

STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
HIGHWAY DIVISION 6

**PLANS**

**11-7-16**

**CONTRACT ID: DF00146**

**WBS ELEMENT NO.: 2017CPT.06.06.10261.1 & 2017CPT.06.06.20261.1**

**FEDERAL AID NO.: STATE FUNDED**

**COUNTY: CUMBERLAND**

**TIP NO.: -----**

**LENGTH OF PROJECT: 13.17 MILES**

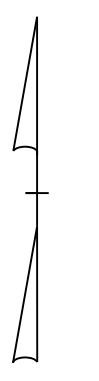
**ROUTE NO.: NC 87 & VARIOUS SR**

**TYPE OF WORK: RESURFACING, MILLING, WIDENING & PAVEMENT MARKINGS**

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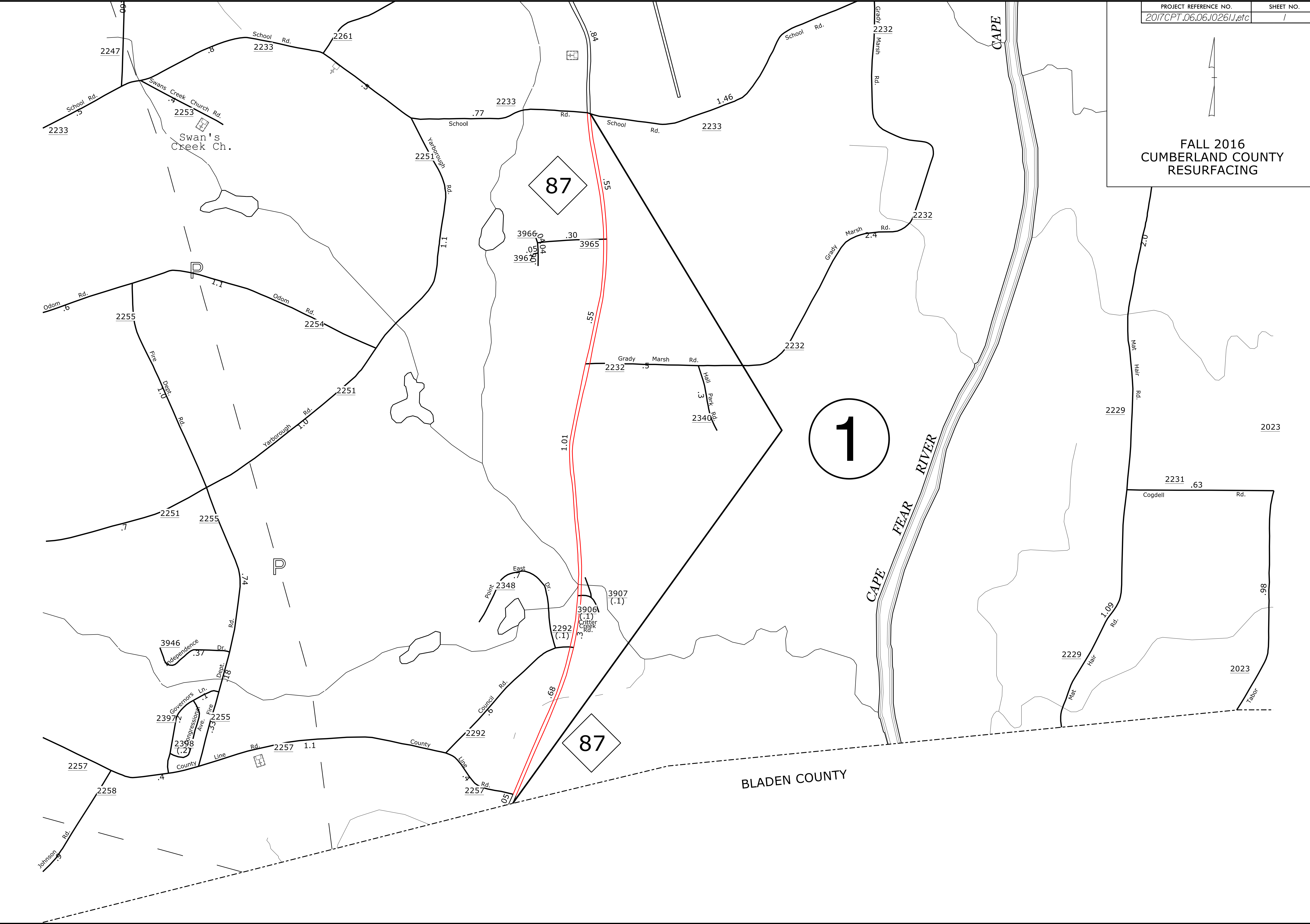
**This file or an individual page  
shall not be considered a certified document.**



FALL 2016  
CUMBERLAND COUNTY  
RESURFACING

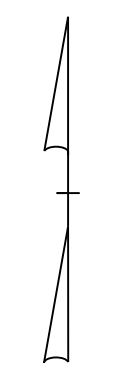
REVISIONS

8/17/99  
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11/01/2016 10:56:56 AM





FALL 2016  
CUMBERLAND COUNTY  
RESURFACING



Hope Mills  
Pop. 11,925

3

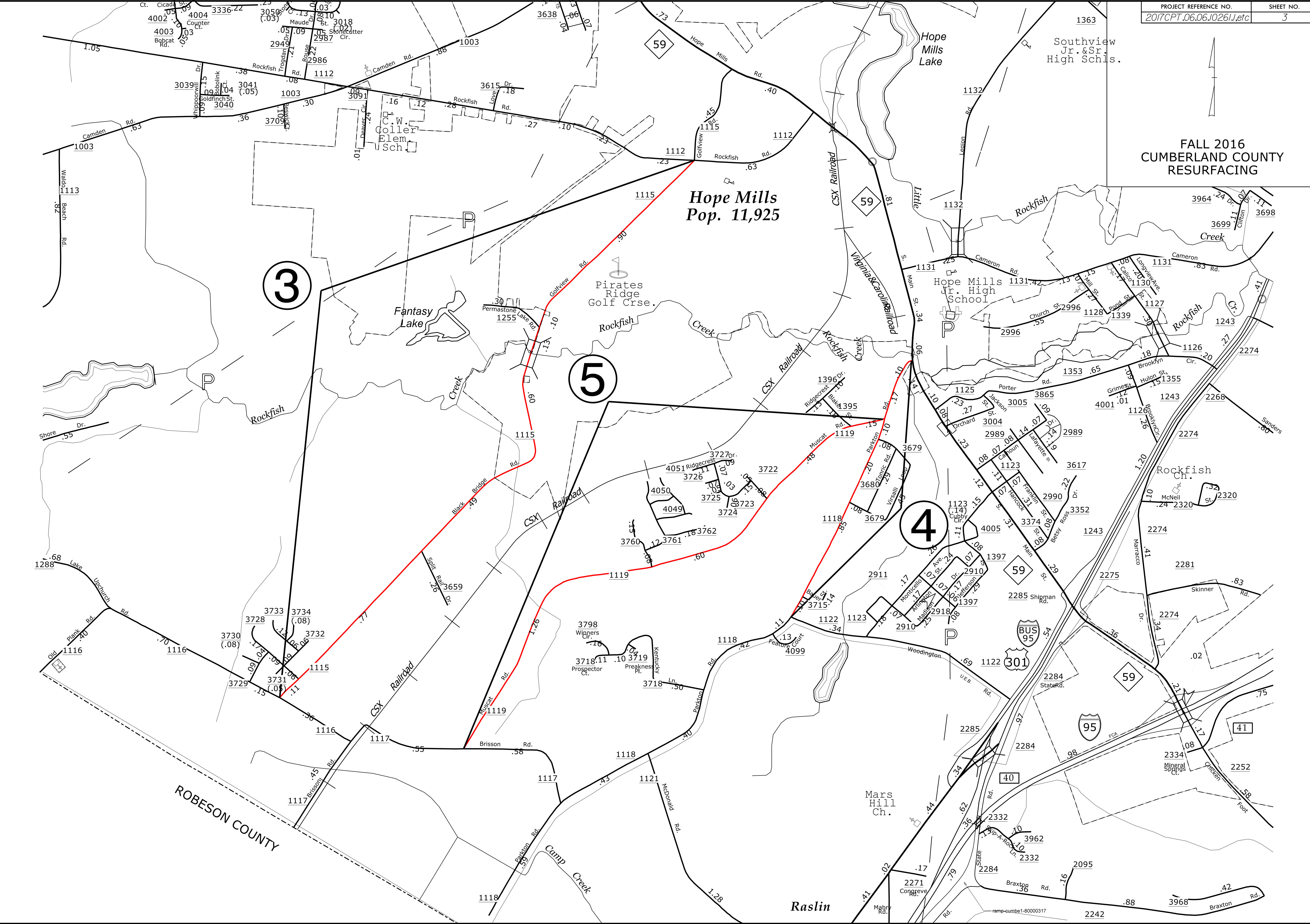
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4

8/17/99

REVISIONS

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 Author: A116161333566



ROBESON COUNTY

Raslin

2242

95

59

301

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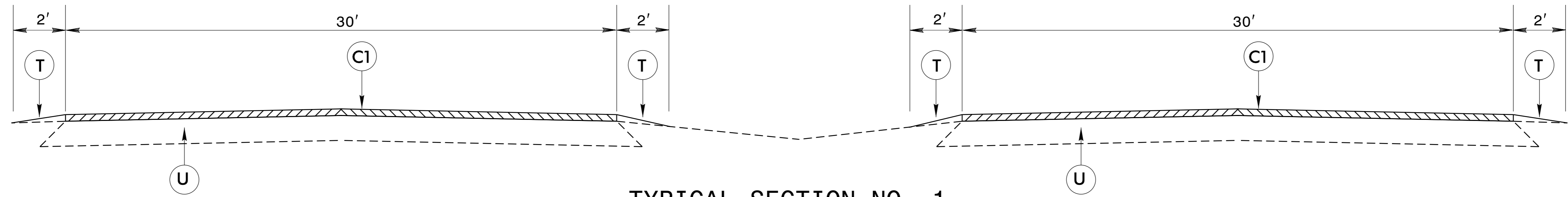
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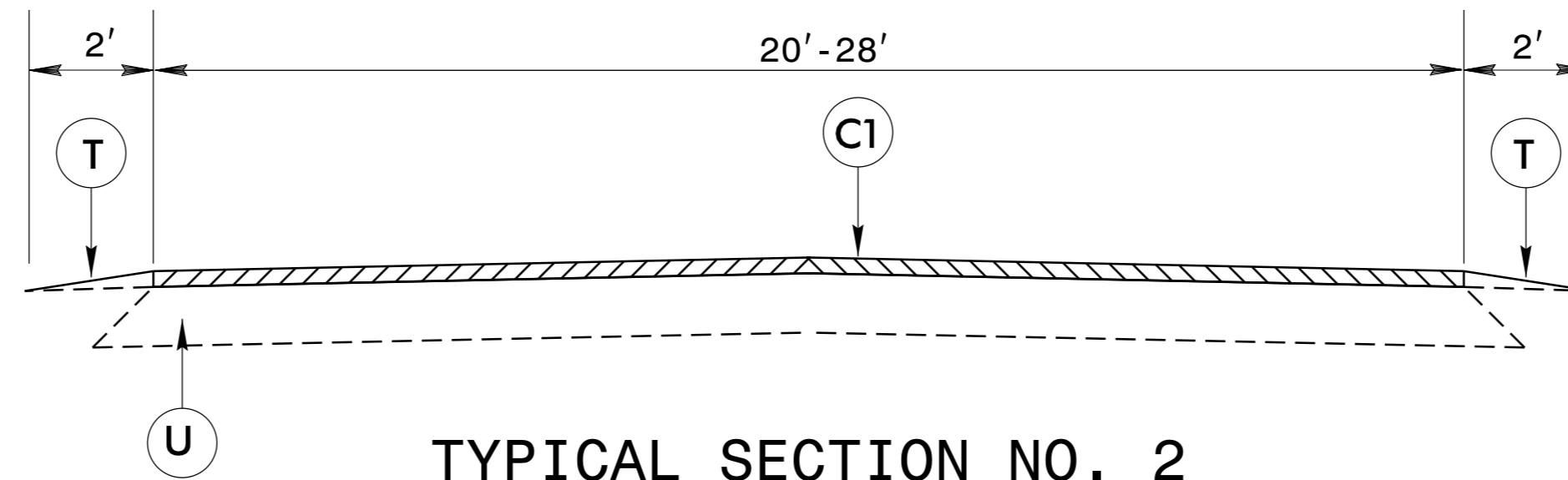
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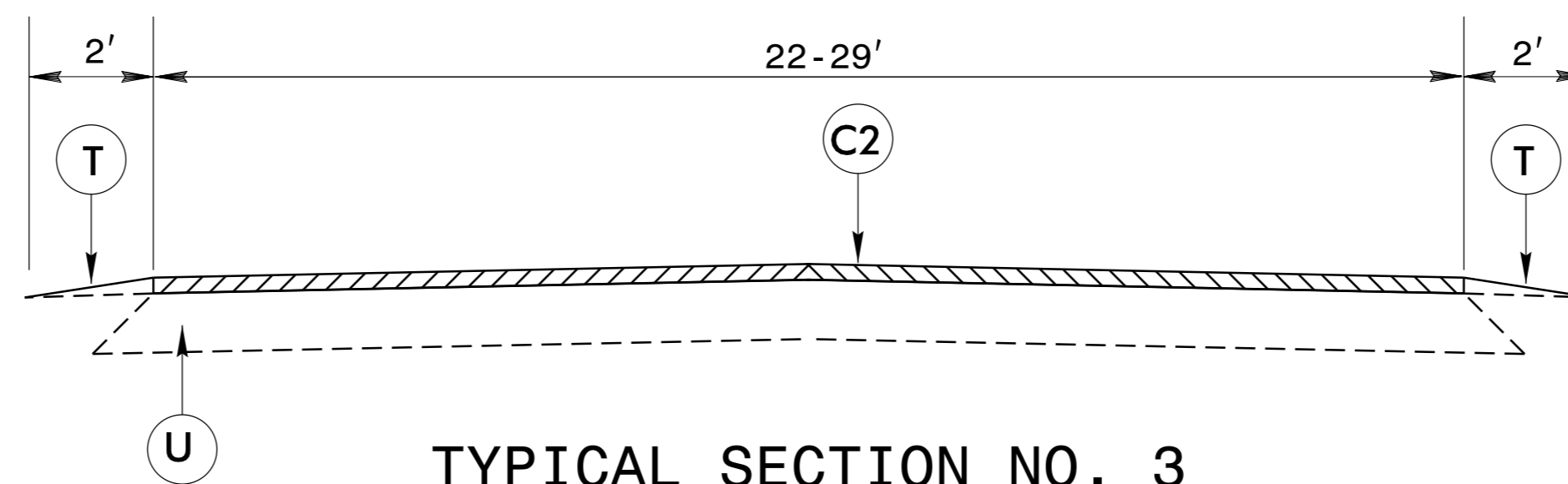


TYPICAL SECTION NO. 1

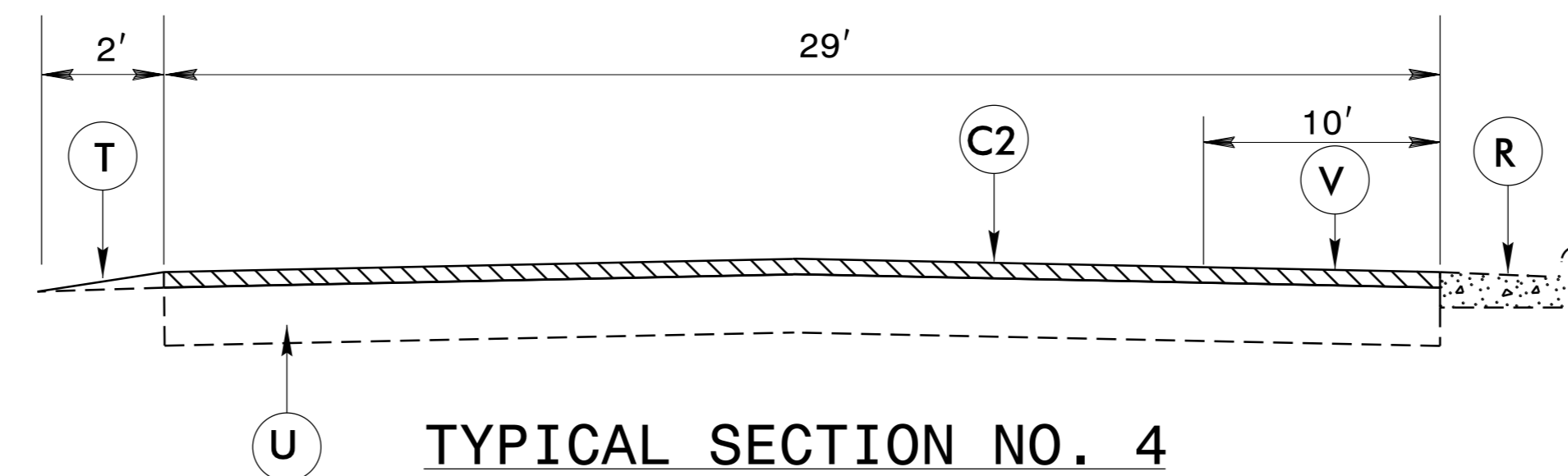
| PAVEMENT SCHEDULE |   |
|-------------------|---|
| C1                | 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. |
| C2                | 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. |
| E                 | 5" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 570 LBS. PER SQ. YD.    |
| R                 | EXISTING 2'X6" CONCRETE CURB AND GUTTER   |
| T                 | SHOULDER RECONSTRUCTION WITH AGGREGATE SHOULDER BORROW                                      |
| U                 | EXISTING ASPHALT  |
| V                 | 0-1½" DEPTH MILLING   |



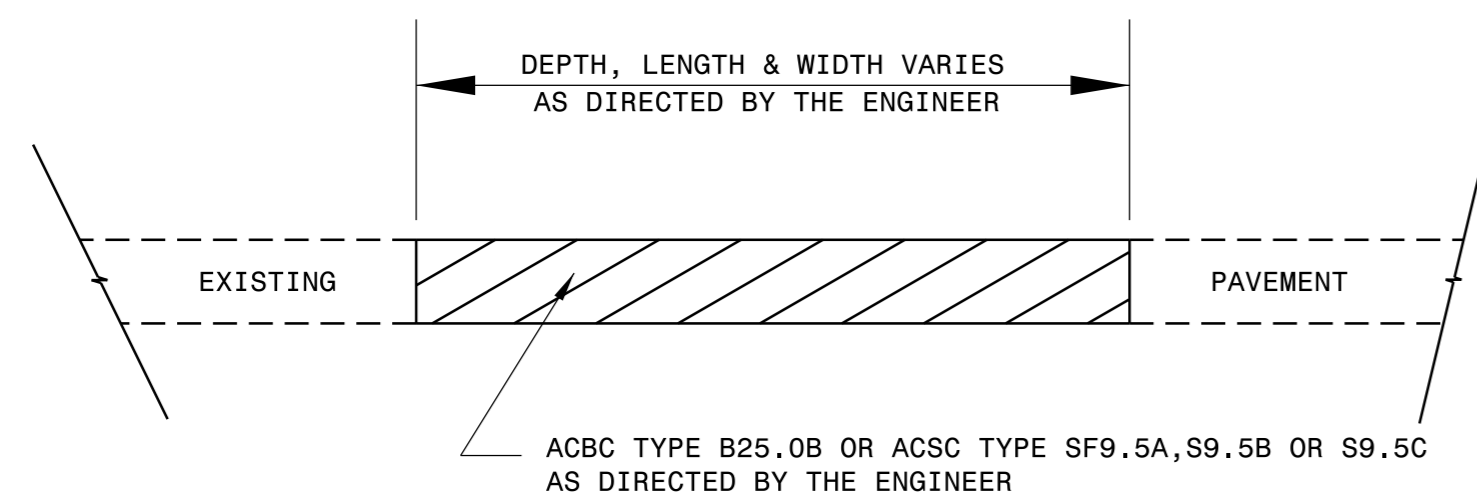
TYPICAL SECTION NO. 2



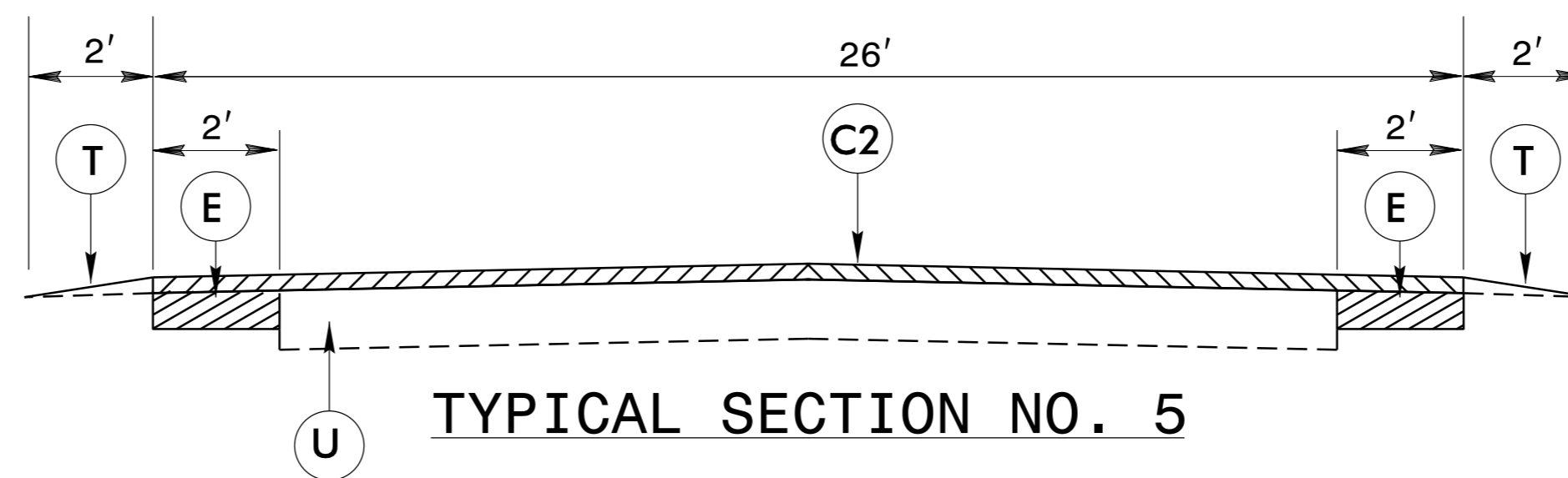
TYPICAL SECTION NO. 3



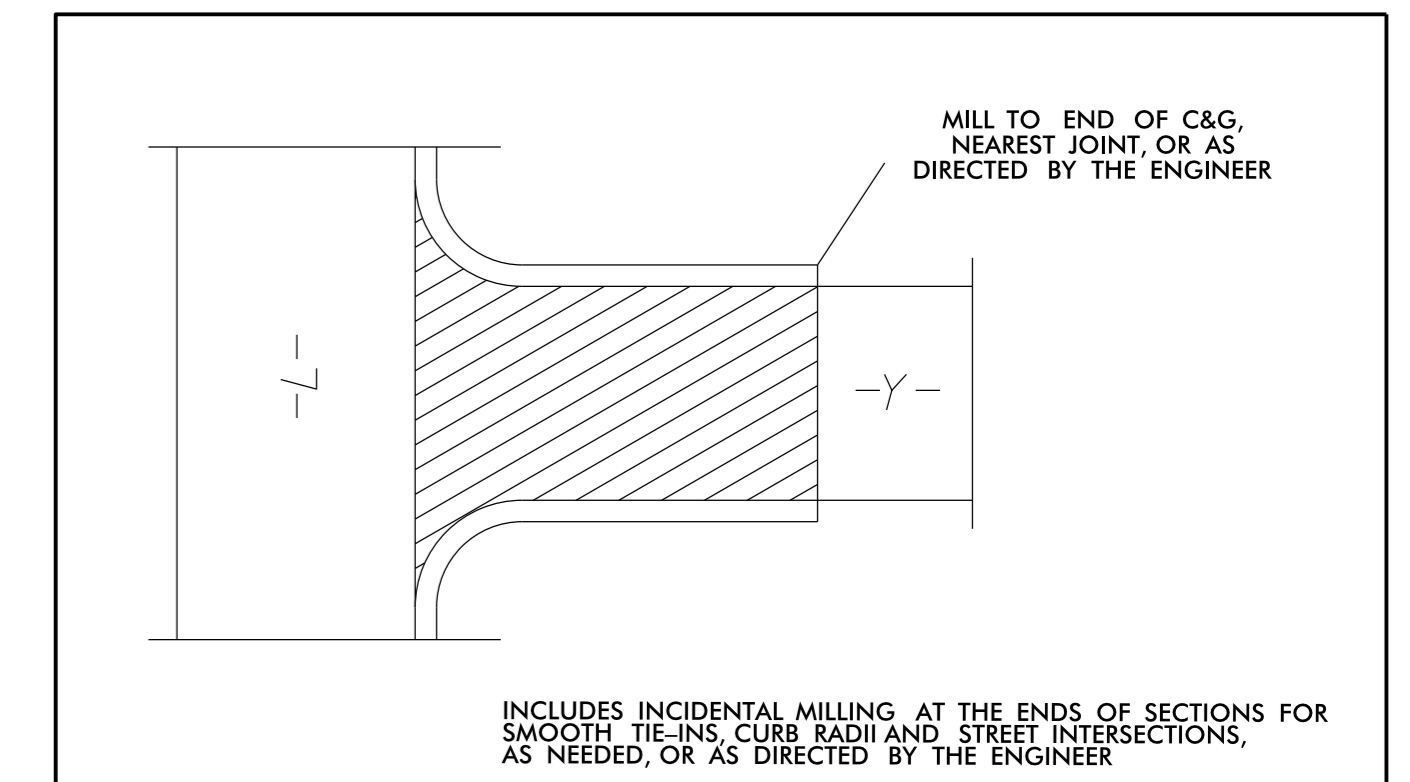
TYPICAL SECTION NO. 4



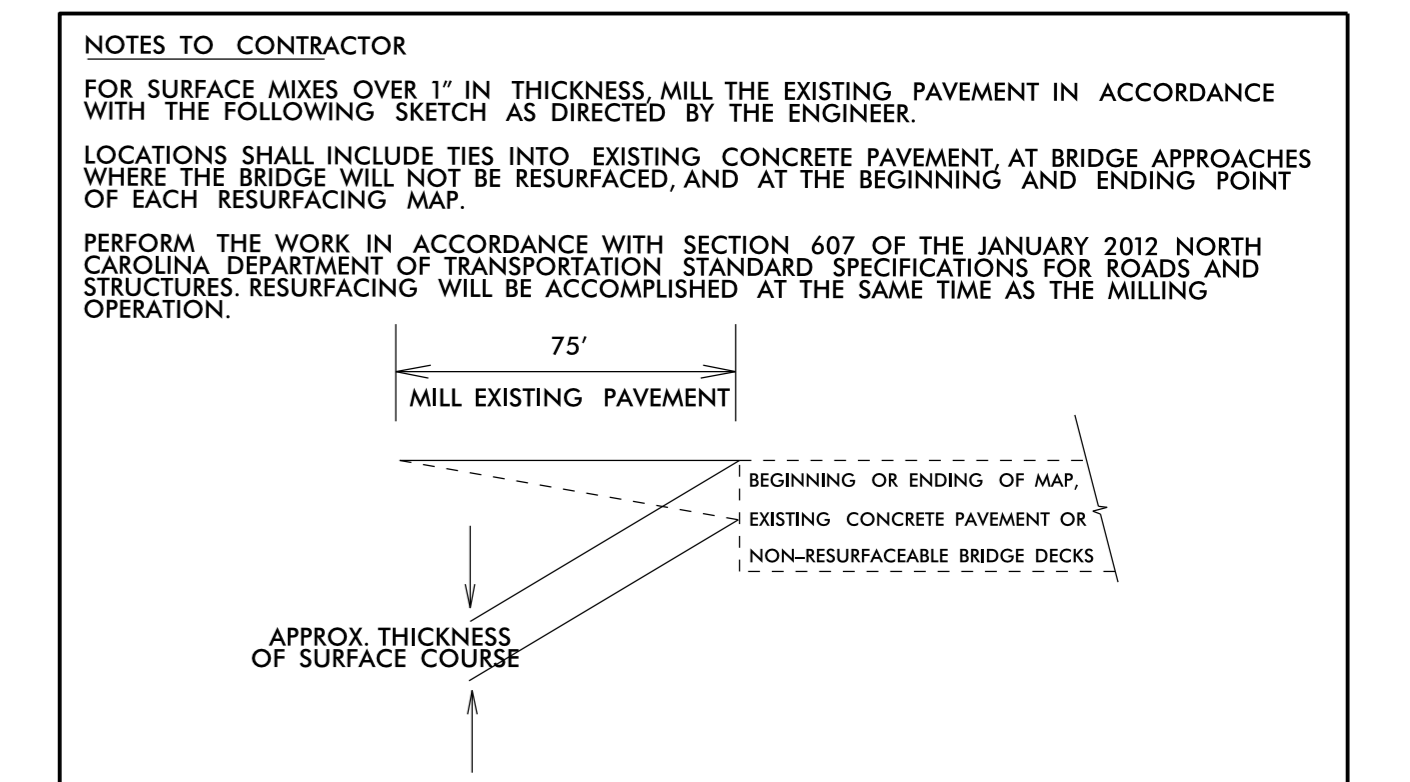
PATCHING EXISTING PAVEMENT  
PATCHING TO BE PERFORMED PRIOR TO MILL AND FILL OPERATION



TYPICAL SECTION NO. 5



MILLING AT CURB AND GUTTER INTERSECTIONS



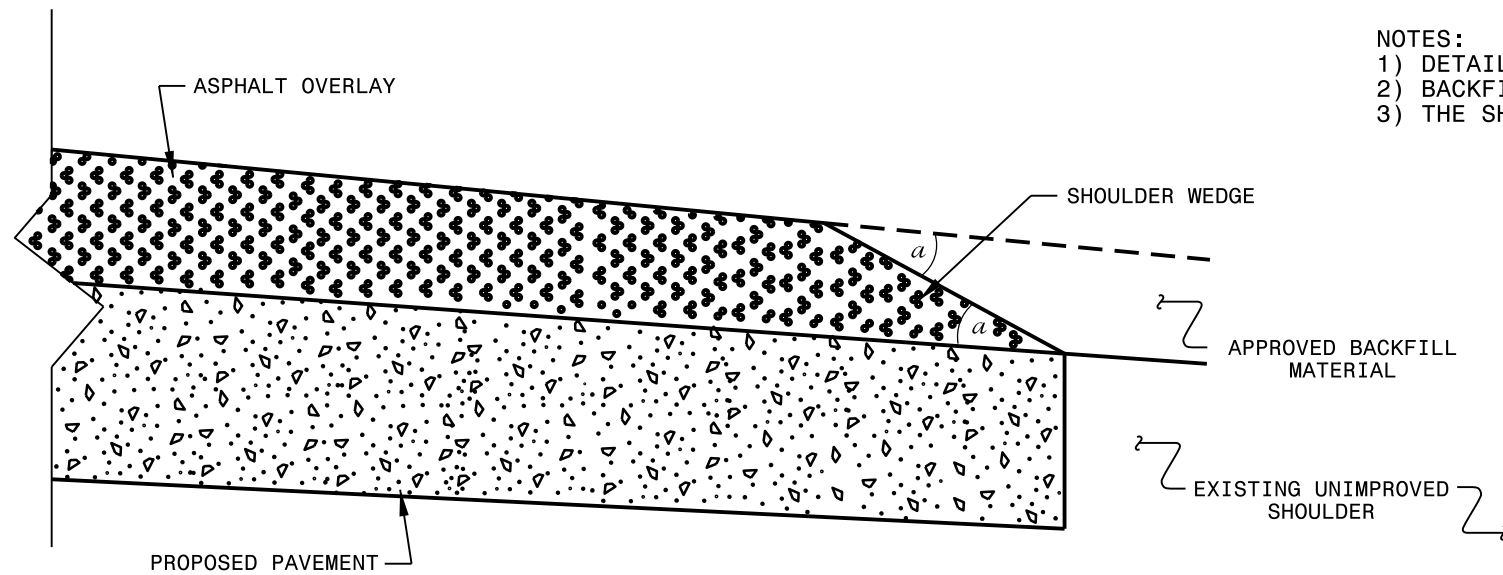
MILLING AT PAVEMENT TIE-INS DETAIL

NOTES TO CONTRACTOR  
FOR SURFACE MIXES OVER 1" IN THICKNESS, MILL THE EXISTING PAVEMENT IN ACCORDANCE WITH THE FOLLOWING SKETCH AS DIRECTED BY THE ENGINEER.  
LOCATIONS SHALL INCLUDE TIES INTO EXISTING CONCRETE PAVEMENT, AT BRIDGE APPROACHES WHERE THE BRIDGE WILL NOT BE RESURFACED, AND AT THE BEGINNING AND ENDING POINT OF EACH RESURFACING MAP.  
PERFORM THE WORK IN ACCORDANCE WITH SECTION 607 OF THE JANUARY 2012 NORTH CAROLINA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES. RESURFACING WILL BE ACCOMPLISHED AT THE SAME TIME AS THE MILLING OPERATION.

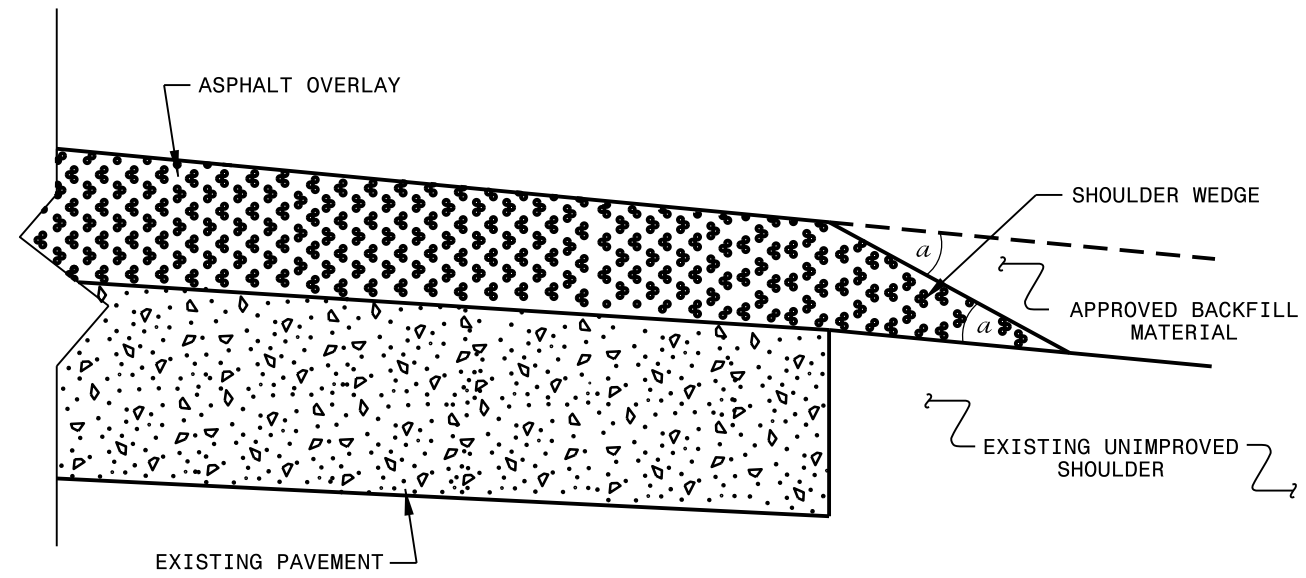
6/2/09

07 NOV 2016 08:06 Files\Projects\Let\Resurfacing\2016 Fall\Cumb.Ham\Types.dgn

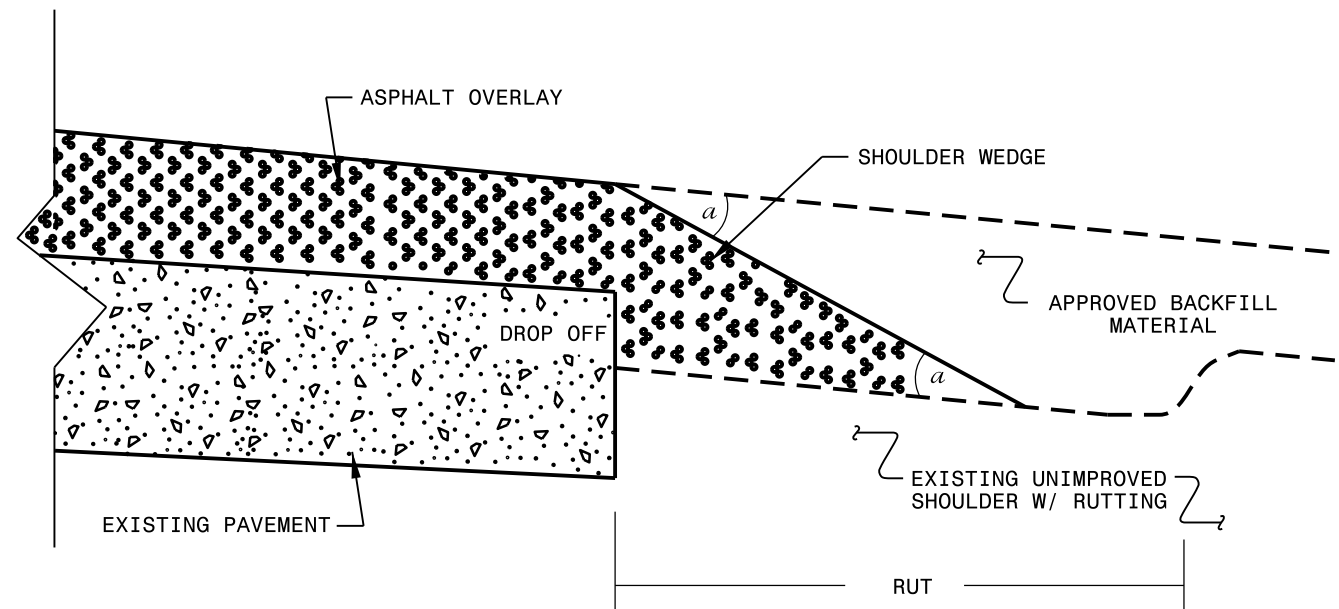
- NOTES:
- 1) DETAIL DOES NOT APPLY TO OGAFB AND ULTRA-THIN BONDED WEARING COURSE.
  - 2) BACKFILL SHOULDER WITH APPROVED MATERIAL.
  - 3) THE SHOULDER WEDGE DEVICE MAY BE DISENGAGED AT PAVED DRIVEWAYS AND SIDE STREETS.



**SHOULDER WEDGE DETAIL**  
(Resurfacing Projects w/ Widening or  
with Existing Paved Shoulder having no dropoffs)



**SHOULDER WEDGE DETAIL**  
(Resurfacing Projects w/ NO Widening)



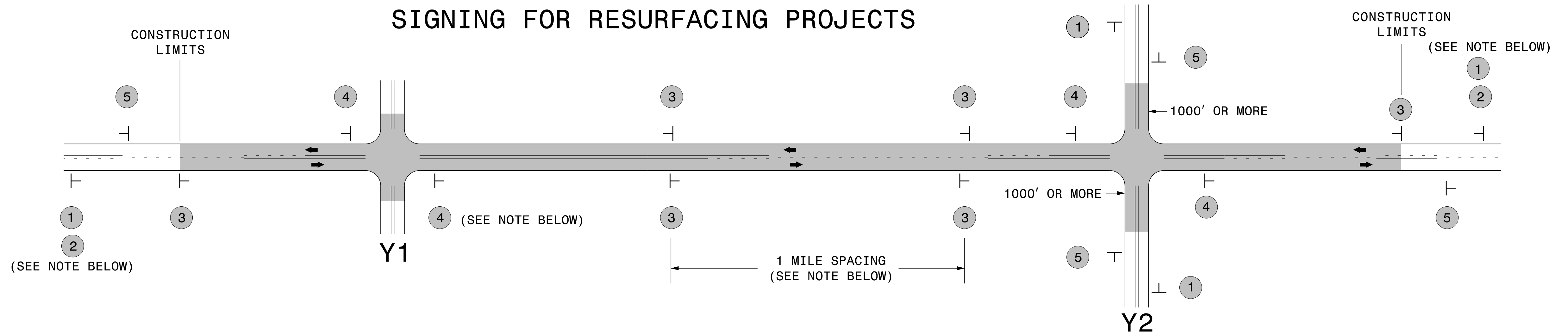
**SHOULDER WEDGE DETAIL**  
(Resurfacing Adjacent to  
Rutted Shoulder)

- SHOULDER WEDGE ANGLE = 30°

|  |                |                  |  |
|--|----------------|------------------|--|
| <b>CONTRACT STANDARDS<br/>AND DEVELOPMENT UNIT</b>     |                |                  |  |
| Office 919-707-6950                                    |                | FAX 919-250-4119 |  |
| <b>SHOULDER WEDGE<br/>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

# SIGNING FOR RESURFACING PROJECTS

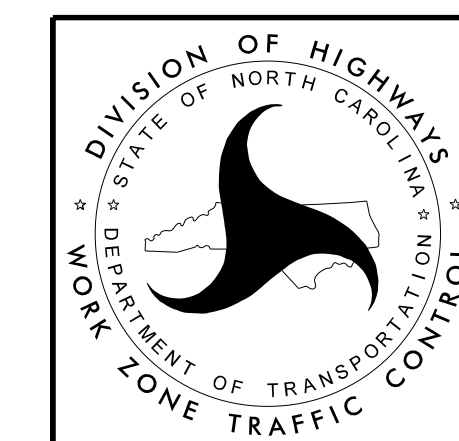


| LEGEND |                           |
|--------|---------------------------|
| ┆      | STATIONARY SIGN           |
| ←      | DIRECTION OF TRAFFIC FLOW |

## MAINLINE (-L-) SIGNING

## -Y- LINE SIGNING

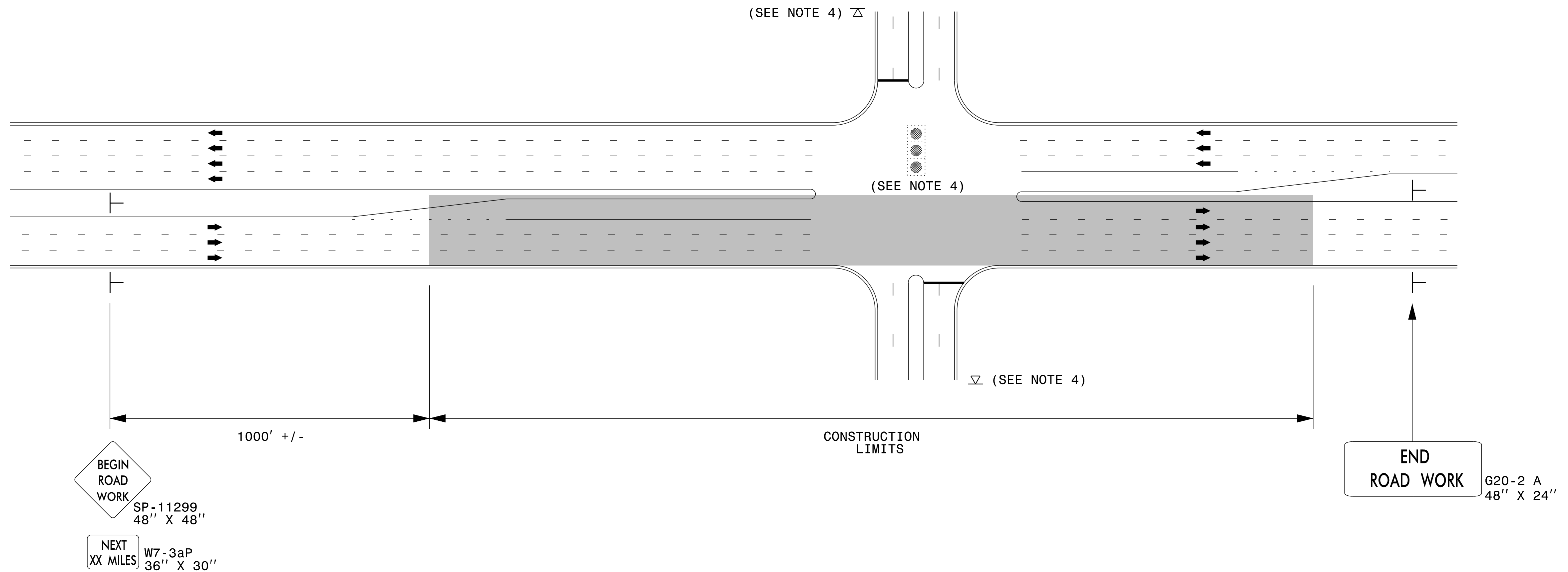
| SIGNING NOTES AND PLACEMENT PER DIRECTION | MAINLINE (-L-) SIGNING   |  | -Y- LINE SIGNING  |  |
|---|--------------------------|--|---|--|
|   | 1                        | <br>W20-1<br>48" X 48"                               | PLACE 1000' PRIOR TO BEGINNING OF CONSTRUCTION LIMITS.<br>ONLY USED ON -Y- LINES IF RESURFACING LIMITS EXTEND 1000' ALONG -Y- LINE.   | <p>NO REQUIRED STATIONARY SIGNING FOR THE FOLLOWING -Y- LINE CONDITIONS:</p> <ol style="list-style-type: none"> <li>1) LESS THAN 1000' OF RESURFACING ALONG -Y- LINE</li> <li>2) SUBDIVISION ROADS</li> <li>3) DEAD END ROADS</li> </ol> <p>WHEN PAVING/CONSTRUCTION ACTIVITIES PROCEED ACROSS AN UNSIGNED -Y- LINE, ADVANCE WARNING PORTABLE SIGNS SHALL BE USED ALONG THE -Y- LINE AS SHOWN BELOW. REMOVE UPON COMPLETION OF WORK.</p> <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p>W20-1<br/>48" X 48"</p> </div> <div style="text-align: center;"> <p>W20-7 A<br/>48" X 48"</p> </div> </div> <p>PLACED 500' IN ADVANCE OF FLAGGER. PLACED 250' IN ADVANCE OF FLAGGER.</p> |
|   | 2                        | <br>W7-3aP<br>24" X 18"                              | #2 SIGN ONLY USED WHEN RESURFACING LIMITS ARE 2 OR MORE MILES IN LENGTH.<br>ROUND UP TO NEXT WHOLE NUMBER. (NO FRACTIONAL OR DECIMAL NUMBERS)   |  |
|   | 3                        | <br>SP 13107<br>48" X 48"                            | PLACE INITIALLY AT THE CONSTRUCTION LIMITS AND SPACED 1 MILE APART THEREAFTER. IF NO -Y- LINES EXIST, PLACE 2ND SET 1/2 MILE FROM THE CONSTRUCTION LIMITS AND THEN SPACE 1 MILE THEREAFTER.   |  |
|   | 4                        | <br>SP 13106<br>48" X 48"                            | THESE ARE FOR -Y- LINES THAT ARE "THROUGH" ROADWAYS. DEAD END AND SUBDIVISION ROADS ARE NOT "THROUGH" ROADWAYS. INSTALL 500' +/- FROM EACH -Y- LINE APPROACH AS SHOWN ABOVE. FOR MULTIPLE -Y- LINES THAT ARE SEPARATED BY 0.25 MILES OR LESS, TREAT AS A SINGLE UNIT AND INSTALL WITHIN 500' OF EACH APPROACH. A MAXIMUM OF 2 SIGN SETS PER MILE. DO NOT INSTALL WHEN -Y- LINES ARE WITHIN 0.5 MILES FROM "END ROAD WORK" SIGN. |  |
| 5   | <br>G20-2 A<br>48" X 24" | PLACE 500' FOLLOWING THE END OF CONSTRUCTION LIMITS. |   |  |



RESURFACING  
ADVANCE WARNING SIGNS  
FOR  
RURAL AND SUBURBAN  
2 LANE ROADWAYS



## URBAN / SUBURBAN WORKZONES

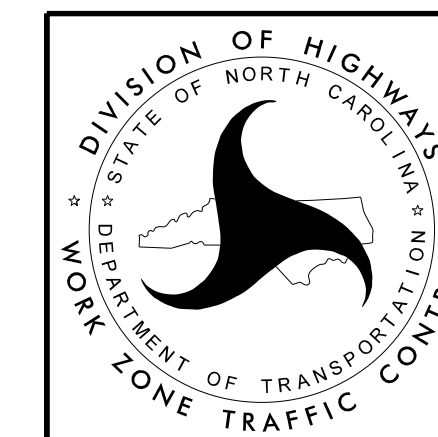


### NOTES:

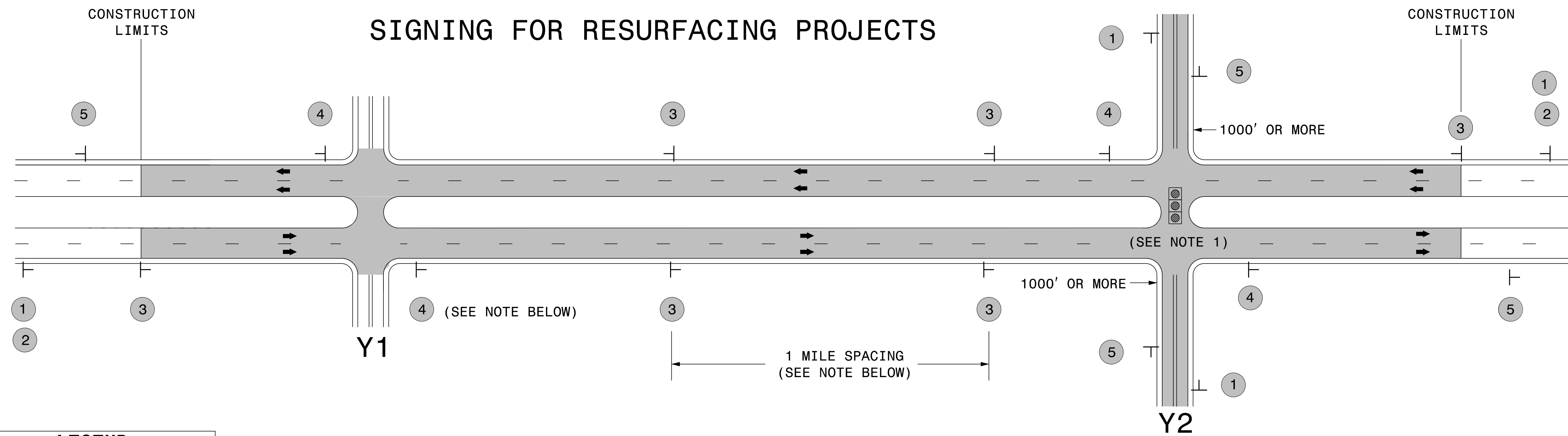
- 1) 48" x 48" SIZED SIGNS (SP- 11299) MAY BE REDUCED TO 36" X 36" ON ROADWAYS WITH SPEED LIMITS OF 40 MPH OR LESS.
- 2) MOUNT SIGNS THAT ARE LARGER THAN 10 SQUARE FEET IN AREA ON TWO OR MORE WOOD OR U-CHANNEL SUPPORTS. PERFORATED SQUARE TUBING SUPPORT SYSTEMS MAY SUPPORT LARGER AREAS ON A SINGLE SUPPORT. 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**

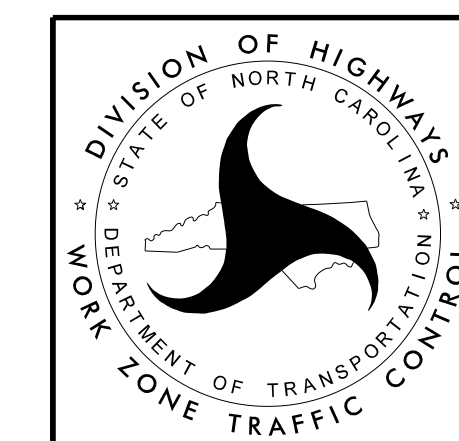


| LEGEND |                           |
|--------|---------------------------|
| ┆      | STATIONARY SIGN           |
| ←      | DIRECTION OF TRAFFIC FLOW |

### MAINLINE (-L-) SIGNING

### -Y- LINE SIGNING

|   |      |  |  |
|---|------|--|--|
| SIGNING NOTES AND PLACEMENT PER DIRECTION | <br> | <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><b>NO REQUIRED STATIONARY SIGNING FOR THE FOLLOWING -Y- LINE CONDITIONS:</b></p> <ol style="list-style-type: none"> <li>1) LESS THAN 1000' OF RESURFACING ALONG -Y- LINE</li> <li>2) SUBDIVISION ROADS</li> <li>3) DEAD END ROADS</li> </ol> <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;"> <br/> <small>W20-1<br/>48" X 48"</small> </div> <div style="text-align: center;"> <br/> <small>W20-7 A<br/>48" X 48"</small> </div> </div> <p>PLACED 500' IN ADVANCE OF FLAGGER. PLACED 250' IN ADVANCE OF FLAGGER.</p> <p><b>NOTES:</b></p> <ol style="list-style-type: none"> <li>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.</li> </ol> |
|   |      | <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>   |  |
|   |      | <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> |  |
|   |      | <p>PLACE 500' FOLLOWING THE END OF CONSTRUCTION LIMITS.</p>  |  |



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



### GUIDELINES FOR LANE WIDTHS ON RESURFACING PROJECTS

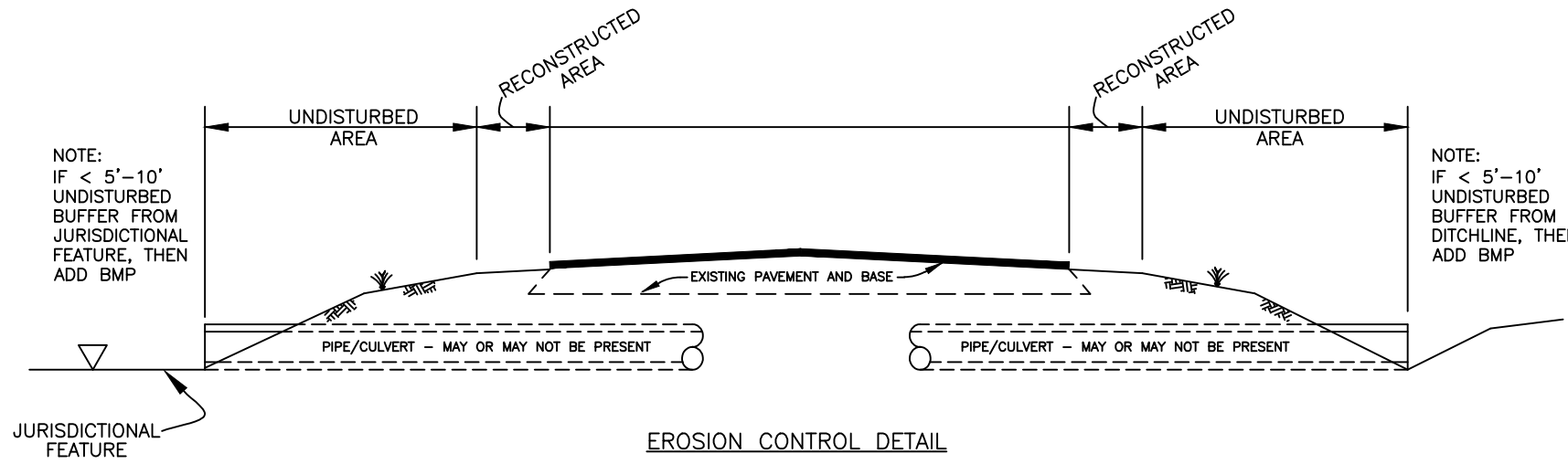
Contractor shall place the new pavement markings in accordance with this table and detail unless otherwise directed by the Engineer.

| TWO LANE - TWO WAY ROADWAY - 55 MPH |            |                |
|-------------------------------------|------------|----------------|
| ROADWAY WIDTH                       | LANE WIDTH | SHOULDER WIDTH |
| 18'                                 | 9' *       | 0'             |
| 20'                                 | 10' *      | 0'             |
| 22'                                 | 10'        | 1'             |
| 24'                                 | 10'        | 2'             |
| 26'                                 | 11'        | 2'             |
| 28'                                 | 12'        | 2'             |
| 32'                                 | 12'        | 4'             |

\* May vary due to pavement width

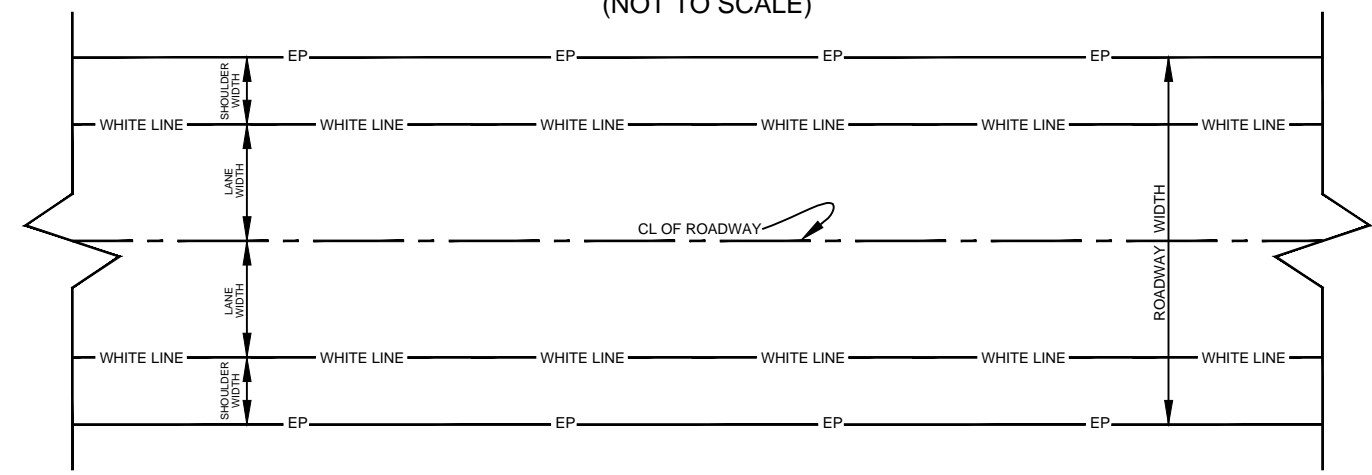
| TWO LANE - TWO WAY ROADWAY<br>50 MPH OR LESS |            |                |
|--|------------|----------------|
| ROADWAY WIDTH                                | LANE WIDTH | SHOULDER WIDTH |
| 18'  | 9' *       | 0'             |
| 20'  | 10' *      | 0'             |
| 22'  | 10'        | 1'             |
| 24'  | 10'        | 2'             |
| 26'  | 11'        | 2'             |
| 28'  | 11'        | 3'             |
| 32'  | 11'        | 5'             |

\* May vary due to pavement width



- NOTES:**
- IF A 5'-10' VEGETATED, UNDISTURBED BUFFER FROM ROW, DITCHLINE, WATER FEATURE OR DRAINAGE INLET CAN BE MAINTAINED, THEN NO BMP'S NEEDED.
  - IF < 5'-10' UNDISTURBED BUFFER FROM ROW, DITCHLINE, WATER FEATURE OR DRAINAGE INLET, THEN ADD BMP'S.
  - BMP OPTIONS:
    - MATting MAY BE APPLIED AS SHOWN IN NCDOT STD. DWG. 1631.01 TO ESTABLISH BUFFER.
    - IF MATting IS NOT PRACTICAL, OR THERE IS NOT ENOUGH SHOULDER WIDTH, THEN INSTALL TEMPORARY SILT FENCE AS SHOWN IN NCDOT STD. DWG. 1605.01, AND WATTLES WITH POLYACRYLAMIDE (PAM).

### SCHEMATIC OF ROADWAY (NOT TO SCALE)



|   |           |
|---|-----------|
| PROJECT NO.                                 | SHEET NO. |
| 2017CPT.06.06.10261.1, 2017CPT.06.0620261.1 |           |
|   |           |

## SUMMARY OF QUANTITIES

| PROJECT   | COUNTY     | MAP | ROUTE     | DESCRIPTION  | TYP | LANES | LANE TYPE | FINAL SURFACE TESTING REQUIRED | WARM MIX ASPHALT REQUIRED | LENGTH       | WIDTH | ASB          | 0" TO 1.5" MILLING | INCIDENTAL MILLING | BASE COURSE, B25.0B | SURFACE COURSE, S9.5B | SURFACE COURSE, S9.5C |
|---|------------|-----|-----------|--|-----|-------|-----------|--------------------------------|---------------------------|--------------|-------|--------------|--------------------|--------------------|---------------------|-----------------------|-----------------------|
| NO  |            | NO  |           |  | NO  |       |           |                                |                           | MI           | FT    | TON          | SY                 | SY                 | TONS                | TONS                  | TONS                  |
| 2017CPT.06.06.10261.1                           | Cumberland | 1   | NC HWY 87 | FROM SR 2233 TO BLADEN COUNTY                            | 1   | 4     | MD        | NO                             | NO                        | 3            | 60    | 780          |                    | 764                |                     | 10,761                |                       |
| <b>TOTAL FOR MAP NO. 1</b>                      |            |     |           |  |     |       |           |                                |                           | <b>3</b>     |       | <b>780</b>   |                    | <b>764</b>         |                     | <b>10,761</b>         |                       |
| <b>TOTAL FOR PROJ NO. 2017CPT.06.06.10261.1</b> |            |     |           |  |     |       |           |                                |                           | <b>3</b>     |       | <b>780</b>   |                    | <b>764</b>         |                     | <b>10,761</b>         |                       |
| 2017CPT.06.0620261.1                            | Cumberland | 2   | SR 1102   | FROM: HOKE COUNTY MP 0.00 TO: US 401 MP 1.77             | 2   | 2     | 2WU       | NO                             | NO                        | 1.77         | 28    | 230          | 1,760              | 208                |                     | 2,882                 |                       |
| <b>TOTAL FOR MAP NO. 2</b>                      |            |     |           |  |     |       |           |                                |                           | <b>1.77</b>  |       | <b>230</b>   | <b>1,760</b>       | <b>208</b>         |                     | <b>2,882</b>          |                       |
| 2017CPT.06.0620261.1                            | Cumberland | 3   | SR 1115   | FROM SR 1112 MP 0.45 TO SR 1116 MP 3.54                  | 3   | 2     | 2WU       | NO                             | NO                        | 3.09         | 23    | 401          |                    | 1,250              |                     |                       | 3,999                 |
| <b>TOTAL FOR MAP NO. 3</b>                      |            |     |           |  |     |       |           |                                |                           | <b>3.09</b>  |       | <b>401</b>   |                    | <b>1,250</b>       |                     |                       | <b>3,999</b>          |
| 2017CPT.06.0620261.1                            | Cumberland | 4   | SR 1118   | FROM NC HWY 59 MP 0.00 TO SR 1122 MP 1.23                | 5   | 2     | 2WU       | NO                             | NO                        | 1.23         | 26    | 160          |                    | 625                | 823                 |                       | 1,689                 |
| <b>TOTAL FOR MAP NO. 4</b>                      |            |     |           |  |     |       |           |                                |                           | <b>1.23</b>  |       | <b>160</b>   |                    | <b>625</b>         | <b>823</b>          |                       | <b>1,689</b>          |
| 2017CPT.06.0620261.1                            | Cumberland | 5   | SR 1119   | FROM SR 1117 MP .000 TO SR 1118 MP 2.48                  | 2   | 2     | 2WU       | NO                             | NO                        | 2.48         | 20    | 322          |                    | 625                |                     | 2,558                 |                       |
| <b>TOTAL FOR MAP NO. 5</b>                      |            |     |           |  |     |       |           |                                |                           | <b>2.48</b>  |       | <b>322</b>   |                    | <b>625</b>         |                     | <b>2,558</b>          |                       |
| 2017CPT.06.0620261.1                            | Cumberland | 6   | SR 3569A  | FROM US HWY 401 MP 0.00 TO LAKE PARKING ENTRANCE MP 0.87 | 3   | 2     | 2WU       | NO                             | NO                        | 0.87         | 29    | 113          |                    | 278                |                     |                       | 1,466                 |
| <b>TOTAL FOR MAP NO. 6</b>                      |            |     |           |  |     |       |           |                                |                           | <b>0.87</b>  |       | <b>113</b>   |                    | <b>278</b>         |                     |                       | <b>1,466</b>          |
| 2017CPT.06.0620261.1                            | Cumberland | 7   | SR 3569B  | FROM SR 1403 MP 1.33 TO BEGIN CURB & GUTTER MP 1.57      | 3   | 2     | 2WU       | NO                             | NO                        | 0.24         | 29    | 31           |                    | 69                 |                     |                       | 392                   |
| <b>TOTAL FOR MAP NO. 7</b>                      |            |     |           |  |     |       |           |                                |                           | <b>0.24</b>  |       | <b>31</b>    |                    | <b>69</b>          |                     |                       | <b>392</b>            |
| 2017CPT.06.0620261.1                            | Cumberland | 8   | SR 3569C  | FROM BEGIN CURB & GUTTER MP 1.57 TO US-401 HWY MP 2.02   | 4   | 2     | 2WU       | NO                             | NO                        | 0.45         | 29    | 30           | 2,640              | 69                 |                     |                       | 934                   |
| <b>TOTAL FOR MAP NO. 8</b>                      |            |     |           |  |     |       |           |                                |                           | <b>0.45</b>  |       | <b>30</b>    | <b>2,640</b>       | <b>69</b>          |                     |                       | <b>934</b>            |
| <b>TOTAL FOR PROJ NO. 2017CPT.06.0620261.1</b>  |            |     |           |  |     |       |           |                                |                           | <b>10.13</b> |       | <b>1,287</b> | <b>4,400</b>       | <b>3,124</b>       | <b>823</b>          | <b>5,440</b>          | <b>8,480</b>          |
| <b>GRAND TOTAL</b>                              |            |     |           |  |     |       |           |                                |                           | <b>13.13</b> |       | <b>2,067</b> | <b>4,400</b>       | <b>3,888</b>       | <b>823</b>          | <b>16,201</b>         | <b>8,480</b>          |

| PROJECT   | COUNTY     | MAP | ROUTE     | DESCRIPTION  | TYP | LANES | LANE TYPE | FINAL SURFACE TESTING REQUIRED | WARM MIX ASPHALT REQUIRED | LENGTH       | WIDTH | PATCHING EXISTING PAVEMENT | ADJ. OF MANHOLES | ADJ. OF METER OR VALVE BOX | JUNCTION BOX (STANDARD SIZE) | JUNCTION BOX (OVERSIZED, HEAVY DUTY) | INDUCTIVE LOOP SAWCUT |
|---|------------|-----|-----------|--|-----|-------|-----------|--------------------------------|---------------------------|--------------|-------|----------------------------|------------------|----------------------------|------------------------------|--------------------------------------|-----------------------|
| NO  |            | NO  |           |  | NO  |       |           |                                |                           | MI           | FT    | TONS                       | EA               | EA                         | EA                           | EA                                   | LF                    |
| 2017CPT.06.06.10261.1                           | Cumberland | 1   | NC HWY 87 | FROM SR 2233 TO BLADEN COUNTY                            | 1   | 4     | MD        | NO                             | NO                        | 3            | 60    |                            |                  |                            |                              |                                      |                       |
| <b>TOTAL FOR MAP NO. 1</b>                      |            |     |           |  |     |       |           |                                |                           | <b>3</b>     |       |                            |                  |                            |                              |                                      |                       |
| <b>TOTAL FOR PROJ NO. 2017CPT.06.06.10261.1</b> |            |     |           |  |     |       |           |                                |                           | <b>3</b>     |       |                            |                  |                            |                              |                                      |                       |
| 2017CPT.06.0620261.1                            | Cumberland | 2   | SR 1102   | FROM: HOKE COUNTY MP 0.00 TO: US 401 MP 1.77             | 2   | 2     | 2WU       | NO                             | NO                        | 1.77         | 28    |                            | 1                | 4                          |                              |                                      |                       |
| <b>TOTAL FOR MAP NO. 2</b>                      |            |     |           |  |     |       |           |                                |                           | <b>1.77</b>  |       |                            | <b>1</b>         | <b>4</b>                   |                              |                                      |                       |
| 2017CPT.06.0620261.1                            | Cumberland | 3   | SR 1115   | FROM SR 1112 MP 0.45 TO SR 1116 MP 3.54                  | 3   | 2     | 2WU       | NO                             | NO                        | 3.09         | 23    | 1                          | 2                | 2                          | 2.00                         | 1.00                                 | 850.00                |
| <b>TOTAL FOR MAP NO. 3</b>                      |            |     |           |  |     |       |           |                                |                           | <b>3.09</b>  |       | <b>1</b>                   | <b>2</b>         | <b>2</b>                   | <b>2.00</b>                  | <b>1.00</b>                          | <b>850.00</b>         |
| 2017CPT.06.0620261.1                            | Cumberland | 4   | SR 1118   | FROM NC HWY 59 MP 0.00 TO SR 1122 MP 1.23                | 5   | 2     | 2WU       | NO                             | NO                        | 1.23         | 26    |                            |                  |                            | 2.00                         | 1.00                                 | 400.00                |
| <b>TOTAL FOR MAP NO. 4</b>                      |            |     |           |  |     |       |           |                                |                           | <b>1.23</b>  |       |                            |                  |                            | <b>2.00</b>                  | <b>1.00</b>                          | <b>400.00</b>         |
| 2017CPT.06.0620261.1                            | Cumberland | 5   | SR 1119   | FROM SR 1117 MP .000 TO SR 1118 MP 2.48                  | 2   | 2     | 2WU       | NO                             | NO                        | 2.48         | 20    | 1                          |                  | 2                          |                              |                                      |                       |
| <b>TOTAL FOR MAP NO. 5</b>                      |            |     |           |  |     |       |           |                                |                           | <b>2.48</b>  |       | <b>1</b>                   |                  | <b>2</b>                   |                              |                                      |                       |
| 2017CPT.06.0620261.1                            | Cumberland | 6   | SR 3569A  | FROM US HWY 401 MP 0.00 TO LAKE PARKING ENTRANCE MP 0.87 | 3   | 2     | 2WU       | NO                             | NO                        | 0.87         | 29    | 1                          |                  | 1                          |                              |                                      |                       |
| <b>TOTAL FOR MAP NO. 6</b>                      |            |     |           |  |     |       |           |                                |                           | <b>0.87</b>  |       | <b>1</b>                   |                  | <b>1</b>                   |                              |                                      |                       |
| 2017CPT.06.0620261.1                            | Cumberland | 7   | SR 3569B  | FROM SR 1403 MP 1.33 TO BEGIN CURB & GUTTER MP 1.57      | 3   | 2     | 2WU       | NO                             | NO                        | 0.24         | 29    |                            | 1                |                            |                              |                                      |                       |
| <b>TOTAL FOR MAP NO. 7</b>                      |            |     |           |  |     |       |           |                                |                           | <b>0.24</b>  |       |                            | <b>1</b>         |                            |                              |                                      |                       |
| 2017CPT.06.0620261.1                            | Cumberland | 8   | SR 3569C  | FROM BEGIN CURB & GUTTER MP 1.57 TO US-401 HWY MP 2.02   | 4   | 2     | 2WU       | NO                             | NO                        | 0.45         | 29    |                            | 1                |                            |                              |                                      |                       |
| <b>TOTAL FOR MAP NO. 8</b>                      |            |     |           |  |     |       |           |                                |                           | <b>0.45</b>  |       |                            | <b>1</b>         |                            |                              |                                      |                       |
| <b>TOTAL FOR PROJ NO. 2017CPT.06.0620261.1</b>  |            |     |           |  |     |       |           |                                |                           | <b>10.13</b> |       | <b>3</b>                   | <b>5</b>         | <b>9</b>                   | <b>4.00</b>                  | <b>2.00</b>                          | <b>1,250.00</b>       |
| <b>GRAND TOTAL</b>                              |            |     |           |  |     |       |           |                                |                           | <b>13.13</b> |       | <b>3</b>                   | <b>5</b>         | <b>9</b>                   | <b>4.00</b>                  | <b>2.00</b>                          | <b>1,250.00</b>       |

|   |           |           |
|---|-----------|-----------|
| PROJECT NO.                                 | SHEET NO. | TOTAL NO. |
| 2017CPT.06.06.10261.1, 2017CPT.06.0620261.1 |           |           |

**THERMOPLASTIC AND PAINT QUANTITIES**

| PROJECT   | COUNTY     | MAP | ROUTE     | DESCRIPTION  | TYP | LANES | LANE TYPE | LENGTH       | WIDTH | 441300000-E                               | 445700000-N               | 468500000-E            | 468600000-E             |                          |                        | 469500000-E              | 470000000-E              | 471000000-E           | 472100000-E |            |          |
|---|------------|-----|-----------|--|-----|-------|-----------|--------------|-------|---|---------------------------|------------------------|-------------------------|--------------------------|------------------------|--------------------------|--------------------------|-----------------------|-------------|------------|----------|
|   |            |     |           |  |     |       |           |              |       | WORK ZONE ADVANCE/GENERAL WARNING SIGNING | TEMPORARY TRAFFIC CONTROL | 4" X 90 M WHITE THERMO | 4" X 120 M WHITE THERMO | 4" X 120 M YELLOW THERMO | 8" X 90 M WHITE THERMO | 12" X 90 M YELLOW THERMO | 24" X 120 M WHITE THERMO | THERMO MSG ONLY 120 M |             |            |          |
| NO  |            | NO  |           |  | NO  |       |           |              |       | SF  | LS                        | LF                     | LF                      | LF                       | LF                     | LF                       | LF                       | LF                    | EA          |            |          |
| 2017CPT.06.06.10261.1                           | Cumberland | 1   | NC HWY 87 | FROM SR 2233 TO BLADEN COUNTY                            | 1   | 4     | MD        | 3            | 60    | 1,807                                     | 1.00                      | 31,680                 | 12,494                  | 31,680                   | 1,667                  |                          |                          | 437                   |             |            |          |
| <b>TOTAL FOR MAP NO. 1</b>                      |            |     |           |  |     |       |           | <b>3</b>     |       | <b>1,807</b>                              | <b>1</b>                  | <b>31,680</b>          | <b>12,494</b>           | <b>31,680</b>            | <b>1,667</b>           |                          |                          | <b>437</b>            |             |            |          |
| <b>TOTAL FOR PROJ NO. 2017CPT.06.06.10261.1</b> |            |     |           |  |     |       |           | <b>3</b>     |       | <b>1,807</b>                              | <b>1</b>                  | <b>31,680</b>          | <b>12,494</b>           | <b>31,680</b>            | <b>1,667</b>           |                          |                          | <b>437</b>            |             |            |          |
|   |            |     |           |  |     |       |           |              |       |   |                           |                        | <b>44,174</b>           |                          |                        |                          |                          |                       |             |            |          |
| 2017CPT.06.0620261.1                            | Cumberland | 2   | SR 1102   | FROM: HOKE COUNTY MP 0.00 TO: US 401 MP 1.77             | 2   | 2     | 2WU       | 1.77         | 28    |   |                           | 19,622                 | 1,343                   | 18,387                   | 280                    | 140                      | 255                      | 8                     |             |            |          |
| <b>TOTAL FOR MAP NO. 2</b>                      |            |     |           |  |     |       |           | <b>1.77</b>  |       |   |                           | <b>19,622</b>          | <b>1,343</b>            | <b>18,387</b>            | <b>280</b>             | <b>140</b>               | <b>255</b>               | <b>8</b>              |             |            |          |
| 2017CPT.06.0620261.1                            | Cumberland | 3   | SR 1115   | FROM SR 1112 MP 0.45 TO SR 1116 MP 3.54                  | 3   | 2     | 2WU       | 3.09         | 23    |   |                           | 32,495                 | 1,287                   | 24,084                   |                        | 531                      | 26                       |                       |             |            |          |
| <b>TOTAL FOR MAP NO. 3</b>                      |            |     |           |  |     |       |           | <b>3.09</b>  |       |   |                           | <b>32,495</b>          | <b>1,287</b>            | <b>24,084</b>            |                        | <b>531</b>               | <b>26</b>                |                       |             |            |          |
| 2017CPT.06.0620261.1                            | Cumberland | 4   | SR 1118   | FROM NC HWY 59 MP 0.00 TO SR 1122 MP 1.23                | 5   | 2     | 2WU       | 1.23         | 26    |   |                           |                        |                         |                          |                        |                          | 30                       |                       |             |            |          |
| <b>TOTAL FOR MAP NO. 4</b>                      |            |     |           |  |     |       |           | <b>1.23</b>  |       |   |                           |                        |                         |                          |                        |                          | <b>30</b>                |                       |             |            |          |
| 2017CPT.06.0620261.1                            | Cumberland | 5   | SR 1119   | FROM SR 1117 MP .000 TO SR 1118 MP 2.48                  | 2   | 2     | 2WU       | 2.48         | 20    |   |                           |                        |                         |                          |                        |                          |                          |                       |             |            |          |
| <b>TOTAL FOR MAP NO. 5</b>                      |            |     |           |  |     |       |           | <b>2.48</b>  |       |   |                           |                        |                         |                          |                        |                          |                          |                       |             |            |          |
| 2017CPT.06.0620261.1                            | Cumberland | 6   | SR 3569A  | FROM US HWY 401 MP 0.00 TO LAKE PARKING ENTRANCE MP 0.87 | 3   | 2     | 2WU       | 0.87         | 29    |   |                           | 9,188                  | 678                     | 9,549                    |                        | 185                      | 140                      |                       |             |            |          |
| <b>TOTAL FOR MAP NO. 6</b>                      |            |     |           |  |     |       |           | <b>0.87</b>  |       |   |                           | <b>9,188</b>           | <b>678</b>              | <b>9,549</b>             |                        | <b>185</b>               | <b>140</b>               |                       |             |            |          |
| 2017CPT.06.0620261.1                            | Cumberland | 7   | SR 3569B  | FROM SR 1403 MP 1.33 TO BEGIN CURB & GUTTER MP 1.57      | 3   | 2     | 2WU       | 0.24         | 29    |   |                           | 2,535                  | 200                     | 2,535                    |                        |                          | 40                       |                       |             |            |          |
| <b>TOTAL FOR MAP NO. 7</b>                      |            |     |           |  |     |       |           | <b>0.24</b>  |       |   |                           | <b>2,535</b>           | <b>200</b>              | <b>2,535</b>             |                        |                          | <b>40</b>                |                       |             |            |          |
| 2017CPT.06.0620261.1                            | Cumberland | 8   | SR 3569C  | FROM BEGIN CURB & GUTTER MP 1.57 TO US-401 HWY MP 2.02   | 4   | 2     | 2WU       | 0.45         | 29    |   |                           | 4,720                  | 900                     | 6,281                    |                        | 140                      | 40                       |                       |             |            |          |
| <b>TOTAL FOR MAP NO. 8</b>                      |            |     |           |  |     |       |           | <b>0.45</b>  |       |   |                           | <b>4,720</b>           | <b>900</b>              | <b>6,281</b>             |                        | <b>140</b>               | <b>40</b>                |                       |             |            |          |
| <b>TOTAL FOR PROJ NO. 2017CPT.06.0620261.1</b>  |            |     |           |  |     |       |           | <b>10.13</b> |       |   |                           | <b>68,560</b>          | <b>4,408</b>            | <b>60,836</b>            | <b>280</b>             | <b>996</b>               | <b>531</b>               | <b>8</b>              |             |            |          |
|   |            |     |           |  |     |       |           |              |       |   |                           |                        | <b>65,244</b>           |                          |                        |                          |                          |                       |             |            |          |
| <b>GRAND TOTAL</b>                              |            |     |           |  |     |       |           |              |       |   | <b>13.13</b>              |                        | <b>1,807</b>            | <b>1</b>                 | <b>100,240</b>         | <b>16,902</b>            | <b>92,516</b>            | <b>1,947</b>          | <b>996</b>  | <b>968</b> | <b>8</b> |
|   |            |     |           |  |     |       |           |              |       |   |                           |                        | <b>109,418</b>          |                          |                        |                          |                          |                       |             |            |          |

| PROJECT   | COUNTY     | MAP | ROUTE     | DESCRIPTION  | TYP | LANES | LANE TYPE | LENGTH       | WIDTH | 472500000-E          |                      |                       |                            |                            | 481000000-E    |                 | 490000000-N           |                         | 490500000-N                                   |   |            |           |            |
|---|------------|-----|-----------|--|-----|-------|-----------|--------------|-------|----------------------|----------------------|-----------------------|----------------------------|----------------------------|----------------|-----------------|-----------------------|-------------------------|---|---|------------|-----------|------------|
|   |            |     |           |  |     |       |           |              |       | THERMO LT ARROW 90 M | THERMO RT ARROW 90 M | THERMO STR ARROW 90 M | THERMO STR & RT ARROW 90 M | THERMO STR & LT ARROW 90 M | 4" WHITE PAINT | 4" YELLOW PAINT | CRYSTAL & RED MARKERS | YELLOW & YELLOW MARKERS | SNOWPLOWABLE PAVEMENT MARKERS (CRYSTAL & RED) | SNOWPLOWABLE PAVEMENT MARKERS (YELLOW & YELLOW) |            |           |            |
| NO  |            | NO  |           |  | NO  |       |           |              |       | EA                   | EA                   | EA                    | EA                         | EA                         | LF             | LF              | EA                    | EA                      | EA  | EA  |            |           |            |
| 2017CPT.06.06.10261.1                           | Cumberland | 1   | NC HWY 87 | FROM SR 2233 TO BLADEN COUNTY                            | 1   | 4     | MD        | 3            | 60    | 40                   | 14                   | 49                    |                            |                            |                |                 | 815                   |                         | EA  | EA  |            |           |            |
| <b>TOTAL FOR MAP NO. 1</b>                      |            |     |           |  |     |       |           | <b>3</b>     |       | <b>40</b>            | <b>14</b>            | <b>49</b>             |                            |                            |                |                 | <b>815</b>            |                         |   |   |            |           |            |
| <b>TOTAL FOR PROJ NO. 2017CPT.06.06.10261.1</b> |            |     |           |  |     |       |           | <b>3</b>     |       | <b>40</b>            | <b>14</b>            | <b>49</b>             |                            |                            |                |                 | <b>815</b>            |                         |   |   |            |           |            |
|   |            |     |           |  |     |       |           |              |       |                      | <b>103</b>           |                       |                            |                            |                |                 |                       |                         |   |   |            |           |            |
| 2017CPT.06.0620261.1                            | Cumberland | 2   | SR 1102   | FROM: HOKE COUNTY MP 0.00 TO: US 401 MP 1.77             | 2   | 2     | 2WU       | 1.77         | 28    | 8                    | 6                    | 5                     | 3                          |                            |                |                 |                       |                         | 37  | 135   |            |           |            |
| <b>TOTAL FOR MAP NO. 2</b>                      |            |     |           |  |     |       |           | <b>1.77</b>  |       | <b>8</b>             | <b>6</b>             | <b>5</b>              | <b>3</b>                   |                            |                |                 |                       |                         | <b>37</b>                                     | <b>135</b>                                      |            |           |            |
| 2017CPT.06.0620261.1                            | Cumberland | 3   | SR 1115   | FROM SR 1112 MP 0.45 TO SR 1116 MP 3.54                  | 3   | 2     | 2WU       | 3.09         | 23    | 10                   | 6                    |                       | 1                          |                            |                |                 | 18                    | 84                      | 19  | 229   |            |           |            |
| <b>TOTAL FOR MAP NO. 3</b>                      |            |     |           |  |     |       |           | <b>3.09</b>  |       | <b>10</b>            | <b>6</b>             |                       | <b>1</b>                   |                            |                |                 | <b>18</b>             | <b>84</b>               | <b>19</b>                                     | <b>229</b>                                      |            |           |            |
| 2017CPT.06.0620261.1                            | Cumberland | 4   | SR 1118   | FROM NC HWY 59 MP 0.00 TO SR 1122 MP 1.23                | 5   | 2     | 2WU       | 1.23         | 26    |                      |                      |                       |                            |                            | 25,979         | 18,567          |                       | 8                       |   |   |            |           |            |
| <b>TOTAL FOR MAP NO. 4</b>                      |            |     |           |  |     |       |           | <b>1.23</b>  |       |                      |                      |                       |                            |                            | <b>25,979</b>  | <b>18,567</b>   |                       | <b>8</b>                |   |   |            |           |            |
| 2017CPT.06.0620261.1                            | Cumberland | 5   | SR 1119   | FROM SR 1117 MP .000 TO SR 1118 MP 2.48                  | 2   | 2     | 2WU       | 2.48         | 20    |                      |                      |                       |                            |                            | 52,378         | 44,528          |                       |                         |   |   |            |           |            |
| <b>TOTAL FOR MAP NO. 5</b>                      |            |     |           |  |     |       |           | <b>2.48</b>  |       |                      |                      |                       |                            |                            | <b>52,378</b>  | <b>44,528</b>   |                       |                         |   |   |            |           |            |
| 2017CPT.06.0620261.1                            | Cumberland | 6   | SR 3569A  | FROM US HWY 401 MP 0.00 TO LAKE PARKING ENTRANCE MP 0.87 | 3   | 2     | 2WU       | 0.87         | 29    | 5                    | 5                    |                       | 4                          | 2                          |                |                 | 31                    | 132                     |   |   |            |           |            |
| <b>TOTAL FOR MAP NO. 6</b>                      |            |     |           |  |     |       |           | <b>0.87</b>  |       | <b>5</b>             | <b>5</b>             |                       | <b>4</b>                   | <b>2</b>                   |                |                 | <b>31</b>             | <b>132</b>              |   |   |            |           |            |
| 2017CPT.06.0620261.1                            | Cumberland | 7   | SR 3569B  | FROM SR 1403 MP 1.33 TO BEGIN CURB & GUTTER MP 1.57      | 3   | 2     | 2WU       | 0.24         | 29    | 1                    | 1                    |                       |                            |                            |                |                 |                       | 10                      | 27  |   |            |           |            |
| <b>TOTAL FOR MAP NO. 7</b>                      |            |     |           |  |     |       |           | <b>0.24</b>  |       | <b>1</b>             | <b>1</b>             |                       |                            |                            |                |                 |                       | <b>10</b>               | <b>27</b>                                     |   |            |           |            |
| 2017CPT.06.0620261.1                            | Cumberland | 8   | SR 3569C  | FROM BEGIN CURB & GUTTER MP 1.57 TO US-401 HWY MP 2.02   | 4   | 2     | 2WU       | 0.45         | 29    | 6                    | 6                    |                       |                            | 2                          |                |                 |                       | 20                      | 50  |   |            |           |            |
| <b>TOTAL FOR MAP NO. 8</b>                      |            |     |           |  |     |       |           | <b>0.45</b>  |       | <b>6</b>             | <b>6</b>             |                       |                            | <b>2</b>                   |                |                 |                       | <b>20</b>               | <b>50</b>                                     |   |            |           |            |
| <b>TOTAL FOR PROJ NO. 2017CPT.06.0620261.1</b>  |            |     |           |  |     |       |           | <b>10.13</b> |       | <b>30</b>            | <b>24</b>            | <b>5</b>              | <b>7</b>                   | <b>5</b>                   | <b>78,357</b>  | <b>63,095</b>   | <b>49</b>             | <b>224</b>              | <b>86</b>                                     | <b>441</b>                                      |            |           |            |
|   |            |     |           |  |     |       |           |              |       |                      | <b>71</b>            |                       | <b>141,452</b>             |                            | <b>273</b>     |                 | <b>527</b>            |                         |   |   |            |           |            |
| <b>GRAND TOTAL</b>                              |            |     |           |  |     |       |           |              |       |                      | <b>13.13</b>         |                       | <b>70</b>                  | <b>38</b>                  | <b>54</b>      | <b>7</b>        | <b>5</b>              | <b>78,357</b>           | <b>63,095</b>                                 | <b>864</b>                                      | <b>224</b> | <b>86</b> | <b>441</b> |
|   |            |     |           |  |     |       |           |              |       |                      |                      |                       | <b>174</b>                 |                            | <b>141,452</b> |                 | <b>1,088</b>          |                         | <b>527</b>                                    |   |            |           |            |