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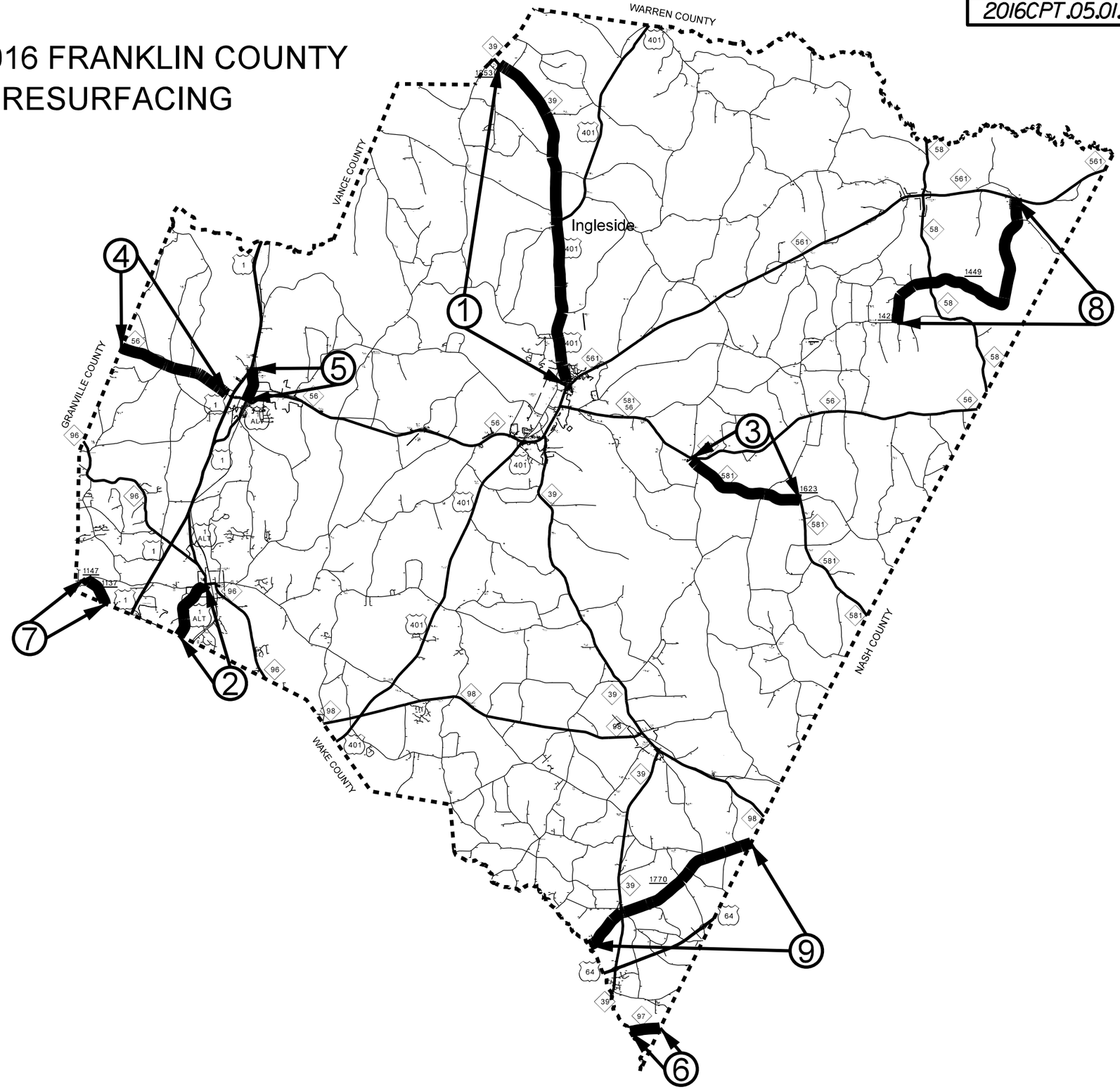
**This file or an individual page shall not be considered a certified document.**

| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| 2016CPT.05.01.10351.1, etc. | 1 |

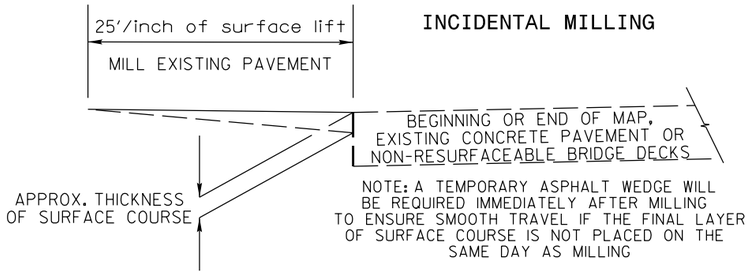
# 2015-2016 FRANKLIN COUNTY RESURFACING



| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| 2016CPT.05.01.10351.1, etc. | 2 |

## PAVEMENT SCHEDULE

| | |
|---|---|
| C1 | 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD. |
| C2 | 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. |
| S | PROP. SHOULDER RECONSTRUCTION |
| U | EXISTING PAVEMENT |
| V1 | 0"- 1½" MILLING |
| V2 | 1½"- 3" MILLING |
| V3 | 1½" MILLING |

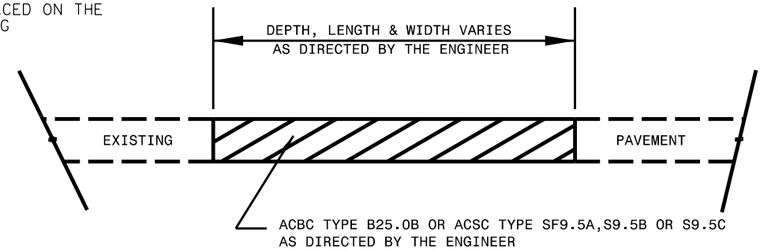



INCIDENTAL MILLING

NOTE: A TEMPORARY ASPHALT WEDGE WILL BE REQUIRED IMMEDIATELY AFTER MILLING TO ENSURE SMOOTH TRAVEL IF THE FINAL LAYER OF SURFACE COURSE IS NOT PLACED ON THE SAME DAY AS MILLING

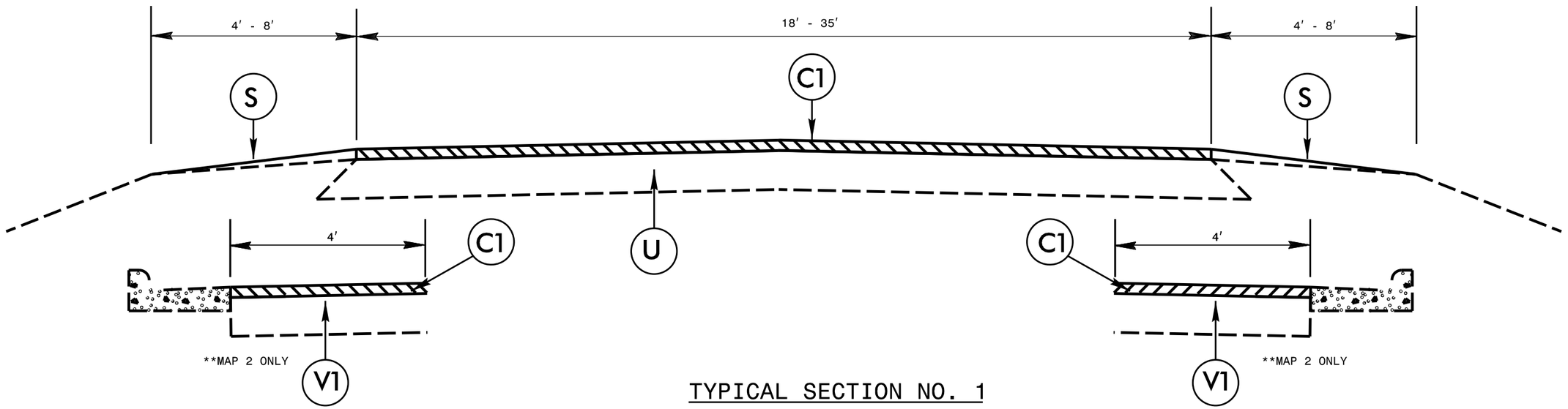
NOTES

ALL UNPAVED S.R. ROADS TO BE RESURFACED 50' FROM EDGE OF PAVEMENT OF MAIN PROJECT
ALL PAVED S.R. ROADS TO BE RESURFACED TO THE ENDS OF THE RADII, OR AS DIRECTED BY THE ENGINEER.
EDGES, PAVEMENT WIDENING, INTERSECTIONS AND BRIDGE FLARES ARE INCLUDED IN THE TABLE OF QUANTITIES.
BRIDGES TO BE RESURFACED AT LOCATIONS AND TO DEPTH AS DIRECTED BY THE ENGINEER.




## PATCHING EXISTING PAVEMENT

PATCHING TO BE PERFORMED PRIOR TO MILL AND FILL OPERATION

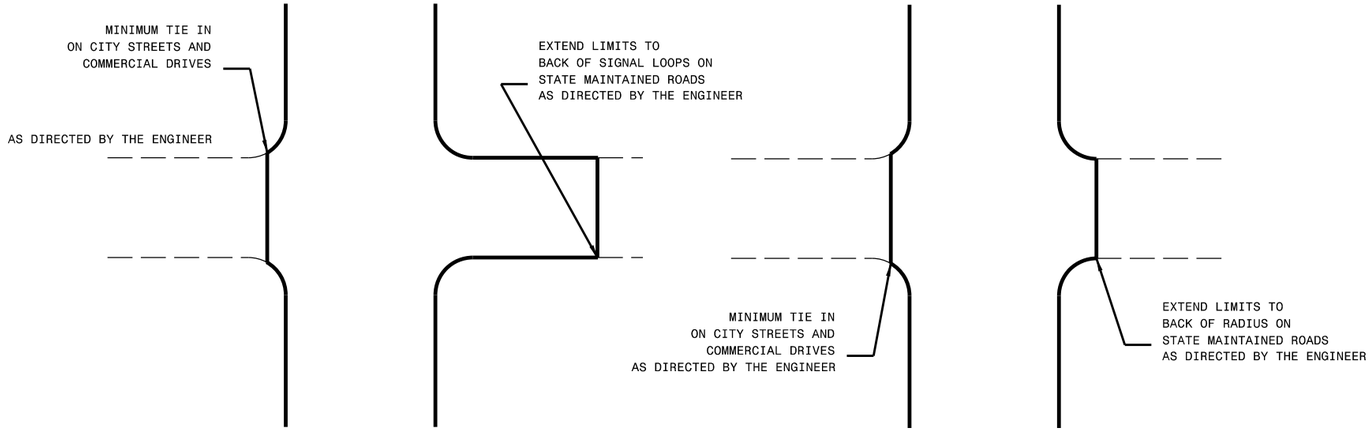



TYPICAL SECTION NO. 1

| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| 2016CPT.05.01.1035I.J, etc. | 3 |

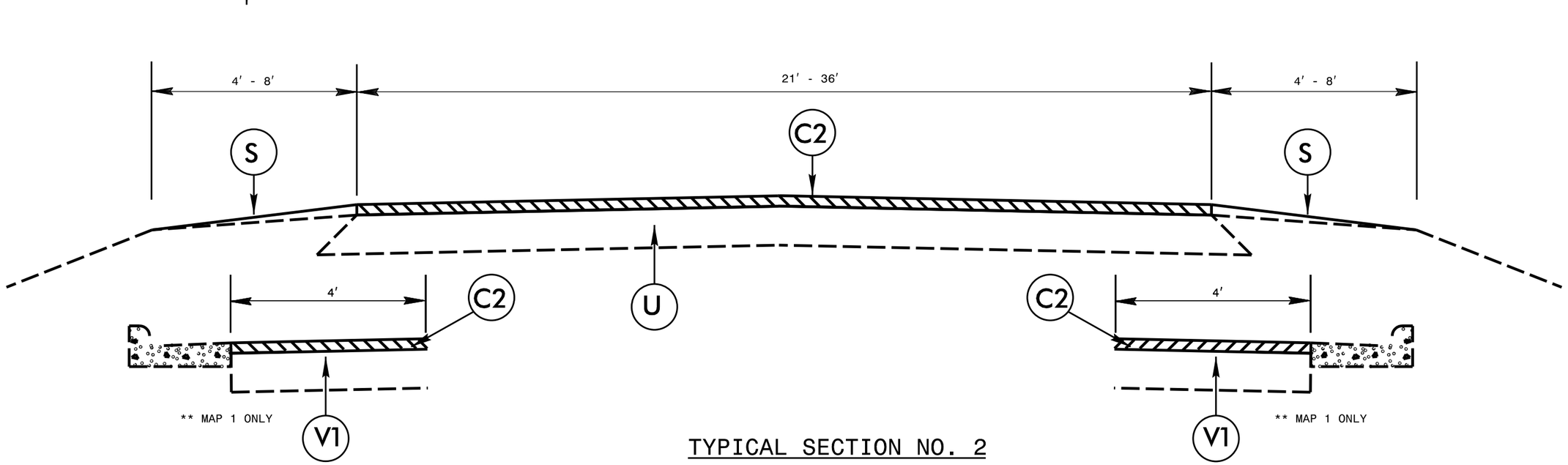
## PAVEMENT SCHEDULE

| | |
|---|---|
| C1 | 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD. |
| C2 | 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. |
| S | PROP. SHOULDER RECONSTRUCTION |
| U | EXISTING PAVEMENT |
| V1 | 0"- 1½" MILLING |
| V2 | 1½"- 3" MILLING |
| V3 | 1½" MILLING |




DETAIL OF PROJECT LIMITS AT SIGNALIZED Y LINES

DETAIL OF PROJECT LIMITS AT UNSIGNALIZED Y LINES

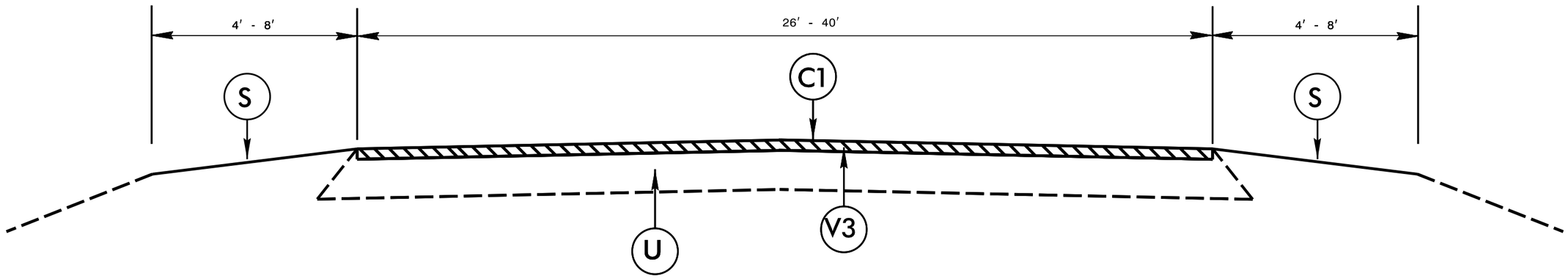



TYPICAL SECTION NO. 2

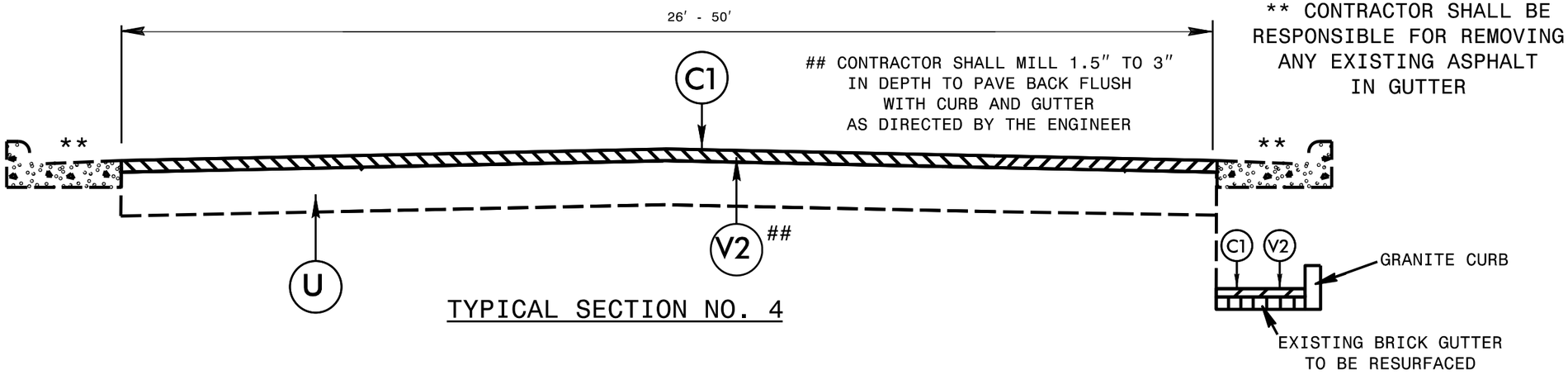
| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| 2016CPT.05.01.10351.1, etc. | 4 |

## PAVEMENT SCHEDULE

| | |
|---|---|
| C1 | 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD. |
| C2 | 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. |
| S | PROP. SHOULDER RECONSTRUCTION |
| U | EXISTING PAVEMENT |
| V1 | 0"- 1½" MILLING |
| V2 | 1½"- 3" MILLING |
| V3 | 1½" MILLING |




TYPICAL SECTION NO. 3




TYPICAL SECTION NO. 4

| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| 2016CPT.05.01.10351.1, Etc. | 5 |

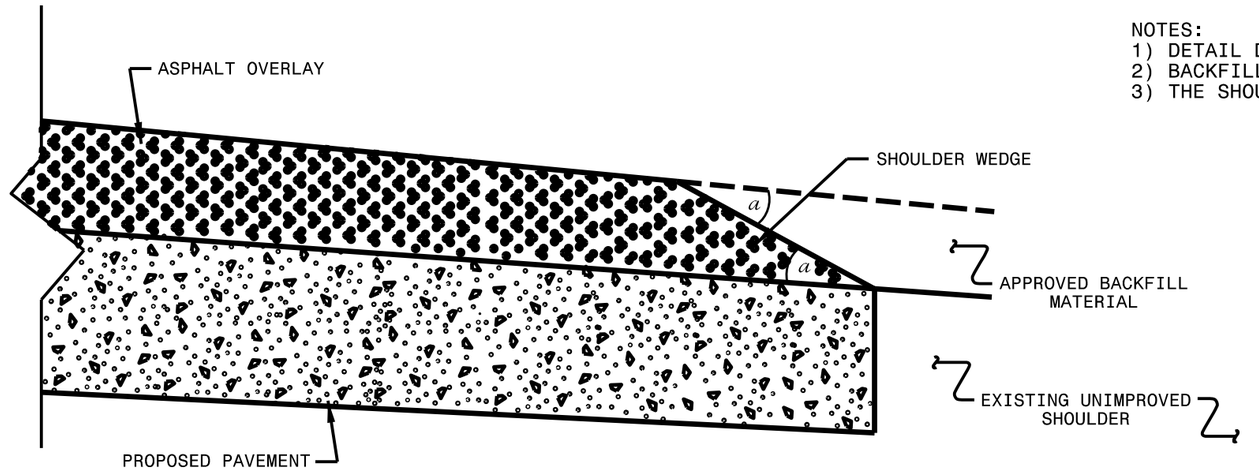
**DIVISION OF HIGHWAYS**
**STATE OF NORTH CAROLINA**

# *SOIL STABILIZATION TIMEFRAMES*

| *SITE DESCRIPTION* | *STABILIZATION TIME* | *TIMEFRAME EXCEPTIONS* |
|---|---|---|
| PERIMETER DIKES, SWALES, DITCHES AND SLOPES | 7 DAYS | NONE |
| HIGH QUALITY WATER (HQW) ZONES | 7 DAYS | NONE |
| SLOPES STEEPER THAN 3:1 | 7 DAYS | IF SLOPES ARE 10' OR LESS IN LENGTH AND ARE NOT STEEPER THAN 2:1, 14 DAYS ARE ALLOWED. |
| SLOPES 3:1 OR FLATTER | 14 DAYS | 7 DAYS FOR SLOPES GREATER THAN 50' IN LENGTH. |
| ALL OTHER AREAS WITH SLOPES FLATTER THAN 4:1 | 14 DAYS | NONE, EXCEPT FOR PERIMETERS AND HQW ZONES. |

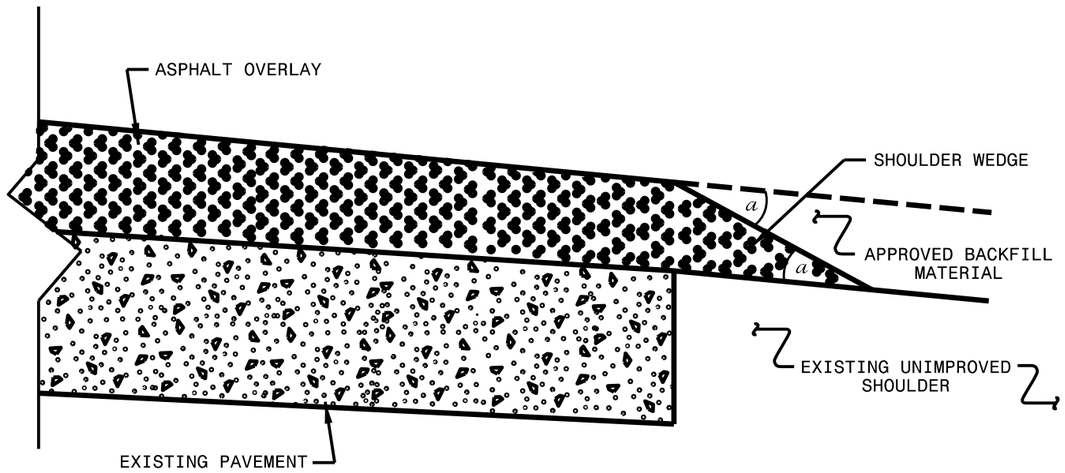
| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| 2016CPT.05.01.10351.1, Etc. | 6 |

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.



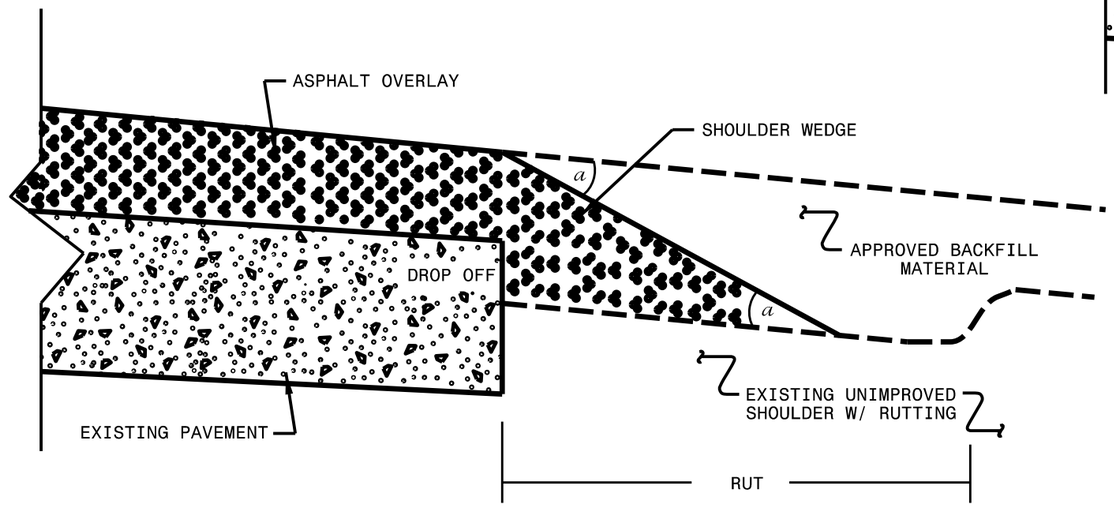

## SHOULDER WEDGE DETAIL

**(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 | | |

$$$$$$$$SYSTIME$$$$$$
$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$
$$$$$USERNAME$$$$

| PROJECT NO. | SHEET NO. | TOTAL NO. |
|---|---|---|
| 2016CPT.05.01.10351.01 | 7 | |
| 2016CPT.05.01.20351.01 | | |

# 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 | BORROW CY | INCIDENTAL STONE BASE TONS | SHOULDER RECONSTRUCTION SMI | 1½" MILLING SY | 0" TO 1.5" MILLING SY | 1.5" TO 3" MILLING SY | INCIDENTAL MILLING SY | SURFACE COURSE, S9.5B TONS | SURFACE COURSE, SF9.5A TON | ASPHALT BINDER FOR PLANT MIX TON | PATCHING EXISTING PAVEMENT TONS | ADJUST DROP INLET EA | ADJUST MANHOLES EA | ADJUST METER OR VALVE BOX EA | TEMPORARY SILT FENCE LF | SEED & MULCHING AC | INDUCTIVE LOOP LF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2016CPT.05.01.10351.1 | Franklin | 1 | US 401/NC 39 | FROM 425' NORTH OF NC 561 TO JOINT 150' SOUTH OF SR 1253 | 2 | 2 | 2WU | NO | NO | 10.5 | 24-36 | 2,083 | 800 | 20.80 | | 577 | | 875 | 14,235 | | 854 | 250 | | 7 | 8 | 1,600 | 10.50 | 264 |
| **TOTAL FOR MAP NO. 1** | | | | | | | | | | **10.5** | | **2,083** | **800** | **20.80** | | **577** | | **875** | **14,235** | | **854** | **250** | | **7** | **8** | **1,600** | **10.50** | **264** |
| 2016CPT.05.01.10351.1 | Franklin | 2 | US 1A YOUNGSVILLE | WAKE CO LINE TO NC 96 (HOLDEN RD) | 1 | 2 | 2WU | NO | YES | 1.9 | 24-35 | 367 | 175 | 3.67 | | 300 | | 600 | | 2,667 | 179 | 50 | 1 | 1 | | 600 | 1.90 | 1,025 |
| **TOTAL FOR MAP NO. 2** | | | | | | | | | | **1.9** | | **367** | **175** | **3.67** | | **300** | | **600** | | **2,667** | **179** | **50** | **1** | **1** | | **600** | **1.90** | **1,025** |
| 2016CPT.05.01.10351.1 | Franklin | 3 | NC 581 | NC 56 TO SR 1623 | 2 | 2 | 2WU | NO | YES | 3.6 | 21-22 | 720 | 360 | 7.20 | | | | 500 | 4,039 | | 242 | 100 | | | | 1,050 | 3.60 | |
| **TOTAL FOR MAP NO. 3** | | | | | | | | | | **3.6** | | **720** | **360** | **7.20** | | | | **500** | **4,039** | | **242** | **100** | | | | **1,050** | **3.60** | |
| 2016CPT.05.01.10351.1 | Franklin | 4 | NC 56 | GRANVILLE CO LINE TO 450' WEST OF US 1 SB RAMPS | 2 | 2 | 2WU | NO | YES | 3.5 | 24-35 | 700 | 350 | 7.00 | | | | 500 | 4,415 | | 265 | 250 | | | | 3,200 | 3.50 | |
| **TOTAL FOR MAP NO. 4** | | | | | | | | | | **3.5** | | **700** | **350** | **7.00** | | | | **500** | **4,415** | | **265** | **250** | | | | **3,200** | **3.50** | |
| 2016CPT.05.01.10351.1 | Franklin | 5 | US 1A FRANKLINTON | NC 56 NORTH TO US 1 | 3,4 | 2 | 2WU | NO | NO | 1 | 26-50 | 90 | 45 | 0.90 | 6,954 | | 11,409 | | | 1,597 | 107 | | | | 11 | 3 | | 0.50 | 1,320 |
| **TOTAL FOR MAP NO. 5** | | | | | | | | | | **1** | | **90** | **45** | **0.90** | **6,954** | | **11,409** | | | **1,597** | **107** | | | | **11** | **3** | | **0.50** | **1,320** |
| 2016CPT.05.01.10351.1 | Franklin | 6 | NC 97 | WAKE CO LINE TO NASH CO LINE | 1 | 2 | 2WU | NO | NO | 0.83 | 24 | 166 | 60 | 1.66 | | | | 150 | | 1,018 | 68 | | | | | | 400 | 0.83 | |
| **TOTAL FOR MAP NO. 6** | | | | | | | | | | **0.83** | | **166** | **60** | **1.66** | | | | **150** | | **1,018** | **68** | | | | | | **400** | **0.83** | |
| **TOTAL FOR PROJ NO. 2016CPT.05.01.10351.1** | | | | | | | | | | **21.33** | | **4,126** | **1,790** | **41.23** | **6,954** | **877** | **11,409** | **2,625** | **22,689** | **5,282** | **1,715** | **650** | **1** | **19** | **11** | **6,850** | **20.83** | **2,609** |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2016CPT.05.01.20351.1 | Franklin | 7 | SR 1137 - JACKSON RD | SR 1147 - HOLDEN RD TO WAKE CO LINE | 1 | 2 | 2WU | NO | YES | 0.92 | 21 | 184 | 46 | 1.84 | | | | 200 | | 988 | 66 | 100 | | | | 300 | 0.92 | |
| **TOTAL FOR MAP NO. 7** | | | | | | | | | | **0.92** | | **184** | **46** | **1.84** | | | | **200** | | **988** | **66** | **100** | | | | **300** | **0.92** | |
| 2016CPT.05.01.20351.1 | Franklin | 8 | SR 1449 - COLLINS MILL RD | NC 561 TO SR 1425 - WHITE LEVEL RD | 1 | 2 | 2WU | NO | YES | 7.5 | 18 | 1,500 | 360 | 15.00 | | | | 400 | | 6,908 | 463 | 650 | | | | 1,500 | 7.50 | |
| **TOTAL FOR MAP NO. 8** | | | | | | | | | | **7.5** | | **1,500** | **360** | **15.00** | | | | **400** | | **6,908** | **463** | **650** | | | | **1,500** | **7.50** | |
| 2016CPT.05.01.20351.1 | Franklin | 9 | SR 1770 - OLD US 64 | WAKE CO LINE TO NASH CO LINE | 1 | 2 | 2WU | NO | YES | 5.8 | 20 | 580 | 350 | 11.60 | | | | 1,000 | | 5,932 | 397 | | | | | 2,000 | 5.80 | 264 |
| **TOTAL FOR MAP NO. 9** | | | | | | | | | | **5.8** | | **580** | **350** | **11.60** | | | | **1,000** | | **5,932** | **397** | | | | | **2,000** | **5.80** | **264** |
| **TOTAL FOR PROJ NO. 2016CPT.05.01.20351.1** | | | | | | | | | | **14.22** | | **2,264** | **756** | **28.44** | | | | **1,600** | | **13,828** | **926** | **750** | | | | **3,800** | **14.22** | **264** |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **GRAND TOTAL** | | | | | | | | | | **35.55** | | **6,390** | **2,546** | **69.67** | **6,954** | **877** | **11,409** | **4,225** | **22,689** | **19,110** | **2,641** | **1,400** | **1** | **19** | **11** | **10,650** | **35.05** | **2,873** |

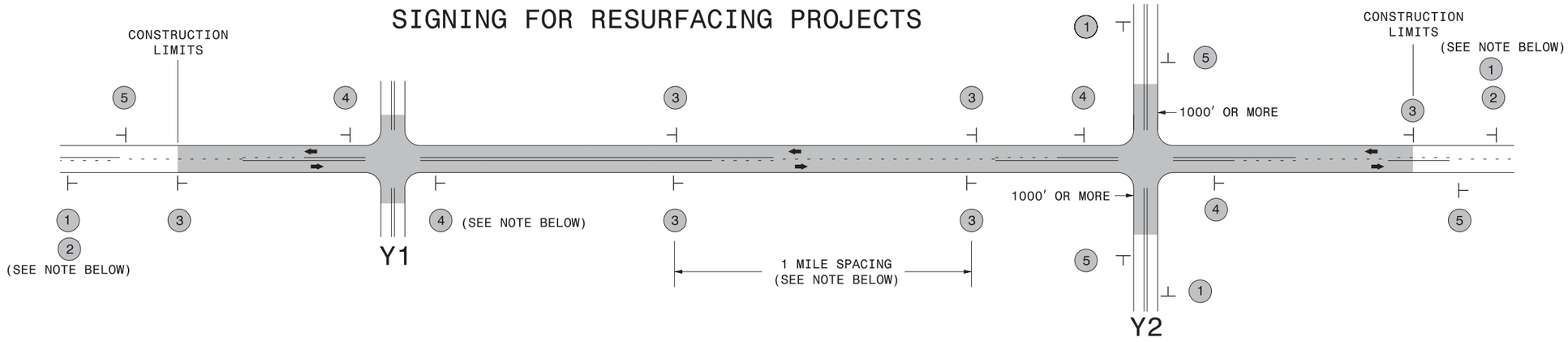
| PROJECT NO. | SHEET NO. | TOTAL NO. |
|---|---|---|
| 2016CPT.05.01.10351.1 | 8 | |
| 2016CPT.05.01.20351.1 | | |

# 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 | 4685000000-E 4" X 90 M WHITE THERMO LF | 4685000000-E 4" X 90 M YELLOW THERMO LF | 4686000000-E 4" X 120 M YELLOW THERMO LF | 4686000000-E 4" X 120 M WHITE THERMO LF | 4688000000-E 6" X 90 M WHITE THERMO LF | 4695000000-E 8" X 90 M YELLOW THERMO LF | 4695000000-E 8" X 90 M WHITE THERMO LF | 4697000000-E 8" X 120 M WHITE THERMO LF | 4710000000-E 24" X 120 M WHITE THERMO LF | 4721000000-E THERMO MSG SCHOOL 120 M EA | 4721000000-E THERMO MSG NO 120 M EA | 4721000000-E THERMO MSG PARKING 120 M EA | 4721000000-E THERMO MSG STOP 120 M EA | 4721000000-E THERMO MSG AHEAD 120 M EA | 4725000000-E THERMO RT ARROW 90 M EA | 4725000000-E THERMO LT ARROW 90 M EA | 4725000000-E THERMO STR & RT ARROW 90 M EA | 4725000000-E THERMO STR & LT ARROW 90 M EA | 4810000000-E 4" YELLOW PAINT LF | 4820000000-E 4" WHITE PAINT LF | 4835000000-E 8" WHITE PAINT LF | 4845000000-N 24" WHITE PAINT LF | 4845000000-N PAINT STR & RT ARROW EA | 4845000000-N PAINT LT ARROW EA | 4845000000-N PAINT RT ARROW EA | 4905000000-N SNOW PLOWABLE MARKERS EA |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2016CPT.05.01.10351.1 | Franklin | 1 | US 401/NC 39 | FROM 425' NORTH OF NC 561 TO JOINT 150' SOUTH OF SR 1253 | 2 | 2 | 2WU | 10.5 | 24-36 | 1,176 | 0.32 | | 112,980 | 400 | 78,660 | 1,315 | 240 | | | | | | | | | | 1 | | | | | | | | | | | | 788 |
| **TOTAL FOR MAP NO. 1** | | | | | | | | **10.5** | | **1,176** | **0.32** | | **112,980** | **400** | **78,660** | **1,315** | **240** | | | | | | | | | | **1** | | | | | | | | | | | | **788** |
| 2016CPT.05.01.10351.1 | Franklin | 2 | US 1A YOUNGSVILLE | WAKE CO LINE TO NC 96 (HOLDEN RD) | 1 | 2 | 2WU | 1.9 | 24-35 | 213 | 0.07 | | 20,444 | | 21,490 | 455 | | 135 | | | 180 | 12 | | | | | | 12 | 1 | | | | | | | | | | 220 |
| **TOTAL FOR MAP NO. 2** | | | | | | | | **1.9** | | **213** | **0.07** | | **20,444** | | **21,490** | **455** | | **135** | | | **180** | **12** | | | | | | **12** | **1** | | | | | | | | | | **220** |
| 2016CPT.05.01.10351.1 | Franklin | 3 | NC 581 | NC 56 TO SR 1623 | 2 | 2 | 2WU | 3.6 | 21-22 | 404 | 0.09 | | 38,736 | | 34,102 | 100 | | | 40 | | 90 | | | | | | | | | | | | | | | | 238 |
| **TOTAL FOR MAP NO. 3** | | | | | | | | **3.6** | | **404** | **0.09** | | **38,736** | | **34,102** | **100** | | | **40** | | **90** | | | | | | | | | | | | | | | | **238** |
| 2016CPT.05.01.10351.1 | Franklin | 4 | NC 56 | GRANVILLE CO LINE TO 450' WEST OF US 1 SB RAMPS | 2 | 2 | 2WU | 3.5 | 24-35 | 392 | 0.10 | | 37,660 | | 32,200 | 485 | | | | | | | | | | | | | | 3 | | | | | | | | | | 256 |
| **TOTAL FOR MAP NO. 4** | | | | | | | | **3.5** | | **392** | **0.10** | | **37,660** | | **32,200** | **485** | | | | | | | | | | | | | | **3** | | | | | | | | | | **256** |
| 2016CPT.05.01.10351.1 | Franklin | 5 | US 1A FRANKLINTON | NC 56 NORTH TO US 1 | 3,4 | 2 | 2WU | 1 | 26-50 | 216 | 0.04 | 40 | 6,445 | 375 | 10,666 | 335 | | 55 | | 670 | 180 | | 20 | 70 | | | 3 | 1 | | 2 | 10,666 | 6,780 | 670 | 180 | 2 | 1 | 3 | 66 |
| **TOTAL FOR MAP NO. 5** | | | | | | | | **1** | | **216** | **0.04** | **40** | **6,445** | **375** | **10,666** | **335** | | **55** | | **670** | **180** | | **20** | **70** | | | **3** | **1** | | **2** | **10,666** | **6,780** | **670** | **180** | **2** | **1** | **3** | **66** |
| 2016CPT.05.01.10351.1 | Franklin | 6 | NC 97 | WAKE CO LINE TO NASH CO LINE | 1 | 2 | 2WU | 0.83 | 24 | 112 | 0.03 | | 9,505 | | 7,675 | | | | | | | | | | | | | | | | | | | | | | | | 55 |
| **TOTAL FOR MAP NO. 6** | | | | | | | | **0.83** | | **112** | **0.03** | | **9,505** | | **7,675** | | | | | | | | | | | | | | | | | | | | | | | | **55** |
| **TOTAL FOR PROJ NO. 2016CPT.05.01.10351.1** | | | | | | | | **21.33** | | **2,513** | **0.65** | **40** | **225,770** | **775** | **184,793** | **2,690** | **240** | **190** | **40** | **670** | **450** | **12** | **20** | **70** | | | **7** | **13** | **1** | **2** | **10,666** | **6,780** | **670** | **180** | **2** | **1** | **3** | **1,623** |
| | | | | | | | | | | | | | **226,545** | | **187,483** | | | **230** | | | | **102** | | | | | **23** | | | | **17,446** | | | | **6** | | |
| 2016CPT.05.01.20351.1 | Franklin | 7 | SR 1137 - JACKSON RD | SR 1147 - HOLDEN RD TO WAKE CO LINE | 1 | 2 | 2WU | 0.92 | 21 | 112 | 0.03 | | 9,715 | | 8,500 | 40 | | | | | 24 | | | | | | | | | | | | | | | | |
| **TOTAL FOR MAP NO. 7** | | | | | | | | **0.92** | | **112** | **0.03** | | **9,715** | | **8,500** | **40** | | | | | **24** | | | | | | | | | | | | | | | | |
| 2016CPT.05.01.20351.1 | Franklin | 8 | SR 1449 - COLLINS MILL RD | NC 561 TO SR 1425 - WHITE LEVEL RD | 1 | 2 | 2WU | 7.5 | 18 | 840 | 0.17 | | | | | | | | | | | | | | | | | | | | | | 161,400 | 161,400 | | | | | |
| **TOTAL FOR MAP NO. 8** | | | | | | | | **7.5** | | **840** | **0.17** | | | | | | | | | | | | | | | | | | | | | | **161,400** | **161,400** | | | | | |
| 2016CPT.05.01.20351.1 | Franklin | 9 | SR 1770 - OLD US 64 | WAKE CO LINE TO NASH CO LINE | 1 | 2 | 2WU | 5.8 | 20 | 650 | 0.15 | | 61,248 | | 53,410 | 310 | | | | | 124 | | | | 12 | 15 | | | | | | | | | | | | |
| **TOTAL FOR MAP NO. 9** | | | | | | | | **5.8** | | **650** | **0.15** | | **61,248** | | **53,410** | **310** | | | | | **124** | | | | **12** | **15** | | | | | | | | | | | | |
| **TOTAL FOR PROJ NO. 2016CPT.05.01.20351.1** | | | | | | | | **14.22** | | **1,602** | **0.35** | | **70,963** | | **61,910** | **350** | | | | | **148** | | | | **12** | **15** | | | | | | | **161,400** | **161,400** | | | | | |
| | | | | | | | | | | | | | **70,963** | | **62,260** | | | | | | **27** | | | | | | | | | | | | **322,800** | | | | | |
| **GRAND TOTAL** | | | | | | | | **35.55** | | **4,115** | **1.00** | **40** | **296,733** | **775** | **246,703** | **3,040** | **240** | **190** | **40** | **670** | **598** | **12** | **20** | **70** | **12** | **15** | **7** | **13** | **1** | **2** | **172,066** | **168,180** | **670** | **180** | **2** | **1** | **3** | **1,623** |
| | | | | | | | | | | | | | **297,508** | | **249,743** | | | **230** | | | | **129** | | | | | **23** | | | | **340,246** | | | | **6** | | |

| PROJ. REFERENCE NO. | SHEET NO. |
|---|---|
| 2016CPT.05.01.10351.1<br>Etc. | TMP-1 |

# SIGNING FOR RESURFACING PROJECTS




**LEGEND**

⊢ STATIONARY SIGN

⬅ DIRECTION OF TRAFFIC FLOW

## MAINLINE (-L-) SIGNING

### SIGNING NOTES AND PLACEMENT PER DIRECTION

**1** — ROAD WORK AHEAD, W20-1, 48″ X 48″

PLACE 1000′ PRIOR TO BEGINNING OF CONSTRUCTION LIMITS. ONLY USED ON -Y- LINES IF RESURFACING LIMITS EXTEND 1000′ ALONG -Y- LINE.

**2** — NEXT XX MILES, W7-3aP, 24″ X 18″

#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)

**3** — LOW/SOFT SHOULDER, SP 13107, 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, SP 13106, 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, G20-2 A, 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

3/9/2015
C:\Users\rmgarrett\Downloads\Resurfacing_AdvWarn_2Ln (2).dgn
User:rmgarrett

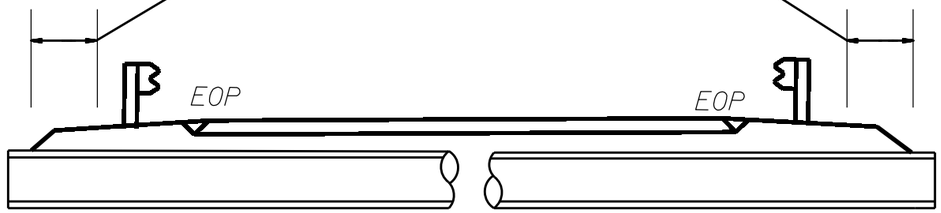
| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| 2016CPT.05.01J035IJ, Etc. | EC-1 |

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

BMP Options: Wattle, Silt Fence or Hardened Aggregate.

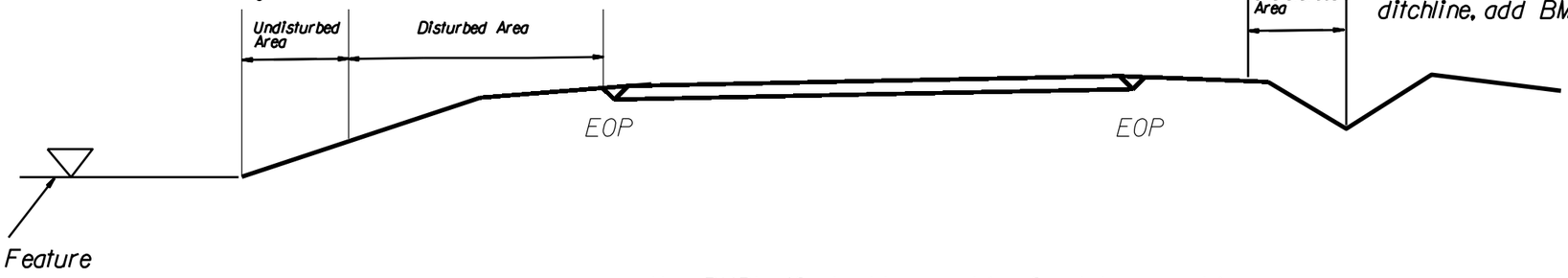
# EROSION CONTROL DETAIL

< 5' - 10' Undisturbed buffer add BMP




Pipe/Culvert

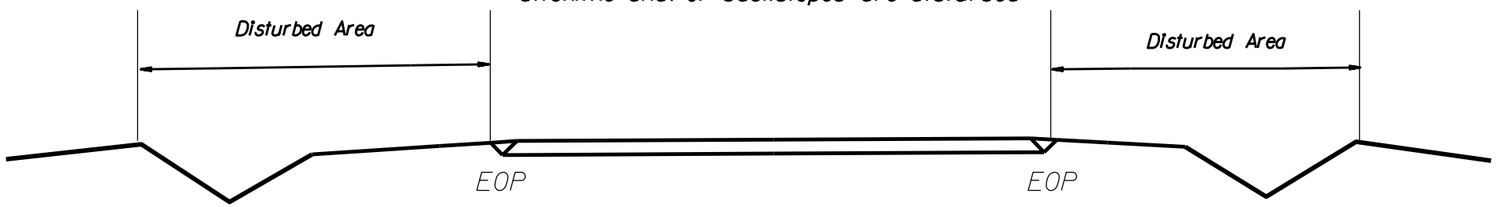
< 5' - 10' Undisturbed buffer from jurisdictional feature add BMP



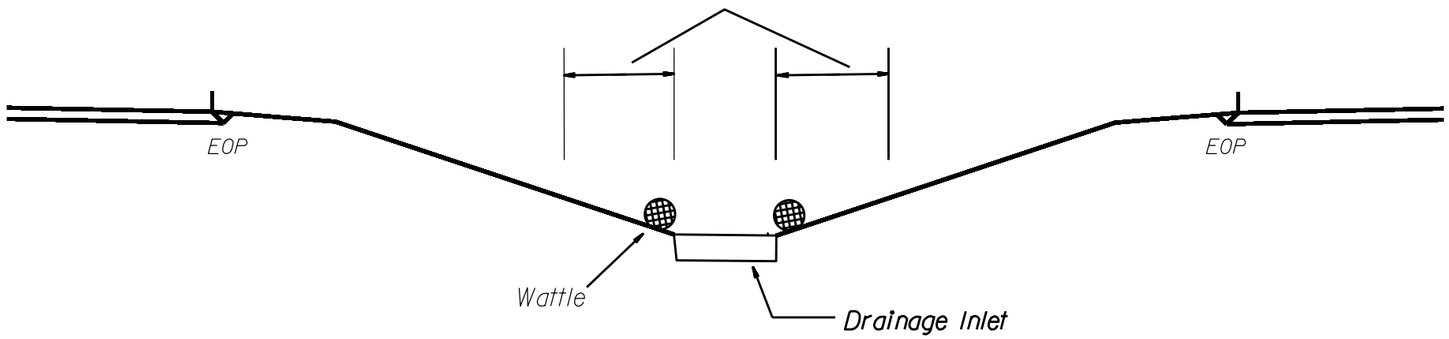

< 5' - 10' Undisturbed buffer from ditchline, add BMP

Jurisdictional Feature

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



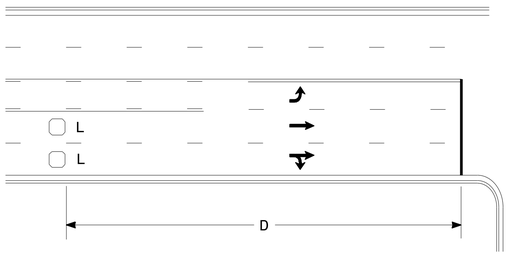

< 5' - 10' Undisturbed buffer from inlet, add wattle



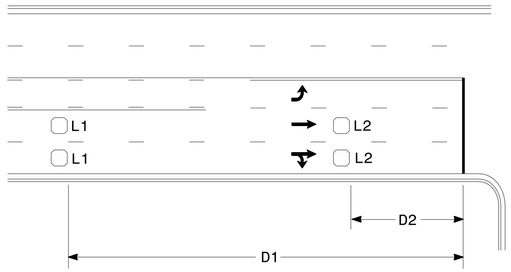

NOT TO SCALE

| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| 2016CPT.05.01.10351.1, Etc. | SIG 1 |

## 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

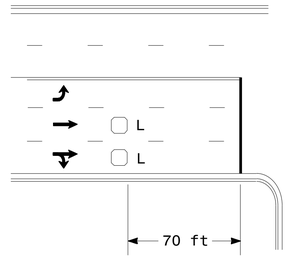
| Speed Limit mph | D1 ft | D2 ft |
|---|---|---|
| 40 | 250 | 80 |
| 45 | 300 | 90 |
| 50 | 355 | 100 |
| 55 | 420 | 110 |

L1 = 6ft X 6ft
Wired in series

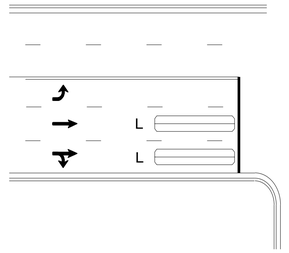
L2 = 6ft X 6ft
Wired in series

"Stretch" Operation

## Low Speed Detection
(≤35 mph)



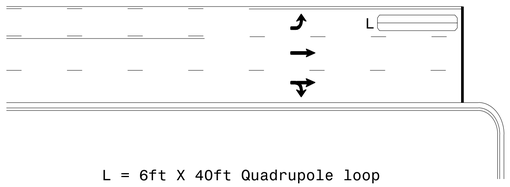

OR




L = 6ft X 6ft
Wired in series

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

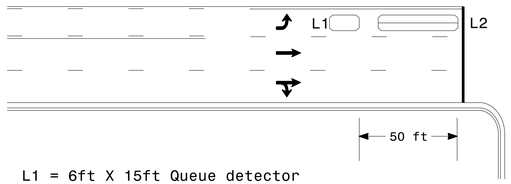
## Left Turn Lane Detection




L = 6ft X 40ft Quadrupole loop

Presence Loop Detection

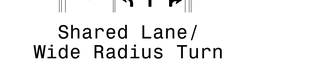
OR




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

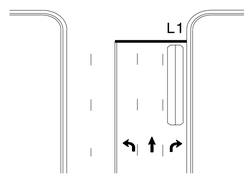
Queue Loop Detection

## Right Turn Lane Detection

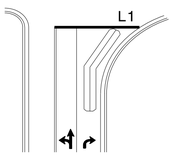



Shared Lane/
Wide Radius Turn

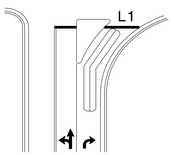
L1 = 6ft X 40ft Quadrupole loop
L2 = 6ft X 6ft [Minimum] Presence loop
Wired separately




Standard Turn

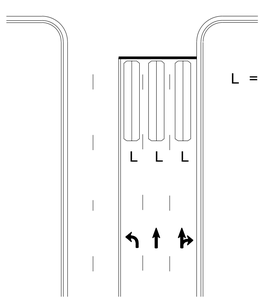



Wide Radius Turn



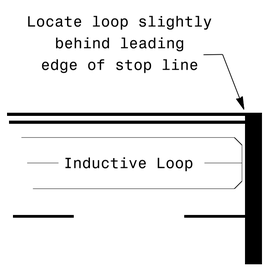

Channelized Turn

## Side Street Detection




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

## Presence Loop Placement at Stop Lines




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
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
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
B4756E00CE4E46D...
1/30/2015
DATE

SIG. INVENTORY NO.

30-JAN-2015 12:39
S:\NCDOT\Traffic Signals\Signal Design Section\Eastern Region\loop typical 2015.dgn
palexander