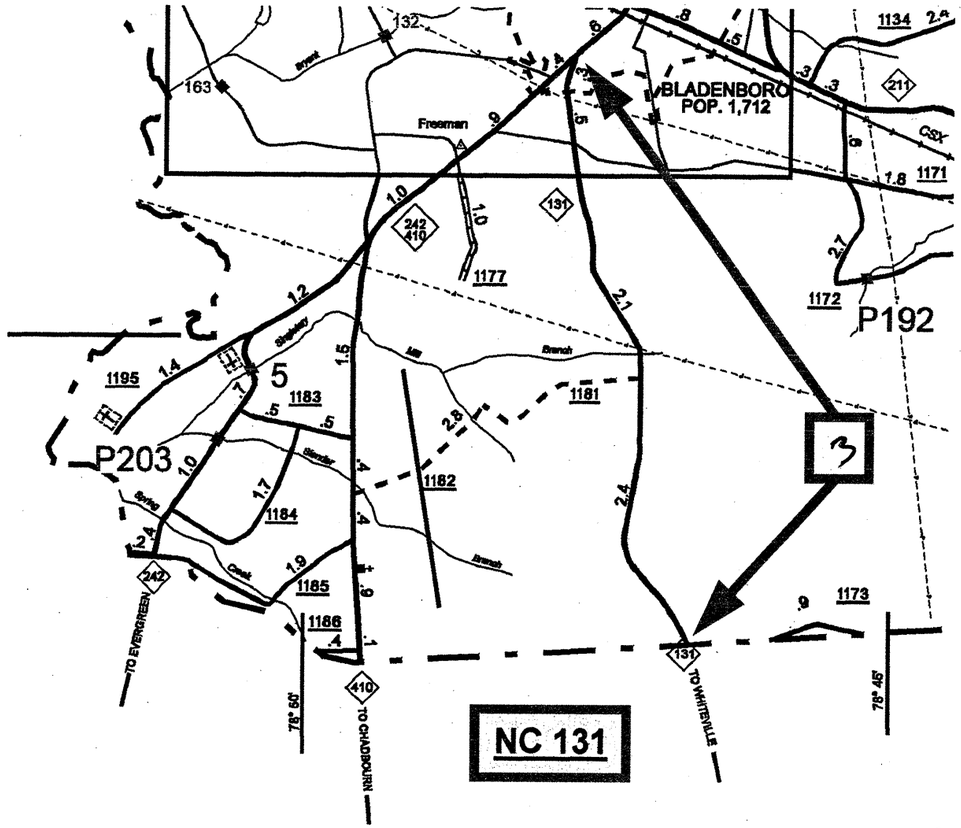
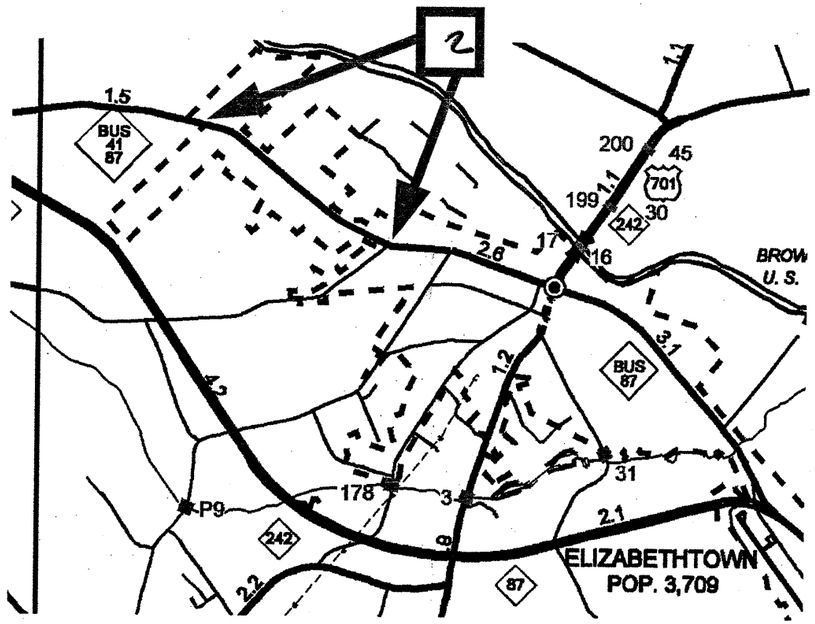
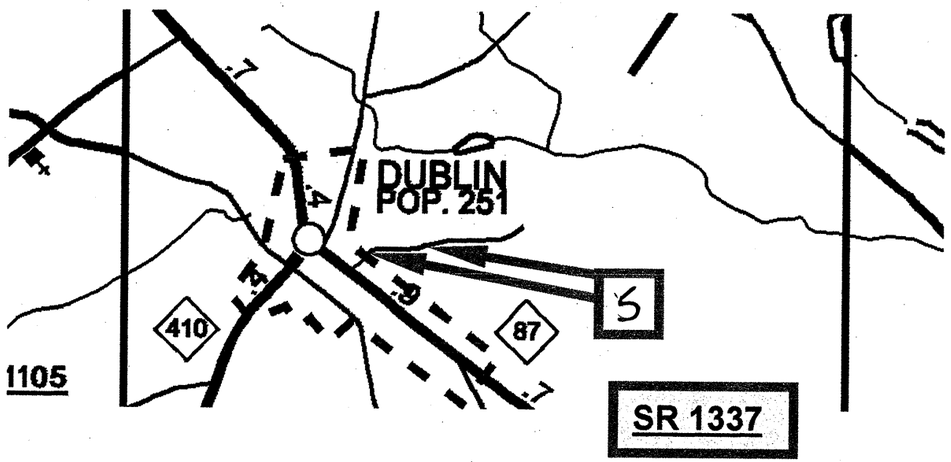
RESURFACING MAPS - BLADEN COUNTY – 06 LET



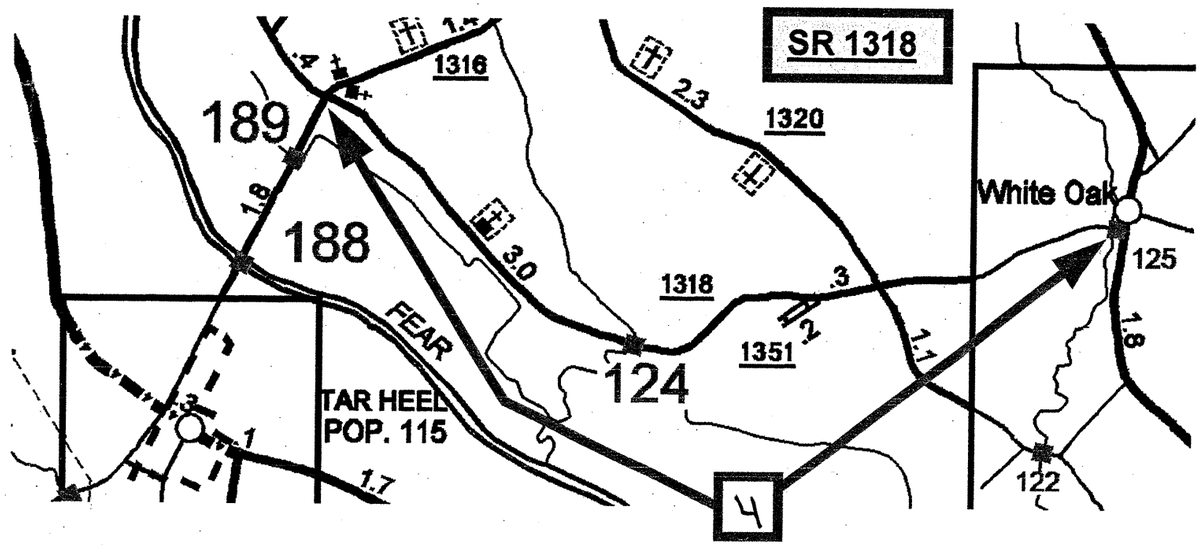
NC 131



NC 41/87

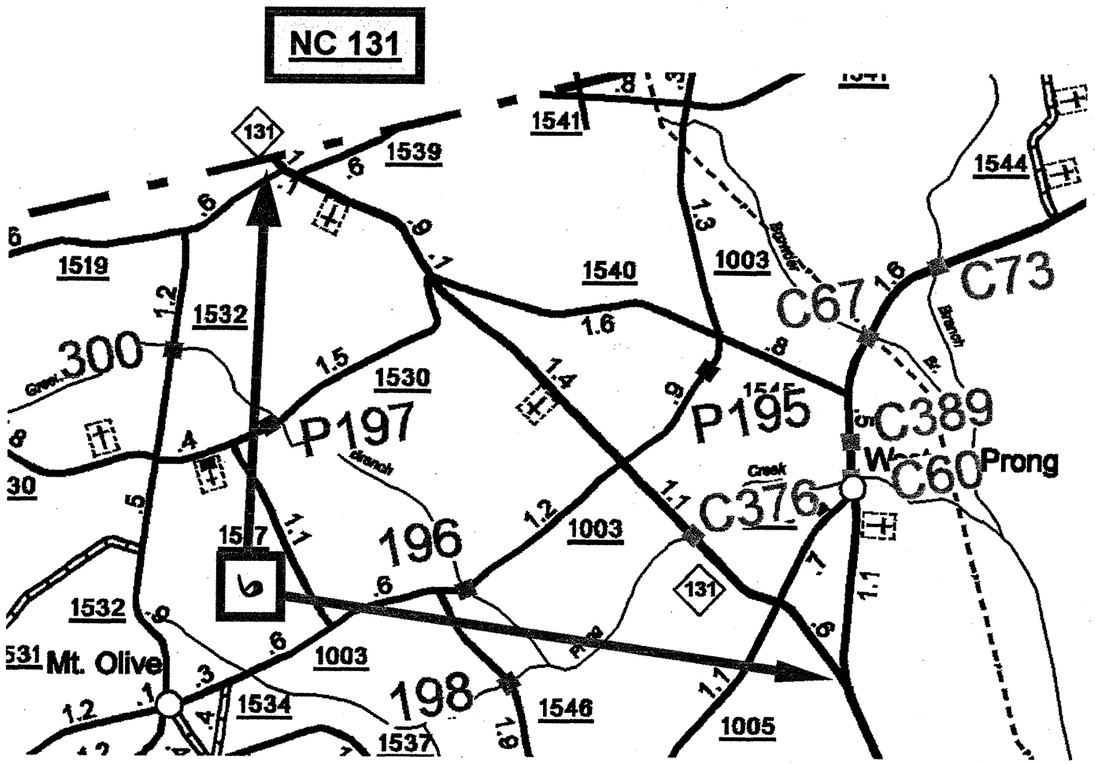


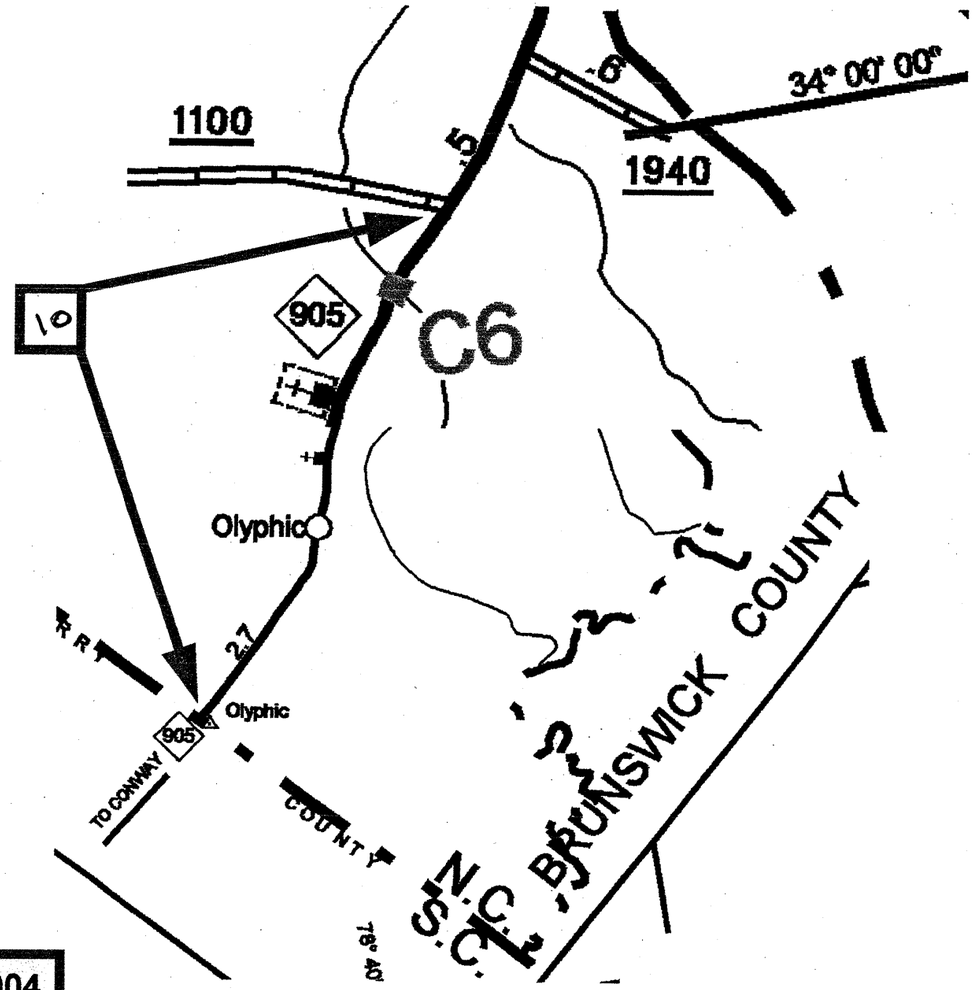
SR 1337

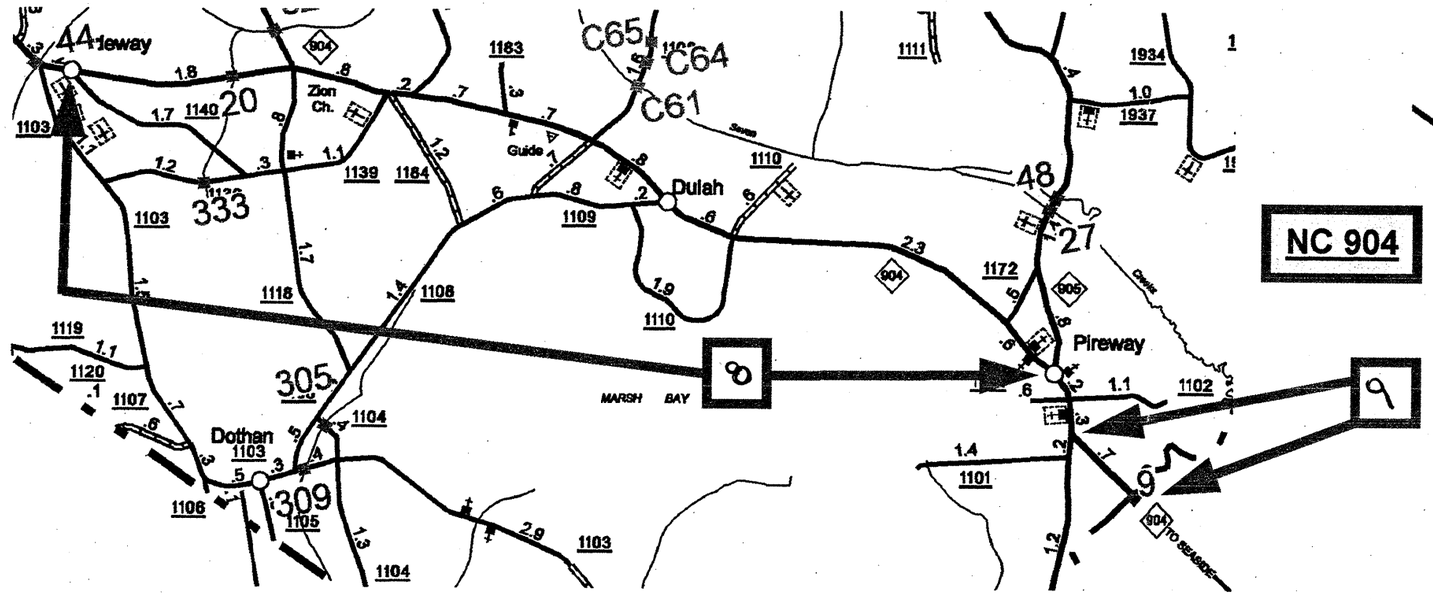


SR 1318

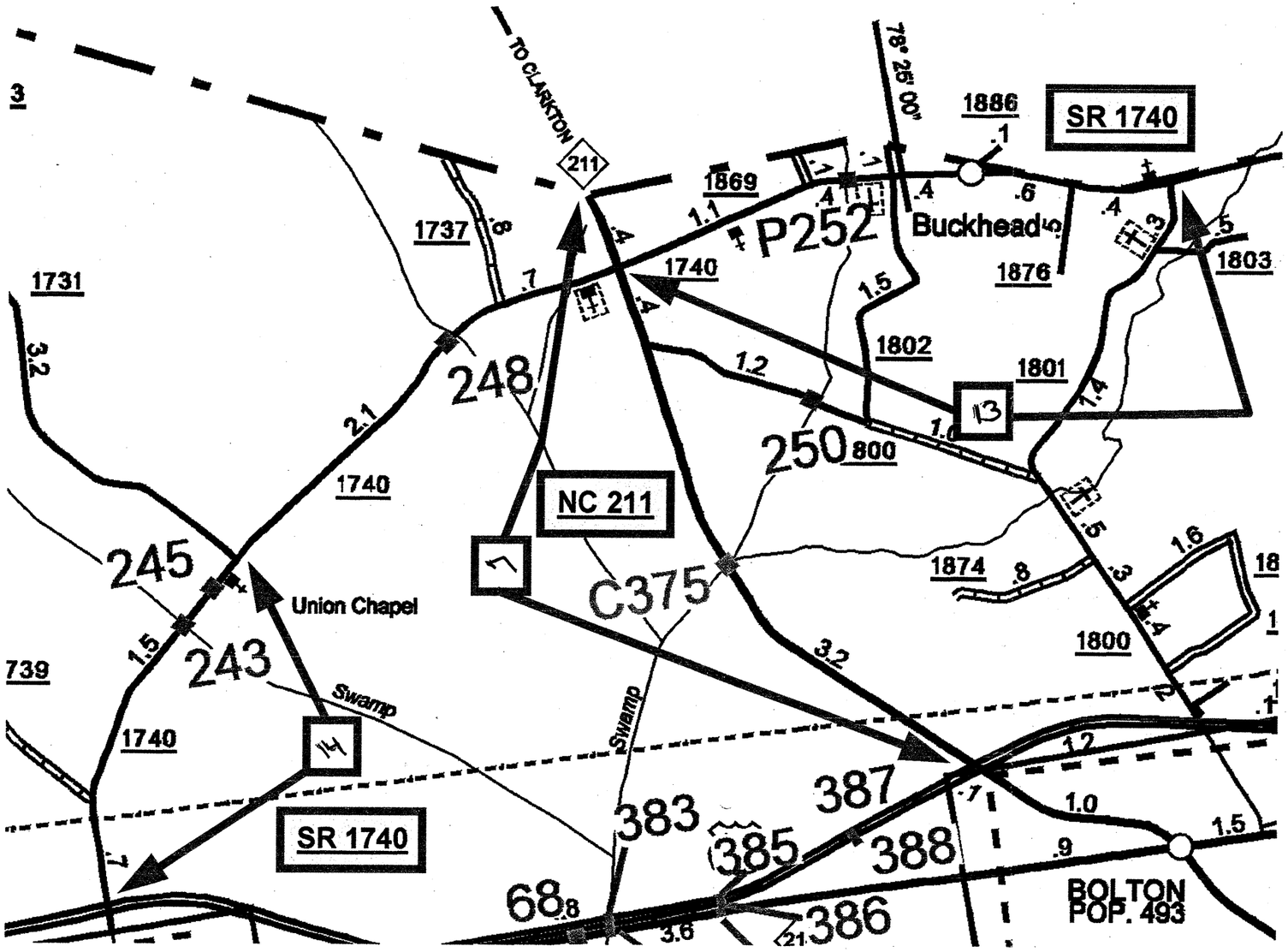
RESURFACING MAPS - COLUMBUS COUNTY – 06 LET

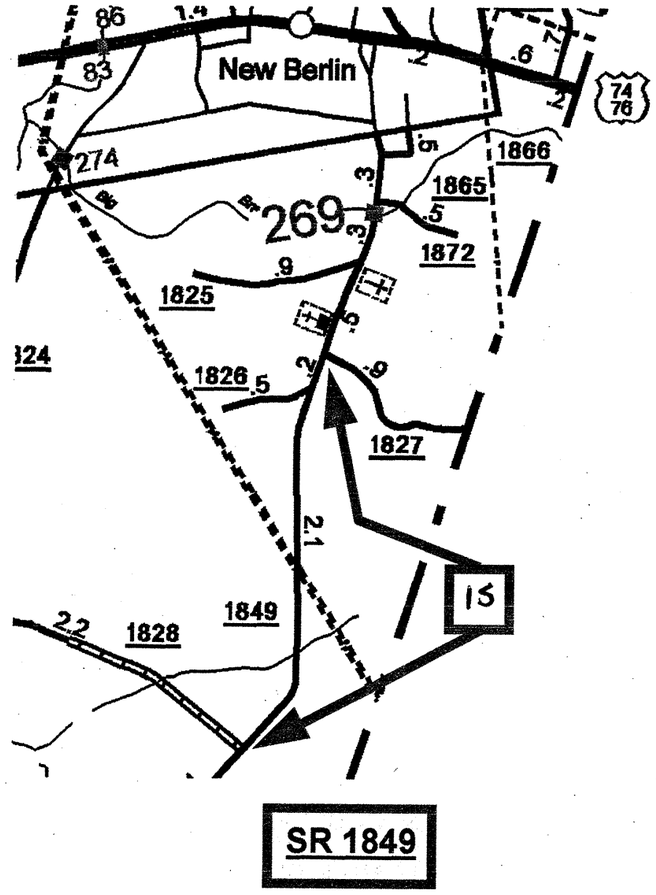




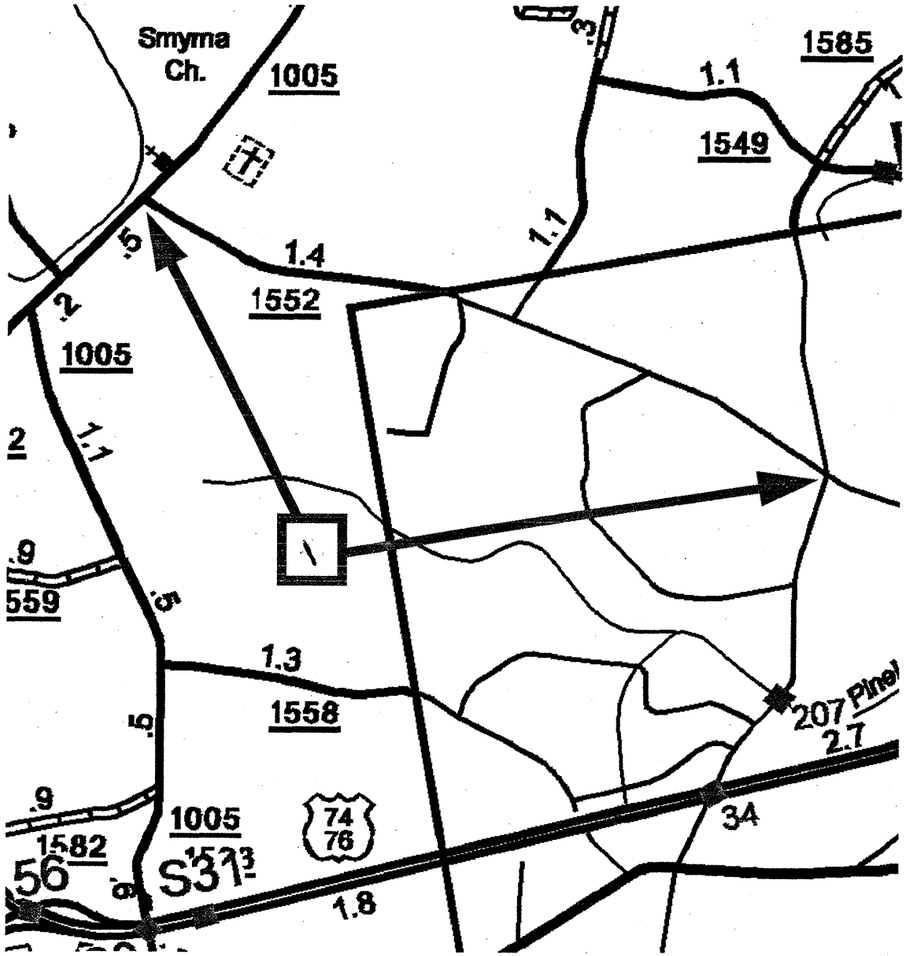


RESURFACING MAPS - COLUMBUS COUNTY – 06 LET

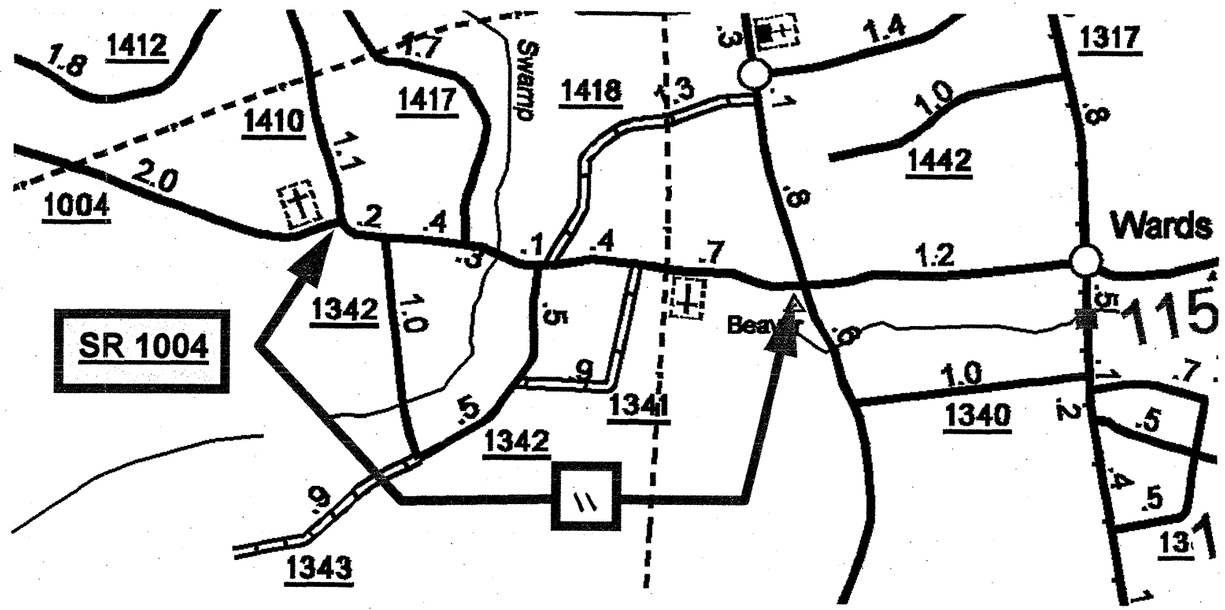




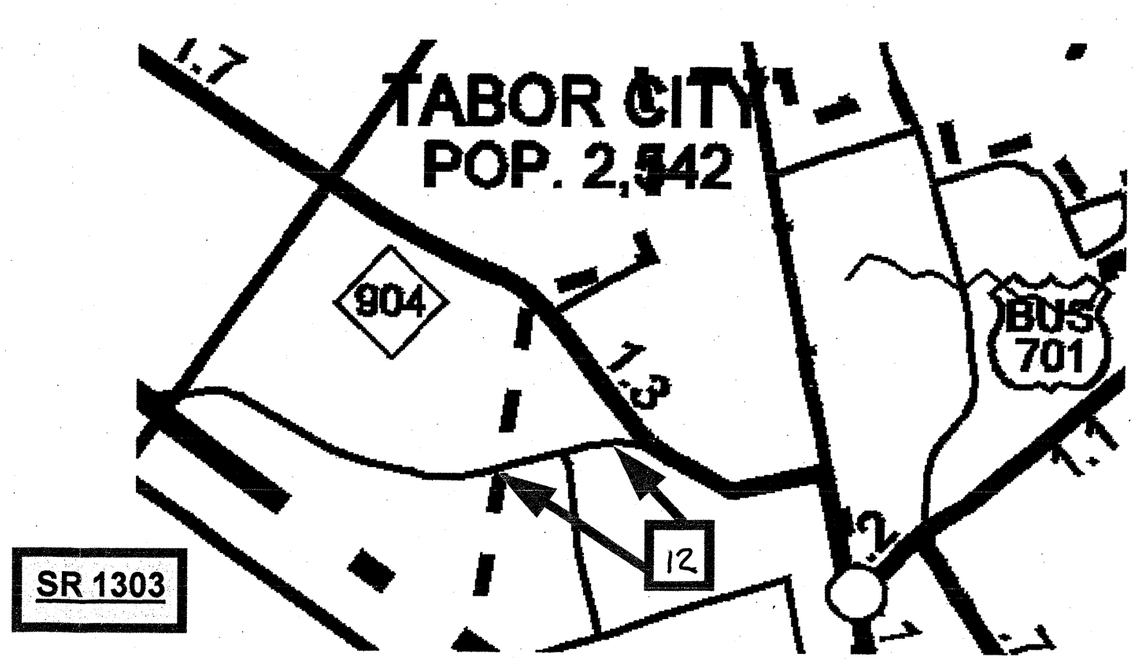
RESURFACING MAPS - COLUMBUS COUNTY – 06 LET



SR 1552



SR 1004



SR 1303

PROJECT NO.	SHEET NO.	TOTAL NO.
41095, 6CR.10091.24	5	
6CR.20091.24, ETC.		

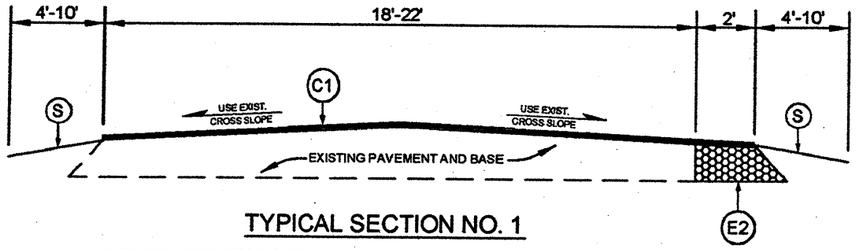
SUMMARY OF QUANTITIES

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP NO	LENGTH MI	WIDTH FT	INCIDENTAL STONE BASE TONS	SHOULDER RECONSTRUCTION SMI	0.0" TO 1.5" MILLING SY	BASE COURSE, B25.0B TONS	SURFACE COURSE, S9.5B TONS	SURFACE COURSE, SF9.5A TONS	PG 64-22 PLANT MIX TONS	PATCHING EXISTING PAVEMENT TONS	MANHOLES EA	SEED & MULCHING AC	PAVED TRENCHING (2" PVC) FT	UNPAVED TRENCHING (2" PVC) FT	JUNCTION BOX (STANDARD) EA	2" RISER W/WEATHERHEAD EA	INDUCTIVE LOOP LF	LEAD-IN CABLE LF
41095	Columbus	1	SR 1552	FROM SR 1585 MP 2.34 TO SR 1005 MP 548	1	3.14	18	75	6.28		118		2,785	186	300		7.61						
TOTAL FOR PROJ NO. 41095						**3.14**		**75**	**6.28**		**118**		**2,785**	**186**	**300**		**7.61**						
6CR.10091.24	Bladen	2	NC 41/87	FROM WCL E'TOWN MP 10.02 TO SR 1155 MP 11.71	2	1.69	24	41	3.38		66	2867		175	50	7	4.10						
		3	NC 131A	FROM COL CO LINE MP 0.0 TO NC 242 MP 5.08	3	4.79	24	115	9.58		3701	5716		502	180		11.61						
		"	"		4	0.29	30			2382		441		26	30								
TOTAL FOR MAP NO. 3						**5.08**		**115**	**9.58**	**2382**	**3701**	**6157**		**528**	**210**		**11.61**						
TOTAL FOR PROJ NO. 6CR.10091.24						**6.77**		**156**	**12.96**	**2382**	**3767**	**9024**		**703**	**260**	**7**	**15.71**						
6CR.20091.24	Bladen	4	SR 1318	FROM NC 53 MP 0 TO SR 1316 MP 4.72	1	4.72	22	113	9.44	1033	835		5,075	366	240		11.44						
		5	SR 1337	FROM ECL DUBLIN MP 0.10 TO SCHOOL ENTRANCE MP 0.38	5	0.28	22	7	0.56		217		298	29	10		0.68						
TOTAL FOR PROJ NO. 6CR.20091.24						**5**		**120**	**10**	**1033**	**1052**	**0**	**5,373**	**395**	**250**		**12.12**						
6CR.10241.24	Columbus	6	NC 131B	FROM US 701 MP 0 TO BLADEN CO LINE MP 4.18	3	4.18	24	100	8.36		3230	5045		442	190		10.13						
		7	NC 211	FROM US 74/76 MP 10.60 TO BLADEN CO LINE MP 14.45	2	3.85	30	92	7.7		144	5704		348	250		9.33	30.00	100.00	3.00	1.00	600	100
		8	NC 904A	FROM SR 1140 MP 24.74 TO NC 905 MP 33.07	2	4.2	22	101	8.4		305	4629		291	220		10.18						
		"	"		3	4.13	24	99	8.26	469	3038	4960		428	130		10.01						
TOTAL FOR MAP NO. 8						8.33		200	16.66	469	3343	9589		719	350		20.19						
		9	NC 904B	FROM NC 905 MP 33.53 TO BRUNS. CO LINE MP 34.23	2	0.7	22	17	1.4	258	37	784		49	20		1.70						
		10	NC 905	FROM SC LINE MP 0 TO SR 1100 MP 2.65	2	2.65	22	64	5.3		99	2886		177	100		6.42						
TOTAL FOR PROJ NO. 6CR.10241.24						**19.71**		**473**	**39.42**	**727**	**6853**	**24008**		**1,735**	**910**		**47.77**	**30.00**	**100.00**	**3.00**	**1.00**	**600**	**100**
6CR.20241.24	Columbus	11	SR 1004	FROM SR 1410 MP 8.56 TO SR 1300 MP 10.57	1	2.01	22		4.02		74		2,177	145	70		4.87						
		12	SR 1303	FROM WCL TABOR CITY MP 0.78 TO PVT JT @ END OF C&G MP 1.08	1	0.3	20	7	0.6				290	19			0.73						
		13	SR 1740 A	FROM SR 1801 MP 10.02 TO NC 211 MP 13.01	1	2.9	22	72	5.98		110		3,246	216	80		7.25						
		14	SR 1740 B	FROM SR 1731 MP 15.59 TO US 74/76 MP 17.69	1	2.1	22	50	4.2	657	77		2,919	193	70		5.09						
		15	SR 1849	FROM SR 1827 MP 1.79 TO SR 1828 MP 4.00	1	2.21	18	53	4.42		81		1,938	130	50		5.36						
TOTAL FOR PROJ NO. 6CR.20241.24						**9.52**		**182**	**19.22**	**657**	**342**	**0**	**10,570**	**703**	**270**		**23.30**						
GRAND TOTAL						**44.14**		**1006**	**87.88**	**4799**	**12132**	**33032**	**18,728**	**3,722**	**1,990**	**7**	**106.51**	**30.00**	**100.00**	**3.00**	**1.00**	**600**	**100**

PROJECT NO.	SHEET NO.	TOTAL NO.
41095, 6CR.10091.24	6	
6CR.20091.24, ETC.		

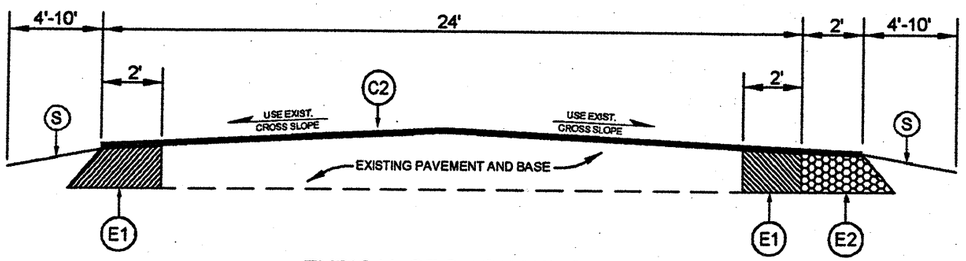
THERMOPLASTIC AND PAINT QUANTITIES

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	4685000000-E 4" X 90 M WHITE THERMO LF	4686000000-E 4" X 120 M WHITE THERMO LF	4686000000-E 4" X 120 M YELLOW THERMO LF	4697000000-E 8" X 120 M YELLOW THERMO LF	4710000000-E 24" X 120 M WHITE THERMO LF	4721000000-E THERMO MSG SCHOOL 120 M EA	4725000000-E THERMO LT ARROW 90 M EA	4725000000-E THERMO RT ARROW 90 M EA	4810000000-E 4" WHITE PAINT LF	4810000000-E 4" YELLOW PAINT LF	4820000000-E 8" YELLOW PAINT LF	4900000000-N CRYSTAL & RED MARKERS EA	4900000000-N YELLOW & YELLOW MARKERS EA
41095	Columbus	1	SR 1552	FROM SR 1585 MP 2.34 TO SR 1005 MP 548									25,000	17,000			
TOTAL FOR PROJ NO. 41095													**25,000**	**17,000**			
													42,000				
6CR.10091.24	Bladen	2	NC 41/87	FROM WCL E'TOWN MP 10.02 TO SR 1155 MP 11.71	16,000	500	12,000	1,500			15					50	150
		3	NC 131A	FROM COL CO LINE MP 0.0 TO NC 242 MP 5.08	53,800		40,000		160	12							400
		"	"														
TOTAL FOR MAP NO. 3					**53,800**		**40,000**		**160**	**12**							**400**
TOTAL FOR PROJ NO. 6CR.10091.24					**69,800**	**500**	**52,000**	**1,500**	**160**	**12**	**15**					**50**	**550**
					52,500						**15**					**600**	
6CR.20091.24	Bladen	4	SR 1318	FROM NC 53 MP 0 TO SR 1316 MP 4.72									49,000	30,000			
		5	SR 1337	FROM ECL DUBLIN MP 0.10 TO SCHOOL ENTRANCE MP 0.38									3,200	3,200			
TOTAL FOR PROJ NO. 6CR.20091.24													**52,200**	**33,200**			
													85,400				
6CR.10241.24	Columbus	6	NC 131B	FROM US 701 MP 0 TO BLADEN CO LINE MP 4.18	45,000		28,000										330
		7	NC 211	FROM US 74/76 MP 10.60 TO BLADEN CO LINE MP 14.45	43,000		30,500										260
		8	NC 904A	FROM SR 1140 MP 24.74 TO NC 905 MP 33.07	88,220		66,000										570
		"	"														
TOTAL FOR MAP NO. 8					88,220		66,000										570
		9	NC 904B	FROM NC 905 MP 33.53 TO BRUNS. CO LINE MP 34.23	7,400		5,500										50
		10	NC 905	FROM SC LINE MP 0 TO SR 1100 MP 2.65	28,000		20,000										200
TOTAL FOR PROJ NO. 6CR.10241.24					**211,620**		**150,000**										**1,410**
					150,000											**1410**	
6CR.20241.24	Columbus	11	SR 1004	FROM SR 1410 MP 8.56 TO SR 1300 MP 10.57	24,000		18,000										150
		12	SR 1303	FROM WCL TABOR CITY MP 0.78 TO PVT JT @ END OF C&G MP 1.08									3,200	2,300			
		13	SR 1740 A	FROM SR 1801 MP 10.02 TO NC 211 MP 13.01									32,000	20,000			250
		14	SR 1740 B	FROM SR 1731 MP 15.59 TO US 74/76 MP 17.69					160	12	6	6	23,800	19,000	800	30	170
		15	SR 1849	FROM SR 1827 MP 1.79 TO SR 1828 MP 4.00									24,000	15,000			150
TOTAL FOR PROJ NO. 6CR.20241.24					**24,000**		**18,000**		**160**	**12**	**6**	**6**	**83,000**	**56,300**	**800**	**30**	**720**
					18,000						**12**		**139,300**			**750**	
GRAND TOTAL					**305,420**	**500**	**220,000**	**1,500**	**320**	**24**	**21**	**6**	**160,200**	**106,500**	**800**	**80**	**2,680**
					220,500						**27**		**266,700**			**2760**	



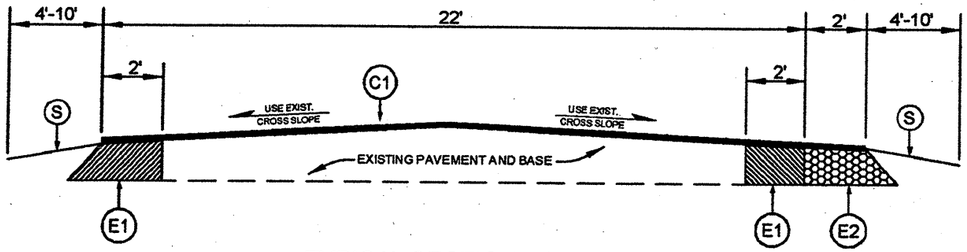
TYPICAL SECTION NO. 1

NOTE: INCLUDES MILLING AT BRIDGE APPROACHES & SCHOOL ENTRANCE. ALSO INCLUDES ADDITIONAL 2' WIDENING ON THE INSIDE RADIUS OF ALL CURVES, OR AS DIRECTED BY THE ENGINEER. SEE TYPICAL SECTION NO. 6.



TYPICAL SECTION NO. 3

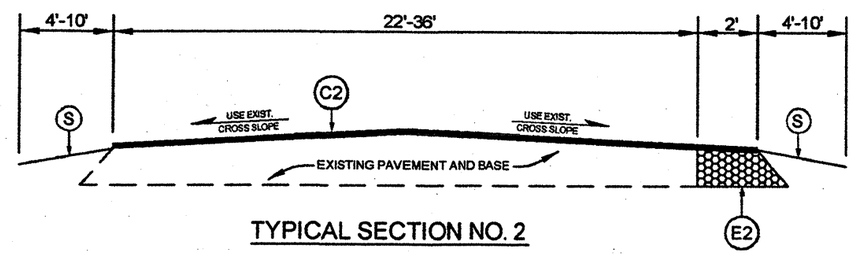
NOTE: EXISTING DITCHES WILL NOT BE RELOCATED, UNLESS DIRECTED BY ENGINEER. INCLUDES MILLING AT BRIDGE APPROACHES. ALSO INCLUDES ADDITIONAL 2' WIDENING ON THE INSIDE RADIUS OF ALL CURVES, OR AS DIRECTED BY THE ENGINEER. SEE TYPICAL SECTION NO. 6.



TYPICAL SECTION NO. 5

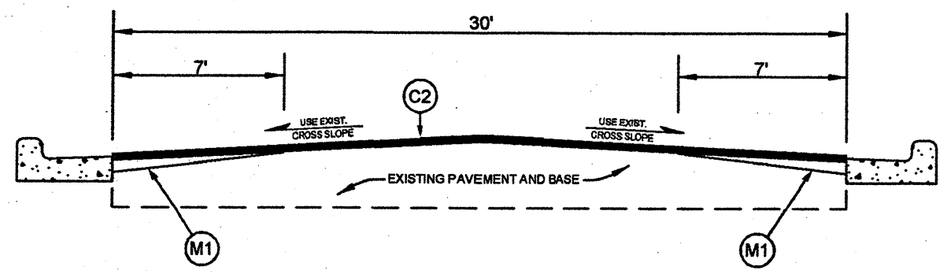
NOTE: EXISTING DITCHES WILL NOT BE RELOCATED, UNLESS DIRECTED BY ENGINEER. INCLUDES MILLING AT BRIDGE APPROACHES & ADDITIONAL 2' WIDENING ON THE INSIDE RADIUS OF ALL CURVES, OR AS DIRECTED BY THE ENGINEER. SEE TYPICAL SECTION NO. 6.

PAVEMENT SCHEDULE	
E1	Proposed approximately 5 ½" of Asphalt Concrete Base Course, Type B-25.0-B, at an average rate of 627 pounds per square yard for standard 2' widening.
E2	Proposed approximately 5 ½" of Asphalt Concrete Base Course, Type B-25.0-B, at an average rate of 627 pounds per square yard for additional 2' widening at inside curve radii, as Directed by the Engineer.
C1	Proposed approximately 1 ½" of Asphalt Concrete Surface Course, Type SF-9.5-A, at an average rate of 165 pounds per square yard.
C2	Proposed approximately 1 ½" of Asphalt Concrete Surface Course, Type S-9.5-B, at an average rate of 168 pounds per square yard.
M1	Milling Depth 0" - 1 ½" at the edge of Curb & Gutter. Milling shall extend below the lip of the Curb & Gutter by the thickness of the Proposed Overlay, or as Directed by the Engineer.
S	Shoulder Reconstruction as directed by the Engineer.
DRAWINGS NOT TO SCALE	

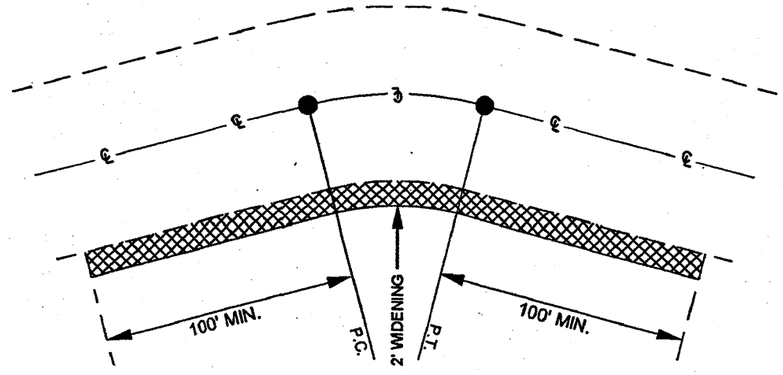


TYPICAL SECTION NO. 2

NOTE: INCLUDES MILLING AT BRIDGE APPROACHES. ALSO INCLUDES ADDITIONAL 2' WIDENING ON THE INSIDE RADIUS OF ALL CURVES, OR AS DIRECTED BY THE ENGINEER. SEE TYPICAL SECTION NO. 6.



TYPICAL SECTION NO. 4



2 FT. WIDENING OF INSIDE RADIUS FOR CURVES

TYPICAL SECTION NO. 6

YEAR LET - 2006						
COLUMBUS		TYPICAL NO. 1	TYPICAL NO. 2	TYPICAL NO. 3	TYPICAL NO. 4	TYPICAL NO. 5
	PRIMARY		NC 211, NC 904 & NC 905	NC 131 & NC 904	NC 131	
	SECONDARY	SR 1004, SR 1303, SR 1740 & SR 1849				
BLADEN		TYPICAL NO. 1	TYPICAL NO. 2	TYPICAL NO. 3	TYPICAL NO. 4	TYPICAL NO. 5
	PRIMARY		NC 41 / 87 & NC 87	NC 131	NC 131	
	SECONDARY	SR 1318				SR 1337

2005-2006 RESURFACING RECOMMENDATIONS
COLUMBUS COUNTY

MAP #	BR. #	ROUTE	POSTING/TONS	W/S	RECOMMENDATION
9	9	NC-904	N/P	NO AWS	MILL APPROACH-PAVE TO DECK
8	20	NC-904	SV-31/TT-38	NO AWS	MILL APPROACH-PAVE TO DECK (BRIDGE TO BE REPLACED 2006-2007)
14	245	SR-1740	SV-24/TT-29	1.5"AWS	MILL APPROACH-PAVE TO DECK
14	243	SR-1740	SV-24/TT-31	1.5"AWS	MILL APPROACH-PAVE TO DECK

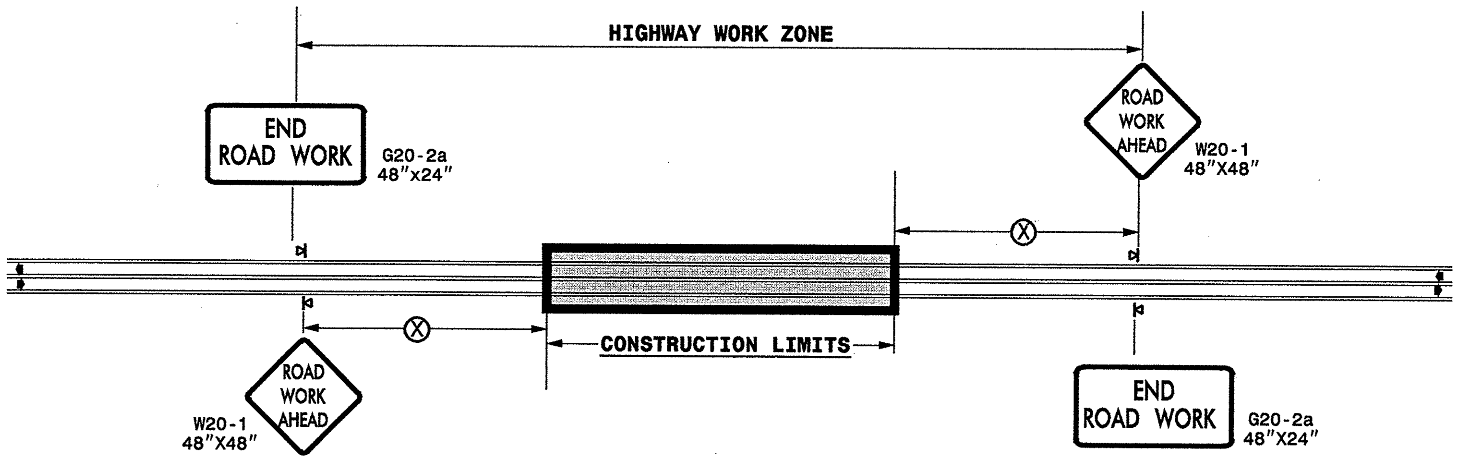
2005-2006 RESURFACING RECOMMENDATIONS
BLADEN COUNTY

MAP #	BR. #	ROUTE	POSTING/TONS	W/S	RECOMMENDATION
4	124	SR-1318	N/P	5"AWS	MILL 1.25" OFF DECK/RESURFACE BACK WITH 1.25"
4	125	SR-1318	N/P	2.5"AWS	MILL 1.25" OFF DECK/RESURFACE BACK WITH 1.25"

WBS Elements: 41095,
6CR.10091.24, 6CR.20091.24,
6CR.10241.24 & 6CR.20241.24

PROJ. REFERENCE NO.	SHEET NO.
See to the Left	TCP-1

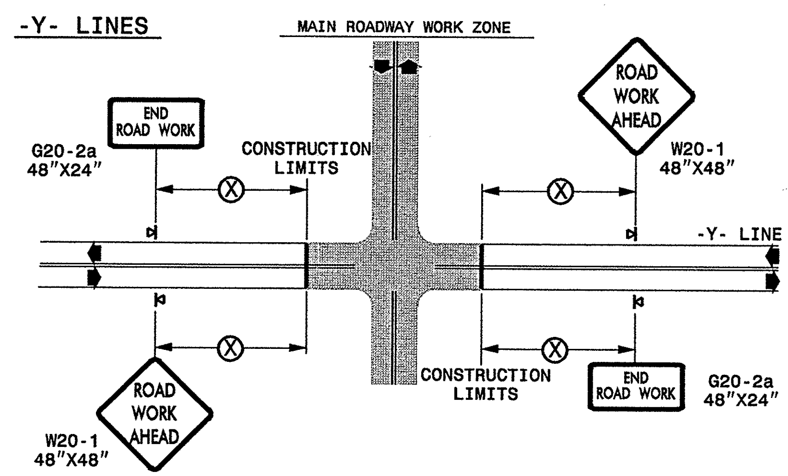
TWO-WAY UNDIVIDED ** (L-LINES)



	RECOMMENDED MINIMUM SIGN SPACING
POSTED SPEED LIMIT (M.P.H.)	ⓧ
≤ 50	500'
≥ 55	1000'

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

ROADWAYS INTERSECTING ALONG 2 WAY UNDIVIDED WORK ZONE (Y-LINES)



GENERAL NOTES

- USE FLUORESCENT ORANGE SHEETING (TYPE VII OR HIGHER) ON ALL ADVANCE WORK ZONE SIGNS.
- DO NOT INSTALL ADVANCE WARNING SIGNS MORE THAN 3 DAYS PRIOR TO BEGINNING OF WORK.
- ALL SIGN SPACING DIMENSIONS ARE APPROXIMATE, FIELD ADJUST AS NECESSARY OR AS DIRECTED.
- USE PORTABLE WORK ZONE SIGNS ONLY WITH PORTABLE WORK ZONE SIGN STANDS SPECIFICALLY DESIGNED FOR ONE ANOTHER. PORTABLE WORK ZONE SIGNS MAY BE ROLL UP OR APPROVED COMPOSITE.
- PROVIDE PORTABLE WORK ZONE SIGN STANDS, PORTABLE SIGNS AND SIGN SHEETING WHICH ARE LISTED ON THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION'S APPROVED PRODUCT LIST OR ACCEPTED AS TRAFFIC QUALIFIED BY THE WORK ZONE TRAFFIC CONTROL UNIT.
- ** TWO-WAY UNDIVIDED ADVANCE WARNING SIGN CONFIGURATION MAY BE USED ON URBAN MULTI-LANE FACILITIES WHERE CONDITIONS LIMIT THE USE OF DUAL MOUNTED SIGNS AS DETERMINED BY THE ENGINEER.

LEGEND

- PORTABLE SIGN
- DIRECTION OF TRAFFIC FLOW

DETAIL DRAWING
FOR TWO-WAY UNDIVIDED
WORK ZONE WARNING SIGNS

SHEET 1 OF 1

APPROVED:__________ DATE:______

SEAL

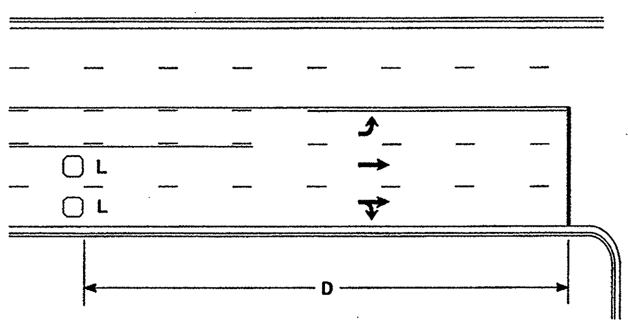
DETAIL DRAWING
FOR TWO-WAY UNDIVIDED
ADVANCED WORK ZONE WARNING SIGNS

SCALE:	NONE
DATE:	
DWG. BY:	
DESIGN BY:	
REVIEWED BY:	

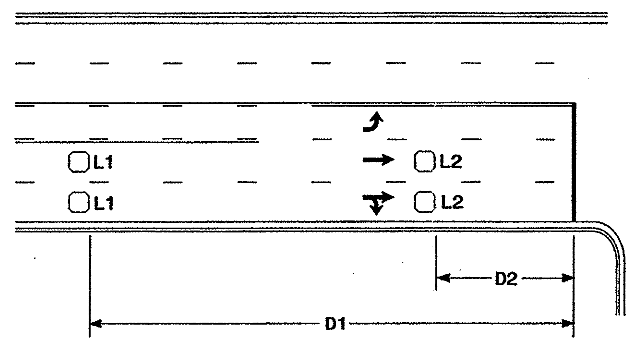
REVISIONS	
7-98	10/01
10-98	03/04
01/01	11/04
CADD FILE	

PROJECT REFERENCE NO.	SHEET NO.
	SIG 1

High Speed Detection
[≥40 mph (64 km/hr)]



OR



Speed Limit mph (km/hr)	D ft (m)
40 (64)	250 (75)
45 (72)	300 (90)
50 (80)	355 (110)
55 (88)	420 (130)

L = 6ft X 6ft (1.8m X 1.8m)
Wired in series for TS1 Controllers
Wired separately for TS2, 170, and 2070L Controllers

Volume Density Operation

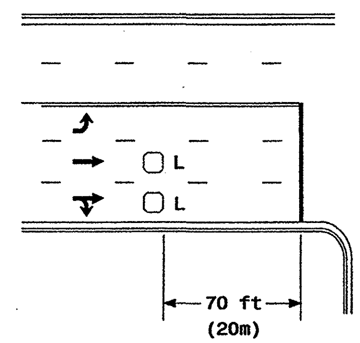
Speed Limit mph (km/hr)	D1 ft (m)	D2 ft (m)
40 (64)	250 (75)	80 (25)
45 (72)	300 (90)	90 (27)
50 (80)	355 (110)	100 (30)
55 (88)	420 (130)	110 (35)

L1 = 6ft X 6ft (1.8m X 1.8m)
Wired in series

L2 = 6ft X 6ft (1.8m X 1.8m)
Wired in series

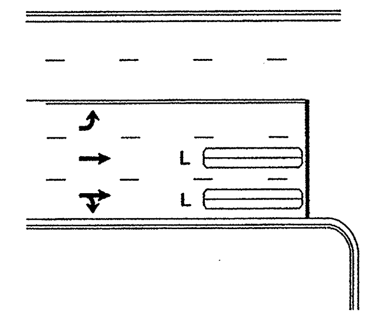
"Stretch" Operation

Low Speed Detection
[≤35 mph (56 km/hr)]



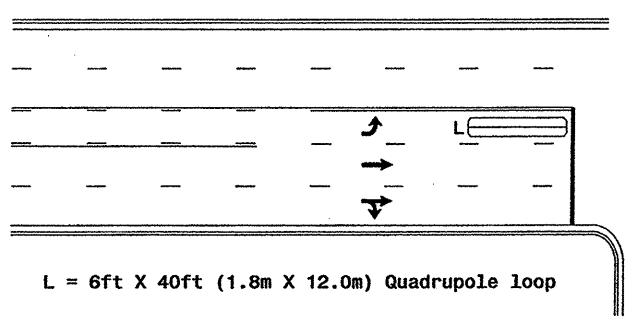
L = 6ft X 6ft (1.8m X 1.8m)
Wired in series

OR



L = 6ft X 40ft (1.8m X 12.0m)
Quadrupole loop, wired separately

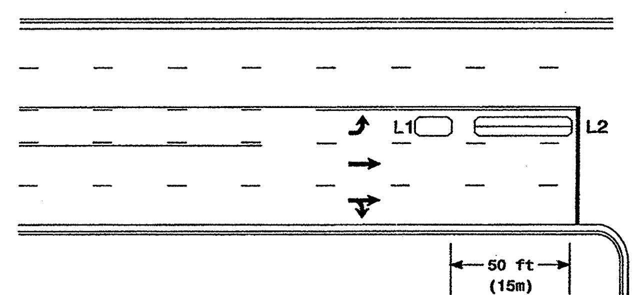
Left Turn Lane Detection



L = 6ft X 40ft (1.8m X 12.0m) Quadrupole loop

Presence Loop Detection

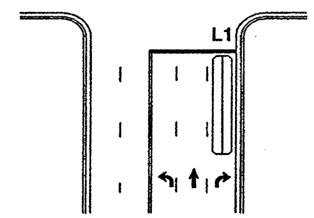
OR



L1 = 6ft X 15ft (1.8m X 4.6m) Queue detector
L2 = 6ft X 40ft (1.8m X 12.0m) Quadrupole loop

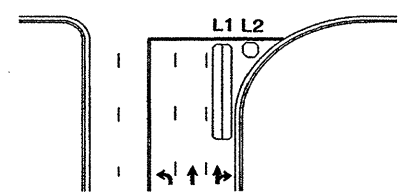
Queue Loop Detection

Right Turn Lane Detection

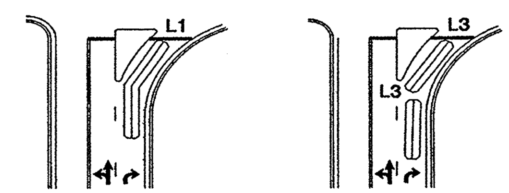


Standard Turn

L1 = 6ft X 40ft (1.8m X 12.0m) Quadrupole loop
L2 = 6ft X 6ft (1.8m X 1.8m) [Minimum] Presence loop
Wired separately
L3 = 6ft X 20ft (1.8m X 6.0m) Quadrupole loop
Wired in series

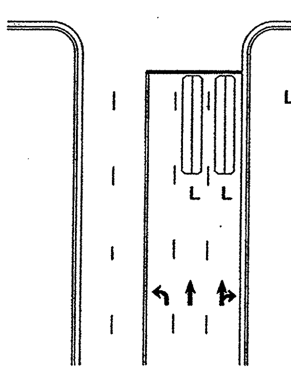


Wide Radius Turn



Channelized Turn

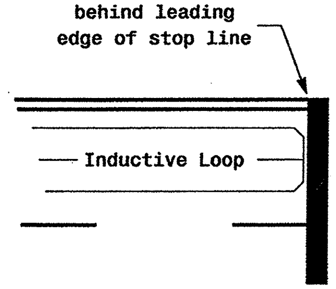
Side Street Detection



L = 6ft X 40ft (1.8m X 12.0m)
Quadrupole loop
Wired to separate detectors/channels

Presence Loop Placement at Stop Lines

Locate loop slightly behind leading edge of stop line



Note:
Loop may be located in advance of stop line when stop line is greater than 15′ (4.5m) from edge of intersecting roadway; or, when loop detects a permissive or protected/permissive left turn.

Recommended Number of Turns

Single 6′ X 6′ (1.8m X 1.8m) loop (wired separately):

Length of Lead-in ft (m)	Number of Turns
< 250 (75)	3
250-375 (75-115)	4
375-525 (115-160)	5
> 525 (160)	6

Quadrupole loops: Use 2-4-2 turns

6′ X 15′ (1.8m X 4.6m) Loops:
Lead-in < 150′ (45 m), use 2 turns
Lead-in > 150′ (45 m), use 3 turns

Prepared in the Offices of: Traffic Engineering and Safety Systems Branch, State of North Carolina Department of Transportation, Signals and Geometrics Section
122 N. McDowell St., Raleigh, NC 27603

Typical Loop Locations

PLAN DATE:	June 2006	REVIEWED BY:
PREPARED BY:	P L Alexander	REVIEWED BY:

SCALE
N/A

REVISIONS	INIT.	DATE

SEAL
North Carolina Professional Seal 23489 Engineer Pamela L. Alexander

SIGNATURE | DATE 6/6/06

SIG. INVENTORY NO.

06-JUN-2006 14:09
s:*its signals*lib turn ln*misc*looptypical2006.dgn
palexander