Transportation

PAT McCRORY
Governor

NICHOLAS J. TENNYSON
Secretary

April 07, 2016

Addendum No. 1
RE: Contract # C203839
WBS # 2016CPT.12.05.10181, Etc.
STATE FUNDED
Catawba County
1 Section Each Of US-70, NC-127, US-321, NC-16, US-321 Business
And 31 Sections of Secondary Roads

April 19, 2016 Letting

To Whom It May Concern:

Reference is made to the plans and proposal form furnished to you on this project.

The following revisions have been made to the plans (Sketch Maps):

The Project WBS numbers have been changed on all sheets. Please discard the Sketch Map sheets you previously received (entire package) and replace with the revised set. Only the WBS numbers were changed.

The following revisions have been made to the proposal:

Page No.	Revisions
Proposal Cover	Note added that reads "Includes Addendum No. 1 Dated 04-07-16", also the WBS numbers were changed
G-1	Revised the completion date within the project special provision entitled "Contract Time and Liquidated Damages", also the WBS numbers were changed in the header
G-4	Revised percentages within the project special provision entitled "Schedule of Estimated Completion Progress", also the WBS numbers were changed in the header

The WBS number was revised in the header on all other pages of the proposal. Please discard the proposal we originally sent you and use the revised proposal we are providing by way of this addendum. Other than the changes listed in the above table, only the WBS number was revised on the other pages.

The contract will be prepared accordingly.

Sincerely,

DS

R. A. Garris, PE
Contract Officer

RAG/jag

cc: Mr. Ron Hancock, PE
Mr. Mark Stafford, PE
Mr. Rodger Rochelle, PE
Mr. R.E. Davenport, PE
Mr. Ken Kennedy, PE
Ms. Lori Strickland
Project File (2)
Mr. Ray Arnold, PE
Ms. Theresa Canales, PE
Ms. Marsha Sample
Mr. Mike Gwyn
Ms. Jaci Kincaid
Ms. Penny Higgins

STATE	PROJECT WBS	SHEET NUMBER
NC	2016CPT.12.05.10181	1
	2016CPT.12.05.20181	

Drawn by: G. BRITTAIN

2016-2017 Resurfacing Map

CATAWBA COUNTY NC

No Scale

STATE	PROJECT WBS	SHEET NUMBER
NC	2016CPT.12.05.10181	2
	2016CPT.12.05.20181	

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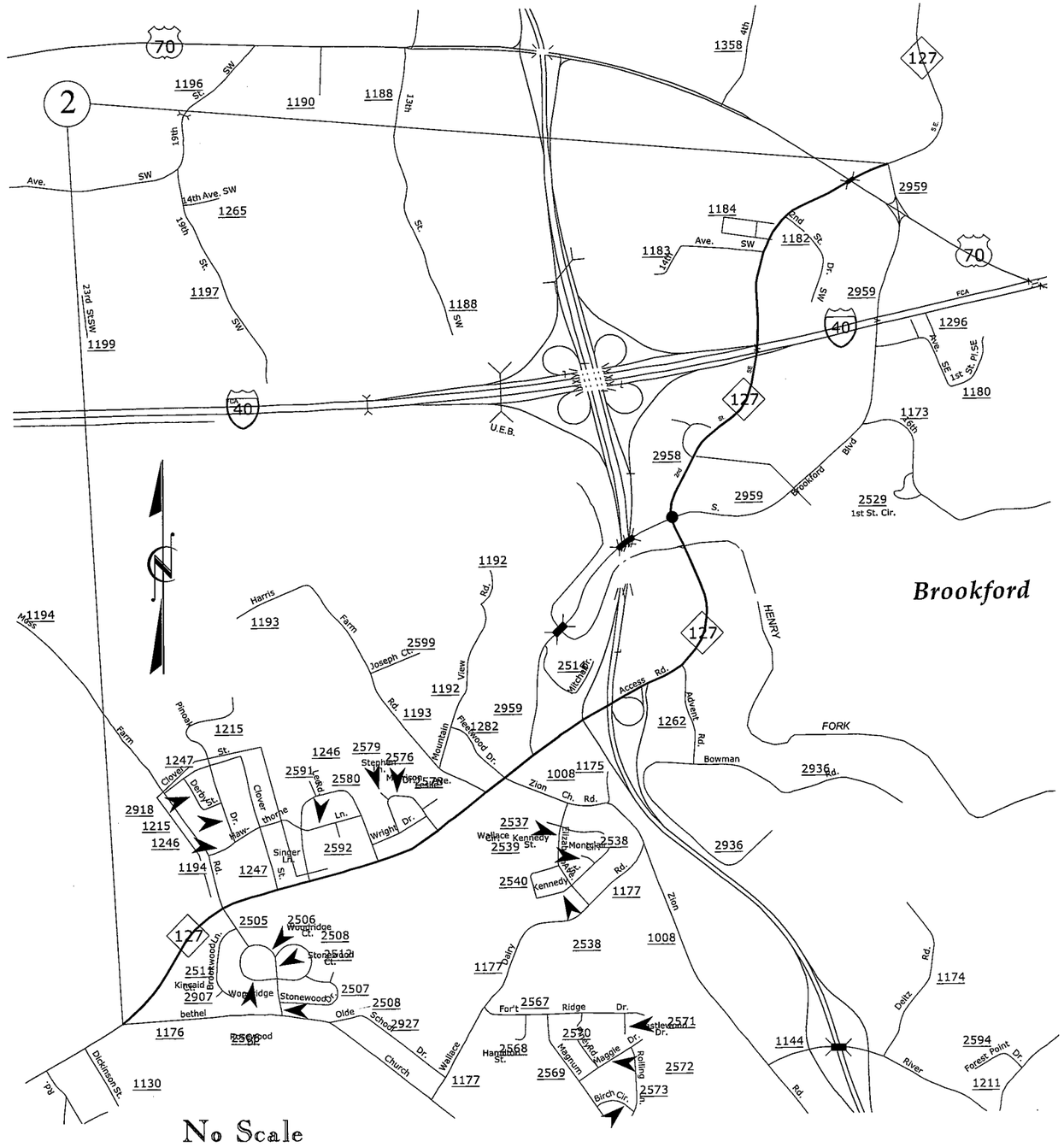

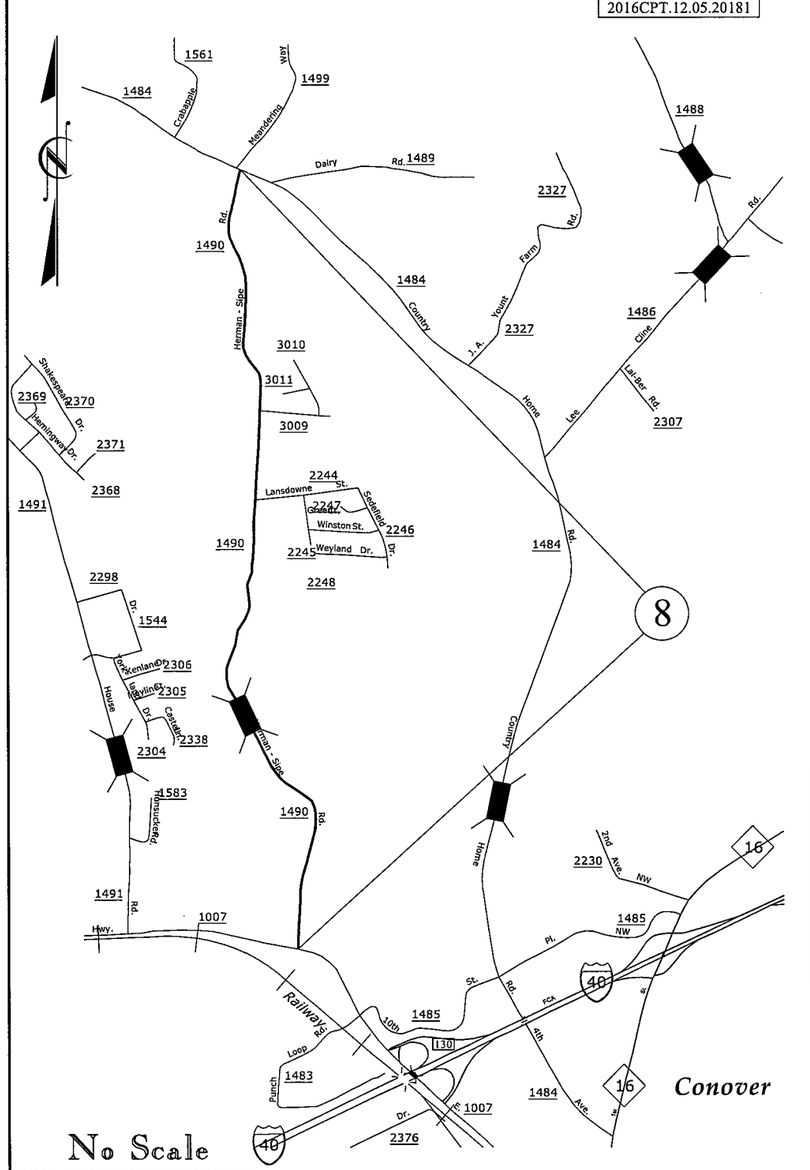

2016-2017 Resurfacing Map

CATAWBA COUNTY NC

STATE	PROJECT WBS	SHEET NUMBER
NC	2016CPT.12.05.10181	3
	2016CPT.12.05.20181	

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2016-2017 Resurfacing Map

CATAWBA COUNTY NC

No Scale

STATE	PROJECT WBS	SHEET NUMBER
NC	2016CPT.12.05.10181	4
	2016CPT.12.05.20181	

Drawn by: G. BRITTAIN

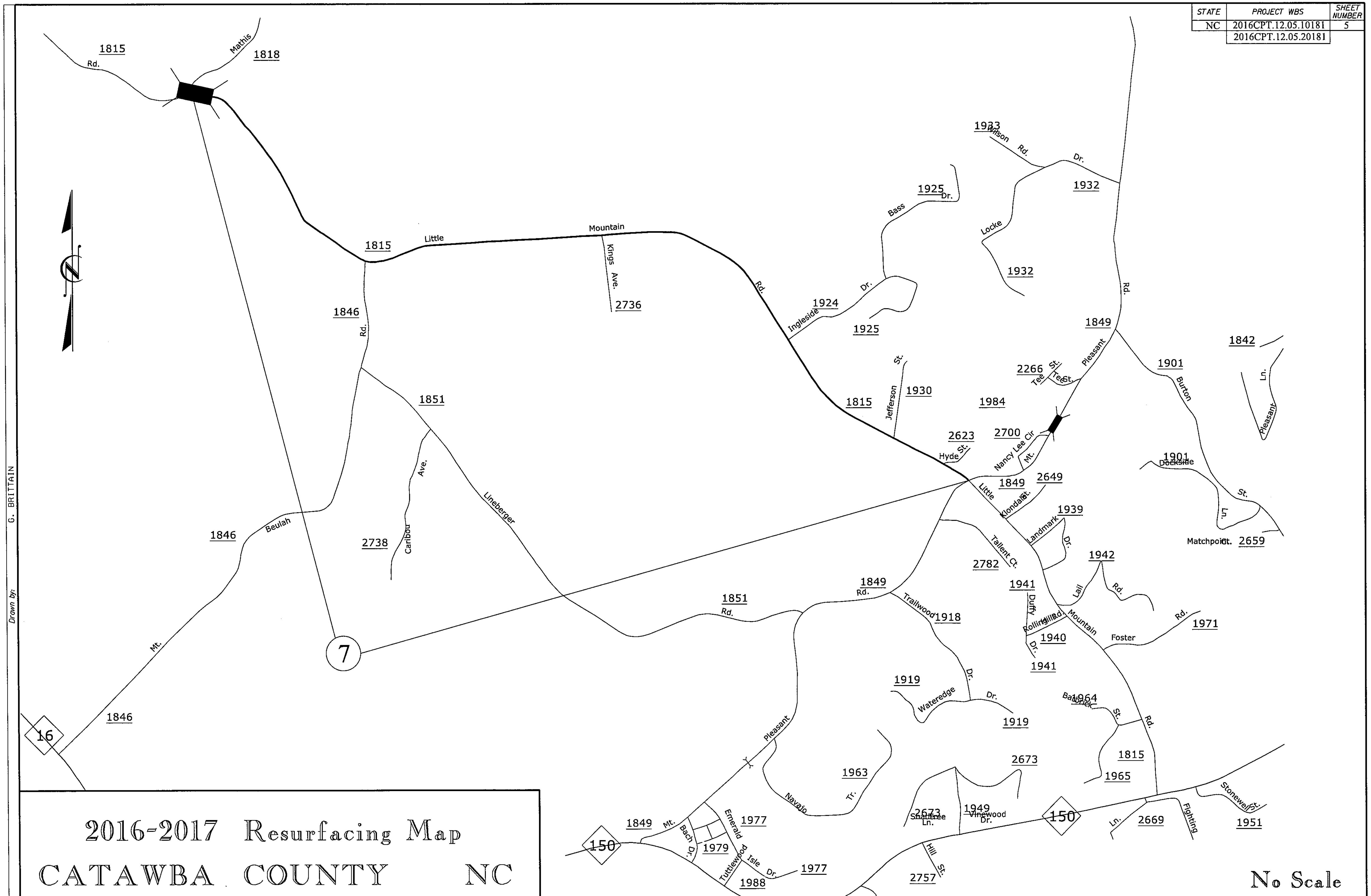
6

44th Ave. Dr. NE
1508
1529
Springs Rd.
35th St. Pl. NE
2329
1511
Wandering Ln.
1511
Lynchburg Rd.
1510
Rd.
2379
Quailwood Dr.
Peggy St.
2320
2362
1529
Wandering
Wesley St.
Ln.
1511
1658
40th Ave. Pl. NE
1529
Sulphur
Springs
NE
1507
2359
34th St. NE
1640 Ave.
36th
2355
Sulphur
35th Ln. NE
2349
Clark St.
1614
1614
34th Ave. Ct. NE
34th Ave. Pl. NE
1643
38th St. Dr. NE
1647
2214
37th St. Ct. NE
2364
34th Ave. Ct. NE
Plaza Dr.
2334
Springs
32nd Ave. Ct. NE
2240
1529
1633
34th St. Dr. NE
Springs
Rd.
1453
1503
St.
1504
St.
1505
St.
1484
Propst Store
St. Stephens
1488
Rifle Range Rd.
Tumbling Creek Rd.
2399
1453
2388
Carriage Ct.
2387
Canterbury Springs Dr.
1513
Rd.
1639
Lavern St.
Circle Dr.
Hall St.
Sherwood Ln.
1514
1593
1639
Circle Dr.
1593
1513
1453
Rd.
Turtle Dove Rd.
3004
Tryon St.
2341
Springs
Houston
1512
Superior St.
2241
1453
1486
Miller
1517
Springs Rd.
1517
1486
Saw Mill Rd.
1516
1516
1486
2235
Pecan St.
2236
Double Cir.
2237
Adams Cir.
2239
Pine Hill Rd.
Houston
Stephens St.
2235
2238
Dr.
2234
Rd.
Mill
2264
2215
Tobin Ct.
2263
2318
2295
Archdale Dr. E.
Hilo Dr.
Piedmont Cir.
Poplar St.
2294
2265
Clearview Ct.
Dr.
3020
3021
Millpace Dr
2315
Stone St.
Water Wheel Dr
Gristmill Dr
2333
3022
Gram Ct
Water Wheel Dr ext
Mill Pond Dr
3027
3022
(Mill Wheel Ct)
3026
Cline
Lee
1512
3028
3022

No Scale

2016-2017 Resurfacing Map
CATAWBA COUNTY NC

STATE	PROJECT WBS	SHEET NUMBER
NC	2016CPT.12.05.10181	5
	2016CPT.12.05.20181	



2016-2017 Resurfacing Map
CATAWBA COUNTY NC

No Scale

STATE	PROJECT WBS	SHEET NUMBER
NC	2016CPT.12.05.10181	6
	2016CPT.12.05.20181	

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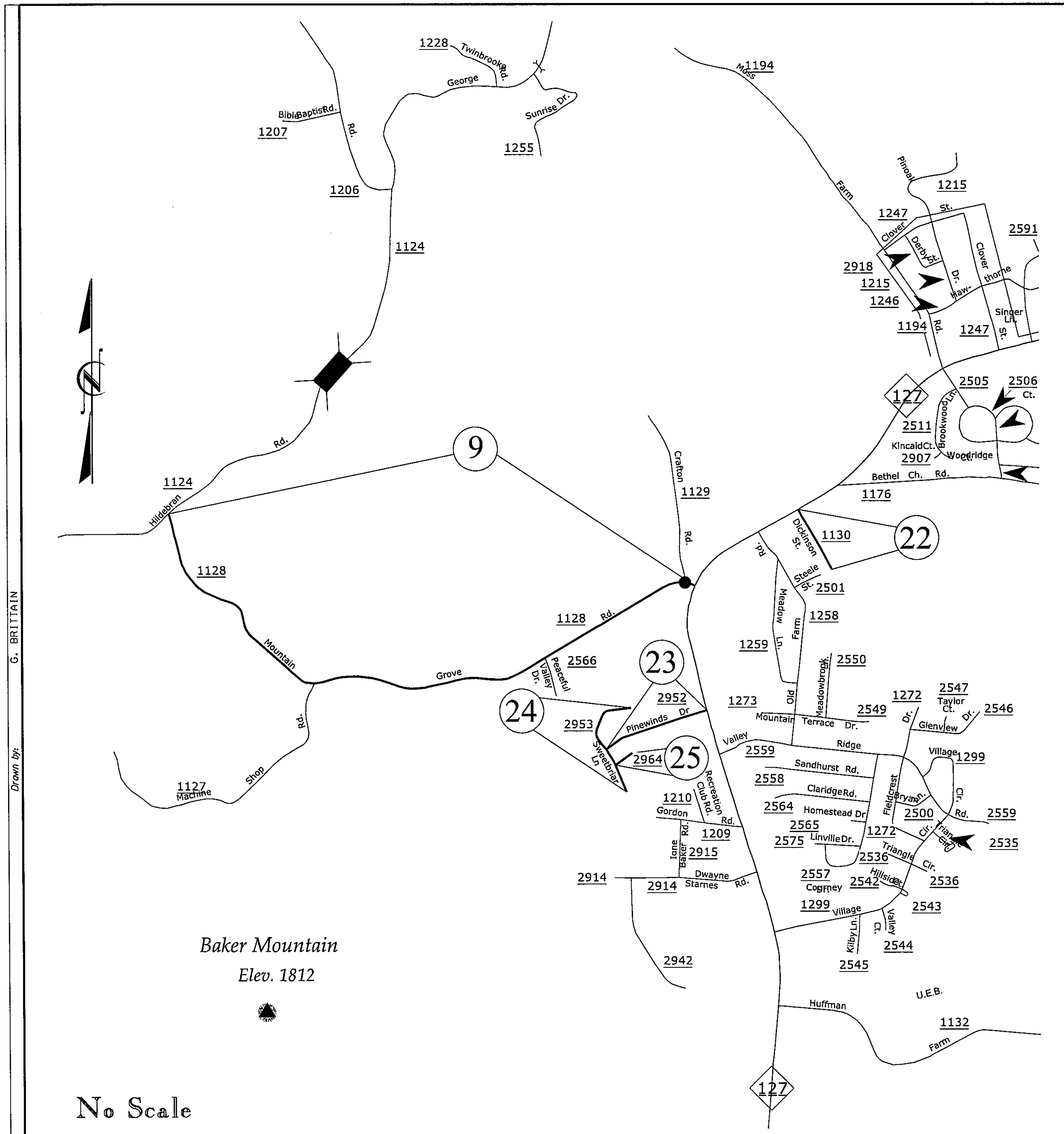
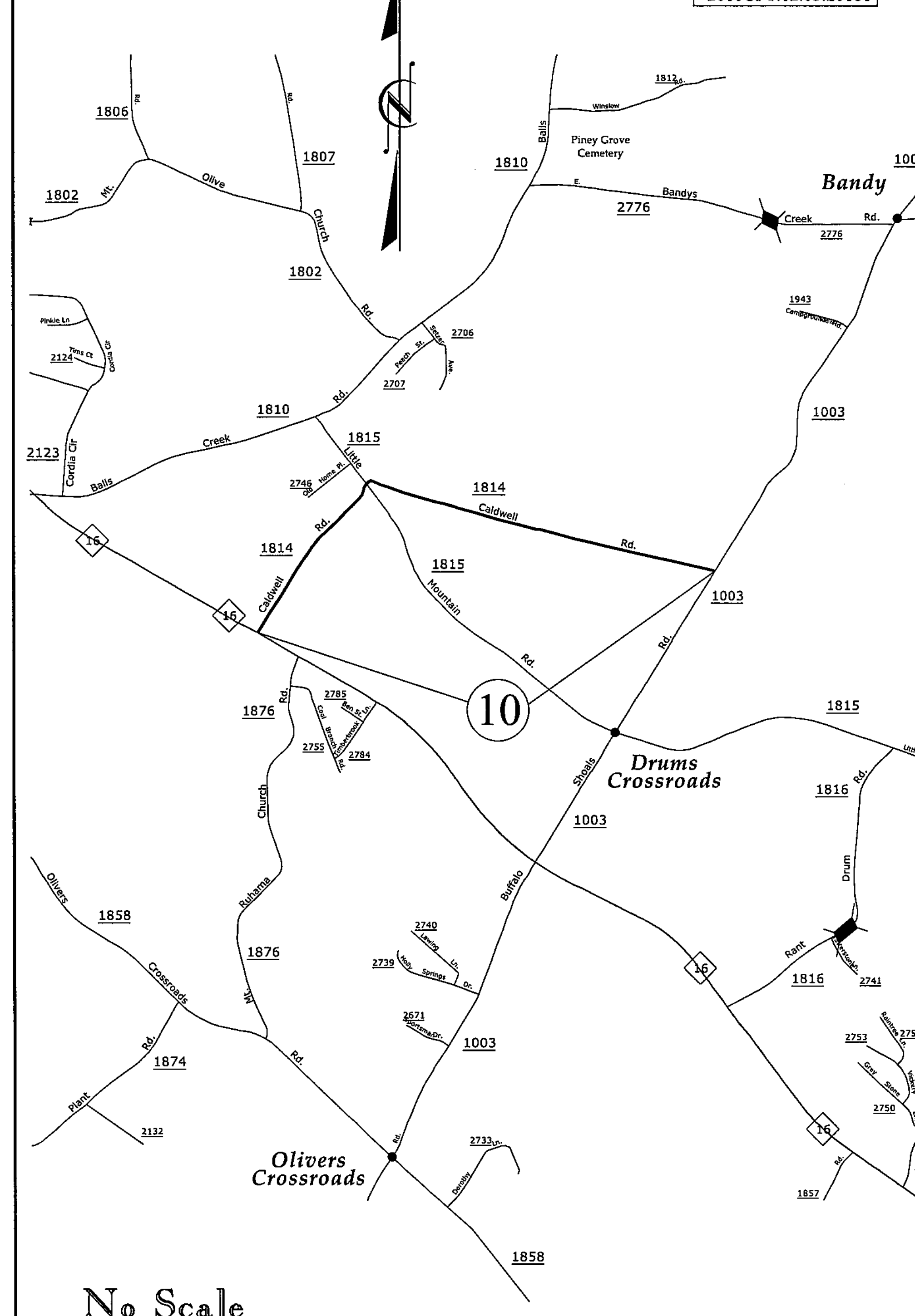




2016-2017 Resurfacing Map

CATAWBA COUNTY NC

STATE	PROJECT WBS	SHEET NUMBER
NC	2016CPT.12.05.10181	7
	2016CPT.12.05.20181	

Drawn by: G. BRITTAIN

Alexander County

Catawba River

Hickory North

Propst Store

Smyres Cemetery

Providence Memorial Cemetery

Murray's Mill

Shiloh Ch

Norfolk Southern Corp.

Catawba

No Scale

No Scale

2016-2017 Resurfacing Map

CATAWBA COUNTY NC

STATE	PROJECT WBS	SHEET NUMBER
NC	2016CPT.12.05.10181	8
	2016CPT.12.05.20181	

Drawn by: G. BRITTAIN

St Paul Memorial Pk

Startown

Conover - Startown

U.E.B.

Old

Rd.

1005

1149

1154

1153

Catawba

10

16 Main Ave. NW

16 N

16 Bus

Railway

1880

BUS 321

Carolina and

St.

2015

Farm

Jarrett

Rd.

2013

Jarrett

Sigmon

Dairy

Bowman Ave.

Shook Ave.

Grandview Dr.

Glennoaks Dr.

2056

2075

2072

Killian Ave.

2074

U.E.B.

18

19

2013

PB

Ln.

Peanuts

2122

2014

McKay

Rd.

2077

Pistol Range Rd.

2076

Pioneer Dr.

Wagon Rd.

2083

2109

Dr.

Fernwood

N. Brushwood Cir.

2110

S. Brushwood Cir.

Shook Lake

2052

McConkie St.

George Rd.

2051

1005

Sigmon

2013

Little Coulters Church Rd.

2067

2014

1884

Smyre

1946

Wagon Rd.

Indian Tr.

1945

1927

E. "P"

Lakewood Dr.

1974

2012

Rd.

BUS 321

2093

2012

Woodmere

2094

No Scale

2327

Rd.

Stafford St.

2297

1486

Cline

Lee

Lal-Baer Rd.

2307

1484

Rd.

C & B Farm Rd.

1487

21

2357

20

2321

Smithfield Dr.

16

St. Johns

1712

Bellaview Dr.

2422

2nd Ave. NW

2230

16

Lap Rd.

1760

FCA

1485 NW

Pl.

131

133

16

Hunsucker Dr.

1783

Rd.

1709

1714

40

Fct

4th Ave. NW

16

Conover

Barn

Mclin Creek

1778

Startown Rd.

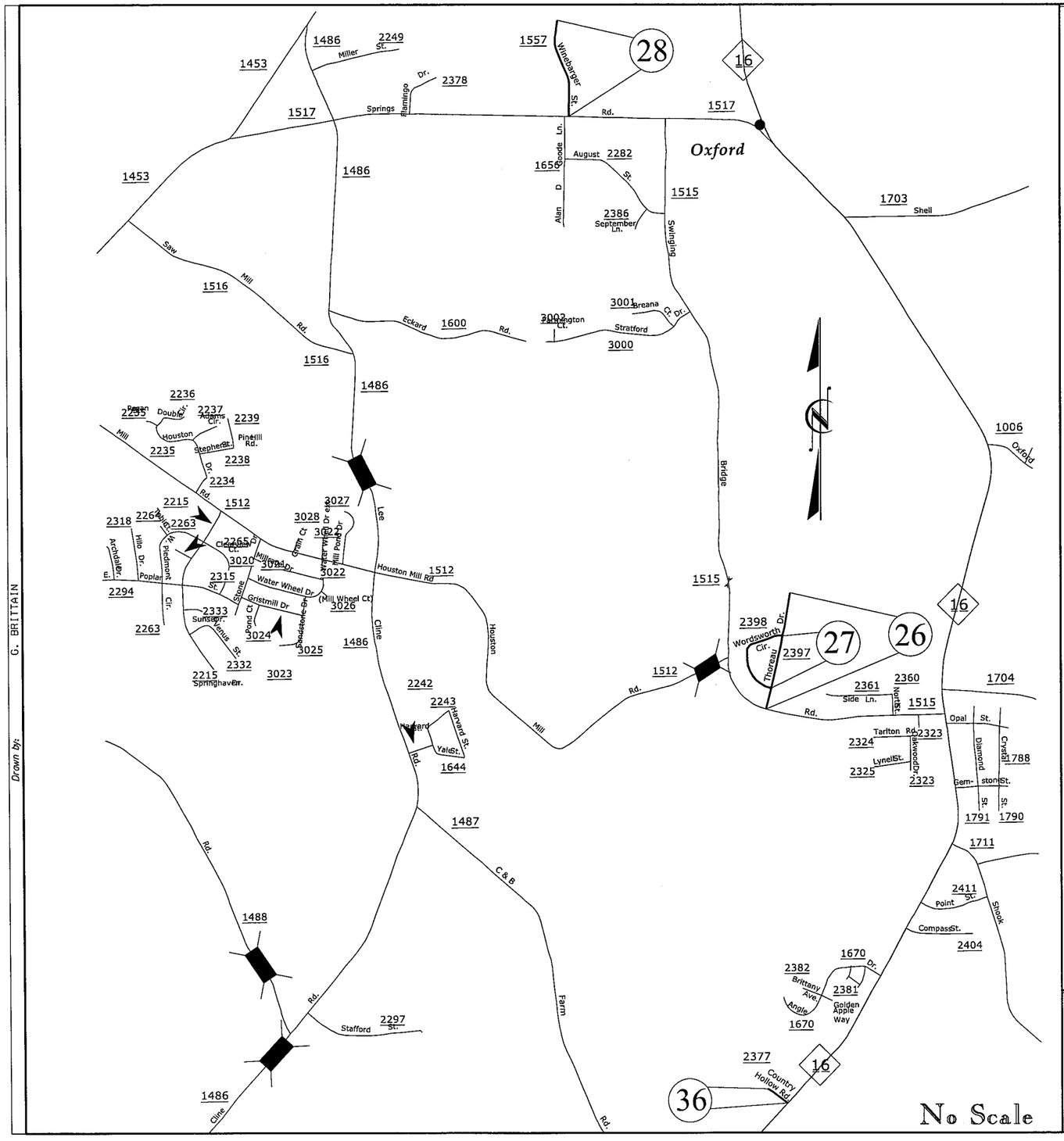
No Scale

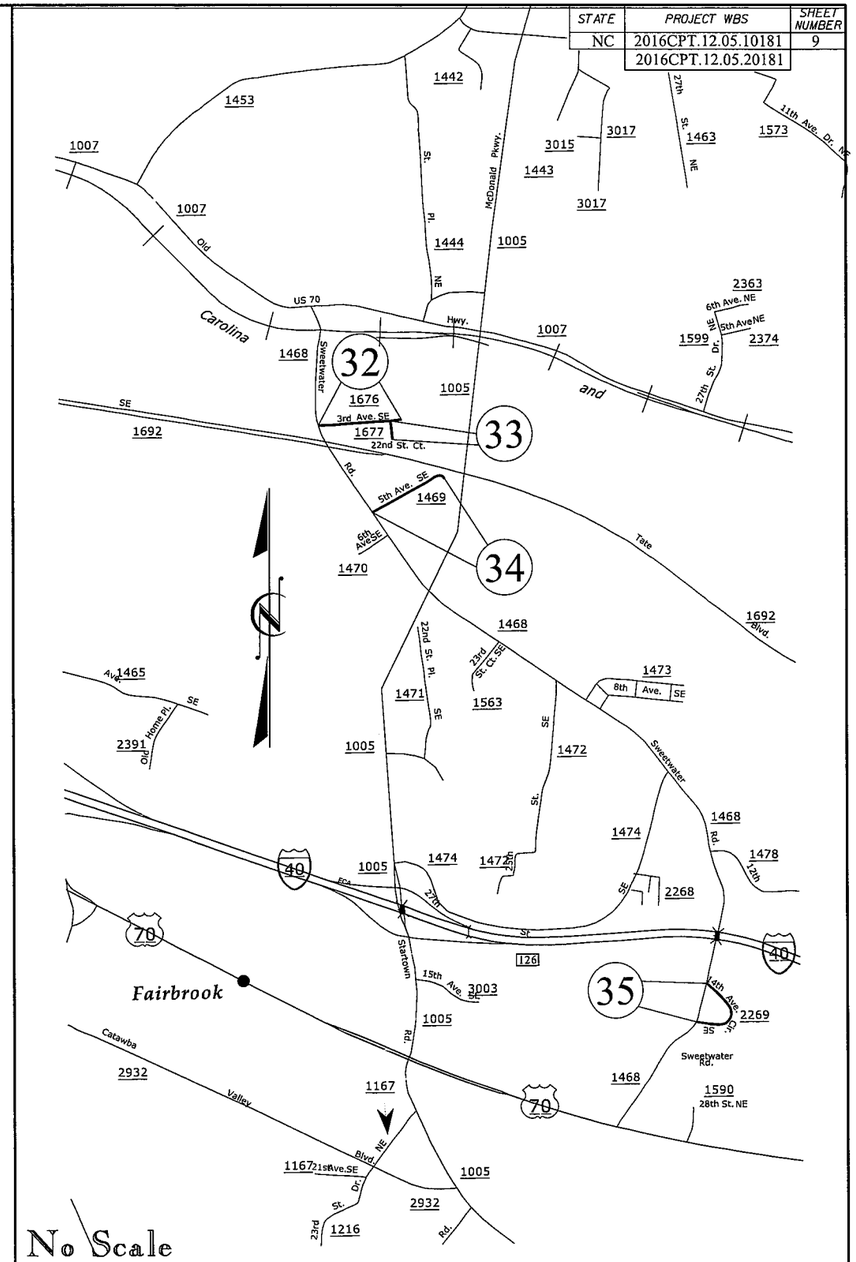
2016-2017 Resurfacing Map

CATAWBA COUNTY NC

STATE	PROJECT WBS	SHEET NUMBER
NC	2016CPT.12.05.10181	9
	2016CPT.12.05.20181	

Drawn by: G. BRITTAIN





2016-2017 Resurfacing Map

CATAWBA COUNTY NC

STATE	PROJECT WBS	SHEET NUMBER
NC	2016CPT.12.05.10181	10
	2016CPT.12.05.20181	

Drawn by: G. BRITTAIN

Claremont

Catawba

Witherspoon Crossroads

N. Oxford St.

W. Main St.

E. Main St.

N. Lookout St.

S. Lookout St.

Church Rd.

Liberty

Dan Brown Dr.

Norfolk Southern Corp.

Catawba St.

Depot St.

Old Catawba St.

Penny Rd.

Blvd.

B & B St.

O.T. Posse Dr.

Catawba Mayble St.

Edna St.

2nd Ave. E.

Second 4th Ave. SE

St.

Hudson

Hot Rod Rd.

Brandon Rd.

Lowrance

Shangri-La Dr.

Hazel St.

Teak Dr.

Teakwood Dr.

Teak Dr.

Rd.

Zebulon Dr.

Annex St.

Erskin St.

Old Catawba

Boggs Rd.

Richard St.

Hunsucker Dr.

Basil Dr.

Boggs Rd.

Hewitt Rd.

Brandon Rd.

Shilon

Rd.

Rd.

Rd.

Williem St.

Tolley St.

Wayne St.

Chancellor St.

Shady Rd.

1715 1716 1722 1728 1729 1730 1731 1722 1727 1725 1726 1727 1722 1762 1784 1723 1724 1826 1826 1822 1826 1821 1810 1809 1808 1960 2679 2402 2403 2413 2423 2424 2423 2413 2432 2431 2430 2622 2436 2438 1996 2463 2638 1972 2743 2627 1004 1827 1004 2630 2600 1003 1003 1004

70 10 29 30 31 1.04

2016-2017 Resurfacing Map

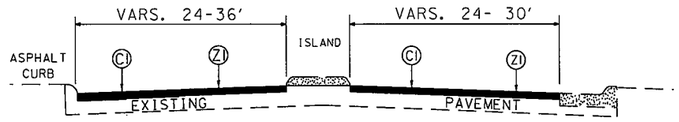
CATAWBA COUNTY NC

No Scale

STATE	PROJECT WBS	SHEET NUMBER
NC	2016CPT.12.05.10181	11
	2016CPT.12.05.20181	

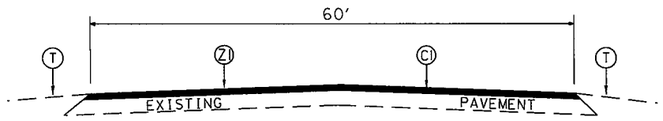
Drawn by: G.Brittain

Checked by:



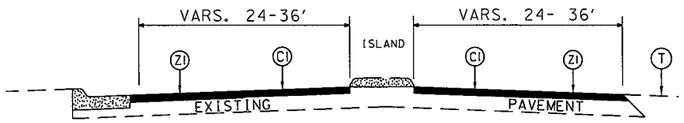
TYPICAL SECTION NO. 1

MAP # 1 - 0+00 TO 3+60
(SR 2959)



TYPICAL SECTION NO.2

MAP # 1 - 3+60 TO 37+00
MAP # 1 - 65+00 TO 75+00

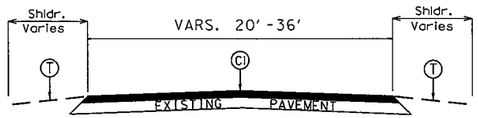


TYPICAL SECTION NO. 3

MAP # 1 - 37+00 TO 48+50

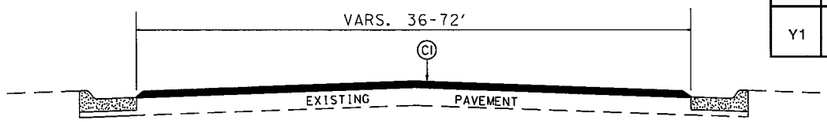
TYPICAL SECTION NO. 6

MAP # 1 - 81+00 TO 86+75
MAP # 1 - 124+00 TO 140+00
(SR1005)
MAP # 2 - 84+50 to 106+00



TYPICAL SECTION NO. 7

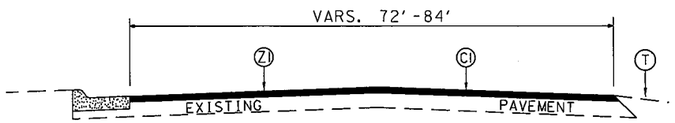
MAP # 2 - 0+00 to 60+00
MAP # 9 - entire map
MAP # 10 - entire map



TYPICAL SECTION NO. 8

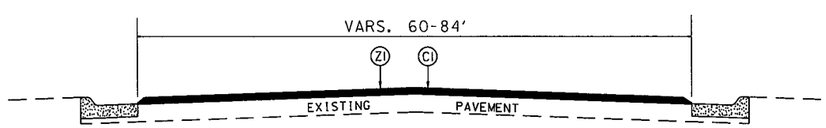
MAP # 2 - 106+00 to 199+00
MAP # 5 - entire map
MAP # 8 - 0+00 to 2+50

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. 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
C3	PROP. APPROX. 1" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A AT AN AVERAGE RATE OF 110 LBS. PER SQ. YD.
E	PROP. APPROX. 8.0" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD., IN EACH OF TWO LIFTS.
F1	ASPHALT SURFACT TREATMENT, MATCOAT #67 STONE
F2	ASPHALT SURFACT TREATMENT, MATCOAT #78M STONE
T	AGGREGATE SHOULDER BORROW (SHOULDER RECONSTRUCTION)
Z1	MILL ASPHALT PAVEMENT APPROXIMATELY 1.5" DEPTH
Z2	MILL ASPHALT PAVEMENT APPROXIMATELY 3.0" DEPTH
Y1	INCIDENTAL MILLING



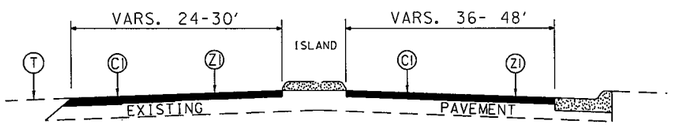
TYPICAL SECTION NO.4

MAP # 1 - 48+50 TO 65+00



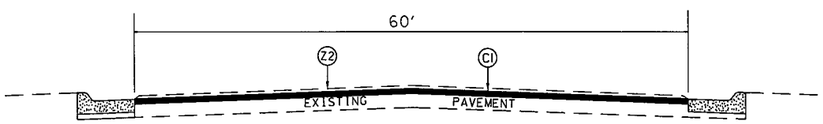
TYPICAL SECTION NO. 9

MAP # 1 - 86+75 to 124+00



TYPICAL SECTION NO. 5

MAP # 1 - 75+00 TO 81+00
(SR1007)



TYPICAL SECTION NO. 10

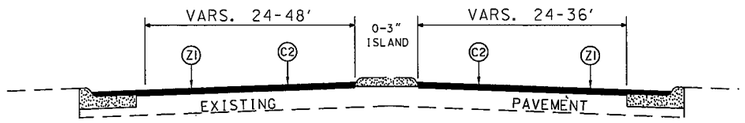
MAP # 2 - 60+00 to 84+50

2016-2017
Resurfacing Program
Typical Sections
Catawba County NC

STATE	PROJECT WBS	SHEET NUMBER
NC	2016CPT.12.05.10181	12
	2016CPT.12.05.20181	

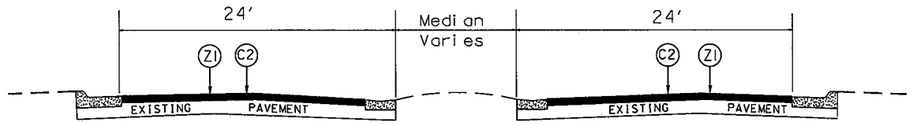
Checked by:

Drawn by: G.Brittain



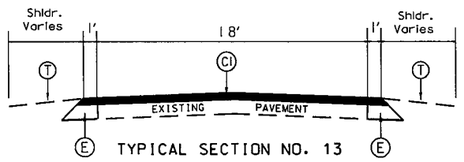
TYPICAL SECTION NO. 11

MAP # 3 - entire map



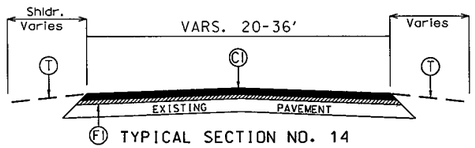
TYPICAL SECTION NO. 12

MAP # 4 - (entire map)



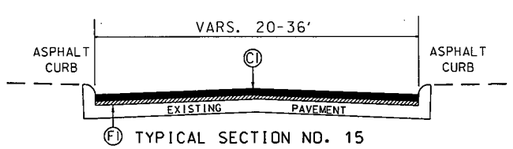
TYPICAL SECTION NO. 13

MAP # 7 - (entire map)



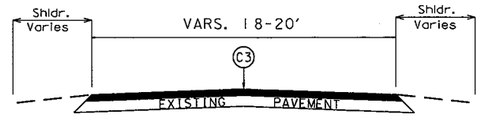
TYPICAL SECTION NO. 14

MAP # 6 - entire map
MAP # 8 - 12+00 to 128+25



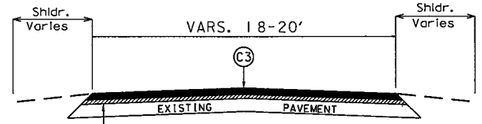
TYPICAL SECTION NO. 15

MAP # 8 - 2+50 to 12+00



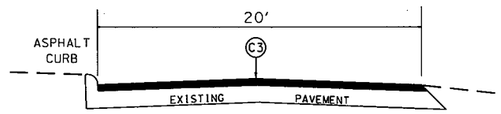
TYPICAL SECTION NO. 16

MAP # 11 - 20+00 to 30+50
MAP # 12 - (entire map)
MAP # 13 - (entire map)
MAP # 14 - (entire map)
MAP # 15 - (entire map)
MAP # 16 - (entire map)
MAP # 17 - (entire map)
MAP # 19 - (entire map)
MAP # 20 - (entire map)
MAP # 21 - (entire map)
MAP # 25 - (entire map)
MAP # 29 - (entire map)
MAP # 30 - (entire map)
MAP # 31 - (entire map)
MAP # 32 - 6+00 to 12+00
MAP # 36 - (entire map)



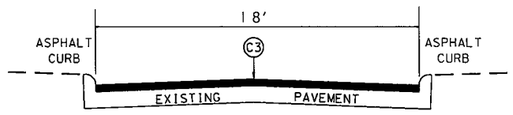
TYPICAL SECTION NO. 17

MAP # 18 - (entire map)
MAP # 23 - (entire map)
MAP # 24 - (entire map)
MAP # 26 - (entire map)
MAP # 27 - (entire map)
MAP # 28 - (entire map)
MAP # 35 - 2+50 to 12+25



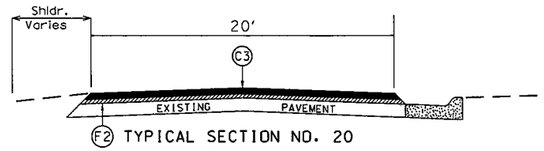
TYPICAL SECTION NO. 18

MAP # 11 - 0+00 to 20+00



TYPICAL SECTION NO. 19

MAP # 22 - (entire map)
MAP # 32 - 0+00 to 6+00
MAP # 33 - (entire map)
MAP # 34 - (entire map)



TYPICAL SECTION NO. 20

MAP # 35 - 0+00 to 2+50

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. 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
C3	PROP. APPROX. 1" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A AT AN AVERAGE RATE OF 110 LBS. PER SQ. YD.
E	PROP. APPROX. 8.0" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD., IN EACH OF TWO LIFTS.
F1	ASPHALT SURFACT TREATMENT, MATCOAT #67 STONE
F2	ASPHALT SURFACT TREATMENT, MATCOAT #78M STONE
T	AGGREGATE SHOULDER BORROW (SHOULDER RECONSTRUCTION)
Z1	MILL ASPHALT PAVEMENT APPROXIMATELY 1.5" DEPTH
Z2	MILL ASPHALT PAVEMENT APPROXIMATELY 3.0" DEPTH
Y1	INCIDENTAL MILLING

2016-2017 Resurfacing Program Typical Sections Catawba County NC

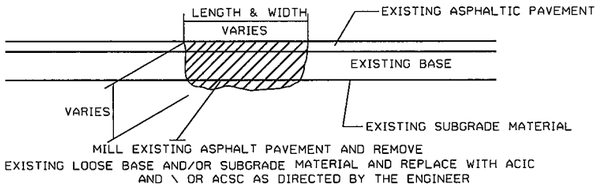
STATE	PROJECT WBS	SHEET NUMBER
NC	2016CPT.12.05.10181	13
	2016CPT.12.05.20181	

Checked by:

Drawn by: G.Britain

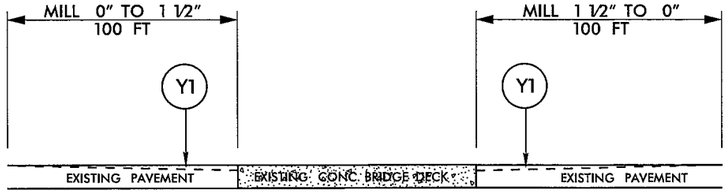
DETAIL A

PATCHING EXISTING PAVEMENT



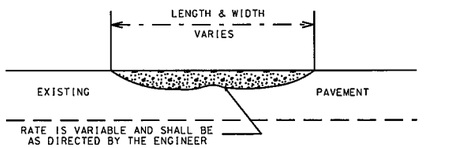
DETAIL D

MILLING BRIDGE APPROACHES

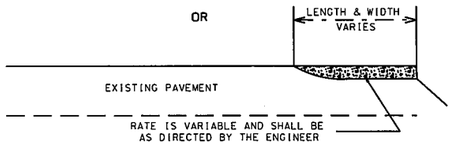


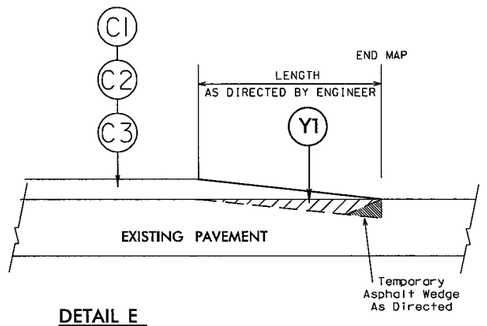
DETAIL B

ASPHALT CONCRETE SURFACE COURSE
TYPE S9.5B OR S9.5C (LEVELING COURSE)



OR



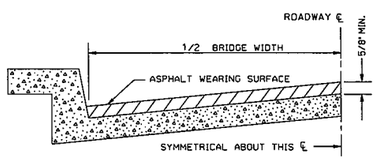


DETAIL E

TIE-IN (INCIDENTAL) MILLING DETAIL

DETAIL C

BRIDGE HALF TYPICAL SECTION

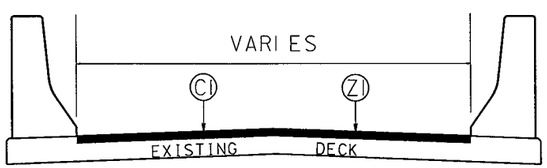


FOR BRIDGES WITH FLOOR DRAINS, CARE SHALL BE EXERCISED IN PLACING THE WEARING SURFACE AROUND FLOOR DRAINS SO AS NOT TO HINDER EFFECTIVE DRAINAGE. ALL DRAINS SHALL BE LEFT OPEN.

THE PROPOSED WEARING SURFACE SHALL VARY IN THICKNESS AS NECESSARY TO PROVIDE A SMOOTH RIDING SURFACE. A THICKNESS OF NOT LESS THAN 5/8" SHALL BE PROVIDED. THE MAXIMUM THICKNESS SHALL PREFERABLY BE 1-1/2" UNLESS IT IS IMPRACTICAL TO PROVIDE A SMOOTH RIDING SURFACE OTHERWISE.

NOTES

ALL UNPAVED S.R. ROADS TO BE SURFACED 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.
SHOULDERS AND DITCHES ARE TO BE CONSTRUCTED BY OTHERS UNLESS OTHERWISE NOTED.
BRIDGES TO BE RESURFACED AT LOCATIONS AND TO DEPTH AS DIRECTED BY THE ENGINEER.

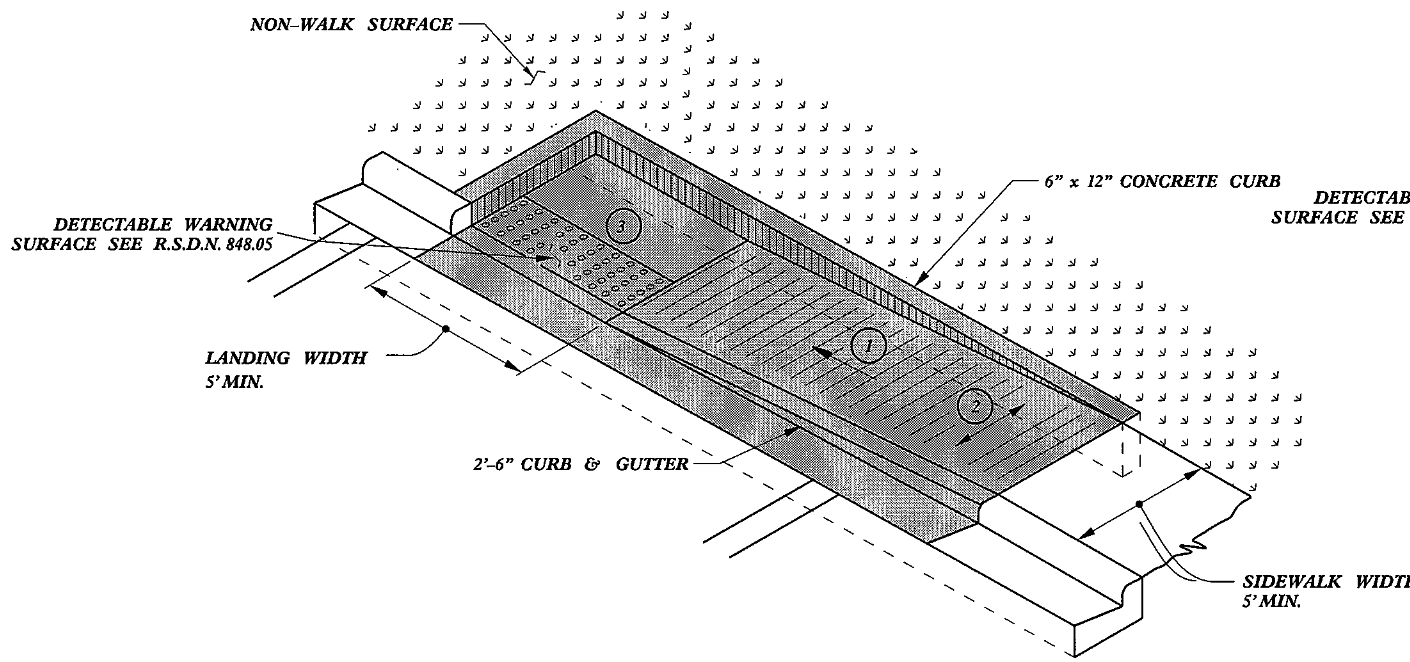


ASPHALT BRIDGE SECTION

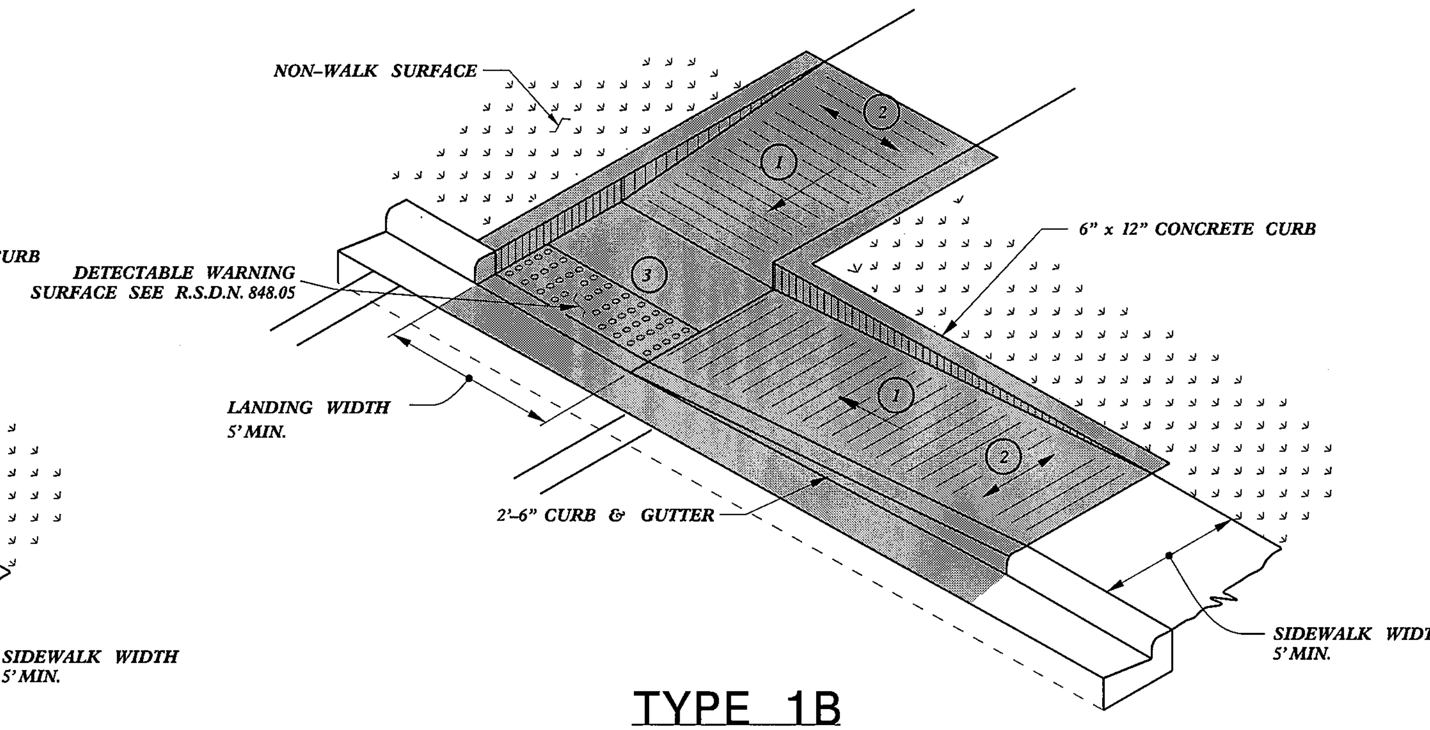
PAVEMENT SCHEDULE

C1	PROP. APPROX. 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
C2	PROP. APPROX. 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
C3	PROP. APPROX. 1" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A AT AN AVERAGE RATE OF 110 LBS. PER SQ. YD.
E	PROP. APPROX. 8.0" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD., IN EACH OF TWO LIFTS.
F1	ASPHALT SURFACT TREATMENT, MATCOAT #67 STONE
F2	ASPHALT SURFACT TREATMENT, MATCOAT #78M STONE
T	AGGREGATE SHOULDER BORROW (SHOULDER RECONSTRUCTION)
Z1	MILL ASPHALT PAVEMENT APPROXIMATELY 1.5" DEPTH
Z2	MILL ASPHALT PAVEMENT APPROXIMATELY 3.0" DEPTH
Y1	INCIDENTAL MILLING

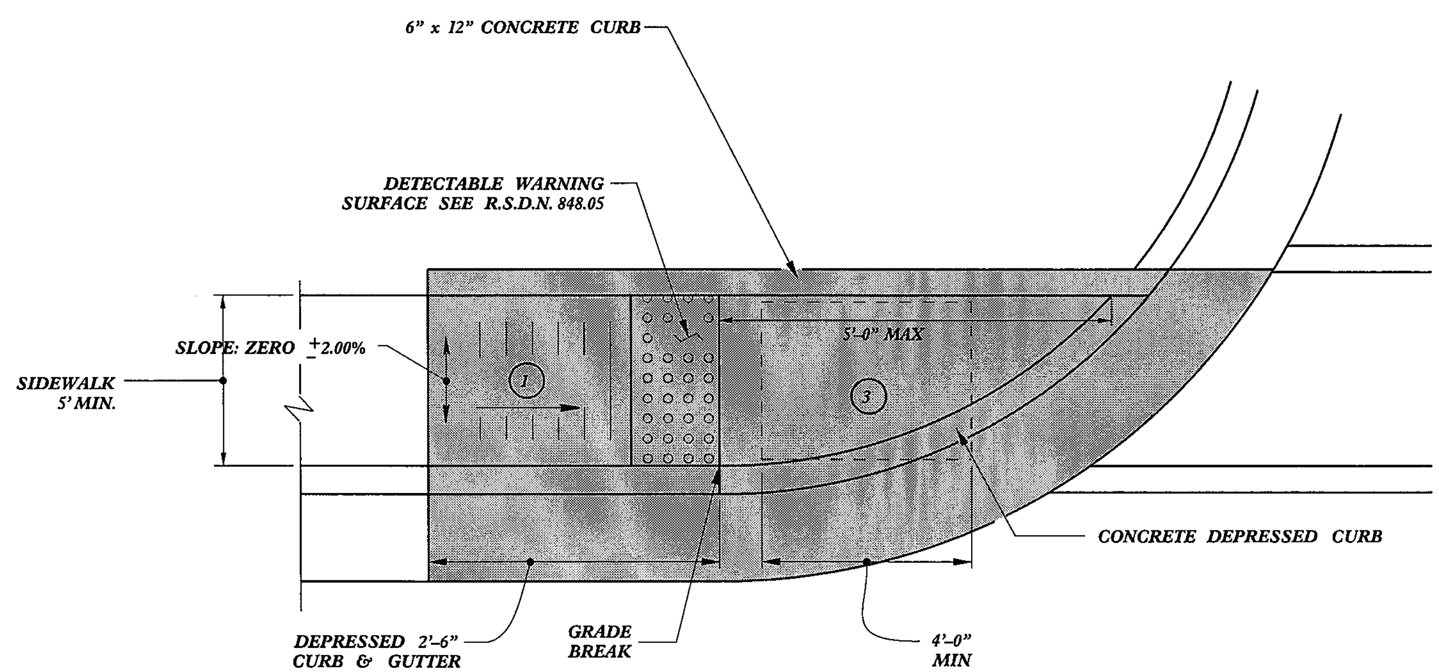
2016-2017
Resurfacing Program
Typical Sections
Catawba County NC



TYPE 1A



TYPE 1B



TYPE 1

PAY LIMITS FOR 1 CURB RAMP

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.

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

NORTH CAROLINA PROFESSIONAL SEAL 022966 ENGINEER Joel S Howerton

DocuSigned by: Joel S Howerton
449E8E25522144F...
11/18/2015

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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

CURB RAMPS

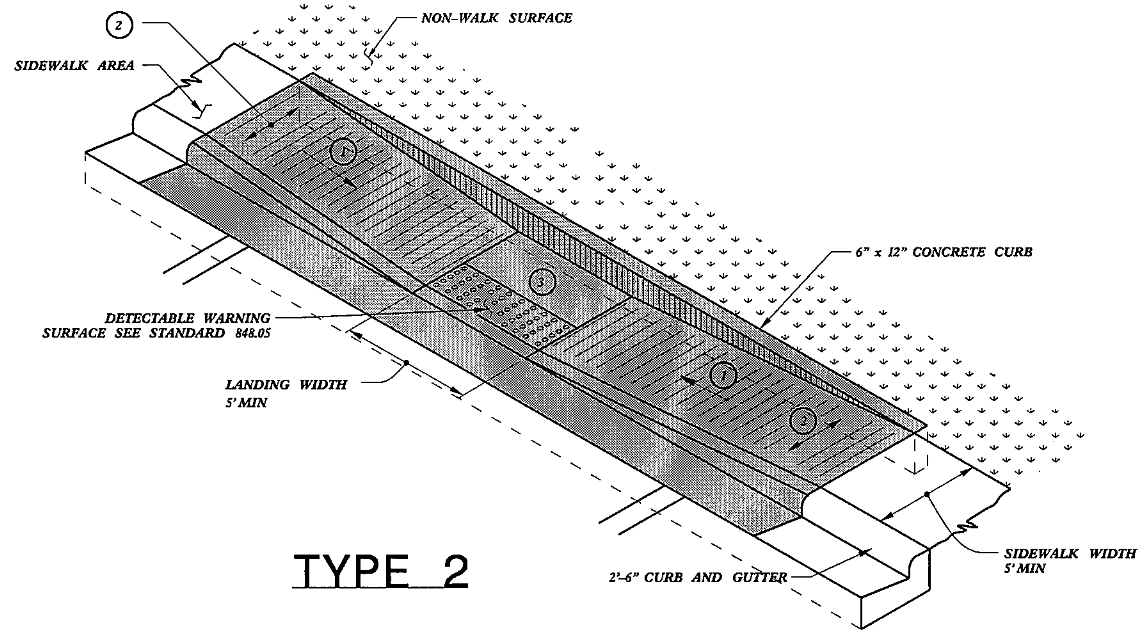
Directional Ramps

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

5/14/99
$$$$$$SYSTIME$$$$$
$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$
$$$USERNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
2016CPT.12.05.10181, ETC.	15

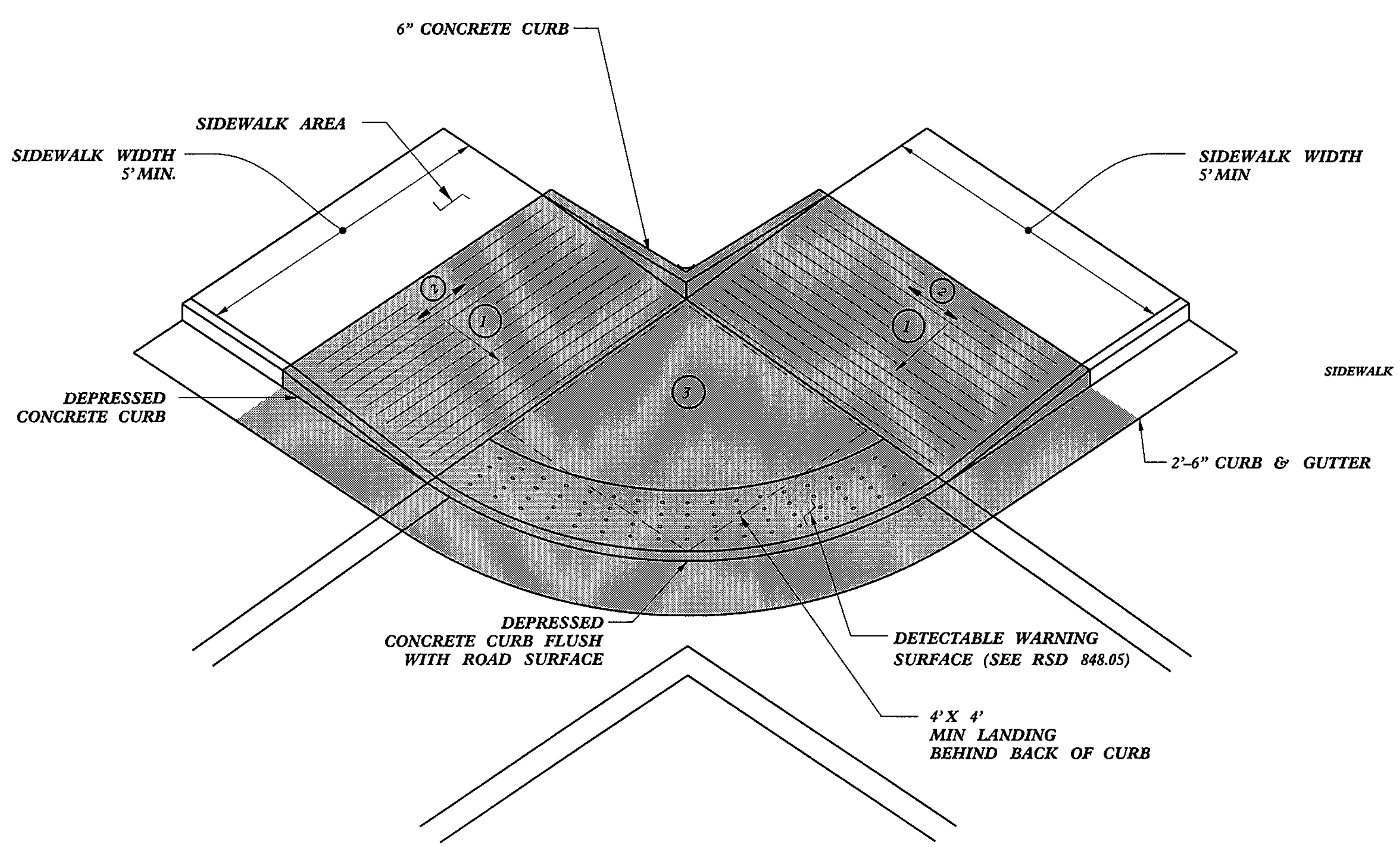
5/14/99



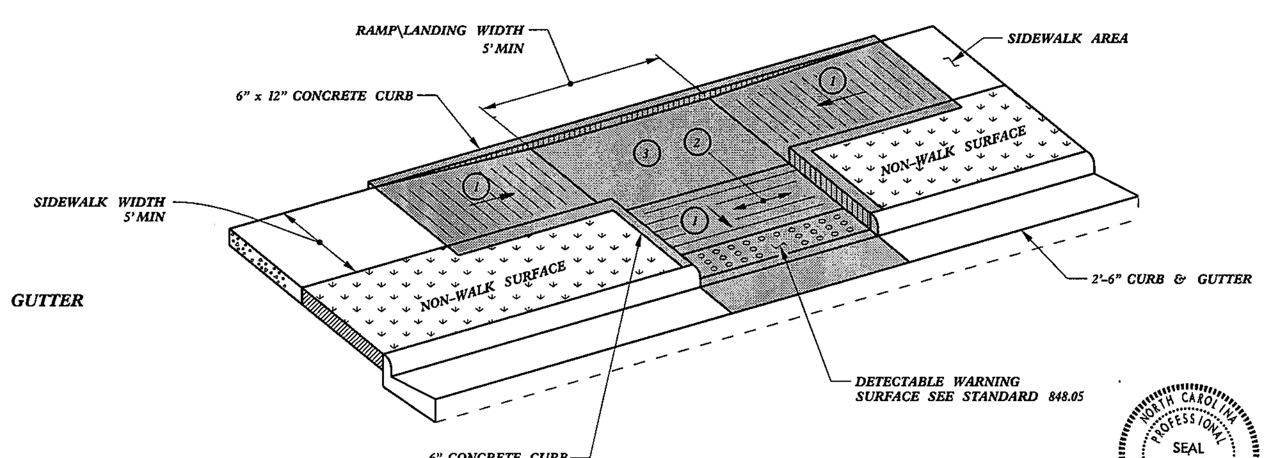
TYPE 2

PAY LIMITS FOR 1 CURB RAMP

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.



TYPE 2A



TYPE 3

NORTH CAROLINA PROFESSIONAL SEAL 022966 ENGINEER Joel S. Howerton

DocuSigned by:
Joel S Howerton
449E8F25522144F

11/18/2015

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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

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

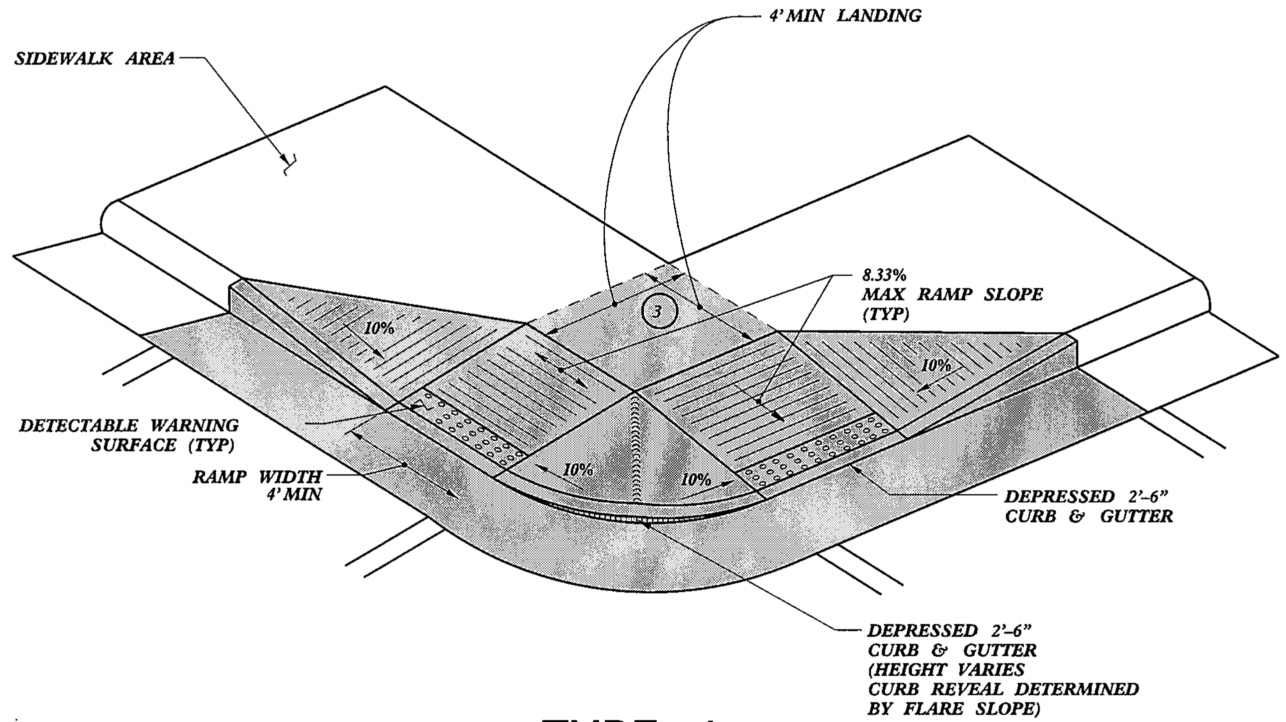
CURB RAMPS

Parallel Ramps

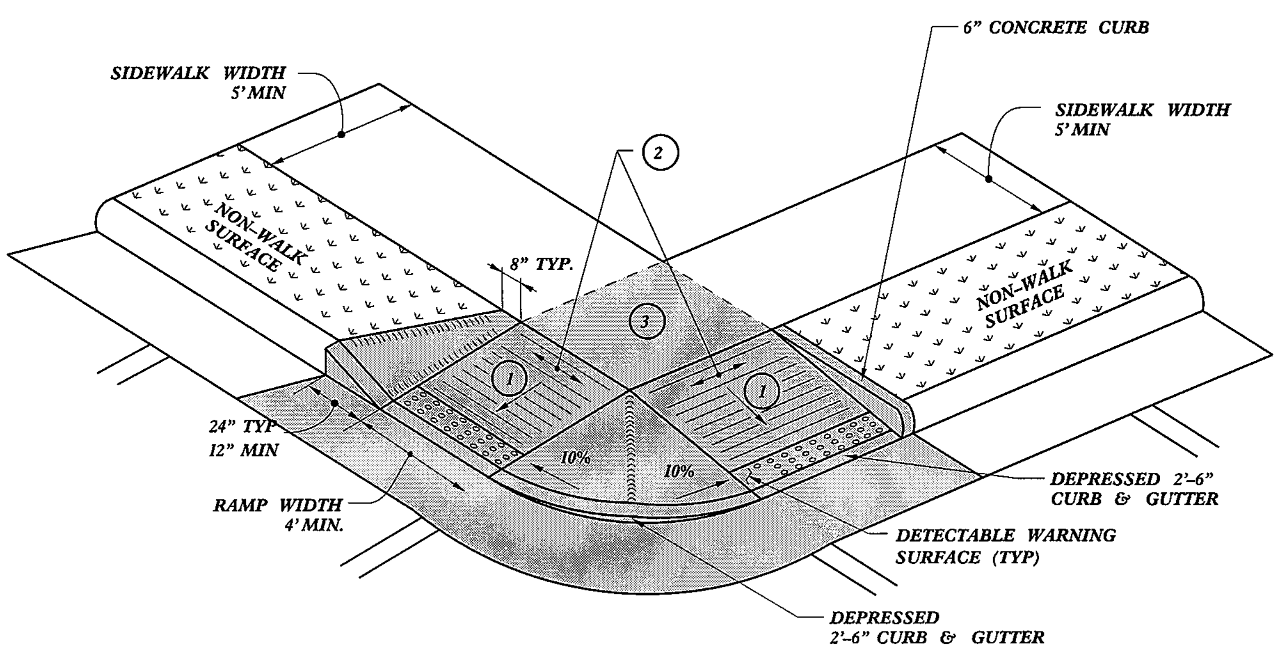
ORIGINAL BY: J.S. HOWERTON DATE: 7/7/11
MODIFIED BY: DATE:
CHECKED BY: DATE:
FILE SPEC.: stds/2012CurbRamp/CurbRampDetails.dgn

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

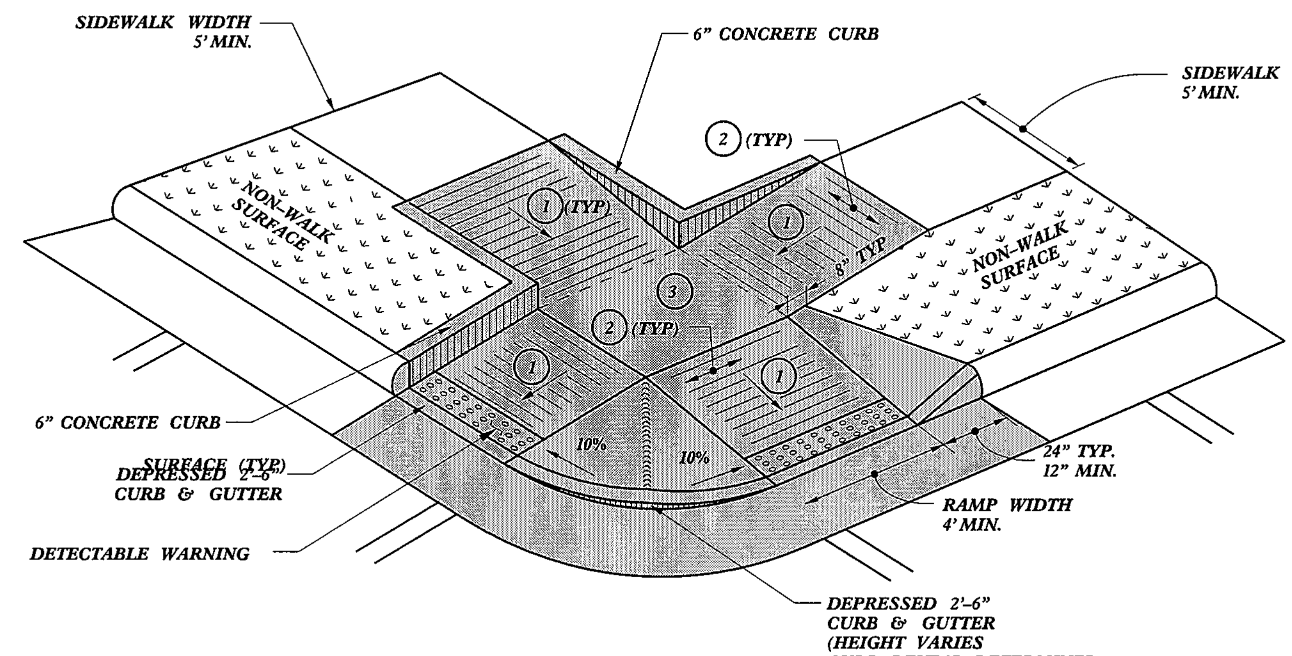
PAY LIMITS FOR 2 CURB RAMPS



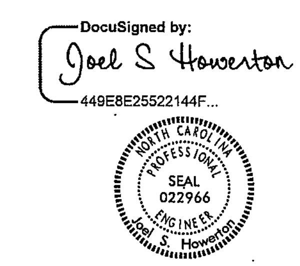
TYPE 4



TYPE 4A



TYPE 5



11/18/2015

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

(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.*

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

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

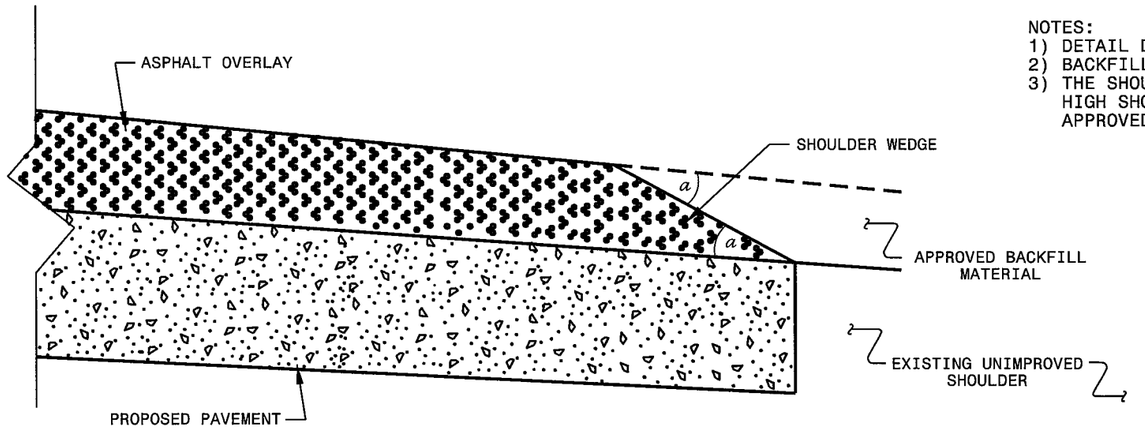
CURB RAMPS

Shared Landing

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

5/14/99
$$$$$SYSTIME$$$$$
$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

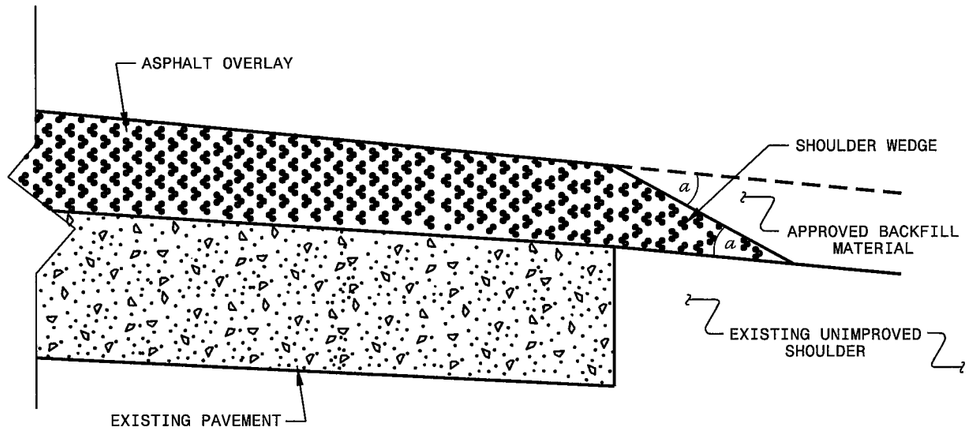
PROJECT REFERENCE NO.	SHEET NO.
2016CPT.12.05.10181, Etc.	17



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

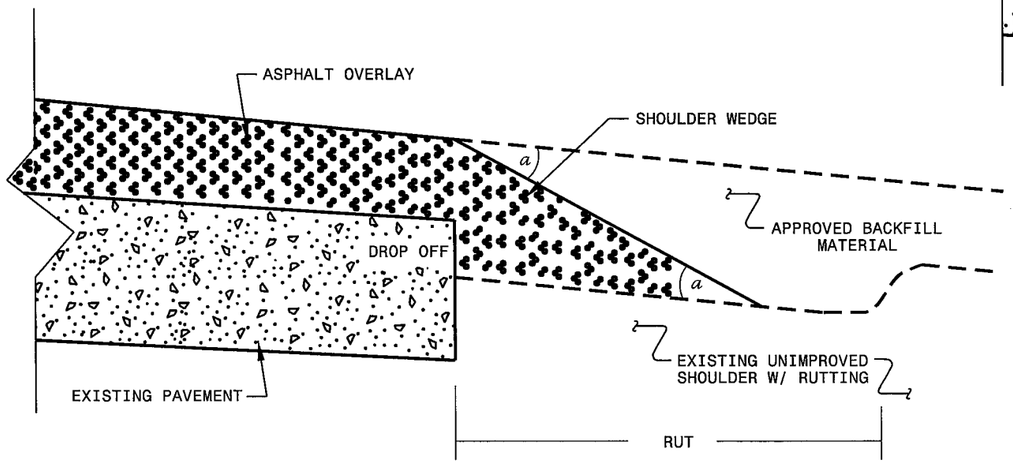
SHOULDER WEDGE DETAIL

(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.: s:\usr\details\stand\shoulderwedgedetail.dgn

PROJECT NO.	SHEET NO.	TOTAL NO.
2016CPT.12.05.10181	18	
2016CPT.12.05.20181		

SUMMARY OF QUANTITIES

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP NO	LANES	LANE TYPE	FINAL SURFACE TESTING REQUIRED	WARM MIX ASPHALT REQUIRED	LENGTH MI	WIDTH FT	AGGREGATE SHOULDER BORROW TON	INCIDENTAL STONE BASE TONS	SHOULDER RECONSTRUCTION SMI	1¼" MILLING SY	3" MILLING SY	INCIDENTAL MILLING SY	BASE COURSE, B25.0B TONS	SURFACE COURSE, S9.5B TONS	LEVELING COURSE, S9.5B TONS	SURFACE COURSE, S9.5C TONS	LEVELING COURSE, S9.5C TONS	SURFACE COURSE, SF9.5A TONS	LEVELING COURSE, SF9.5A TON	ASPHALT BINDER FOR PLANT MIX TONS	PATCHING EXISTING PAVEMENT TONS	AST MAT COAT #57 STONE SY	AST MAT COAT #78M STONE SY	EMULSION FOR ASPHALT SURFACE TREATMENT GAL	RETROFIT EXST. CONC. CURB RAMP EA.	CONC. CURB RAMPS EA	DROP INLET EA	MANHOLES EA	METER OR VALVE BOX EA	PORTABLE LIGHTING LS	INDUCTIVE LOOP LF	LEAD-IN CABLE (14-2) LF
2016CPT.12.05.10181	Catawba	1	US70	FROM SR 2959 TO SR 1005	1-6,9	2	MU	NO	NO	2.65	vars.60-84	200		2.30	117,177		500		10,352	800					673	1,200				2		1	10	11	1	7,500	500
2016CPT.12.05.10181	Catawba	2	NC 127	FROM SR 1176 TO SR 2959	6-8,10	2	MU	NO	NO	3.77	vars. 36-60	200	80	2.30	12,000	16,750	5,400		9,710	500					615	1,850				30	1	1	6	7		2,500	250
2016CPT.12.05.10181	Catawba	3	US 321	FROM SR 1361 TO SR 1306	11	2	MD	NO	NO	0.57	vars. 60-72		40		23,732						2,097	100			130	200				2	3				*	1,000	100
2016CPT.12.05.10181	Catawba	4	NC 16	FROM NC 16 BUS. TO SR 1746	12	2	MD	NO	NO	2.28	48				78,342						6,924	300			428	500							1		4,000	400
2016CPT.12.05.10181	Catawba	5	US 321 BUS.	FROM NC 10 TO US 70	8	2	MU	NO	NO	2.70	vars. 60-72						200		8,920	400					561	600							20	20			
TOTAL FOR PROJ NO. 2016CPT.12.05.10181										11.97		400	120	4.60	231,251	16,750	6,100		28,982	1,700	9,021	400			2,407	4,350				34	4	2	36	39	1	15,000	1,250
2016CPT.12.05.20181	Catawba	6	SR 1453 (SPRINGS RD NE)	FROM SR 1516 TO PAVING JT. 150' W. OF SR 1504	14	2	2WU	NO	NO	2.45	24	375	100	4.90			250		3,204	300					212	200	34,496		13,799								
2016CPT.12.05.20181	Catawba	7	SR 1815 (LITTLE MTN. RD)	FROM SR 1849 TO SR 1818	13	2	2WU	NO	NO	3.10	20	475	120	6.20			525	2,950	3,382	775					383	175											
2016CPT.12.05.20181	Catawba	8	SR 1490 (HERMAN SIPE RD)	FROM SR 1007 TO SR 1484	8,14,15	2	2WU	NO	NO	2.43	vars.22-36	375	80	4.88			625		3,157	150					199	325	33,991		13,597								
2016CPT.12.05.20181	Catawba	9	SR 1128 (MTN. GROVE RD)	FROM NC 127 TO SR 1124	7	2	2WU	NO	NO	1.86	20	275	80	3.72			200		2,029	200					135	650								2			
2016CPT.12.05.20181	Catawba	10	SR 1814 (CALDWELL RD)	FROM NC 16 TO SR 1003	7	2	2WU	NO	NO	2.11	20	325	80	4.22			200		2,130	650					170	200											
2016CPT.12.05.20181	Catawba	11	SR 1172 (15TH AVE SE)	FROM CULDESAC TO EOM	16,18	2	2WU	NO	NO	0.58	vars. 18-20		40										375	20	26	50											
2016CPT.12.05.20181	Catawba	12	SR 1680 (22ND ST NE)	FROM SR 1507 TO CUL-DE-SAC	16	2	2WU	NO	NO	0.42	18		40										294	25	21	75											
2016CPT.12.05.20181	Catawba	13	SR 1681 (23RD ST NE)	FROM SR 1683 TO CUL-DE-SAC	16	2	2WU	NO	NO	0.08	18		10										76	5	5	10											
2016CPT.12.05.20181	Catawba	14	SR 1682 (24 ST PL NE)	FROM SR 1574 TO EOM	16	2	2WU	NO	NO	0.22	18		20										141	10	10	25											
2016CPT.12.05.20181	Catawba	15	SR 1683 (40TH AVE CT)	FROM SR 1682 TO CUL-DE-SAC	16	2	2WU	NO	NO	0.22	18		20										165	10	12	25											
2016CPT.12.05.20181	Catawba	16	SR 1574 (25TH ST NE)	FROM SR 1507 TO EOM	16	2	2WU	NO	NO	0.28	19		20										190	10	13	20											
2016CPT.12.05.20181	Catawba	17	SR 1987 (MURRAY LN)	FROM SR 1003 TO EOM	16	2	2WU	NO	NO	0.29	18		20										186	40	15	20											
2016CPT.12.05.20181	Catawba	18	SR 2122 (PEANUTS LN)	FROM SR 2013 TO EOM	17	2	2WU	NO	NO	0.13	18		10										83	10	6	35		1,373	549								
2016CPT.12.05.20181	Catawba	19	SR 2074 (KILLIAN AVE)	FROM SR 2014 TO EOM	16	2	2WU	NO	NO	0.12	20		10										86	20	7	10											
2016CPT.12.05.20181	Catawba	20	SR 2321 (SMITHFIELD DR)	FROM NC 16 TO SR 2357	16	2	2WU	NO	NO	0.10	18		10										64	5	5	10								3	1		
2016CPT.12.05.20181	Catawba	21	SR 2357 (SMITHFIELD DR)	FROM SR 2321 TO CUL-DE-SAC	16	2	2WU	NO	NO	0.16	18		10										103	20	8	10											
2016CPT.12.05.20181	Catawba	22	SR 1130 (DICKINSON RD)	FROM NC 127 TO EOM	19	2	2WU	NO	NO	0.22	18		10										141	5	10	5											
2016CPT.12.05.20181	Catawba	23	SR 2952 (PINEWINDS DR)	FROM NC 127 TO SR 2953	17	2	2WU	NO	NO	0.32	18		20										205	35	16	80		3,379	1,351						1		
2016CPT.12.05.20181	Catawba	24	SR 2953 (SWEETBRIAR LN)	FROM CUL-DE-SAC TO CUL-DE-SAC	17	2	2WU	NO	NO	0.34	18		20										267	35	20	80		4,390	1,756								
2016CPT.12.05.20181	Catawba	25	SR 2964 (GREENFIELD CT)	FROM SR 2953 TO CULDESAC	16	2	2WU	NO	NO	0.05	18		5										54	5	4	5									2		
2016CPT.12.05.20181	Catawba	26	SR 2397 (THOREAU RD)	FROM SR 1515 TO CUL-DE-SAC	17	2	2WU	NO	NO	0.40	19		20										295	5	20	30		4,859	1,944						3		
2016CPT.12.05.20181	Catawba	27	SR 2398 (WORDSWORTH RD)	FROM SR 2397 TO SR 2397	17	2	2WU	NO	NO	0.30	18		20										193	20	14	50		3,168	1,267								
2016CPT.12.05.20181	Catawba	28	SR 1557 (WINEBARGER ST)	FROM SR 1517 TO EOM	17	2	2WU	NO	NO	0.37	20		20										264	40	20	100		4,341	1,737								
2016CPT.12.05.20181	Catawba	29	SR 1996 (HUNSUCKER RD)	FROM SR 1729 TO SR 2638	16	2	2WU	NO	NO	0.36	19		20										244	10	17	30											
2016CPT.12.05.20181	Catawba	30	SR 2463 (BASIL DR)	FROM SR 1996 TO EOM	16	2	2WU	NO	NO	0.05	18		5										32	5	2	5											
2016CPT.12.05.20181	Catawba	31	SR 2638 (RICHARD ST)	FROM SR 1996 TO EOM	16	2	2WU	NO	ND	0.17	18		10										109	5	8	10											
2016CPT.12.05.20181	Catawba	32	SR 1676 (3RD AVE SE)	FROM SR 1468 TO EOM	16,19	2	2WU	NO	NO	0.23	18		10										148	10	10	25									0		
2016CPT.12.05.20181	Catawba	33	SR 1677 (22ND ST CT SE)	FROM SR 1676 TO EOM	19	2	2WU	NO	NO	0.05	18		5										32	5	2	5									1		
2016CPT.12.05.20181	Catawba	34	SR 1469 (5TH AVE SE)	FROM SR 1468 TO EOM	19	2	2WU	NO	NO	0.15	18		10										96	10	7	15											
2016CPT.12.05.20181	Catawba	35	SR 2269 (14TH AVE CIR SE)	FROM SR 1468 TO SR 1468	17,20	2	2WU	NO	NO	0.23	20		20										156	20	12	50		2,669	1,080								
2016CPT.12.05.20181	Catawba	36	SR 2377 (COUNTRY HOLLOW RD)	FROM NC 16 TO CUL-DE-SAC	16	2	2WU	NO	NO	0.08	18		10										76	10	6	20											
TOTAL FOR PROJ NO. 2016CPT.12.05.20181										17.87		1,825	875	23.92			1,800	2,950	13,902	2,075			4,075	395	1,395	2,350	68,487	24,179	37,080				3	10			
GRAND TOTAL										29.84		2,225	995	28.52	231,251	16,750	7,900	2,950	42,884	3,775	9,021	400	4,075	395	3,802	6,700	68,487	24,179	37,080	34	4	2	39	49	1	15,000	1,250

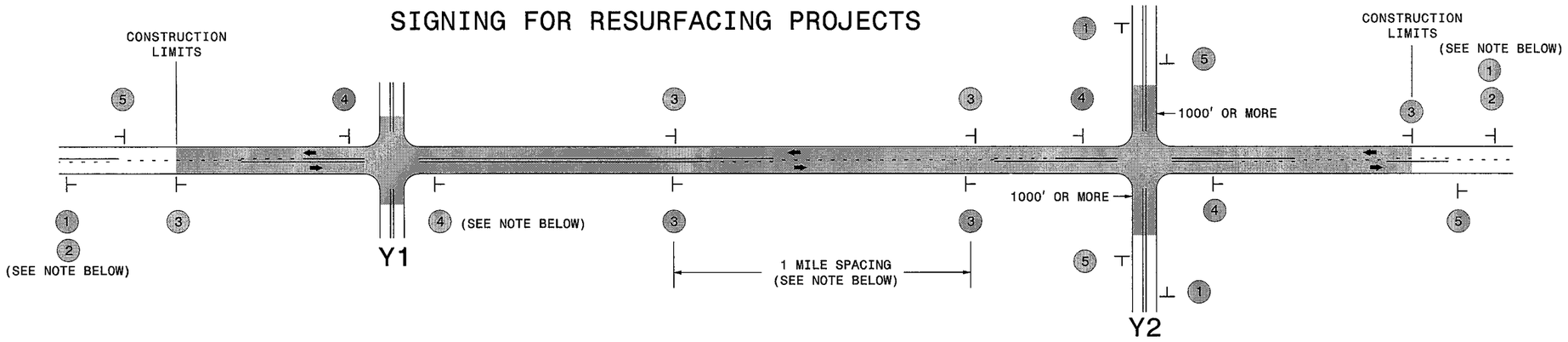
PROJECT NO.	SHEET NO.	TOTAL NO.
2016CPT.12.05.10181	19	
2016CPT.12.05.20181		

THERMOPLASTIC AND PAINT QUANTITIES

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP NO	LANES	LANE TYPE	LENGTH	WIDTH FT	4413000000-E WORK ZONE ADVANCE/GENERAL WARNING SIGNING SF	4457000000-N TEMPORARY TRAFFIC CONTROL LS	4510000000-N LAW ENFORCEMENT HR	4695000000-E 8" x 90 M WHITE THERMO LINES LF	4695000000-E 8" x 90 M YELLOW THERMO LINES LF	4710000000-E 24" X 120 M WHITE THERMO LF	4721000000-E THERMO MSG ONLY 120 M EA	4725000000-E THERMO LT ARROW 90 M EA	4725000000-E THERMO RT ARROW 90 M EA	4725000000-E THERMO STR & RT ARROW 90 M EA	4725000000-E THERMO STR ARROW 90 M EA	4810000000-E 4" WHITE PAINT LF	4810000000-E 4" YELLOW PAINT LF	4835000000-E 24" WHITE PAINT LF	4845000000-N PAINT LT ARROW EA	4845000000-N PAINT RT ARROW EA	4845000000-N PAINT STR & RT ARROW EA	4847000000-E POLYUREA PAVEMENT MARKING LINES (4", **********) (HIGHLY REFLECTIVE ELEMENTS) LF	4850000000-E REMOVAL OF PAVEMENT MARKING LINES, 4" LF	4905000000-N SNOW PLOWABLE MARKERS EA
2016CPT.12.05.10181	Catawba	1	US70	FROM SR 2959 TO SR 1005	1-6,9	2	MU	2.65	vars 60-84	284	1	75			850	8	83	23	15	80	28,500	30,000	850	83	23	15	58,500		650
2016CPT.12.05.10181	Catawba	2	NC 127	FROM SR 1176 TO SR 2959	6-8,10	2	MU	3.77	vars. 36-60	448	*			250	450	8	103	5	7	31	10,800	7,200	200	20			57,500	6,000	875
2016CPT.12.05.10181	Catawba	3	US 321	FROM SR 1361 TO SR 1306	11	2	MD	0.57	vars. 60-72	280	*	25			120	8	10	4			8,750	6,000	100	10			14,750		155
2016CPT.12.05.10181	Catawba	4	NC 16	FROM NC 16 BUS. TO SR 1746	12	2	MD	2.28	48	374	*				350		45	18		56	13,250		350	45	18		13,250		625
2016CPT.12.05.10181	Catawba	5	US 321 BUS.	FROM NC 10 TO US 70	8	2	MU	2.70	vars. 60-72	675	*		375		660	64	98	6	35	44							36,000		750
TOTAL FOR PROJ NO. 2016CPT.12.05.10181								11.97		2,061	1	100	375	250	2,430	88	339	56	57	211	61,300	43,200	1,500	158	41	15	180,000	6,000	3,055
													625				663				104,500			214					
2016CPT.12.05.20181	Catawba	6	SR 1453 (SPRINGS RD NE)	FROM SR 1516 TO PAVING JT. 150' W. OF SR 1504	14	2	2WU	2.45	24	270	*																51,500		165
2016CPT.12.05.20181	Catawba	7	SR 1815 (LITTLE MTN. RD)	FROM SR 1849 TO SR 1818	13	2	2WU	3.10	20	225	*										66,500	65,250							
2016CPT.12.05.20181	Catawba	8	SR 1490 (HERMAN SIPE RD)	FROM SR 1007 TO SR 1484	8,14,15	2	2WU	2.43	vars. 22-36	300	*				55		2	7			52,000	51,000							
2016CPT.12.05.20181	Catawba	9	SR 1128 (MTN. GROVE RD)	FROM NC 127 TO SR 1124	7	2	2WU	1.86	20	225	*				16						40,000	39,250							
2016CPT.12.05.20181	Catawba	10	SR 1814 (CALDWELL RD)	FROM NC 16 TO SR 1003	7	2	2WU	2.11	20	225	*										45,000	40,000							
2016CPT.12.05.20181	Catawba	11	SR 1172 (15TH AVE SE)	FROM CULDESAC TO EOM	16,18	2	2WU	0.58	vars. 18-20	125	*																		
2016CPT.12.05.20181	Catawba	12	SR 1680 (22ND ST NE)	FROM SR 1507 TO CUL-DE-SAC	16	2	2WU	0.42	18	125	*																		
2016CPT.12.05.20181	Catawba	13	SR 1681 (23RD ST NE)	FROM SR 1683 TO CUL-DE-SAC	16	2	2WU	0.08	18		*																		
2016CPT.12.05.20181	Catawba	14	SR 1682 (24 ST PL NE)	FROM SR 1574 TO EOM	16	2	2WU	0.22	18		*																		
2016CPT.12.05.20181	Catawba	15	SR 1683 (40TH AVE CT)	FROM SR 1682 TO CUL-DE-SAC	16	2	2WU	0.22	18		*																		
2016CPT.12.05.20181	Catawba	16	SR 1574 (25TH ST NE)	FROM SR 1507 TO EOM	16	2	2WU	0.28	19	125	*																		
2016CPT.12.05.20181	Catawba	17	SR 1987 (MURRAY LN)	FROM SR 1003 TO EOM	16	2	2WU	0.29	18	125	*																		
2016CPT.12.05.20181	Catawba	18	SR 2122 (PEANUTS LN)	FROM SR 2013 TO EOM	17	2	2WU	0.13	18	125	*																		
2016CPT.12.05.20181	Catawba	19	SR 2074 (KILLIAN AVE)	FROM SR 2014 TO EOM	16	2	2WU	0.12	20	125	*																		
2016CPT.12.05.20181	Catawba	20	SR 2321 (SMITHFIELD DR)	FROM NC 16 TO SR 2357	16	2	2WU	0.10	18	125	*																		
2016CPT.12.05.20181	Catawba	21	SR 2357 (SMITHFIELD DR)	FROM SR 2321 TO CUL-DE-SAC	16	2	2WU	0.16	18		*																		
2016CPT.12.05.20181	Catawba	22	SR 1130 (DICKINSON RD)	FROM NC 127 TO EOM	19	2	2WU	0.22	18	125	*																		
2016CPT.12.05.20181	Catawba	23	SR 2952 (PINEWINDS DR)	FROM NC 127 TO SR 2953	17	2	2WU	0.32	18	125	*																		
2016CPT.12.05.20181	Catawba	24	SR 2953 (SWEETBRIAR LN)	FROM CUL-DE-SAC TO CUL-DE-SAC	17	2	2WU	0.34	18		*																		
2016CPT.12.05.20181	Catawba	25	SR 2964 (GREENFIELD CT)	FROM SR 2953 TO CULDESAC	16	2	2WU	0.05	18		*																		
2016CPT.12.05.20181	Catawba	26	SR 2397 (THOREAU RD)	FROM SR 1515 TO CUL-DE-SAC	17	2	2WU	0.40	19	125	*																		
2016CPT.12.05.20181	Catawba	27	SR 2398 (WORDSWORTH RD)	FROM SR 2397 TO SR 2397	17	2	2WU	0.30	18		*																		
2016CPT.12.05.20181	Catawba	28	SR 1557 (WINEBARGER ST)	FROM SR 1517 TO EOM	17	2	2WU	0.37	20	125	*																		
2016CPT.12.05.20181	Catawba	29	SR 1996 (HUNSUCKER RD)	FROM SR 1729 TO SR 2638	16	2	2WU	0.36	19	125	*																		
2016CPT.12.05.20181	Catawba	30	SR 2463 (BASIL DR)	FROM SR 1996 TO EOM	16	2	2WU	0.05	18		*																		
2016CPT.12.05.20181	Catawba	31	SR 2638 (RICHARD ST)	FROM SR 1996 TO EOM	16	2	2WU	0.17	18		*																		
2016CPT.12.05.20181	Catawba	32	SR 1676 (3RD AVE SE)	FROM SR 1468 TO EOM	16,19	2	2WU	0.23	18	125	*																		
2016CPT.12.05.20181	Catawba	33	SR 1677 (22ND ST CT SE)	FROM SR 1676 TO EOM	19	2	2WU	0.05	18		*																		
2016CPT.12.05.20181	Catawba	34	SR 1469 (5TH AVE SE)	FROM SR 1468 TO EOM	19	2	2WU	0.15	18	125	*																		
2016CPT.12.05.20181	Catawba	35	SR 2269 (14TH AVE CIR SE)	FROM SR 1468 TO SR 1468	17,20	2	2WU	0.23	20	175	*																		
2016CPT.12.05.20181	Catawba	36	SR 2377 (COUNTRY HOLLOW RD)	FROM NC 16 TO CUL-DE-SAC	16	2	2WU	0.08	18	125	*																		
TOTAL FOR PROJ NO. 2016CPT.12.05.20181								17.87		3,295					71		2	7			203,500	195,500					51,500		165
																	9				399,000								
GRAND TOTAL								29.84		5,356	1	100	375	250	2,501	88	341	63	57	211	264,800	238,700	1,500	158	41	15	231,500	6,000	3,220
													625				672				503,500			214					

PROJ. REFERENCE NO.	SHEET NO.
2016CPT.12.05.10181, Etc.	TMP-1

SIGNING FOR RESURFACING PROJECTS



LEGEND
⊢ STATIONARY SIGN
⬅ DIRECTION OF TRAFFIC FLOW

MAINLINE (-L-) SIGNING

SIGNING NOTES AND PLACEMENT PER DIRECTION

1 — ROAD WORK AHEAD W20-1 48" X 48"
PLACE 1000' PRIOR TO BEGINNING OF CONSTRUCTION LIMITS. ONLY USED ON -Y- LINES IF RESURFACING LIMITS EXTEND 1000' ALONG -Y- LINE.

2 — NEXT XX MILES W7-3aP 24" X 18"
#2 SIGN ONLY USED WHEN RESURFACING LIMITS ARE 2 OR MORE MILES IN LENGTH. ROUND UP TO NEXT WHOLE NUMBER.(NO FRACTIONAL OR DECIMAL NUMBERS)

3 — LOW/SOFT SHOULDER SP 13107 48" X 48"
PLACE INITIALLY AT THE CONSTRUCTION LIMITS AND SPACED 1 MILE APART THEREAFTER. IF NO -Y- LINES EXIST, PLACE 2ND SET ½ MILE FROM THE CONSTRUCTION LIMITS AND THEN SPACE 1 MILE THEREAFTER.

4 — ROAD UNDER CONST. SP 13106 48" X 48"
THESE ARE FOR -Y- LINES THAT ARE "THROUGH" ROADWAYS. DEAD END AND SUBDIVISION ROADS ARE NOT "THROUGH" ROADWAYS. INSTALL 500' +/- FROM EACH -Y- LINE APPROACH AS SHOWN ABOVE. FOR MULTIPLE -Y- LINES THAT ARE SEPARATED BY 0.25 MILES OR LESS, TREAT AS A SINGLE UNIT AND INSTALL WITHIN 500' OF EACH APPROACH. A MAXIMUM OF 2 SIGN SETS PER MILE. DO NOT INSTALL WHEN -Y- LINES ARE WITHIN 0.5 MILES FROM "END ROAD WORK" SIGN.

5 — END ROAD WORK G20-2 A 48" X 24"
PLACE 500' FOLLOWING THE END OF CONSTRUCTION LIMITS.

-Y- LINE SIGNING

NO REQUIRED STATIONARY SIGNING FOR THE FOLLOWING -Y- LINE CONDITIONS:

1) LESS THAN 1000' OF RESURFACING ALONG -Y- LINE
2) SUBDIVISION ROADS
3) DEAD END ROADS

WHEN PAVING/CONSTRUCTION ACTIVITIES PROCEED ACROSS AN UNSIGNED -Y- LINE, ADVANCE WARNING PORTABLE SIGNS SHALL BE USED ALONG THE -Y- LINE AS SHOWN BELOW. REMOVE UPON COMPLETION OF WORK.

ROAD WORK AHEAD W20-1 48" X 48" — PLACED 500' IN ADVANCE OF FLAGGER.

W20-7 A 48" X 48" — PLACED 250' IN ADVANCE OF FLAGGER.

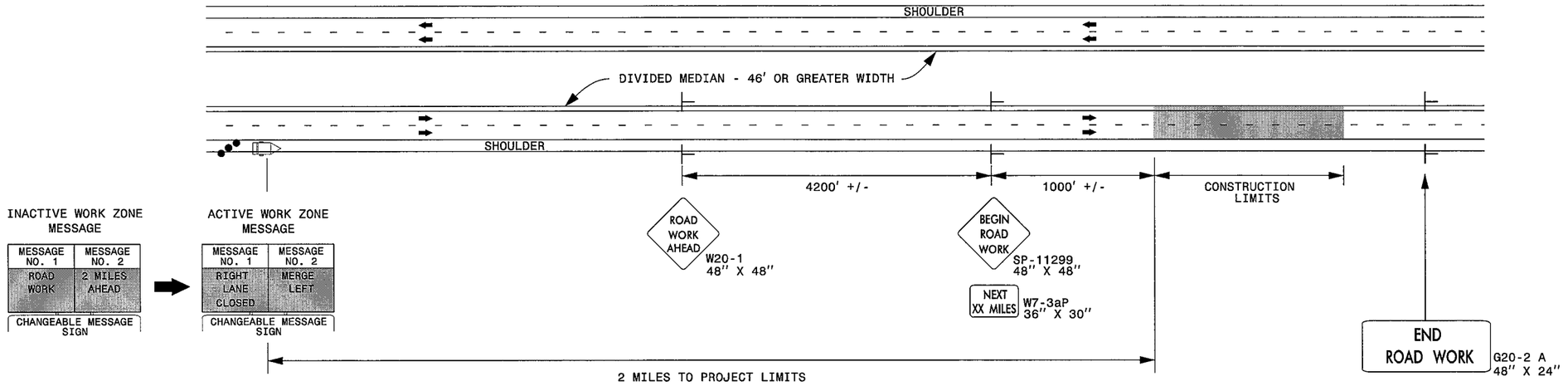
DIVISION OF HIGHWAYS · STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION · WORK ZONE TRAFFIC CONTROL

RESURFACING ADVANCE WARNING SIGNS FOR RURAL AND SUBURBAN 2 LANE ROADWAYS

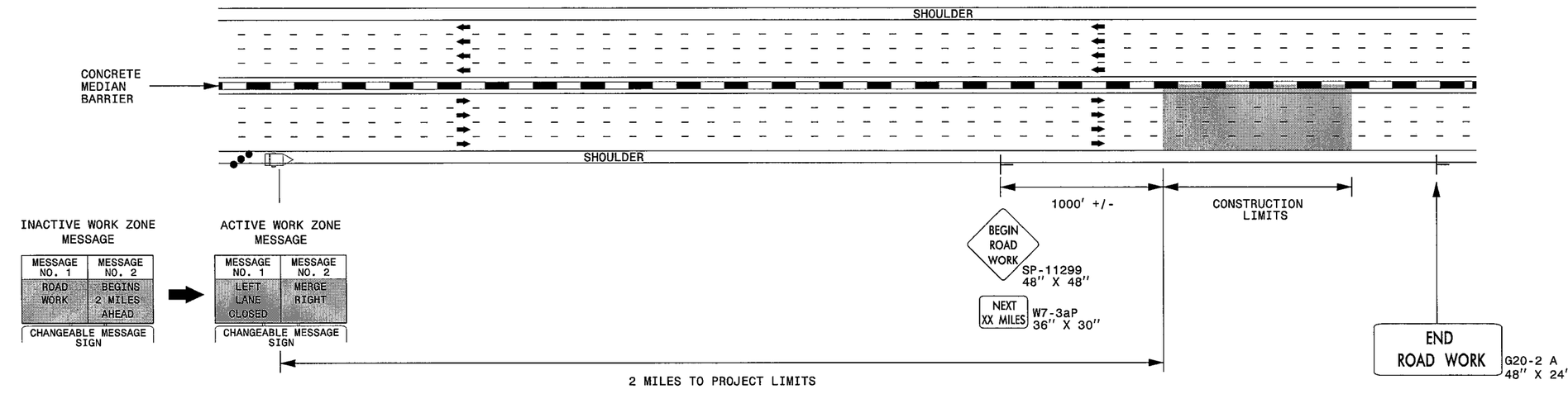
3/19/2015
C:\Users\rmgarrett\Downloads\Resurfacing_AdvWarn_2Ln (2).dgn
User:rmgarrett

PROJ. REFERENCE NO.	SHEET NO.
2016CPT.12.05.10181, Etc.	TMP-2

DIVIDED MEDIANS WITH WIDTHS 46′ OR GREATER



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



LEGEND

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

NOTES:

1) LATERAL CLEARANCE AT ALL SIGN LOCATIONS SHALL BE 6′ AS MEASURED FROM THE EDGE OF PAVEMENT.
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) FOR MEDIAN WIDTHS LESS THAN 46′ (MEASURED EDGELINE TO EDGELINE) USE THE BOTTOM DRAWING.
4) IF STATIONARY GENERAL WARNING SIGNS ARE USED, THEY WILL BE PAID FOR PER SECTION 104 OF THE NCDOT STANDARD SPECIFICATIONS AS EXTRA WORK.
5) INSTALL "ROAD WORK AHEAD"(W20-1) ALONG ENTRANCE RAMPS 500′ PRIOR TO RAMP TERMINAL, AND "END ROAD WORK" (G20-2a) AT THE END OF EXIT RAMPS WITHIN THE WORK ZONE.
6) 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 AND WITH DIVIDED MEDIANS OF 46′ OR GREATER. THESE PORTABLE SIGNS ARE INCIDENTAL TO THE OTHER ITEMS OF WORK INCLUDED IN THE TEMPORARY TRAFFIC CONTROL (LUMP SUM) PAY ITEM.

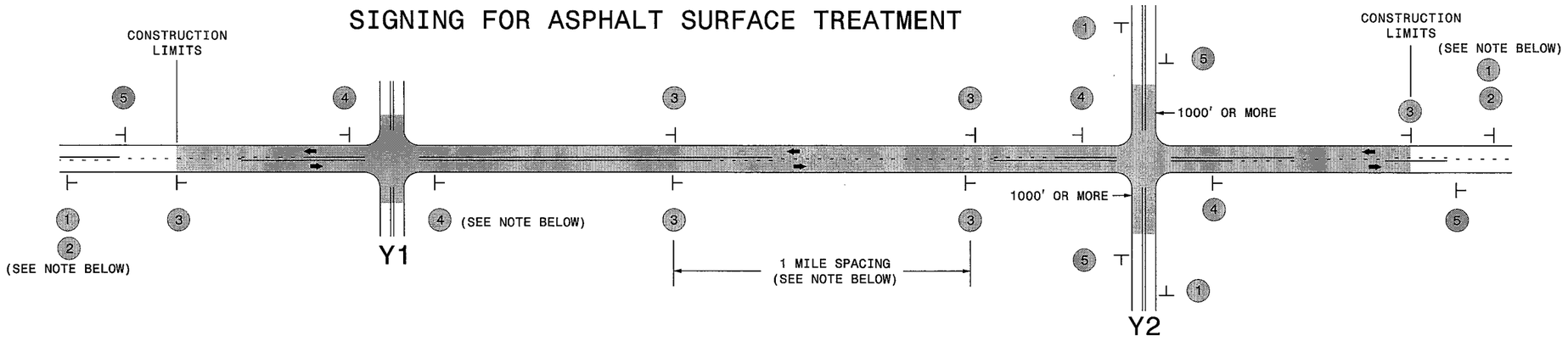
DIVISION OF HIGHWAYS · STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION · WORK ZONE TRAFFIC CONTROL

RESURFACING ADVANCE WARNING SIGNS FOR HIGH SPEED FACILITIES ≥ 60 MPH

3/23/2005
C:\Users\rmgarrett\Downloads\Resurfacing_AdvWarn_HSpd.dgn
User:rmgarrett

PROJ. REFERENCE NO.	SHEET NO.
2016CPT.12.05.10181, Etc.	TMP-3

SIGNING FOR ASPHALT SURFACE TREATMENT



LEGEND
- ⊢ STATIONARY SIGN
- ⬅ DIRECTION OF TRAFFIC FLOW

MAINLINE (-L-) SIGNING

SIGNING NOTES AND PLACEMENT PER DIRECTION

1 — ROAD WORK AHEAD (W20-1, 48" X 48")

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

2 — NEXT XX MILES (W7-3aP, 24" X 18")

#2 SIGN ONLY USED WHEN RESURFACING LIMITS ARE 2 OR MORE MILES IN LENGTH. ROUND UP TO NEXT WHOLE NUMBER.(NO FRACTIONAL OR DECIMAL NUMBERS)

3 — LOOSE GRAVEL (W8-7, 48" X 48") / UNMARKED PAVEMENT (SP, 48" X 48")

ALTERNATE THE FOLLOWING TWO SIGNS:

STARTING WITH "LOOSE GRAVEL" (W8-7) FOLLOWED BY "UNMARKED PAVEMENT".

PLACE INITIALLY AT THE CONSTRUCTION LIMITS AND SPACED 1 MILE APART THEREAFTER. IF NO -Y- LINES EXIST, PLACE 2ND SET ½ MILE FROM THE CONSTRUCTION LIMITS AND THEN SPACE 1 MILE THEREAFTER.

4 — ROAD UNDER CONST (SP 13106, 48" X 48")

THESE ARE FOR -Y- LINES THAT ARE "THROUGH" ROADWAYS. DEAD END AND SUBDIVISION ROADS ARE NOT "THROUGH" ROADWAYS. INSTALL 500' +/- FROM EACH -Y- LINE APPROACH AS SHOWN ABOVE. FOR MULTIPLE -Y- LINES THAT ARE SEPARATED BY 0.25 MILES OR LESS, TREAT AS A SINGLE UNIT AND INSTALL WITHIN 500' OF EACH APPROACH. A MAXIMUM OF 2 SIGN SETS PER MILE. DO NOT INSTALL WHEN -Y- LINES ARE WITHIN 0.5 MILES FROM "END ROAD WORK" SIGN.

5 — END ROAD WORK (G20-2 A, 48" X 24")

PLACE 500' FOLLOWING THE END OF CONSTRUCTION LIMITS.

-Y- LINE SIGNING

NO REQUIRED STATIONARY SIGNING FOR THE FOLLOWING -Y- LINE CONDITIONS:

1) LESS THAN 1000' OF RESURFACING ALONG -Y- LINE
2) SUBDIVISION ROADS
3) DEAD END ROADS

WHEN PAVING/CONSTRUCTION ACTIVITIES PROCEED ACROSS AN UNSIGNED -Y- LINE, ADVANCE WARNING PORTABLE SIGNS SHALL BE USED ALONG THE -Y- LINE AS SHOWN BELOW. REMOVE UPON COMPLETION OF WORK.

ROAD WORK AHEAD (W20-1, 48" X 48") — PLACED 500' IN ADVANCE OF FLAGGER.

W20-7 A (48" X 48") — PLACED 250' IN ADVANCE OF FLAGGER.

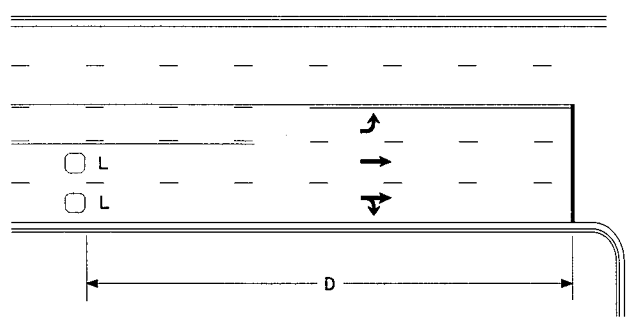
DIVISION OF HIGHWAYS · STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION · WORK ZONE TRAFFIC CONTROL

ADVANCE WARNING SIGNS FOR ASPHALT SURFACE TREATMENTS 2 LANE ROADWAYS

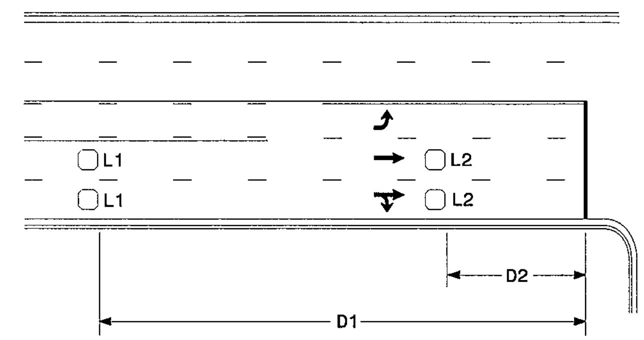
12/22/2014
S:\TMU\WZTC\Apps\WorkZoneGeneralExternalWebPage\DesRes\Documents\Resurfacing\Resurfacing_AdvWarn_2Ln - AST.dgn
User:rmgarrett

PROJECT REFERENCE NO.	SHEET NO.
2016CPT.12.05.10181, ETC.	SIG-1

High Speed Detection
(≥40 mph)



OR



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

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

Volume Density Operation

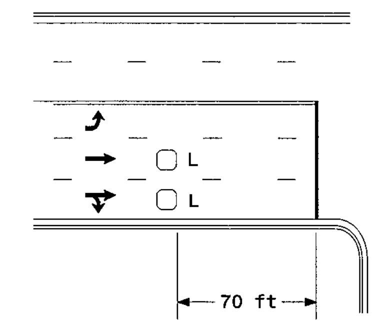
Speed Limit mph	D1 ft	D2 ft
40	250	80
45	300	90
50	355	100
55	420	110

L1 = 6ft X 6ft
Wired in series

L2 = 6ft X 6ft
Wired in series

"Stretch" Operation

Low Speed Detection
(≤35 mph)



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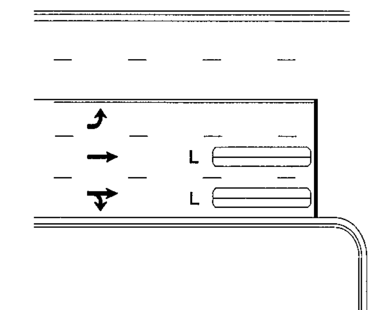
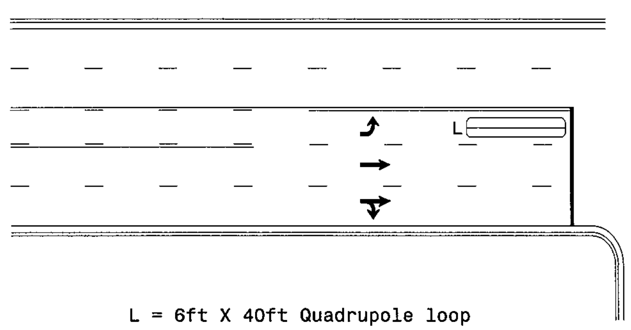


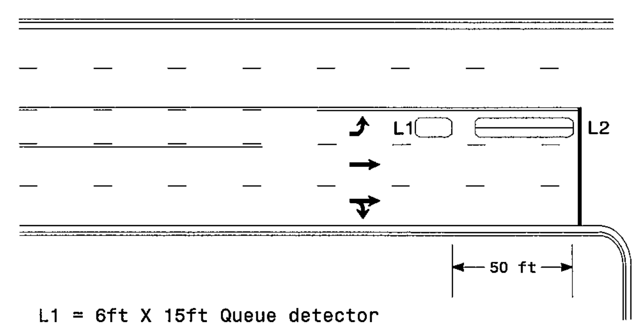
L = 6ft X 6ft
Wired in series

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

Left Turn Lane Detection



OR



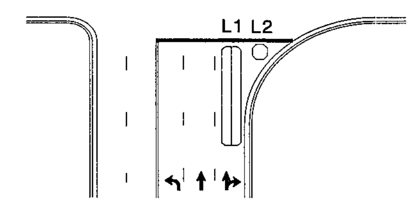
L = 6ft X 40ft Quadrupole loop

Presence Loop Detection

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

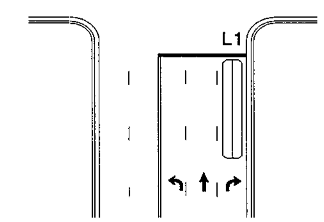
Queue Loop Detection

Right Turn Lane Detection

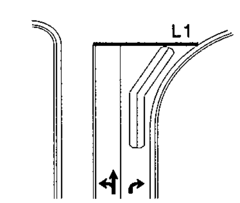


Shared Lane/
Wide Radius Turn

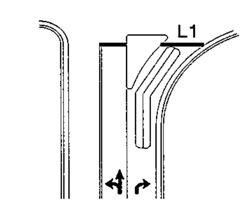
L1 = 6ft X 40ft Quadrupole loop
L2 = 6ft X 6ft [Minimum] Presence loop
Wired separately



Standard Turn

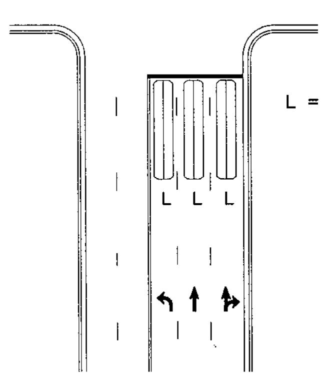


Wide Radius Turn



Channelized Turn

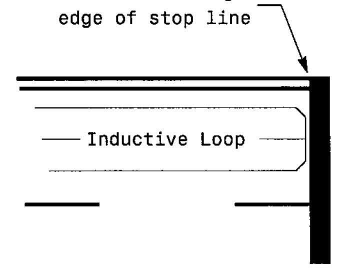
Side Street Detection



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

Presence Loop Placement at Stop Lines

Locate loop slightly behind leading edge of stop line



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

Recommended Number of Turns

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

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

Quadrupole loops: Use 2-4-2 turns

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

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

Typical Signal Loop Locations

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

SCALE
N/A

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA
PROFESSIONAL
SEAL
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ENGINEER
PAMELA L. ALEXANDER
DocuSigned by:
P L Alexander
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