

2021 West Wake County Resurfacing

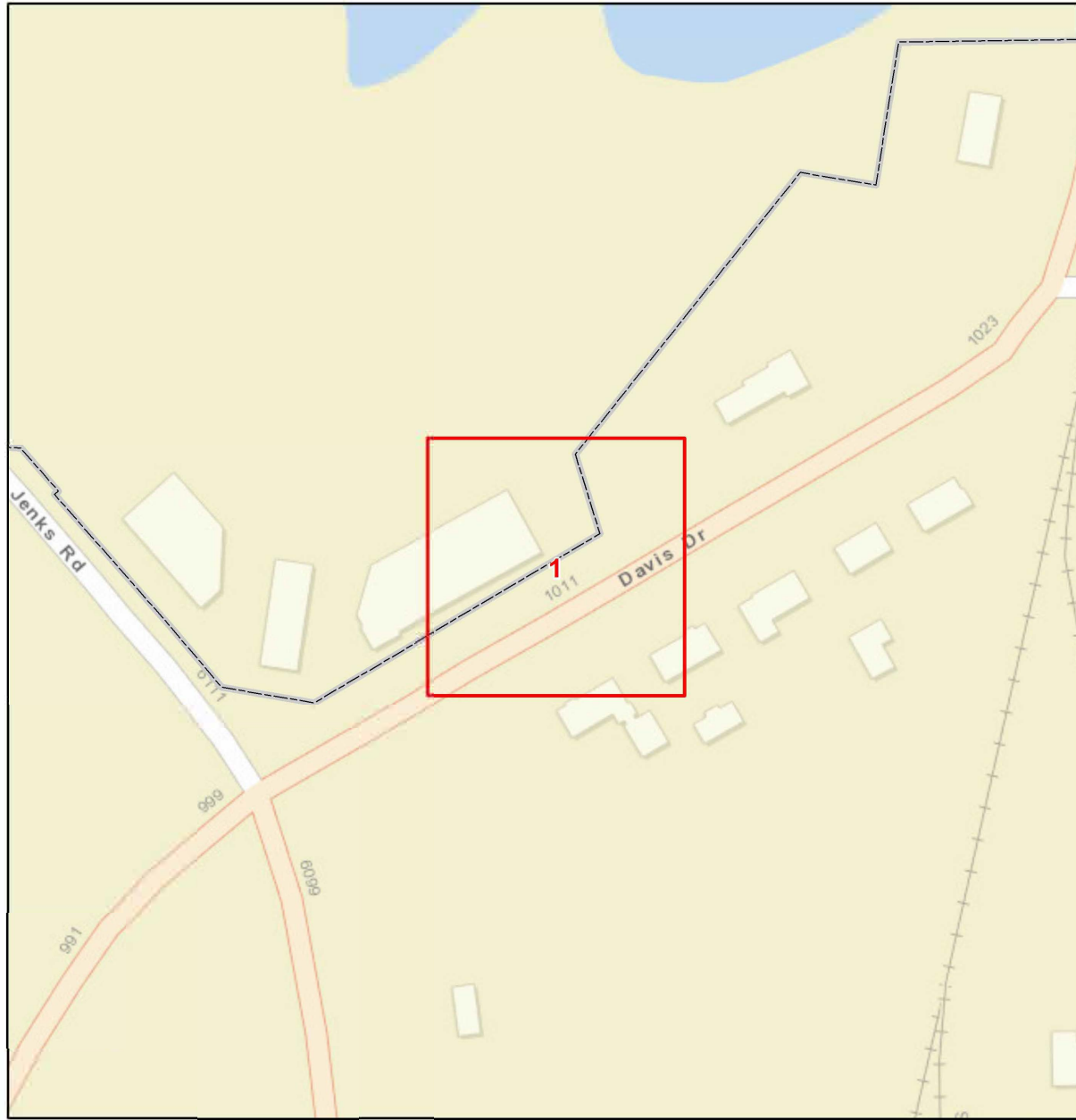
DURHAM CO






CHATHAM CO
WAKE CO

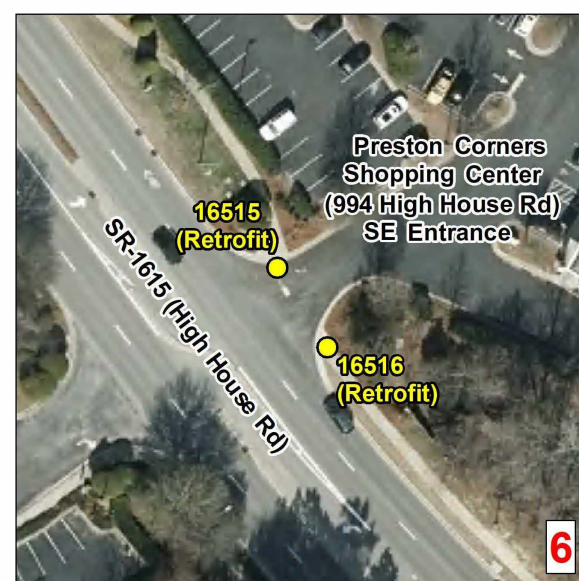
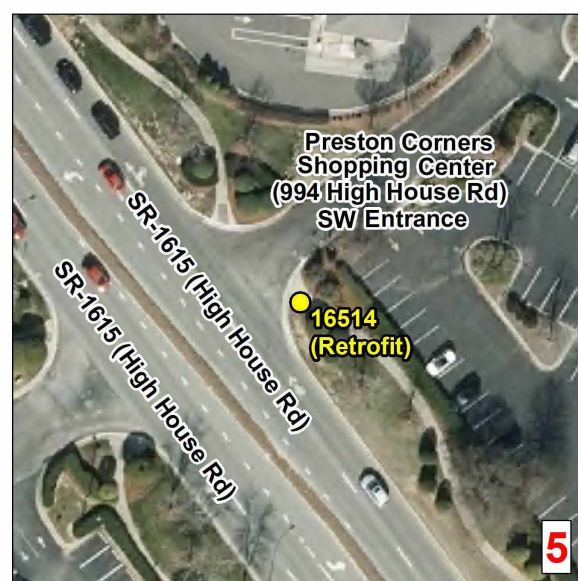
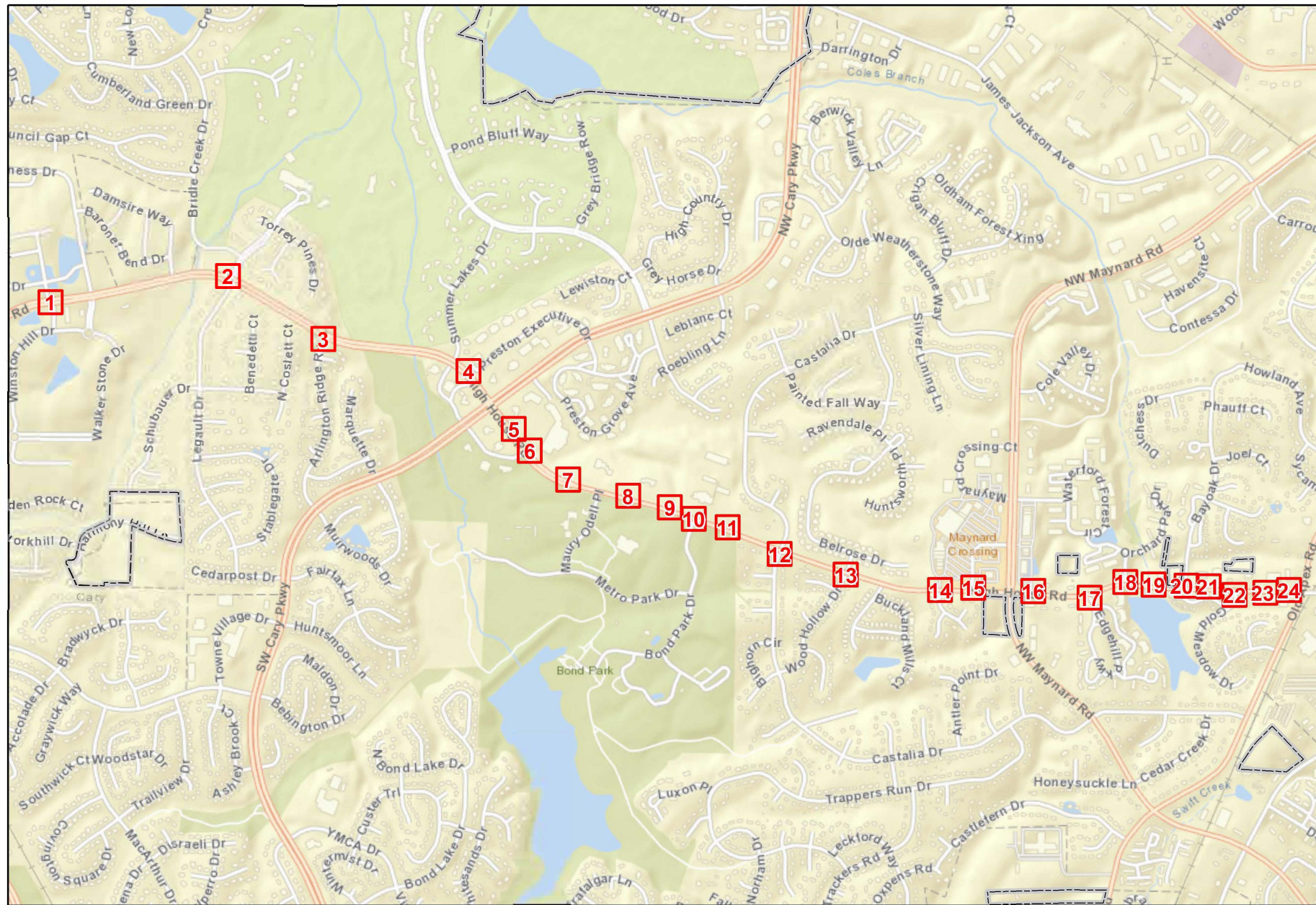


5/14/20

SECTION 10 AND 14



| | |
|--|---|
| <ul style="list-style-type: none">  Curb Ramp To Be Repaired  Municipal Boundary  NCHPO Historic Boundary (NR and LHD) |  |
| <p>2021 West WBS: 2021CPT.05.02.20921.1</p> <p>SR 1613 from US 64 to Farmpond Rd</p> | |
|  <p>NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DIVISION 5</p> | |
| <small>Source: CALYX Engineers and Consultants, ESRI, NC OneMap, NCDOT, NCHPO</small> | |



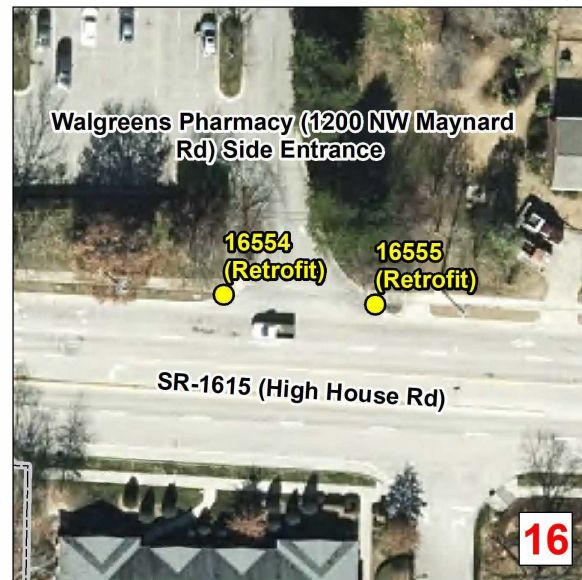
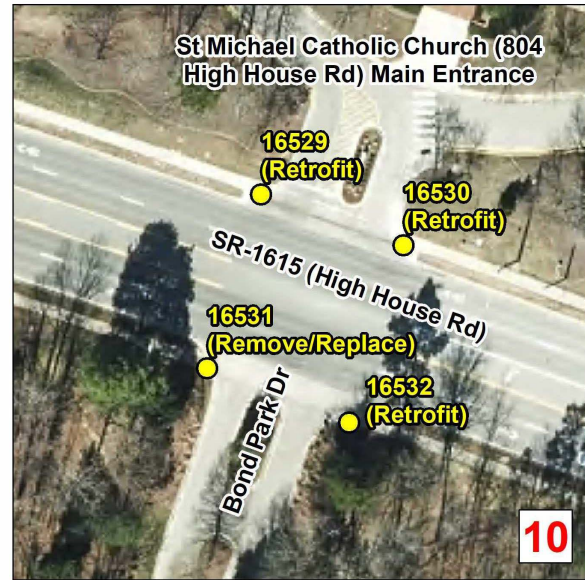
- Curb Ramp To Be Repaired
- Municipal Boundary
- NCHPO Historic Boundary (NR and LHD)

2021 West
WBS: 2021CPT.05.02.20921.1

SR 1615
from SR 1613 to Old Apex Rd

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION 5

Source: CALYX Engineers and Consultants, ESRI, NC OneMap, NCDOT, NCHPO



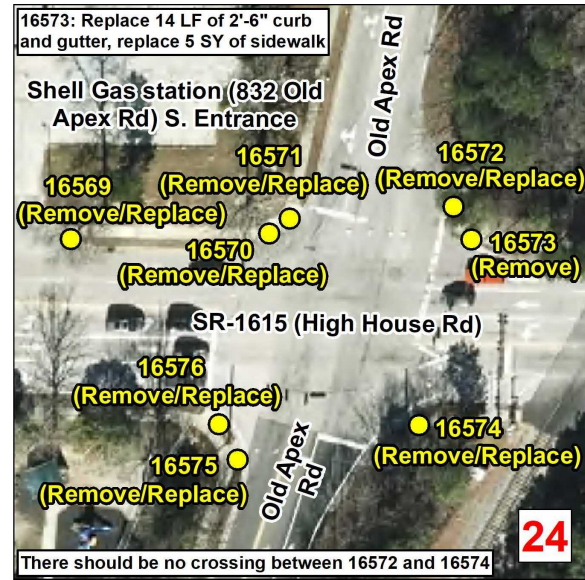
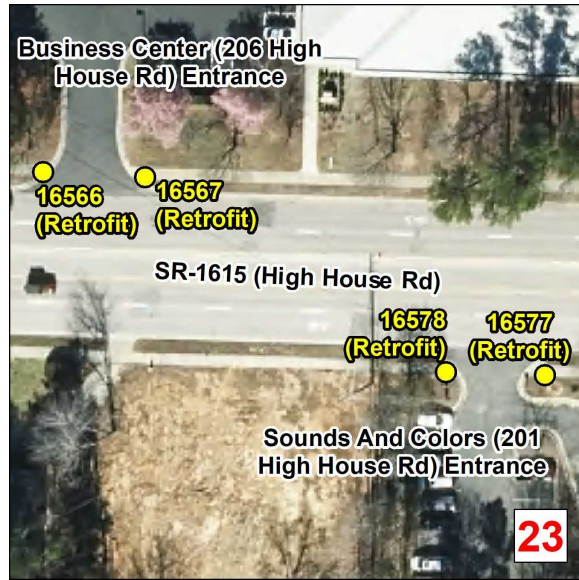
- Curb Ramp To Be Repaired
- Municipal Boundary
- NCHPO Historic Boundary (NR and LHD)

2021 West
WBS: 2021CPT.05.02.20921.1






SR 1615
from SR 1613 to Old Apex Rd

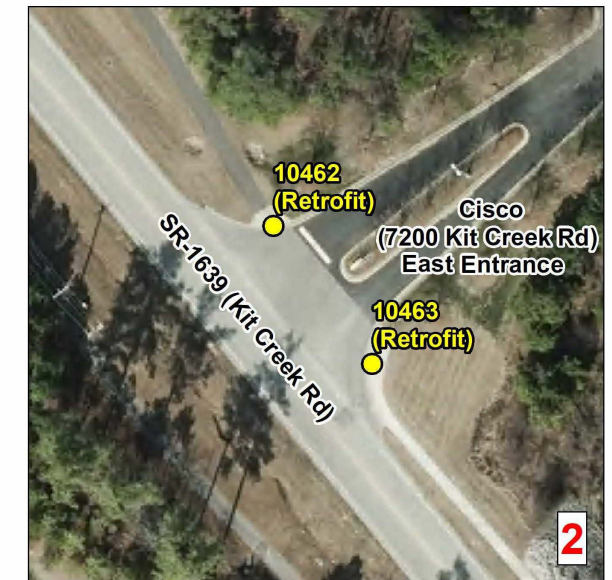
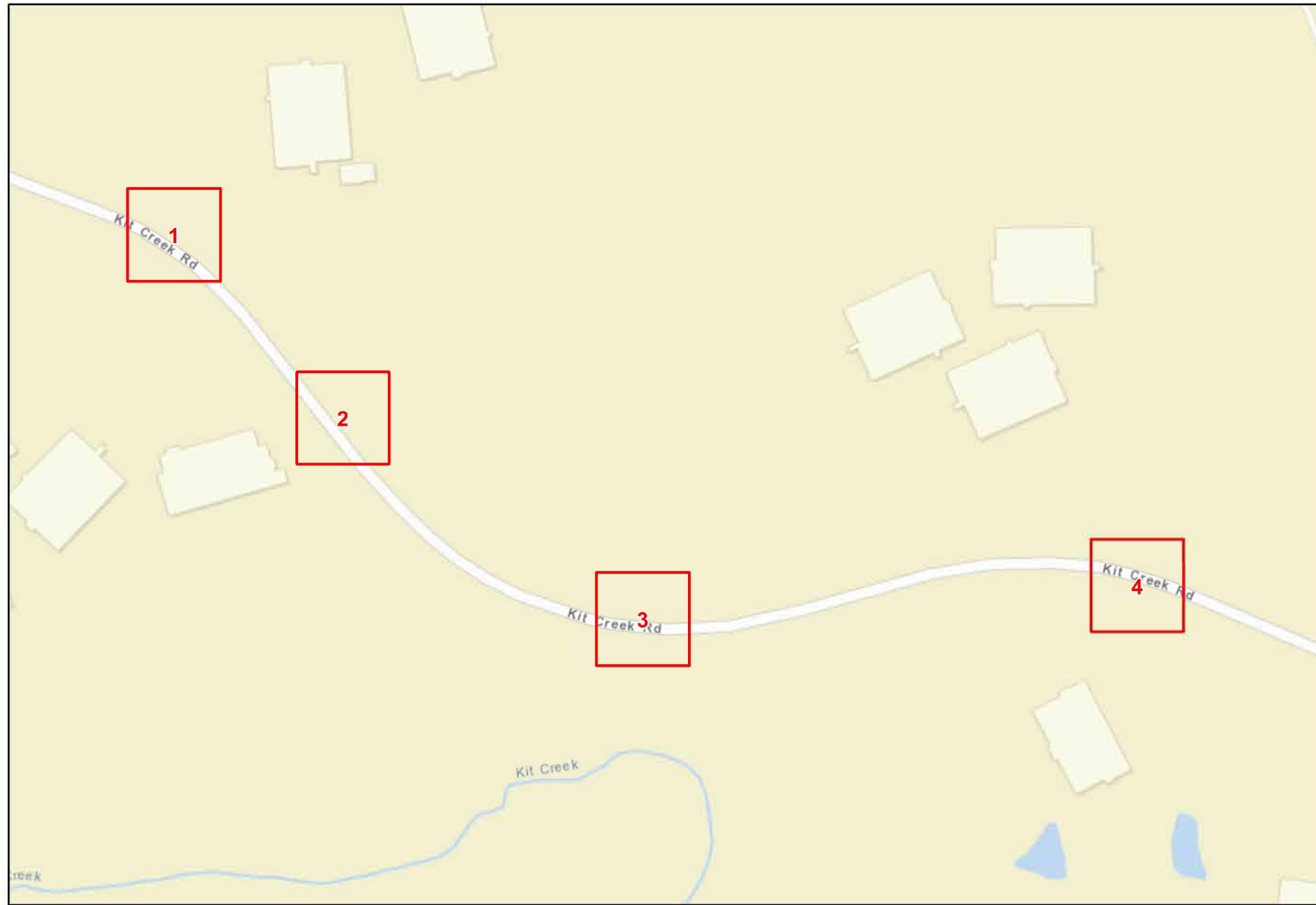
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION 5




Source: CALYX Engineers and Consultants, ESRI, NC OneMap, NCDOT, NCHPO




*See plan sheet #13 (Signal Project 05-1188) for revised pavement markings at High House and Old Apex Rd.


| | |
|--|---|
| <ul style="list-style-type: none">  Curb Ramp To Be Repaired  Municipal Boundary  NCHPO Historic Boundary (NR and LHD) |  |
| <p>2021 West WBS: 2020CPT.05.18.20921.1</p> <p>SR 1615 from SR 1613 to Old Apex Rd</p> | |
|  <p>NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DIVISION 5</p> | |
| <p>Source: CALYX Engineers and Consultants, ESRI, NC OneMap, NCDOT, NCHPO</p> | |



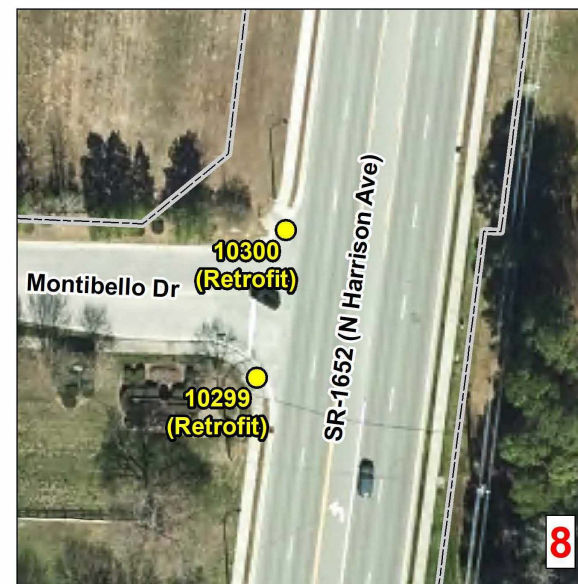
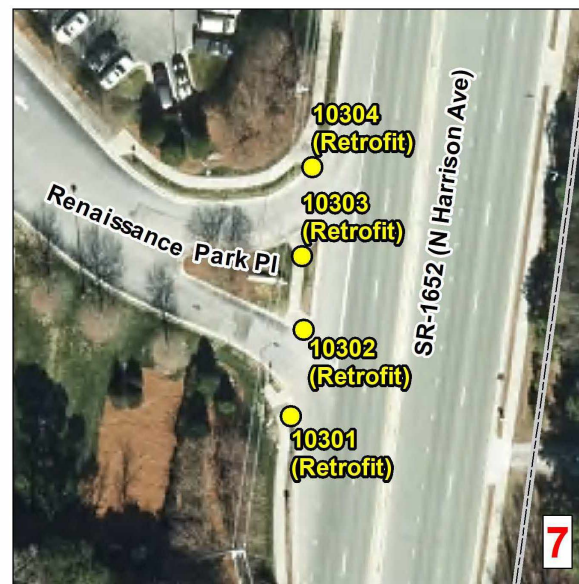
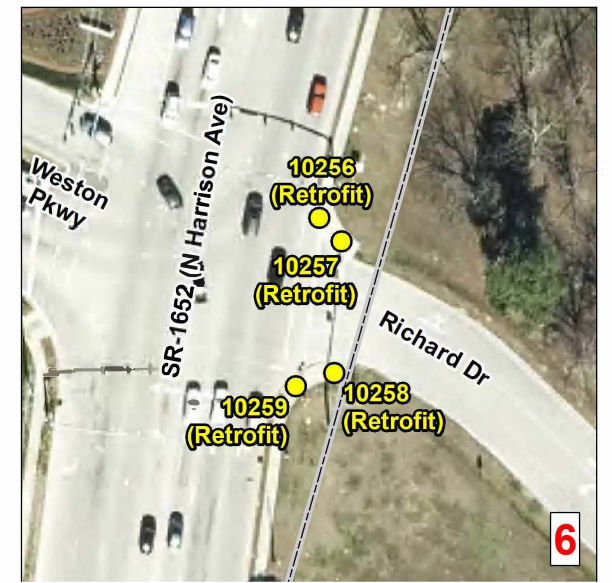
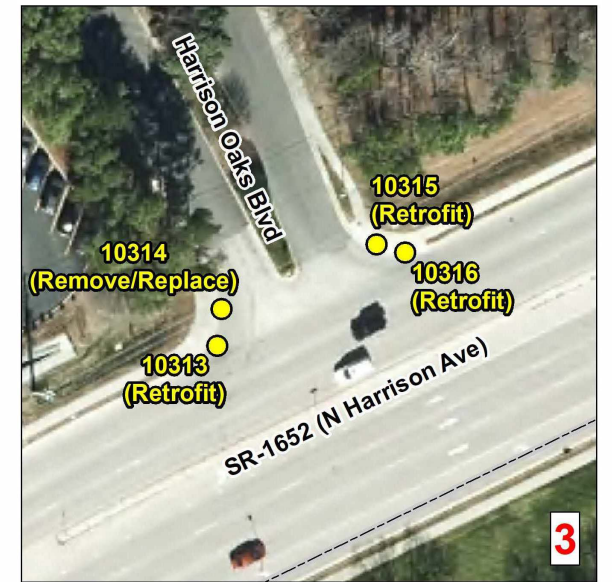
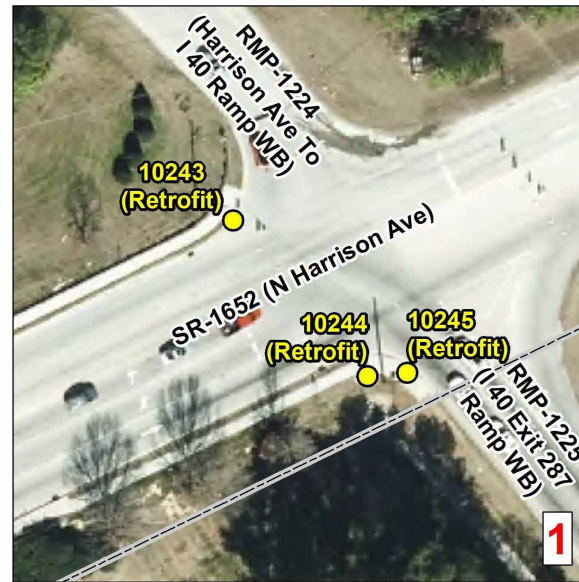
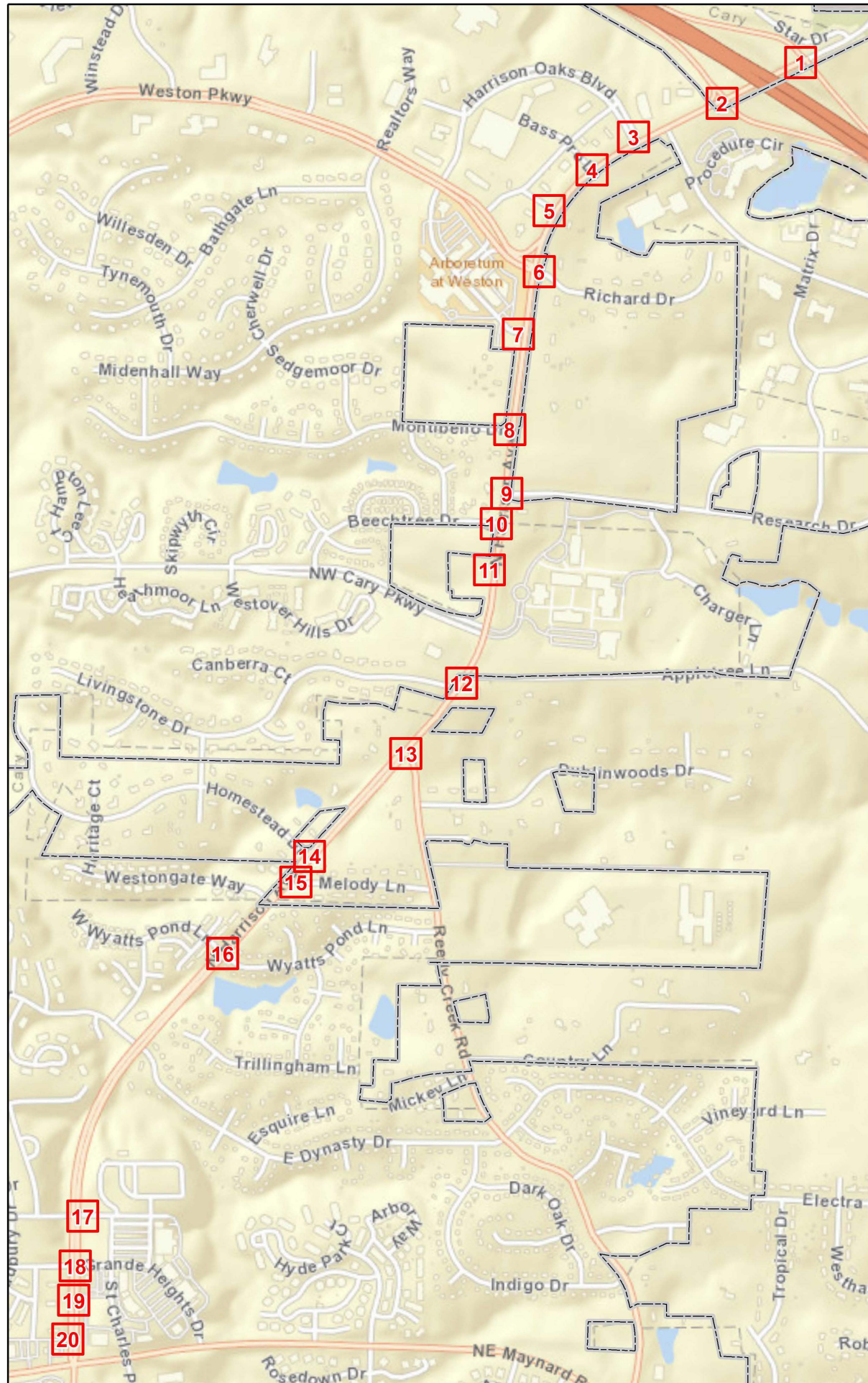
 Curb Ramp To Be Repaired
 Municipal Boundary
 NCHPO Historic Boundary (NR and LHD)



2021 West
WBS: 2021CPT.05.02.20921.1
SR 1639 from NC 55 to SR 1613

 NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
 DIVISION 5

Source: CALYX Engineers and Consultants, ESRI, NC OneMap, NCDOT, NCHPO

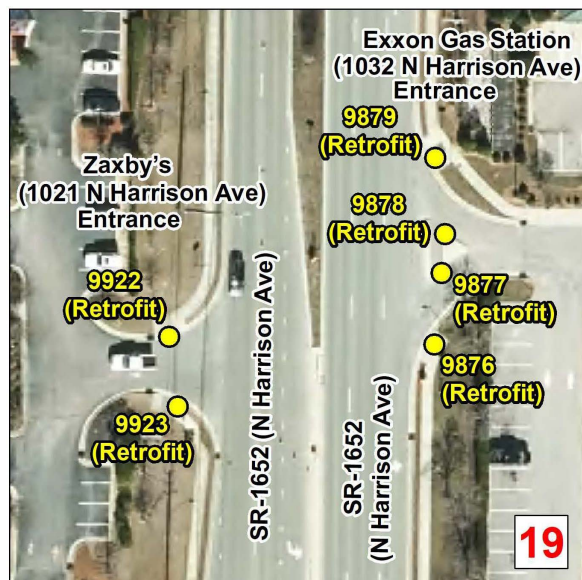
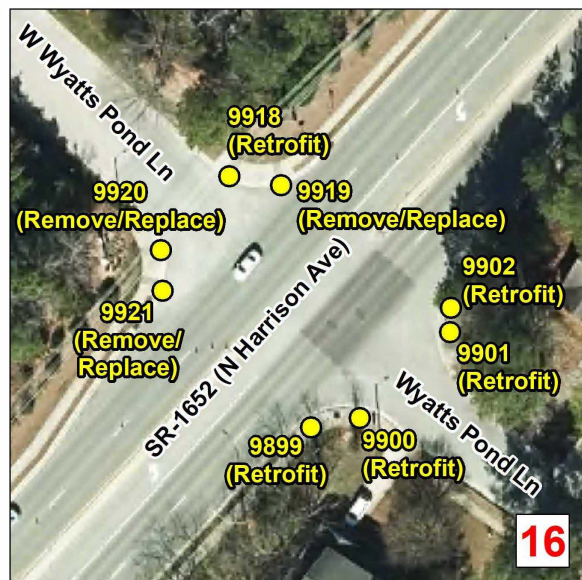


- Curb Ramp To Be Repaired
- Municipal Boundary
- NCHPO Historic Boundary (NR and LHD)

2021 West
WBS: 20201CPT.05.02.20921.1
SR 1652 from Beg Maint to NC 54

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION 5

Source: CALYX Engineers and Consultants, ESRI, NC OneMap, NCDOT, NCHPO

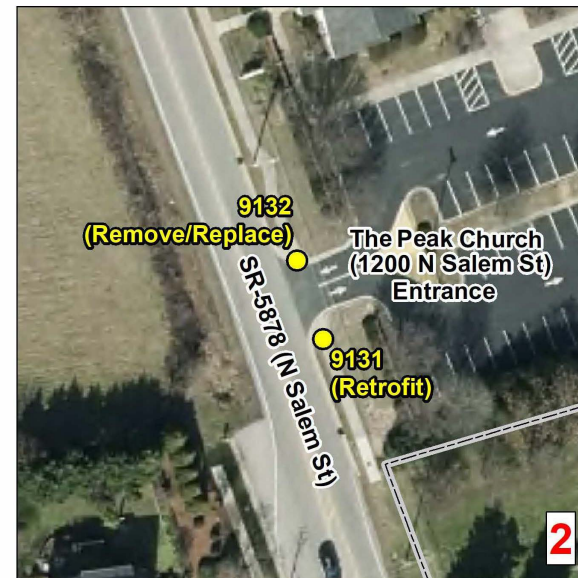
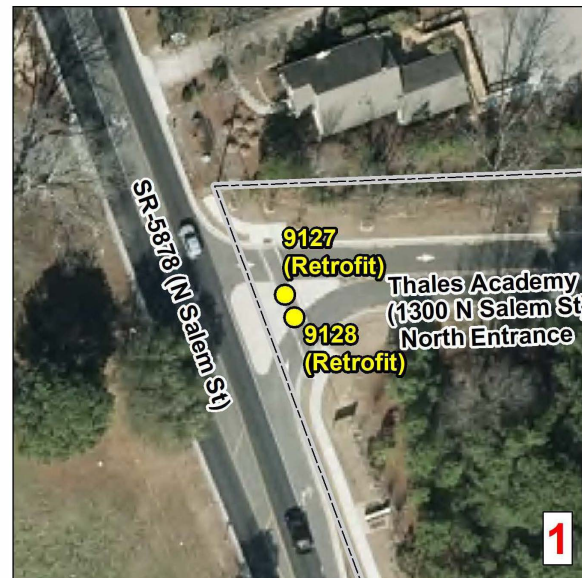
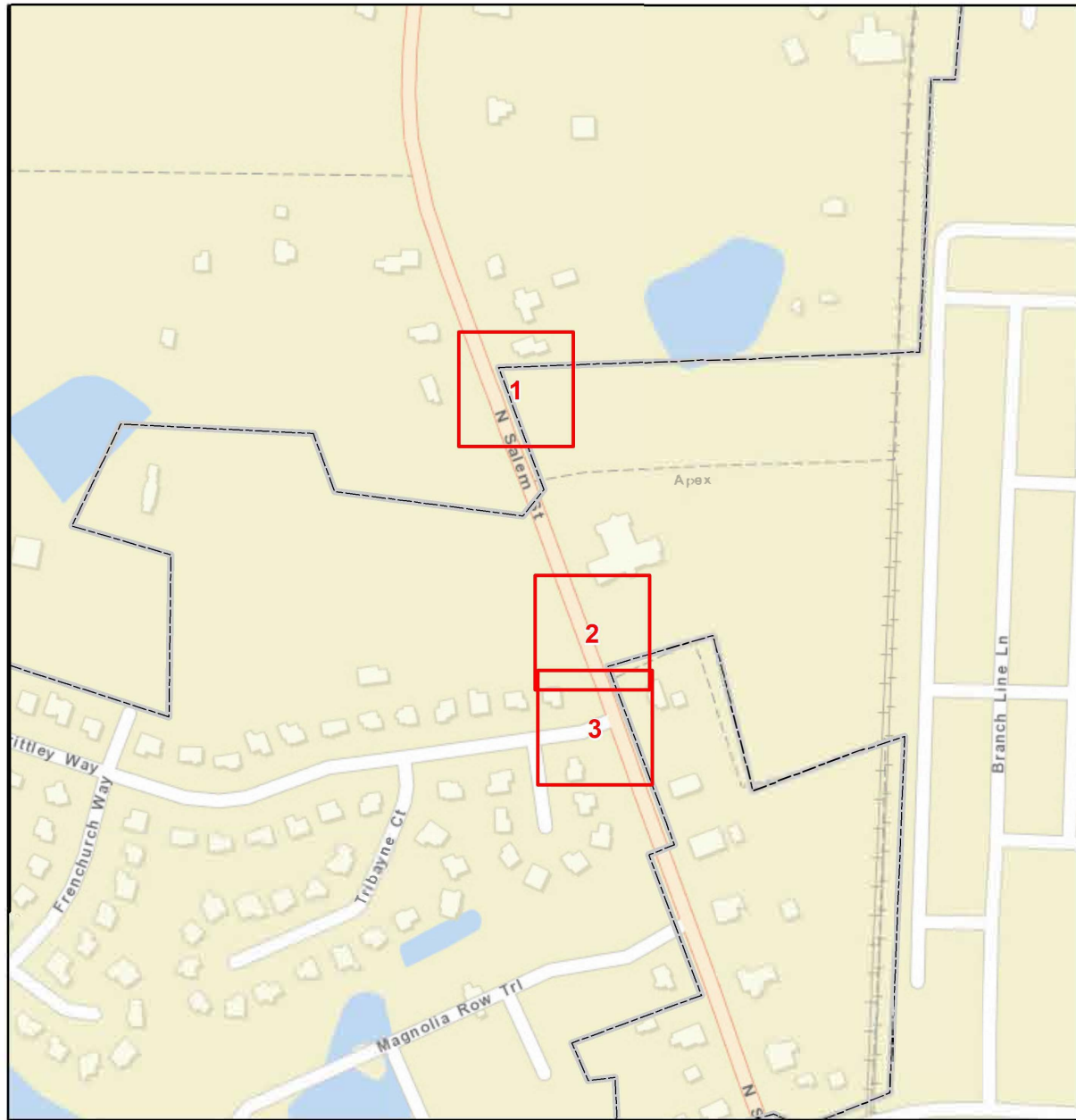




- Curb Ramp To Be Repaired
- Municipal Boundary
- NCHPO Historic Boundary (NR and LHD)

2021 West
WBS: 2021CPT.05.02.20921.1
SR 1652 from Beg Maint to NC 54

NORTH CAROLINA DEPARTMENT
OF TRANSPORTATION
DIVISION 5

Source: CALYX Engineers and Consultants, ESRI, NC OneMap, NCDOT, NCHPO



| | |
|---|---|
| <ul style="list-style-type: none"> ● Curb Ramp To Be Repaired Municipal Boundary NCHPO Historic Boundary (NR and LHD) |  |
| <p>2021 West 20201CPT.05.02.20921.1</p> <p>SR 5878 from SR 1613 to Apex Peakway</p> | |
|  <p>NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DIVISION 5</p> <p><small>Source: CALYX Engineers and Consultants, ESRI, NC OneMap, NCDOT, NCHPO</small></p> | |

PAVEMENT SCHEDULE

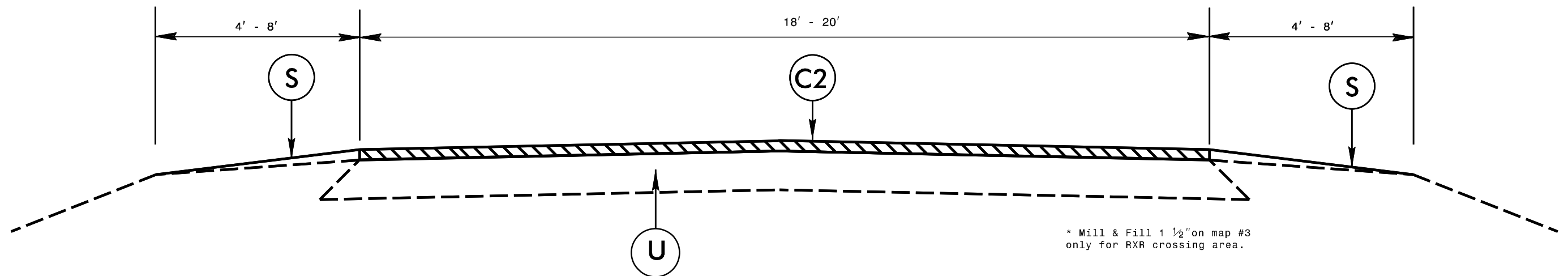
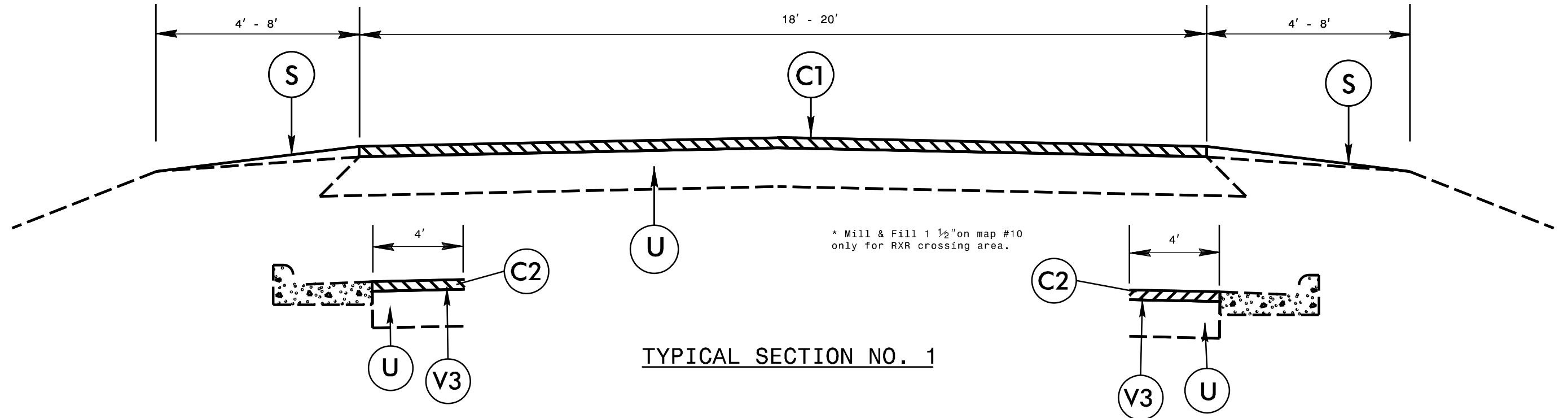
PROJECT REFERENCE NO.

SHEET NO.

2021CPT.05.02.20921.1

14

| | | | |
|----|--|----|--|
| | | U | EXISTING PAVEMENT |
| C1 | 1 1/4" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD. | S | SHOULDER GRADING ASB REQUIRED (EXCEPT AT RESIDENTIAL AREAS) |
| C2 | 1 1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD. | V1 | 1 1/2" MILLING |
| C3 | 1 1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. | V2 | 3" MILLING |
| C4 | 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF 2 LAYERS | V3 | 0"-1 1/2" MILLING |



TYPICAL SECTION NO. 2

PAVEMENT SCHEDULE

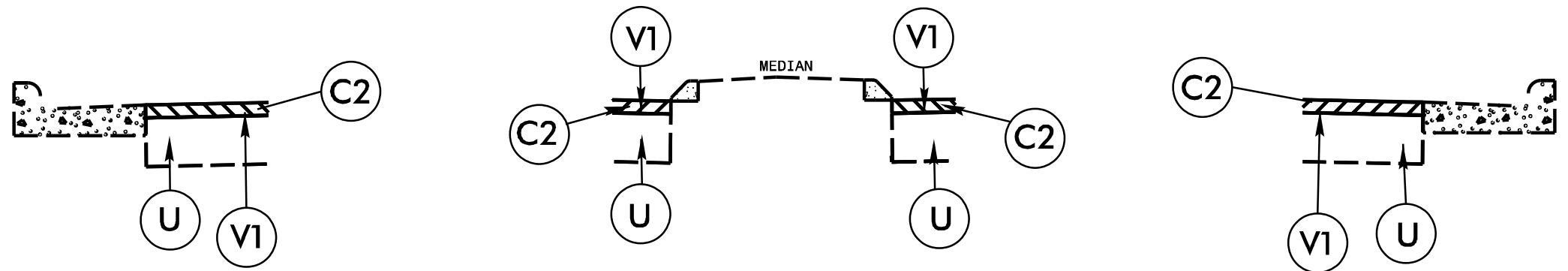
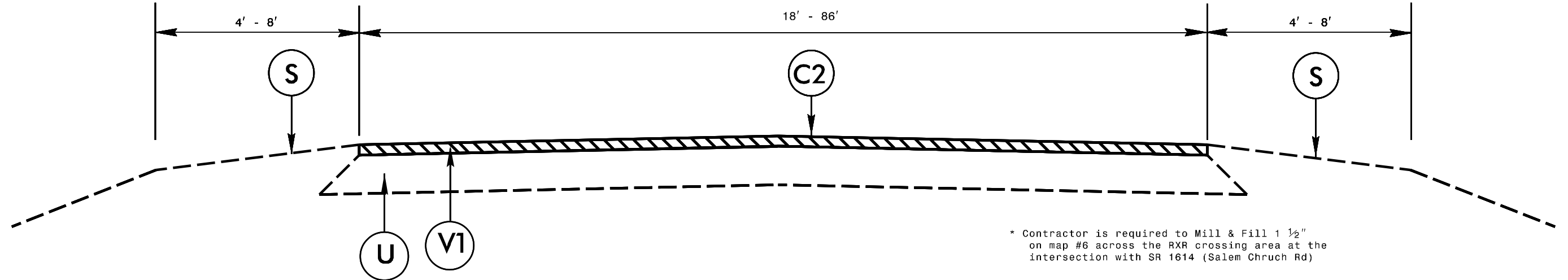
PROJECT REFERENCE NO.

SHEET NO.

2021CPT.05.02.20921.1

15

| | | | |
|----|--|----|--|
| C1 | 1¼" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD. | U | EXISTING PAVEMENT |
| C2 | 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD. | S | SHOULDER GRADING ASB REQUIRED (EXCEPT AT RESIDENTIAL AREAS) |
| C3 | 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. | V1 | 1½" MILLING |
| C4 | 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF 2 LAYERS | V2 | 3" MILLING |
| | | V3 | 0"-1½" MILLING |



TYPICAL SECTION NO. 3

PAVEMENT SCHEDULE

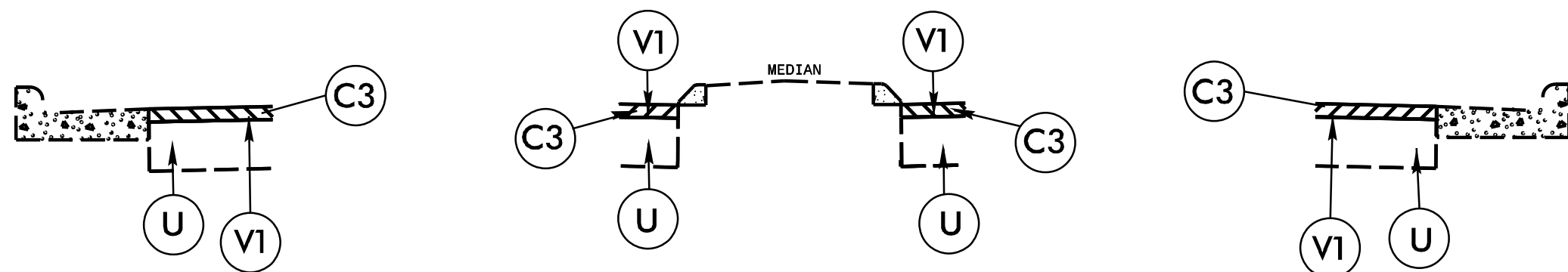
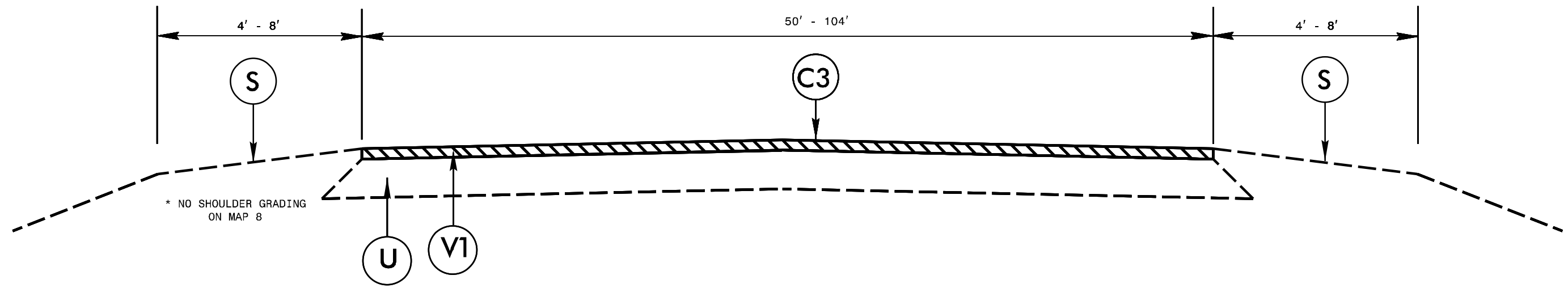
PROJECT REFERENCE NO.

SHEET NO.

2021CPT.05.02.20921.1

16

| | | | |
|----|--|----|--|
| | | U | EXISTING PAVEMENT |
| C1 | 1¼" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD. | S | SHOULDER GRADING ASB REQUIRED (EXCEPT AT RESIDENTIAL AREAS) |
| C2 | 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD. | V1 | 1½" MILLING |
| C3 | 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. | V2 | 3" MILLING |
| C4 | 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF 2 LAYERS | V3 | 0"-1½" MILLING |



TYPICAL SECTION NO. 4

PAVEMENT SCHEDULE

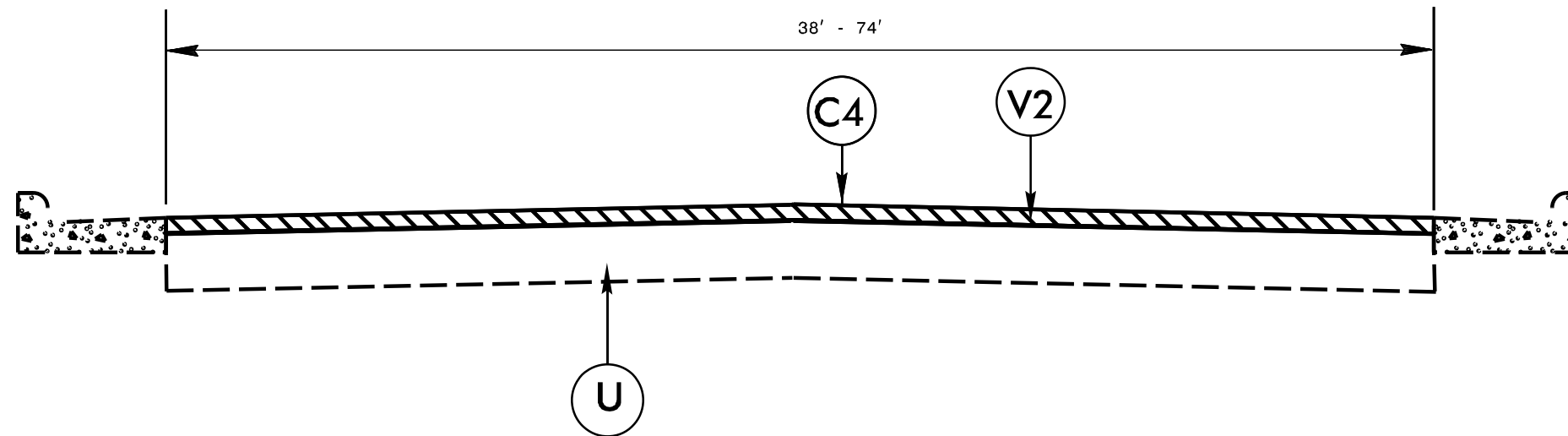
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SHEET NO.

2021CPT.05.02.20921.1

17

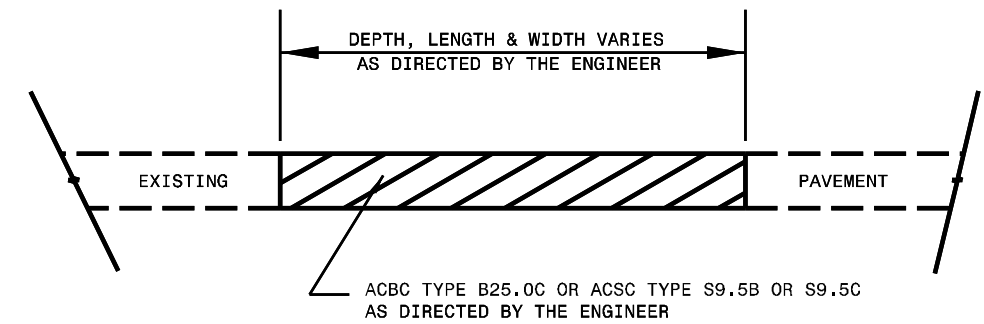
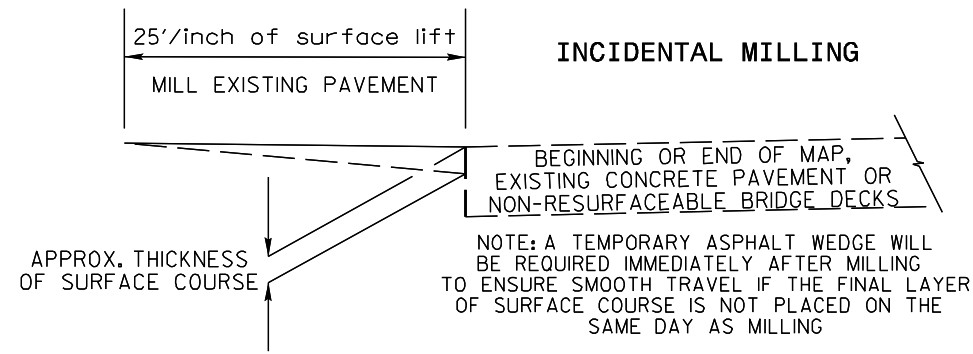
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|----|--|----|--|
| | | U | EXISTING PAVEMENT |
| C1 | 1¼" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD. | S | SHOULDER GRADING ASB REQUIRED (EXCEPT AT RESIDENTIAL AREAS) |
| C2 | 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD. | V1 | 1½" MILLING |
| C3 | 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. | V2 | 3" MILLING |
| C4 | 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF 2 LAYERS | V3 | 0"-1½" MILLING |



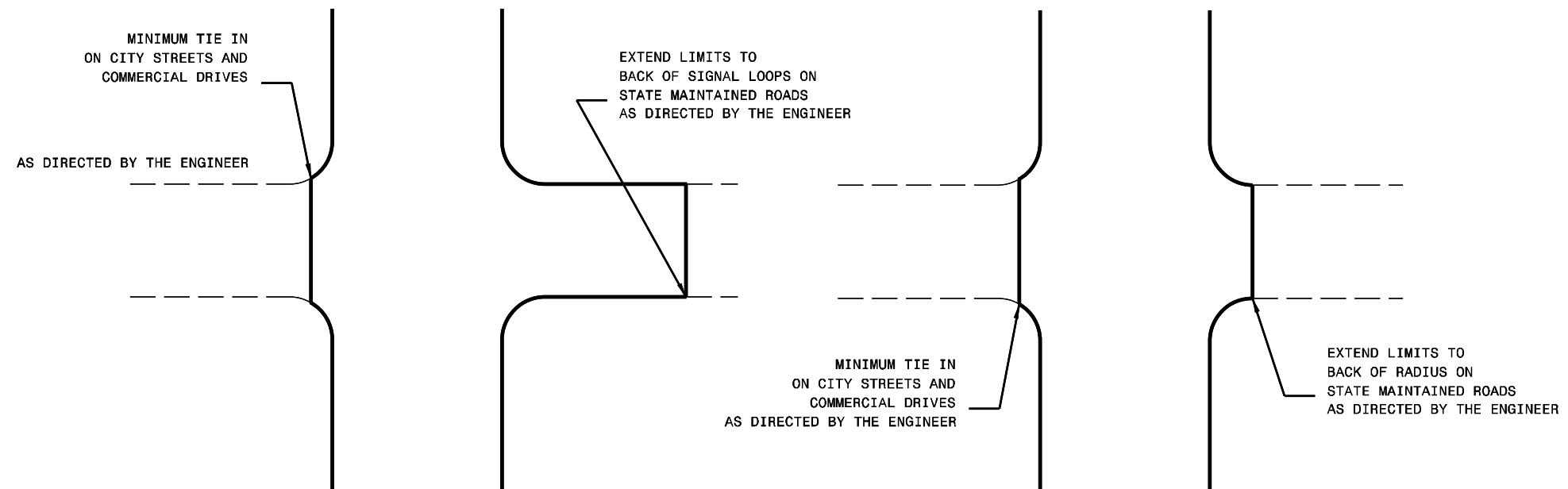
TYPICAL SECTION NO. 5

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
 MILLING TO BE PERFORMED PRIOR TO PATCHING

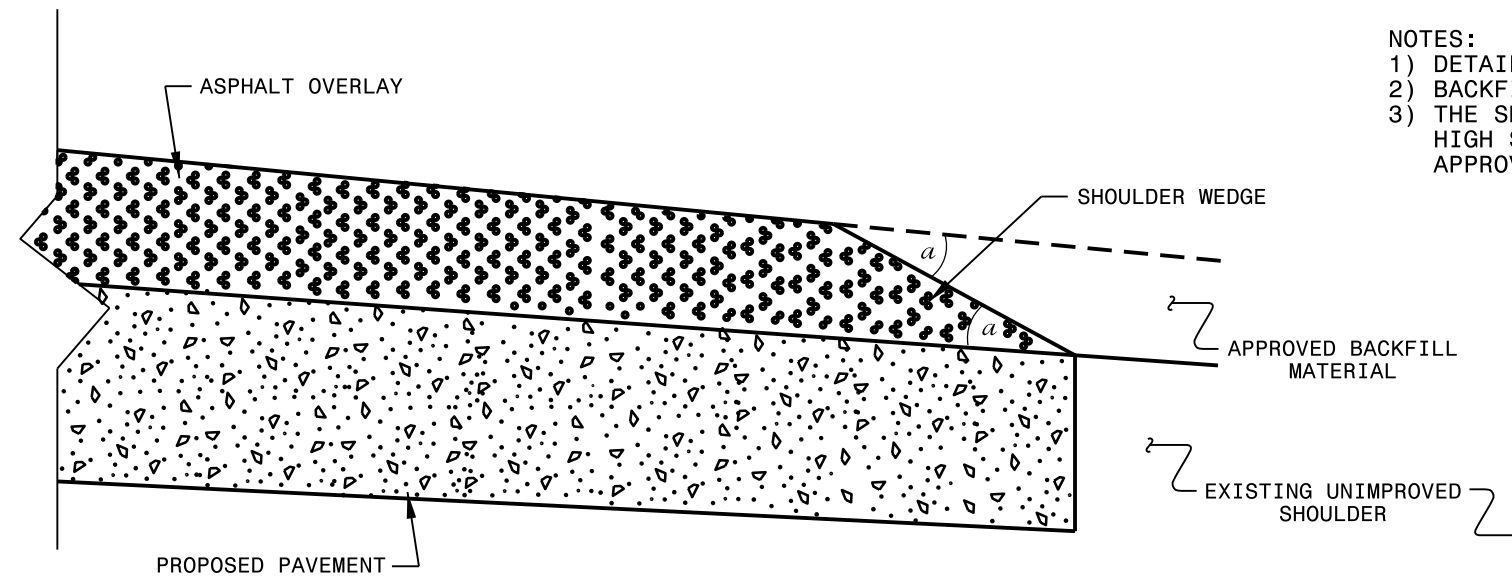


DETAIL OF PROJECT LIMITS AT SIGNALIZED Y LINES

DETAIL OF PROJECT LIMITS AT UNSIGNALIZED Y LINES

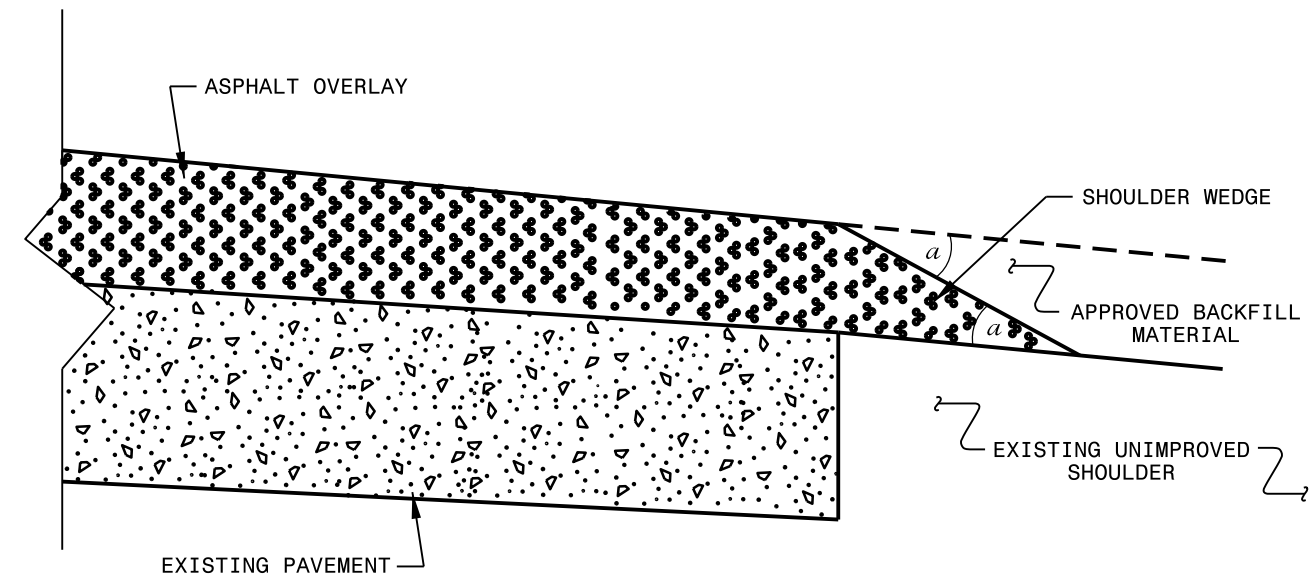
NOTES:

- 1) DETAIL DOES NOT APPLY TO OGAFB AND ULTRA-THIN BONDED WEARING COURSE.
- 2) BACKFILL SHOULDER WITH APPROVED MATERIAL.
- 3) THE SHOULDER WEDGE DEVICE MAY BE DISENGAGED AT PAVED DRIVEWAYS, SIDE STREETS, HIGH SHOULDERS, AND OTHER LOCATIONS NOT FEASIBLE TO CONSTRUCT AS APPROVED BY THE ENGINEER.



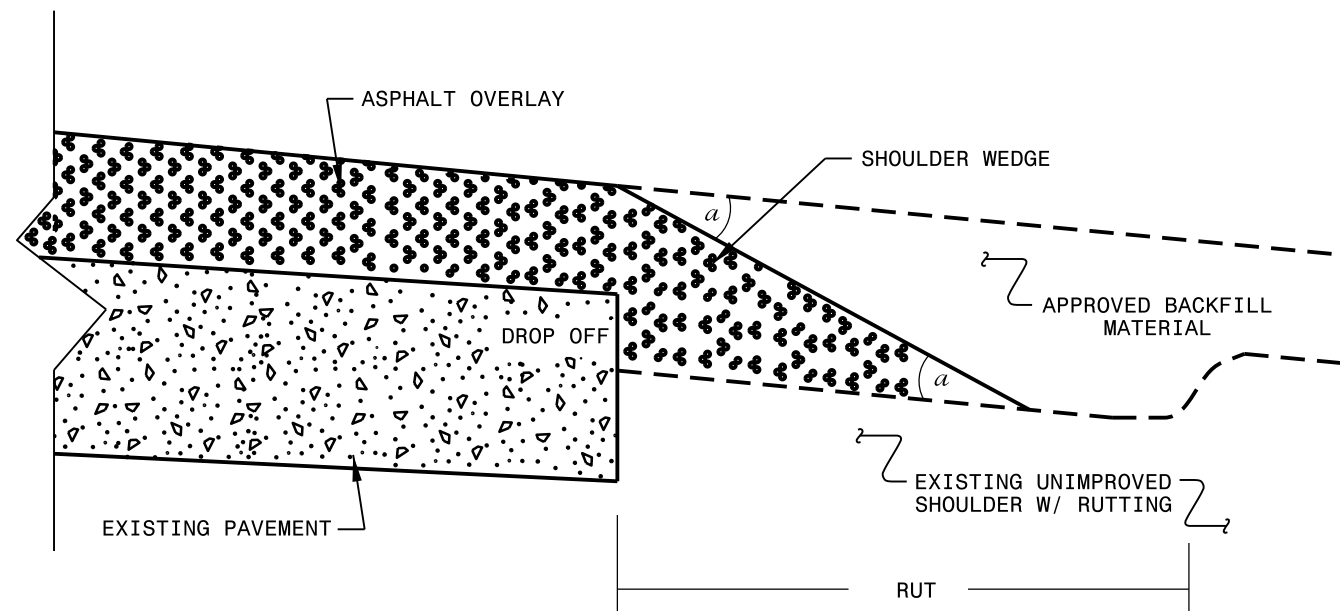
SHOULDER WEDGE DETAIL

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



SHOULDER WEDGE DETAIL

(Resurfacing Projects w/ NO Widening)



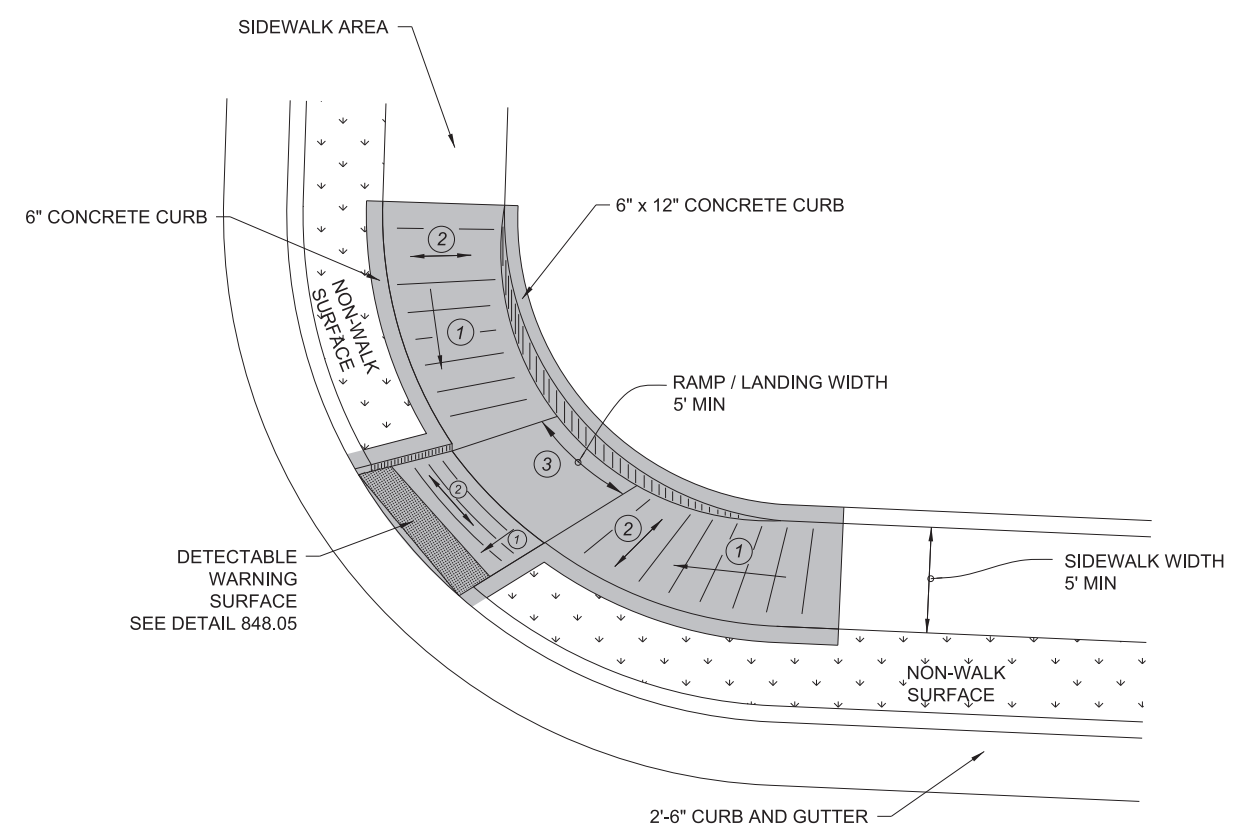
SHOULDER WEDGE DETAIL

(Resurfacing Adjacent to Rutted Shoulder)

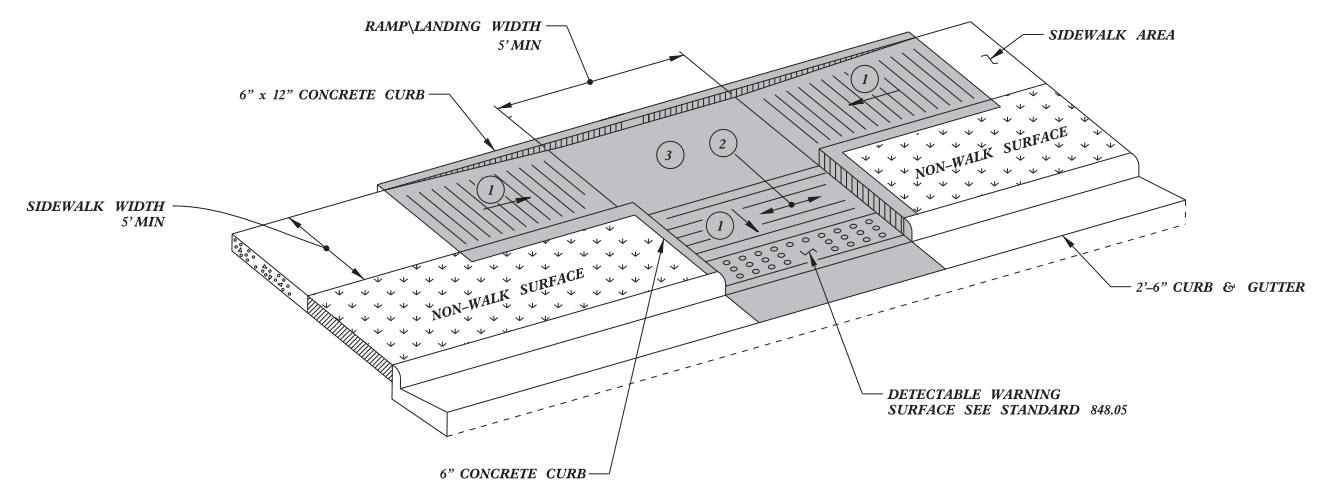
- SHOULDER WEDGE ANGLE = 30°

| | | |
|---|---------------|--|
| 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: 2/2/16 | |
| CHECKED BY: | DATE: | |
| FILE SPEC.: szusr/details/stand/shoulderwedgedetail.dgn | | |

PAY LIMITS FOR 1 CURB RAMP



**TYPE 3 MODIFIED
INSTALLATION IN A RADIUS**



TYPE 3

- 1 8.33% (12:1) MAX RAMP SLOPE
- 2 CROSS SLOPE: 2.00%
- 3 CURB RAMPS REQUIRE A (4'-0") MINIMUM LANDING WITH A MAXIMUM CROSS SLOPE AND LONGITUDINAL SLOPE OF 2.00% WHERE PEDESTRIANS PERFORM TURNING MANEUVERS. SLOPE TO DRAIN TO CURB.

1/8/2020



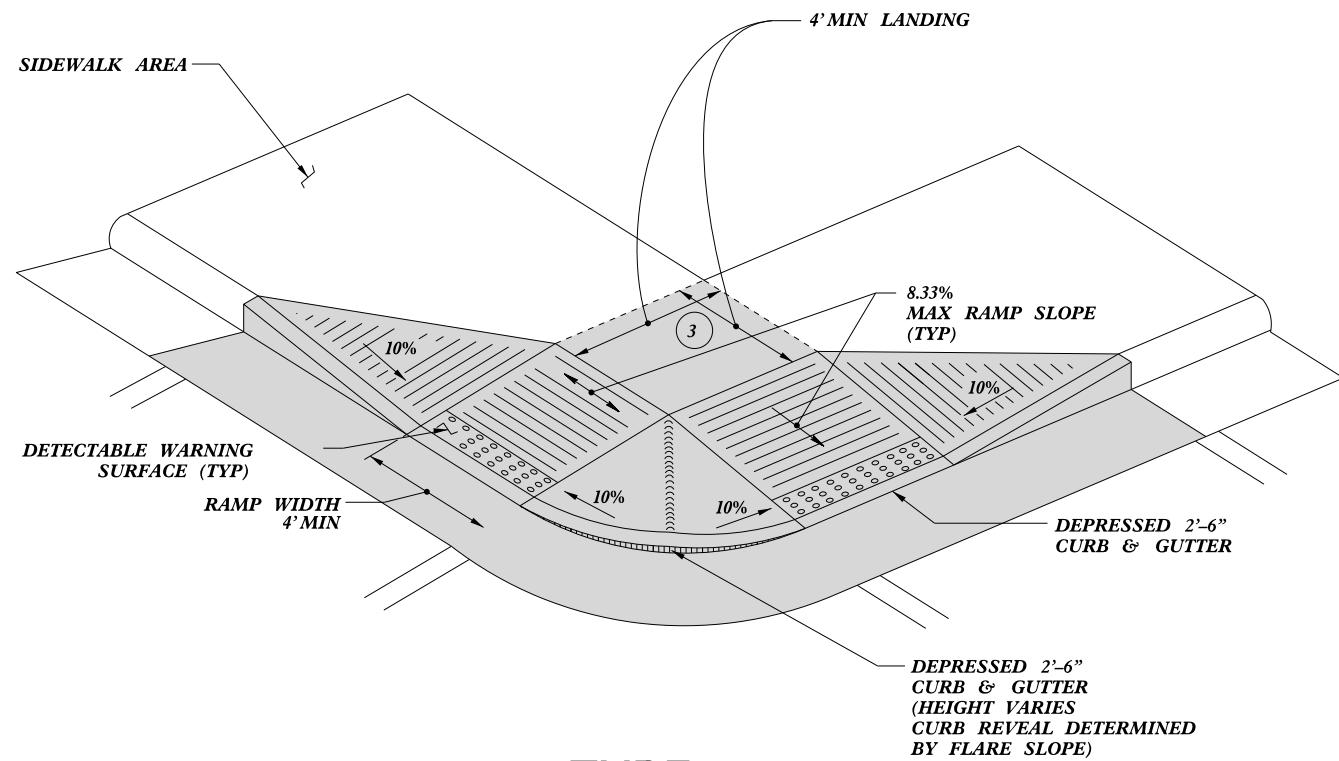
Designed by:
J.S. Howerton
873F3D17DCDC45F...

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

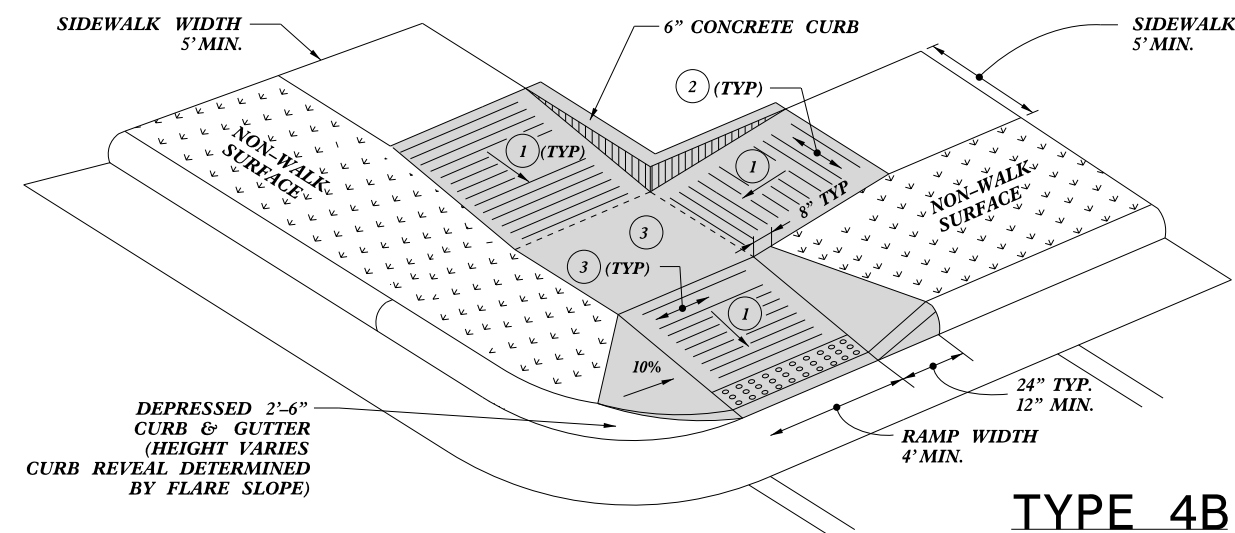
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|--|------------------|
| CONTRACT STANDARDS AND DEVELOPMENT UNIT | |
| Office 919-707-6950 | FAX 919-250-4119 |
| CURB RAMPS | |
| ORIGINAL BY: J.S. HOWERTON | DATE: 7/7/11 |
| MODIFIED BY: | DATE: |
| CHECKED BY: | DATE: |
| FILE SPEC. sids/2012CurbRamp/CurbRampDetails.dgn | |

5/14/99
SY-CURB-RAMP-DETAILS.dwg
J.S. HOWERTON
1/8/2020

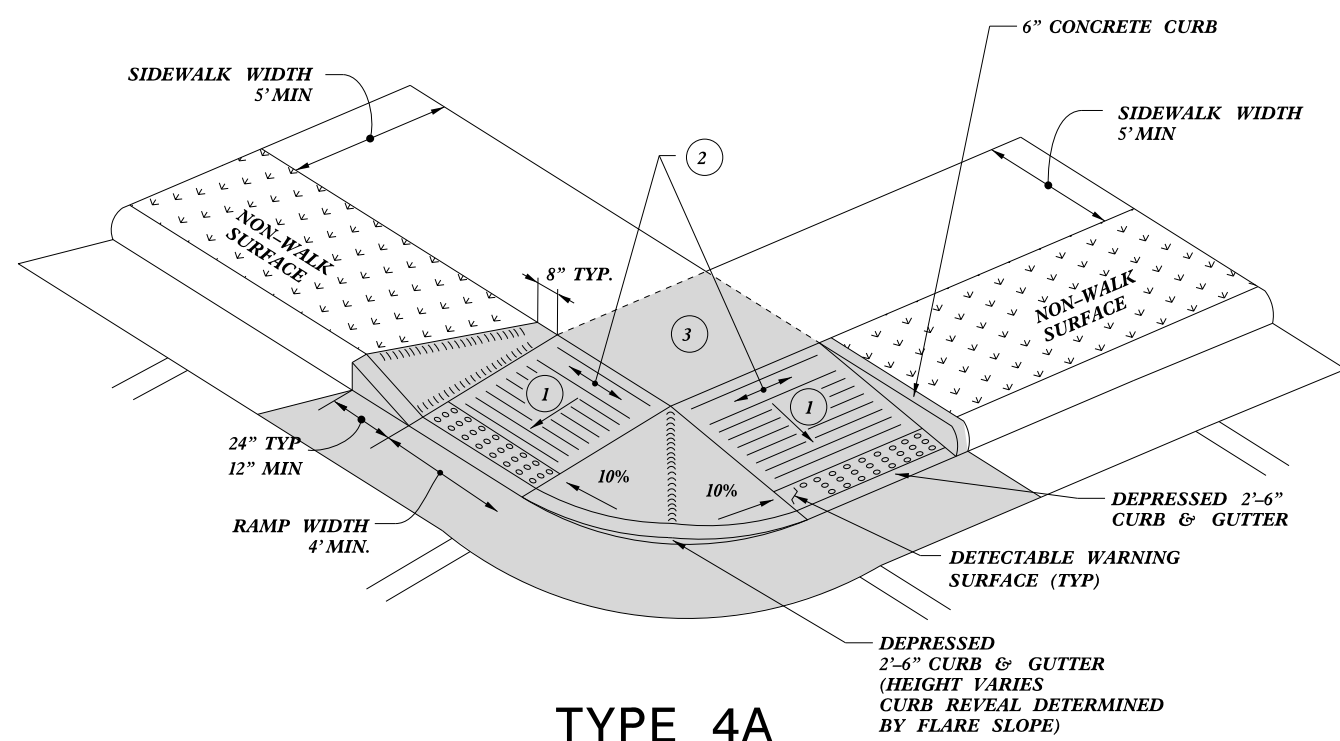
PAY LIMITS FOR 1 OR 2 CURB RAMPS
(CALCULATE BASED ON NUMBER OF SETS
OF TRUNCATED DOMES)



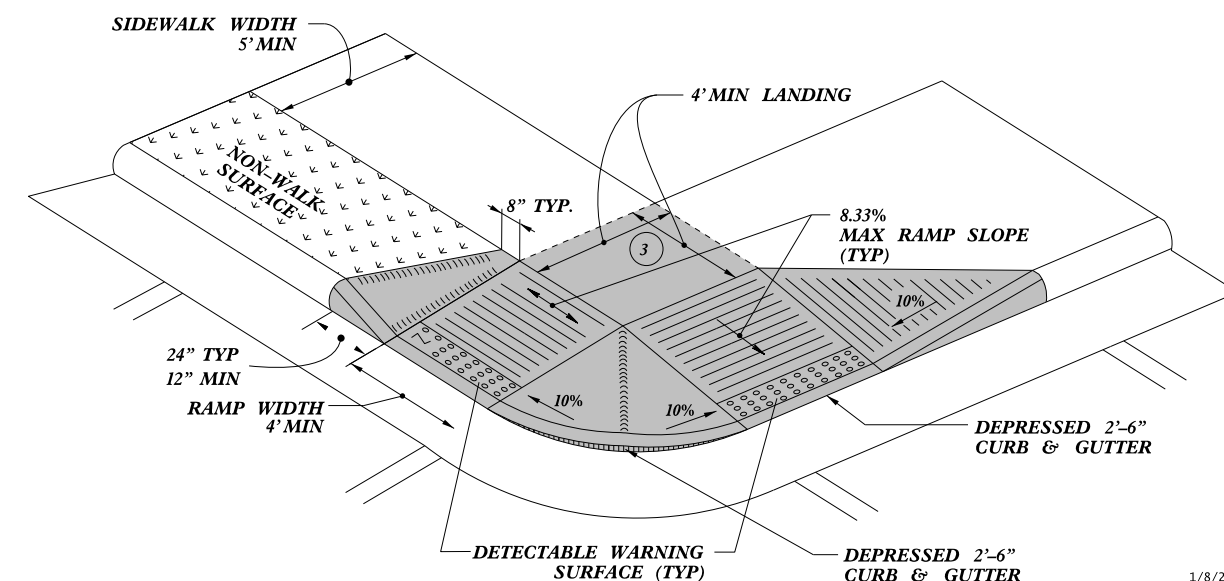
TYPE 4



TYPE 4B

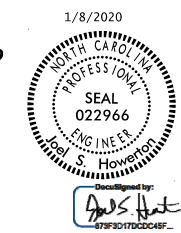


TYPE 4A



TYPE 4C

- 1 8.33% (12:1) MAX RAMP SLOPE
- 2 CROSS SLOPE: 2.00%
- 3 CURB RAMPS REQUIRE A (4'-0") MINIMUM LANDING WITH A MAXIMUM CROSS SLOPE AND LONGITUDINAL SLOPE OF 2.00% WHERE PEDESTRIANS PERFORM TURNING MANEUVERS. SLOPE TO DRAIN TO CURB.



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

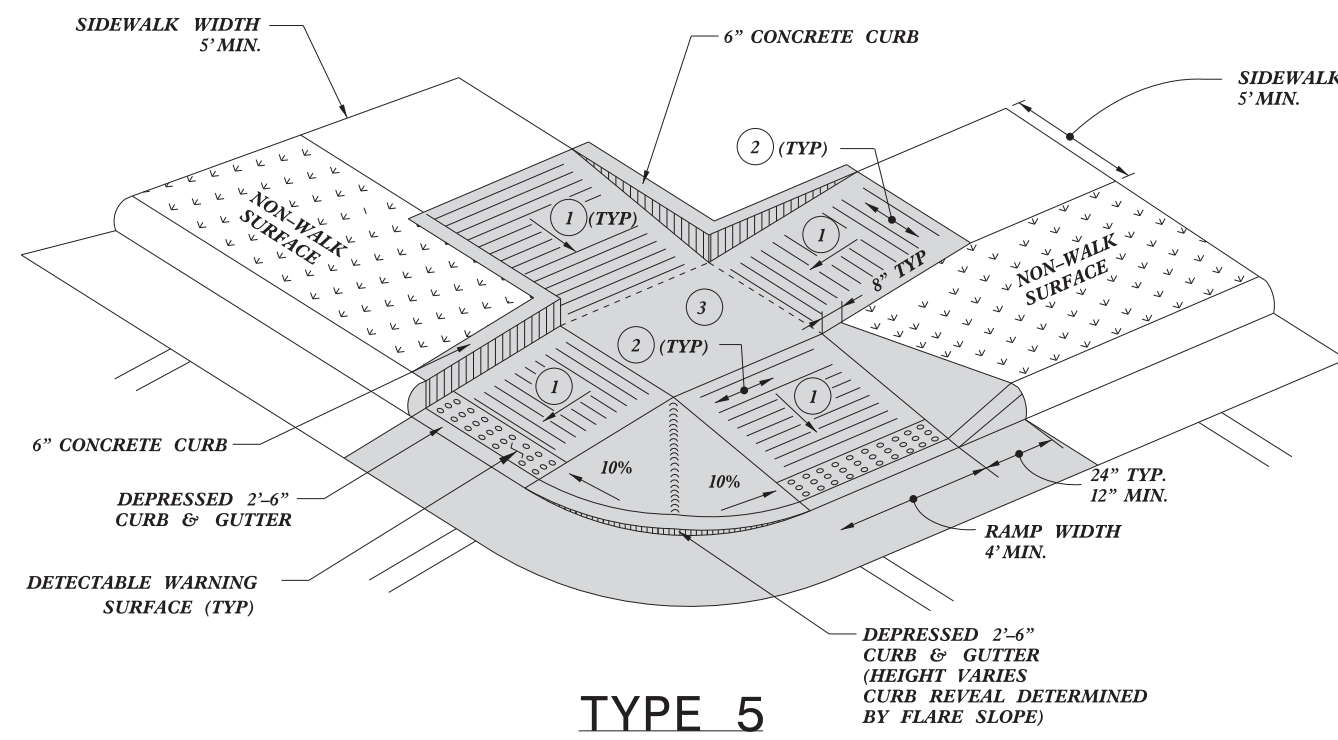
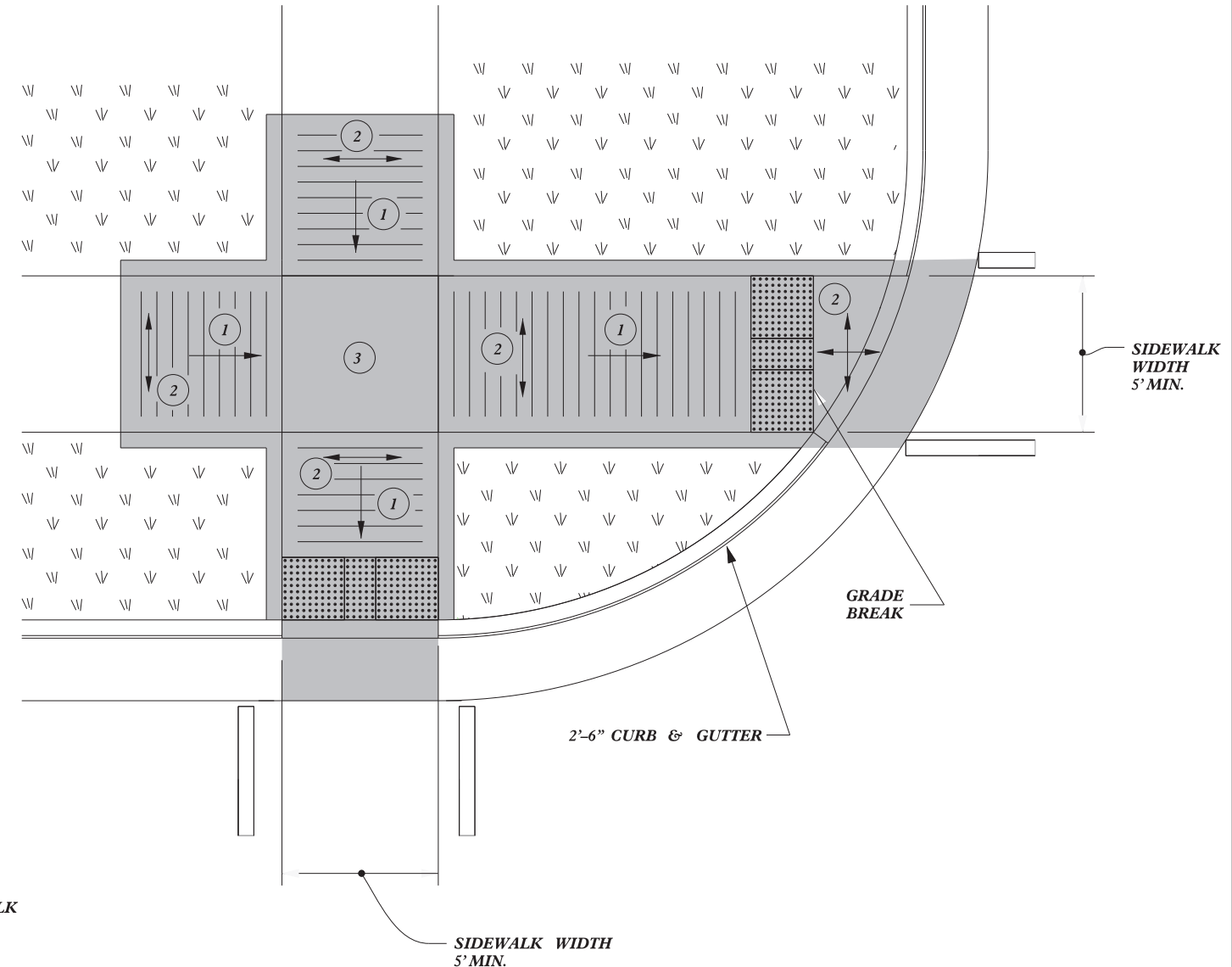
CURB RAMPS

ORIGINAL BY: J.S. HOWERTON DATE: 7/7/11
 MODIFIED BY: DATE: _____
 CHECKED BY: DATE: _____
 FILE SPEC: stds/2012CurbRamp/CurbRampDetails.dgn

REFER TO ROADWAY STANDARD DRAWING NUMBER 848.05 SHEET 3 OF 3 FOR ALL RAMP NOTES

5/14/99
 \$\$\$\$\$\$SYTIME\$\$\$\$\$
 \$\$\$\$\$\$CON\$\$\$\$\$
 \$\$\$\$\$\$SERNAME\$\$\$\$\$

PAY LIMITS FOR 1 OR 2 CURB RAMPS
(CALCULATE BASED ON NUMBER OF SETS
OF TRUNCATED DOMES)



TYPE 5A

TYPE 5

- 1 8.33% (12:1) MAX RAMP SLOPE
- 2 CROSS SLOPE: 2.00%
- 3 CURB RAMPS REQUIRE A (4'-0") MINIMUM LANDING WITH A MAXIMUM CROSS SLOPE AND LONGITUDINAL SLOPE OF 2.00% WHERE PEDESTRIANS PERFORM TURNING MANEUVERS. SLOPE TO DRAIN TO CURB.

1/8/2020



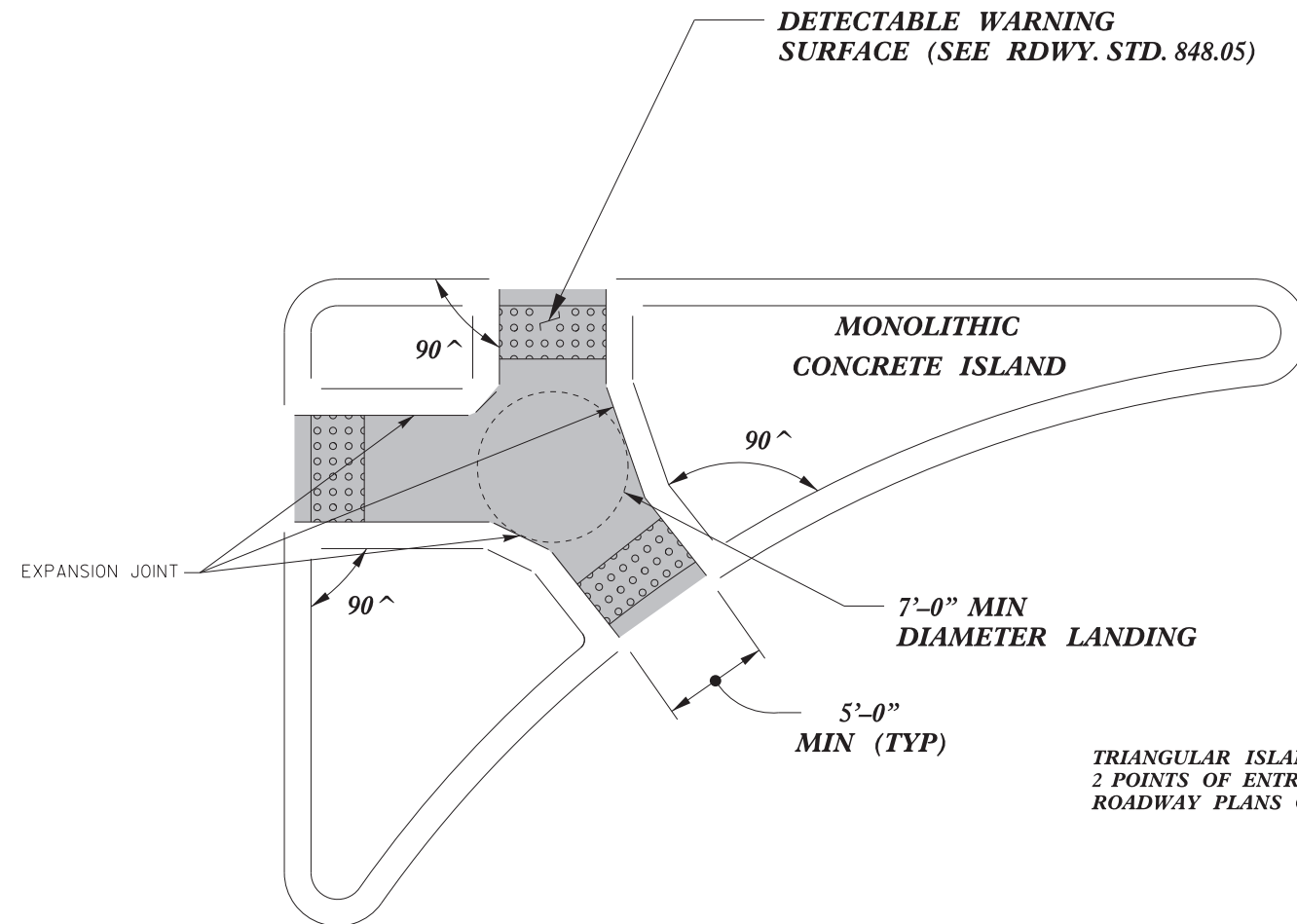
DocuSigned by:
J.S. Howerton
873F3D17DCDC45F...

| | |
|--|------------------|
| CONTRACT STANDARDS AND DEVELOPMENT UNIT | |
| Office 919-707-6950 | FAX 919-250-4119 |
| CURB RAMPS | |
| ORIGINAL BY: J.S. HOWERTON | DATE: 7/7/11 |
| MODIFIED BY: | DATE: |
| CHECKED BY: | DATE: |
| FILE SPEC: sids/2012CurbRamp/CurbRampDetails.dgn | |

REFER TO ROADWAY STANDARD DRAWING NUMBER 848.05 SHEET 3 OF 3 FOR ALL RAMP NOTES

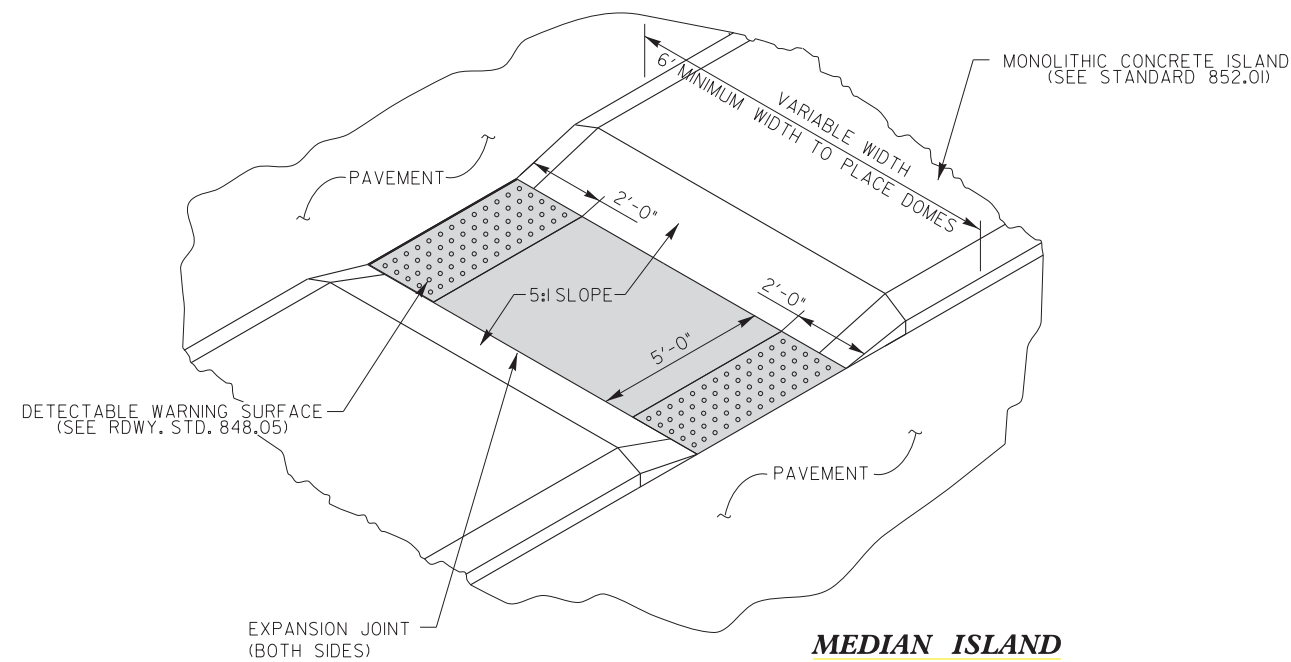
5/14/99
\$\$\$\$\$SYTIME\$\$\$\$\$
\$\$\$\$\$CON\$\$\$\$\$
\$\$\$\$\$SERNAME\$\$\$\$\$

PAY LIMITS FOR 2 OR 3 CURB RAMPS
(CALCULATE BASED ON NUMBER OF
SETS OF TRUNCATED DOMES)

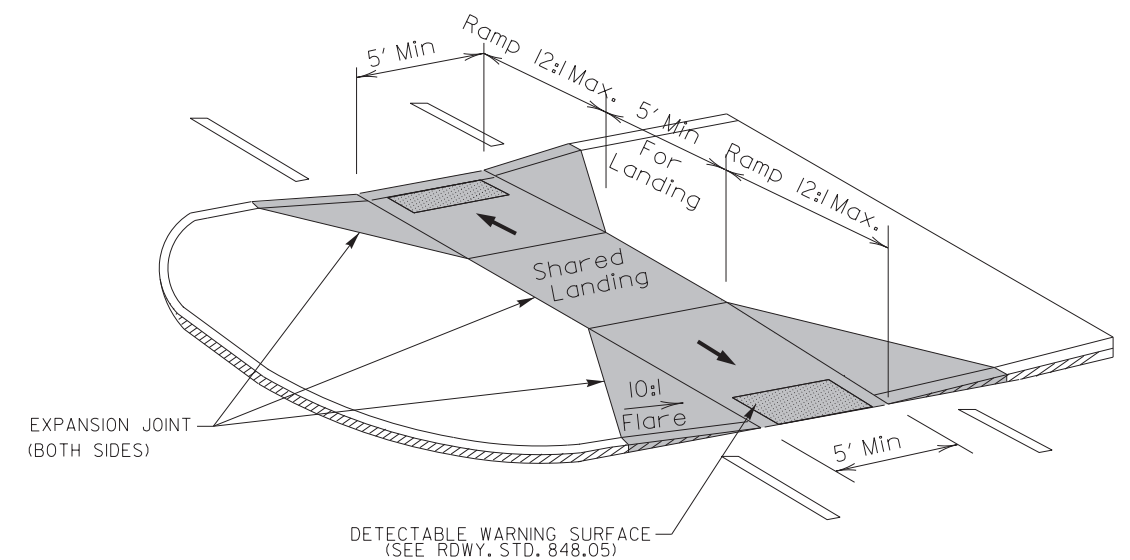


TRIANGULAR ISLANDS MAY BE CONSTRUCTED WITH ONLY
2 POINTS OF ENTRY AND EXIT AS SHOWN IN THE
ROADWAY PLANS OR AS DIRECTED BY THE ENGINEER.

**TRIANGULAR ISLAND
WITH CUT THROUGH
TYPE 6**



**MEDIAN ISLAND
WITH CUT THROUGH
TYPE 7**



**MEDIAN ISLAND
CURB RAMPS
TYPE 8
1/8/2020**

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

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

CURB RAMPS
Median or Turn Lane Islands

ORIGINAL BY: J.S. HOWERTON DATE: 7/7/11
MODIFIED BY: DATE:
CHECKED BY: DATE:
FILE SPEC: sids/2012CurbRamp/CurbRampDetails.dgn



Prepared by:
J.S. Howerton
873F3D17DCDC45F...

5/14/99

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

SUMMARY OF QUANTITIES – SR 1613 FROM US 64 TO FARMPOND RD

| | |
|-----------------|-----------------------|
| Municipality: | Apex |
| Project Number: | 2021 West |
| WBS Number: | 2021CPT.05.02.20921.1 |
| County: | Wake |

| Ramp ID | Inset Map Number | Route 1 | Route 2 | 2549000000-E | 2591000000-E | 4102000000-N | 2600000000-N | 2613000000-N | 2605000000-N | SP1 |
|--|------------------|--------------------|------------------------------|------------------------------------|----------------------------|----------------------------|------------------------------------|-------------------------------------|---------------------------|-------------------------|
| | | | | 2'-6" Concrete Curb & Gutter LF | 4" Concrete Sidewalk SY | Relocate Sign Type E EA | Retrofit Existing Curb Ramps EA | Remove and Replace Curb Ramps EA | Concrete Curb Ramps EA | Remove Curb Ramps EA |
| 9508 | 1 | SR-1613 (Davis Dr) | Marcos Pizza (1015 Davis Dr) | | | | | 1 | | |
| Sub-Total for SR 1613 FROM US 64 TO FARMPOND RD | | | | 0 | 0 | 0 | 0 | 1 | 0 | 0 |

SUMMARY OF QUANTITIES – SR 1615 FROM SR 1613 TO OLD APEX RD

| | |
|-----------------|-----------------------|
| Municipality: | Cary |
| Project Number: | 2021 West |
| WBS Number: | 2021CPT.05.02.20921.1 |
| County: | Wake |

| Ramp ID | Inset Map Number | Route 1 | Route 2 | 2549000000-E | 2591000000-E | 4102000000-N | 2600000000-N | 2613000000-N | 2605000000-N | SP1 |
|------------------|------------------|-------------------------|---|------------------------------------|----------------------------|----------------------------|------------------------------------|-------------------------------------|---------------------------|-------------------------|
| | | | | 2'-6" Concrete Curb & Gutter LF | 4" Concrete Sidewalk SY | Relocate Sign Type E EA | Retrofit Existing Curb Ramps EA | Remove and Replace Curb Ramps EA | Concrete Curb Ramps EA | Remove Curb Ramps EA |
| 16628 | 1 | SR-1615 (High House Rd) | Bradford Plaza Way | | | | 1 | | | |
| 16693 | 1 | SR-1615 (High House Rd) | Horsehead Ln | | | | 1 | | | |
| 16629 | 1 | SR-1615 (High House Rd) | Bradford Plaza Way | | | | 1 | | | |
| 16694 | 1 | SR-1615 (High House Rd) | Horsehead Ln | | | | 1 | | | |
| 16607 | 2 | SR-1615 (High House Rd) | Prestonwood Pkwy | | | | | 1 | | |
| 16594 | 3 | SR-1615 (High House Rd) | Arlington Ridge | | | | | 1 | | |
| 16593 | 3 | SR-1615 (High House Rd) | Arlington Ridge | | | | 1 | | | |
| 16587 | 4 | SR-1827 (Lynn Rd) | Preston Executive Dr | | | | 1 | | | |
| 16588 | 4 | SR-1827 (Lynn Rd) | Preston Executive Dr | | | | 1 | | | |
| 16514 | 5 | SR-1615 (High House Rd) | Preston Corners Shopping Center (994 High House Rd) SW Entrance | | | | 1 | | | |
| 16515 | 6 | SR-1615 (High House Rd) | Preston Corners Shopping Center (994 High House Rd) SE Entrance | | | | 1 | | | |
| 16516 | 6 | SR-1615 (High House Rd) | Preston Corners Shopping Center (994 High House Rd) SE Entrance | | | | 1 | | | |
| 16520 | 7 | SR-1615 (High House Rd) | Genesis United Methodist Church (850 High House Rd) West Entrance | | | | 1 | | | |
| 16519 | 7 | SR-1615 (High House Rd) | Genesis United Methodist Church (850 High House Rd) West Entrance | | | | 1 | | | |
| 16526 | 8 | SR-1615 (High House Rd) | St Michael Conference Center (830 High House Rd) West Entrance | | | | 1 | | | |
| 16525 | 8 | SR-1615 (High House Rd) | St Michael Conference Center (830 High House Rd) West Entrance | | | | 1 | | | |
| 16528 | 9 | SR-1615 (High House Rd) | St Michael Conference Center (830 High House Rd) East Entrance | | | | 1 | | | |
| 16527 | 9 | SR-1615 (High House Rd) | St Michael Conference Center (830 High House Rd) East Entrance | | | | 1 | | | |
| 16530 | 10 | SR-1615 (High House Rd) | St Michael Catholic Church (804 High House Rd) Main Entrance | | | | 1 | | | |
| 16532 | 10 | SR-1615 (High House Rd) | Bond Park Dr | | | | 1 | | | |
| 16531 | 10 | SR-1615 (High House Rd) | Bond Park Dr | | | | | 1 | | |
| 16529 | 10 | SR-1615 (High House Rd) | St Michael Catholic Church (804 High House Rd) Main Entrance | | | | 1 | | | |
| 16533 | 11 | SR-1615 (High House Rd) | St Michael Catholic Church (804 High House Rd) East Entrance | | | | 1 | | | |
| 16534 | 11 | SR-1615 (High House Rd) | St Michael Catholic Church (804 High House Rd) East Entrance | | | | 1 | | | |
| 16538 | 12 | SR-1615 (High House Rd) | Castalia Dr | | | | 1 | | | |
| 16537 | 12 | SR-1615 (High House Rd) | Castalia Dr | | | | 1 | | | |
| 16539 | 13 | SR-1615 (High House Rd) | Wood Hollow Dr | | | | 1 | | | |
| 16540 | 13 | SR-1615 (High House Rd) | Wood Hollow Dr | | | | 1 | | | |
| 16548 | 14 | SR-1615 (High House Rd) | Maynard Crossing Shopping Center (1273 NW Maynard Rd) Back Entrance | | | | 1 | | | |
| 16549 | 14 | SR-1615 (High House Rd) | Maynard Crossing Shopping Center (1273 NW Maynard Rd) Back Entrance | | | | 1 | | | |
| 16546 | 14 | SR-1615 (High House Rd) | Cavendish Dr | | | | 1 | | | |
| 16547 | 14 | SR-1615 (High House Rd) | Cavendish Dr | | | | | 1 | | |
| 16552 | 15 | SR-1615 (High House Rd) | Maynard Crossing Shopping Center (441 High House Rd) S. Entrance | | | | 1 | | | |
| 16550 | 15 | SR-1615 (High House Rd) | Maynard Crossing Shopping Center (441 High House Rd) S. Entrance | | | | 1 | | | |
| 16553 | 15 | SR-1615 (High House Rd) | Maynard Crossing Shopping Center (441 High House Rd) S. Entrance | | | | 1 | | | |
| 16551 | 15 | SR-1615 (High House Rd) | Maynard Crossing Shopping Center (441 High House Rd) S. Entrance | | | | 1 | | | |
| 16554 | 16 | SR-1615 (High House Rd) | Walgreens Pharmacy (1200 NW Maynard Rd) Side Entrance | | | | 1 | | | |
| 16555 | 16 | SR-1615 (High House Rd) | Walgreens Pharmacy (1200 NW Maynard Rd) Side Entrance | | | | 1 | | | |
| 16582 | 17 | SR-1615 (High House Rd) | Edgehill Pkwy | | | | 1 | | | |
| 16581 | 17 | SR-1615 (High House Rd) | Edgehill Pkwy | | | | 1 | | | |
| 16559 | 18 | SR-1615 (High House Rd) | Sourwood Forest Ln | | | | 1 | | | |
| 16556 | 18 | SR-1615 (High House Rd) | Sourwood Forest Ln | | | | 1 | | | |
| 16558 | 18 | SR-1615 (High House Rd) | Sourwood Forest Ln | | | | 1 | | | |
| 16557 | 18 | SR-1615 (High House Rd) | Sourwood Forest Ln | | | | | 1 | | |
| Sub-Total | | | | 0 | 0 | 0 | 39 | 5 | 0 | 0 |

SUMMARY OF QUANTITIES – SR 1615 FROM SR 1613 TO OLD APEX RD

| | |
|-----------------|-----------------------|
| Municipality: | Cary |
| Project Number: | 2021 West |
| WBS Number: | 2021CPT.05.02.20921.1 |
| County: | Wake |

| Ramp ID | Inset Map Number | Route 1 | Route 2 | 2549000000-E | 2591000000-E | 4102000000-N | 2600000000-N | 2613000000-N | 2605000000-N | SP1 |
|--|------------------|-------------------------|---|------------------------------------|----------------------------|----------------------------|------------------------------------|-------------------------------------|---------------------------|-------------------------|
| | | | | 2'-6" Concrete Curb & Gutter LF | 4" Concrete Sidewalk SY | Relocate Sign Type E EA | Retrofit Existing Curb Ramps EA | Remove and Replace Curb Ramps EA | Concrete Curb Ramps EA | Remove Curb Ramps EA |
| 16560 | 19 | SR-1615 (High House Rd) | Daycare / Business (223 High House Rd) Entrance | | | | 1 | | | |
| 16561 | 19 | SR-1615 (High House Rd) | Daycare / Business (223 High House Rd) Entrance | | | | 1 | | | |
| 16563 | 20 | SR-1615 (High House Rd) | Bayoak Dr | | | | | 1 | | |
| 16564 | 21 | SR-1615 (High House Rd) | Business Center (220 High House Rd) Entrance | | | | 1 | | | |
| 16565 | 21 | SR-1615 (High House Rd) | Business Center (220 High House Rd) Entrance | | | | 1 | | | |
| 16579 | 22 | SR-1615 (High House Rd) | Gold Meadow Dr | | | | | 1 | | |
| 16580 | 22 | SR-1615 (High House Rd) | Gold Meadow Dr | | | | 1 | | | |
| 16578 | 23 | SR-1615 (High House Rd) | Sounds And Colors (201 High House Rd) Entrance | | | | 1 | | | |
| 16566 | 23 | SR-1615 (High House Rd) | Business Center (206 High House Rd) Entrance | | | | 1 | | | |
| 16577 | 23 | SR-1615 (High House Rd) | Sounds And Colors (201 High House Rd) Entrance | | | | 1 | | | |
| 16567 | 23 | SR-1615 (High House Rd) | Business Center (206 High House Rd) Entrance | | | | 1 | | | |
| 16569 | 24 | SR-1615 (High House Rd) | Shell Gas station (832 Old Apex Rd) S. Entrance | | | | | 1 | | |
| 16570 | 24 | SR-1615 (High House Rd) | Old Apex Rd | | | | | 1 | | |
| 16571 | 24 | SR-1615 (High House Rd) | Old Apex Rd | | | | | 1 | | |
| 16572 | 24 | SR-1615 (High House Rd) | Old Apex Rd | | | | | 1 | | |
| 16573 | 24 | SR-1615 (High House Rd) | Old Apex Rd | 14 | 5 | | | | | 1 |
| 16574 | 24 | SR-1615 (High House Rd) | Old Apex Rd | | | | | 1 | | |
| 16575 | 24 | SR-1615 (High House Rd) | Old Apex Rd | | | | | 1 | | |
| 16576 | 24 | SR-1615 (High House Rd) | Old Apex Rd | | | | | 1 | | |
| Sub-Total | | | | 14 | 5 | 0 | 9 | 9 | 0 | 1 |
| Sub-Total for SR 1615 FROM SR 1613 TO OLD APEX RD | | | | 14 | 5 | 0 | 48 | 14 | 0 | 1 |

SUMMARY OF QUANTITIES – SR 1639 FROM NC 55 TO SR 1613

| | |
|-----------------|-----------------------|
| Municipality: | Outside Municipality |
| Project Number: | 2021 West |
| WBS Number: | 2021CPT.05.02.20921.1 |
| County: | Wake |

| Ramp ID | Inset Map Number | Route 1 | Route 2 | 4116100000-N | 2600000000-N | 2613000000-N | 2605000000-N |
|--|------------------|------------------------|---|----------------------------|---------------------------------------|--|---------------------------|
| | | | | Relocate Sign Type E EA | Retrofit Existing Curb Ramps EA | Remove and Replace Curb Ramps EA | Concrete Curb Ramps EA |
| 10459 | 1 | SR-1639 (Kit Creek Rd) | Cisco (7200 Kit Creek Rd) West Entrance | | | | 1 |
| 10461 | 1 | SR-1639 (Kit Creek Rd) | Cisco (7200 Kit Creek Rd) West Entrance | | 1 | | |
| 10460 | 1 | SR-1639 (Kit Creek Rd) | Cisco (7200 Kit Creek Rd) West Entrance | | 1 | | |
| 10462 | 2 | SR-1639 (Kit Creek Rd) | Cisco (7200 Kit Creek Rd) East Entrance | | 1 | | |
| 10463 | 2 | SR-1639 (Kit Creek Rd) | Cisco (7200 Kit Creek Rd) East Entrance | | 1 | | |
| 10464 | 3 | SR-1639 (Kit Creek Rd) | Cisco (7100 Kit Creek Rd) West Entrance | | 1 | | |
| 10465 | 3 | SR-1639 (Kit Creek Rd) | Cisco (7100 Kit Creek Rd) West Entrance | | 1 | | |
| 10468 | 4 | SR-1639 (Kit Creek Rd) | Cisco (7025-5 Kit Creek Rd) Entrance | | 1 | | |
| 10467 | 4 | SR-1639 (Kit Creek Rd) | Cisco (7025-5 Kit Creek Rd) Entrance | | 1 | | |
| Sub-Total for SR 1639 FROM NC 55 TO SR 1613 | | | | 0 | 8 | 0 | 1 |

SUMMARY OF QUANTITIES – SR 1652 FROM BEG MAINT TO NC 54

| | |
|-----------------|-------------------------------|
| Municipality: | Cary, Outside Municipality |
| Project Number: | 2021 West |
| WBS Number: | 2021CPT.05.02.20921.1 |
| County: | Wake |

| Ramp ID | Inset Map Number | Route 1 | Route 2 | 4116100000-N | 2600000000-N | 2613000000-N | 2605000000-N |
|------------------|------------------|--------------------------|--|----------------------------|---------------------------------------|--|---------------------------|
| | | | | Relocate Sign Type E EA | Retrofit Existing Curb Ramps EA | Remove and Replace Curb Ramps EA | Concrete Curb Ramps EA |
| 10245 | 1 | SR-1652 (N Harrison Ave) | RMP-1225 (I 40 Exit 287 Ramp WB) | | 1 | | |
| 10244 | 1 | SR-1652 (N Harrison Ave) | RMP-1225 (I 40 Exit 287 Ramp WB) | | 1 | | |
| 10243 | 1 | SR-1652 (N Harrison Ave) | RMP-1224 (Harrison Ave To I 40 Ramp WB) | | 1 | | |
| 10246 | 2 | SR-1652 (N Harrison Ave) | RMP-1223 (Harrison Ave To I 40 Ramp EB) | | 1 | | |
| 10240 | 2 | SR-1652 (N Harrison Ave) | I 40 Exit 287 Ramp EB | | | 1 | |
| 10247 | 2 | SR-1652 (N Harrison Ave) | RMP-1223 (Harrison Ave To I 40 Ramp EB) | | 1 | | |
| 10248 | 2 | SR-1652 (N Harrison Ave) | RMP-1223 (Harrison Ave To I 40 Ramp EB) | | | 1 | |
| 10316 | 3 | SR-1652 (N Harrison Ave) | Harrison Oaks Blvd | | 1 | | |
| 10313 | 3 | SR-1652 (N Harrison Ave) | Harrison Oaks Blvd | | 1 | | |
| 10314 | 3 | SR-1652 (N Harrison Ave) | Harrison Oaks Blvd | | | 1 | |
| 10315 | 3 | SR-1652 (N Harrison Ave) | Harrison Oaks Blvd | | 1 | | |
| 10254 | 4 | SR-1652 (N Harrison Ave) | Bass Pro Ln | | 1 | | |
| 10255 | 4 | SR-1652 (N Harrison Ave) | Bass Pro Ln | | 1 | | |
| 10252 | 4 | SR-1652 (N Harrison Ave) | Bass Pro Ln | | 1 | | |
| 10253 | 4 | SR-1652 (N Harrison Ave) | Bass Pro Ln | | 1 | | |
| 10309 | 5 | SR-1652 (N Harrison Ave) | Burger King (1711 N Harrison Ave) Entrance | | 1 | | |
| 10310 | 5 | SR-1652 (N Harrison Ave) | Burger King (1711 N Harrison Ave) Entrance | | 1 | | |
| 10311 | 5 | SR-1652 (N Harrison Ave) | Burger King (1711 N Harrison Ave) Entrance | | | | 1 |
| 10312 | 5 | SR-1652 (N Harrison Ave) | Burger King (1711 N Harrison Ave) Entrance | 1 | | | 1 |
| 10259 | 6 | SR-1652 (N Harrison Ave) | Richard Dr | | 1 | | |
| 10257 | 6 | SR-1652 (N Harrison Ave) | Richard Dr | | 1 | | |
| 10258 | 6 | SR-1652 (N Harrison Ave) | Richard Dr | | 1 | | |
| 10256 | 6 | SR-1652 (N Harrison Ave) | Richard Dr | | 1 | | |
| 10304 | 7 | SR-1652 (N Harrison Ave) | Renaissance Park Pl | | 1 | | |
| 10303 | 7 | SR-1652 (N Harrison Ave) | Renaissance Park Pl | | 1 | | |
| 10302 | 7 | SR-1652 (N Harrison Ave) | Renaissance Park Pl | | 1 | | |
| 10301 | 7 | SR-1652 (N Harrison Ave) | Renaissance Park Pl | | 1 | | |
| 10299 | 8 | SR-1652 (N Harrison Ave) | Montibello Dr | | 1 | | |
| 10300 | 8 | SR-1652 (N Harrison Ave) | Montibello Dr | | 1 | | |
| 10297 | 9 | SR-1652 (N Harrison Ave) | SR-1719 (Research Dr) | | 1 | | |
| 10298 | 9 | SR-1652 (N Harrison Ave) | SR-1719 (Research Dr) | | 1 | | |
| 10272 | 9 | SR-1652 (N Harrison Ave) | SR-1719 (Research Dr) | | 1 | | |
| 10273 | 9 | SR-1652 (N Harrison Ave) | SR-1719 (Research Dr) | | 1 | | |
| 10296 | 10 | SR-1652 (N Harrison Ave) | Beechtree Dr | | 1 | | |
| Sub-Total | | | | 1 | 29 | 3 | 2 |

SUMMARY OF QUANTITIES – SR 1652 FROM BEG MAINT TO NC 54

| | |
|-----------------|-------------------------------|
| Municipality: | Cary, Outside Municipality |
| Project Number: | 2021 West |
| WBS Number: | 2021CPT.05.02.20921.1 |
| County: | Wake |

| Ramp ID | Inset Map Number | Route 1 | Route 2 | 4116100000-N | 2600000000-N | 2613000000-N | 2605000000-N |
|------------------|------------------|--------------------------|--|----------------------------|---------------------------------------|--|---------------------------|
| | | | | Relocate Sign Type E EA | Retrofit Existing Curb Ramps EA | Remove and Replace Curb Ramps EA | Concrete Curb Ramps EA |
| 10295 | 10 | SR-1652 (N Harrison Ave) | Beechtree Dr | | 1 | | |
| 10293 | 11 | SR-1652 (N Harrison Ave) | Veterans Freedom Park (1517 N Harrison Ave) Entrance | | 1 | | |
| 10294 | 11 | SR-1652 (N Harrison Ave) | Veterans Freedom Park (1517 N Harrison Ave) Entrance | | 1 | | |
| 10282 | 12 | SR-1652 (N Harrison Ave) | Livingstone Dr | | 1 | | |
| 10286 | 12 | SR-1652 (N Harrison Ave) | Town of Cary - Fire Station 1 (1501 N Harrison Ave) Entrance | | 1 | | |
| 10281 | 12 | SR-1652 (N Harrison Ave) | Livingstone Dr | | 1 | | |
| 10284 | 12 | SR-1652 (N Harrison Ave) | Livingstone Dr | | 1 | | |
| 10285 | 12 | SR-1652 (N Harrison Ave) | Town of Cary - Fire Station 1 (1501 N Harrison Ave) Entrance | | 1 | | |
| 10283 | 12 | SR-1652 (N Harrison Ave) | Livingstone Dr | | 1 | | |
| 10280 | 12 | SR-1652 (N Harrison Ave) | Livingstone Dr | | 1 | | |
| 10278 | 12 | SR-1652 (N Harrison Ave) | Appletree Ln | | 1 | | |
| 10279 | 12 | SR-1652 (N Harrison Ave) | Appletree Ln | | 1 | | |
| 9909 | 13 | SR-1652 (N Harrison Ave) | SR-1650 (Reedy Creek Rd) | | | 1 | |
| 9908 | 13 | SR-1652 (N Harrison Ave) | SR-1650 (Reedy Creek Rd) | | 1 | | |
| 9911 | 13 | SR-1652 (N Harrison Ave) | SR-1650 (Reedy Creek Rd) | | | 1 | |
| 9910 | 13 | SR-1652 (N Harrison Ave) | SR-1650 (Reedy Creek Rd) | | 1 | | |
| 9907 | 13 | SR-1652 (N Harrison Ave) | SR-1650 (Reedy Creek Rd) | | 1 | | |
| 9912 | 14 | SR-1652 (N Harrison Ave) | SR-3046 (Homestead Dr) | | 1 | | |
| 9914 | 14 | SR-1652 (N Harrison Ave) | SR-3046 (Homestead Dr) | | 1 | | |
| 9905 | 14 | SR-1652 (N Harrison Ave) | SR-3046 (Homestead Dr) | | 1 | | |
| 9906 | 14 | SR-1652 (N Harrison Ave) | SR-3046 (Homestead Dr) | | 1 | | |
| 9915 | 14 | SR-1652 (N Harrison Ave) | SR-3046 (Homestead Dr) | | 1 | | |
| 9913 | 14 | SR-1652 (N Harrison Ave) | SR-3046 (Homestead Dr) | | 1 | | |
| 9903 | 15 | SR-1652 (N Harrison Ave) | SR-1766 (Melody Ln) | | 1 | | |
| 9904 | 15 | SR-1652 (N Harrison Ave) | SR-1766 (Melody Ln) | | 1 | | |
| 9918 | 16 | SR-1652 (N Harrison Ave) | Wyatts Pond Ln | | 1 | | |
| 9900 | 16 | SR-1652 (N Harrison Ave) | Wyatts Pond Ln | | 1 | | |
| 9899 | 16 | SR-1652 (N Harrison Ave) | Wyatts Pond Ln | | 1 | | |
| 9920 | 16 | SR-1652 (N Harrison Ave) | Wyatts Pond Ln | | | 1 | |
| 9902 | 16 | SR-1652 (N Harrison Ave) | Wyatts Pond Ln | | 1 | | |
| 9921 | 16 | SR-1652 (N Harrison Ave) | Wyatts Pond Ln | | | 1 | |
| 9919 | 16 | SR-1652 (N Harrison Ave) | Wyatts Pond Ln | | | 1 | |
| 9901 | 16 | SR-1652 (N Harrison Ave) | Wyatts Pond Ln | | 1 | | |
| 9884 | 17 | SR-1652 (N Harrison Ave) | Harrison Pointe Dr | | 1 | | |
| Sub-Total | | | | 0 | 29 | 5 | 0 |

SUMMARY OF QUANTITIES – SR 1652 FROM BEG MAINT TO NC 54

| | |
|-----------------|-------------------------------|
| Municipality: | Cary, Outside Municipality |
| Project Number: | 2021 West |
| WBS Number: | 2021CPT.05.02.20921.1 |
| County: | Wake |

| Ramp ID | Inset Map Number | Route 1 | Route 2 | 4116100000-N | 2600000000-N | 2613000000-N | 2605000000-N |
|--|------------------|--------------------------|---|----------------------------|---------------------------------------|--|---------------------------|
| | | | | Relocate Sign Type E EA | Retrofit Existing Curb Ramps EA | Remove and Replace Curb Ramps EA | Concrete Curb Ramps EA |
| 9885 | 17 | SR-1652 (N Harrison Ave) | Harrison Pointe Dr | | 1 | | |
| 9882 | 18 | SR-1652 (N Harrison Ave) | Grande Heights Dr | | 1 | | |
| 9890 | 18 | SR-1652 (N Harrison Ave) | Grande Heights Dr | | 1 | | |
| 9880 | 18 | SR-1652 (N Harrison Ave) | Grande Heights Dr | | 1 | | |
| 9891 | 18 | SR-1652 (N Harrison Ave) | Grande Heights Dr | | 1 | | |
| 9883 | 18 | SR-1652 (N Harrison Ave) | Grande Heights Dr | | 1 | | |
| 9881 | 18 | SR-1652 (N Harrison Ave) | Grande Heights Dr | | 1 | | |
| 9879 | 19 | SR-1652 (N Harrison Ave) | Exxon gas station (1032 N Harrison Ave) Entrance | | 1 | | |
| 9877 | 19 | SR-1652 (N Harrison Ave) | Exxon gas station (1032 N Harrison Ave) Entrance | | 1 | | |
| 9876 | 19 | SR-1652 (N Harrison Ave) | Exxon gas station (1032 N Harrison Ave) Entrance | | 1 | | |
| 9922 | 19 | SR-1652 (N Harrison Ave) | Zaxby's (1021 N Harrison Ave) Entrance | | 1 | | |
| 9878 | 19 | SR-1652 (N Harrison Ave) | Exxon gas station (1032 N Harrison Ave) Entrance | | 1 | | |
| 9923 | 19 | SR-1652 (N Harrison Ave) | Zaxby's (1021 N Harrison Ave) Entrance | | 1 | | |
| 9925 | 20 | SR-1652 (N Harrison Ave) | Circle K Gas Station (1001 N Harrison Ave) Entrance | | | 1 | |
| 9924 | 20 | SR-1652 (N Harrison Ave) | Circle K Gas Station (1001 N Harrison Ave) Entrance | | | 1 | |
| Sub-Total | | | | 0 | 13 | 2 | 0 |
| Sub-Total for SR 1652 FROM BEG MAINT TO NC 54 | | | | 1 | 71 | 10 | 2 |

SUMMARY OF QUANTITIES – SR 5878 FROM SR 1613 TO APEX PEAKWAY

| | |
|-----------------|-----------------------|
| Municipality: | Apex |
| Project Number: | 2021 West |
| WBS Number: | 2020CPT.05.18.20921.1 |
| County: | Wake |

| Ramp ID | Inset Map Number | Route 1 | Route 2 | 4102000000-N | 2600000000-N | 2613000000-N | 2605000000-N |
|---|------------------|----------------------|---|----------------------------|------------------------------------|-------------------------------------|---------------------------|
| | | | | Relocate Sign Type E EA | Retrofit Existing Curb Ramps EA | Remove and Replace Curb Ramps EA | Concrete Curb Ramps EA |
| 9128 | 1 | SR-5878 (N Salem St) | Thales Academy (1300 N Salem St) North Entrance | | 1 | | |
| 9127 | 1 | SR-5878 (N Salem St) | Thales Academy (1300 N Salem St) North Entrance | | 1 | | |
| 9131 | 2 | SR-5878 (N Salem St) | The Peak Church (1200 N Salem St) Entrance | | 1 | | |
| 9135 | 3 | SR-5878 (N Salem St) | Brittley Way | | 1 | | |
| 9134 | 3 | SR-5878 (N Salem St) | Brittley Way | | 1 | | |
| 9133 | 3 | SR-5878 (N Salem St) | Brittley Way | | 1 | | |
| 9136 | 3 | SR-5878 (N Salem St) | Brittley Way | | 1 | | |
| 9132 | 2 | SR-5878 (N Salem St) | The Peak Church (1200 N Salem St) Entrance | | | 1 | |
| Sub-Total for SR 5878 FROM SR 1613 TO APEX PEAKWAY | | | | 0 | 7 | 1 | 0 |

SUMMARY OF QUANTITIES

| | |
|-----------------|-----------------------|
| Project Number: | 2021 West |
| WBS Number: | 2021CPT.05.02.20921.1 |
| County: | Wake |

| Project Number | County | Municipality | Resurfacing Route | 2549000000-E | 2591000000-E | 4102000000-N | 2600000000-N | 2613000000-N | 2605000000-N | SP1 |
|--------------------|--------|-----------------------------|--------------------------------------|------------------------------|----------------------|----------------------|------------------------------|-------------------------------|---------------------|-------------------|
| | | | | 2'-6" Concrete Curb & Gutter | 4" Concrete Sidewalk | Relocate Sign Type E | Retrofit Existing Curb Ramps | Remove and Replace Curb Ramps | Concrete Curb Ramps | Remove Curb Ramps |
| | | | | LF | SY | EA | EA | EA | EA | EA |
| 2021 West | Wake | Apex | SR 1613 FROM US 64 TO FARMPOUND RD | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 2021 West | Wake | Cary | SR 1615 FROM SR 1613 TO OLD APEX RD | 14 | 5 | 0 | 48 | 14 | 0 | 1 |
| 2021 West | Wake | Outside Municipality | SR 1639 FROM NC 55 TO SR 1613 | 0 | 0 | 0 | 8 | 0 | 1 | 0 |
| 2021 West | Wake | Cary / Outside Municipality | SR 1652 FROM BEG MAINT TO NC 54 | 0 | 0 | 1 | 71 | 10 | 2 | 0 |
| 2021 West | Wake | Apex | SR 5878 FROM SR 1613 TO APEX PEAKWAY | 0 | 0 | 0 | 7 | 1 | 0 | 0 |
| GRAND TOTAL | | | | 14 | 5 | 1 | 134 | 26 | 3 | 1 |

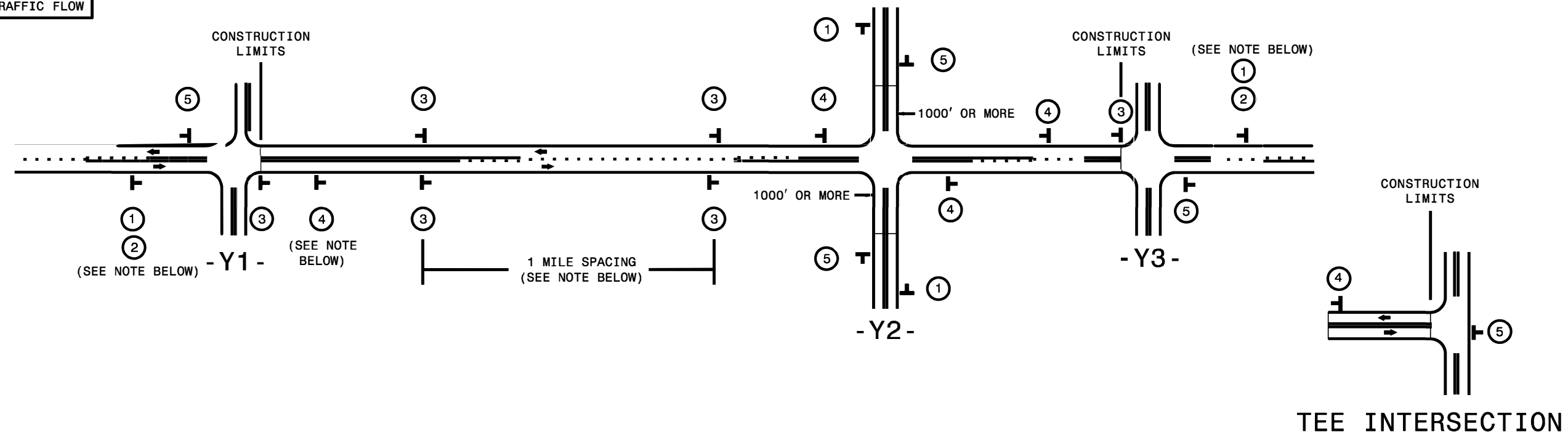
| | | |
|-----------------------|-----------|-----------|
| PROJECT NO. | SHEET NO. | TOTAL NO. |
| 2021CPT.05.02.20921.1 | 36 | |

THERMOPLASTIC AND PAINT QUANTITIES

| PROJECT NO | COUNTY | MAP NO | ROUTE | DESCRIPTION | TYP NO | LANES | LENGTH | WIDTH | 44130000 | 445700000 | 451000 | 4685000000-E | | 4695000000-E | | 4700000000-E | | 4720000000-E | | | 4725000000-E | | | | | | | | |
|---|--------|--------|----------------------------------|---|--------|-------|---------------|-------|-----------------------------|-----------------------|------------------|------------------------|-------------------------|-------------------------|------------------------|--------------------------|-------------------------|------------------------|----------------------|---------------------|----------------------|-----------------------|----------------------|-------------------------|----------------------------|----------------------------|----|----|---|
| | | | | | | | | | WZ ADV./ GEN. WARN. SIGNING | TEMP. TRAFFIC CONTROL | LAW ENFOR CEMENT | 4" X 90 M WHITE THERMO | 4" X 90 M YELLOW THERMO | 8" X 90 M YELLOW THERMO | 8" X 90 M WHITE THERMO | 12" X 90 M YELLOW THERMO | 12" X 90 M WHITE THERMO | THERMO MSG SCHOOL 90 M | THERMO MSG ONLY 90 M | THERMO MSG RXR 90 M | THERMO LT ARROW 90 M | THERMO STR ARROW 90 M | THERMO RT ARROW 90 M | THERMO MERGE ARROW 90 M | THERMO STR & RT ARROW 90 M | THERMO STR & LT ARROW 90 M | | | |
| | | | | | | | | | MI | FT | SF | LS | HR | LF | LF | LF | LF | LF | LF | EA | EA | EA | EA | EA | EA | EA | EA | EA | |
| 2021CPT.05.02.20921.1 | Wake | 1 | SR 5878 - N SALEM ST | SR 1613 - DAVIS DR TO APEX PEAKWAY (OMIT NEWLY PAVED SECTION) | 3 | 2 | 0.37 | 24-84 | 41 | 0.04 | | 3,824 | 4,670 | 153 | 138 | | | | 6 | 4 | | 11 | 14 | 2 | 2 | 1 | | | |
| | | 2 | SR 5878 - OLD APEX RD/N SALEM ST | SR 1614 - SALEM CHURCH RD TO SR 1613 - DAVIS DR (OMIT NEWLY PAVED SECTION) | 3 | 2 | 0.973 | 24-60 | 108 | 0.24 | | | 11,499 | 13,097 | | 160 | 246 | | | | | | 11 | | 2 | | | 2 | |
| | | 3 | SR 1139 - DAISEY ST | SR 1011 - OLD US ONE HWY TO CHATHAM CO | 2 | 2 | 0.21 | 18 | 23 | 0.01 | | | 2,260 | 2,165 | | | | | | | | | | | | | | | |
| | | 4 | SR 1197 - CHAPEL RIDGE RD | PVMT JT 0.04 MI FROM SR 1160 - OLIVE CHAPEL RD TO CUL-DE-SAC | 1 | 2 | 0.43 | 20 | 48 | 0.01 | | | | | | | | | | | | | | | | | | | |
| | | 5 | SR 1208 - CLARK FARM RD | SR 1197 - CHAPEL RIDGE RD TO CUL-DE-SAC | 1 | 2 | 0.1 | 18 | 11 | 0.01 | | | | | | | | | | | | | | | | | | | |
| | | 6 | SR 1613 - DAVIS DR | US 64 TO SR 3111 - FARM POND RD | 3 | 2 | 1.1 | 22-80 | 123 | 0.03 | | | | 12,909 | 14,586 | | 143 | 66 | | | | | 4 | 5 | 7 | 4 | 3 | 1 | |
| | | 7 | SR 1615 - BEAVER DAM RD | SR 1600 - GREEN LEVEL CHURCH RD TO SR 1605 - GREEN LEVEL RD W | 2 | 2 | 0.24 | 20 | 27 | 0.01 | | | | 2,582 | 2,534 | | | | | | | | | | | | | | |
| | | 8 | SR 1615 - HIGH HOUSE RD | SR 1613 - DAVIS DR TO MAURY ODELL PL (SKIP INTERSECTION AT CARY PARKWAY) | 4 | 4 | 1.49 | 50-84 | 167 | 0.16 | | | | 6,035 | 1,205 | | 600 | 32 | 24 | | | | | 25 | 14 | 6 | | 4 | |
| | | 9 | SR 1615 - HIGH HOUSE RD | MAURY ODELL PL TO RR JOINT @ OLD APEX RD | 5 | 5 | 1.48 | 60 | 134 | 0.15 | | | | 12,283 | 17,962 | | | | 259 | | 12 | | 2 | 67 | 4 | 3 | | 7 | |
| | | 10 | SR 1639 - KIT CREEK RD | NC 55 TO PVT JT 1600' WEST OF SR 1613 - DAVIS DR | 1 | 2 | 1.273 | 26-62 | 107 | 0.04 | | | | 14,677 | 10,578 | 20 | 467 | | | | | | 4 | 8 | 7 | 4 | 8 | | 2 |
| | | 11 | SR 1652 - HARRISON AVE | START OF MAINTENANCE TO NC 54 - NW MAYNARD RD | 4 | 5 | 2.513 | 62-80 | 296 | 0.27 | 600 | | | 14,060 | 20,138 | | 4,299 | 1,200 | | | 12 | | 24 | 66 | 66 | 23 | | 18 | 2 |
| | | 12 | SR 3037 - WADE DR | NC 55 HWY TO END MAINT | 3 | 2 | 0.36 | 20 | 40 | 0.01 | | | | | | | | | | | | | | | | | | | |
| | | 13 | SR 3040 - TRELAWNEY LN | SR 1608 - ROBERTS RD TO SR 1601 - JENKS RD | 1 | 2 | 0.5 | 20 | 56 | 0.01 | | | | | | | | | | | | | | | | | | | |
| | | 14 | SR 3093 - DEVELOPMENT DR | SR 1613 - DAVIS DR (PVT JT) TO SR 2153 - LOUIS STEPHENS DR (NEAREST PVT JT) | 3 | 2 | 0.6 | 24-54 | 67 | 0.01 | | | | 6,456 | 6,336 | | | | | | | | | | | | | | |
| GRAND TOTAL FOR PROJ NO. 2021CPT.05.02.20921.1 | | | | | | | 11.639 | | 1,248 | 1.00 | 600 | 86,585 | 93,271 | 173 | 5,807 | 1,544 | 283 | 30 | 32 | 18 | 192 | 109 | 48 | 5 | 33 | 4 | | | |
| | | | | | | | | | | | | 179,856 | | 5,980 | 1,827 | | 80 | | | | 401 | | | | | | | | |







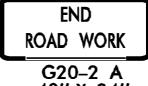
SIGNING FOR RESURFACING PROJECTS

LEGEND
 STATIONARY SIGN
 DIRECTION OF TRAFFIC FLOW

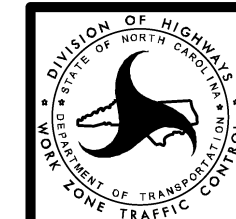


MAINLINE (-L-) SIGNING

-Y- LINE SIGNING

| | | | | |
|---|---|---|---|--|
| SIGNING NOTES AND PLACEMENT PER DIRECTION | ① |  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. | <p>NO REQUIRED STATIONARY SIGNING FOR THE FOLLOWING -Y- LINE CONDITIONS:</p> <ol style="list-style-type: none"> LESS THAN 1000' OF RESURFACING ALONG -Y- LINE SUBDIVISION ROADS DEAD END ROADS <p>WHEN PAVING/CONSTRUCTION ACTIVITIES PROCEED ACROSS AN UNSIGNED -Y- LINE, PORTABLE ADVANCE WARNING SIGNS SHALL BE USED ALONG THE -Y- LINE AS SHOWN BELOW. REMOVE UPON COMPLETION OF WORK.</p> <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  W20-1 48" X 48" PLACED 500' IN ADVANCE OF FLAGGER. </div> <div style="text-align: center;">  W20-7 A 48" X 48" PLACED 250' IN ADVANCE OF FLAGGER. </div> </div> |
| | ② |  W7-3aP 24" X 18" | #2 SIGN ONLY USED WHEN CONSTRUCTION LIMITS ARE 2 OR MORE MILES IN LENGTH. ROUND UP TO NEXT WHOLE NUMBER. (NO FRACTIONAL OR DECIMAL NUMBERS) | |
| | ③ |  SP 13107 48" X 48" | <ul style="list-style-type: none"> PLACE INITIALLY AT THE CONSTRUCTION LIMITS AND SPACE 1 MILE APART THEREAFTER. AT TEE INTERSECTIONS INSTALL INITIALLY 1/2 MILE FROM INTERSECTION AND SPACE 1 MILE APART THEREAFTER. | |
| | ④ |  SP 13106 48" X 48" | <ul style="list-style-type: none"> 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. FOR TEE INTERSECTIONS, INSTALL WITHIN 500' +/- OF THE INTERSECTION ALONG -L- LINE. | |
| | ⑤ |  G20-2 A 48" X 24" | PLACE 500' FOLLOWING THE END OF CONSTRUCTION LIMITS OR AS SHOWN WHEN WORK ENDS AT A 3-WAY TEE INTERSECTION. | |
| <p>THE ABOVE SIGNS ARE ALL THAT ARE REQUIRED FOR A CONTRACTOR TO BEGIN A RESURFACING CONTRACT. ANY ADDITIONAL SIGNS REQUESTED BY NCDOT DIVISIONS SHALL BE INSTALLED WITHIN 7 BUSINESS DAYS OF THE START OF CONTRACT WORK.</p> | | | | |
| <p>FOR RESURFACING MAPS WITH CONSTRUCTION LIMITS LESS THAN 2 MILES IN LENGTH, NO STATIONARY SIGNS ARE REQUIRED. USE PORTABLE "ROAD UNDER CONSTRUCTION" OR "ROAD WORK AHEAD" SIGNS IN LIEU OF STATIONARY ADVANCE WARNINGS SIGNS.</p> | | | | |

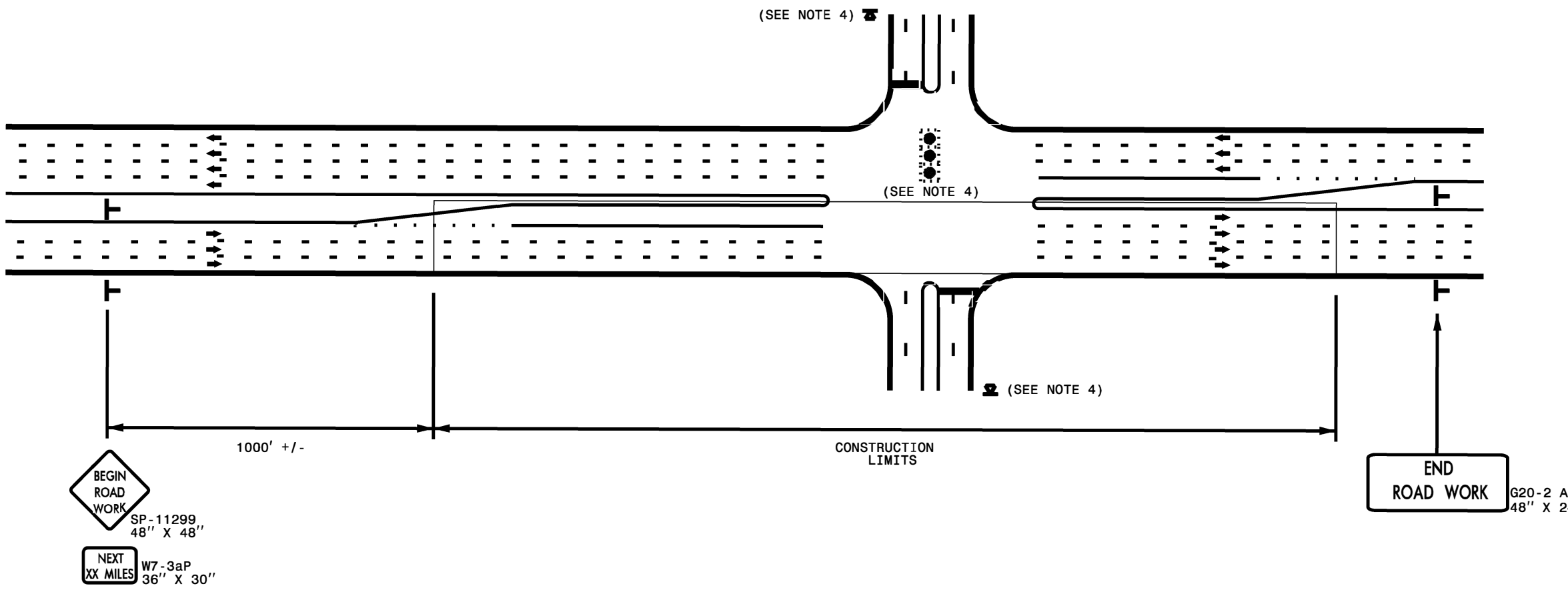
MAPS LESS THAN 2 MILES



ADVANCE WARNING SIGNS FOR RURAL AND SUBURBAN 2-LANE ROADWAY RESURFACING

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

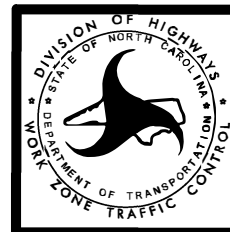
URBAN / SUBURBAN WORKZONES



NOTES:

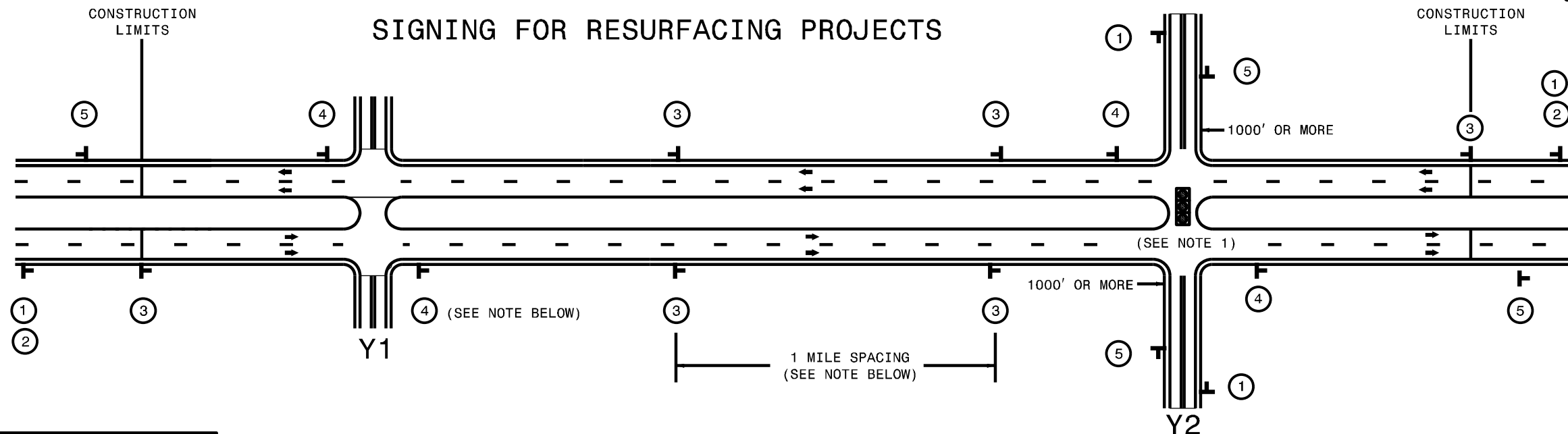
- 1) 48" x 48" SIZED SIGNS (SP- 11299) MAY BE REDUCED TO 36" X 36" ON ROADWAYS WITH SPEED LIMITS OF 40 MPH OR LESS.
- 2) MOUNT SIGNS THAT ARE LARGER THAN 10 SQUARE FEET IN AREA ON TWO OR MORE WOOD OR U-CHANNEL SUPPORTS. PERFORATED SQUARE TUBING SUPPORT SYSTEMS MAY SUPPORT LARGER AREAS ON A SINGLE SUPPORT.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



**RESURFACING ADVANCE
WARNING SIGNS FOR
URBAN / SUBURBAN
FACILITIES**

\$\$\$SYTIME\$\$\$\$\$
 \$\$\$DCON\$\$\$\$\$
 \$\$\$USERNAM\$\$\$\$\$



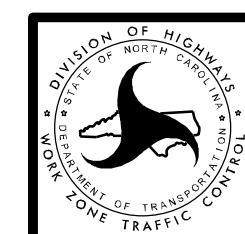
| LEGEND | |
|--------|---------------------------|
| T | STATIONARY SIGN |
| ← | DIRECTION OF TRAFFIC FLOW |

MAINLINE (-L-) SIGNING

-Y- LINE SIGNING

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

\$\$\$SYTIME\$\$\$\$\$
 \$\$\$DCON\$\$\$\$\$
 \$\$\$USERNAMF\$\$\$\$\$



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

**DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA**

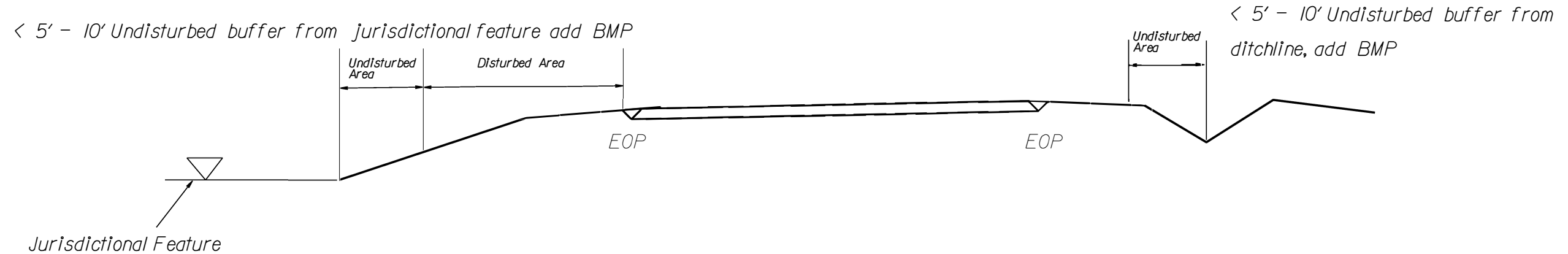
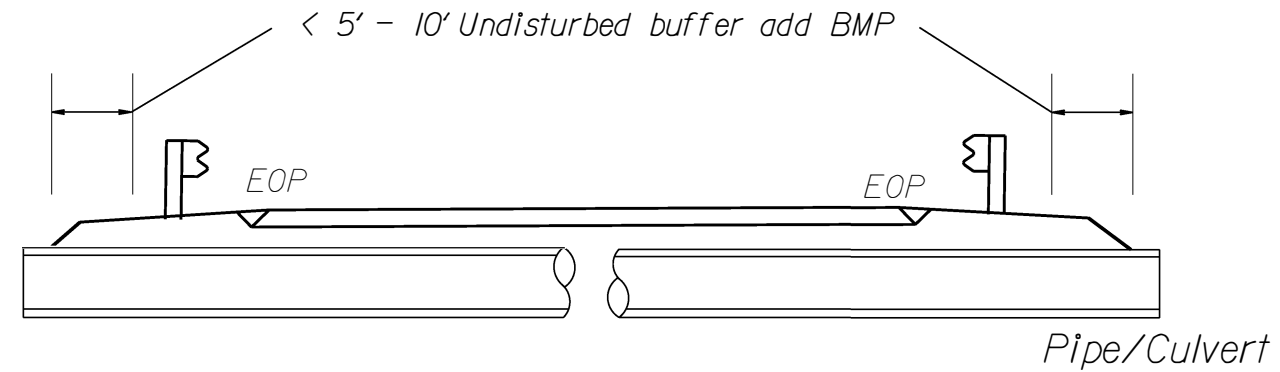
SOIL STABILIZATION TIMEFRAMES

| <i>SITE DESCRIPTION</i> | <i>STABILIZATION TIME</i> | <i>TIMEFRAME EXCEPTIONS</i> |
|---|---------------------------|---|
| PERIMETER DIKES, SWALES, DITCHES AND SLOPES | 7 DAYS | NONE |
| HIGH QUALITY WATER (HOW) 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 HOW ZONES. |

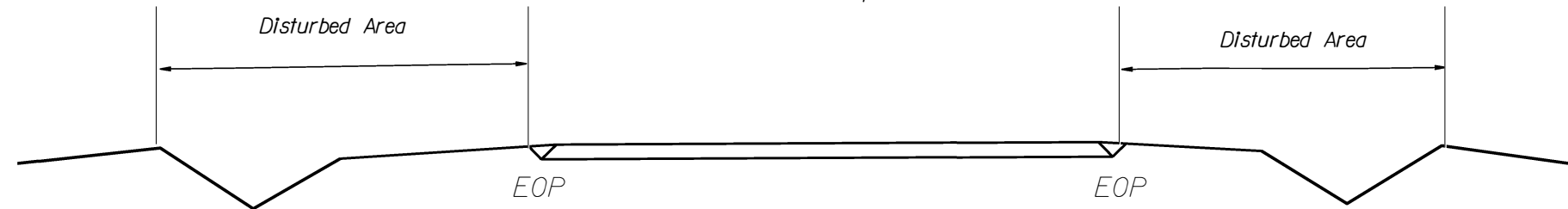
NOTES: Less than 5' - 10' undisturbed buffer from ROW, ditchline, water feature, or drainage inlet, add BMP.

BMP Options: Wattle, Silt Fence or Hardened Aggregate.

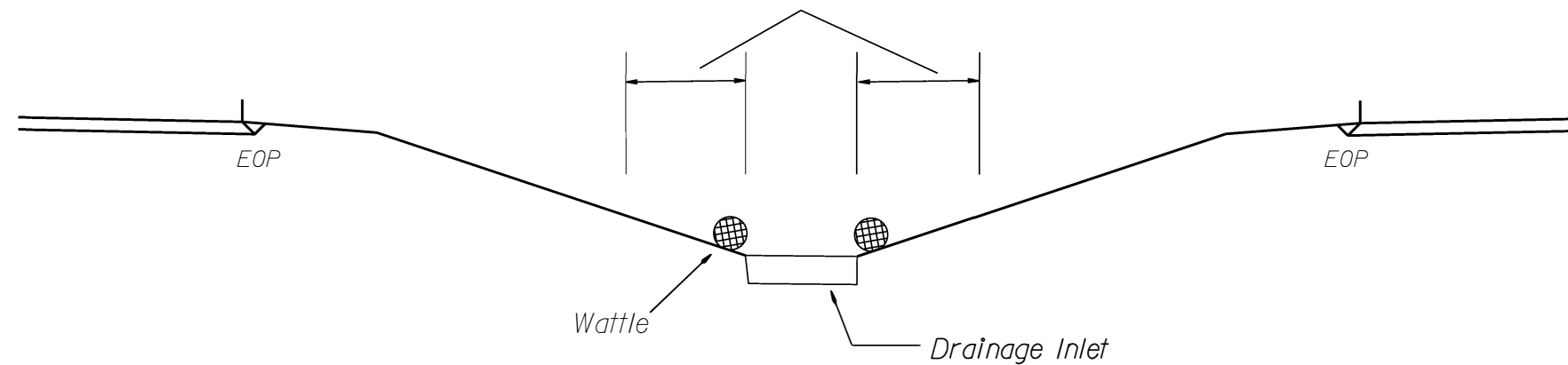
EROSION CONTROL DETAIL



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

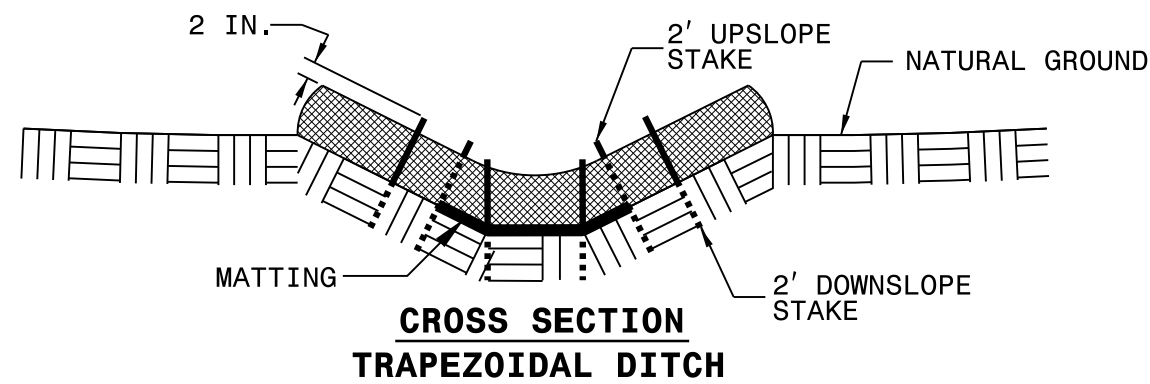
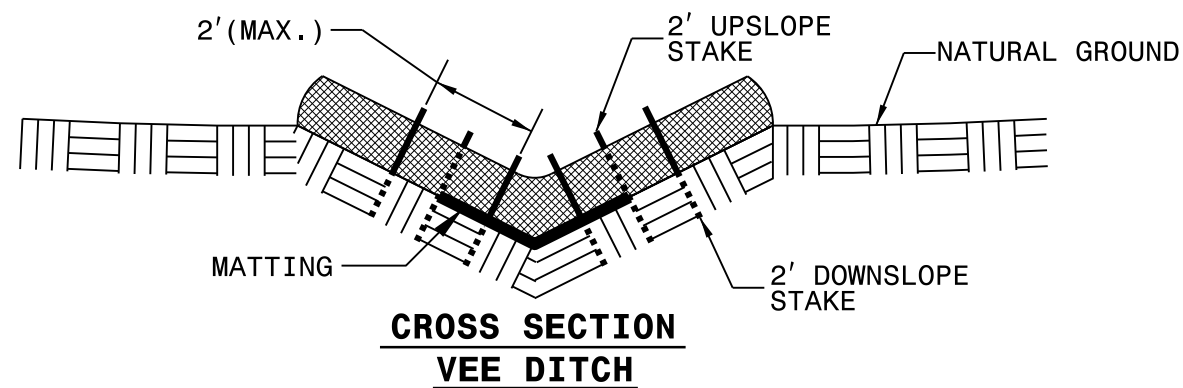
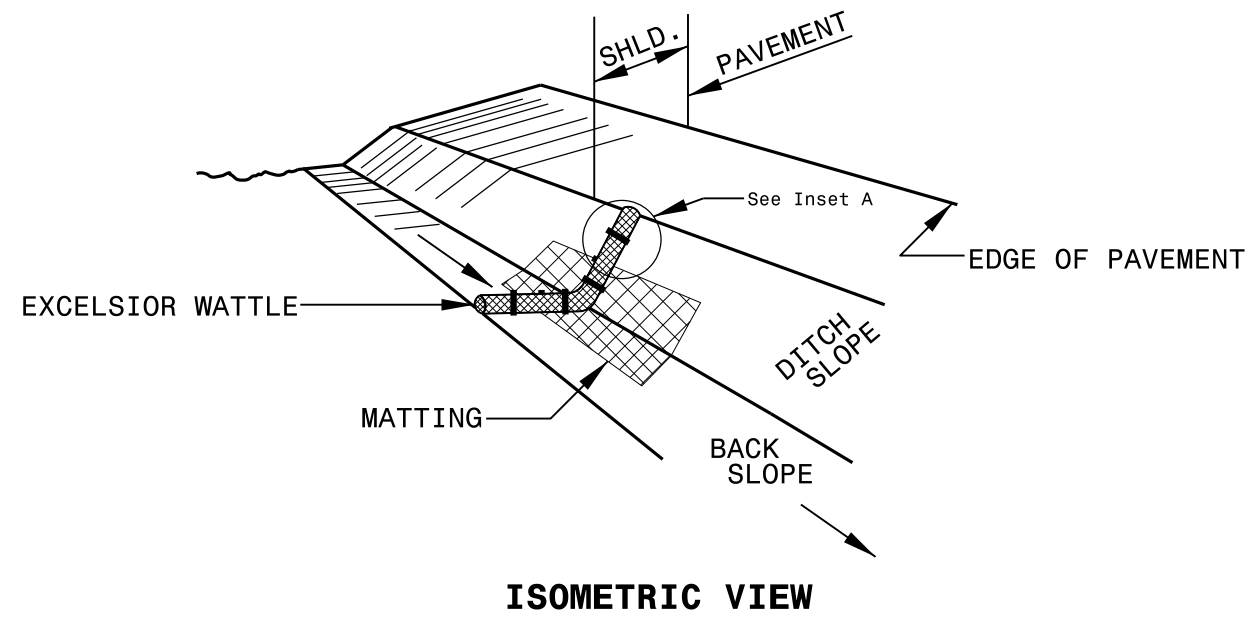


< 5' - 10' Undisturbed buffer from inlet, add wattle



NOT TO SCALE

WATTLE DETAIL



NOTES:

USE MINIMUM 12 IN. DIAMETER EXCELSIOR WATTLE.

USE 2 FT. WOODEN STAKES WITH A 2 IN. BY 2 IN. NOMINAL CROSS SECTION.

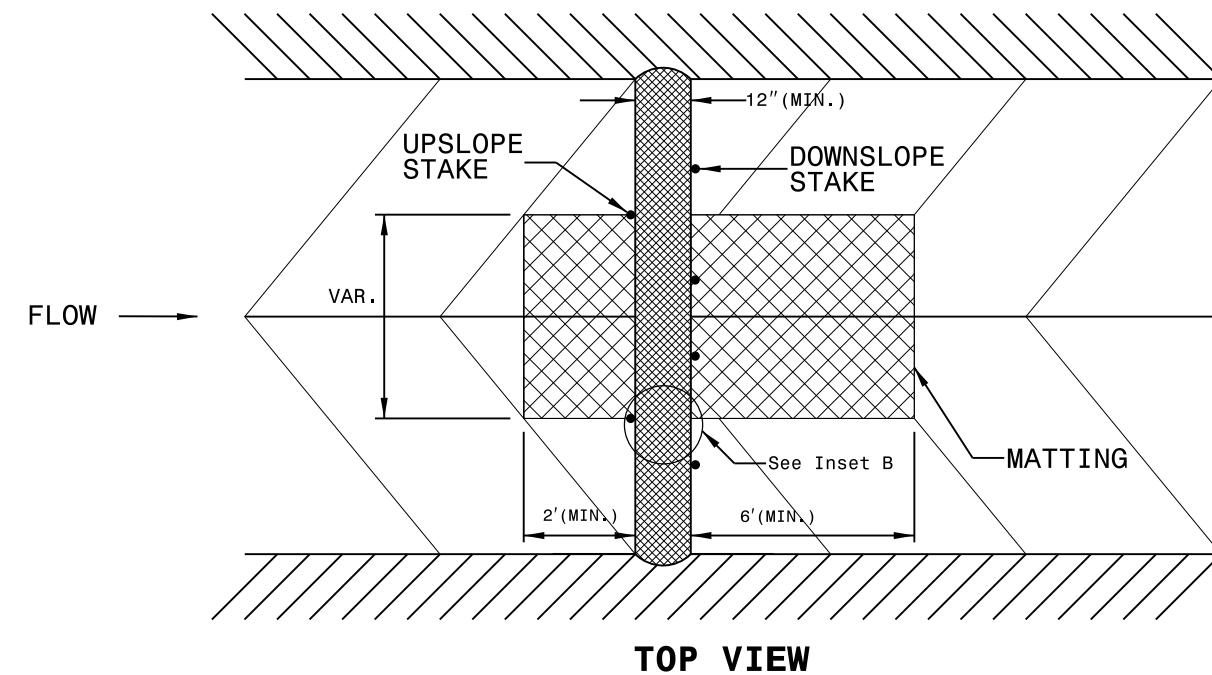
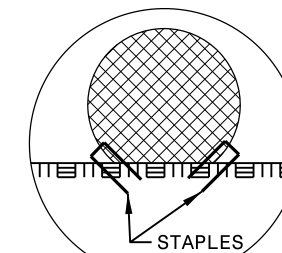
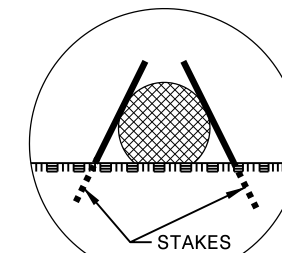
ONLY INSTALL WATTLE(S) TO A HEIGHT IN DITCH SO FLOW WILL NOT WASH AROUND WATTLE AND SCOUR DITCH SLOPES AND AS DIRECTED.

INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO BOTTOM OF DITCH.

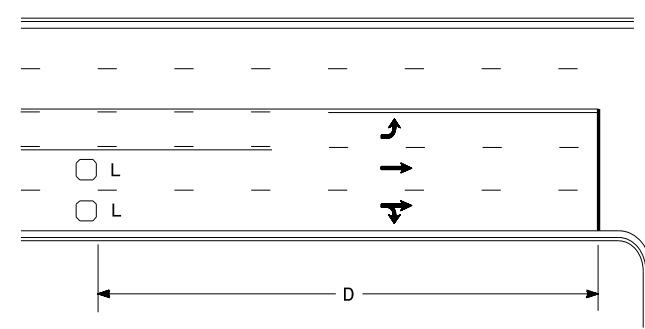
PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12" IN LENGTH.

INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.

INSTALL MATTING IN ACCORDANCE WITH SECTION 1631 OF THE STANDARD SPECIFICATIONS.



High Speed Detection (≥40 mph)

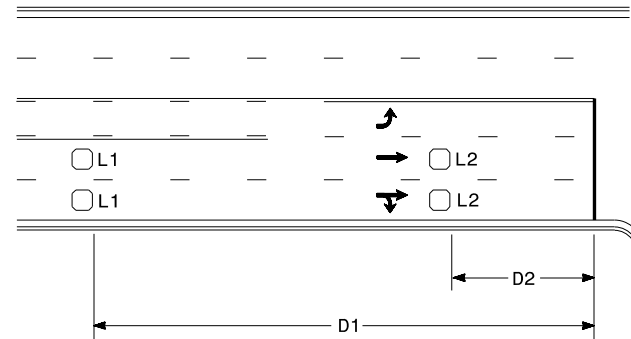


| Speed Limit mph | D ft |
|--------------------|---------|
| 40 | 250 |
| 45 | 300 |
| 50 | 355 |
| 55 | 420 |

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

Volume Density Operation

OR

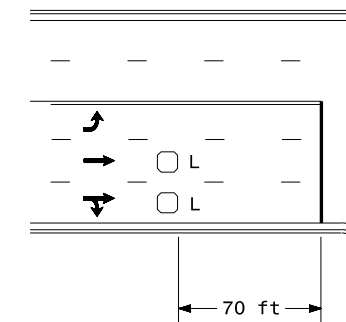


| Speed Limit mph | D1 ft | D2 ft |
|--------------------|----------|----------|
| 40 | 250 | 80 |
| 45 | 300 | 90 |
| 50 | 355 | 100 |
| 55 | 420 | 110 |

L1 = 6ft X 6ft
Wired in series
L2 = 6ft X 6ft
Wired in series

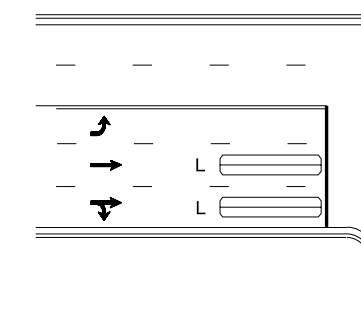
"Stretch" Operation

Low Speed Detection (≤35 mph)



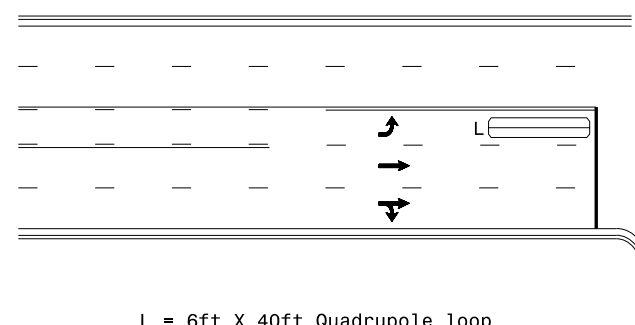
L = 6ft X 6ft
Wired in series

OR



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

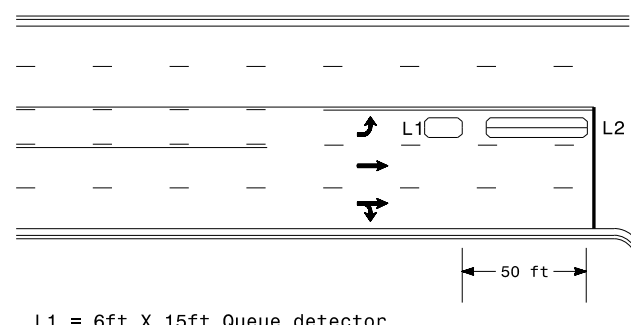
Left Turn Lane Detection



L = 6ft X 40ft Quadrupole loop

Presence Loop Detection

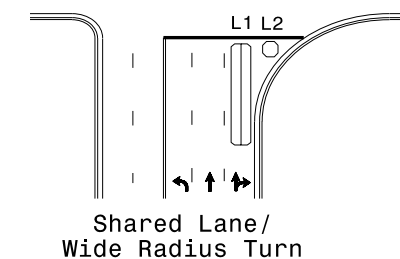
OR



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

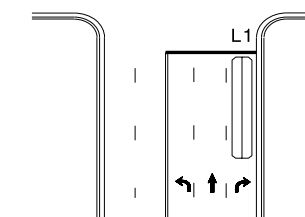
Queue Loop Detection

Right Turn Lane Detection

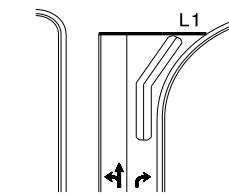


Shared Lane/
Wide Radius Turn

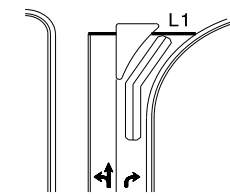
L1 = 6ft X 40ft Quadrupole loop
L2 = 6ft X 6ft [Minimum] Presence loop
Wired separately



Standard Turn

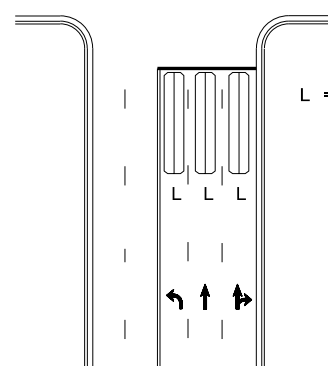


Wide Radius Turn



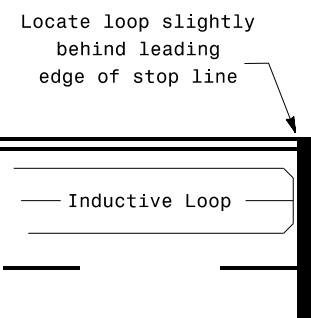
Channelized Turn

Side Street Detection



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

Presence Loop Placement at Stop Lines



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

Typical Signal Loop Locations

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

750 N. Greenfield Pkwy, Garner, NC 27529

SCALE: N/A

DATE: 1/30/2015

SIG. INVENTORY NO.