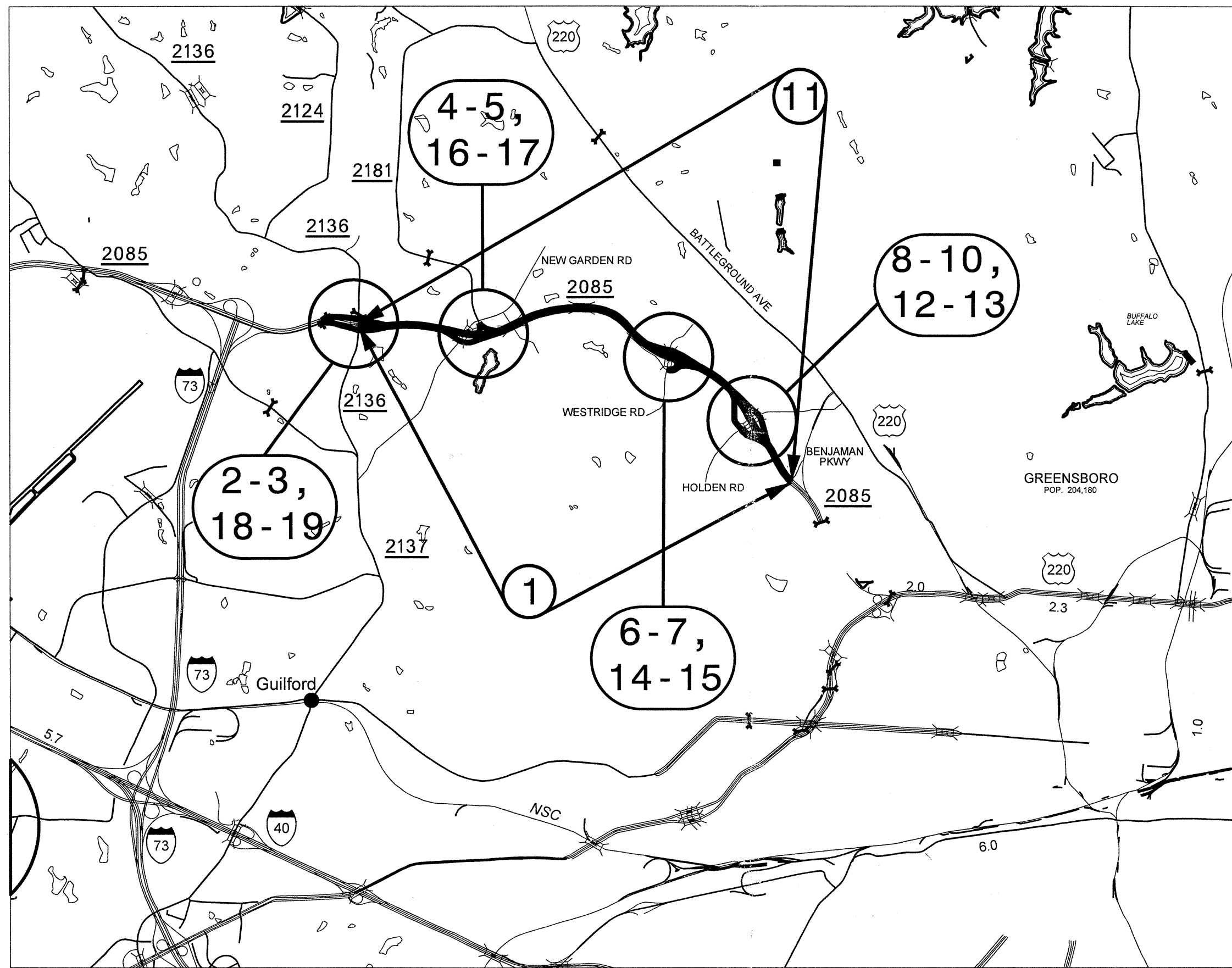


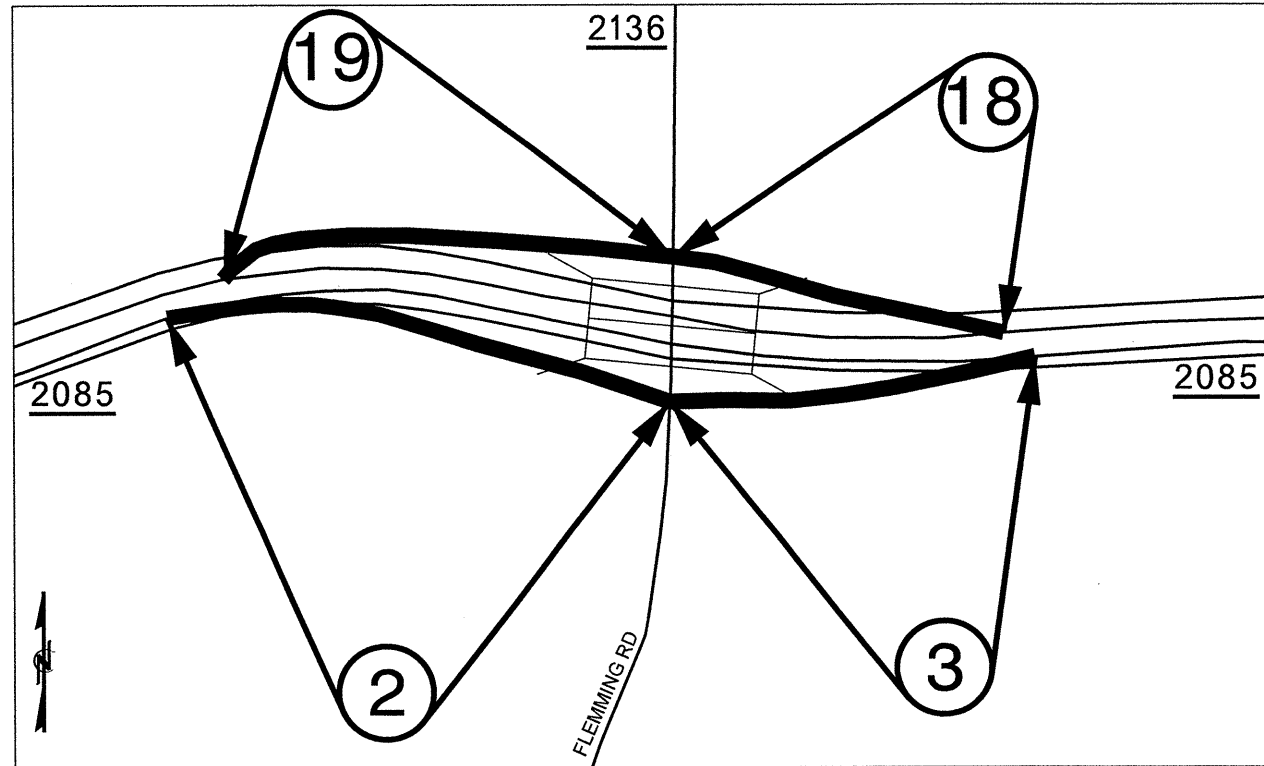
| STATE | PROJECT NO. | SHEET NO. | TOTAL SHEETS |
|----------------|--------------|-----------|--------------|
| N.C. | 7CR.20411.35 | 1 | |
| F.A. PROJ. NO. | | | |

2011 GUILFORD COUNTY

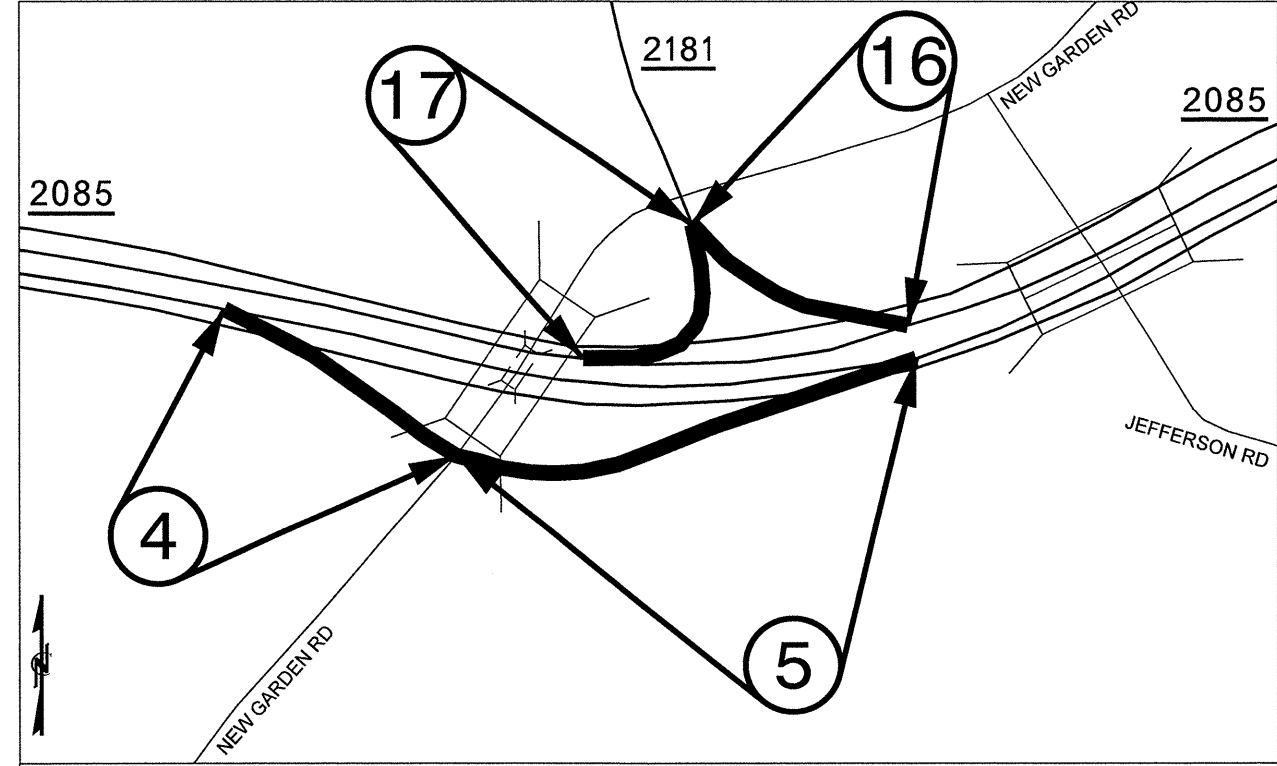


| | | | |
|----------------|--------------|-----------|--------------|
| STATE | PROJECT NO. | SHEET NO. | TOTAL SHEETS |
| N.C. | 7CR.20411.35 | 2 | |
| F.A. PROJ. NO. | | | |

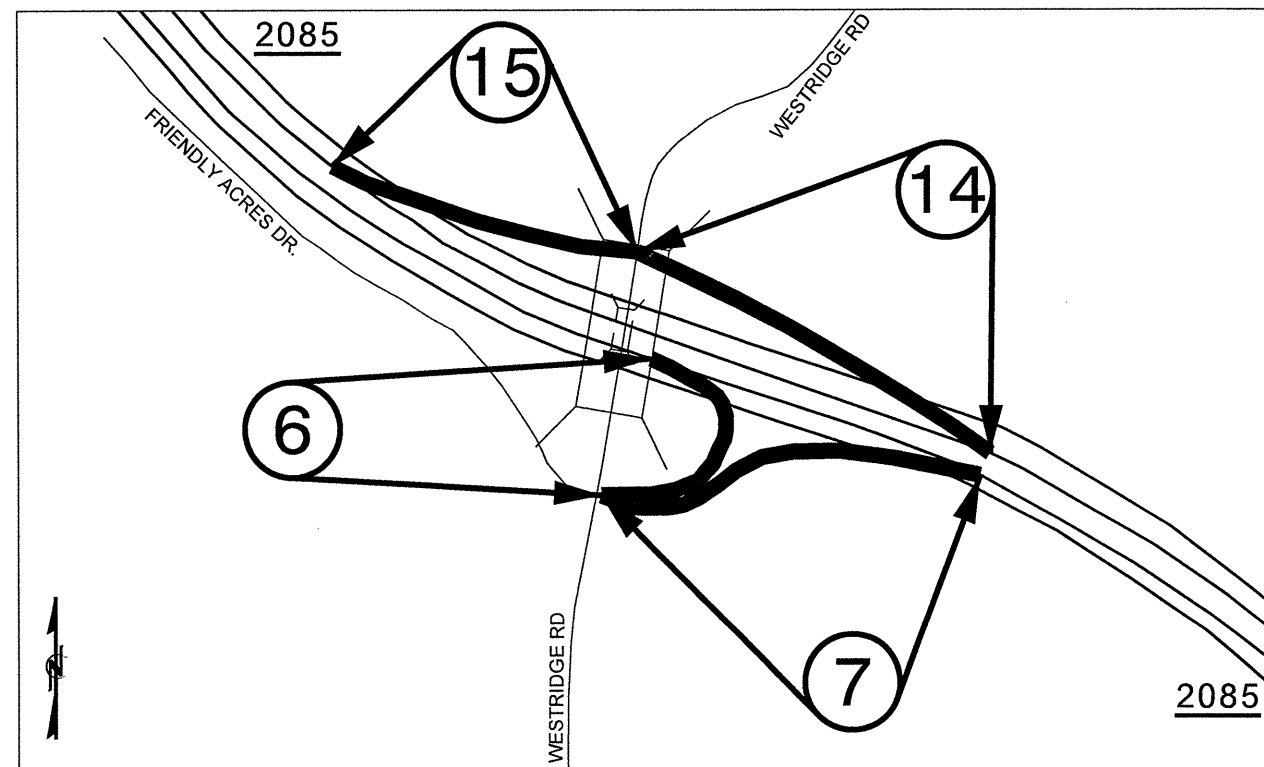
MAPS 2-3, 18-19



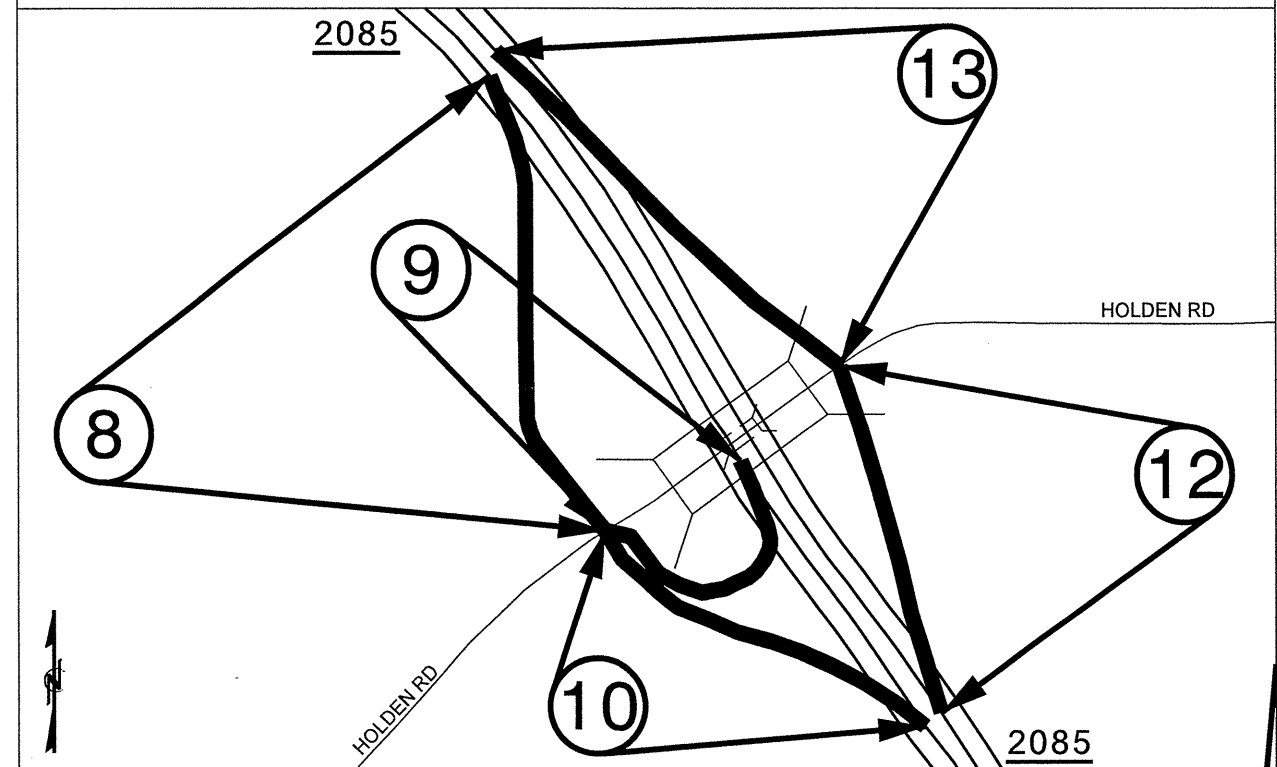
MAPS 4-5, 16-17



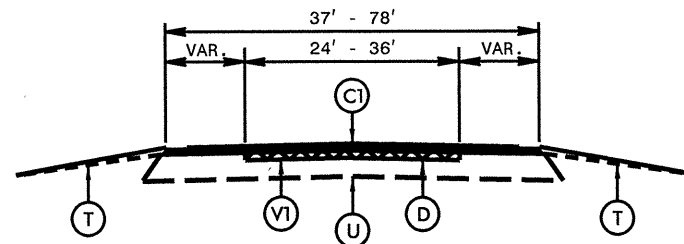
MAPS 6-7, 14-15



MAPS 8-10, 12-13



| STATE | PROJECT NO. | SHEET NO. | TOTAL SHEETS |
|-------|--------------|-----------|--------------|
| N.C. | 7CR.20411.35 | 3 | |

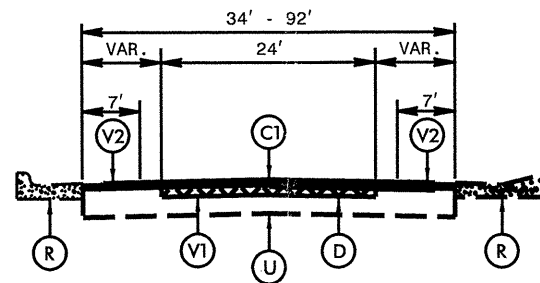


TYPICAL SECTION NO. 1
TO BE USED ON MAPS 1 AND 11

MAP 1: STA. 0+00 TO STA. 7+75
 STA. 18+75 TO STA. 59+35
 STA. 65+15 TO STA. 67+50
 STA. 75+55 TO STA. 79+90
 MAP 11: STA. 115+75 TO STA. 141+70
 STA. 149+90 TO STA. 158+95
 STA. 161+10 TO STA. 192+10
 STA. 197+10 TO STA. 204+20

****NOTE: TYPICAL SECTION CONSTRUCTION SEQUENCE:**
 1. MILL TRAVEL LANES 2½" AND FILL WITH 2½" INTERMEDIATE COURSE, TYPE I19.0B
 2. OVERLAY WITH 1½" OF SURFACE COURSE, TYPE S9.5B

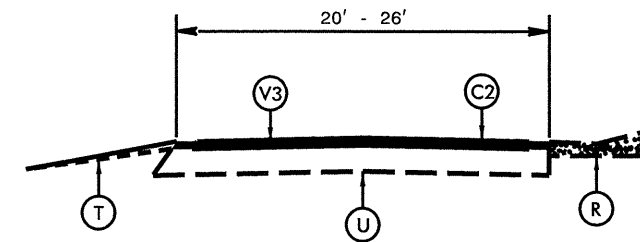
****NOTE: NO PAVEMENT ON BRIDGE #640 ON MAP 1:**
 STA. 59+30 TO STA. 60+70



TYPICAL SECTION NO. 3

TO BE USED ON MAPS 1 AND 11
 MAP 1: STA. 161+45 TO STA. 204+05
 MAP 11: STA. 0+00 TO STA. 43+35

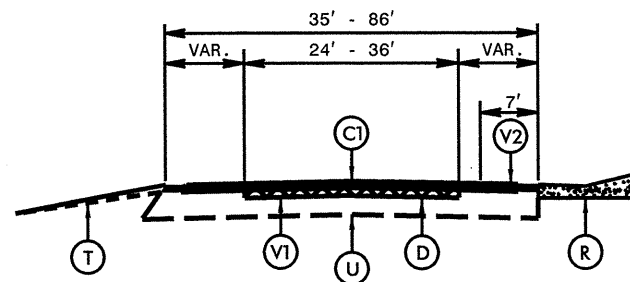
****NOTE: TYPICAL SECTION CONSTRUCTION SEQUENCE:**
 1. 0" - 1½" PROFILE MILLING
 2. MILL TRAVEL LANES 2½" AND FILL WITH 2½" INTERMEDIATE COURSE, TYPE I19.0B
 3. OVERLAY WITH 1½" OF SURFACE COURSE, TYPE S9.5B



TYPICAL SECTION NO. 6

TO BE USED ON MAPS 6 AND 13
 MAP 6: STA. 0+00 TO STA. 3+05
 MAP 13: STA. 0+65 TO STA. 6+30

****TYPICAL SECTION CONSTRUCTION SEQUENCE**
 1. 1½" - 3" MILLING
 2. FILL 3" OF SURFACE COURSE, TYPE S9.5B

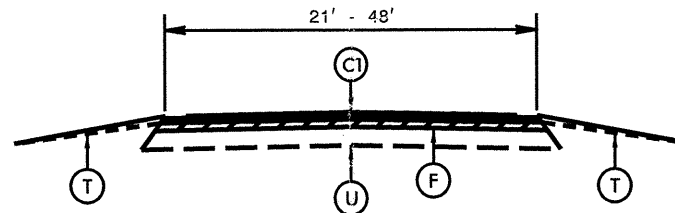


TYPICAL SECTION NO. 2

TO BE USED ON MAPS 1 AND 11
 MAP 1: STA. 7+75 TO STA. 18+75
 STA. 60+70 TO STA. 65+15
 STA. 67+50 TO STA. 75+55
 STA. 79+90 TO STA. 89+20
 STA. 90+75 TO STA. 161+45
 MAP 11: STA. 43+35 TO STA. 114+10
 STA. 141+70 TO STA. 144+55
 STA. 145+85 TO STA. 149+90
 STA. 158+95 TO STA. 161+10
 STA. 192+10 TO STA. 197+10

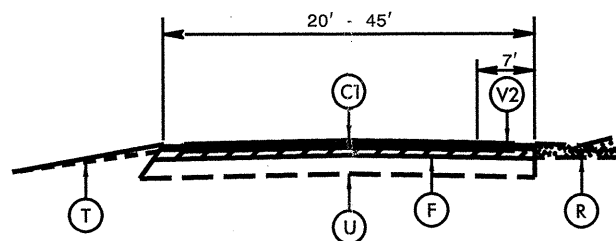
****NOTE: TYPICAL SECTION CONSTRUCTION SEQUENCE:**
 1. 0" - 1½" PROFILE MILLING
 2. MILL TRAVEL LANES 2½" AND FILL WITH 2½" INTERMEDIATE COURSE, TYPE I19.0B
 3. OVERLAY WITH 1½" OF SURFACE COURSE, TYPE S9.5B

****NOTE: NO PAVEMENT ON BRIDGES ON:**
 MAP 1 BRIDGE #640: STA. 89+20 TO STA. 90+75,
 MAP 11 BRIDGE #641: STA. 114+10 TO STA. 115+75
 MAP 11 BRIDGE #639: STA. 144+55 TO STA. 145+85



TYPICAL SECTION NO. 4

TO BE USED ON MAPS 2, 3, 4, 5, 16, AND 19
 MAP 2: STA. 0+00 TO STA. 1+65
 STA. 3+70 TO STA. 7+30
 MAP 3: STA. 0+00 TO STA. 4+70
 MAP 16: STA. 0+00 TO STA. 4+05



TYPICAL SECTION NO. 5

TO BE USED ON MAPS 2, 3, 7, 8, 9, 10, 12, 14, 15, 16, 17, AND 18
 MAP 2: STA. 1+65 TO STA. 3+70
 MAP 3: STA. 4+70 TO STA. 7+40
 MAP 7: STA. 1+85 TO STA. 7+95
 MAP 8: STA. 0+00 TO STA. 11+80
 MAP 9: STA. 0+00 TO STA. 2+90
 MAP 10: STA. 2+80 TO STA. 10+40
 MAP 12: STA. 0+00 TO STA. 7+45
 MAP 14: STA. 0+00 TO STA. 6+45
 MAP 15: STA. 1+35 TO STA. 7+40
 MAP 16: STA. 4+05 TO STA. 6+40

****NOTE:**
 EACH MAP MUST BE PATCHED AS DIRECTED BY THE ENGINEER BEFORE PROCEEDING WITH RESURFACING**

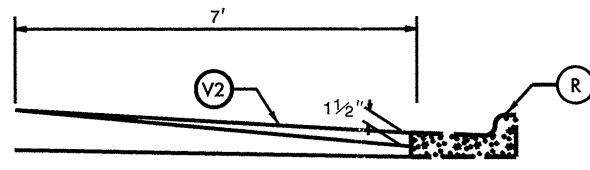
PAVEMENT SCHEDULE

| | | |
|----|--|----------------------------|
| C1 | PROP. APPROX. 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. | |
| C2 | PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS | |
| D | PROP. APPROX 2½" ASPHALT CONCRETE INTERMEDIATE COURSE TYPE I19.0B, AT AN AVERAGE RATE OF 285 LBS. PER SQ. YD. | |
| E | PROP. APPROX. 8" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD. IN EACH OF TWO LAYERS | |
| F | AST MAT COAT #67 STONE | |
| R | EXISTING CONCRETE STRUCTURE | |
| T | INCIDENTAL STONE BASE IN LOW SHOULDER AREAS, AS DIRECTED BY THE ENGINEER | |
| U | EXISTING PAVEMENT. | |
| V1 | 2½" MILLING | V2 0 TO 1½" MILLING |
| V3 | 1½" - 3" MILLING | V4 8" MILLING FOR PATCHING |

\$\$\$\$\$SYTIME\$\$\$\$\$
 \$\$\$DGN\$\$\$\$\$
 \$\$\$SERNAME\$\$\$\$\$

| | | | |
|-------|--------------|-----------|--------------|
| STATE | PROJECT NO. | SHEET NO. | TOTAL SHEETS |
| N.C. | 7CR.20411.35 | 4 | |

MILLING DETAIL 1

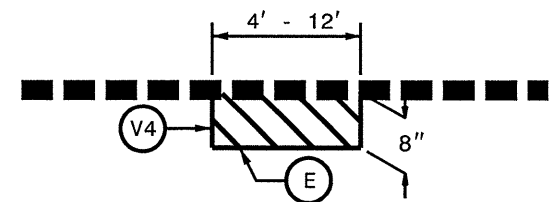


PROFILE MILLING 0 - 1 1/2"
 PROFILE MILL EXISTING ASPHALT PAVEMENT
 1 1/2" AT LOCATIONS AS DIRECTED BY THE
 ENGINEER.

NOTE: TO BE USED IN CONJUNCTION WITH:

- TS. NO. 2 ON MAP 1 STA. 7+75 TO STA. 18+75 RT
- TS. NO. 2 ON MAP 1 STA. 60+70 TO STA. 65+15 RT
- TS. NO. 2 ON MAP 1 STA. 67+50 TO STA. 75+55 RT
- TS. NO. 2 ON MAP 1 STA. 79+90 TO STA. 89+20 RT
- TS. NO. 2 ON MAP 1 STA. 90+75 TO STA. 161+45 RT
- TS. NO. 2 ON MAP 11 STA. 43+35 TO STA. 144+10 RT
- TS. NO. 2 ON MAP 11 STA. 141+70 TO STA. 144+55 RT
- TS. NO. 2 ON MAP 11 STA. 145+85 TO STA. 149+90 RT
- TS. NO. 2 ON MAP 11 STA. 158+95 TO STA. 161+10 RT
- TS. NO. 2 ON MAP 11 STA. 192+10 TO STA. 197+10 RT
- TS. NO. 3 ON MAP 1 STA. 161+45 TO STA. 204+05 LT & RT
- TS. NO. 3 ON MAP 11 STA. 0+00 TO STA. 43+35 LT & RT
- TS. NO. 5 ON MAP 2: STA. 1+65 TO STA. 3+70 RT
- TS. NO. 5 ON MAP 3: STA. 4+70 TO STA. 7+40 RT
- TS. NO. 5 ON MAP 7: STA. 1+85 TO STA. 7+95 RT
- TS. NO. 5 ON MAP 8: STA. 0+00 TO STA. 11+80 RT
- TS. NO. 5 ON MAP 9: STA. 0+00 TO STA. 2+90 RT
- TS. NO. 5 ON MAP 10: STA. 2+80 TO STA. 10+40 RT
- TS. NO. 5 ON MAP 12: STA. 0+00 TO STA. 7+45 RT
- TS. NO. 5 ON MAP 14: STA. 0+00 TO STA. 6+45 RT
- TS. NO. 5 ON MAP 15: STA. 1+35 TO STA. 7+40 RT
- TS. NO. 5 ON MAP 16: STA. 4+05 TO STA. 6+40 RT
- TS. NO. 5 ON MAP 17: STA. 0+00 TO STA. 4+10 RT
- TS. NO. 5 ON MAP 18: STA. 0+00 TO STA. 7+05 RT
- TS. NO. 8 ON MAP 7: STA. 0+00 TO STA. 1+85 RT
- TS. NO. 8 ON MAP 8: STA. 11+80 TO STA. 12+60 RT
- TS. NO. 8 ON MAP 9: STA. 2+90 TO STA. 5+30 RT
- TS. NO. 8 ON MAP 10: STA. 0+00 TO STA. 2+80 RT
- TS. NO. 8 ON MAP 12: STA. 7+45 TO STA. 8+05 RT
- TS. NO. 8 ON MAP 14: STA. 6+45 TO STA. 7+45 RT
- TS. NO. 8 ON MAP 15: STA. 0+00 TO STA. 1+35 RT

PATCHING DETAIL 1



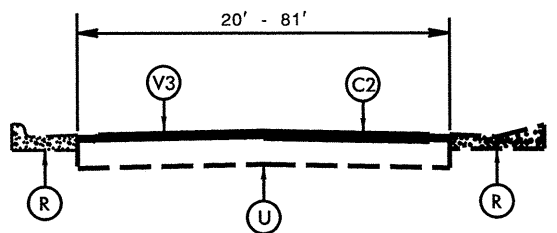
USE FOR PATCHING ON MAPS 1, 2, 3, AND 11.
 MILL EXISTING ASPHALT PAVEMENT 8" IN DEPTH
 AND FILL WITH BASE COURSE, TYPE B25.0B AT
 LOCATIONS AS DIRECTED BY THE ENGINEER.

**NOTE:

EACH MAP MUST BE PATCHED AS DIRECTED BY THE
 ENGINEER BEFORE PROCEEDING WITH RESURFACING**

PAVEMENT SCHEDULE

| | |
|----|--|
| C1 | PROP. APPROX. 1 1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. |
| C2 | PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS |
| D | PROP. APPROX 2 1/2" ASPHALT CONCRETE INTERMEDIATE COURSE TYPE I19.0B, AT AN AVERAGE RATE OF 285 LBS. PER SQ. YD. |
| E | PROP. APPROX. 8" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD. IN EACH OF TWO LAYERS |
| F | AST MAT COAT #67 STONE |
| R | EXISTING CONCRETE STRUCTURE |
| T | INCIDENTAL STONE BASE IN LOW SHOULDER AREAS, AS DIRECTED BY THE ENGINEER |
| U | EXISTING PAVEMENT. |
| V1 | 2 1/2" MILLING |
| V2 | 0 TO 1 1/2" MILLING |
| V3 | 1 1/2" - 3" MILLING |
| V4 | 8" MILLING FOR PATCHING |

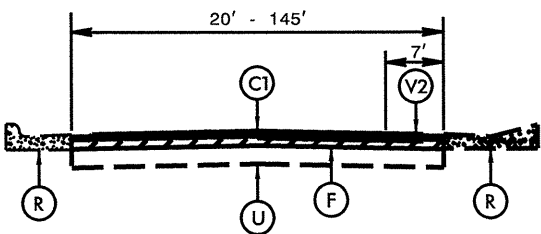


TYPICAL SECTION NO. 7

TO BE USED ON MAPS 6 AND 13
 MAP 6: STA. 3+05 TO STA. 4+85
 MAP 13: STA. 0+00 TO STA. 0+65

**TYPICAL SECTION CONSTRUCTION SEQUENCE

1. 1 1/2" - 3" MILLING
2. FILL 3" OF SURFACE COURSE, TYPE S9.5B

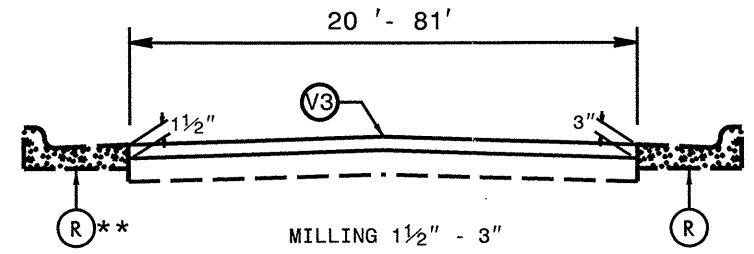


TYPICAL SECTION NO. 8

TO BE USED ON MAPS 7, 8, 9, 10, 12,
 14, 15

- MAP 7: STA. 0+00 TO STA. 1+85
- MAP 8: STA. 11+80 TO STA. 12+60
- MAP 9: STA. 2+90 TO STA. 5+30
- MAP 10: STA. 0+00 TO STA. 2+80
- MAP 12: STA. 7+45 TO STA. 8+05
- MAP 14: STA. 6+45 TO STA. 7+45
- MAP 15: STA. 0+00 TO STA. 1+35

MILLING DETAIL 2



MILLING 1 1/2" - 3"

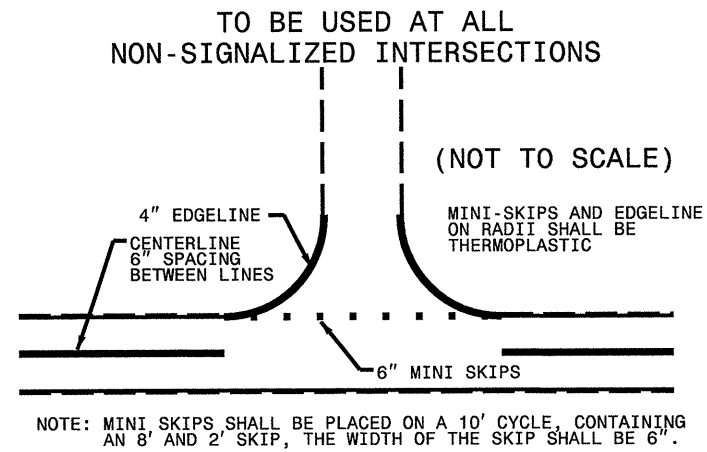
**NOTE: COULD BE CONCRETE STRUCTURE OR RIBBON PAVEMENT ON SHOULDERS

MILL EXISTING ASPHALT PAVEMENT 1 1/2" TO 3" AT LOCATIONS AS DIRECTED BY THE ENGINEER.

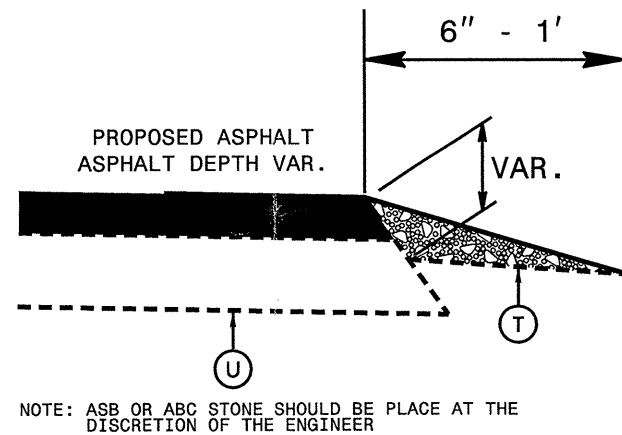
NOTE: TO BE USED IN CONJUNCTION WITH MAPS 6 AND 13

SYSTEMS DESIGN
 USER NAME

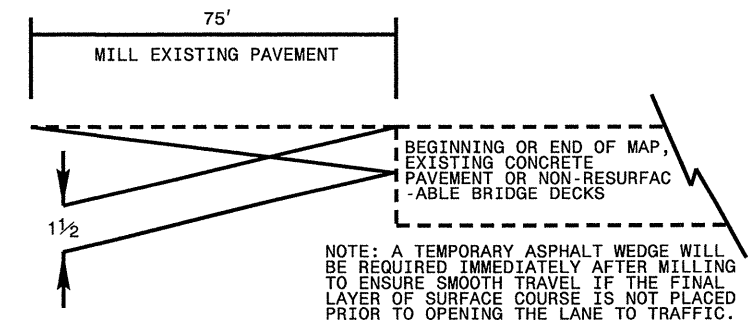
| | | | |
|-------|--------------|-----------|--------------|
| STATE | PROJECT NO. | SHEET NO. | TOTAL SHEETS |
| N.C. | 7CR.20411.35 | 5 | |



INCIDENTAL STONE SHOULDER DETAIL



INCIDENTAL MILLING DETAIL

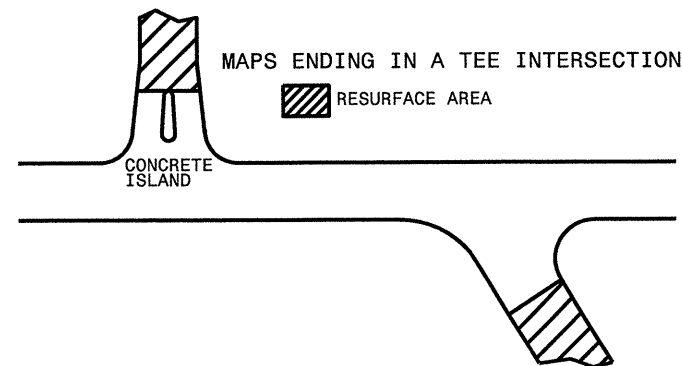


**NOTE:
EACH MAP MUST BE PATCHED AS DIRECTED BY THE ENGINEER BEFORE PROCEEDING WITH RESURFACING**

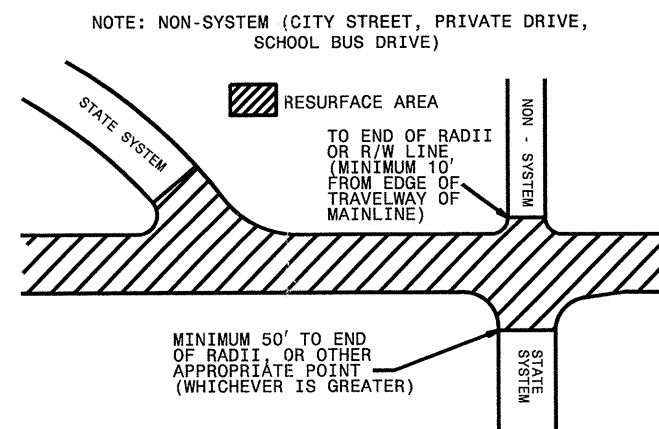
PAVEMENT SCHEDULE

| | | |
|----|---|-----------------------------|
| C1 | PROP. APPROX. 1 1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. | |
| C2 | PROP. APPROX. 3 " ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS | |
| D | PROP. APPROX 2 1/2" ASPHALT CONCRETE INTERMEDIATE COURSE TYPE I19.0B, AT AN AVERAGE RATE OF 285 LBS. PER SQ. YD. | |
| E | PROP. APPROX. 8" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD. IN EACH OF TWO LAYERS | |
| F | AST MAT COAT #67 STONE | |
| R | EXISTING CONCRETE STRUCTURE | |
| T | INCIDENTAL STONE BASE IN LOW SHOULDER AREAS, AS DIRECTED BY THE ENGINEER | |
| U | EXISTING PAVEMENT. | |
| V1 | 2 1/2" MILLING | V2 0 TO 1 1/2" MILLING |
| V3 | 1 1/2" - 3" MILLING | V4 8 " MILLING FOR PATCHING |

PAVING DETAIL 1
MAIN LINE IS NOT BEING RESURFACED



PAVING DETAIL 2
MAIN LINE IS BEING RESURFACED



SYSTEMS
DOWN
TIME

SUMMARY OF QUANTITIES

| PROJECT NO. | COUNTY | MAP NO. | ROUTE | DESCRIPTION | TYP | FINAL SURFACE TESTING REQUIRED | AGGREGATE SHOULDER BORROW ALLOWED | LENGTH | WIDTH | INCIDENTAL STONE BASE | MILLING ASPHALT PAVEMENT, 2 1/2" DEPTH | MILLING ASPHALT PAVEMENT, 0" TO 1 1/2" DEPTH | MILLING ASPHALT PAVEMENT, 1 1/2" - 3" DEPTH | INCIDENTAL MILLING | ASPHALT CONC INTERMEDIATE COURSE, TYPE I19.0B | ASPHALT CONC SURFACE COURSE, TYPE S9.5B | ASPHALT BINDER FOR PLANT MIX | GENERIC PAVING ITEM - [ASPHALT SURFACE TREATMENT, MAT COAT, #67 STONE] | GENERIC PAVING ITEM - [8" PATCHING OF EXISTING PAVEMENT] | GENERIC PAVING ITEM - [3" PATCHING OF EXISTING PAVEMENT] | PORTABLE LIGHTING | TRENCHING (UNPAVED) (1) (2") | PROJECT NO. 7CR.20411.35 | | SHEET NO. 6 | | TOTAL NO. | | | | |
|--------------|----------|---------|-------------------------|--|---------------------|--------------------------------|-----------------------------------|--------|-------|-----------------------|--|--|---|--------------------|---|---|------------------------------|--|--|--|-------------------|------------------------------|------------------------------|------------------------|----------------------|--------------------------------|------------|----------|------------|------------|-----|
| | | | | | | | | | | | | | | | | | | | | | | | JUNCTION BOX (STANDARD SIZE) | INDUCTIVE LOOP SAW CUT | LEAD-IN CABLE (14-2) | GENERIC ITEM - TRAFFIC CONTROL | | | | | |
| NO | | NO | | | NO | | | MI | FT | TONS | SY | SY | SY | SY | TONS | TONS | TONS | SY | TON | TON | LS | LF | EA | LF | LF | LS | | | | | |
| 7CR.20411.35 | Guilford | 1 | SR 2085 EB (BRYAN BLVD) | FROM BRIDGE #745 OVER SR 2136 (FLEMMING ROAD) TO NON-SYSTEM (CONE BLVD/BENJAMIN PARKWAY) | 1 | NO | YES | 0.147 | 41 | 200 | 2,070 | | | 342 | 298 | 298 | 32 | | 100 | 50 | | | | | | | | | | | |
| | | | | | 2 | NO | YES | 0.06 | 52-78 | | 1,838 | 246 | | 264 | 193 | 24 | | | | | | | | | | | | | | | |
| | | | | | 2 | NO | YES | 0.149 | 52 | | 3,147 | 612 | | 451 | 383 | 45 | | | | | | | | | | | | | | | |
| | | | | | 1 | NO | YES | 0.243 | 52 | | 5,132 | | | 736 | 624 | 73 | | | | | | | | | | | | | | | |
| | | | | | 1 | NO | YES | 0.043 | 52-78 | | 1,413 | | | 202 | 138 | 18 | | | | | | | | | | | | | | | |
| | | | | | 1 | NO | YES | 0.287 | 40 | | 4,041 | | | 581 | 568 | 62 | | | | | | | | | | | | | | | |
| | | | | | 1 | NO | YES | 0.064 | 42-72 | | 1,877 | | | 269 | 180 | 24 | | | | | | | | | | | | | | | |
| | | | | | 1 | NO | YES | 0.035 | 42 | | 739 | | | 106 | 73 | 9 | | | | | | | | | | | | | | | |
| | | | | | 1 | NO | YES | 0.074 | 37-42 | | 1,433 | | | 205 | 146 | 19 | | | | | | | | | | | | | | | |
| | | | | | 1 | NO | YES | 0.023 | 37 | | 324 | | | | 47 | 5 | | 308 | | | | | | | | | | | | | |
| | | | | | BRIDGE #640 | | | | | 1 | NO | | 0.026 | 37 | | | | | | | | | | | | | | | | | |
| | | | | | BRIDGE #640 | | | | | 2 | NO | YES | 0.084 | 37 | | 1,183 | 345 | | 308 | 170 | 154 | 17 | | | | | | | | | |
| | | | | | BRIDGE #640 | | | | | 1 | NO | YES | 0.045 | 39 | | 634 | | | 91 | 87 | 10 | | | | | | | | | | |
| | | | | | BRIDGE #640 | | | | | 2 | NO | YES | 0.152 | 37 | | 2,140 | 624 | | 308 | 278 | 31 | | | | | | | | | | |
| | | | | | BRIDGE #640 | | | | | 1 | NO | YES | 0.082 | 39 | | 1,155 | | | 166 | 158 | 17 | | | | | | | | | | |
| | | | | | BRIDGE #640 | | | | | 2 | NO | YES | 0.176 | 36-37 | | 2,478 | 723 | | 308 | 356 | 322 | 36 | | | | | | | | | |
| | | | | | BRIDGE #640 | | | | | 2 | NO | | 0.029 | 36 | | | | | | | | | | | | | | | | | |
| | | | | | BRIDGE #640 | | | | | 2 | NO | YES | 0.592 | 36 | | 8,335 | 2,431 | | 300 | 1,198 | 1,054 | 121 | | | | | | | | | |
| | | | | | BRIDGE #640 | | | | | 2 | NO | YES | 0.073 | 36-44 | | 1,285 | 300 | | | 184 | 144 | 18 | | | | | | | | | |
| | | | | | BRIDGE #640 | | | | | 2 | NO | YES | 0.069 | 44 | | 1,457 | 283 | | 209 | 150 | 19 | | | | | | | | | | |
| | | | | | BRIDGE #640 | | | | | 2 | NO | YES | 0.033 | 44-79 | | 1,065 | 136 | | 152 | 101 | 13 | | | | | | | | | | |
| | | | | | BRIDGE #640 | | | | | 2 | NO | YES | 0.028 | 35-46 | | 394 | 115 | | 57 | 57 | 6 | | | | | | | | | | |
| | | | | | BRIDGE #640 | | | | | 2 | NO | YES | 0.087 | 35 | | 1,225 | 357 | | 176 | 151 | 17 | | | | | | | | | | |
| | | | | | BRIDGE #640 | | | | | 2 | NO | YES | 0.049 | 43-71 | | 1,437 | 201 | | 206 | 138 | 18 | | | | | | | | | | |
| | | | | | BRIDGE #640 | | | | | 2 | NO | YES | 0.074 | 43 | | 1,563 | 304 | | 224 | 157 | 20 | | | | | | | | | | |
| | | | | | BRIDGE #640 | | | | | 2 | NO | YES | 0.128 | 35-43 | | 2,253 | 526 | | 323 | 247 | 30 | | | | | | | | | | |
| | | | | | BRIDGE #640 | | | | | 2 | NO | YES | 0.205 | 35 | | 2,886 | 842 | | 415 | 355 | 41 | | | | | | | | | | |
| | | | | | BRIDGE #640 | | | | | 3 | NO | YES | 0.137 | 35-79 | | 3,778 | 1,125 | | 541 | 386 | 49 | | | | | | | | | | |
| | | | | | BRIDGE #640 | | | | | 3 | NO | YES | 0.016 | 42 | | 225 | 131 | | 32 | 33 | 4 | | | | | | | | | | |
| | | | | | BRIDGE #640 | | | | | 3 | NO | YES | 0.084 | 42-44 | | 1,478 | 690 | | 212 | 179 | 21 | | | | | | | | | | |
| | | | | | BRIDGE #640 | | | | | 3 | NO | YES | 0.047 | 44 | | 993 | 386 | | 142 | 102 | 13 | | | | | | | | | | |
| | | | | | BRIDGE #640 | | | | | 3 | NO | YES | 0.04 | 44-56 | | 986 | 329 | | 141 | 99 | 13 | | | | | | | | | | |
| | | | | | BRIDGE #640 | | | | | 3 | NO | YES | 0.055 | 56 | | 1,549 | 452 | | 222 | 152 | 20 | | | | | | | | | | |
| | | | | | BRIDGE #640 | | | | | 3 | NO | YES | 0.034 | 56-92 | | 1,316 | 279 | | 188 | 124 | 16 | | | | | | | | | | |
| | | | | | BRIDGE #640 | | | | | 3 | NO | YES | 0.028 | 46-57 | | 394 | 230 | | 57 | 72 | 7 | | | | | | | | | | |
| | | | | | BRIDGE #640 | | | | | 3 | NO | YES | 0.057 | 46 | | 803 | 468 | | 115 | 130 | 13 | | | | | | | | | | |
| | | | | | BRIDGE #640 | | | | | 3 | NO | YES | 0.062 | 46-68 | | 873 | 509 | | 125 | 175 | 16 | | | | | | | | | | |
| | | | | | BRIDGE #640 | | | | | 3 | NO | YES | 0.041 | 46-68 | | 1,179 | 337 | | 169 | 115 | 15 | | | | | | | | | | |
| | | | | | BRIDGE #640 | | | | | 3 | NO | YES | 0.13 | 46 | | 2,898 | 1,068 | | 415 | 295 | 38 | | | | | | | | | | |
| | | | | | BRIDGE #640 | | | | | 3 | NO | YES | 0.061 | 34-46 | | 1,109 | 501 | | 159 | 121 | 15 | | | | | | | | | | |
| | | | | | BRIDGE #640 | | | | | 3 | NO | YES | 0.015 | 34 | | 211 | 123 | | 30 | 25 | 3 | | | | | | 310 | 3 | 196 | 640 | * |
| | | | | | TOTAL FOR MAP NO. 1 | | | | | | | | 3.884 | | 200 | 69,296 | 14,673 | | 1,566 | 9,942 | 8,206 | 968 | | 100 | 50 | * | 310 | 3 | 196 | 640 | * |
| | | | | | OFF RAMP | | | | | 4 | NO | YES | 0.019 | 23 | 12 | | | | | | | | 22 | 1 | 256 | | | | | | |
| | | | | | OFF RAMP | | | | | 4 | NO | YES | 0.012 | 23-33 | | | | | | | | | 17 | 1 | 197 | | | | | | |
| | | | | | OFF RAMP | | | | | 5 | NO | YES | 0.039 | 29 | | | 160 | | | | | | 56 | 3 | 664 | | | | | | |
| | | | | | OFF RAMP | | | | | 4 | NO | YES | 0.015 | 23-29 | | | | | | | | | 19 | 1 | 229 | | | | | | |
| | | | | | OFF RAMP | | | | | 4 | NO | YES | 0.033 | 23 | | | | | | | | | 38 | 2 | 445 | | | | | | |
| | | | | | OFF RAMP | | | | | 4 | NO | YES | 0.02 | 23-38 | | | | | | | | | 31 | 2 | 364 | | | | | | |
| | | | | | TOTAL FOR MAP NO. 2 | | | | | | | | 0.138 | | 12 | | 160 | | | | 183 | 10 | 2,155 | 30 | | * | | | | | * |
| | | | | | ON RAMP | | | | | 4 | NO | YES | 0.014 | 23-35 | 11 | | | | | | | | 20 | 1 | 238 | | | | | | |
| | | | | | ON RAMP | | | | | 4 | NO | YES | 0.075 | 23 | | | | | | | | | 85 | 5 | 1,012 | | | | | | |
| | | | | | ON RAMP | | | | | 5 | NO | YES | 0.01 | 21-28 | | | 41 | | | | | | 12 | 1 | 147 | | | | | | |
| | | | | | ON RAMP | | | | | 5 | NO | YES | 0.041 | 28 | | | 168 | | | | | | 57 | 3 | 674 | | | | | | |
| | | | | | TOTAL FOR MAP NO. 3 | | | | | | | | 0.14 | | 11 | | 209 | | | 174 | 10 | 2,071 | 30 | | | * | | | | | * |
| | | | | | OFF RAMP | | | | | 4 | NO | YES | 0.059 | 24-48 | 10 | | | | | | | | 105 | 6 | 1,246 | | | | | | |
| | | | | | OFF RAMP | | | | | 4 | NO | YES | 0.038 | 48 | | | | | | | | | | 90 | 5 | 1,070 | | | 25 | 1 | 748 |
| | | | | | TOTAL FOR MAP NO. 4 | | | | | | | | 0.097 | | 10 | | | | | | 195 | 11 | 2,316 | | | * | 25 | 1 | 748 | | * |
| | | | | | ON RAMP | | | | | 4 | NO | YES | 0.017 | 21-23 | 19 | | | | | | | | 19 | 1 | 219 | | | | | | |
| | | | | | TOTAL FOR MAP NO. 5 | | | | | | | | 0.187 | | 19 | | | | | | 177 | 11 | 2,094 | | | * | | | | | * |
| | | | | | OFF RAMP | | | | | 6 | NO | YES | 0.034 | 20-22 | 3 | | | 419 | | | | | 71 | 4 | | | | | | | |
| | | | | | OFF RAMP | | | | | 6 | NO | YES | 0.024 | 22-26 | | | | 338 | | | | | 57 | 3 | | | | | | | |
| | | | | | OFF RAMP | | | | | 7 | NO | YES | 0.034 | 26-34 | | | | 598 | | | | | 101 | 6 | | | | 15 | 1 | 374 | |
| | | | | | TOTAL FOR MAP NO. 6 | | | | | | | | 0.092 | | 3 | | | 1,355 | | | 229 | 13 | | | | * | 15 | 1 | 374 | | * |
| | | | | | ON RAMP | | | | | 8 | NO | YES | 0.018 | 22-46 | 6 | | 74 | | | | | | 30 | 2 | 359 | | | | | | |
| | | | | | ON RAMP | | | | | 8 | NO | YES | 0.017 | 22 | | | 70 | | | | | | 19 | 1 | 219 | | | | | | |
| | | | | | ON RAMP | | | | | 5 | NO | YES | 0.116 | 22 | | | 476 | | | | | | 126 | 8 | 1,497 | | | | | | |
| | | | | | TOTAL FOR MAP NO. 7 | | | | | | | | 0.151 | | 6 | | 620 | | | | 175 | 11 | 2,075 | | | * | | | | | * |
| | | | | | OFF RAMP | | | | | 5 | NO | YES | 0.223 | 23-30 | 11 | | 916 | | | | | | 298 | 18 | 3,532 | | | | | | |
| | | | | | TOTAL FOR MAP NO. 8 | | | | | | | | 0.238 | | 11 | | 978 | | | | | < | | | | | | | | | |

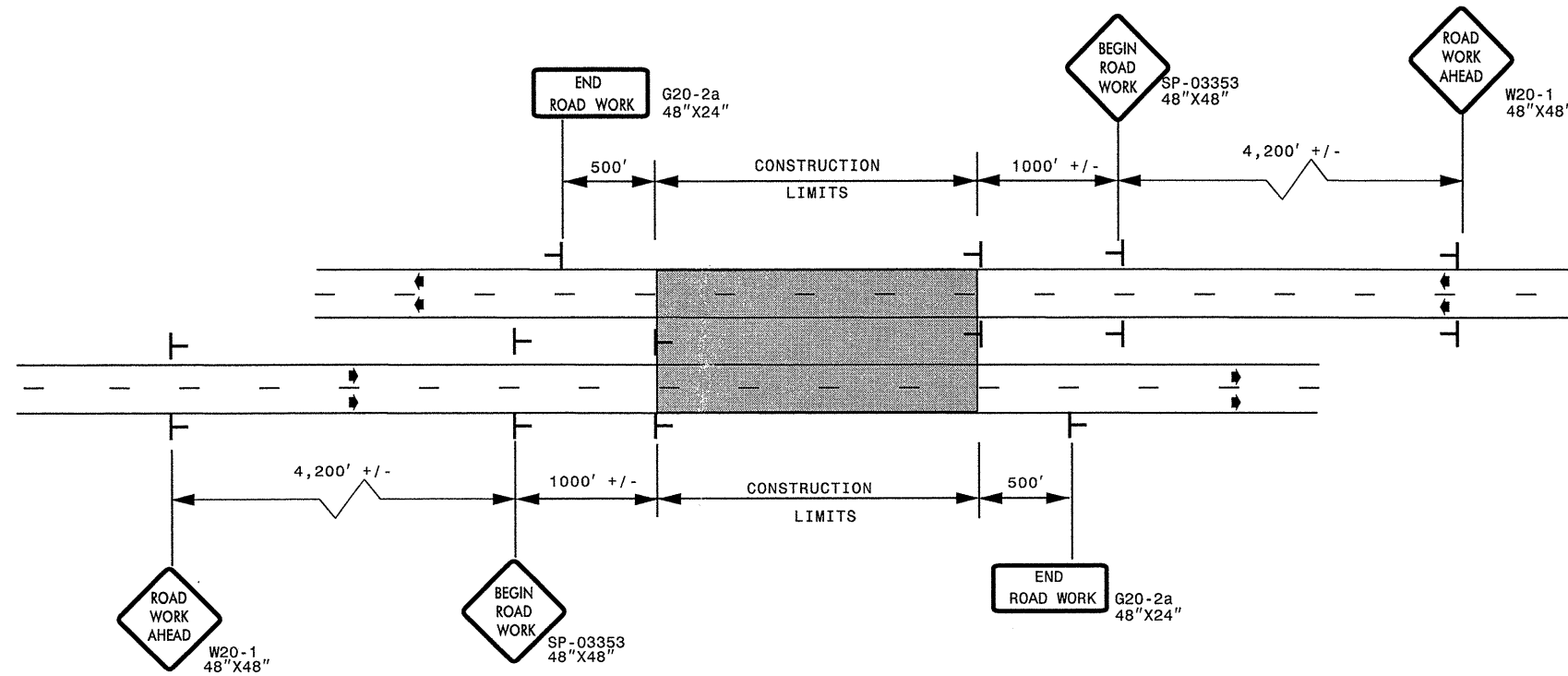
THERMOPLASTIC AND PAINT QUANTITIES

| PROJECT NO | COUNTY | MAP NO | ROUTE | DESCRIPTION | LENGTH | WIDTH | 4685000000-E | | | | | 4725000000-E | | | | | 4810000000-E | | 4820000000-E | 4835000000-E | 4845000000-N | | | | 4905000000-N | | | | | | | |
|---------------------------------|-------------------------|---|-------------------------|---|---------------------|--------|------------------------|-------------------------|-------------------------|------------------------|--------------------------|-----------------------|----------------------|----------------------|----------------------------|----------------------------|------------------------------|----------------|-----------------|----------------|-----------------|-----------------|----------------|----------------------|----------------|------------------------|--|-------|-----|-----|--|--|
| | | | | | | | 4" X 90 M WHITE THERMO | 4" X 90 M YELLOW THERMO | 4" X 120 M WHITE THERMO | 8" X 90 M WHITE THERMO | 24" X 120 M WHITE THERMO | THERMO STR ARROW 90 M | THERMO RT ARROW 90 M | THERMO LT ARROW 90 M | THERMO STR & LT ARROW 90 M | THERMO STR & RT ARROW 90 M | THERMO MERGE LEFT ARROW 90 M | 4" WHITE PAINT | 4" YELLOW PAINT | 8" WHITE PAINT | 24" WHITE PAINT | PAINT STR ARROW | PAINT RT ARROW | PAINT STR & RT ARROW | PAINT LT ARROW | PAINT MERGE LEFT ARROW | SNOW/PLOWABLE PAVEMENT MARKERS CRYSTAL/RED | | | | | |
| NO | | NO | | | | | LF | LF | LF | LF | LF | EA | EA | EA | EA | EA | EA | EA | EA | EA | EA | EA | EA | EA | EA | EA | EA | EA | | | | |
| 7CR.20411.35 | Guilford | 1 | SR 2085 EB (BRYAN BLVD) | FROM BRIDGE #745 OVER SR 2136 (FLEMING ROAD) TO NON-SYSTEM (CONE BLVD/BENJAMIN PARKWAY) | 3.864 | 41 | 20,405 | 20,405 | 6,312 | 8,075 | | 4 | 4 | | | | | 26,717 | 20,405 | 8,075 | | | 4 | 4 | | | | | 618 | | | |
| | | | | TOTAL FOR MAP NO. 1 | 3.864 | | 20,405 | 20,405 | 6,312 | 8,075 | | 4 | 4 | | | | | | | 26,717 | 20,405 | 8,075 | | | 4 | 4 | | | | 618 | | |
| | | 2 | OFF RAMP | FROM SR 2085 EB (BRYAN BLVD) TO SR 2136 (FLEMING ROAD) | 0.138 | 23 | 730 | 730 | | | 290 | 28 | | | 1 | 1 | | | | | | | | | | | | | | | | |
| | | | | | TOTAL FOR MAP NO. 2 | 0.138 | | 730 | 730 | | | 290 | 28 | | | 1 | 1 | | | | | | | | | | | | | | | |
| | | 3 | ON RAMP | FROM SR 2136 (FLEMING ROAD) TO SR 2085 EB (BRYAN BLVD) | 0.14 | 29 | 740 | 740 | | | 10 | | | | | | | | | | | | | | | | | | | | | |
| | | | | | TOTAL FOR MAP NO. 3 | 0.14 | | 740 | 740 | | | 10 | | | | | | | | | | | | | | | | | | | | |
| | | 4 | OFF RAMP | FROM SR 2085 EB (BRYAN BLVD) TO NON-SYSTEM (NEW GARDEN ROAD) | 0.097 | 36 | 510 | 510 | | | 700 | | | | 5 | 3 | 2 | | | | | | | | | | | | | | | |
| | | | | | TOTAL FOR MAP NO. 4 | 0.097 | | 510 | 510 | | | 700 | | | | 5 | 3 | 2 | | | | | | | | | | | | | | |
| | | 5 | ON RAMP | FROM NON-SYSTEM (NEW GARDEN ROAD) TO SR 2085 EB (BRYAN BLVD) | 0.187 | 22 | 990 | 990 | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | TOTAL FOR MAP NO. 5 | 0.187 | | 990 | 990 | | | | | | | | | | | | | | | | | | | | | | | |
| | | 6 | OFF RAMP | FROM SR 2085 EB (BRYAN BLVD) TO NON-SYSTEM (WESTRIDGE ROAD) | 0.092 | 21 | 485 | | | 198 | | 34 | | | | | 3 | | 3 | | 683 | | | | | | | 3 | 3 | | | |
| | | | | | TOTAL FOR MAP NO. 6 | 0.092 | | 485 | | | 198 | | 34 | | | | | 3 | | 3 | | 683 | | | | | | 3 | 3 | | | |
| | | 7 | ON RAMP | FROM NON-SYSTEM (WESTRIDGE ROAD) TO SR 2085 EB (BRYAN BLVD) | 0.151 | 34 | 795 | 795 | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | TOTAL FOR MAP NO. 7 | 0.151 | | 795 | 795 | | | | | | | | | | | | | | | | | | | | | | | |
| | | 8 | OFF RAMP | FROM SR 2085 EB (BRYAN BLVD) TO NON-SYSTEM SB (HOLDEN ROAD) | 0.238 | 27 | 1,260 | 1,180 | | | 240 | 34 | | | | | | | | | | | | | | | | | | | | |
| | | | | | TOTAL FOR MAP NO. 8 | 0.238 | | 1,260 | 1,180 | | | 240 | 34 | | | | | | | | | | | | | | | | | | | |
| | | 9 | OFF RAMP | FROM SR 2085 EB (BRYAN BLVD) TO NON-SYSTEM NB (HOLDEN ROAD) | 0.101 | 27 | 140 | 530 | | | 138 | | | | | 4 | | | | | | | | | | | | | | | | |
| | | | | | TOTAL FOR MAP NO. 9 | 0.101 | | 140 | 530 | | | 138 | | | | | 4 | | | | | | | | | | | | | | | |
| | | 10 | ON RAMP | FROM NON-SYSTEM (HOLDEN ROAD) TO SR 2085 EB (BRYAN BLVD) | 0.197 | 128 | 1,040 | 1,040 | | | | | | | | | | | | | | | | | | | | | | | | |
| TOTAL FOR MAP NO. 10 | 0.197 | | | | | 1,040 | 1,040 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 11 | SR 2085 WB (BRYAN BLVD) | FROM NON-SYSTEM (CONE BLVD/BENJAMIN PARKWAY) TO BRIDGE #744 OVER SR 2136 (FLEMING ROAD) | 3.868 | 35 | 20,420 | 20,420 | | | 5,966 | 5,010 | | | | | | | | | 3 | 26,386 | 20,420 | 5,010 | | | | | | 3 | 545 | | | |
| | | | TOTAL FOR MAP NO. 11 | 3.868 | | 20,420 | 20,420 | | | 5,966 | 5,010 | | | | | | | | | 3 | 26,386 | 20,420 | 5,010 | | | | | 3 | 545 | | | |
| 12 | OFF RAMP | FROM SR 2085 WB (BRYAN BLVD) TO NON-SYSTEM (HOLDEN ROAD) | 0.152 | 23 | 745 | 745 | | | 120 | 36 | | | 1 | | 1 | | | | | | | | | | | | | | | | | |
| | | | TOTAL FOR MAP NO. 12 | 0.152 | | 745 | 745 | | | 120 | 36 | | | 1 | | 1 | | | | | | | | | | | | | | | | |
| 13 | ON RAMP | FROM NON-SYSTEM (HOLDEN ROAD) TO SR 2085 WB (BRYAN BLVD) | 0.119 | 51 | 630 | 630 | | | | | | | | | | | | | 630 | 630 | | | | | | | | | | | | |
| | | | TOTAL FOR MAP NO. 13 | 0.119 | | 630 | 630 | | | | | | | | | | | | | 630 | 630 | | | | | | | | | | | |
| 14 | OFF RAMP | FROM SR 2085 WB (BRYAN BLVD) TO NON-SYSTEM (WESTRIDGE ROAD) | 0.142 | 23 | 745 | 745 | | | 180 | 32 | | | 2 | 2 | | | | | | | | | | | | | | | | | | |
| | | | TOTAL FOR MAP NO. 14 | 0.142 | | 745 | 745 | | | 180 | 32 | | | 2 | 2 | | | | | | | | | | | | | | | | | |
| 15 | ON RAMP | FROM NON-SYSTEM (WESTRIDGE ROAD) TO SR 2085 WB (BRYAN BLVD) | 0.141 | 50 | 740 | 740 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | TOTAL FOR MAP NO. 15 | 0.141 | | 740 | 740 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 16 | OFF RAMP | FROM SR 2085 WB (BRYAN BLVD) TO NON-SYSTEM (NEW GARDEN ROAD) | 0.121 | 21 | 640 | 640 | | | 308 | | | | | 3 | 3 | 3 | | | | | | | | | | | | | | | | |
| | | | TOTAL FOR MAP NO. 16 | 0.121 | | 640 | 640 | | | 308 | | | | | 3 | 3 | 3 | | | | | | | | | | | | | | | |
| 17 | ON RAMP | FROM NON-SYSTEM (NEW GARDEN ROAD) TO SR 2085 WB (BRYAN BLVD) | 0.078 | 22 | | 410 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | TOTAL FOR MAP NO. 17 | 0.078 | | | 410 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 18 | OFF RAMP | FROM SR 2085 WB (BRYAN BLVD) TO SR 2136 (FLEMING ROAD) | 0.133 | 29 | 285 | 705 | | | 42 | | | | 3 | 3 | | | | | | | | | | | | | | | | | | |
| | | | TOTAL FOR MAP NO. 18 | 0.133 | | 285 | 705 | | | 42 | | | | 3 | 3 | | | | | | | | | | | | | | | | | |
| 19 | ON RAMP | FROM SR 2136 (FLEMING ROAD) TO SR 2085 WB (BRYAN BLVD) | 0.196 | 25 | 1,035 | 1,035 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | TOTAL FOR MAP NO. 19 | 0.196 | | 1,035 | 1,035 | | | | | | | | | | | | | | | | | | | | | | | | | |
| TOTAL FOR PROJ NO. 7CR.20411.35 | | | | | 10.155 | | 52,335 | 52,990 | 13,674 | 13,915 | 200 | 4 | 20 | 15 | 6 | 6 | 3 | 54,416 | 41,455 | 13,085 | 34 | 4 | 4 | 3 | 3 | 3 | | 1,163 | | | | |
| GRAND TOTAL | | | | | 10.155 | | 52,335 | 52,990 | 13,674 | 13,915 | 200 | 4 | 20 | 15 | 6 | 6 | 3 | 54,416 | 41,455 | 13,085 | 34 | 4 | 4 | 3 | 3 | 3 | | 1,163 | | | | |

ADVANCED WORK ZONE WARNING SIGNING FOR FREEWAYS (4 LANES OR GREATER)

| | |
|---------------------|-----------|
| PROJ. REFERENCE NO. | SHEET NO. |
| 7CR.20411.35 | TCP-1 |

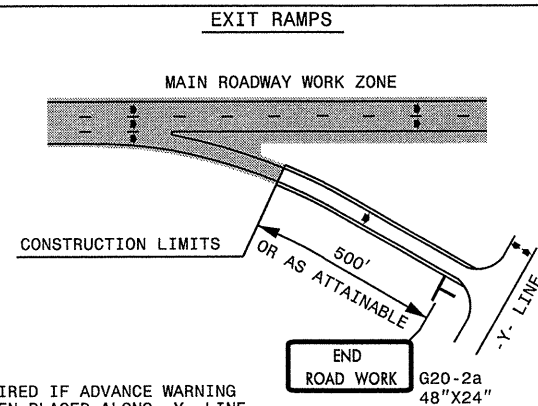
DETAIL A



| LEGEND | |
|--------|---------------------------|
| | STATIONARY SIGN |
| ▶ | DIRECTION OF TRAFFIC FLOW |

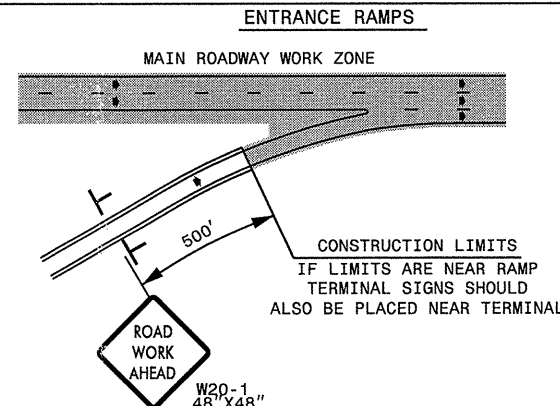
* USE THE "\$250 SPEEDING PENALTY" SIGN, SPEED LIMIT SIGN, AND ORANGE PANEL; ONLY WHEN A "\$250 SPEEDING PENALTY" ORDINANCE HAS BEEN ISSUED BY THE REGIONAL TRAFFIC ENGINEER.

DETAIL B

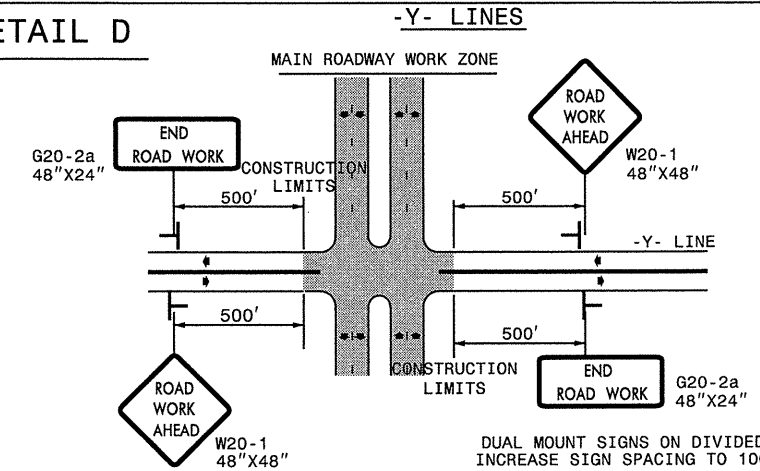


NOTE: SIGN NOT REQUIRED IF ADVANCE WARNING SIGNS HAVE BEEN PLACED ALONG -Y- LINE THAT RAMP INTERSECTS. IF CONSTRUCTION LIMITS ARE AT END OF RAMP, PLACE SIGN AT END OF RAMP.

DETAIL C



DETAIL D



GENERAL NOTES

- USE FLUORESCENT ORANGE SHEETING (TYPE VII OR HIGHER) ON ALL ADVANCED WORK ZONE SIGNS.
- DO NOT INSTALL ADVANCE WARNING SIGNS MORE THAN 3 DAYS PRIOR TO BEGINNING OF WORK.
- SIGNS SHOWN ARE REQUIRED FOR WORK ZONES THAT WILL REMAIN IN EFFECT OVERNIGHT. FOR SHORT-TERM DAILY MAINTENANCE TYPE OPERATIONS, THIS SIGNING APPLICATION IS OPTIONAL; MAY USE ONLY APPLICABLE ROADWAY STANDARD DRAWINGS INSTEAD. HOWEVER, IF THIS SIGNING APPLICATION IS USED, SIGNS MAY BE PORTABLE MOUNTED.
- ALL SIGN SPACING DIMENSIONS ARE APPROXIMATE, FIELD ADJUST AS NECESSARY OR AS DIRECTED.
- USE 3LB STEEL U-CHANNEL POST OR 4" X 4" WOOD POST FOR ALL WORK ZONE SIGNS. 3LB STEEL U-CHANNEL POSTS MUST MEET THE REQUIREMENTS OF STANDARD SPECIFICATION SECTION 1094-1(B), MAY BE GALVANIZED STEEL, OR MAY BE PAINTED GREEN BY THE POST MANUFACTURER. SQUARE STEEL TUBING POSTS HAVING EQUIVALENT STRENGTH OF THE 3 LB STEEL U-CHANNEL POST ARE ALSO ACCEPTABLE FOR USE. ERECT SIGNS PER ROADWAY STANDARD DRAWING 1110.01. PAYMENT FOR WOOD POSTS, 3LB STEEL U-CHANNEL AND SQUARE STEEL TUBING POSTS WITH SIGNS WILL BE MADE ACCORDING TO STANDARD SPECIFICATION "WORK ZONE SIGNS" SECTION 1110.
- WHEN NECESSARY, USE SPLICING IN ACCORDANCE WITH ROADWAY STANDARD DRAWING NO. 1110.01. REMOVE ENTIRE POST WHEN REMOVING SIGNS WITH SPLICED POSTS.
- DO NOT BACK BRACE SIGN SUPPORTS.








| | | | |
|-----------------------------|---|--|-----------|
| APPROVED: _____ DATE: _____ | ADVANCED WORK ZONE WARNING SIGNS FOR FREEWAYS (4 LANES OR GREATER) | | |
| | SCALE: NONE | | |
| | DATE: 8/03 | | REVISIONS |
| | DWG. BY: JI | | 03/04 |
| | DESIGN BY: JI | | |
| REVIEWED BY: _____ | | | |

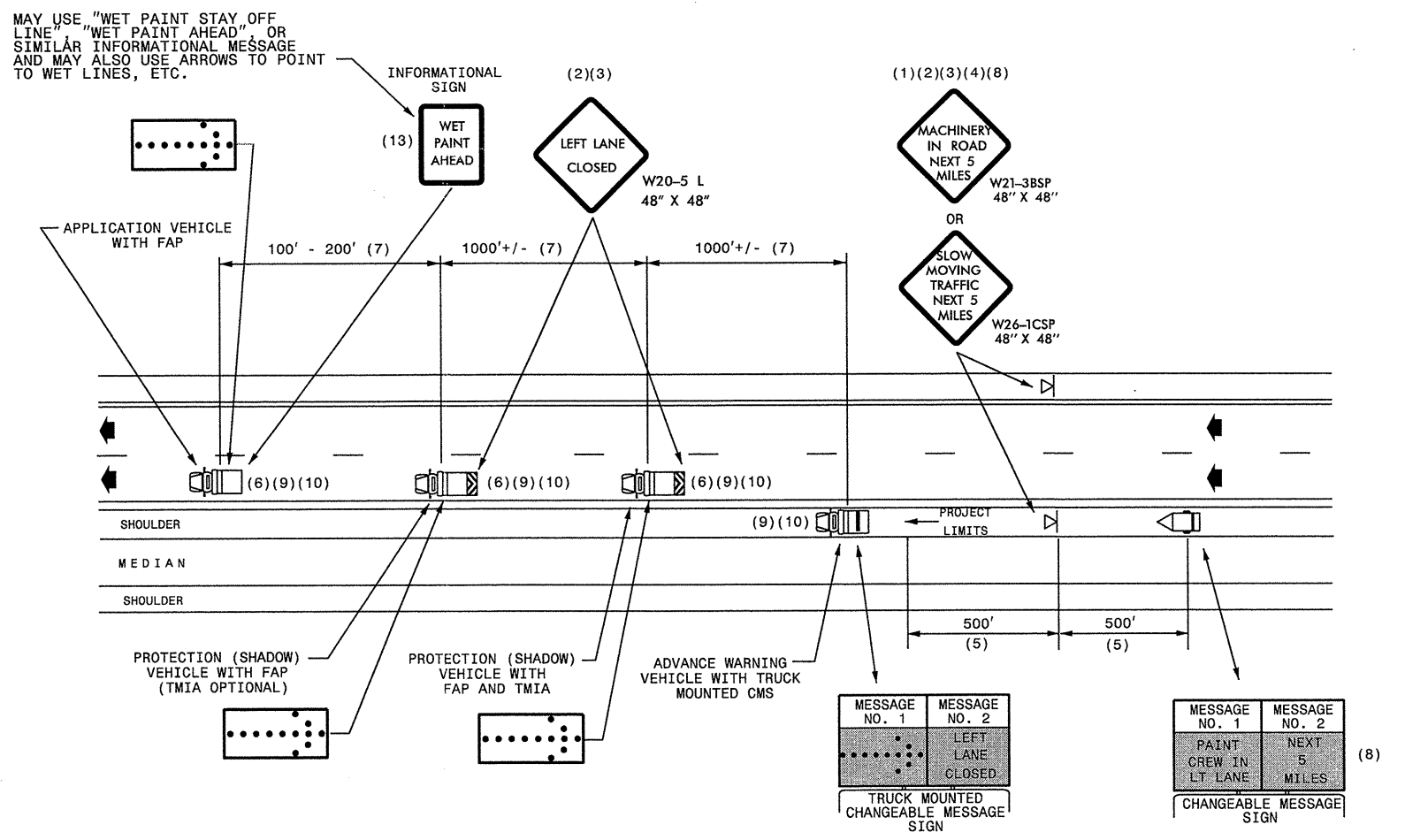
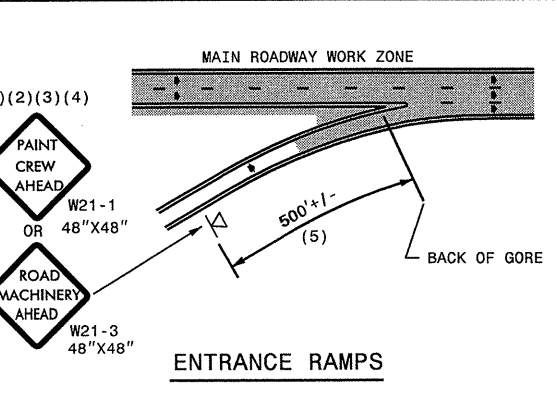
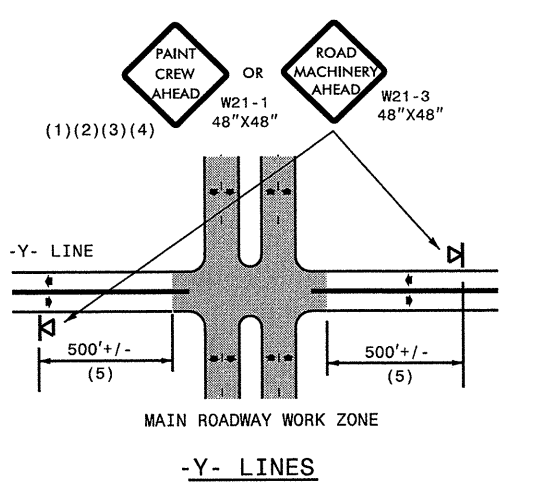
01-SEP-2011 14:33 \\dot\dfsroot\groups-wz\TCCC\TMU\WZTC\Resur-facing\2011\Central\2011\Div07\C202850_7CR.20411.35x43_GUILFORD_SR2085BryanBlvd.dwg\ixit-c202xxx-wbs\NNN-freeways-4lanes-or-greater_stationary.dgn

GENERAL NOTES

- (1) THE FOLLOWING OPTIONS MAY BE USED FOR ADVANCE WARNING SIGNS:
 - A. TRUCK MOUNTED SIGNS
 - B. TRUCK MOUNTED CHANGEABLE MESSAGE SIGN (CMS)
 - C. GROUND MOUNTED ADVANCE WARNING SIGNS (MUST CIRCLE TO PICK UP SIGNS)
 - D. GROUND MOUNTED CHANGEABLE MESSAGE SIGN (CMS) (MUST USE CIRCLE TO PICK UP SIGNS)
- (2) ALL ADVANCE WARNING SIGNS MUST BE 48" X 48" WITH FLUORESCENT ORANGE TYPE VII, VIII OR IX SHEETING. IF SPACE LIMITATIONS ON SHOULDER PROHIBIT A 48" X 48" SIGN, A SMALLER SIGN CAN BE USED WITH APPROVAL FROM ENGINEER.
- (3) SIGNS ON VEHICLES SHOULD BE MOUNTED A MINIMUM OF ONE (1) FOOT FROM THE GROUND AND SHOULD NOT BLOCK THE MOTORIST'S SIGHT OF THE FLASHING ARROW PANEL AND/OR LIGHTBAR.
- (4) GROUND MOUNTED ADVANCED WARNING SIGNS SHOULD BE MOUNTED A MINIMUM OF FIVE (5) FEET FROM THE GROUND TO BOTTOM OF SIGN.
- (5) SIGN SPACING SHOULD BE ADJUSTED FOR HORIZONTAL AND VERTICAL CURVES, ETC. TO IMPROVE SIGHT DISTANCES.
- (6) ADDITIONAL VEHICLES SHOULD BE USED IN WORK CARAVAN TO FACILITATE DRYING OF PAVEMENT MARKING MATERIAL (TMIA'S ARE OPTIONAL ON THESE ADDITIONAL VEHICLES). HOWEVER, THE FIRST VEHICLE MOTORISTS SEE IN THE TRAVEL LANE SHALL HAVE A TMIA.
- (7) ADJUST DISTANCE AS NEEDED TO PREVENT MOTORISTS FROM ENTERING SPACE BETWEEN THE APPLICATION AND PROTECTION VEHICLE. DISTANCE CAN BE LENGTHENED TO ACCOMODATE SIGHT DISTANCE NEEDS.
- (8) ROUND UP MILEAGE TO NEXT WHOLE MILE. WORK ZONE SHOULD NOT EXCEED FIVE (5) MILES IN LENGTH.
- (9) RADIO COMMUNICATION BETWEEN VEHICLES IS REQUIRED.
- (10) USE OF A LIGHT BAR ON ALL VEHICLES IS PREFERRED, BUT A ROTATING BEACON MAY BE USED INSTEAD.
- (11) IF WORK IS PERFORMED AT NIGHT, THE WORK AREA MUST BE ILLUMINATED WITH MACHINE AND/OR TOWER LIGHTS AS APPROVED BY THE ENGINEER.
- (12) ALL TRAFFIC CONTROL DEVICES WILL BE CONSIDERED INCIDENTAL TO THE PAY ITEMS FOR PAVEMENT MARKING AND MARKERS.
- (13) INFORMATIONAL SIGNS SHOULD BE ACTIVITY SPECIFIC, I.E. "PAINT CREW IN ROAD". SIGNS MAY BE RECTANGULAR OR DIAMOND SHAPE. SIGN SIZE SHOULD BE BASED ON THE MOTORIST ABILITY TO RECOGNIZE SIGN WHEN TRAVELING FIVE (5) MILES ABOVE POSTED SPEED LIMIT.

LEGEND

-  PORTABLE SIGN. SIGNS MUST BE NCHRP-350 AND NCDOT APPROVED.
-  DIRECTION OF TRAFFIC FLOW
-  APPLICATION VEHICLE WITH LIGHT BAR
-  PROTECTION VEHICLE WITH TRUCK MOUNTED IMPACT ATTENUATOR (TMIA) AND LIGHT BAR (SEE ROADWAY STANDARD NO. 1165.01). TMIA MUST BE NCHRP-350 TEST LEVEL 3 (60+MPH) APPROVED.
-  ADVANCE WARNING VEHICLE WITH TRUCK MOUNTED CHANGEABLE MESSAGE SIGN (CMS) AND LIGHT BAR. MESSAGE SIGN LETTER HEIGHT SHOULD BE A MINIMUM OF 10 INCHES.
-  FLASHING ARROW PANEL, TYPE "B" (60"X30" MIN.), APPROPRIATE DIRECTION INDICATED
-  CHANGEABLE MESSAGE SIGN

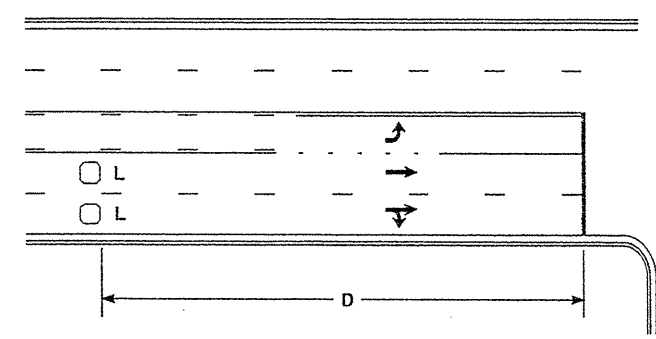


MOVING OPERATION CARAVAN

(OPERATIONS TRAVELING 3 MPH OR FASTER)
PLACING PAVEMENT MARKING OR MARKERS
ON INTERSTATE ROADWAYS

DRAWING NUMBER 8
IMPLEMENTATION DATE: 11/03/04
REVISED:

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

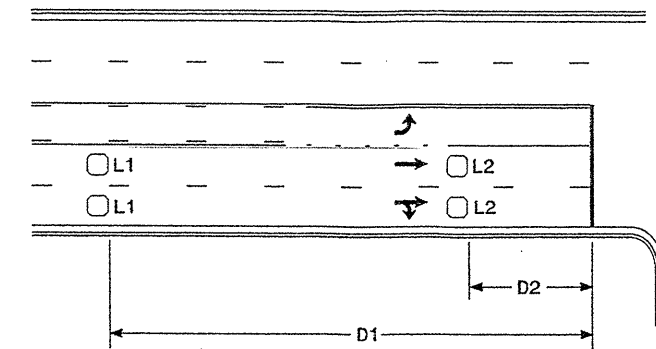


| Speed Limit mph (km/hr) | D ft (m) |
|----------------------------|-------------|
| 40 (64) | 250 (75) |
| 45 (72) | 300 (90) |
| 50 (80) | 355 (110) |
| 55 (88) | 420 (130) |

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

Volume Density Operation

OR

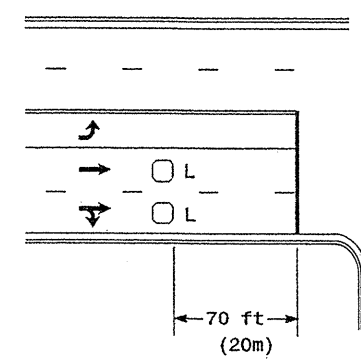


| Speed Limit mph (km/hr) | D1 ft (m) | D2 ft (m) |
|----------------------------|--------------|--------------|
| 40 (64) | 250 (75) | 80 (25) |
| 45 (72) | 300 (90) | 90 (27) |
| 50 (80) | 355 (110) | 100 (30) |
| 55 (88) | 420 (130) | 110 (35) |

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

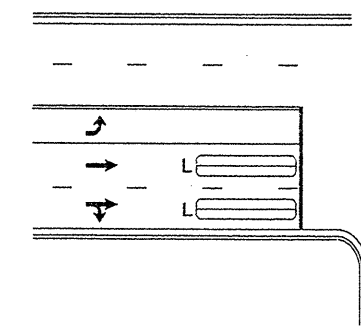
"Stretch" Operation

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



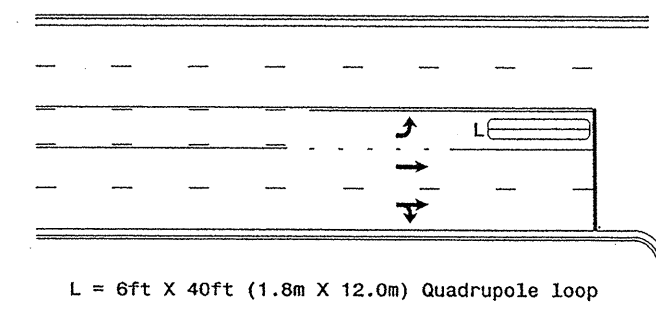
L = 6ft X 6ft (1.8m X 1.8m)
Wired in series

OR



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

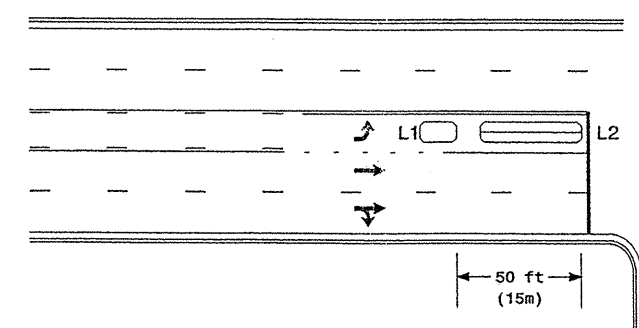
Left Turn Lane Detection



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

Presence Loop Detection

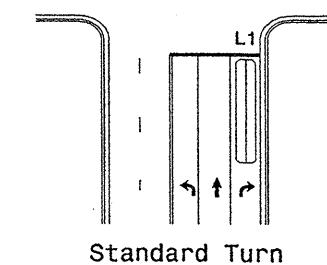
OR



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

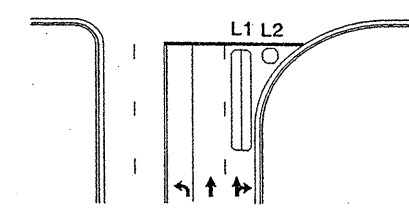
Queue Loop Detection

Right Turn Lane Detection

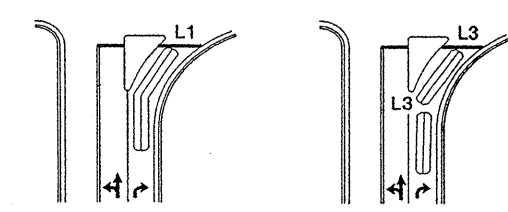


Standard Turn

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

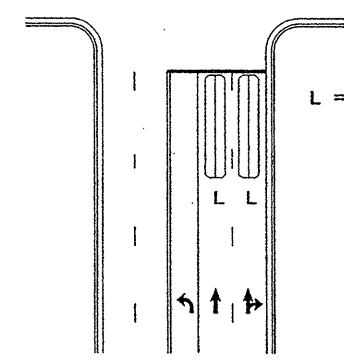


Wide Radius Turn



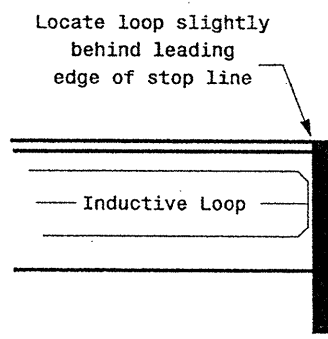
Channelized Turn

Side Street Detection



L = 6ft X 40ft (1.8m X 12.0m)
Quadrupole loop
Wired to separate
detectors/channels

Presence Loop Placement at Stop Lines



Note:
Loop may be located in advance
of stop line when stop line is
greater than 15' (4.5m) from edge
of intersecting roadway; or, when
loop detects a permissive or
protected/permissive left turn.

Recommended Number of Turns

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

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

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

19-DEC-2006 14:27
s:\in\sect\copy\turn_in\sect\copy\cal\2006.dgn
pal\alexander

Typical Loop Locations

| | |
|-----------------------------|--------------|
| PLAN DATE: June 2006 | REVIEWED BY: |
| PREPARED BY: P L Alexander | REVIEWED BY: |
| REVISIONS | INIT. DATE |
| 1. Revise pavement markings | PLA 12/15/06 |

SCALE: N/A

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DIVISION OF HIGHWAYS
RALEIGH, N.C.

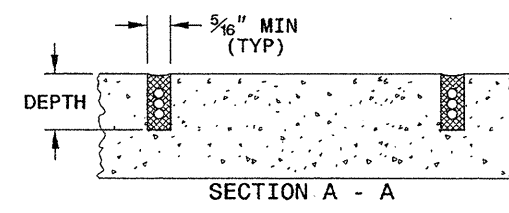
11-08

INDUCTIVE DETECTION LOOPS
ENGLISH DETAIL DRAWING FOR

SHEET 1 OF 3
1725D01

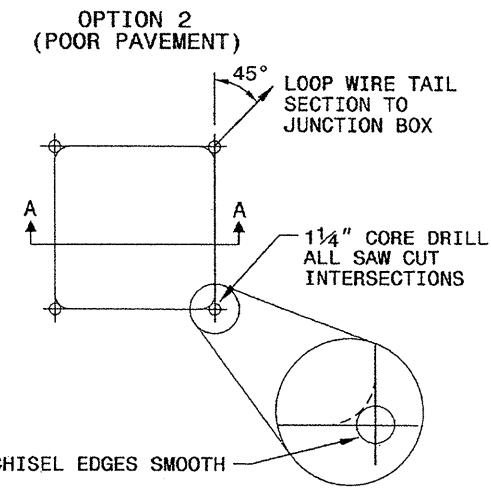
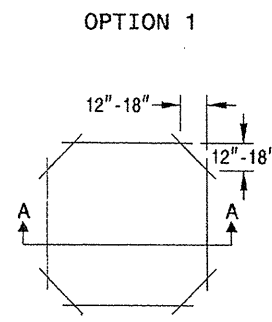
SAW SLOT DEPTH CHART

| DEPTH (IN) | NO. OF WIRE TURNS | | | | |
|------------|-------------------|-----|-----|-----|-----|
| | 2 | 3 | 4 | 5 | 6 |
| CONCRETE | 2.0 | 2.0 | 2.5 | 2.5 | 3.0 |
| ASPHALT | 2.0 | 2.5 | 3.0 | 3.0 | 3.0 |

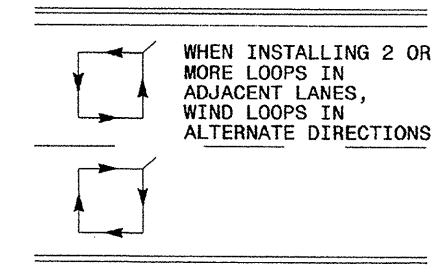
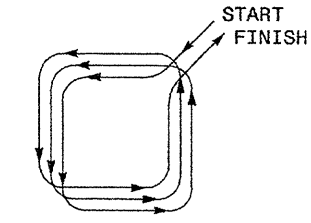


CONVENTIONAL 4-SIDED LOOP

SAW CUT OPTIONS



LOOP WINDING METHOD



LOOP WIRE TWISTING METHOD

INCORRECT WAY TO TWIST WIRE



CORRECT WAY TO TWIST WIRE

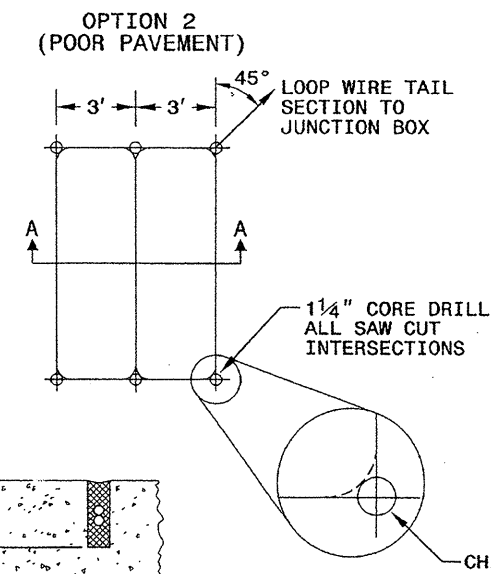
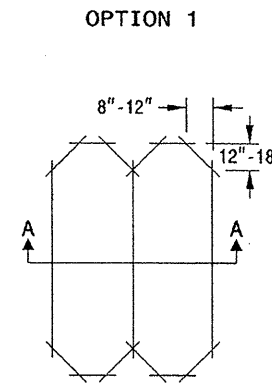


NOTES

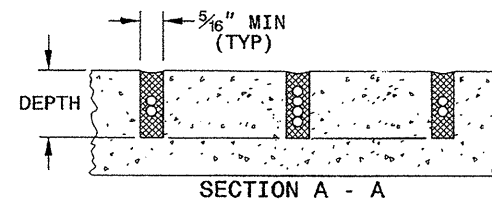
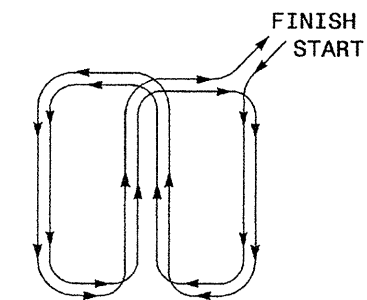
1. OVERLAP SAW CUTS AT CORNERS AND INTERSECTION POINTS TO ENSURE UNIFORM SAW SLOT DEPTH.
2. MAINTAIN 12" SPACING BETWEEN LOOP WIRE TAIL SECTIONS.
3. WIRE LOOPS CONNECTED TO THE SAME DETECTOR CHANNEL IN SERIES.
4. LOCATE LOOPS IN CENTER OF LANES UNLESS OTHERWISE SHOWN ON PLANS OR APPROVED BY ENGINEER.

QUADRUPOLE LOOP

SAW CUT OPTIONS



LOOP WINDING METHOD



DEPTH IS 2.5" FOR CONCRETE AND 3.0" FOR ASPHALT

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INDUCTIVE DETECTION LOOPS
ENGLISH DETAIL DRAWING FOR

SHEET 1 OF 3
1725D01

See Plate for Title

Prepared in the Offices of:

750 N. Greenfield Parkway
Garner, NC 27529

SEAL

Milton I. Dean 4/24/08
SIGNATURE DATE

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DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

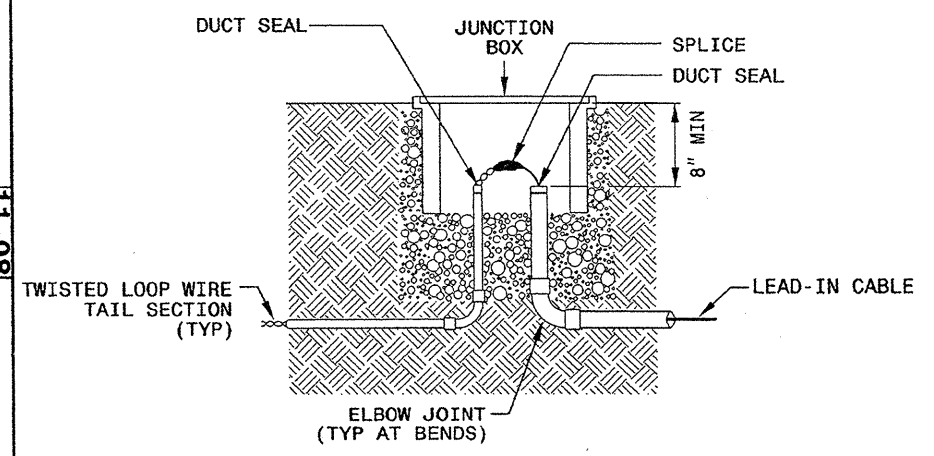
11-08

ENGLISH DETAIL DRAWING FOR
INDUCTIVE DETECTION LOOPS
LOOP WIRE DETAILS

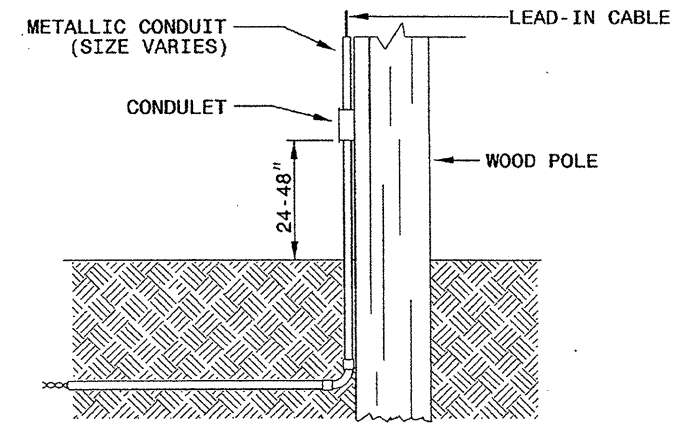
SHEET 2 OF 3
1725D01

LOOP WIRE SPLICE POINT DETAILS

LOOP WIRE AT JUNCTION BOX



LOOP WIRE AT POLE

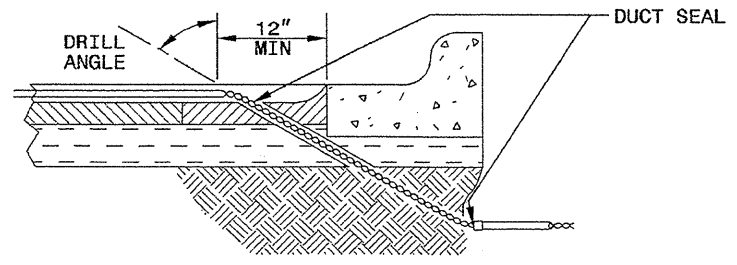


NOTE

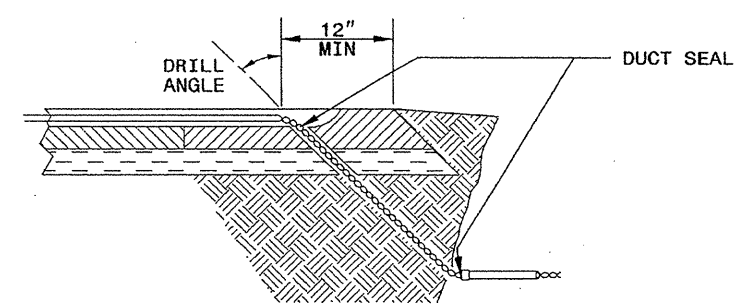
SPLICE ALL LOOP WIRE TAIL SECTIONS/LEAD-IN CABLE IN JUNCTION BOXES OR APPROVED CONDULETS.

LOOP WIRE PAVEMENT EDGE DETAILS

LOOP WIRE AT CURB & GUTTER SECTION



LOOP WIRE AT PAVEMENT SECTION



NOTES

1. DO NOT EXCAVATE UNDER CURB AND GUTTER SECTIONS FOR CONDUIT INSTALLATION.
2. TWIST LOOP WIRE TAIL SECTIONS FROM WHERE LOOP WIRE TAIL LEAVES SAW CUT TO JUNCTION BOX, INCLUDING THROUGH CONDUIT.
3. BEFORE SEALING LOOPS, INSTALL DUCT SEAL WHERE LOOP WIRE TAIL SECTION LEAVES SAW CUT IN PAVEMENT AND AT ENTRANCE OF CONDUIT TO JUNCTION BOX.

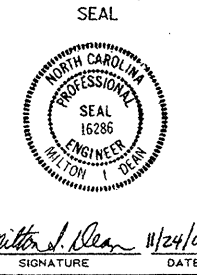
STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

11-08

ENGLISH DETAIL DRAWING FOR
INDUCTIVE DETECTION LOOPS
LOOP WIRE DETAILS

SHEET 2 OF 3
1725D01

See Plate for Title



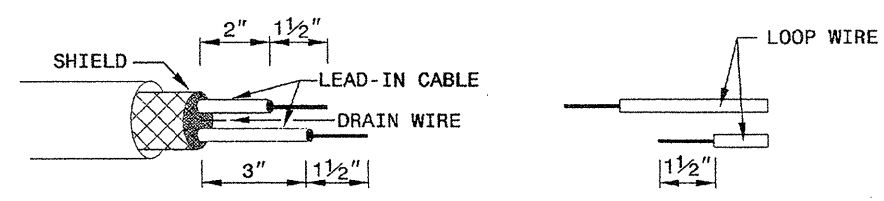
STATE OF NORTH CAROLINA
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 RALEIGH, N.C.

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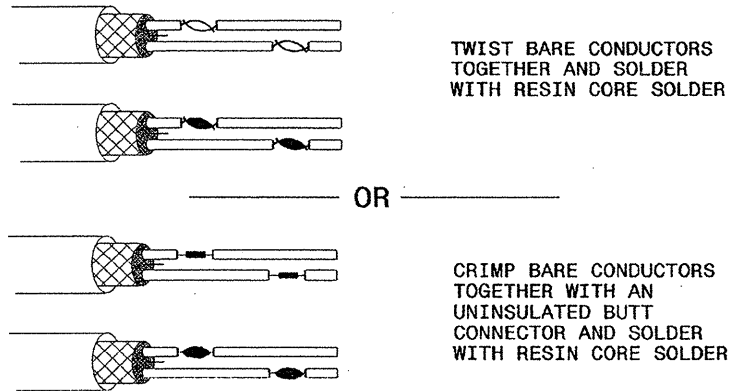
ENGLISH DETAIL DRAWING FOR
INDUCTIVE DETECTION LOOPS
 SPLICING FOR LEAD-IN CABLE AND LOOP WIRE

SHEET 3 OF 3
1725D01

STEP 1. STRIP LOOP WIRE AND LEAD-IN CABLE

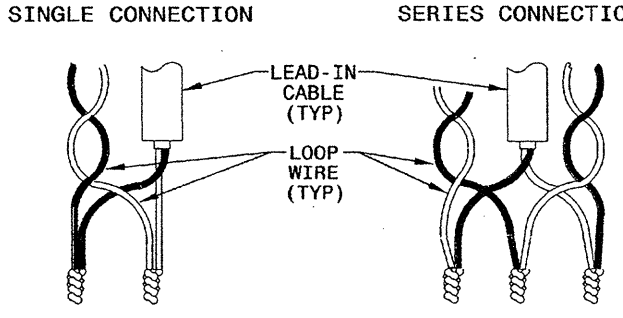


STEP 2. CONNECT AND SOLDER

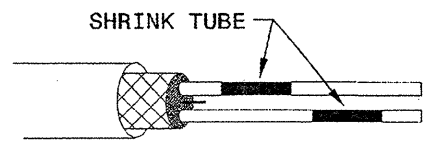


BOND SHIELD DRAIN WIRE AT SPLICE SECTIONS (DO NOT GROUND)

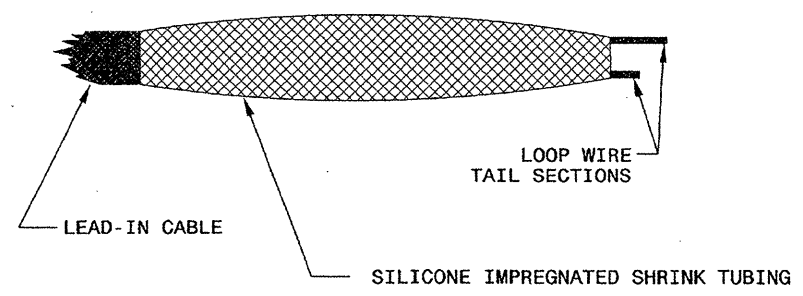
LOOP WIRE AND LEAD-IN CABLE CONNECTION DETAILS



STEP 3. INSULATE EACH SOLDER JOINT SEPARATELY



STEP 4. ENVIRONMENTALLY PROTECT SPLICE



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ENGLISH DETAIL DRAWING FOR
INDUCTIVE DETECTION LOOPS
 SPLICING FOR LEAD-IN CABLE AND LOOP WIRE

SHEET 3 OF 3
1725D01

See Plate for Title

Prepared in the Offices of:

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 Garner, NC 27529

SEAL

Milton I. Dean 11/24/08
 SIGNATURE DATE

24-Nov-2008 09:35
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 2/11/10