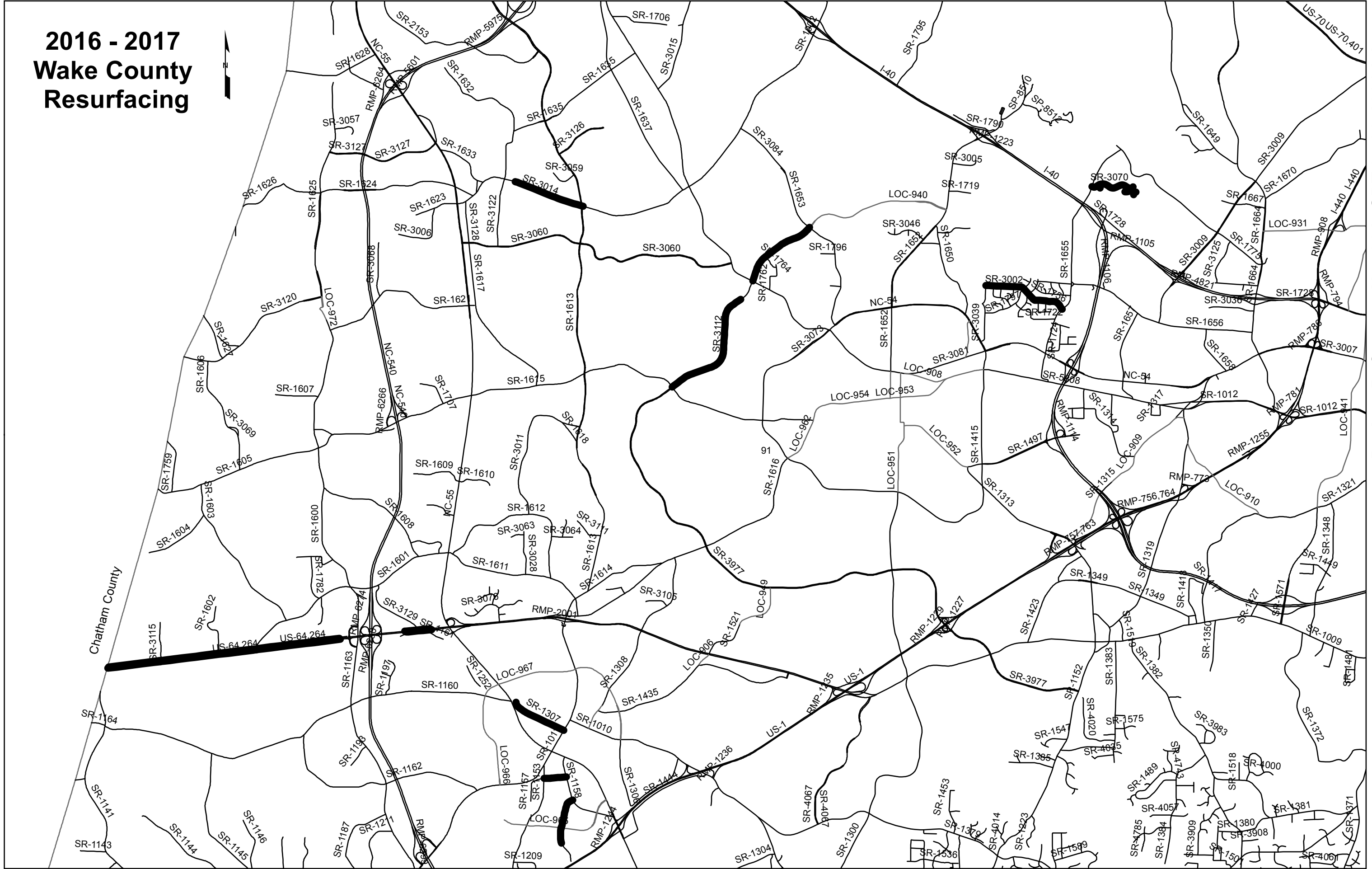


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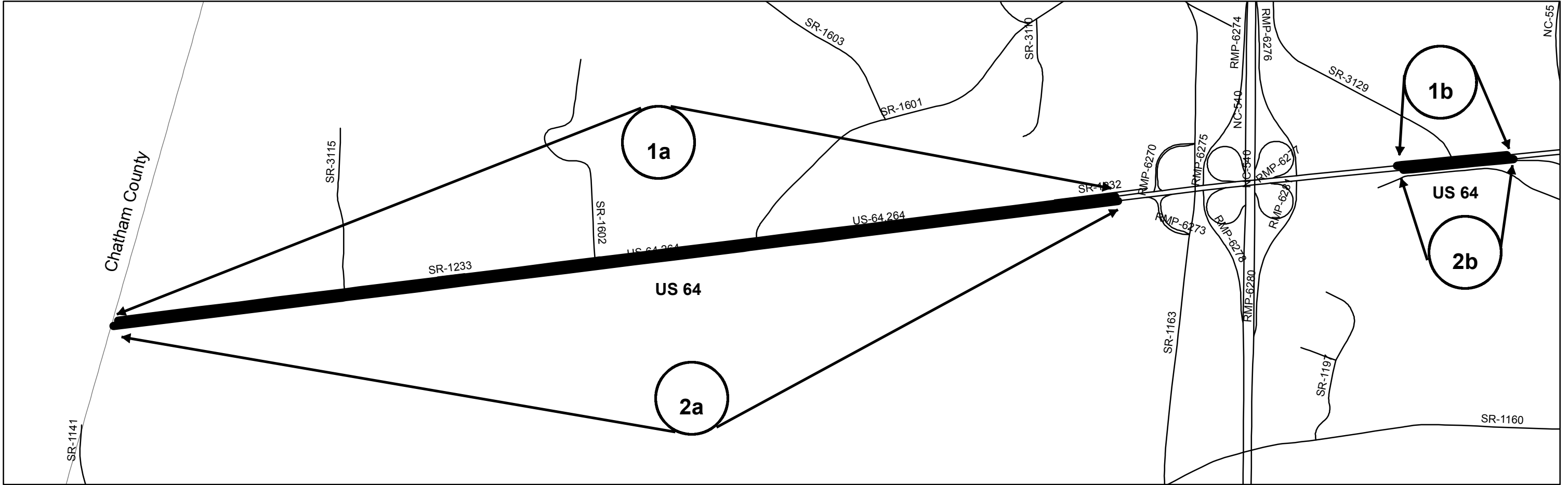
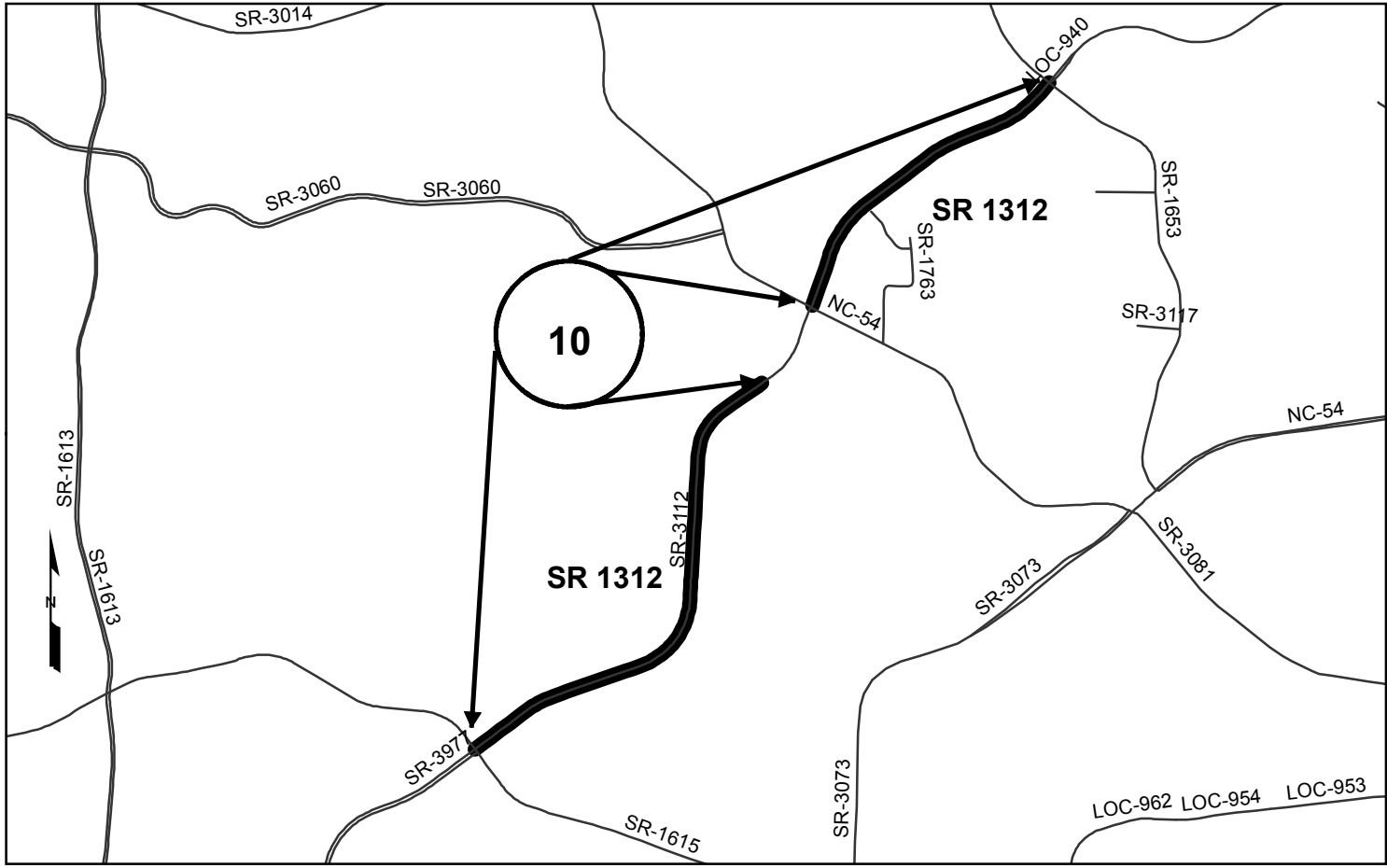
**This file or an individual page
shall not be considered a certified document.**

2016 - 2017 Wake County Resurfacing



Project Reference No. 2017CPT.05.03.10921.1, etc.

Sheet No. 1



PAVEMENT SCHEDULE

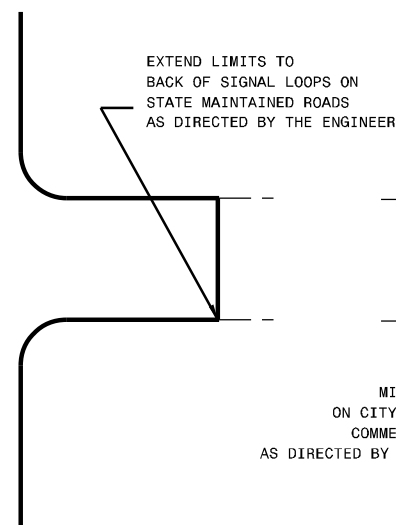
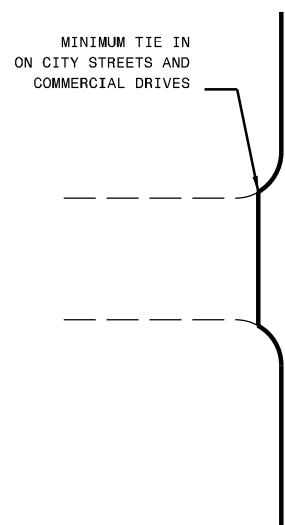
PROJECT REFERENCE NO.
2017CPT.05.03.10921.1, etc.

SHEET NO.
4

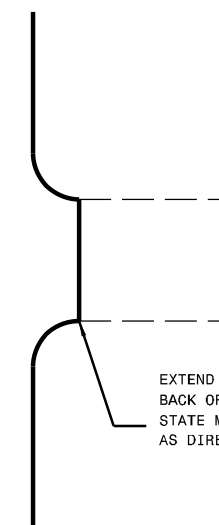
C1	1¼" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD.
C2	1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
C3	1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
D	2½" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 285 LBS. PER SQ. YD.
S	PROP. SHOULDER GRADING
U	EXISTING PAVEMENT
V1	2½" MILLING
V2	0" - 1½" MILLING NEW ASPHALT TO BE PAVED BACK FLUSH
V3	1½" MILLING

NOTES

ALL UNPAVED S.R. ROADS TO BE RESURFACED 50' FROM EDGE OF PAVEMENT OF MAIN PROJECT
ALL PAVED S.R. ROADS TO BE RESURFACED TO THE ENDS OF THE RADII, OR AS DIRECTED BY THE ENGINEER.
EDGES, PAVEMENT WIDENING, INTERSECTIONS AND BRIDGE FLARES ARE INCLUDED IN THE TABLE OF QUANTITIES.
BRIDGES TO BE RESURFACED AT LOCATIONS AND TO DEPTH AS DIRECTED BY THE ENGINEER.



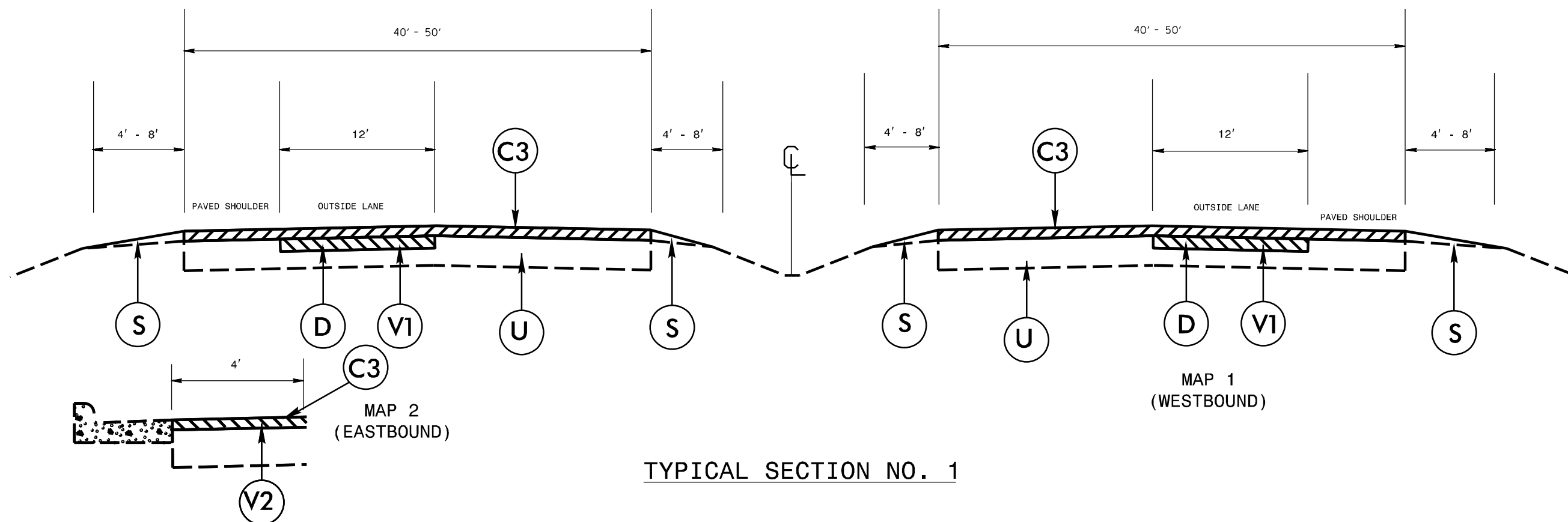
MINIMUM TIE IN
ON CITY STREETS AND
COMMERCIAL DRIVES
AS DIRECTED BY THE ENGINEER



EXTEND LIMITS TO
BACK OF RADIUS ON
STATE MAINTAINED ROADS
AS DIRECTED BY THE ENGINEER

DETAIL OF PROJECT LIMITS AT
SIGNALIZED Y LINES

DETAIL OF PROJECT LIMITS AT
UNSIGNALIZED Y LINES

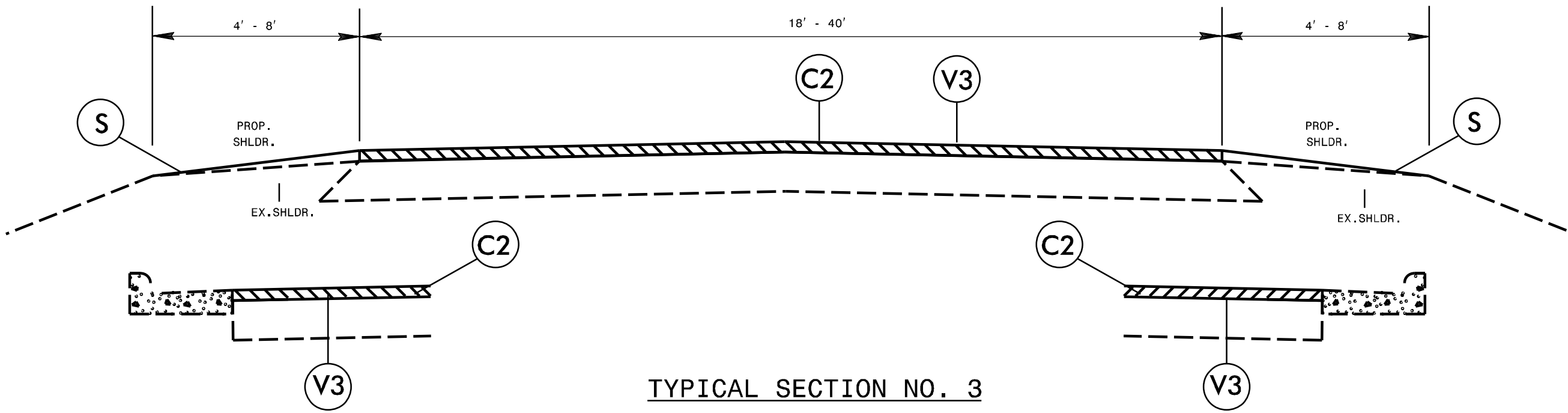
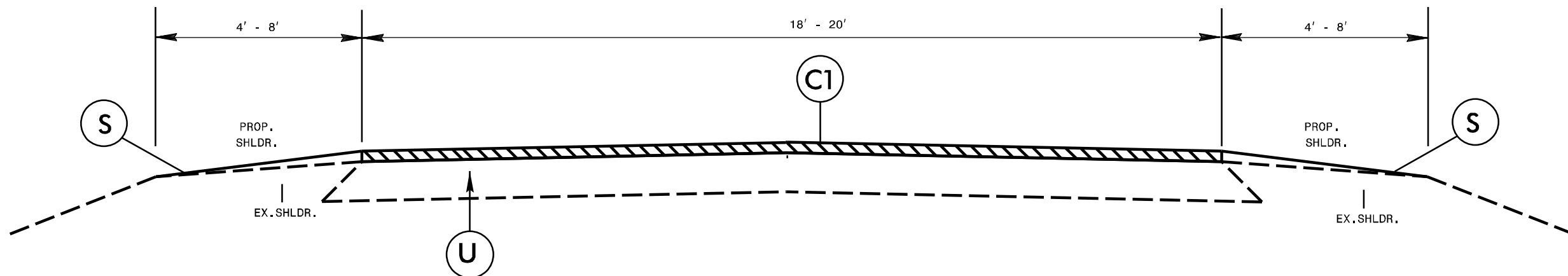
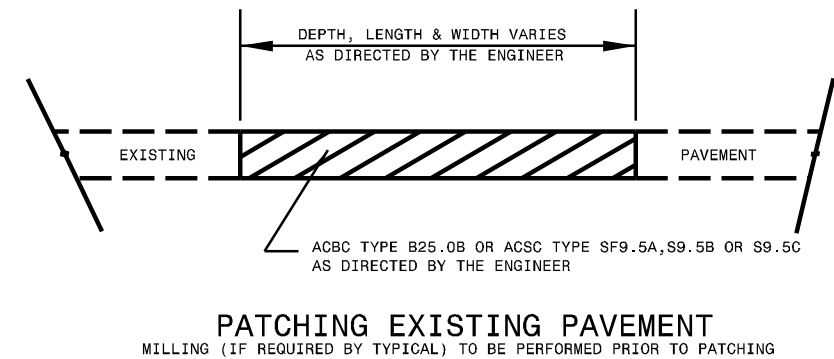
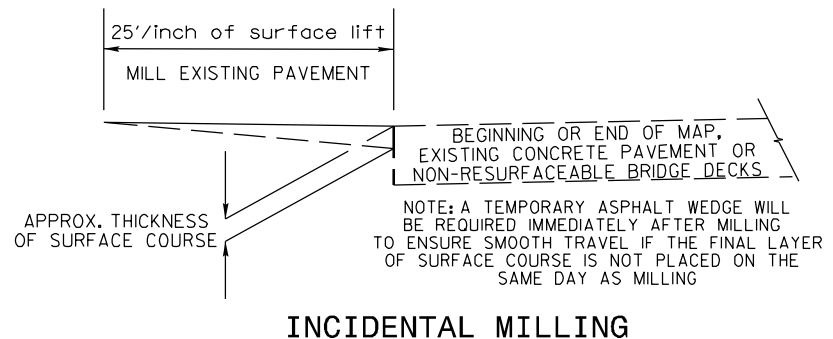


PAVEMENT SCHEDULE

PROJECT REFERENCE NO.
2017CPT.05.03.10921.1, etc.

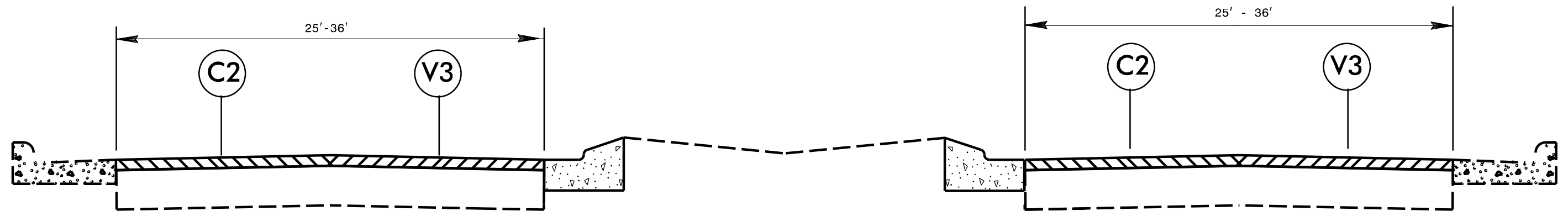
SHEET NO.
5

C1	1¼" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD.
C2	1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
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D	2½" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 285 LBS. PER SQ. YD.
S	PROP. SHOULDER GRADING
U	EXISTING PAVEMENT
V1	2½" MILLING
V2	0" - 1½" MILLING NEW ASPHALT TO BE PAVED BACK FLUSH
V3	1½" MILLING



PAVEMENT SCHEDULE

C1	1¼" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD.
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S	PROP. SHOULDER GRADING
U	EXISTING PAVEMENT
V1	2½" MILLING
V2	0" - 1½" MILLING NEW ASPHALT TO BE PAVED BACK FLUSH
V3	1½" MILLING



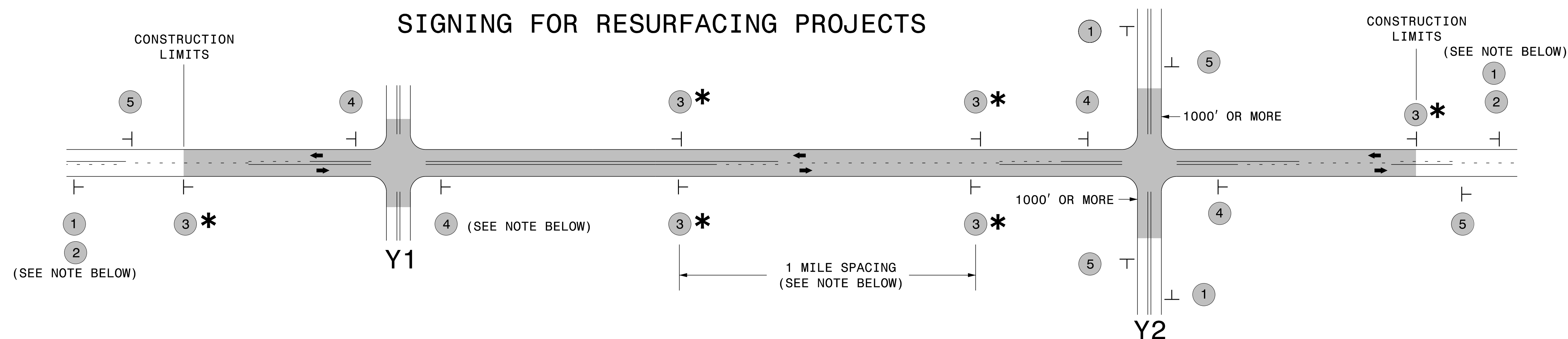
TYPICAL SECTION NO. 4

PROJECT NO.	SHEET NO.	TOTAL NO.
2017CPT.05.03.10921.1		
2017CPT.05.03.20921.1		

SUMMARY OF QUANTITIES

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP	LANES	LANE TYPE	FINAL SURFACE TESTING REQUIRED	WARMMX ASPHALT REQUIRED	LENGTH	WIDTH	BORROW	AGGREGATE SHOULDER BORROW (ASB) TON	SHOULDER GRADING	INCIDENTAL STONE BASE	2.5" MILLING	1 1/2" MILLING	0" TO 1.5" MILLING	INCIDENTAL MILLING	INTERMEDIATE COURSE, I19.0C TONS	SURFACE COURSE, S9.5B TONS	SURFACE COURSE, S9.5C TONS	SURFACE COURSE, SF9.5A TON	ASPHALT BINDER FOR PLANT MX TON	PATCHING EXISTING PAVEMENT TONS	ADJUST MANHOLES EA	ADJUST METER OR VALVE BOX EA	PORTABLE LIGHTING LS	TEMPORARY SILT FENCE LF	WATTLE LF	SEED & MULCHING AC	INDUCTIVE LOOP LF	
2017CPT.05.03.10921.1	Wake	1	US 64 WESTBOUND	PAVEMENT JOINT .2 MI WEST OF SR 1163 TO CHATHAM CO	1	2	MD	YES	NO	2.73	40-50		936	5.46	137	19,312			1,560	2,752		6,598		521	70			0.26					
		"	"	JOINT .2 MILES WEST OF NC 55 TO JOINT 95' EAST OF CREEKSIDE LANDING DR	1	2	MD	YES	NO	0.265	40-50		103	0.53	13	1,867			950	267		665		52	30			0.03					
TOTAL FOR MAP NO. 1										2.995			1,039	5.99	150	21,179			2,510	3,019		7,263		573	100			0.29					
2017CPT.05.03.10921.1	Wake	2	US 64 EASTBOUND	CHATHAM COUNTY LINE TO PAVEMENT JOINT .2 MI WEST OF SR 1163	1	2	MD	YES	NO	2.75	40-50		943	5.50	140	19,360		76	350	2,759		6,426		512	70			0.26					
		"	"	JOINT 150' EAST OF CREEKSIDE LANDING TO PAVEMENT JOINT .2 MI WEST OF NC 55	1	2	MD	YES	NO	0.317	40-50		108	0.63	16	2,234			390	319		719		58	30			0.03					
TOTAL FOR MAP NO. 2										3.067			1,051	6.13	156	21,594		76	740	3,078		7,145		570	100			0.29					
TOTAL FOR PROJ NO. 2017CPT.05.03.10921.1										6.062			2,090	12.12	306	42,773		76	3,250	6,097		14,408		1,143	200			0.58					
2017CPT.05.03.20921.1	Wake	3	SR 1756 - ELECTRA DR/BRANDYWINE RD	SR 1797 - MEDFIELD DR TO SR 1655 - TRINITY RD	3	2	2WU	NO	NO	0.55	20-25	43		0.43	11		8,067		145		724		43	10				31	80	0.31			
TOTAL FOR MAP NO. 3										0.55		43		0.43	11		8,067		145		724		43	10			31	80	0.31				
2017CPT.05.03.20921.1	Wake	4	SR 3002 - ELECTRA DR	SR 1797 - MEDFIELD DR TO SR 3055 - TROPICAL DR	3	2	2WU	NO	NO	0.46	21-25						6,747		811		668		40	80									
TOTAL FOR MAP NO. 4										0.46							6,747		811		668		40	80									
2017CPT.05.03.20921.1	Wake	5	SR 3014 - MORRISVILLE CARPENTER RD	SR 1613 - DAVIS DR TO .12 MI. E OF SR 1635 - HAMILTON HEDGE PL	3	3	MU	NO	NO	0.85	27-40	64		0.64	16		20,278		368		1,821		109	100			0.19	46	120	0.46	816		
TOTAL FOR MAP NO. 5										0.85		64		0.64	16		20,278		368		1,821		109	100			0.19	46	120	0.46	816		
2017CPT.05.03.20921.1	Wake	6	SR 3070 - WINDY WOODS DR	SR 1655 - TRENTON RD TO DEAD END	3	2	2WU	NO	NO	0.58	20						6,805		89		608		36	40									
TOTAL FOR MAP NO. 6										0.58							6,805		89		608		36	40									
2017CPT.05.03.20921.1	Wake	7	SR 3071 - FIELDVIEW CT	SR 3070 - WINDY WOODS DR TO DEAD END	2	2	2WU	NO	NO	0.04	18-20	8		0.08	2				310				56	4	5			6	20	0.06			
TOTAL FOR MAP NO. 7										0.04		8		0.08	2				310				56	4	5			6	20	0.06			
2017CPT.05.03.20921.1	Wake	8	SR 3086 - BYERS DR	CUL-DE-SAC - TO CUL-DE-SAC	2	2	2WU	NO	NO	0.12	20	24		0.24	6				178			155	10	5	3	4		17	50	0.17			
TOTAL FOR MAP NO. 8										0.12		24		0.24	6				178			155	10	5	3	4		17	50	0.17			
2017CPT.05.03.20921.1	Wake	9	SR 3087 - ABNEY PLACE	SR 3070 - WINDY WOODS DR TO CUL-DE-SAC	3	2	2WU	NO	NO	0.03	18	6		0.06	2		317		280		54		3	2	1	2		4	20	0.04			
TOTAL FOR MAP NO. 9										0.03		6		0.06	2		317		280		54		3	2	1	2		4	20	0.04			
2017CPT.05.03.20921.1	Wake	10	SR 3112 - NW CARY PKWY	FROM SR 1615 - HIGH HOUSE RD TO END OF RR BRIDGE AND FROM NC 54 TO SR 1653 - EVANS RD	4	4	MD	NO	NO	2.68	50						80,100		3,974		7,415		445	80			0.23					3,300	
TOTAL FOR MAP NO. 10										2.68							80,100		3,974		7,415		445	80			0.23					3,300	
2017CPT.05.03.20921.1	Wake	11	SR 1157 - JAMES ST	FROM SR 1158 - S HUGHES ST TO SR 1153 - TINGEN RD	3	2	2WU	NO	NO	0.26	19-20						3,051		285		271		16	25									
TOTAL FOR MAP NO. 11										0.26							3,051		285		271		16	25									
2017CPT.05.03.20921.1	Wake	12	SR 1171 - PERRY RD	SR 1158 - S HUGHES ST TO END OF PAVEMENT	3	2	2WU	NO	NO	0.55	30-32	12	1.00	0.12	3		10,325		760		978		59	20				9	30	0.09			
TOTAL FOR MAP NO. 12										0.55		12	1.00	0.12	3		10,325		760		978		59	20				9	30	0.09			
2017CPT.05.03.20921.1	Wake	13	SR 1307 - W CHATHAM ST	HUNTER ST TO SR 1011 - S SALEM ST	3	2	2WU	NO	NO	0.67	28-32	30		0.30	7		11,006		282		996		60	20			22	60	0.22	198			
TOTAL FOR MAP NO. 13										0.67		30		0.30	7		11,006		282		996		60	20			22	60	0.22	198			
TOTAL FOR PROJ NO. 2017CPT.05.03.20921.1										6.79		187	1.00	1.86	47		146,696		7,482		13,535		211	825	387	4	6	0.42	135	380	1.35	4,314	
GRAND TOTAL										12.852		187	2,091	13.98	353	42,773	146,696	76	10,732	6,097	13,535	14,408	211	1,968	587	4	6	1.00	135	380	1.35	4,314	

SIGNING FOR RESURFACING PROJECTS



LEGEND	
	STATIONARY SIGN
←	DIRECTION OF TRAFFIC FLOW

MAINLINE (-L-) SIGNING

-Y- LINE SIGNING

SIGNING NOTES AND PLACEMENT PER DIRECTION		
1 2		<p style="text-align: center;">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 style="text-align: center;">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; align-items: center;"> <div style="text-align: center;"> <p>W20-1 48" X 48"</p> </div> <div style="text-align: center;"> <p>W20-7 A 48" X 48"</p> </div> </div> <p style="text-align: center;">PLACED 500' IN ADVANCE OF FLAGGER. PLACED 250' IN ADVANCE OF FLAGGER.</p>
3 *		<p>PLACE 1000' PRIOR TO BEGINNING OF CONSTRUCTION LIMITS. ONLY USED ON -Y- LINES IF RESURFACING LIMITS EXTEND 1000' ALONG -Y- LINE.</p> <p>#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)</p> <p>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.</p>
4		<p>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.</p>
5		<p>PLACE 500' FOLLOWING THE END OF CONSTRUCTION LIMITS.</p>

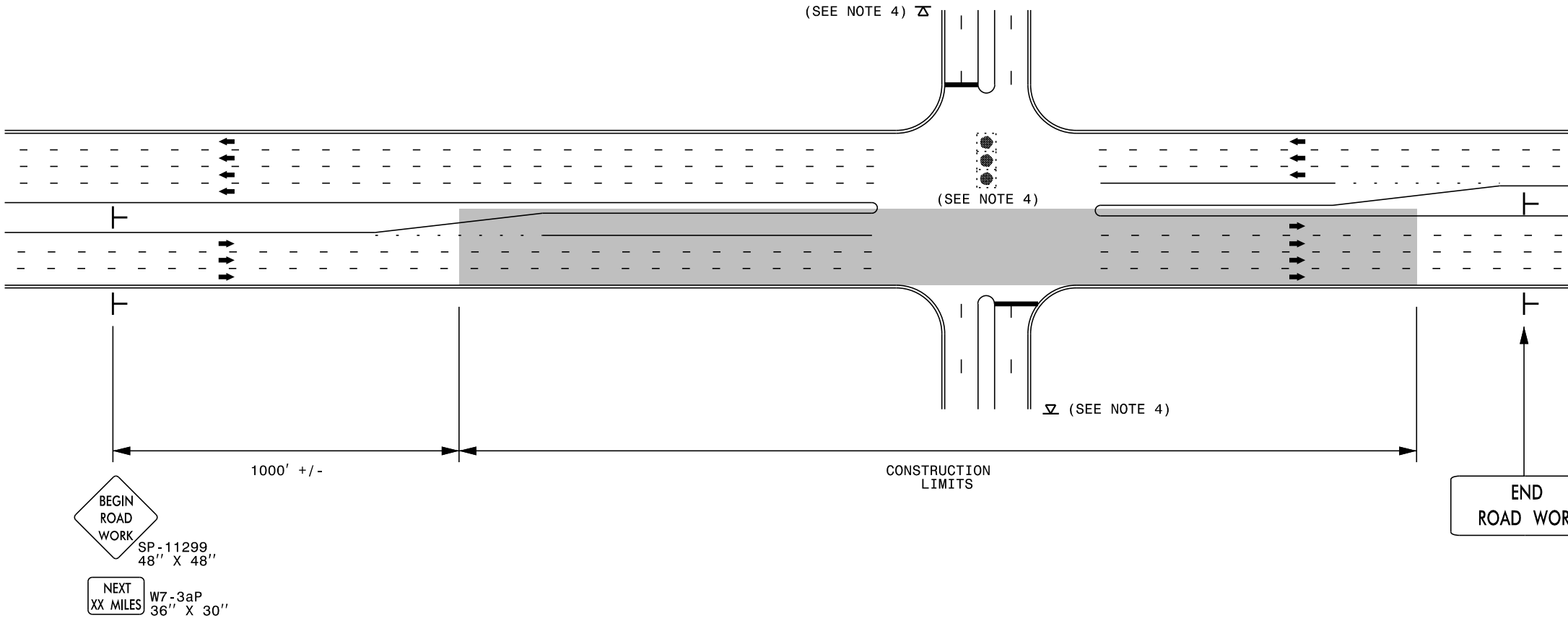
* SIGNING FOR ASPHALT SURFACE TREATMENTS (ONLY)

SUBSTITUTE LOW/SOFT SHOULDER SIGNS BY ALTERNATING THE FOLLOWING TWO SIGNS:
STARTING WITH "UNMARKED PAVEMENT AHEAD" (SP 06026) FOLLOWED BY "LOOSE GRAVEL" (W8-7).



**RESURFACING
ADVANCE WARNING SIGNS
FOR
RURAL AND SUBURBAN
2 LANE ROADWAYS**

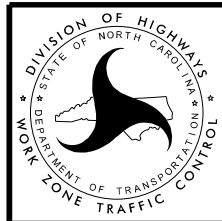
URBAN / SUBURBAN WORKZONES



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.

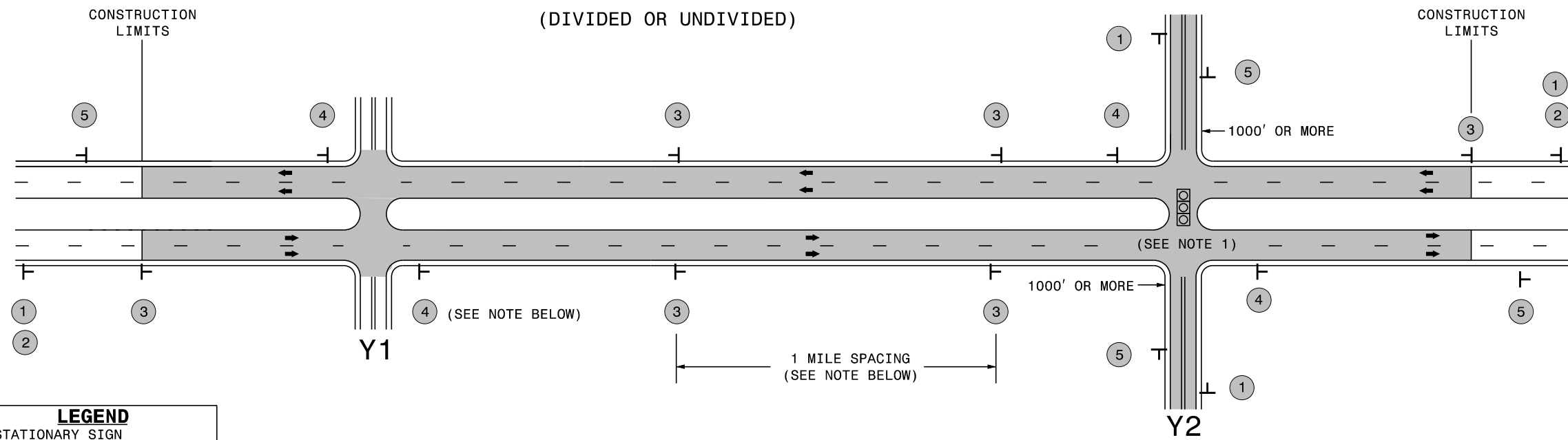
LEGEND	
┬	STATIONARY SIGN
➔	DIRECTION OF TRAFFIC FLOW



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

2/24/2014 S:\TMD\WZTC\Resurfacing\2013Documents\New_Procedures_05_09_2013\Resurfacing_AdvWarn_UrSub.dgn

SIGNING FOR RURAL AND SUBURBAN MULTI-LANE ROADWAYS WITH SHOULDER SECTIONS (DIVIDED OR UNDIVIDED)



LEGEND	
┆	STATIONARY SIGN
←	DIRECTION OF TRAFFIC FLOW

MAINLINE (-L-) SIGNING

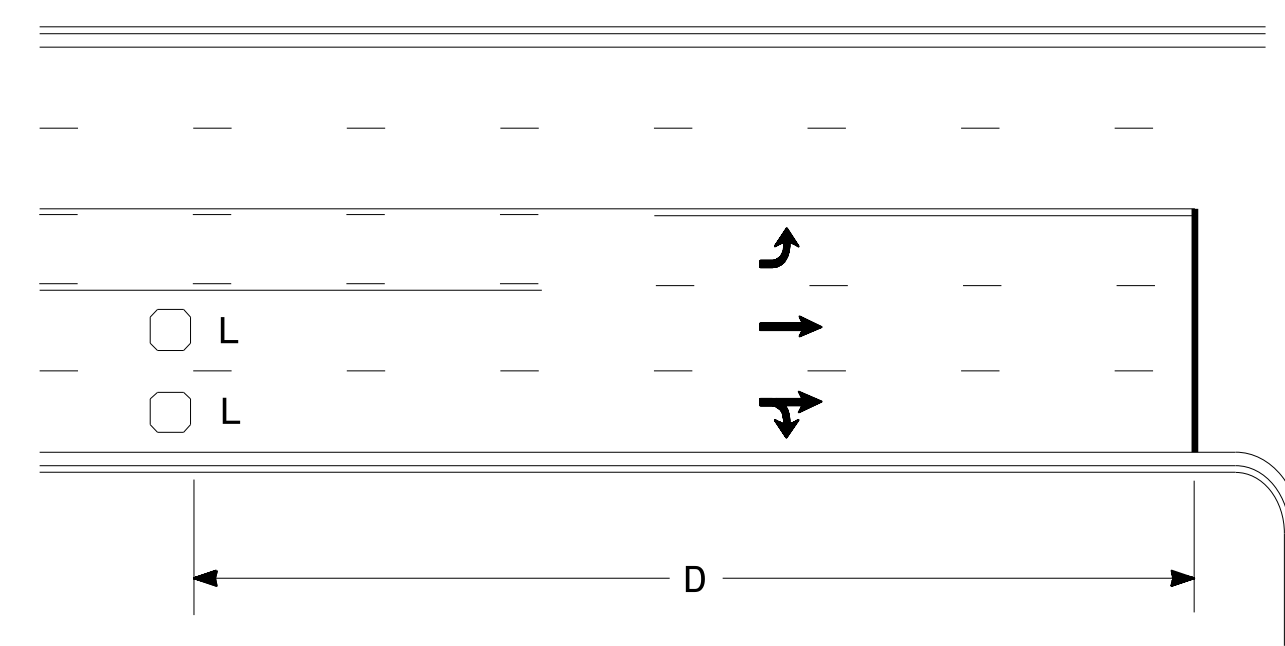
-Y- LINE SIGNING

SIGNING NOTES AND PLACEMENT PER DIRECTION		
1 2	<p>PLACE 1000' PRIOR TO BEGINNING OF CONSTRUCTION LIMITS. ONLY USED ON -Y- LINES IF RESURFACING LIMITS EXTEND 1000' ALONG -Y- LINE.</p> <p>#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)</p>	<p style="text-align: center;">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; align-items: center;"> <div style="text-align: center;"> <small>W20-1 48" X 48"</small> </div> <div style="text-align: center;"> <small>W20-7 A 48" X 48"</small> </div> </div> <p style="text-align: center;">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.
3	<p>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.</p>	
4	<p>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.</p>	
5	<p>PLACE 500' FOLLOWING THE END OF CONSTRUCTION LIMITS.</p>	

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**RESURFACING
ADVANCE WARNING SIGNS
FOR RURAL AND SUBURBAN
MULTI-LANE ROADWAYS
W/ SHOULDER SECTIONS**

High Speed Detection (≥40 mph)

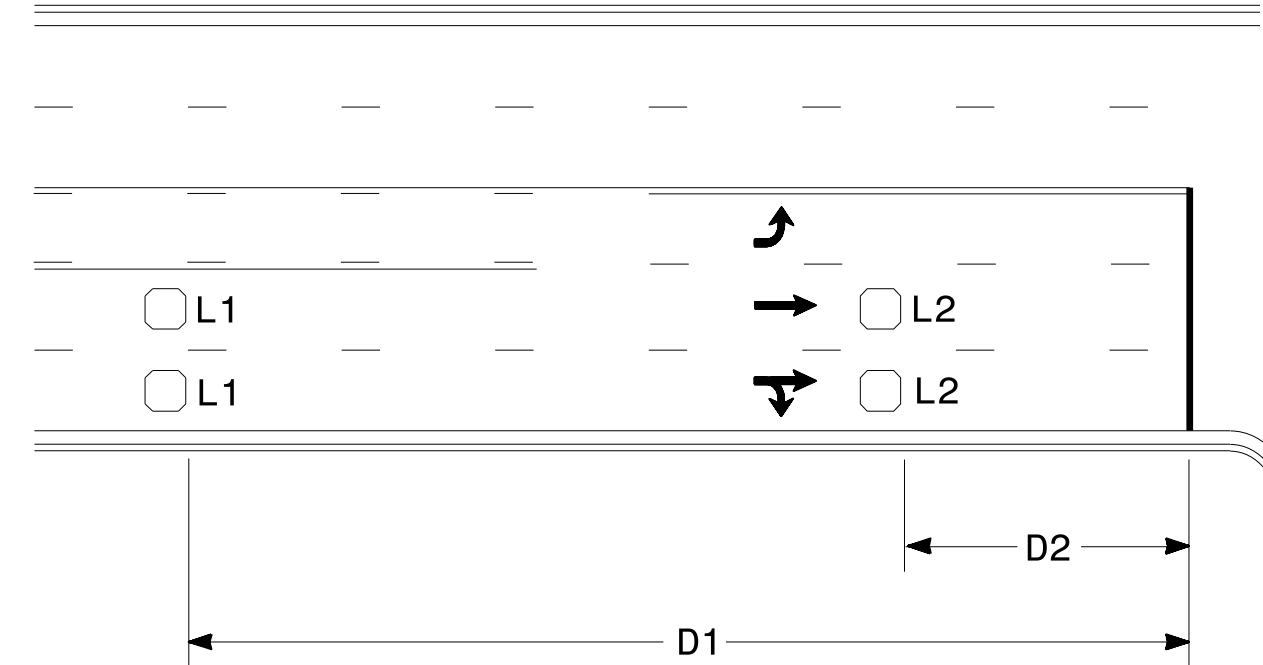


Speed Limit mph	D ft
40	250
45	300
50	355
55	420

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

Volume Density Operation

OR

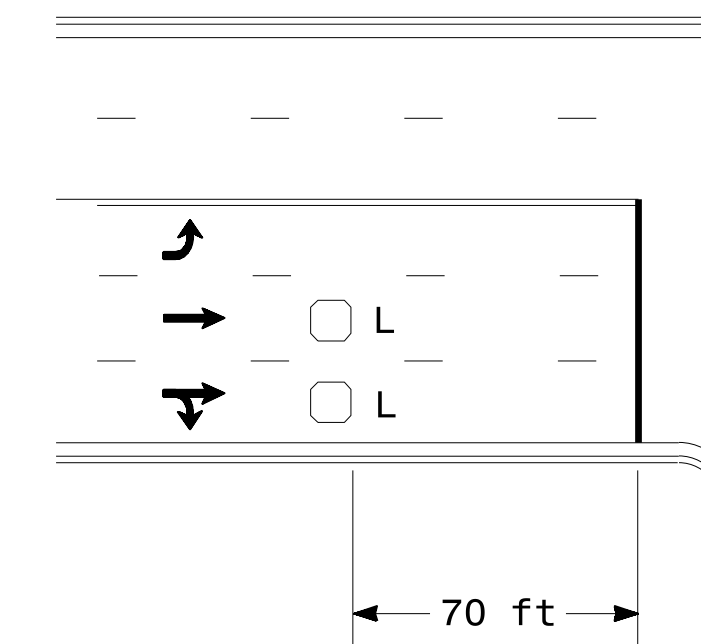


Speed Limit mph	D1 ft	D2 ft
40	250	80
45	300	90
50	355	100
55	420	110

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

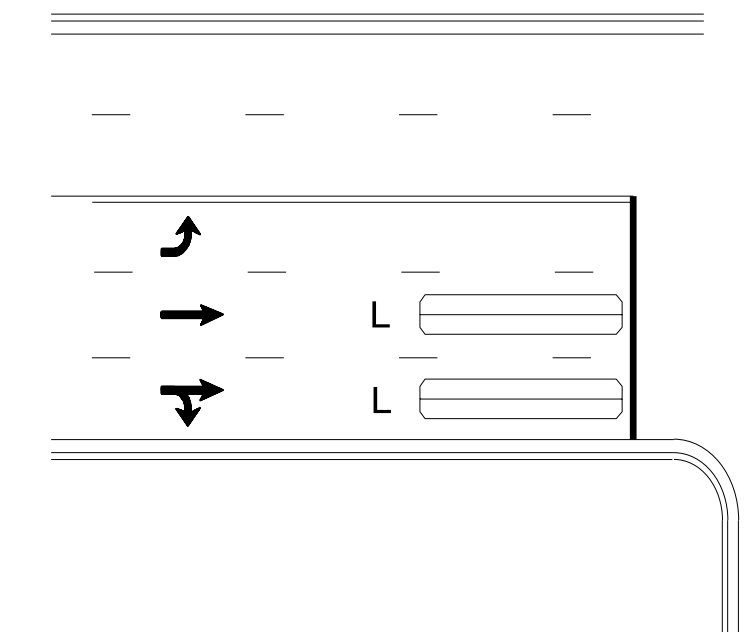
"Stretch" Operation

Low Speed Detection (≤35 mph)



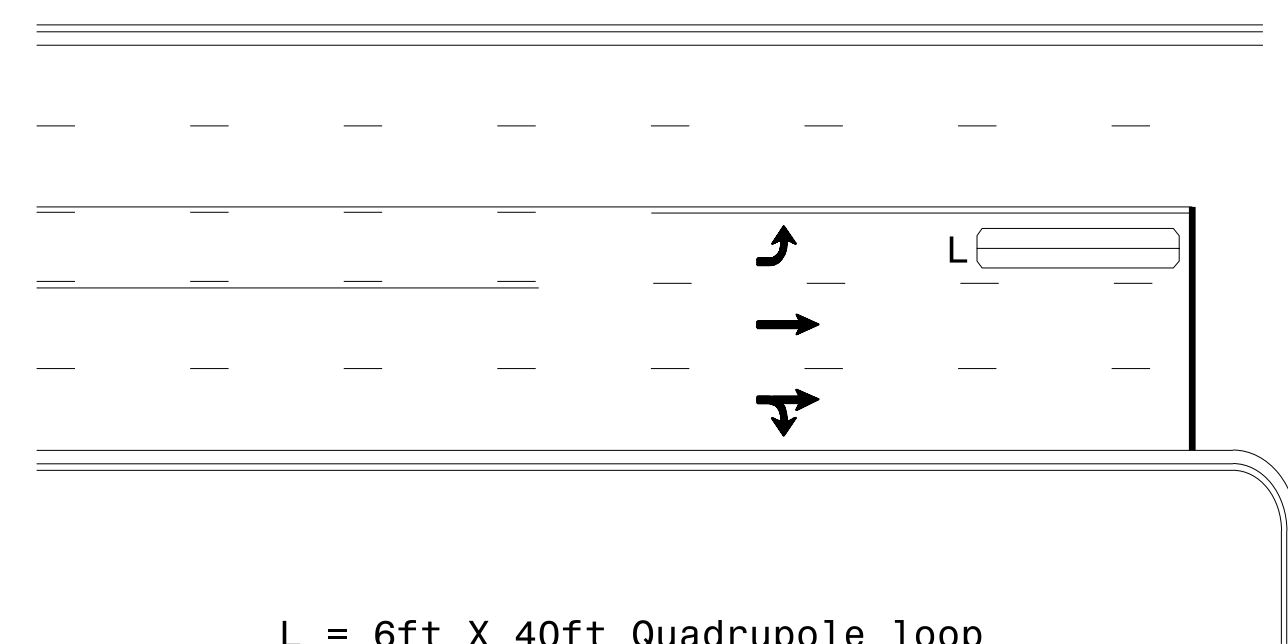
L = 6ft X 6ft
Wired in series

OR



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

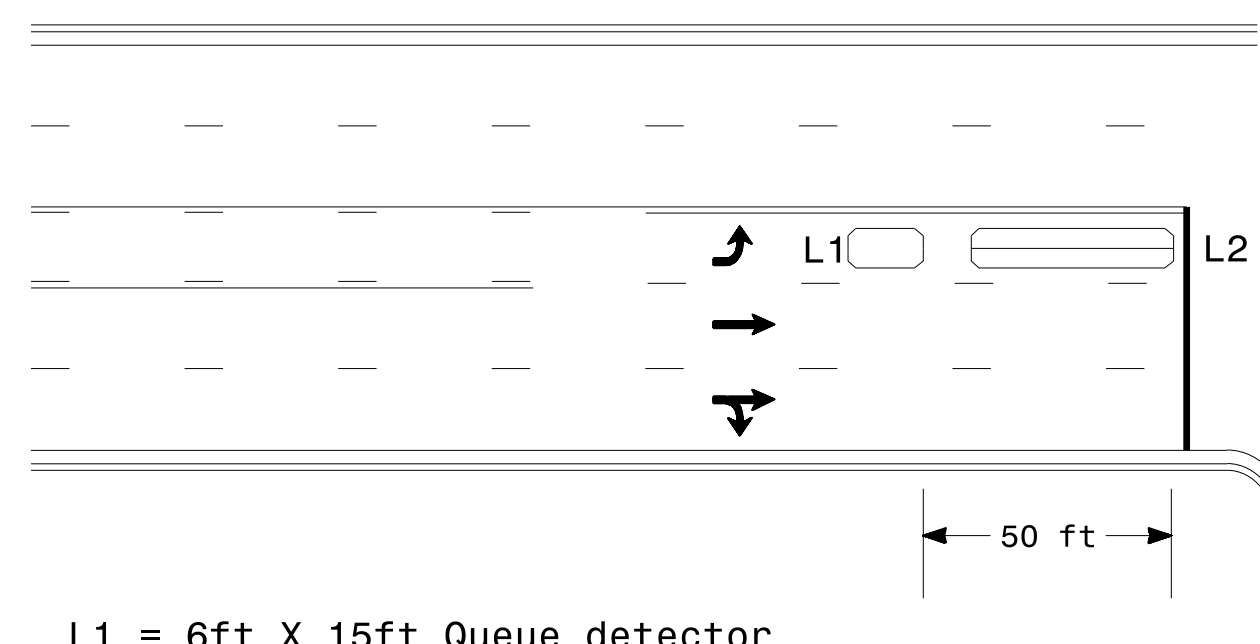
Left Turn Lane Detection



L = 6ft X 40ft Quadrupole loop

Presence Loop Detection

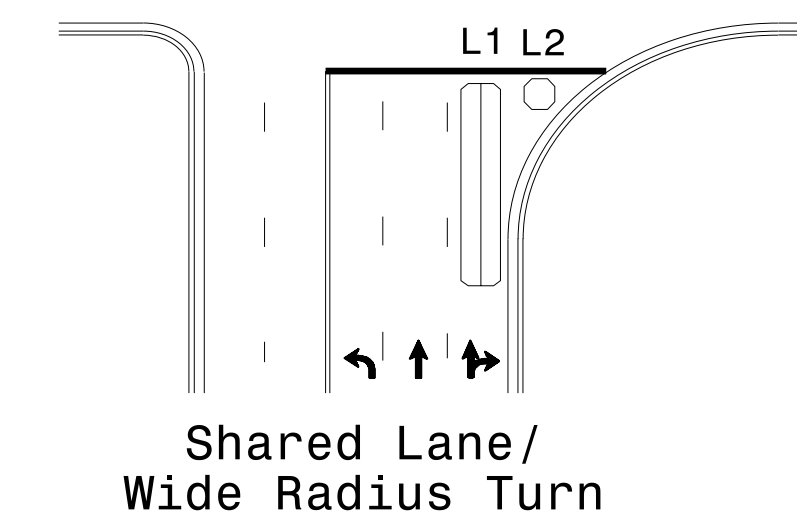
OR



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

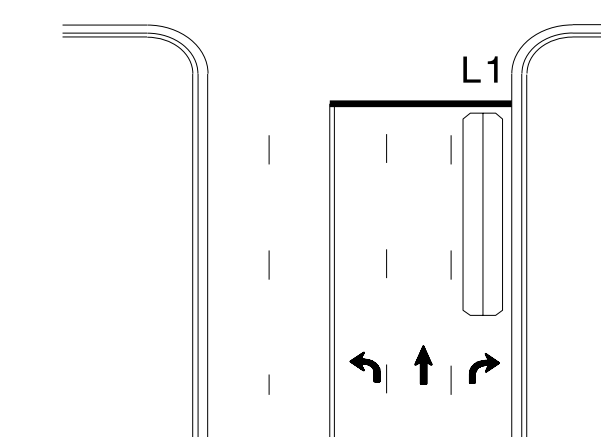
Queue Loop Detection

Right Turn Lane Detection

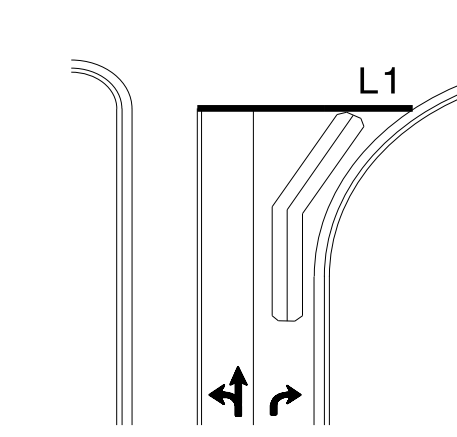


Shared Lane/
Wide Radius Turn

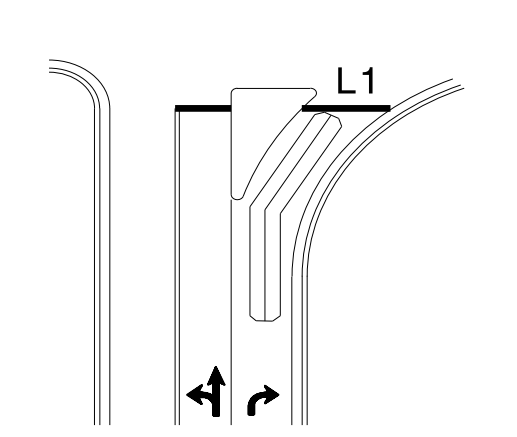
L1 = 6ft X 40ft Quadrupole loop
L2 = 6ft X 6ft [Minimum] Presence loop
Wired separately



Standard Turn

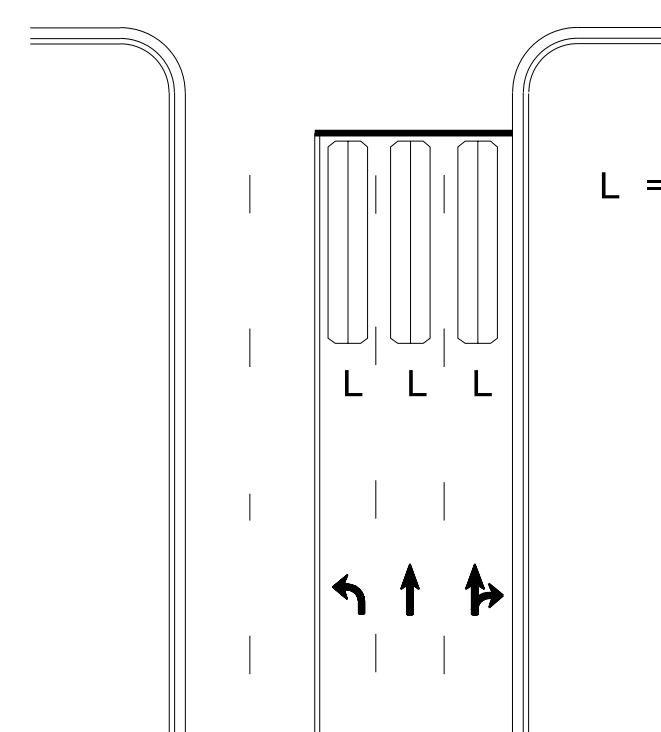


Wide Radius Turn



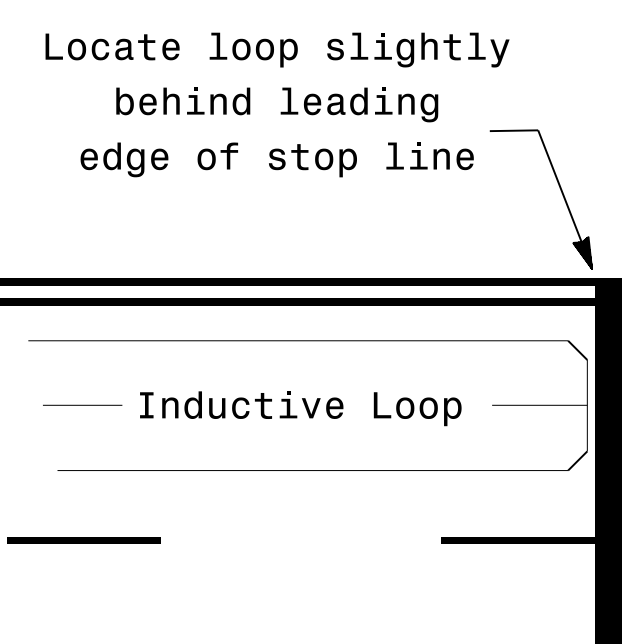
Channelized Turn

Side Street Detection



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

Presence Loop Placement at Stop Lines



Locate loop slightly
behind leading
edge of stop line

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:

750 N. Greenfield Pkwy, Garner, NC 27529

SCALE
N/A

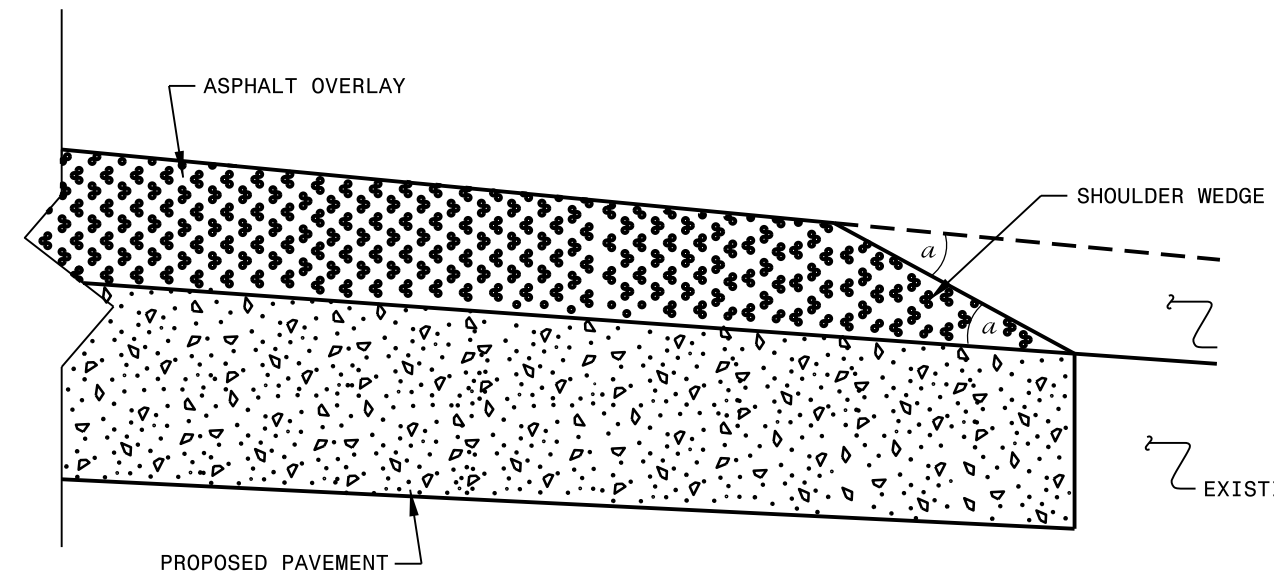
Typical Signal Loop Locations

PLAN DATE: January 2015	REVIEWED BY: JPG
PREPARED BY: PLA	REVIEWED BY:
REVISIONS	INIT. DATE

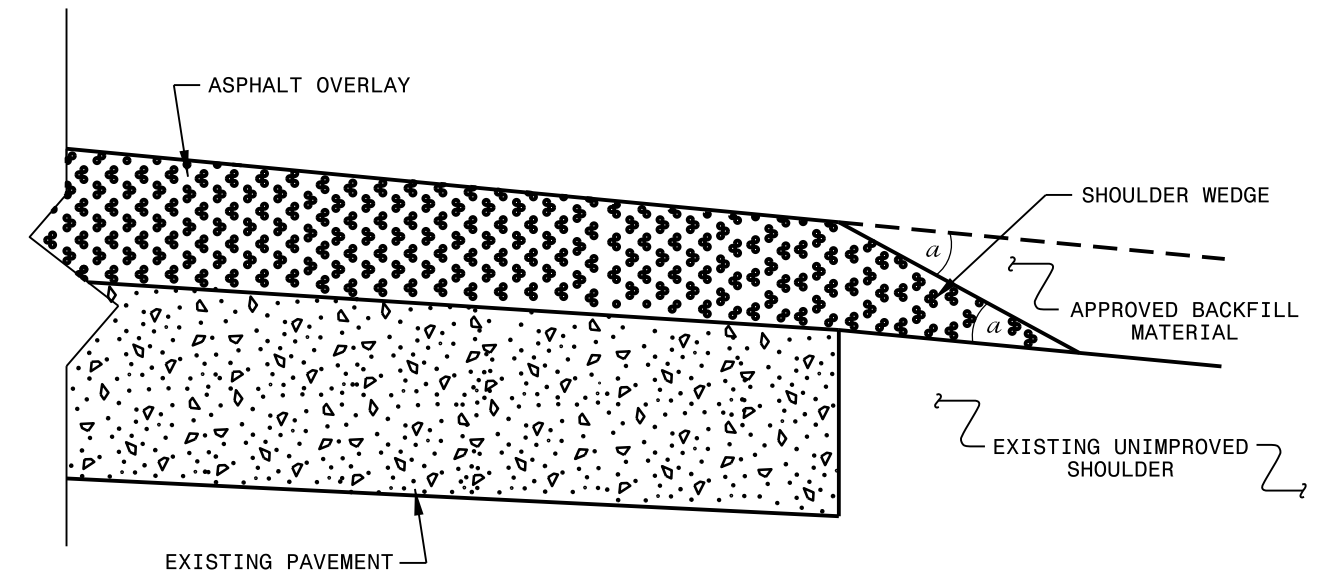
SEAL

DocuSigned by:
P. Alexander
1/30/2015 10:44:44 AM
SIG. INVENTORY NO.

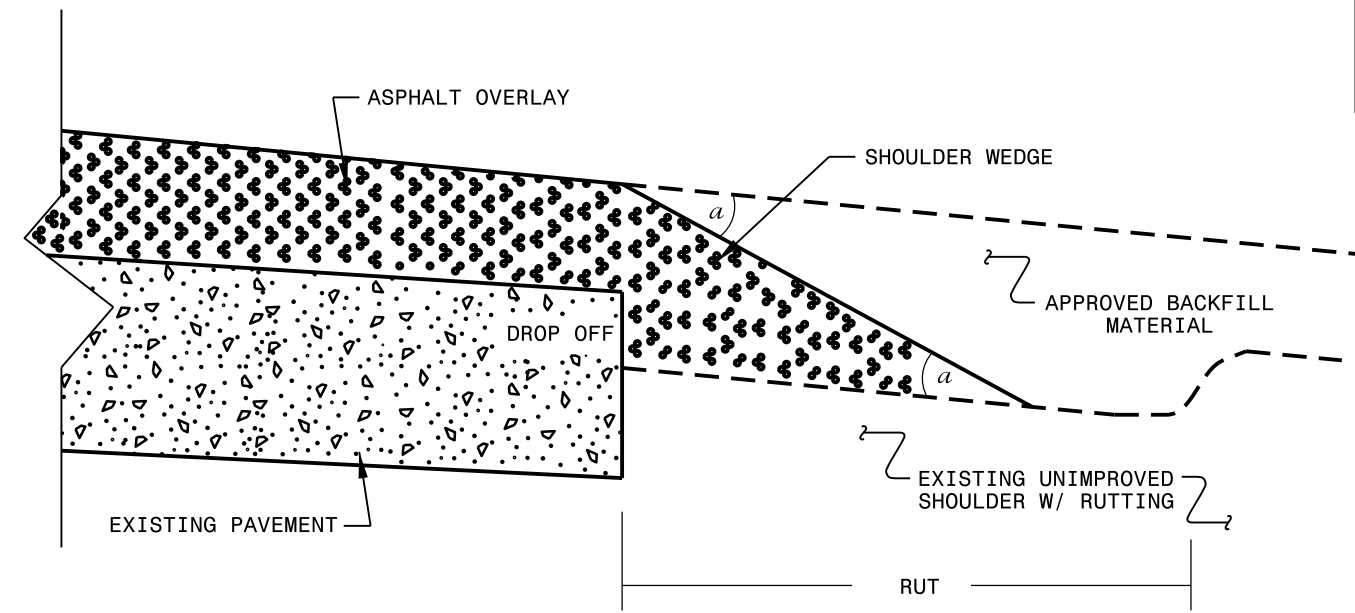
- NOTES:
- 1) DETAIL DOES NOT APPLY TO OGAFB AND ULTRA-THIN BONDED WEARING COURSE.
 - 2) BACKFILL SHOULDER WITH APPROVED MATERIAL.
 - 3) THE SHOULDER WEDGE DEVICE MAY BE DISENGAGED AT PAVED DRIVEWAYS, SIDE STREETS, HIGH SHOULDERS, AND OTHER LOCATIONS NOT FEASIBLE TO CONSTRUCT AS APPROVED BY THE ENGINEER.



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°

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.: susr/details/stand/shoulderwedgedetail.dgn

SYSTEMS DESIGN
 USER NAME

**DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA**

SOIL STABILIZATION TIMEFRAMES

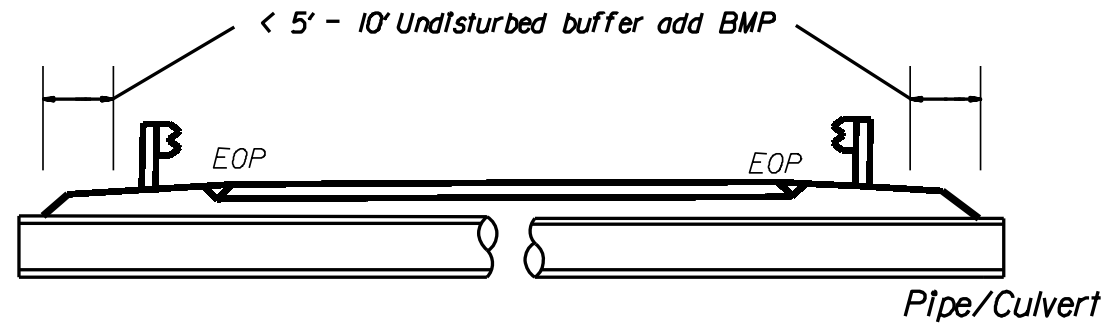
<i>SITE DESCRIPTION</i>	<i>STABILIZATION TIME</i>	<i>TIMEFRAME EXCEPTIONS</i>
PERIMETER DIKES, SWALES, DITCHES AND SLOPES	7 DAYS	NONE
HIGH QUALITY WATER (HOW) ZONES	7 DAYS	NONE
SLOPES STEEPER THAN 3:1	7 DAYS	IF SLOPES ARE 10' OR LESS IN LENGTH AND ARE NOT STEEPER THAN 2:1, 14 DAYS ARE ALLOWED.
SLOPES 3:1 OR FLATTER	14 DAYS	7 DAYS FOR SLOPES GREATER THAN 50' IN LENGTH.
ALL OTHER AREAS WITH SLOPES FLATTER THAN 4:1	14 DAYS	NONE, EXCEPT FOR PERIMETERS AND HOW ZONES.

NOTES: Less than 5' - 10' undisturbed buffer from ROW, ditchline, water feature, or drainage inlet, add BMP.

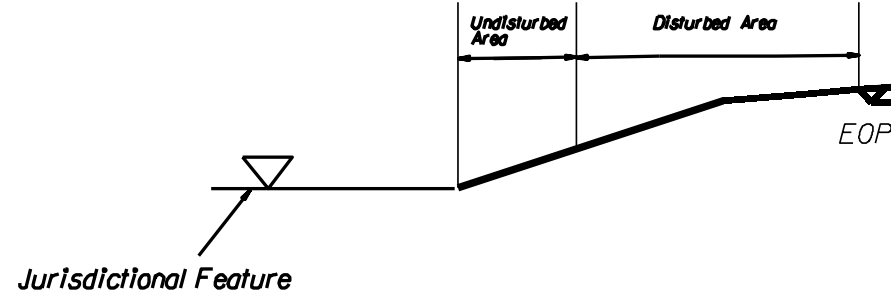
BMP Options: Wattle, Silt Fence, or Hardened Aggregate.

EROSION CONTROL DETAIL

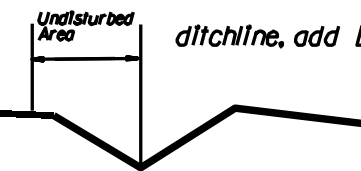
PROJECT REFERENCE NO. 1-1111	SHEET NO. 10-11/10-11
RDW SHEET NO. ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



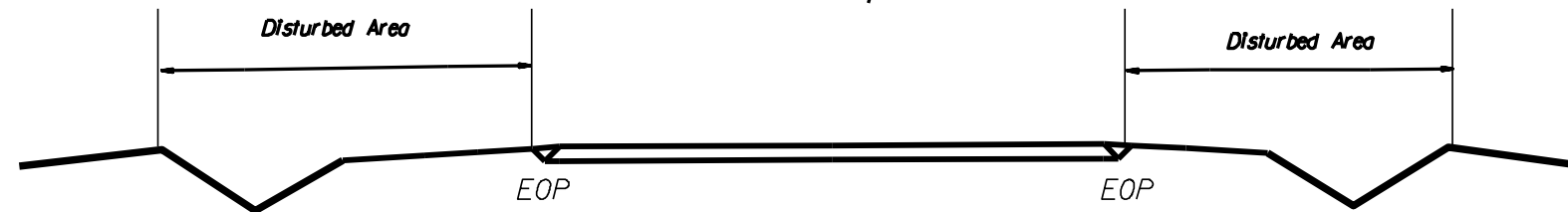
< 5' - 10' Undisturbed buffer from jurisdictional feature add BMP



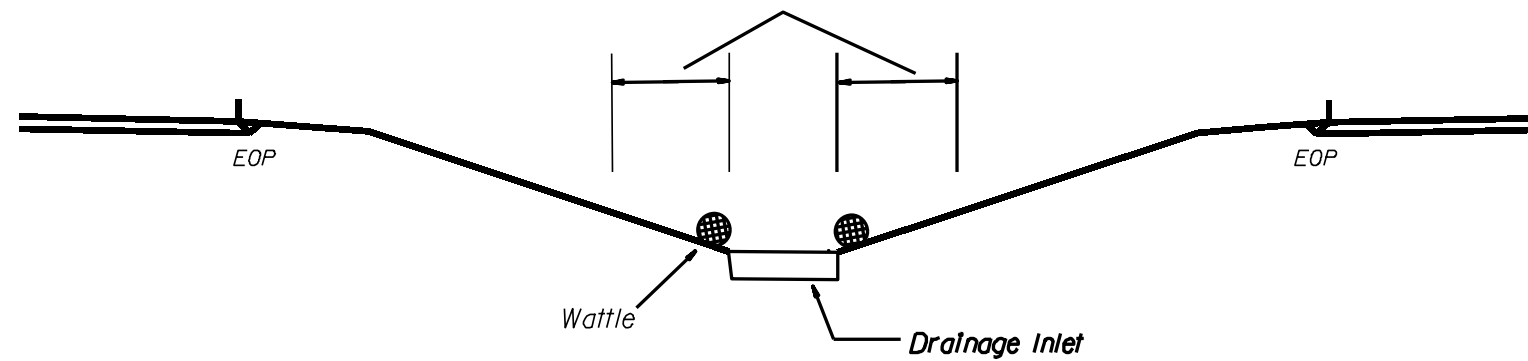
< 5' - 10' Undisturbed buffer from ditchline, add BMP



Use BMP's if shoulders and/or front slopes and/or ditchline and/or back slopes are disturbed

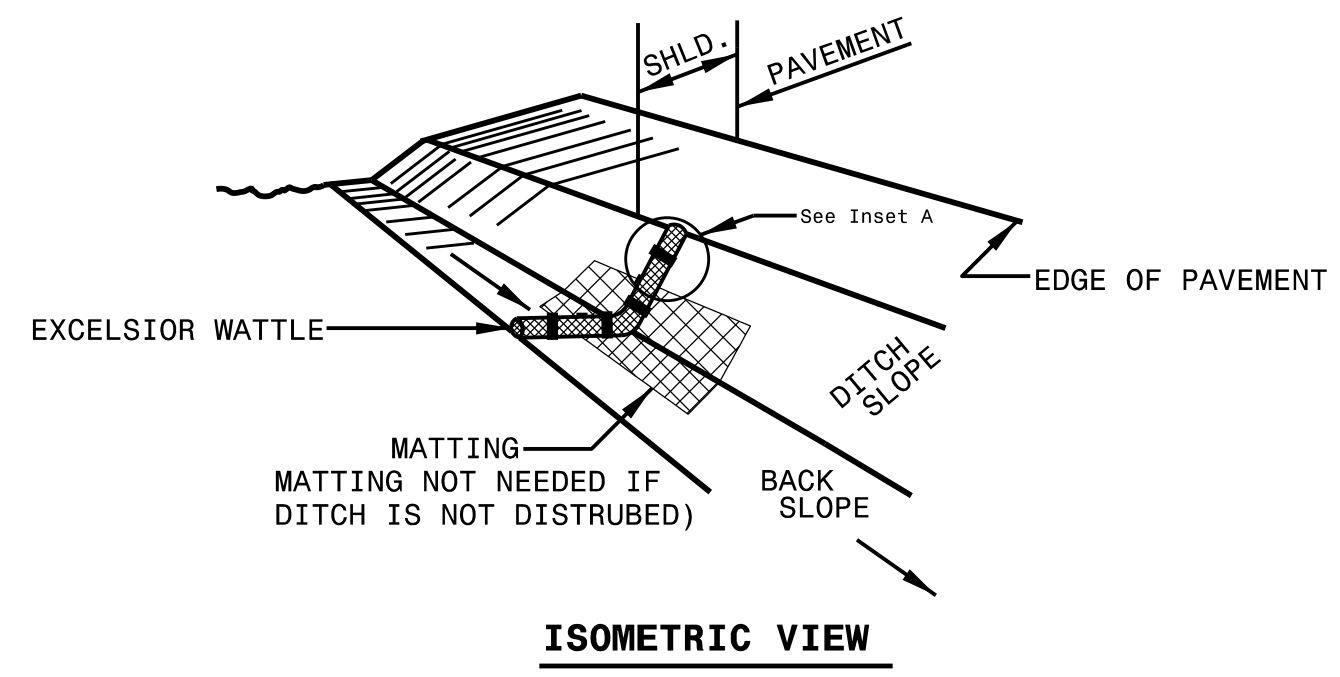


< 5' - 10' Undisturbed buffer from Inlet, add wattle



NOT TO SCALE

WATTLE DETAIL



NOTES:

- USE MINIMUM 12 IN. DIAMETER EXCELSIOR WATTLE.
- USE 2 FT. WOODEN STAKES WITH A 2 IN. BY 2 IN. NOMINAL CROSS SECTION.
- ONLY INSTALL WATTLE(S) TO A HEIGHT IN DITCH SO FLOW WILL NOT WASH AROUND WATTLE AND SCOUR DITCH SLOPES AND AS DIRECTED.
- INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO BOTTOM OF DITCH.
- PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12" IN LENGTH.
- INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.
- IF DITCH WILL BE DISTURBED, INSTALL MATTING IN ACCORDANCE WITH SECTION 1631 OF THE STANDARD SPECIFICATIONS.

