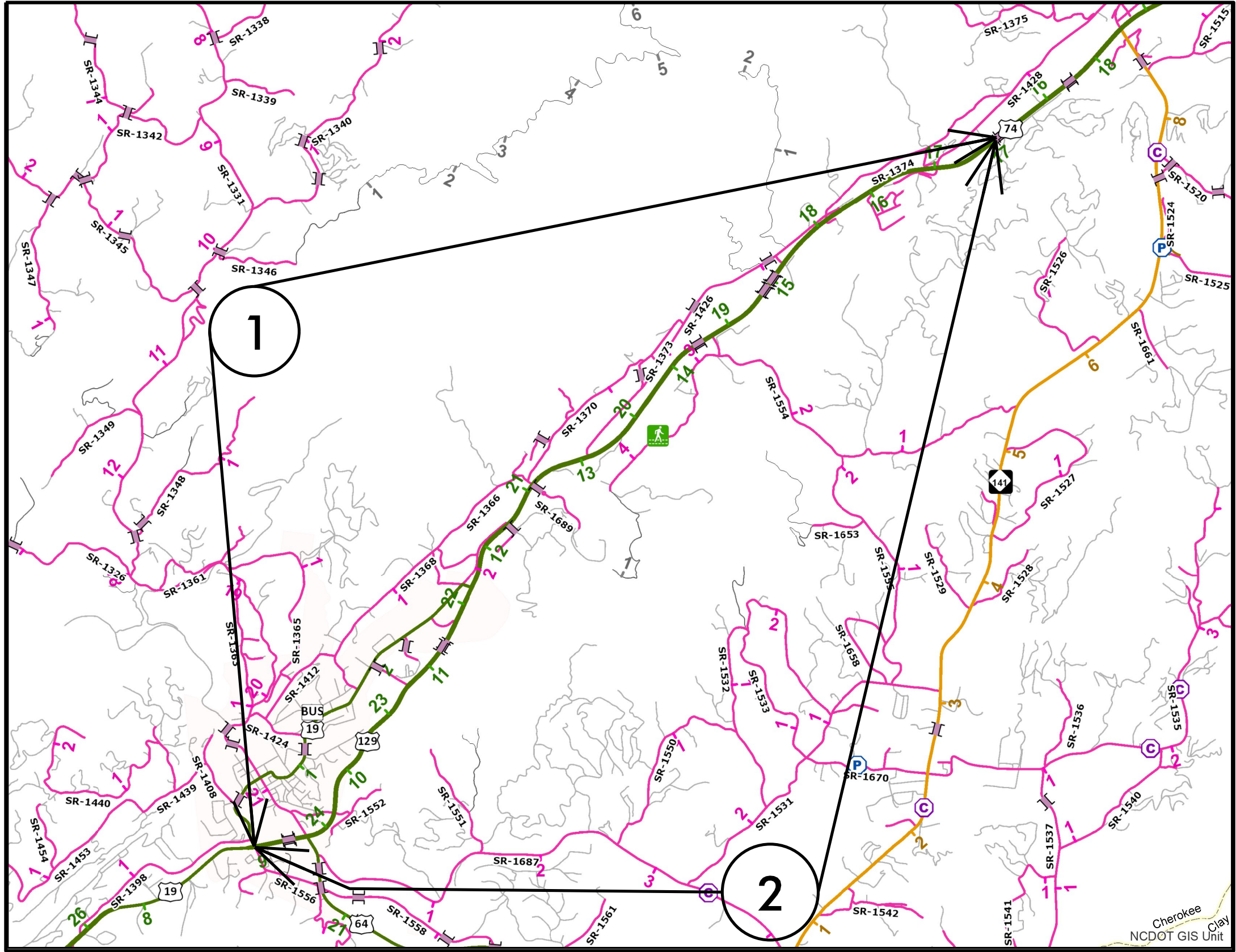


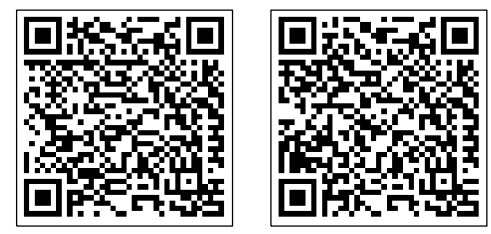
PROJECT REFERENCE NO.		SHEET NO.
2021CPT.14.12.10201		1
STATE PROJECT	F.A. PROJECT NO.	DESCRIPTION
2021CPT.14.12.10201		CONSTRUCTION

CHEROKEE COUNTY

TIP PROJECT: N/A

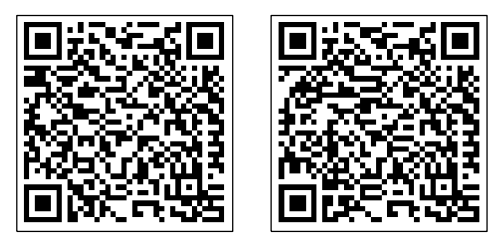


MAP 1



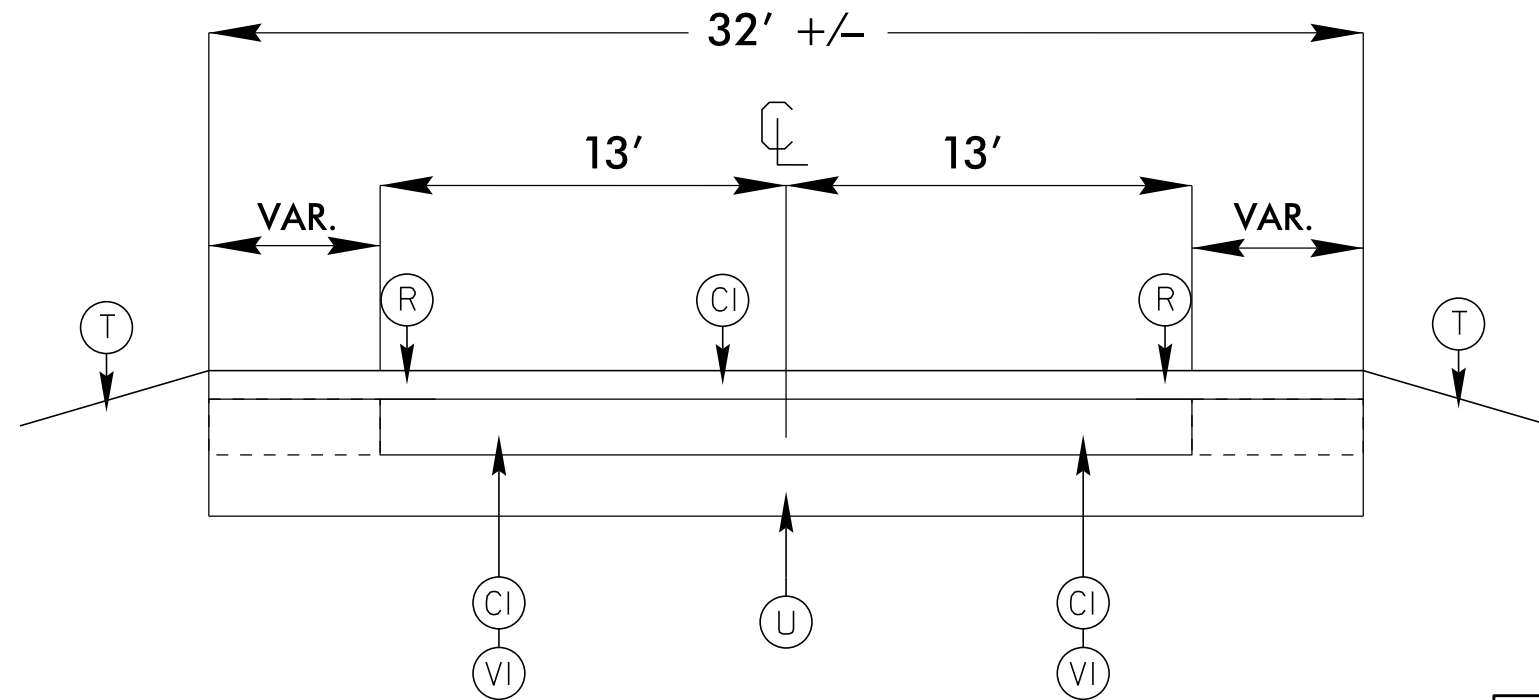
BEG END

MAP 2



BEG END

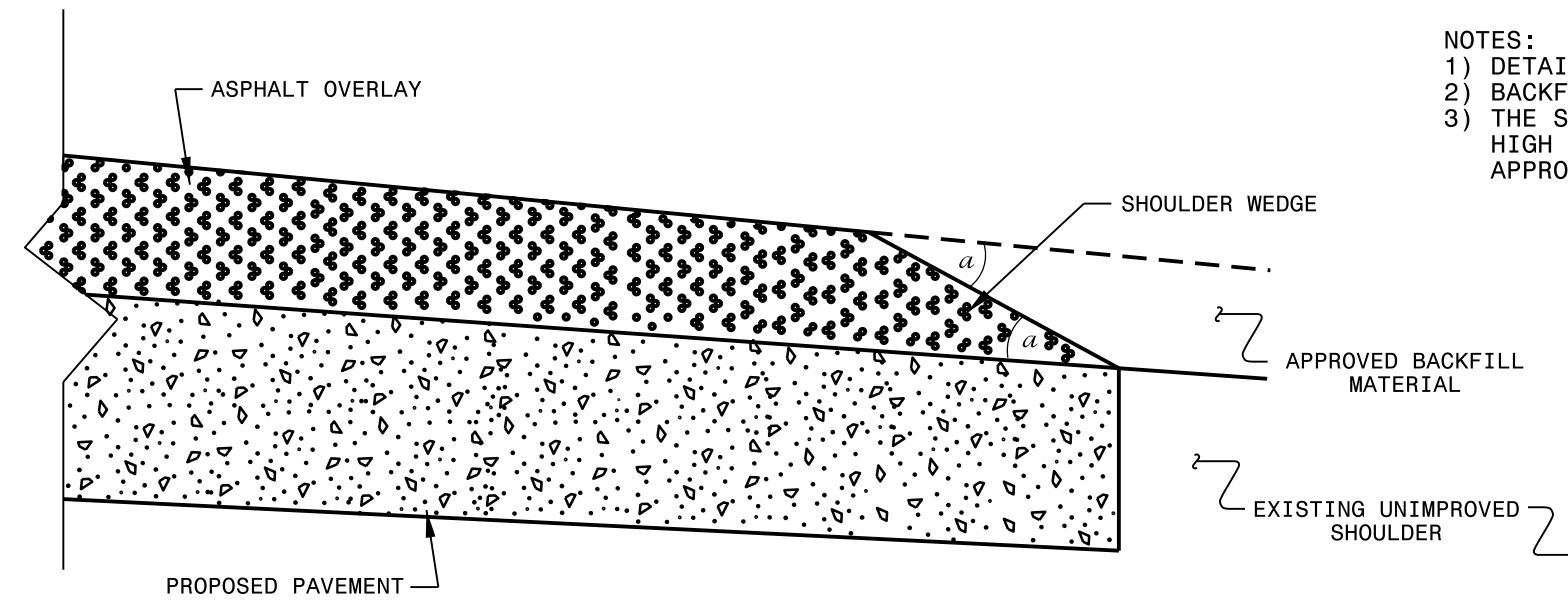
TYPICAL 1



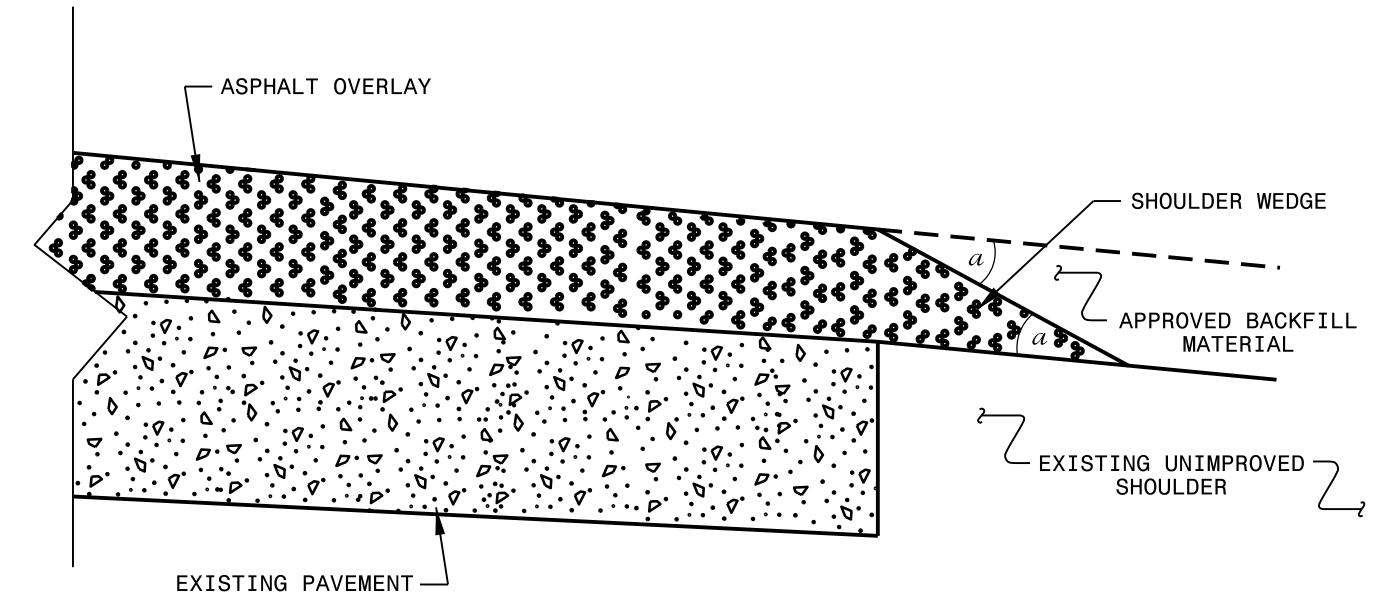
SURFACING SCHEDULE

ITEM NO.	DESCRIPTION
C1	PROP. APPROX. 1 1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
T	SHOULDER RECONSTRUCTION
U	EXISTING ASPHALT
R	MILLED RUMBLE STRIPS
V1	MILLED ASPHALT PAVEMENT 1 1/2" IN DEPTH IN LOCATIONS AS DIRECTED BY PROJECT ENGINEER.

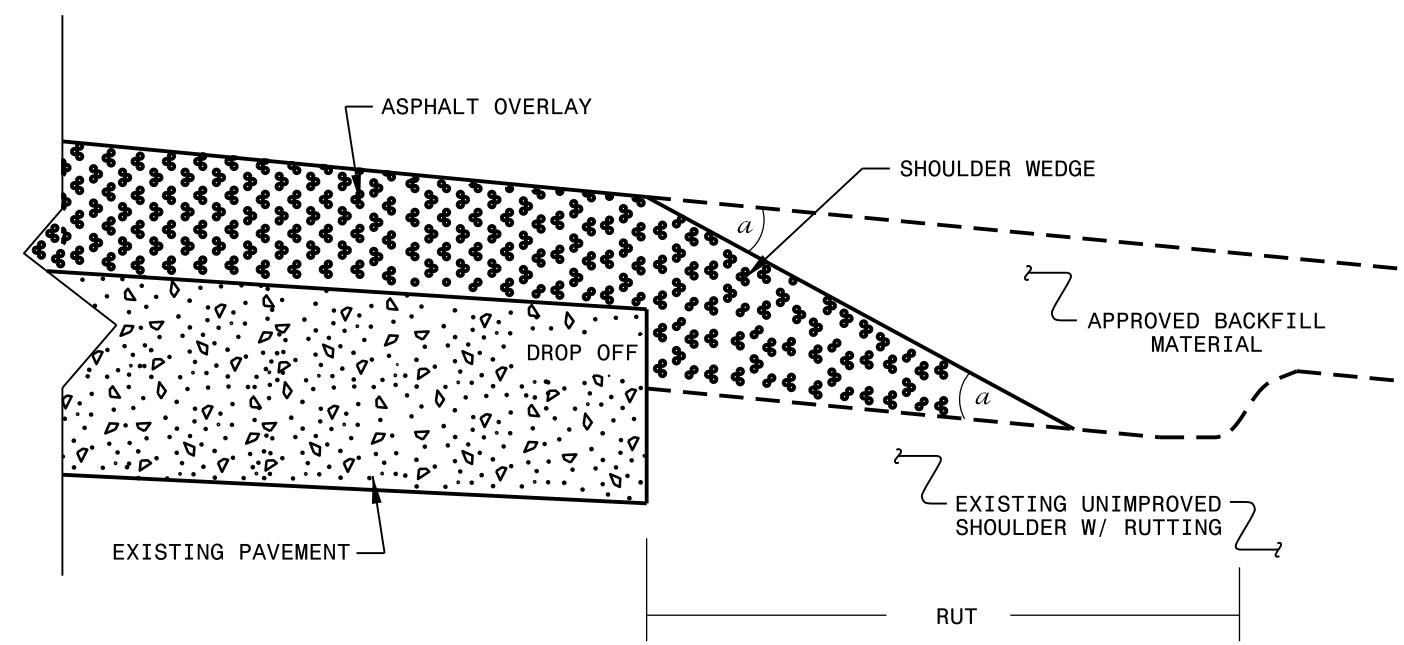
- NOTES:
- 1) DETAIL DOES NOT APPLY TO OGAFB AND ULTRA-THIN BONDED WEARING COURSE.
 - 2) BACKFILL SHOULDER WITH APPROVED MATERIAL.
 - 3) THE SHOULDER WEDGE DEVICE MAY BE DISENGAGED AT PAVED DRIVEWAYS, SIDE STREETS, HIGH SHOULDERS, AND OTHER LOCATIONS NOT FEASIBLE TO CONSTRUCT AS APPROVED BY THE ENGINEER.



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°

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

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\detail\stand\shoulderwedgedetail.dgn	

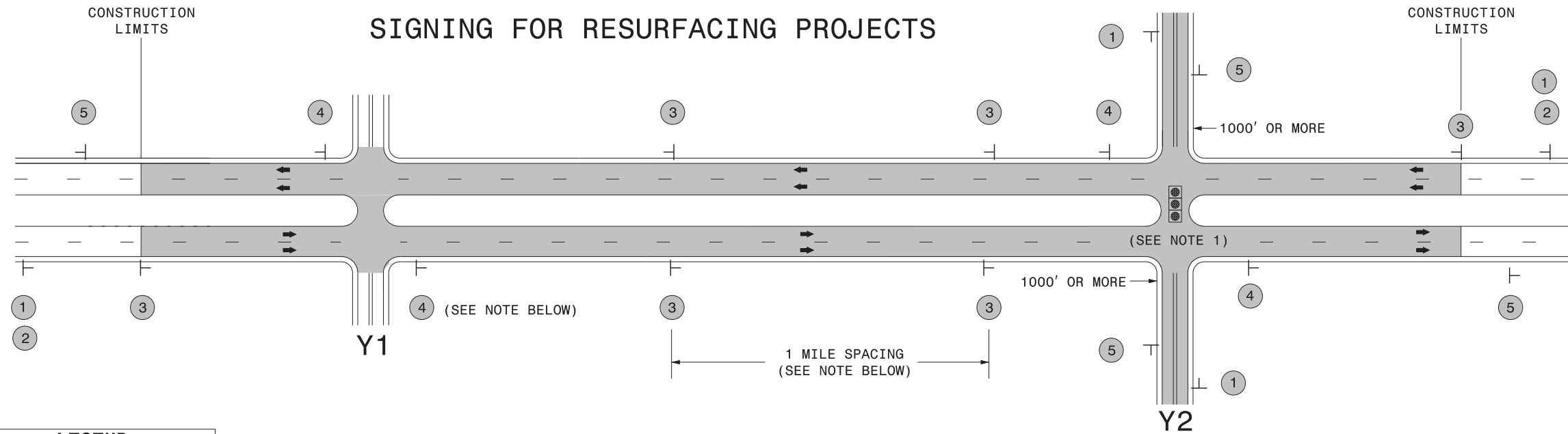
DOCUMENT NOT CONSIDERED FINAL
 UNLESS ALL SIGNATURES COMPLETED

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	1½" MILLING	SURFACE COURSE, S9.5C	ASPHALT BINDER FOR PLANT MIX	MILLED RUMBLE STRIPS (ASPHALT CEMENT CONCRETE) std.dwg 665.01	PULL BOX	INDUCTIVE LOOP	LEAD-IN CABLE (14-2)	ASPHALT PLUG JOINT REPAIR/ REPLACEMENT (18" TO 24" W/ PLATE)
										MI	FT	SMI	SY	TONS	TONS	LF	EA	LF	LF	LF
2021CPT.14.12.10201	Cherokee	1	US 19/74 WEST	FROM BRIDGE #69 TO US 19B/ SR-1556	1	2	MD	YES	NO	8.1	32	16.2	123,552	52,594	3,156	71,808	5	3,205	3,205	830
		2	US 19/74 EAST	FROM US 19B/ SR-1556 TO BRIDGE #68	1	2	MD	YES	NO	8.1	32	16.2	123,552	27,786	1,667	71,808		3,516	3,516	830
GRAND TOTAL FOR PROJ NO. 2021CPT.14.12.10201										16.2		32.4	247,104	80,380	4,823	143,616	5	6,721	6,721	1,660

THERMOPLASTIC AND PAINT QUANTITIES

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP NO	LANES	LANE TYPE	LENGT H	WIDTH	44130000	445700	4695000000-E			471000000					4725000000-E					4726110000-E	4810000000-E		4890000000-E		4892000000-N
										WZ ADV/ GEN. WARN. SIGNING	TEMP. TRAFFIC CONTROL	8" X 90 M WHITE THERMO	8" X 90 M YELLOW THERMO	24" X 90 M WHITE THERMO	THERMO LT ARROW 90 M	THERMO STR ARROW 90 M	THERMO RT ARROW 90 M	THERMO STR & LT ARROW 90 M	THERMO STR & RT ARROW 90 M	HEATED-IN-PLACE THERMO PM SYMBOL ^24"YIELD LINE	4" WHITE PAINT	4" YELLOW PAINT	4" X 50 MIL YELLOW THERMO	4" X 50 MIL WHITE THERMO	NON-CAST IRON SNOW-PLOWABLE PAVEMENT MARKERS					
										MI	FT	SF	LS	LF	LF	LF	EA	EA	EA	EA	EA	EA	LF	LF	LF	LF	EA			
2021CPT.14.12.10201	Cherokee	1	US 19/74 WEST	FROM BRIDGE #69 TO US 19B/ SR-1556	1	2	MD	8.1	32	705	*	1,430	20	660	42	19	22	1		5	53,238	42,768	42,768	53,622	550					
		2	US 19/74 EAST	FROM US 19B/ SR-1556 TO BRIDGE #68	1	2	MD	8.1	32	705		652	440	715	37	17	13		2		53,238	42,768	42,768	53,622	550					
GRAND TOTAL FOR PROJ NO. 2021CPT.14.12.10201										16.2		1,410	1	2,082	460	1,375	79	36	35	1	2	5	106,476	85,536	85,536	107,244	1,100			
														2,542				153			192,012		192,780							

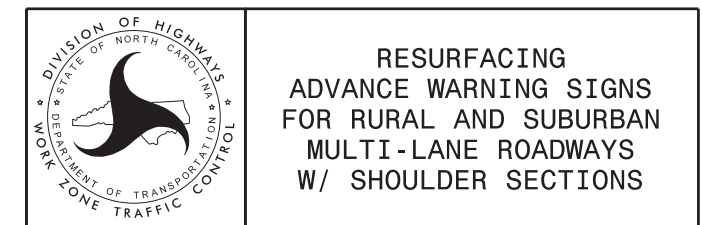


LEGEND	
┆	STATIONARY SIGN
←	DIRECTION OF TRAFFIC FLOW

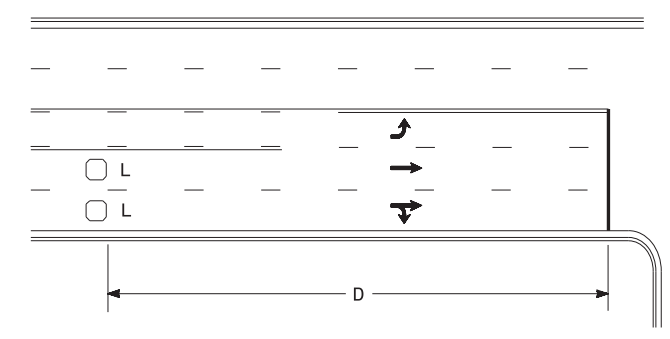
MAINLINE (-L-) SIGNING

-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"> 1) LESS THAN 1000' OF RESURFACING ALONG -Y- LINE 2) SUBDIVISION ROADS 3) DEAD END ROADS <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> <p>NOTES:</p> <ol style="list-style-type: none"> 1) 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.
	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.		



High Speed Detection (≥40 mph)

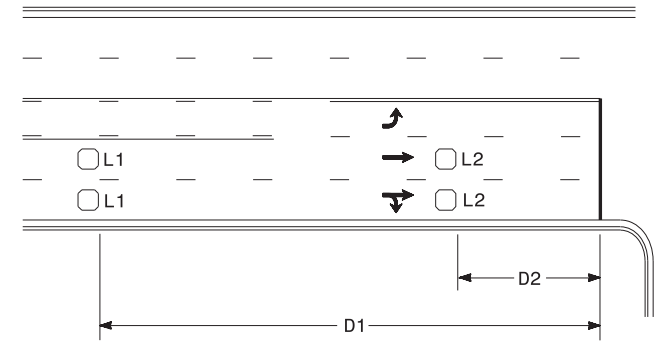


Speed Limit mph	D ft
40	250
45	300
50	355
55	420

L = 6ft X 6ft
Wired separately

Volume Density Operation

OR



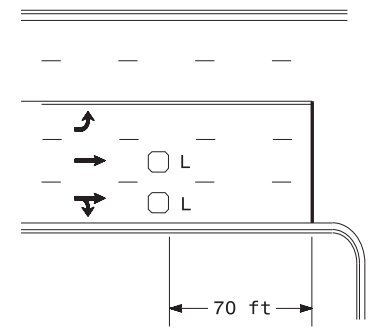
Speed Limit mph	D1 ft	D2 ft
40	250	80
45	300	90
50	355	100
55	420	110

L1 = 6ft X 6ft
Wired in series

L2 = 6ft X 6ft
Wired in series

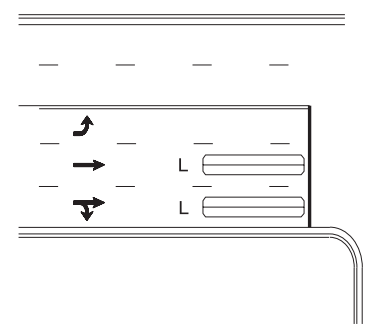
"Stretch" Operation

Low Speed Detection (≤35 mph)



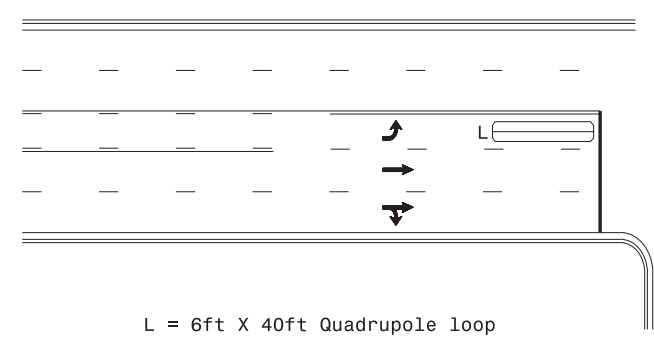
L = 6ft X 6ft
Wired in series

OR



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

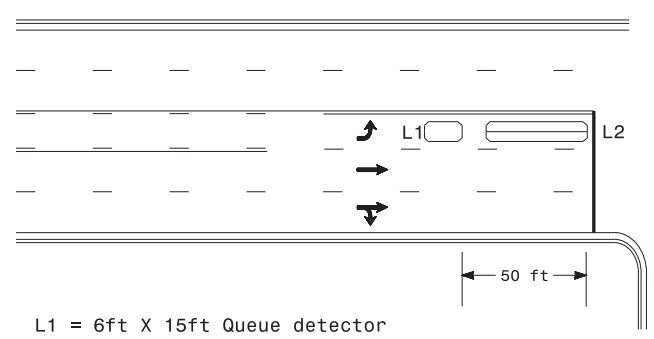
Left Turn Lane Detection



L = 6ft X 40ft Quadrupole loop

Presence Loop Detection

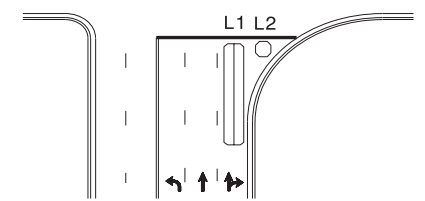
OR



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

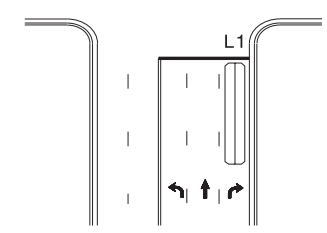
Queue Loop Detection

Right Turn Lane Detection

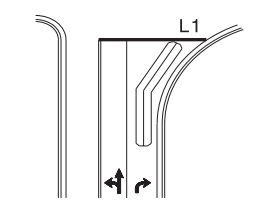


Shared Lane/
Wide Radius Turn

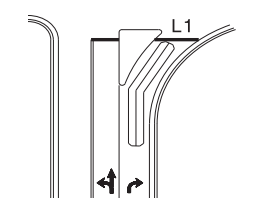
L1 = 6ft X 40ft Quadrupole loop
L2 = 6ft X 6ft [Minimum] Presence loop
Wired separately



Standard Turn

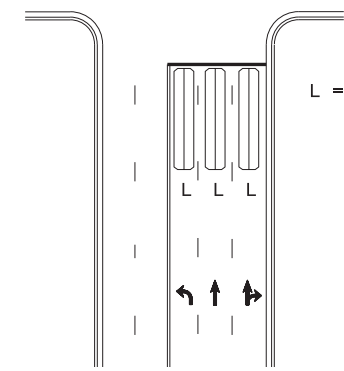


Wide Radius Turn



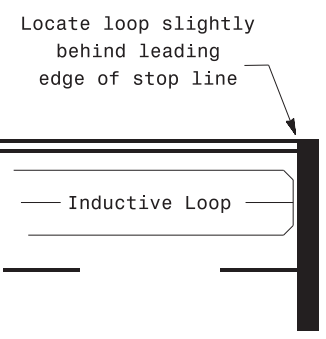
Channelized Turn

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

09-SEP-2020 11:54 S:\17525\17525\SIGNAL\Signal Design Section\Eastern Region\Loop Typo\cal\cal2015.dgn JGallaway

750 N. Greenfield Pkwy, Garner, NC 27529

Prepared In the Offices of:

Typical Signal Loop Locations	
PLAN DATE: September 2020	REVIEWED BY: JPG
PREPARED BY: PLA	REVIEWED BY:
SCALE: N/A	REVISIONS: INIT. DATE

9/8/2020
DATE

SIG. INVENTORY NO.