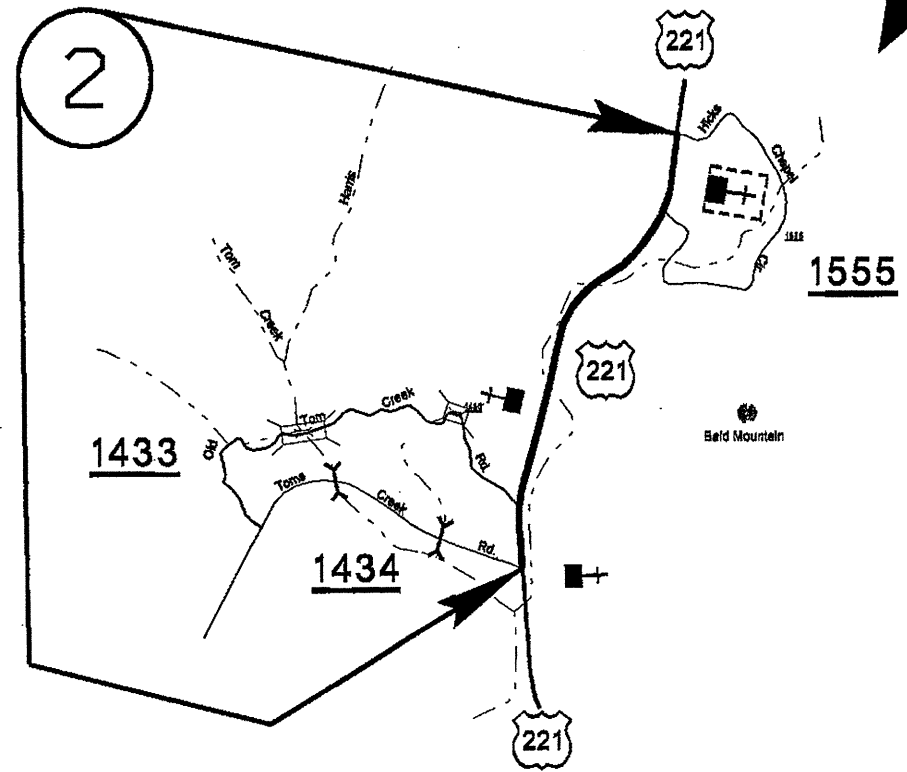
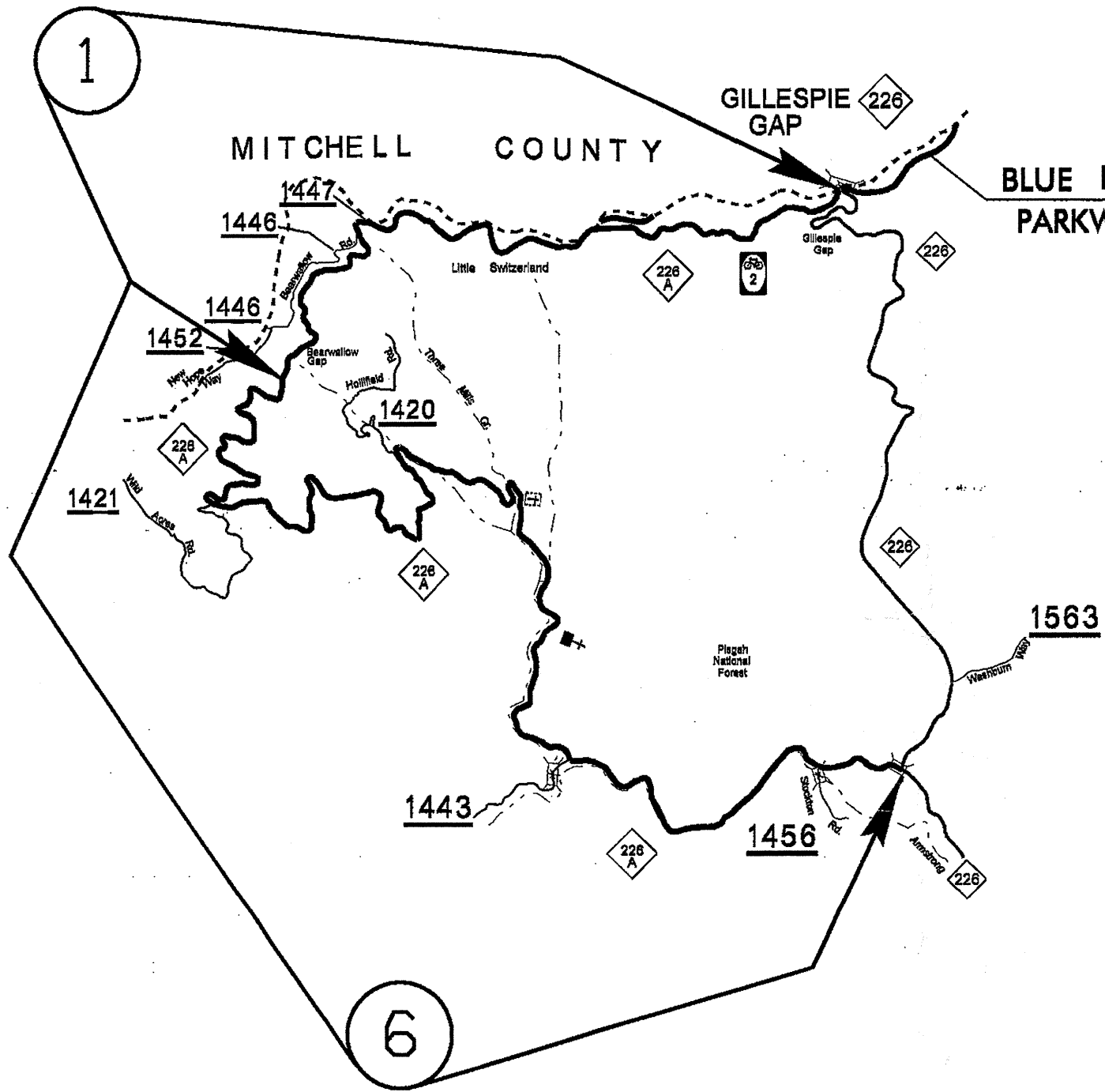
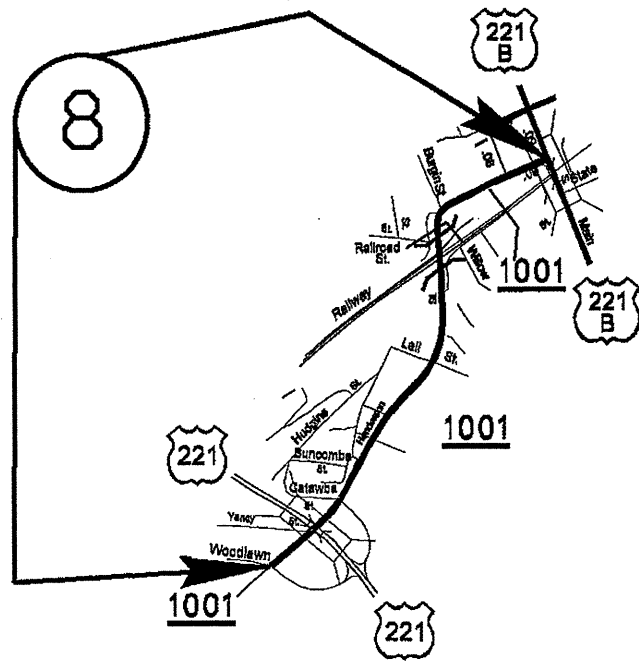
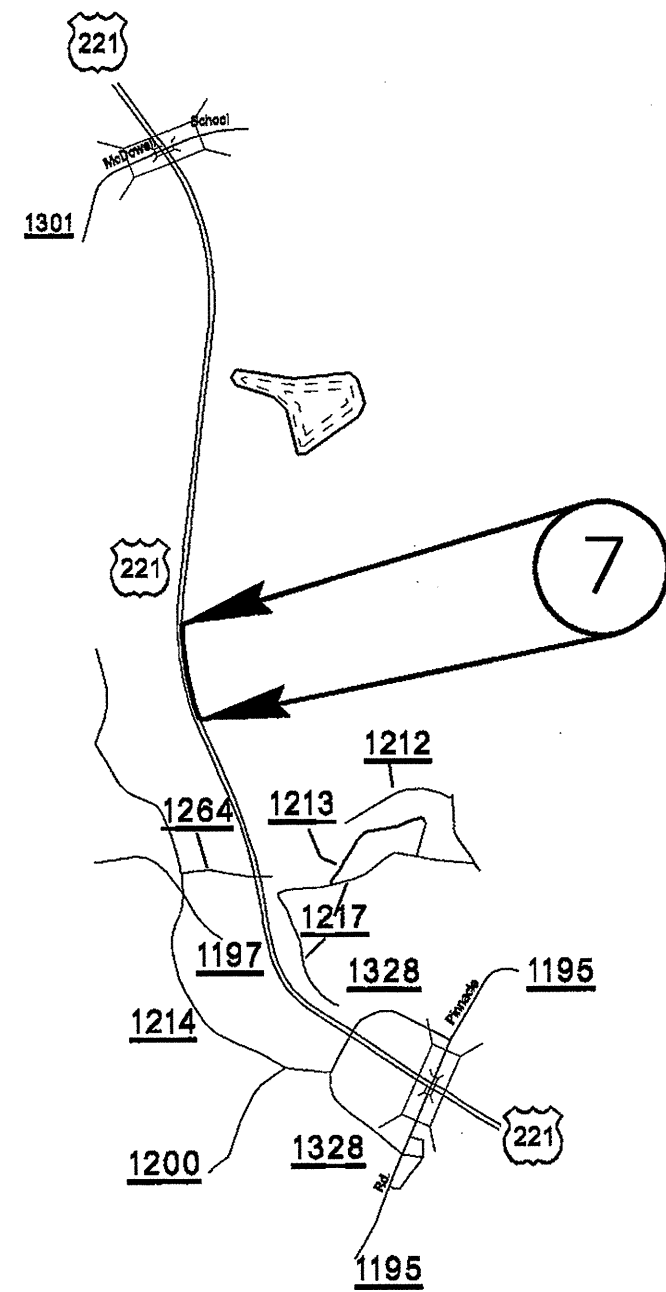
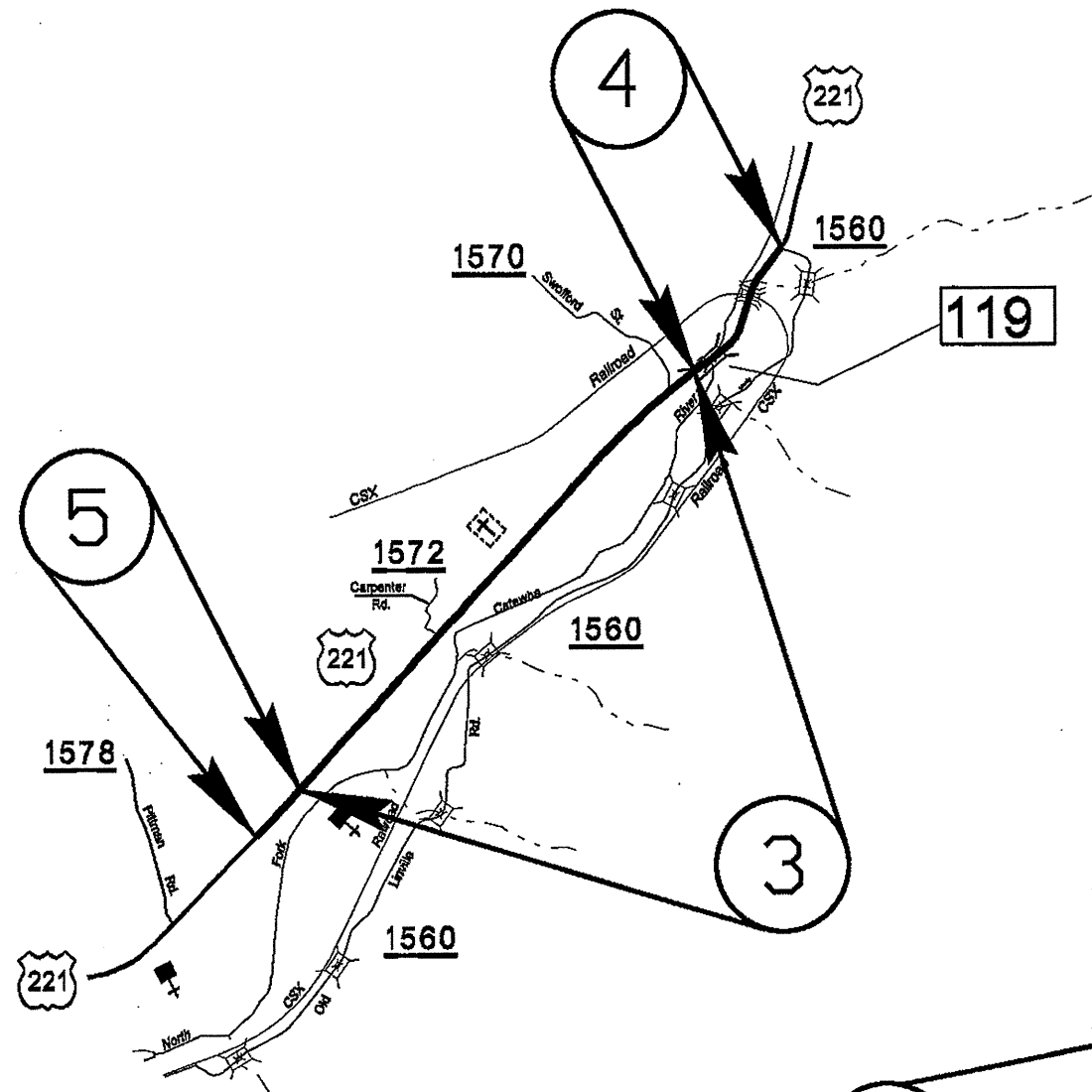


PROJECT NO.	SHEET NO.	TOTAL SHEETS
13CR.10591.13 13CR.20591.12	1	



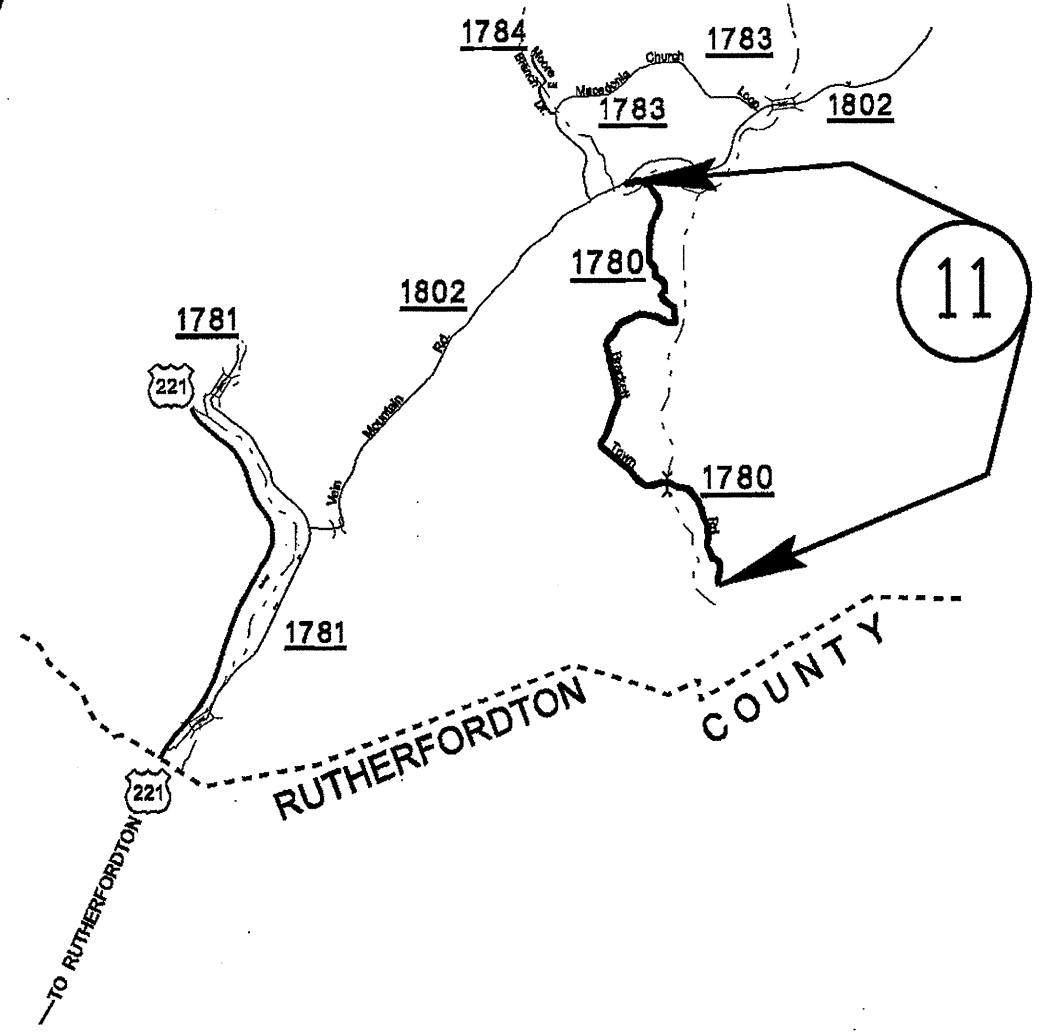
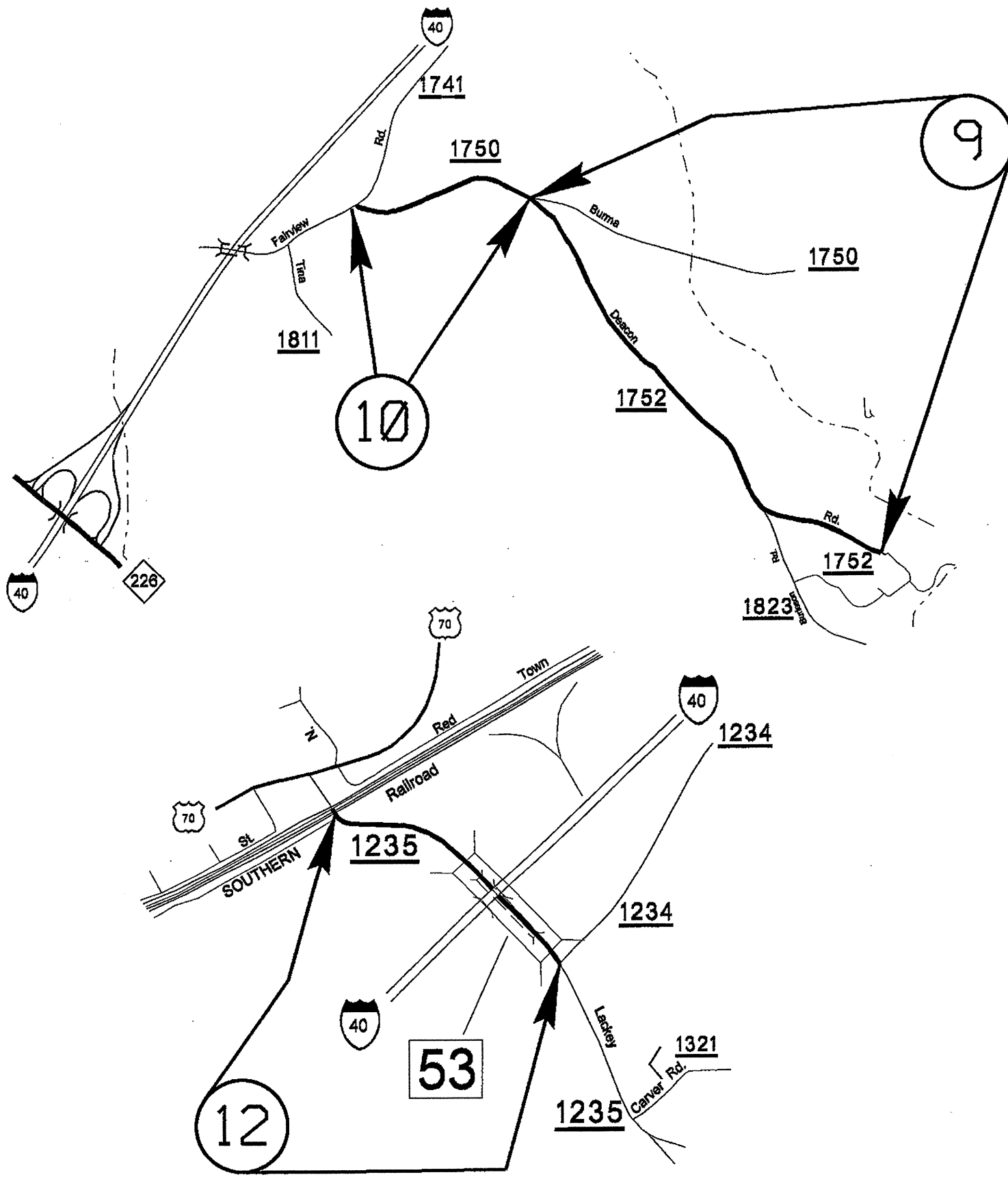
**McDOWELL COUNTY**

PROJECT NO.	SHEET NO.	TOTAL SHEETS
13CR.10591.13 13CR.20591.12	2	



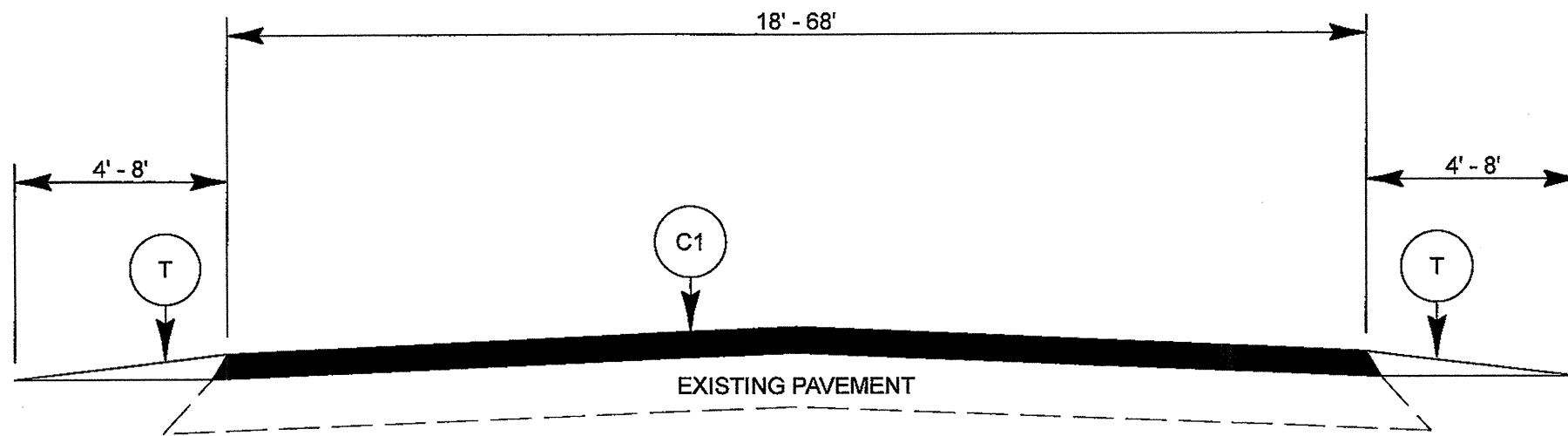
**McDOWELL COUNTY**

PROJECT NO.	SHEET NO.	TOTAL SHEETS
13CR.10591.13 13CR.20591.12	3	

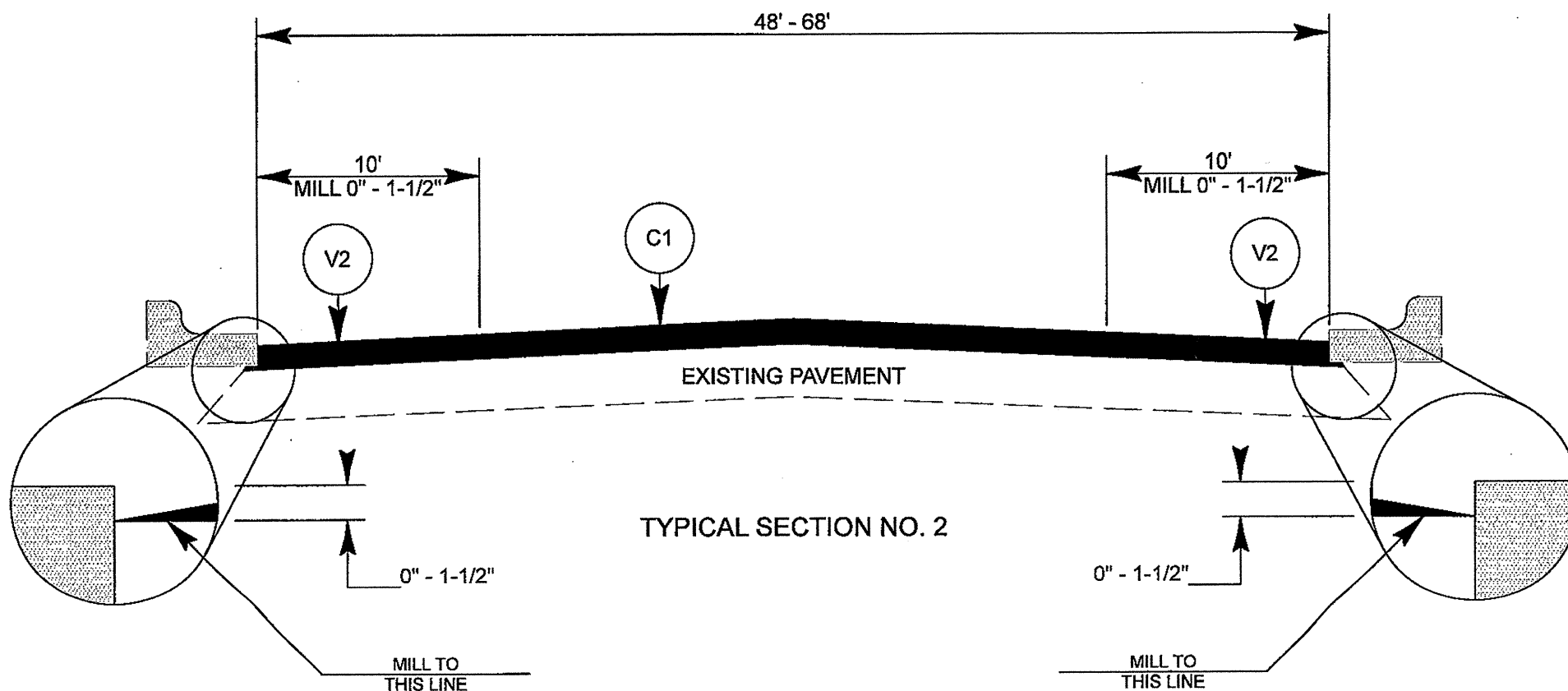
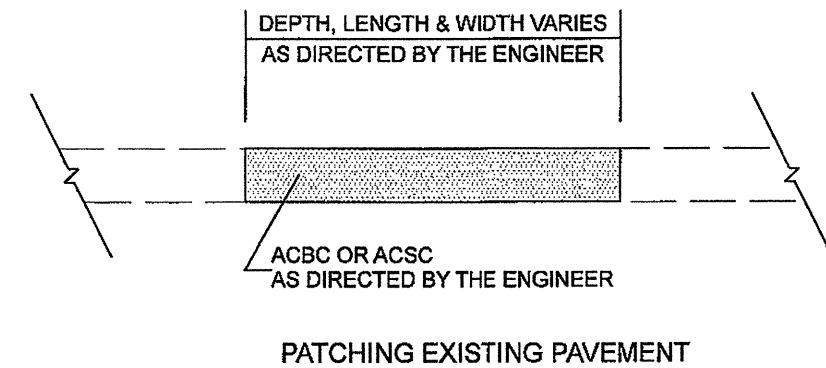


**McDOWELL COUNTY**

PROJECT NO. 13CR.10591.13, 13CR.20591.12	SHEET NO. 4	TOTAL SHEETS
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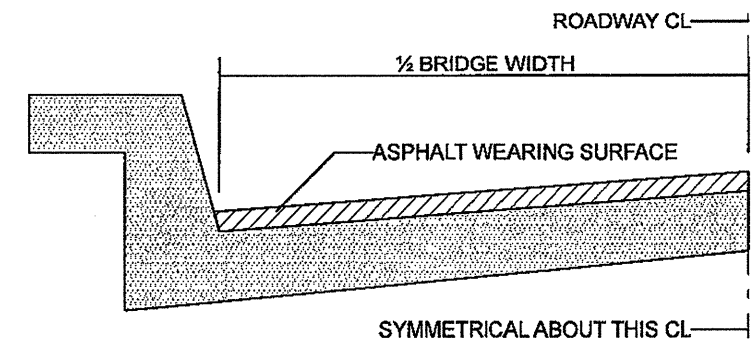
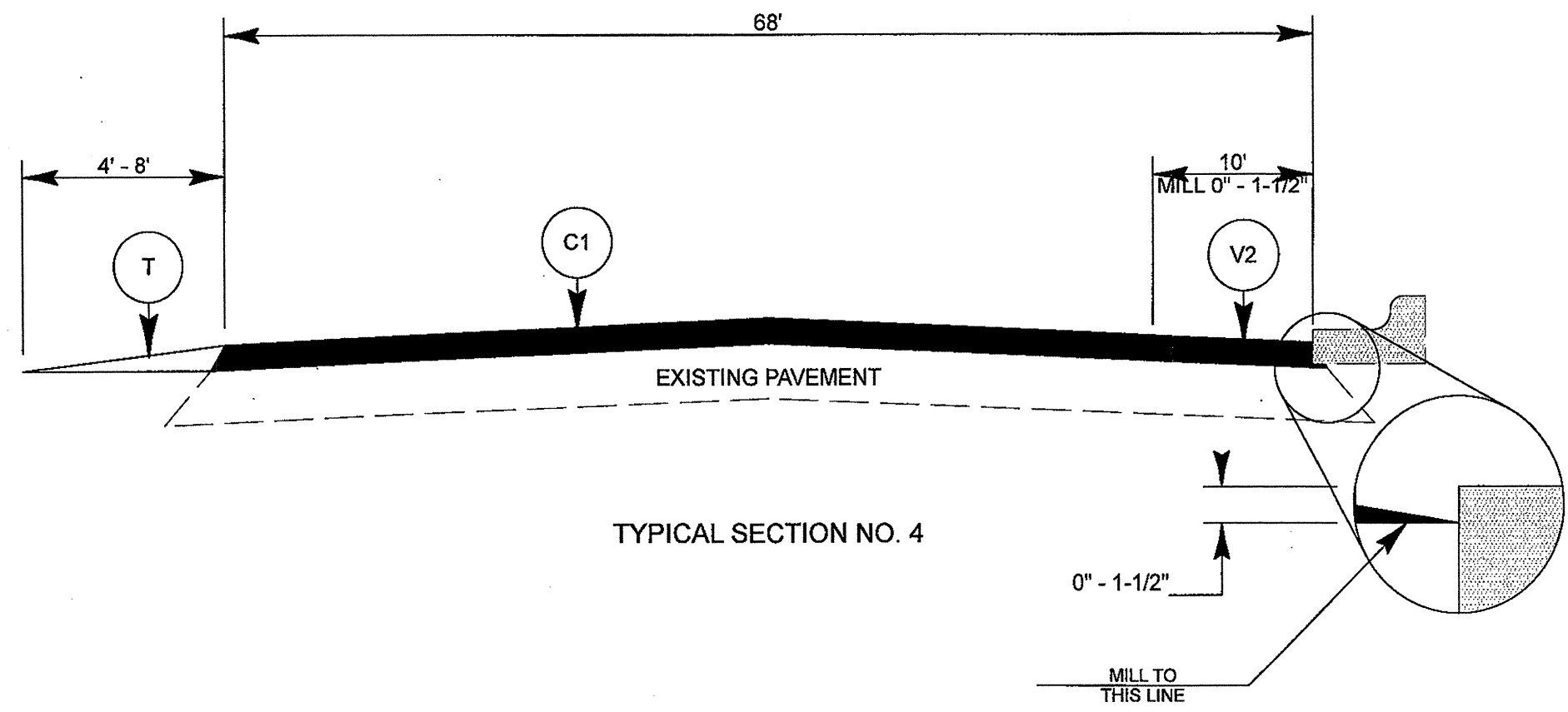
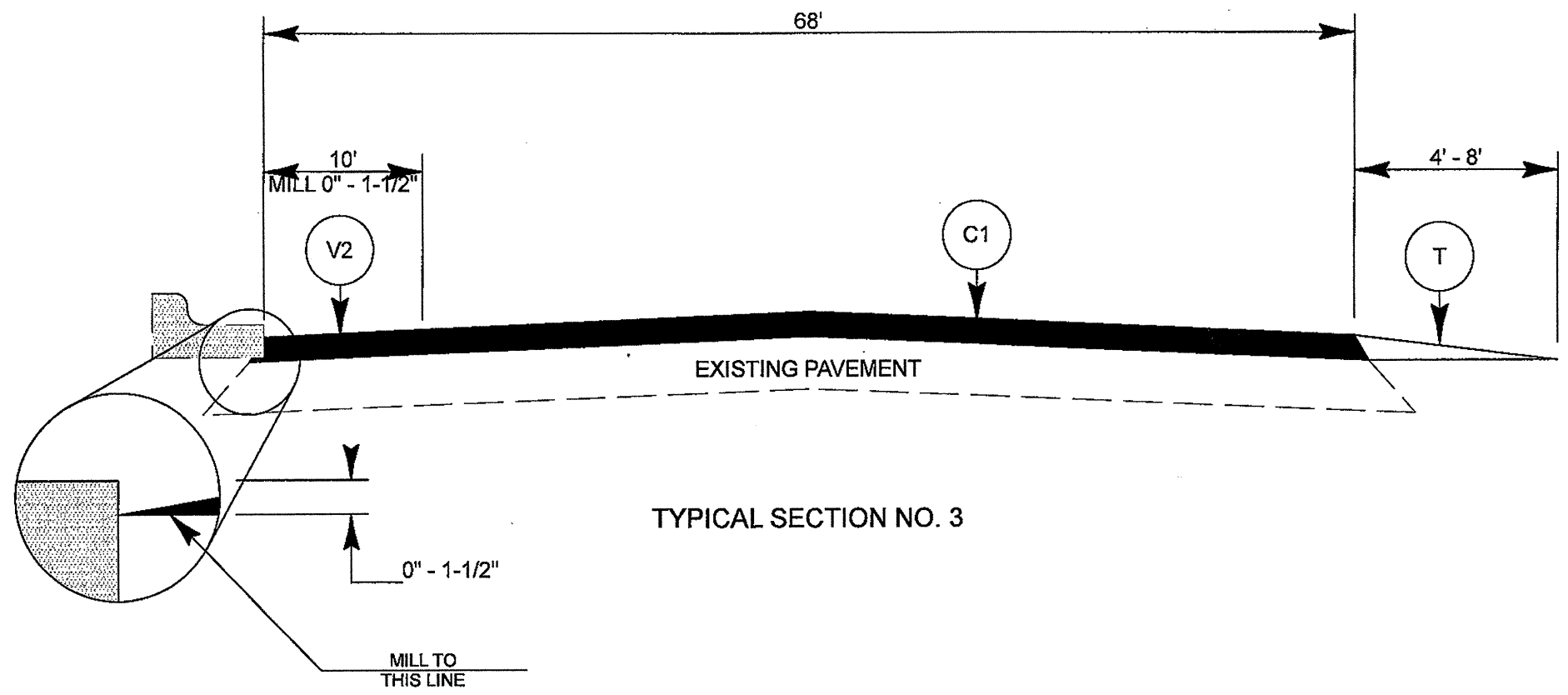
TYPICAL SECTION NO. 1



TYPICAL SECTION NO. 2

PAVEMENT SCHEDULE	
C1	PROP. APPROX. 1.5" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
C2	PROP. APPROX. 1.0" ASPHALT CONCRETE SURFACE COURSE, TYPE S4.75A, AT AN AVERAGE RATE OF 100 LBS. PER SQ. YD.
C3	PROP. APPROX. 1.5" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD.
T	SHOULDER RECONSTRUCTION
V1	MILLING ASPHALT PAVEMENT, 1-1/2" DEPTH
V2	MILLING ASPHALT PAVEMENT, 0 - 1-1/2" DEPTH
V3	MILLED RUMBLE STRIPS (ASPHALT CEMENT CONCRETE)

PROJECT NO.	SHEET NO.	TOTAL SHEETS
13CR.10591.13, 13CR.20591.12	5	

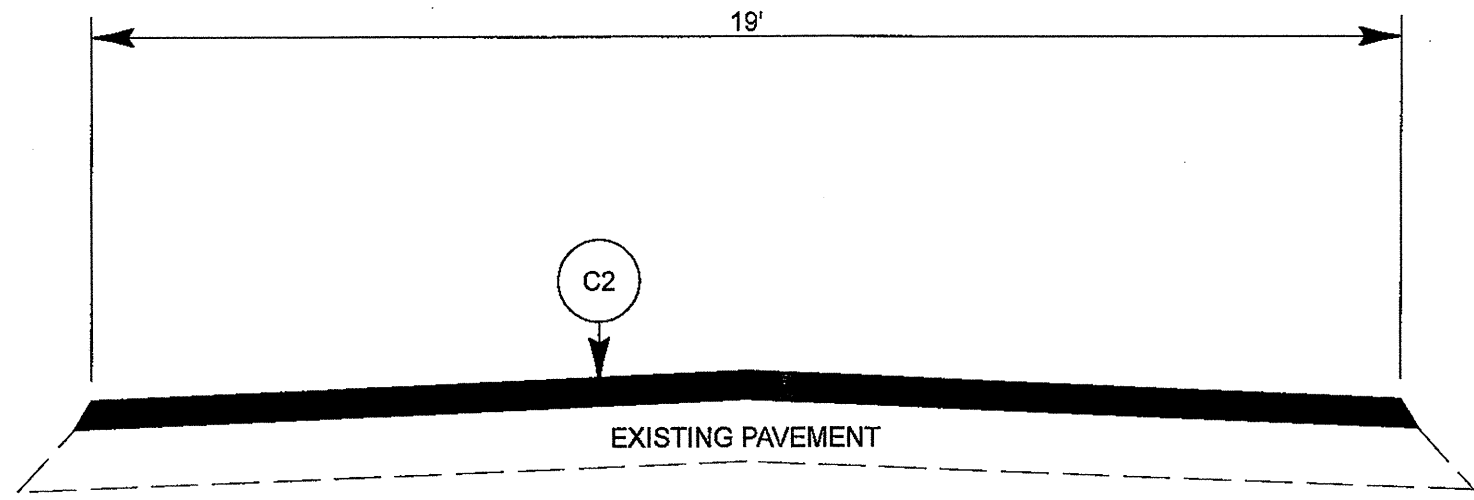


**BRIDGE HALF TYPICAL SECTION**  
 FOR BRIDGES WITH FLOOR DRAINS, CARE SHALL BE EXERCISED IN PLACING THE WEARING SURFACE AROUND FLOOR DRAINS SO AS NOT TO HINDER EFFECTIVE DRAINAGE. ALL DRAINS SHALL BE LEFT OPEN

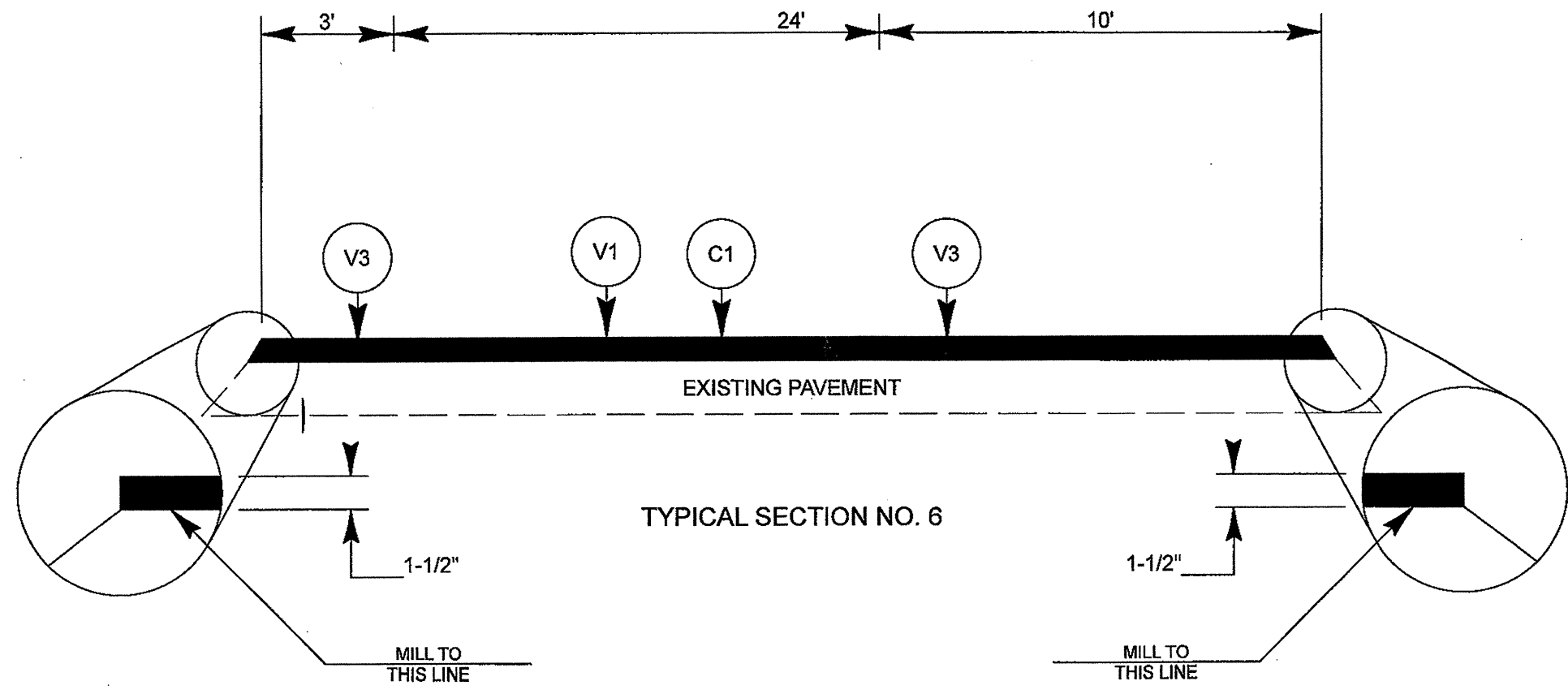
THE PROPOSED WEARING SURFACE SHALL VARY IN THICKNESS AS NECESSARY TO PROVIDE A SMOOTH RIDING SURFACE. THE MINIMUM THICKNESS SHOULD DEPEND ON PAVEMENT TYPE AS FOLLOWS: S4.75A 1/2", SF9.5A 1.0", S9.5X 1.5", S12.5X 2.0", ULTRATHIN HOT MIX ASPHALT-TYPE A 3/4", ULTRATHIN HOT MIX ASPHALT-TYPE B 5/8", ULTRATHIN HOT MIX ASPHALT-TYPE C 1/2". THE MAXIMUM THICKNESS SHOULD DEPEND ON PAVEMENT TYPE AS FOLLOWS: S4.75A 1.0", SF9.5A 1.5", S9.5X 2.0", S12.5X 2.0", ULTRATHIN HOT MIX ASPHALT-TYPE A 3/4", ULTRATHIN HOT MIX ASPHALT-TYPE B 5/8", ULTRATHIN HOT MIX ASPHALT-TYPE C 1/2".

**NOTES**  
 ALL UNPAVED 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.  
 SHOULDERS AND DITCHES ARE TO BE CONSTRUCTED BY OTHERS UNLESS OTHERWISE INDICATED.  
 BRIDGES ARE TO BE RESURFACED AT LOCATIONS AND TO DEPTH AS DIRECTED BY THE ENGINEER.

PROJECT NO.	SHEET NO.	TOTAL SHEETS
13CR.10591.13, 13CR.20591.12	6	

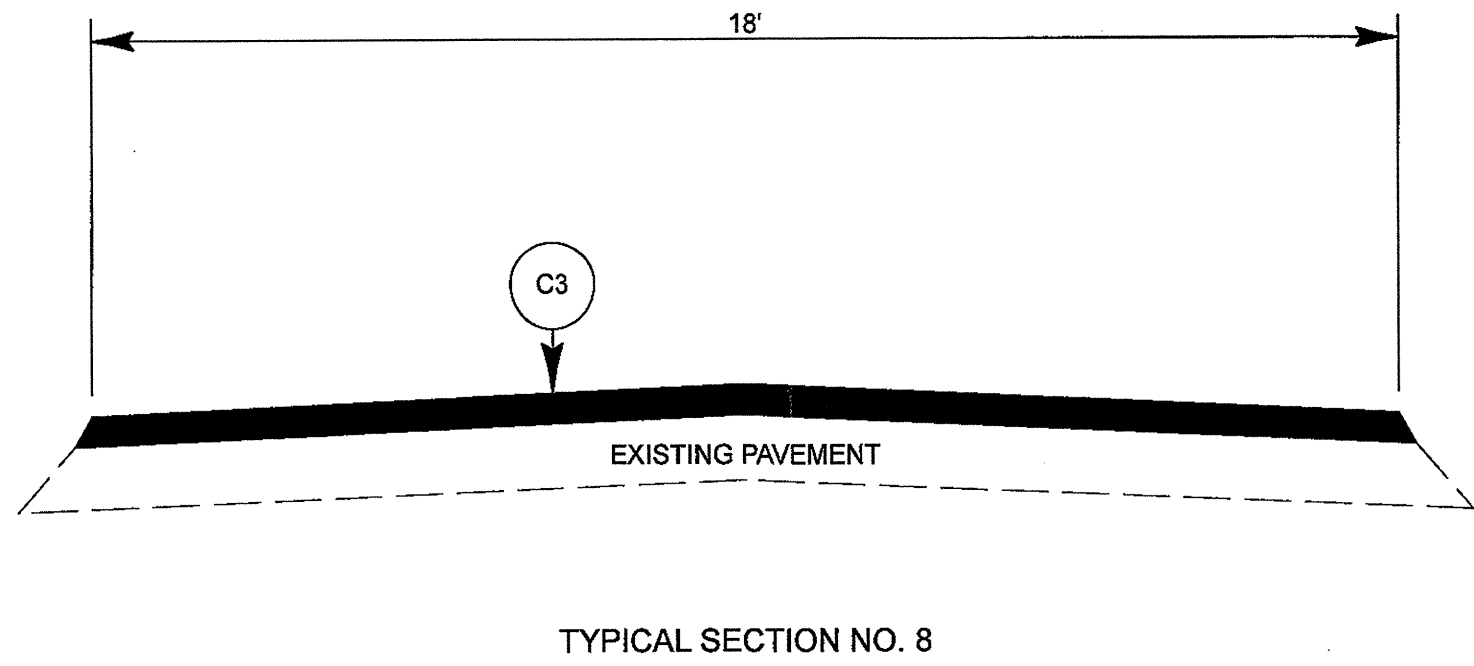
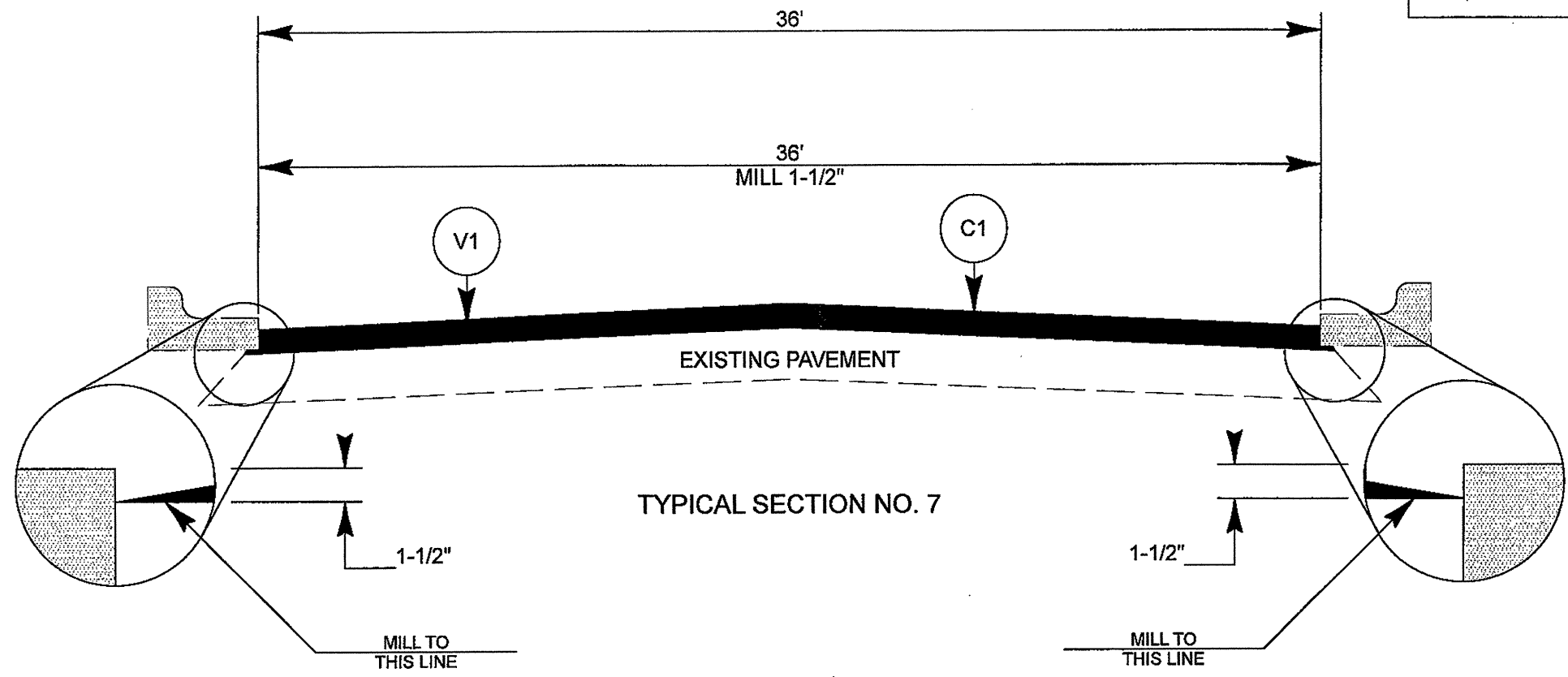


TYPICAL SECTION NO. 5

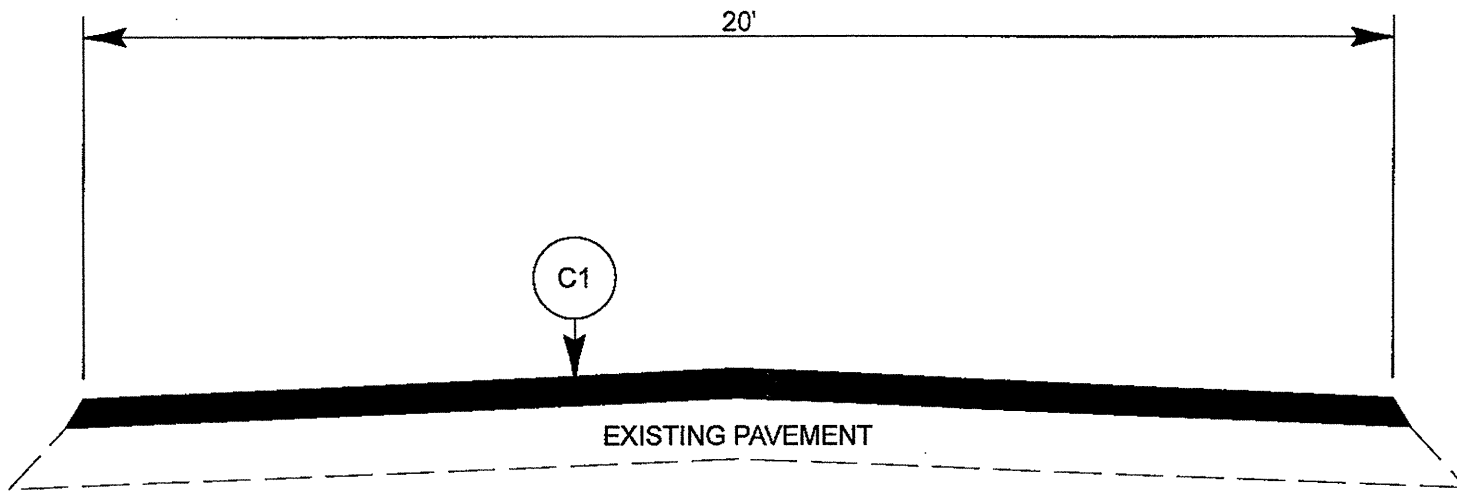


TYPICAL SECTION NO. 6

PROJECT NO.	SHEET NO.	TOTAL SHEETS
13CR.10591.13, 13CR.20591.12	7	



PROJECT NO.	SHEET NO.	TOTAL SHEETS
13CR.10591.13, 13CR.20591.12	8	



TYPICAL SECTION NO. 9



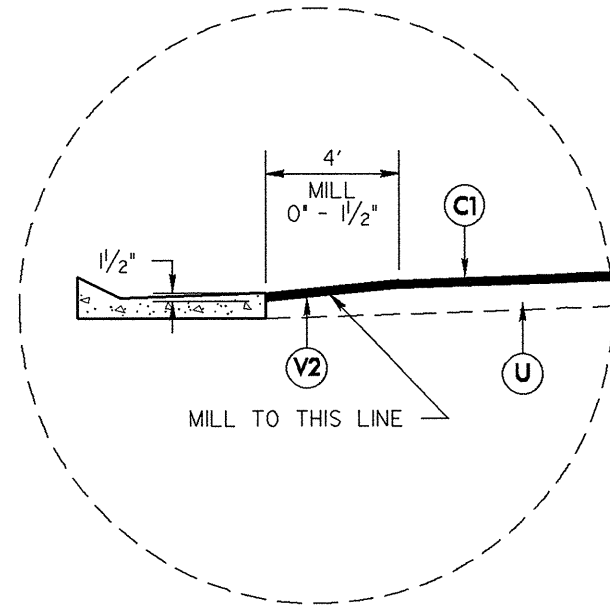
PROJECT NO.

SHEET NO.

TOTAL SHEETS

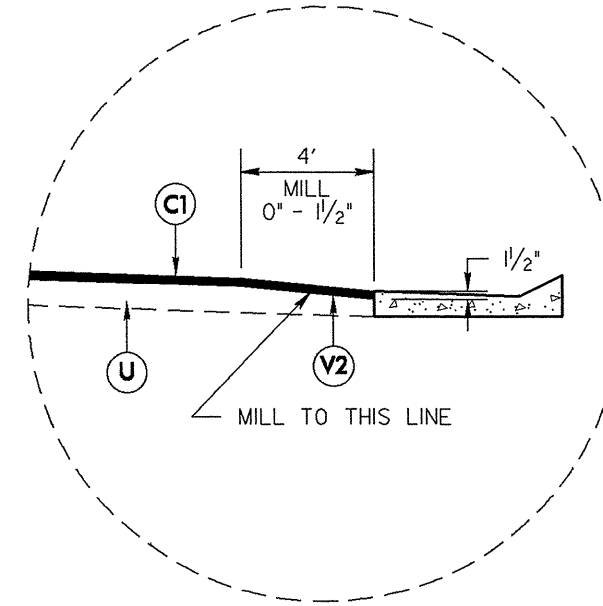
13CR.10591.13, 13CR.20591.12

9



**INSERT A**

**FOR USE AT SHOULDER BERM GUTTER  
LOCATIONS ON TYPICAL SECTION NO. 3  
AS DIRECTED BY THE ENGINEER**



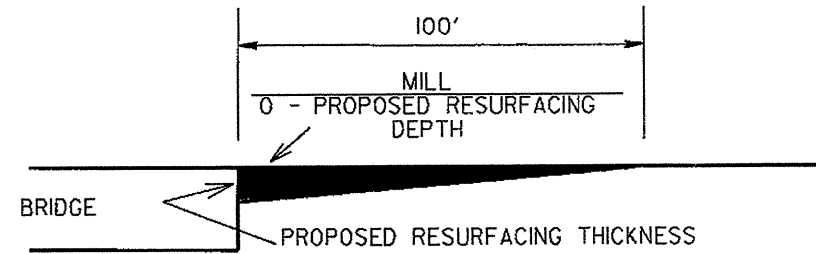
**INSERT B**

**FOR USE AT SHOULDER BERM GUTTER  
LOCATIONS ON TYPICAL SECTION NO. 4  
AS DIRECTED BY THE ENGINEER**

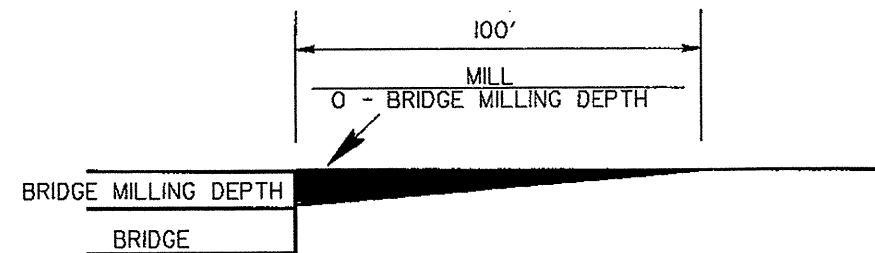
PAVEMENT SCHEDULE

C1	PROP. APPROX. 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YARD
U	EXISTING PAVEMENT
V2	MILLING ASPHALT PAVEMENT, 0" TO 1½" DEPTH

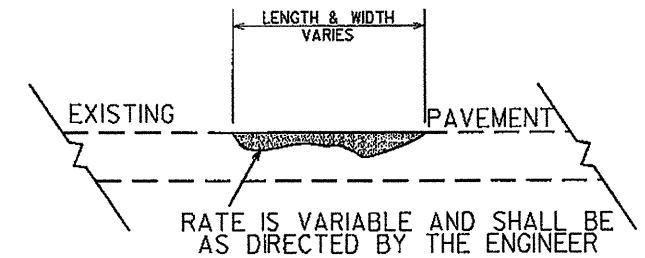
<b>PROJECT NO.</b>	<b>SHEET NO.</b>	<b>TOTAL SHEETS</b>
13CR.10591.13, 13CR.20591.12	10	



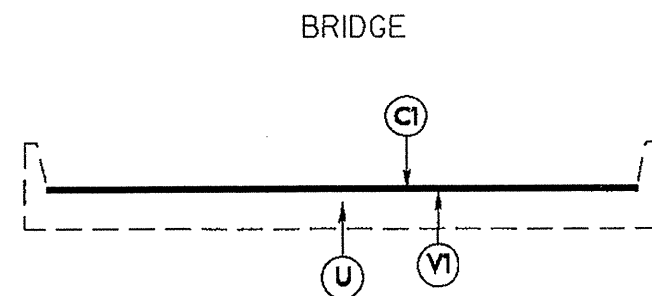
**INCIDENTAL MILLING DETAIL AT BRIDGE APPROACHES**  
**WHERE BRIDGES WILL NOT BE RESURFACED**  
**COST OF BRIDGE APPROACH MILLING IS INCIDENTAL TO OTHER ITEMS**



**INCIDENTAL MILLING DETAIL AT BRIDGE APPROACHES**  
**WHERE BRIDGES WILL BE MILLED THEN RESURFACED**  
**COST OF BRIDGE APPROACH MILLING IS INCIDENTAL TO OTHER ITEMS**



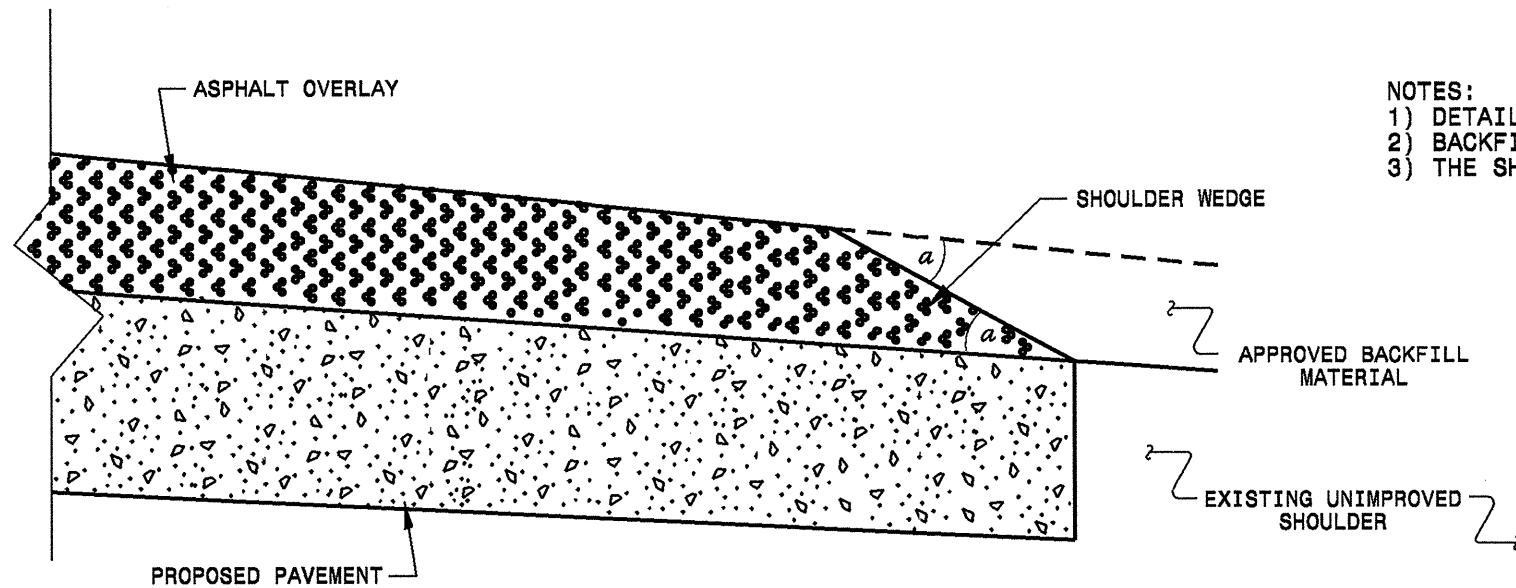
**DETAIL SHOWING METHOD OF WEDGING**



**BRIDGE DETAIL**

**BRIDGE #119 MAP 4**  
**MILL 1 1/2" OF EXISTING PAVEMENT**  
**SEE MAPS FOR BRIDGE LOCATION**

PAVEMENT SCHEDULE	
C1	PROP. APPROX. 1 1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YARD
U	EXISTING PAVEMENT
V1	MILLING ASPHALT PAVEMENT, 1 1/2" DEPTH

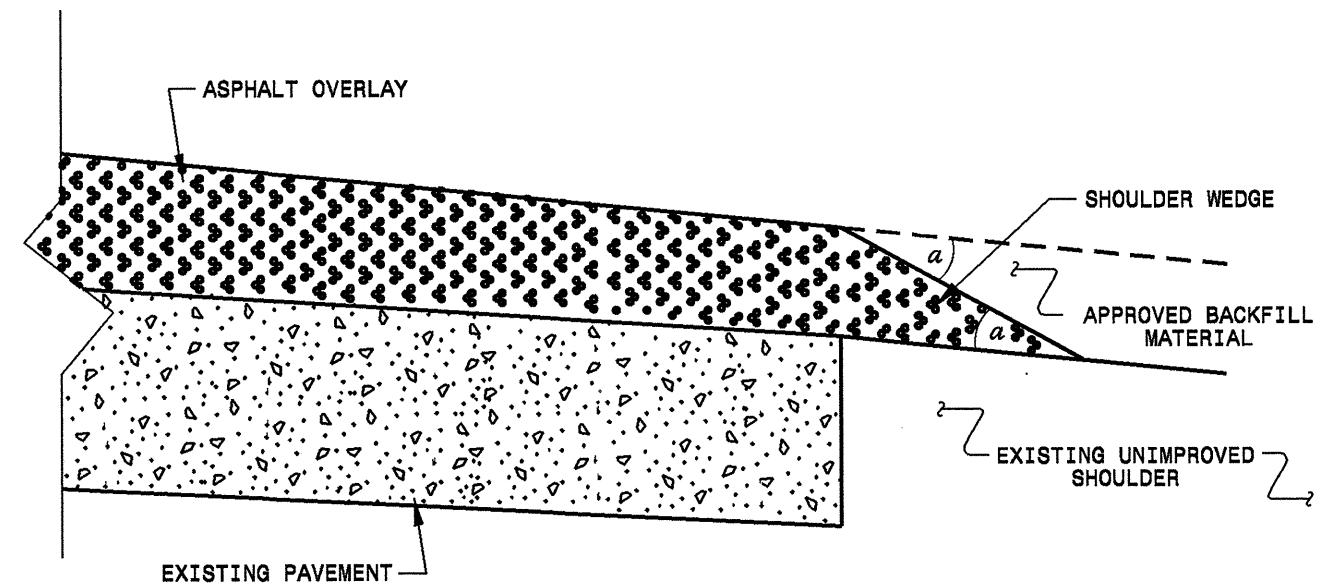


NOTES:

- 1) DETAIL DOES NOT APPLY TO OGAFD 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.

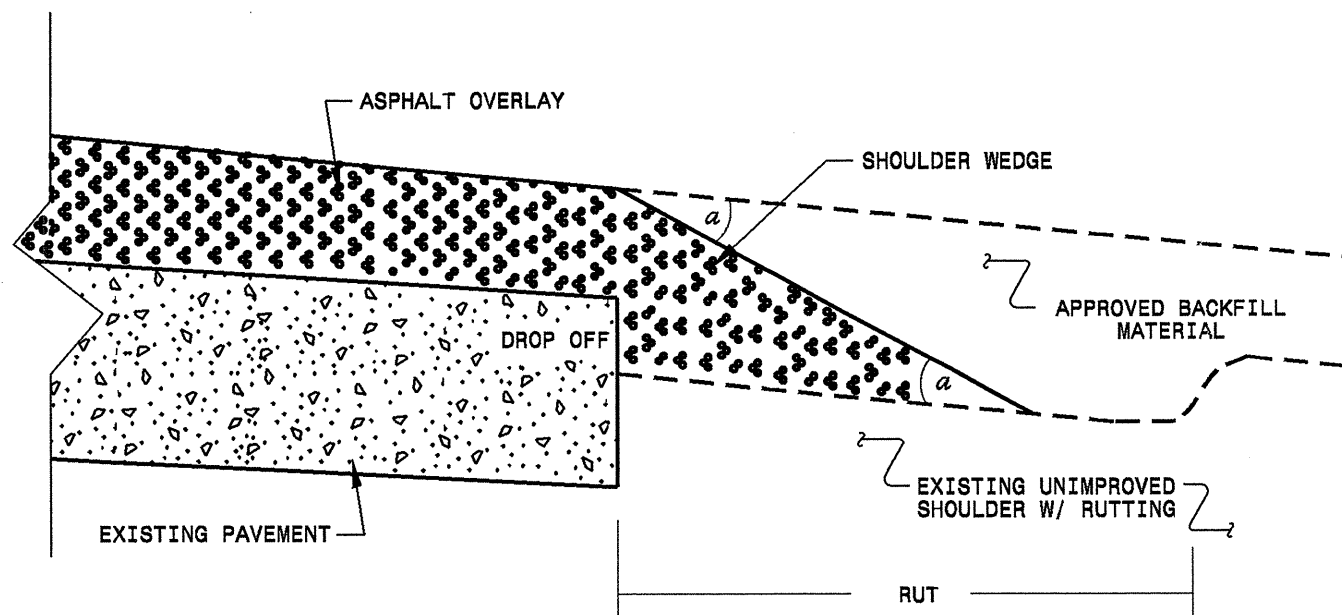
**SHOULDER WEDGE DETAIL**

(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

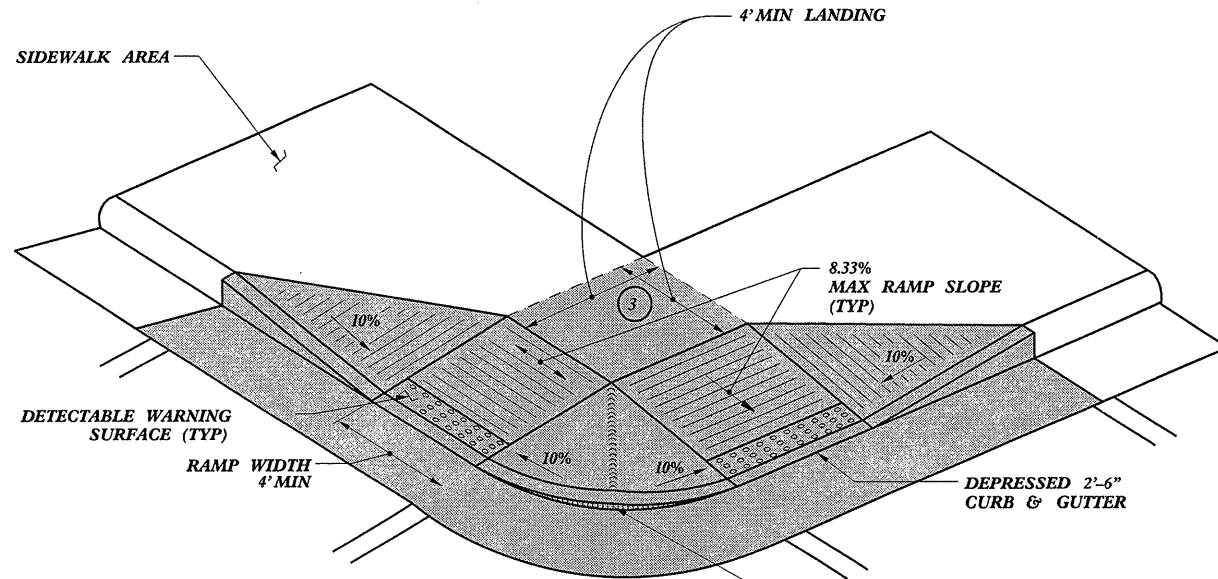
**SHOULDER WEDGE DETAILS**

ORIGINAL BY: T.SPELL	DATE: 7-18-11
MODIFIED BY:	DATE: 10/18/12
CHECKED BY:	DATE:
FILE SPEC.: s:\usr\details\stand\shoulderwedgedetail.dgn	

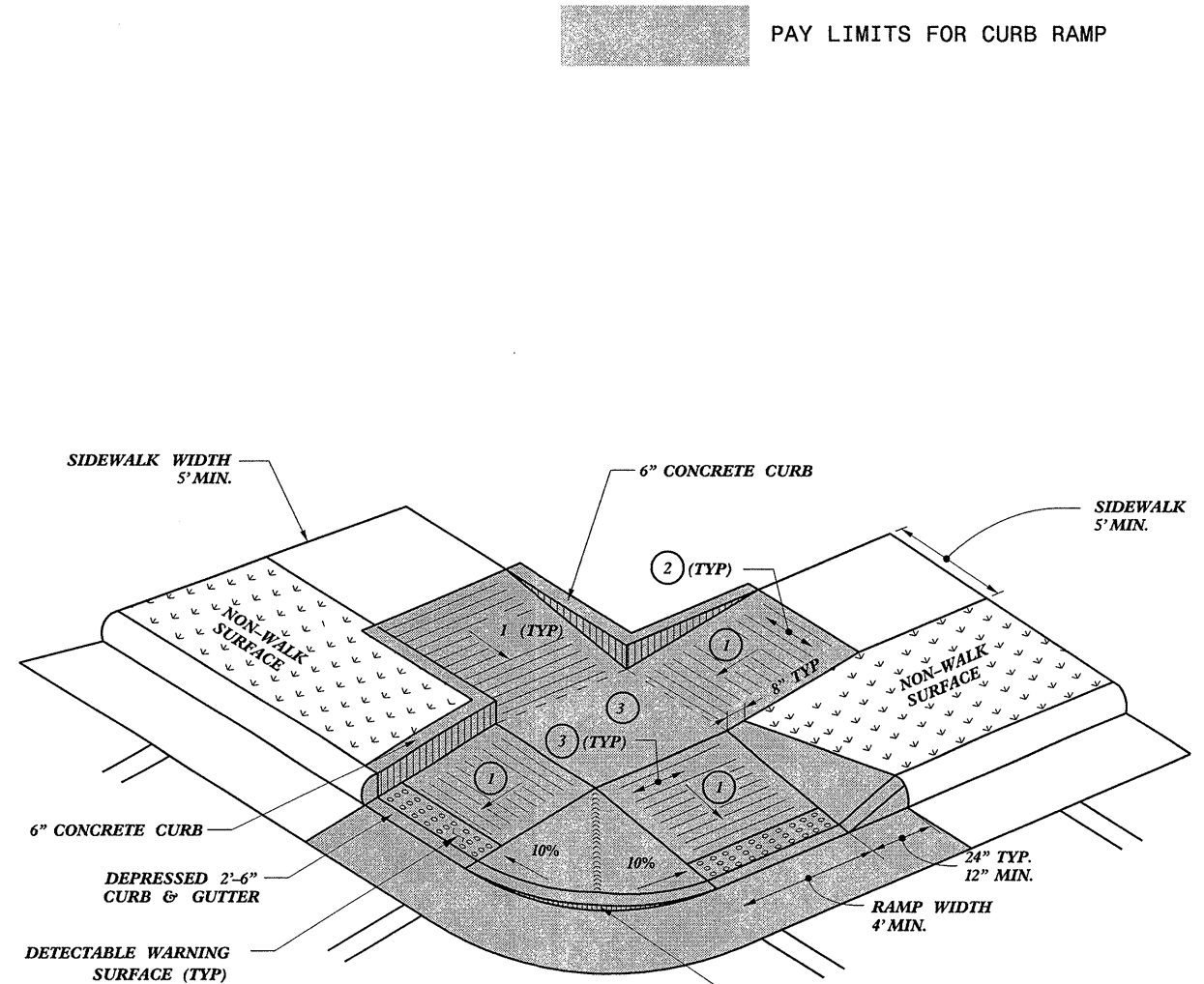
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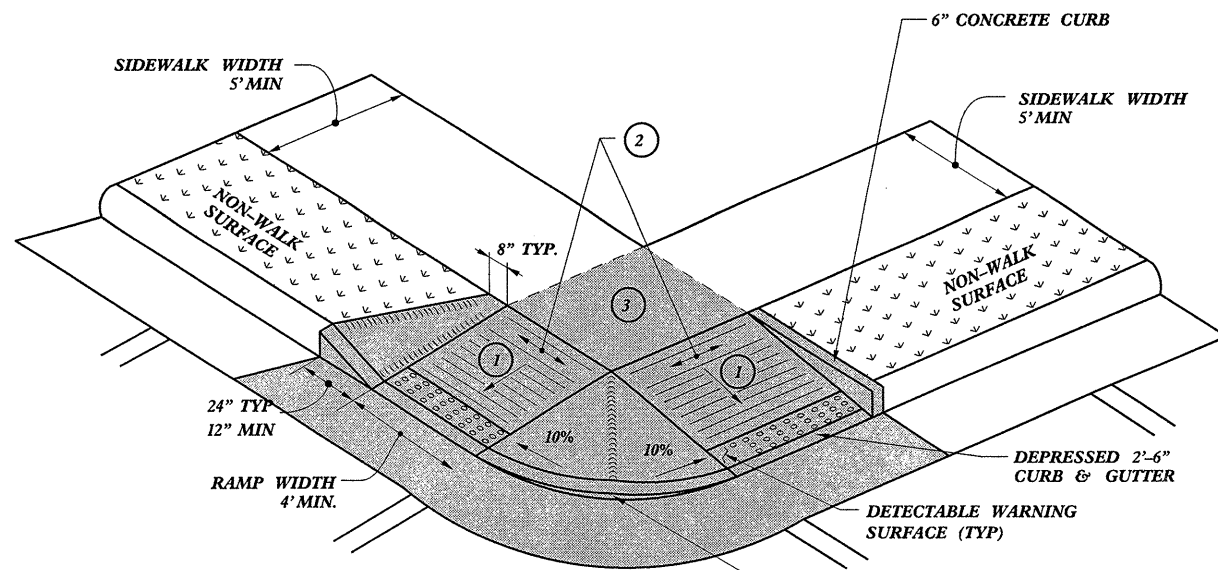




**TYPE 4**



**TYPE 5**



**TYPE 4A**

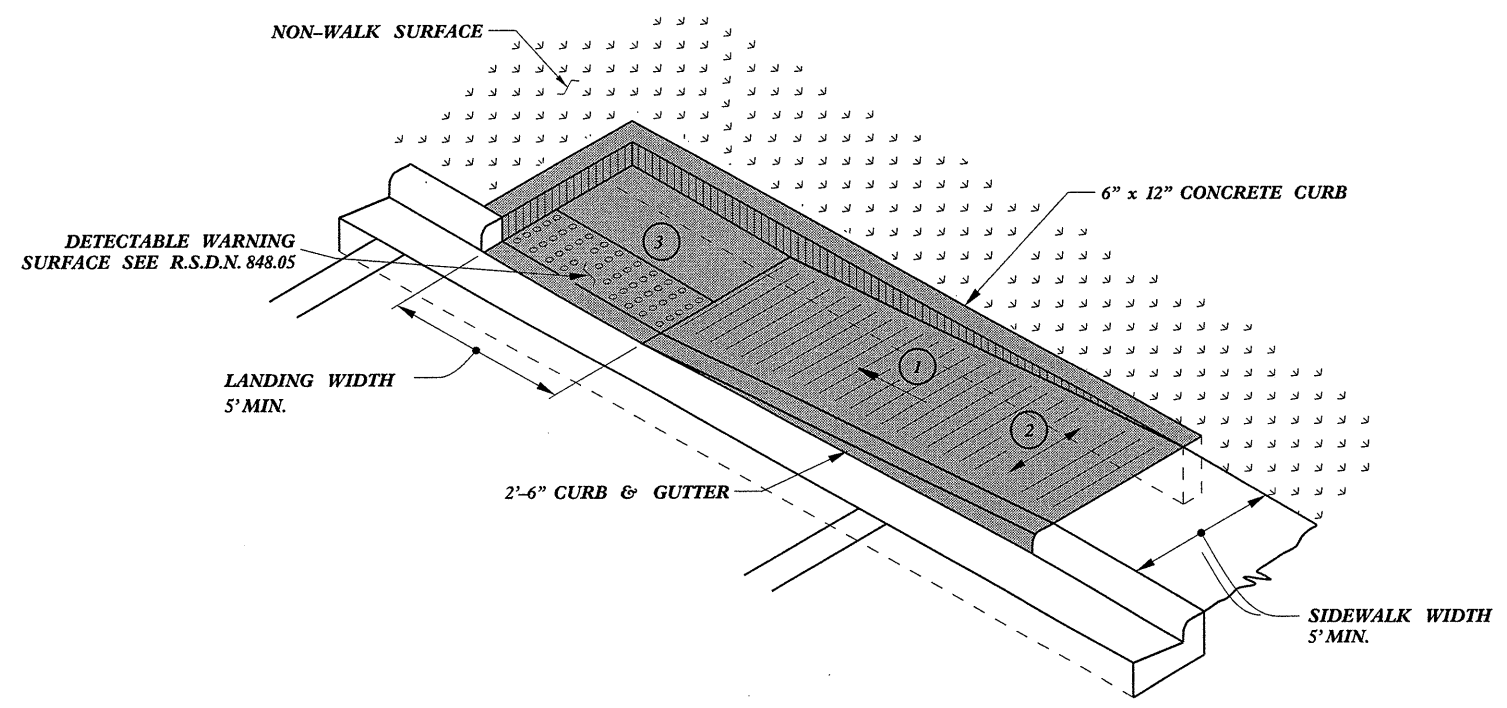
- ① 8.33% (12:1) MAX RAMP SLOPE
- ② CROSS SLOPE: 2.00%
- ③ CURB RAMPS REQUIRE A (4'-0") MINIMUM LANDING WITH A MAXIMUM CROSS SLOPE AND LONGITUDINAL SLOPE OF 2.00% WHERE PEDESTRIANS PERFORM TURNING MANEUVERS. SLOPE TO DRAIN TO CURB.


PAY LIMITS FOR CURB RAMP

5/14/99  
 22-MAR-2012 15:08  
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 Howerton

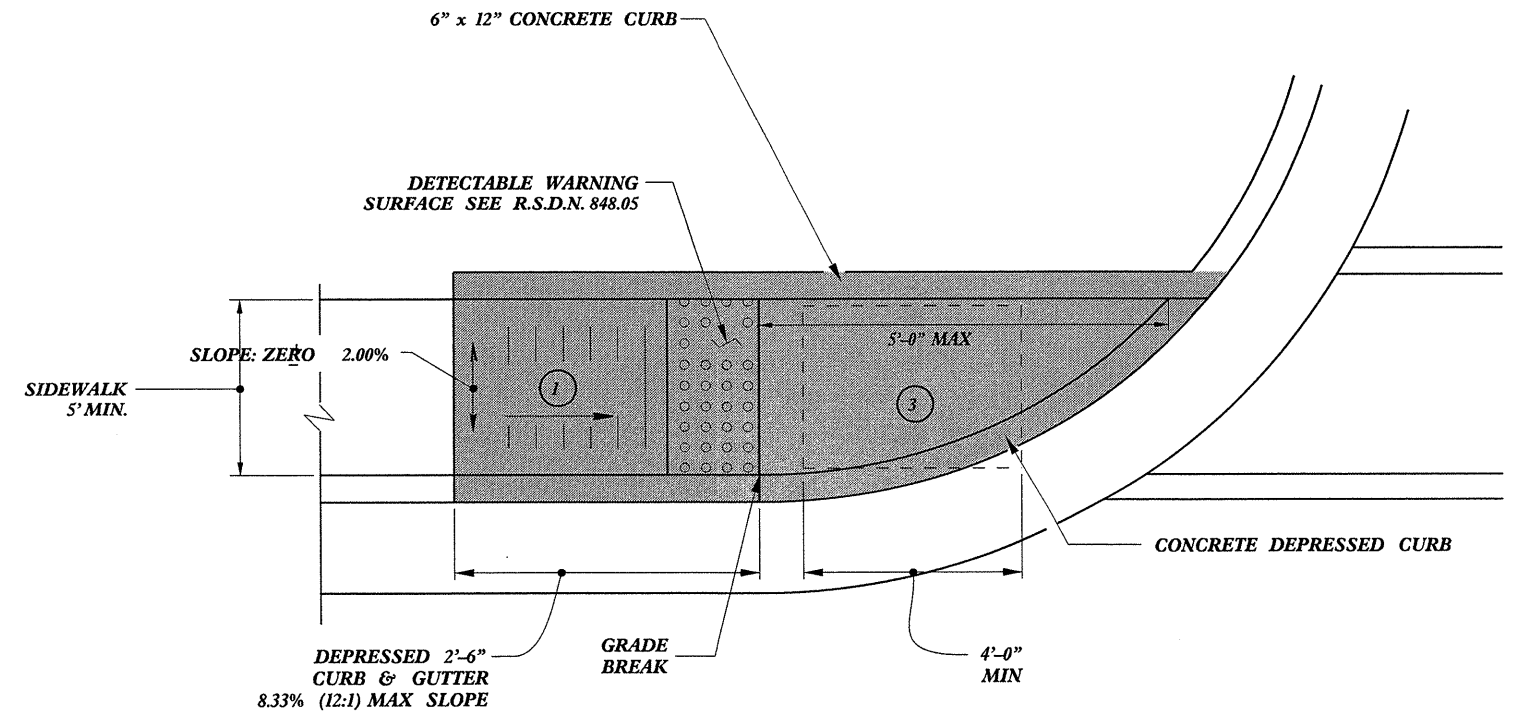
REFER TO ROADWAY STANDARD DRAWING NUMBER 848.05 SHEET 3 OF 3 FOR ALL RAMP NOTES

<b>CONTRACT STANDARDS AND DEVELOPMENT UNIT</b>	
Office 919-707-6950 FAX 919-250-4119	
<b>CURB RAMPS</b>	
Shared Landing	
ORIGINAL BY: J.S. HOWERTON	DATE: 7/7/11
MODIFIED BY:	DATE:
CHECKED BY:	DATE:
FILE SPEC: stds/2012CurbRamp/CurbRampDetails.dgn	



 PAY LIMITS FOR CURB RAMP

**TYPE 1A**



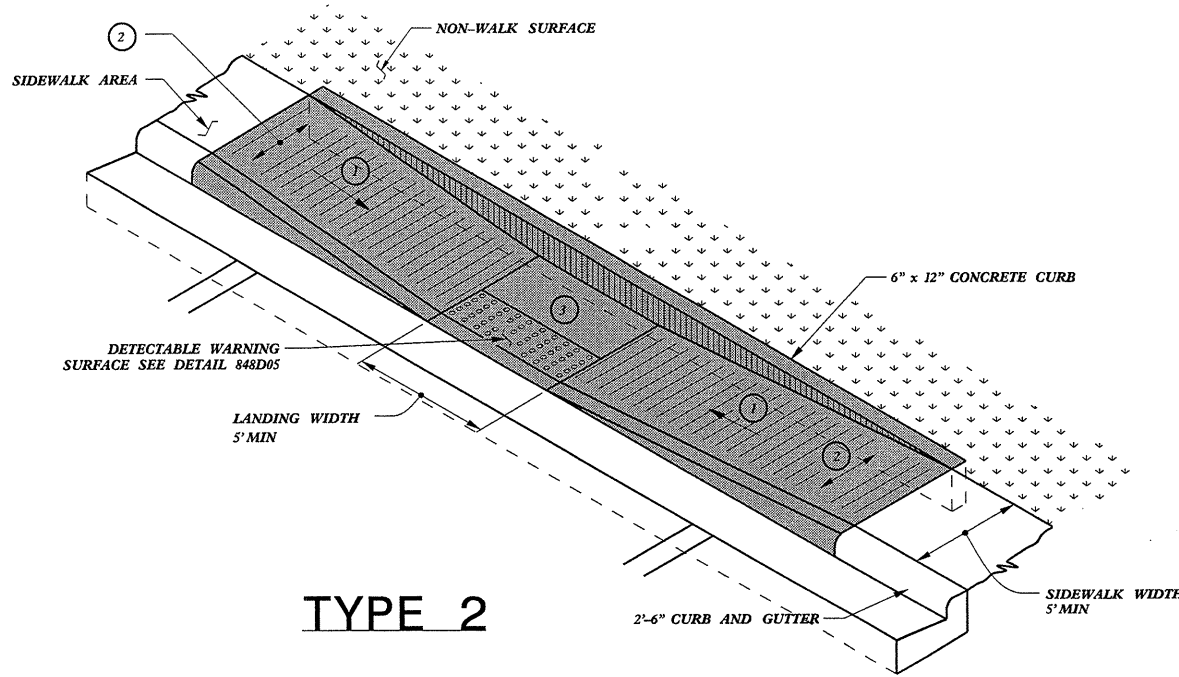
**TYPE 1**

- 1 8.33% (12:1) MAX RAMP SLOPE
- 2 CROSS SLOPE: 2.00%
- 3 CURB RAMPS REQUIRE A (4'-0") MINIMUM LANDING WITH A MAXIMUM CROSS SLOPE AND LONGITUDINAL SLOPE OF 2.00% WHERE PEDESTRIANS PERFORM TURNING MANEUVERS. SLOPE TO DRAIN TO CURB.


REFER TO ROADWAY STANDARD DRAWING NUMBER 848.05 SHEET 3 OF 3 FOR ALL RAMP NOTES

<b>CONTRACT STANDARDS AND DEVELOPMENT UNIT</b>	
Office 919-707-6950 FAX 919-250-4119	
<b>CURB RAMPS</b>	
Directional Ramps	
ORIGINAL BY: J.S. HOWERTON	DATE: 7/7/11
MODIFIED BY:	DATE:
CHECKED BY:	DATE:
FILE SPEC: stds/2012CurbRamp/CurbRampDetails.dgn	

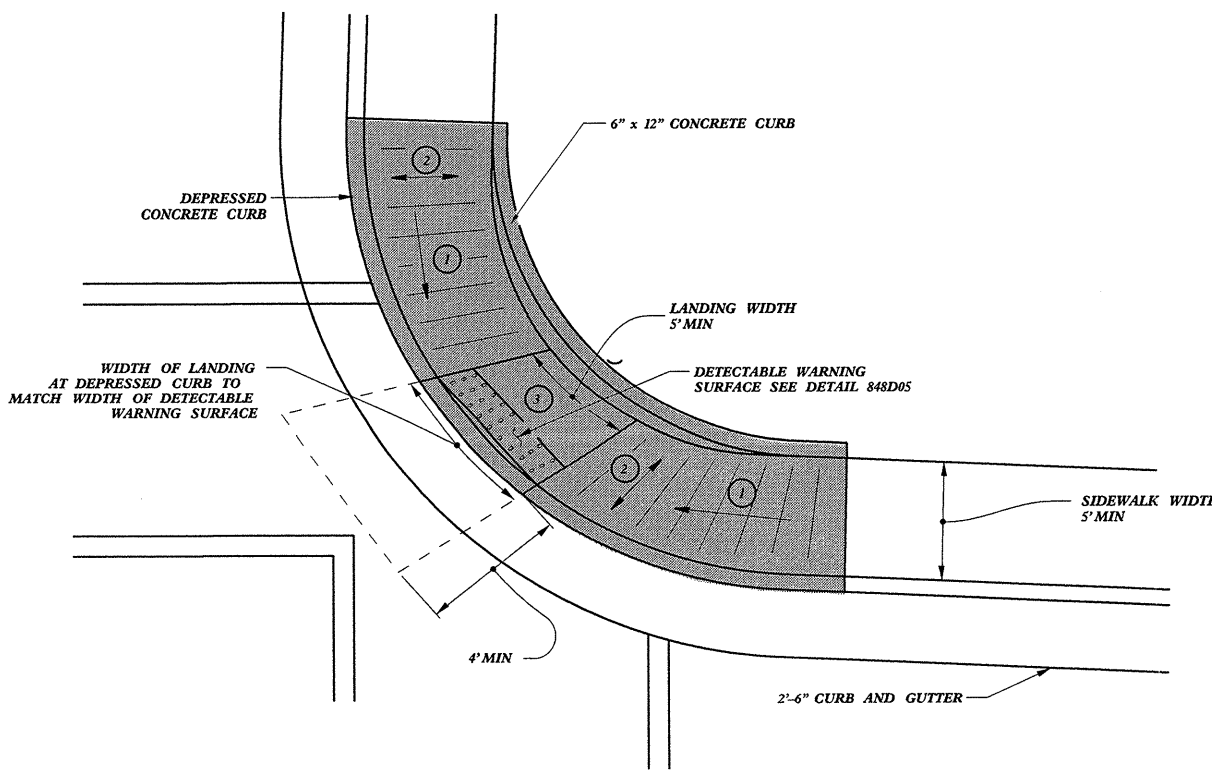
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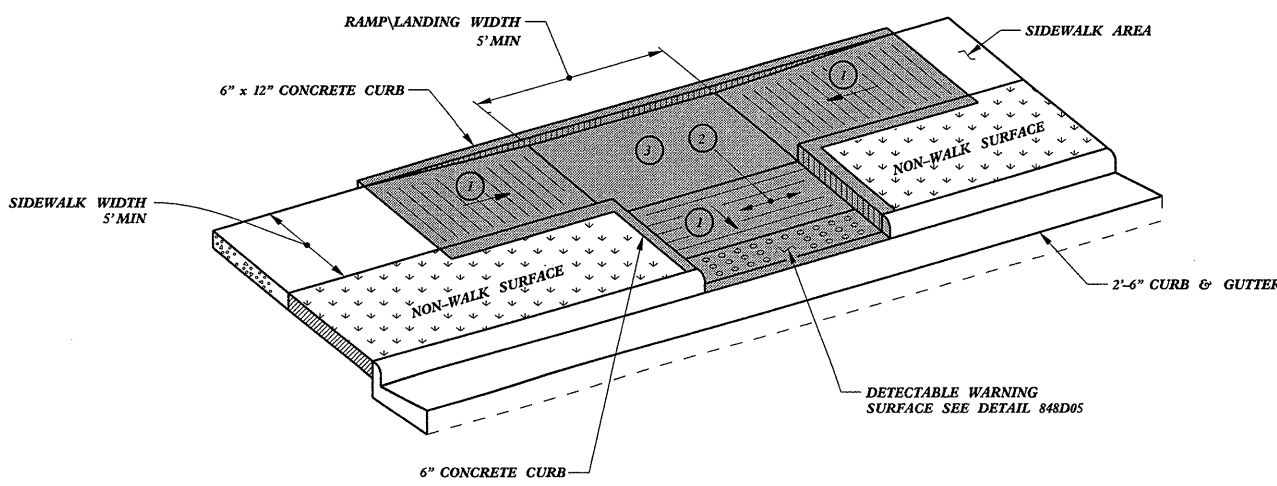
**TYPE 2**

 PAY LIMITS FOR CURB RAMP

- ① 8.33% (12:1) MAX RAMP SLOPE
- ② CROSS SLOPE: 2.00%
- ③ CURB RAMPS REQUIRE A (4'-0") MINIMUM LANDING WITH A MAXIMUM CROSS SLOPE AND LONGITUDINAL SLOPE OF 2.00% WHERE PEDESTRIANS PERFORM TURNING MANEUVERS. SLOPE TO DRAIN TO CURB.



**TYPE 2A**



**TYPE 3**

CONTRACT STANDARDS AND DEVELOPMENT UNIT	
Office 919-707-6950	FAX 919-250-4119
<b>CURB RAMPS</b>	
Parallel Ramps	
ORIGINAL BY: J.S. HOWERTON	DATE: 7/7/11
MODIFIED BY:	DATE:
CHECKED BY:	DATE:
FILE SPEC: stds/2012CurbRamp/CurbRampDetails.dwg	

REFER TO ROADWAY STANDARD DRAWING NUMBER 848.05 SHEET 3 OF 3 FOR ALL RAMP NOTES

5/14/99  
5-SEP-2011 08:04  
J:\projects\2011\Standard Drawings\2012 Curb Ramp Special Details\Curb Ramp Details.dgn  
Howerton AT CS0237501



### SUMMARY OF QUANTITIES

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP NO	FINAL SURFACE TESTING REQUIRED	WARM MIX ASPHALT REQUIRED	LENGTH MI	WIDTH FT	INCIDENTAL STONE BASE TON	SHOULDER RECONSTRUCTION SMI	MILLING ASPHALT PAV'T, 1-1/2" DEPTH SY	MILLING ASPHALT PAVEMENT, 0" TO 1 1/2" DEPTH SY	ASPHALT CONC SURFACE COURSE, TYPE S9.5B TON	ASPHALT CONC SURFACE COURSE, TYPE SF9.5A TON	ASPHALT CONC SURFACE COURSE, TYPE S4.75A TON	ASPHALT BINDER FOR PLANT MIX TON	PATCHING EXISTING PAVEMENT TON	MILLED RUMBLE STRIPS (ASPHALT CEMENT CONCRETE) LF	CONCRETE CURB RAMP (std. 848.05/ etc) EA	ADJ. OF MANHOLES EA	ADJ. OF METER BOXES OR VALVE BOXES EA			
13CR.10591.13	McDowell	1	NC 226A	FROM NC 226 FOR 4 MILES (MP 12.37 TO MP 8.37)	1	NO	YES	4	18	200	8.0		900	3,930			236	850							
			2	US 221	FROM SR 1434 TO NORTH END OF SR 1555 (MP 17.93 - MP 19.33)	1,2,3,4	NO	NO	1.4	68	70	2.0		8,123	6,081				365	200					
			3	US 221	FROM PVMT CHANGE TO PVMT CHANGE (MP 28.04 - MP 30.04)	1	NO	NO	2	22	100	4.0		500	2,399				144	900					
			4	US 221	FROM PAVEMENT CHANGE TO SR 1560 (MP 30.04 - MP 30.59)	1	NO	NO	0.55	22	28	1.1		205	2,100	660			40	400					
			5	US 221	CHANGE (MP 27.74 - MP 28.04)	1	NO	NO	0.3	22	15	0.6		500	360				22	175					
			6	NC 226A	FROM NC 226 FOR 8.37 MILES (MP 0.00 - MP 8.37)	5	NO	YES	8.37	19								5,154	350						
			7	US 221 N	FROM 0.82 MILES NORTH OF SR 1195 FOR 0.11 MILES	6	NO	NO	0.11	37				2,265		221				13		1,100			
<b>TOTAL FOR PROJ NO. 13CR.10591.13</b>								<b>16.73</b>		<b>413</b>	<b>15.7</b>	<b>2,470</b>	<b>12,123</b>	<b>13,651</b>		<b>5,154</b>	<b>1,170</b>	<b>2,525</b>	<b>1,100</b>						
13CR.20591.12	McDowell	8	SR 1001	FROM US 221 BUS TO WOODLAWN STREET (MP 13.59 - MP 12.64)	2,7	NO	NO	0.95	36-60			4,052	10,674	2,530			152	300		27	20	7			
			9	SR 1752	FROM SR 1750 TO EOM (MP 0.00 - MP 1.02)	8	NO	NO	1.02	18	51					984		66	750						
			10	SR 1750	FROM SR 1752 TO SR 1741 (MP 3.42 - MP 3.78)	8	NO	NO	0.36	18	18					347		23	250						
			11	SR 1780	FROM SR 1802 TO EOM (MP 0.00 - MP 3.05)	8	NO	NO	3.05	18	153					2,943		197	2,100						
			12	SR 1235	FROM R/R CROSSING TO SR 1234 (MP 0.06 - MP 0.43)	9	NO	NO	0.37	20	19				444	404			24	220					
			<b>TOTAL FOR PROJ NO. 13CR.20591.12</b>								<b>5.75</b>		<b>241</b>		<b>4,052</b>	<b>11,118</b>	<b>2,934</b>	<b>4,274</b>		<b>462</b>	<b>3,620</b>	<b>27</b>	<b>20</b>	<b>7</b>	
<b>GRAND TOTAL</b>								<b>22.48</b>		<b>654</b>	<b>15.7</b>	<b>6,522</b>	<b>23,241</b>	<b>16,585</b>	<b>4,274</b>	<b>5,154</b>	<b>1,632</b>	<b>6,145</b>	<b>1,100</b>	<b>27</b>	<b>20</b>	<b>7</b>			

### THERMOPLASTIC AND PAINT QUANTITIES

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP NO	LANES	LANE TYPE	LENGTH MI	WIDTH FT	4413000000-E	4457000000-E	4510000000-E	4685000000-E	4686000000-E		4697000000-E	4710000000-E	4725000000-E		4810000000-E		4830000000-E	4835000000-E	4840000000-E	4905000000-N		
										WORK ZONE ADVANCE/ GENERAL WARNING SIGNING SF	TEMPORARY TRAFFIC CONTROL LS	LAW ENFORCEMENT HR	THERMO PAV'T MARKING LINES (4", 90 MILS) WHITE LF	THERMO PAV'T MARKING LINES (4", 120 MILS) YELLOW LF	THERMO PAV'T MARKING LINES (4", 120 MILS) WHITE LF	THERMO PAV'T MARKING LINES (8", 120 MILS) WHITE LF	THERMO PAV'T MARKING LINES (24", 120 MILS) WHITE LF	THERMO PAV'T MARKING SYMBOL (90 MILS) RT ARROW EA	THERMO PAV'T MARKING SYMBOL (90 MILS) LT ARROW EA	THERMO PAV'T MARKING SYMBOL (90 MILS) STR & LT ARROW EA	PAINT PAVEMENT MARKING LINES (4") WHITE LF	PAINT PAVEMENT MARKING LINES (4") YELLOW LF	PAINT PAVEMENT MARKING LINES (16") WHITE LF	PAINT PAVEMENT MARKING LINES (24") WHITE LF	PAINT PAVEMENT MARKING CHARACTER (RXR) EA	SNOWPLOWABLE PAVEMENT MARKERS EA	
13CR.10591.13	McDowell	1	NC 226A	FROM NC 226 FOR 4 MILES (MP 12.37 TO MP 8.37)	1	2	2WU	4	18	210															528		
			2	US 221	FROM SR 1434 TO NORTH END OF SR 1555 (MP 17.93 - MP 19.33)	1,2,3,4	5	MU	1.4	68	210								60	2	47					185	
			3	US 221	FROM PVMT CHANGE TO PVMT CHANGE (MP 28.04 - MP 30.04)	1	2	2WU	2	22	210																264
			4	US 221	FROM PAVEMENT CHANGE TO SR 1560 (MP 30.04 - MP 30.59)	1	2	2WU	0.55	22	210		*						44								72
			5	US 221	FROM 0.35 MI NORTH OF SR 1578 TO PVMT CHANGE (MP 27.74 - MP 28.04)	1	2	2WU	0.3	22	210																86
			6	NC 226A	FROM NC 226 FOR 8.37 MILES (MP 0.00 - MP 8.37)	5	2	2WU	8.37	19	210																1,105
			7	US 221 N	FROM 0.82 MILES NORTH OF SR 1195 FOR 0.11 MILES	6	2	MD	0.11	37	209																8
<b>TOTAL FOR PROJ NO. 13CR.10591.13</b>								<b>16.73</b>		<b>1,469</b>	<b>1</b>	<b>140</b>	<b>176,067</b>	<b>179,763</b>	<b>3,836</b>	<b>44</b>	<b>60</b>	<b>2</b>	<b>47</b>							<b>2,248</b>	
													<b>183,599</b>		<b>49</b>												
13CR.20591.12	McDowell	8	SR 1001	FROM US 221 BUS TO WOODLAWN STREET (MP 13.59 - MP 12.64)	2,7	4	MU	0.95	36-60	180						240	320	3	12	3					400		
			9	SR 1752	FROM SR 1750 TO EOM (MP 0.00 - MP 1.02)	8	2	2WU	1.02	18	180												21,542	21,542			
			10	SR 1750	FROM SR 1752 TO SR 1741 (MP 3.42 - MP 3.78)	8	2	2WU	0.36	18	180		*										7,603	7,603			
			11	SR 1780	FROM SR 1802 TO EOM (MP 0.00 - MP 3.05)	8	2	2WU	3.05	18	180												64,416	64,416			
			12	SR 1235	FROM R/R CROSSING TO SR 1234 (MP 0.06 - MP 0.43)	9	2	2WU	0.37	20	180												7,814	7,814	43	30	2
<b>TOTAL FOR PROJ NO. 13CR.20591.12</b>								<b>5.75</b>		<b>900</b>	<b>1</b>	<b>100</b>	<b>10,500</b>	<b>7,100</b>	<b>240</b>	<b>320</b>	<b>3</b>	<b>12</b>	<b>3</b>	<b>101,375</b>	<b>101,375</b>	<b>43</b>	<b>30</b>	<b>2</b>	<b>400</b>		
													<b>17,600</b>		<b>18</b>		<b>202,750</b>										
<b>GRAND TOTAL</b>								<b>22.48</b>		<b>2,369</b>	<b>1</b>	<b>240</b>	<b>176,067</b>	<b>190,263</b>	<b>10,936</b>	<b>284</b>	<b>380</b>	<b>5</b>	<b>59</b>	<b>3</b>	<b>101,375</b>	<b>101,375</b>	<b>43</b>	<b>30</b>	<b>2</b>	<b>2,648</b>	
													<b>201,199</b>		<b>67</b>		<b>202,750</b>										