STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
HIGHWAY DIVISION 6

# PLANS

## May 8, 2017

| | |
|---|---|
| **CONTRACT ID:** | **DF00165** |
| **WBS ELEMENT NO.:** | **2017CPT.06.16.10261.1 & 2017CPT.06.16.20261.1** |
| **FEDERAL AID NO.:** | **STATE FUNDED** |
| **COUNTY:** | **CUMBERLAND** |
| **TIP NO.:** | **---------** |
| **LENGTH OF PROJECT:** | **15.940 MILES** |
| **ROUTE NO.:** | **NC 295, NC 87 & VARIOUS SR** |
| **TYPE OF WORK:** | **RESURFACING, MILLING, WIDENING & PAVEMENT MARKINGS** |

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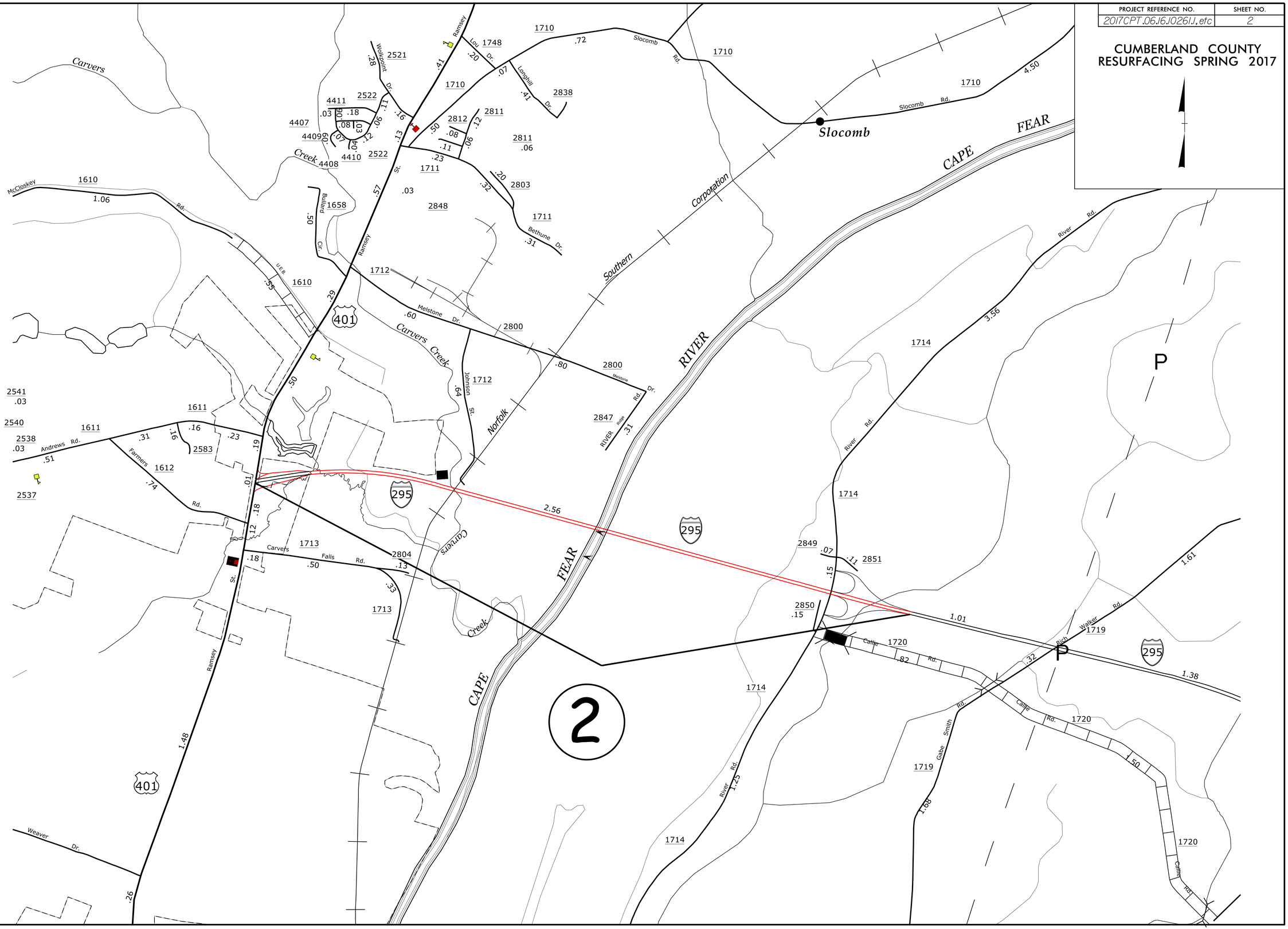
PROJECT REFERENCE NO.
2017CPT.06.16.10261.1,etc
SHEET NO.
1
CUMBERLAND COUNTY
RESURFACING SPRING 2017
Grays Creek
Rockfish
Creek
Sherwood Ch.
Gray's Creek Ch.
Cape Fear Ch.
Tabor Ch.
Lena
CAPE FEAR RIVER
1
10
P
87
Doc Bennett Rd.
Tom Starling Rd.
Smith Rd.
Hill Rd.
Gainey Rd.
Butler Nursery Rd.
McFayden Rd.
Nash Rd.
Blossom Rd.
Canadian Ave.
Beauchamp Dr.
Kirk Shaw Rd.
Church Rd.
Mat Hair Rd.
Tabor Church Rd.
Dudley Rd.
Mill Creek Rd.
Weldon Rd.
Posten Ct.
Tracy Hall Rd.
REVISIONS

| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| 2017CPT.06.J6.0261.1,etc | 2 |

# CUMBERLAND COUNTY RESURFACING SPRING 2017




REVISIONS

8/17/99

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Author: A1FCAMPBELL

| PROJECT REFERENCE NO. | SHEET NO. |
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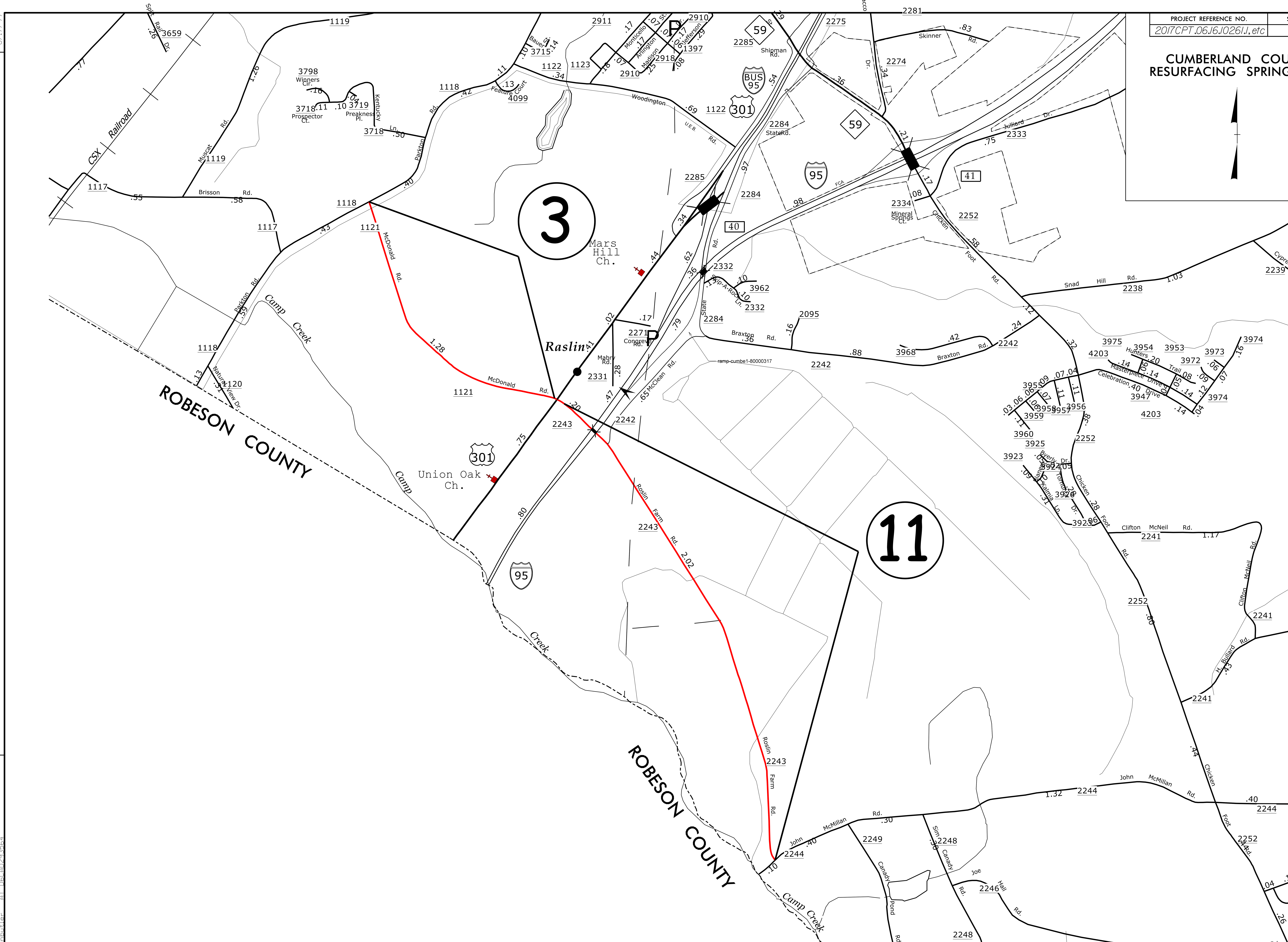
| 2017CPT.06.16.10261.1, etc | 3 |

# CUMBERLAND COUNTY RESURFACING SPRING 2017




REVISIONS

8/17/99

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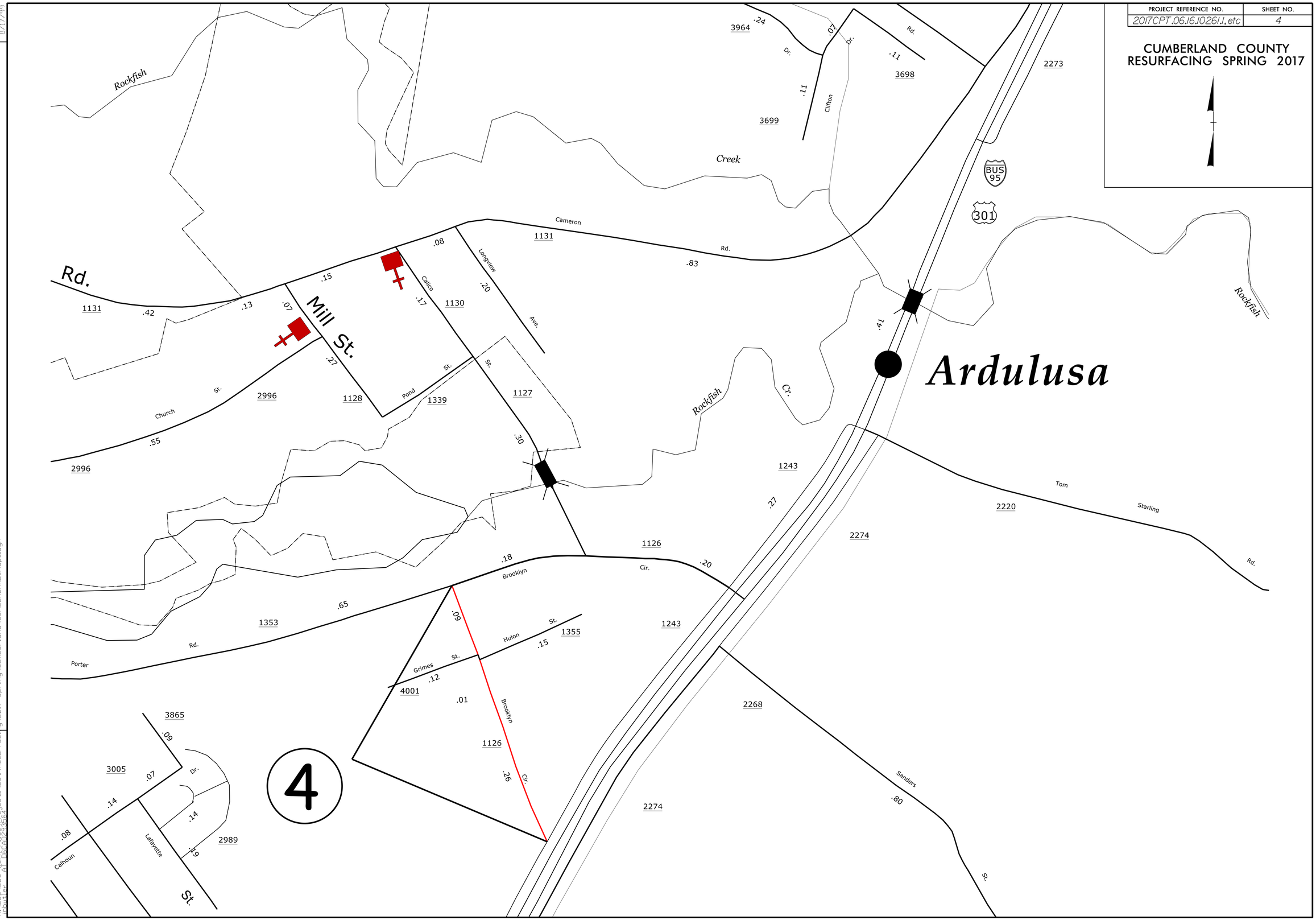
# CUMBERLAND COUNTY RESURFACING SPRING 2017




REVISIONS

8/17/99

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Porter, Alfred 28364

| PROJECT REFERENCE NO. | SHEET NO. |
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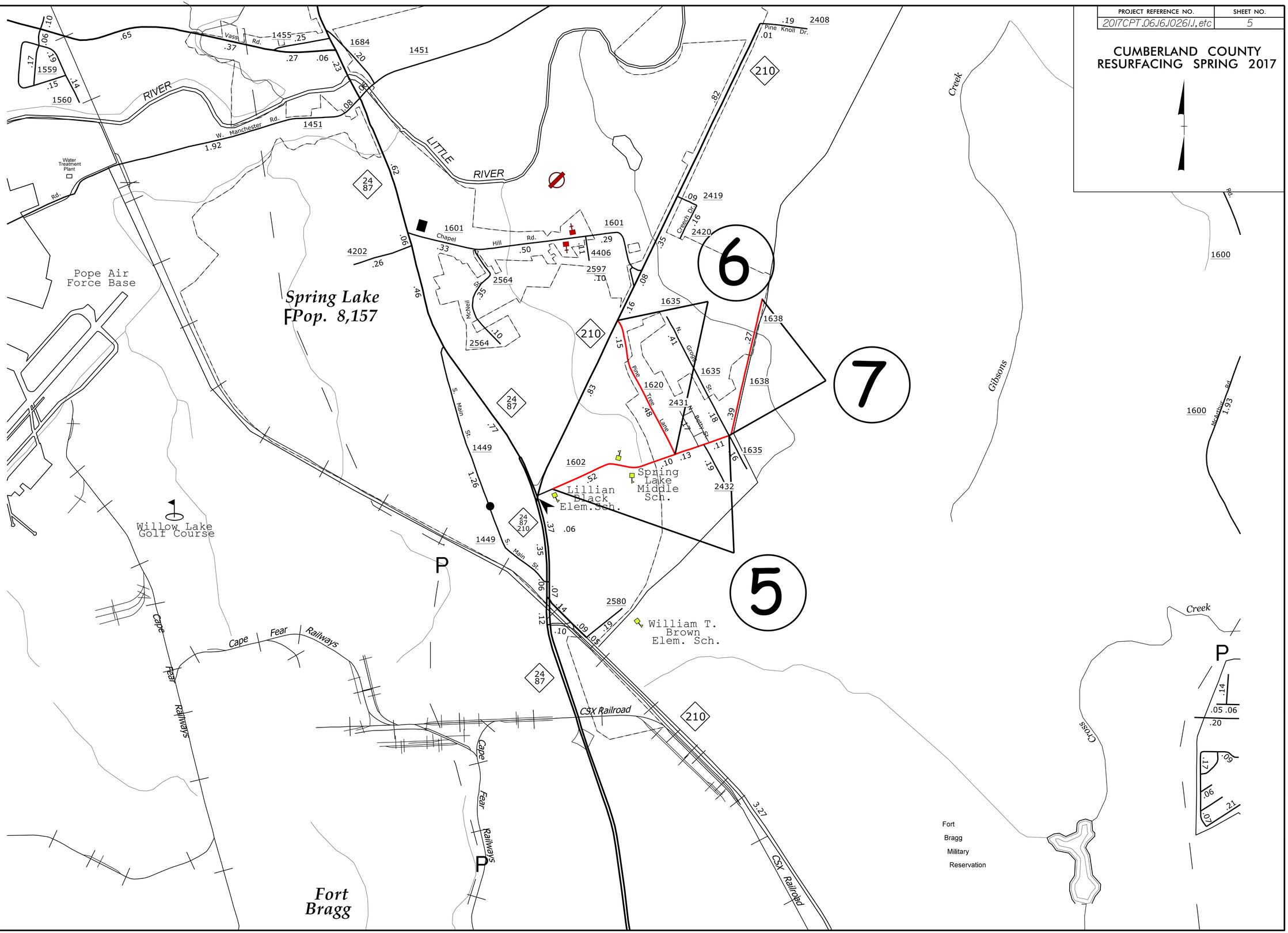
# CUMBERLAND COUNTY RESURFACING SPRING 2017

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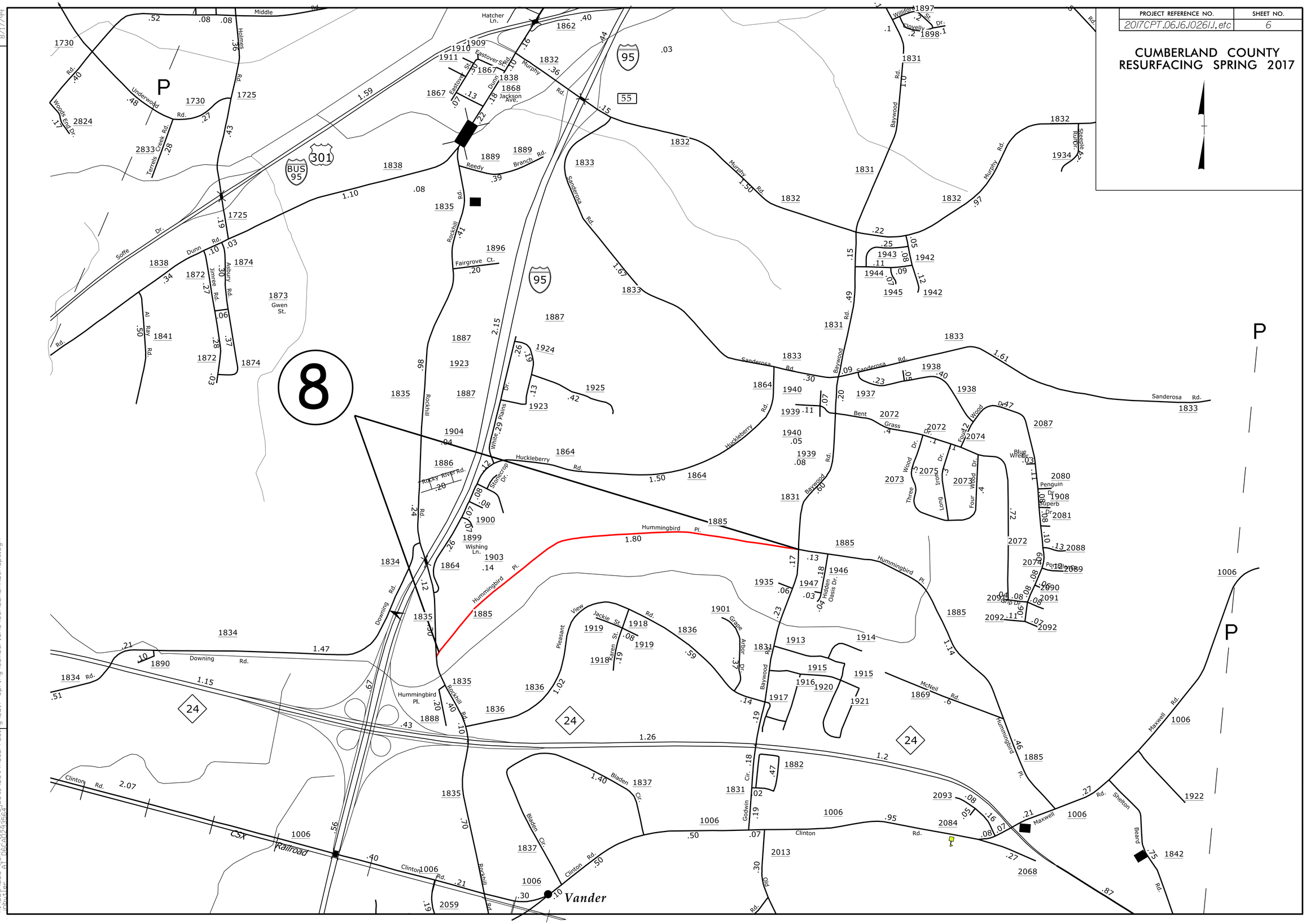
| 2017CPT.06.J6.J026I.J,etc | 6 |

# CUMBERLAND COUNTY RESURFACING SPRING 2017




REVISIONS

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Author: ATRAN2

PROJECT REFERENCE NO.
2017CPT.06.16.10261.etc
SHEET NO.
7
CUMBERLAND COUNTY
RESURFACING SPRING 2017
9
Stedman
Pop. 668
24
P
CSX Railroad
Sandy Creek
Buck Creek
Maxwell
Shelton Rd.
Beard Rd.
Blake Rd.
Magnolia Rd.
Wade-Stedman Rd.
Bainbridge Rd.
McCall Rd.
Harvestgrain Dr.
Deerview Trl.
Blawell Cir.
Blawell St.
Rob Rd.
Fred Hall Rd.
Carl Freeman Rd.
Carol St.
Cleta Dr.
Beaverdam Rd.
Stedman-Cedar Creek Rd.
Macedonia Church Rd.
Vander Rd.
John
Cashwell Rd.
Concord Ch.
Hillsborough St.
1006
1842
1922
2068
1844
1843
1850
1851
1852
1853
1883
1884
1926
1927
1928
1929
1930
2013
2017
2018
2019
2020
2022
2025
2026
2027
2052
REVISIONS
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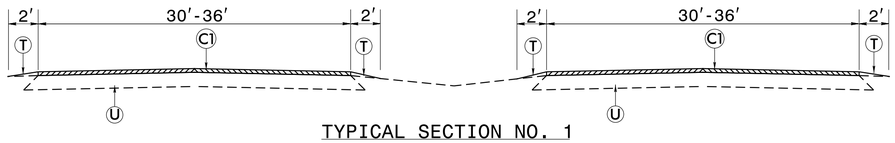
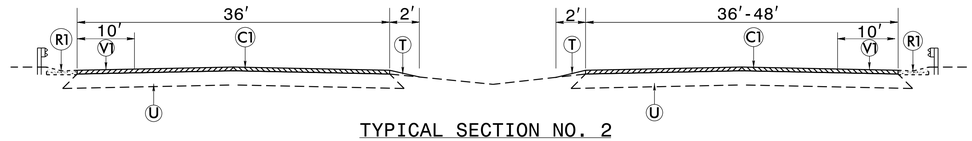
# PAVEMENT SCHEDULE

| | |
|---|---|
| C1 | 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. |
| C2 | 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. |
| C3 | 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD. |
| E | 5" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 570 LBS. PER SQ. YD. |
| R1 | EXISTING EXPRESSWAY GUTTER |
| R2 | EXISTING CURB AND GUTTER |
| T | SHOULDER RECONSTRUCTION WITH AGGREGATE SHOULDER BORROW |
| U | EXISTING PAVEMENT |
| V1 | 0" - 1½" MILLING |
| V2 | 1½" MILLING |

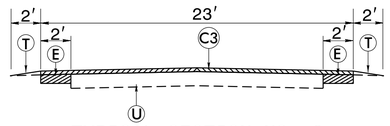



TYPICAL SECTION NO. 1

*INCLUDE RAMPS ON MAP 2




TYPICAL SECTION NO. 2

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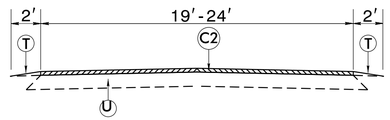


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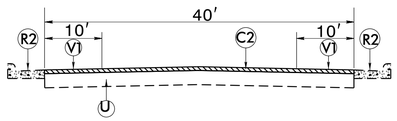


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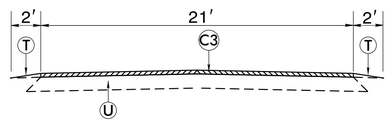


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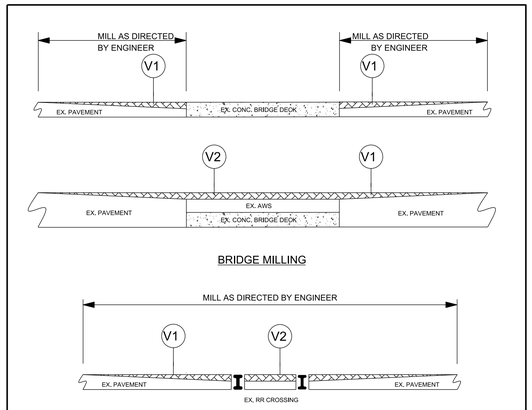
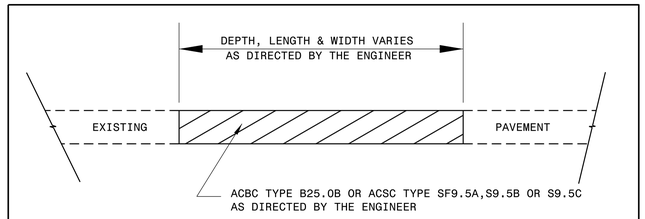



## MILLING APPROACHES

NOTE:
MILLING SHALL BE PERFORMED AT RR CROSSINGS, BRIDGE DECKS AND BRIDGE APPROACHES AS DIRECTED BY THE ENGINEER, IN ACCORDANCE WITH THIS DETAIL.




## PATCHING EXISTING PAVEMENT

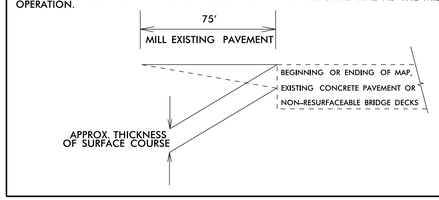
PATCHING TO BE PERFORMED PRIOR TO MILL AND FILL OPERATION

NOTES TO CONTRACTOR

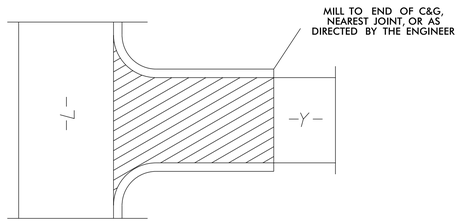
FOR SURFACE MIXES OVER 1" IN THICKNESS, MILL THE EXISTING PAVEMENT IN ACCORDANCE WITH THE FOLLOWING SKETCH AS DIRECTED BY THE ENGINEER.

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.

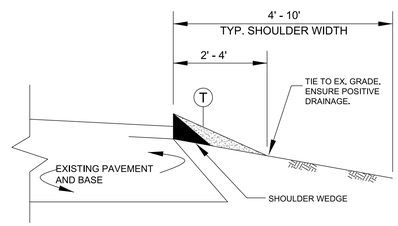



## MILLING AT PAVEMENT TIE-INS DETAIL




INCLUDES INCIDENTAL MILLING AT THE ENDS OF SECTIONS FOR SMOOTH TIE-INS, CURB RADII AND STREET INTERSECTIONS, AS NEEDED, OR AS DIRECTED BY THE ENGINEER

## MILLING AT CURB AND GUTTER INTERSECTIONS




## SHOULDER RECONSTRUCTION

NOTES:

1. SHOULDER SHALL BE RECONSTRUCTED AS SHOWN IN STD. DWG. NO. 560.01 & 560.02, WITH A MINIMUM SLOPE OF 1" PER FOOT TO ENSURE POSITIVE DRAINAGE AWAY FROM ROADWAY.
2. AGGREGATE SHOULDER BORROW (ASB) MATERIAL SHALL BE PLACED USING A WIDENING MACHINE OR SIMILAR DEVICE.
3. A VEGETATIVE BUFFER SHALL BE MAINTAINED BETWEEN THE DISTURBED AREA ALONG THE EDGE OF PAVEMENT AND THE DITCH SHOULDER POINT TO MINIMIZE EROSION. PULLING DITCHES OR CUTTING SHOULDERS TO GENERATE BORROW MATERIAL WILL NOT BE ALLOWED.
4. REQUIRED BORROW MATERIAL MAY BE OBTAINED BY THE CONTRACTOR FROM WIDENING OPERATIONS WITHIN THE PROJECT LIMITS, FROM NCDOT APPROVED BORROW PITS OR FROM NCDOT STOCKPILES. ANY EXCESS MATERIAL SHALL BE DISPOSED OF BY THE CONTRACTOR IN AN APPROVED DISPOSAL SITE.


6/2/99
09-MAY-2017 11:47
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$$$$USERNAME$$$$

| PROJECT REFERENCE NO. | SHEET NO. |
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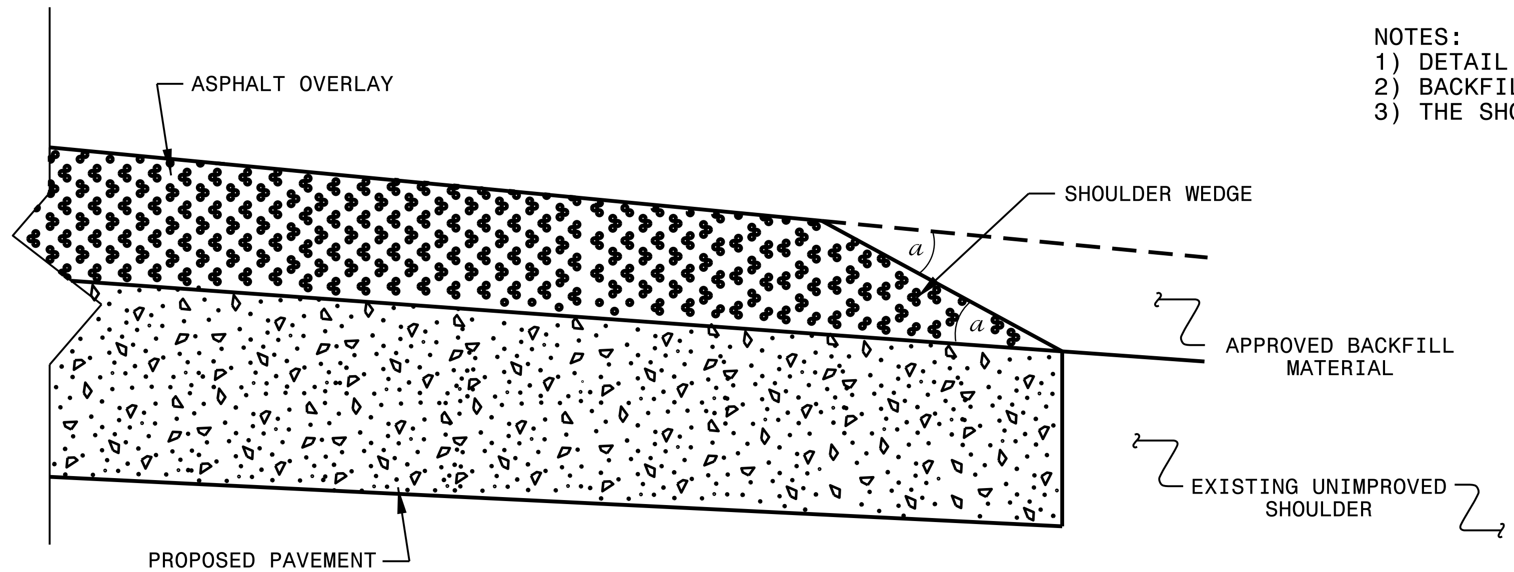
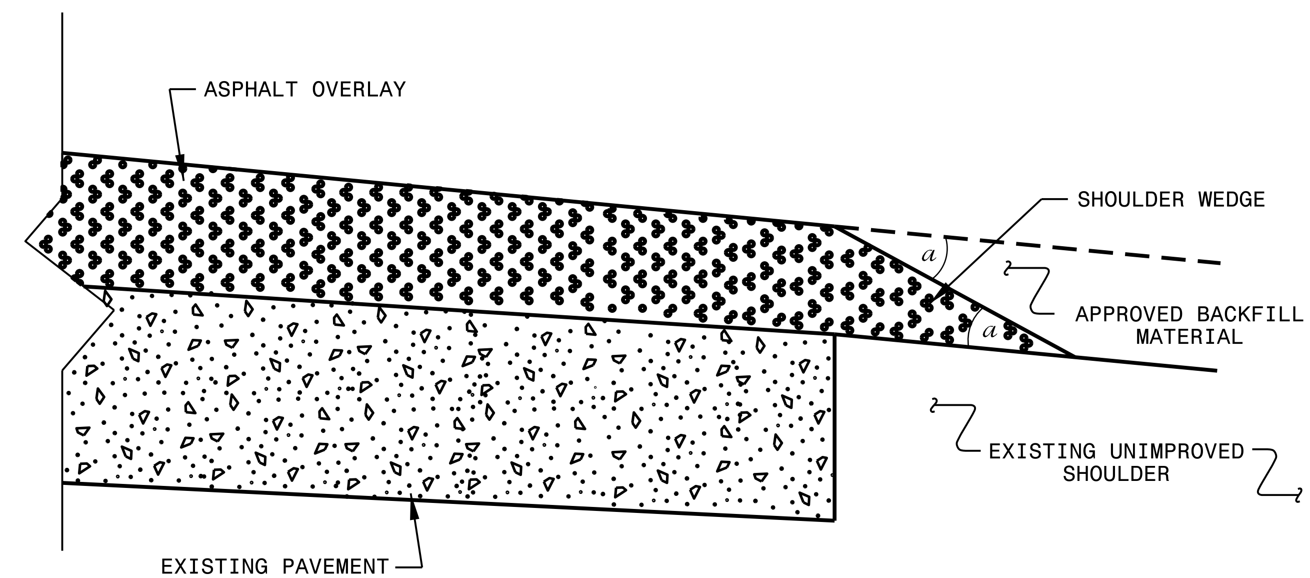
| 2017CPT.06.16.10261.1,etc | 9 |

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



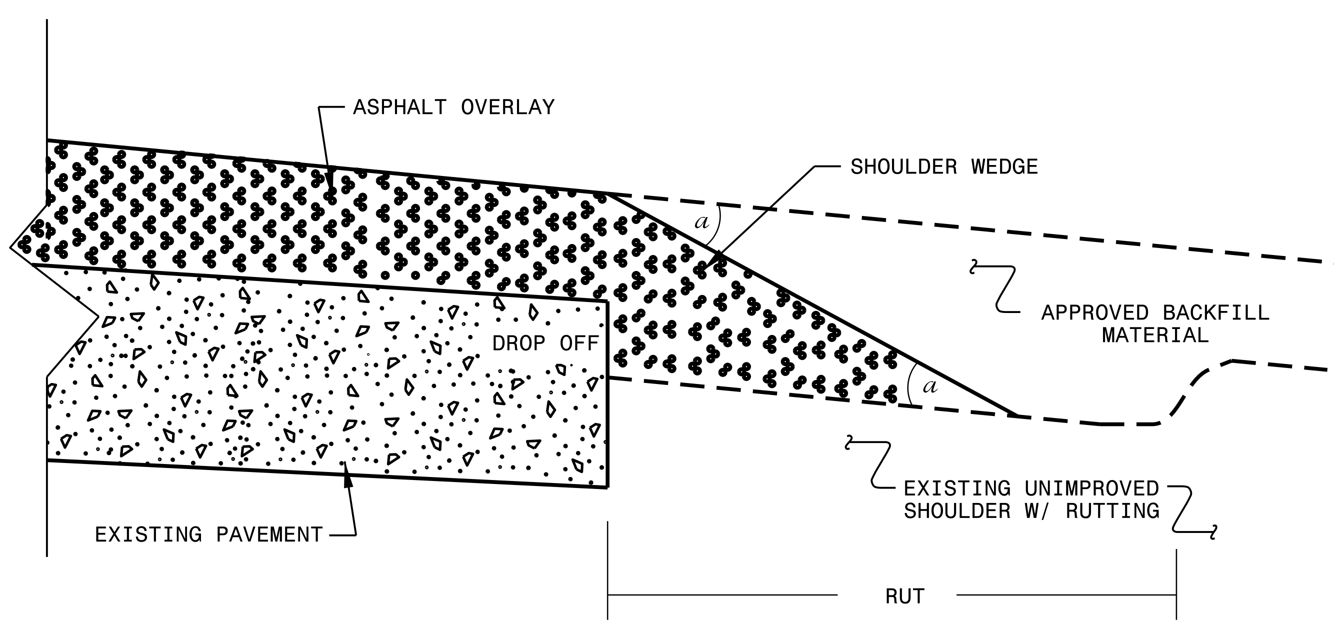

## SHOULDER WEDGE DETAIL

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




## SHOULDER WEDGE DETAIL

**(Resurfacing Projects w/ NO Widening)**




## SHOULDER WEDGE DETAIL

**(Resurfacing Adjacent to Rutted Shoulder)**

- SHOULDER WEDGE ANGLE = 30°

**CONTRACT STANDARDS AND DEVELOPMENT UNIT**
Office 919-707-6950 FAX 919-250-4119

**SHOULDER WEDGE DETAILS**

ORIGINAL BY: T.SPELL DATE: 7-19-11
MODIFIED BY: DATE: 10/16/12
CHECKED BY: DATE:
FILE SPEC.: s:usr/details/stand/shoulderwedgedetail.dgn

| PROJ. REFERENCE NO. | SHEET NO. |
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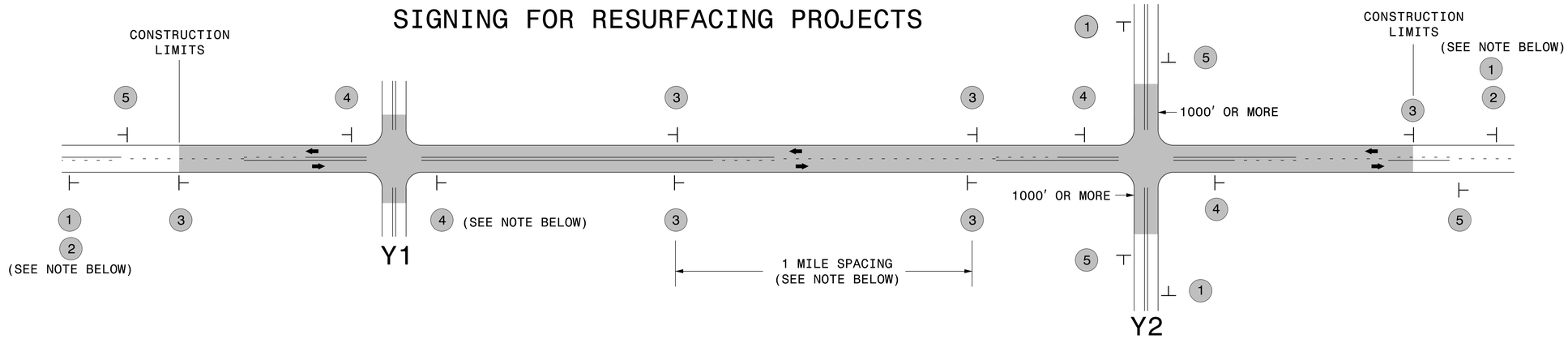
| 2017CPT.06.16.10261.1,etc | 10 |

# SIGNING FOR RESURFACING PROJECTS




**LEGEND**

- ⊢ STATIONARY SIGN
- ⬅ DIRECTION OF TRAFFIC FLOW

## MAINLINE (-L-) SIGNING

### SIGNING NOTES AND PLACEMENT PER DIRECTION

| | | |
|---|---|---|
| 1 | ROAD WORK AHEAD<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. |
| 2 | NEXT XX MILES<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 | LOW/SOFT SHOULDER<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 ½ MILE FROM THE CONSTRUCTION LIMITS AND THEN SPACE 1 MILE THEREAFTER. |
| 4 | ROAD UNDER CONST<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 | END ROAD WORK<br>G20-2 A<br>48″ X 24″ | PLACE 500′ FOLLOWING THE END OF CONSTRUCTION LIMITS. |

## -Y- LINE SIGNING

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.

ROAD WORK AHEAD
W20-1
48″ X 48″

PLACED 500′ IN ADVANCE OF FLAGGER.

W20-7 A
48″ X 48″

PLACED 250′ IN ADVANCE OF FLAGGER.

DIVISION OF HIGHWAYS · STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION · WORK ZONE TRAFFIC CONTROL

RESURFACING
ADVANCE WARNING SIGNS
FOR
RURAL AND SUBURBAN
2 LANE ROADWAYS

3/19/2015
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User:rmgarrett

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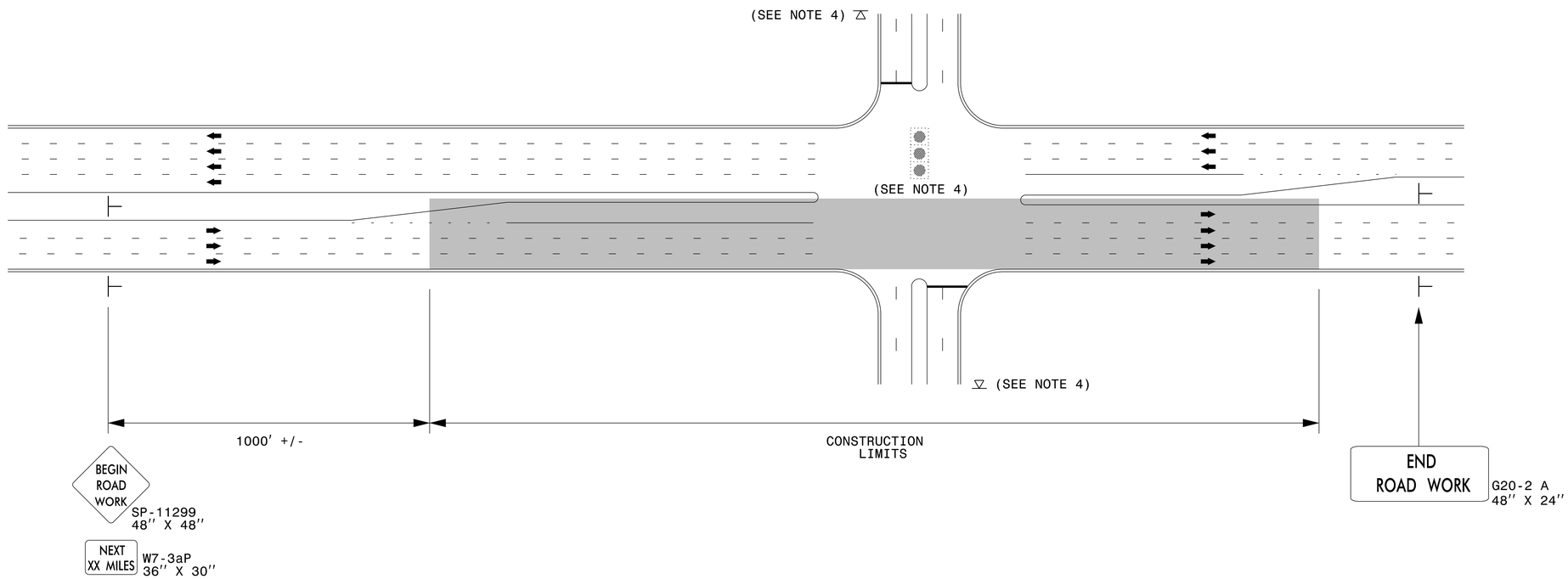
| 2017CPT.06.16.10261.1,etc | 11 |

# 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

DIVISION OF HIGHWAYS · STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION · WORK ZONE TRAFFIC CONTROL

RESURFACING ADVANCE WARNING SIGNS FOR URBAN / SUBURBAN FACILITIES

4/8/2015
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User:rmgarrett

| PROJ. REFERENCE NO. | SHEET NO. |
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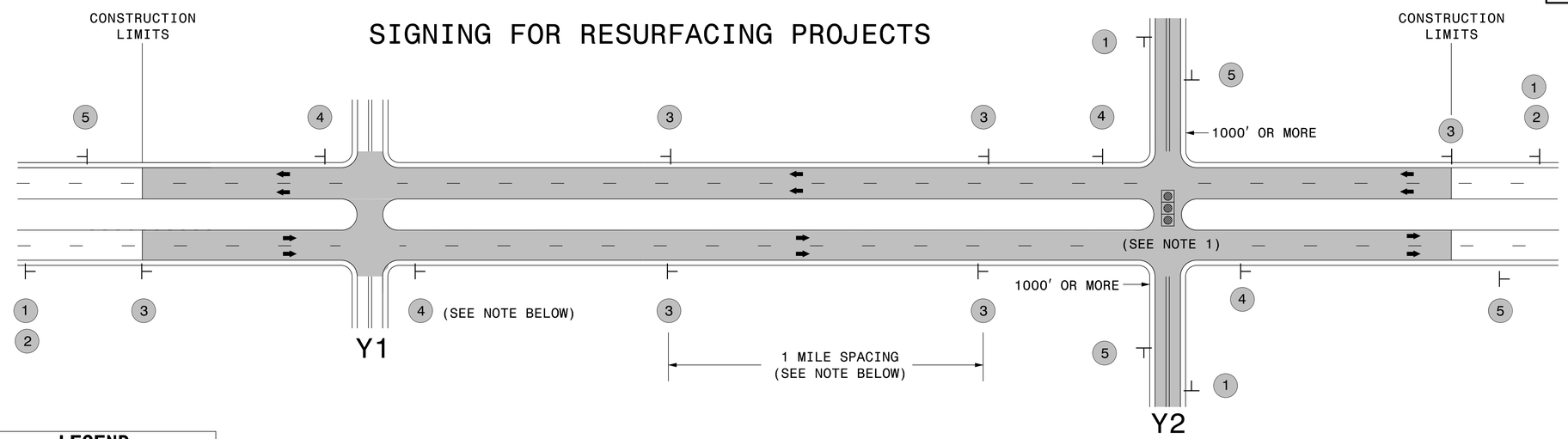
| 2017CPT.06.16.10261.1,etc | 12 |

# SIGNING FOR RESURFACING PROJECTS




**LEGEND**

- ⊢ STATIONARY SIGN
- ⬅ DIRECTION OF TRAFFIC FLOW

## MAINLINE (-L-) SIGNING

### SIGNING NOTES AND PLACEMENT PER DIRECTION

| | | |
|---|---|---|
| 1 | ROAD WORK AHEAD<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. |
| 2 | NEXT XX MILES<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 | LOW/SOFT SHOULDER<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 ½ MILE FROM THE CONSTRUCTION LIMITS AND THEN SPACE 1 MILE THEREAFTER. |
| 4 | ROAD UNDER CONST<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 | END ROAD WORK<br>G20-2 A<br>48″ X 24″ | PLACE 500′ FOLLOWING THE END OF CONSTRUCTION LIMITS. |

## -Y- LINE SIGNING

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.

ROAD WORK AHEAD
W20-1
48″ X 48″

PLACED 500′ IN ADVANCE OF FLAGGER.

W20-7 A
48″ X 48″

PLACED 250′ IN ADVANCE OF FLAGGER.

### NOTES:

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.

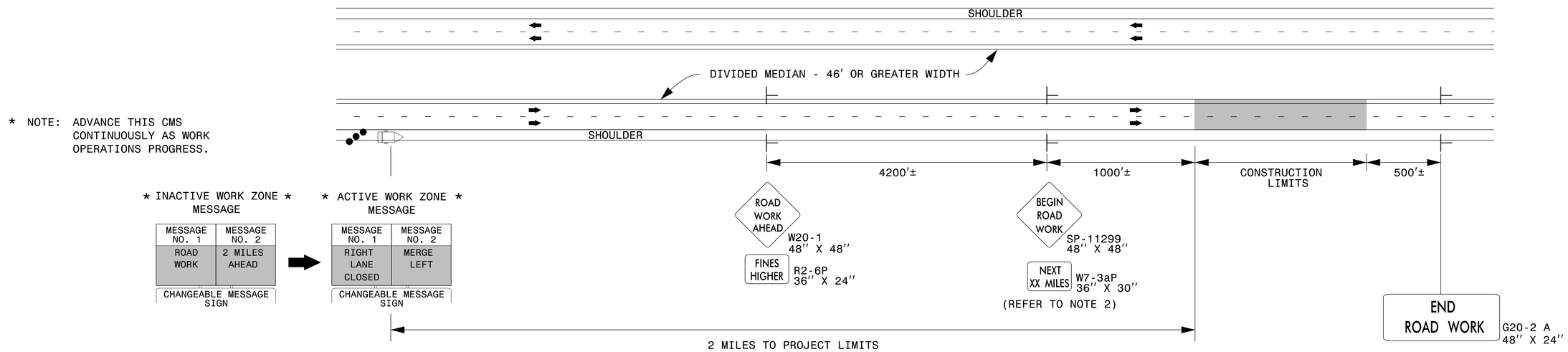
DIVISION OF HIGHWAYS · STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION · WORK ZONE TRAFFIC CONTROL

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

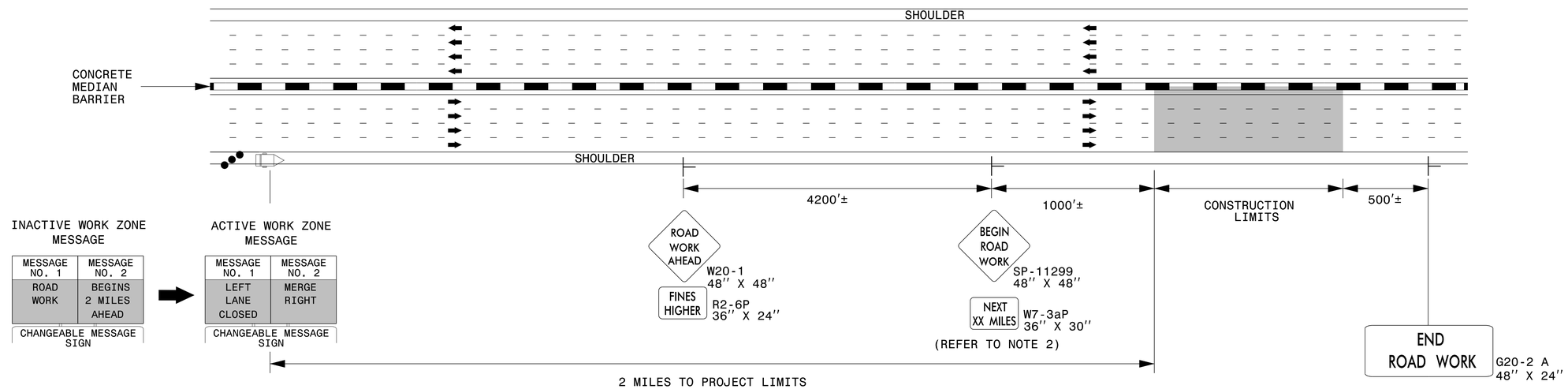
3/23/2015
C:\Users\rmgarrett\Downloads\Resurfacing_AdvWarn_UrSu_Shldr.dgn
User:rmgarrett

| PROJ. REFERENCE NO. | SHEET NO. |
|---|---|
| 2017CPT.06.16.10261.1,etc | 13 |

# DIVIDED MEDIANS WITH WIDTHS 46′ OR GREATER




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




## NOTES

1. THIS DRAWING IS TO BE USED IN CONJUNCTION WITH THE WORK ZONE VARIABLE SPEED LIMIT USING DIGITAL SPEED LIMIT SIGNS FOR INTERSTATE/FREEWAY RESURFACING PROJECTS DETAIL.
2. FOR SIGN W7-3aP, ROUND TO THE NEAREST MILE.
3. FOR ENTRANCE AND EXIT RAMPS, REFER TO RSD 1101.01, SHEET 1, DETAIL B & C.
4. FOR ADDITIONAL NOTES, REFER TO RSD 1101.01, SHEET 1.

## LEGEND

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

APPROVED: DocuSigned by: Steve Lutz E27CE30E1DFC442...

DATE: 2/23/2017

NORTH CAROLINA PROFESSIONAL SEAL 022104 ENGINEER JOHN S. KITE, JR.

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

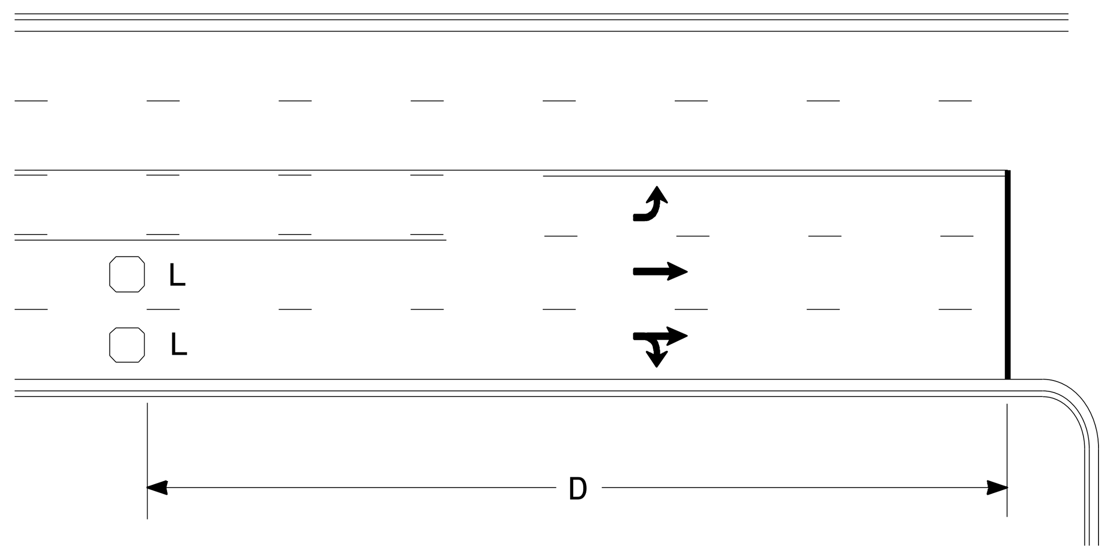
DIVISION OF HIGHWAYS · STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION · WORK ZONE TRAFFIC CONTROL

STATIONARY ADVANCE WARNING SIGNS FOR INTERSTATE/FREEWAY RESURFACING PROJECTS

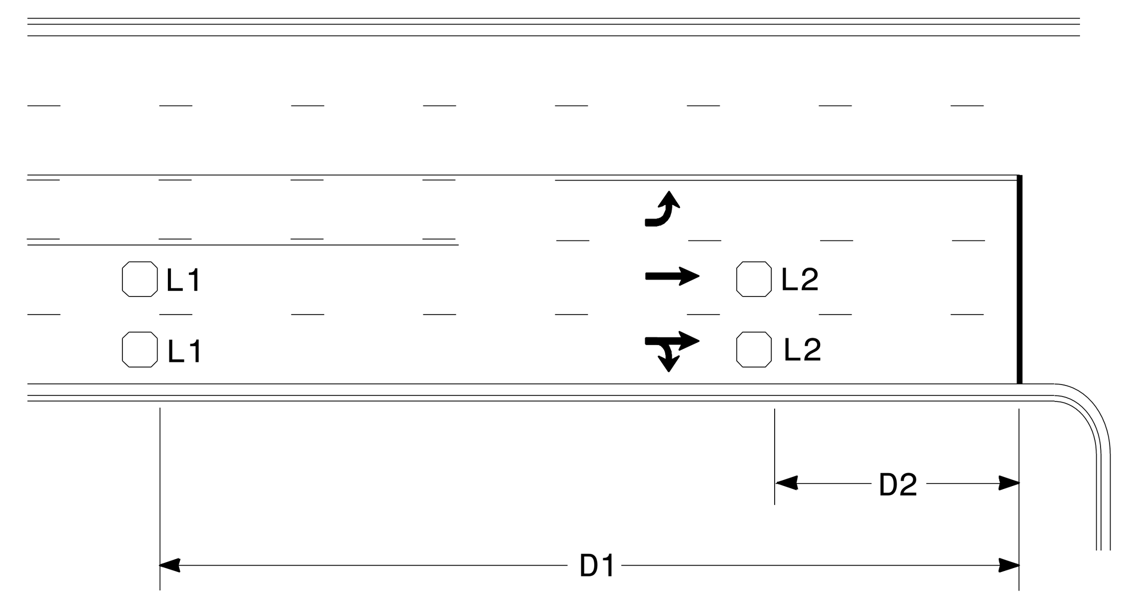
2/23/2017
S:\TMU\WZTC\DesignGroup3\Squad3B\Dgns\Interstate Resurfacing Provisions and Details\Pkg\Resurfacing_AdvWarn_HSpd.dgn
User:kedais

| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| 2017CPT.06.16.10261.1,etc | 14 |

## High Speed Detection
(≥40 mph)




OR




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

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

Volume Density Operation

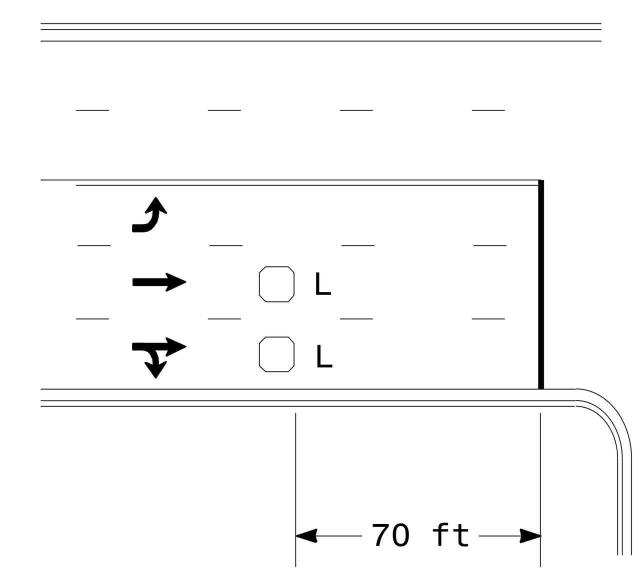
| Speed Limit mph | D1 ft | D2 ft |
|---|---|---|
| 40 | 250 | 80 |
| 45 | 300 | 90 |
| 50 | 355 | 100 |
| 55 | 420 | 110 |

L1 = 6ft X 6ft
Wired in series

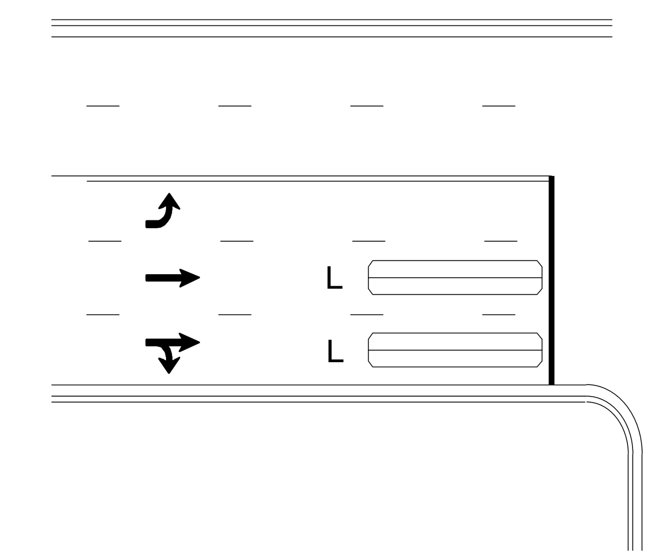
L2 = 6ft X 6ft
Wired in series

"Stretch" Operation

## Low Speed Detection
(≤35 mph)



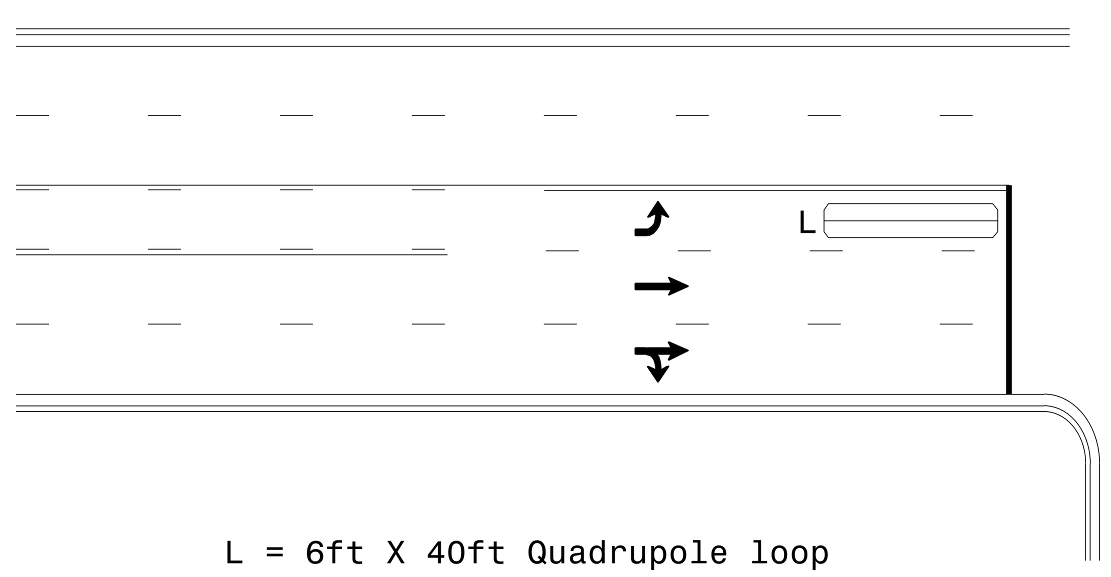

OR



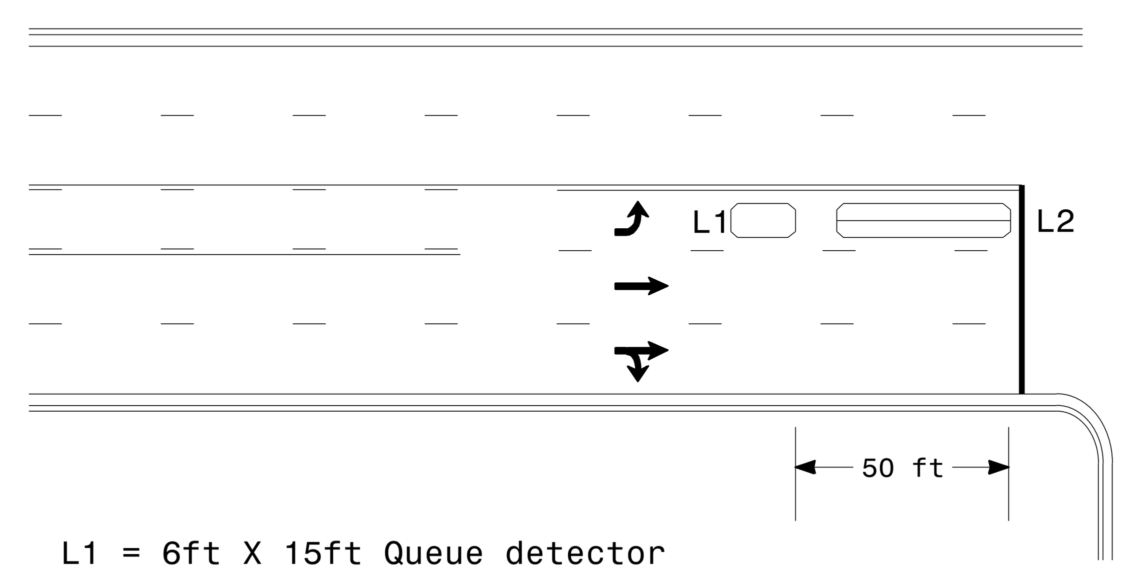

L = 6ft X 6ft
Wired in series

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

## Left Turn Lane Detection




OR



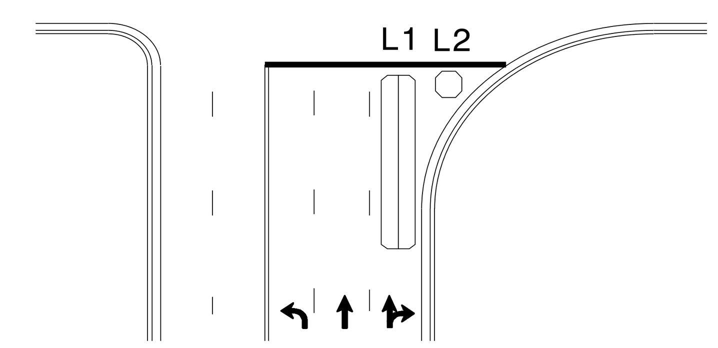

L = 6ft X 40ft Quadrupole loop

Presence Loop Detection

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

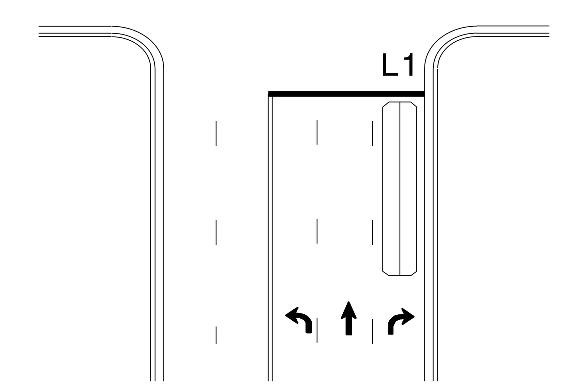
Queue Loop Detection

## Right Turn Lane Detection

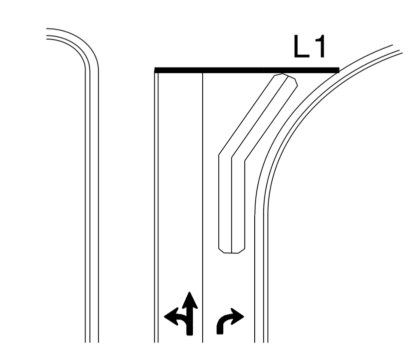



Shared Lane/
Wide Radius Turn

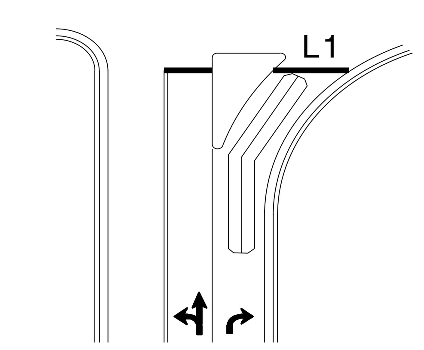
L1 = 6ft X 40ft Quadrupole loop
L2 = 6ft X 6ft [Minimum] Presence loop
Wired separately




Standard Turn

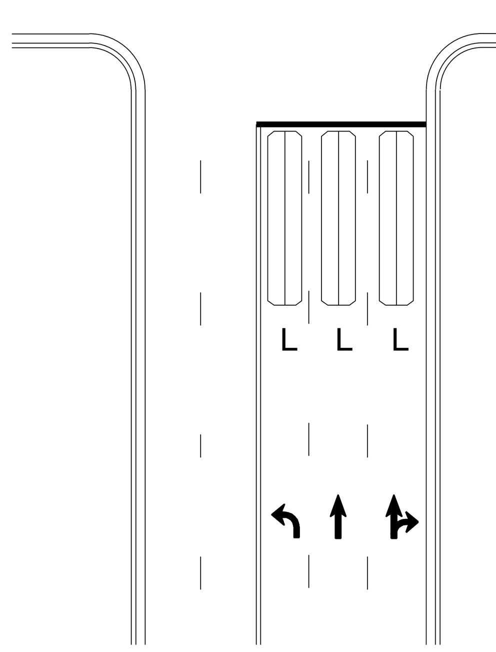



Wide Radius Turn




Channelized Turn

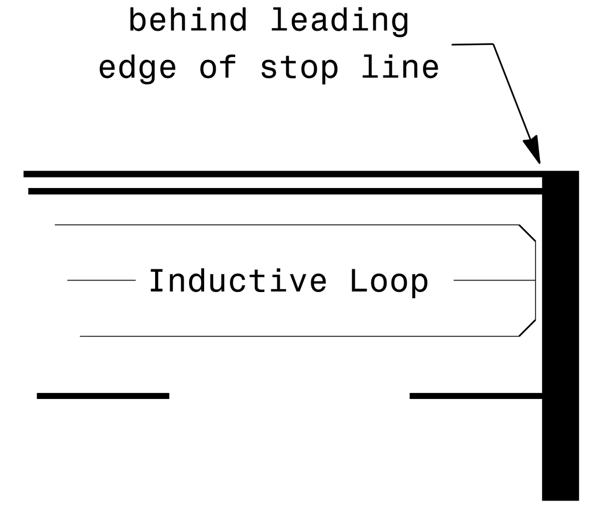
## Side Street Detection




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

## Presence Loop Placement at Stop Lines

Locate loop slightly behind leading edge of stop line




Note:
Loop may be located in advance of stop line under any of the following conditions:
1) stop line is greater than 15′ from edge of intersecting roadway
2) loop detects a permissive or protected/permissive left turn
3) for an exclusive right turn lane

## Recommended Number of Turns

Single 6′ X 6′ loop
(when wired separately):

| Length of Lead-in ft | Number of Turns |
|---|---|
| < 250 | 3 |
| 250-375 | 4 |
| 375-525 | 5 |
| > 525 | 6 |

Quadrupole loops: Use 2-4-2 turns

6′ X 15′ Loops:
Lead-in < 150′, use 2 turns
Lead-in > 150′, use 3 turns

Prepared in the Offices of: Transportation Mobility and Safety Division, Signal Design Section
750 N.Greenfield Pkwy,Garner,NC 27529

Typical Signal Loop Locations

| | | | |
|---|---|---|---|
| PLAN DATE: | January 2015 | REVIEWED BY: | JPG |
| PREPARED BY: | PLA | REVIEWED BY: | |

SCALE
N/A

| REVISIONS | INIT. | DATE |
|---|---|---|
| | | |

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 23489 ENGINEER PAMELA L. ALEXANDER

DocuSigned by: P.L. Alexander
1/30/2015
DATE

SIG. INVENTORY NO.

30-JAN-2015 12:39
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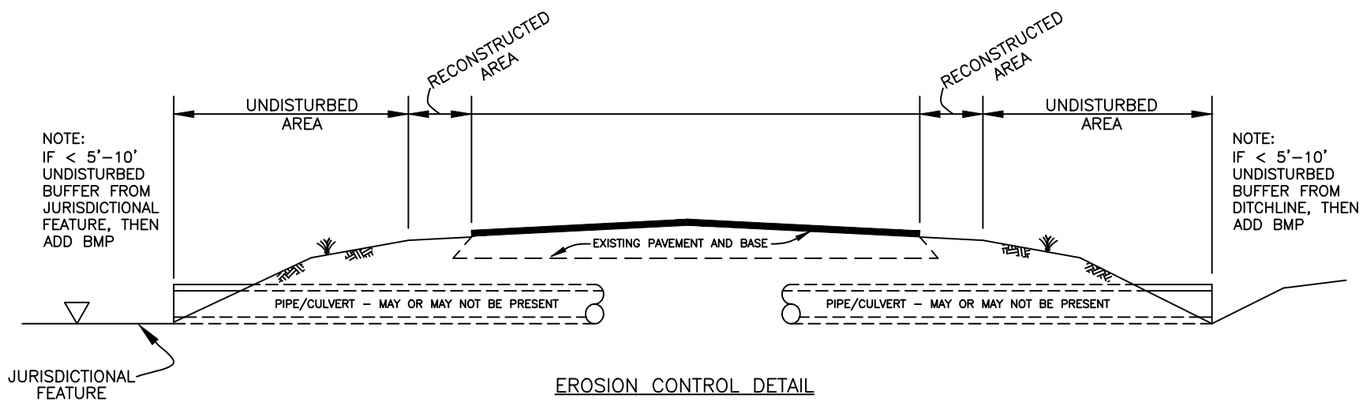
palexander




EROSION CONTROL DETAIL

NOTES:

1. IF A 5'–10' VEGETATED, UNDISTURBED BUFFER FROM ROW, DITCHLINE, WATER FEATURE OR DRAINAGE INLET CAN BE MAINTAINED, THEN NO BMP'S NEEDED.
2. IF < 5'–10' UNDISTURBED BUFFER FROM ROW, DITCHLINE, WATER FEATURE OR DRAINAGE INLET, THEN ADD BMP'S.
3. BMP OPTIONS:
   a. MATTING MAY BE APPLIED AS SHOWN IN NCDOT STD. DWG. 1631.01 TO ESTABLISH BUFFER.
   b. 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).

## GUIDELINES FOR LANE WIDTHS ON RESURFACING PROJECTS

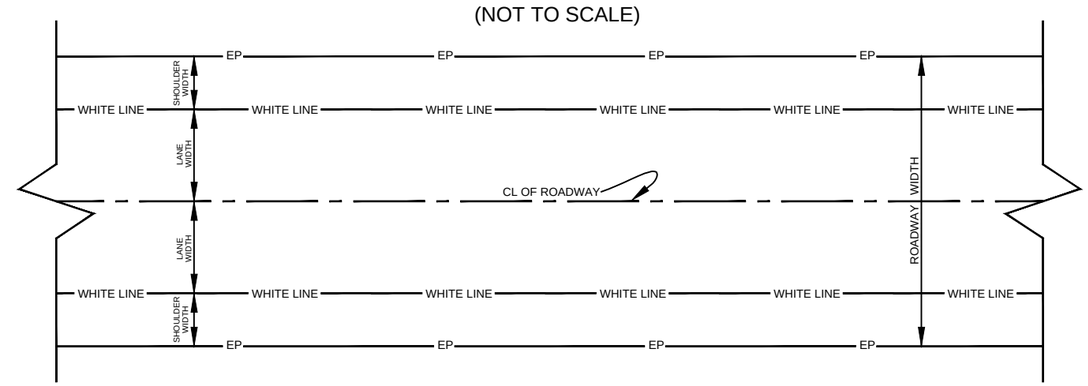
Contractor shall place the new pavement markings in accordance with this table and detail unless otherwise directed by the Engineer.

| 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 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 | | |

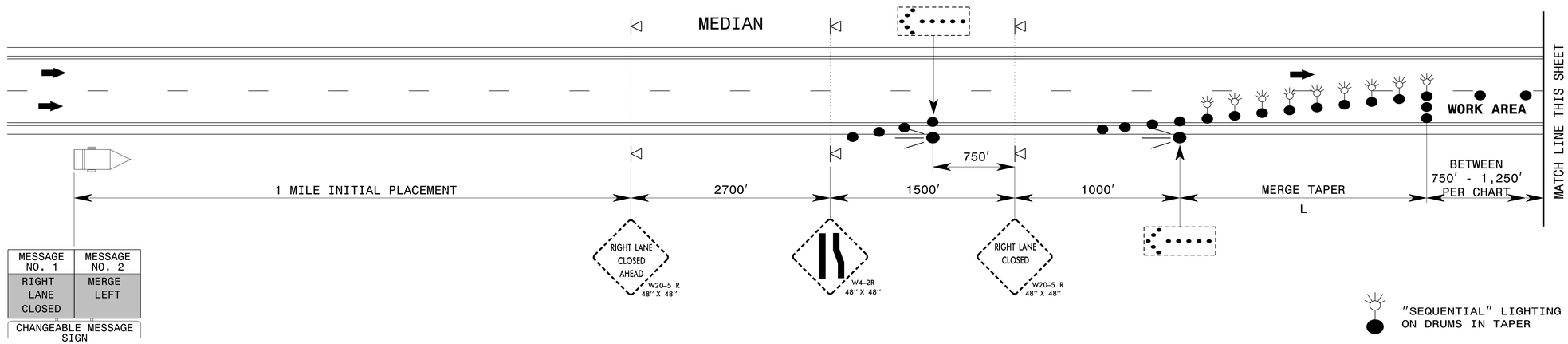
## SCHEMATIC OF ROADWAY

(NOT TO SCALE)

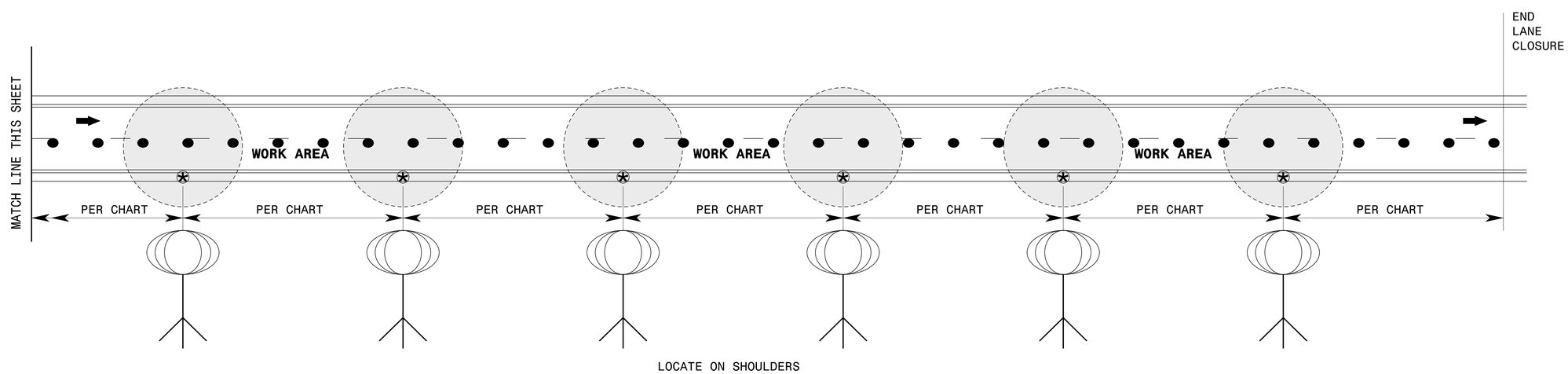


| PROJ. REFERENCE NO. | SHEET NO. |
|---|---|
| 2017CPT.06.16.10261.1,etc | 16 |

# ADVANCE WARNING AREA




# WORK ZONE AREA




## SPACING CHART

| LIGHT OUTPUT (LUMENS) | MINIMUM LIGHTED FIXTURE AREA (SQUARE FEET) | MAXIMUM SPACING (FEET) | LIGHT UNITS (PER MILE) |
|---|---|---|---|
| 50,000 TO 65,000 | 5.5 | 750′ | 6 |
| 66,000 TO 80,000 | 5.5 | 1,000′ | 5 |
| 81,000 TO 100,000 | 36 | 1,250′ | 4 |

## NOTES

1) SPACE LIGHT UNITS ACCORDING TO THE CHART.

2) EACH LIGHT UNIT SHALL BE CAPABLE OF ELEVATING TO A MINIMUM HEIGHT OF 14′ ABOVE THE PAVEMENT.

3) PLACE ON PAVED SHOULDER IF POSSIBLE.

APPROVED: DocuSigned by: Steve Kite E27CE30E1DFC442...

DATE: 2/23/2017

NORTH CAROLINA PROFESSIONAL SEAL 022104 ENGINEER JOHN S. KITE, JR.

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL

SEQUENTIAL FLASHING WARNING LIGHTS AND WORK ZONE PRESENCE LIGHTING

2/23/2017
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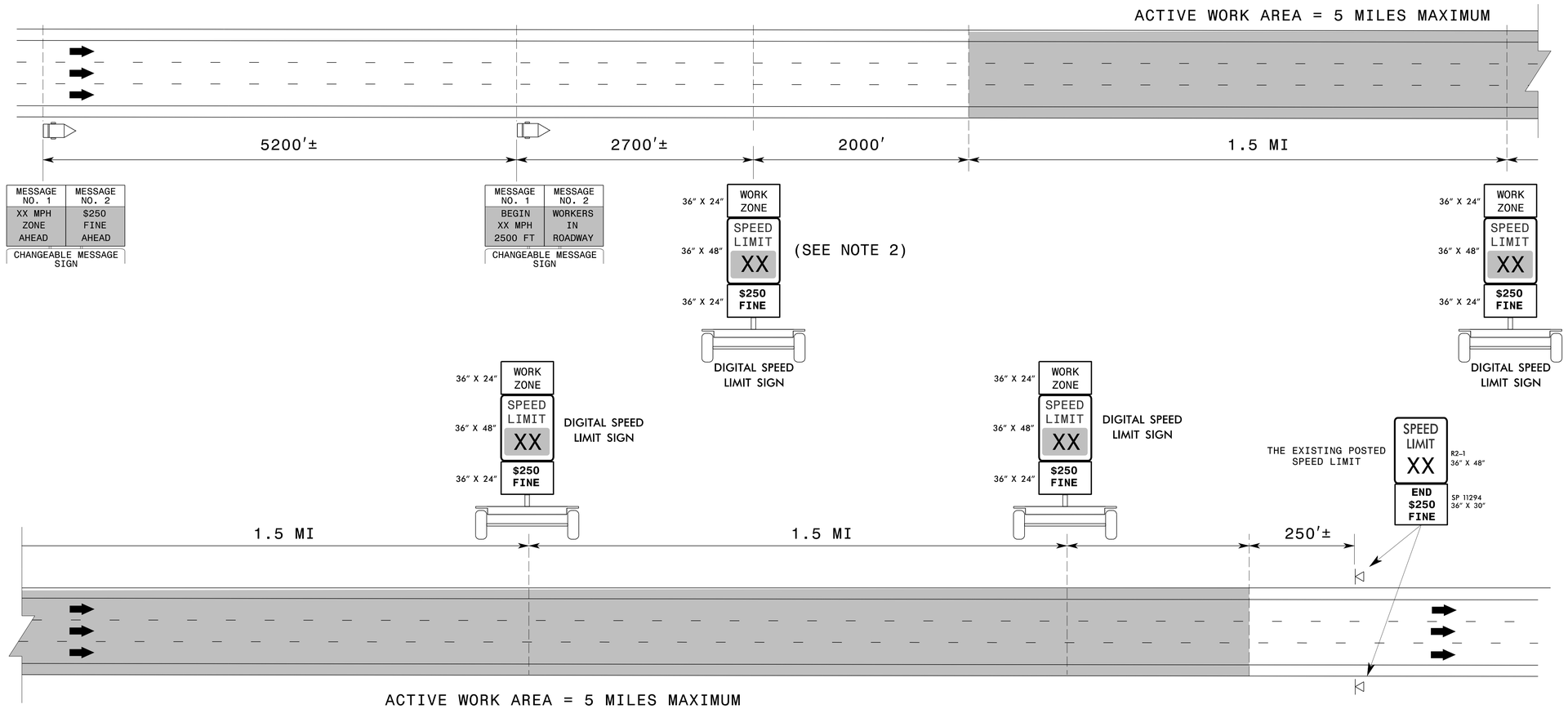
User:kedais

# INTERSTATE RESURFACING OPERATIONS WITH DIGITAL SPEED LIMIT SIGNS

| PROJ. REFERENCE NO. | SHEET NO. |
|---|---|
| 2017CPT.06.16.10261.1,etc | 17 |




## WHEN THERE IS NOT ACTIVE WORK IN THE TRAVEL LANE

| SPEED LIMIT DISPLAY | CONDITIONS | |
|---|---|---|
| | DROP-OFFS BETWEEN OPEN TRAVEL LANES | PAVED SHOULDER DROP-OFFS |
| USE EXISTING SPEED LIMIT | < 1.0" | ≤ 3.0" |
| REDUCE SPEED LIMIT 5 MPH | 1.0" - 2.0" | > 3.0" |

DROP-OFFS BETWEEN OPEN TRAVEL LANES SHOULD NOT EXCEED 2.0"

## NOTES

1. THE SPEED LIMITS DISPLAYED WITHIN THE ACTIVE WORK AREA MAY VARY BETWEEN 55 MPH AND 70 MPH, DEPENDENT UPON ROAD WORK CONDITIONS AND THE EXISTING SPEED LIMIT. 55 MPH IS ONLY DISPLAYED DURING ACTIVE LANE CLOSURE OPERATIONS.
2. AT THE FIRST DIGITAL SPEED LIMIT LOCATION, PLACE A DIGITAL SPEED LIMIT SIGN ON BOTH THE INSIDE AND OUTSIDE SHOULDERS, UNLESS DIRECTED OTHERWISE BY THE ENGINEER WHEN THERE IS NOT ENOUGH ROOM ON THE INSIDE SHOULDER DUE TO NARROW MEDIAN AND PERMANENT MEDIAN BARRIER. AT SUBSEQUENT LOCATIONS DOWNSTREAM, PLACE A SINGLE DIGITAL SPEED LIMIT SIGN ON THE OUTSIDE SHOULDER.
3. THE ENGINEER MAY DETERMINE TO INSTALL THE DIGITAL SPEED LIMIT SIGNS ON THE OUTSIDE SHOULDER OR ON THE MEDIAN SIDE IF THE SIGNS ARE NOT HIGHLY VISIBLE TO ALL MOTORISTS. AT THE FIRST DIGITAL SPEED LIMIT
4. THIS APPLICATION IS FOR SHORT-TERM ACTIVITIES. THE MAXIUMUM ACTIVE WORK AREA IS 5 MILES.
5. THE DIGITAL SPEED LIMIT SIGNS TAKE PRECEDENCE OVER EXISTING SPEED LIMIT SIGNS. ALL EXISTING SPEED LIMIT SIGNS SHALL BE COVERED OR REMOVED.
6. THE DIGITAL SPEED LIMITS SIGNS WILL BE INSTALLED (TRAILER MOUNTED OR STATIONARY MOUNTED) IN ADVANCE AND SPACED APPROXIMATELY 1.5 MILES THROUGHOUT THE ACTIVE WORK AREA, UNLESS DIRECTED OTHERWISE.
7. NCDOT HAS SOLE AUTHORITY OF THE SPEED LIMITS DISPLAYED ON THE DIGITAL SPEED LIMIT SIGNS.
8. THE WORK ZONE VARIABLE SPEED LIMIT AND THE $250 SPEEDING PENALTY ARE SEPARATE ORDINANCES THAT MUST BE SIGNED BY THE STATE TRAFFIC ENGINEER TO BE VALID AND ENFORCEABLE. WITHOUT A SIGNED ORDINANCE, THE SPEED LIMIT ON A FACILITY SHALL REMAIN UNCHANGED.

APPROVED: DocuSigned by: Steve Kite E27CE30E1DFC442...

DATE: 2/23/2017

NORTH CAROLINA PROFESSIONAL SEAL 022104 ENGINEER JOHN S. KITE, JR.

**DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED**

DIVISION OF HIGHWAYS · STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION · WORK ZONE TRAFFIC CONTROL

WORK ZONE "VARIABLE" SPEED LIMIT USING DIGITAL SPEED LIMIT SIGNS FOR INTERSTATE/ FREEWAY RESURFACING PROJECTS

2/23/2017
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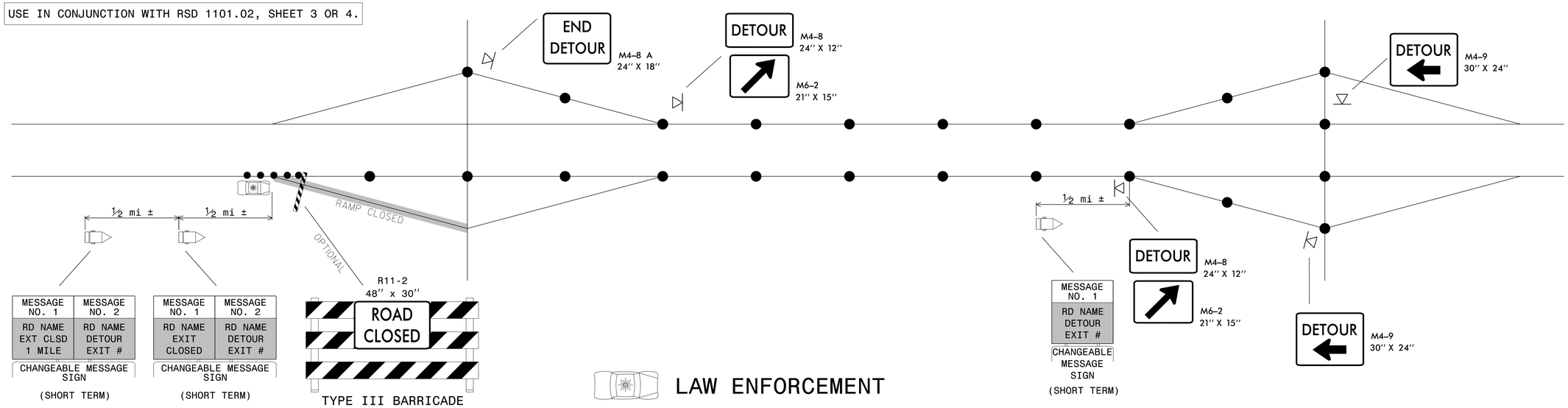
User:kedals

| PROJ. REFERENCE NO. | SHEET NO. |
|---|---|
| 2017CPT.06.16.10261.1.etc | 18 |

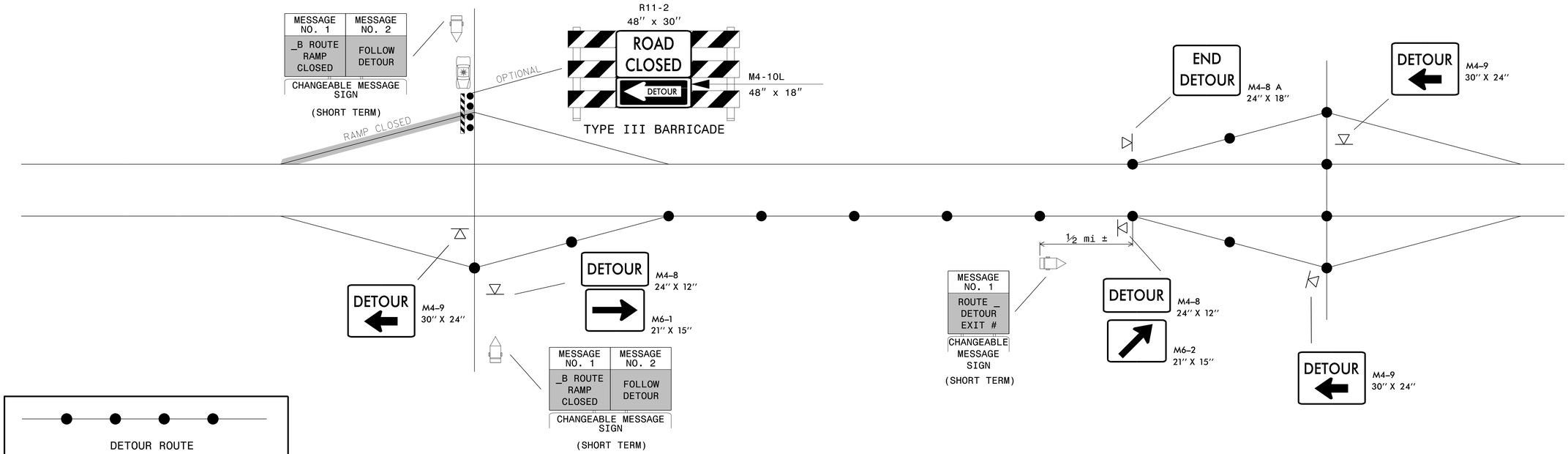
# SHORT TERM CLOSURE AND DETOUR OF OFF-RAMP TO ADJACENT INTERCHANGE

USE IN CONJUNCTION WITH RSD 1101.02, SHEET 3 OR 4.




# SHORT TERM CLOSURE AND DETOUR OF ON-RAMP TO ADJACENT INTERCHANGE

USE IN CONJUNCTION WITH RSD 1101.02, SHEET 3 OR 4.




DETOUR ROUTE

GENERAL NOTES:
1. THIS DRAWING IS INTENDED FOR USE DURING SHORT TERM CLOSURES OF INTERSTATE AND FREEWAY RAMPS.
2. RAMP CLOSURES SHALL BE APPROVED BY THE ENGINEER.
3. IF RAMP CLOSURE RESTRICTIONS APPLY, SEE SPECIAL PROVISION, "INTERMEDIATE CONTRACT TIMES AND LIQUIDATED DAMAGES".
4. ADDITIONAL CHANGEABLE MESSAGE SIGNS AND POSSIBLE DETOUR SIGNS MAY BE NECESSARY FOR MORE COMPLEX CLOSURES/DETOURS. COMPENSATION FOR ADDITIONAL DEVICES SHALL BE MADE BASED ON THE UNIT BID PRICE FOR THE RESPECTIVE DEVICE.

APPROVED: DocuSigned by: Steve Kite E27CE30E1DFC442...

DATE: 2/23/2017

NORTH CAROLINA PROFESSIONAL SEAL 022104 ENGINEER JOHN S. KITE, Jr.

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL

SHORT TERM CLOSURE AND DETOUR OF INTERSTATE/FREEWAY RAMPS

2/23/2017
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| PROJECT NO. | SHEET NO. | |
|---|---|---|
| 2017CPT.06.16.10261.1, etc | 19 | |
| | | |

# SUMMARY OF QUANTITIES

| PROJECT NO | COUNTY | MAP NO | ROUTE | DESCRIPTION | TYP NO | LANES | LANE TYPE | FINAL SURFACE TESTING REQUIRED | WARM MIX ASPHALT REQUIRED | LENGTH MI | WIDTH FT | ASB TON | SHOULDER RECONSTRUCTION SMI | 1.5" MILLING SY | 0" TO 1.5" MILLING SY | INCIDENTAL MILLING SY | BASE COURSE, B25.0B TONS | SURFACE COURSE, S9.5B TONS | SURFACE COURSE, S9.5C TONS | SURFACE COURSE, SF9.5A TONS | ASPHALT BINDER FOR PLANT MIX TONS | PATCHING EXISTING PAVEMENT TONS | MILLED RUMBLE STRIPS (ASPHALT CEMENT CONCRETE) LF | ADJ. OF MANHOLES EA | ADJ. OF METER OR VALVE BOX EA | UNPAVED TRENCHING (1 CONDUIT, 2") LF | JUNCTION BOX (STANDARD SIZE) EA | JUNCTION BOX (OVERSIZED, HEAVY DUTY) EA | INDUCTIVE LOOP SAWCUT LF | LEAD-IN CABLE (14-2) LF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2017CPT.06.16.10261.1 | Cumberland | 1 | NC HWY 87 | FROM SR 2220 MP 7.59 TO SR 2245 MP 4.63 | 1 | 4 | MD | NO | NO | 2.96 | 60 | 770 | 11.84 | | 1,877 | 486 | | | 10,328 | | 672 | 335 | | | | 100.00 | 4.00 | 2.00 | 1,375.00 | 350.00 |
| **TOTAL FOR MAP NO. 1** | | | | | | | | | | **2.96** | | **770** | **11.84** | | **1,877** | **486** | | | **10,328** | | **672** | **335** | | | | **100.00** | **4.00** | **2.00** | **1,375.00** | **350.00** |
| 2017CPT.06.16.10261.1 | Cumberland | 2 | NC HWY 295 | FROM US HWY 401 MP 7.1 TO END EXPRESS GUTTER MP 7.50 | 2 | 5 | MD | NO | NO | 0.19 | 84 | 130 | 1.98 | 20,169 | 2,229 | 139 | | | 2,875 | | 187 | 86 | 53,222 | | | | 4.00 | 2.00 | 640.00 | |
| | | " | " | FROM END EXPRESS GUTTER MP 7.50 TO BEGIN EXPRESS GUTTER BRIDGE #1 MP 7.79 | 1 | 4 | MD | NO | NO | 0.29 | 76 | 76 | 1.16 | | | | | | 1,086 | | 71 | 33 | 6,124 | | | | | | | |
| | | " | " | FROM BEGIN EXPRESS GUTTER BRIDGE #1 MP 7.79 TO END EXPRESS GUTTER BRIDGE #1 MP 8.30 | 2 | 4 | MD | NO | NO | 0.35 | 74 | 46 | 0.70 | | 7,721 | | | | 1,276 | | 83 | 38 | 7,392 | | | | | | | |
| | | " | " | FROM END EXPRESS GUTTER BRIDGE #1 MP 8.30 TO BEGIN EXPRESS GUTTER BRIDGE #2 MP 8.47 | 1 | 4 | MD | NO | NO | 0.17 | 76 | 44 | 0.68 | | | | | | 637 | | 41 | 19 | 3,590 | | | | | | | |
| | | " | " | FROM BEGIN EXPRESS GUTTER BRIDGE #2 MP 8.47 TO END EXPRESS GUTTER BRIDGE #2 MP 8.81 | 2 | 4 | MD | NO | NO | 0.21 | 74 | 27 | 0.42 | | 6,078 | | | | 766 | | 50 | 23 | 4,436 | | | | | | | |
| | | " | " | FROM END EXPRESS GUTTER BRIDGE #2 MP 8.81 TO END MERGE LANE (NBL) FROM SR 1714 MP 10.12 | 1 | 4 | MD | NO | NO | 1.31 | 76 | 340 | 5.24 | 634 | 2,839 | 139 | | | 4,932 | | 321 | 148 | 27,668 | | | | | | | |
| **TOTAL FOR MAP NO. 2** | | | | | | | | | | **2.52** | | **663** | **10.18** | **20,803** | **18,867** | **278** | | | **11,572** | | **753** | **347** | **102,432** | | | | **4.00** | **2.00** | **640.00** | |
| **TOTAL FOR PROJ NO. 2017CPT.06.16.10261.1** | | | | | | | | | | **5.48** | | **1,433** | **22.02** | **20,803** | **20,744** | **764** | | | **21,900** | | **1,425** | **682** | **102,432** | | | **100.00** | **8.00** | **4.00** | **2,015.00** | **350.00** |
| 2017CPT.06.16.20161.1 | Cumberland | 3 | SR 1121 | FROM SR 1118 MP 0.0 TO PVMT. JT. US HWY 301 MP 1.24 | 3 | 2 | 2WU | NO | NO | 1.24 | 23 | 161 | 2.48 | | | 69 | 995 | | | 1,428 | 136 | 1 | | | | | | | | |
| **TOTAL FOR MAP NO. 3** | | | | | | | | | | **1.24** | | **161** | **2.48** | | | **69** | **995** | | | **1,428** | **136** | **1** | | | | | | | | |
| 2017CPT.06.16.20161.1 | Cumberland | 4 | SR 1126 | SR 1243 MP 0.0 TO SR 1353 MP 0.35 | 4 | 2 | 2WU | NO | NO | 0.35 | 19 | 46 | 0.70 | | | 278 | | 378 | | | 25 | 1 | | 1 | | | | | | |
| **TOTAL FOR MAP NO. 4** | | | | | | | | | | **0.35** | | **46** | **0.70** | | | **278** | | **378** | | | **25** | **1** | | **1** | | | | | | |
| 2017CPT.06.16.20161.1 | Cumberland | 5 | SR 1602 | PVMT. JT. THIRD STREET MP 0.04 TO END CURB & GUTTER MP0.44 | 5 | 2 | 2WU | NO | NO | 0.4 | 40 | | | | 4,693 | | | 789 | | | 51 | | | 3 | 9 | | | | | |
| | | " | " | FROM END CURB & GUTTER MP 0.44 TO SR 1638 MP 0.88 | 4 | 2 | 2WU | NO | NO | 0.44 | 21 | 57 | 0.88 | | | 278 | | 621 | | | 40 | | | | 7 | | | | | |
| **TOTAL FOR MAP NO. 5** | | | | | | | | | | **0.84** | | **57** | **0.88** | | **4,693** | **278** | | **1,410** | | | **91** | | | **3** | **16** | | | | | |
| 2017CPT.06.16.20161.1 | Cumberland | 6 | SR 1620 | NC HWY. 210 MP 0.0 TO SR 1602 MP 0.62 | 4 | 2 | 2WU | NO | NO | 0.62 | 21 | 81 | 1.24 | | 293 | 139 | | 667 | | | 43 | 1 | | | 3 | | | | | |
| **TOTAL FOR MAP NO. 6** | | | | | | | | | | **0.62** | | **81** | **1.24** | | **293** | **139** | | **667** | | | **43** | **1** | | | **3** | | | | | |
| 2017CPT.06.16.20161.1 | Cumberland | 7 | SR 1638 | FROM SR 1602 MP 0.0 TO DEAD END MP 0.66 | 4 | 2 | 2WU | NO | NO | 0.66 | 21 | 86 | 1.32 | | | 69 | | 696 | | | 45 | 1 | | | | | | | | |
| **TOTAL FOR MAP NO. 7** | | | | | | | | | | **0.66** | | **86** | **1.32** | | | **69** | | **696** | | | **45** | **1** | | | | | | | | |
| 2017CPT.06.16.20161.1 | Cumberland | 8 | SR 1885 | FROM SR 1835 MP 0.0 TO PVMT. JT. SR 1831 MP 1.78 | 4 | 2 | 2WU | NO | NO | 1.78 | 20 | 231 | 3.56 | | | 69 | | 1,767 | | | 115 | | | | | | | | | |
| **TOTAL FOR MAP NO. 8** | | | | | | | | | | **1.78** | | **231** | **3.56** | | | **69** | | **1,767** | | | **115** | | | | | | | | | |
| 2017CPT.06.16.20161.1 | Cumberland | 9 | SR 2018 | FROM OLDNC HWY 24 MP 0.0 TO SCL STEDMAN MP 0.88 | 6 | 2 | 2WU | NO | NO | 0.88 | 21.5 | 62 | 1.76 | | | 69 | | | | 939 | 62 | 28 | | 5 | 2 | | | | | |
| **TOTAL FOR MAP NO. 9** | | | | | | | | | | **0.88** | | **62** | **1.76** | | | **69** | | | | **939** | **62** | **28** | | **5** | **2** | | | | | |
| 2017CPT.06.16.20161.1 | Cumberland | 10 | SR 2023 | FROM SR 2226 MP 4.01 TO SR 2229 MP 5.95 | 4 | 2 | 2WU | NO | NO | 1.94 | 24 | 252 | 3.88 | | | 139 | | 2,320 | | | 151 | | | | | | | | | |
| **TOTAL FOR MAP NO. 10** | | | | | | | | | | **1.94** | | **252** | **3.88** | | | **139** | | **2,320** | | | **151** | | | | | | | | | |
| 2017CPT.06.16.20161.1 | Cumberland | 11 | SR 2243 | FROM PAVMT. JT. US HWY 301 MP 0.09 TO SR 2244 MP 2.24 | 3 | 2 | 2WU | NO | NO | 2.15 | 25.5 | 228 | 4.30 | | 1,690 | 139 | 1,725 | | | 2,515 | 237 | 75 | | | | | | | | |
| **TOTAL FOR MAP NO. 11** | | | | | | | | | | **2.15** | | **228** | **4.30** | | **1,690** | **139** | **1,725** | | | **2,515** | **237** | **75** | | | | | | | | |
| **TOTAL FOR PROJ NO. 2017CPT.06.16.20161.1** | | | | | | | | | | **10.46** | | **1,204** | **20.12** | | **6,676** | **1,249** | **2,720** | **7,238** | | **4,882** | **905** | **107** | | **9** | **21** | | | | | |
| **GRAND TOTAL** | | | | | | | | | | **15.94** | | **2,637** | **42.14** | **20,803** | **27,420** | **2,013** | **2,720** | **7,238** | **21,900** | **4,882** | **2,330** | **789** | **102,432** | **9** | **21** | **100.00** | **8.00** | **4.00** | **2,015.00** | **350.00** |

| PROJECT NO. | SHEET NO. | |
|---|---|---|
| 2017CPT.06.16.10261.1, etc | 20 | |
| | | |

# THERMOPLASTIC AND PAINT QUANTITIES

| PROJECT NO | COUNTY | MAP NO | ROUTE | DESCRIPTION | TYP NO | LANES | LANE TYPE | LENGTH | WIDTH | 4413000000-E WORK ZONE ADVANCE/GENERAL WARNING SIGNING SF | 4457000000-N TEMPORARY TRAFFIC CONTROL LS | 4510000000-N LAW ENFORCEMENT HR | 4600000000-N WORK ZONE DIGITAL SPEED LIMIT SIGNS EA | 4600000000-N WORK ZONE SEQUENTIAL FLASHING WARNING LIGHTS EA | 4600000000-N WORK ZONE PRESENCE LIGHTING EA | 4685000000-E 4" X 90 M WHITE THERMO LF | 4685000000-E 4" X 90 M YELLOW THERMO LF | 4686000000-E 4" X 120 M WHITE THERMO LF | 4686000000-E 4" X 120 M YELLOW THERMO LF | 4688000000-E 6" X 90 M YELLOW THERMO LF | 4688000000-E 6" X 90 M WHITE THERMO LF | 4690000000-E 6" X 120 M WHITE THERMO LF | 4695000000-E 8" X 90 M WHITE THERMO LF | 4697000000-E 8" X 120 M WHITE THERMO LF | 4700000000-E 12" X 90 M WHITE THERMO LF | 4700000000-E 12" X 90 M YELLOW THERMO LF | 4710000000-E 24" X 120 M WHITE THERMO LF | 4721000000-E THERMO MSG ONLY 120 M EA | 4721000000-E THERMO MSG SCHOOL 120 M EA | 4725000000-E THERMO LT ARROW 90 M EA | 4725000000-E THERMO RT ARROW 90 M EA | 4725000000-E THERMO STR ARROW 90 M EA | 4725000000-E THERMO MERGE ARROW (90 MILS) EA | 4810000000-E 4" WHITE PAINT LF | 4810000000-E 4" YELLOW PAINT LF | 4900000000-N CRYSTAL & RED MARKERS EA | 4900000000-N YELLOW & YELLOW MARKERS EA |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2017CPT.06.16.10261.1 | Cumberland | 1 | NC HWY 87 | FROM SR 2220 MP 7.59 TO SR 2245 MP 4.63 | 1 | 4 | MD | 2.96 | 60 | 1,853 | 1.00 | | | | | 31,257 | 31,257 | 15,269 | | | | | 2,370 | | | | 290 | | | 44 | 18 | 57 | | | | 850 | |
| **TOTAL FOR MAP NO. 1** | | | | | | | | **2.96** | | **1,853** | **1** | | | | | **31,257** | **31,257** | **15,269** | | | | | **2,370** | | | | **290** | | | **44** | **18** | **57** | | | | **850** | |
| 2017CPT.06.16.10261.1 | Cumberland | 2 | NC HWY 295 | FROM US HWY 401 MP 7.1 TO END EXPRESS GUTTER MP 7.50 | 2 | 5 | MD | 0.19 | 84 | | | 185 | 5 | 16 | 15 | | | | | 4,717 | 24,826 | 6,406 | | | 1,470 | | | 4 | | | | | 6 | | | 345 | |
| | | " | " | FROM END EXPRESS GUTTER MP 7.50 TO BEGIN EXPRESS GUTTER BRIDGE #1 MP 7.79 | 1 | 4 | MD | 0.29 | 76 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | " | " | FROM BEGIN EXPRESS GUTTER BRIDGE #1 MP 7.79 TO END EXPRESS GUTTER BRIDGE #1 MP 8.30 | 2 | 4 | MD | 0.35 | 74 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | " | " | FROM END EXPRESS GUTTER BRIDGE #1 MP 8.30 TO BEGIN EXPRESS GUTTER BRIDGE #2 MP 8.47 | 1 | 4 | MD | 0.17 | 76 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | " | " | FROM BEGIN EXPRESS GUTTER BRIDGE #2 MP 8.47 TO END EXPRESS GUTTER BRIDGE #2 MP 8.81 | 2 | 4 | MD | 0.21 | 74 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | " | " | FROM END EXPRESS GUTTER BRIDGE #2 MP 8.81 TO END MERGE LANE (NBL) FROM SR 1714 MP 10.12 | 1 | 4 | MD | 1.31 | 76 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **TOTAL FOR MAP NO. 2** | | | | | | | | **2.52** | | | | **185** | **5** | **16** | **15** | | | | | **4,717** | **24,826** | **6,406** | | | **1,470** | | | **4** | | | | | **6** | | | **345** | |
| **TOTAL FOR PROJ NO. 2017CPT.06.16.10261.1** | | | | | | | | **5.48** | | **1,853** | **1** | **185** | **5** | **16** | **15** | **31,257** | **31,257** | **15,269** | | **4,717** | **24,826** | **6,406** | **2,370** | | **1,470** | | **290** | **4** | | **44** | **18** | **57** | **6** | | | **1,195** | |
| | | | | | | | | | | | | | | **36** | | **62,514** | | **15,269** | | **29,543** | | | | | **1,470** | | | **4** | | **125** | | | | | | **1,195** | |
| 2017CPT.06.16.20161.1 | Cumberland | 3 | SR 1121 | FROM SR 1118 MP 0.0 TO PVMT. JT. US HWY 301 MP 1.24 | 3 | 2 | 2WU | 1.24 | 23 | | | | | | | | | | | | | | | | | | | | | | | | | 13,516 | 11,488 | | |
| **TOTAL FOR MAP NO. 3** | | | | | | | | **1.24** | | | | | | | | | | | | | | | | | | | | | | | | | | **13,516** | **11,488** | | |
| 2017CPT.06.16.20161.1 | Cumberland | 4 | SR 1126 | SR 1243 MP 0.0 TO SR 1353 MP 0.35 | 4 | 2 | 2WU | 0.35 | 19 | | | | | | | | | | | | | | | | | | | | | | | | | 3,696 | 3,141 | | |
| **TOTAL FOR MAP NO. 4** | | | | | | | | **0.35** | | | | | | | | | | | | | | | | | | | | | | | | | | **3,696** | **3,141** | | |
| 2017CPT.06.16.20161.1 | Cumberland | 5 | SR 1602 | PVMT. JT. THIRD STREET MP 0.04 TO END CURB & GUTTER MP0.44 | 5 | 2 | 2WU | 0.4 | 40 | | | | | | | 4,766 | | 300 | 10,400 | | | | | 200 | | 280 | 150 | | 12 | 2 | 1 | | | | | 15 | 84 |
| | | " | " | FROM END CURB & GUTTER MP 0.44 TO SR 1638 MP 0.88 | 4 | 2 | 2WU | 0.44 | 21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **TOTAL FOR MAP NO. 5** | | | | | | | | **0.84** | | | | | | | | **4,766** | | **300** | **10,400** | | | | | **200** | | **280** | **150** | | **12** | **2** | **1** | | | | | **15** | **84** |
| 2017CPT.06.16.20161.1 | Cumberland | 6 | SR 1620 | NC HWY. 210 MP 0.0 TO SR 1602 MP 0.62 | 4 | 2 | 2WU | 0.62 | 21 | | | | | | | | | | | | | | | | | | | | | | | | | 6,384 | 3,990 | | |
| **TOTAL FOR MAP NO. 6** | | | | | | | | **0.62** | | | | | | | | | | | | | | | | | | | | | | | | | | **6,384** | **3,990** | | |
| 2017CPT.06.16.20161.1 | Cumberland | 7 | SR 1638 | FROM SR 1602 MP 0.0 TO DEAD END MP 0.66 | 4 | 2 | 2WU | 0.66 | 21 | | | | | | | | | | | | | | | | | | | | | | | | | 7,344 | 7,344 | | |
| **TOTAL FOR MAP NO. 7** | | | | | | | | **0.66** | | | | | | | | | | | | | | | | | | | | | | | | | | **7,344** | **7,344** | | |
| 2017CPT.06.16.20161.1 | Cumberland | 8 | SR 1885 | FROM SR 1835 MP 0.0 TO PVMT. JT. SR 1831 MP 1.78 | 4 | 2 | 2WU | 1.78 | 20 | | | | | | | | | | | | | | | | | | | | | | | | | 18,726 | 15,917 | | |
| **TOTAL FOR MAP NO. 8** | | | | | | | | **1.78** | | | | | | | | | | | | | | | | | | | | | | | | | | **18,726** | **15,917** | | |
| 2017CPT.06.16.20161.1 | Cumberland | 9 | SR 2018 | FROM OLDNC HWY 24 MP 0.0 TO SCL STEDMAN MP 0.88 | 6 | 2 | 2WU | 0.88 | 21.5 | | | | | | | | | | | | | | | | | | | | | | | | | 11,066 | 11,066 | | |
| **TOTAL FOR MAP NO. 9** | | | | | | | | **0.88** | | | | | | | | | | | | | | | | | | | | | | | | | | **11,066** | **11,066** | | |
| 2017CPT.06.16.20161.1 | Cumberland | 10 | SR 2023 | FROM SR 2226 MP 4.01 TO SR 2229 MP 5.95 | 4 | 2 | 2WU | 1.94 | 24 | | | | | | | | | | | | | | | | | | | | | | | | | 20,486 | 17,413 | | |
| **TOTAL FOR MAP NO. 10** | | | | | | | | **1.94** | | | | | | | | | | | | | | | | | | | | | | | | | | **20,486** | **17,413** | | |
| 2017CPT.06.16.20161.1 | Cumberland | 11 | SR 2243 | FROM PAVMT. JT. US HWY 301 MP 0.09 TO SR 2244 MP 2.24 | 3 | 2 | 2WU | 2.15 | 25.5 | | | | | | | 23,656 | | 275 | 21,429 | | | | | | | 530 | | | | 2 | 1 | | | | | 24 | 206 |
| **TOTAL FOR MAP NO. 11** | | | | | | | | **2.15** | | | | | | | | **23,656** | | **275** | **21,429** | | | | | | | **530** | | | | **2** | **1** | | | | | **24** | **206** |
| **TOTAL FOR PROJ NO. 2017CPT.06.16.20161.1** | | | | | | | | **10.46** | | | | | | | | **28,422** | | **575** | **31,829** | | | | | **200** | | **810** | **150** | | **12** | **4** | **2** | | | **81,218** | **70,359** | **39** | **290** |
| | | | | | | | | | | | | | | | | **28,422** | | **32,404** | | | | | | | **810** | | | **12** | | **6** | | | **151,577** | | **329** | |
| **GRAND TOTAL** | | | | | | | | **15.94** | | **1,853** | **1** | **185** | **5** | **16** | **15** | **59,679** | **31,257** | **15,844** | **31,829** | **4,717** | **24,826** | **6,406** | **2,370** | **200** | **1,470** | **810** | **440** | **4** | **12** | **48** | **20** | **57** | **6** | **81,218** | **70,359** | **1,234** | **290** |
| | | | | | | | | | | | | | | **36** | | **90,936** | | **47,673** | | **29,543** | | | | | **2,280** | | | **16** | | **131** | | | | **151,577** | | **1,524** | |