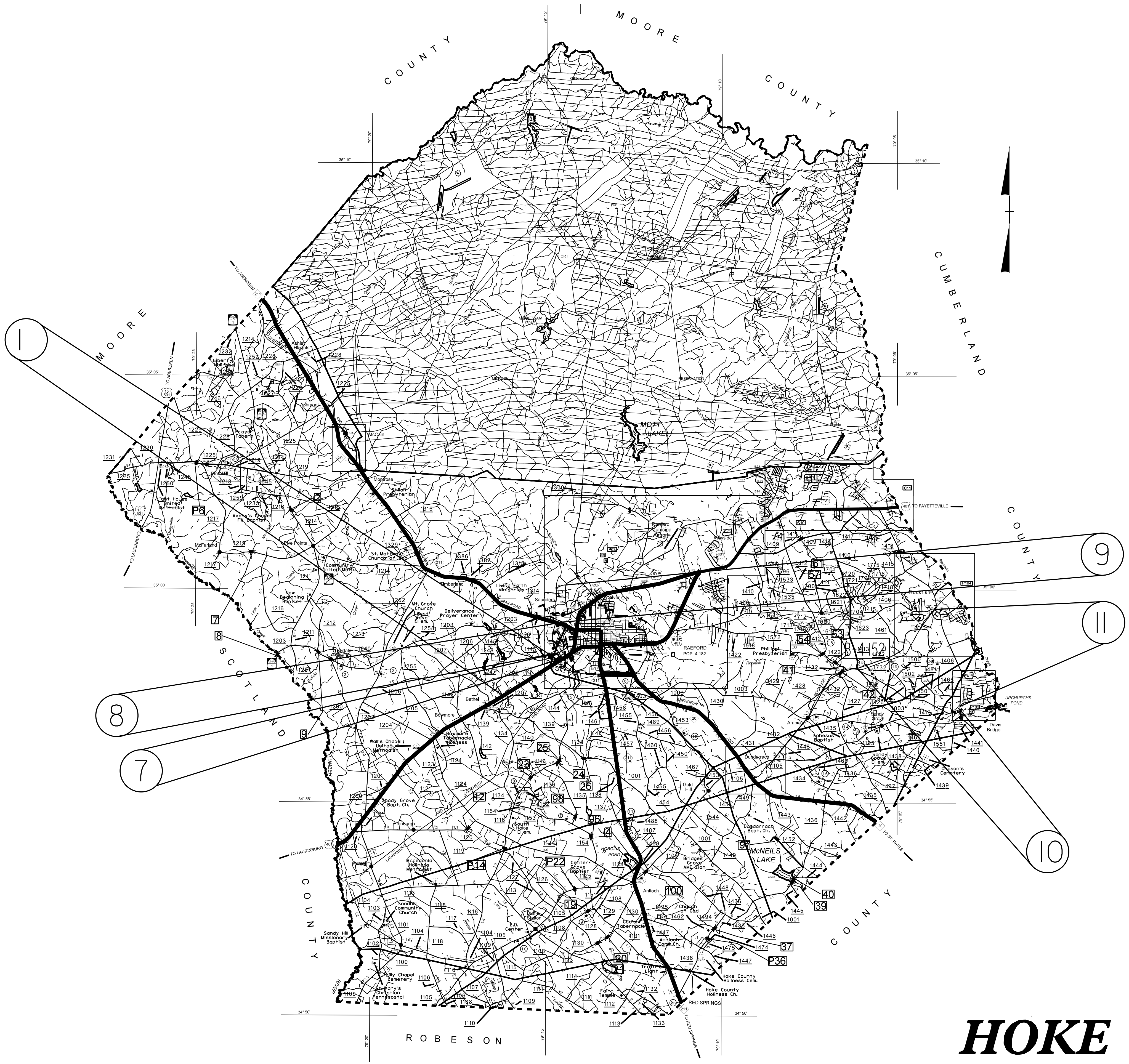
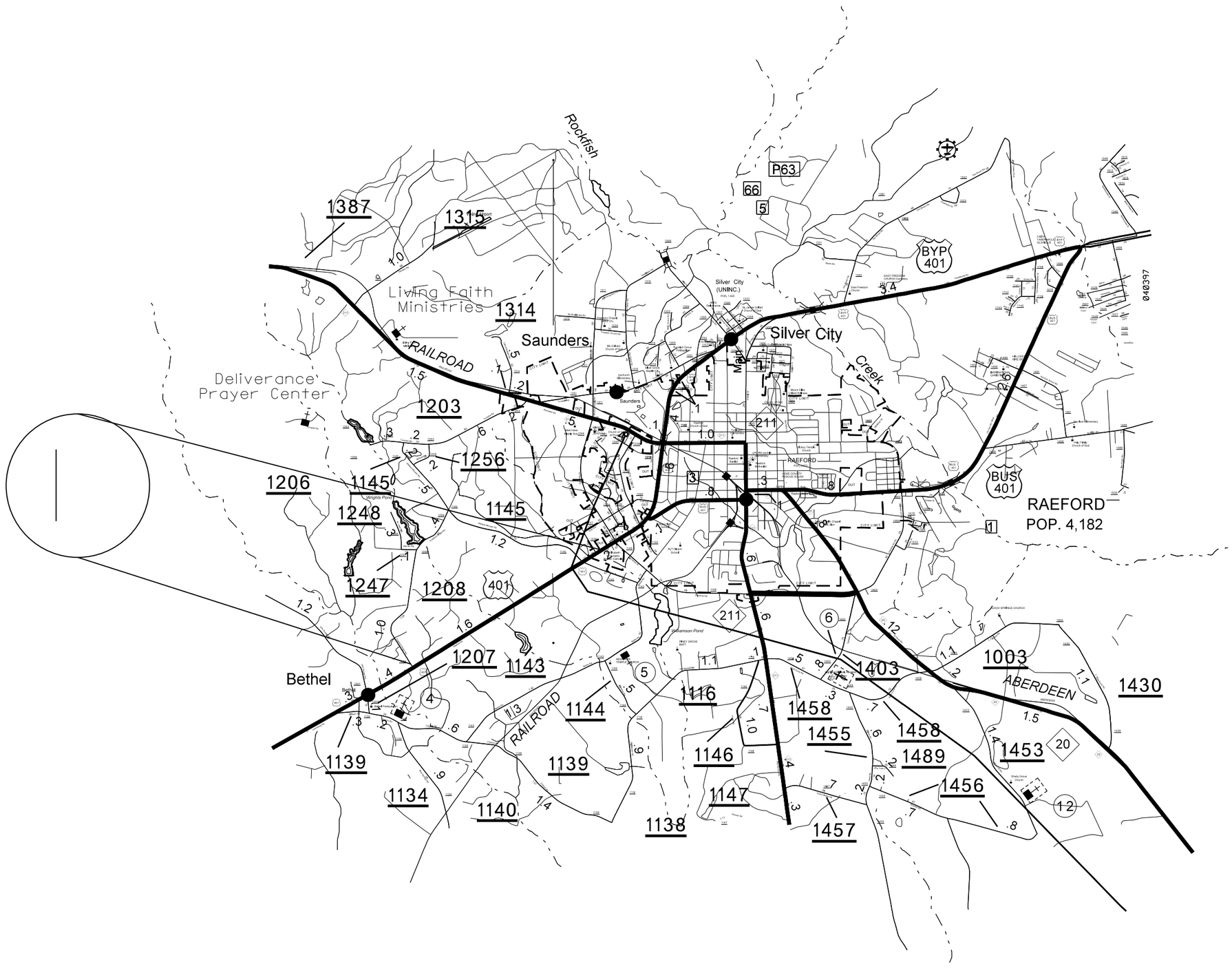
PROJECT REFERENCE NO.	SHEET NO.
2019CPT.08.06.10471 2019CPT.08.06.10831 2019CPT.08.06.20471 2019CPT.08.06.20831	1



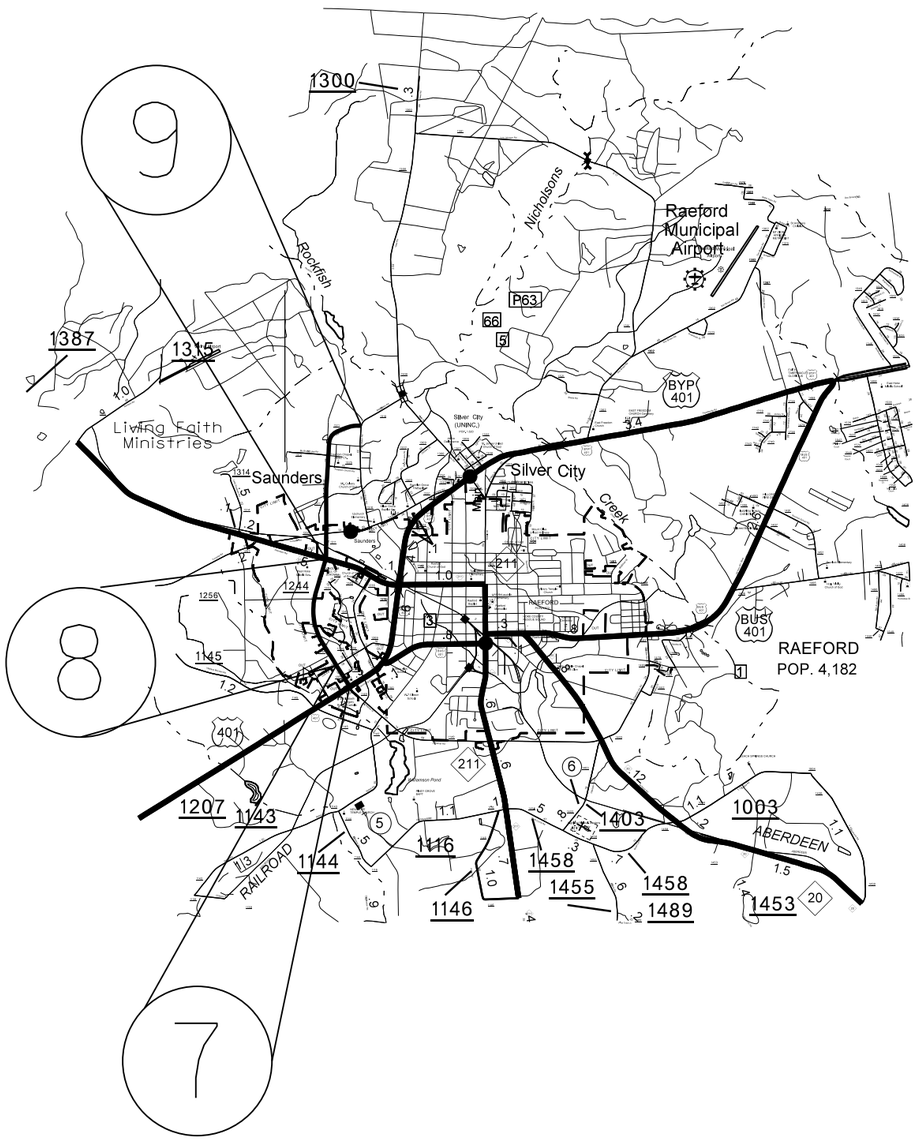
HOKE COUNTY

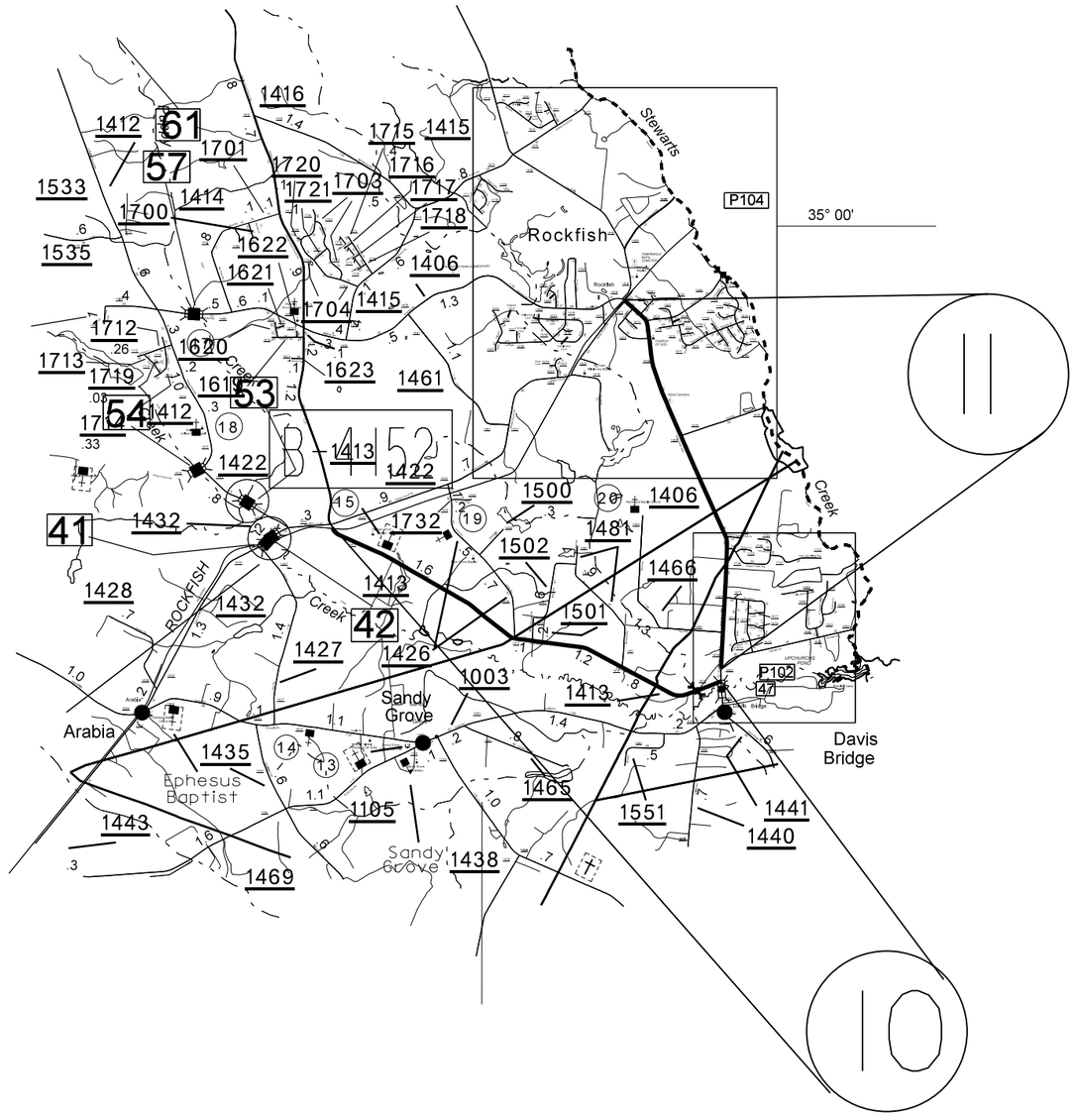
WBS ELEMENT	SHEET NO.
2019CPT.08.06.10471	
2019CPT.08.06.10831	
2019CPT.08.06.20471	
2019CPT.08.06.20831	

2

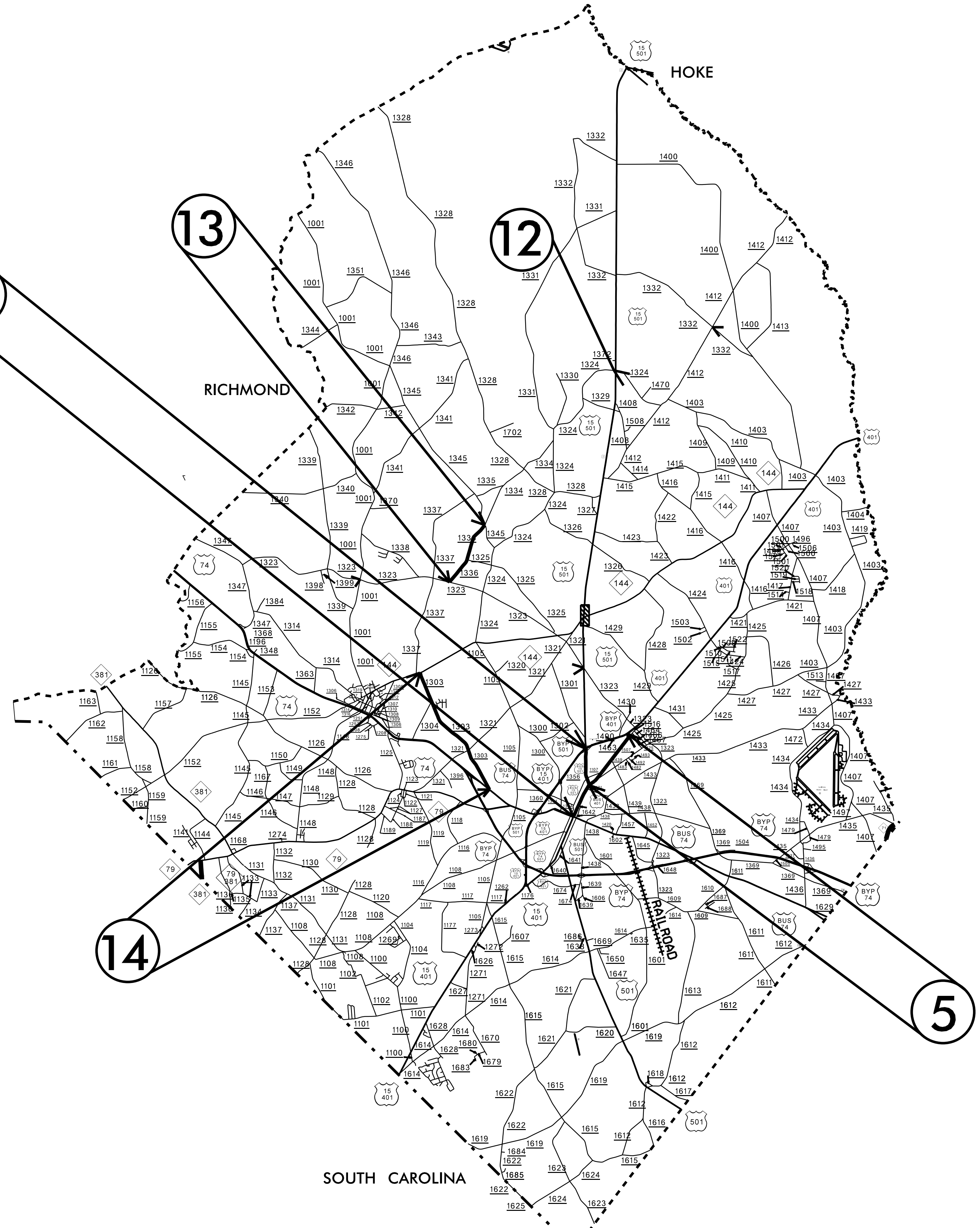


WBS ELEMENT	SHEET NO.
2019CPT.08.06.10471 2019CPT.08.06.10831 2019CPT.08.06.20471 2019CPT.08.06.20831	3





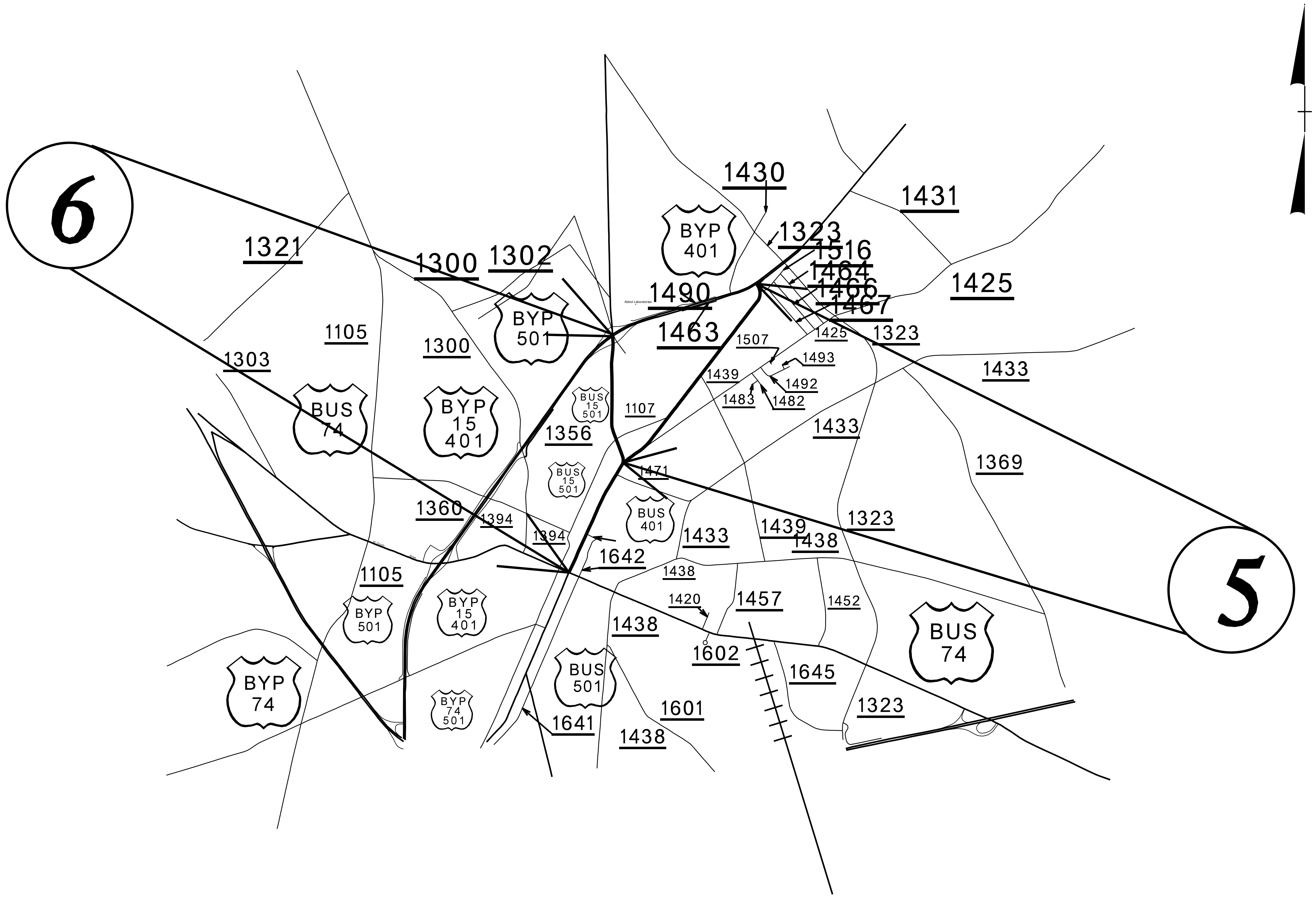
WBS ELEMENT	SHEET NO.
2019CPT.08.06.10471 2019CPT.08.06.10831 2019CPT.08.06.20471 2019CPT.08.06.20831	4



SCOTLAND COUNTY

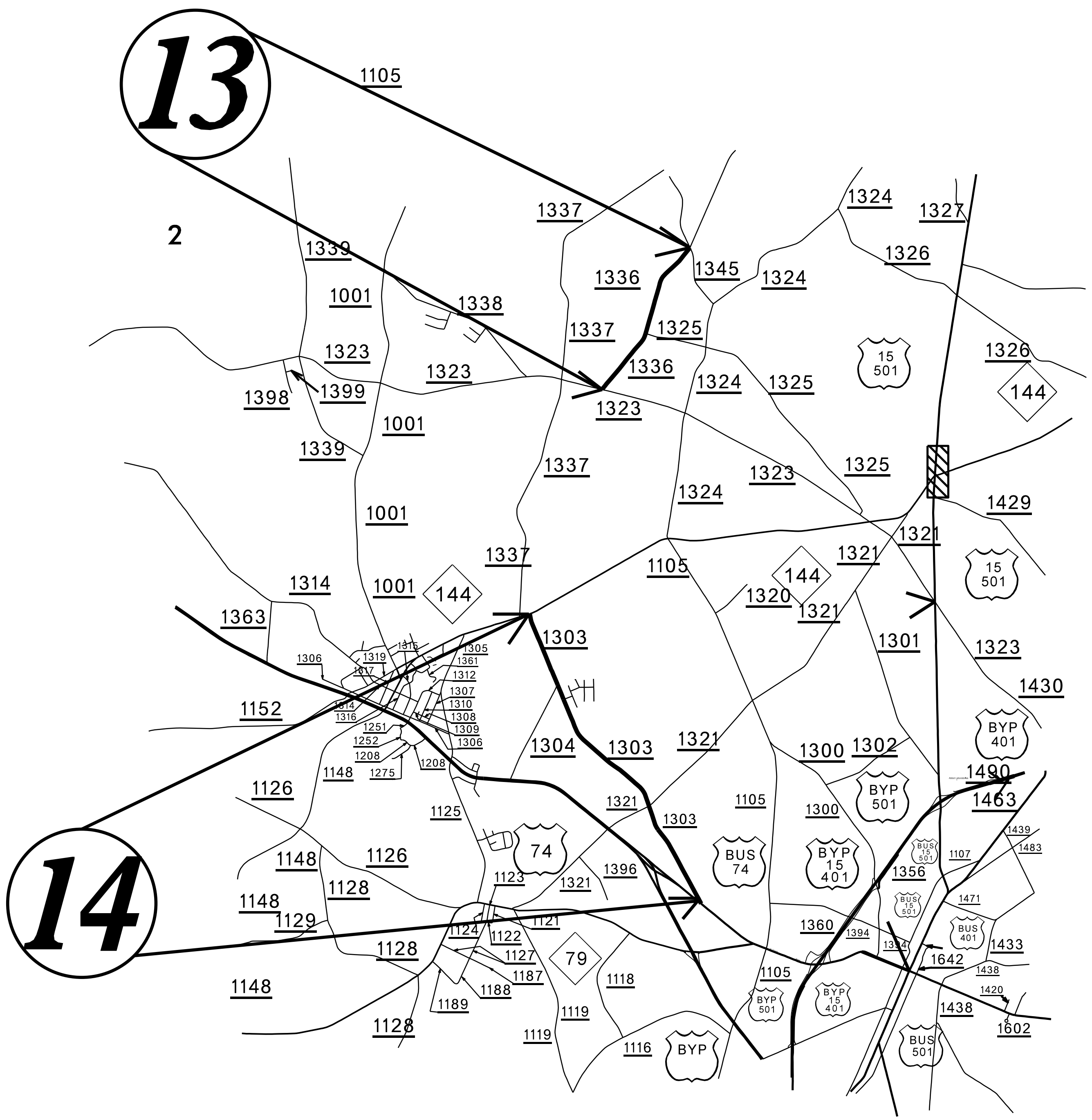
040397

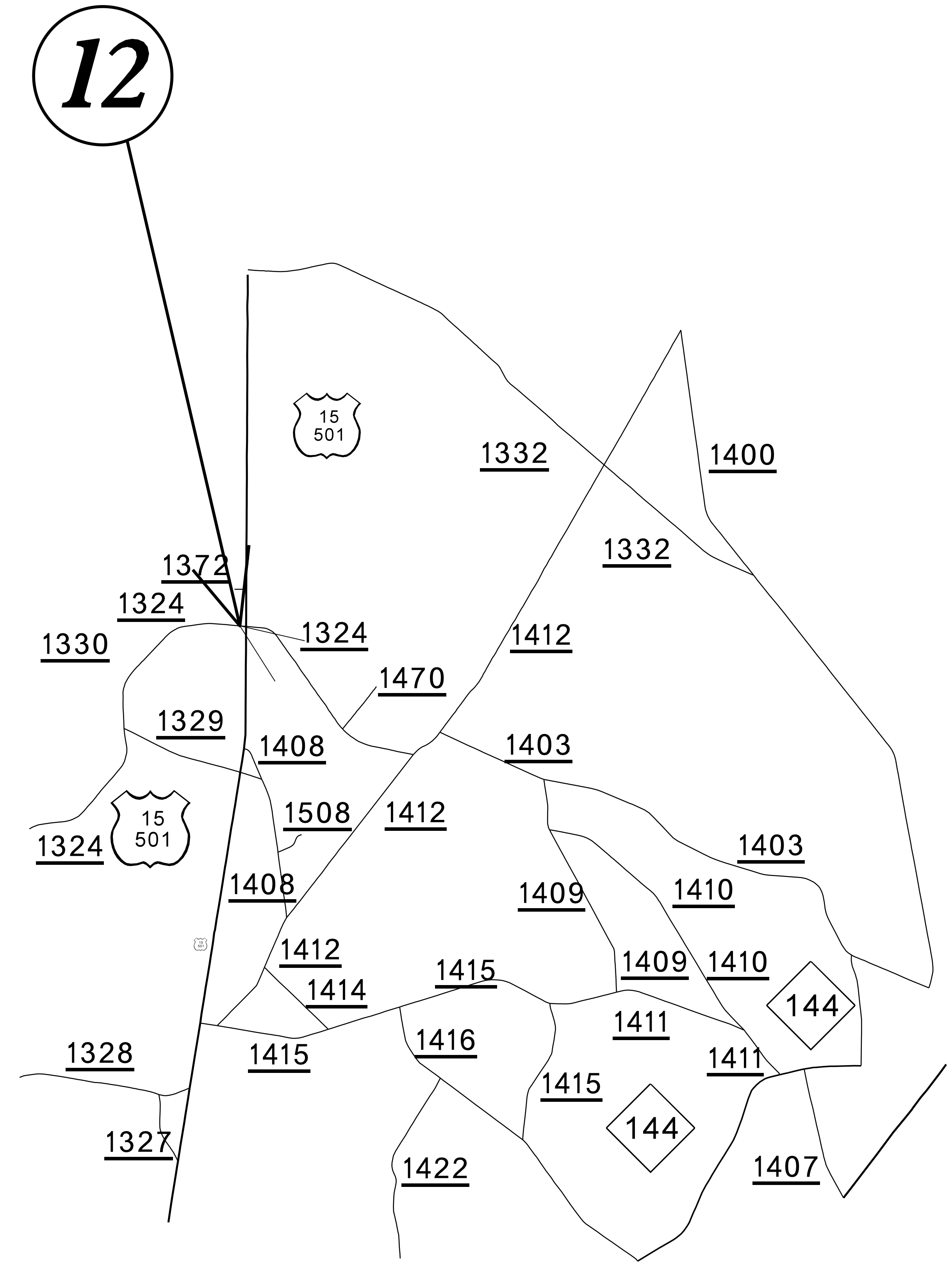
WBS ELEMENT	SHEET NO.
2019CPT.08.06.10471 2019CPT.08.06.10831 2019CPT.08.06.20471 2019CPT.08.06.20831	5



SCOTLAND COUNTY

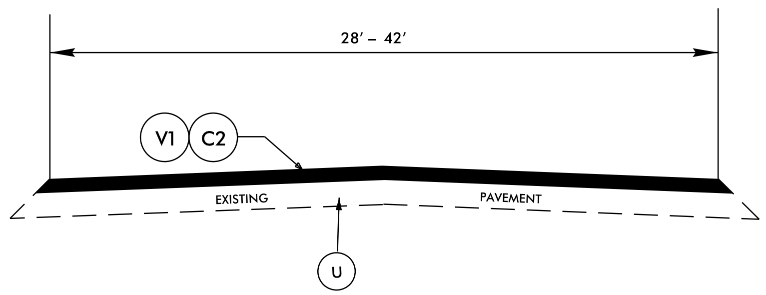
WBS ELEMENT	SHEET NO.
2019CPT.08.06.10471 2019CPT.08.06.10831 2019CPT.08.06.20471 2019CPT.08.06.20831	6



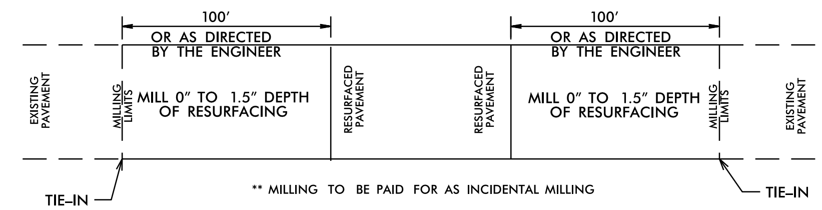


SCOTLAND COUNTY

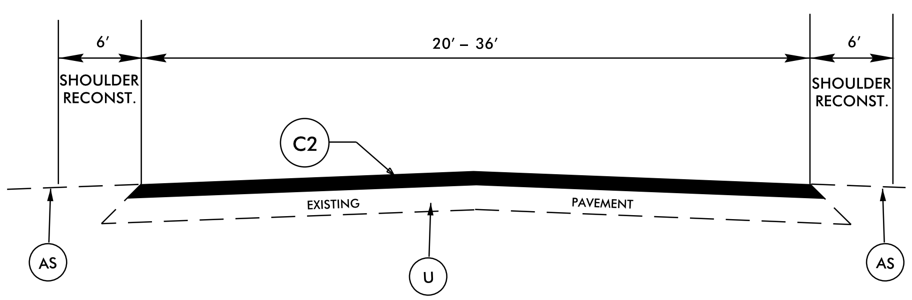
WBS ELEMENT	SHEET NO.
2019CPT.08.06.10471 2019CPT.08.06.10831 2019CPT.08.06.20471 2019CPT.08.06.20831	7



TYPICAL SECTION NO. 1



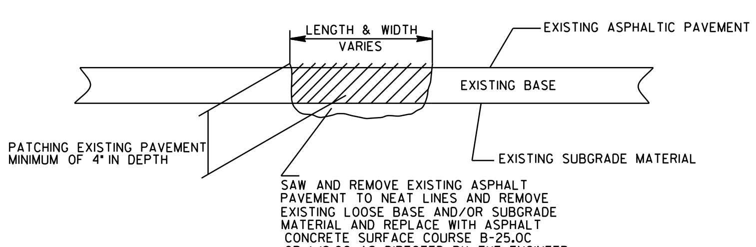
PAVEMENT TIE-IN DETAIL



TYPICAL SECTION NO. 2

DETAILS OF PATCHING EXISTING PAVEMENT PRIOR TO RESURFACING

DETAIL NO. 1



PAVEMENT SCHEDULE

C2	PROP. APPROX. 1.5 " ASPHALT CONC. SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
AS	AGGREGATE SHOULDER BORROW (ASB)
U	EXISTING PAVEMENT
V1	1.5" MILLLING

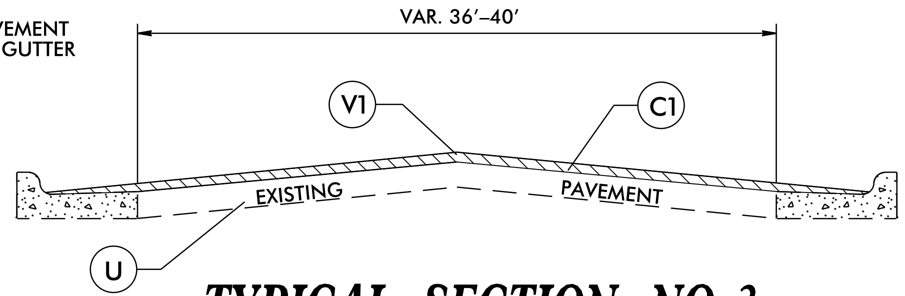
040397

05-FEB-2019 12:20
Projects\Division 8\Hoke Scotland Feb 2019\Hoke_Scotland_2020 addendum.dgn

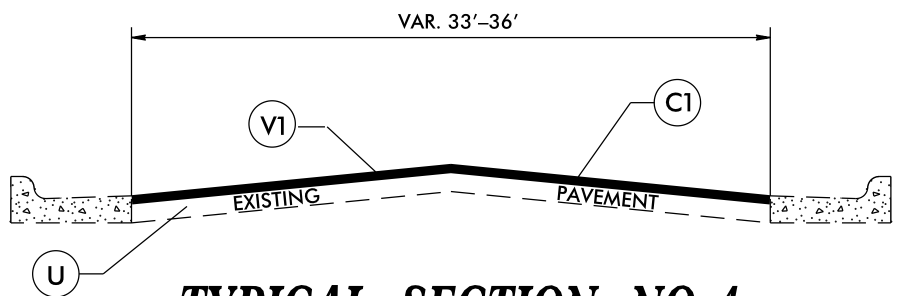
040397

WBS ELEMENT	SHEET NO.
2019CPT.08.06.10471 2019CPT.08.06.10831 2019CPT.08.06.20471 2019CPT.08.06.20831	8

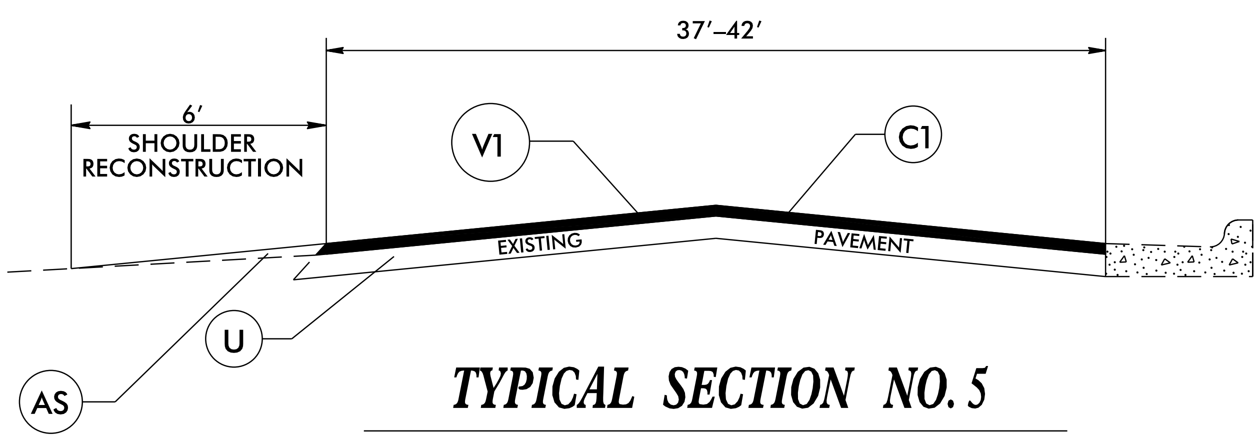
NOTE: MILL PAVEMENT OUT OF GUTTER



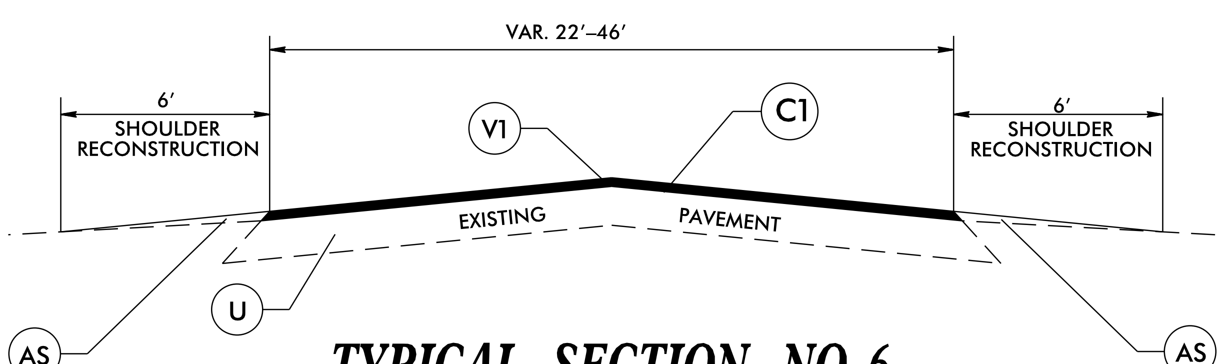
TYPICAL SECTION NO. 3



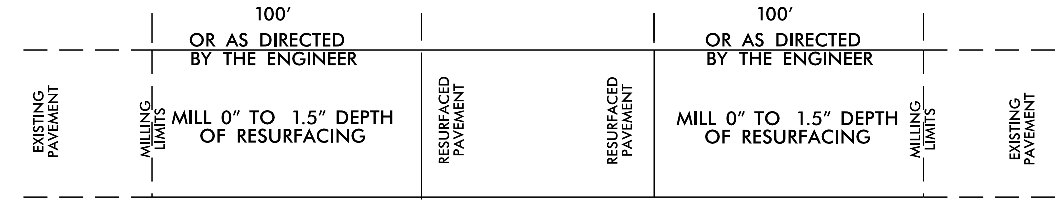
TYPICAL SECTION NO. 4



TYPICAL SECTION NO. 5



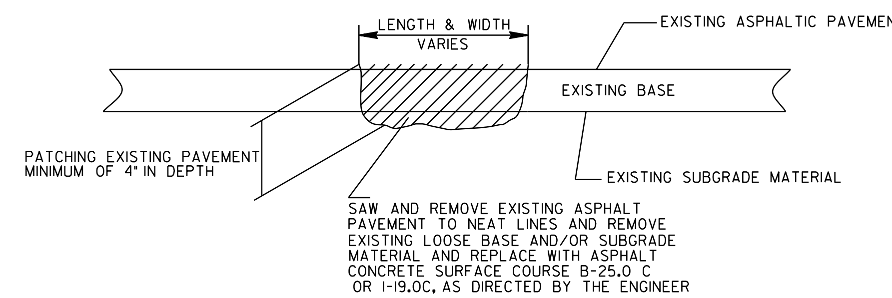
TYPICAL SECTION NO. 6



** MILLING TO BE PAID FOR AS INCIDENTAL MILLING

PAVEMENT TIE-IN DETAIL

DETAILS OF PATCHING EXISTING PAVEMENT PRIOR TO RESURFACING

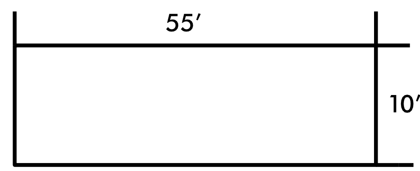


PAVEMENT SCHEDULE

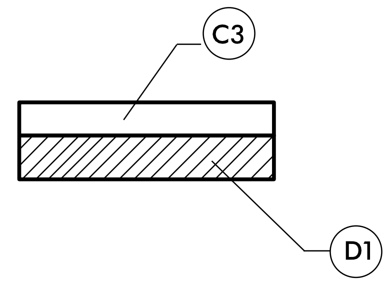
C1	PROP. APPROX. 1.5 " ASPHALT CONC. SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
C2	PROP. APPROX. 1.5 " ASPHALT CONC. SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD.
AS	AGGREGATE SHOULDER BORROW (ASB)
U	EXISTING PAVEMENT
V1	1.5" MILLING

02-JAN-2019 15:16 Projects\Division 8\Hoke Scotland Feb 2019\Hoke_Scotland_2020 typ8.dgn

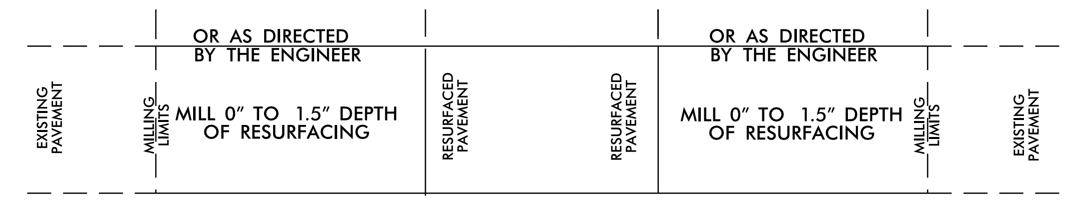
Map NO.12 Spring Hill VFD



(Plan View)



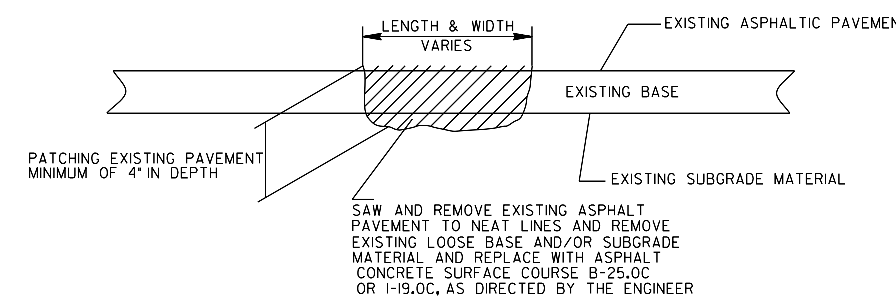
TYPICAL SECTION NO. 7



** MILLING TO BE PAID FOR AS INCIDENTAL MILLING

PAVEMENT TIE-IN DETAIL

DETAILS OF PATCHING EXISTING PAVEMENT PRIOR TO RESURFACING



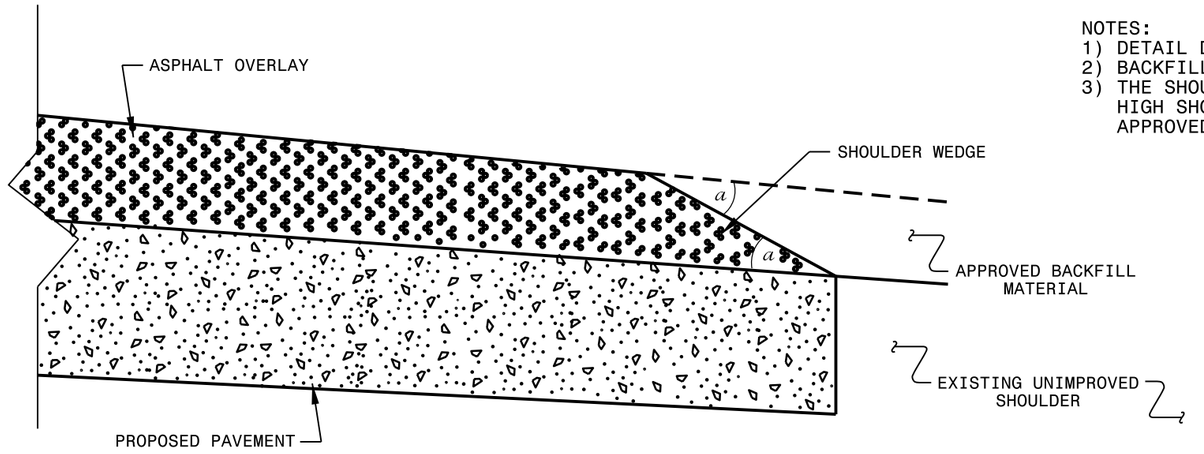
PAVEMENT SCHEDULE

C1	PROP. APPROX. 1.5 " ASPHALT CONC. SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
C2	PROP. APPROX. 1.5 " ASPHALT CONC. SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD.
C3	PROP. APPROX. 2.0 " ASPHALT CONC. SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 220 LBS. PER SQ. YD.
D1	PROP. APPROX. 3.0 " ASPHALT CONC. INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 342 LBS. PER SQ. YD.
AS	AGGREGATE SHOULDER BORROW (ASB)
U	EXISTING PAVEMENT
V1	1.5" MILLING

PROJECT REFERENCE NO.	SHEET NO.
2019CPT.08.06.10471	10

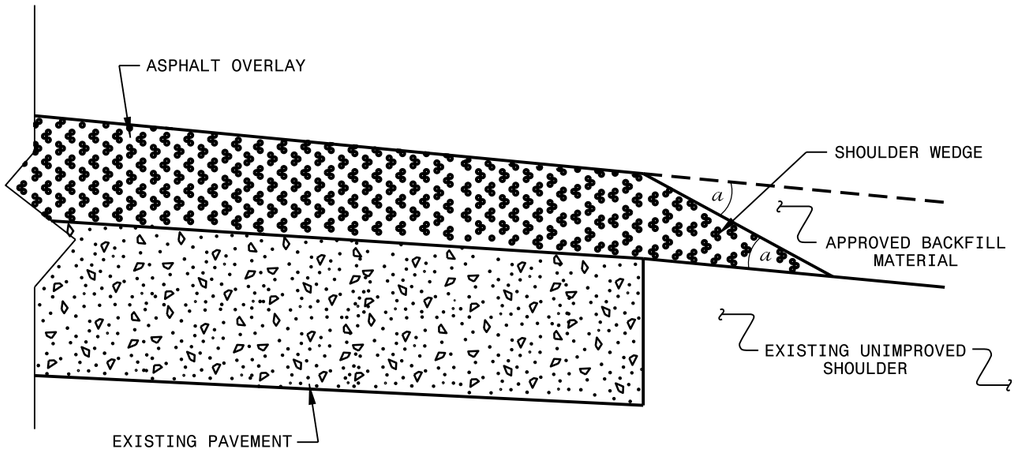
etc

NOTES:
1) DETAIL DOES NOT APPLY TO OGAFC AND ULTRA-THIN BONDED WEARING COURSE.
2) BACKFILL SHOULDER WITH APPROVED MATERIAL.
3) THE SHOULDER WEDGE DEVICE MAY BE DISENGAGED AT PAVED DRIVEWAYS, SIDE STREETS, HIGH SHOULDERS, AND OTHER LOCATIONS NOT FEASIBLE TO CONSTRUCT AS APPROVED BY THE ENGINEER.



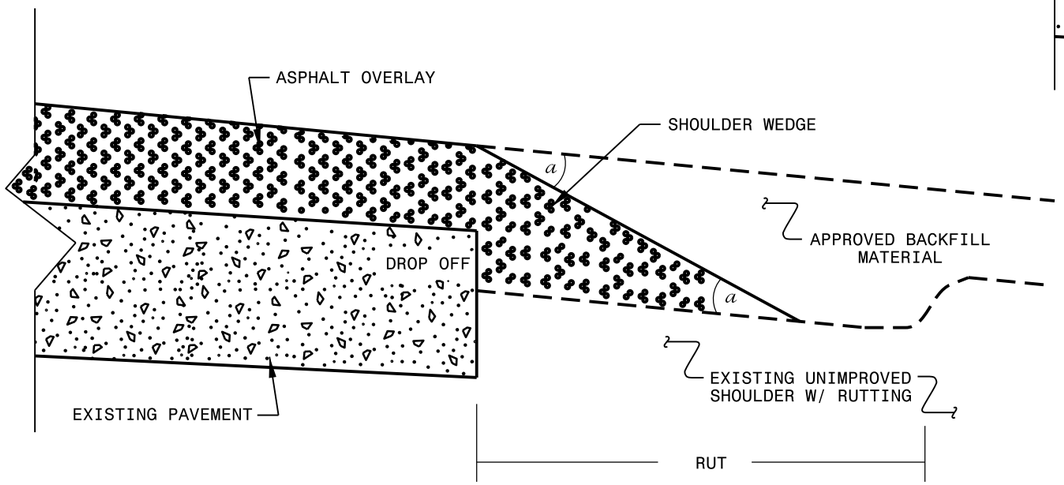
SHOULDER WEDGE DETAIL

(Resurfacing Projects w/ Widening or with Existing Paved Shoulder having no dropoffs)



SHOULDER WEDGE DETAIL

(Resurfacing Projects w/ NO Widening)



SHOULDER WEDGE DETAIL

(Resurfacing Adjacent to Rutted Shoulder)

- SHOULDER WEDGE ANGLE = 30°

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

SHOULDER WEDGE DETAILS

ORIGINAL BY: T.SPELL DATE: 7-19-11
MODIFIED BY: _____ DATE: 2/2/16
CHECKED BY: _____ DATE: _____
FILE SPEC.: s:\usr\details\stand\shoulderwedgedetail.dgn

02-JAN-2019 12:12
S:\Contracts\Contracts\Resurfacing Projects\Division 8\Hoke Scotland Feb 2019\Revised Shoulder Wedge Detail.dgn
pjporter AT CSD-242592

Maps 2 thru 4 are omitted.

PROJECT NO.	SHEET NO.	TOTAL NO.
2019CPT.08.06.10471, etc	11	

SUMMARY OF QUANTITIES

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP NO	LANES	LANE TYPE	FINAL SURFACE TESTING REQUIRED	WARM MIX ASPHALT REQUIRED	LENGTH	WIDTH	SHOULDER RECONSTRUCTION	AGGREGATE SHOULDER BORROW	1.5" MILLING	INCIDENTAL MILLING	INTER-MEDIATE COURSE, I19.0C	SURFACE COURSE, S9.5B	SURFACE COURSE, S9.5C	ASPHALT BINDER FOR PLANT MIX	PATCHING EXISTING PAVEMENT	ADJ. OF MANHOLES	ADJ. OF METER OR VALVE BOXES	INDUCTIVE LOOP SAWCUT	LEAD-IN CABLE (14-2 PAIR)
										MI	FT	SMI	TON	SY	SY	TONS	TONS	TONS	TONS	TONS	EA	EA	LF	LF
2019CPT.08.06.10471	Hoke	1	US HWY 401(LAURINBURG RD)	FROM SR 1208(CRAWFORD WRIGHT RD.) TO START OF MULTI. LN	1	2	2WU	NO	NO	1.78	28	3.56	500	32,420			2,945		197					
TOTAL FOR PROJ NO. 2019CPT.08.06.10471										**1.78**		**3.56**	**500**	**32,420**			**2,945**		**197**					
2019CPT.08.06.10831	Scotland	5	US 401 BUS.(N. MAIN/WAGRAM RD.)	FROM US HWY. 15 BUS.(ABERDEEN RD.) TO US HWY. 401(MCCOLL RD)	5,6	2	2WU	NO	NO	1.43	30	1.44	201	25,571				2,365	142	11	7	4		
		6	US HWY 15 BUS.(ABERDEEN RD./ N. MAIN ST.)	FROM BRIDGE AT US HWY 401 BY-PASS(MCCOLL RD.) TO US HWY. 74 BUS.(W. CHURCH ST.)	3,4,5	2	2WU	NO	NO	1.65	44	0.80	111	38,105				3,525	211	223	33	32	4,726	
TOTAL FOR PROJ NO. 2019CPT.08.06.10831										**3.08**		**2.24**	**312**	**63,676**				**5,890**	**353**	**234**	**40**	**36**	**4,726**	
2019CPT.08.06.20471	Hoke	7	SR 1209 (CHILTON DR.)	RD.) TO SR1244(W. PALMER ST.)	2	2	2WU	NO	NO	0.18	28	0.49	140		586		410		27	11		5		
		8	SR 1244 (W. PALMER ST.)	FROM SR 1311(MOCKINGBIRD HILL RD.) TO SR 1209(W. PALMER ST.)	2	2	2WU	NO	NO	0.84	28	1.61	225		618		1,430		96	212	4	1		
		9	SR 1311 (MOCKINGBIRD HILL RD.)	FROM NC 211(ABERDEEN DR) TO SR 1310(ALEX BAKER RD.)	2	2	2WU	NO	NO	1.12	20	2.16	302		1,193		1,325		88	161				
		10	SR 1413 (PITTMAN GROVE CHURCH RD.)	FROM SR 1422(PHILIPI CH. RD.) TO SR 1103(N. MCPHATTER RD)	2	2	2WU	NO	NO	3.08	22	6.20	868		1,032		4,135		277	302				
		11	SR 1406 (ROCKFISH RD.)	1418(LINDSAY RD.) TO SR 1413(PITTMAN GROVE CHURCH RD.) RD)	2	2	2WU	NO	NO	2.83	22	5.77	808		1,477		4,680		313	273		12	468	28
TOTAL FOR PROJ NO. 2019CPT.08.06.20471										**8.05**		**16.23**	**2,343**		**4,906**		**11,980**		**801**	**959**	**4**	**18**	**468**	**28**
2019CPT.08.06.20	Scotland	12	SPRING HILL VFD	10 X 55	7	2	2WU	NO	NO	0.01	10					11	8		1					
		13	SR 1336 (BROADWELL RD.)	FROM SR 1323 (MCFARLAND RD.) TO SR 1323 (SNEADS GROVE RD.)	2	2	2WU	NO	NO	1.58	22	3.17	444		560		1,780		119	47				
		14	SR 1303 (FIELDCREST RD.)	FROM US HWY 74 BUS. TO NC HWY 144(OLD WIRE RD.)	2	2	2WU	NO	NO	3.11	24	6.37	892		1,664		4,640		311	197				
TOTAL FOR PROJ NO. 2019CPT.08.06.20831										**4.7**		**9.54**	**1,336**		**2,224**	**11**	**6,428**		**431**	**244**				
GRAND TOTAL										**17.61**		**31.57**	**4,491**	**96,096**	**7,130**	**11**	**21,353**	**5,890**	**1,782**	**1,437**	**44**	**54**	**5,194**	**28**

Maps 2 thru 4 are omitted.

PROJECT NO.	SHEET NO.	TOTAL NO.
2019CPT.08.06.10471, etc	12	

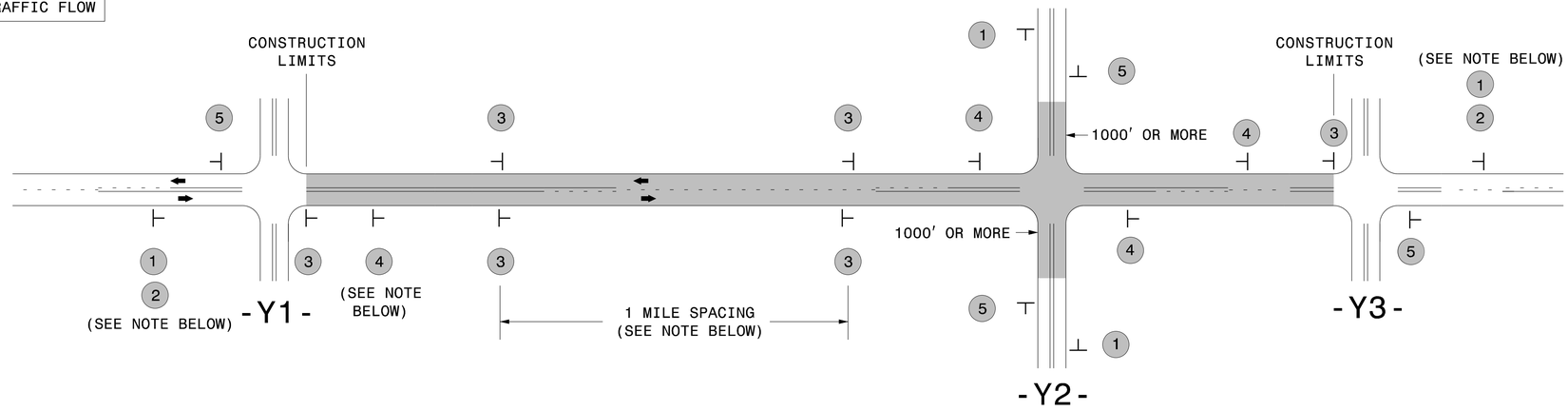
THERMOPLASTIC AND PAINT QUANTITIES

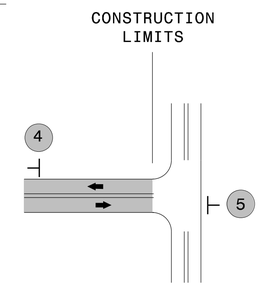
PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP NO	LANES	LANE TYPE	LENGTH	WIDTH	4413000 WK ZN ADVANCE/GENERAL WARNING SIGNING	4457000 TEMP. TRAFFIC CONTROL	4510000 LAW ENFORCEMENT	4685000000-E 4" X 90 M WHITE THERMO	4" X 90 M YELLOW THERMO	4686000000-E 4" X 120 M WHITE THERMO	4" X 120 M YELLOW THERMO	4695000 8" X 90 M YELLOW THERMO	4697000 8" X 120 M WHITE THERMO	4705000 16" X 120 M WHITE THERMO	4710000 24" X 120 M WHITE THERMO	4721000000-E THERMO MSG SCHOOL 120 M	THERMO RXR 120 M	4725000000-E THERMO LT ARROW 90 M	THERMO STR ARROW 90 M	THERMO STR & RT ARROW 90 M	THERMO RT ARROW 90 M	THERMO STR & LT ARROW 90	THERMO 24" YIELD TRIANGLE	4770000 COLD APPLIED PLASTIC PM LINES, TYPE II (4")	4810000000-E 4" WHITE PAINT	4" YELLOW PAINT	4820000000-E 8" YELLOW PAINT	8" WHITE PAINT	4830000 16" WHITE PAINT	4835000000 24" WHITE PAINT	4840000000 PAINT MSG RXR	PAINT MSG SCHOOL	4845000000-N PAINT LT ARROW	PAINT STR & RT ARROW	PAINT STR ARROW	PAINT RT ARROW	PAINT YELD LINE TRIANGLE	4850000000 4" LINE REMOVAL	4900000000-N YELLOW & YELLOW MARKERS	CRYSTAL & RED MARKERS	4905000000-N SNOWPL. MARKERS Y & Y MARKERS	SNOWPL. MARKERS C & R MARKERS
								MI	FT	SF	LS	HR	LF	LF	LF	LF	LF	LF	LF	LF	EA	EA	EA	EA	EA	EA	EA	EA	LF	LF	LF	LF	LF	LF	LF	EA	EA	EA	EA	EA	EA	LF	EA	EA	EA	EA
2019CPT.08	Hoke	1	US HWY 401(LAURINBURG RD)	FROM SR 1208(CRAWFORD WRIGHT RD.) TO START OF MULTI. LN	1	2	2WU	1.78	28	436	*		19,090		56	10,118																									120			
TOTAL FOR PROJ NO. 2019CPT.08.06.10471								**1.78**		**436**			**19,090**		**56**	**10,118**																									**120**			
													19,090		**10,174**																									**120**			
2019CPT.08.06.10831	Scotland	5	US 401 BUS.(N. MAIN/WAGRAM RD.)	FROM US HWY. 15 BUS.(ABERDEEN RD.) TO US HWY. 401(MCCOLL RD)	5,6	2	2WU	1.43	30	161			14,986		132	8,745															15,200	8,800											125			
		6	US HWY 15 BUS.(ABERDEEN RD./ N. MAIN ST.)	FROM BRIDGE AT US HWY 401 BY-PASS(MCCOLL RD.) TO US HWY. 74 BUS.(W. CHURCH ST.)	3,4,5	2	2WU	1.65	44	185	*	200	9,820	238	1,544	17,500	128	1,480	373	880		8	33	5	18	2		10	978	11,201	11,100	128	1,480	373	880	8		33	18	5	2	10	978	6		190	63
TOTAL FOR PROJ NO. 2019CPT.08.06.10831								**3.08**		**346**		**200**	**24,806**	**238**	**1,676**	**26,245**	**128**	**1,480**	**373**	**880**		**8**	**33**	**5**	**18**	**2**		**10**	**978**	**26,401**	**19,900**	**128**	**1,480**	**373**	**880**	**8**		**33**	**18**	**5**	**2**	**10**	**978**	**6**		**315**	**63**
													25,044		**27,921**							**8**			**68**						**46,301**		**1,608**				**8**		**68**				**6**		**378**	
2019CPT.08.06.20471	Hoke	7	SR 1209 (CHILTON DR.)	US401(LAURINBURG RD.) TO SR1244(W. PALMER ST.)	2	2	2WU	0.18	28	32																			2,149	2,594	50						1	1						
		8	SR 1244 (W. PALMER ST.)	FROM SR 1311(MOCKINGBIRD HILL RD.) TO SR 1209(W. PALMER ST.)	2	2	2WU	0.84	28	414																			8,732	7,511	70			172		12	5							
		9	SR 1311 (MOCKINGBIRD HILL RD.)	FROM NC 211(ABERDEEN DR) TO SR 1310(ALEX BAKER RD.)	2	2	2WU	1.12	20	444	*																			11,575	11,810			86	114	4							
		10	SR 1413 (PITTMAN GROVE CHURCH RD.)	FROM SR 1422(PHILIPICH. RD.) TO SR 1103(N. MCPHATTER RD)	2	2	2WU	3.08	22	585																			32,771	24,713			92	59	2							
		11	SR 1406 (ROCKFISH RD.)	FROM C.J. N. OF SR 1418(LINDSAY RD.) TO SR 1413(PITTMAN GROVE CHURCH RD.)	2	2	2WU	2.83	22	1,277		40																			31,872	32,370	393		94	180	2		8	1	4	5				
TOTAL FOR PROJ NO. 2019CPT.08.06.20471								**8.05**		**2,752**		**40**																	**87,099**	**78,998**	**513**		**272**	**525**	**8**	**12**	**14**	**2**	**4**	**5**				
																													166,097		**513**				**20**		**25**							
2019CPT.08.06.20831	Scotland	12	SPRING HILL VFD	10 X 55	7	2	2WU	0.01	10																																				
		13	SR 1336 (BROADWELL RD.)	FROM SR 1323 (MCFARLAND RD.) TO SR 1323 (SNEADS GROVE RD.)	2	2	2WU	1.58	22	177	*																			16,748	9,451														
		14	SR 1303 (FIELDCREST RD.)	FROM US HWY 74 BUS. TO NC HWY 144(OLD WIRE RD.)	2	2	2WU	3.11	24	349																			33,967	26,077	231		188	302	4	12	6			5				
TOTAL FOR PROJ NO. 2019CPT.08.06.20831								**4.7**		**526**																			**50,715**	**35,528**	**231**		**188**	**302**	**4**	**12**	**6**			**5**				
																													86,243		**231**				**16**		**11**							
GRAND TOTAL								**17.61**		**4,060**	**1**	**240**	**43,896**	**238**	**1,732**	**36,363**	**128**	**1,480**	**373**	**880**		**8**	**33**	**5**	**18**	**2**		**10**	**978**	**164,215**	**134,426**	**872**	**1,480**	**833**	**1,707**	**20**	**24**	**53**	**20**	**9**	**12**	**10**	**978**	**126**		**315**	**63**
													44,134		**38,095**							**8**			**68**						**298,641**		**2,352**				**44**		**104**						**126**		**378**	

PROJ. REFERENCE NO.	SHEET NO.
2019CPT.08.06.10471, etc	TMP-1

SIGNING FOR RESURFACING PROJECTS

LEGEND
- ⊢ STATIONARY SIGN
- ⬅ DIRECTION OF TRAFFIC FLOW





TEE INTERSECTION

MAINLINE (-L-) SIGNING

SIGNING NOTES AND PLACEMENT PER DIRECTION

1 ROAD WORK AHEAD — W20-1, 48″ X 48″
2 NEXT XX MILES — W7-3aP, 24″ X 18″

PLACE 1000′ PRIOR TO BEGINNING OF CONSTRUCTION LIMITS.
ONLY USED ON -Y- LINES IF RESURFACING LIMITS EXTEND 1000′ ALONG -Y- LINE.

#2 SIGN ONLY USED WHEN CONSTRUCTION LIMITS ARE 2 OR MORE MILES IN LENGTH. ROUND UP TO NEXT WHOLE NUMBER.(NO FRACTIONAL OR DECIMAL NUMBERS)

3 LOWSOFT SHOULDER — SP 13107, 48″ X 48″

- PLACE INITIALLY AT THE CONSTRUCTION LIMITS AND SPACE 1 MILE APART THEREAFTER.
- AT TEE INTERSECTIONS INSTALL INITIALLY ½ MILE FROM INTERSECTION AND SPACE 1 MILE APART THEREAFTER.

4 ROAD UNDER CONST — SP 13106, 48″ X 48″

- THESE ARE FOR -Y- LINES THAT ARE "THROUGH" ROADWAYS.
- DEAD END AND SUBDIVISION ROADS ARE NOT "THROUGH" ROADWAYS.
- INSTALL 500′ +/- FROM EACH -Y- LINE APPROACH AS SHOWN ABOVE.
- FOR MULTIPLE -Y- LINES THAT ARE SEPARATED BY 0.25 MILES OR LESS, TREAT AS A SINGLE UNIT AND INSTALL WITHIN 500′ OF EACH APPROACH.
- A MAXIMUM OF 2 SIGN SETS PER MILE. DO NOT INSTALL WHEN -Y- LINES ARE WITHIN 0.5 MILES FROM "END ROAD WORK" SIGN.
- FOR TEE INTERSECTIONS, INSTALL WITHIN 500′ +/- OF THE INTERSECTION ALONG -L- LINE.

5 END ROAD WORK — G20-2 A, 48″ X 24″

PLACE 500′ FOLLOWING THE END OF CONSTRUCTION LIMITS OR AS SHOWN WHEN WORK ENDS AT A 3-WAY TEE INTERSECTION.

THE ABOVE SIGNS ARE ALL THAT ARE REQUIRED FOR A CONTRACTOR TO BEGIN A RESURFACING CONTRACT. ANY ADDITIONAL SIGNS REQUESTED BY NCDOT DIVISIONS SHALL BE INSTALLED WITHIN 7 BUSINESS DAYS OF THE START OF CONTRACT WORK.

MAPS LESS THAN 2 MILES

FOR RESURFACING MAPS WITH CONSTRUCTION LIMITS LESS THAN 2 MILES IN LENGTH, NO STATIONARY SIGNS ARE REQUIRED. USE PORTABLE "ROAD UNDER CONSTRUCTION" OR "ROAD WORK AHEAD" SIGNS IN LIEU OF STATIONARY ADVANCE WARNINGS SIGNS.

-Y- LINE SIGNING

NO REQUIRED STATIONARY SIGNING FOR THE FOLLOWING -Y- LINE CONDITIONS:

1) LESS THAN 1000′ OF RESURFACING ALONG -Y- LINE
2) SUBDIVISION ROADS
3) DEAD END ROADS

WHEN PAVING/CONSTRUCTION ACTIVITIES PROCEED ACROSS AN UNSIGNED -Y- LINE, PORTABLE ADVANCE WARNING SIGNS SHALL BE USED ALONG THE -Y- LINE AS SHOWN BELOW. REMOVE UPON COMPLETION OF WORK.

ROAD WORK AHEAD — W20-1, 48″ X 48″
PLACED 500′ IN ADVANCE OF FLAGGER.

W20-7 A, 48″ X 48″
PLACED 250′ IN ADVANCE OF FLAGGER.

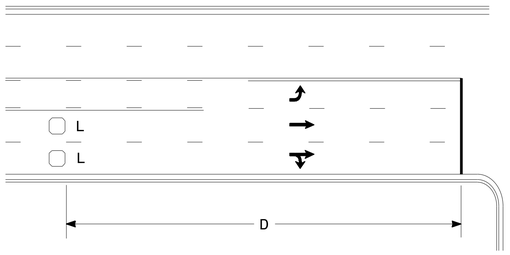
DIVISION OF HIGHWAYS · STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION · WORK ZONE TRAFFIC CONTROL

ADVANCE WARNING SIGNS FOR RURAL AND SUBURBAN 2-LANE ROADWAY RESURFACING

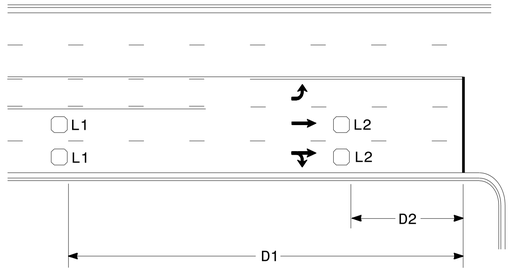
5/15/2017
SATMU\WZTC\Resurfacing\2L2W & AST Resurfacing Details\Resurfacing_AdvWarn_2Ln.dgn
User:keddis

PROJECT REFERENCE NO.	SHEET NO.
2019CPT.08.06.10471, etc	SIG-1

High Speed Detection
(≥40 mph)



OR



Speed Limit mph	D ft
40	250
45	300
50	355
55	420

L = 6ft X 6ft
Wired in series for TS1 Controllers
Wired separately for TS2, 170, and 2070L Controllers

Volume Density Operation

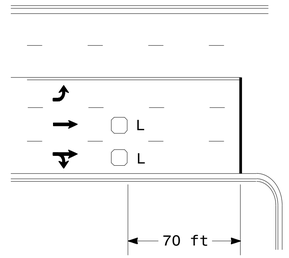
Speed Limit mph	D1 ft	D2 ft
40	250	80
45	300	90
50	355	100
55	420	110

L1 = 6ft X 6ft
Wired in series

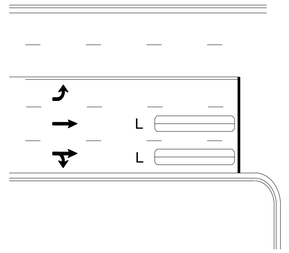
L2 = 6ft X 6ft
Wired in series

"Stretch" Operation

Low Speed Detection
(≤35 mph)



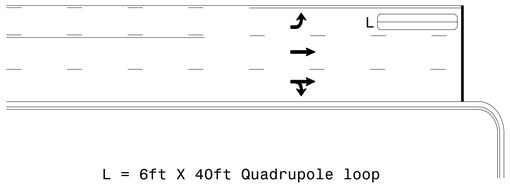
OR



L = 6ft X 6ft
Wired in series

L = 6ft X 40ft
Quadrupole loop, wired separately

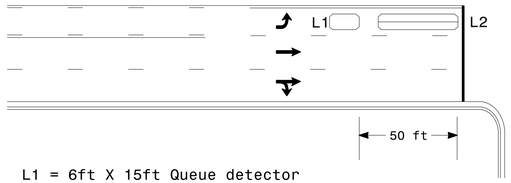
Left Turn Lane Detection



L = 6ft X 40ft Quadrupole loop

Presence Loop Detection

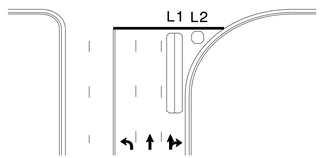
OR



L1 = 6ft X 15ft Queue detector
L2 = 6ft X 40ft Quadrupole loop

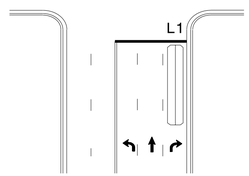
Queue Loop Detection

Right Turn Lane Detection

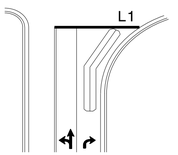


Shared Lane/
Wide Radius Turn

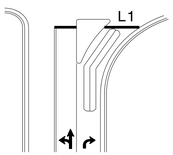
L1 = 6ft X 40ft Quadrupole loop
L2 = 6ft X 6ft [Minimum] Presence loop
Wired separately



Standard Turn

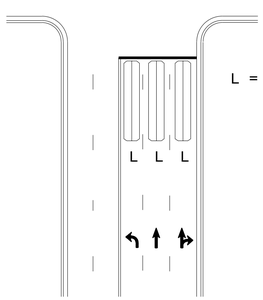


Wide Radius Turn



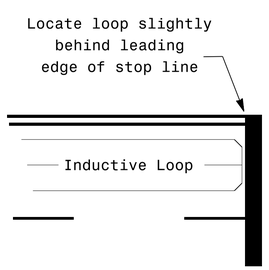
Channelized Turn

Side Street Detection



L = 6ft X 40ft
Quadrupole loop
Wired to separate detectors/channels

Presence Loop Placement at Stop Lines



Note:
Loop may be located in advance of stop line under any of the following conditions:
1) stop line is greater than 15′ from edge of intersecting roadway
2) loop detects a permissive or protected/permissive left turn
3) for an exclusive right turn lane

Recommended Number of Turns

Single 6′ X 6′ loop
(when wired separately):

Length of Lead-in ft	Number of Turns
< 250	3
250-375	4
375-525	5
> 525	6

Quadrupole loops: Use 2-4-2 turns

6′ X 15′ Loops:
Lead-in < 150′, use 2 turns
Lead-in > 150′, use 3 turns

Prepared in the Offices of:
Transportation Mobility and Safety Division
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
Signal Design Section
750 N.Greenfield Pkwy,Garner,NC 27529

Typical Signal Loop Locations

PLAN DATE: January 2015	REVIEWED BY: JPG
PREPARED BY: PLA	REVIEWED BY:

SCALE
N/A

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 23489 ENGINEER PAMELA L. ALEXANDER

DocuSigned by: P L Alexander B4756E00CE4E46D...
1/30/2015
DATE

SIG. INVENTORY NO.

30-JAN-2015 12:39
S:\Traffic\Signal\Signal Design Section\Eastern Region\looptypical2015.dgn
palexander