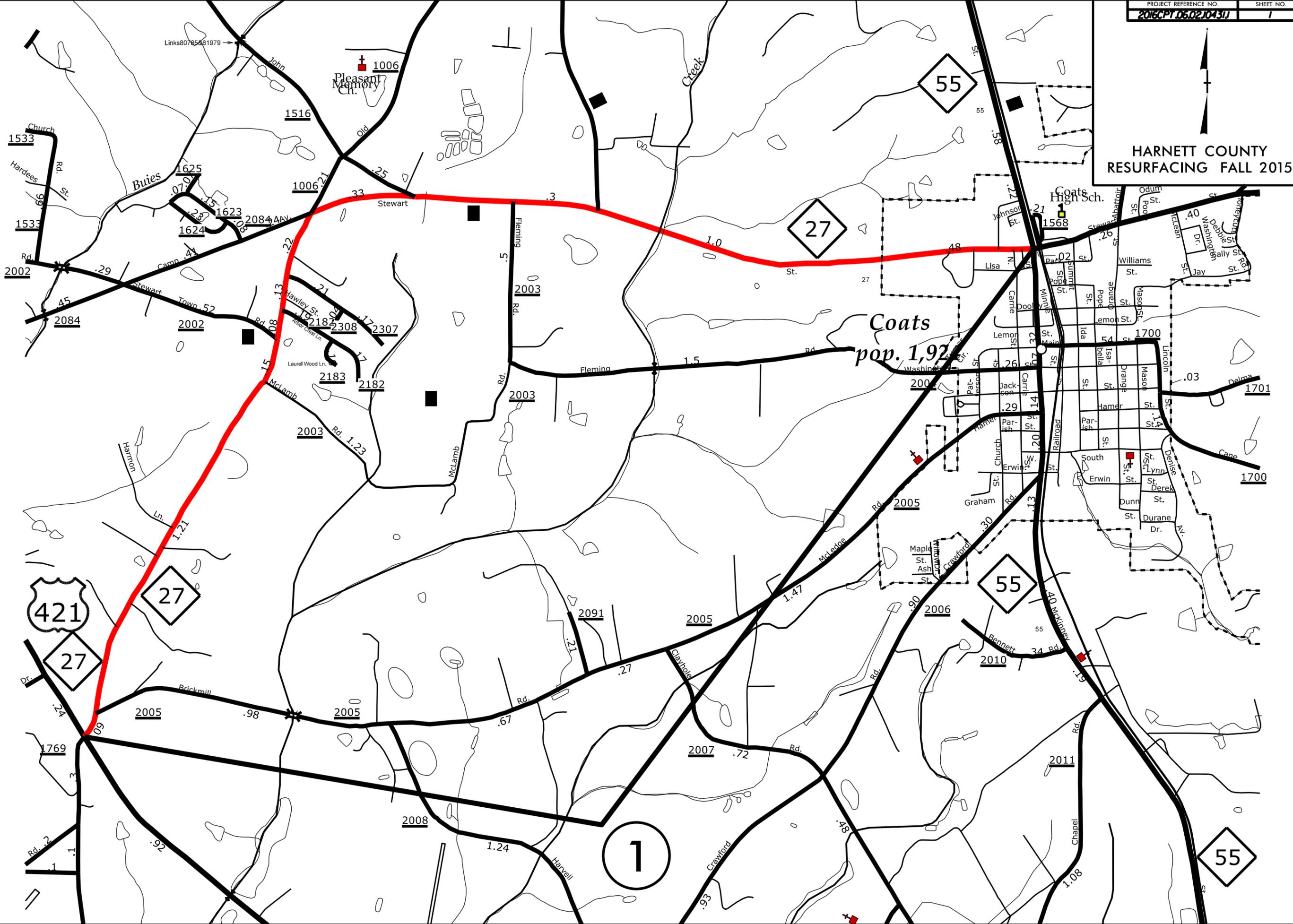


**This electronic collection of documents is provided  
for the convenience of the user  
and is Not a Certified Document –**

**The documents contained herein were originally issued  
and sealed by the individuals whose names and license  
numbers appear on each page, on the dates appearing  
with their signature on that page.**

**This file or an individual page  
shall not be considered a certified document.**

# HARNETT COUNTY RESURFACING FALL 2015



REVISIONS

SYSTEM: \$\$\$\$  
DRAWN: \$\$\$\$  
USER: \$\$\$\$

8/17/99

421

27

27

55

55

1

Coats  
pop. 1,927

Pleasant  
Memory  
Ch. 1006

Coats  
High Sch. 1568

1533

1533

2002

2084

2002

2002

2003

2003

2003

2003

2091

2005

2005

2006

2010

2011

1769

2005

2005

2008

2007

2010

1533

1533

2002

2084

2002

2002

2003

2003

2003

2003

2091

2005

2005

2006

2010

2011

1769

2005

2005

2008

2007

2010

2011

1533

1533

2002

2084

2002

2002

2003

2003

2003

2003

2091

2005

2005

2006

2010

2011

1769

2005

2005

2008

2007

2010

2011

1533

1533

2002

2084

2002

2002

2003

2003

2003

2003

2091

2005

2005

2006

2010

2011

1769

2005

2005

2008

2007

2010

2011

1533

1533

2002

2084

2002

2002

2003

2003

2003

2003

2091

2005

2005

2006

2010

2011

1769

2005

2005

2008

2007

2010

2011

1533

1533

2002

2084

2002

2002

2003

2003

2003

2003

2091

2005

2005

2006

2010

2011

1769

2005

2005

2008

2007

2010

2011

1533

1533

2002

2084

2002

2002

2003

2003

2003

2003

2091

2005

2005

2006

2010

2011

1769

2005

2005

2008

2007

2010

2011

1533

1533

2002

2084

2002

2002

2003

2003

2003

2003

2091

2005

2005

2006

2010

2011

1769

2005

2005

2008

2007

2010

2011

1533

1533

2002

2084

2002

2002

2003

2003

2003

2003

2091

2005

2005

2006

2010

2011

1769

2005

2005

2008

2007

2010

2011

1533

1533

2002

2084

2002

2002

2003

2003

2003

2003

2091

2005

2005

2006

2010

2011

1769

2005

2005

2008

2007

2010

2011

1533

1533

2002

2084

2002

2002

2003

2003

2003

2003

2091

2005

2005

2006

2010

2011

1769

2005

2005

2008

2007

2010

2011

1533

1533

2002

2084

2002

2002

2003

2003

2003

2003

2091

2005

2005

2006

2010

2011

1769

2005

2005

2008

2007

2010

2011

1533

1533

2002

2084

2002

2002

2003

2003

2003

2003

2091

2005

2005

2006

2010

2011

1769

2005

2005

2008

2007

2010

2011

1533

1533

2002

2084

2002

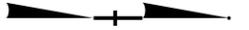
2002

2003

2003

2003

HARNETT COUNTY RESURFACING FALL 2015



2

210

210

27  
210

401

401

401

CUMBERLAND COUNTY

2017

2016

2017

2016

2016

2016

2040

2072

2034

2041

2034

2031

2030

2033

2026

2031

2027

Fonville

Bunnlevel

Harnett

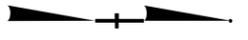
Lillington

REVISIONS

8/17/99

SYSTEMATIC DESIGN NAME

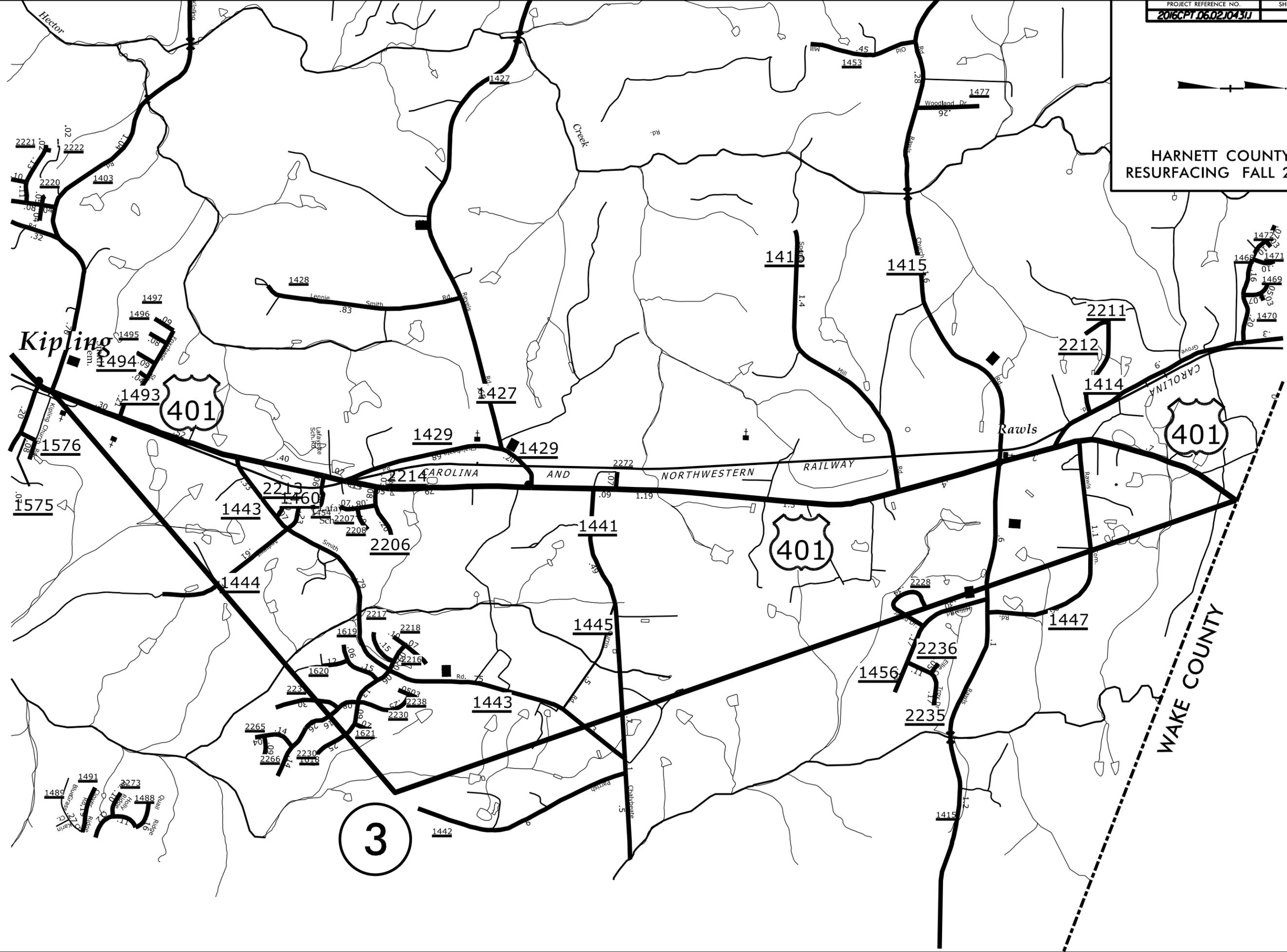
HARNETT COUNTY  
RESURFACING FALL 2015



REVISIONS

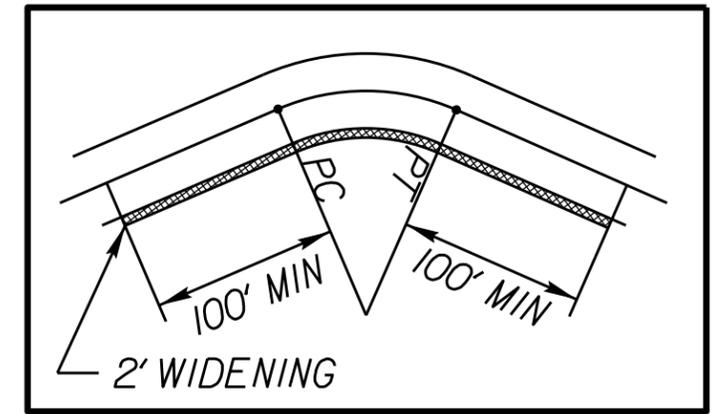
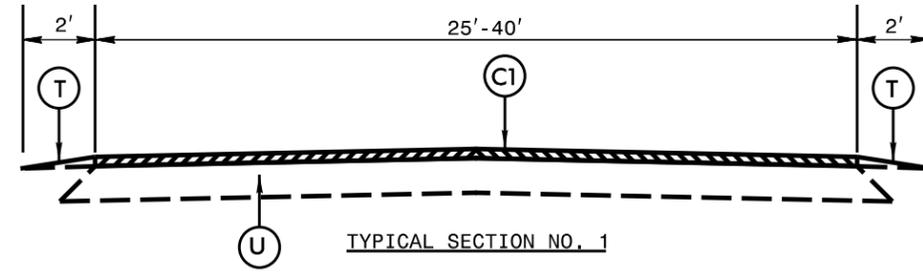
8/17/99

SYSTEMS  
DESIGN  
NAME

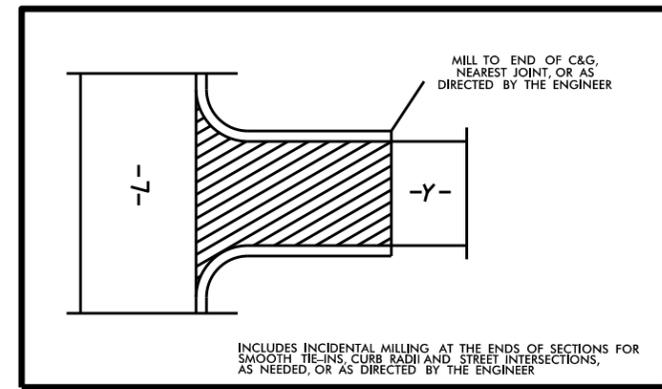


3

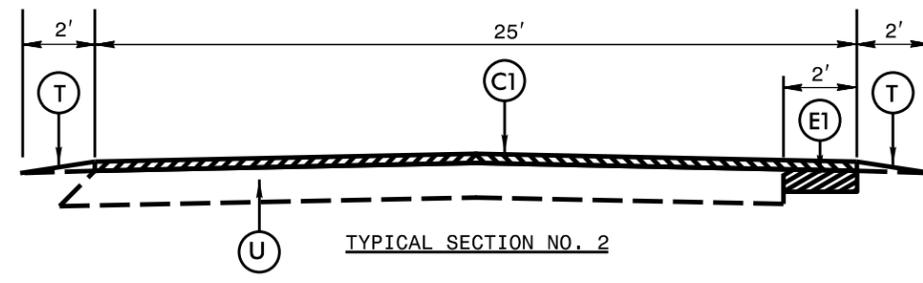
PAVEMENT SCHEDULE	
C1	1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
E1	5" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 570 LBS. PER SQ. YD.
T	AGGREGATE SHOULDER BORROW
V1	0" - 1½" MILLING NEW ASPHALT TO BE PAVED BACK FLUSH



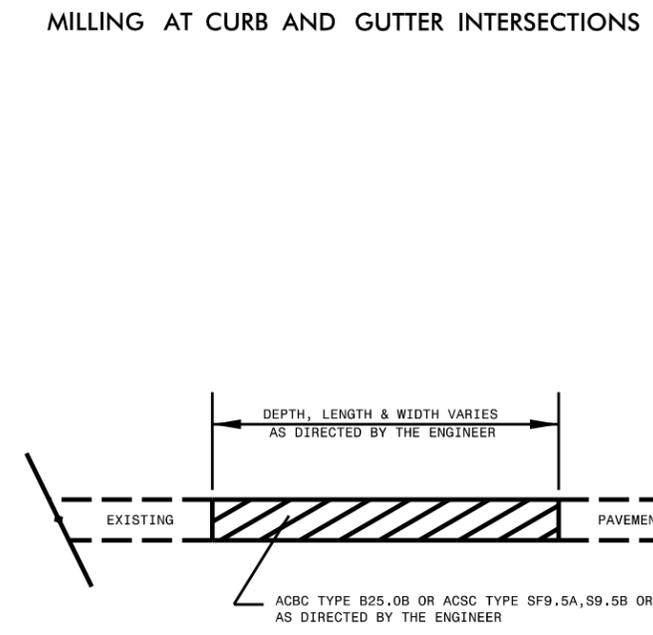
INSIDE CURVE WIDENING



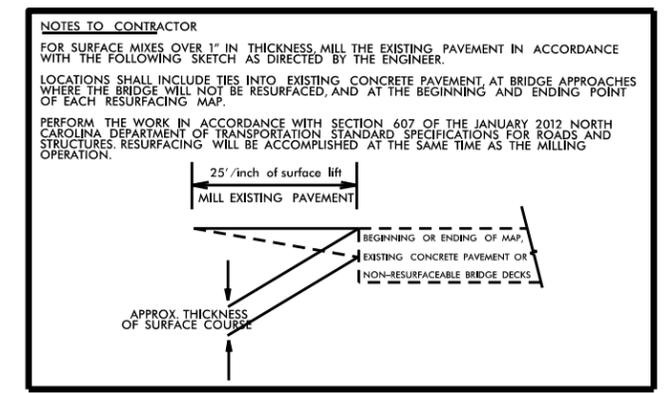
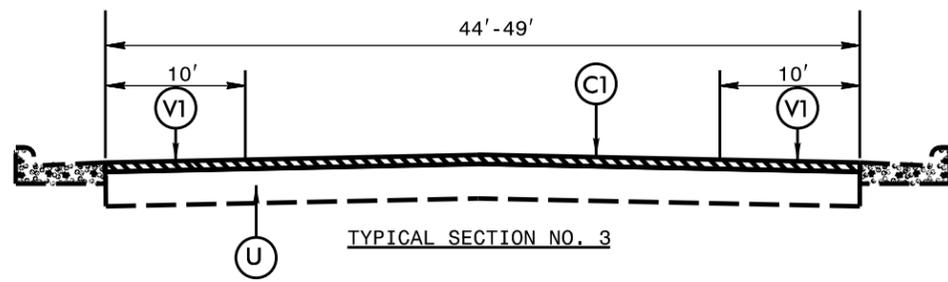
MILLING AT CURB AND GUTTER INTERSECTIONS



\* INCLUDES INSIDE CURVE WIDENING. SEE DETAIL.



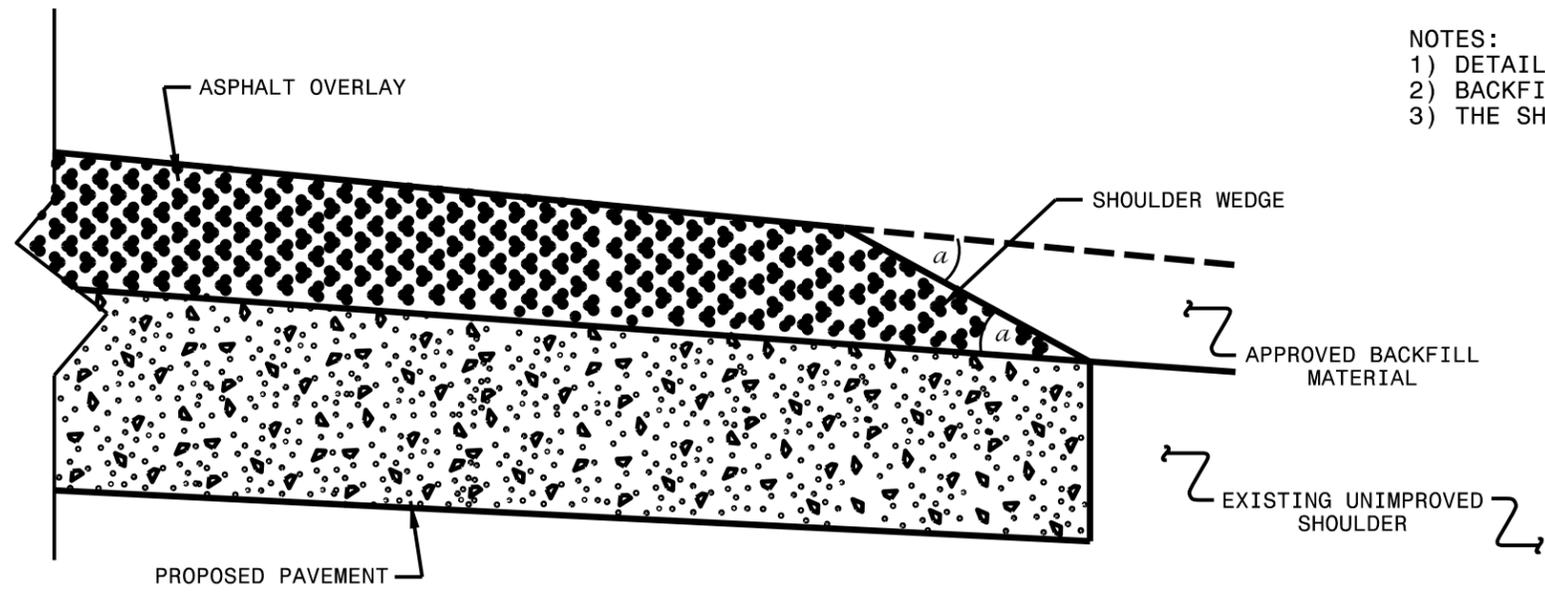
PATCHING EXISTING PAVEMENT  
PATCHING TO BE PERFORMED PRIOR TO MILL AND FILL OPERATION



MILLING AT PAVEMENT TIE-INS DETAIL

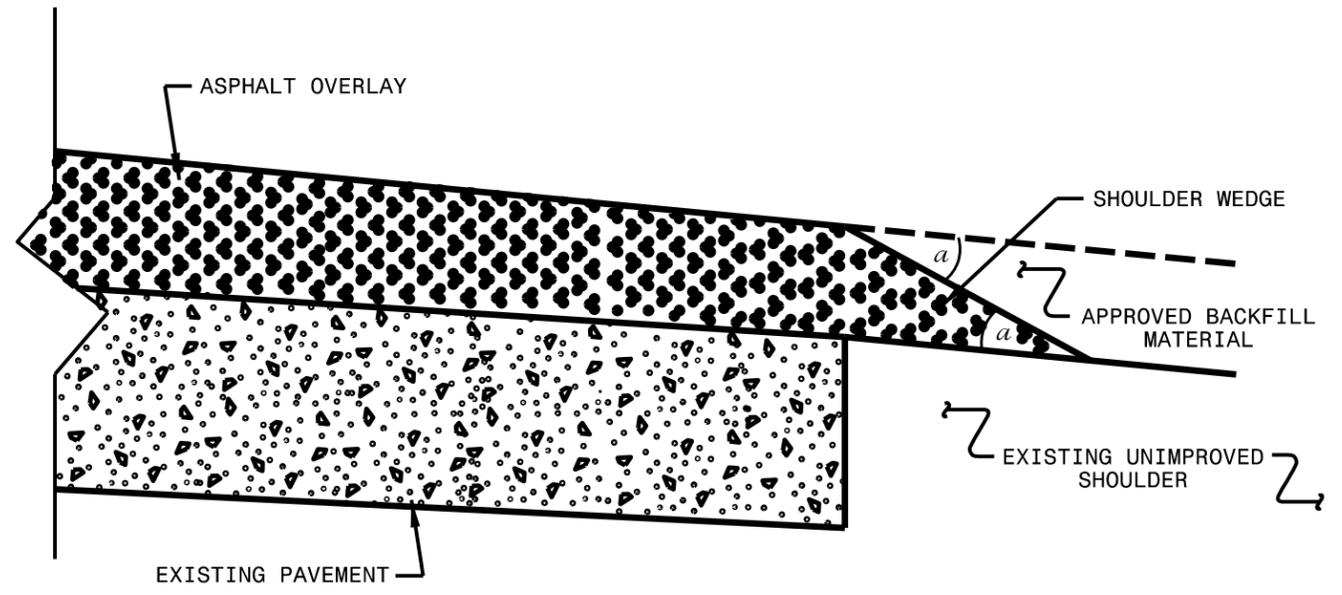
SECTION 01100 - PAVEMENT

- 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 AND SIDE STREETS.



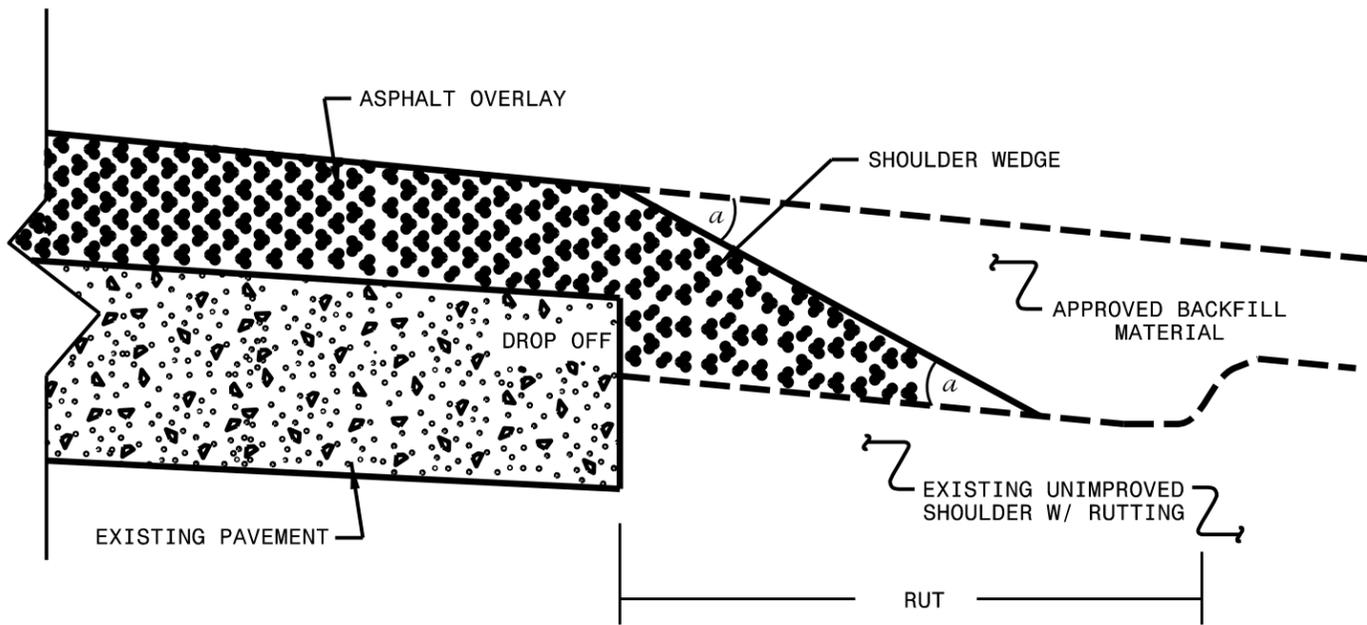
**SHOULDER WEDGE DETAIL**

(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: 10/16/12  
 CHECKED BY: DATE:  
 FILE SPEC: stusr/details/stand/shoulderwedgedetail.dgn

\$\$\$\$\$SYTIME\$\$\$\$\$  
 \$\$\$DONOR\$\$\$\$\$  
 \$\$\$USERNAME\$\$\$\$\$

PROJECT NO.	SHEET NO.	TOTAL NO.
2016CPT.06.02.10431.1	6	

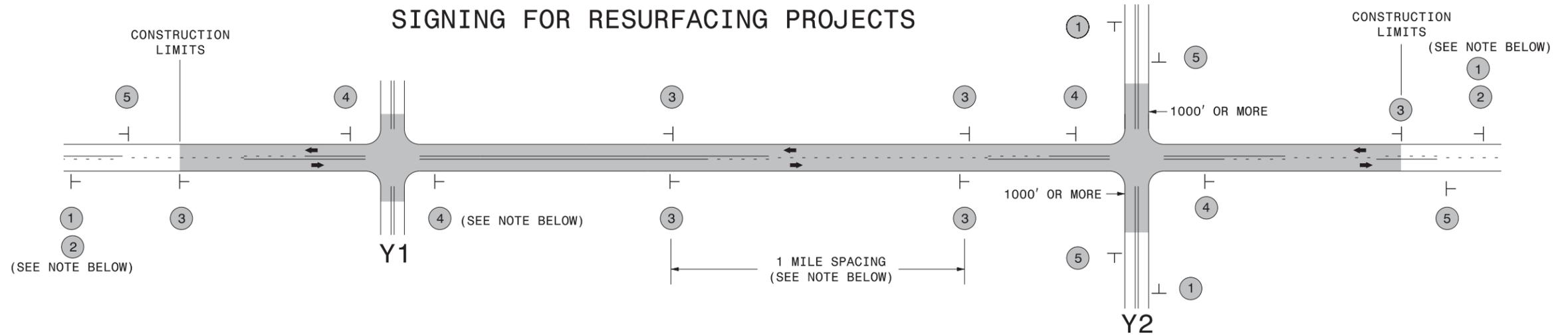
### SUMMARY OF QUANTITIES

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP	LANES	LANE TYPE	FINAL SURFACE TESTING REQUIRED	WARM MIX ASPHALT REQUIRED	LENGTH MI	WIDTH FT	AGGREGATE SHOULDER BORROW (ASB) TON	SHOULDER RECONSTRUCTION SMI	0" TO 1.5" MILLING SY	INCIDENTAL MILLING SY	BASE COURSE, B25.0B TONS	SURFACE COURSE, S9.5B TONS	ASPHALT BINDER FOR PLANT MIX TONS	PATCHING EXISTING PAVEMENT TONS	ADJ. OF MANHOLES EA	ADJ. OF METER OR VALVE BOX EA	PAVED TRENCHING (1 CONDUIT, 2") LF	UNPAVED TRENCHING (1 CONDUIT, 2") LF	JUNCTION BOX (STANDARD SIZE) EA	JUNCTION BOX (OVERSIZED, HEAVY DUTY) EA	2" RISER WITH WEATHERHEAD EA	INDUCTIVE LOOP SAWCUT LF	LEAD-IN CABLE (14-2) LF	
2016CPT.06.02.10431.1	Harnett	1	NC HWY 27	FROM: US HWY 421 MP 32.38 TO: WIDTH CHANGE MP 34.23	2	2	2WU	NO	NO	1.85	23	240	3.70		233	177	2,248	154	55										
		"	"	FROM: WIDTH CHANGE MP 34.23 TO: NC HWY 55 MP 36.57	1	2	2WU	NO	NO	2.34	25	305	4.68		600		2,889	187	99	1	1	20.00	200.00	2	1	2	650.00	200.00	
<b>TOTAL FOR MAP NO. 1</b>										<b>4.19</b>		<b>545</b>	<b>8.38</b>		<b>833</b>	<b>177</b>	<b>5,137</b>	<b>341</b>	<b>154</b>	<b>1</b>	<b>1</b>	<b>20.00</b>	<b>200.00</b>	<b>2</b>	<b>1</b>	<b>2</b>	<b>650.00</b>	<b>200.00</b>	
2016CPT.06.02.10431.1	Harnett	2	US HWY 401	FROM: CUMBERLAND COUNTY MP 0.0 TO: BEGIN C&G MP 3.05	1	2	2WU	NO	NO	3.05	28	417	6.10		852		4,533	295	145										
		"	"	FROM BEGIN C&G MP 3.05 TO: END C&G MP 3.39	3	2	MU	NO	NO	0.34	44			3,989			737	48	50	1	3								
		"	"	FROM: END C&G MP 3.39 TO: BEGIN C&G MP 9.72	1	2	2WU	NO	NO	6.33	29	847	12.66		1,731		9,203	598	246										
		"	"	FROM: BEGIN C&G MP 9.72 TO PAVEMENT JOINT MP 9.81	3	2	MU	NO	NO	0.09	49			1,056			243	16				40.00	300.00	3	3	3	950.00	300.00	
<b>TOTAL FOR MAP NO. 2</b>										<b>9.81</b>		<b>1,264</b>	<b>18.76</b>	<b>5,045</b>	<b>2,583</b>		<b>14,716</b>	<b>957</b>	<b>441</b>	<b>1</b>	<b>3</b>	<b>40.00</b>	<b>300.00</b>	<b>3</b>	<b>3</b>	<b>3</b>	<b>950.00</b>	<b>300.00</b>	
2016CPT.06.02.10431.1	Harnett	3	US HWY 401	FROM: KIPLING PROJECT LIMITS MP 17.12 TO: BEGIN C&G MP 18.95	1	2	2WU	NO	NO	1.83	31	242	3.66		997		3,035	197	100	1	1								
		"	"	FROM: BEGIN C&G MP 18.95 TO: END C&G MP 19.07	3	2	MU	NO	NO	0.12	44			1,408			260	17	4										
		"	"	FROM: END C&G MP 19.07 TO: WAKE COUNTY MP 22.14	1	2	2WU	NO	NO	3.07	31	411	6.14		1,698		5,168	336	150										
<b>TOTAL FOR MAP NO. 3</b>										<b>5.02</b>		<b>653</b>	<b>9.80</b>	<b>1,408</b>	<b>2,695</b>		<b>8,463</b>	<b>550</b>	<b>254</b>	<b>1</b>	<b>1</b>			<b>0</b>	<b>0</b>	<b>0</b>			
<b>TOTAL FOR PROJ NO. 2016CPT.06.02.10431.1</b>										<b>19.02</b>		<b>2,462</b>	<b>36.94</b>	<b>6,453</b>	<b>6,111</b>	<b>177</b>	<b>28,316</b>	<b>1,848</b>	<b>849</b>	<b>3</b>	<b>5</b>	<b>60.00</b>	<b>500.00</b>	<b>5</b>	<b>4</b>	<b>5</b>	<b>1,600.00</b>	<b>500.00</b>	
<b>GRAND TOTAL</b>										<b>19.02</b>		<b>2,462</b>	<b>36.94</b>	<b>6,453</b>	<b>6,111</b>	<b>177</b>	<b>28,316</b>	<b>1,848</b>	<b>849</b>	<b>3</b>	<b>5</b>	<b>60.00</b>	<b>500.00</b>	<b>5</b>	<b>4</b>	<b>5</b>	<b>1,600.00</b>	<b>500.00</b>	

### THERMOPLASTIC AND PAINT QUANTITIES

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP	LANES	LANE TYPE	LENGTH	WIDTH	441300000-E	445700000-N	468500000-E	468600000-E		469500000-E	470500000-E	471000000-E	472100000-E				472500000-E			490000000-N			
										WORK ZONE ADVANCE/GENERAL WARNING SIGNING SF	TEMPORARY TRAFFIC CONTROL LS	4" X 90 M WHITE THERMO LF	4" X 120 M WHITE THERMO LF	4" X 120 M YELLOW THERMO LF	8" X 90 M YELLOW THERMO LF	16" X 120 M WHITE THERMO (RXR CROSSBUCK) LF	24" X 120 M WHITE THERMO LF	THERMO MSG ONLY 120 M EA	THERMO RXR 120 M EA	THERMO MSG SCHOOL 120 M EA	THERMO RT ARROW 90 M EA	THERMO STR & LT ARROW 90 M EA	THERMO LT ARROW 90 M EA	THERMO STR ARROW 90 M EA	YELLOW & YELLOW MARKERS EA	CRYSTAL & RED MARKERS EA		
2016CPT.06.02.10431.1	Harnett	1	NC HWY 27	FROM: US HWY 421 MP 32.38 TO: WIDTH CHANGE MP 34.23	2	2	2WU	1.85	23	2,195	1	19,800	44	16,830			10										132	
		"	"	FROM: WIDTH CHANGE MP 34.23 TO: NC HWY 55 MP 36.57	1	2	2WU	2.34	25	*	*	25,200	56	21,420			15				1	1					168	5
<b>TOTAL FOR MAP NO. 1</b>							<b>4.19</b>			<b>2,195</b>	<b>1</b>	<b>45,000</b>	<b>100</b>	<b>38,250</b>			<b>25</b>			<b>1</b>	<b>1</b>					<b>300</b>	<b>5</b>	
2016CPT.06.02.10431.1	Harnett	2	US HWY 401	FROM: CUMBERLAND COUNTY MP 0.0 TO: BEGIN C&G MP 3.05	1	2	2WU	3.05	28	*	*	32,240		30,535			3				2			8			235	
		"	"	FROM BEGIN C&G MP 3.05 TO: END C&G MP 3.39	3	2	MU	0.34	44	*	*	3,120	975	2,640			30								2		19	45
		"	"	FROM: END C&G MP 3.39 TO: BEGIN C&G MP 9.72	1	2	2WU	6.33	29	*	*	67,600		64,025	1,505									15			493	
		"	"	FROM: BEGIN C&G MP 9.72 TO PAVEMENT JOINT MP 9.81	3	2	MU	0.09	49	*	*	1,040	550	1,300	140		75	1					2	2		11	35	
<b>TOTAL FOR MAP NO. 2</b>							<b>9.81</b>					<b>104,000</b>	<b>1,525</b>	<b>98,500</b>	<b>1,645</b>		<b>105</b>	<b>4</b>			<b>2</b>			<b>25</b>	<b>4</b>	<b>758</b>	<b>80</b>	
2016CPT.06.02.10431.1	Harnett	3	US HWY 401	FROM: KIPLING PROJECT LIMITS MP 17.12 TO: BEGIN C&G MP 18.95	1	2	2WU	1.83	31	*	*	19,440	387	20,538	806	100	325				4	12					162	
		"	"	FROM: BEGIN C&G MP 18.95 TO: END C&G MP 19.07	3	2	MU	0.12	44	*	*	1,620	32	1,711	67							5					14	60
		"	"	FROM: END C&G MP 19.07 TO: WAKE COUNTY MP 22.14	1	2	2WU	3.07	31	*	*	32,940	656	34,801	1,367									10			274	
<b>TOTAL FOR MAP NO. 3</b>							<b>5.02</b>					<b>54,000</b>	<b>1,075</b>	<b>57,050</b>	<b>2,240</b>	<b>100</b>	<b>325</b>			<b>4</b>	<b>12</b>	<b>5</b>		<b>25</b>		<b>450</b>	<b>60</b>	
<b>TOTAL FOR PROJ NO. 2016CPT.06.02.10431.1</b>							<b>19.02</b>			<b>2,195</b>	<b>1</b>	<b>203,000</b>	<b>2,700</b>	<b>193,800</b>	<b>3,885</b>	<b>100</b>	<b>455</b>	<b>4</b>		<b>4</b>	<b>12</b>	<b>8</b>	<b>1</b>	<b>50</b>	<b>4</b>	<b>1,508</b>	<b>145</b>	
<b>GRAND TOTAL</b>							<b>19.02</b>			<b>2,195</b>	<b>1</b>	<b>203,000</b>	<b>2,700</b>	<b>193,800</b>	<b>3,885</b>	<b>100</b>	<b>455</b>	<b>4</b>		<b>4</b>	<b>12</b>	<b>8</b>	<b>1</b>	<b>50</b>	<b>4</b>	<b>1,508</b>	<b>145</b>	

# SIGNING FOR RESURFACING PROJECTS

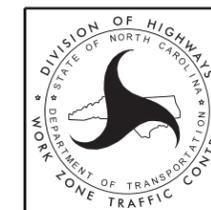


LEGEND	
┆	STATIONARY SIGN
←	DIRECTION OF TRAFFIC FLOW

## MAINLINE (-L-) SIGNING

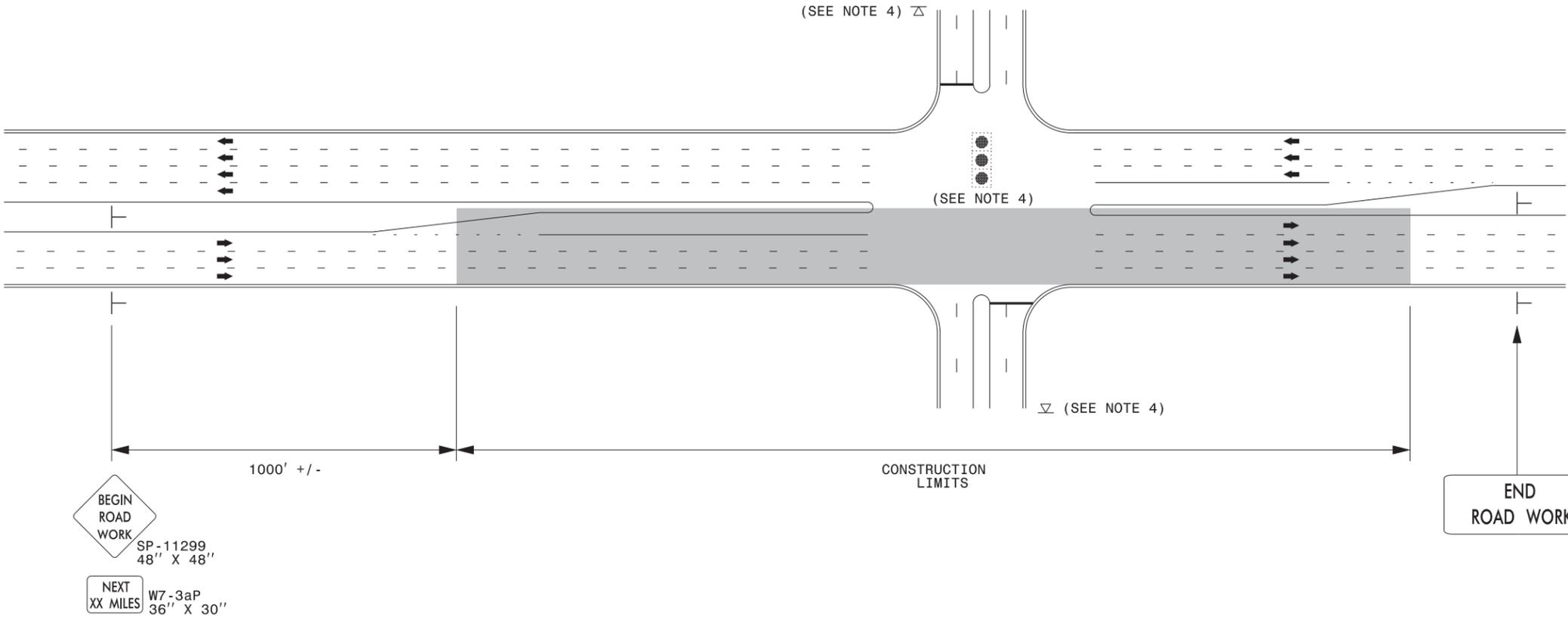
## -Y- LINE SIGNING

SIGNING NOTES AND PLACEMENT PER DIRECTION	MAINLINE (-L-) SIGNING		-Y- LINE SIGNING	
	1	 W20-1 48" X 48"	PLACE 1000' PRIOR TO BEGINNING OF CONSTRUCTION LIMITS. ONLY USED ON -Y- LINES IF RESURFACING LIMITS EXTEND 1000' ALONG -Y- LINE.	<p>NO REQUIRED STATIONARY SIGNING FOR THE FOLLOWING -Y- LINE CONDITIONS:</p> <ol style="list-style-type: none"> <li>1) LESS THAN 1000' OF RESURFACING ALONG -Y- LINE</li> <li>2) SUBDIVISION ROADS</li> <li>3) DEAD END ROADS</li> </ol> <p>WHEN PAVING/CONSTRUCTION ACTIVITIES PROCEED ACROSS AN UNSIGNED -Y- LINE, ADVANCE WARNING PORTABLE SIGNS SHALL BE USED ALONG THE -Y- LINE AS SHOWN BELOW. REMOVE UPON COMPLETION OF WORK.</p> <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">             W20-1            48" X 48"         </div> <div style="text-align: center;">             W20-7 A            48" X 48"         </div> </div> <p>PLACED 500' IN ADVANCE OF FLAGGER. PLACED 250' IN ADVANCE OF FLAGGER.</p>
	2	 W7-3aP 24" X 18"	#2 SIGN ONLY USED WHEN RESURFACING LIMITS ARE 2 OR MORE MILES IN LENGTH. ROUND UP TO NEXT WHOLE NUMBER. (NO FRACTIONAL OR DECIMAL NUMBERS)	
	3	 SP 13107 48" X 48"	PLACE INITIALLY AT THE CONSTRUCTION LIMITS AND SPACED 1 MILE APART THEREAFTER. IF NO -Y- LINES EXIST, PLACE 2ND SET 1/2 MILE FROM THE CONSTRUCTION LIMITS AND THEN SPACE 1 MILE THEREAFTER.	
	4	 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.	
5	 G20-2 A 48" X 24"	PLACE 500' FOLLOWING THE END OF CONSTRUCTION LIMITS.		



RESURFACING  
 ADVANCE WARNING SIGNS  
 FOR  
 RURAL AND SUBURBAN  
 2 LANE ROADWAYS

# URBAN / SUBURBAN WORKZONES



**NOTES:**

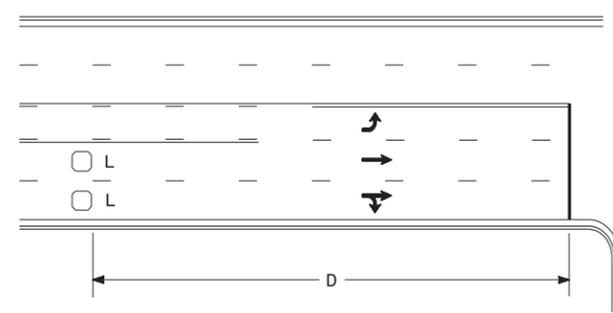
- 1) 48" x 48" SIZED SIGNS (SP- 11299) MAY BE REDUCED TO 36" X 36" ON ROADWAYS WITH SPEED LIMITS OF 40 MPH OR LESS.
- 2) MOUNT SIGNS THAT ARE LARGER THAN 10 SQUARE FEET IN AREA ON TWO OR MORE WOOD OR U-CHANNEL SUPPORTS. PERFORATED SQUARE TUBING SUPPORT SYSTEMS MAY SUPPORT LARGER AREAS ON A SINGLE SUPPORT. FOLLOW MANUFACTURER'S RECOMMENDATIONS. THESE SYSTEMS SHALL BE NCHRP 350 COMPLIANT AND NCDOT APPROVED.
- 3) ADVANCE WARNING SIGNS NOT REQUIRED ON NON-SIGNALIZED SIDE STREETS.
- 4) MAY USE LAW ENFORCEMENT TO CONTROL TRAFFIC AT SIGNALIZED INTERSECTIONS AS DIRECTED BY THE ENGINEER. PROVIDE PORTABLE "ROAD WORK AHEAD" (W20-1) SIGNS 500' IN ADVANCE ALONG BOTH APPROACHES FROM THE SIDE STREETS WHEN PAVING PROCEEDS THROUGH THE INTERSECTION.
- 5) LATERAL CLEARANCE AT ALL SIGN LOCATIONS SHALL BE 2' AS MEASURED FROM THE EDGE OF PAVEMENT OR THE FACE OF THE CURB. WHEN UNABLE TO OBTAIN THE LATERAL CLEARANCE WITHIN THE MEDIAN AREA USE SHOULDER MOUNTS ONLY.
- 6) SIGN MOUNT LOCATIONS SHALL NOT BLOCK SIDEWALKS OR DRIVEWAYS.
- 7) IF STATIONARY GENERAL WARNING SIGNS ARE USED, THEY WILL BE PAID FOR PER SECTION 104 OF THE NCDOT STANDARD SPECIFICATIONS AS EXTRA WORK.
- 8) IF MILLED AREAS ARE NOT PAVED BACK BY THE END OF THE WORK DAY, PORTABLE SIGNS SHALL BE USED TO WARN DRIVERS OF THE PRESENT CONDITIONS. THESE ARE TO INCLUDE, BUT NOT LIMITED TO "ROUGH ROAD" W8-8, "UNEVEN LANES" W8-11, "GROOVED PAVEMENT" W8-15 w/MOTORCYCLE PLAQUE MOUNTED BELOW. THESE ARE TO BE DOUBLE INDICATED ON MULTI-LANE ROADWAYS WITH SPEED LIMITS 45 MPH AND GREATER WHERE LATERAL CLEARANCE CAN BE OBTAINED WITHIN THE MEDIAN AREAS. THESE PORTABLE SIGNS ARE INCIDENTAL TO THE OTHER ITEMS OF WORK INCLUDED IN THE TEMPORARY TRAFFIC CONTROL (LUMP SUM) PAY ITEM.

LEGEND	
├	STATIONARY SIGN
➔	DIRECTION OF TRAFFIC FLOW



**RESURFACING ADVANCE  
WARNING SIGNS FOR  
URBAN / SUBURBAN  
FACILITIES**

### High Speed Detection (≥40 mph)

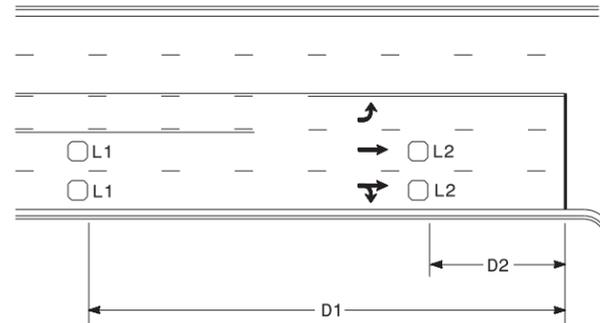


Speed Limit mph	D ft
40	250
45	300
50	355
55	420

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

Volume Density Operation

OR

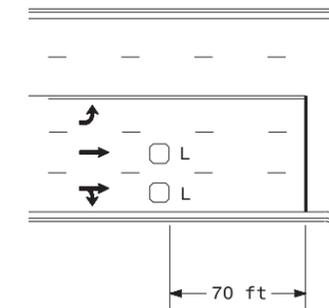


Speed Limit mph	D1 ft	D2 ft
40	250	80
45	300	90
50	355	100
55	420	110

L1 = 6ft X 6ft  
Wired in series  
L2 = 6ft X 6ft  
Wired in series

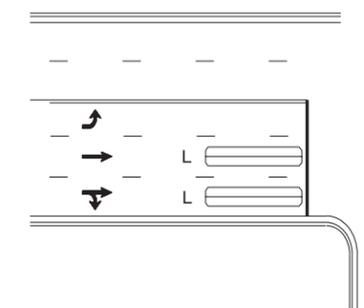
"Stretch" Operation

### Low Speed Detection (≤35 mph)



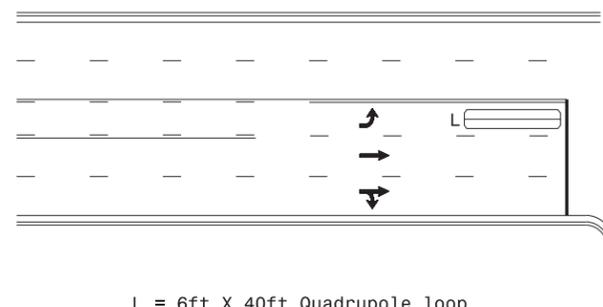
L = 6ft X 6ft  
Wired in series

OR



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

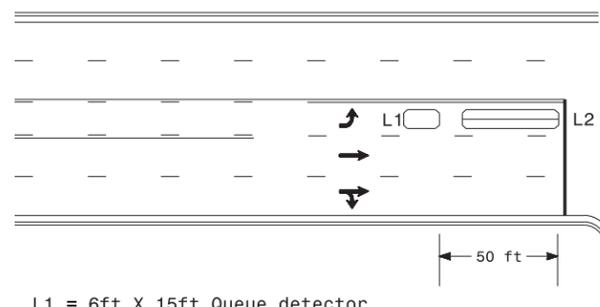
### Left Turn Lane Detection



L = 6ft X 40ft Quadrupole loop

Presence Loop Detection

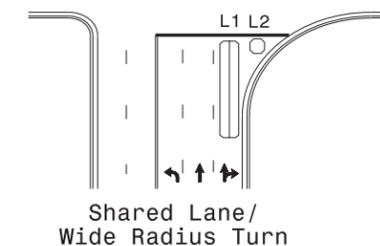
OR



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

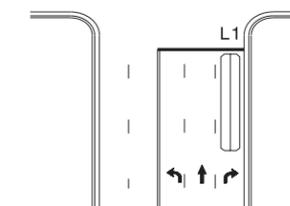
Queue Loop Detection

### Right Turn Lane Detection

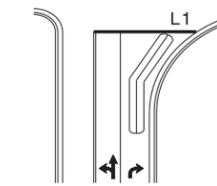


Shared Lane/  
Wide Radius Turn

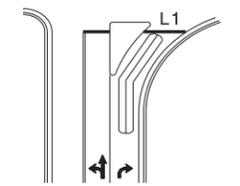
L1 = 6ft X 40ft Quadrupole loop  
L2 = 6ft X 6ft [Minimum] Presence loop  
Wired separately



Standard Turn

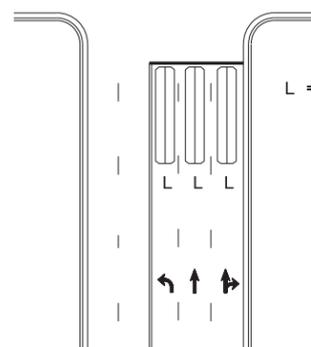


Wide Radius Turn



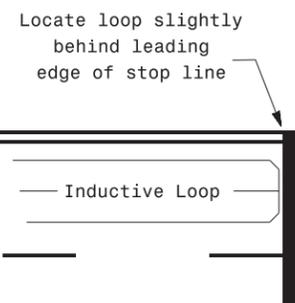
Channelized Turn

### 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

750 N. Greenfield Pkwy, Garner, NC 27529

SCALE  
N/A

Prepared in the Offices of:

**TRANSPORTATION MOBILITY AND SAFETY DIVISION**  
STATE OF NORTH CAROLINA  
SIGNAL DESIGN SECTION

**Typical Signal Loop Locations**

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

REVISIONS	INIT.	DATE

1/30/2015  
DATE

SEAL

SEAL  
23489  
ENGINEER  
Pamela L. Alexander

SIG. INVENTORY NO.