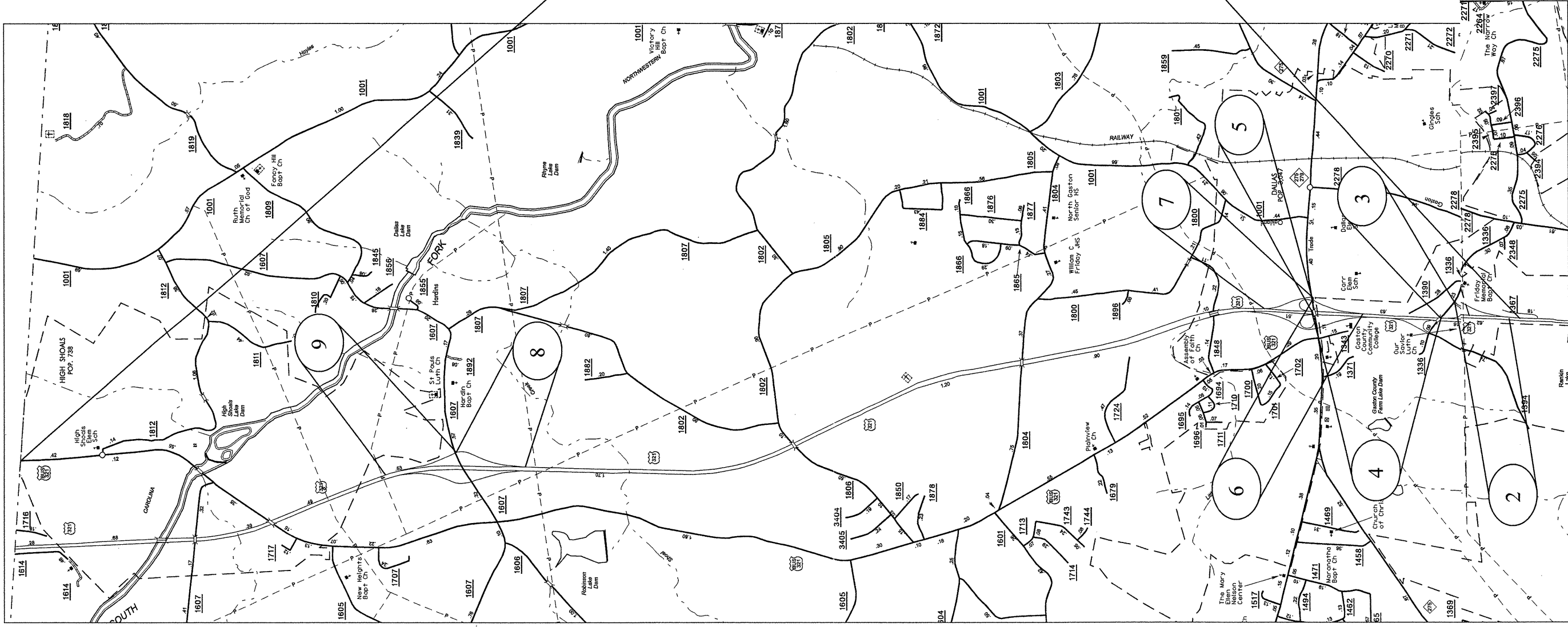
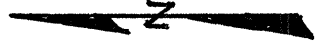


GASTON COUNTY
WBS 12CR.10361.16
(US 321 NORTHBOUND LANES)

SHEET 1



1

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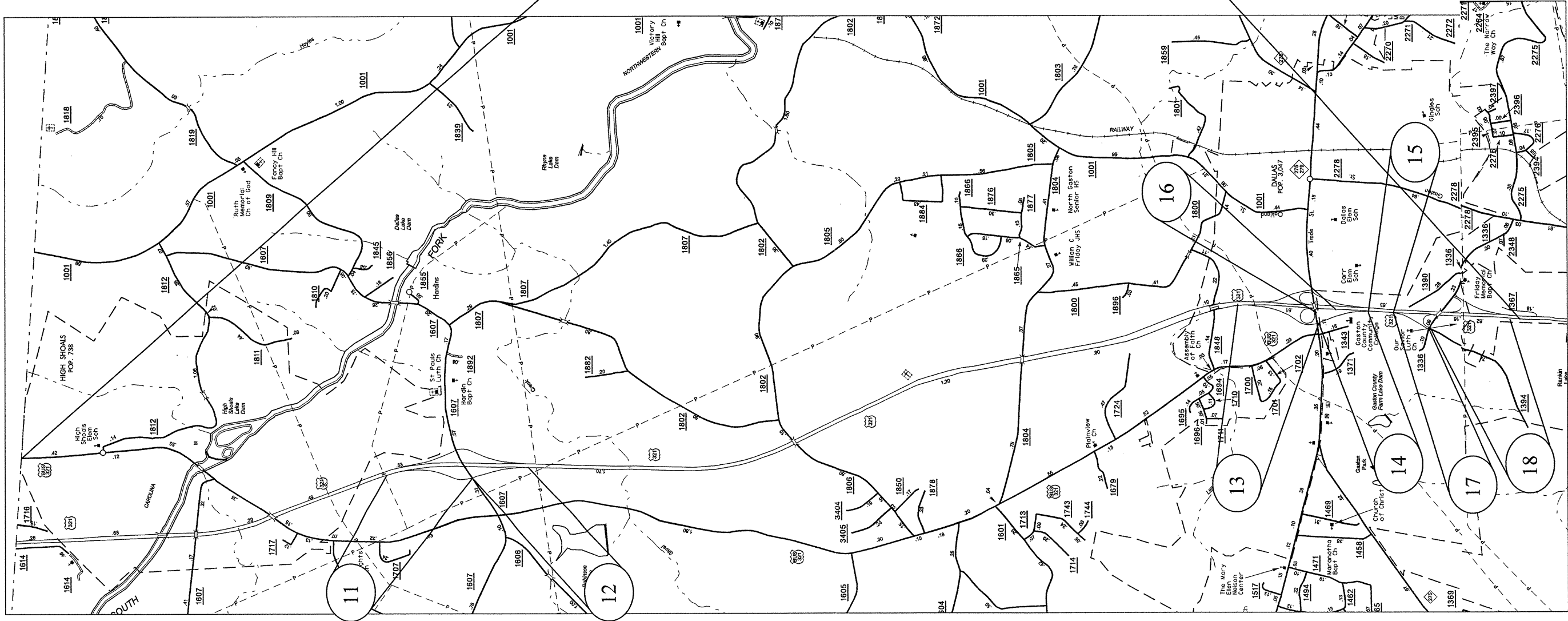
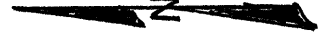
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GASTON COUNTY
WBS 12CR.10361.16
(US 321 SOUTHBOUND LANES)

SHEET 2



10

16

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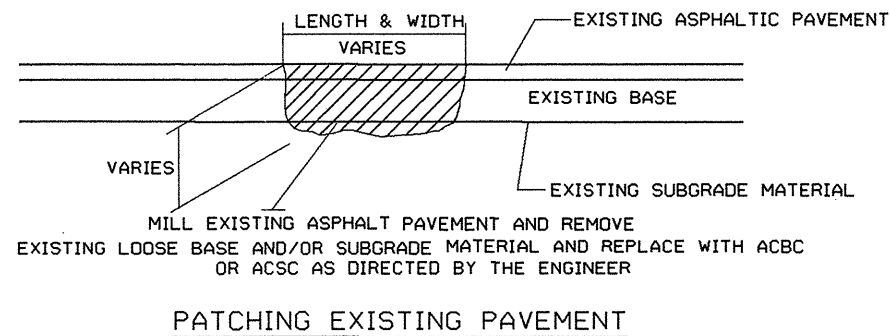
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18

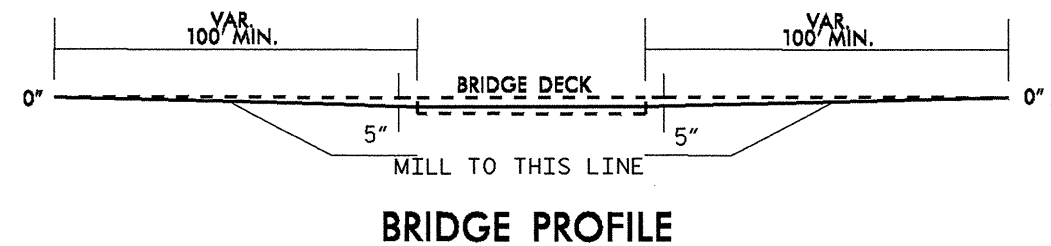
11

12

PAVEMENT SCHEDULE	
C	PROP. APPROX. 2" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 224 LBS. PER SQ. YD.
D	PROP. APPROX. 3" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 342 LBS. PER SQ. YD.
V1	MILL ASPHALT PAVEMENT APPROX. 2"
V2	MILL ASPHALT PAVEMENT APPROX. 0" TO 2" (HALF THE LANE FROM CURB AND GUTTER OR AS DIRECTED FOR SMOOTH TRANSITION)
Y	SHOULDER RECONSTRUCTION
Z	REPLACE MILLED RUMBLE STRIPS AT CURRENT LOCATIONS



PROJ. REFERENCE NO.	SHEET NO.	TOTAL SHEETS
GASTON COUNTY	3	
STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
12CR.10361.16		



NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.

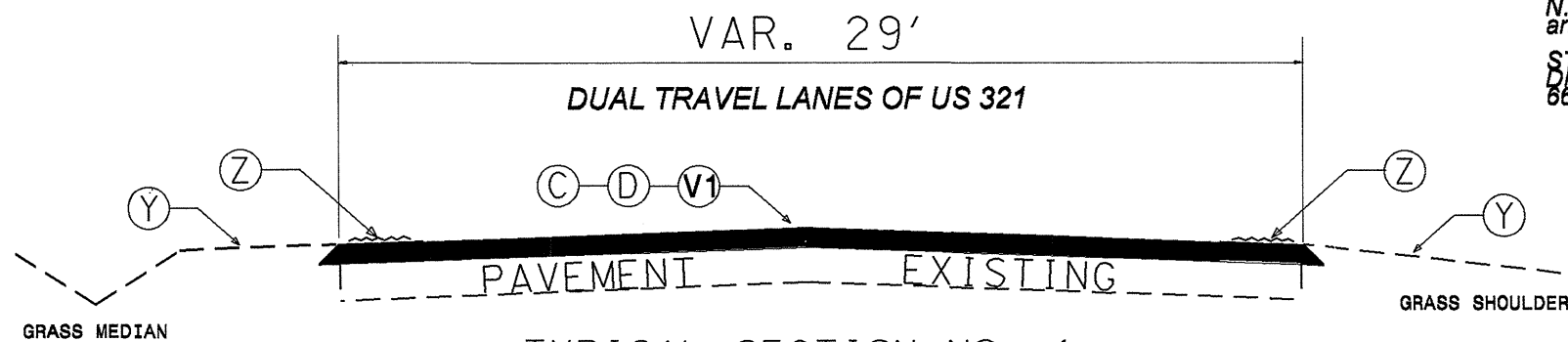
INCIDENTAL MILL BRIDGE APPROACHES 100' TO PROVIDE A SMOOTH TRANSITION AS DIRECTED (0" - 5").

INCIDENTAL MILL ALONG C&G TO PROVIDE SMOOTH TRANSITION.

2012 ROADWAY ENGLISH STANDARD DRAWINGS

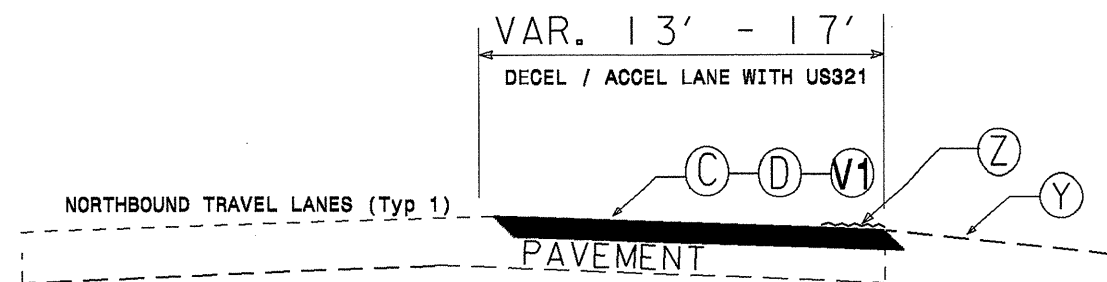
The following Roadway Standards as appear in "Roadway Standard Drawings" Highway Design Branch - N. C. Department of Transportation - Raleigh, N. C., Dated January, 2012 are applicable to this project and by reference hereby are considered a part of these plans:

STD. NO. 665.01 TITLE
DIVISION 6 - ASPHALT BASES AND PAVEMENTS
Asphalt Shoulders - Milled Rumble Strips



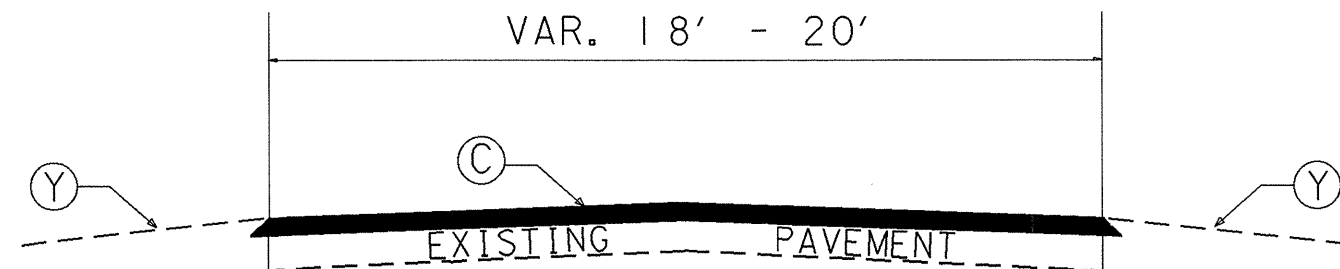
TYPICAL SECTION NO. 1

MILL PAVEMENT 2" ALONG TRAVEL LANES.



TYPICAL SECTION NO. 2

MILL PAVEMENT 2" ALONG DECELERATION/ACCELERATION LANES.

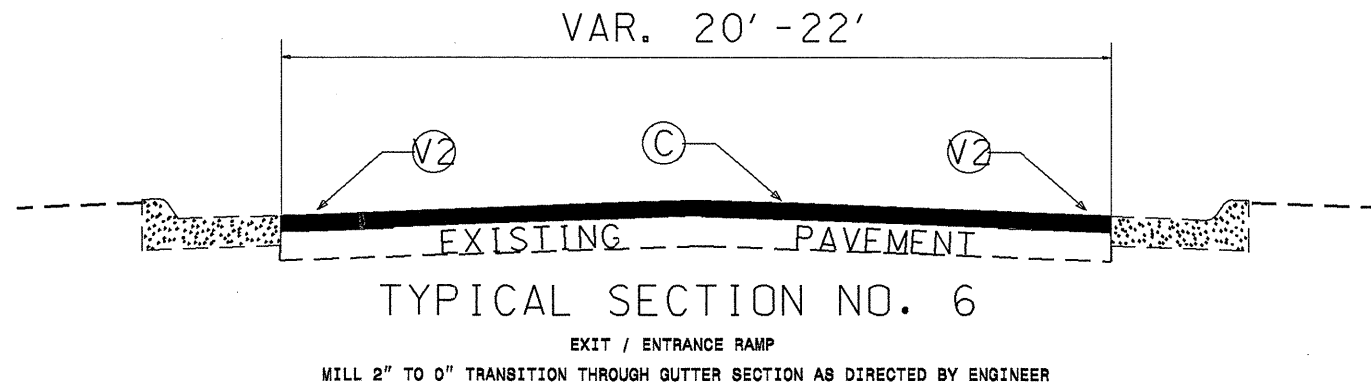


TYPICAL SECTION NO. 3

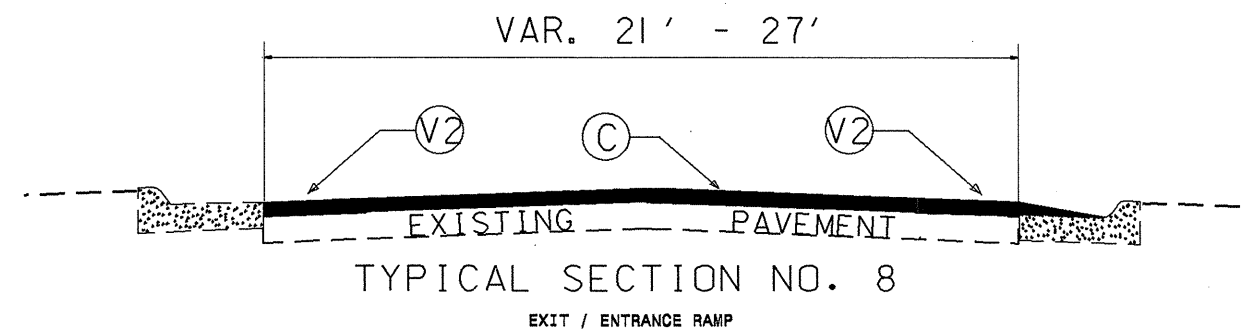
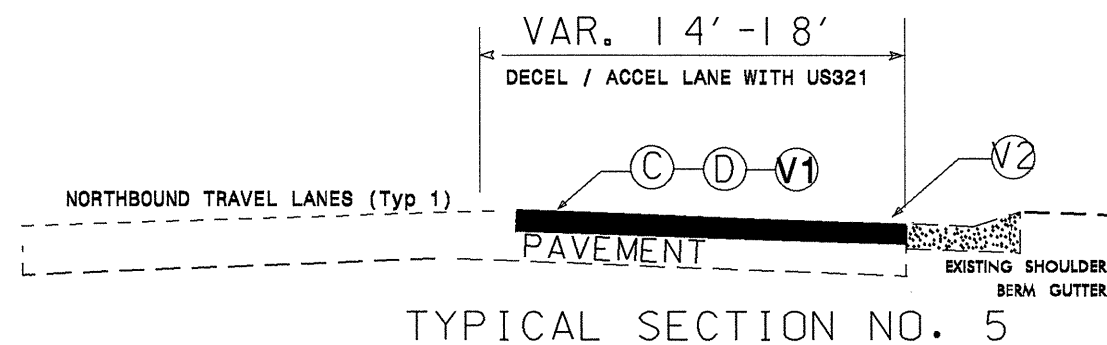
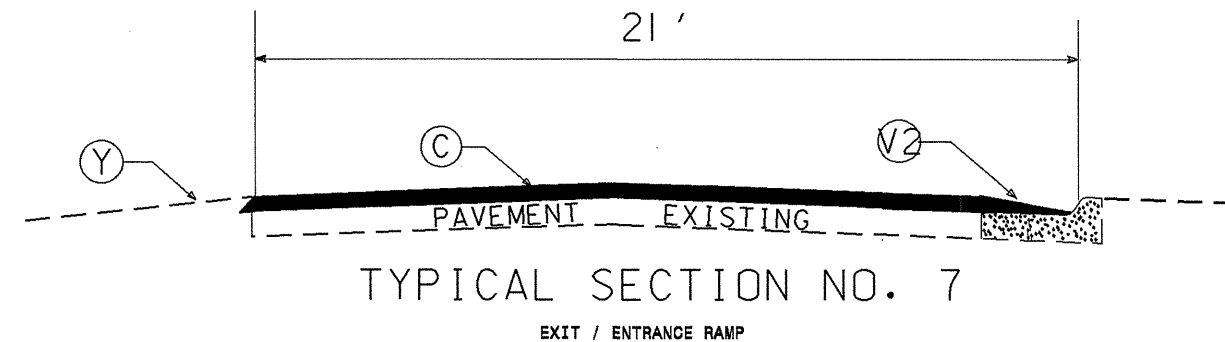
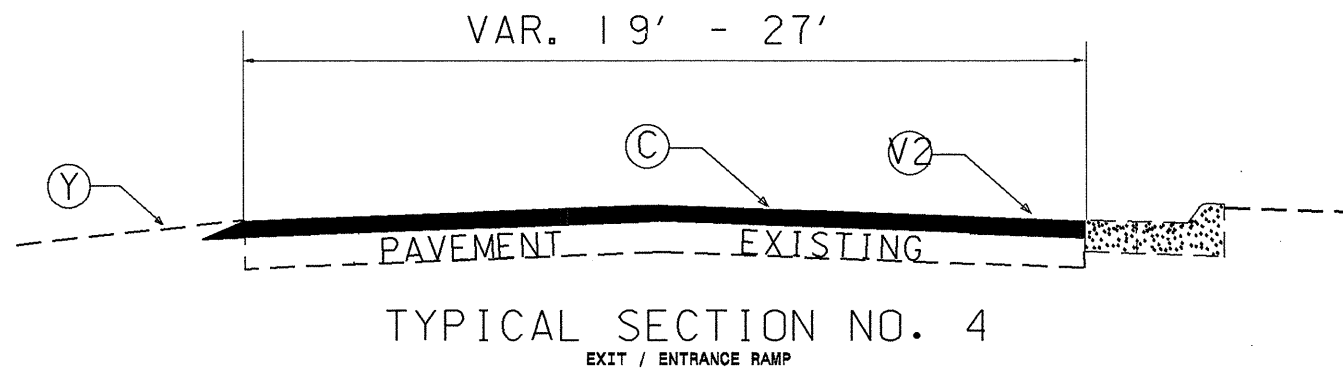
EXIT / ENTRANCE RAMP

PAVEMENT SCHEDULE	
C	PROP. APPROX. 2" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 224 LBS. PER SQ. YD.
D	PROP. APPROX. 3" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 342 LBS. PER SQ. YD.
V1	MILL ASPHALT PAVEMENT APPROX. 2"
V2	MILL ASPHALT PAVEMENT APPROX. 0" TO 2" (HALF THE LANE FROM CURB AND GUTTER OR AS DIRECTED FOR SMOOTH TRANSITION)
Y	SHOULDER RECONSTRUCTION
Z	REPLACE MILLED RUMBLE STRIPS AT CURRENT LOCATIONS

PROJ. REFERENCE NO.	SHEET NO.	TOTAL SHEETS
GASTON COUNTY	4	
STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
12CR.10361.16		

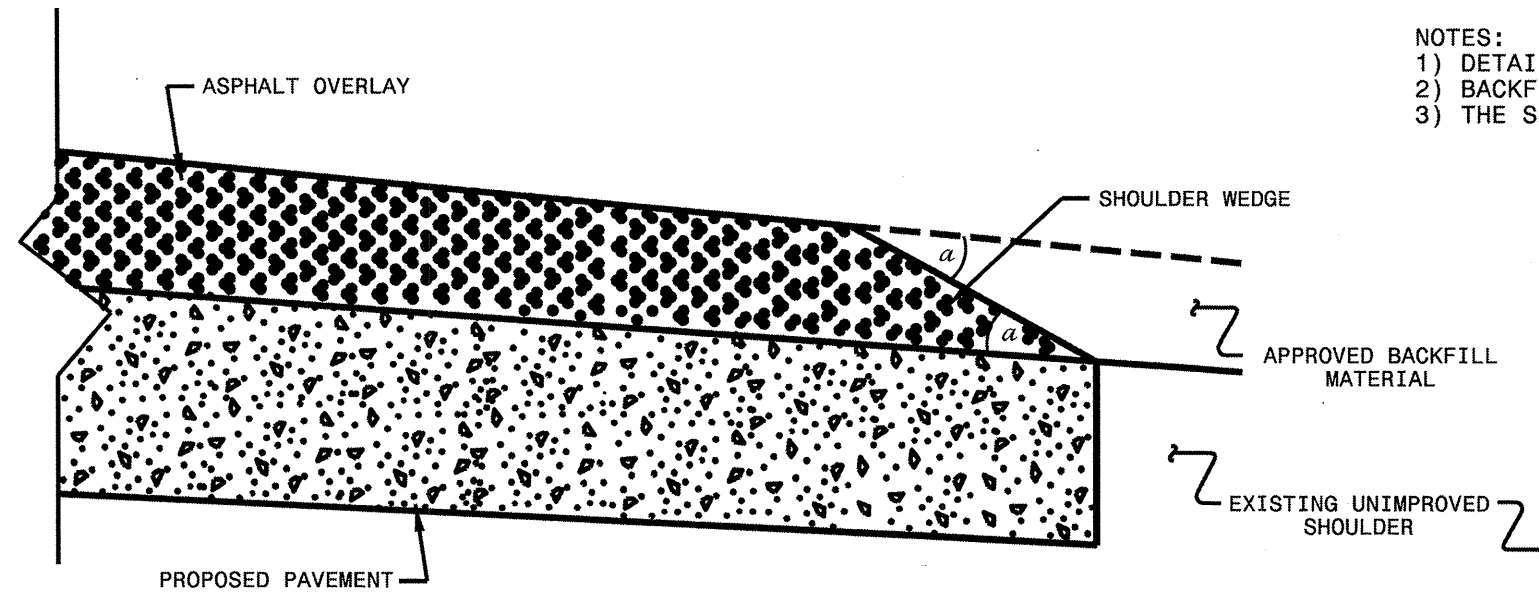


NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.
 INCIDENTAL MILL BRIDGE APPROACHES 100' TO PROVIDE A SMOOTH TRANSITION AS DIRECTED (0" - 5").
 INCIDENTAL MILL ALONG C&G TO PROVIDE SMOOTH TRANSITION.

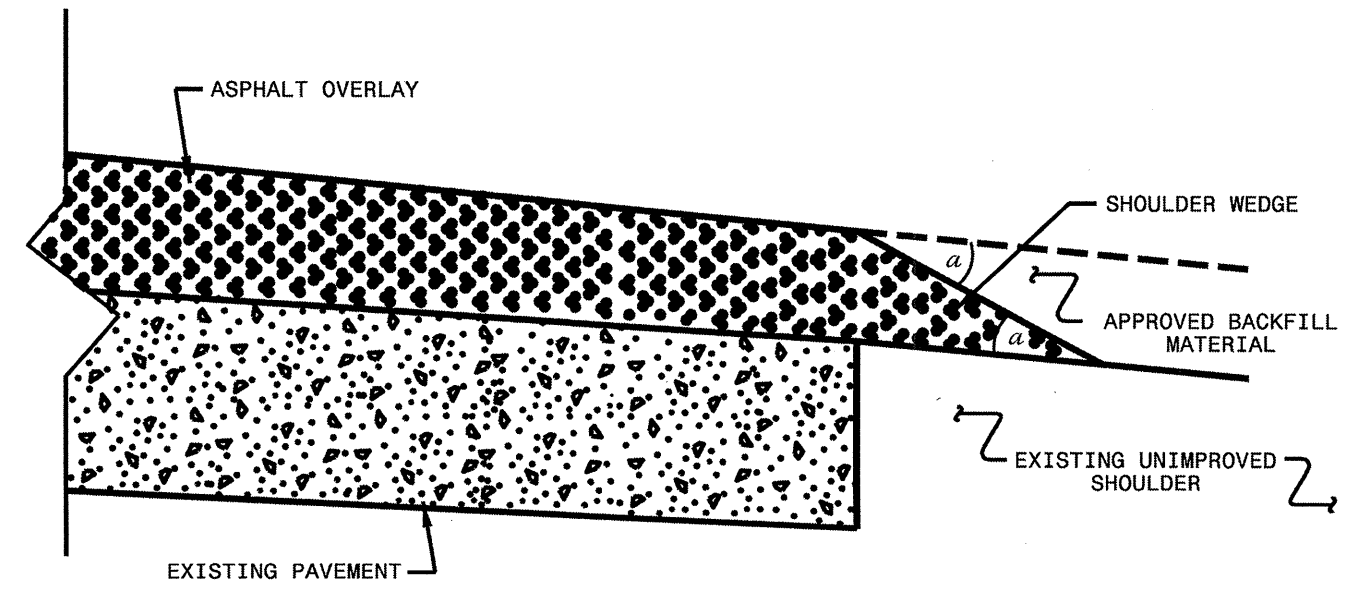


MILL PAVEMENT 2" ALONG DECELERATION/ACCELERATION LANES AND MILL 2" TO 0" TRANSITION ALONG C&G AS DIRECTED BY ENGINEER.

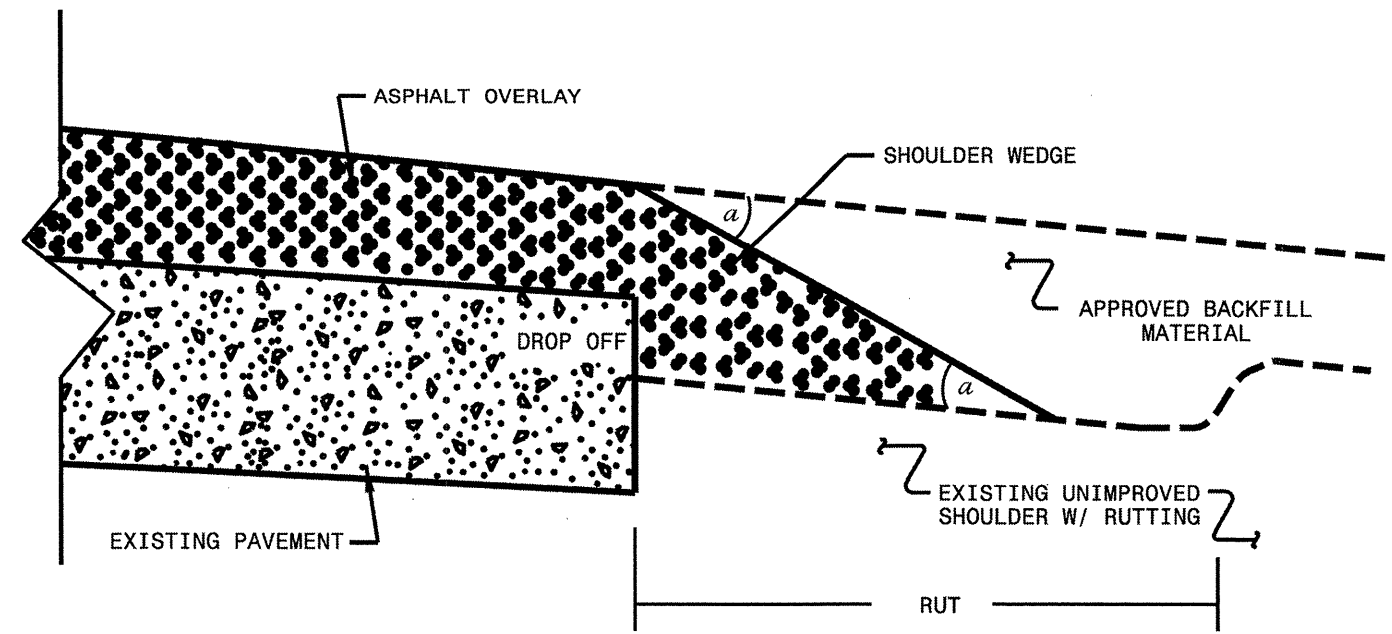
- NOTES:
 1) DETAIL DOES NOT APPLY TO OGAFC AND ULTRA-THIN BONDED WEARING COURSE.
 2) BACKFILL SHOULDER WITH APPROVED MATERIAL.
 3) THE SHOULDER WEDGE DEVICE MAY BE DISENGAGED AT PAVED DRIVEWAYS AND SIDE STREETS.



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: \\susc\details\stand\shoulderwedge\detail.dwg	

 SYSTEMS

PROJECT NO.	SHEET NO.	TOTAL NO.
12CR.10361.16	6	9

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 TON	INCIDENTAL STONE BASE TONS	SHOULDER RECONSTRUCTION SMI	2" MILLING SY	INCIDENTAL MILLING SY	0" TO 2" MILLING SY	INTERMEDIATE COURSE, I19.0C TONS	SURFACE COURSE, S9.5C TONS	ASPHALT BINDER FOR PLANT MIX TONS	PATCHING EXISTING PAVEMENT TONS	MILLED RUMBLE STRIPS LF
12CR.10361.16	Gaston	1	US 321 NORTHBOUND DUAL TRAVEL LANES	APPROX. 528 FT N OF ROECHLING ST TO LINCOLN CL	1	2		NO	NO	8.1	29	2,140	200	16.20	152,895	700		26,145	17,076	2,262	4,590	85,536
TOTAL FOR MAP NO. 1										8.1		2,140	200	16.20	152,895	700		26,145	17,076	2,262	4,590	85,536
12CR.10361.16	Gaston	2	DECEL LANE & OFF-RAMP	C. GRIER BEAM BLVD EXIT	2	1		NO	NO	0.13	13	40	30	0.40	1,158	60		198	402	33	40	
TOTAL FOR MAP NO. 2										0.20	VAR. 18-20	40	30	0.40	1,158	60		198	402	33	40	
12CR.10361.16	Gaston	3	ON-RAMP LOOP & ACCEL LANE	C. GRIER BEAM BLVD EXIT	4	1		NO	NO	0.11	VAR. 21-23	11		0.11	555	60	998	95	239	19	17	
TOTAL FOR MAP NO. 3										0.06	14	11		0.11	555	60	998	95	239	19	17	
12CR.10361.16	Gaston	4	THIRD TRAVEL LANE BETWEEN RAMPS	GRIER BEAM EXIT TO NC 279 EXIT	2	1		NO	NO	0.68	15				6,690			1,144	745	99	85	
TOTAL FOR MAP NO. 4										0.68					6,690			1,144	745	99	85	
12CR.10361.16	Gaston	5	OFF-RAMP LOOP	NC 279 EXIT TOWARD CHERRYVILLE	4	1		NO	NO	0.10	22	10		0.10		60	1,057		224	13	20	
TOTAL FOR MAP NO. 5										0.04		10		0.10		60	1,057		224	13	20	
12CR.10361.16	Gaston	6	OFF-RAMP	NC 279 EXIT TOWARD DALLAS	3	1		NO	NO	0.25	20	51		0.51		60	59		379	22	60	
TOTAL FOR MAP NO. 6										0.01	21	51		0.51		60	59		379	22	60	
12CR.10361.16	Gaston	7	ON-RAMP & ACCEL LANE	NC 279 EXIT	8	1		NO	NO	0.02	VAR. 21-27	49	30	0.49	2,316	60	528	396	583	53	250	
TOTAL FOR MAP NO. 7										0.03	21	49	30	0.49	2,316	60	528	396	583	53	250	
12CR.10361.16	Gaston	8	DECEL LANE & OFF-RAMP	HARDIN RD EXIT	2	1		NO	NO	0.10	15	66	30	0.66	1,029	60		176	506	38	133	
TOTAL FOR MAP NO. 8										0.17	15	66	30	0.66	1,029	60		176	506	38	133	
12CR.10361.16	Gaston	9	ON-RAMP & ACCEL LANE	HARDIN RD EXIT	3	1		NO	NO	0.17	19	34	15	0.34	3,988	60		682	594	68	111	
TOTAL FOR MAP NO. 9										0.32	15	34	15	0.34	3,988	60		682	594	68	111	
TOTAL FOR PROJ NO. 12CR.10361.16										11		2,401	305	18.81	168,631	1,120	2,642	28,836	20,748	2,607	5,306	85,536
GRAND TOTAL										11		2,401	305	18.81	168,631	1,120	2,642	28,836	20,748	2,607	5,306	85,536

PROJECT NO.	SHEET NO.	TOTAL NO.
12CR.10361.16	7	9

POLYUREA, THERMOPLASTIC AND PAINT QUANTITIES

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP NO	LANES	LANE TYPE	LENGTH	WIDTH	4589000000-N	4366000000-E	4510000000-N	4721000000-E	4725000000-E			4815000000-E		4847100000-E		4847120000-E	4905000000-N
										TEMPORARY TRAFFIC CONTROL LS	WORK ZONE ADVANCE/GENERAL WARNING SIGNING SF	LAW ENFORCEMENT HR	THERMO MSG ONLY 120 M EA	THERMO RT ARROW 90 M EA	THERMO STR ARROW 90 M EA	MERGE ARROW 90 M EA	6" WHITE PAINT LF	6" YELLOW PAINT LF	6" WHITE POLYUREA (HIGHLY REFLECTIVE ELEMENTS) LF	6" YELLOW POLYUREA (HIGHLY REFLECTIVE ELEMENTS) LF	12" WHITE POLYUREA (HIGHLY REFLECTIVE ELEMENTS) LF	SNOW PLOWABLE MARKERS EA
12CR.10361.16	Gaston	1	US 321 NORTHBOUND DUAL TRAVEL LANES	APPROX. 528 FT N OF ROECHLING ST TO LINCOLN CL	1	2		8.1	29	1.00	878.75	165					53,700	42,800	53,700	42,800	4,900	1,400
TOTAL FOR MAP NO. 1									8.1	878.75	165					53,700	42,800	53,700	42,800	4,900	1,400	
12CR.10361.16	Gaston	2	DECEL LANE & OFF-RAMP	C. GRIER BEAM BLVD EXIT	2	1		0.13	13										1,056	1,056		10
TOTAL FOR MAP NO. 2									0.33		0								1,056	1,056		10
12CR.10361.16	Gaston	3	ON-RAMP LOOP & ACCEL LANE	C. GRIER BEAM BLVD EXIT	4	1		0.11	VAR. 21-23										225	581		5
TOTAL FOR MAP NO. 3									0.17		0								225	581		5
12CR.10361.16	Gaston	4	THIRD TRAVEL LANE BETWEEN RAMPS	GRIER BEAM EXIT TO NC 279 EXIT	2	1		0.68	15								858		858			45
TOTAL FOR MAP NO. 4									0.68		0					858		858				45
12CR.10361.16	Gaston	5	OFF-RAMP LOOP	NC 279 EXIT TOWARD CHERRYVILLE	4	1		0.10	22					6					80	528		
TOTAL FOR MAP NO. 5									0.14		0		6					80	528			
12CR.10361.16	Gaston	6	OFF-RAMP	NC 279 EXIT TOWARD DALLAS	3	1		0.25	20							1			1,320	1,373		
TOTAL FOR MAP NO. 6									0.26		0				1			1,320	1,373			
12CR.10361.16	Gaston	7	ON-RAMP & ACCEL LANE	NC 279 EXIT	8	1		0.02	VAR. 21-27										1,202	1,056		30
TOTAL FOR MAP NO. 7									0.45		0					4			1,202	1,056		30
12CR.10361.16	Gaston	8	DECEL LANE & OFF-RAMP	HARDIN RD EXIT	2	1		0.10	15							1			1,611	132		
TOTAL FOR MAP NO. 8									0.38		0				1			1,611	132			
12CR.10361.16	Gaston	9	ON-RAMP & ACCEL LANE	HARDIN RD EXIT	3	1		0.17	19										1,320	898		21
TOTAL FOR MAP NO. 9									0.49		0				4			1,320	898		21	
TOTAL FOR PROJ NO. 12CR.10361.16									11	878.75	165		6	2	8	54,558	42,800	61,372	48,424	4,900	1,511	
GRAND TOTAL									11	878.75	165		6	2	8	54,558	42,800	61,372	48,424	4,900	1,511	

PROJECT NO.	SHEET NO.	TOTAL NO.
12CR.10361.16	8	9

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 TON	INCIDENTAL STONE BASE TONS	SHOULDER RECONSTRUCTION SMI	2" MILLING SY	INCIDENTAL MILLING SY	0" TO 2" MILLING SY	INTERMEDIATE COURSE, I19.0C TONS	SURFACE COURSE, S9.5C TONS	ASPHALT BINDER FOR PLANT MIX TONS	PATCHING EXISTING PAVEMENT TONS	MILLED RUMBLE STRIPS LF
12CR.10361.16	Gaston	10	US 321 SOUTHBOUND DUAL TRAVEL LANES	LINCOLN CL TO APPROX. 528 FT N OF ROECHLING ST	1	2		NO	NO	8.1	29	2,140	200	16.20	152,895	700		26,145	17,076	2,262	4,590	85,536
TOTAL FOR MAP NO. 10										8.1		2,140	200	16.20	152,895	700		26,145	17,076	2,262	4,590	85,536
12CR.10361.16	Gaston	11	DECEL LANE & OFF-RAMP	HARDIN RD EXIT	2 3	1		NO	NO	0.13 0.30	VAR. 14-17 VAR. 18-20	60	32	0.60	1,170	90		220	572	44	60	
TOTAL FOR MAP NO. 11										0.43		60	32	0.60	1,170	90		220	572	44	60	
12CR.10361.16	Gaston	12	ON-RAMP & ACCEL LANE	HARDIN RD EXIT	3 2	1		NO	NO	0.18 0.32	VAR. 19-20 VAR. 15-17	36	45	0.36	3,409	60		583	638	66	200	
TOTAL FOR MAP NO. 12										0.5		36	45	0.36	3,409	60		583	638	66	200	
12CR.10361.16	Gaston	13	DECEL LANE & OFF-RAMP	NC 279 EXIT	2 3 4	1		NO	NO	0.12 0.19 0.08	16 VAR. 19-20 VAR. 21-27	46		0.46	1,286	60	470	220	550	43	110	
TOTAL FOR MAP NO. 13										0.4		46		0.46	1,286	60	470	220	550	43	110	
12CR.10361.16	Gaston	14	ON-RAMP	NC 279 EXIT	4 3	1		NO	NO	0.02 0.18	19 VAR. 19-20	38	30	0.38		60	120		286	17	63	
TOTAL FOR MAP NO. 14										0.2		38	30	0.38		60	120		286	17	63	
12CR.10361.16	Gaston	15	THIRD TRAVEL LANE BETWEEN RAMPS	NC 279 EXIT TO GRIER BEAM EXIT RAMPS	2	1		NO	NO	0.24	VAR. 14-16				2,363			404	263	35	85	
TOTAL FOR MAP NO. 15										0.24					2,363			404	263	35	85	
12CR.10361.16	Gaston	16	ON-RAMP LOOP & ACCEL LANE	NC 279 EXIT	4 6 5 2	1		NO	NO	0.10 0.04 0.05 0.23	20 20 VAR. 15-18 15	10		0.10	2,830	60	1,350	484	517	54	42	
TOTAL FOR MAP NO. 16										0.42		10		0.10	2,830	60	1,350	484	517	54	42	
12CR.10361.16	Gaston	17	OFF-RAMP	C. GRIER BEAM BLVD EXIT	3	1		NO	NO	0.16	VAR. 18-20	32	20	0.32		60			222	13	40	
TOTAL FOR MAP NO. 17										0.16		32	20	0.32		60			222	13	40	
12CR.10361.16	Gaston	18	ON-RAMP LOOP & ACCEL LANE	C. GRIER BEAM BLVD EXIT	4 5 2	1		NO	NO	0.08 0.06 0.26	VAR. 21-22 16 VAR. 14-16	8		0.08	3,216	60	811	550	484	55	90	
TOTAL FOR MAP NO. 18										0.4		8		0.08	3,216	60	811	550	484	55	90	
TOTAL FOR PROJ NO. 12CR.10361.16										10.85		2,370	327	18.50	167,169	1,150	2,751	28,606	20,608	2,589	5,280	85,536
TOTAL FOR PROJ NO. 12CR.10361.16 SOUTHBOUND LANES										10.85		2,370	327	18.50	167,169	1,150	2,751	28,606	20,608	2,589	5,280	85,536
TOTAL FOR PROJ NO. 12CR.10361.16 NORTHBOUND LANES										11		2,401	305	18.81	168,631	1,120	2642	28,836	20,748	2,607	5,306	85,536
PROJECT GRAND TOTAL										21.85		4,771	632	37.31	335,800	2,270	5,393	57,442	41,356	5,196	10,586	171,072

PROJECT NO.	SHEET NO.	TOTAL NO.
12CR.10361.16	9	9

POLYUREA, THERMOPLASTIC AND PAINT QUANTITIES

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP NO	LANES	LANE TYPE	LENGTH	WIDTH	4589000000-N	4366000000-E	4510000000-N	4721000000-E	4725000000-E			4815000000-E		4847100000-E		4847120000-E	4905000000-N
										TEMPORARY TRAFFIC CONTROL LS	WORK ZONE ADVANCE/GENERAL WARNING SIGNING SF	LAW ENFORCEMENT HR	THERMO MSG ONLY 120 M EA	THERMO STR ARROW 90 M EA	THERMO RT ARROW 90 M EA	MERGE ARROW 90 M EA	6" WHITE PAINT LF	6" YELLOW PAINT LF	6" WHITE POLYUREA (HIGHLY REFLECTIVE ELEMENTS) LF	6" YELLOW POLYUREA (HIGHLY REFLECTIVE ELEMENTS) LF	12" WHITE POLYUREA (HIGHLY REFLECTIVE ELEMENTS) LF	SNOW PLOWABLE MARKERS EA
12CR.10361.16	Gaston	10	US 321 SOUTHBOUND DUAL TRAVEL LANES	LINCOLN CL TO APPROX. 528 FT N OF ROEHLING ST	1	2		8.1	29	1.00	878.75	165					53,700	42,800	53,700	42,800	4,900	1,350
TOTAL FOR MAP NO. 10																53,700	42,800	53,700	42,800	4,900	1,350	
12CR.10361.16	Gaston	11	DECEL LANE & OFF-RAMP	HARDIN RD EXIT	2 3	1		0.13 0.30	VAR. 14-17 VAR. 18-20					1					1,772	1,600		24
TOTAL FOR MAP NO. 11													1					1,772	1,600		24	
12CR.10361.16	Gaston	12	ON-RAMP & ACCEL LANE	HARDIN RD EXIT	3 2	1		0.18 0.32	VAR. 19-20 VAR. 15-17							4			1,404	982		22
TOTAL FOR MAP NO. 12															4			1,404	982		22	
12CR.10361.16	Gaston	13	DECEL LANE & OFF-RAMP	NC 279 EXIT	2 3 4	1		0.12 0.19 0.08	16 VAR. 19-20 VAR. 21-27					1					1,601	1,162		25
TOTAL FOR MAP NO. 13													1					1,601	1,162		25	
12CR.10361.16	Gaston	14	ON-RAMP	NC 279 EXIT	4 3	1		0.02 0.18	19 VAR. 19-20										850	951		
TOTAL FOR MAP NO. 14																		850	951			
12CR.10361.16	Gaston	15	THIRD TRAVEL LANE BETWEEN RAMPS	NC 279 EXIT TO GRIER BEAM EXIT RAMPS	2	1		0.24	VAR. 14-16								250		250			13
TOTAL FOR MAP NO. 15																250		250			13	
12CR.10361.16	Gaston	16	ON-RAMP LOOP & ACCEL LANE	NC 279 EXIT	4 6 5 2	1		0.10 0.04 0.05 0.23	20 20 VAR. 15-18 15							3			480	740		25
TOTAL FOR MAP NO. 16															3			480	740		25	
12CR.10361.16	Gaston	17	OFF-RAMP	C. GRIER BEAM BLVD EXIT	3	1		0.16	VAR. 18-20										845	845		
TOTAL FOR MAP NO. 17																		845	845			
12CR.10361.16	Gaston	18	ON-RAMP LOOP & ACCEL LANE	C. GRIER BEAM BLVD EXIT	4 5 2	1		0.08 0.06 0.26	VAR. 21-22 16 VAR. 14-16				8		4				400	475		20
TOTAL FOR MAP NO. 18													8		4			400	475		20	
TOTAL FOR PROJ NO. 12CR.10361.16 SOUTHBOUND LANES									1	878.75	165	8	2	7	53,950	42,800	61,302	49,555	4,900	1,479		
TOTAL FOR PROJ NO. 12CR.10361.16 NORTHBOUND LANES									1	878.75	165	6	2	8	54,558	42,800	61,372	48,424	4,900	1,511		
PROJECT GRAND TOTAL									1	1,757.50	330	8	29	194,108	220,653	9,800	2,990					