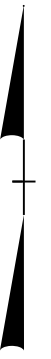
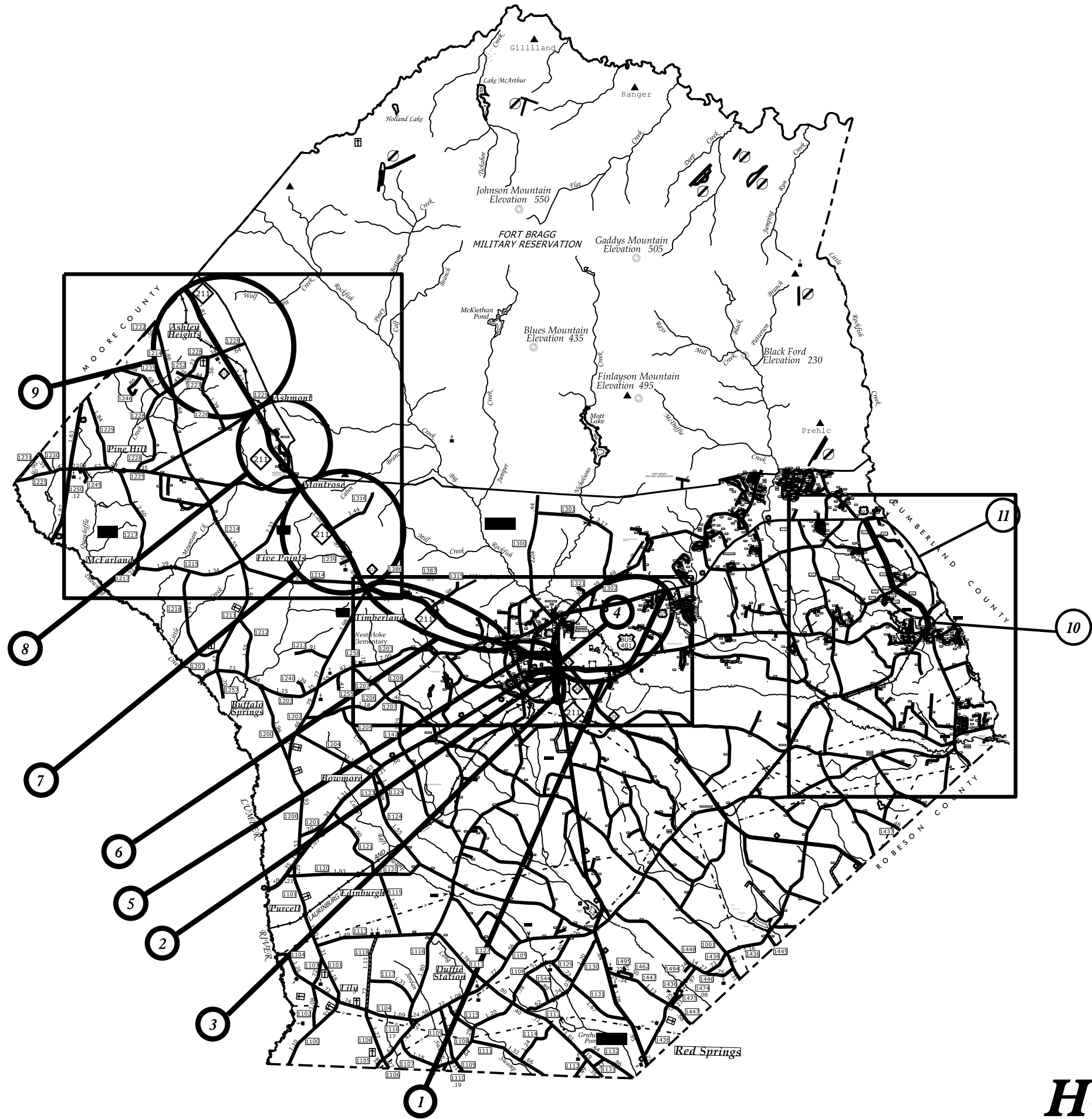


**This electronic collection of documents is provided  
for the convenience of the user  
and is Not a Certified Document –**

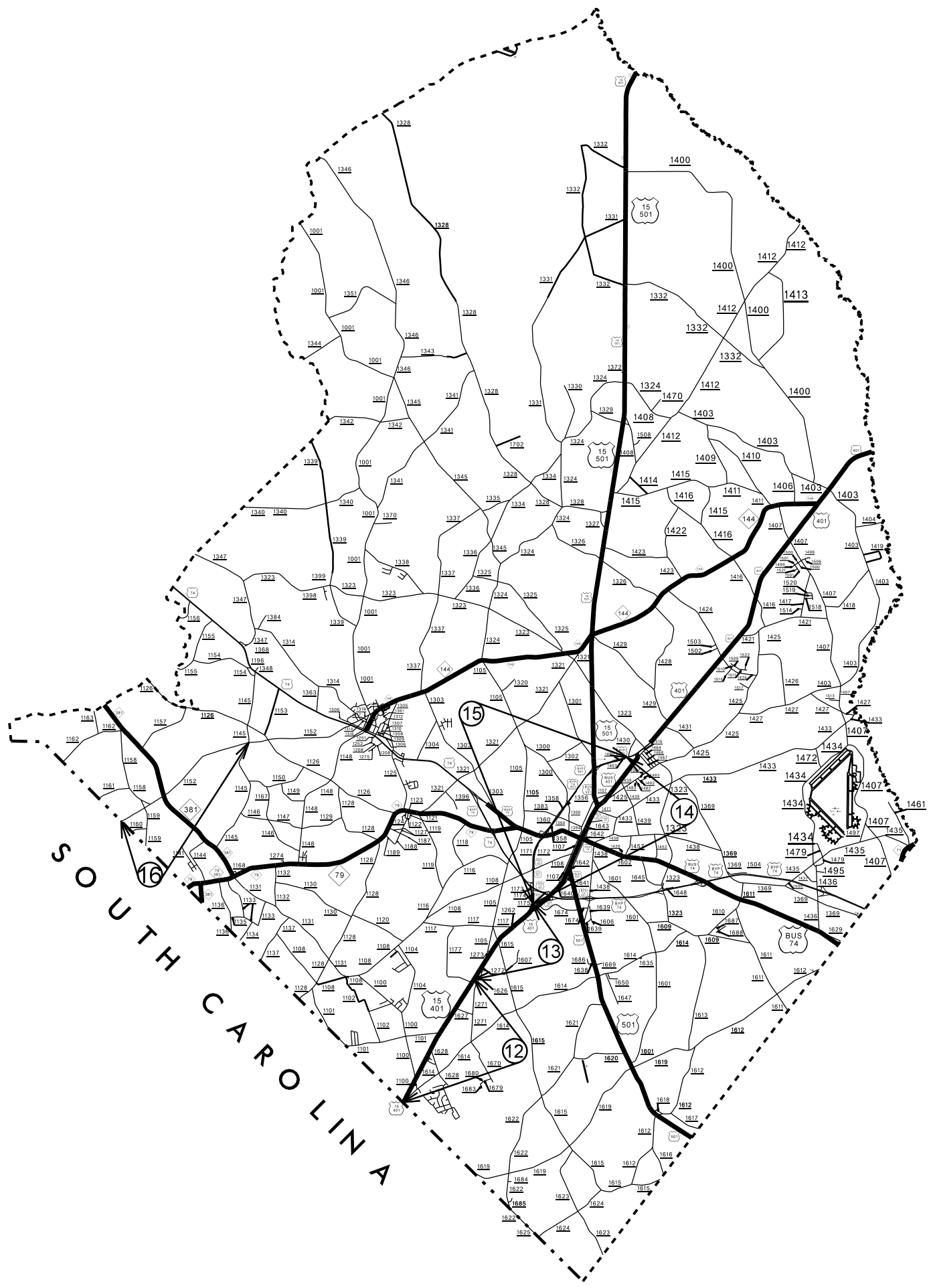
**The documents contained herein were originally issued  
and sealed by the individuals whose names and license  
numbers appear on each page, on the dates appearing  
with their signature on that page.**

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



# HOKE COUNTY

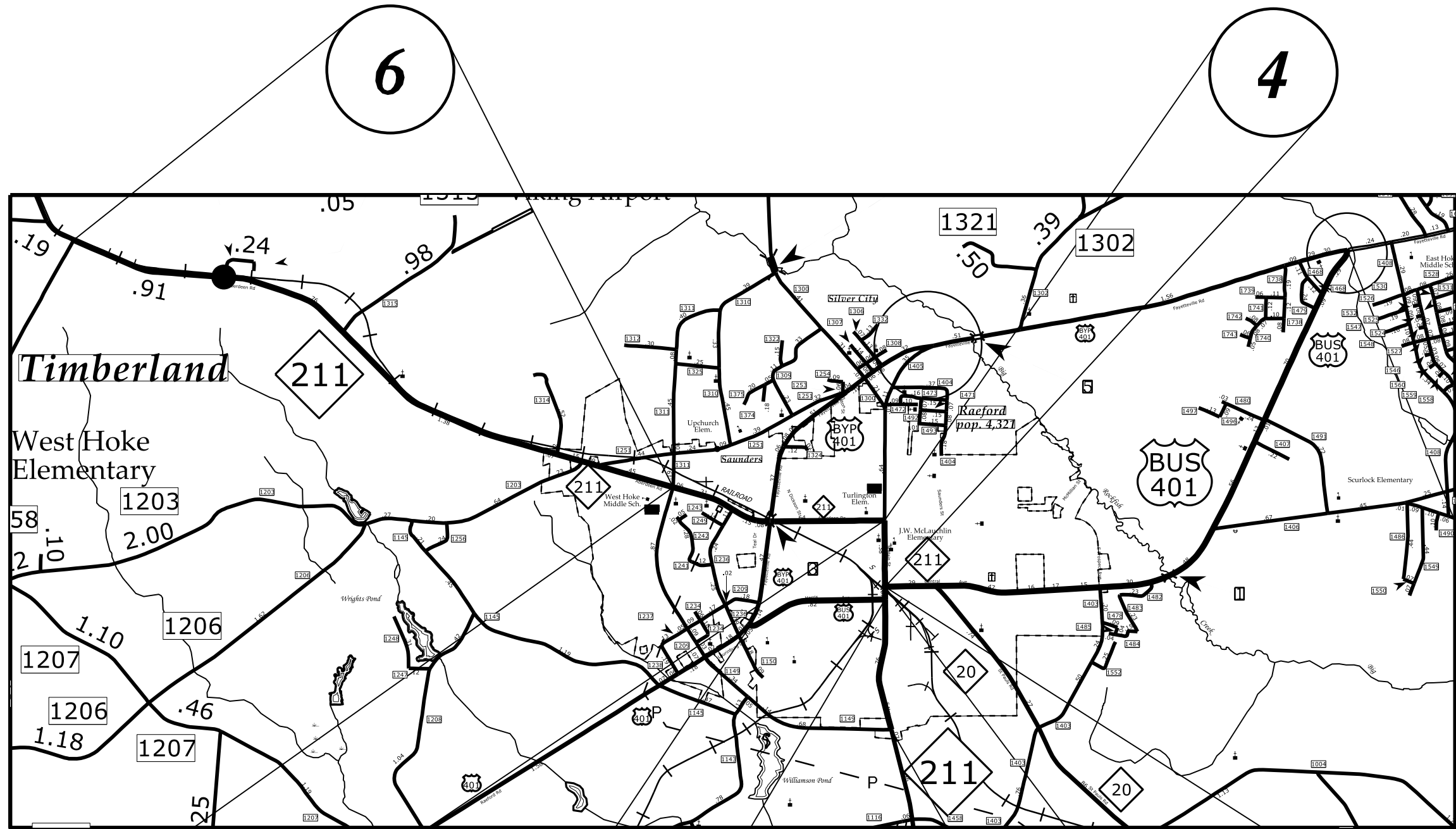
5/28/99



SOUTH CAROLINA

# SCOTLAND COUNTY

28-APR-2015 16:00  
 St. Shered\Division8\_Resurfacing\2016\_Resurfacing\Hoke\_Scotland\_June\_2015\_Let\_Scotland\_Maps\_Typ.dgn  
 8/1/2016 2:44:10



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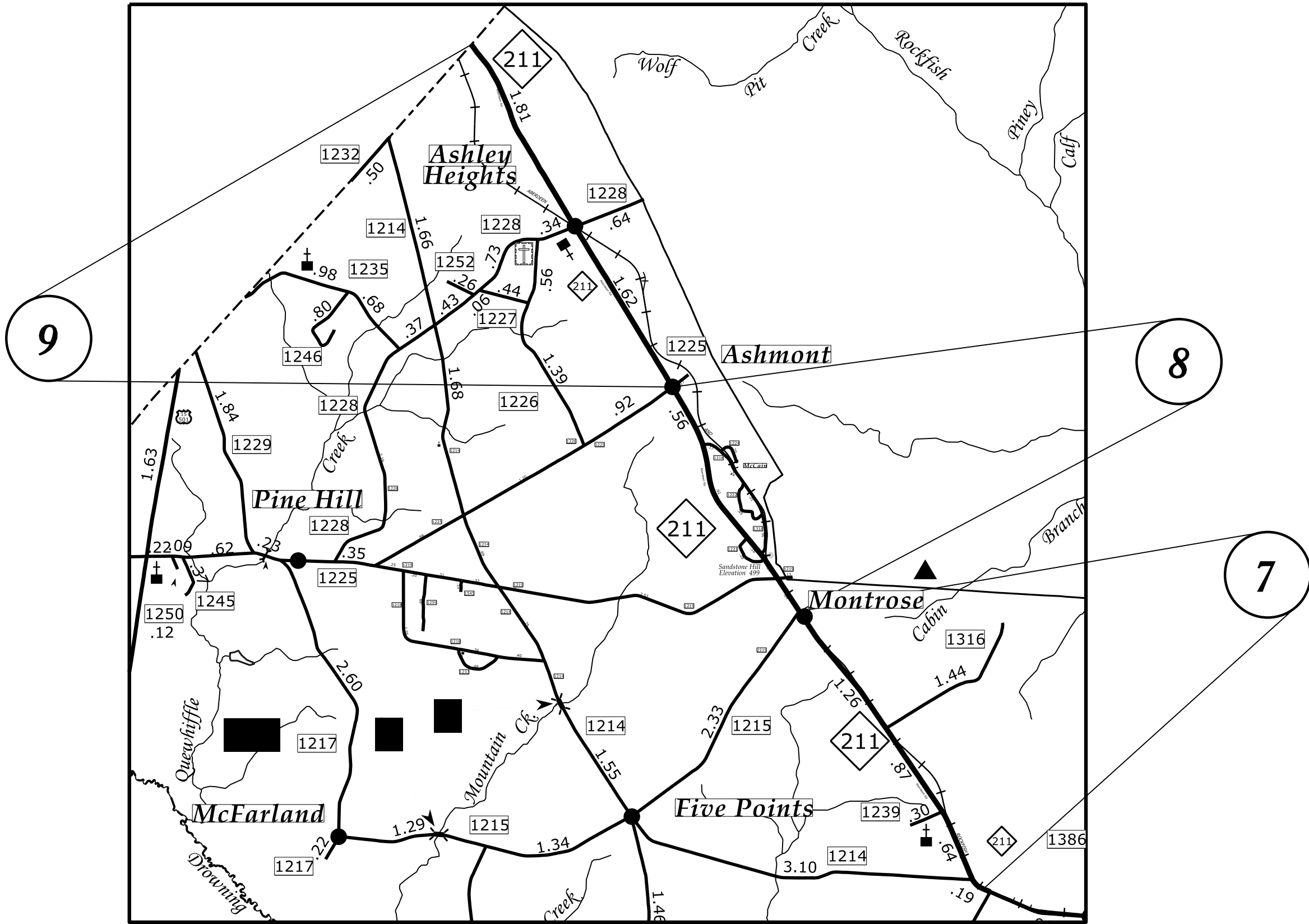
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# HOKE COUNTY

5/28/99  
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 2016

5/28/99

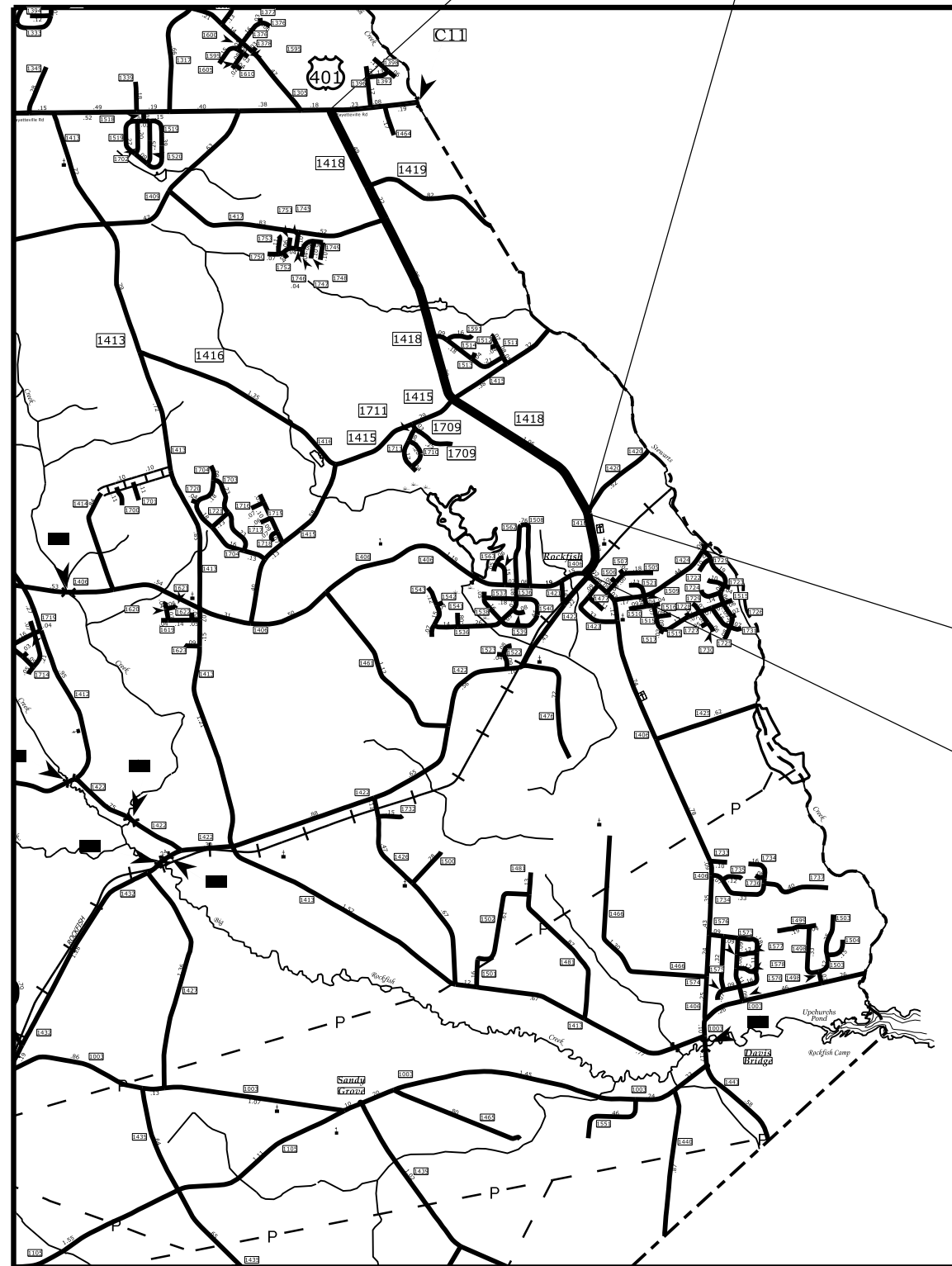


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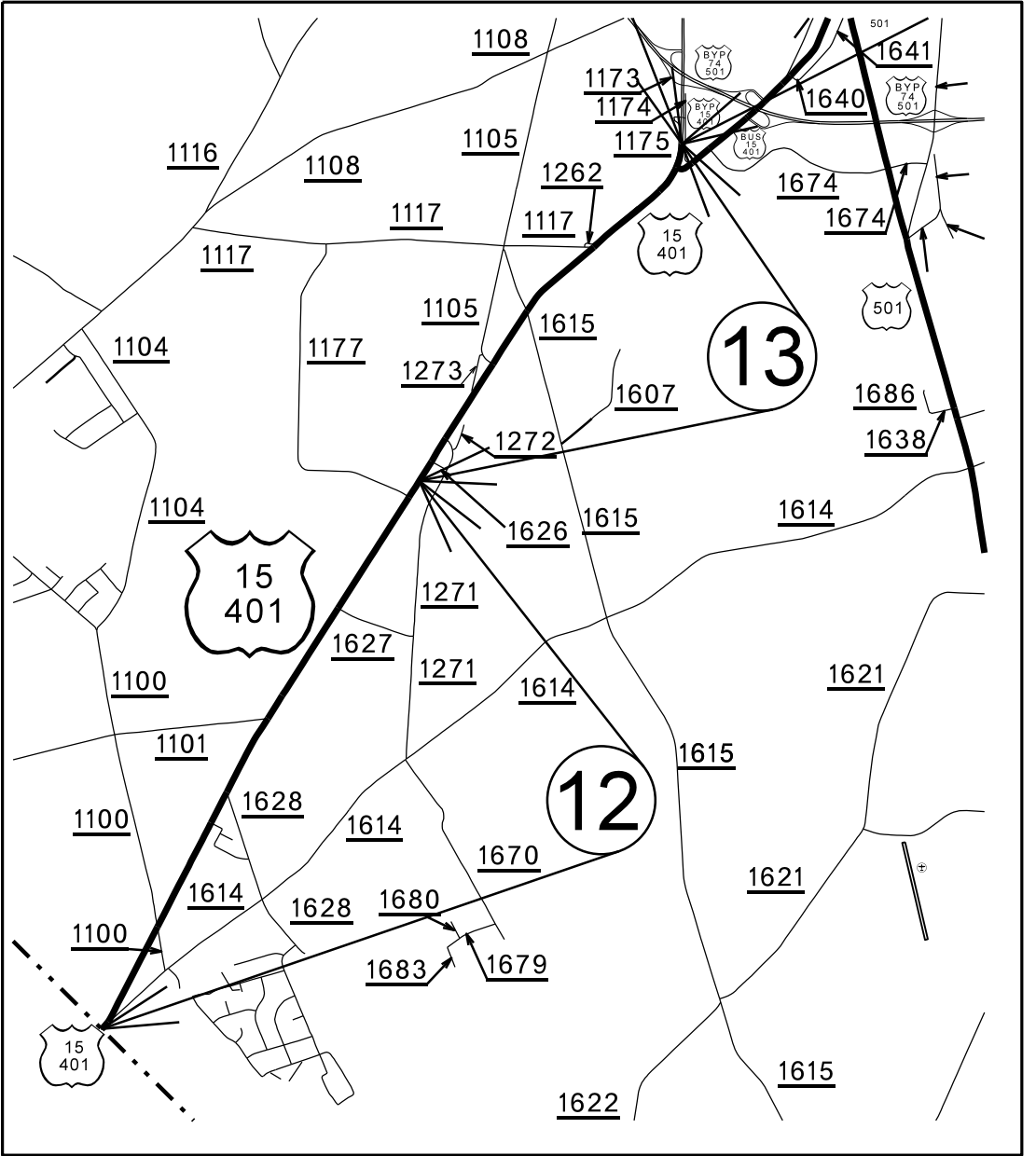
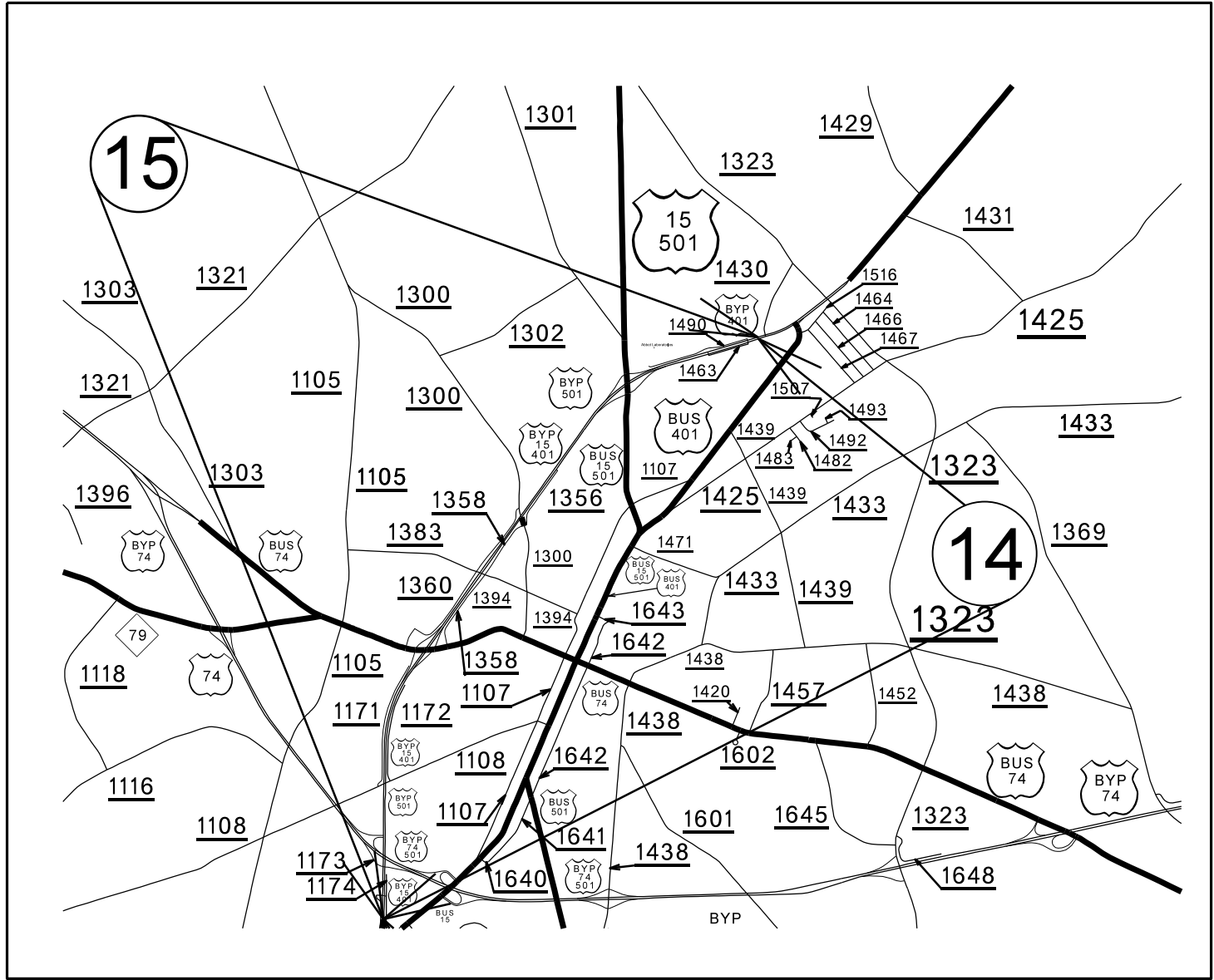
# HOKE COUNTY

5/28/99

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27/10

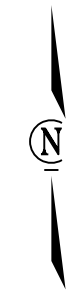
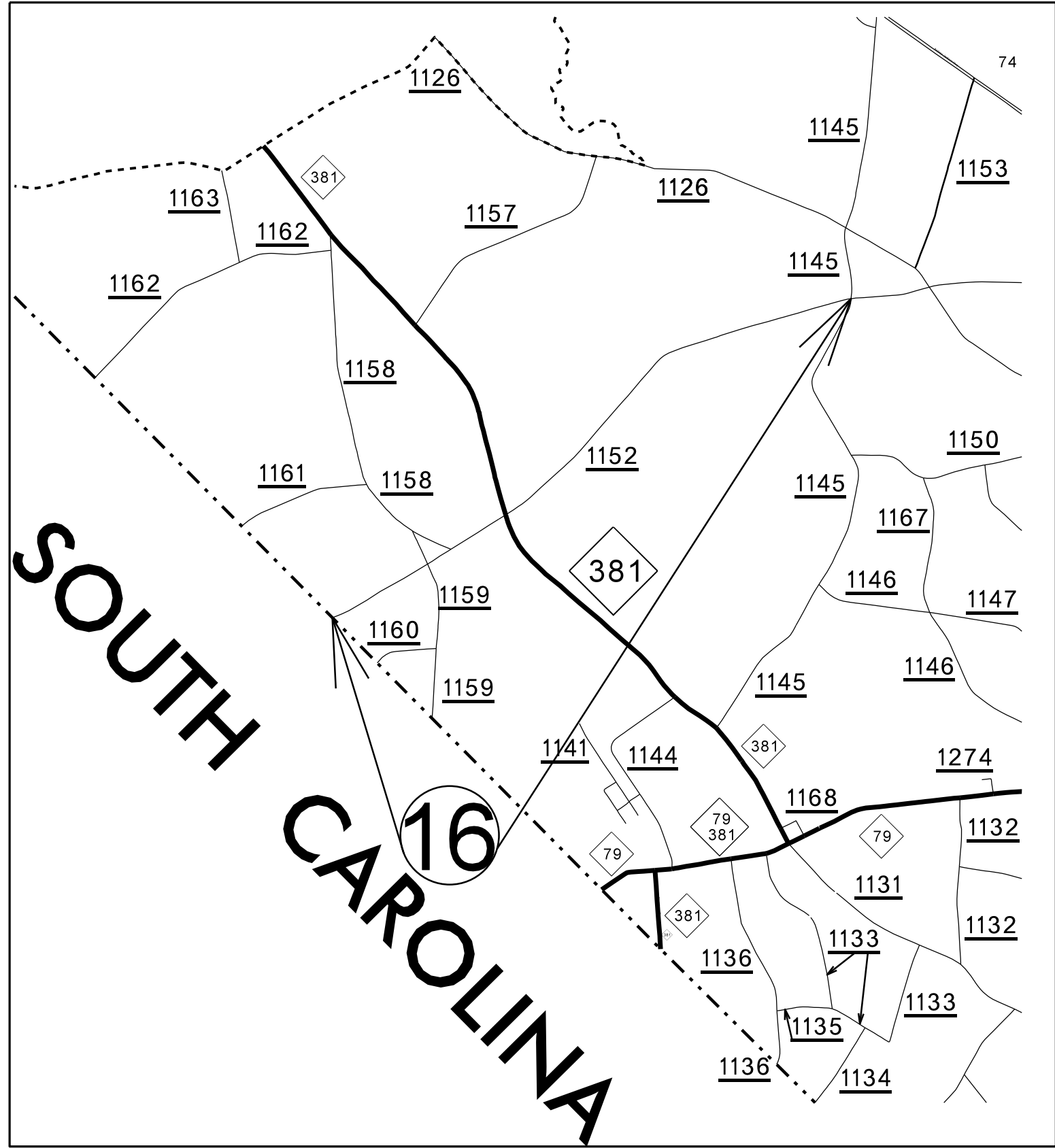


# ***HOKE COUNTY***



# SCOTLAND COUNTY

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 5/28/99

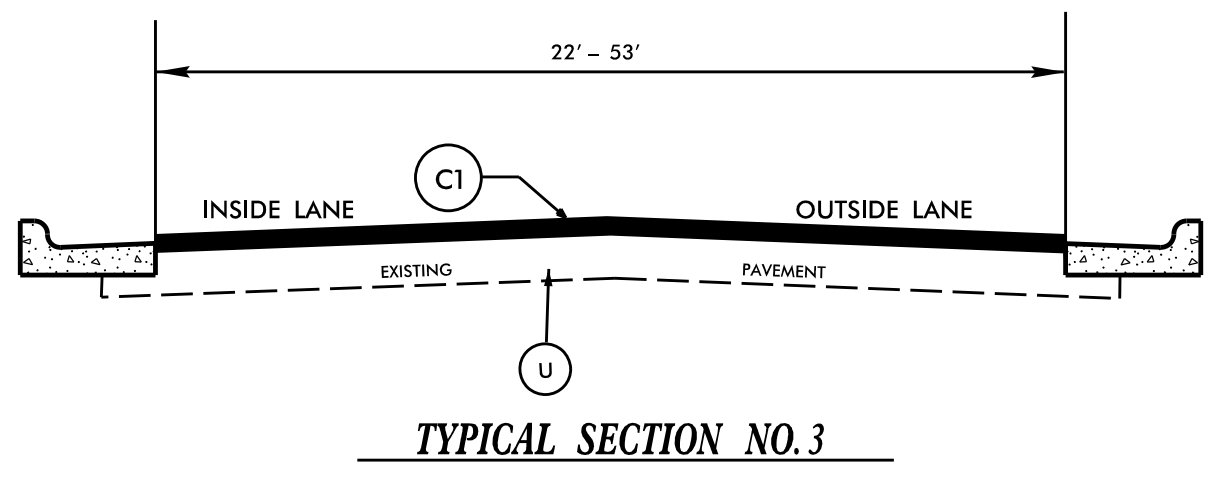
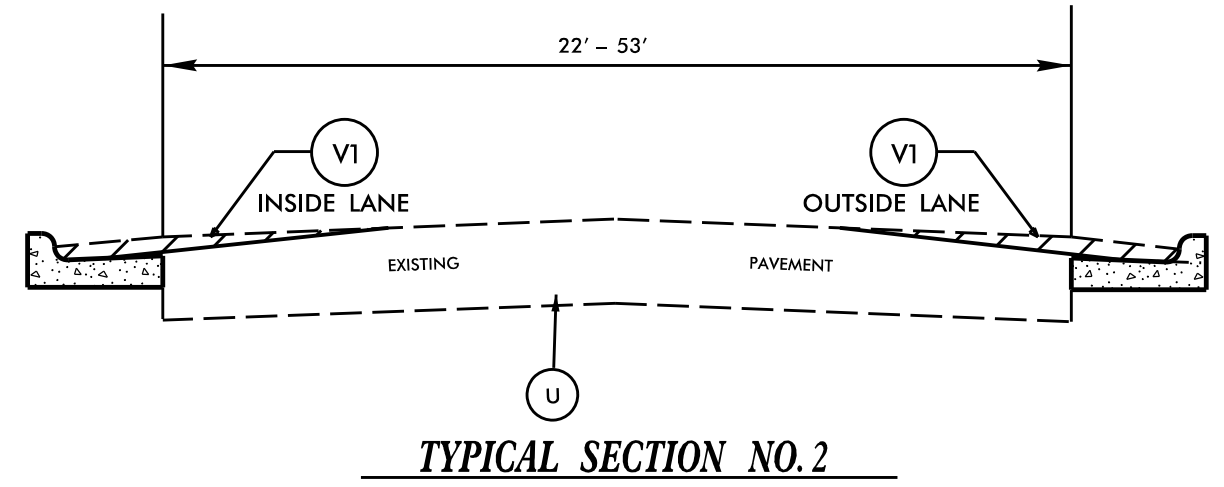
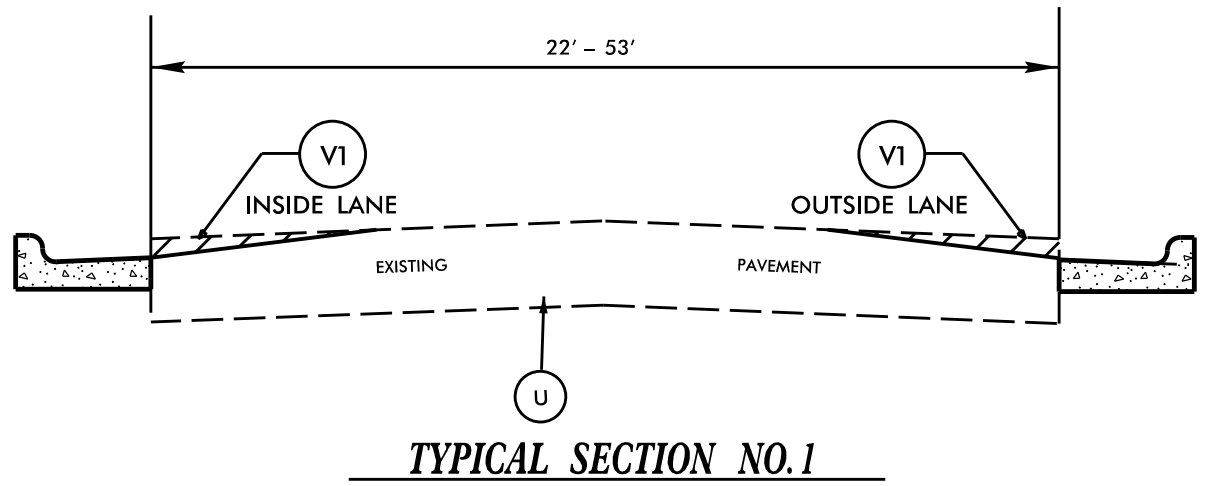


**SCOTLAND COUNTY**

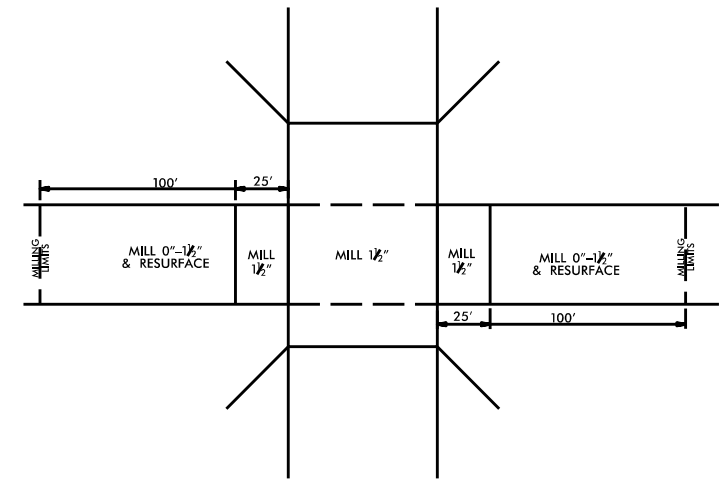
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 5/28/99



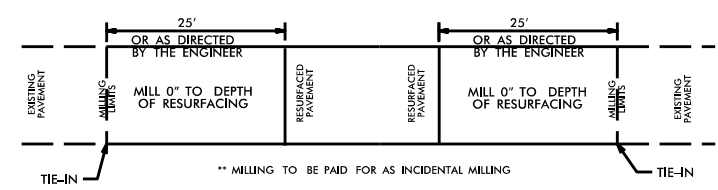
# HOKE COUNTY TYPICAL SECTIONS



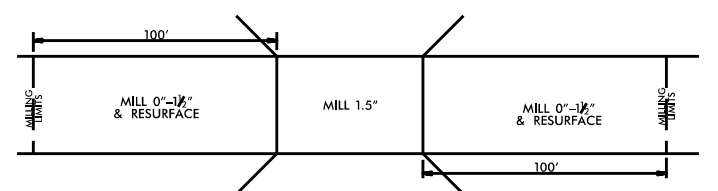
PAVEMENT SCHEDULE	
C1	PROP. APPROX. 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
T <sub>-</sub>	EARTH MATERIAL.
U <sub>-</sub>	EXISTING PAVEMENT.
V1	VARIABLE DEPTH MILLING BITUMINOUS PAVEMENT 0" TO 1½" DEPTH.



**BRIDGE UNDERPASS DRAWING FOR  
NC 211 AT NC 401 BYP (BRIDGE NO.3)**



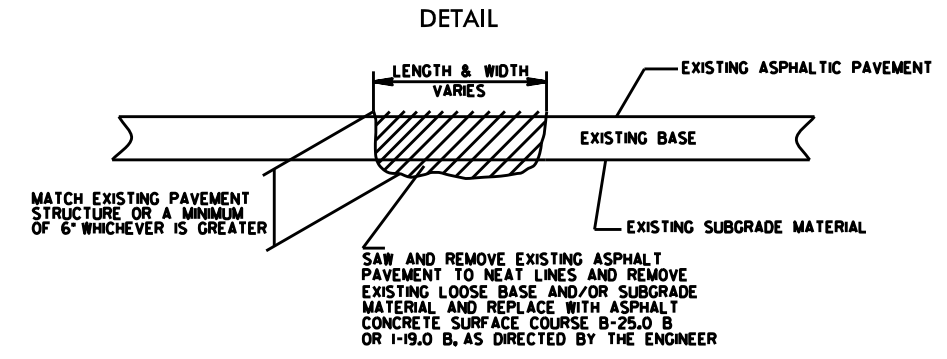
**PAVEMENT TIE-IN DETAIL**



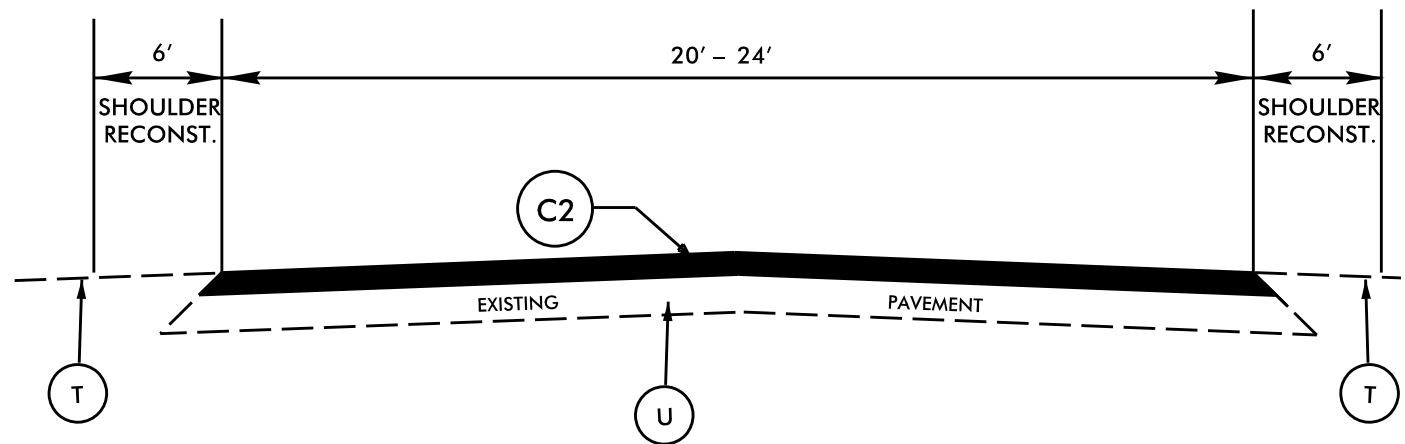
**BRIDGE DRAWING FOR  
US 401 BUS (BRIDGE NO.1)**

NOT TO SCALE

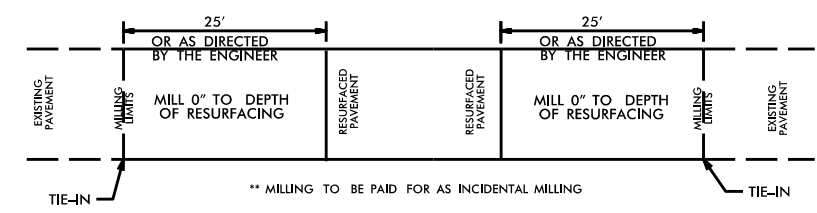
**DETAILS OF PATCHING EXISTING PAVEMENT PRIOR TO RESURFACING**



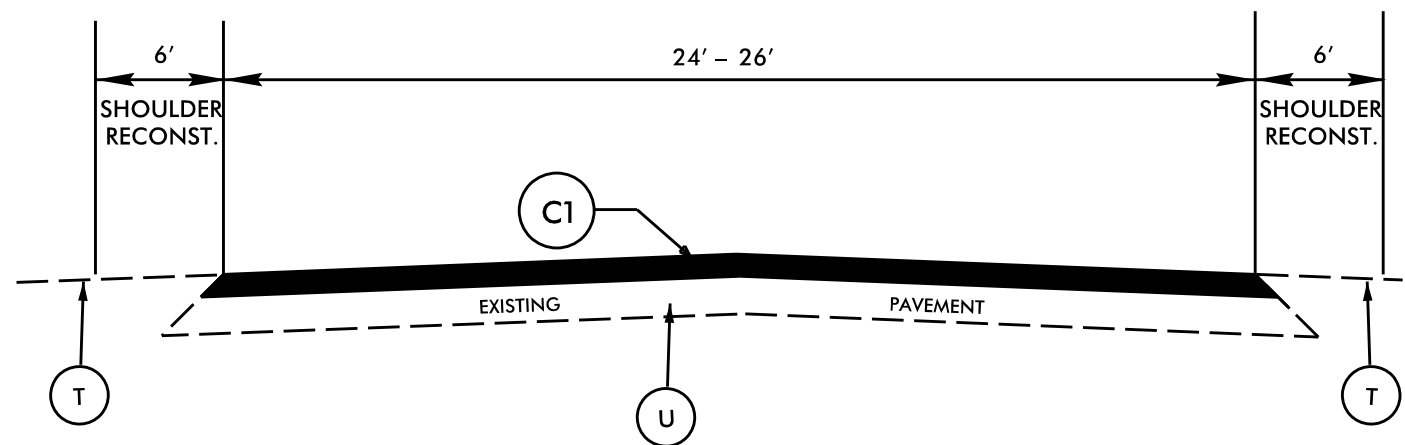
# HOKE COUNTY TYPICAL SECTIONS



**TYPICAL SECTION NO. 4**

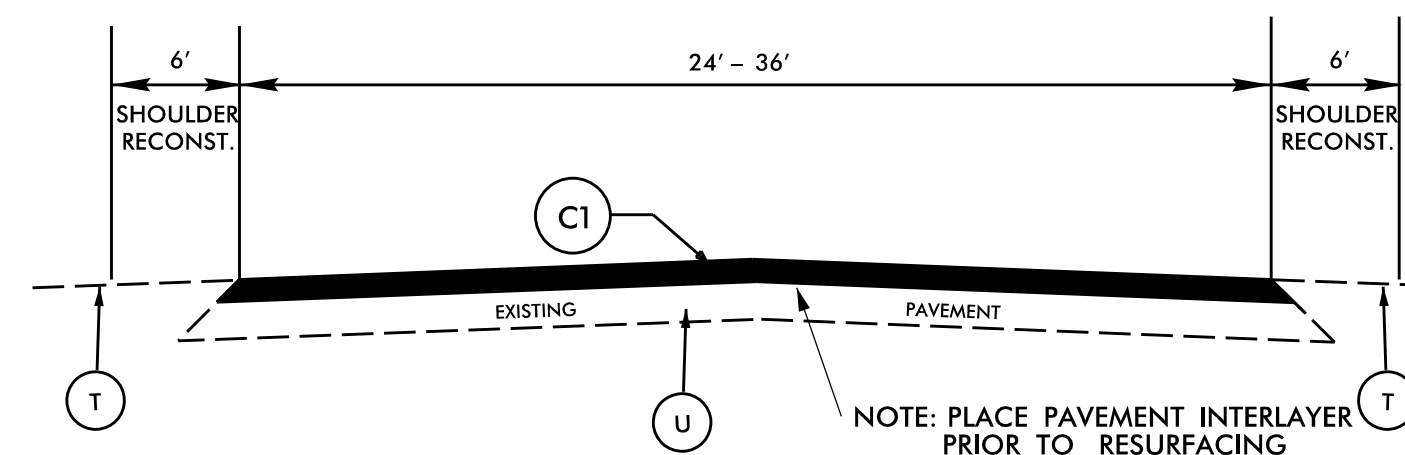
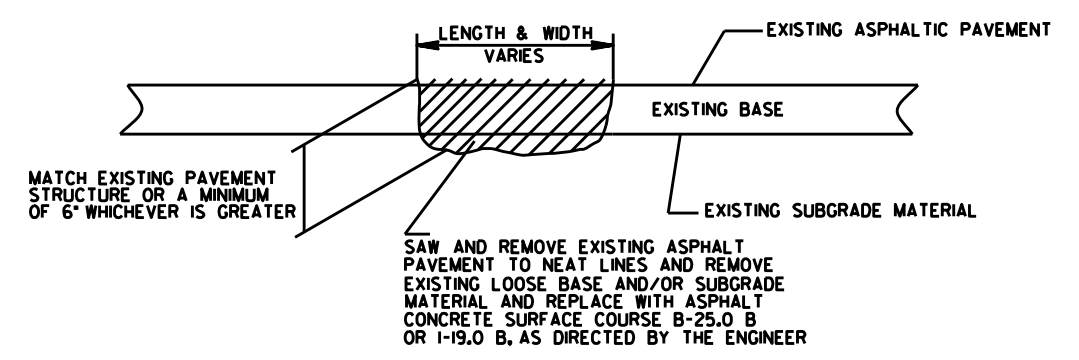


**PAVEMENT TIE-IN DETAIL**



**TYPICAL SECTION NO. 5**

**DETAILS OF PATCHING EXISTING PAVEMENT PRIOR TO RESURFACING  
DETAIL**



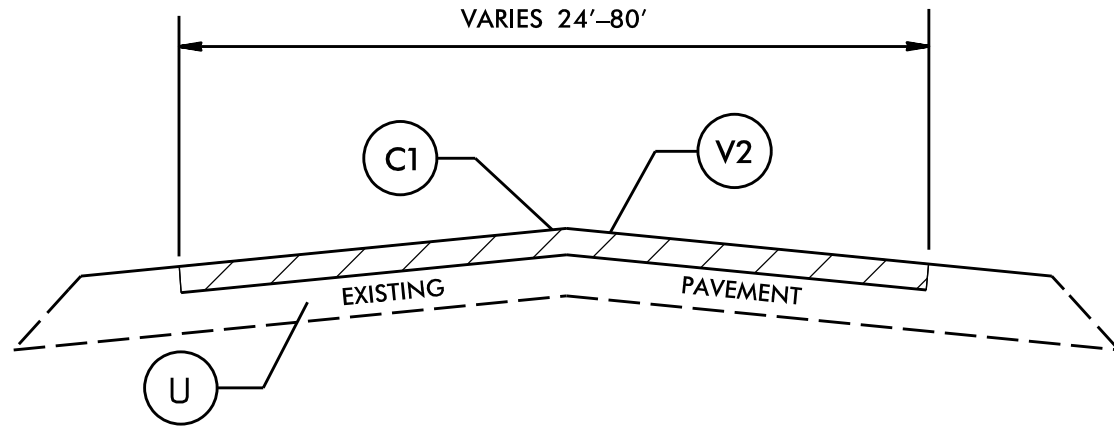
**TYPICAL SECTION NO. 6**

PAVEMENT SCHEDULE	
C1	PROP. APPROX. 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
C2	PROP. APPROX. 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
T <sub>-</sub>	EARTH MATERIAL.
U <sub>-</sub>	EXISTING PAVEMENT.

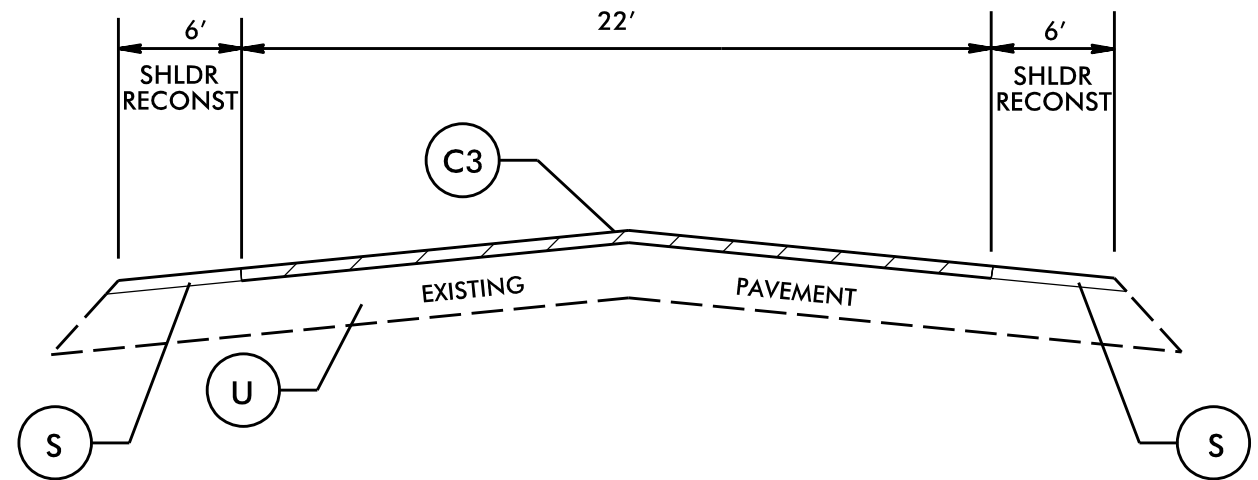
NOT TO SCALE

5/28/99 SYSTEMS DESIGN

# SCOTLAND COUNTY TYPICAL SECTIONS



**TYPICAL SECTION NO. 7**

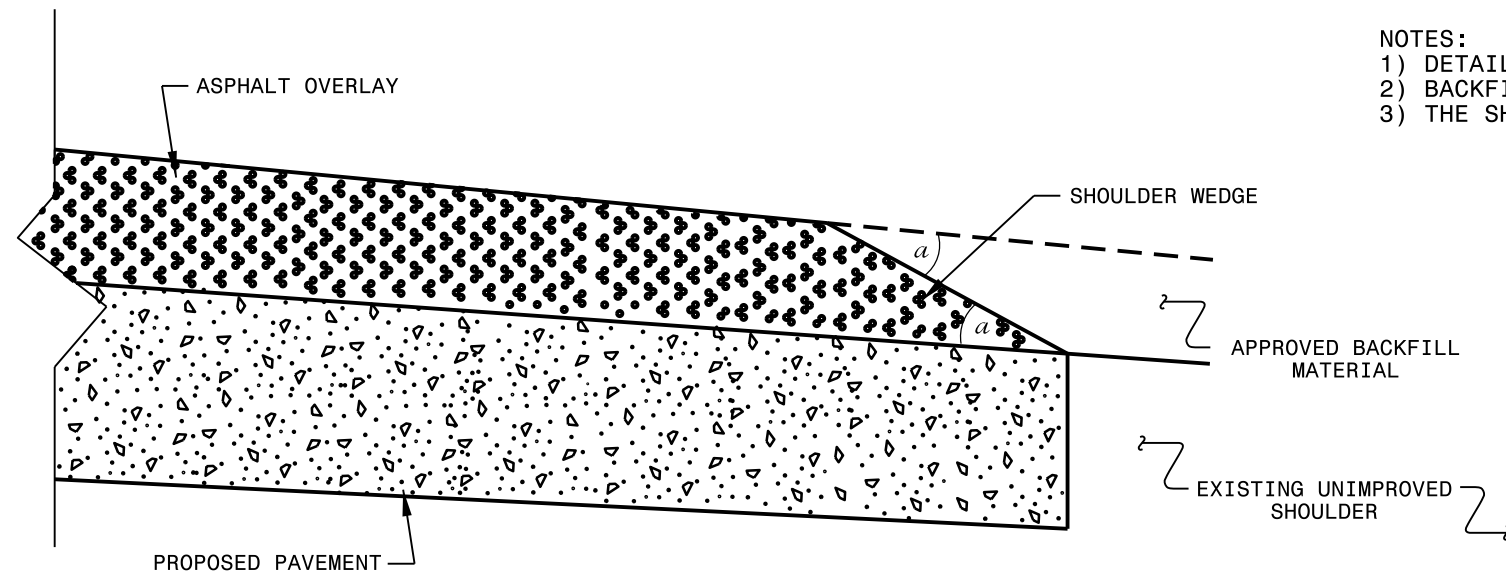


**TYPICAL SECTION NO. 8**

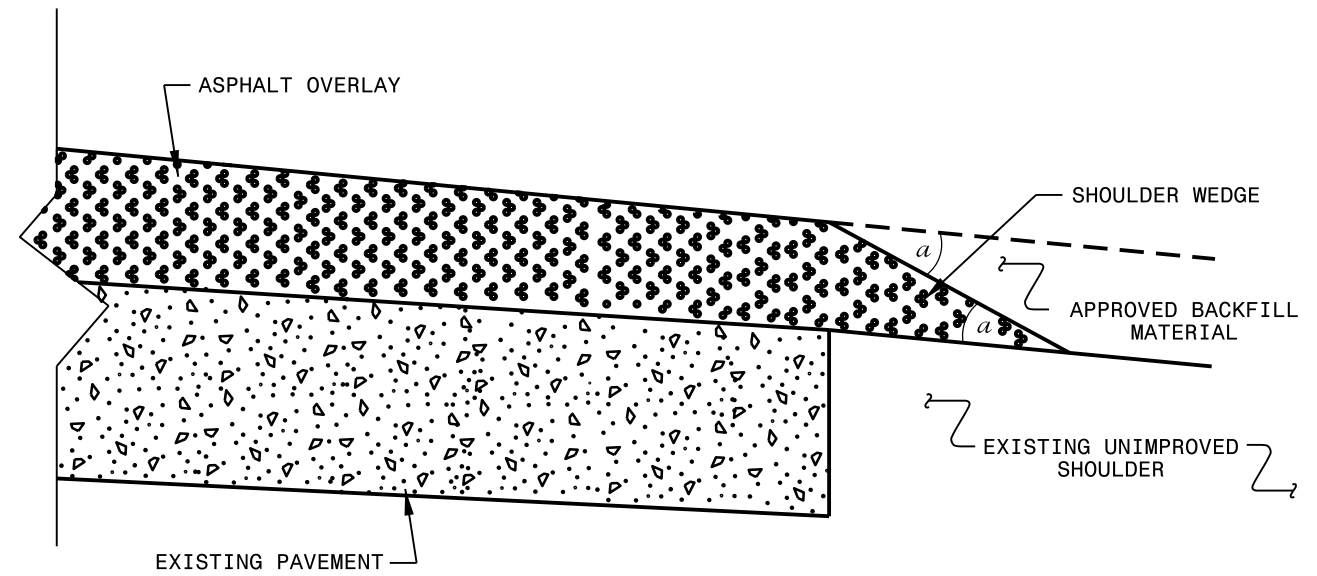
PAVEMENT SCHEDULE	
C1	PROP. APPROX. 1½" ASPHALT SURFACE COURSE TYPE S9.5B AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
C3	PROP. APPROX. 2 " ASPHALT SURFACE COURSE TYPE S9.5B AT AN AVERAGE RATE OF 224 LBS. PER SQ. YD.
S	AGGREGATE SHOULDER BORROW
U	EXISTING PAVEMENT
V2	PROP. 1½" MILLING

\*\*\*\*\*

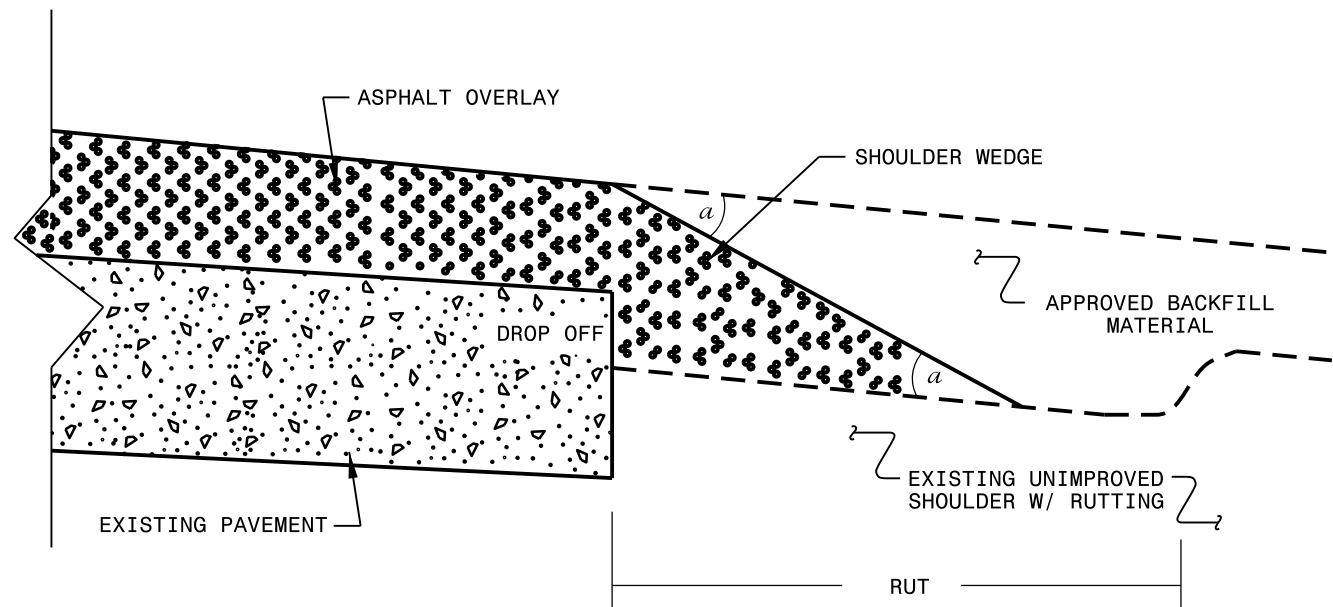
- NOTES:
- 1) DETAIL DOES NOT APPLY TO OGAFc AND ULTRA-THIN BONDED WEARING COURSE.
  - 2) BACKFILL SHOULDER WITH APPROVED MATERIAL.
  - 3) THE SHOULDER WEDGE DEVICE MAY BE DISENGAGED AT PAVED DRIVEWAYS AND SIDE STREETS.



**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)

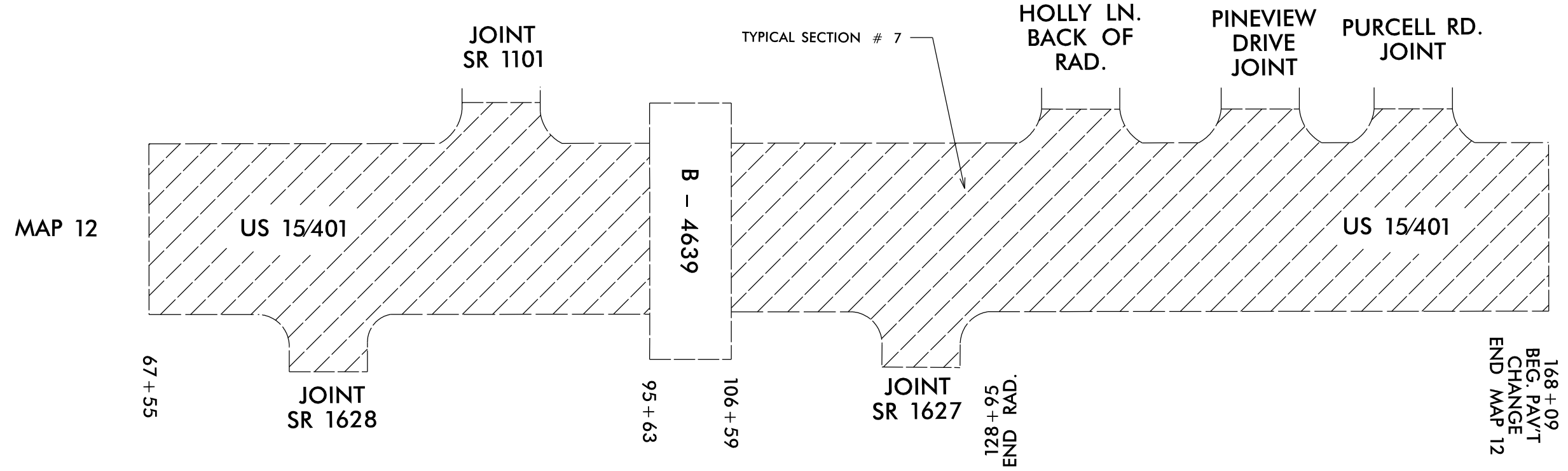
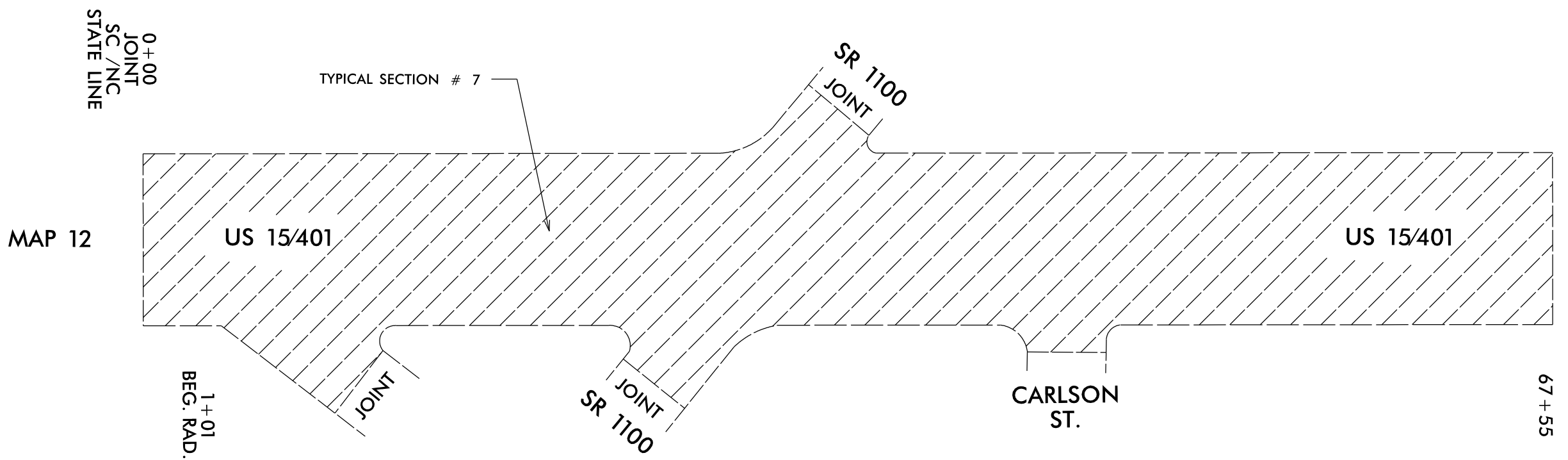
- SHOULDER WEDGE ANGLE = 30°

<b>CONTRACT STANDARDS AND DEVELOPMENT UNIT</b>			
Office 919-707-6950		FAX 919-250-4119	
<b>SHOULDER WEDGE DETAILS</b>			
ORIGINAL BY: T.SPELL	DATE: 7-19-11		
MODIFIED BY:	DATE: 10/16/12		
CHECKED BY:	DATE:		
FILE SPEC.: susr/details/stand/shoulderwedgedetail.dgn			

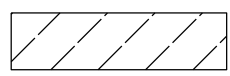
SYSTEMS DESIGN  
USER NAME

# SCOTLAND COUNTY

PROJECT REFERENCE NO.	SHEET NO.
8CR.10471.27, 8CR.20471.27 8CR.10831.27, 8CR.20831.27	12



NOTE: MILL & FILL

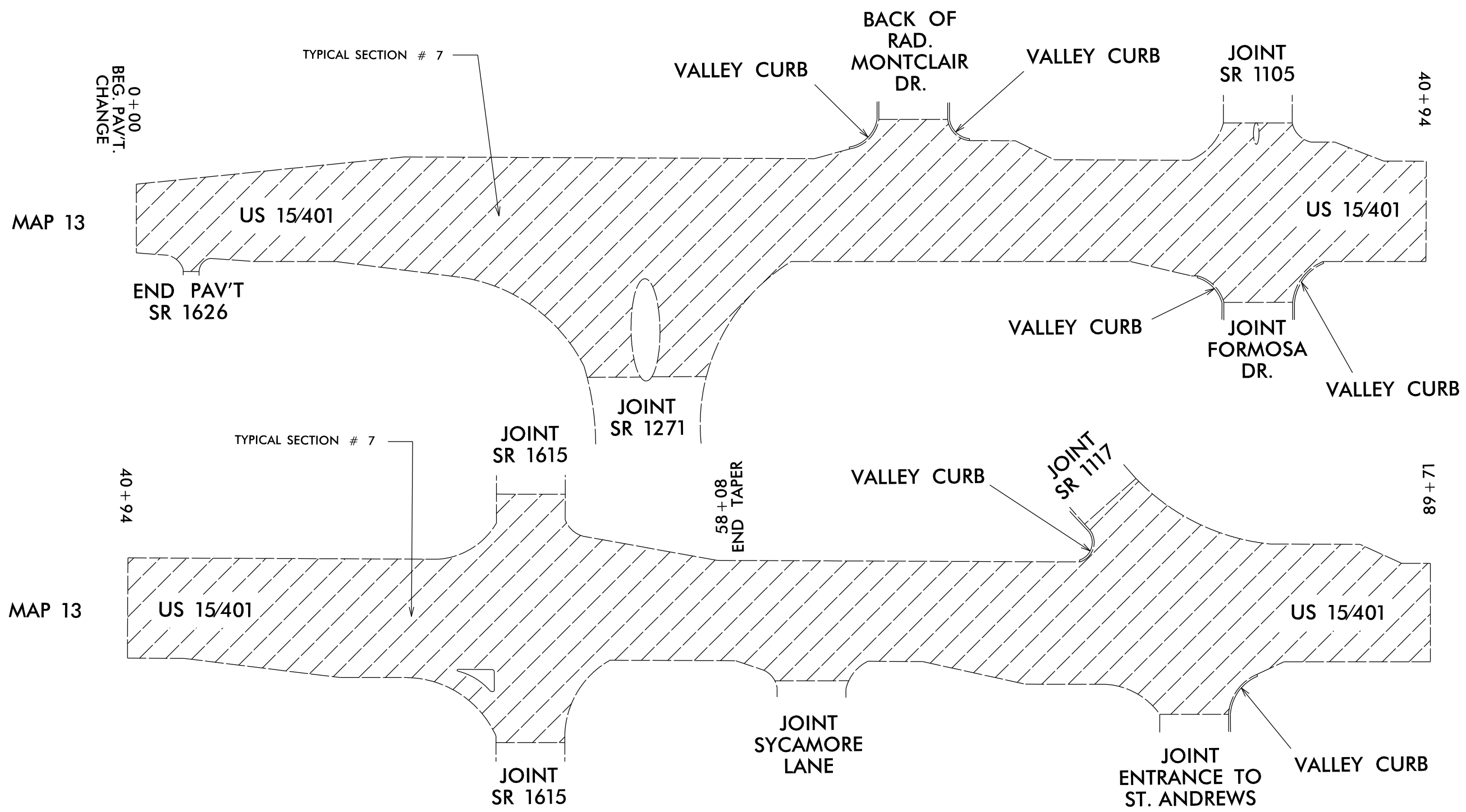


5/28/15

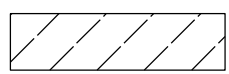
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# SCOTLAND COUNTY

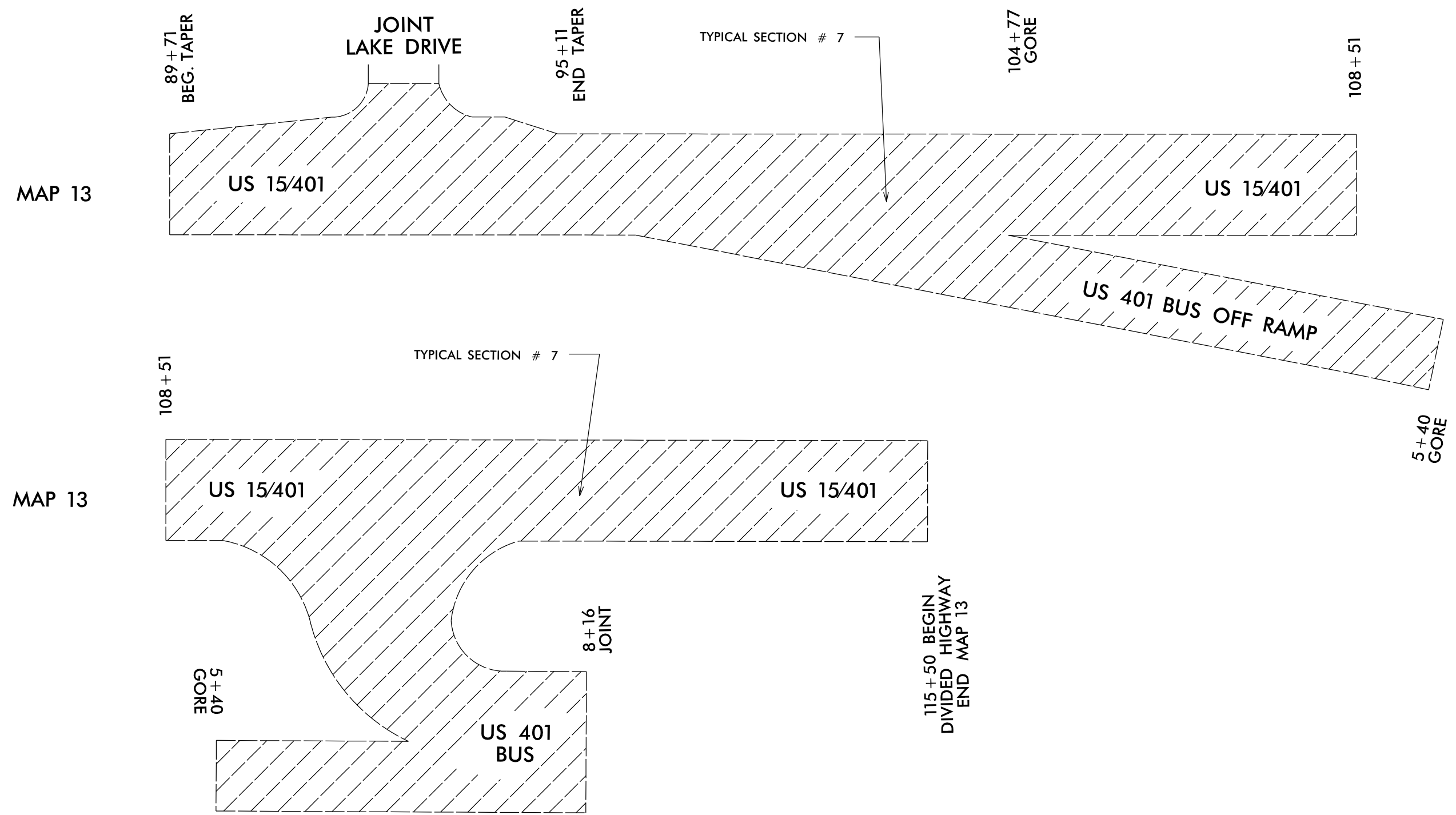
5/28/99  
SYTIME  
SUNSON  
EDON  
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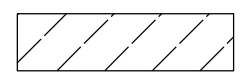
NOTE: MILL & FILL



# SCOTLAND COUNTY



**NOTE: MILL & FILL**

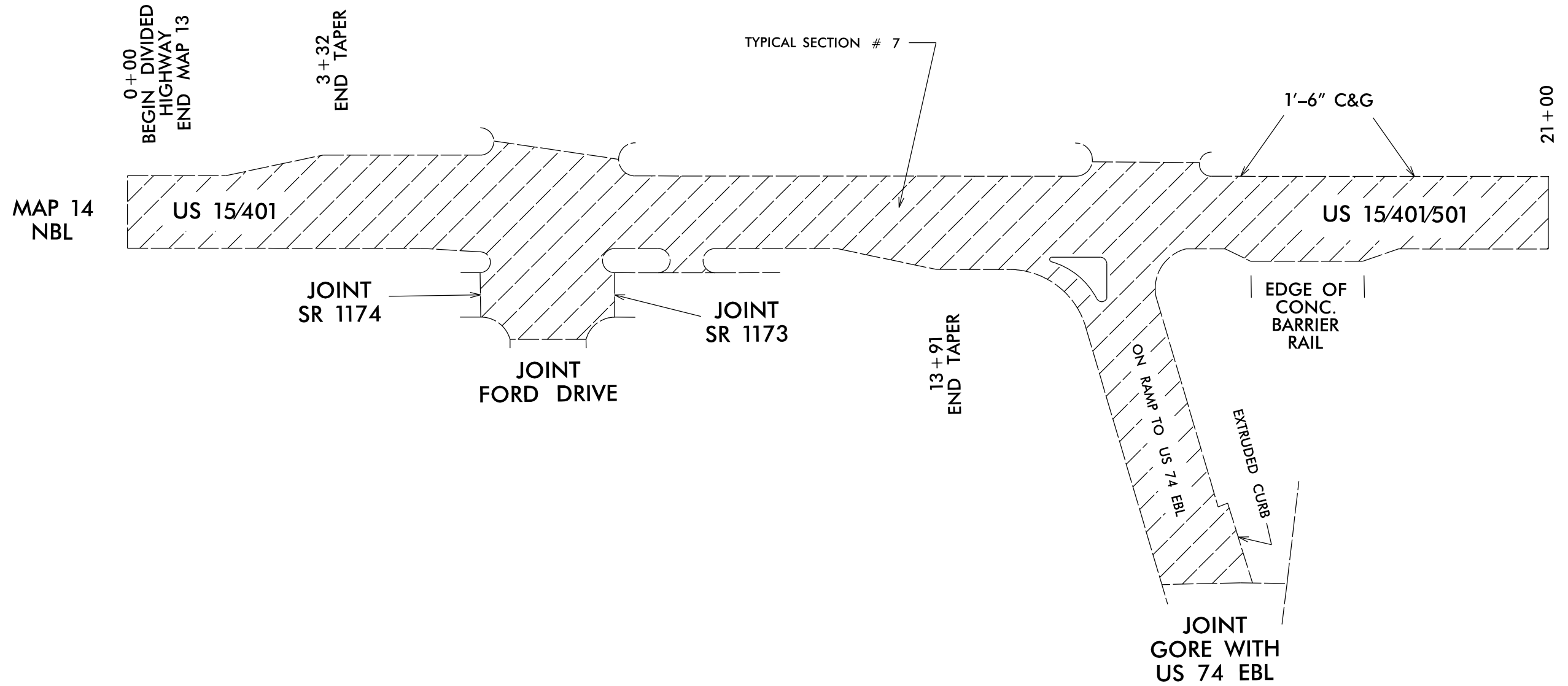


5/28/99

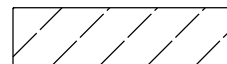
# SCOTLAND COUNTY

PROJECT REFERENCE NO.	SHEET NO.
8CR.10471.27, 8CR.20471.27 8CR.10831.27, 8CR.20831.27	15

5/28/99  
SYSTEMS CONDITIONS



NOTE: MILL & FILL

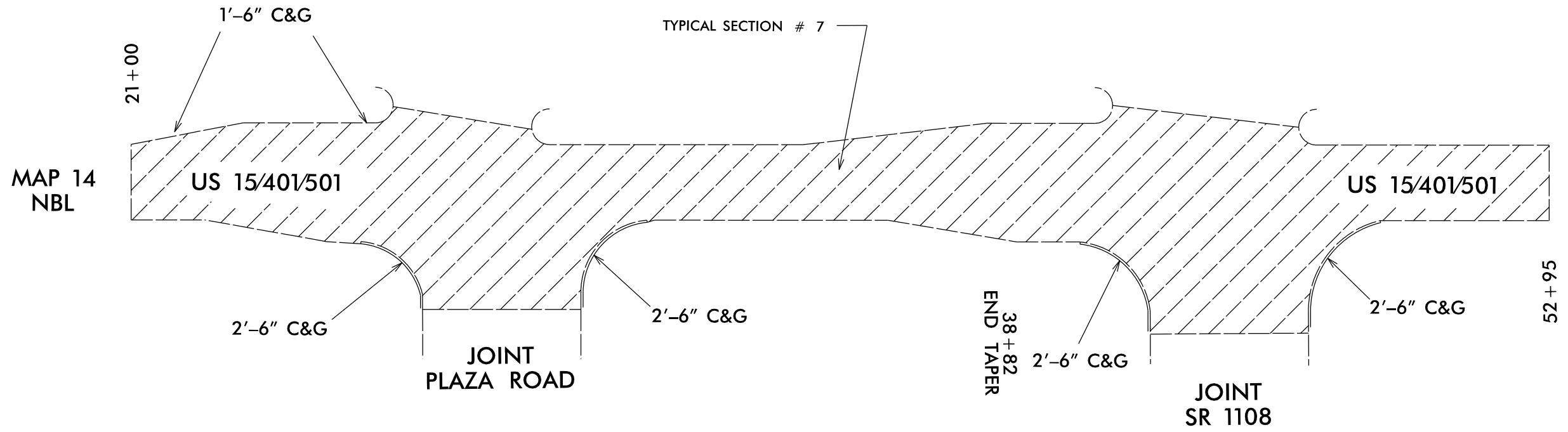




5/28/95

PROJECT REFERENCE NO.	SHEET NO.
8CR.10471.27, 8CR.20471.27 8CR.10831.27, 8CR.20831.27	16

# SCOTLAND COUNTY

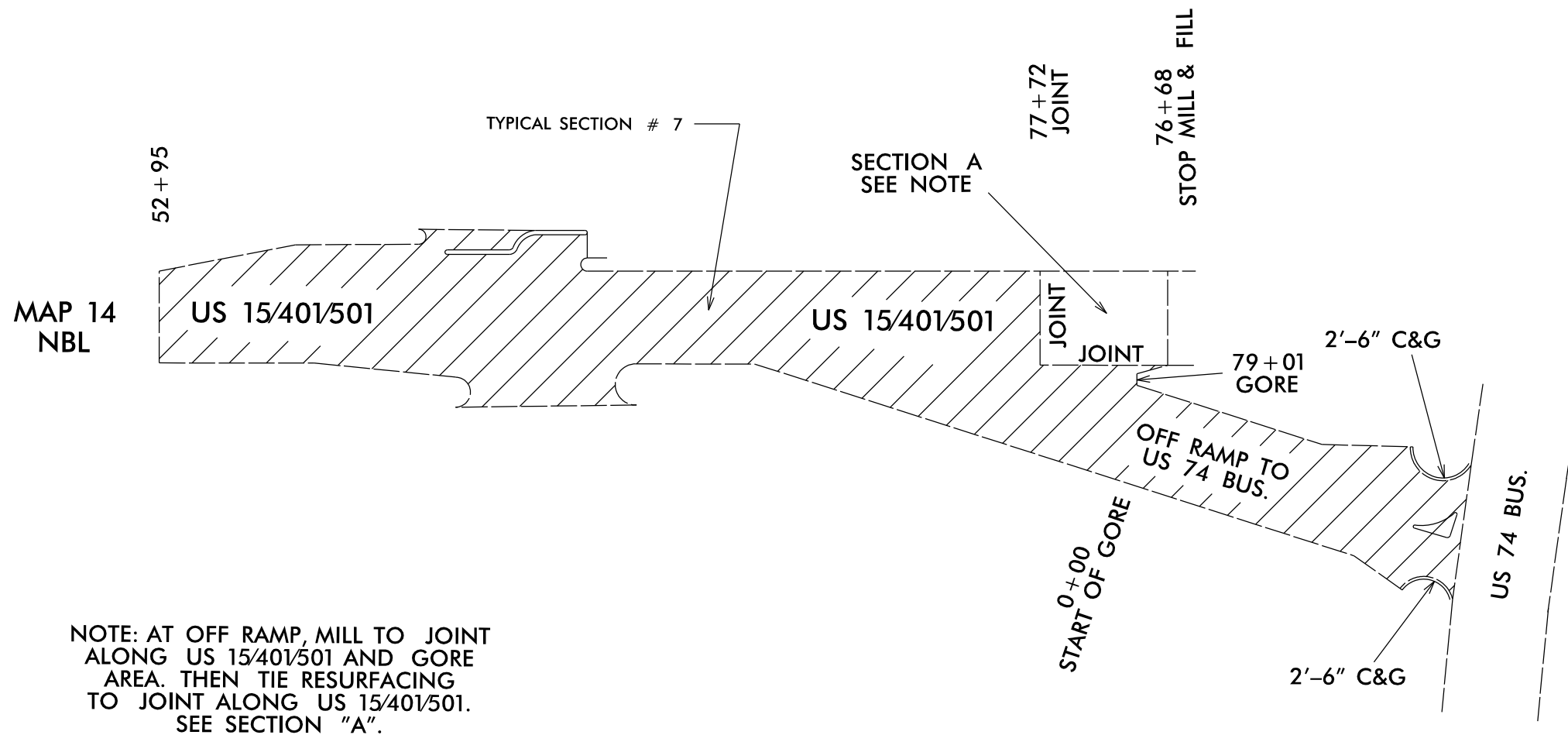


NOTE: MILL & FILL



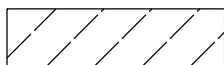
CUSTOMER'S PROPERTY

# SCOTLAND COUNTY



NOTE: AT OFF RAMP, MILL TO JOINT  
ALONG US 15/401/501 AND GORE  
AREA. THEN TIE RESURFACING  
TO JOINT ALONG US 15/401/501.  
SEE SECTION "A".

NOTE: MILL & FILL

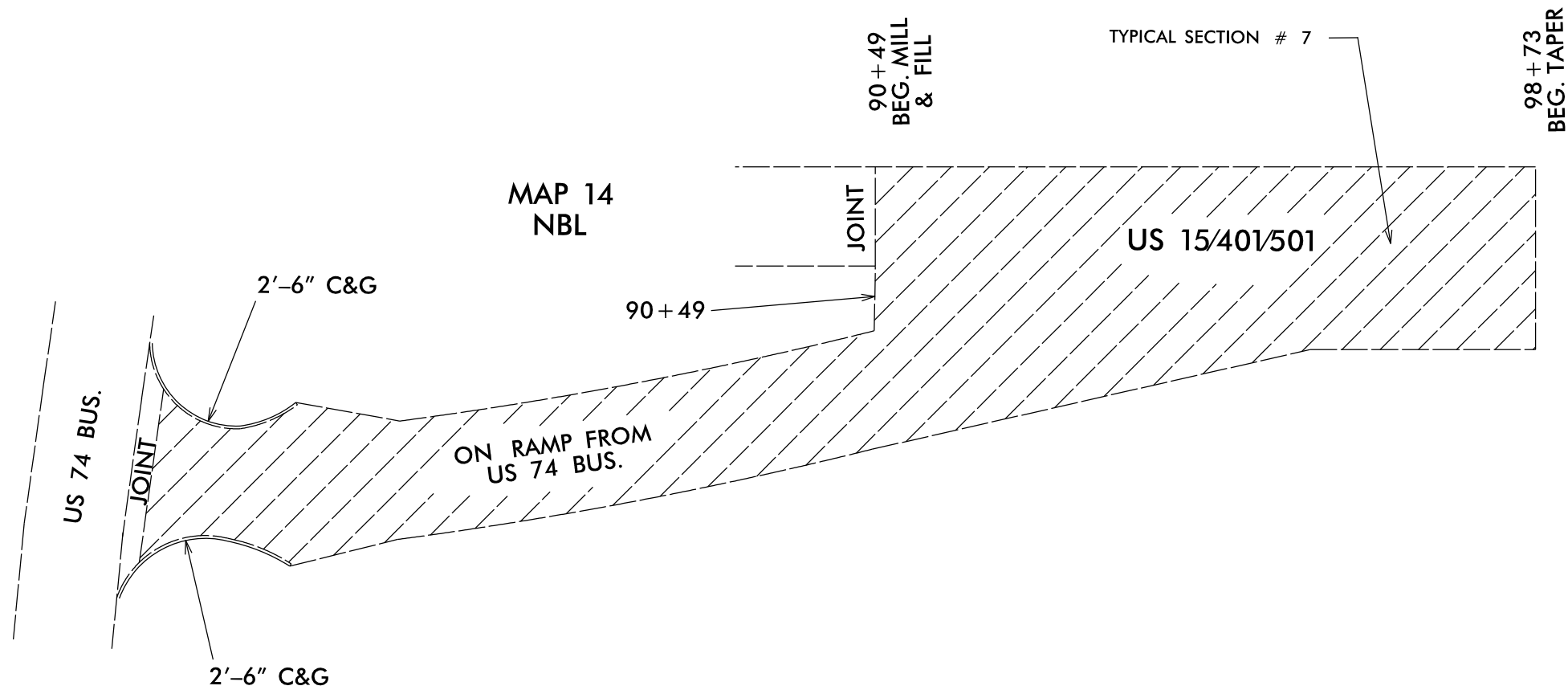


5/28/99  
DATE  
TIME  
BY  
DESIGNED  
CHECKED  
IN CHARGE  
APPROVED  
DATE  
BY  
DATE  
BY

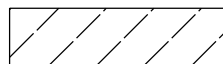
5/28/99

PROJECT REFERENCE NO.	SHEET NO.
8CR.10471.27, 8CR.20471.27 8CR.10831.27, 8CR.20831.27	18

# SCOTLAND COUNTY



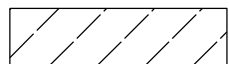
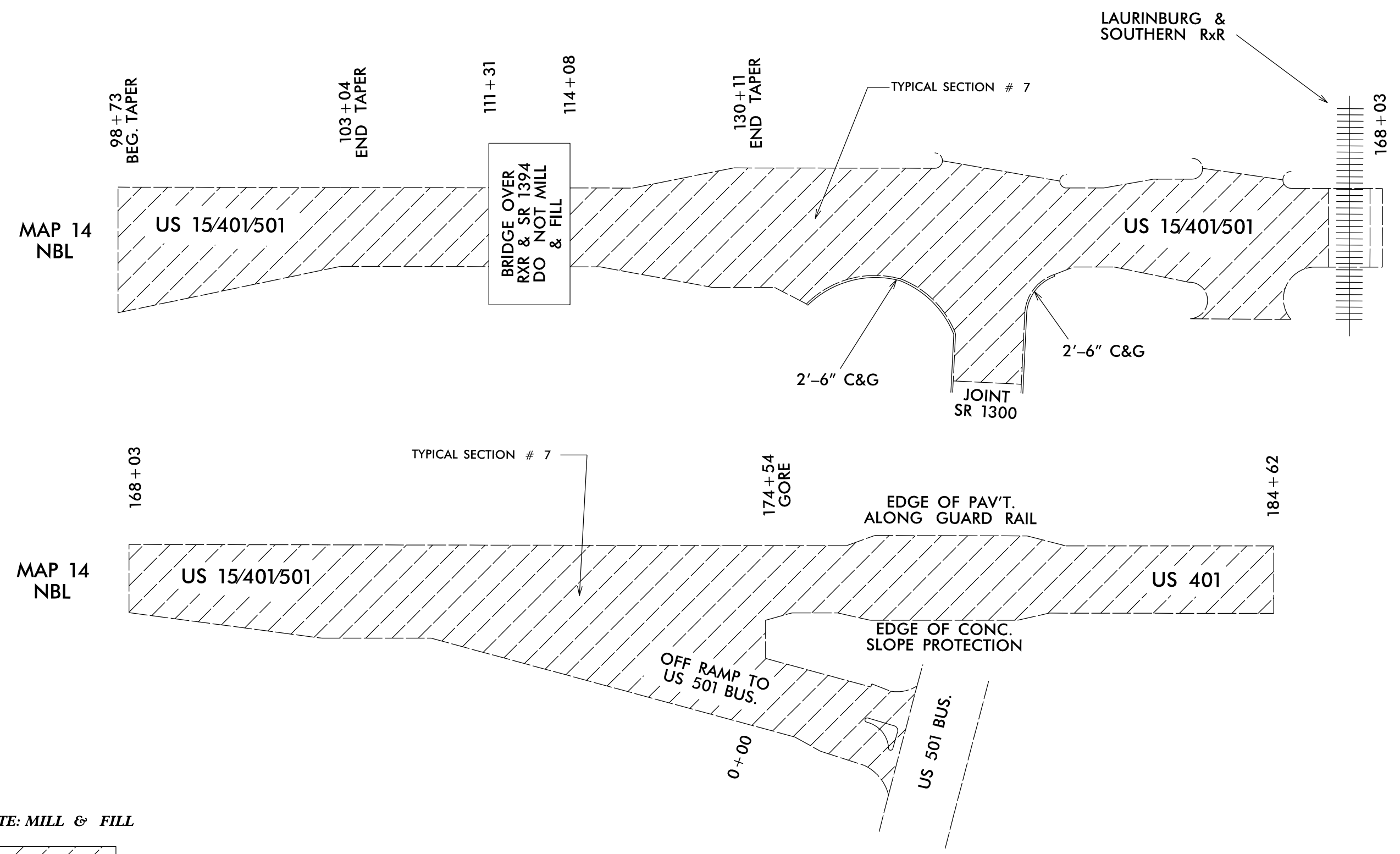
NOTE: MILL & FILL



SYSTEMS  
 DESIGN  
 NAME

5/28/99  
SYTIME\$\$\$\$\$  
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# SCOTLAND COUNTY



5/28/99

PROJECT REFERENCE NO.	SHEET NO.
8CR.10471.27, 8CR.20471.27 8CR.10831.27, 8CR.20831.27	20

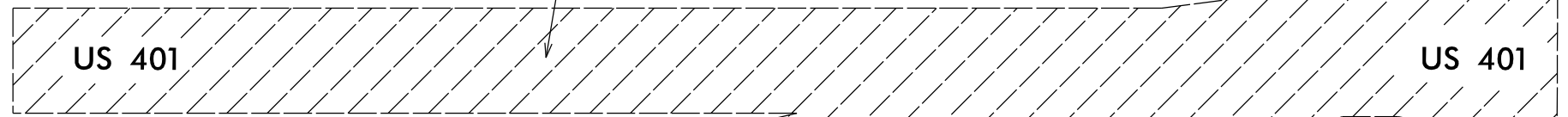
# SCOTLAND COUNTY

MAP 14  
NBL

184 + 62

TYPICAL SECTION # 7

192 + 41  
GORE



ON RAMP FROM  
US 501 BUS.

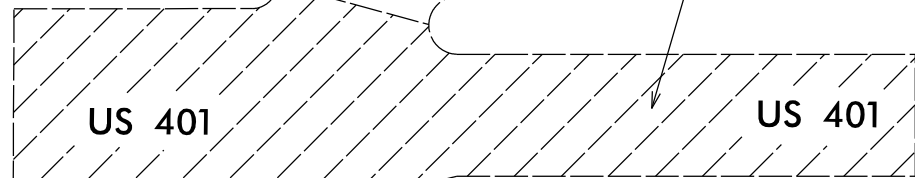
US 501 BUS.

207 + 71  
END TAPERS

MAP 14  
NBL

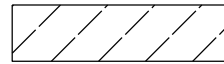
TYPICAL SECTION # 7

219 + 03  
END MAP 3  
JOINT FOR FCC  
RESURFACING



207 + 71  
END TAPERS

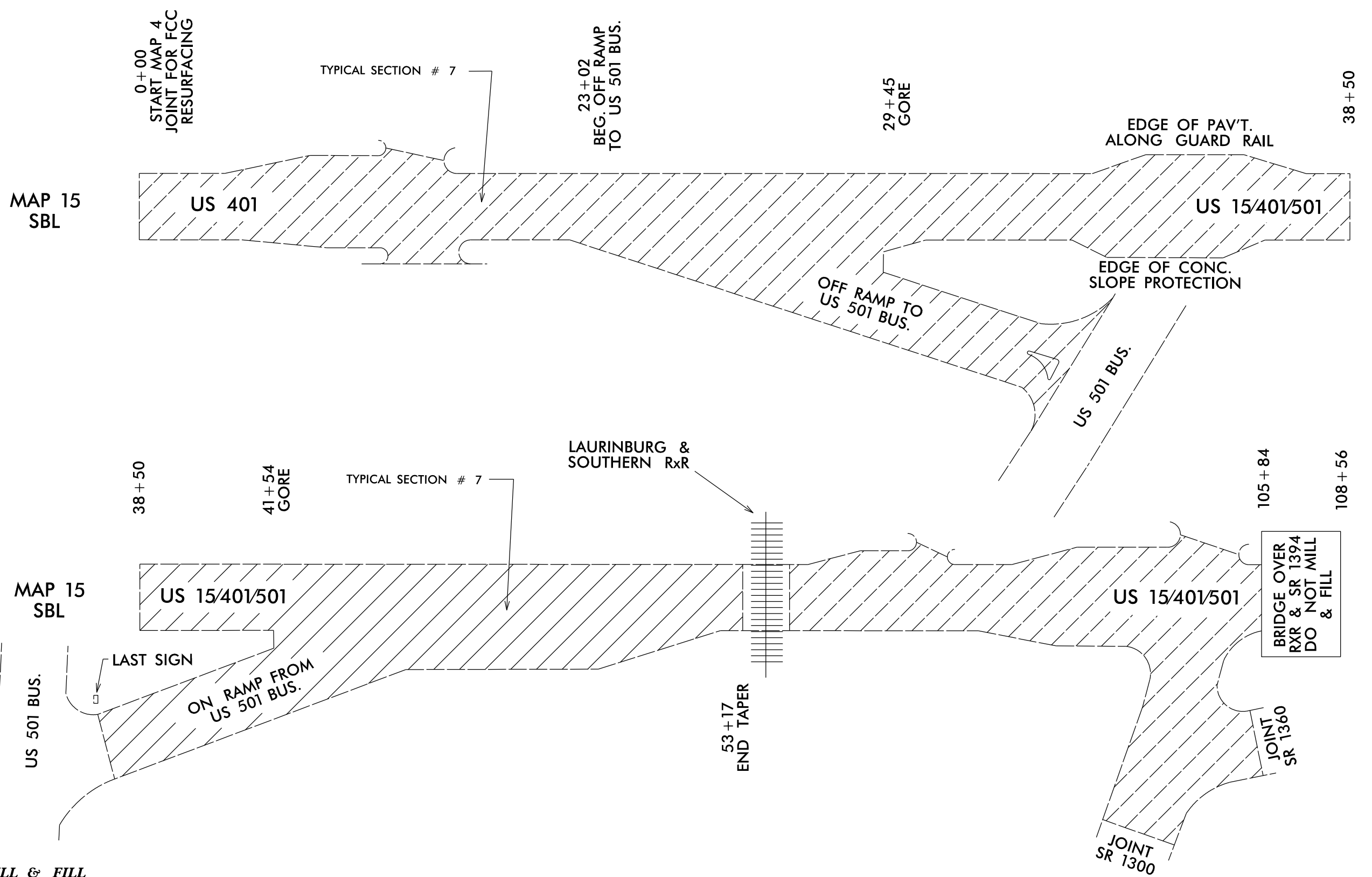
NOTE: MILL & FILL



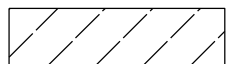
SECTION  
CONDITIONS  
NAME

# SCOTLAND COUNTY

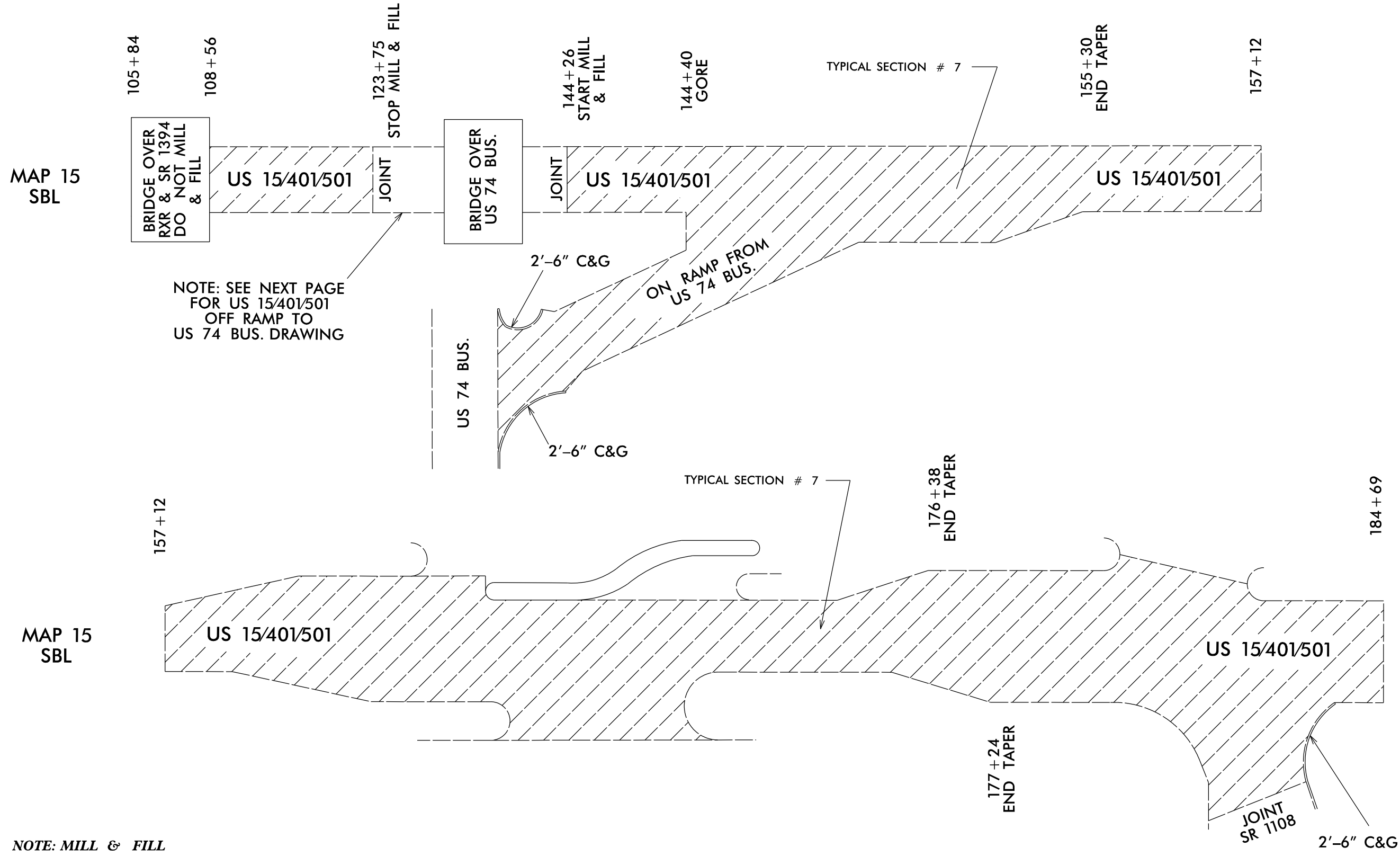
5/28/99  
SYTIME  
SUN  
\*\*\*\*\*



NOTE: MILL & FILL

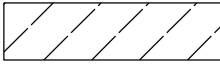


# SCOTLAND COUNTY



NOTE: SEE NEXT PAGE FOR US 15/401/501 OFF RAMP TO US 74 BUS. DRAWING

NOTE: MILL & FILL

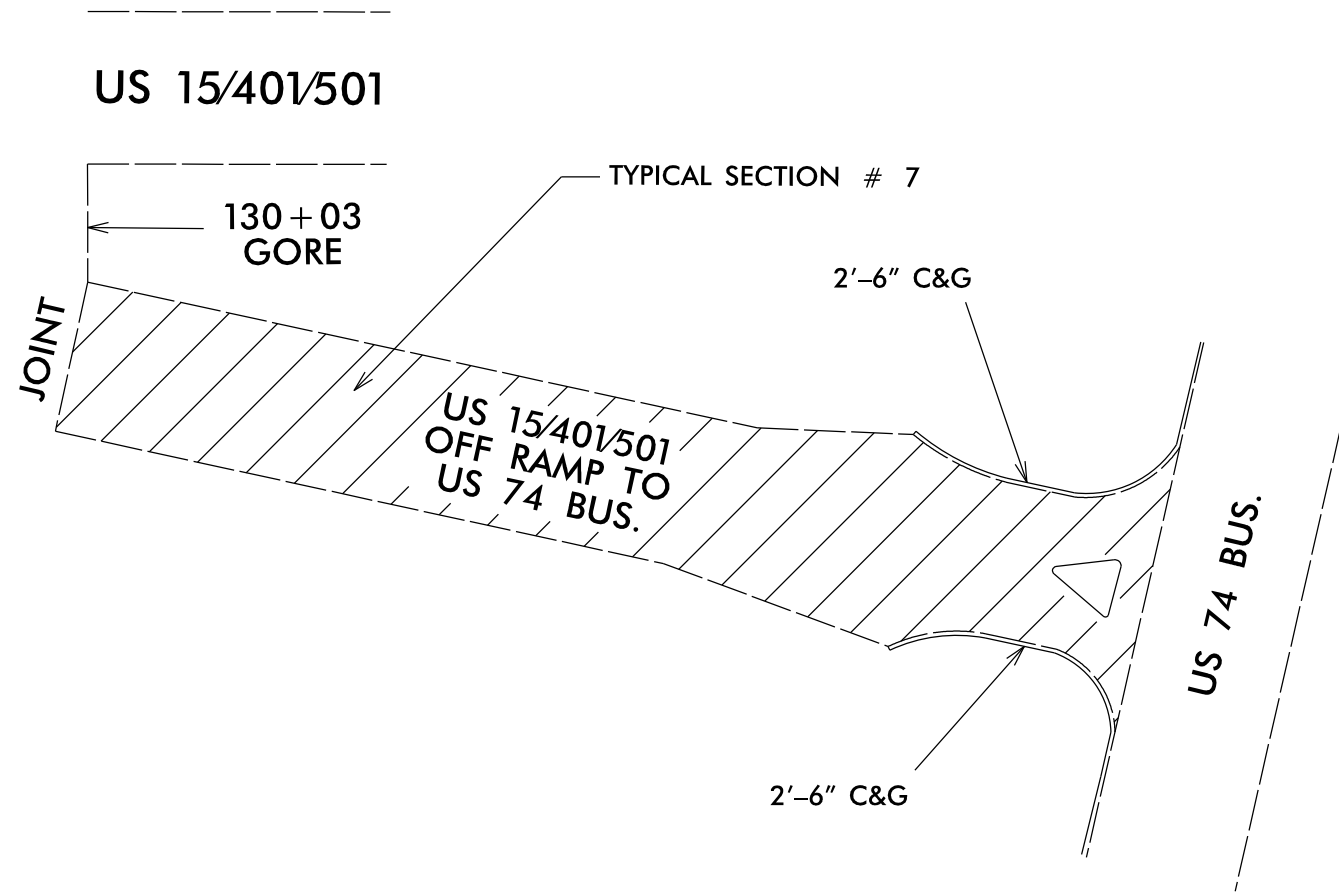


5/28/95

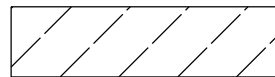
\*\*\*\*\*  
 CUSTMER  
 02/28/95  
 15/401/501  
 MILL & FILL  
 \*\*\*\*\*

# SCOTLAND COUNTY

MAP 15  
SBL



NOTE: MILL & FILL



5/28/99

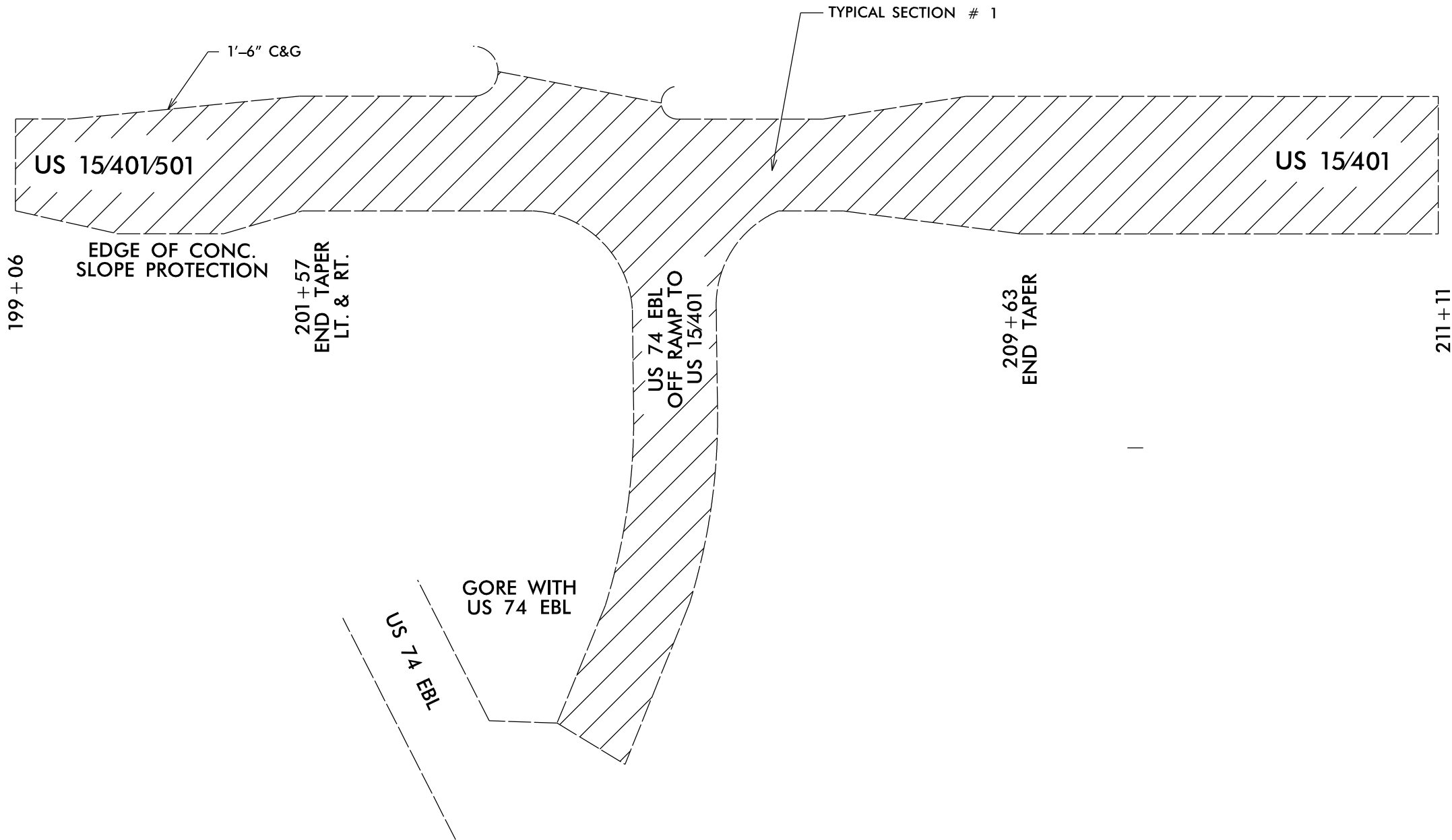
SYSTEMS  
DESIGN  
CONSULTANTS  
INCORPORATED



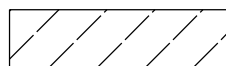


# SCOTLAND COUNTY

MAP 15  
SBL



NOTE: MILL & FILL



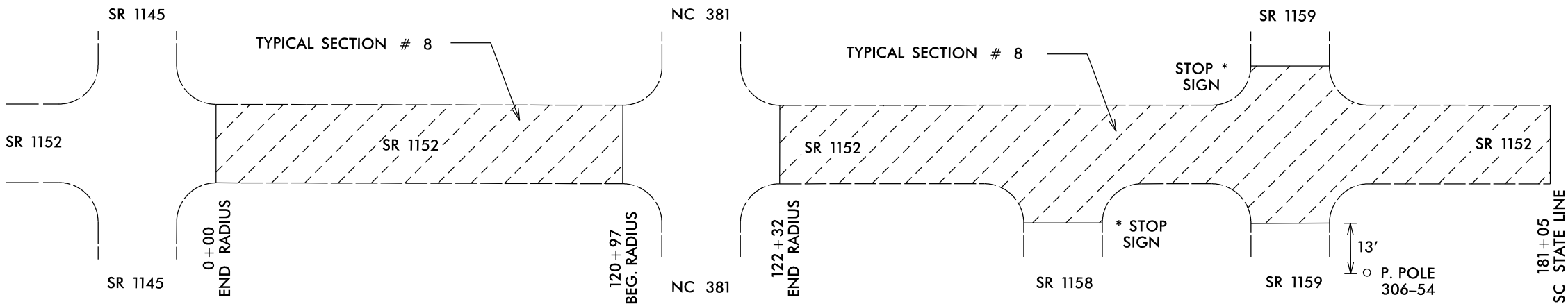
5/28/99

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SYTIME  
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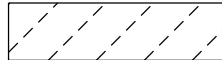
**SCOTLAND COUNTY**

MAP 16



5/28/99  
 CUSTOMER SERVICE  
 800-980-5858  
 www.ncdot.com

*NOTE: RESURFACE WITH 2" S9.5B*



PROJECT NO.	SHEET NO.	TOTAL NO.
8CR.10471.27, 8CR.10831.27 8CR.20471.27, ETC.	28	

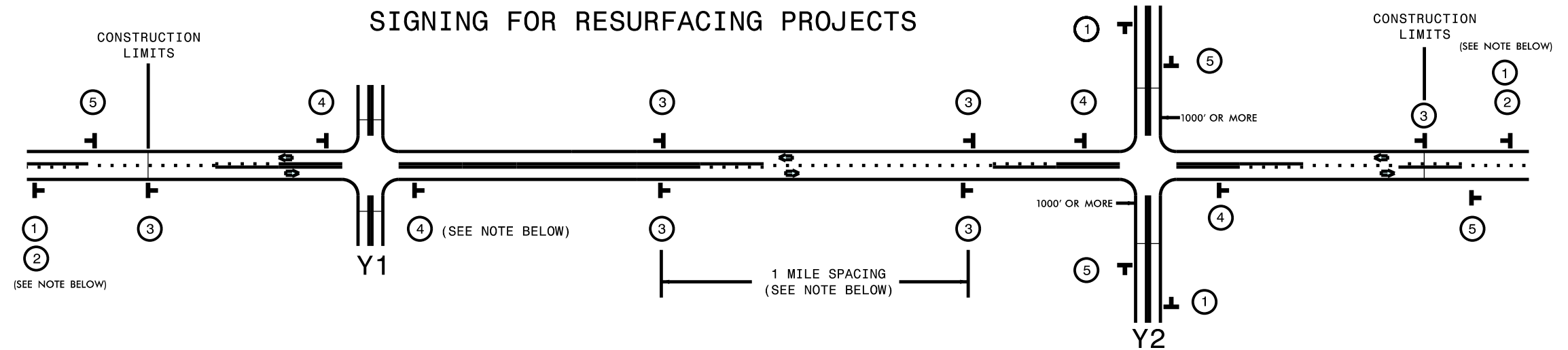
### SUMMARY OF QUANTITIES

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP	LANES	LANE TYPE	FINAL SURFACE TESTING REQUIRED	WARM MIX ASPHALT REQUIRED	LENGTH MI	WIDTH FT	BORROW EXCAVATION CY	GENERIC GRADING ITEM - AGGREGATE SHOULDER BORROW TON	INCIDENTAL STONE BASE TONS	SHOULDER RECONSTRUCTION SMI	1.5" MILLING SY	0" TO 1.5" MILLING SY	INCIDENTAL MILLING SY	SURFACE COURSE, S9.5B TONS	SURFACE COURSE, SF9.5A TON	ASPHALT BINDER FOR PLANT MIX TONS	PATCHING EXISTING PAVEMENT TONS	GENERIC PAVING ITEM - PAVEMENT INTERLAYER SY	ADJUST MANHOLES EA	ADJUST METER OR VALVE BOX EA	TEMPORARY SILT FENCE LF	WATTLE LF	SEED & MULCHING AC	INDUCTIVE LOOP SAWCUT LF	
8CR.10471.27	Hoke	1	US 401 BUS (CENTRAL AVE)	FROM NC 211 (MAIN ST) TO US 401 BYPASS		2,3,5	2	2WU	NO	NO	3.72	22	511		580	6.96	510	1,441	1,337	5,525	331	70		7	17	372	60	5.06	2,000	
<b>TOTAL FOR MAP NO. 1</b>											<b>3.72</b>	<b>22</b>	<b>511</b>	<b>580</b>	<b>6.96</b>	<b>510</b>	<b>1,441</b>	<b>1,337</b>	<b>5,525</b>	<b>331</b>	<b>70</b>		<b>7</b>	<b>17</b>	<b>372</b>	<b>60</b>	<b>5.06</b>	<b>2,000</b>		
8CR.10471.27	Hoke	2	US 401 BUS (HARRIS AVE)	FROM US 401 BYPASS TO NC 211 (MAIN ST)		1,3,5	2	2WU	NO	NO	0.77	36	5		0.06		4,995	438	2,105		126	110		12	7	77	20	0.04	2,500	
<b>TOTAL FOR MAP NO. 2</b>											<b>0.77</b>	<b>36</b>	<b>5</b>		<b>0.06</b>		<b>4,995</b>	<b>438</b>	<b>2,105</b>		<b>126</b>	<b>110</b>		<b>12</b>	<b>7</b>	<b>77</b>	<b>20</b>	<b>0.04</b>	<b>2,500</b>	
8CR.10471.27	Hoke	3	NC 211 (RED SPRINGS RD)	FROM 1149 (E PALMER ST) TO US 401 BUS (CENTRAL AVE)		5	2	2WU	NO	NO	0.82	24-40	37		0.50		2,680	670	2,465		148	110		15	15	82	20	0.37		
<b>TOTAL FOR MAP NO. 3</b>											<b>0.82</b>	<b>24-40</b>	<b>37</b>		<b>0.50</b>		<b>2,680</b>	<b>670</b>	<b>2,465</b>		<b>148</b>	<b>110</b>		<b>15</b>	<b>15</b>	<b>82</b>	<b>20</b>	<b>0.37</b>		
8CR.10471.27	Hoke	4	NC 211 (MAIN ST)	FROM US 401 BUS (CENTRAL AVE) TO SR 1405 (N MAIN ST)		1,3	2	2WU	NO	NO	0.39	22-65					315	500	1,220		73	50		15	4					
<b>TOTAL FOR MAP NO. 4</b>											<b>0.39</b>	<b>22-65</b>					<b>315</b>	<b>500</b>	<b>1,220</b>		<b>73</b>	<b>50</b>		<b>15</b>	<b>4</b>					
8CR.10471.27	Hoke	5	NC 211 (PROSPECT AVE)	FROM SR 1405 (N MAIN ST) TO SR 1244 (W PALMER ST)		5	2	2WU	NO	NO	1.24	24	90		1.23		5,883	388	1,970		118	50		8	10	124	20	0.90	4,000	
<b>TOTAL FOR MAP NO. 5</b>											<b>1.24</b>	<b>24</b>	<b>90</b>		<b>1.23</b>		<b>5,883</b>	<b>388</b>	<b>1,970</b>		<b>118</b>	<b>50</b>		<b>8</b>	<b>10</b>	<b>124</b>	<b>20</b>	<b>0.90</b>	<b>4,000</b>	
8CR.10471.27	Hoke	6	NC 211 (ABERDEEN RD)	FROM 1244 (W PALMER ST) TO SR 1202 (FULFORD MCMILLIAN RD)		6	2	2WU	NO	NO	3.78	24	549		7.48			307	5,945		357	130	64,200.00			378	60	10.50	2,000	
<b>TOTAL FOR MAP NO. 6</b>											<b>3.78</b>	<b>24</b>	<b>549</b>		<b>7.48</b>			<b>307</b>	<b>5,945</b>		<b>357</b>	<b>130</b>	<b>64,200.00</b>			<b>378</b>	<b>60</b>	<b>10.50</b>	<b>2,000</b>	
8CR.10471.27	Hoke	7	NC 211 (ABERDEEN RD)	FROM SR 1202 (FULFORD MCMILLIAN RD) TO SR 1215 (MONTROSE RD)		5	2	2WU	NO	NO	2.97	26	435		5.93			227	4,575		275					297	50	4.30		
<b>TOTAL FOR MAP NO. 7</b>											<b>2.97</b>	<b>26</b>	<b>435</b>		<b>5.93</b>			<b>227</b>	<b>4,575</b>		<b>275</b>					<b>297</b>	<b>50</b>	<b>4.30</b>		
8CR.10471.27	Hoke	8	NC 211 (ABERDEEN RD)	FROM SR 1215 (MONTROSE RD) TO SR 1225 (ASHEMONT RD)		5	2	2WU	NO	NO	2.26	26	332		4.53			236	4,100		246					226	40	3.30		
<b>TOTAL FOR MAP NO. 8</b>											<b>2.26</b>	<b>26</b>	<b>332</b>		<b>4.53</b>			<b>236</b>	<b>4,100</b>		<b>246</b>					<b>226</b>	<b>40</b>	<b>3.30</b>		
8CR.10471.27	Hoke	9	NC 211 (ABERDEEN RD)	FROM 1225 (ASHEMONT RD) TO MOORE CO LINE		5	2	2WU	NO	NO	3.44	26	504		6.87			176	5,205		312					344	60	5.00		
<b>TOTAL FOR MAP NO. 9</b>											<b>3.44</b>	<b>26</b>	<b>504</b>		<b>6.87</b>			<b>176</b>	<b>5,205</b>		<b>312</b>					<b>344</b>	<b>60</b>	<b>5.00</b>		
<b>TOTAL FOR PROJ NO. 8CR.10471.27</b>											<b>19.39</b>		<b>2,463</b>		<b>1,480</b>	<b>33.56</b>	<b>510</b>	<b>15,314</b>	<b>4,279</b>	<b>33,110</b>		<b>1,986</b>	<b>520</b>	<b>64,200.00</b>	<b>57</b>	<b>53</b>	<b>1,900</b>	<b>330</b>	<b>29.47</b>	<b>10,500</b>
8CR.10831.27	Scotland	12	US 15/401	FROM SC STATE LINE TO BEGIN OF PAVEMENT CHANGE NORTH OF SR 1177		7	2	2WU	NO	NO	3.18	24					51,517		4,765		286									
<b>TOTAL FOR MAP NO. 12</b>											<b>3.18</b>	<b>24</b>					<b>51,517</b>		<b>4,765</b>		<b>286</b>									
8CR.10831.27	Scotland	13	US 15/401	FROM PAVEMENT CHANGE NORTH OF SR 1177 TO START OF DIVIDED HIGHWAY		7	2	2WU	NO	NO	2.19	64					95,475		8,825		530									
<b>TOTAL FOR MAP NO. 13</b>											<b>2.19</b>	<b>64</b>					<b>95,475</b>		<b>8,825</b>		<b>530</b>									
8CR.10831.27	Scotland	14	US 15/401 NBL	FROM BEGINNING OF DIVIDED HIGHWAY TO PAVEMENT JOINT AT FCC (BEGIN TAPER FOR HARVEL LANE)		7	2	MD	NO	NO	4.15	28					87,575		8,095		486									
<b>TOTAL FOR MAP NO. 14</b>											<b>4.15</b>	<b>28</b>					<b>87,575</b>		<b>8,095</b>		<b>486</b>									
8CR.10831.27	Scotland	15	US 15/401 SBL	FROM PAVEMENT JOINT AT FCC (BEGIN TAPER AT HARVEL LN) TO END OF DIVIDED HIGHWAY		7	2	MD	NO	NO	4.17	28					93,041		8,600		516									
<b>TOTAL FOR MAP NO. 15</b>											<b>4.17</b>	<b>28</b>					<b>93,041</b>		<b>8,600</b>		<b>516</b>									
<b>TOTAL FOR PROJ NO. 8CR.10831.27</b>											<b>13.69</b>						<b>327,608</b>		<b>30,285</b>		<b>1,818</b>					<b>14</b>	<b>4</b>			
8CR.20471.27	Hoke	10	SR 1418 (LINDSAY RD)	FROM SR 1406 (ROCKFISH RD) TO SR 1420 (GILLIS HILL RD)		4	2	2WU	NO	NO	0.36	22	53		0.72			100		770	52					36	10	0.53		
<b>TOTAL FOR MAP NO. 10</b>											<b>0.36</b>	<b>22</b>	<b>53</b>		<b>0.72</b>			<b>100</b>		<b>770</b>	<b>52</b>					<b>36</b>	<b>10</b>	<b>0.53</b>		
8CR.20471.27	Hoke	11	SR 1418 (LINDSAY RD)	FROM SR 1420 (GILLIS HILL RD) TO PVMT JT AT US 401		4	2	2WU	NO	NO	2.79	20	410		5.59			100		4,120	276					1	279	50	4.07	
<b>TOTAL FOR MAP NO. 11</b>											<b>2.79</b>	<b>20</b>	<b>410</b>		<b>5.59</b>			<b>100</b>		<b>4,120</b>	<b>276</b>					<b>1</b>	<b>279</b>	<b>50</b>	<b>4.07</b>	
<b>TOTAL FOR PROJ NO. 8CR.20471.27</b>											<b>3.15</b>		<b>463</b>		<b>6.31</b>			<b>200</b>		<b>4,890</b>	<b>328</b>					<b>1</b>	<b>315</b>	<b>60</b>	<b>4.60</b>	
8CR.20831.27	Scotland	16	SR 1152 (OLD WIRE RD)	FROM SR 1145 TO SC STATE LINE		8	2	2WD	NO	NO	3.37	22		944.00		6.74			4,284	5,400		324								
<b>TOTAL FOR MAP NO. 16</b>											<b>3.37</b>	<b>22</b>		<b>944.00</b>		<b>6.74</b>			<b>4,284</b>	<b>5,400</b>		<b>324</b>								
<b>TOTAL FOR PROJ NO. 8CR.20831.27</b>											<b>3.37</b>			<b>944</b>		<b>6.74</b>			<b>4,284</b>	<b>5,400</b>		<b>324</b>								
<b>GRAND TOTAL</b>											<b>39.6</b>		<b>2,926</b>	<b>944.00</b>	<b>1,725</b>	<b>46.61</b>	<b>328,118</b>	<b>15,314</b>	<b>8,763</b>	<b>68,795</b>	<b>4,890</b>	<b>4,456</b>	<b>520</b>	<b>64,200.00</b>	<b>71</b>	<b>58</b>	<b>2,215</b>	<b>390</b>	<b>34.07</b>	<b>22,576</b>





# SIGNING FOR RESURFACING PROJECTS



LEGEND	
	STATIONARY SIGN
	DIRECTION OF TRAFFIC FLOW

## MAINLINE (-L-) SIGNING

## -Y- LINE SIGNING

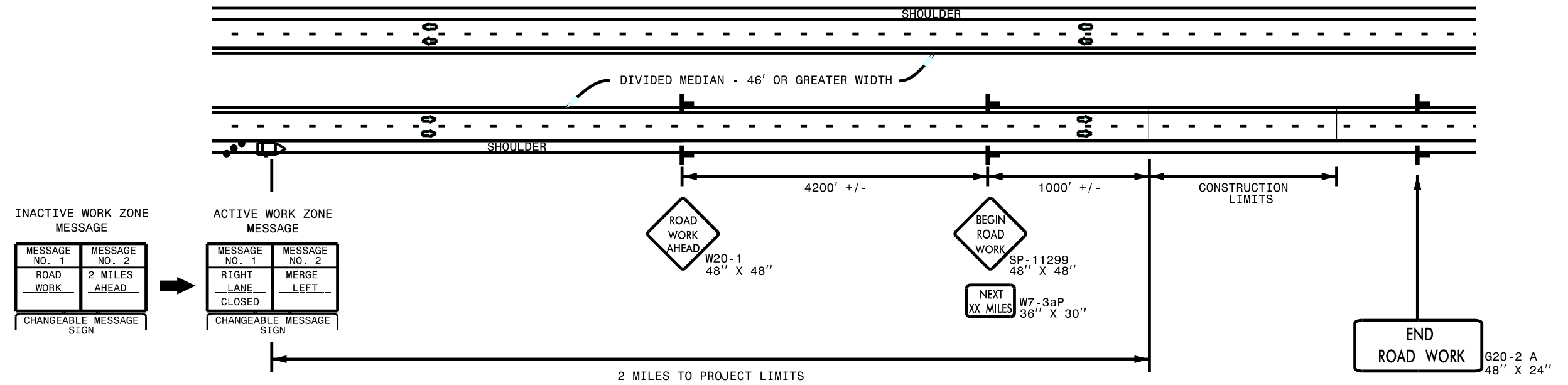
SIGNING NOTES AND PLACEMENT PER DIRECTION	1	PLACE 1000' PRIOR TO BEGINNING OF CONSTRUCTION LIMITS. ONLY USED ON -Y- LINES IF RESURFACING LIMITS EXTEND 1000' ALONG -Y- LINE.	NO REQUIRED STATIONARY SIGNING FOR THE FOLLOWING -Y- LINE CONDITIONS:  1) LESS THAN 1000' OF RESURFACING ALONG -Y- LINE 2) SUBDIVISION ROADS 3) DEAD END ROADS  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.	
	2	  #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)		  PLACED 500' IN ADVANCE OF FLAGGER. PLACED 250' IN ADVANCE OF FLAGGER.
	3	 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	 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	 PLACE 500' FOLLOWING THE END OF CONSTRUCTION LIMITS.		

\*\*\*\*\*SYTIME\*\*\*\*\*  
 \*\*\*\*\*EDGN\*\*\*\*\*  
 \*\*\*\*\*USERNAME\*\*\*\*\*

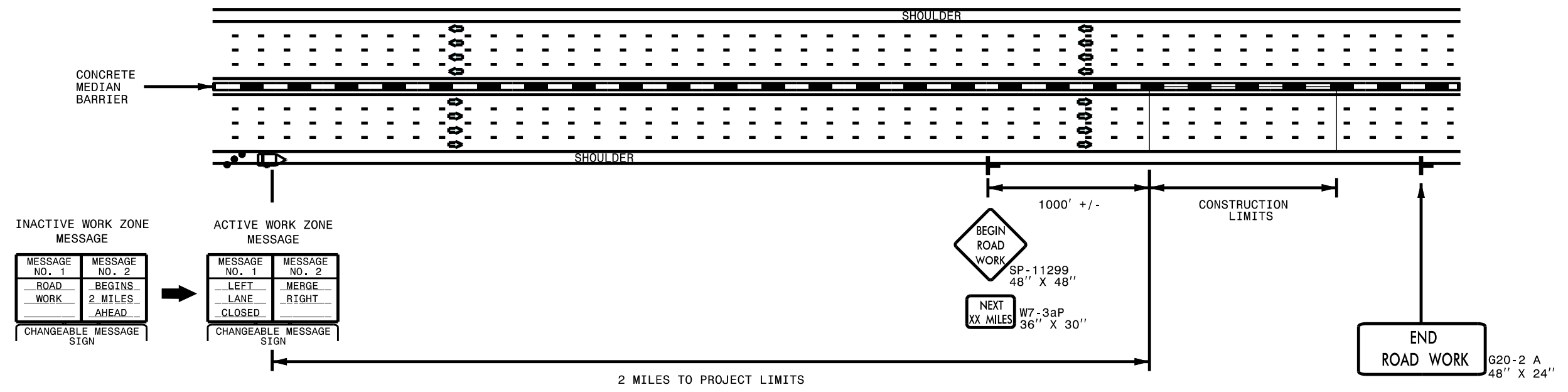
**RESURFACING  
 ADVANCE WARNING SIGNS  
 FOR  
 RURAL AND SUBURBAN  
 2 LANE ROADWAYS**



### DIVIDED MEDIANS WITH WIDTHS 46' OR GREATER



### DIVIDED MEDIANS WITH WIDTHS LESS THAN 46' OR WITH PERMANENT MEDIAN BARRIER

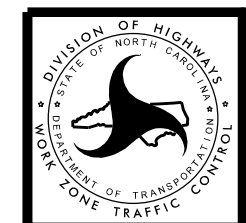


**NOTES:**

- 1) LATERAL CLEARANCE AT ALL SIGN LOCATIONS SHALL BE 6' AS MEASURED FROM THE EDGE OF PAVEMENT.
- 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) FOR MEDIAN WIDTHS LESS THAN 46' (MEASURED EDGELINE TO EDGELINE) USE THE BOTTOM DRAWING.
- 4) IF STATIONARY GENERAL WARNING SIGNS ARE USED, THEY WILL BE PAID FOR PER SECTION 104 OF THE NCDOT STANDARD SPECIFICATIONS AS EXTRA WORK.
- 5) INSTALL "ROAD WORK AHEAD" (W20-1) ALONG ENTRANCE RAMP 500' PRIOR TO RAMP TERMINAL, AND "END ROAD WORK" (G20-2a) AT THE END OF EXIT RAMP WITHIN THE WORK ZONE.
- 6) 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 AND WITH DIVIDED MEDIANS OF 46' OR GREATER. THESE PORTABLE SIGNS ARE INCIDENTAL TO THE OTHER ITEMS OF WORK INCLUDED IN THE TEMPORARY TRAFFIC CONTROL (LUMP SUM) PAY ITEM.

**LEGEND**

- CHANGEABLE MESSAGE SIGN (CMS)
- STATIONARY SIGN
- DIRECTION OF TRAFFIC FLOW
- TRAFFIC DRUM



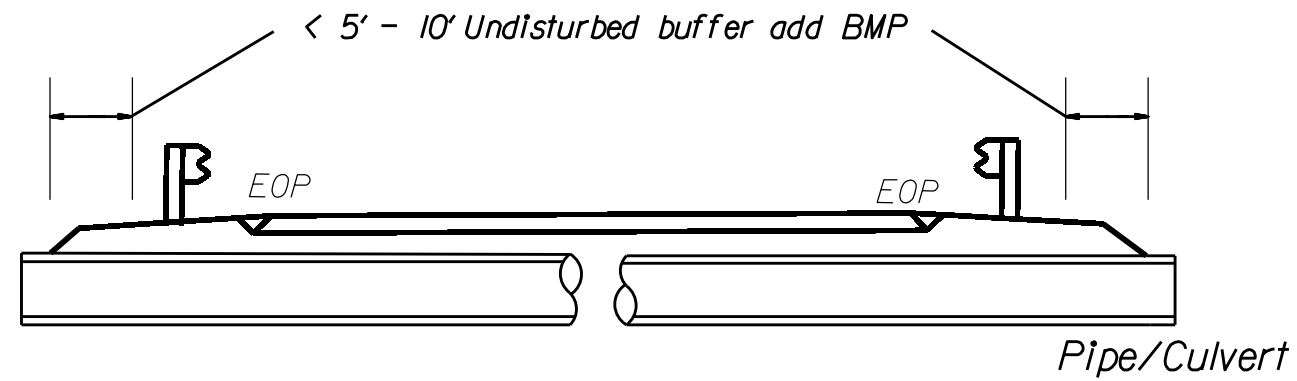
**RESURFACING ADVANCE WARNING SIGNS FOR HIGH SPEED FACILITIES ≥ 60 MPH**

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

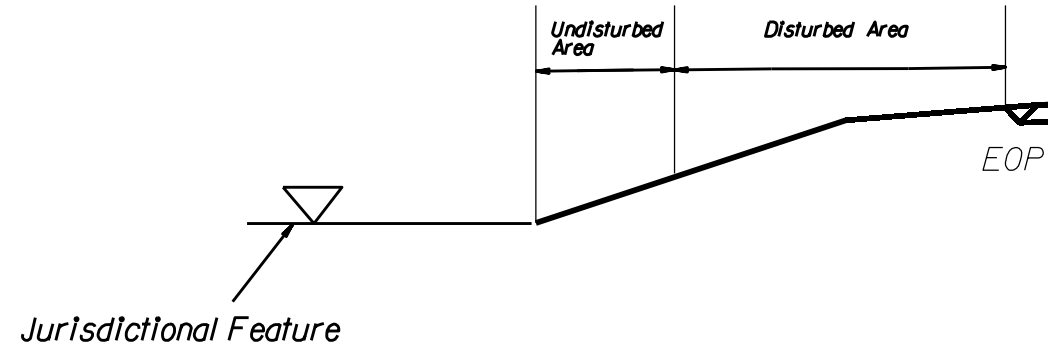
NOTES: Less than 5' - 10' undisturbed buffer from ROW, ditchline, water feature, or drainage inlet, add BMP.

BMP Options: Wattle or Silt Fence

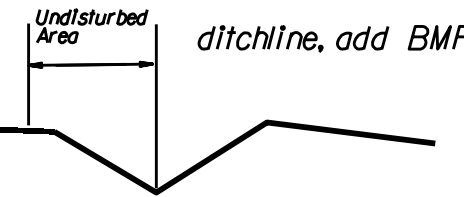
# EROSION CONTROL DETAIL



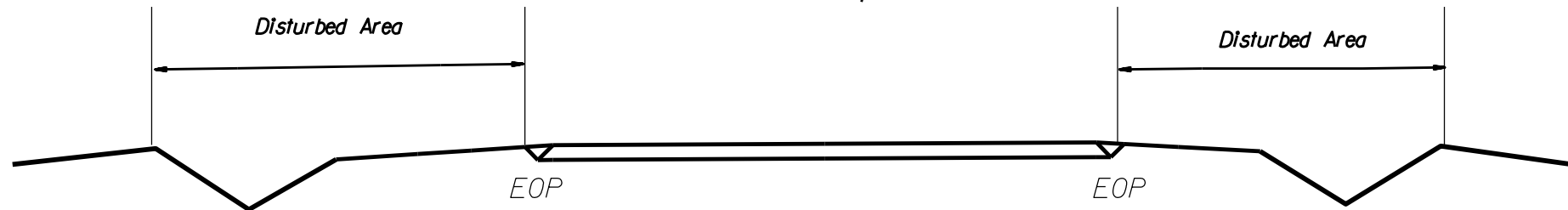
< 5' - 10' Undisturbed buffer from jurisdictional feature add BMP



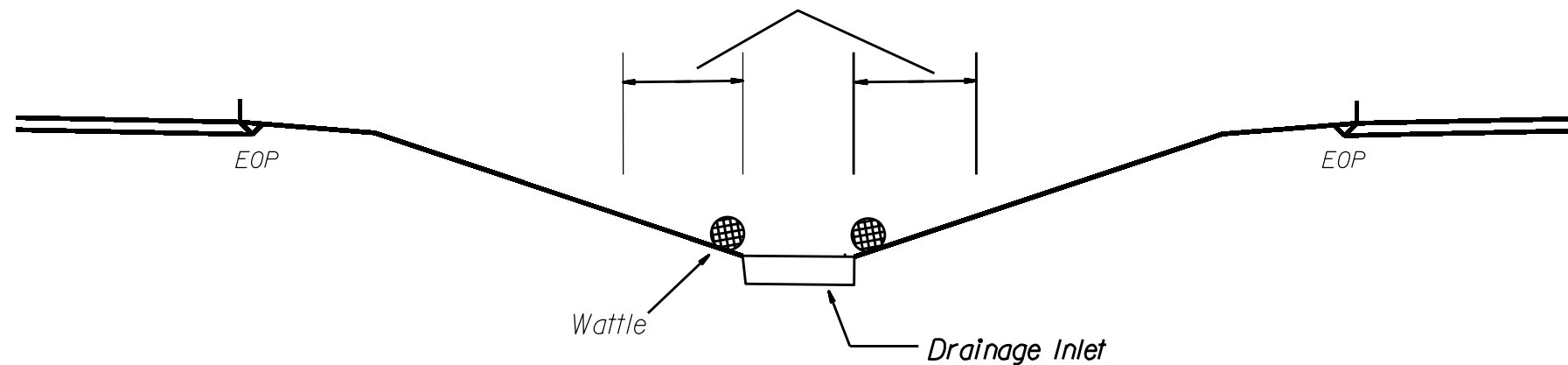
< 5' - 10' Undisturbed buffer from ditchline, add BMP



Use BMP's if shoulders and/or frontslopes and/or ditchline and/or backslopes are disturbed

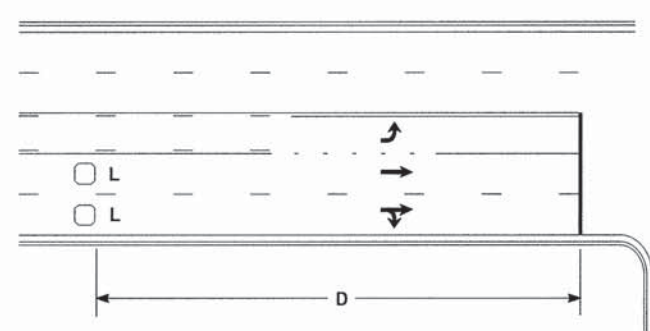


< 5' - 10' Undisturbed buffer from inlet, add wattle



NOT TO SCALE

### High Speed Detection [≥40 mph (64 km/hr)]

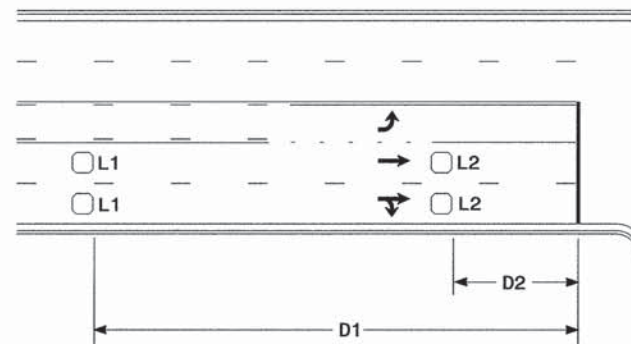


Speed Limit mph (km/hr)	D ft (m)
40 (64)	250 (75)
45 (72)	300 (90)
50 (80)	355 (110)
55 (88)	420 (130)

L = 6ft X 6ft (1.8m X 1.8m)  
Wired in series for TS1  
Controllers  
Wired separately for TS2,  
170, and 2070L Controllers

Volume Density Operation

OR

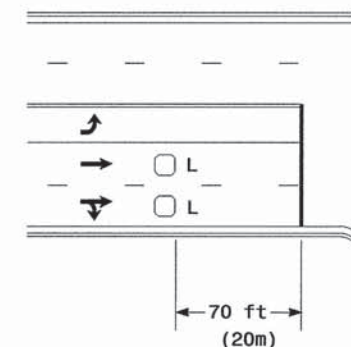


Speed Limit mph (km/hr)	D1 ft (m)	D2 ft (m)
40 (64)	250 (75)	80 (25)
45 (72)	300 (90)	90 (27)
50 (80)	355 (110)	100 (30)
55 (88)	420 (130)	110 (35)

L1 = 6ft X 6ft  
(1.8m X 1.8m)  
Wired in series  
L2 = 6ft X 6ft  
(1.8m X 1.8m)  
Wired in series

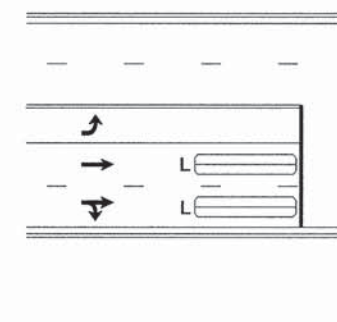
"Stretch" Operation

### Low Speed Detection [≤35 mph (56 km/hr)]



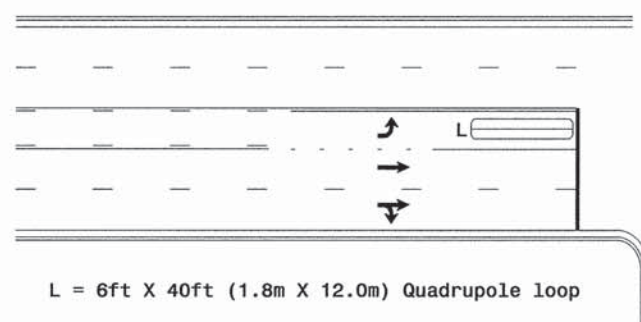
L = 6ft X 6ft (1.8m X 1.8m)  
Wired in series

OR



L = 6ft X 40ft (1.8m X 12.0m)  
Quadrupole loop, wired separately

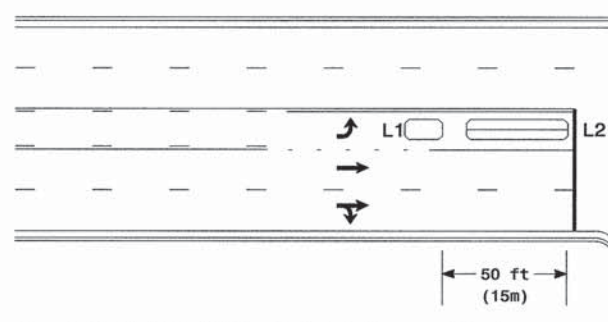
### Left Turn Lane Detection



L = 6ft X 40ft (1.8m X 12.0m) Quadrupole loop

Presence Loop Detection

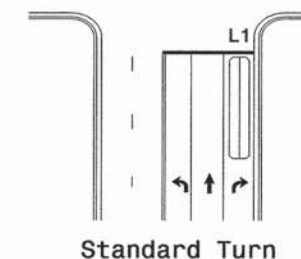
OR



L1 = 6ft X 15ft (1.8m X 4.6m) Queue detector  
L2 = 6ft X 40ft (1.8m X 12.0m) Quadrupole loop

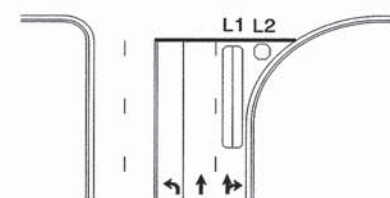
Queue Loop Detection

### Right Turn Lane Detection

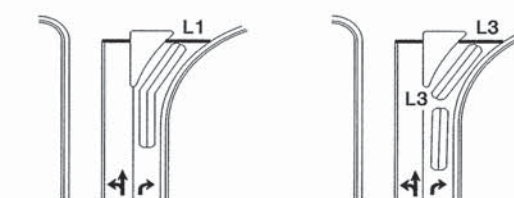


Standard Turn

L1 = 6ft X 40ft (1.8m X 12.0m) Quadrupole loop  
L2 = 6ft X 6ft (1.8m X 1.8m) [Minimum] Presence loop  
Wired separately  
L3 = 6ft X 20ft (1.8m X 6.0m) Quadrupole loop  
Wired in series

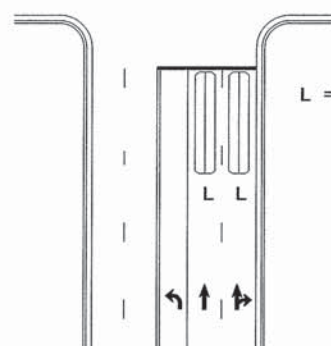


Wide Radius Turn



Channelized Turn

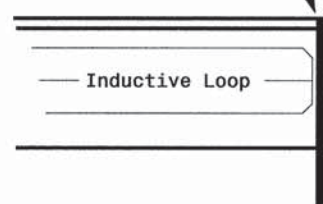
### Side Street Detection



L = 6ft X 40ft (1.8m X 12.0m)  
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 when stop line is  
greater than 15' (4.5m) from edge  
of intersecting roadway; or, when  
loop detects a permissive or  
protected/permissive left turn.

### Recommended Number of Turns

Single 6' X 6' (1.8m X 1.8m)  
loop (wired separately):

Length of Lead-in ft (m)	Number of Turns
< 250 (75)	3
250-375 (75-115)	4
375-525 (115-160)	5
> 525 (160)	6

Quadrupole loops: Use 2-4-2 turns  
6' X 15' (1.8m X 4.6m) Loops:  
Lead-in < 150' (45 m), use 2 turns  
Lead-in > 150' (45 m), use 3 turns

	Typical Loop Locations		
	PLAN DATE: June 2006 PREPARED BY: P. L. Alexander	REVIEWED BY: REVIEWED BY:	