.I. FRAME WITH TWO GRATES STD. 840.22	G.D.I. (N.S.) FRAME WITH GRATE STD. 840.24	G.D.I. (N.S.) FRAME WITH TWO GRATES STD. 840.24	J.B. STD. 840.31 OR 840.32	ADJUSTMENT OF O.T.C.B.	T.B.D.I. STD.840.37 Steel Grate and Fram			SIDE DRAIN PIPE ELBOWS NO. & SIZE	CONC. & BRICK PIPE PLUG, C.Y. STD. 840.71	CONC. COLLARS CL. "B" C.Y. STD. 840.72	PIPE REMOVAL LIN. FT.	REMARKS
348+60	C/L																																																																					1								
345+10	C/L																																																																					1								
340+86	C/L																																																																					1								
337+15	C/L																																																																					1								
273+00	C/L																																																																					1								
268+20	C/L																																																																					1								
263+65	C/L																																																																					1								
261+60	C/L																																																																					1								
255+58	C/L																																																																					1								
250+35	C/L																																																																					1								
235+71	C/L																																																																					1								
232+69	C/L																																																																					1								
230+20	C/L																																																																					1								
200+20	C/L																																																																					1								
191+90	C/L																																																																					1								
187+95	C/L																																																																					1								
184+10	C/L																																																																					1								
122+40	C/L																																																																					1								
104+95	C/L																																																																					1								
100+80	C/L																																																																					1								
97+55	C/L																																																																					1								
94+00	C/L																																																																					1								
81+00	C/L																																																																					1								
77+55	C/L																																																																					1								
59+55	C/L																																																																					1								
57+10	C/L																																																																					1								
55+00	C/L																																																																					1								
52+05	C/L																																																																					1								
46+60	C/L																																																																					1								
20+95	C/L																																																																					1								
17+58	C/L																																																																					1								
15+30	C/L																																																																					1								
8+40	C/L																																																																					1								
6+90	C/L																																																																					1								
4+75	C/L																																																																					1								
SHEET TOTALS																																																																						35								

ABBREVIATIONS

C.B.	CATCH BASIN
N.D.I.	NARROW DROP INLET
D.I.	DROP INLET
G.D.I.	GRATED DROP INLET
G.D.I.(N.S.)	(NARROW SLOT)
J.B.	JUNCTION BOX
M.H.	MANHOLE
T.B.D.I.	TRAFFIC BEARING DROP INLET
T.B.J.B.	TRAFFIC BEARING JUNCTION BOX

RD244542

COMPUTED BY: ______________________ DATE: __________

CHECKED BY: ______________________ DATE: __________

PROJECT NO.	SHEET NO.
I-5922 I-5923	3D-3

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

Note: Invert Elevations indicated are for Bid Purposes only and shall not be used for project construction stakeout. See "Standard Specifications For Roads and Structures, Section 300-5".

LIST OF PIPES, ENDWALLS, ETC. (FOR PIPES 48 INCHES & UNDER)

STATION SIZE THICKNESS OR GAUGE EB MEDIAN	LOCATION (LT, RT, OR CL)	STRUCTURE NO. FROM	STRUCTURE NO. TO	TOP ELEVATION	INVERT ELEVATION	INVERT ELEVATION	SLOPE CRITICAL	SIDE DRAIN PIPE (RCP, CSP, CAAP, HDPE, or PVC) 12"	15"	18"	24"	30"	36"	42"	48"	DO NOT USE RCP	DO NOT USE CSP	DO NOT USE CAAP	DO NOT USE HDPE	C.S. PIPE 12" .064	15" .064	18" .064	24" .064	30" .079	36" .079	42" .109	48" .109	R.C. PIPE CLASS III 12"	15"	18"	24"	30"	36"	42"	48"	R.C. PIPE CLASS IV 12"	15"	18"	24"	30"	36"	42"	48"	** R.C. PIPE (CLASS V)	**** RC PIPE CULVERTS, CONTRACTOR DESIGN	**** RC PIPE CULVERTS, CONTRACTOR DESIGN	15" SIDE DRAIN PIPE	18" SIDE DRAIN PIPE	ENDWALLS STD. 838.01 OR STD. 838.11 (UNLESS NOTED OTHERWISE) CU. YARDS R.C.P.	C.S.P.	QUANTITIES FOR DRAINAGE STRUCTURES PER EACH (0' THRU 5.0')	"TOTAL L.F. FOR PAY QUANTITY SHALL BE COL. 'A' + (1.3 X COL.'B')" LIN. FT. A 5.0' THRU 10.0'	B 10.0' AND ABOVE	C.B. STD. 840.01 OR STD. 840.02	FRAME, GRATES, AND HOOD STANDARD 840.03 TYPE OF GRATE E	F	G	CONCRETE TRANSITIONAL SECTION DROP INLET	CATCH BASIN	D.I. STD. 840.14 OR STD. 840.15	D.I. FRAME AND GRATE STD. 840.16	G.D.I. TYPE "A" STD. 840.17 OR 840.26	G.D.I. TYPE "B" STD. 840.18 OR 840.27	G.D.I. TYPE "D" STD. 840.19 OR 840.28	G.D.I. FRAME WITH GRATE STD. 840.20	G.D.I. FRAME WITH TWO GRATES STD. 840.22	G.D.I. (N.S.) FRAME WITH GRATE STD. 840.24	G.D.I. (N.S.) FRAME WITH TWO GRATES STD. 840.24	J.B. STD. 840.31 OR 840.32	ADJUSTMENT OF O.T.C.B.	T.B.D.I. STD. 840.37 Steel Grate and Frame	Pipe Clean Out		SIDE DRAIN PIPE ELBOWS NO. & SIZE	CONC. & BRICK PIPE PLUG, C.Y. STD. 840.71	CONC. COLLARS CL. "B" C.Y. STD. 840.72	PIPE REMOVAL LIN. FT.	REMARKS
17+40	C/L																																																																			1								
28+25	C/L																																																																			1								
30+50	C/L																																																																			1								
33+30	C/L																																																																			1								
35+60	C/L																																																																			1								
38+30	C/L																																																																			1								
40+80	C/L																																																																			1								
63+10	C/L																																																																			1								
66+90	C/L																																																																			1								
74+85	C/L																																																																			1								
84+05	C/L																																																																			1								
86+25	C/L																																																																			1								
90+65	C/L																																																																			1								
113+35	C/L																																																																			1								
116+50	C/L																																																																			1								
121+60	C/L																																																																			1								
131+80	C/L																																																																			1								
134+85	C/L																																																																			1								
137+75	C/L																																																																			1								
140+60	C/L																																																																			1								
144+00	C/L																																																																			1								
147+00	C/L																																																																			1								
150+80	C/L																																																																			1								
154+85	C/L																																																																			1								
159+10	C/L																																																																			1								
164+15	C/L																																																																			1								
167+40	C/L																																																																			1								
208+25	C/L																																																																			1								
208+25	C/L																																																																			1								
SHEET TOTALS																																																																					29								

ABBREVIATIONS

C.B.	CATCH BASIN
N.D.I.	NARROW DROP INLET
D.I.	DROP INLET
G.D.I.	GRATED DROP INLET
G.D.I.(N.S.)	(NARROW SLOT)
J.B.	JUNCTION BOX
M.H.	MANHOLE
T.B.D.I.	TRAFFIC BEARING DROP INLET
T.B.J.B.	TRAFFIC BEARING JUNCTION BOX

RD244542

COMPUTED BY:	KLR	DATE:	11/15/2018
CHECKED BY:		DATE:	

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PROJECT NO.	SHEET NO.
I-5922 I-5923	3D-4

Note: Invert Elevations indicated are for Bid Purposes only and shall not be used for project construction stakeout.
See "Standard Specifications For Roads and Structures, Section 300-5".

LIST OF PIPES, ENDWALLS, ETC. (FOR PIPES 48 INCHES & UNDER)

ABBREVIATIONS

C.B.	CATCH BASIN
N.D.I.	NARROW DROP INLET
D.I.	DROP INLET
G.D.I.	GRATED DROP INLET
G.D.I.(N.S.)	(NARROW SLOT)
J.B.	JUNCTION BOX
M.H.	MANHOLE
T.B.D.I.	TRAFFIC BEARING DROP INLET
T.B.J.B.	TRAFFIC BEARING JUNCTION BOX

STATION	LOCATION (LT, RT, OR CL)'	STRUCTURE NO. FROM	STRUCTURE NO. TO	TOP ELEVATION	INVERT ELEVATION	INVERT ELEVATION	SLOPE CRITICAL	SIDE DRAIN PIPE (RCP, CSP, CAAP, HDPE, or PVC) 12"	15"	18"	24"	30"	36"	42"	48"	DO NOT USE RCP	DO NOT USE CSP	DO NOT USE CAAP	DO NOT USE HDPE	C.S. PIPE 12" .064	15" .064	18" .064	24" .064	30" .079	36" .079	42" .109	48" .109	R.C. PIPE CLASS III 12"	15"	18"	24"	30"	36"	42"	48"	R.C. PIPE CLASS IV 12"	15"	18"	24"	30"	36"	42"	48"	** R.C. PIPE (CLASS V)	**** RC PIPE CULVERTS, CONTRACTOR DESIGN	**** RC PIPE CULVERTS, CONTRACTOR DESIGN	15" SIDE DRAIN PIPE	18" SIDE DRAIN PIPE	ENDWALLS STD. 838.01 OR STD. 838.11 (UNLESS NOTED OTHERWISE) CU. YARDS R.C.P.	C.S.P.	QUANTITIES FOR DRAINAGE STRUCTURES PER EACH (0' THRU 5.0')	"TOTAL L.F. FOR PAY QUANTITY SHALL BE COL. 'A' + (1.3 X COL.'B') LIN. FT. A 5.0' THRU 10.0'	B 10.0' AND ABOVE	C.B. STD. 840.01 OR STD. 840.02	FRAME, GRATES, AND HOOD STANDARD 840.03 TYPE OF GRATE E	F	G	CONCRETE TRANSITIONAL SECTION DROP INLET	CATCH BASIN	D.I. STD. 840.14 OR STD. 840.15	D.I. FRAME AND GRATE STD. 840.16	G.D.I. TYPE "A" STD. 840.17 OR 840.26	G.D.I. TYPE "B" STD. 840.18 OR 840.27	G.D.I. TYPE "D" STD. 840.19 OR 840.28	G.D.I. FRAME WITH GRATE STD. 840.20	G.D.I. FRAME WITH TWO GRATES STD. 840.22	G.D.I. (N.S.) FRAME WITH GRATE STD. 840.24	G.D.I. (N.S.) FRAME WITH TWO GRATES STD. 840.24	J.B. STD. 840.31 OR 840.32	ADJUSTMENT OF D.I.	T.B.D.I. STD. 840.37 Steel Grate and Frame	Pipe Clean Out		SIDE DRAIN PIPE ELBOWS NO. & SIZE	CONC. & BRICK PIPE PLUG, C.Y. STD. 840.71	CONC. COLLARS CL. "B" C.Y. STD. 840.72	PIPE REMOVAL LIN. FT.	REMARKS
West Bound																																																																															
334+52	RT																																																																					1							Convert to T.B.D.I.
333+54	RT																																																																					1							Convert to T.B.D.I.
320+53	RT																																																																					1							Convert to T.B.D.I.
293+00	RT																																																																					1							Convert to T.B.D.I.
203+70	RT																																																																					1							Convert to T.B.D.I.
200+15	RT																																																																					1							Convert to T.B.D.I.
190+10	RT																																																																					1							Convert to T.B.D.I.
185+95	RT																																																																					1							Convert to T.B.D.I.
182+45	RT																																																																					1							Convert to T.B.D.I.
179+45	RT																																																																					1							Convert to T.B.D.I.
176+85	RT																																																																					1							Convert to T.B.D.I.
170+00	RT																																																																					1							Convert to T.B.D.I.
167+40	RT																																																																					1							Convert to T.B.D.I.
163+30	RT																																																																					1							Convert to T.B.D.I.
159+00	RT																																																																					1							Convert to T.B.D.I.
154+65	RT																																																																					1							Convert to T.B.D.I.
150+50	RT																																																																					1							Convert to T.B.D.I.
146+80	RT																																																																					1							Convert to T.B.D.I.
143+80	RT																																																																					1							Convert to T.B.D.I.
140+60	RT																																																																					1							Convert to T.B.D.I.
134+85	RT																																																																					1							Convert to T.B.D.I.
131+80	RT																																																																					1							Convert to T.B.D.I.
129+20	RT																																																																					1							Convert to T.B.D.I.
117+00	RT																																																																					1							Convert to T.B.D.I.
114+50	RT																																																																					1							Convert to T.B.D.I.
94+00	RT																																																																					1							Convert to T.B.D.I.
90+65	RT																																																																					1							Convert to T.B.D.I.
86+25	RT																																																																					1							Convert to T.B.D.I.
81+00	RT																																																																					1							Convert to T.B.D.I.
71+00	RT																																																																					1							Convert to T.B.D.I.
66+60	RT																																																																					1							Convert to T.B.D.I.
63+10	RT																																																																					1							Convert to T.B.D.I.
40+70	RT																																																																					1							Convert to T.B.D.I.
38+30	RT																																																																					1							Convert to T.B.D.I.
33+30	RT																																																																					1							Convert to T.B.D.I.
30+18	RT																																																																					1							Convert to T.B.D.I.
28+18	RT																																																																					1							
SHEET TOTALS																																																																							37							

PROJECT	SHEET NO.	TOTAL NO.
I-5922 I-5923	4	

SUMMARY OF QUANTITIES

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP NO	LA NES	LANE TYPE	FINAL SURFACE TESTING REQUIRED	WARM MIX ASPHALT REQUIRED	LENGTH	WIDTH	STEEL PLATE FOR PULL BOXES	PIPE CLEAN OUT	SHOULDER RECONSTRUCTION	1½" MILLING	2 1/4" MILLING	0" TO 1 1/2" MILLING **	INTER-MEDIATE COURSE, I19.0C	SURFACE COURSE, S9.5C	SURFACE COURSE, S9.5D	ASPHALT BINDER FOR PLANT MIX	POLYMER MODIFIED ASPHALT	OGAFC, TYPE FC-1 MOD	PATCHING EXISTING PAVEMENT	MILLED RUMBLE STRIPS (ASPHALT CEMENT CONCRETE)	FRAME WITH TWO GRATES, STD 840.37	CONC BARRIER, 42" SINGLE SLOPE, DOUBLE FACED	CONC BARRIER, 42" SINGLE SLOPE, CONCRETE BARRIER	CONC BARRIER TRANSITION SECTION	CONVERT EXI. DI TO TBDI	ADJ. OF OPEN THROAT CATCH BASIN	STEEL BEAM GUARDRAIL	STEEL BEAM GUARDRAIL, DOUBLE FACED	TRIPLE CORRUGATED STEEL BM GUARDRAIL	TRIPLE CORRUGATED TERMINAL SECTION	ADDITIONAL GUARDRAIL POSTS	GUARDRAIL END UNITS, TL-3	GRAU TYPE III	GRAU TYPE III SHOP CURVED	REMOVABLE GATE	REM. EXI. GUARDRAIL	SEQUENTIAL FLASHING WARNING LIGHTS
										MI	FT	EA	EA	SMI	SY	SY	SY	TONS	TONS	TONS	TONS	TONS	TONS	TONS	LF	EA	LF	LF	EA	EA	EA	LF	LF	LF	EA	EA	EA	LF	EA	LF	EA
45930.3.1	Haywood	1	I-40 WESTBOUND MP 0.0 TO MP 7	FROM TENN. STATE LINE TO MILE POST 7.0 (COLD SPRINGS RD)	1	2	MD	YES	NO	7	37	6	120	5.00	41,067	110,880	800	2,200	3,842	10,293	337	775	3,087	6,000	73,920	40	22,176	2,400	8	40	64	6,650				10	11	6			6,650	
		2	I-40 EASTBOUND MP 7.0 TO MP 0.0	FROM MILE POST 7.0 TO TENN.STATE LINE	1	2		YES	NO	7	37			5.00	41,067	110,880	8,000	2,200	3,842	14,087	337	991	3,087	6,000	73,920	37				37		1,925					8	1			1,925	
		3	EXIT 7 RAMP HARMONS DEN	FORM I-40 EAST TO EXIT 7 COLD SPRINGS CREEK	2	1	MD	NO	NO	0.22	26			0.44	3,356				285		17											950					3			950	
		4	ENTRANCE RAMP 7 HARMONS DEN TO I-40 WEST	FROM COLD SPRINGS CREEK TO I-40 WEST	2	1	MD	NO	NO	0.29	26			0.58	4,424				373		22											350					1			350	
TOTAL FOR PROJ NO. 45930.3.1										**14.51**		**6**	**120**	**11.02**	**89,914**	**221,760**	**8,800**	**4,400**	**8,342**	**24,380**	**713**	**1,766**	**6,174**	**12,000**	**147,840**	**77**	**22,176**	**2,400**	**8**	**77**	**64**	**9,875**				**10**	**23**	**7**	**7**	**3**	**9,875**	**15**
45932.3.1	Haywood	5	I-40 WESTBOUND MP 7 TO MP14.8	FROM MP 7 (COLD SPRINGS RD) TO EXIT 15 (FINES CREEK)	1	2	MD	YES	NO	8	37			5.00	56,320	131,413	5,044	1,800		14,590	87	1,031	3,261	6,000	84,480							24,675		50	2	5	37	15			24,775	
		6	I-40 EASTSTBOUND MP 14.8 TO MP 7	FROM EXIT 15 (FINES CREEK) TO EXIT 7 (COLD SPRINGS RD)	1	2	MD	YES	NO	8	37			5.00	56,320	131,413	5,044	1,800		14,590	87	1,031	3,261	6,000	84,480							13,050				5	40	3			13,050	
		7	ENTRANCE RAMP FROM COLD SPRINGS	FROM COLD SPRINGS ROAD TO I-40 EAST	2	1	MD	NO	NO	0.3	26			0.60	4,576				386		23																2			1,525	
		8	EXIT RAMP TO COLD SPRINGS ROAD	FROM I-40 WEST TO COLD SPRINGS ROAD EXIT 7	2	1	MD	NO	NO	0.23	26			0.46	3,508				302		18											1,525								1,375	
		9	ENTRANCE RAMP FROM (SR 1338)FINES CREEK TO I-40	FROM FINES CREEK (SR 1338) TO I-40 WEST	2	1	MD	NO	NO	0.26	26			0.52	3,966				335		20																				
		10	EXIT RAMP 1-40 AT FINES CREEK (SR 1338)	FROM WB I-40 TO EXIT 15	2	1	MD	NO	NO	0.29	26			0.58	4,424				373		22											1,375									
		11	I-40 EAST WELCOME CENTER REST AREA	PARKING LOT	3	1	MD	NO	NO	0.2	200				23,467				2,209		133												200							200	
		12	I-40 WEST REST AREA	PARKING LOT	3	1	MD	NO	NO	0.14	150				12,320				1,160		70																				
TOTAL FOR PROJ NO. 45932.3.1										**17.42**				**12.16**	**164,901**	**262,826**	**10,088**	**3,600**	**4,765**	**29,180**	**461**	**2,062**	**6,522**	**12,000**	**168,960**							**40,625**	**200**	**50**	**2**	**10**	**79**	**18**			**40,925**	**15**
GRAND TOTAL										**31.93**		**6**	**120**	**23.18**	**254,815**	**484,586**	**18,888**	**8,000**	**13,107**	**53,560**	**1,174**	**3,828**	**12,696**	**24,000**	**316,800**	**77**	**22,176**	**2,400**	**8**	**77**	**64**	**50,500**	**200**	**50**	**2**	**20**	**102**	**25**	**7**	**3**	**50,800**	**30**

** 0" to 1-1/2" milling is in advance of tunnels, bridges, and the State line

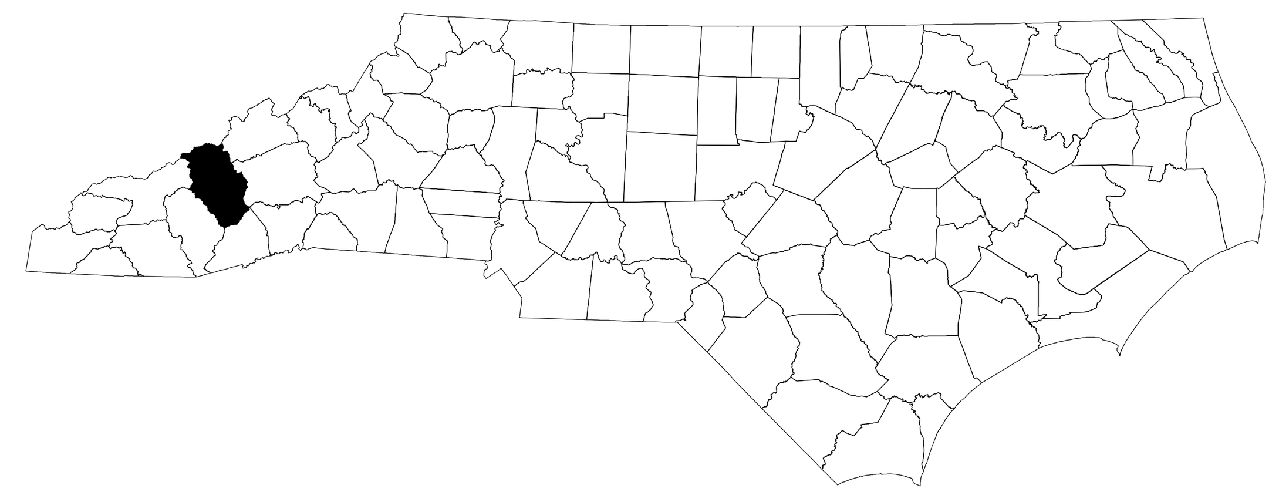
THERMOPLASTIC AND PAINT QUANTITIES

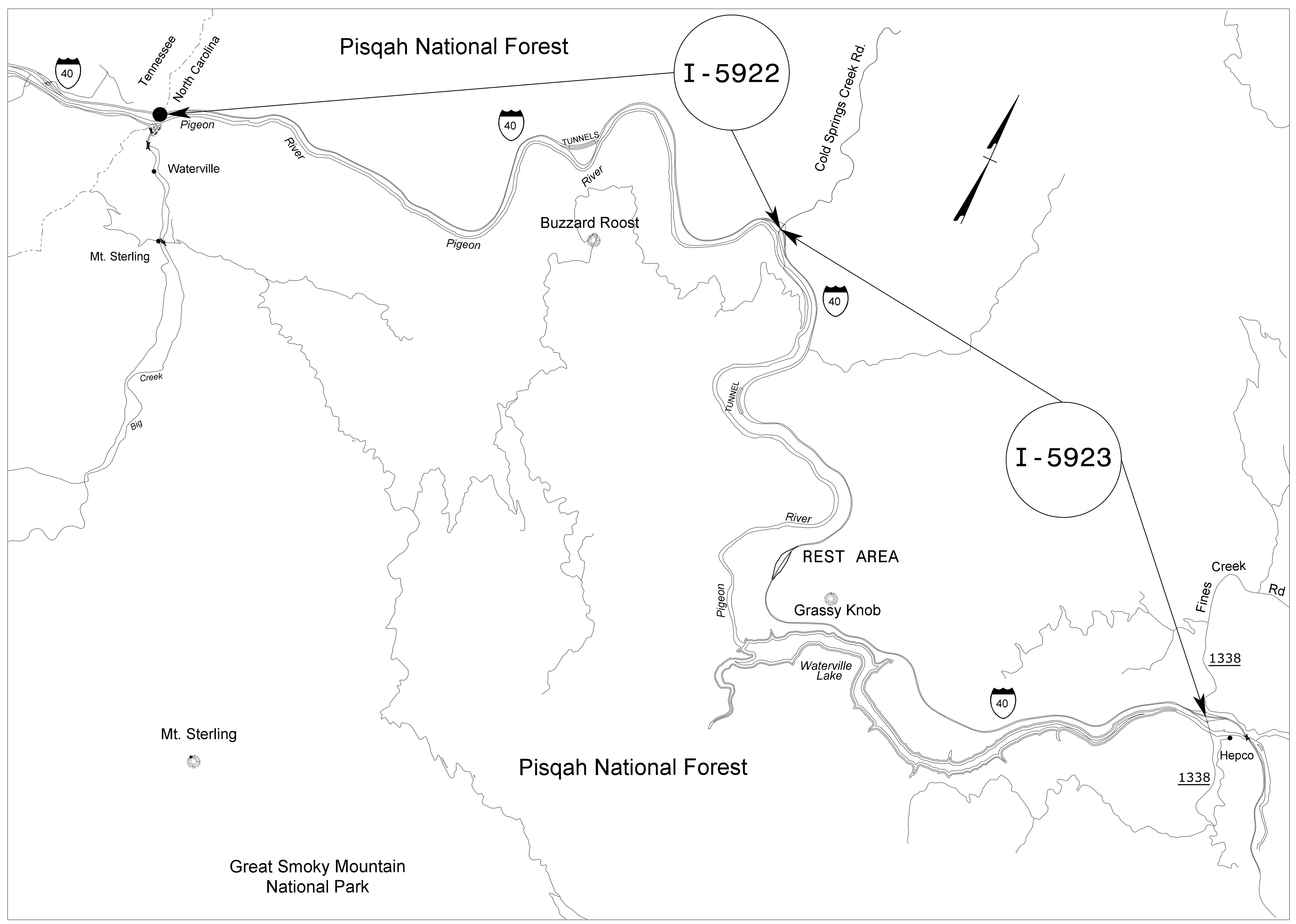
PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP NO	LA NES	LANE TYPE	LENGTH	WIDTH	4400000(WORK ZONE SIGNS (STATIONARY)	4405000(WORK ZONE SIGNS (PORTABLE)	4410000(WZ SIGNS (BARRICADE MOUNTED)	4415000(FLASHING ARROW BOARD	4420000(PORTABLE CMS	4422000(PORTABLE CMS (SHORT TERM)	4430000(DRUMS	4465000(TEMP. CRASH CUSHIONS	4480000(TMA	4485000(PORTABLE CONCRETE BARRIER	4510000(LAW ENFORCEMENT	4516000(SKINNY DRUM	4589000(PORTABLE QUEUE WARNING SYSTEM	4600000(CONNECTED LANE CLOSURE DEVICE	4609000(PORTABLE QUEUE WARNING SYSTEM	4685000000-E 4" X 90 M WHITE THERMO	4685000000-E 4" X 90 M YELLOW THERMO	4688000000-E 6" X 90 M WHITE THERMO	4688000000-E 6" X 90 M YELLOW THERMO	46950000 8" X 90 M WHITE THERMO	470000 12" X 90 M WHITE THERMO	4721000000-E THERMO MSG (NO) 120 MIL	4721000000-E THERMO MSG (TRUCKS) 120 MIL	4721000000-E THERMO MSG (THIS) 120 MIL	4721000000-E THERMO MSG (LANE) 120 MIL	4725000 THERMO WHITE RAMP ARROW 90 M	4810000000-E 4" WHITE PAINT	4810000000-E 4" YELLOW PAINT	481500000 PAINT PM LINES (6")	482500000 PAINT PM LINES (12")	483500(PAINT PM LINES (24")	48450000 PAINT PAV. MARKING SYMBOL	48550000 REMOVAL OF PM LINES (6")	4905.. SNOW PLOWABLE MARKERS
								MI	FT	SF	SF	SF	EA	EA	DAY	EA	EA	EA	LF	HR	EA	LS	EA	DAY	LF	LF	LF	LF	LF	LF	LF	LF	LF	EA	LF	LF	LF	LF	LF	EA	LF	EA
45930.3.1	Haywood	1	I-40 WESTBOUND MP 0.0 TO MP 7	FROM TENN. STATE LINE TO MILE POST 7.0 (COLD SPRINGS RD)	1	2	MD	7	37																		44,830	35,500	500		4	12	8	8	16								1,480
		2	I-40 EASTBOUND MP 7.0 TO MP 0.0	FROM MILE POST 7.0 TO TENN.STATE LINE	1	2		7	37																		44,830	35,500	500		4	12	8	8	16								1,480
		3	EXIT 7 RAMP HARMONS DEN	FORM I-40 EAST TO EXIT 7 COLD SPRINGS CREEK	2	1	MD	0.22	26																		1,200	1,200			104				1	1,200	1,200						28
		4	ENTRANCE RAMP 7 HARMONS DEN TO I-40 WEST	FROM COLD SPRINGS CREEK TO I-40 WEST	2	1	MD	0.29	26																		1,600	1,600			104					1,600	1,600						12
TOTAL FOR PROJ NO. 45930.3.1								**14.51**		**675**	**130**	**7**	**1**	**2**	**20**	**125**	**16**	**1**	**21,320**	**50**	**150**	*	**3**	**136**	**2,800**	**2,800**	**89,660**	**71,000**	**1,000**	**208**	**8**	**24**	**16**	**16**	**33**	**2,800**	**2,800**	**186,075**	**1,600**	**100**	**2**	**13,825**	**3,000**
																									5,600		**160,660**				**64**				**5,600**							
45932.3.1	Haywood	5	I-40 WESTBOUND MP 7 TO MP14.8	FROM MP 7 (COLD SPRINGS RD) TO EXIT 15 (FINES CREEK)	1	2	MD	8	37																		44,830	35,500	500						16								1,480
		6	I-40 EASTSTBOUND MP 14.8 TO MP 7	FROM EXIT 15 (FINES CREEK) TO EXIT 7 (COLD SPRINGS RD)	1	2	MD	8	37																		44,830	73,920	500						16								1,480
		7	ENTRANCE RAMP FROM COLD SPRINGS	FROM COLD SPRINGS ROAD TO I-40 EAST	2	1	MD	0.3	26																		1,600	1,600								1,600	1,600						15
		8	EXIT RAMP TO COLD SPRINGS ROAD	FROM I-40 WEST TO COLD SPRINGS ROAD EXIT 7	2	1	MD	0.23	26																		1,250	1,250			104				1	1,250	1,250						28
		9	ENTRANCE RAMP FROM (SR 1338)FINES CREEK TO I-40	FROM FINES CREEK (SR 1338) TO I-40 WEST	2	1	MD	0.26	26																		1,400	1,400								1,400	1,400						15
		10	EXIT RAMP 1-40 AT FINES CREEK (SR 1338)	FROM WB I-40 TO EXIT 15	2	1	MD	0.29	26																		1,550	1,550			104				1	1,550	1,550						28
		11	I-40 EAST WELCOME CENTER REST AREA	PARKING LOT	3	1	MD	0.2	200																		4,600				300	28				4							15
		12	I-40 WEST REST AREA	PARKING LOT	3	1	MD	0.14	150																		3,800				700					2							15
TOTAL FOR PROJ NO. 45932.3.1								**17.42**		**680**	**131**	**8**	**2**	**2**	**20**	**125**	**16**	**2**	**21,320**	**50**	**150**	*	**3**	**136**	**14,200**	**5,800**	**89,660**	**109,420**	**2,000**	**236**					**40**	**5,800**	**5,800**	**186,075**	**1,600**	**100**	**2**	**13,825**	**3,076**
																									20,000		**199,080**								**11,600**							
GRAND TOTAL								**31.93**		**1,355**	**261**	**15**	**3**	**4**	**40**	**250**	**32**	**3**	**42,640**	**100**	**300**	**1**	**6**	**272**	**17,000**	**8,600**	**179,320**	**180,420**	**3,000**	**444**	**8**	**24**	**16**	**16**	**73**	**8,600**	**8,600**	**372,150**	**3,200**	**200**	**4**	**27,650**	**6,076**
																									25,600		**359,740**				**64**				**17,200**							

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

TRANSPORTATION MANAGEMENT PLAN

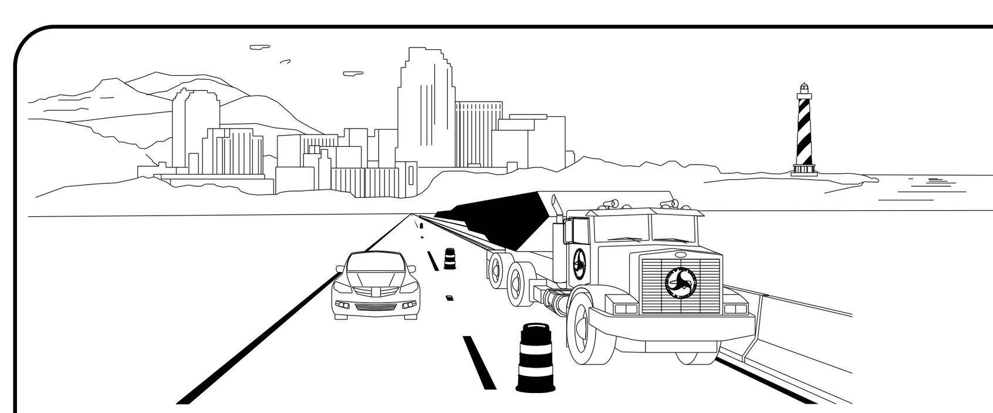
HAYWOOD COUNTY





INDEX OF SHEETS

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED



WORK ZONE SAFETY & MOBILITY
"from the MOUNTAINS to the COAST"

PLANS PREPARED BY:

KARMEN DAIS, PE

NCDOT CONTACTS:

DON PARKER, PE
PROJECT ENGINEER

ROGER GARRETT
PROJECT DESIGN ENGINEER

DIVISION OF HIGHWAYS — STATE OF NORTH CAROLINA — DEPARTMENT OF TRANSPORTATION — WORK ZONE TRAFFIC CONTROL

APPROVED: Don A. Parker

DATE: 11/29/2018

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 043251 ENGINEER DON A. PARKER

SHEET NO. TMP-1

TIP PROJECT: I-5922 / I-5923

11/29/2018
O:\Division14\I5922\Traffic\TrafficControl\TCP\I5922_I5923_TC_TMP_1.dgn
User:kedais

PROJ. REFERENCE NO.	SHEET NO.
I-5922/I-5923	TMP-1A

ROADWAY STANDARD DRAWINGS

THE FOLLOWING ROADWAY STANDARDS AS SHOWN IN "ROADWAY STANDARD DRAWINGS" - N.C. DEPARTMENT OF TRANSPORTATION - RALEIGH, N.C., DATED JANUARY 2018 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

STD. NO.	TITLE
1101.01	WORK ZONE ADVANCE WARNING SIGNS
1101.02	TEMPORARY LANE CLOSURES
1101.03	TEMPORARY ROAD CLOSURES
1101.04	TEMPORARY SHOULDER CLOSURES
1101.05	WORK ZONE VEHICLE ACCESSES
1101.06	WARNING SIGNS FOR BLASTING ZONES
1101.11	TRAFFIC CONTROL DESIGN TABLES
1110.01	STATIONARY WORK ZONE SIGNS
1110.02	PORTABLE WORK ZONE SIGNS
1115.01	FLASHING ARROW BOARDS
1130.01	DRUM
1135.01	CONES
1145.01	BARRICADES
1150.01	FLAGGING DEVICES
1160.01	TEMPORARY CRASH CUSHION
1165.01	TRUCK MOUNTED ATTENUATOR
1170.01	POSITIVE PROTECTION
1180.01	SKINNY-DRUM
1205.01	PAVEMENT MARKINGS - LINE TYPES AND OFFSETS
1205.02	PAVEMENT MARKINGS - TWO-LANE AND MULTI-LANE ROADWAYS
1205.03	PAVEMENT MARKINGS - EXITS AND ENTRANCE RAMPS
1205.04	PAVEMENT MARKINGS - INTERSECTIONS
1205.05	PAVEMENT MARKINGS - TURN LANES
1205.06	PAVEMENT MARKINGS - LANE DROPS
1205.07	PAVEMENT MARKINGS - PEDESTRIAN CROSSWALKS
1205.08	PAVEMENT MARKINGS - SYMBOLS AND WORD MESSAGES
1205.09	PAVEMENT MARKINGS - PAINTED ISLANDS
1205.10	PAVEMENT MARKINGS - SCHOOL AREAS
1205.11	PAVEMENT MARKINGS - RAILROAD CROSSINGS
1205.12	PAVEMENT MARKINGS - BRIDGES
1205.13	PAVEMENT MARKINGS - LANE REDUCTIONS
1250.01	RAISED PAVEMENT MARKERS - INSTALLATION SPACING
1251.01	RAISED PAVEMENT MARKERS - PERMANENT AND TEMPORARY
1261.01	GUARDRAIL AND BARRIER DELINEATORS - INSTALLATION SPACING
1261.02	GUARDRAIL AND BARRIER DELINEATORS - TYPES AND MOUNTING
1262.01	GUARDRAIL END DELINEATION
1264.01	OBJECT MARKERS - TYPES
1264.02	OBJECT MARKERS - INSTALLATION

LEGEND

GENERAL

- DIRECTION OF TRAFFIC FLOW
- DIRECTION OF PEDESTRIAN TRAFFIC FLOW
- EXIST. PVMT.
- NORTH ARROW
- PROPOSED PVMT.
- TEMP. SHORING (LOCATION PURPOSES ONLY)
- WORK AREA
- REMOVAL

SIGNALS

- EXISTING
- PROPOSED
- TEMP TEMPORARY

PAVEMENT MARKINGS

- EXISTING LINES
- TEMPORARY LINES

TRAFFIC CONTROL DEVICES

- BARRICADE (TYPE III)
- CONE
- DRUM
- SKINNY DRUM
- TUBULAR MARKER
- TEMPORARY CRASH CUSHION
- FLASHING ARROW BOARD
- FLAGGER
- LAW ENFORCEMENT
- TRUCK MOUNTED ATTENUATOR (TMA)
- CHANGEABLE MESSAGE SIGN

TEMPORARY SIGNING

- PORTABLE SIGN
- STATIONARY SIGN
- STATIONARY OR PORTABLE SIGN

PAVEMENT MARKERS

- CRYSTAL/CRYSTAL
- CRYSTAL/RED
- YELLOW/YELLOW

PAVEMENT MARKING SYMBOLS

- PAVEMENT MARKING SYMBOLS

TEMPORARY PAVEMENT MARKING

6" PAINT
WHITE EDGELINE
YELLOW EDGELINE
10 FT WHITE SKIP
3 FT-9 FT WHITE MINISKIP

12" PAINT
WHITE GORELINE

24" PAINT
STOP BAR

APPROVED: Don A. Parker

DATE: 11/29/2018

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 043251 DON A. PARKER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL

ROADWAY STANDARD DRAWINGS & LEGEND

11/29/2018
O:\Division4\I5922\Traffic\TrafficControl\TCP\I5922_I5923_TC_TMP_1A.dgn
User:kedais

LOCAL NOTES

- CONTACT THE OVERSIZE AND OVERWEIGHT UNIT AT 919-814-3700 ONE MONTH PRIOR TO DESIRED RESTRICTION TIMEFRAME. MUST CONTACT AGAIN TO RESCIND RESTRICTIONS

- CONTACT TNDOT TRAFFIC OPERATIONS AT 615-741-5017 FOR ADVANCE WARNING AND INCIDENT MANAGEMENT COORDINATION IN TENNESSEE

GENERAL REQUIREMENTS

MAINTAIN TRAFFIC IN ACCORDANCE WITH DIVISIONS 10, 11 AND 12 OF THE 2018 STANDARD SPECIFICATIONS AND THE FOLLOWING PROVISIONS:

INSTALL WORK ZONE ADVANCE WARNING SIGNS IN ACCORDANCE WITH TMP-3 PRIOR TO BEGINNING ANY OTHER WORK.

WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING ON THE SHOULDER ADJACENT TO A DIVIDED FACILITY AND WITHIN 10 FEET OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN TRAVEL LANE USING STANDARD DRAWING NO. 1101.02 OF THE 2018 ROADWAY STANDARD DRAWINGS.

WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN A LANE OF TRAVEL OF A DIVIDED FACILITY, CLOSE THE LANE USING STANDARD DRAWING NO. 1101.02 OF THE 2018 ROADWAY STANDARD DRAWINGS OR AS DIRECTED BY THE ENGINEER. CONDUCT THE WORK SO THAT ALL PERSONNEL AND/OR EQUIPMENT REMAIN WITHIN THE CLOSED TRAVEL LANE. PERFORM WORK ONLY WHEN WEATHER AND VISIBILITY CONDITIONS ALLOW SAFE OPERATIONS AS DIRECTED BY THE ENGINEER.

LANE CLOSURE MERGE POINTS ARE TO BE LOCATED WITHIN TANGENT SECTIONS. NO MERGE TAPER WILL BE PERMITTED INSIDE A TUNNEL.

1. TIME RESTRICTIONS FOR A LANE CLOSURE AND ROAD CLOSURE ACTIVITIES

ALL LANE CLOSURE AND ROAD CLOSURE ACTIVITIES SHALL BE PERFORMED IN COMPLIANCE WITH THE DAY AND TIME RESTRICTIONS LISTED AND DEFINED IN THIS CONTRACT. DO NOT CLOSE TRAVEL LANES AS FOLLOWS:

ROAD NAME	DAY AND TIME RESTRICTIONS
I-40	MONDAY THROUGH WEDNESDAY FROM 30 MINUTES BEFORE SUNSET 30 MINUTES AFTER SUNRISE THE FOLLOWING DAY AND THURSDAY FROM 30 MINUTES BEFORE SUNSET TO 30 MINUTES AFTER SUNRISE THE FOLLOWING MONDAY

DO NOT CLOSE OR NARROW TRAVEL LANES DURING HOLIDAY AND SPECIAL EVENTS AS FOLLOWS:

ROAD NAME
I-40

HOLIDAY

1. FOR ANY UNEXPECTED OCCURRENCE THAT CREATES UNUSUALLY HIGH TRAFFIC VOLUMES, AS DIRECTED BY THE ENGINEER.

2. FOR NEW YEAR'S DAY, BETWEEN THE HOURS OF 30 MINUTES BEFORE SUNSET DECEMBER 31ST UNTIL 30 MINUTES AFTER SUNRISE JANUARY 2ND. IF NEW YEAR'S DAY IS ON SATURDAY OR SUNDAY, THEN UNTIL 30 MINUTES AFTER SUNRISE THE FOLLOWING TUESDAY.

3. FOR THANKSGIVING DAY, BETWEEN THE HOURS OF 30 MINUTES BEFORE SUNSET TUESDAY AND 30 MINUTES AFTER SUNRISE MONDAY.

4. FOR CHRISTMAS, BETWEEN THE HOURS OF 30 MINUTES BEFORE SUNSET THE FRIDAY BEFORE THE WEEK OF CHRISTMAS DAY AND 30 MINUTES AFTER SUNRISE THE FOLLOWING MONDAY AFTER THE WEEK OF CHRISTMAS DAY.

5. FOR LEAF SEASON, FROM OCTOBER 1ST THROUGH OCTOBER 31ST

THE LANE CLOSURE RESTRICTIONS DO NOT APPLY TO MAPS 1 AND 2 FROM MM 0 TO MM 4 DURING CONSTRUCTION OF THE PROPOSED MEDIAN BARRIER. (SEE SEPARATE INTERMEDIATE CONTRACT TIME AND LIQUIDATED DAMAGES).

THE CONTRACTOR MAY PLACE/PRE-STAGE ALL REQUIRED SIGNS AND TRAFFIC CONTROL DEVICES NECESSARY FOR LANE CLOSURES PRIOR TO THE CLOSURE TIME AS APPROVED BY THE ENGINEER. HOWEVER, FLASHING ARROW BOARDS AND CHANGEABLE MESSAGE SIGNS SHALL NOT INDICATE LANE CLOSURE INFORMATION UNTIL 30 MINUTES OR LESS PRIOR TO THE INSTALLATION OF THE LANE CLOSURE. TYPICAL PRE-STAGING TIMES ARE 1 HOUR FOR A SINGLE LANE CLOSURE AND 2 HOURS FOR DOUBLE AND TRIPLE LANE CLOSURES. THE TRAVEL LANE(S) ARE TO BE CLOSED AT THE PRESCRIBED TIMES DEFINED IN THIS CONTRACT.

FOR REMOVAL, THE LANE(S) MUST BE REOPENED IN COMPLIANCE WITH THE TIMES DEFINED IN THIS CONTRACT. IT IS ACCEPTABLE TO REMOVE THE SIGNS AND TRAFFIC CONTROL DEVICES FROM THE SHOULDER/STAGING AREA AFTER THE LANE(S) ARE REOPENED TO TRAFFIC.

2. WORK ZONE SPEED LIMITS

ALL SPEED LIMITS ARE TO BE ORDINANCED BY THE STATE TRAFFIC ENGINEER IN ORDER TO HAVE A LAWFULLY ENFORCEABLE SPEED LIMIT; THEREFORE, NO SPEED LIMIT MESSAGES/SIGNS SHALL BE INSTALLED PRIOR TO RECEIVING A SIGNED ORDINANCE. NCDOT HAS SOLE AUTHORITY OF THE SPEED LIMITS DISPLAYED WITHIN THE WORK ZONE.

THE REGIONAL TRAFFIC ENGINEERING OFFICE AND THE DIVISION CONSTRUCTION ENGINEER IN COORDINATION WITH THE WORK ZONE TRAFFIC CONTROL SECTION WILL PROVIDE ALL WORK ZONE SPEED LIMIT RECOMMENDATIONS BASED ON ACTIVITIES AND CONDITIONS.

3. CONNECTED LANE CLOSURE DEVICES

FURNISH AND INSTALL CONNECTED LANE CLOSURE DEVICES ON FLASHING ARROW BOARDS IDENTIFYING THE BEGINNING OF A LANE CLOSURE AND ANOTHER CONNECTED LANE CLOSURE DEVICE ON A CRASHWORTHY TRAFFIC CONTROL DEVICE (SUCH AS A DRUM) AT THE END OF THE SAME LANE CLOSURE FOR TRANSMITTING THE LOCATION OF THE LANE CLOSURE TO THE STATEWIDE TRANSPORTATION OPERATIONS CENTER (STOC) AS WELL AS NAVIGATIONAL COMPANIES. (SEE SPECIAL PROVISION.)

4. PORTABLE QUEUE WARNING SYSTEM

FURNISH AND INSTALL A PORTABLE QUEUE WARNING SYSTEM IN ADVANCE OF THE LONG-TERM LANE CLOSURE FOR MEDIAN BARRIER CONSTRUCTION BETWEEN MM 0 AND MM 4 THAT DETECTS THE PRESENCE OF A LANE CLOSURE AND SLOW/STOPPED TRAFFIC QUEUES THAT DEVELOP IN ADVANCE OF THE LANE CLOSURE AND DISPLAY LANE CLOSURE SLOWED/STOPPED TRAFFIC MESSAGES TO INTEGRATED MESSAGE BOARDS (SEE SPECIAL PROVISION).

5. SEQUENTIAL FLASHING WARNING LIGHTS

FURNISH AND INSTALL SEQUENTIAL FLASHING WARNING LIGHTS ON THE DRUMS USED FOR THE MERGING TAPERS INTO THE LONG-TERM LANE CLOSURE FOR MEDIAN BARRIER CONSTRUCTION BETWEEN MM 0 AND MM 4. (SEE SPECIAL PROVISION.)

6. LAW ENFORCEMENT

THE CONTRACTOR SHALL PROVIDE 2 LAW ENFORCEMENT OFFICERS FOR THE MAINLINE DURING SHORT-TERM LANE CLOSURE OPERATIONS AND 2 ADDITIONAL LAW ENFORCEMENT OFFICERS FOR RAMP/LOOP CLOSURES WHEN BOTH OPERATIONS OCCUR SIMULTANEOUSLY.

USE LAW ENFORCEMENT OFFICERS TO ASSIST IN THE SHADOWING OF WORKERS DURING THE INSTALLATION AND DURING THE REMOVAL OF LANE CLOSURES.

TEMPORARY TRAFFIC CONTROL (TTC)

REFER TO STANDARD DRAWING NO. 1101.02, 1101.11, 1110.01, 1110.02, 1115.01, 1130.01, 1135.01, 1165.01, AND 1180.01 OF THE 2018 ROADWAY STANDARD DRAWINGS WHEN CLOSING A LANE OF TRAVEL IN A STATIONARY WORK ZONE FOR ITEMS SUCH AS MILLING, PAVING, MINOR BRIDGE AND APPROACH SLAB REHABILITATION.

SKINNY DRUMS SHALL BE PERMITTED IN ACCORDANCE WITH ARTICLE 1180 PROVIDED THE FOLLOWING CONDITIONS ARE MET:
1. THE WORK IS PERFORMED DURING DAYLIGHT HOURS.
2. THE DEVICES ARE REMOVED AFTER EACH DAYLIGHT WORK PERIOD
3. DRUMS ARE USED IN ALL TAPERS.

WHEN COVERING WORK ZONE SIGNS, USE AN OPAQUE MATERIAL THAT PREVENTS READING OF THE SIGN AT NIGHT BY A DRIVER USING HIGH BEAM HEADLIGHTS. USE MATERIAL, WHICH DOES NOT DAMAGE THE SIGN SHEETING.

REFER TO STANDARD DRAWING NO. 1101.02, SHEETS 9 AND 10, OF THE 2018 ROADWAY STANDARD DRAWINGS FOR MILLING AND/OR PAVING OF RAMPS UNLESS OTHERWISE APPROVED TO BE CLOSED BY THE ENGINEER. IF APPROVED, SEE ATTACHED DRAWING FOR TYPICAL PLACEMENT OF DEVICES AND SIGNING FOR THE DETOUR ROUTE. ALL ITEMS SHALL BE COMPENSATED FOR BASED ON THE UNIT BID PRICE FOR THE RESPECTIVE ITEM.

REFER TO STANDARD DRAWING NO. 1101.03, SHEET 7, OF THE 2018 ROADWAY STANDARD DRAWINGS FOR A CLOSURE OF THE INTERSTATE/FREEWAY WITH TRAFFIC DETOURED VIA INTERCHANGE RAMPS FOR ITEMS SUCH AS MINOR BRIDGE AND APPROACH SLAB REHABILITATION. USE FLAGGERS OR LAW ENFORCEMENT TO DIRECT TRAFFIC AT RAMP TERMINALS AS DIRECTED BY THE ENGINEER.

REFER TO STANDARD DRAWING NO. 1101.02, SHEET 12 OR 13, OF THE 2018 ROADWAY STANDARD DRAWINGS FOR UTILIZING A MOVING OPERATION FOR SUCH ITEMS AS PAVEMENT MARKING AND MARKER PLACEMENT. A MINIMUM SPEED OF 3 MPH SHALL BE MAINTAINED AT ALL TIMES WITH NO STOPS THAT NARROW OR CLOSE A LANE OF TRAVEL. IF THE MOVING OPERATION IS PROGRESSING SLOWER THAN 3 MPH AT ANY TIME, INSTALL A LANE CLOSURE. ALL TRAFFIC CONTROL DEVICES FOR THIS OPERATION IS CONSIDERED INCIDENTAL TO THE PAY ITEMS FOR PAVEMENT MARKING AND MARKERS.

TRAFFIC OPERATIONS

1. PROJECT REQUIREMENTS:

FAILURE TO COMPLY WITH THE FOLLOWING REQUIREMENTS WILL RESULT IN A SUSPENSION OF ALL OTHER OPERATIONS:

A. BEFORE WORKING ON ANY MAP, THE CONTRACTOR SHALL SUBMIT A WRITTEN CONSTRUCTION SEQUENCE FOR TRAFFIC CONTROL AND CONSTRUCTION LIGHTING FOR ALL MAPS TO THE ENGINEER AT THE FIRST PRE-CONSTRUCTION MEETING AND THE SEQUENCE MUST BE APPROVED BEFORE CLOSING A LANE OF TRAFFIC. THE CONTRACTOR AND ENGINEER WILL COORDINATE WITH THE STATE WORK ZONE ENGINEER AT 919-814-4937 FOR ADDITIONAL TRAFFIC CONTROL GUIDANCE, AS NECESSARY.

B. THE PROPOSED MEDIAN BARRIER ON MAPS 1 AND 2 FROM MM 0 TO MM 4 SHALL BE CONSTRUCTED USING LONG-TERM CLOSURES OF THE INSIDE TRAVEL LANES IN BOTH DIRECTIONS OF I-40. THIS WORK SHALL OCCUR BETWEEN JANUARY 2, 2020 AND MAY 16, 2020. (SEE INTERMEDIATE CONTRACT TIME AND LIQUIDATED DAMAGES.)

DURING THIS OPERATION, THE CONTRACTOR SHALL PROVIDE AND MAINTAIN 8 MEDIAN BREAKS IN THE PCB AND PROPOSED MEDIAN BARRIER AT APPROXIMATELY 0.5 MILE SPACING AS DIRECTED BY THE ENGINEER FOR EMERGENCY AND INCIDENT MANAGEMENT AND CONSTRUCTION VEHICLE ACCESS.

EACH MEDIAN BREAK WILL ALWAYS BE AVAILABLE TO EMERGENCY AND INCIDENT MANAGEMENT PERSONNEL AND VEHICLES, BUT THE CONTRACTOR SHALL BE ALLOWED THE USE OF NO MORE THAN 2 PER DIRECTION FOR CONSTRUCTION VEHICLE ACCESS AT ANY ONE TIME UNLESS PERMITTED OTHERWISE BY THE ENGINEER.

C. NOTIFY THE ENGINEER 15 CONSECUTIVE CALENDAR DAYS BEFORE RESURFACING A BRIDGE OR ITS APPROACHES. PATCH AND MAKE REPAIRS TO BRIDGE SURFACE AND ITS APPROACHES BEFORE RESURFACING OCCURS. COORDINATE ALL OPERATIONS ON THE BRIDGE AND ITS APPROACHES WITH THE ENGINEER.

D. NOTIFY THE ENGINEER 48 HOURS BEFORE RESURFACING THE AREAS OF EXISTING PAVEMENT THAT REQUIRE PATCHING. PATCH THESE AREAS BEFORE RESURFACING OCCURS. ALLOW FULL DEPTH ASPHALT PATCHING TO COOL TO THE POINT OF SUPPORTING TRAFFIC WITHOUT DISPLACEMENT OR RUTTING BEFORE REOPENING CLOSED LANE. COORDINATE THE RESURFACING OPERATIONS OF THE PATCHED AREAS WITH THE ENGINEER.

E. OBTAIN WRITTEN APPROVAL OF THE ENGINEER BEFORE WORKING IN MORE THAN ONE LOCATION OR SETTING UP ADDITIONAL LANE CLOSURES.

F. THE CONTRACTOR ON THIS AND ANY ADJACENT PROJECTS, OR SUBCONTRACTORS WORKING WITHIN THIS PROJECT SHALL COORDINATE LANE CLOSURE LOCATION, TYPE, AND DIRECTION WITH THE ENGINEER TO BEST MAINTAIN LANE CONTINUITY THROUGH THE LIMITS OF THIS AND ADJACENT PROJECTS.

APPROVED: Don A. Parker
DATE: 11/29/2018

NORTH CAROLINA PROFESSIONAL SEAL 043251 ENGINEER DON A. PARKER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

DIVISION OF HIGHWAYS · STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION · WORK ZONE TRAFFIC CONTROL

GENERAL REQUIREMENTS

G. OPERATE EQUIPMENT AND CONDUCT OPERATIONS IN THE SAME DIRECTION AS THE FLOW OF TRAFFIC. MAINTAIN VEHICULAR ACCESS IN ACCORDANCE WITH ARTICLE 1101-05 OF THE 2018 STANDARD SPECIFICATIONS.

H. CONTRACTOR SHALL MILL AND PAVE LANES IN AN ORDER SUCH THAT WATER SHALL NOT ACCUMULATE.

2. PAVING LIFT REQUIREMENTS AND TIME LIMITATIONS:

FAILURE TO COMPLY WITH THE FOLLOWING REQUIREMENTS WILL RESULT IN A SUSPENSION OF ALL OTHER OPERATIONS UNTIL ALL LANES OF TRAFFIC ARE BROUGHT TO THE SAME STATION AND ELEVATION:

PAVING OVERLAYS AND LIFTS UP TO 3*

A. FOR SURFACE COURSE PAVING LIFTS OF 2.0* OR LESS, THE CONTRACTOR SHALL CONDUCT HIS PAVING OPERATIONS SUCH THAT THE FOLLOWING CONDITIONS ARE MET.

ONCE PAVING BEGINS IN ANY LANE, THE CONTRACTOR WILL BE PERMITTED TO PAVE AS FAR AS THE WORK OPERATIONS ALLOW (UP TO 2 MILES) FOR THE INITIAL PAVING PERIOD. IN THE NEXT DAYS* PAVING OPERATION, NOT TO EXCEED 72 HOURS, BRING THE ADJACENT LANE TO THE SAME STATION AND ELEVATION. AT THE END OF THE WORK DAY, ANY UNEVEN LANE CONDITIONS SHALL BE SIGNED WITH AN *UNEVEN PAVEMENT/NEXT XX MILES* ON THE PORTABLE CHANGEABLE MESSAGE SIGNS AND PORTABLE *UNEVEN PAVEMENT* SIGNS (DUAL MOUNTED) 1,000* IN ADVANCE OF THE UNEVEN PAVEMENT AND EVERY * MILES THEREAFTER ALONG THE UNEVEN PORTION OF ROADWAY. ONCE MITIGATED, ALL PORTABLE *UNEVEN PAVEMENT* SIGNS SHALL BE REMOVED.

FOR OPEN GRADED SURFACE MIXES, *UNEVEN PAVEMENT* SIGNS ARE NOT REQUIRED.

MILLING OPERATIONS

CONDUCT MILLING OPERATIONS SO THAT ANY MILLED PAVEMENT IS PAVED BACK BY THE END OF EACH WORK DAY.

A MILLED/GROOVED SURFACE SHALL NOT BE RE-OPENED TO TRAFFIC EXCEPT IN CASES WHERE INCLEMENT WEATHER OR MECHANICAL FAILURE PREVENTS THE PAVING BACK OF THE LANE BY THE END OF THE WORK DAY.

IF MILLED AREAS ARE NOT PAVED BACK WITHIN THE SAME WORK PERIOD DUE TO INCLEMENT WEATHER OR MECHANICAL FAILURE, THE CONTRACTOR IS TO FURNISH AND INSTALL PORTABLE SIGNS TO WARN DRIVERS OF THE CONDITIONS. THE SIGNS INCLUDE *GROOVED PAVEMENT* (W8-15) W/ MOTORCYCLE PLAQUE MOUNTED BELOW, AND *UNEVEN LANES* (W8-11). THESE ARE TO BE DUAL INDICATED WHERE LATERAL CLEARANCE CAN BE OBTAINED WITHIN THE MEDIAN AREAS. INSTALL THE *GROOVED PAVEMENT* (W8-15) W/ MOTORCYCLE PLAQUE 1500* IN ADVANCE OF THE MILLED AREA. INSTALL THE *UNEVEN LANES* (W8-11) 500* IN ADVANCE OF THE MILLED AREA. ALTERNATE THESE SIGNS EVERY * MILE. ONCE MITIGATED, ALL PORTABLE SIGNS ARE TO BE REMOVED.

SLOPE THE PAVEMENT AT THE BEGINNING AND ENDING OF THE DAILY MILLING OPERATION AS DIRECTED BY THE ENGINEER. SWEEP AND REMOVE ALL MILLED MATERIAL FROM THE ROADWAY AS SOON AS THE DAILY MILLING OPERATION IS COMPLETED. REMOVE ANY EXISTING PAVEMENT ADJACENT TO THE MILLED AREA THAT HAS BEEN DAMAGED AND REPLACE WITH PATCH MATERIAL AS DIRECTED BY THE ENGINEER.

3. TEMPORARY PAVEMENT MARKINGS:

REVIEW AND RECORD THE EXISTING PAVEMENT MARKINGS AND MARKERS BEFORE OBLITERATION. RE-ESTABLISH THE NEW PAVEMENT MARKINGS AND MARKERS USING THE RECORD OF EXISTING MARKINGS IN CONJUNCTION WITH THE 2018 ROADWAY STANDARD DRAWINGS UNLESS OTHERWISE DIRECTED BY THE ENGINEER. SUBMIT THE RECORD OF THE EXISTING PAVEMENT MARKINGS SEVEN CALENDAR DAYS BEFORE THE OBLITERATION OF ANY PAVEMENT MARKINGS.

OBLITERATED PAVEMENT MARKINGS SHALL BE REPLACED BY THE END OF EACH WORKDAY*S OPERATION. INTERIM PAINT MAY BE USED TO COMPLY WITH TIME LIMITATIONS IF FINAL PAVEMENT MARKINGS CANNOT BE PLACED EXCEPT FOR MILLED SURFACES OR DIAMOND GROUND SURFACES. FINAL MARKINGS SHALL BE PLACED WITHIN 30 DAYS IN ACCORDANCE WITH SECTION 1205-4 AND SECTION 1205-5. FOR MILLED SURFACES, TEMPORARY PAVEMENT MARKINGS SHALL BE USED IN ACCORDANCE WITH SECTION 1205-8(C). THERE WILL BE NO DIRECT PAYMENT FOR INTERIM PAINT. TEMPORARY PAINT WILL BE PAID FOR AT THE CONTRACT UNIT PRICE.

FOR PROJECT WINTERIZATION, INSTALL TEMPORARY PAINT MARKINGS IN ACCORDANCE WITH SECTION 1205-8(C) OF THE 2018 STANDARD SPECIFICATIONS. USE 4* LANE, EDGE, AND CENTER LINES AND 8* GORE LINES. COMPENSATION FOR THIS WORK SHALL BE MADE IN ACCORDANCE WITH SECTION 1205-10 EXCEPT THAT NO PAYMENT WILL BE MADE IF PAVING IS COMPLETED MORE THAN 30 DAYS BEFORE THE WRITTEN NOTIFICATION BY THE DEPARTMENT THAT WINTERIZATION IS REQUIRED.

4. WORK ZONE SIGNING:

A. DESCRIPTION

INSTALL ADVANCE/GENERAL WARNING WORK ZONE SIGNS ACCORDING TO TMP-3 PRIOR TO BEGINNING WORK.

FOR PAVING OVERLAYS OF 3* OR GREATER THAT CREATE A DROP-OFF ADJACENT TO THE MEDIAN SHOULDER, INSTALL *LOW/SOFT SHOULDER* (SP 13107) SIGNS ON THE MEDIAN SHOULDER. PLACE INITIALLY AT THE CONSTRUCTION LIMITS, AND THEN SPACE 1 MILE THEREAFTER. NO SIGNING REQUIRED FOR THE OUTSIDE SHOULDER.

INSTALL AND MAINTAIN SIGNING IN ACCORDANCE WITH THE DIVISIONS 11 AND 12 OF THE 2018 STANDARD SPECIFICATIONS.

B. INSTALLATION

ALL STATIONARY ADVANCE/GENERAL WARNING WORK ZONE SIGNS REQUIRE NOTIFICATION TO EXISTING UTILITY OWNERS PER ARTICLE 105-8 OF THE 2018 STANDARD SPECIFICATIONS AND SPECIAL PROVISION SP1 G115 WITHIN 3 TO 12 FULL WORKING DAYS PRIOR TO INSTALLATION.

INSTALL ALL ADVANCE/GENERAL WARNING WORK ZONE SIGNS BEFORE BEGINNING WORK ON A PARTICULAR MAP. IF SIGNS ARE INSTALLED MORE THAN SEVEN (7) CALENDAR DAYS PRIOR TO THE BEGINNING OF WORK ON A PARTICULAR MAP, COVER THE SIGNS UNTIL THE WORK BEGINS. INSTALL EACH WORK ZONE ADVANCE/GENERAL WARNING SIGN SEPARATELY AND NOT ON THE SAME POST OR STAND WITH ANY OTHER SIGN EXCEPT WHERE AN ADVISORY SPEED PLATE OR DIRECTIONAL ARROW IS USED.

ALL SIGN LOCATIONS TO BE VERIFIED BY THE ENGINEER PRIOR TO INSTALLATION. ONCE THE SIGNS HAVE BEEN INSTALLED AND ACCEPTED, ANY SIGN RELOCATIONS REQUESTED BY THE DEPARTMENT WILL BE COMPENSATED IN ACCORDANCE WITH ARTICLE 104-7. ANY ADDITIONAL SIGNS OTHER THAN THE ONES REQUIRED IN THIS PROVISION OR ATTACHED DRAWINGS WILL BE COMPENSATED IN ACCORDANCE WITH ARTICLE 104-7.

IF THERE IS A PERIOD OF CONSTRUCTION INACTIVITY LONGER THAN 14 CALENDAR DAYS, REMOVE OR COVER ADVANCE/GENERAL WARNING WORK ZONE SIGNS. UNCOVER ADVANCE/GENERAL WARNING WORK ZONE SIGNS NO MORE THAN 7 CALENDAR DAYS BEFORE WORK RESUMES.

ALL OTHER OPERATIONS MAY BE SUSPENDED UPON FAILURE TO COMPLY WITH THE ABOVE REQUIREMENTS. SUCH SUSPENDED OPERATIONS WOULD NOT BE RESUMED UNTIL THE ABOVE REQUIREMENTS ARE FULFILLED.

C. SIGN REMOVAL

ONCE MAPS ON THE PROJECT ARE SUBSTANTIALLY COMPLETED, IT IS ACCEPTABLE TO REMOVE THE STATIONARY WORK ZONE SIGNS ON THOSE MAPS IN LIEU OF WAITING UNTIL ALL THE MAPS ARE COMPLETED ON THE PROJECT. A MAP IS SUBSTANTIALLY COMPLETE WHEN THE RESURFACING OPERATIONS ARE COMPLETED, AND THE SHOULDERS ARE BROUGHT UP TO THE SAME ELEVATION AS THE PROPOSED PAVEMENT AND WHEN TEMPORARY PAVEMENT MARKINGS (PAINT) ARE INSTALLED ALONG THE CENTERLINE AND EDGE LINES AS WELL AS THE RAMPS AND LOOPS. THE FINAL PAVEMENT MARKINGS (THERMOPLASTIC OR POLYUREA) AND/OR MARKERS DO NOT HAVE TO BE INSTALLED FOR THE MAP TO BE CONSIDERED SUBSTANTIALLY COMPLETE. FINAL PAVEMENT MARKINGS/MARKERS ARE INSTALLED WITH PORTABLE SIGNING AND CHANGEABLE MESSAGE SIGNS ACCORDING TO ROADWAY STANDARD DRAWING 1101.02, SHEET 13. ANY REMAINING PUNCH LIST ITEMS REQUIRING TRAFFIC CONTROL ARE TO BE COMPLETED WITH PORTABLE WORK ZONE SIGNING WITH COMPENSATION COVERED IN THE CONTRACT UNIT PRICE FOR PRICE FOR THE REQUIRED TRAFFIC CONTROL ITEMS.

STATIONARY WORK ZONE SIGN REMOVAL IS A CONDITION OF FINAL PROJECT ACCEPTANCE.

D. LANE CLOSURE WORK ZONE SIGNS

INSTALL ANY REQUIRED LANE CLOSURE SIGNING NEEDED DURING THE LIFE OF THE PROJECT IN ACCORDANCE WITH THE STANDARD DRAWING NO. 1101.02, 1101.11 AND 1110.02 OF THE 2018 ROADWAY STANDARD DRAWINGS.

APPROVED: DocuSigned by: Don A. Parker 4DD4B2862618410...

DATE: 11/29/2018

NORTH CAROLINA PROFESSIONAL SEAL 043251 ENGINEER DON A. PARKER

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

GENERAL REQUIREMENTS (CONT.)

PROJ. REFERENCE NO.	SHEET NO.
I-5922/I-5923	TMP-2

SIGN NUMBER: WZTC
TYPE: STATIONARY
QUANTITY: SEE PLANS
SIGN WIDTH: 5'-6"
HEIGHT: 5'-6"
TOTAL AREA: 30.3 Sq.Ft.
BORDER TYPE: INSET
RECESS: 0"
WIDTH: 0"
RADII: 0"
NO. Z BARS: 2
LENGTH: 58.0

BACKG COLOR: Fluorescent Orange
COPY COLOR: Black

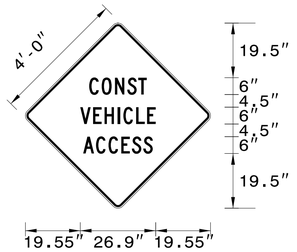
SYMBOL	X	Y	WID	HT

MAT'L: 0.080" (2.0 mm) ALUMINUM

USE NOTES: 1,2

1. Legend and border shall be direct applied black non-reflective sheeting.
2. Background shall be NC GRADE B fluorescent orange retroreflective sheeting.

DESIGN BY: J.Navarrete
PROJECT ID: I5922
CHECKED BY:
LOCATION:
Mar 14, 2018
DIV:WZTC



Spacing Factor is 1 unless specified otherwise

LETTER POSITIONS

Letter spacings are to start of next letter

																													Series/Size Text Length
		C	O	N	S	T																							C 2000
	22.7	4.4	4.7	4.4	3.9	3.1	22.7																						20.5
		V	E	H	I	C	L	E																					C 2000
	19.6	4.6	4.1	4.7	2	4.6	3.9	3.1	19.6																				26.9
		A	C	C	E	S	S																						C 2000
	20.6	4.6	4.4	4.6	3.8	4.1	3.4	20.6																					24.8

FILENAME: I5922 Sign Designs

NORTH CAROLINA D.O.T. SIGN DETAIL

SIGN NUMBER: WZTC
TYPE: STATIONARY
QUANTITY: SEE PLANS
SIGN WIDTH: 5'-6"
HEIGHT: 5'-6"
TOTAL AREA: 30.3 Sq.Ft.
BORDER TYPE: INSET
RECESS: 0"
WIDTH: 0"
RADII: 0"
NO. Z BARS: 2
LENGTH: 58.0

BACKG COLOR: Fluorescent Orange
COPY COLOR: Black

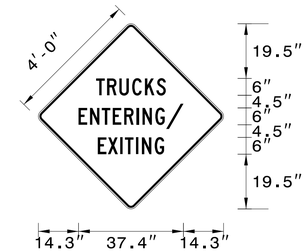
SYMBOL	X	Y	WID	HT

MAT'L: 0.080" (2.0 mm) ALUMINUM

USE NOTES: 1,2

1. Legend and border shall be direct applied black non-reflective sheeting.
2. Background shall be NC GRADE B fluorescent orange retroreflective sheeting.

DESIGN BY: J.Navarrete
PROJECT ID: I5922
CHECKED BY:
LOCATION:
Mar 14, 2018
DIV: DIV



Spacing Factor is 1 unless specified otherwise

LETTER POSITIONS

Letter spacings are to start of next letter

																													Series/Size Text Length
		T	R	U	C	K	S																						C 2000
	20.6	3.9	4.4	4.6	4.6	4.1	3.4	20.6																					24.8
		E	N	T	E	R	I	N	G	/																			C 2000
	14.3	4.1	4.2	3.9	4.1	4.4	2.2	4.6	3.9	6.1	14.3																		37.4
		E	X	I	T	I	N	G																					C 2000
	21.2	3.6	4.4	1.7	3.9	2.2	4.6	3.4	21.2																				23.6

FILENAME: I5922 Sign Designs

NORTH CAROLINA D.O.T. SIGN DETAIL

APPROVED: DocuSigned by: Renee Roach 3EB4360BD316431...

DATE: 12/3/2018

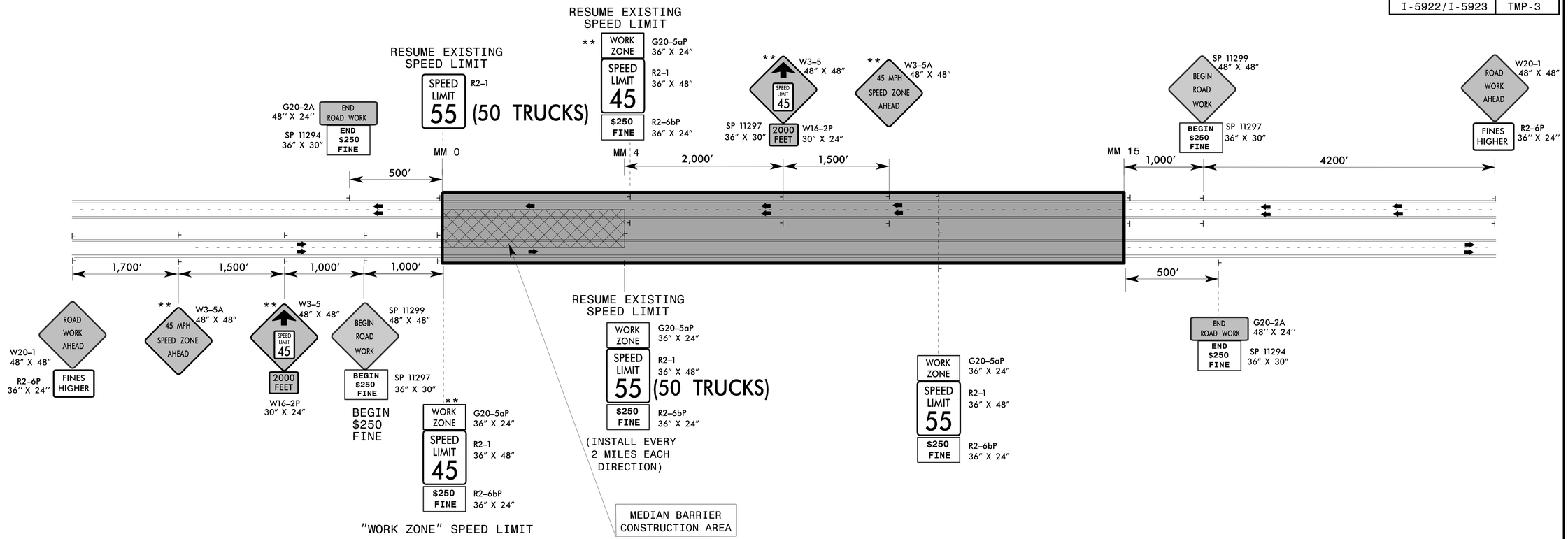
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 024921 RENEE B ROACH

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

DIVISION OF HIGHWAYS · STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION · WORK ZONE TRAFFIC CONTROL

SIGN DESIGNS FOR BARRIER BREAK ACCESS

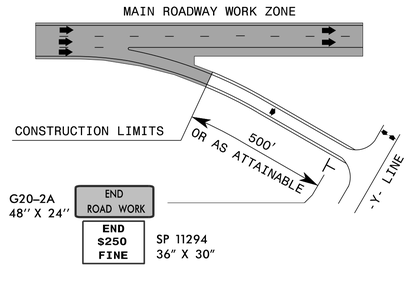
PROJ. REFERENCE NO.	SHEET NO.
I-5922/I-5923	TMP-3



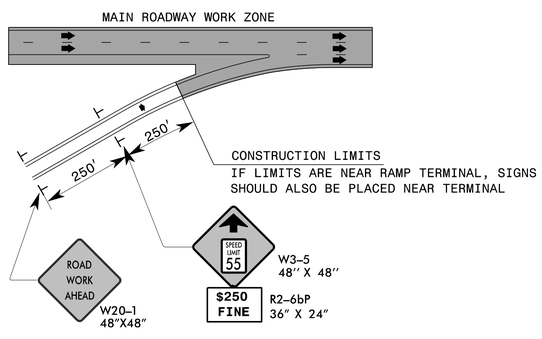
** THESE SIGNS ARE TO BE INSTALLED PRIOR TO BEGINNING **
MEDIAN BARRIER CONSTRUCTION FROM MM 0 TO MM 4

SIGNS LOCATED AT MM 4 SHALL BE INSTALLED EAST OF THE TUNNELS

EXIT RAMPS



ENTRANCE RAMPS



NOTES

1) THE WORK ZONE SPEED LIMIT WILL BE ESTABLISHED IN COLLABORATON BETWEEN THE REGIONAL TRAFFIC ENGINEER, THE DIVISION AND THE WORK ZONE TRAFFIC CONTROL SECTION. THIS DRAWING SHOWS THE APPLICATION OF REDUCING THE "WORK ZONE SPEED LIMIT" TO 45 MPH.
2) IF THE WORK ZONE SPEED LIMIT REDUCTION IS INSIDE THE WORK AREA, SIGNS W3-5A, W3-5, AND THE R2-1'S ALONG WITH THE SPEEDING FINE SIGNS ARE TO BE INSTALLED AT THE DISTANCE SHOWN ABOVE IN ADVANCE OF WHERE THE SPEED LIMIT IS REDUCED.
3) THE WORK ZONE SPEED LIMIT SIGNS ARE TO BE MOUNTED FROM 7' ABOVE EDGE OF PAVEMENT ELEVATION. SIGNS CAN BE STATIONARY MOUNTED OR BARRIER MOUNTED.
4) WHEN TEMPORARY LANE CLOSURES ARE INSTALLED AT THE BEGINNING OF THE PROJECT LIMITS, THE PORTABLE LANE CLOSURE SIGNS ARE TO BE ADJUSTED TO AVOID SIGN OVERLAP/CLUTTER.
5) THE NEED AND LOCATION OF ADDITIONAL POSTED "WORK ZONE SPEED LIMIT" SIGNS WITHIN THE WORK AREA IS TO BE DETERMINED BY THE REGIONAL TRAFFIC ENGINEER.
6) ALL "WORK ZONE" SPEED LIMIT REDUCTION SIGNAGE SHALL BE REMOVED WHEN THE CONDITION THAT WARRANTED THE REDUCTION AND FINE IS REMOVED. THE REGIONAL TRAFFIC ENGINEER WILL BE NOTIFIED BY THE RESIDENT ENGINEER AT THIS TIME TO RESCIND THE ORDINANCES AND RETURN THE EXISTING POSTED SPEED LIMIT. THIS SHOULD TAKE PLACE BEFORE THE PROJECT IS 100% COMPLETE AND ACCEPTED FOR MAINTENANCE.

APPROVED: DocuSigned by: Don A. Parker 42D4B2862618410...
DATE: 11/29/2018

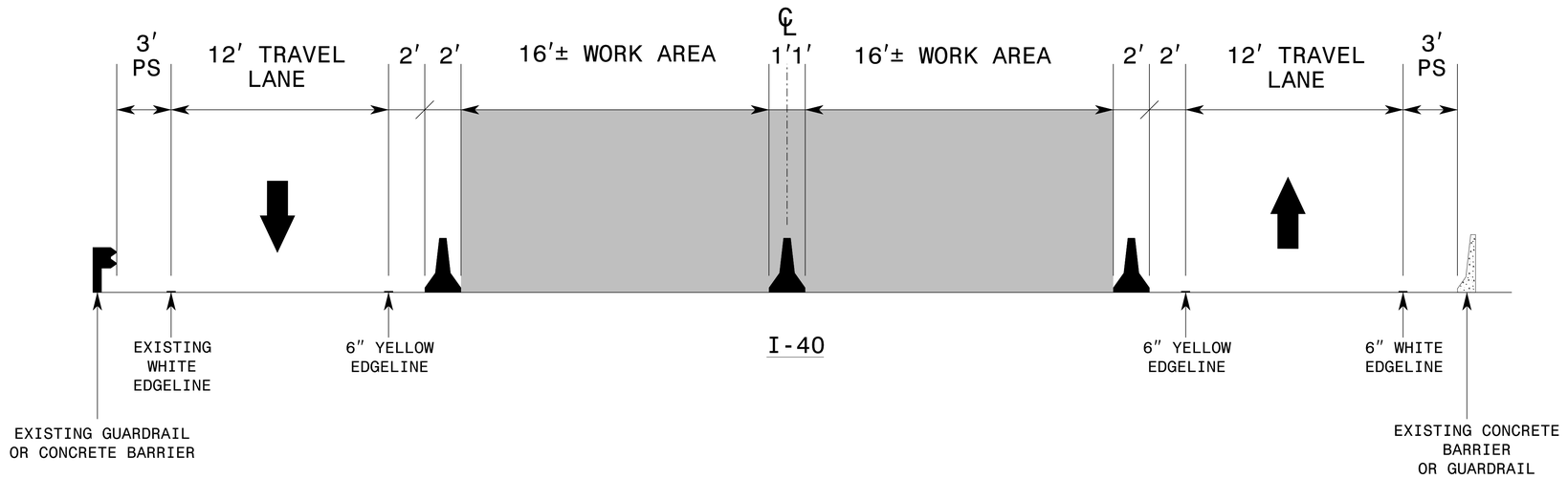
NORTH CAROLINA PROFESSIONAL SEAL 043251 ENGINEER DON A. PARKER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

DIVISION OF HIGHWAYS * STATE OF NORTH CAROLINA * DEPARTMENT OF TRANSPORTATION * WORK ZONE TRAFFIC CONTROL

WORK ZONE ADVANCE WARNING SIGNS AND SPEED LIMIT REDUCTION SIGNS

PROJ. REFERENCE NO.	SHEET NO.
I-5922/I-5923	TMP-4



NOTES

1. COMPLETE THE WORK OF PROPOSED MEDIAN BARRIER CONSTRUCTION MAPS 1 AND 2, FROM MM 0 TO MM 4± USING LONG-TERM CLOSURES OF THE INSIDE TRAVEL LANES BETWEEN JANUARY 2, 2020 AND MAY 16, 2020. SEE INTERMEDIATE CONTRACT TIMES AND LIQUIDATED DAMAGES.

   INSTALL PORTABLE QUEUE WARNING SYSTEM (SEE SPECIAL PROVISION) PRIOR TO LONG TERM TRAFFIC SHIFT AND REMOVE UPON COMPLETION OF THE WORK.

2. USE A 660 FT. SHIFTING TAPER TO TIE PROPOSED TEMPORARY PAVEMENT MARKINGS TO EXISTING PAVEMENT MARKINGS AT BOTH ENDS OF THE LANE CLOSURE.

3. CLOSE THE INSIDE LANES USING DRUMS WITH SEQUENTIAL FLASHING WARNING LIGHTS PRIOR TO INTRODUCING PORTABLE CONCRETE BARRIER. INSTALL TEMPORARY PAVEMENT MARKINGS ADJACENT TO THE DRUMS TO DELINEATE THE LANE CLOSURES.

APPROVED: DocuSigned by: Don A. Parker 4DD48286261841D...

DATE: 12/3/2018

NORTH CAROLINA PROFESSIONAL SEAL 043251 ENGINEER DON A. PARKER

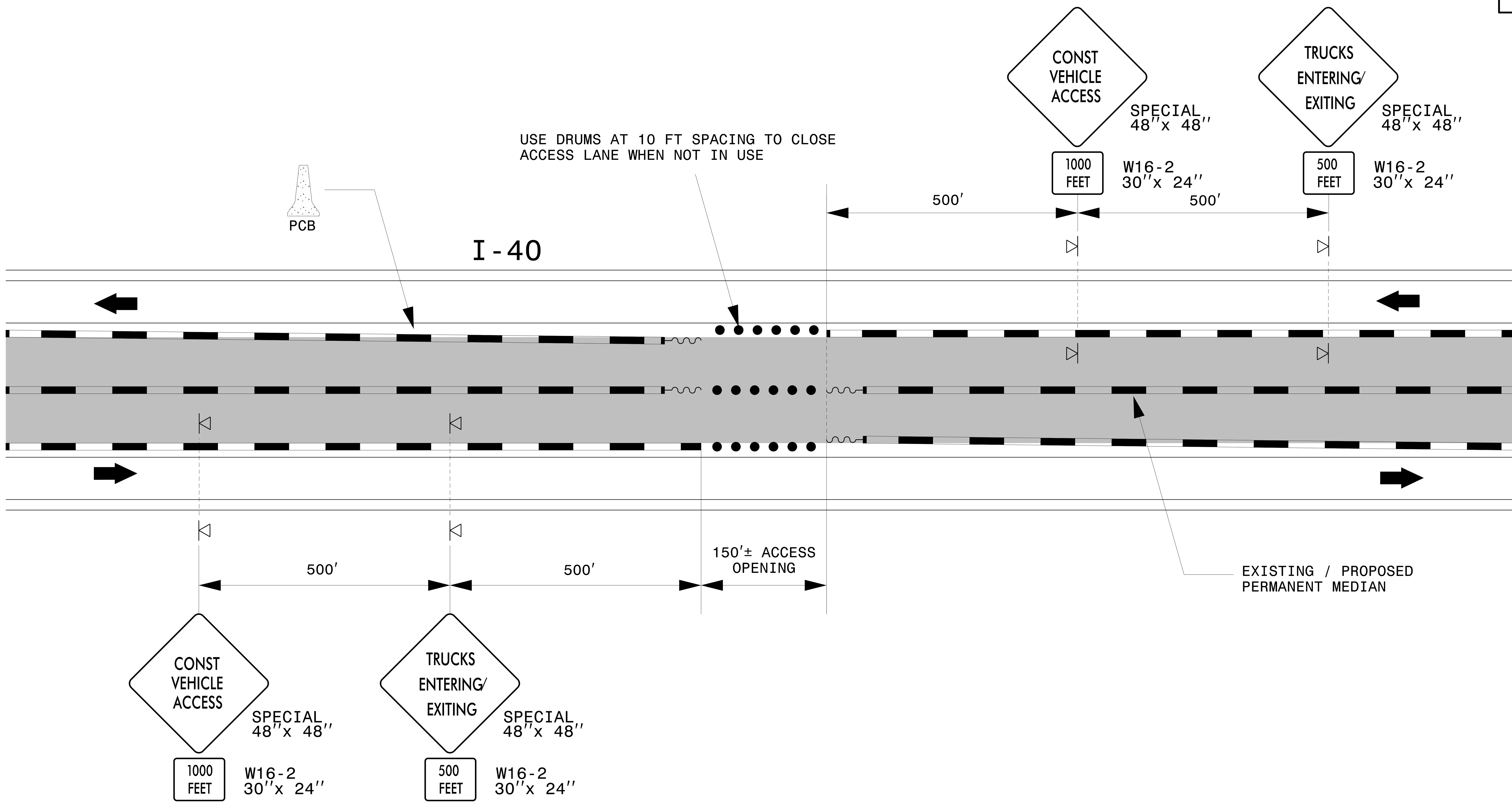
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

DIVISION OF HIGHWAYS · STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION · WORK ZONE TRAFFIC CONTROL

LONG-TERM LANE CLOSURE TYPICAL

12/3/2018
G:\Division14\I5922\Traffic\TrafficControl\TCP\I5922_I5923_TC_TMP_4.dgn
User:kedals

PROJ. REFERENCE NO.	SHEET NO.
I-5922/I-5923	TMP-5



NOTES

1. THE CONTRACTOR SHALL INSTALL A MAXIMUM OF 8 BARRIER BREAKS SPACED APPROXIMATELY ½ MILE APART AT LOCATIONS TO BE DETERMINED BY THE ENGINEER.

2. ANY OF THE MEDIAN BREAKS MAY BE ACCESSED AT ANY TIME BY EMERGENCY AND INCIDENT MANAGEMENT PERSONNEL.

3. THE CONTRACTOR SHALL BE LIMITED ACCESS TO ONLY TWO MEDIAN BREAKS PER DIRECTION AT ANY ONE TIME UNLESS PERMITTED OTHERWISE BY THE ENGINEER.

4. INSTALL TEMPORARY BARRIER A MAXIMUM OF TWO (2) WEEKS PRIOR TO BEGINNING WORK AT THIS LOCATION. ONCE TEMPORARY BARRIER IS INSTALLED AT ANY LOCATION PROCEED IN A CONTINUOUS MANNER TO COMPLETE THE PROPOSED WORK IN THAT LOCATON UNLESS OTHERWISE STATED IN THE TRANSPORTATION MANAGEMENT PLANS OR AS DIRECTED BY THE ENGINEER.

   INSTALL TEMPORARY BARRIER WITH THE TRAFFIC FLOW BEGINNING WITH THE UPSTREAM SIDE OF TRAFFIC. REMOVE TEMPORARY BARRIER AGAINST THE TRAFFIC FLOW BEGINNING WITH THE DOWNSTREAM SIDE OF TRAFFIC.

   INSTALL AND SPACE DRUMS NO GREATED THAN TWICE THE POSTED SPEED LIMIT (MPH) TO CLOSE OR KEEP THE SECTION OF THE ROADWAY CLOSED UNTIL THE TEMPORARY BARRIER CAN BE PLACED OR AFTER THE TEMPORARY BARRIER IS REMOVED.

   PROTECT THE APPROACH END OF PORTABLE CONCRETE BARRIER AT ALL TIMES DURING THE INSTALLATION AND REMOVAL OF THE BARRIER BY EITHER A TRUCK MOUNTED ATTENUATOR (MAXIMUM 72 HOURS) OR A TEMPORARY CRASH CUSHION.

5. OFFSET TEMPORARY CRASH CUSHIONS 4 FT. FROM THE OPEN TRAVEL LANE.

APPROVED: Don A. Parker

DATE: 11/29/2018

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 043251 DON A. PARKER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL

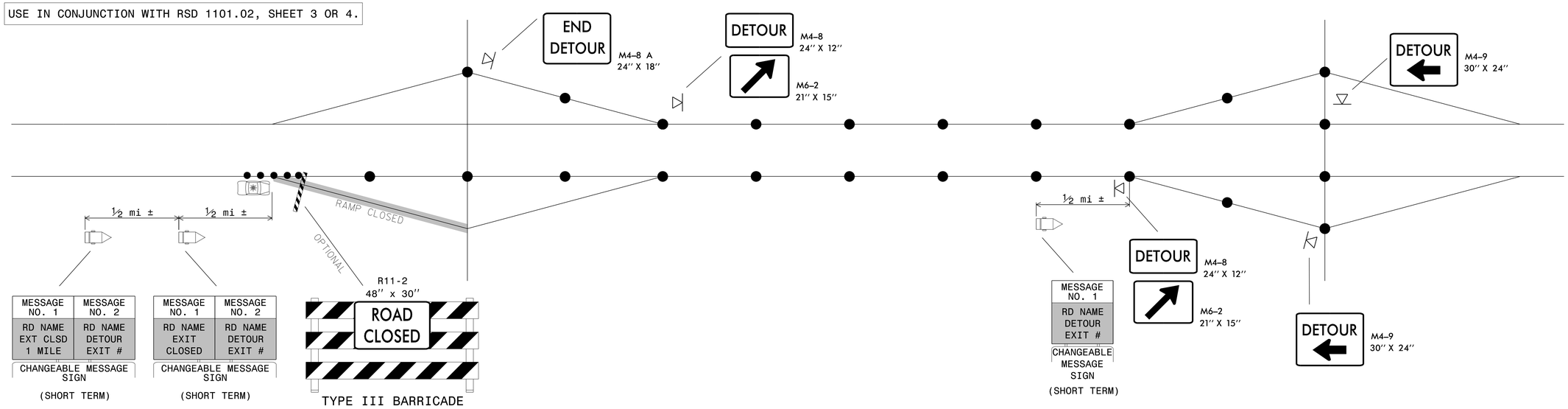
CONCRETE BARRIER BREAKS FOR MEDIAN ACCESS AND INCIDENT MANAGEMENT

11/29/2018
Q:\Division4\I5922\Traffic\TrafficControl\TCP\I5922_I5923_TC_TMP_5.dgn
User:kedals

PROJ. REFERENCE NO.	SHEET NO.
I-5922/I-5923	TMP-6

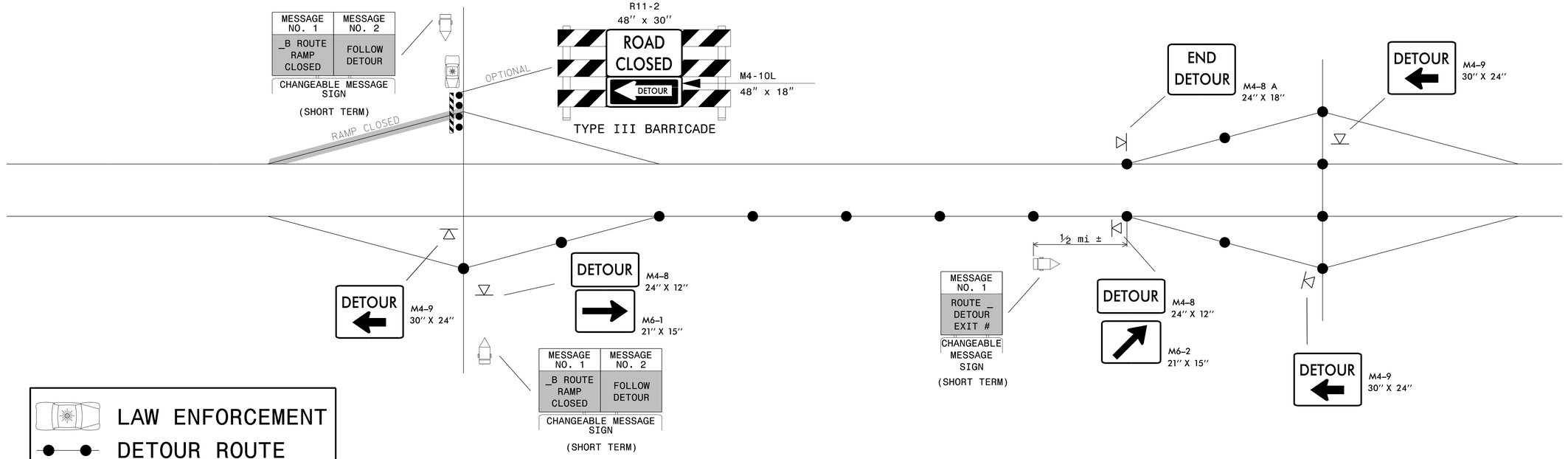
SHORT TERM CLOSURE AND DETOUR OF OFF-RAMP TO ADJACENT INTERCHANGE

USE IN CONJUNCTION WITH RSD 1101.02, SHEET 3 OR 4.



SHORT TERM CLOSURE AND DETOUR OF ON-RAMP TO ADJACENT INTERCHANGE

USE IN CONJUNCTION WITH RSD 1101.02, SHEET 3 OR 4.



LAW ENFORCEMENT

DETOUR ROUTE

GENERAL NOTES:
1. THIS DRAWING IS INTENDED FOR USE DURING SHORT TERM CLOSURES OF INTERSTATE AND FREEWAY RAMPS.
2. RAMP CLOSURES SHALL BE APPROVED BY THE ENGINEER.
3. IF RAMP CLOSURE RESTRICTIONS APPLY, SEE SPECIAL PROVISION, "INTERMEDIATE CONTRACT TIMES AND LIQUIDATED DAMAGES".

APPROVED: DocuSigned by: Don A. Parker 4DD4B2862618410...

DATE: 11/29/2018

NORTH CAROLINA PROFESSIONAL SEAL 043251 ENGINEER DON A. PARKER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

DIVISION OF HIGHWAYS · STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION · WORK ZONE TRAFFIC CONTROL

SHORT TERM CLOSURE AND DETOUR OF INTERSTATE/FREEWAY RAMPS

11/29/2018
0:\Division14\I5922\Traffic\TrafficControl\TCP\I5922_I5923_TC_TMP_6.dgn
User:kedols