CONTRACT: WBS NO.: 3CR.10101.150, ETC.

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

BRUNSWICK COUNTY

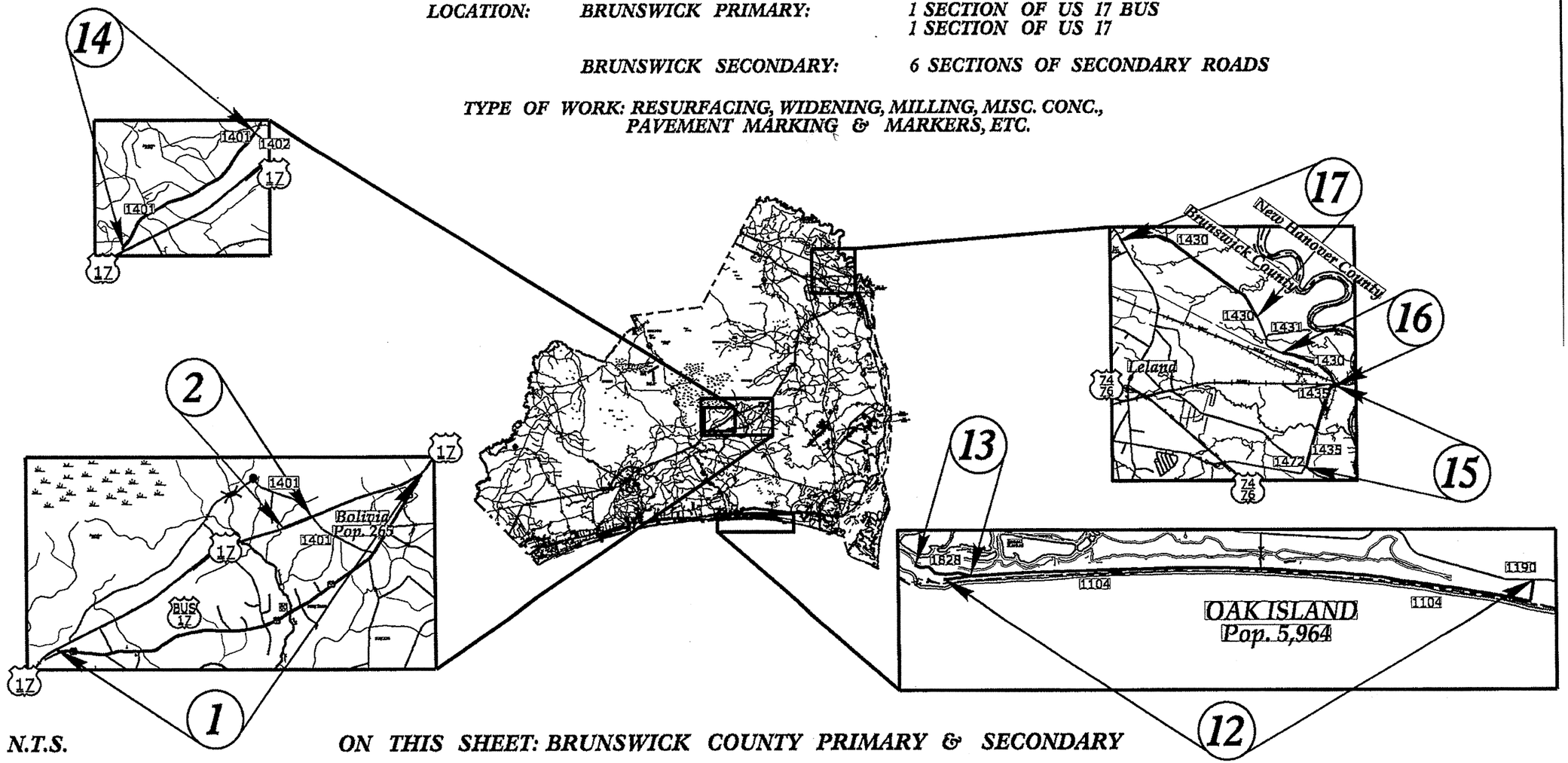
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	3CR.10101.150, ETC.	1	

STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION

LOCATION: *BRUNSWICK PRIMARY:* *1 SECTION OF US 17 BUS*
1 SECTION OF US 17

BRUNSWICK SECONDARY: *6 SECTIONS OF SECONDARY ROADS*

TYPE OF WORK: RESURFACING, WIDENING, MILLING, MISC. CONC., PAVEMENT MARKING & MARKERS, ETC.



N.T.S. *ON THIS SHEET: BRUNSWICK COUNTY PRIMARY & SECONDARY*

PROJECT LENGTH

PRIMARY – BRUNSWICK CO.	*SECONDARY – BRUNSWICK CO.*
3CR.10101.150	*3CR.20101.150*
MAP NO. 1 = 7.58 MI. *MAP NO. 2 = 0.25 MI.*	*MAP NO. 12 = 6.40 MI.* *MAP NO. 13 = 0.68 MI.* *MAP NO. 14 = 3.20 MI.* *MAP NO. 15 = 1.47 MI.* *MAP NO. 16 = 0.90 MI.* *MAP NO. 17 = 2.69 MI.*
SUB-TOTAL = 7.83 MI.	*SUB-TOTAL = 15.34 MI.*

TOTAL = 23.17 MI.

Prepared in the Office of:
DIVISION OF HIGHWAYS
5501 Barbados Blvd., Castle Hayne, NC 28429

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:

LETTING DATE:

PROJECT ENGINEER

PROJECT DESIGN ENGINEER

ROADWAY DESIGN TECHNICIAN

SIGNATURE: *CMS*

STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION ·

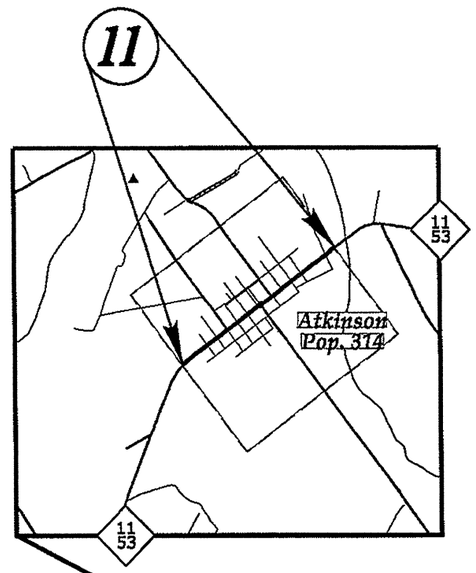
09/30/09

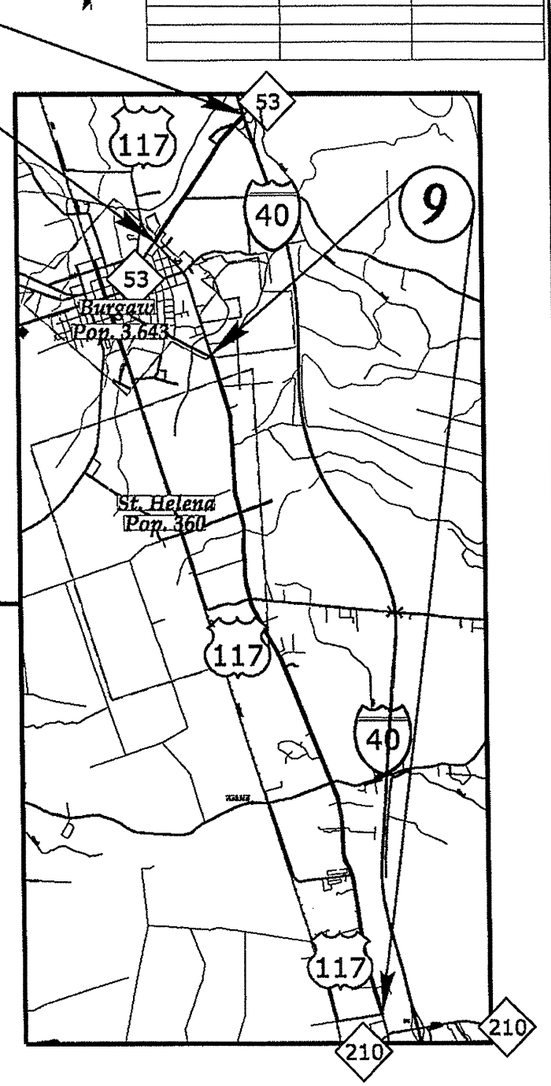
CONTRACT: WBS NO.: 3CR.10101.150, ETC.

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	3CR.10101.150, ETC.		

STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION

PENDER COUNTY





LOCATION: *PENDER PRIMARY:* *1 SECTION OF NC 11/53*
1 SECTION OF US 117
1 SECTION OF NC 53

TYPE OF WORK: RESURFACING, WIDENING, MILLING, MISC. CONC., PAVEMENT MARKING & MARKERS, ETC.

N.T.S.

ON THIS SHEET: PENDER COUNTY PRIMARY

PROJECT LENGTH

PRIMARY - PENDER CO.
3CR.10711.150
MAP NO. 9 = 7.08 MI.
MAP NO. 10 = 1.60 MI.
MAP NO. 11 = 0.93 MI.

TOTAL = 9.61 MI.

Prepared in the Office of:
DIVISION OF HIGHWAYS
5501 Barbados Blvd., Castle Hayne, NC 28429

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:

LETTING DATE:

PROJECT ENGINEER

PROJECT DESIGN ENGINEER

ROADWAY DESIGN TECHNICIAN

CMS

SIGNATURE:

STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION ·

15-NOV-2013 10:03
O:\RDY\DDC\RETREAT\2014\2014_B_NH_P\ROADWAY\Proj\3CR.10101.150_Rdy_tsh_090613.dgn
mkimmel AT D3CAD257156

09/06/99

WBS NO.: 3CR.10101.150, ETC.

CONTRACT:

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	3CR.10101.150, ETC.		

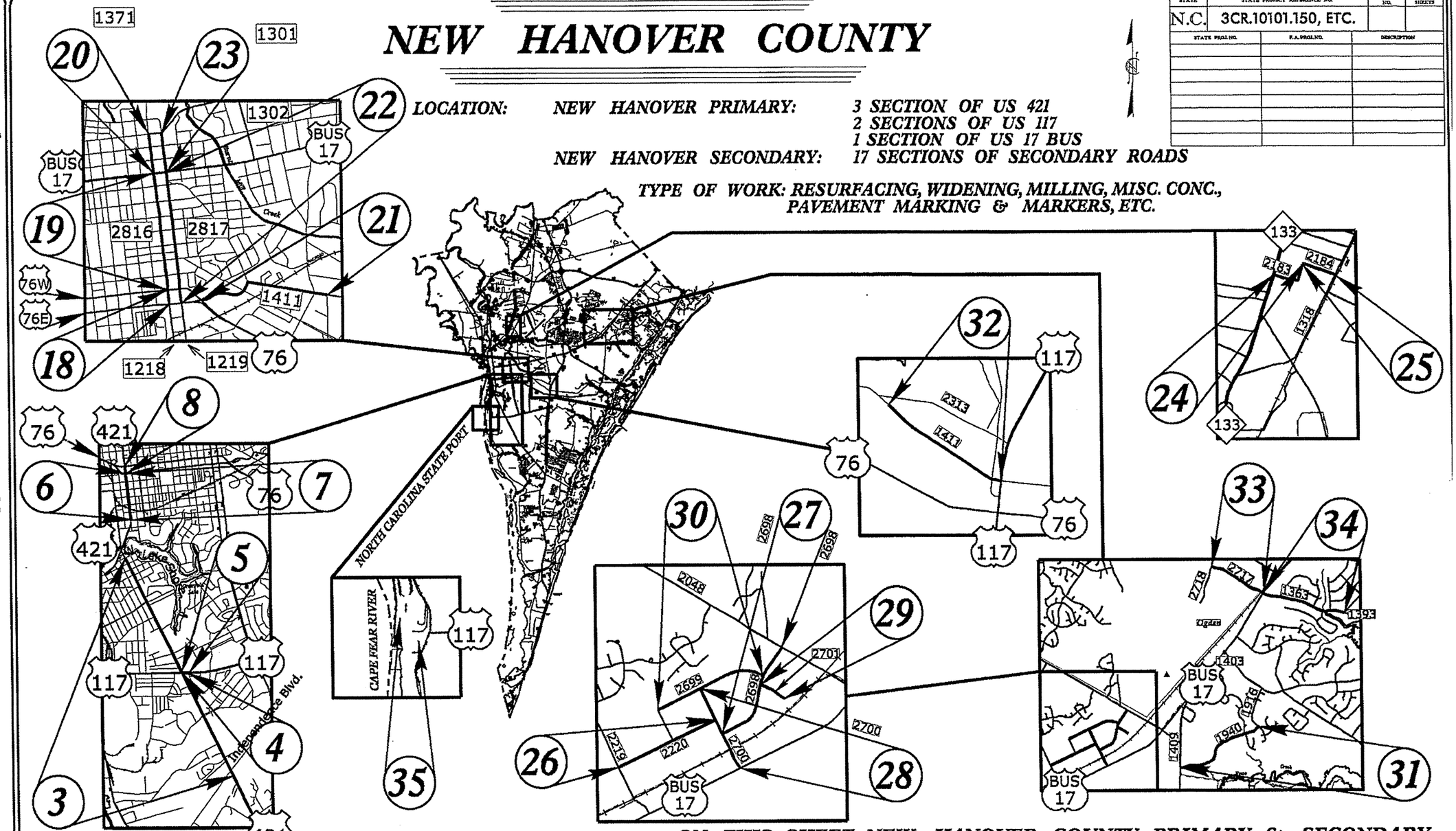
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION

NEW HANOVER COUNTY

LOCATION: *NEW HANOVER PRIMARY:* *3 SECTION OF US 421*
2 SECTIONS OF US 117
1 SECTION OF US 17 BUS

NEW HANOVER SECONDARY: *17 SECTIONS OF SECONDARY ROADS*

TYPE OF WORK: RESURFACING, WIDENING, MILLING, MISC. CONC., PAVEMENT MARKING & MARKERS, ETC.



N.T.S.

ON THIS SHEET: NEW HANOVER COUNTY PRIMARY & SECONDARY

PROJECT LENGTH

PRIMARY		SECONDARY					
3CR.10651.150		3CR.20651.150					
MAP NO. 3 =	2.95 MI.	MAP NO. 18 =	0.09 MI.	MAP NO. 24 =	0.25 MI.	MAP NO. 30 =	0.49 MI.
MAP NO. 4 =	0.05 MI.	MAP NO. 19 =	0.92 MI.	MAP NO. 25 =	0.21 MI.	MAP NO. 31 =	0.78 MI.
MAP NO. 5 =	0.20 MI.	MAP NO. 20 =	0.22 MI.	MAP NO. 26 =	0.46 MI.	MAP NO. 32 =	1.08 MI.
MAP NO. 6 =	0.53 MI.	MAP NO. 21 =	0.67 MI.	MAP NO. 27 =	0.46 MI.	MAP NO. 33 =	0.54 MI.
MAP NO. 7 =	0.53 MI.	MAP NO. 22 =	0.78 MI.	MAP NO. 28 =	0.37 MI.	MAP NO. 34 =	0.77 MI.
MAP NO. 8 =	0.10 MI.	MAP NO. 23 =	0.23 MI.	MAP NO. 29 =	0.12 MI.	MAP NO. 35 =	1.26 MI.
SUB TOTAL =	4.36 MI.					SUB TOTAL =	9.70 MI.

TOTAL = 14.06 MI.

Prepared in the Office of:
DIVISION OF HIGHWAYS
3501 Barbados Blvd., Castle Hayne, NC 28429

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:

LETTING DATE:

PROJECT ENGINEER

PROJECT DESIGN ENGINEER

ROADWAY DESIGN TECHNICIAN

CMS
SIGNATURE

STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION

15-NOV-2013 10:30
O:\RDY_DOL\RETREAT\2014\2014_B_NH_P\ROADWAY\Proj\3CR.10101.150_Rdy_tsh_090613.dgn
mkimmel AT D3CAD257156

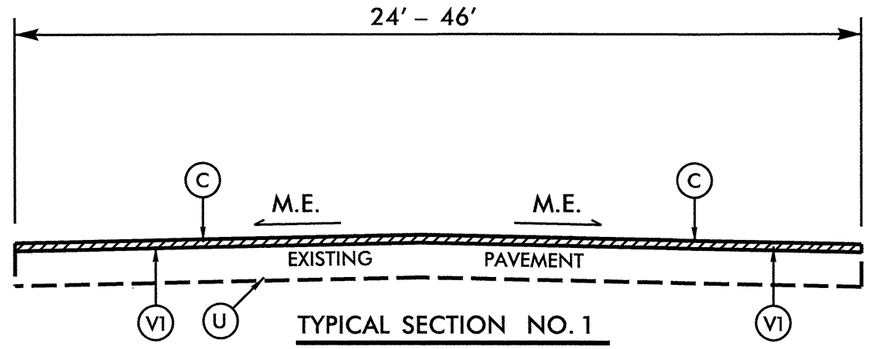
5/14/99

PROJECT REFERENCE NO.	SHEET NO.
3CR.10101.150, ETC.	2
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PAVEMENT SCHEDULE

C	PROP. APPROX. 1½" DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ.YD.
C1	PROP. APPROX. 1½" DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ.YD.
C2	PROP. APPROX. 2" DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 224 LBS. PER SQ.YD.
C3	PROP. APPROX. 3" DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ.YD. IN EACH OF TWO LAYERS
C4	PROP. APPROX. 1½" DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 165 LBS. PER SQ.YD.
C5	PROP. APPROX. 2" DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 224 LBS. PER SQ.YD.
D	PROP. APPROX. 2½" DEPTH ASPHALT CONCRETE INTERMEDIATE COURSE,TYPE I19.0B, AT AN AVERAGE RATE OF 285 LBS.PER SQ.YD.
D1	PROP. APPROX. 2 1/2" DEPTH ASPHALT CONCRETE INTERMEDIATE COURSE,TYPE I19.0C, AT AN AVERAGE RATE OF 285 LBS.PER SQ.YD.
D2	PROP. APPROX. 3" DEPTH ASPHALT CONCRETE INTERMEDIATE COURSE,TYPE I19.0B, AT AN AVERAGE RATE OF 342 LBS.PER SQ.YD.
E	PROP. APPROX. 5½" DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 627 LBS. PER SQ.YD.
L	12" TO 18" OF CLASS IV SUBGRADE STABILIZATION
R	EXISTING CONCRETE BRIDGE RAIL
R1	EXISTING CONCRETE 2'-6" CURB & GUTTER
R2	EXISTING CONCRETE MONOLITHIC ISLAND
T	EARTH MATERIAL (SHOULDER RECONSTRUCTION)
U	EXISTING PAVEMENT.
V	MILLING BITUMINOUS PAVEMENT. 2 1/2 " DEPTH.
V1	MILLING BITUMINOUS PAVEMENT. 1 1/2" DEPTH.
V2	MILLING BITUMINOUS PAVEMENT. 4" DEPTH.
V3	MILLING BITUMINOUS PAVEMENT. 2" DEPTH.
V4	MILLING BITUMINOUS PAVEMENT. 0 - 1.5" DEPTH.
Y	GEOTEXTILE SOIL STABILIZATION FABRIC

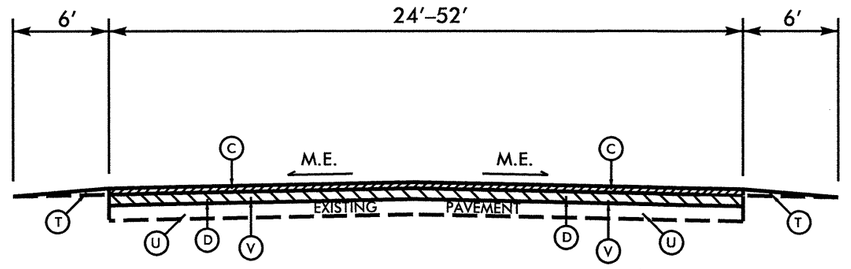
NOTE: SEE STD. DRAWING 1205.01, SHEET 2 OF 2, TABLE 1 FOR EDGE LINE OFFSETS.
M.E. = MATCH EXISTING



TYPICAL SECTION NO. 1

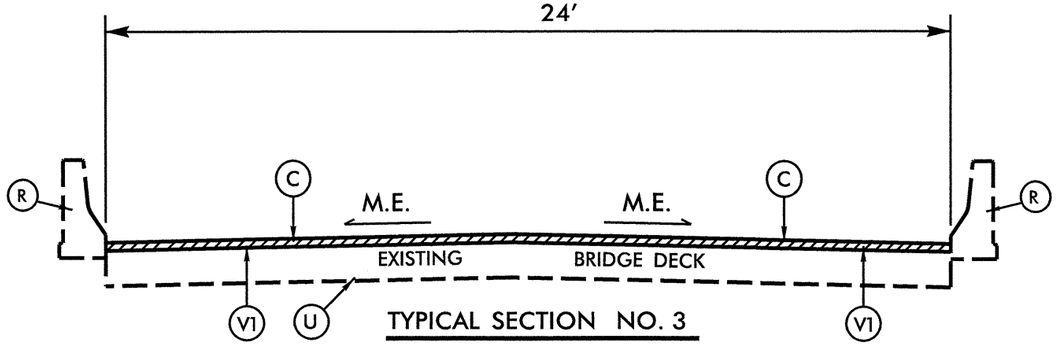
MAP NO. 1
MP 11.46 – MP 11.59

MAP NO. 32
MP 1.08 – MP 1.49
MP 1.52 – MP 1.96



TYPICAL SECTION NO. 2

MAP NO. 1
MP 11.59 – MP 15.70
MP 15.73 – MP 19.04



TYPICAL SECTION NO. 3

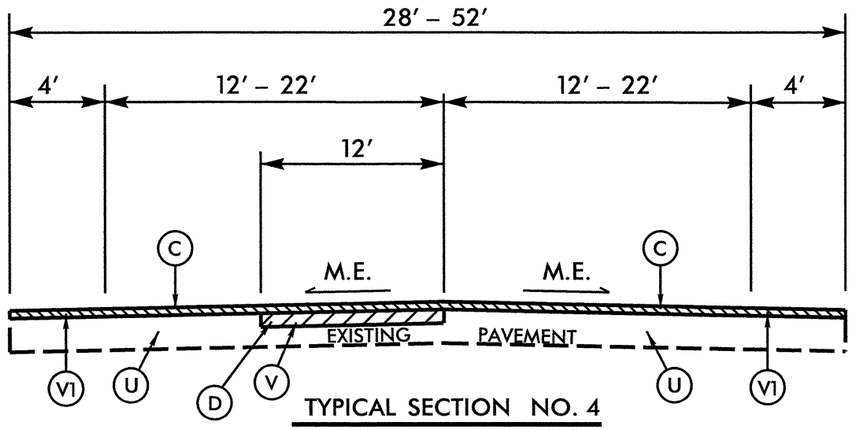
MAP NO. 1
MP 15.70 – MP 15.73

$$$$$$$$SYSTIME$$$$$$$$
$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$
$$$$$$$$FILENAME$$$$$$$$

PROJECT REFERENCE NO.	SHEET NO.
3CR.10101.150, ETC.	2-A
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

CONSTRUCTION SEQUENCE

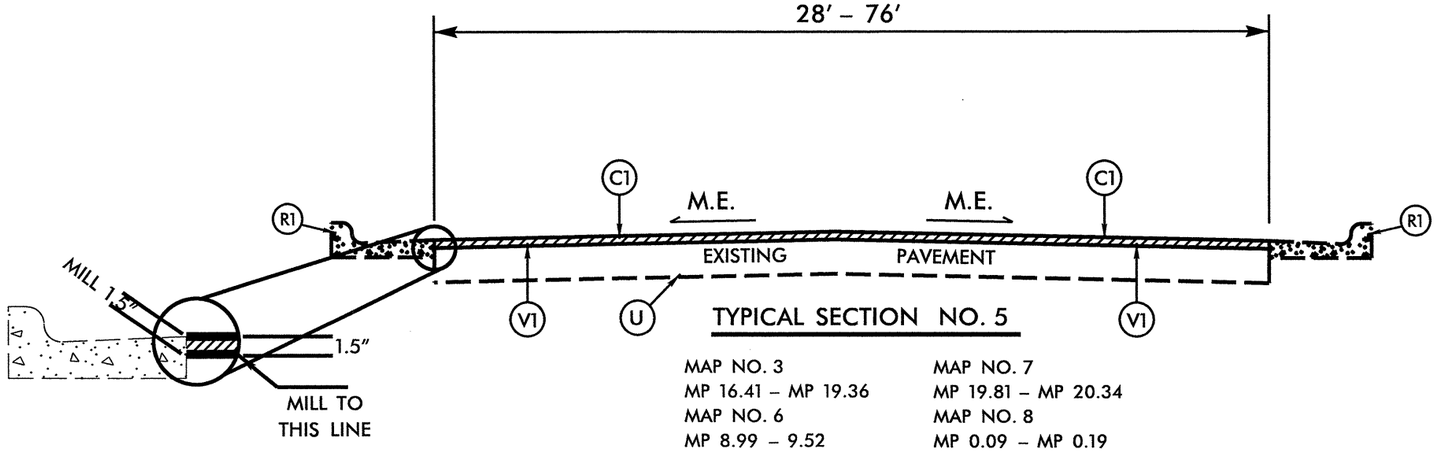
1. MILL ENTIRE ROADWAY 1.5"
2. MILL 2.5" AS SHOWN
3. PLACE 2.5" I19.0B
4. RESURFACE ENTIRE ROADWAY



TYPICAL SECTION NO. 4

MAP NO. 2
MP 23.14 – MP 23.39

PAVEMENT SCHEDULE	
C	1½" S9.5B
C1	1½" S9.5C
D	2½" I19.0B
E	5½" B25.0B
L	12" TO 18" CLASS IV SOIL STABILIZATION
R1	EX. 2'-6" C & G
T	EARTH MATERIAL (SH. RECONSTR.)
U	EXISTING PAVEMENT
V	MILLING 2½" DEPTH
V1	MILLING 1½" DEPTH
Y	GEOTEXTILE FABRIC



TYPICAL SECTION NO. 5

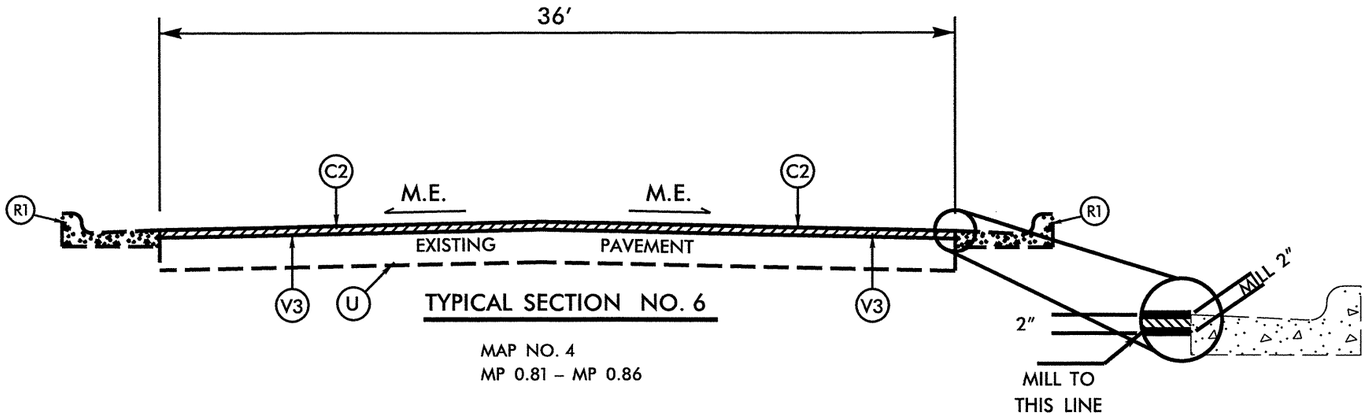
MAP NO. 3
MP 16.41 – MP 19.36
MAP NO. 6
MP 8.99 – 9.52

MAP NO. 7
MP 19.81 – MP 20.34
MAP NO. 8
MP 0.09 – MP 0.19

5/14/99

5/14/99

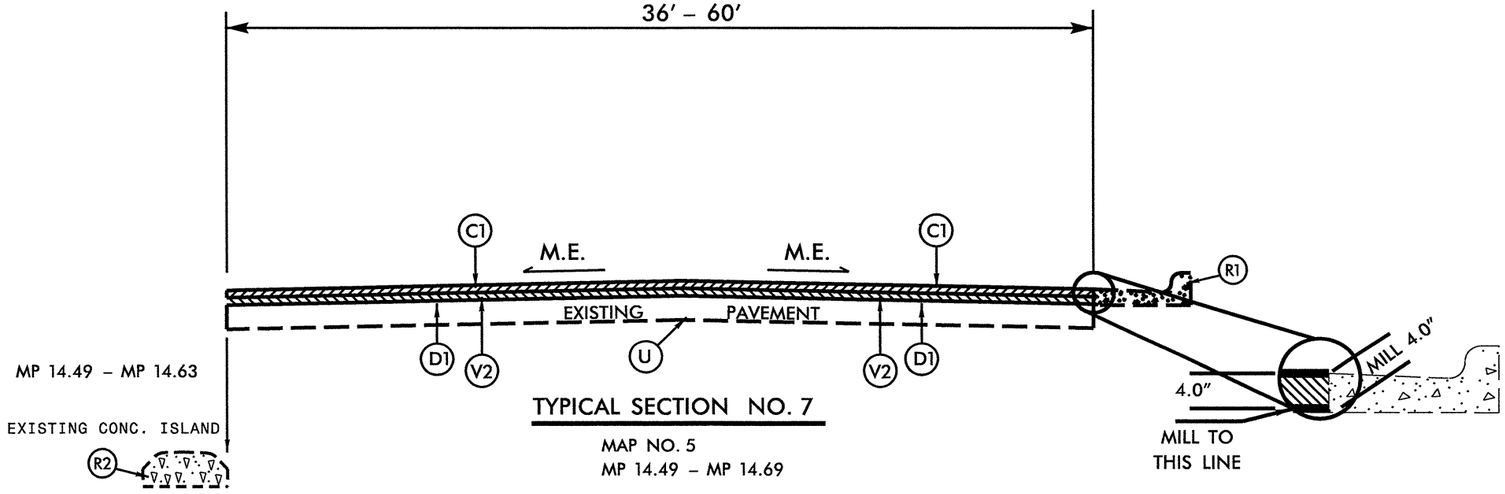
PROJECT REFERENCE NO.	SHEET NO.
3CR.10101.150, ETC.	2-B
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



TYPICAL SECTION NO. 6

MAP NO. 4
MP 0.81 – MP 0.86

PAVEMENT SCHEDULE	
C1	1½" S9.5C
C2	2" S9.5C
D1	2½" I19.0C
R1	EX. 2'-6" C & G
R2	EXISTING CONCRETE MONOLITHIC ISLAND
T	EARTH MATERIAL (SH. RECONSTR.)
U	EXISTING PAVEMENT
V	MILLING 1½" DEPTH
V2	MILLING 4" DEPTH
V3	MILLING 2" DEPTH



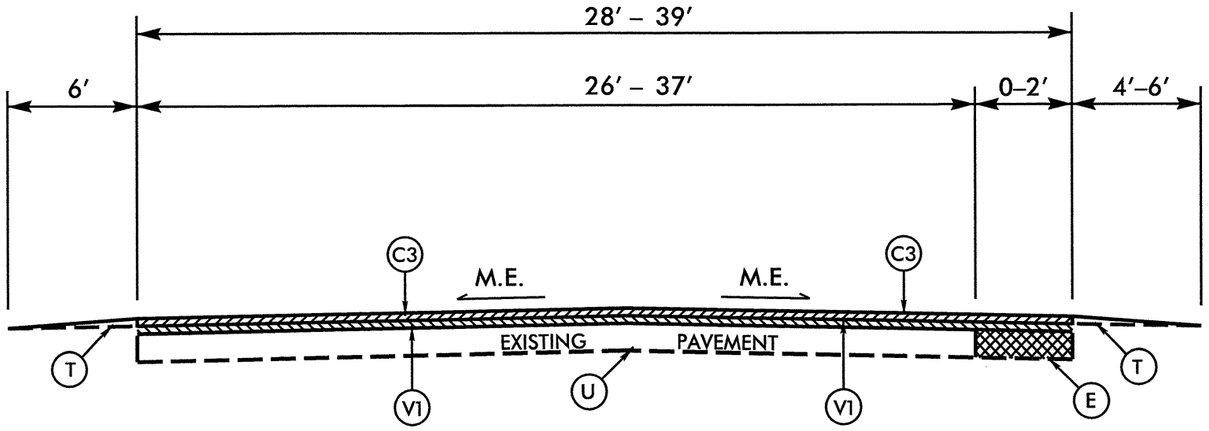
TYPICAL SECTION NO. 7

MAP NO. 5
MP 14.49 – MP 14.69

5/14/99

PROJECT REFERENCE NO.	SHEET NO.
3CR.101011.147, ETC.	2–C
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PAVEMENT SCHEDULE	
C3	3" S9.5B
E	5½" B25.0B
T	EARTH MATERIAL (SH. RECONSTR.)
U	EXISTING PAVEMENT
V1	MILLING 1½" DEPTH



TYPICAL SECTION NO. 8

MAP NO. 9
MP 5.62 – MP 12.70

SPIRAL WIDENING MAP NO. 9			
MP	TO	MP	SIDE
7.22		7.83	RT
10.28		10.36	RT
10.63		10.72	RT
11.19		11.83	RT

TYPICAL SECTION NO. 9

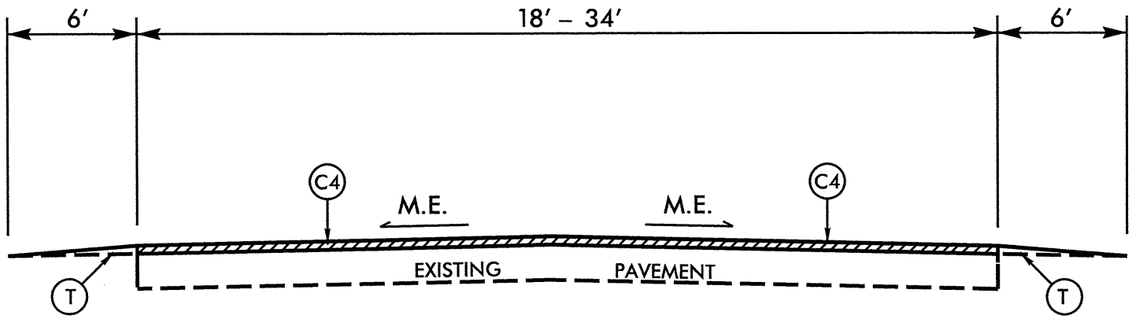
MILL PATCHING ONLY
MAP NO. 10
MP 16.16– MP 17.76

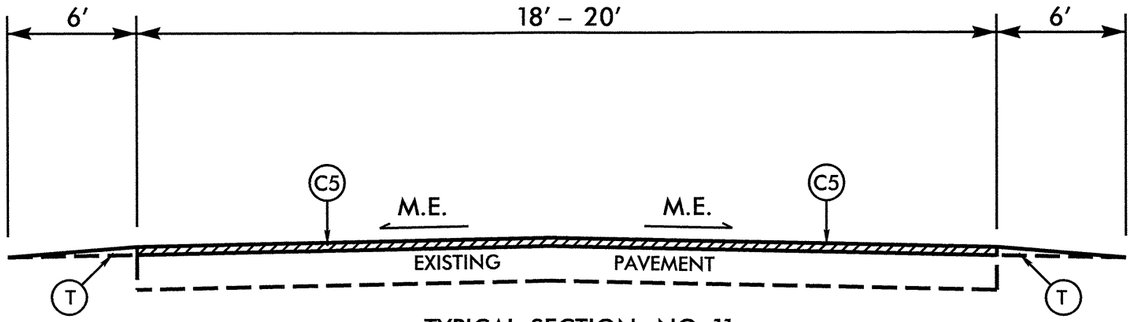
MAP NO. 35
NORTH CAROLINA STATE PORT AUTHORITY
SEE DETAIL FOR LOCATIONS
(NUMBERED 1–83)

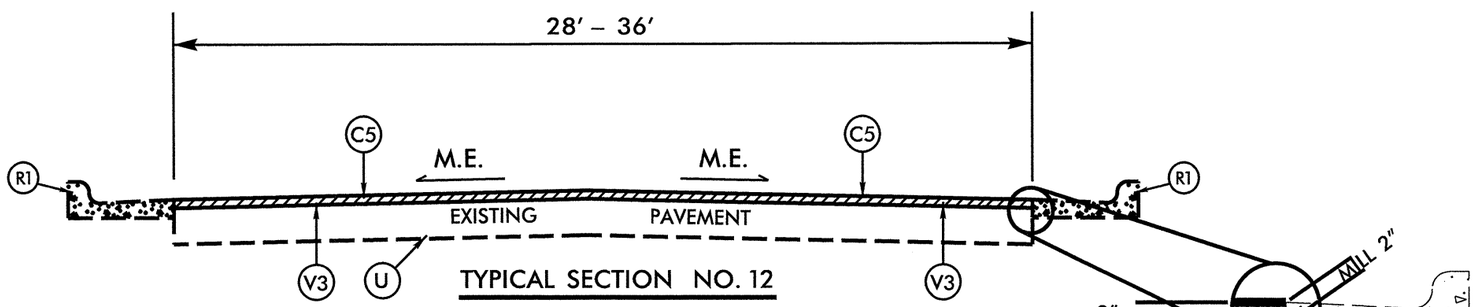
NOTE:

1) MAP 35: USE I 19.0C FOR ALL SITES EXCEPT SITE #83 WHICH WILL BE MILL PATCHED WITH S 9.5B.

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







5/14/99

PROJECT REFERENCE NO.	SHEET NO.
3CR.10101.150, ETC.	2-D
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

TYPICAL SECTION NO. 10

MAP NO. 12
MP 0.00 – MP 6.40
MAP NO. 15
MP 0.00 – 1.47

MAP NO. 16
MP 0.00 – MP 0.90
MAP NO. 17
MP 0.00 – MP 2.69

MAP NO. 24**
MP 0.00 – MP 0.25
MAP NO. 25**
MP 0.00 – MP 0.21

**SHOULDER WORK TO BE DONE BY STATE FORCES FOR MAPS 24, 25

PAVEMENT SCHEDULE	
C4	1½" SF9.5A
C5	2" S9.5B
R1	EX. 2'-6" C & G
U	EXISTING PAVEMENT
V3	MILLING 2" DEPTH

TYPICAL SECTION NO. 11

MAP NO. 13
MP 0.00 – MP 0.68
MAP NO. 14
MP 0.00 – MP 3.20

TYPICAL SECTION NO. 12

MAP NO. 18
MP 0.00 – MP 0.09
MAP NO. 19
MP 0.00 – MP 0.92

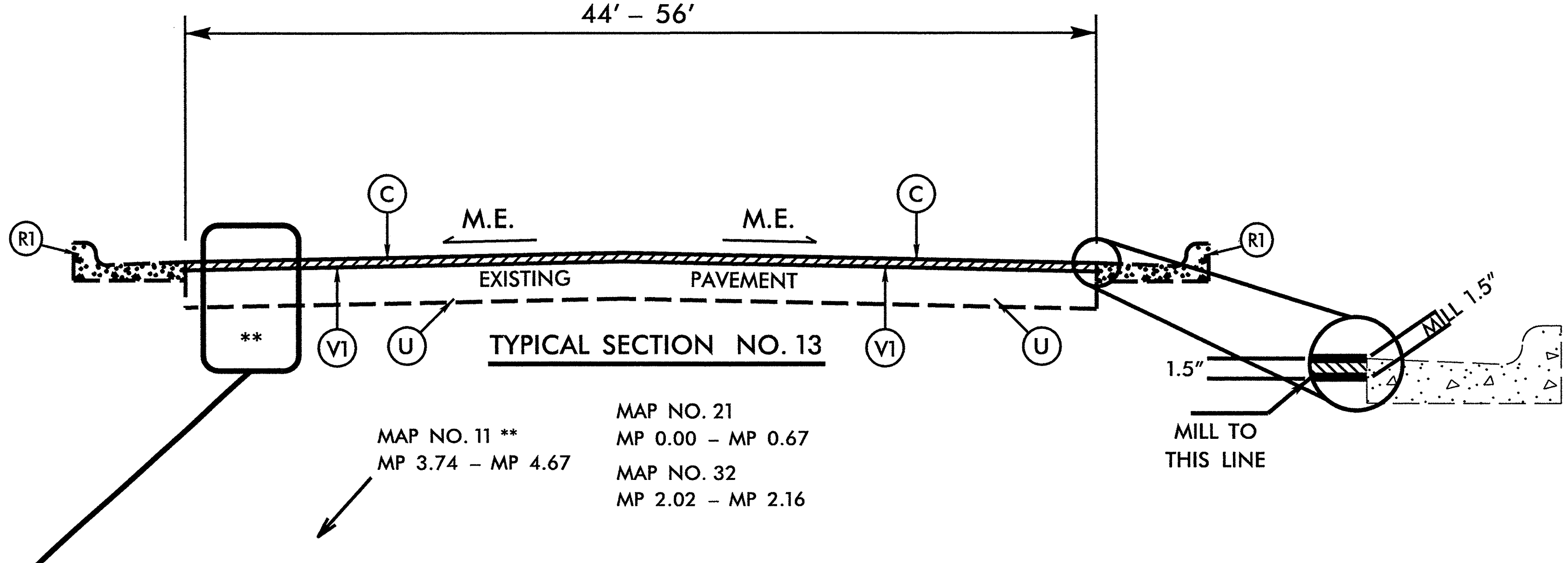
MAP NO. 20
MP 0.00 – MP 0.22
MAP NO. 22
MP 0.00 – MP 0.78

MAP NO. 23
MP 0.00 – MP 0.23

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

PROJECT REFERENCE NO.	SHEET NO.
3CR.10101.150, ETC.	2-E
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

5/14/99



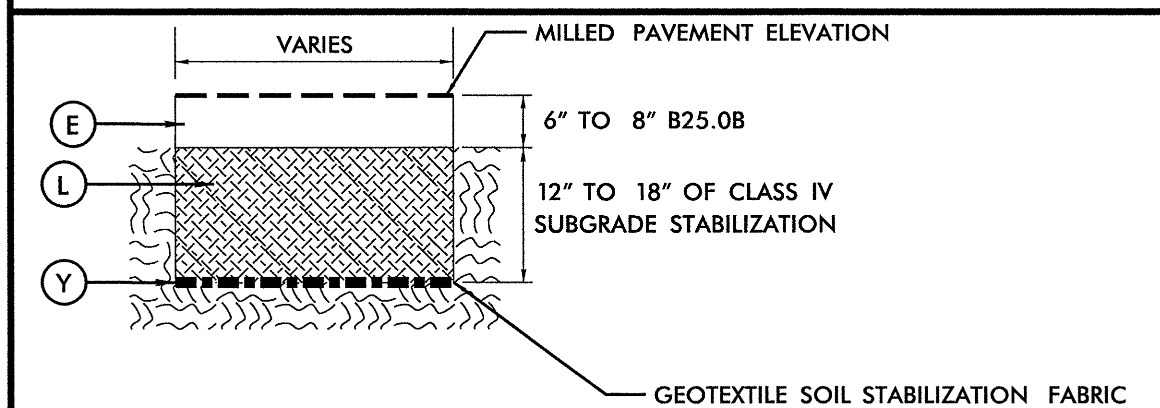
TYPICAL SECTION NO. 13

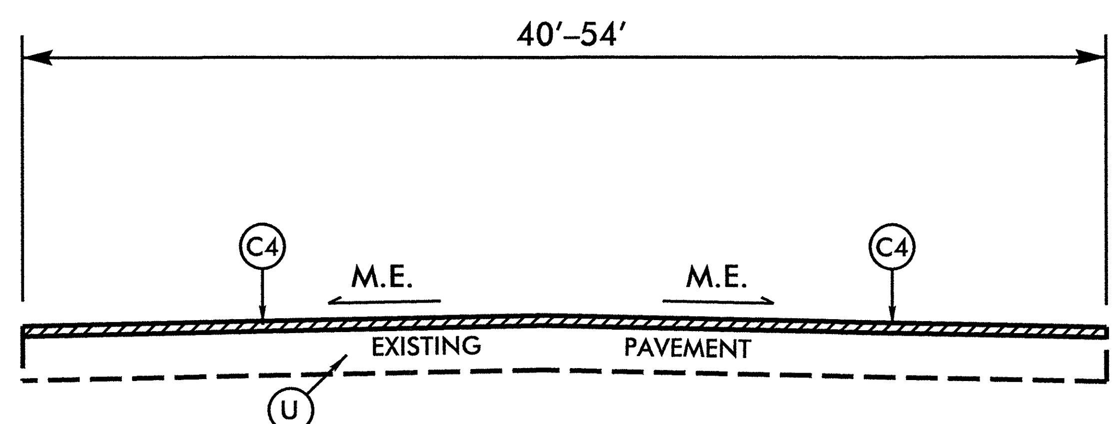
MAP NO. 11 **
MP 3.74 – MP 4.67

MAP NO. 21
MP 0.00 – MP 0.67

MAP NO. 32
MP 2.02 – MP 2.16

** SHALLOW UNDERCUT AND FULL DEPTH PATCHING DETAIL





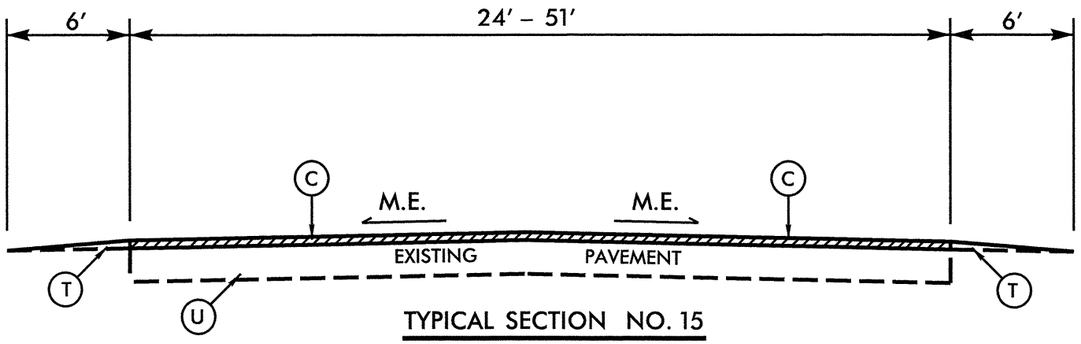
TYPICAL SECTION NO. 14

MAP NO. 34
MP 0.11 – MP 0.77

PAVEMENT SCHEDULE	
C	1½″ S9.5B
C4	1½″ SF9.5A
E	5½″ B25.0B
L	12″ TO 18″ CLASS IV SUBGRADE STABILIZATION
R1	EX. 2′-6″ C & G
U	EXISTING PAVEMENT
V1	MILLING 1½″ DEPTH
Y	GEOTEXTILE FABRIC

5/14/99

PROJECT REFERENCE NO.	SHEET NO.
3CR.10101.150, ETC.	2-F
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



TYPICAL SECTION NO. 15

MAP NO. 26
MP 0.00 – MP 0.46

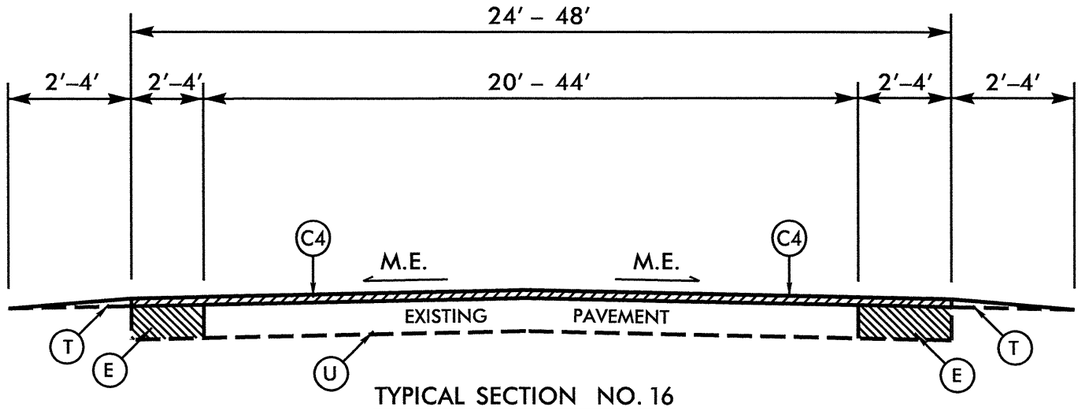
MAP NO. 27
MP 0.00 – MP 0.46

MAP NO. 28
MP 0.00 – 0.37

MAP NO. 29
MP 0.00 – MP 0.12

MAP NO. 30
MP 0.00 – MP 0.49

PAVEMENT SCHEDULE	
C	1½" S9.5B
C4	1½" SF9.5A
E	5½" B25.0B
T	EARTH MATERIAL (SH. RECONSTR.)
U	EXISTING PAVEMENT



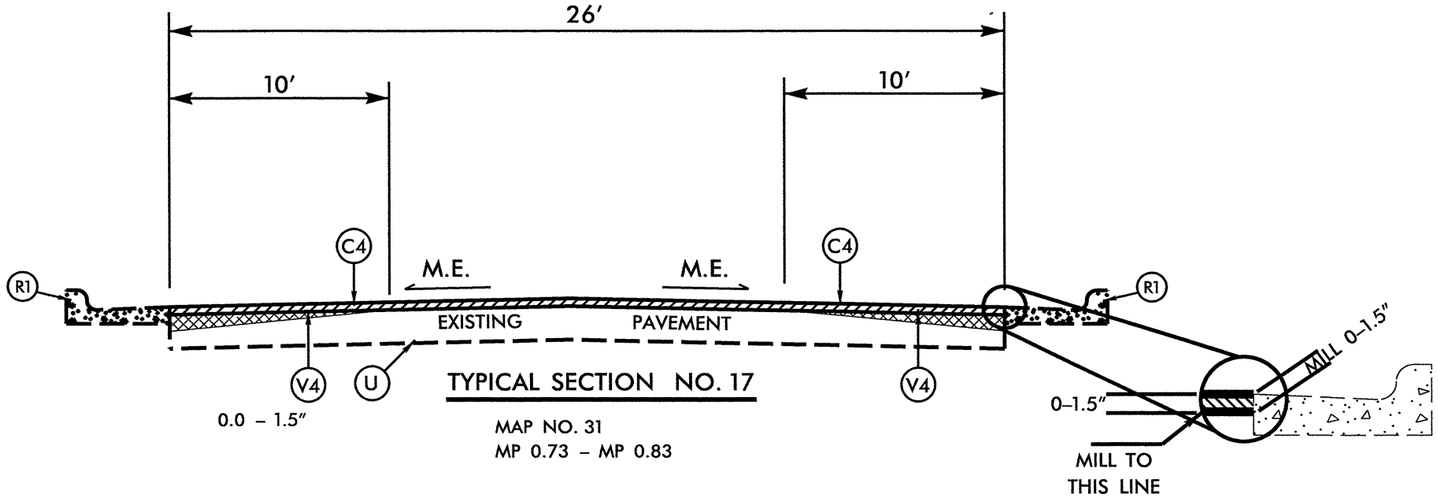
TYPICAL SECTION NO. 16

MAP NO. 33
MP 0.00 – MP 0.54

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

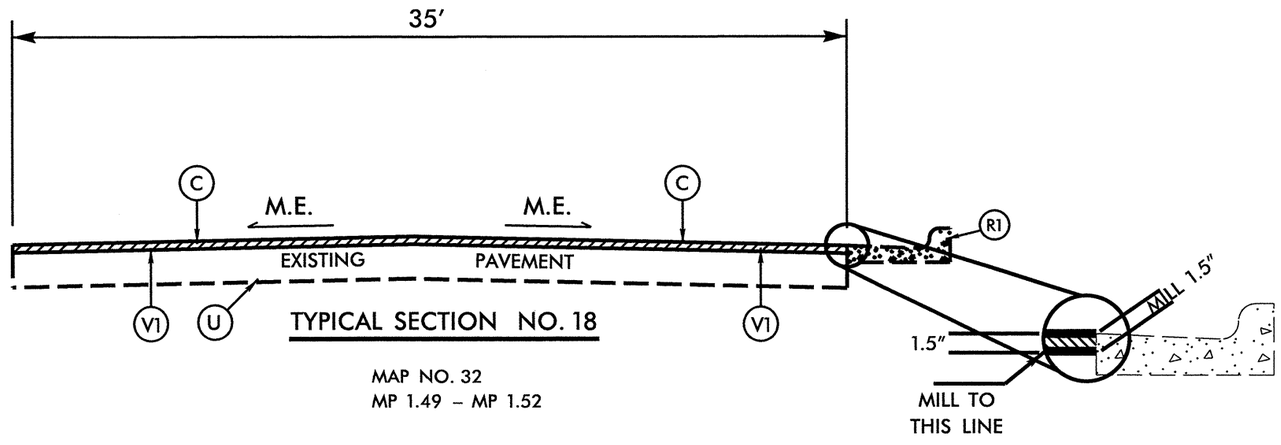
5/14/99

PROJECT REFERENCE NO.	SHEET NO.
3CR.10101.150, ETC.	2-G
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



TYPICAL SECTION NO. 17

MAP NO. 31
MP 0.73 – MP 0.83



TYPICAL SECTION NO. 18

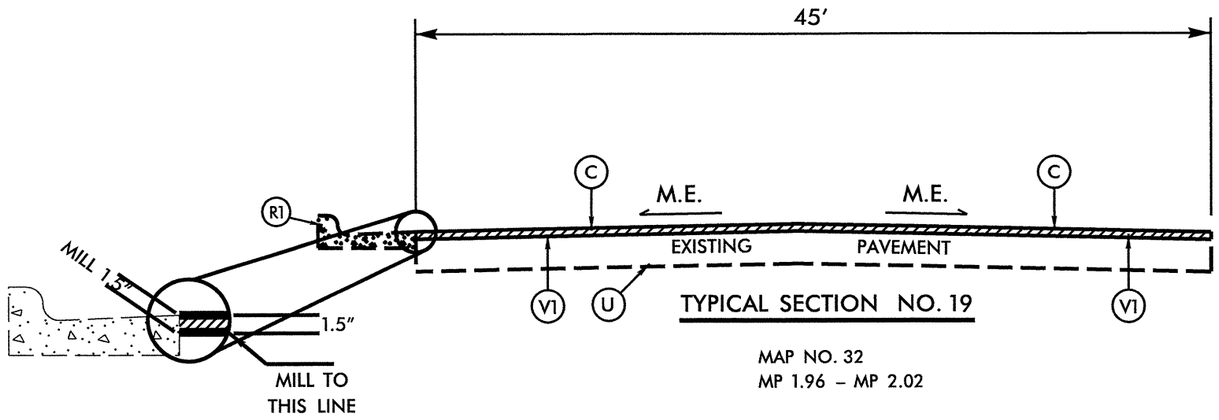
MAP NO. 32
MP 1.49 – MP 1.52

PAVEMENT SCHEDULE	
C	1½″ S9.5B
C4	1½″ SF9.5A
E	5½″ B25.0B
R1	EX. 2′-6″ C & G
T	EARTH MATERIAL (SH. RECONSTR.)
U	EXISTING PAVEMENT
V1	MILLING 1½″ DEPTH
V4	MILLING 0-1.5″

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

5/14/99

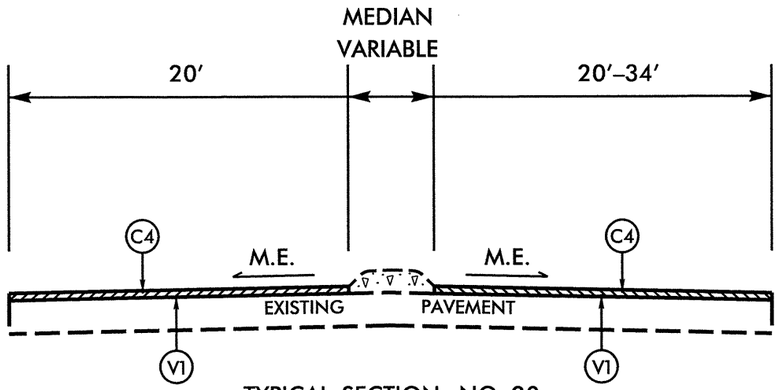
PROJECT REFERENCE NO.	SHEET NO.
3CR.10101.150, ETC.	2-H
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



TYPICAL SECTION NO. 19

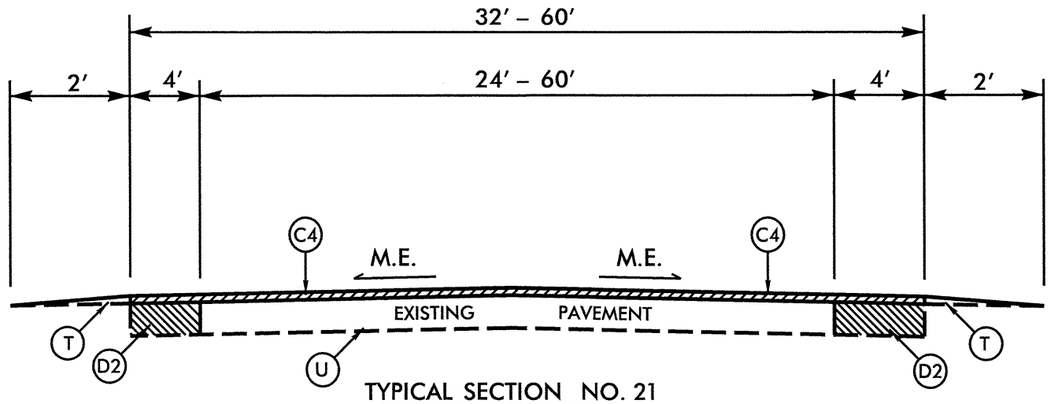
MAP NO. 32
MP 1.96 – MP 2.02

PAVEMENT SCHEDULE	
C	1½" S9.5B
C4	1½" SF9.5A
D2	3" I19.0B
R1	EX. 2'-6" C & G
T	EARTH MATERIAL (SH. RECONSTR.)
U	EXISTING PAVEMENT
V1	MILLING 1½" DEPTH



TYPICAL SECTION NO. 20

MAP NO. 34
MP 0.00 – MP 0.11



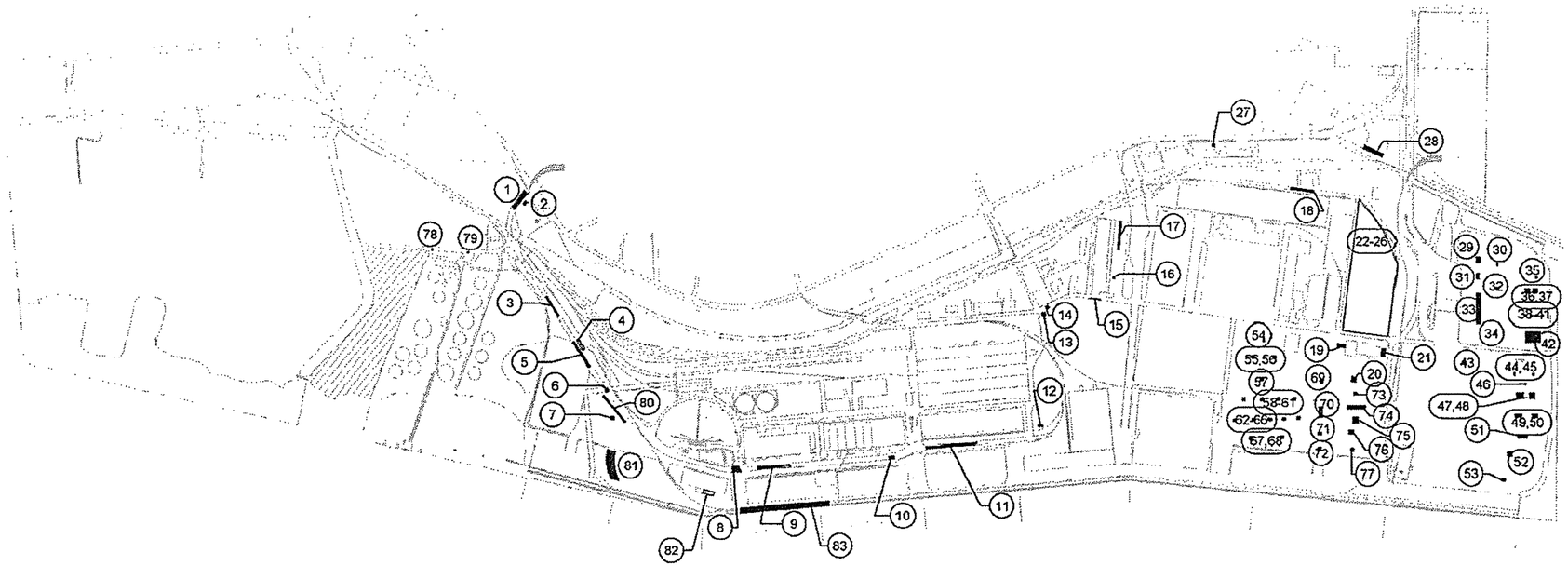
TYPICAL SECTION NO. 21

MAP NO. 31
MP 0.05 – MP 0.73

PROJECT REFERENCE NO.	SHEET NO.
3CR.10101.150, ETC.	

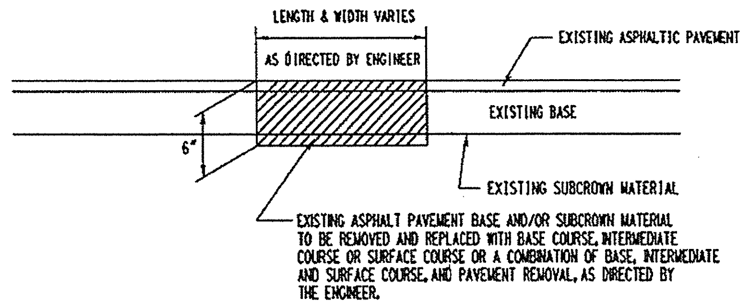
2-I

MAP 35 – DETAIL OF NORTH CAROLINA STATE PORT AUTHORITY PATCHING LOCATIONS (NUMBERED 1–83)

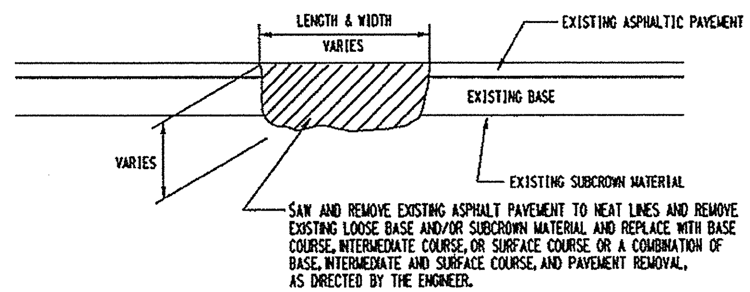


PROJECT REFERENCE NO.	SHEET NO.
3CR.10101.150, ETC.	2-J

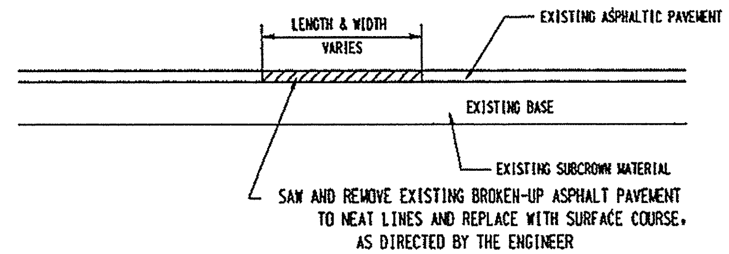
DETAILS OF REPAIRING EXISTING PAVEMENT PRIOR TO RESURFACING FOR FULL DEPTH AND MILLING



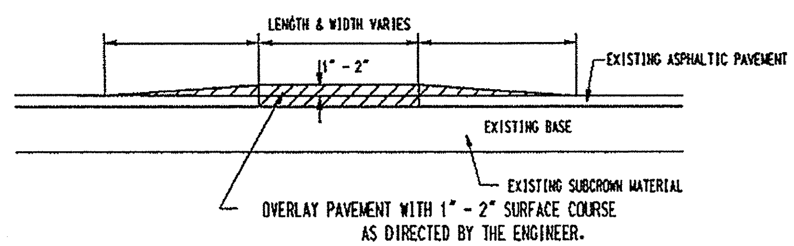
DETAIL NO. 1



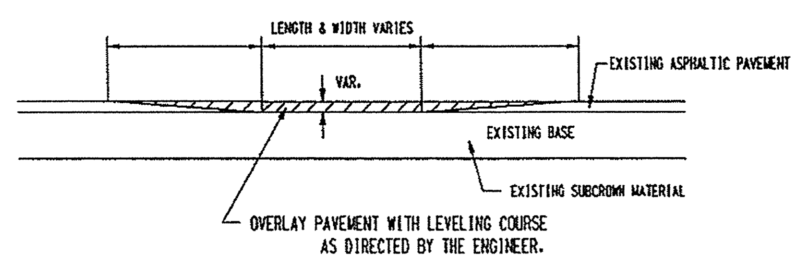
DETAIL NO. 2



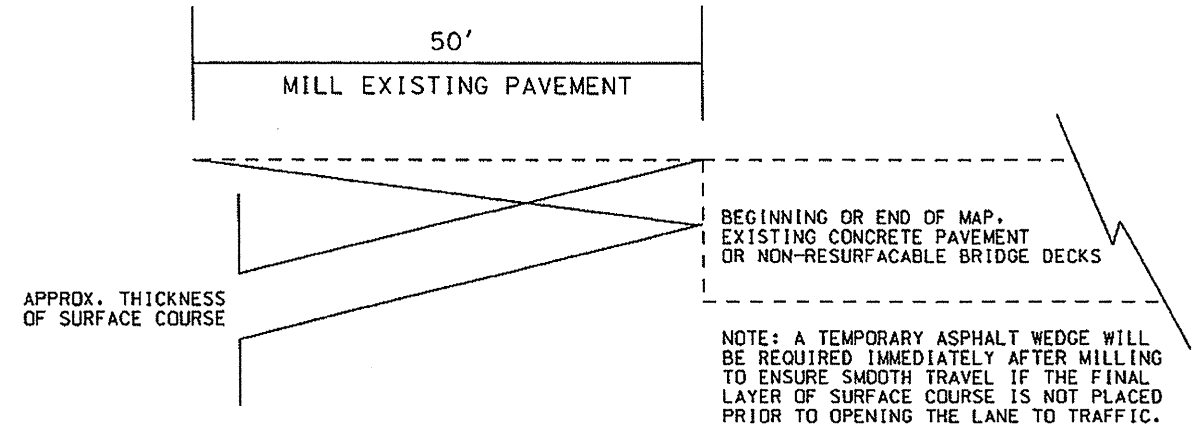
DETAIL NO. 3



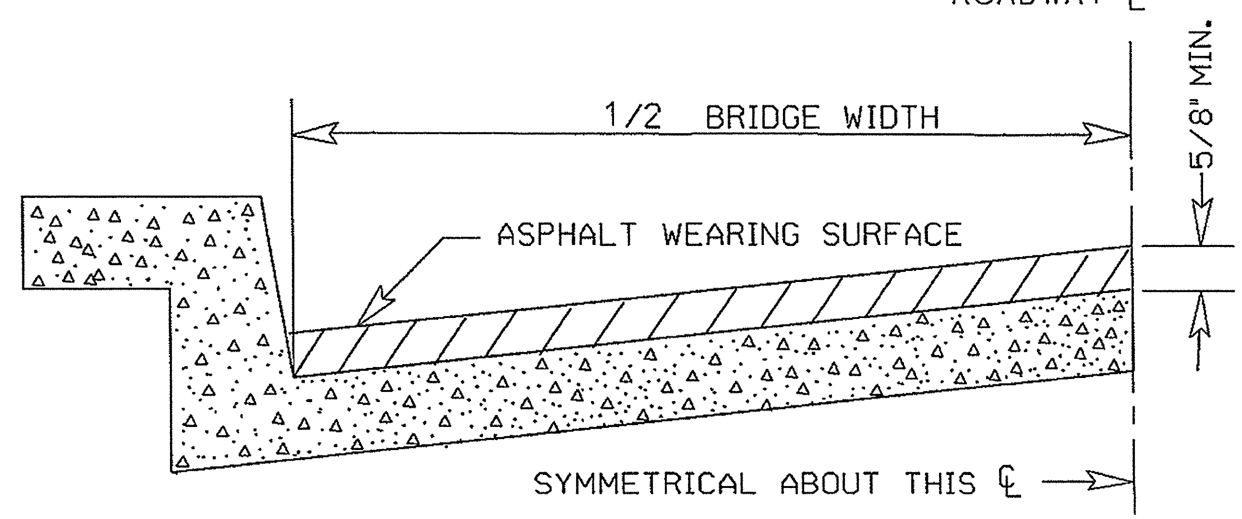
DETAIL NO. 4



DETAIL NO. 5



NOTE: A TEMPORARY ASPHALT WEDGE WILL BE REQUIRED IMMEDIATELY AFTER MILLING TO ENSURE SMOOTH TRAVEL IF THE FINAL LAYER OF SURFACE COURSE IS NOT PLACED PRIOR TO OPENING THE LANE TO TRAFFIC.



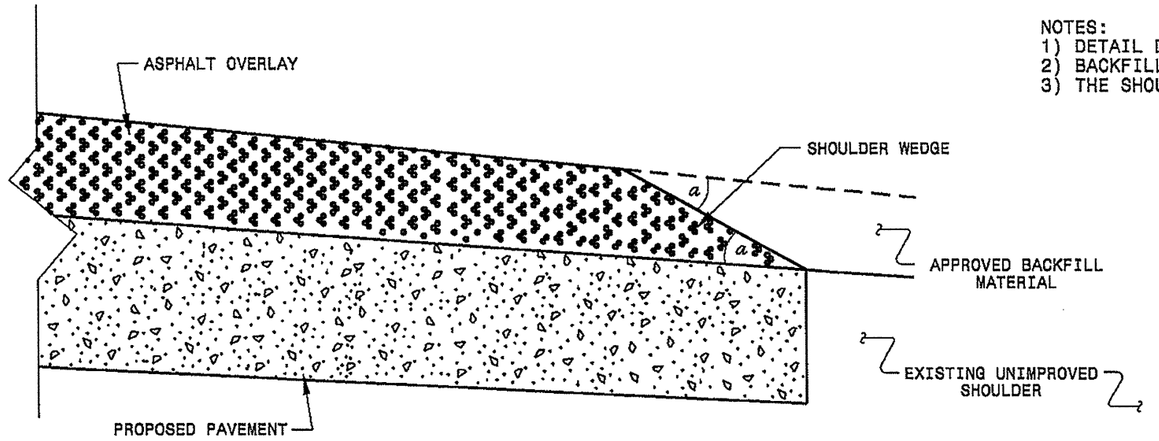
BRIDGE HALF TYPICAL SECTION

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.

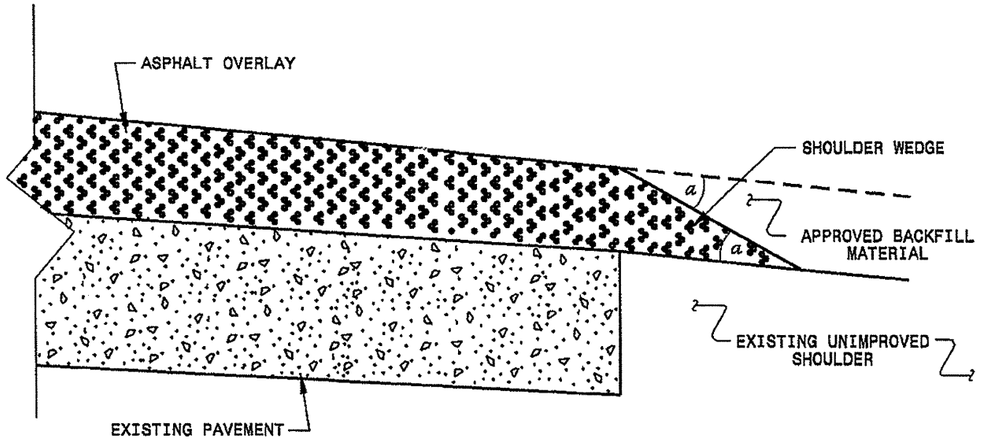
PROJECT REFERENCE NO.	SHEET NO.
3CR.10101.150, etc.	2-K

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



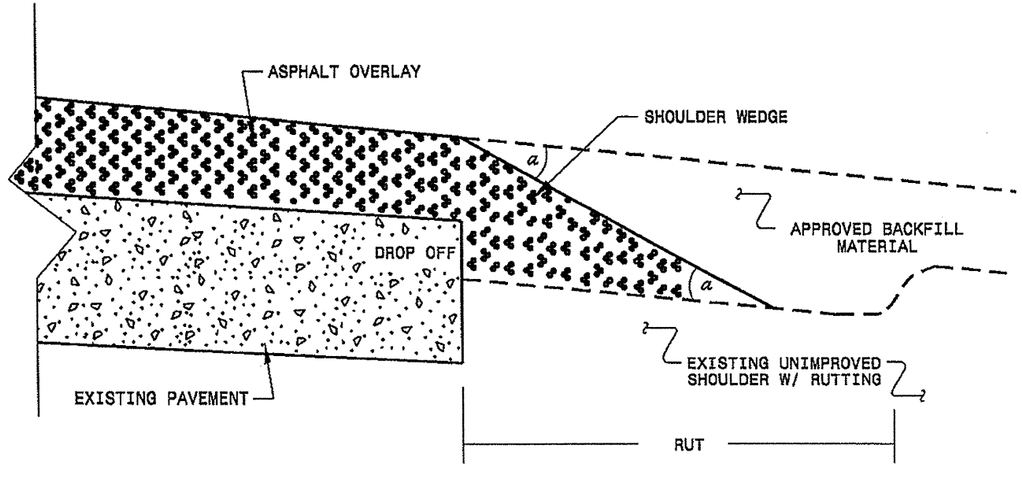
SHOULDER WEDGE DETAIL

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



SHOULDER WEDGE DETAIL

(Resurfacing Projects w/ NO Widening)



SHOULDER WEDGE DETAIL

(Resurfacing Adjacent to Rutted Shoulder)

- SHOULDER WEDGE ANGLE = 30°

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

SHOULDER WEDGE DETAILS

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

$$$$SYSTIME$$$$
$$$$DATE$$$$
$$$$USERNAME$$$$

PROJECT REFERENCE NO. 3CR.1010.150 | SHEET NO. 2-4

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

ENGLISH DETAIL DRAWING FOR

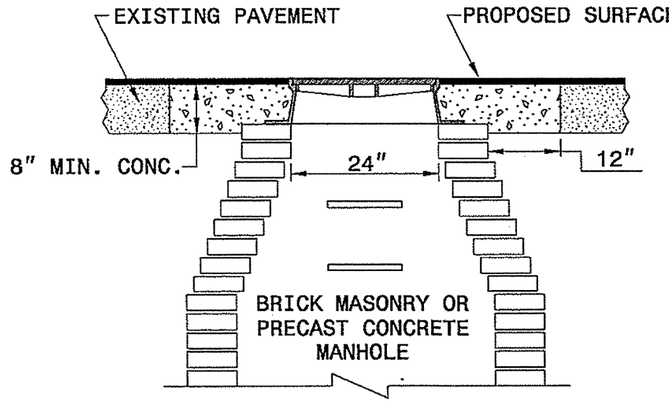
MANHOLE AND VALVE BOX ADJUSTMENTS

SHEET 1 OF 1

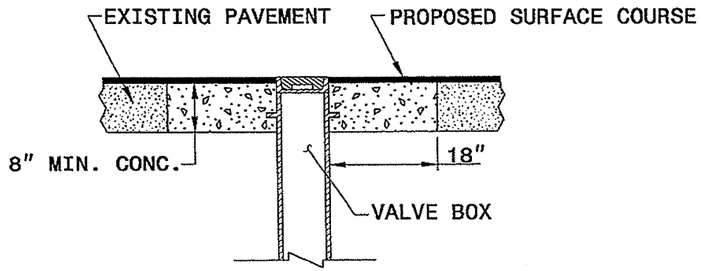
840D55

GENERAL NOTES:

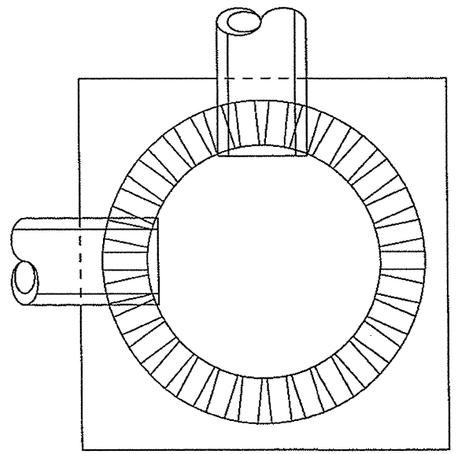
1. USE RAPID SET GROUT, MORTAR, OR CONCRETE WITH A MINIMUM COMPRESSIVE STRENGHT OF 4000 PSI.
2. REMOVE ALL FAULTY EXISTING BRICKWORK AND REPLACE WITH NEW BRICK MASONRY.
3. SHEER CUT EXCAVATION FOR THE ADJUSTMENT ON ALL SIDES.
4. FILL AREA BELOW 8" DEPTH WITH 78M OR NO. 57 CLEAN STONE.
5. MIX MORTAR TO NCDOT SPECIFICATIONS.
6. MORTAR JOINTS ½" +/- ⅛"



MANHOLE CONCRETE ENCASEMENT



VALVE BOX CONCRETE ENCASEMENT



ELEVATION VIEW

PLACE BRICK ACCORDING TO ELEVATION VIEW

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

ENGLISH DETAIL DRAWING FOR

MANHOLE AND VALVE BOX ADJUSTMENTS

SHEET 1 OF 1

840D55

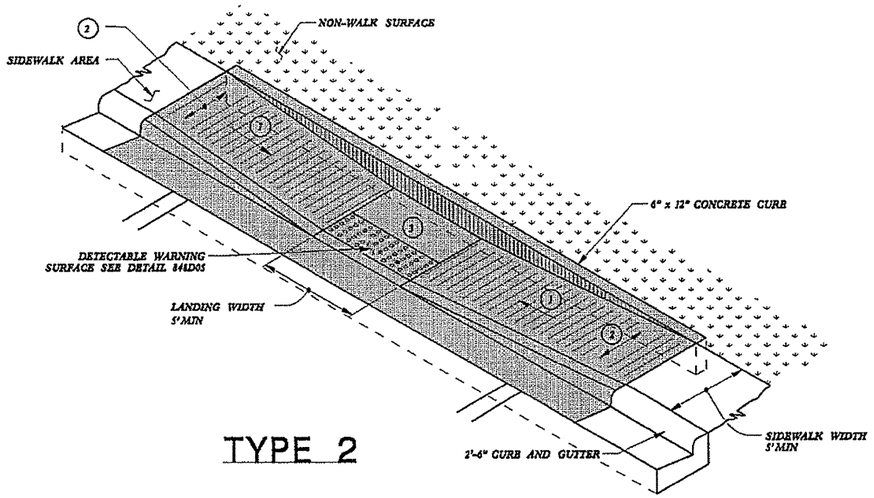
PROJECT SERVICES UNIT
STANDARDS AND SPECIAL DESIGN
Office 919-250-4128 FAX 919-250-4119

SEE PLATE FOR TITLE

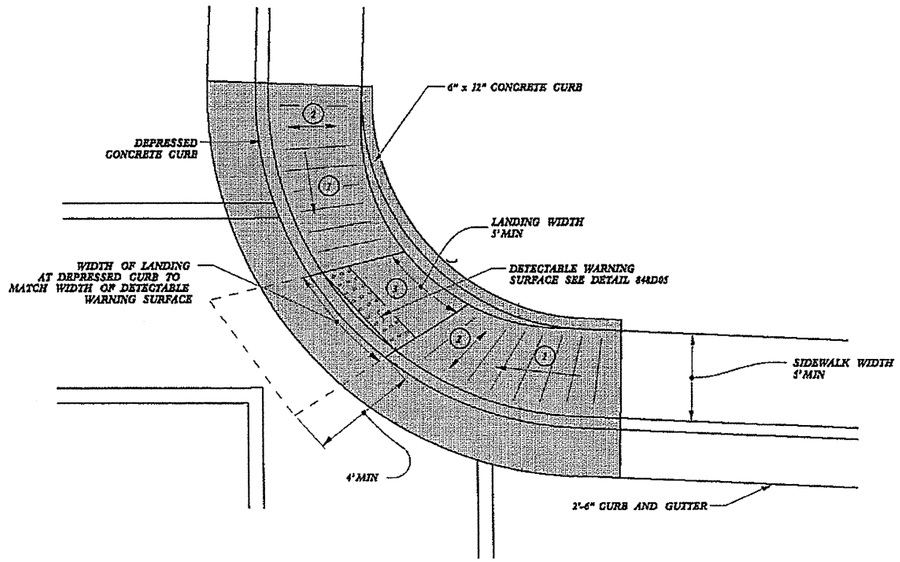
ORIGINAL BY: _____ DATE: _____
MODIFIED BY: E.E. WARD DATE: _____
CHECKED BY: _____ DATE: _____
FILE SPEC.: /usr/details/stand/840d55.dgn

07-DEC-2005 14:25
S:\Contracts\Projects\Special Details\ericward\usr\details\stand\B40d55.dgn
ericward AT PS22243

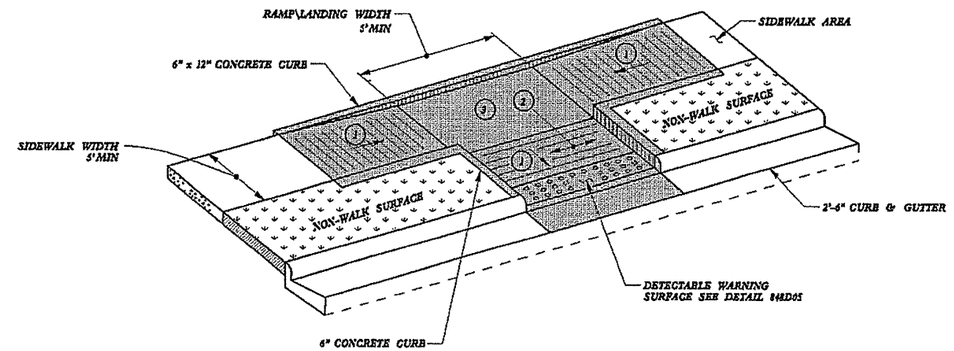
PROJECT REFERENCE NO.	SHEET NO.
3CR.10101.150, etc.	2-9



TYPE 2



TYPE 2A



TYPE 3

PAY LIMITS FOR 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

CONTRACT STANDARDS AND DEVELOPMENT UNIT
Office 919-707-6950 FAX 919-250-4118

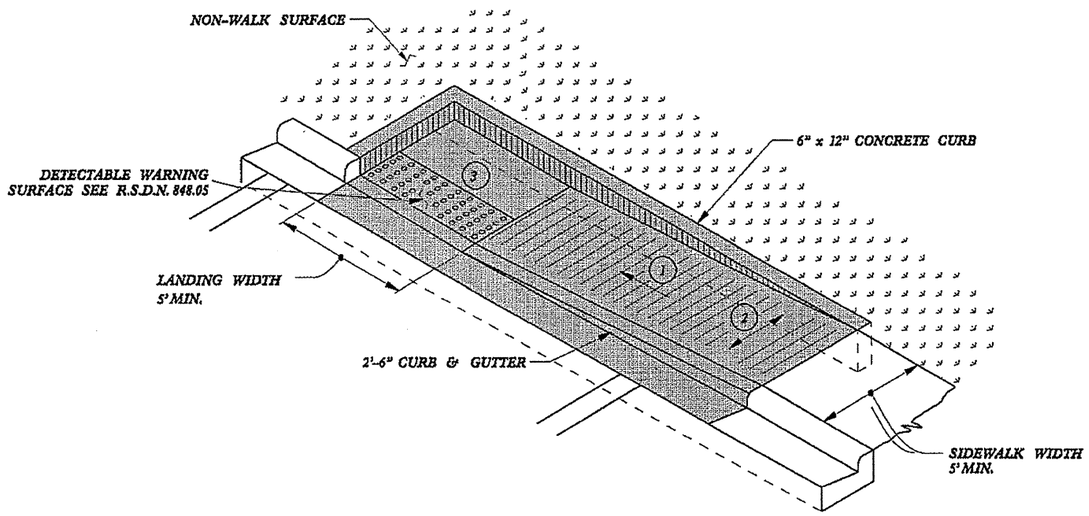
CURB RAMPS

Parallel Ramps

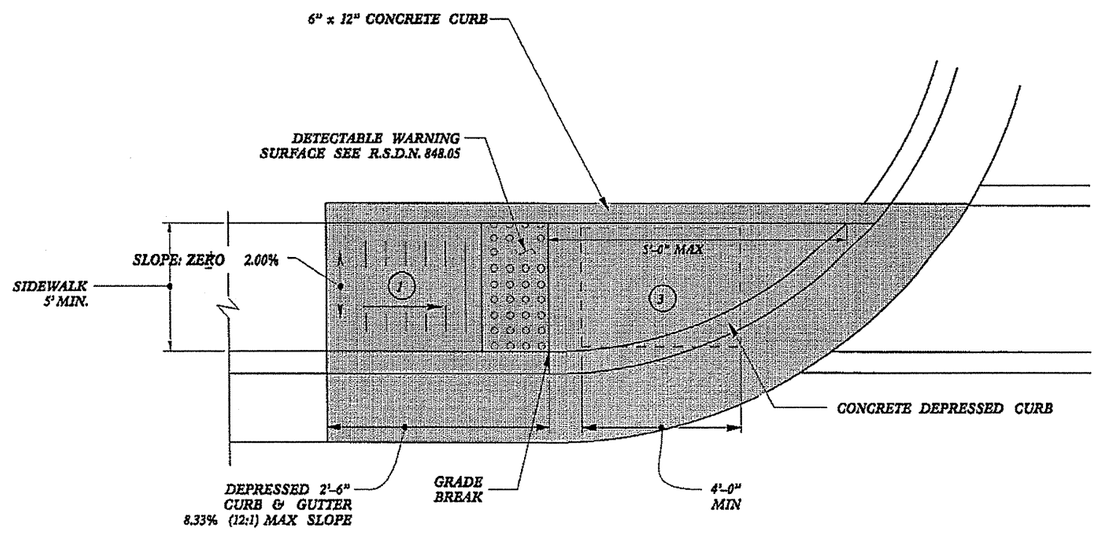
ORIGINAL BY: J.S. HOWERTON DATE: 7/7/11
MODIFIED BY: _____ DATE: _____
CHECKED BY: _____ DATE: _____
FILE SPEC: mids/2012CurbRamp/CurbRampDetails.dgn

PROJECT REFERENCE NO.	SHEET NO.
3CR.10101.150, etc.	2-M

PAY LIMITS FOR CURB RAMP



TYPE 1A



TYPE 1

(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

Directional Ramps

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

5/14/98

22-MAR-2012 15:06
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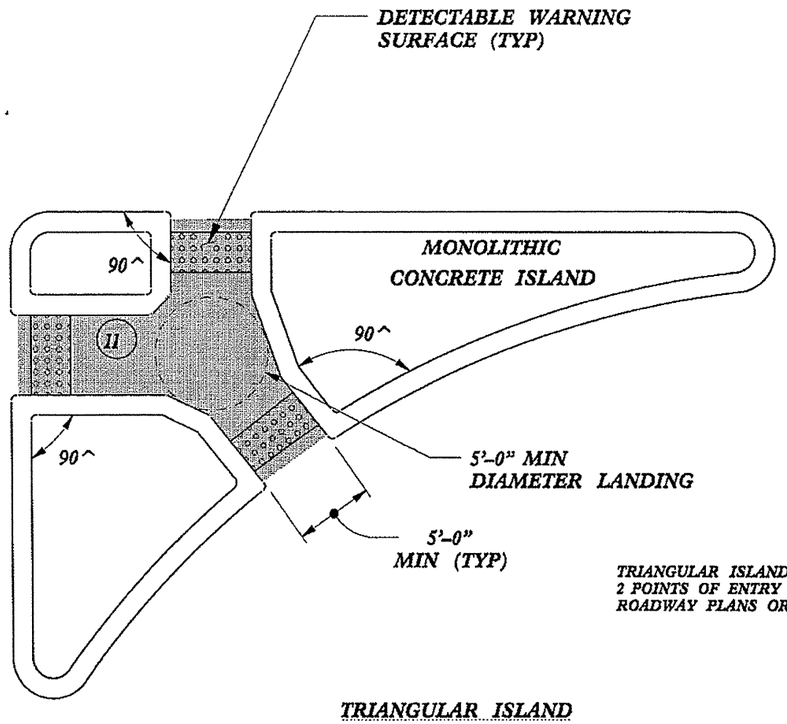
Jhowerton
AT C5DE37501

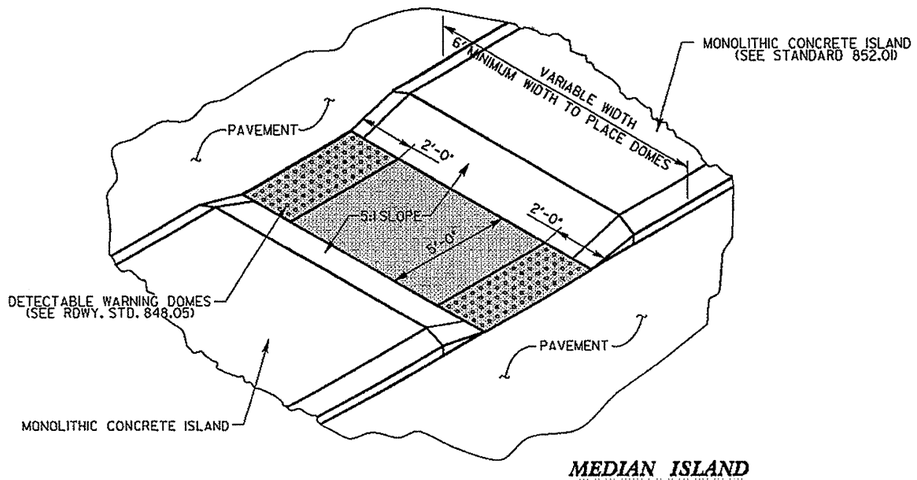
PROJECT REFERENCE NO.	SHEET NO.
3CR.10101.150, etc.	2-N

PAY LIMITS FOR 1 CURB RAMP

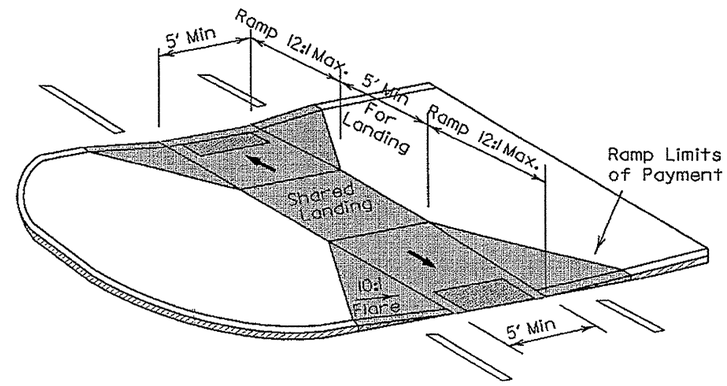


TRIANGULAR ISLANDS MAY BE CONSTRUCTED WITH ONLY 2 POINTS OF ENTRY AND EXIT AS SHOWN IN THE ROADWAY PLANS OR AS DIRECTED BY THE ENGINEER.

TRIANGULAR ISLAND WITH CUT THROUGH



MEDIAN ISLAND WITH CUT THROUGH



MEDIAN ISLAND CURB RAMPS

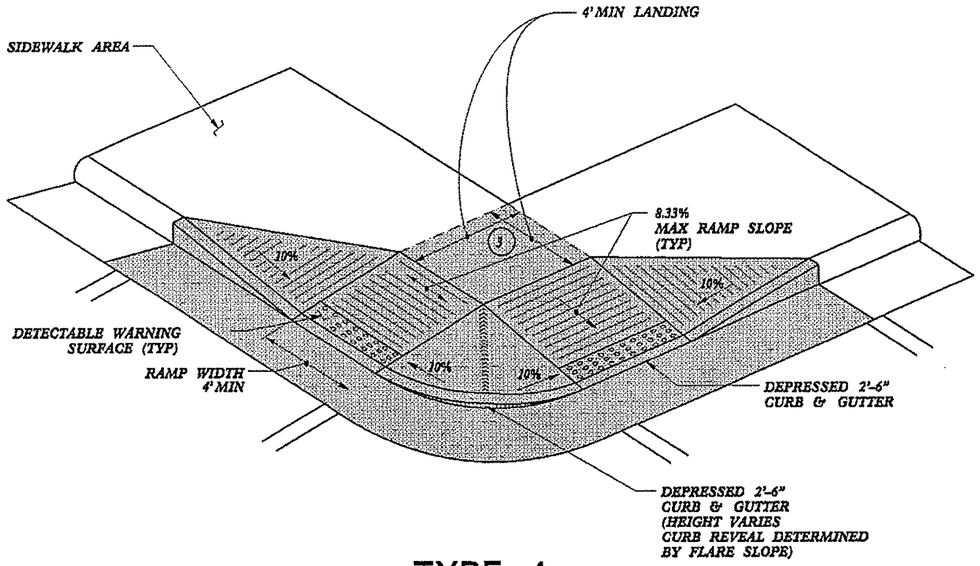
CONTRACT STANDARDS AND DEVELOPMENT UNIT
Office 919-707-6950 FAX 919-250-4119

CURB RAMPS

Median or Turn Lane Islands

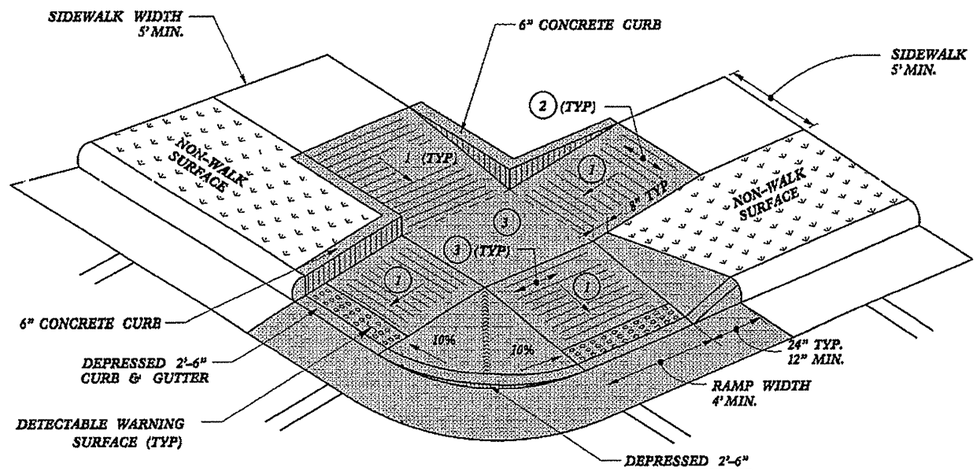
ORIGINAL BY: J.S. HOWERTON DATE: 7/7/11
MODIFIED BY: _____ DATE: _____
CHECKED BY: _____ DATE: _____
FILE SPEC: mids/2012CurbRamp/CurbRampDetails.dgn

PROJECT REFERENCE NO.	SHEET NO.
3CR.10101.150, etc.	2

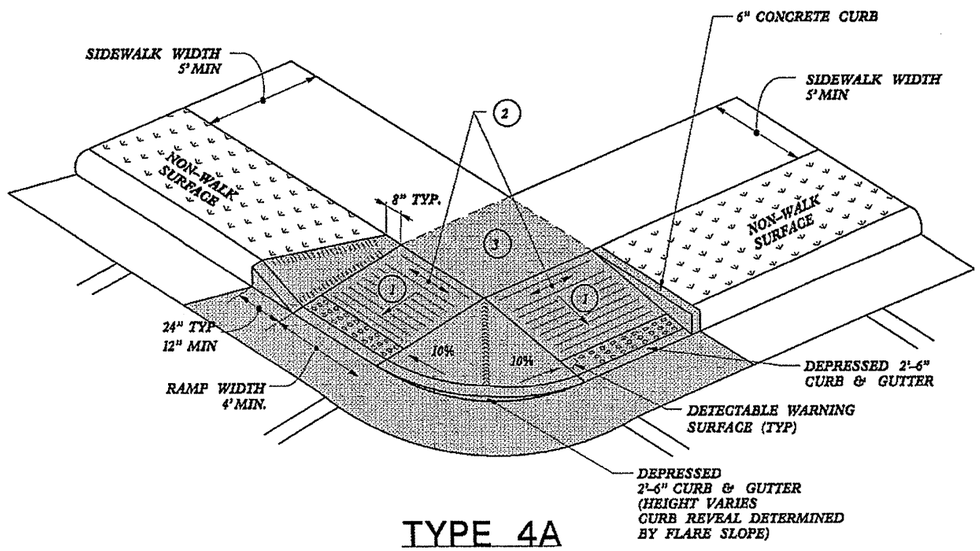


TYPE 4

PAY LIMITS FOR CURB RAMP



TYPE 5



TYPE 4A

(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.: =jds/2012CurbRamp/CurbRampDetails.dgn

5/14/99

22-MAR-2012 15:08
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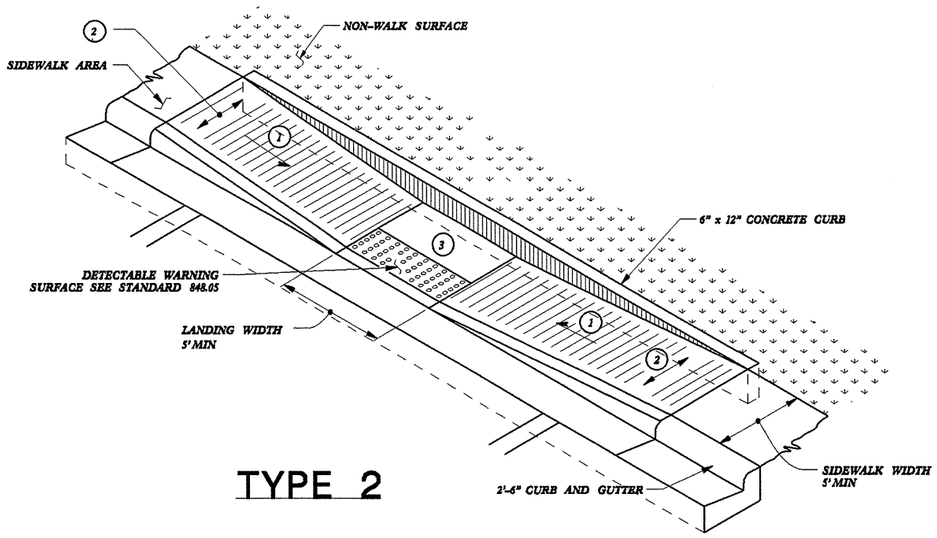
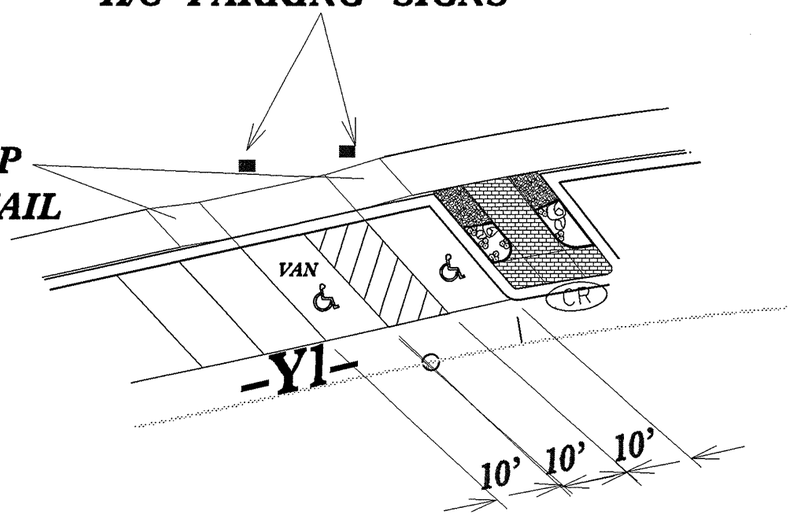
jhowerton AT CSDE37581





5/14

3CR.10101.150, etc. 2-9

TYPE 2

NORTH CAROLINA PROFESSIONAL SEAL 022966 ENGINEER Joel S. Howerton

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

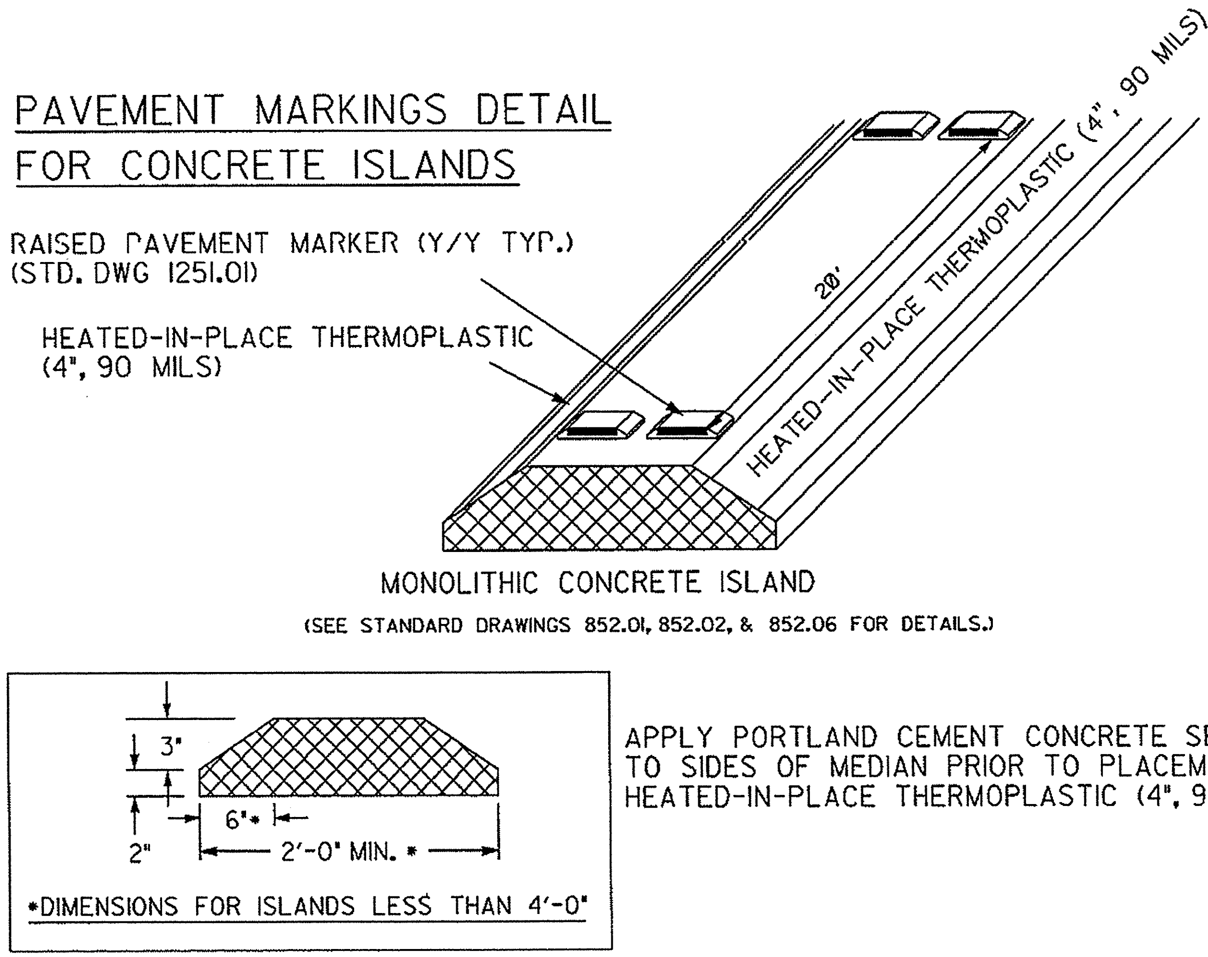
**CONTRACT STANDARDS
AND DEVELOPMENT UNIT**
Office 919-707-6950 FAX 919-250-4119

**RAMPS FOR
HC PARKING**

ORIGINAL BY: J.S. HOWERTON DATE: 11/14/1
MODIFIED BY: ____________ DATE: ______
CHECKED BY: ____________ DATE: ______
FILE SPEC.: jhowerton/K-5002 HC Parking ramp.dc

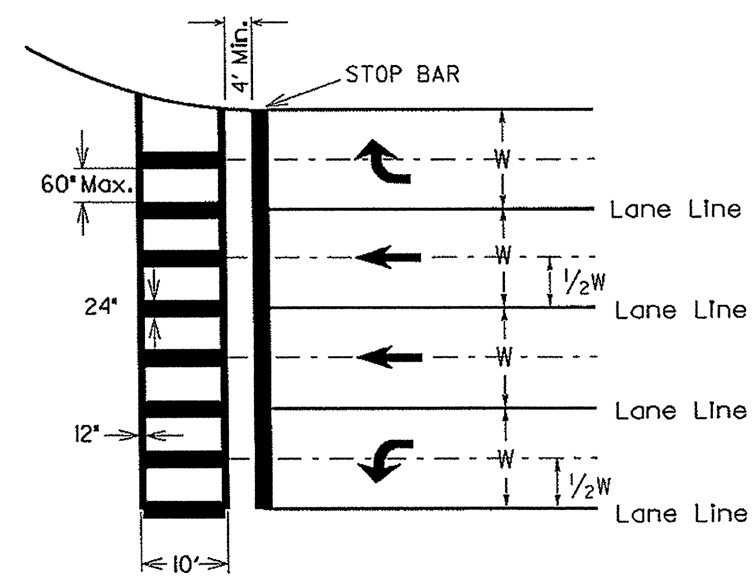
PAVEMENT MARKING DETAILS

PAVEMENT MARKINGS DETAIL FOR CONCRETE ISLANDS



APPLY PORTLAND CEMENT CONCRETE SEALER TO SIDES OF MEDIAN PRIOR TO PLACEMENT OF HEATED-IN-PLACE THERMOPLASTIC (4", 90 MILS)

SPECIAL EMPHASIS HI-VISIBILITY CROSSWALK MARKING DETAIL



NOTES: SPACING OF CROSSWALK LINES POSITIONED TO AVOID WHEELPATHS

8/17/99
REVISIONS
15-NOV-2013 12:29
O:\ROY\DOC\RETREAT\2014\2014_B_NH_P\ROADWAY\Proj\3CR.10101.150_Rdy_tsh_090613.dgn

PROJECT REFERENCE NO.	SHEET NO.
3CRJ0101.150, Etc.	2-S
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

SOIL STABILIZATION TIMEFRAMES

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

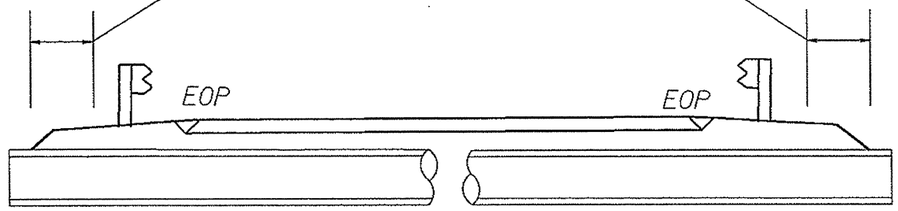
PROJECT REFERENCE NO.	SHEET NO.
3CR.10101.150, ETC.	2-T
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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

BMP Options: Wattle or Silt Fence

EROSION CONTROL DETAIL

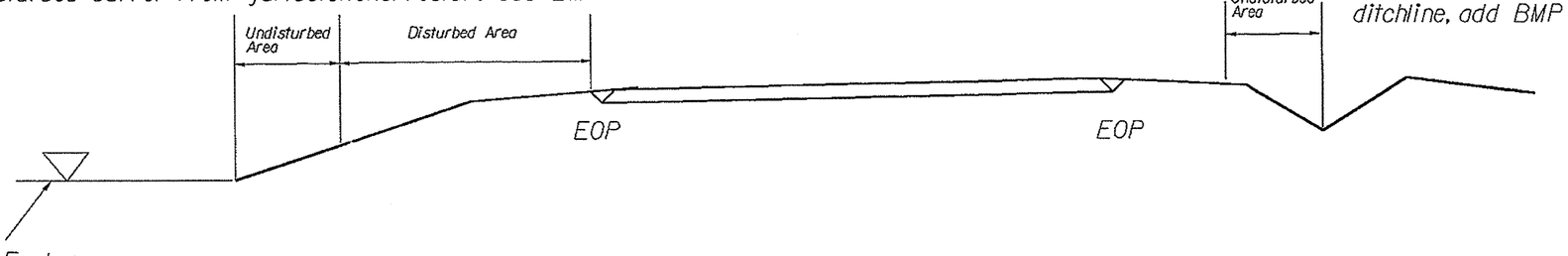
< 5' - 10' Undisturbed buffer add BMP



Pipe/Culvert

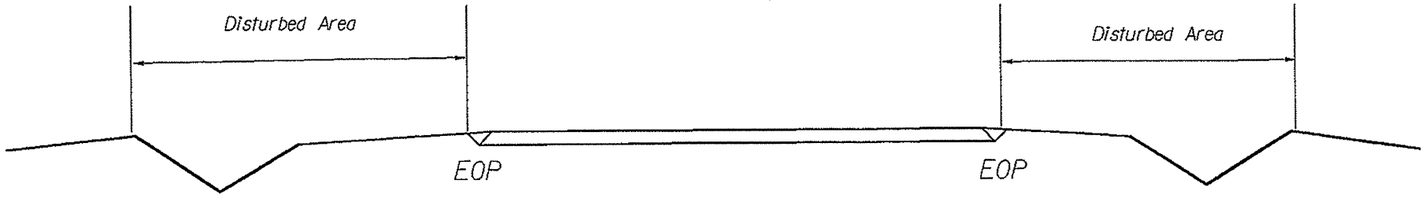
< 5' - 10' Undisturbed buffer from jurisdictional feature add BMP

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

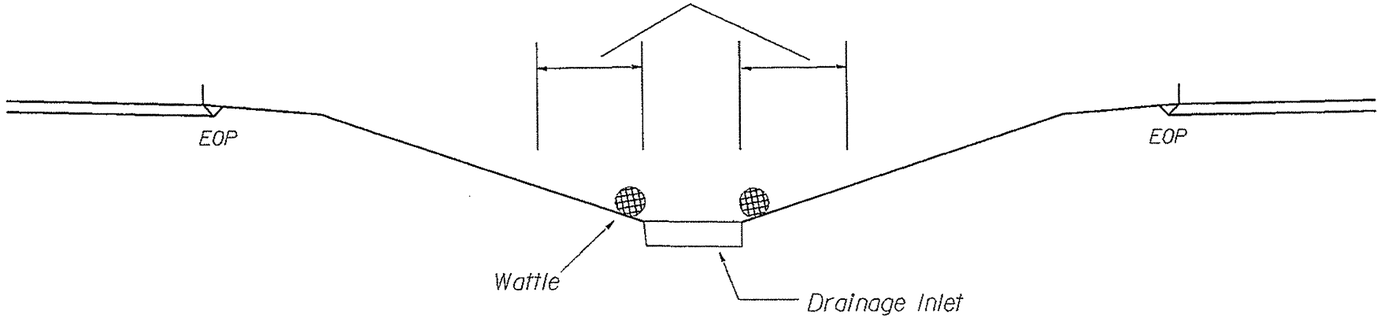


Jurisdictional Feature

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



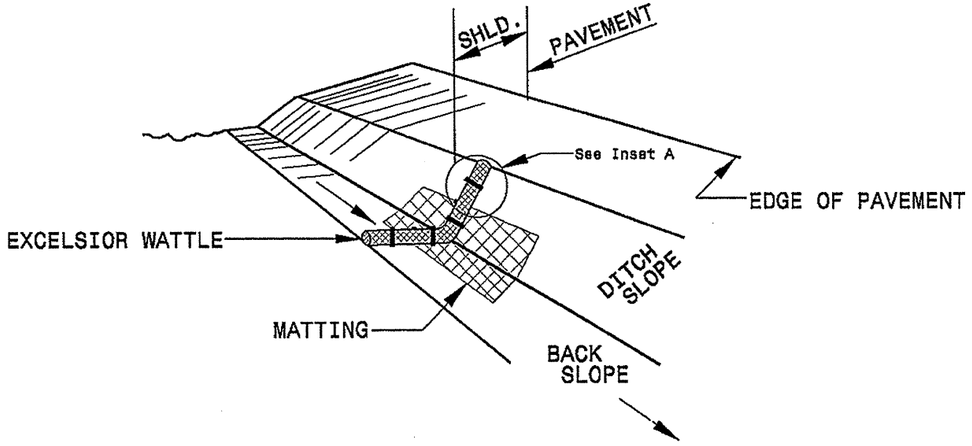
< 5' - 10' Undisturbed buffer from inlet, add wattle



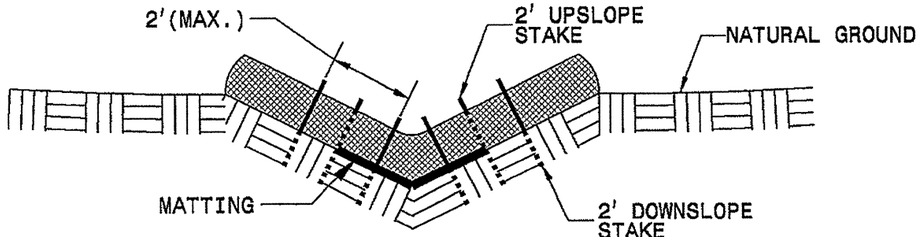
NOT TO SCALE

PROJECT REFERENCE NO.	SHEET NO.
3CR.10101.150, Etc.	2-U

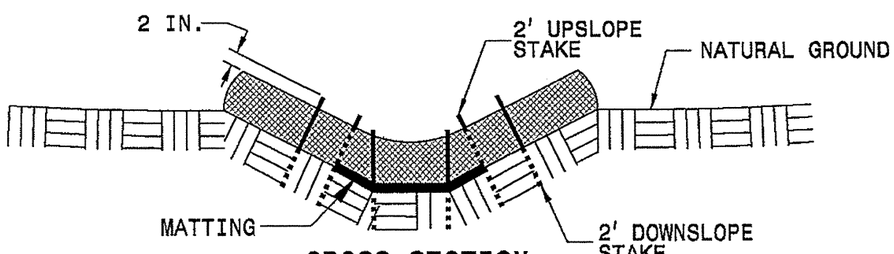
WATTLE DETAIL



ISOMETRIC VIEW



CROSS SECTION VEE DITCH



CROSS SECTION TRAPEZOIDAL DITCH

NOTES:

USE MINIMUM 12 IN. DIAMETER EXCELSIOR WATTLE.

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

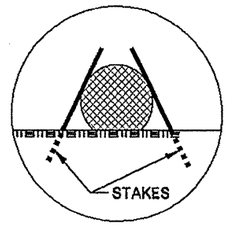
ONLY INSTALL WATTLE(S) TO A HEIGHT IN DITCH SO FLOW WILL NOT WASH AROUND WATTLE AND SCOUR DITCH SLOPES AND AS DIRECTED.

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

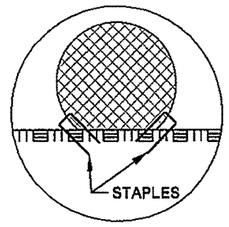
PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12" IN LENGTH.

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

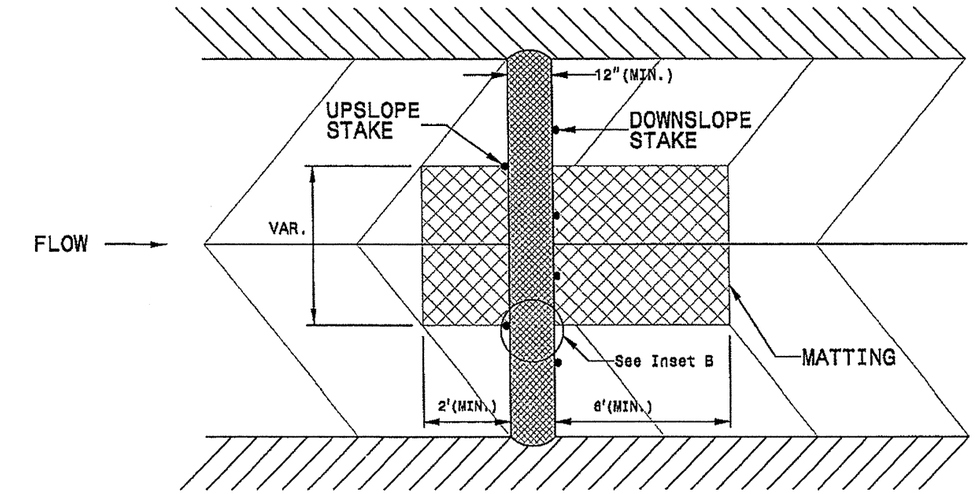
INSTALL MATTING IN ACCORDANCE WITH SECTION 1631 OF THE STANDARD SPECIFICATIONS.



INSET A



INSET B



TOP VIEW

PROJECT NO.	SHEET NO.	TOTAL NO.
3CR.10101.150, ETC.	3	

SUMMARY OF QUANTITIES

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP NO	LANES	LANE TYPE	FINAL SURFACE TESTING REQUIRED	WARM MIX ASPHALT REQUIRED	LENGTH MI	WIDTH FT	BORROW EXC. CY	GEOTEXTILE FOR SOIL STABILIZATION SY	CLASS IV SUBGRADE STABILIZATION TON	SHALLOW UNDERCUT CY	INC. STONE BASE TONS	SHOULDER RECONST. SMI	1 1/2" MILLING SY	2 1/2" MILLING SY	4" MILLING SY	2" MILLING SY	0" - 1.5" MILLING SY	INC. MILLING SY	BASE COURSE, B25.0B TONS	INT. COURSE, I19.0B TONS	INT. COURSE, I19.0C TONS	SURFACE COURSE, S9.5B TONS	SURFACE COURSE, S9.5C TONS	SURFACE COURSE, SF9.5A TONS	LEVELING COURSE, SF9.5A TONS	ASPHALT BINDER FOR PLANT MIX TON
3CR.10101.150	Brunswick	1	US 17 BUSINESS	MILL & FILL AND OVERLAY FROM US 17 (SOUTH END OF US 17 BUSINESS) TO US 17 (AT NOSE OF CONC. MONO. ISLAND)	1,2,3	2-4	M2	YES	NO	7.58	24-52	1,383				375	21.22	3,617	111,334						16,761		10,653				1,444
TOTAL FOR MAP NO. 1										**7.58**		**1,383**				**375**	**21.22**	**3,617**	**111,334**						**16,761**		**10,653**				**1,444**
3CR.10101.150	Brunswick	2	US 17 (S.B.L.)	MILL & FILL AND PATCHING FROM 0.17 MILES N OF SR 1401 (GALLOWAY RD. NE) TO 0.09 MILES S OF SR 1401 (INTERSECTION)	4	2-4	2WD	NO	NO	0.25	28-52							5,139	1,759						300		477				42
TOTAL FOR MAP NO. 2										**0.25**								**5,139**	**1,759**						**300**		**477**				**42**
TOTAL FOR PROJ NO. 3CR.10101.150										**7.83**		**1,383**				**375**	**21.22**	**8,756**	**113,093**						**17,061**		**11,130**				**1,486**
3CR.10651.150	New Hanover	3	US 421 (CAROLINA BEACH ROAD)	MILL & FILL FROM 0.26 MILES SOUTH OF INDEPENDENCE BLVD. TO WEST LAKE SHORE DR.	5	5-6	M2	NO	NO	2.95	54-76							111,944										10,363			611
TOTAL FOR MAP NO. 3										**2.95**								**111,944**										**10,363**			**611**
3CR.10651.150	NewHanover	4	US 117 NBL (SHIPYARD BLVD.)	MILL & FILL FROM US 421 TO 0.05 MILES EAST OF US 421	6	3	MU	NO	NO	0.05	36										1,056							131			8
TOTAL FOR MAP NO. 4										**0.05**											**1,056**							**131**			**8**
3CR.10651.150	NewHanover	5	US 117 SBL (SHIPYARD BLVD.)	MILL & FILL FROM 0.20 MILES EAST OF US 421 TO US 421	7	3-5	MU	NO	NO	0.20	36-60									5,865						882		543			74
TOTAL FOR MAP NO. 5										**0.20**										**5,865**						**882**		**543**			**74**
3CR.10651.150	NewHanover	6	US 421 SBL (S.3RD ST.)	MILL & FILL FROM US 76 TO GREENFIELD ST.	5	2	MU	NO	NO	0.53	28							8,706										805			47
TOTAL FOR MAP NO. 6										**0.53**								**8,706**										**805**			**47**
3CR.10651.150	NewHanover	7	US 421 NBL (S. 3RD ST.)	MILL & FILL FROM GREENFIELD ST. TO US 76	5	2	MU	NO	NO	0.53	28							8,706										805			47
TOTAL FOR MAP NO. 7										**0.53**								**8,706**										**805**			**47**
3CR.10651.150	NewHanover	8	US 17 BUS./US 421 (S. 3RD ST.)	MILL & FILL FROM US 76 EBL TO US 76 WBL	5	6		NO	NO	0.10	68							4,109										380			22
TOTAL FOR MAP NO. 8										**0.10**								**4,109**										**380**			**22**
TOTAL FOR PROJ NO. 3CR.10651.150										**4.36**								**133,465**		**5,865**	**1,056**					**882**		**13,027**			**809**
3CR.10711.150	Pender	9	US 117	MILL & FILL AND SPIRAL WIDENING FROM 0.30 MILES NORTH OF NC 210 TO 0.03 MILES NORTH OF US 117 BUSINESS	8	2-3	2WU	YES	NO	7.08	26-39	1,304				850	14.16	118,007						150			20,961				1,264
TOTAL FOR MAP NO. 9										**7.08**		**1,304**				**850**	**14.16**	**118,007**						**150**			**20,961**				**1,264**
3CR.10711.150	Pender	10	NC 53	PATCHING FROM US 117 TO I-40.	9	2	2WU	NO	NO	1.60	32																				
TOTAL FOR MAP NO. 10										**1.60**																					
3CR.10711.150	Pender	11	NC 11/ NC 53	MILL & FILL, PATCHING, FROM WEST CITY LIMITS TO EAST CITY LIMITS OF ATKINSON	13	2	M2	NO	NO	0.93	32		4,500	2,850	1,400			17,516						125			1,625				103
TOTAL FOR MAP NO. 11										**0.93**			**4,500**	**2,850**	**1,400**			**17,516**						**125**			**1,625**				**103**
TOTAL FOR PROJ NO. 3CR.10711.150										**9.61**		**1,304**	**4,500**	**2,850**	**1,400**	**850**	**14.16**	**135,523**						**275**			**22,586**				**1,367**
3CR.20101.150	Brunswick	12	SR 1104 (BEACH DR.)	MILL & FILL, PATCHING, AND LEVELING FROM PAVEMENT C&G TO END OF SR 1104 PAVEMENT	10	2	2WU	NO	NO	6.40	24	1,178				530	12.80						280						8,220	60	555
TOTAL FOR MAP NO. 12										**6.40**		**1,178**				**530**	**12.80**						**280**						**8,220**	**60**	**555**
3CR.20101.150	Brunswick	13	SR 1828 (KINGS LYNN DR.)	MILL PATCH & RESURFACE FROM SR 1104 (W. BEACH DR.) TO SR 1828 (KINGS LYNN DR)	11	2	2WU	NO	NO	0.68	18	125				60	1.36						280			893				20	41
TOTAL FOR MAP NO. 13										**0.68**		**125**				**60**	**1.36**						**280**			**893**				**20**	**41**
3CR.20101.150	Brunswick	14	SR 1401 (GALLOWAY RD.)	RESURFACING FROM US 17 TO SR 1402 (RANDOLPHVILLE RD.)	11	2	2WU	NO	NO	3.20	20	784				95	6.40						280			4,664					280
TOTAL FOR MAP NO. 14										**3.20**		**784**				**95**	**6.40**						**280**			**4,664**					**280**
3CR.20101.150	Brunswick	15	SR 1435 (N NAVASSA RD.)	MILL PATCH & RESURFACE FROM SR 1472 (VILLAGE RD. NE) TO SR 1432 (OLD MILL RD. NE)	10	2	2WU	NO	NO	1.47	18-22	270				60	2.94						280						1,588		106
TOTAL FOR MAP NO. 15										**1.47**		**270**				**60**	**2.94**						**280**						**1,588**		**106**
3CR.20101.150	Brunswick	16	SR 1430 (CEDAR HILL RD.)	MILL PATCH & RESURFACE FROM SR 1435 (N NAVASSA RD.) TO 0.58 MI S OF SR 1431 (ROYSTER RD. NE)	10	2	2WU	NO	NO	0.90	22	166				10	1.80						280						1,060		71
TOTAL FOR MAP NO. 16										**0.90**		**166**				**10**	**1.80**						**280**						**1,060**		**71**
3CR.20101.150	Brunswick	17	SR 1430 (CEDAR HILL RD.)	MILL PATCH & RESURFACE FROM 0.54 MI NORTH OF SR 1431 (ROYSTER RD. NE) TO SR 1426 (MT. MISERY RD.)	10	2	2WU	NO	NO	2.69	18	495				100	5.38						280						2,596		174
TOTAL FOR MAP NO. 17										**2.69**		**495**				**100**	**5.38**						**280**						**2,596**		**174**
TOTAL FOR PROJ NO. 3CR.20101.150										**15.34**		**3,018**				**855**	**30.68**						**1,680**			**5,557**			**13,464**	**80**	**1,227**

PROJECT NO.	SHEET NO.	TOTAL NO.
3CR.10101.150, ETC.	4	

SUMMARY OF QUANTITIES

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP NO	LANES	LANE TYPE	FINAL SURFACE TESTING REQUIRED	WARM MIX ASPHALT REQUIRED	LENGTH MI	WIDTH FT	BORROW EXC. CY	GEOTEXTILE FOR SOIL STABILIZATION SY	CLASS IV SUBGRADE STABILIZATION TON	SHALLOW UNDERCUT CY	INC. STONE BASE TONS	SHOULDER RECONST. SMI	1 1/2" MILLING SY	2 1/2" MILLING SY	4" MILLING SY	2" MILLING SY	0" - 1.5" MILLING SY	INC. MILLING SY	BASE COURSE, B25.0B TONS	INT. COURSE, I19.0B TONS	INT. COURSE, I19.0C TONS	SURFACE COURSE, S9.5B TONS	SURFACE COURSE, S9.5C TONS	SURFACE COURSE, SF9.5A TONS	LEVELING COURSE, SF9.5A TONS	ASPHALT BINDER FOR PLANT MIX TON
3CR.20651.150	NewHanover	18	SR 1218 (16 TH ST.)	MILL & FILL FROM US 76 WBL TO US 76 EBL	12	3	MD	NO	NO	0.09	36										1,901						233				14
TOTAL FOR MAP NO. 18										**0.09**											**1,901**						**233**				**14**
3CR.20651.150	NewHanover	19	SR 2816 (16 TH ST.)	MILL & FILL FROM US 17 BUS. TO US 76 WBL	12	3	MU	NO	NO	0.92	36										19,430						2,415				145
TOTAL FOR MAP NO. 19										**0.92**											**19,430**						**2,415**				**145**
3CR.20651.150	NewHanover	20	SR 1371 (16 TH ST.)	MILL & FILL FROM GRACE ST.TO US 17 BUS.	12	2	MU	NO	NO	0.22	28										3,614						390				23
TOTAL FOR MAP NO. 20										**0.22**											**3,614**						**390**				**23**
3CR.20651.150	NewHanover	21	SR 1411 (WRIGHTSVILLE AVE.)	MILL & FILL FROM DAWSON ST. TO 0.35 MI. WEST OF SR 1209 (INDEPENDENCE BLVD.)	13	4-5	M2	NO	NO	0.67	44-56							17,683									1,639				98
TOTAL FOR MAP NO. 21										**0.67**								**17,683**									**1,639**				**98**
3CR.20651.150	NewHanover	22	SR 2817 (17 TH ST.)	MILL & FILL FROM US 76 EBL TO US 17 BUS.	12	3	MU	NO	NO	0.78	36										16,558						2,049				123
TOTAL FOR MAP NO. 22										**0.78**											**16,558**						**2,049**				**123**
3CR.20651.150	NewHanover	23	SR 1301 (17 TH ST.)	MILL & FILL FROM US 17 BUS. TO SR 1371 (GRACE ST.)	12	3	MU	NO	NO	0.23	34										4,588						568				34
TOTAL FOR MAP NO. 23										**0.23**											**4,588**						**568**				**34**
3CR.20651.150	NewHanover	24	SR 2183 (SPRING ROAD)	RESURFACING FROM NC 133 TO SR 2184	10	2	2WU	NO	NO	0.25	20																		268		18
TOTAL FOR MAP NO. 24										**0.25**																			**268**		**18**
3CR.20651.150	New Hanover	25	SR 2184 (FAIRFIELD DRIVE)	RESURFACING FROM SR 2183 TO SR 1318	10	2	2WU	NO	NO	0.21	20																		225		15
TOTAL FOR MAP NO. 25										**0.21**																			**225**		**15**
3CR.20651.150	NewHanover	26	SR 2220 (WINDMILL WAY)	RESURFACING FROM SR 2219 (N. GREEN MEADOWS DR.) TO SR 2700 (OLD DAIRY RD.)	15	2	2WU	NO	NO	0.46	24	85					0.92										602				36
TOTAL FOR MAP NO. 26										**0.46**		**85**					**0.92**										**602**				**36**
3CR.20651.150	NewHanover	27	SR 2698 (NETHERLANDS DR.)	RESURFACING FROM SR 2048 (GORDON RD.) TO SR 2700 (OLD DAIRY RD.)	15	2-4	2WU	NO	NO	0.46	24-51	85					0.92										663				39
TOTAL FOR MAP NO. 27										**0.46**		**85**					**0.92**										**663**				**39**
3CR.20651.150	NewHanover	28	SR 2700 (OLD DAIRY RD.)	RESURFACING FROM US 17 BUS TO SR 2699 (AMSTERDAM WAY)	15	2	2WU	NO	NO	0.37	24	68					0.74										484				29
TOTAL FOR MAP NO. 28										**0.37**		**68**					**0.74**										**484**				**29**
3CR.20651.150	NewHanover	29	SR 2701 (ANTILLES CT.)	RESURFACING FROM SR 2698 (NETHERLANDS DR.) TO DEAD END	15	2	2WU	NO	NO	0.12	24	22					0.24										157				9
TOTAL FOR MAP NO. 29										**0.12**		**22**					**0.24**										**157**				**9**
3CR.20651.150	NewHanover	30	SR 2699 (AMSTERDAM WAY)	RESURFACING FROM SR 2698 (NETHERLANDS DR.) TO SR 2221 (VAN DYKE DR.)	15	2	2WU	NO	NO	0.49	24	90					0.98										638				38
TOTAL FOR MAP NO. 30										**0.49**		**90**					**0.98**										**638**				**38**
3CR.20651.150	NewHanover	31	SR 1940 (COVIL FARM RD.)	WIDENING & RESURFACING FROM 0.05 MI. EAST OF SR 1409 (MILITARY CUTOFF RD) TO SR 1916 (RED CEDAR RD.)	17, 21	3-5	2WU	NO	NO	0.78	32-60	125					1.36					1,173			589				1,316		116
TOTAL FOR MAP NO. 31										**0.78**		**125**					**1.36**					**1,173**			**589**				**1,316**		**116**
3CR.20651.150	NewHanover	32	SR 1411 (WRIGHTSVILLE AVE.)	MILLING & RESURFACING FROM 0.12 EAST OF SR 2313 TO US 117	1, 13, 18, 19	2-4	2WU	NO	NO	1.08	24-55							19,799									1,836				110
TOTAL FOR MAP NO. 32										**1.08**								**19,799**									**1,836**				**110**
3CR.20651.150	NewHanover	33	SR 2717 (TORCHWOOD BLVD.)	WIDENING & RESURFACING FROM US 17 BUS. TO SR 2718 (BEACON DR.)	16	2-3	2WU	NO	NO	0.54	24-32	99					1.07							461					700		68
TOTAL FOR MAP NO. 33										**0.54**		**99**					**1.07**							**461**					**700**		**68**
3CR.20651.150	New Hanover	34	SR 1363 (BAYSHORE DRIVE)	MILL & FILL AND RESURFACING FROM US 17 BUS. TO SR 1393	14, 20	2-5	2WU	NO	NO	0.77	40-54							3,147											1,040		70
TOTAL FOR MAP NO. 34										**0.77**								**3,147**											**1,040**		**70**
3CR.20651.150	NewHanover	35	STATE PORTS	MILL PATCHING AT THE STATE PORTS	9	2		NO	NO	1.26	18																				
TOTAL FOR MAP NO. 35										**1.26**																					
TOTAL FOR PROJ NO. 3CR.20651.150										**9.70**		**574**					**6.22**	**40,629**			**46,091**	**1,173**		**461**	**589**		**11,674**		**3,549**		**985**
GRAND TOTAL										**46.84**		**6,279**	**4,500.00**	**2,850.00**	**1,400.00**	**2,080**	**72.28**	**318,373**	**113,093**	**5,865**	**47,147**	**1,173**	**1,680**	**736**	**17,650**	**882**	**50,947**	**13,027**	**17,013**	**80**	**5,874**

PROJECT NO.	SHEET NO.	TOTAL NO.
3CR.10101.150, ETC.	5	

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	PATCHING EXISTING PAVEMENT (FULL DEPTH) TON	PATCHING EXISTING PAVEMENT S9.5B (FULL DEPTH) TON	PATCHING EXISTING PAVEMENT (MILL) TON	PATCHING EXISTING PAVEMENT S9.5B (MILL) TON	PATCHING EXISTING PAVEMENT I19.0C (MILL) TON	4" CONCRETE SIDEWALK SY	CONCRETE CURB RAMP EA	5" MONOLITHIC CONCRETE ISLANDS(SURFACE MOUNTED) SY	REMOVAL OF CONCRETE ISLAND SY	2'-6" CURB & GUTTER, REMOVE & REPLACE LF	2'-0" CURB & GUTTER, REMOVE & REPLACE LF	ADJ. OF CATCH BASIN EA	ADJ. OF MANHOLES EA	ADJ. OF MON EA	ADJ. OF METER OR VALVE BOX EA	PORTABLE LIGHTING LS	TEMP. SILT FENCE LF	STONE FOR EC CLASS B TON	SEDIMENT CONTROL STONE TON
3CR.10101.150	Brunswick	1	US 17 BUSINESS	MILL & FILL AND OVERLAY FROM US 17 (SOUTH END OF US 17 BUSINESS) TO US 17 (AT NOSE OF CONC. MONO. ISLAND)	1,2,3	2-4	M2	YES	NO	7.58	24-52																		742	186	186
TOTAL FOR MAP NO. 1										**7.58**																			**742**	**186**	**186**
3CR.10101.150	Brunswick	2	US 17 (S.B.L.)	MILL & FILL AND PATCHING FROM 0.17 MILES N OF SR 1401 (GALLOWAY RD. NE) TO 0.09 MILES S OF SR 1401 (INTERSECTION)	4	2-4	2WD	NO	NO	0.25	28-52			15	1																
TOTAL FOR MAP NO. 2										**0.25**				**15**	**1**																
TOTAL FOR PROJ NO. 3CR.10101.150										**7.83**				**15**	**1**														**742**	**186**	**186**
3CR.10651.150	New Hanover	3	US 421 (CAROLINA BEACH ROAD)	MILL & FILL FROM 0.26 MILES SOUTH OF INDEPENDENCE BLVD. TO WEST LAKE SHORE DR.	5	5-6	M2	NO	NO	2.95	54-76	75		175	9		100	52	50	60	300		2	52	2	28	0.36				
TOTAL FOR MAP NO. 3										**2.95**		**75**		**175**	**9**		**100**	**52**	**50**	**60**	**300**		**2**	**52**	**2**	**28**	**0.36**				
3CR.10651.150	NewHanover	4	US 117 NBL (SHIPYARD BLVD.)	MILL & FILL FROM US 421 TO 0.05 MILES EAST OF US 421	6	3	MU	NO	NO	0.05	36			15	1																
TOTAL FOR MAP NO. 4										**0.05**				**15**	**1**																
3CR.10651.150	NewHanover	5	US 117 SBL (SHIPYARD BLVD.)	MILL & FILL FROM 0.20 MILES EAST OF US 421 TO US 421	7	3-5	MU	NO	NO	0.20	36-60			20	1																
TOTAL FOR MAP NO. 5										**0.20**				**20**	**1**																
3CR.10651.150	NewHanover	6	US 421 SBL (S.3RD ST.)	MILL & FILL FROM US 76 TO GREENFIELD ST.	5	2	MU	NO	NO	0.53	28	20		50	3			20			20	170		4		5	0.06				
TOTAL FOR MAP NO. 6										**0.53**		**20**		**50**	**3**			**20**			**20**	**170**		**4**		**5**	**0.06**				
3CR.10651.150	NewHanover	7	US 421 NBL (S. 3RD ST.)	MILL & FILL FROM GREENFIELD ST. TO US 76	5	2	MU	NO	NO	0.53	28	20		50	3			20				230		16		6	0.06				
TOTAL FOR MAP NO. 7										**0.53**		**20**		**50**	**3**			**20**				**230**		**16**		**6**	**0.06**				
3CR.10651.150	NewHanover	8	US 17 BUS./US 421 (S. 3RD ST.)	MILL & FILL FROM US 76 EBL TO US 76 WBL	5	6		NO	NO	0.10	68			25	1			8						5			0.01				
TOTAL FOR MAP NO. 8										**0.10**				**25**	**1**			**8**						**5**			**0.01**				
TOTAL FOR PROJ NO. 3CR.10651.150										**4.36**		**115**		**335**	**18**		**100**	**100**	**50**	**60**	**320**	**400**	**2**	**77**	**2**	**39**	**0.49**				
3CR.10711.150	Pender	9	US 117	MILL & FILL AND SPIRAL WIDENING FROM 0.30 MILES NORTH OF NC 210 TO 0.03 MILES NORTH OF US 117 BUSINESS	8	2-3	2WU	YES	NO	7.08	26-39																		709	177	177
TOTAL FOR MAP NO. 9										**7.08**																			**709**	**177**	**177**
3CR.10711.150	Pender	10	NC 53	PATCHING FROM US 117 TO I-40.	9	2	2WU	NO	NO	1.60	32		25		499																
TOTAL FOR MAP NO. 10										**1.60**			**25**		**499**																
3CR.10711.150	Pender	11	NC 11/ NC 53	MILL & FILL, PATCHING, FROM WEST CITY LIMITS TO EAST CITY LIMITS OF ATKINSON	13	2	M2	NO	NO	0.93	32	1,800		50	3			3			70										
TOTAL FOR MAP NO. 11										**0.93**		**1,800**		**50**	**3**			**3**			**70**										
TOTAL FOR PROJ NO. 3CR.10711.150										**9.61**		**1,800**	**25**	**50**	**502**			**3**			**70**								**709**	**177**	**177**
3CR.20101.150	Brunswick	12	SR 1104 (BEACH DR.)	MILL & FILL, PATCHING, AND LEVELING FROM PAVEMENT C&G TO END OF SR 1104 PAVEMENT	10	2	2WU	NO	NO	6.40	24			400	20														640	160	160
TOTAL FOR MAP NO. 12										**6.40**				**400**	**20**														**640**	**160**	**160**
3CR.20101.150	Brunswick	13	SR 1828 (KINGS LYNN DR.)	MILL PATCH & RESURFACE FROM SR 1104 (W. BEACH DR.) TO SR 1828 (KINGS LYNN DR)	11	2	2WU	NO	NO	0.68	18			100	5														68	17	17
TOTAL FOR MAP NO. 13										**0.68**				**100**	**5**														**68**	**17**	**17**
3CR.20101.150	Brunswick	14	SR 1401 (GALLOWAY RD.)	RESURFACING FROM US 17 TO SR 1402 (RANDOLPHVILLE RD.)	11	2	2WU	NO	NO	3.20	20			250	13														320	80	80
TOTAL FOR MAP NO. 14										**3.20**				**250**	**13**														**320**	**80**	**80**
3CR.20101.150	Brunswick	15	SR 1435 (N NAVASSA RD.)	MILL PATCH & RESURFACE FROM SR 1472 (VILLAGE RD. NE) TO SR 1432 (OLD MILL RD. NE)	10	2	2WU	NO	NO	1.47	18-22			420	21											2			147	37	37
TOTAL FOR MAP NO. 15										**1.47**				**420**	**21**											**2**			**147**	**37**	**37**
3CR.20101.150	Brunswick	16	SR 1430 (CEDAR HILL RD.)	MILL PATCH & RESURFACE FROM SR 1435 (N NAVASSA RD.) TO 0.58 MI S OF SR 1431 (ROYSTER RD. NE)	10	2	2WU	NO	NO	0.90	22			250	13														0	23	23
TOTAL FOR MAP NO. 16										**0.90**				**250**	**13**														**0**	**23**	**23**
3CR.20101.150	Brunswick	17	SR 1430 (CEDAR HILL RD.)	MILL PATCH & RESURFACE FROM 0.54 MI NORTH OF SR 1431 (ROYSTER RD. NE) TO SR 1426 (MT. MISERY RD.)	10	2	2WU	NO	NO	2.69	18			425	21														269	68	68
TOTAL FOR MAP NO. 17										**2.69**				**425**	**21**														**269**	**68**	**68**
TOTAL FOR PROJ NO. 3CR.20101.150										**15.34**				**1,845**	**93**											**2**			**1,444**	**385**	**385**

PROJECT NO.	SHEET NO.	TOTAL NO.
3CR.10101.150, ETC.	6	

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	PATCHING EXISTING PAVEMENT (FULL DEPTH) TON	PATCHING EXISTING PAVEMENT S9.5B (FULL DEPTH) TON	PATCHING EXISTING PAVEMENT (MILL) TON	PATCHING EXISTING PAVEMENT S9.5B (MILL) TON	PATCHING EXISTING PAVEMENT I19.0C (MILL) TON	4" CONCRETE SIDEWALK SY	CONCRETE CURB RAMP EA	5" MONOLITHIC CONCRETE ISLANDS(SURFACE MOUNTED) SY	REMOVAL OF CONCRETE ISLAND SY	2'-6" CURB & GUTTER, REMOVE & REPLACE LF	2'-0" CURB & GUTTER, REMOVE & REPLACE LF	ADJ. OF CATCH BASIN EA	ADJ. OF MANHOLES EA	ADJ. OF MON EA	ADJ. OF METER OR VALVE BOX EA	PORTABLE LIGHTING LS	TEMP. SILT FENCE LF	STONE FOR EC CLASS B TON	SEDIMENT CONTROL STONE TON
3CR.20651.150	NewHanover	18	SR 1218 (16 TH ST.)	MILL & FILL FROM US 76 WBL TO US 76 EBL	12	3	MD	NO	NO	0.09	36																0.01			
TOTAL FOR MAP NO. 18										**0.09**																	**0.01**			
3CR.20651.150	NewHanover	19	SR 2816 (16 TH ST.)	MILL & FILL FROM US 17 BUS. TO US 76 WBL	12	3	MU	NO	NO	0.92	36							42						23	6	6	0.11			
TOTAL FOR MAP NO. 19										**0.92**								**42**						**23**	**6**	**6**	**0.11**			
3CR.20651.150	NewHanover	20	SR 1371 (16 TH ST.)	MILL & FILL FROM GRACE ST.TO US 17 BUS.	12	2	MU	NO	NO	0.22	28							10						6	7	6	0.03			
TOTAL FOR MAP NO. 20										**0.22**								**10**						**6**	**7**	**6**	**0.03**			
3CR.20651.150	NewHanover	21	SR 1411 (WRIGHTSVILLE AVE.)	MILL & FILL FROM DAWSON ST. TO 0.35 MI. WEST OF SR 1209 (INDEPENDENCE BLVD.)	13	4-5	M2	NO	NO	0.67	44-56							12						15		8	0.08			
TOTAL FOR MAP NO. 21										**0.67**								**12**						**15**		**8**	**0.08**			
3CR.20651.150	NewHanover	22	SR 2817 (17 TH ST.)	MILL & FILL FROM US 76 EBL TO US 17 BUS.	12	3	MU	NO	NO	0.78	36							40						14	6	8	0.10			
TOTAL FOR MAP NO. 22										**0.78**								**40**						**14**	**6**	**8**	**0.10**			
3CR.20651.150	NewHanover	23	SR 1301 (17 TH ST.)	MILL & FILL FROM US 17 BUS. TO SR 1371 (GRACE ST.)	12	3	MU	NO	NO	0.23	34							10						7		4	0.03			
TOTAL FOR MAP NO. 23										**0.23**								**10**						**7**		**4**	**0.03**			
3CR.20651.150	NewHanover	24	SR 2183 (SPRING ROAD)	RESURFACING FROM NC 133 TO SR 2184	10	2	2WU	NO	NO	0.25	20																			
TOTAL FOR MAP NO. 24										**0.25**																				
3CR.20651.150	New Hanover	25	SR 2184 (FAIRFIELD DRIVE)	RESURFACING FROM SR 2183 TO SR 1318	10	2	2WU	NO	NO	0.21	20																			
TOTAL FOR MAP NO. 25										**0.21**																				
3CR.20651.150	NewHanover	26	SR 2220 (WINDMILL WAY)	RESURFACING FROM SR 2219 (N. GREEN MEADOWS DR.) TO SR 2700 (OLD DAIRY RD.)	15	2	2WU	NO	NO	0.46	24													2				46	12	12
TOTAL FOR MAP NO. 26										**0.46**														**2**				**46**	**12**	**12**
3CR.20651.150	NewHanover	27	SR 2698 (NETHERLANDS DR.)	RESURFACING FROM SR 2048 (GORDON RD.) TO SR 2700 (OLD DAIRY RD.)	15	2-4	2WU	NO	NO	0.46	24-51														8			46	12	12
TOTAL FOR MAP NO. 27										**0.46**															**8**			**46**	**12**	**12**
3CR.20651.150	NewHanover	28	SR 2700 (OLD DAIRY RD.)	RESURFACING FROM US 17 BUS TO SR 2699 (AMSTERDAM WAY)	15	2	2WU	NO	NO	0.37	24														2			37	10	10
TOTAL FOR MAP NO. 28										**0.37**															**2**			**37**	**10**	**10**
3CR.20651.150	NewHanover	29	SR 2701 (ANTILLES CT.)	RESURFACING FROM SR 2698 (NETHERLANDS DR.) TO DEAD END	15	2	2WU	NO	NO	0.12	24													2	2			12	3	3
TOTAL FOR MAP NO. 29										**0.12**														**2**	**2**			**12**	**3**	**3**
3CR.20651.150	NewHanover	30	SR 2699 (AMSTERDAM WAY)	RESURFACING FROM SR 2698 (NETHERLANDS DR.) TO SR 2221 (VAN DYKE DR.)	15	2	2WU	NO	NO	0.49	24													2				49	13	13
TOTAL FOR MAP NO. 30										**0.49**														**2**				**49**	**13**	**13**
3CR.20651.150	NewHanover	31	SR 1940 (COVIL FARM RD.)	WIDENING & RESURFACING FROM 0.05 MI. EAST OF SR 1409 (MILITARY CUTOFF RD) TO SR 1916 (RED CEDAR RD.)	17, 21	3-5	2WU	NO	NO	0.78	32-60													2	6	1		83	21	21
TOTAL FOR MAP NO. 31										**0.78**														**2**	**6**	**1**		**83**	**21**	**21**
3CR.20651.150	NewHanover	32	SR 1411 (WRIGHTSVILLE AVE.)	MILLING & RESURFACING FROM 0.12 EAST OF SR 2313 TO US 117	1, 13, 18, 19	2-4	2WU	NO	NO	1.08	24-55													9		3	0.13			
TOTAL FOR MAP NO. 32										**1.08**														**9**		**3**	**0.13**			
3CR.20651.150	NewHanover	33	SR 2717 (TORCHWOOD BLVD.)	WIDENING & RESURFACING FROM US 17 BUS. TO SR 2718 (BEACON DR.)	16	2-3	2WU	NO	NO	0.54	24-32													8	8	4		54	14	14
TOTAL FOR MAP NO. 33										**0.54**														**8**	**8**	**4**		**54**	**14**	**14**
3CR.20651.150	New Hanover	34	SR 1363 (BAYSHORE DRIVE)	MILL & FILL AND RESURFACING FROM US 17 BUS. TO SR 1393	14, 20	2-5	2WU	NO	NO	0.77	40-54														1					
TOTAL FOR MAP NO. 34										**0.77**															**1**					
3CR.20651.150	NewHanover	35	STATE PORTS	MILL PATCHING AT THE STATE PORTS	9	2		NO	NO	1.26	18				273	1,612											0.02			
TOTAL FOR MAP NO. 35										**1.26**					**273**	**1,612**											**0.02**			
TOTAL FOR PROJ NO. 3CR.20651.150										**9.70**					**273**	**1,612**		**114**						**90**	**46**	**40**	**0.51**	**327**	**85**	**85**
GRAND TOTAL										**46.84**		**1,915**	**25**	**2,245**	**887**	**1,612**	**100**	**217**	**50**	**60**	**390**	**400**	**2**	**167**	**48**	**81**	**1.00**	**3,222**	**833**	**833**

PROJECT NO.	SHEET NO.	TOTAL NO.
3CR.10101.150, ETC.	7	

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	TEMP. MULCHING ACR	MATTING FOR EROSION CONTROL SY	1/4" HARDWARE CLOTH LF	WATTLE LF	SEED & MULCHING AC	SEED FOR REPAIR SEEDING LB	FERTILIZER FOR REPAIR SEEDING TON	INDUCTIVE LOOP LF	LEAD-IN CABLE (14-2) LF	PEDESTRIAN SIGNAL HEAD (16", 1 SECT. W/COUNTDOWN EA	SIGNAL CABLE LF	UNPAVED TRENCHING (1 CONDUIT, 2") LF	UNPAVAED TRENCHING (2 CONDUITS, 2") LF	UNPAVED TRENCHING (4 CONDUITS, 2") LF	DIRECT. DRILL (1 CONDUIT, 2") LF	JUNCTION BOX (STAND. SIZE) EA	JUNCTION BOX(OVER-SIZED,HEAVY DUTY EA	TYPE II PED. W/FOUNDATION EA	RELOCATE EXIST. SIGN EA	CONDUIT ENTR. INTO EXIST. FOUNDATION EA	DETECTOR CARD (TYPE 2070L) EA	2" RISER W/WEATHERHEAD EA
3CR.10101.150	Brunswick	1	US 17 BUSINESS	MILL & FILL AND OVERLAY FROM US 17 (SOUTH END OF US 17 BUSINESS) TO US 17 (AT NOSE OF CONC. MONO. ISLAND)	1,2,3	2-4	M2	YES	NO	7.58	24-52	7.42	50	371	120	10.00	371	1.86															
TOTAL FOR MAP NO. 1										**7.58**		**7.42**	**50**	**371**	**120**	**10.00**	**371**	**1.86**															
3CR.10101.150	Brunswick	2	US 17 (S.B.L.)	MILL & FILL AND PATCHING FROM 0.17 MILES N OF SR 1401 (GALLOWAY RD. NE) TO 0.09 MILES S OF SR 1401 (INTERSECTION)	4	2-4	2WD	NO	NO	0.25	28-52																						
TOTAL FOR MAP NO. 2										**0.25**																							
TOTAL FOR PROJ NO. 3CR.10101.150										**7.83**		**7.42**	**50**	**371**	**120**	**10.00**	**371**	**1.86**															
3CR.10651.150	New Hanover	3	US 421 (CAROLINA BEACH ROAD)	MILL & FILL FROM 0.26 MILES SOUTH OF INDEPENDENCE BLVD. TO WEST LAKE SHORE DR.	5	5-6	M2	NO	NO	2.95	54-76								2,020	3,150	4	1070	285	25	10	60	4	2	3	1	2		3
TOTAL FOR MAP NO. 3										**2.95**									**2,020**	**3,150**	**4**	**1,070**	**285**	**25**	**10**	**60**	**4**	**2**	**3**	**1**	**2**		**3**
3CR.10651.150	NewHanover	4	US 117 NBL (SHIPYARD BLVD.)	MILL & FILL FROM US 421 TO 0.05 MILES EAST OF US 421	6	3	MU	NO	NO	0.05	36																						
TOTAL FOR MAP NO. 4										**0.05**																							
3CR.10651.150	NewHanover	5	US 117 SBL (SHIPYARD BLVD.)	MILL & FILL FROM 0.20 MILES EAST OF US 421 TO US 421	7	3-5	MU	NO	NO	0.20	36-60																						
TOTAL FOR MAP NO. 5										**0.20**																							
3CR.10651.150	NewHanover	6	US 421 SBL (S.3RD ST.)	MILL & FILL FROM US 76 TO GREENFIELD ST.	5	2	MU	NO	NO	0.53	28								300														
TOTAL FOR MAP NO. 6										**0.53**									**300**														
3CR.10651.150	NewHanover	7	US 421 NBL (S. 3RD ST.)	MILL & FILL FROM GREENFIELD ST. TO US 76	5	2	MU	NO	NO	0.53	28								460														
TOTAL FOR MAP NO. 7										**0.53**									**460**														
3CR.10651.150	NewHanover	8	US 17 BUS./US 421 (S. 3RD ST.)	MILL & FILL FROM US 76 EBL TO US 76 WBL	5	6		NO	NO	0.10	68								768														
TOTAL FOR MAP NO. 8										**0.10**									**768**														
TOTAL FOR PROJ NO. 3CR.10651.150										**4.36**									**3,548**	**3,150**	**4**	**1,070**	**285**	**25**	**10**	**60**	**4**	**2**	**3**	**1**	**2**		**3**
3CR.10711.150	Pender	9	US 117	MILL & FILL AND SPIRAL WIDENING FROM 0.30 MILES NORTH OF NC 210 TO 0.03 MILES NORTH OF US 117 BUSINESS	8	2-3	2WU	YES	NO	7.08	26-39	7.00	50	354	110	15.00	354	2.00															
TOTAL FOR MAP NO. 9										**7.08**		**7.00**	**50**	**354**	**110**	**15.00**	**354**	**2.00**															
3CR.10711.150	Pender	10	NC 53	PATCHING FROM US 117 TO I-40.	9	2	2WU	NO	NO	1.60	32																						
TOTAL FOR MAP NO. 10										**1.60**																							
3CR.10711.150	Pender	11	NC 11/ NC 53	MILL & FILL, PATCHING, FROM WEST CITY LIMITS TO EAST CITY LIMITS OF ATKINSON	13	2	M2	NO	NO	0.93	32																						
TOTAL FOR MAP NO. 11										**0.93**																							
TOTAL FOR PROJ NO. 3CR.10711.150										**9.61**		**7.00**	**50**	**354**	**110**	**15.00**	**354**	**2.00**															
3CR.20101.150	Brunswick	12	SR 1104 (BEACH DR.)	MILL & FILL, PATCHING, AND LEVELING FROM PAVEMENT C&G TO END OF SR 1104 PAVEMENT	10	2	2WU	NO	NO	6.40	24	6.40	40	320	100	10.00	320	1.60															
TOTAL FOR MAP NO. 12										**6.40**		**6.40**	**40**	**320**	**100**	**10.00**	**320**	**1.60**															
3CR.20101.150	Brunswick	13	SR 1828 (KINGS LYNN DR.)	MILL PATCH & RESURFACE FROM SR 1104 (W. BEACH DR.) TO SR 1828 (KINGS LYNN DR)	11	2	2WU	NO	NO	0.68	18	0.68	10	34	20	1.00	34	0.17															
TOTAL FOR MAP NO. 13										**0.68**		**0.68**	**10**	**34**	**20**	**1.00**	**34**	**0.17**															
3CR.20101.150	Brunswick	14	SR 1401 (GALLOWAY RD.)	RESURFACING FROM US 17 TO SR 1402 (RANDOLPHVILLE RD.)	11	2	2WU	NO	NO	3.20	20	3.20	20	160	50	5.00	160	0.80															
TOTAL FOR MAP NO. 14										**3.20**		**3.20**	**20**	**160**	**50**	**5.00**	**160**	**0.80**															
3CR.20101.150	Brunswick	15	SR 1435 (N NAVASSA RD.)	MILL PATCH & RESURFACE FROM SR 1472 (VILLAGE RD. NE) TO SR 1432 (OLD MILL RD. NE)	10	2	2WU	NO	NO	1.47	18-22	1.47	20	74	30	5.00	74	0.37															
TOTAL FOR MAP NO. 15										**1.47**		**1.47**	**20**	**74**	**30**	**5.00**	**74**	**0.37**															
3CR.20101.150	Brunswick	16	SR 1430 (CEDAR HILL RD.)	MILL PATCH & RESURFACE FROM SR 1435 (N NAVASSA RD.) TO 0.58 MI S OF SR 1431 (ROYSTER RD. NE)	10	2	2WU	NO	NO	0.90	22	0.90	10	45	20	5.00	45	0.23															
TOTAL FOR MAP NO. 16										**0.90**		**0.90**	**10**	**45**	**20**	**5.00**	**45**	**0.23**															
3CR.20101.150	Brunswick	17	SR 1430 (CEDAR HILL RD.)	MILL PATCH & RESURFACE FROM 0.54 MI NORTH OF SR 1431 (ROYSTER RD. NE) TO SR 1426 (MT. MISERY RD.)	10	2	2WU	NO	NO	2.69	18	2.69	20	135	50	5.00	135	0.67															
TOTAL FOR MAP NO. 17										**2.69**		**2.69**	**20**	**135**	**50**	**5.00**	**135**	**0.67**															
TOTAL FOR PROJ NO. 3CR.20101.150										**15.34**		**15.34**	**120**	**768**	**270**	**31.00**	**768**	**3.84**															

PROJECT NO.	SHEET NO.	TOTAL NO.
3CR.10101.150, ETC.	8	

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	TEMP. MULCHING ACR	MATTING FOR EROSION CONTROL SY	1/4" HARDWARE CLOTH LF	WATTLE LF	SEED & MULCHING AC	SEED FOR REPAIR SEEDING LB	FERTILIZER FOR REPAIR SEEDING TON	INDUCTIVE LOOP LF	LEAD-IN CABLE (14-2) LF	PEDESTRIAN SIGNAL HEAD (16", 1 SECT. W/COUNTDOWN EA	SIGNAL CABLE LF	UNPAVED TRENCHING (1 CONDUIT, 2") LF	UNPAVAED TRENCHING (2 CONDUITS, 2") LF	UNPAVED TRENCHING (4 CONDUITS, 2") LF	DIRECT. DRILL (1 CONDUIT, 2") LF	JUNCTION BOX (STAND. SIZE) EA	JUNCTION BOX(OVER-SIZED,HEAVY DUTY EA	TYPE II PED. W/FOUNDATION EA	RELOCATE EXIST. SIGN EA	CONDUIT ENTR. INTO EXIST. FOUNDATION EA	DETECTOR CARD (TYPE 2070L) EA	2" RISER W/WEATHERHEAD EA
3CR.20651.150	NewHanover	18	SR 1218 (16 TH ST.)	MILL & FILL FROM US 76 WBL TO US 76 EBL	12	3	MD	NO	NO	0.09	36																							
TOTAL FOR MAP NO. 18										**0.09**																							
3CR.20651.150	NewHanover	19	SR 2816 (16 TH ST.)	MILL & FILL FROM US 17 BUS. TO US 76 WBL	12	3	MU	NO	NO	0.92	36																							
TOTAL FOR MAP NO. 19										**0.92**																							
3CR.20651.150	NewHanover	20	SR 1371 (16 TH ST.)	MILL & FILL FROM GRACE ST.TO US 17 BUS.	12	2	MU	NO	NO	0.22	28																							
TOTAL FOR MAP NO. 20										**0.22**																							
3CR.20651.150	NewHanover	21	SR 1411 (WRIGHTSVILLE AVE.)	MILL & FILL FROM DAWSON ST. TO 0.35 MI. WEST OF SR 1209 (INDEPENDENCE BLVD.)	13	4-5	M2	NO	NO	0.67	44-56																							
TOTAL FOR MAP NO. 21										**0.67**																							
3CR.20651.150	NewHanover	22	SR 2817 (17 TH ST.)	MILL & FILL FROM US 76 EBL TO US 17 BUS.	12	3	MU	NO	NO	0.78	36																							
TOTAL FOR MAP NO. 22										**0.78**																							
3CR.20651.150	NewHanover	23	SR 1301 (17 TH ST.)	MILL & FILL FROM US 17 BUS. TO SR 1371 (GRACE ST.)	12	3	MU	NO	NO	0.23	34																							
TOTAL FOR MAP NO. 23										**0.23**																							
3CR.20651.150	NewHanover	24	SR 2183 (SPRING ROAD)	RESURFACING FROM NC 133 TO SR 2184	10	2	2WU	NO	NO	0.25	20																							
TOTAL FOR MAP NO. 24										**0.25**																							
3CR.20651.150	New Hanover	25	SR 2184 (FAIRFIELD DRIVE)	RESURFACING FROM SR 2183 TO SR 1318	10	2	2WU	NO	NO	0.21	20																							
TOTAL FOR MAP NO. 25										**0.21**																							
3CR.20651.150	NewHanover	26	SR 2220 (WINDMILL WAY)	RESURFACING FROM SR 2219 (N. GREEN MEADOWS DR.) TO SR 2700 (OLD DAIRY RD.)	15	2	2WU	NO	NO	0.46	24	0.46	10	23	10	0.80	23	0.12																
TOTAL FOR MAP NO. 26										**0.46**		**0.46**	**10**	**23**	**10**	**0.80**	**23**	**0.12**																
3CR.20651.150	NewHanover	27	SR 2698 (NETHERLANDS DR.)	RESURFACING FROM SR 2048 (GORDON RD.) TO SR 2700 (OLD DAIRY RD.)	15	2-4	2WU	NO	NO	0.46	24-51	0	10	23	10	0.80	23	0.12																
TOTAL FOR MAP NO. 27										**0.46**		**0**	**10**	**23**	**10**	**0.80**	**23**	**0.12**																
3CR.20651.150	NewHanover	28	SR 2700 (OLD DAIRY RD.)	RESURFACING FROM US 17 BUS TO SR 2699 (AMSTERDAM WAY)	15	2	2WU	NO	NO	0.37	24	0.37		19	10	0.50	19	0.10																
TOTAL FOR MAP NO. 28										**0.37**		**0.37**		**19**	**10**	**0.50**	**19**	**0.10**																
3CR.20651.150	NewHanover	29	SR 2701 (ANTILLES CT.)	RESURFACING FROM SR 2698 (NETHERLANDS DR.) TO DEAD END	15	2	2WU	NO	NO	0.12	24	0.12	10	6	10	0.25	6	0.10																
TOTAL FOR MAP NO. 29										**0.12**		**0.12**	**10**	**6**	**10**	**0.25**	**6**	**0.10**																
3CR.20651.150	NewHanover	30	SR 2699 (AMSTERDAM WAY)	RESURFACING FROM SR 2698 (NETHERLANDS DR.) TO SR 2221 (VAN DYKE DR.)	15	2	2WU	NO	NO	0.49	24	0.49	10	25	10	0.65	25	0.12																
TOTAL FOR MAP NO. 30										**0.49**		**0.49**	**10**	**25**	**10**	**0.65**	**25**	**0.12**																
3CR.20651.150	NewHanover	31	SR 1940 (COVIL FARM RD.)	WIDENING & RESURFACING FROM 0.05 MI. EAST OF SR 1409 (MILITARY CUTOFF RD) TO SR 1916 (RED CEDAR RD.)	17, 21	3-5	2WU	NO	NO	0.78	32-60	0.83	10	42	20	1.50	42	0.21																
TOTAL FOR MAP NO. 31										**0.78**		**0.83**	**10**	**42**	**20**	**1.50**	**42**	**0.21**																
3CR.20651.150	NewHanover	32	SR 1411 (WRIGHTSVILLE AVE.)	MILLING & RESURFACING FROM 0.12 EAST OF SR 2313 TO US 117	1, 13, 18, 19	2-4	2WU	NO	NO	1.08	24-55								450	1,730			420				4					4	3
TOTAL FOR MAP NO. 32										**1.08**									**450**	**1730**			**420**				**4**					**4**	**3**
3CR.20651.150	NewHanover	33	SR 2717 (TORCHWOOD BLVD.)	WIDENING & RESURFACING FROM US 17 BUS. TO SR 2718 (BEACON DR.)	16	2-3	2WU	NO	NO	0.54	24-32	0.54	10	27	10	1.00	27	0.14																
TOTAL FOR MAP NO. 33										**0.54**		**0.54**	**10**	**27**	**10**	**1.00**	**27**	**0.14**																
3CR.20651.150	New Hanover	34	SR 1363 (BAYSHORE DRIVE)	MILL & FILL AND RESURFACING FROM US 17 BUS. TO SR 1393	14, 20	2-5	2WU	NO	NO	0.77	40-54																							
TOTAL FOR MAP NO. 34										**0.77**																							
3CR.20651.150	NewHanover	35	STATE PORTS	MILL PATCHING AT THE STATE PORTS	9	2		NO	NO	1.26	18																							
TOTAL FOR MAP NO. 35										**1.26**																							
TOTAL FOR PROJ NO. 3CR.20651.150										**9.70**		**3.27**	**60**	**165**	**80**	**5.50**	**165**	**0.91**	**450**	**1,730**			**420**				**4**					**4**	**3**
GRAND TOTAL										**46.84**		**33.03**	**280**	**1,658**	**580**	**61.50**	**1,658**	**8.61**	**3,998**	**4,880**	**4**	**1,070**	**705**	**25**	**10**	**60**	**8**	**2**	**3**	**1**	**2**	**4**	**6**

PROJECT NO.	SHEET NO.	TOTAL NO.
3CR.10101.150, ETC.		9

THERMOPLASTIC AND PAINT QUANTITIES

PROJECT	COUNTY	MAP	ROUTE	DESCRIPTION	TYP	LANES	LANE TYPE	LENGTH	WIDTH	4399000000-N TEMPORARY TRAFFIC CONTROL	4413000000-E WORK ZONE ADVANCE/GENERAL WARNING SIGNING	4510000000-N LAW ENFORCEMENT	4685000000-E 4" X 90 M WHITE THERMO	4685000000-E 4" X 90 M YELLOW THERMO	4686000000-E 4" X 120 M WHITE THERMO	4686000000-E 4" X 120 M YELLOW THERMO	4695000000-E 8" X 90 M WHITE THERMO	4695000000-E 8" X 90 M YELLOW THERMO	4702000000-E 12" X 120 M WHITE THERMO	4705000000-E 16" X 120 M WHITE THERMO	4710000000-E 24" X 120 M WHITE THERMO
NO		NO			NO					LS	SF	HR	LF	LF	LF	LF	LF	LF	LF	LF	LF
3CR.10101.150	Brunswick	1	US 17 BUSINESS	MILL & FILL AND OVERLAY FROM US 17 (SOUTH END OF US 17 BUSINESS) TO US 17 (AT NOSE OF CONC. MONO. ISLAND)	1,2,3	2-4	M2	7.58	24-52	0.16	849	40	80013		890	53000		1620			200
TOTAL FOR MAP NO. 1								**7.58**		**0.16**	**849**	**40**	**80013**		**890**	**53000**		**1620**			**200**
3CR.10101.150	Brunswick	2	US 17 (S.B.L.)	MILL & FILL AND PATCHING FROM 0.17 MILES N OF SR 1401 (GALLOWAY RD. NE) TO 0.09 MILES S OF SR 1401 (INTERSECTION)	4	2-4	2WD	0.25	28-52	0.01	190	3	1320	1320	860						
TOTAL FOR MAP NO. 2								**0.25**		**0.01**	**190**	**3**	**1320**	**1320**	**860**						
TOTAL FOR PROJ NO. 3CR.10101.150								**7.83**		**0.17**	**1039**	**43**	**81333**	**1320**	**1750**	**53000**		**1620**			**200**
													82653		**54750**		**1620**				
3CR.10651.150	New Hanover	3	US 421 (CAROLINA BEACH ROAD)	MILL & FILL FROM 0.26 MILES SOUTH OF INDEPENDENCE BLVD. TO WEST LAKE SHORE DR.	5	5-6	M2	2.95	54-76	0.06	331	280			11737	39270	350		1150		1587
TOTAL FOR MAP NO. 3								**2.95**		**0.06**	**331**	**280**			**11737**	**39270**	**350**		**1150**		**1587**
3CR.10651.150	NewHanover	4	US 117 NBL (SHIPYARD BLVD.)	MILL & FILL FROM US 421 TO 0.05 MILES EAST OF US 421	6	3	MU	0.05	36	0.01	56	40			132				68		51
TOTAL FOR MAP NO. 4								**0.05**		**0.01**	**56**	**40**			**132**				**68**		**51**
3CR.10651.150	NewHanover	5	US 117 SBL (SHIPYARD BLVD.)	MILL & FILL FROM 0.20 MILES EAST OF US 421 TO US 421	7	3-5	MU	0.20	36-60	0.01	23	40			1073				166		192
TOTAL FOR MAP NO. 5								**0.20**		**0.01**	**23**	**40**			**1073**				**166**		**192**
3CR.10651.150	NewHanover	6	US 421 SBL (S.3RD ST.)	MILL & FILL FROM US 76 TO GREENFIELD ST.	5	2	MU	0.53	28	0.01	60	80			2097				80	100	85
TOTAL FOR MAP NO. 6								**0.53**		**0.01**	**60**	**80**			**2097**				**80**	**100**	**85**
3CR.10651.150	NewHanover	7	US 421 NBL (S. 3RD ST.)	MILL & FILL FROM GREENFIELD ST. TO US 76	5	2	MU	0.53	28	0.01	60	80			2097				70	100	138
TOTAL FOR MAP NO. 7								**0.53**		**0.01**	**60**	**80**			**2097**				**70**	**100**	**138**
3CR.10651.150	NewHanover	8	US 17 BUS./US 421 (S. 3RD ST.)	MILL & FILL FROM US 76 EBL TO US 76 WBL	5	6		0.10	68	0.01	12	80			544	1088	150	150			80
TOTAL FOR MAP NO. 8								**0.10**		**0.01**	**12**	**80**			**544**	**1088**	**150**	**150**			**80**
TOTAL FOR PROJ NO. 3CR.10651.150								**4.36**		**0.10**	**542**	**600**			**17680**	**40358**	**500**	**150**	**1534**	**200**	**2133**
															58,038		**650**				
3CR.10711.150	Pender	9	US 117	MILL & FILL AND SPIRAL WIDENING FROM 0.30 MILES NORTH OF NC 210 TO 0.03 MILES NORTH OF US 117 BUSINESS	8	2-3	2WU	7.08	26-39	0.15	793		74797		1084	78376					
TOTAL FOR MAP NO. 9								**7.08**		**0.15**	**793**		**74797**		**1084**	**78376**					
3CR.10711.150	Pender	10	NC 53	PATCHING FROM US 117 TO I-40.	9	2	2WU	1.60	32	0.03	381	40	16896		200	12672	200				30
TOTAL FOR MAP NO. 10								**1.60**		**0.03**	**381**	**40**	**16896**		**200**	**12672**	**200**				**30**
3CR.10711.150	Pender	11	NC 11/ NC 53	MILL & FILL, PATCHING, FROM WEST CITY LIMITS TO EAST CITY LIMITS OF ATKINSON	13	2	M2	0.93	32	0.02	105		2333			9900					
TOTAL FOR MAP NO. 11								**0.93**		**0.02**	**105**		**2333**			**9900**					
TOTAL FOR PROJ NO. 3CR.10711.150								**9.61**		**0.20**	**1279**	**40**	**94026**		**1284**	**100948**	**200**				**30**
								28-39					**94026**		**102232**						
3CR.20101.150	Brunswick	12	SR 1104 (BEACH DR.)	MILL & FILL, PATCHING, AND LEVELING FROM PAVEMENT C&G TO END OF SR 1104 PAVEMENT	10	2	2WU	6.40	24	0.14	717	40									
TOTAL FOR MAP NO. 12								**6.40**		**0.14**	**717**	**40**									
3CR.20101.150	Brunswick	13	SR 1828 (KINGS LYNN DR.)	MILL PATCH & RESURFACE FROM SR 1104 (W. BEACH DR.) TO SR 1828 (KINGS LYNN DR)	11	2	2WU	0.68	18	0.01	77										
TOTAL FOR MAP NO. 13								**0.68**		**0.01**	**77**										
3CR.20101.150	Brunswick	14	SR 1401 (GALLOWAY RD.)	RESURFACING FROM US 17 TO SR 1402 (RANDOLPHVILLE RD.)	11	2	2WU	3.20	20	0.07	359										100
TOTAL FOR MAP NO. 14								**3.20**		**0.07**	**359**										**100**
3CR.20101.150	Brunswick	15	SR 1435 (N NAVASSA RD.)	MILL PATCH & RESURFACE FROM SR 1472 (VILLAGE RD. NE) TO SR 1432 (OLD MILL RD. NE)	10	2	2WU	1.47	18-22	0.03	165	40								100	50
TOTAL FOR MAP NO. 15								**1.47**		**0.03**	**165**	**40**								**100**	**50**
3CR.20101.150	Brunswick	16	SR 1430 (CEDAR HILL RD.)	MILL PATCH & RESURFACE FROM SR 1435 (N NAVASSA RD.) TO 0.58 MI S OF SR 1431 (ROYSTER RD. NE)	10	2	2WU	0.90	22	0.02	101									100	50
TOTAL FOR MAP NO. 16								**0.90**		**0.02**	**101**									**100**	**50**
3CR.20101.150	Brunswick	17	SR 1430 (CEDAR HILL RD.)	MILL PATCH & RESURFACE FROM 0.54 MI NORTH OF SR 1431 (ROYSTER RD. NE) TO SR 1426 (MT. MISERY RD.)	10	2	2WU	2.69	18	0.06	302										
TOTAL FOR MAP NO. 17								**2.69**		**0.06**	**302**										
TOTAL FOR PROJ NO. 3CR.20101.150								**15.34**		**0.33**	**1721**	**80**								**200**	**200**

PROJECT NO.	SHEET NO.	TOTAL NO.
3CR.10101.150, ETC.		10

THERMOPLASTIC AND PAINT QUANTITIES

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP NO	LANES	LANE TYPE	LENGTH	WIDTH	4399000000-N TEMPORARY TRAFFIC CONTROL LS	4413000000-E WORK ZONE ADVANCE/GENERAL WARNING SIGNING SF	4510000000-N LAW ENFORCEMENT HR	4685000000-E 4" X 90 M WHITE THERMO LF	4685000000-E 4" X 90 M YELLOW THERMO LF	4686000000-E 4" X 120 M WHITE THERMO LF	4686000000-E 4" X 120 M YELLOW THERMO LF	4695000000-E 8" X 90 M WHITE THERMO LF	4695000000-E 8" X 90 M YELLOW THERMO LF	4702000000-E 12" X 120 M WHITE THERMO LF	4705000000-E 16" X 120 M WHITE THERMO LF	4710000000-E 24" X 120 M WHITE THERMO LF
3CR.20651.150	NewHanover	18	SR 1218 (16 TH ST.)	MILL & FILL FROM US 76 WBL TO US 76 EBL	12	3	MD	0.09	36	0.01	126	80			235						36
TOTAL FOR MAP NO. 18								**0.09**		**0.01**	**126**	**80**			**235**						**36**
3CR.20651.150	NewHanover	19	SR 2816 (16 TH ST.)	MILL & FILL FROM US 17 BUS. TO US 76 WBL	12	3	MU	0.92	36	0.02	126	160			5646				414		311
TOTAL FOR MAP NO. 19								**0.92**		**0.02**	**126**	**160**			**5646**				**414**		**311**
3CR.20651.150	NewHanover	20	SR 1371 (16 TH ST.)	MILL & FILL FROM GRACE ST.TO US 17 BUS.	12	2	MU	0.22	28	0.01	126	160			1224				620		577
TOTAL FOR MAP NO. 20								**0.22**		**0.01**	**126**	**160**			**1224**				**620**		**577**
3CR.20651.150	NewHanover	21	SR 1411 (WRIGHTSVILLE AVE.)	MILL & FILL FROM DAWSON ST. TO 0.35 MI. WEST OF SR 1209 (INDEPENDENCE BLVD.)	13	4-5	M2	0.67	44-56	0.02	126	80			2073	7054			176	200	292
TOTAL FOR MAP NO. 21								**0.67**		**0.02**	**126**	**80**			**2073**	**7054**			**176**	**200**	**292**
3CR.20651.150	NewHanover	22	SR 2817 (17 TH ST.)	MILL & FILL FROM US 76 EBL TO US 17 BUS.	12	3	MU	0.78	36	0.02	126	240			6729				514		573
TOTAL FOR MAP NO. 22								**0.78**		**0.02**	**126**	**240**			**6729**				**514**		**573**
3CR.20651.150	NewHanover	23	SR 1301 (17 TH ST.)	MILL & FILL FROM US 17 BUS. TO SR 1371 (GRACE ST.)	12	3	MU	0.23	34	0.01	126	80			2695				90		101
TOTAL FOR MAP NO. 23								**0.23**		**0.01**	**126**	**80**			**2695**				**90**		**101**
3CR.20651.150	NewHanover	24	SR 2183 (SPRING ROAD)	RESURFACING FROM NC 133 TO SR 2184	10	2	2WU	0.25	20	0.01	28										
TOTAL FOR MAP NO. 24								**0.25**		**0.01**	**28**										
3CR.20651.150	New Hanover	25	SR 2184 (FAIRFIELD DRIVE)	RESURFACING FROM SR 2183 TO SR 1318	10	2	2WU	0.21	20	0.01	24										
TOTAL FOR MAP NO. 25								**0.21**		**0.01**	**24**										
3CR.20651.150	NewHanover	26	SR 2220 (WINDMILL WAY)	RESURFACING FROM SR 2219 (N. GREEN MEADOWS DR.) TO SR 2700 (OLD DAIRY RD.)	15	2	2WU	0.46	24	0.01	52										
TOTAL FOR MAP NO. 26								**0.46**		**0.01**	**52**										
3CR.20651.150	NewHanover	27	SR 2698 (NETHERLANDS DR.)	RESURFACING FROM SR 2048 (GORDON RD.) TO SR 2700 (OLD DAIRY RD.)	15	2-4	2WU	0.46	24-51		52	40									
TOTAL FOR MAP NO. 27								**0.46**		**0.01**	**52**	**40**									
3CR.20651.150	NewHanover	28	SR 2700 (OLD DAIRY RD.)	RESURFACING FROM US 17 BUS TO SR 2699 (AMSTERDAM WAY)	15	2	2WU	0.37	24	0.01	42										
TOTAL FOR MAP NO. 28								**0.37**		**0.01**	**42**										
3CR.20651.150	NewHanover	29	SR 2701 (ANTILLES CT.)	RESURFACING FROM SR 2698 (NETHERLANDS DR.) TO DEAD END	15	2	2WU	0.12	24	0.01	14										
TOTAL FOR MAP NO. 29								**0.12**		**0.01**	**14**										
3CR.20651.150	NewHanover	30	SR 2699 (AMSTERDAM WAY)	RESURFACING FROM SR 2698 (NETHERLANDS DR.) TO SR 2221 (VAN DYKE DR.)	15	2	2WU	0.49	24	0.01	55										
TOTAL FOR MAP NO. 30								**0.49**		**0.01**	**55**										
3CR.20651.150	NewHanover	31	SR 1940 (COVIL FARM RD.)	WIDENING & RESURFACING FROM 0.05 MI. EAST OF SR 1409 (MILITARY CUTOFF RD) TO SR 1916 (RED CEDAR RD.)	17, 21	3-5	2WU	0.78	32-60	0.02	213	40	7159		401	7159			150		149
TOTAL FOR MAP NO. 31								**0.78**		**0.02**	**213**	**40**	**7159**		**401**	**7159**			**150**		**149**
3CR.20651.150	NewHanover	32	SR 1411 (WRIGHTSVILLE AVE.)	MILLING & RESURFACING FROM 0.12 EAST OF SR 2313 TO US 117	1, 13, 18, 19	2-4	2WU	1.08	24-55	0.02	187	120	7894		3920	12778			432		536
TOTAL FOR MAP NO. 32								**1.08**		**0.02**	**187**	**120**	**7894**		**3920**	**12778**			**432**		**536**
3CR.20651.150	NewHanover	33	SR 2717 (TORCHWOOD BLVD.)	WIDENING & RESURFACING FROM US 17 BUS. TO SR 2718 (BEACON DR.)	16	2-3	2WU	0.54	24-32	0.01	179	40									
TOTAL FOR MAP NO. 33								**0.54**		**0.01**	**179**	**40**									
3CR.20651.150	New Hanover	34	SR 1363 (BAYSHORE DRIVE)	MILL & FILL AND RESURFACING FROM US 17 BUS. TO SR 1393	14, 20	2-5	2WU	0.77	40-54	0.02	208	40									
TOTAL FOR MAP NO. 34								**0.77**		**0.02**	**208**	**40**									
3CR.20651.150	NewHanover	35	STATE PORTS	MILL PATCHING AT THE STATE PORTS	9	2		1.26	18	0.02	142										
TOTAL FOR MAP NO. 35								**1.26**		**0.02**	**142**										
TOTAL FOR PROJ NO. 3CR.20651.150								**9.70**		**0.20**	**1952**	**1080**	**15053**		**22923**	**26991**			**2396**	**200**	**2575**
													15,053		**49,914**						
GRAND TOTAL								**46.84**		**1**	**6,533**	**1,843**	**190,412**	**1,320**	**43,637**	**221,297**	**700**	**1,770**	**3,930**	**600**	**5,138**
													191,732		**264,934**		**2,470**				

PROJECT NO.	SHEET NO.	TOTAL NO.
3CR.10101.150, ETC.	11	

THERMOPLASTIC AND PAINT QUANTITIES

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP NO	LANES	LANE TYPE	LENGTH	WIDTH	4721000000-E THERMO MSG SCHOOL 120 M EA	4721000000-E THERMO RXR 120 M EA	4721000000-E THERMO MSG STOP 120 M EA	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 ARROW 90 M EA	4725000000-E THERMO STR & RT ARROW 90 M EA	4725000000-E THERMO STR & LT ARROW 90 M EA	4725000000-E MERGE ARROW 90 M EA	4726000000-E HEATED-IN-PLACE THERMOPLASTIC PAVEMENT MARKING LINES (4", 90 MILS) LF	4810000000-E 4" WHITE PAINT LF	4810000000-E 4" YELLOW PAINT LF	4820000000-E 8" YELLOW PAINT LF	4820000000-E 8" WHITE PAINT LF	4825000000-E 12" WHITE PAINT LF	4825000000-E 12" YELLOW PAINT LF
3CR.10101.150	Brunswick	1	US 17 BUSINESS	MILL & FILL AND OVERLAY FROM US 17 (SOUTH END OF US 17 BUSINESS) TO US 17 (AT NOSE OF CONC. MONO. ISLAND)	1,2,3	2-4	M2	7.58	24-52	24				5	10	11					80903	53000	1620			
TOTAL FOR MAP NO. 1								**7.58**		**24**				**5**	**10**	**11**					**80903**	**53000**	**1620**			
3CR.10101.150	Brunswick	2	US 17 (S.B.L.)	MILL & FILL AND PATCHING FROM 0.17 MILES N OF SR 1401 (GALLOWAY RD. NE) TO 0.09 MILES S OF SR 1401 (INTERSECTION)	4	2-4	2WD	0.25	28-52					3	2	6					2180	1320				
TOTAL FOR MAP NO. 2								**0.25**						**3**	**2**	**6**					**2180**	**1320**				
TOTAL FOR PROJ NO. 3CR.10101.150								**7.83**		**24**				**8**	**12**	**17**					**83083**	**54320**	**1620**			
										24				**37**							**137403**		**1620**			
3CR.10651.150	New Hanover	3	US 421 (CAROLINA BEACH ROAD)	MILL & FILL FROM 0.26 MILES SOUTH OF INDEPENDENCE BLVD. TO WEST LAKE SHORE DR.	5	5-6	M2	2.95	54-76					129	10	69	34			100	11737	38764		150	1150	150
TOTAL FOR MAP NO. 3								**2.95**						**129**	**10**	**69**	**34**			**100**	**11737**	**38764**		**150**	**1150**	**150**
3CR.10651.150	NewHanover	4	US 117 NBL (SHIPYARD BLVD.)	MILL & FILL FROM US 421 TO 0.05 MILES EAST OF US 421	6	3	MU	0.05	36												132				68	
TOTAL FOR MAP NO. 4								**0.05**													**132**				**68**	
3CR.10651.150	NewHanover	5	US 117 SBL (SHIPYARD BLVD.)	MILL & FILL FROM 0.20 MILES EAST OF US 421 TO US 421	7	3-5	MU	0.20	36-60				8	6	5	4					1073				166	
TOTAL FOR MAP NO. 5								**0.20**					**8**	**6**	**5**	**4**					**1073**				**166**	
3CR.10651.150	NewHanover	6	US 421 SBL (S.3RD ST.)	MILL & FILL FROM US 76 TO GREENFIELD ST.	5	2	MU	0.53	28		4			2		12	12	10			2097				80	
TOTAL FOR MAP NO. 6								**0.53**			**4**			**2**		**12**	**12**	**10**			**2097**				**80**	
3CR.10651.150	NewHanover	7	US 421 NBL (S. 3RD ST.)	MILL & FILL FROM GREENFIELD ST. TO US 76	5	2	MU	0.53	28		4				2	16	10	10			2097				70	
TOTAL FOR MAP NO. 7								**0.53**			**4**				**2**	**16**	**10**	**10**			**2097**				**70**	
3CR.10651.150	NewHanover	8	US 17 BUS./US 421 (S. 3RD ST.)	MILL & FILL FROM US 76 EBL TO US 76 WBL	5	6		0.10	68					9		14					544	1088				
TOTAL FOR MAP NO. 8								**0.10**						**9**		**14**					**544**	**1088**				
TOTAL FOR PROJ NO. 3CR.10651.150								**4.36**			**8**		**8**	**146**	**17**	**115**	**56**	**20**		**100**	**17680**	**39852**		**150**	**1534**	**150**
										16				**354**							**57,532**		**150**		**1,684**	
3CR.10711.150	Pender	9	US 117	MILL & FILL AND SPIRAL WIDENING FROM 0.30 MILES NORTH OF NC 210 TO 0.03 MILES NORTH OF US 117 BUSINESS	8	2-3	2WU	7.08	26-39					13		2	8				75880	78376				1400
TOTAL FOR MAP NO. 9								**7.08**						**13**		**2**	**8**				**75880**	**78376**				**1400**
3CR.10711.150	Pender	10	NC 53	PATCHING FROM US 117 TO I-40.	9	2	2WU	1.60	32					4	1		2									
TOTAL FOR MAP NO. 10								**1.60**						**4**	**1**		**2**									
3CR.10711.150	Pender	11	NC 11/ NC 53	MILL & FILL, PATCHING, FROM WEST CITY LIMITS TO EAST CITY LIMITS OF ATKINSON	13	2	M2	0.93	32												2333	9900				
TOTAL FOR MAP NO. 11								**0.93**													**2333**	**9900**				
TOTAL FOR PROJ NO. 3CR.10711.150								**9.61**						**17**	**1**	**2**	**10**				**78213**	**88276**				**1400**
								28-39						**30**							**166489**				**1400**	
3CR.20101.150	Brunswick	12	SR 1104 (BEACH DR.)	MILL & FILL, PATCHING, AND LEVELING FROM PAVEMENT C&G TO END OF SR 1104 PAVEMENT	10	2	2WU	6.40	24												135168	101376				
TOTAL FOR MAP NO. 12								**6.40**													**135168**	**101376**				
3CR.20101.150	Brunswick	13	SR 1828 (KINGS LYNN DR.)	MILL PATCH & RESURFACE FROM SR 1104 (W. BEACH DR.) TO SR 1828 (KINGS LYNN DR)	11	2	2WU	0.68	18												14362	10771				
TOTAL FOR MAP NO. 13								**0.68**													**14362**	**10771**				
3CR.20101.150	Brunswick	14	SR 1401 (GALLOWAY RD.)	RESURFACING FROM US 17 TO SR 1402 (RANDOLPHVILLE RD.)	11	2	2WU	3.20	20	12											67584	50688				
TOTAL FOR MAP NO. 14								**3.20**		**12**											**67584**	**50688**				
3CR.20101.150	Brunswick	15	SR 1435 (N NAVASSA RD.)	MILL PATCH & RESURFACE FROM SR 1472 (VILLAGE RD. NE) TO SR 1432 (OLD MILL RD. NE)	10	2	2WU	1.47	18-22		4										31046	23284				
TOTAL FOR MAP NO. 15								**1.47**			**4**										**31046**	**23284**				
3CR.20101.150	Brunswick	16	SR 1430 (CEDAR HILL RD.)	MILL PATCH & RESURFACE FROM SR 1435 (N NAVASSA RD.) TO 0.58 MI S OF SR 1431 (ROYSTER RD. NE)	10	2	2WU	0.90	22		4										19000	14250				
TOTAL FOR MAP NO. 16								**0.90**			**4**										**19000**	**14250**				
3CR.20101.150	Brunswick	17	SR 1430 (CEDAR HILL RD.)	MILL PATCH & RESURFACE FROM 0.54 MI NORTH OF SR 1431 (ROYSTER RD. NE) TO SR 1426 (MT. MISERY RD.)	10	2	2WU	2.69	18			8									68218	51163				
TOTAL FOR MAP NO. 17								**2.69**				**8**									**68218**	**51163**				
TOTAL FOR PROJ NO. 3CR.20101.150								**15.34**		**12**	**8**	**8**									**335378**	**251532**				
										28											**586910**					

PROJECT NO.	SHEET NO.	TOTAL NO.
3CR.10101.150, ETC.	12	

THERMOPLASTIC AND PAINT QUANTITIES

PROJECT	COUNTY	MAP	ROUTE	DESCRIPTION	TYP	LANES	LANE TYPE	LENGTH	WIDTH	4721000000-E				4725000000-E						4726000000-E	4810000000-E		4820000000-E		4825000000-E	
										THERMO MSG SCHOOL 120 M	THERMO RXR 120 M	THERMO MSG STOP 120 M	THERMO MSG ONLY 120 M	THERMO LT ARROW 90 M	THERMO RT ARROW 90 M	THERMO STR ARROW 90 M	THERMO STR & RT ARROW 90 M	THERMO STR & LT ARROW 90 M	MERGE ARROW 90 M	HEATED-IN-PLACE THERMOPLASTIC PAVEMENT MARKING LINES (4", 90 MILS)	4" WHITE PAINT	4" YELLOW PAINT	8" YELLOW PAINT	8" WHITE PAINT	12" WHITE PAINT	12" YELLOW PAINT
NO		NO			NO					EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	LF	LF	LF	LF	LF	LF	LF
3CR.20651.150	NewHanover	18	SR 1218 (16 TH ST.)	MILL & FILL FROM US 76 WBL TO US 76 EBL	12	3	MD	0.09	36							6		3			235					
TOTAL FOR MAP NO. 18								**0.09**								**6**		**3**			**235**					
3CR.20651.150	NewHanover	19	SR 2816 (16 TH ST.)	MILL & FILL FROM US 17 BUS. TO US 76 WBL	12	3	MU	0.92	36					4		10	9				5646				414	
TOTAL FOR MAP NO. 19								**0.92**						**4**		**10**	**9**				**5646**				**414**	
3CR.20651.150	NewHanover	20	SR 1371 (16 TH ST.)	MILL & FILL FROM GRACE ST.TO US 17 BUS.	12	2	MU	0.22	28								6	6			1224				620	
TOTAL FOR MAP NO. 20								**0.22**									**6**	**6**			**1224**				**620**	
3CR.20651.150	NewHanover	21	SR 1411 (WRIGHTSVILLE AVE.)	MILL & FILL FROM DAWSON ST. TO 0.35 MI. WEST OF SR 1209 (INDEPENDENCE BLVD.)	13	4-5	M2	0.67	44-56		8					2	2	4	6			2073	7054			176	
TOTAL FOR MAP NO. 21								**0.67**			**8**					**2**	**2**	**4**	**6**			**2073**	**7054**			**176**	
3CR.20651.150	NewHanover	22	SR 2817 (17 TH ST.)	MILL & FILL FROM US 76 EBL TO US 17 BUS.	12	3	MU	0.78	36					9	5	20	2	2			6729				514	
TOTAL FOR MAP NO. 22								**0.78**						**9**	**5**	**20**	**2**	**2**			**6729**				**514**	
3CR.20651.150	NewHanover	23	SR 1301 (17 TH ST.)	MILL & FILL FROM US 17 BUS. TO SR 1371 (GRACE ST.)	12	3	MU	0.23	34				4	1	2	2		2			2695				90	
TOTAL FOR MAP NO. 23								**0.23**					**4**	**1**	**2**	**2**		**2**			**2695**				**90**	
3CR.20651.150	NewHanover	24	SR 2183 (SPRING ROAD)	RESURFACING FROM NC 133 TO SR 2184	10	2	2WU	0.25	20																	
TOTAL FOR MAP NO. 24								**0.25**																		
3CR.20651.150	New Hanover	25	SR 2184 (FAIRFIELD DRIVE)	RESURFACING FROM SR 2183 TO SR 1318	10	2	2WU	0.21	20																	
TOTAL FOR MAP NO. 25								**0.21**																		
3CR.20651.150	NewHanover	26	SR 2220 (WINDMILL WAY)	RESURFACING FROM SR 2219 (N. GREEN MEADOWS DR.) TO SR 2700 (OLD DAIRY RD.)	15	2	2WU	0.46	24																	
TOTAL FOR MAP NO. 26								**0.46**																		
3CR.20651.150	NewHanover	27	SR 2698 (NETHERLANDS DR.)	RESURFACING FROM SR 2048 (GORDON RD.) TO SR 2700 (OLD DAIRY RD.)	15	2-4	2WU	0.46	24-51												360	860				
TOTAL FOR MAP NO. 27								**0.46**													**360**	**860**				
3CR.20651.150	NewHanover	28	SR 2700 (OLD DAIRY RD.)	RESURFACING FROM US 17 BUS TO SR 2699 (AMSTERDAM WAY)	15	2	2WU	0.37	24																	
TOTAL FOR MAP NO. 28								**0.37**																		
3CR.20651.150	NewHanover	29	SR 2701 (ANTILLES CT.)	RESURFACING FROM SR 2698 (NETHERLANDS DR.) TO DEAD END	15	2	2WU	0.12	24																	
TOTAL FOR MAP NO. 29								**0.12**																		
3CR.20651.150	NewHanover	30	SR 2699 (AMSTERDAM WAY)	RESURFACING FROM SR 2698 (NETHERLANDS DR.) TO SR 2221 (VAN DYKE DR.)	15	2	2WU	0.49	24																	
TOTAL FOR MAP NO. 30								**0.49**																		
3CR.20651.150	NewHanover	31	SR 1940 (COVIL FARM RD.)	WIDENING & RESURFACING FROM 0.05 MI. EAST OF SR 1409 (MILITARY CUTOFF RD) TO SR 1916 (RED CEDAR RD.)	17, 21	3-5	2WU	0.78	32-60					2	2		2										
TOTAL FOR MAP NO. 31								**0.78**						**2**	**2**		**2**									
3CR.20651.150	NewHanover	32	SR 1411 (WRIGHTSVILLE AVE.)	MILLING & RESURFACING FROM 0.12 EAST OF SR 2313 TO US 117	1, 13, 18, 19	2-4	2WU	1.08	24-55					12	4	9	8		3		11815	12778			432	750
TOTAL FOR MAP NO. 32								**1.08**						**12**	**4**	**9**	**8**		**3**		**11815**	**12778**			**432**	**750**
3CR.20651.150	NewHanover	33	SR 2717 (TORCHWOOD BLVD.)	WIDENING & RESURFACING FROM US 17 BUS. TO SR 2718 (BEACON DR.)	16	2-3	2WU	0.54	24-32												12700	11300				
TOTAL FOR MAP NO. 33								**0.54**													**12700**	**11300**				
3CR.20651.150	New Hanover	34	SR 1363 (BAYSHORE DRIVE)	MILL & FILL AND RESURFACING FROM US 17 BUS. TO SR 1393	14, 20	2-5	2WU	0.77	40-54												16991	16347				
TOTAL FOR MAP NO. 34								**0.77**													**16991**	**16347**				
3CR.20651.150	NewHanover	35	STATE PORTS	MILL PATCHING AT THE STATE PORTS	9	2		1.26	18																	
TOTAL FOR MAP NO. 35								**1.26**																		
TOTAL FOR PROJ NO. 3CR.20651.150								**9.70**			**8**		**4**	**28**	**15**	**49**	**31**	**19**	**3**		**60468**	**48339**			**2246**	**750**
											12			**145**							**108,807**				**2,996**	
GRAND TOTAL								**46.84**		36	24	8	12	199	45	183	97	39	3	100	574,822	482,319	1,620	150	3,780	2,300
										80				**566**							**1,057,141**		**1,770**		**6,080**	

PROJECT NO.	SHEET NO.	TOTAL NO.
3CR.10101.150, ETC.	13	

THERMOPLASTIC AND PAINT QUANTITIES

PROJECT	COUNTY	MAP	ROUTE	DESCRIPTION	TYP	LANES	LANE TYPE	LENGTH	WIDTH	4830000000-E	4835000000-E	4840000000-N				4845000000-N						4900000000-N		4905000000-N	
										16" WHITE PAINT	24" WHITE PAINT	PAINT MSG SCHOOL	PAINT MSG RXR	PAINT MSG STOP	PAINT MSG ONLY	PAINT LT ARROW	PAINT RT ARROW	PAINT STR ARROW	PAINT STR & RT ARROW	PAINT STR & LT ARROW	MERGE ARROW	YELLOW & YELLOW MARKERS	CRYSTAL & RED MARKERS	SNOW PLOWABLE MARKERS (C/R)	SNOW PLOWABLE MARKERS (Y/Y)
NO		NO			NO					LF	LF	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA
3CR.10101.150	Brunswick	1	US 17 BUSINESS	MILL & FILL AND OVERLAY FROM US 17 (SOUTH END OF US 17 BUSINESS) TO US 17 (AT NOSE OF CONC. MONO. ISLAND)	1,2,3	2-4	M2	7.58	24-52		200	24				5	10	11						45	663
TOTAL FOR MAP NO. 1								**7.58**			**200**	**24**				**5**	**10**	**11**						**45**	**663**
3CR.10101.150	Brunswick	2	US 17 (S.B.L.)	MILL & FILL AND PATCHING FROM 0.17 MILES N OF SR 1401 (GALLOWAY RD. NE) TO 0.09 MILES S OF SR 1401 (INTERSECTION)	4	2-4	2WD	0.25	28-52							3	2	6						43	8
TOTAL FOR MAP NO. 2								**0.25**								**3**	**2**	**6**						**43**	**8**
TOTAL FOR PROJ NO. 3CR.10101.150								**7.83**			**200**	**24**				**8**	**12**	**17**						**88**	**671**
												24						**37**						**759**	
3CR.10651.150	New Hanover	3	US 421 (CAROLINA BEACH ROAD)	MILL & FILL FROM 0.26 MILES SOUTH OF INDEPENDENCE BLVD. TO WEST LAKE SHORE DR.	5	5-6	M2	2.95	54-76		1587					129	10	69	34					480	731
TOTAL FOR MAP NO. 3								**2.95**			**1587**					**129**	**10**	**69**	**34**					**480**	**731**
3CR.10651.150	NewHanover	4	US 117 NBL (SHIPYARD BLVD.)	MILL & FILL FROM US 421 TO 0.05 MILES EAST OF US 421	6	3	MU	0.05	36		51													7	
TOTAL FOR MAP NO. 4								**0.05**			**51**													**7**	
3CR.10651.150	NewHanover	5	US 117 SBL (SHIPYARD BLVD.)	MILL & FILL FROM 0.20 MILES EAST OF US 421 TO US 421	7	3-5	MU	0.20	36-60		192					6	5	4						63	
TOTAL FOR MAP NO. 5								**0.20**			**192**					**6**	**5**	**4**						**63**	
3CR.10651.150	NewHanover	6	US 421 SBL (S.3RD ST.)	MILL & FILL FROM US 76 TO GREENFIELD ST.	5	2	MU	0.53	28	100	85		4			2		12	12	10				70	
TOTAL FOR MAP NO. 6								**0.53**		**100**	**85**		**4**			**2**		**12**	**12**	**10**				**70**	
3CR.10651.150	NewHanover	7	US 421 NBL (S. 3RD ST.)	MILL & FILL FROM GREENFIELD ST. TO US 76	5	2	MU	0.53	28	100	138		4				2	16	10	10				35	
TOTAL FOR MAP NO. 7								**0.53**		**100**	**138**		**4**				**2**	**16**	**10**	**10**				**35**	
3CR.10651.150	NewHanover	8	US 17 BUS./US 421 (S. 3RD ST.)	MILL & FILL FROM US 76 EBL TO US 76 WBL	5	6		0.10	68		80					9		14						27	7
TOTAL FOR MAP NO. 8								**0.10**			**80**					**9**		**14**						**27**	**7**
TOTAL FOR PROJ NO. 3CR.10651.150								**4.36**		**200**	**2133**		**8**			**146**	**17**	**115**	**56**	**20**				**682**	**738**
												8						**354**						**1,420**	
3CR.10711.150	Pender	9	US 117	MILL & FILL AND SPIRAL WIDENING FROM 0.30 MILES NORTH OF NC 210 TO 0.03 MILES NORTH OF US 117 BUSINESS	8	2-3	2WU	7.08	26-39							13		2	8			4		50	956
TOTAL FOR MAP NO. 9								**7.08**								**13**		**2**	**8**			**4**		**50**	**956**
3CR.10711.150	Pender	10	NC 53	PATCHING FROM US 117 TO I-40.	9	2	2WU	1.60	32															10	159
TOTAL FOR MAP NO. 10								**1.60**																**10**	**159**
3CR.10711.150	Pender	11	NC 11/ NC 53	MILL & FILL, PATCHING, FROM WEST CITY LIMITS TO EAST CITY LIMITS OF ATKINSON	13	2	M2	0.93	32																65
TOTAL FOR MAP NO. 11								**0.93**																	**65**
TOTAL FOR PROJ NO. 3CR.10711.150								**9.61**								**13**		**2**	**8**			**4**		**60**	**1180**
								28-39										**23**				**4**		**1240**	
3CR.20101.150	Brunswick	12	SR 1104 (BEACH DR.)	MILL & FILL, PATCHING, AND LEVELING FROM PAVEMENT C&G TO END OF SR 1104 PAVEMENT	10	2	2WU	6.40	24													425			
TOTAL FOR MAP NO. 12								**6.40**														**425**			
3CR.20101.150	Brunswick	13	SR 1828 (KINGS LYNN DR.)	MILL PATCH & RESURFACE FROM SR 1104 (W. BEACH DR.) TO SR 1828 (KINGS LYNN DR)	11	2	2WU	0.68	18													45	46		
TOTAL FOR MAP NO. 13								**0.68**														**45**	**46**		
3CR.20101.150	Brunswick	14	SR 1401 (GALLOWAY RD.)	RESURFACING FROM US 17 TO SR 1402 (RANDOLPHVILLE RD.)	11	2	2WU	3.20	20													215			
TOTAL FOR MAP NO. 14								**3.20**														**215**			
3CR.20101.150	Brunswick	15	SR 1435 (N NAVASSA RD.)	MILL PATCH & RESURFACE FROM SR 1472 (VILLAGE RD. NE) TO SR 1432 (OLD MILL RD. NE)	10	2	2WU	1.47	18-22	100	50		4									97			
TOTAL FOR MAP NO. 15								**1.47**		**100**	**50**		**4**									**97**			
3CR.20101.150	Brunswick	16	SR 1430 (CEDAR HILL RD.)	MILL PATCH & RESURFACE FROM SR 1435 (N NAVASSA RD.) TO 0.58 MI S OF SR 1431 (ROYSTER RD. NE)	10	2	2WU	0.90	22	100	50		4									60			
TOTAL FOR MAP NO. 16								**0.90**		**100**	**50**		**4**									**60**			
3CR.20101.150	Brunswick	17	SR 1430 (CEDAR HILL RD.)	MILL PATCH & RESURFACE FROM 0.54 MI NORTH OF SR 1431 (ROYSTER RD. NE) TO SR 1426 (MT. MISERY RD.)	10	2	2WU	2.69	18		9			8								178			
TOTAL FOR MAP NO. 17								**2.69**			**9**			**8**								**178**			
TOTAL FOR PROJ NO. 3CR.20101.150								**15.34**		**200**	**109**		**8**	**8**								**1020**	**46**		
												16										**1450**			

PROJECT NO.	SHEET NO.	TOTAL NO.
3CR.10101.150, ETC.	14	

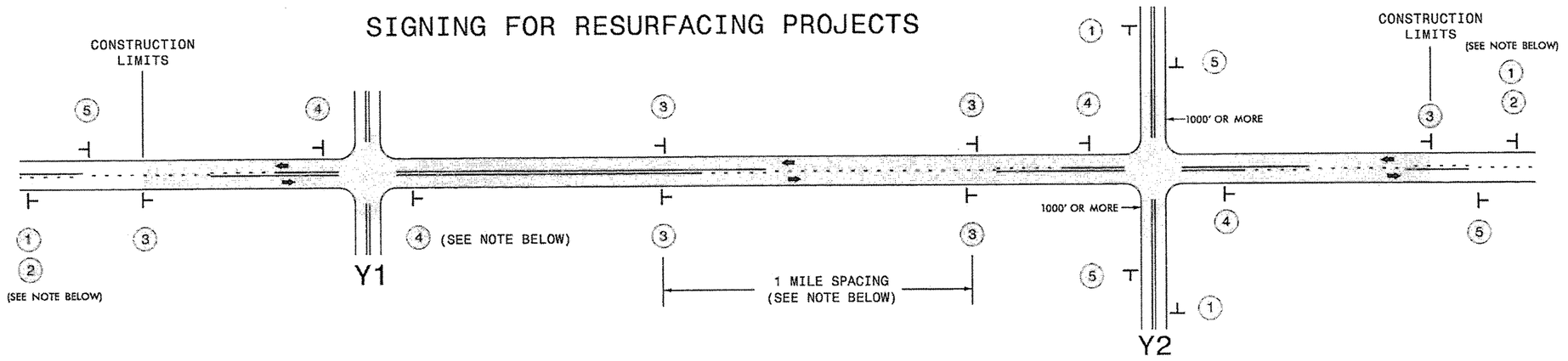
THERMOPLASTIC AND PAINT QUANTITIES

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP NO	LANES	LANE TYPE	LENGTH	WIDTH	4830000000-E 16" WHITE PAINT LF	4835000000-E 24" WHITE PAINT LF	4840000000-N PAINT MSG SCHOOL EA	PAINT MSG RXR EA	PAINT MSG STOP EA	PAINT MSG ONLY EA	4845000000-N PAINT LT ARROW EA	PAINT RT ARROW EA	PAINT STR ARROW EA	PAINT STR & RT ARROW EA	PAINT STR & LT ARROW EA	MERGE ARROW EA	4900000000-N YELLOW & YELLOW MARKERS EA	CRYSTAL & RED MARKERS EA	4905000000-N SNOW PLOWABLE MARKERS (C/R) EA	SNOW PLOWABLE MARKERS (Y/Y) EA
3CR.20651.150	NewHanover	18	SR 1218 (16 TH ST.)	MILL & FILL FROM US 76 WBL TO US 76 EBL	12	3	MD	0.09	36		36							6		3				12	
TOTAL FOR MAP NO. 18								**0.09**			**36**							**6**		**3**				**12**	
3CR.20651.150	NewHanover	19	SR 2816 (16 TH ST.)	MILL & FILL FROM US 17 BUS. TO US 76 WBL	12	3	MU	0.92	36		311					4		10	9					122	
TOTAL FOR MAP NO. 19								**0.92**			**311**					**4**		**10**	**9**					**122**	
3CR.20651.150	NewHanover	20	SR 1371 (16 TH ST.)	MILL & FILL FROM GRACE ST.TO US 17 BUS.	12	2	MU	0.22	28		577								6	6				15	
TOTAL FOR MAP NO. 20								**0.22**			**577**								**6**	**6**				**15**	
3CR.20651.150	NewHanover	21	SR 1411 (WRIGHTSVILLE AVE.)	MILL & FILL FROM DAWSON ST. TO 0.35 MI. WEST OF SR 1209 (INDEPENDENCE BLVD.)	13	4-5	M2	0.67	44-56	200	292		8				2	2	4	6				103	45
TOTAL FOR MAP NO. 21								**0.67**		**200**	**292**		**8**				**2**	**2**	**4**	**6**				**103**	**45**
3CR.20651.150	NewHanover	22	SR 2817 (17 TH ST.)	MILL & FILL FROM US 76 EBL TO US 17 BUS.	12	3	MU	0.78	36		573					9	5	20	2	2				118	
TOTAL FOR MAP NO. 22								**0.78**			**573**					**9**	**5**	**20**	**2**	**2**				**118**	
3CR.20651.150	NewHanover	23	SR 1301 (17 TH ST.)	MILL & FILL FROM US 17 BUS. TO SR 1371 (GRACE ST.)	12	3	MU	0.23	34		101				4	1	2	2		2				36	
TOTAL FOR MAP NO. 23								**0.23**			**101**				**4**	**1**	**2**	**2**		**2**				**36**	
3CR.20651.150	NewHanover	24	SR 2183 (SPRING ROAD)	RESURFACING FROM NC 133 TO SR 2184	10	2	2WU	0.25	20																
TOTAL FOR MAP NO. 24								**0.25**																	
3CR.20651.150	New Hanover	25	SR 2184 (FAIRFIELD DRIVE)	RESURFACING FROM SR 2183 TO SR 1318	10	2	2WU	0.21	20																
TOTAL FOR MAP NO. 25								**0.21**																	
3CR.20651.150	NewHanover	26	SR 2220 (WINDMILL WAY)	RESURFACING FROM SR 2219 (N. GREEN MEADOWS DR.) TO SR 2700 (OLD DAIRY RD.)	15	2	2WU	0.46	24																
TOTAL FOR MAP NO. 26								**0.46**																	
3CR.20651.150	NewHanover	27	SR 2698 (NETHERLANDS DR.)	RESURFACING FROM SR 2048 (GORDON RD.) TO SR 2700 (OLD DAIRY RD.)	15	2-4	2WU	0.46	24-51		60						4			4		3	11		
TOTAL FOR MAP NO. 27								**0.46**			**60**						**4**			**4**		**3**	**11**		
3CR.20651.150	NewHanover	28	SR 2700 (OLD DAIRY RD.)	RESURFACING FROM US 17 BUS TO SR 2699 (AMSTERDAM WAY)	15	2	2WU	0.37	24																
TOTAL FOR MAP NO. 28								**0.37**																	
3CR.20651.150	NewHanover	29	SR 2701 (ANTILLES CT.)	RESURFACING FROM SR 2698 (NETHERLANDS DR.) TO DEAD END	15	2	2WU	0.12	24																
TOTAL FOR MAP NO. 29								**0.12**																	
3CR.20651.150	NewHanover	30	SR 2699 (AMSTERDAM WAY)	RESURFACING FROM SR 2698 (NETHERLANDS DR.) TO SR 2221 (VAN DYKE DR.)	15	2	2WU	0.49	24																
TOTAL FOR MAP NO. 30								**0.49**																	
3CR.20651.150	NewHanover	31	SR 1940 (COVIL FARM RD.)	WIDENING & RESURFACING FROM 0.05 MI. EAST OF SR 1409 (MILITARY CUTOFF RD) TO SR 1916 (RED CEDAR RD.)	17, 21	3-5	2WU	0.78	32-60													3		20	42
TOTAL FOR MAP NO. 31								**0.78**														**3**		**20**	**42**
3CR.20651.150	NewHanover	32	SR 1411 (WRIGHTSVILLE AVE.)	MILLING & RESURFACING FROM 0.12 EAST OF SR 2313 TO US 117	1, 13, 18, 19	2-4	2WU	1.08	24-55		536					12	4	9	8		3			45	104
TOTAL FOR MAP NO. 32								**1.08**			**536**					**12**	**4**	**9**	**8**		**3**			**45**	**104**
3CR.20651.150	NewHanover	33	SR 2717 (TORCHWOOD BLVD.)	WIDENING & RESURFACING FROM US 17 BUS. TO SR 2718 (BEACON DR.)	16	2-3	2WU	0.54	24-32		100					2	2	2				35	10		
TOTAL FOR MAP NO. 33								**0.54**			**100**					**2**	**2**	**2**				**35**	**10**		
3CR.20651.150	New Hanover	34	SR 1363 (BAYSHORE DRIVE)	MILL & FILL AND RESURFACING FROM US 17 BUS. TO SR 1393	14, 20	2-5	2WU	0.77	40-54		100					4	4	4				51	17		
TOTAL FOR MAP NO. 34								**0.77**			**100**					**4**	**4**	**4**				**51**	**17**		
3CR.20651.150	NewHanover	35	STATE PORTS	MILL PATCHING AT THE STATE PORTS	9	2		1.26	18																
TOTAL FOR MAP NO. 35								**1.26**																	
TOTAL FOR PROJ NO. 3CR.20651.150								**9.70**		**200**	**2686**		**8**		**4**	**32**	**23**	**55**	**29**	**23**	**3**	**92**	**38**	**471**	**191**
												12				**165**						**130**		**662**	
GRAND TOTAL								**46.84**		**600**	**5,128**	**24**	**24**	**8**	**4**	**199**	**52**	**189**	**93**	**43**	**3**	**1,116**	**84**	**1,301**	**2,780**
												60				**579**						**1,584**		**4,081**	

11/19/2013
S:\TMU\WZTC\Resurfacing\2013Resurfacing\2013Eastern\2013_Div_03\C203480A-E_3CR.10101.150_New Hanover-Pender-Brunswick_US17BU\etc_m35.sbj\Documents out\C203480A-E_3CR.10101.150_New Hanover-Pender-Brunswick_US17BU
User:sb jennings

PROJ. REFERENCE NO.	SHEET NO.
3CR.10101.150,Etc.	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	LOWSOFT 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.

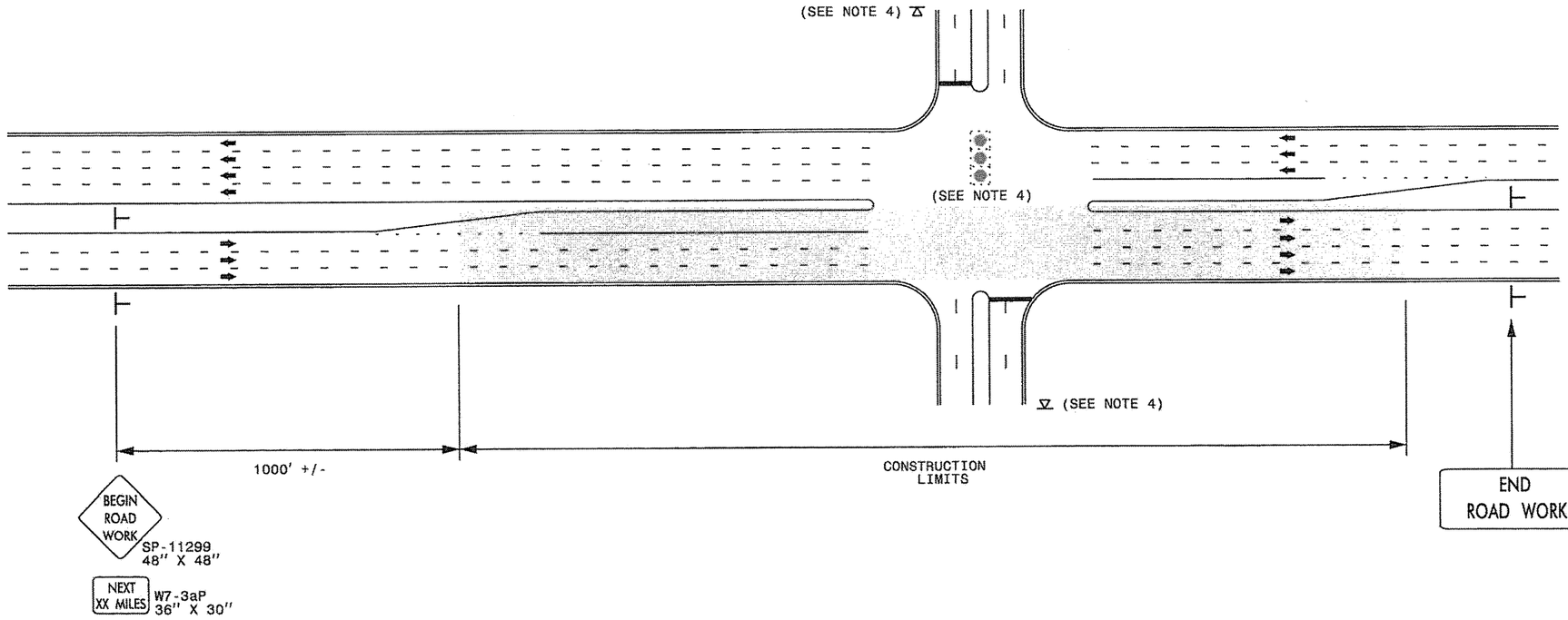
ROAD WORK AHEAD W20-1 48" X 48" — PLACED 500' IN ADVANCE OF FLAGGER.

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

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) USE LAW ENFORCEMENT TO CONTROL TRAFFIC AT SIGNALIZED INTERSECTIONS AND PROVIDE PORTABLE "ROAD WORK AHEAD" (W20-1) SIGNS 500' IN ADVANCE ALONG BOTH APPROACHES FROM THE SIDE STREETS WHEN PAVING PROCEEDS THROUGH THE INTERSECTION.
5) LATERAL CLEARANCE AT ALL SIGN LOCATIONS SHALL BE 2' AS MEASURED FROM THE EDGE OF PAVEMENT OR THE FACE OF THE CURB. WHEN UNABLE TO OBTAIN THE LATERAL CLEARANCE WITHIN THE MEDIAN AREA USE SHOULDER MOUNTS ONLY.
6) SIGN MOUNT LOCATIONS SHALL NOT BLOCK SIDEWALKS OR DRIVEWAYS.
7) IF STATIONARY GENERAL WARNING SIGNS ARE USED, THEY WILL BE PAID FOR PER SECTION 104 OF THE NCDOT STANDARD SPECIFICATIONS AS EXTRA WORK.
8) IF MILLED AREAS ARE NOT PAVED BACK BY THE END OF THE WORK DAY, PORTABLE SIGNS SHALL BE USED TO WARN DRIVERS OF THE PRESENT CONDITIONS. THESE ARE TO INCLUDE, BUT NOT LIMITED TO "ROUGH ROAD" W8-8, "UNEVEN LANES" W8-11, "GROOVED PAVEMENT" W8-15 w/MOTORCYCLE PLAQUE MOUNTED BELOW. THESE ARE TO BE DOUBLE INDICATED ON MULTI-LANE ROADWAYS WITH SPEED LIMITS 45 MPH AND GREATER WHERE LATERAL CLEARANCE CAN BE OBTAINED WITHIN THE MEDIAN AREAS.THESE PORTABLE SIGNS ARE INCIDENTAL TO THE OTHER ITEMS OF WORK INCLUDED IN THE TEMPORARY TRAFFIC CONTROL (LUMP SUM) PAY ITEM.

LEGEND

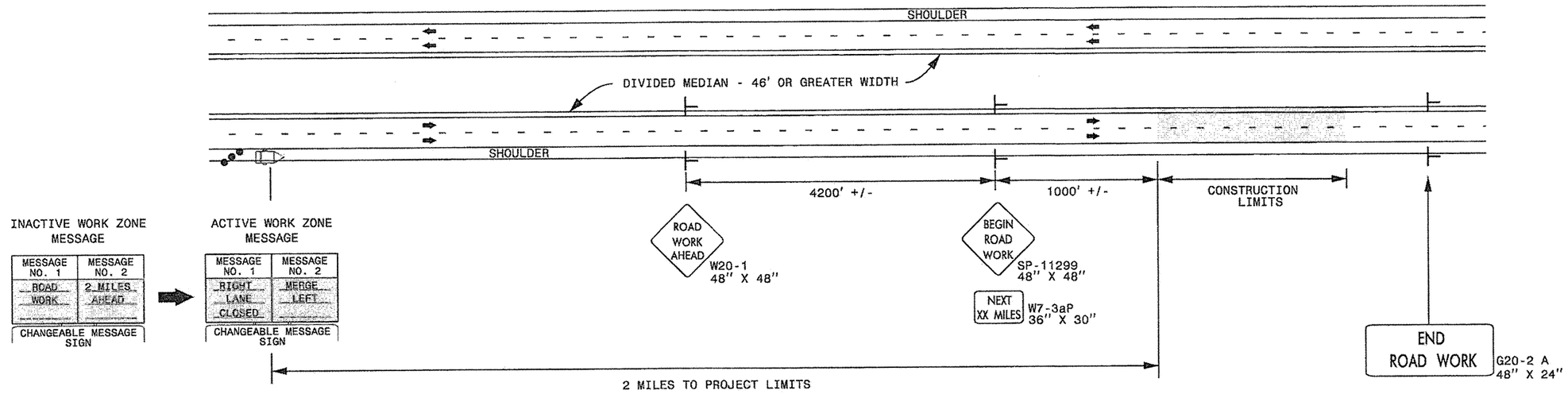
- ⊢ STATIONARY SIGN
- ➡ DIRECTION OF TRAFFIC FLOW

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

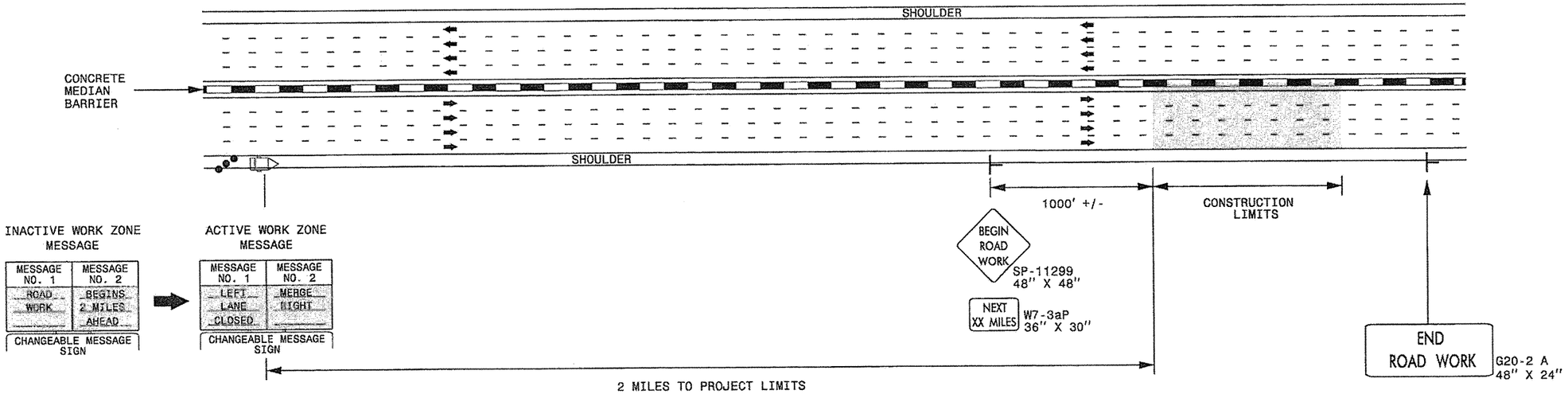
RESURFACING ADVANCE WARNING SIGNS FOR URBAN / SUBURBAN FACILITIES

PROJ. REFERENCE NO.	SHEET NO.
3CR.10101.150,Etc.	3

DIVIDED MEDIANS WITH WIDTHS 46′ OR GREATER



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



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.

LEGEND

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

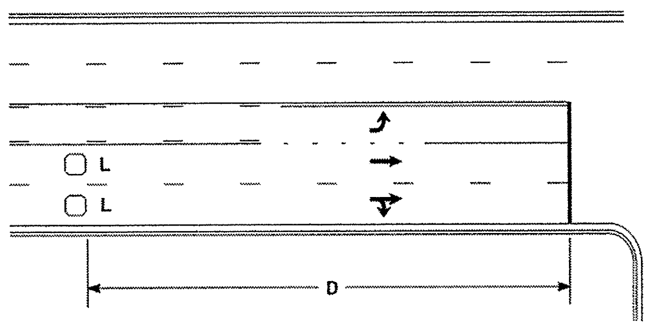
DIVISION OF HIGHWAYS · STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION · WORK ZONE TRAFFIC CONTROL

RESURFACING ADVANCE WARNING SIGNS FOR HIGH SPEED FACILITIES ≥ 60 MPH

PROJECT REFERENCE NO.	SHEET NO.
3CR.10101.150	SIG 1

3CR.10651.150
3CR.10711.150
3CR.20101.150
3CR.20651.150

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



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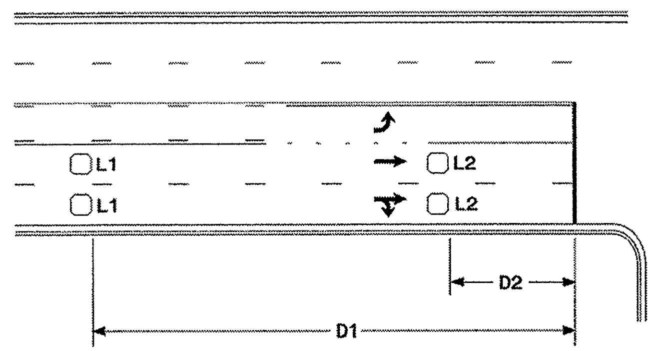


Speed Limit mph (km/hr)	D ft (m)
40 (64)	250 (75)
45 (72)	300 (90)
50 (80)	355 (110)
55 (88)	420 (130)

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

Volume Density Operation

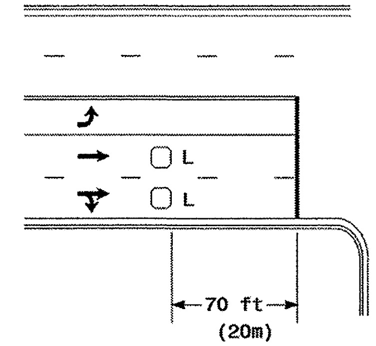
Speed Limit mph (km/hr)	D1 ft (m)	D2 ft (m)
40 (64)	250 (75)	80 (25)
45 (72)	300 (90)	90 (27)
50 (80)	355 (110)	100 (30)
55 (88)	420 (130)	110 (35)

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

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

"Stretch" Operation

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



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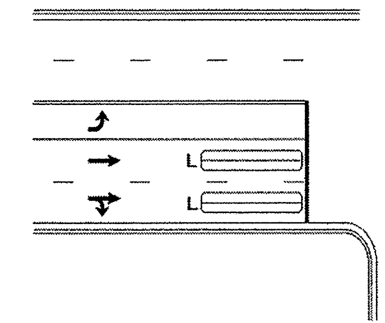
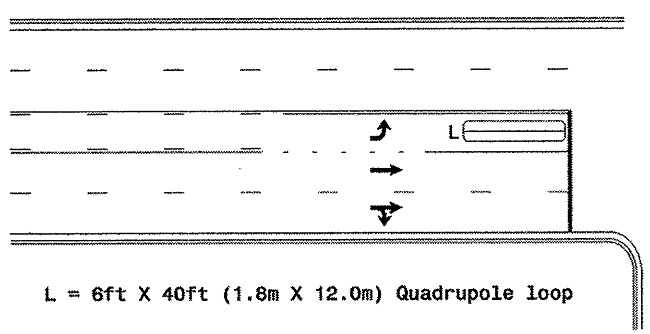


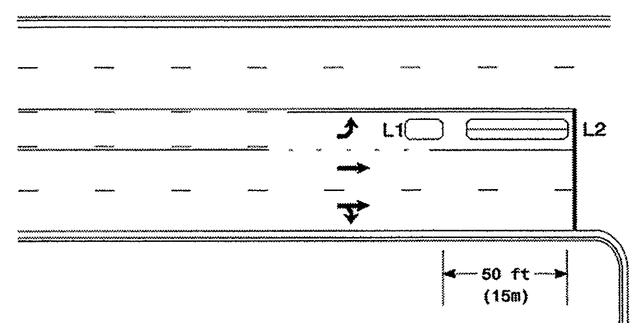
L = 6ft X 6ft (1.8m X 1.8m)
Wired in series

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

Left Turn Lane Detection



OR



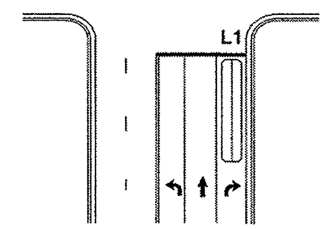
L = 6ft X 40ft (1.8m X 12.0m) Quadrupole loop

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

Presence Loop Detection

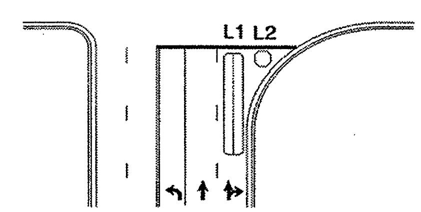
Queue Loop Detection

Right Turn Lane Detection

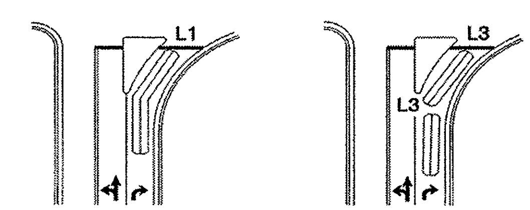


Standard Turn

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

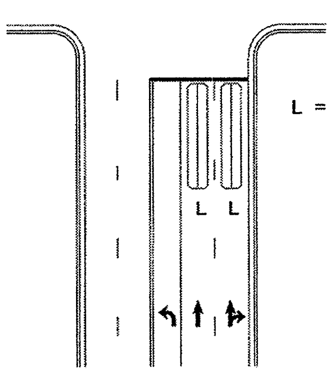


Wide Radius Turn



Channelized Turn

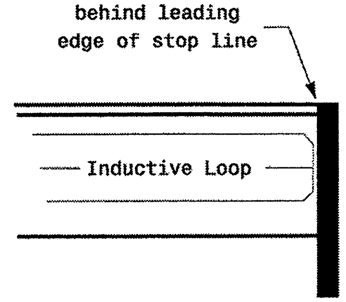
Side Street Detection



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

Presence Loop Placement at Stop Lines

Locate loop slightly behind leading edge of stop line



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

Recommended Number of Turns

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

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

Quadrupole loops: Use 2-4-2 turns

6′ X 15′ (1.8m X 4.6m) Loops:
Lead-in < 150′ (45 m), use 2 turns
Lead-in > 150′ (45 m), use 3 turns

Prepared in the Offices of:
Traffic Engineering and Safety Systems Branch, Signals and Geometrics Section
122 N. McDowell St., Raleigh, NC 27603

Typical Loop Locations

PLAN DATE: June 2006 | REVIEWED BY:
PREPARED BY: P L Alexander | REVIEWED BY:

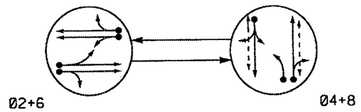
REVISIONS: Revise pavement markings

SCALE
N/A

SEAL
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 23486 PAMELA ALEXANDER
SIGNATURE DATE 6/6/06

PROJECT REFERENCE NO.	SHEET NO.
3CR.20651.150	Sig. 2

PHASING DIAGRAM



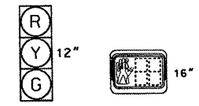
PHASING DIAGRAM DETECTION LEGEND

- DETECTED MOVEMENT
- UNDETECTED MOVEMENT (OVERLAP)
- UNSIGNALIZED MOVEMENT
- PEDESTRIAN MOVEMENT

TABLE OF OPERATION			
SIGNAL FACE	PHASE Ø2+6	PHASE Ø4+8	FLASH
21, 22	G	R	Y
41, 42, 43	R	G	R
61, 62	G	R	Y
81, 82, 83	R	G	R
P41, P42	DW	W	DRK
P81, P82	DW	W	DRK

SIGNAL FACE I.D.

All Heads L.E.D.



21, 22
41, 42, 43
61, 62
81, 82, 83

P41, P42
P81, P82

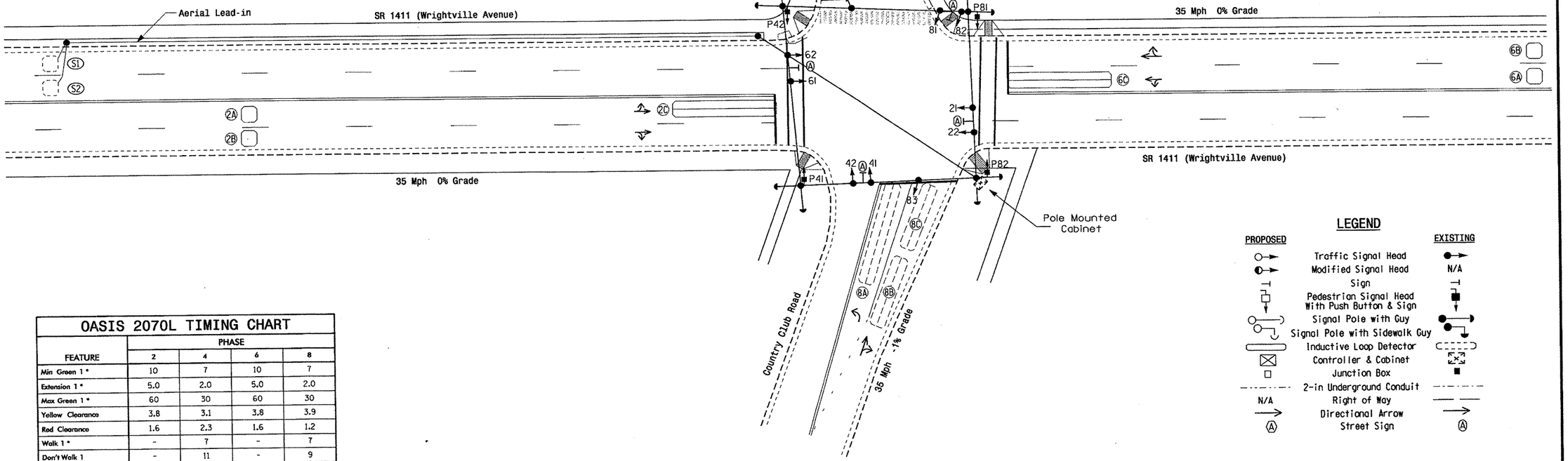
OASIS 2070L LOOP & DETECTOR INSTALLATION

INDUCTIVE LOOPS					DETECTOR PROGRAMMING						
LOOP	SIZE (FT)	DISTANCE FROM STOPBAR (FT)	TURNS	NEW LOOP	PHASE	CALLING	EXTENSION	FULL TIME DELAY	STRETCH TIME	DELAY TIME	SYSTEM LOOP	NEW CARD
2A	6X6	200	4	Y	2	Y	Y	-	—	—	-	Y
2B	6X6	200	4	Y	2	Y	Y	-	—	—	-	Y
2C	6X40	0	2-4-2	Y	2	Y	Y	Y	—	5	-	Y
4A	6x40	0	2-4-2	-	4	Y	Y	-	—	10	-	-
6A	6X6	200	4	Y	6	Y	Y	-	—	—	-	Y
6B	6X6	200	4	Y	6	Y	Y	-	—	—	-	Y
6C	6X40	0	2-4-2	Y	6	Y	Y	Y	—	5	-	Y
8A	6x40	0	2-4-2	-	8	Y	Y	-	—	3	-	-
8B	6x28	33	2-4-2	-	8	Y	Y	-	—	5	-	-
8C	6x26	0	2-4-2	-	8	Y	Y	-	—	10	-	-
S1	6x6	+365	Existing	-	-	-	-	-	—	—	Y	-
S2	6x6	+365	Existing	-	-	-	-	-	—	—	Y	-

2 Phase Fully Actuated Wilmington Signal System

NOTES

1. Refer to "Roadway Standard Drawings NCDOT" dated January 2012 and "Standard Specifications for Roads and Structures" dated January 2012.
2. Do not program signal for late night flashing operation unless otherwise directed by the Engineer.
3. Set all detector units to presence mode.
4. Pavement markings are existing.
5. Omit "WALK" and flashing "DON'T WALK" with no pedestrian calls.
6. Program pedestrian heads to countdown the flashing "Don't Walk" time only.
7. Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values supersede these values.
8. Signal system data: Controller Asset #: 0042.



LEGEND

PROPOSED		EXISTING
	Traffic Signal Head	
	Modified Signal Head	N/A
	Sign	
	Pedestrian Signal Head With Push Button & Sign	
	Signal Pole with Guy	
	Signal Pole with Sidewalk Guy	
	Inductive Loop Detector	
	Controller & Cabinet	
	Junction Box	
	2-in Underground Conduit	
N/A	Right of Way	
	Directional Arrow	
Ⓐ	Street Sign	Ⓐ

OASIS 2070L TIMING CHART

FEATURE	PHASE 2	PHASE 4	PHASE 6	PHASE 8
Min Green 1 *	10	7	10	7
Extension 1 *	5.0	2.0	5.0	2.0
Max Green 1 *	60	30	60	30
Yellow Clearance	3.8	3.1	3.8	3.9
Red Clearance	1.6	2.3	1.6	1.2
Walk 1 *	-	7	-	7
Don't Walk 1	-	11	-	9
Seconds Per Actuation *	1.8	-	1.8	-
Max Variable Initial *	24	-	24	-
Time Before Reduction *	15	-	15	-
Time To Reduce *	15	-	15	-
Minimum Gap	3.0	-	3.0	-
Recall Mode	MIN RECALL	-	MIN RECALL	-
Vehicle Call Memory	YELLOW	-	YELLOW	-
Dual Entry	-	ON	-	ON
Simultaneous Gap	ON	ON	ON	ON

* These values may be field adjusted. Do not adjust Min Green and Extension times for phases 2 and 6 lower than what is shown. Min Green for all other phases should not be lower than 4 seconds.

Signal Upgrade

Prepared in the Offices of:
Traffic Engineering Branch, Signal Design Section
750 N.Greenfield Pkwy.,Garner,NC 27529

SR 1411 (Wrightsville Avenue) at Country Club Road/ Colonial Drive

Division 3 New Hanover County Wilmington

PLAN DATE: August 2013 PREPARED BY:

PREPARED BY: Jeff Spence REVIEWED BY: PLA

REVISIONS	INIT.	DATE

SCALE 0 20 1"=20

SEAL

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 23489 JEFFREY LEE ALEXANDER

SIGNATURE DATE 10/2/13

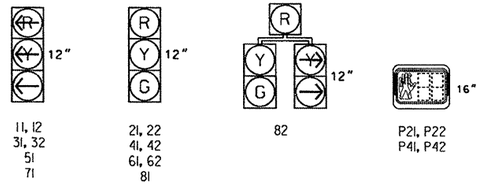
SIG. INVENTORY NO. 03-0042

02-OCT-2013 14:17
S:\Traffic\Projects\Signals\Signal Design Section\Eastern Region\Div-03\m03-0042\m030042_sig_dsn_2013mmds.dgn
jrspence

PROJECT REFERENCE NO.	SHEET NO.
3CR.10651.150	Sig. 3

SIGNAL FACE I.D.

All Heads L.E.D.



OASIS 2070L LOOP & DETECTOR INSTALLATION

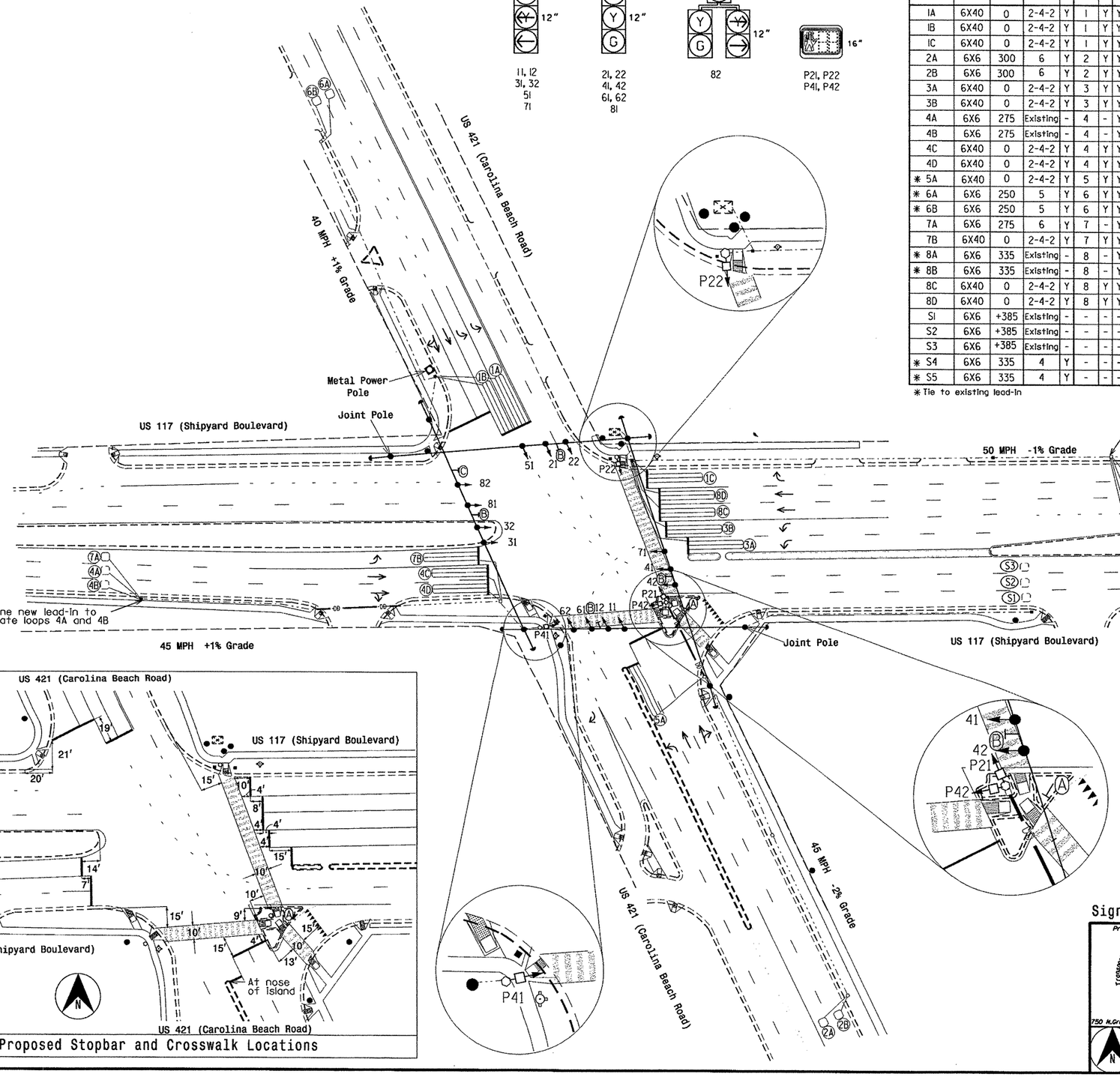
INDUCTIVE LOOPS					DETECTOR PROGRAMMING						
LOOP	SIZE (FT)	DISTANCE FROM STOPBAR (FT)	TURNS	NEW LOOP	PHASE	CALLING	EXTENSION	FULL TIME DELAY	STRETCH TIME	DELAY TIME	SYSTEM LOOP	NEW CARD
1A	6X40	0	2-4-2	Y	1	Y	Y	-	——	——	-	-
1B	6X40	0	2-4-2	Y	1	Y	Y	-	——	——	-	-
1C	6X40	0	2-4-2	Y	1	Y	Y	-	——	15	-	-
2A	6X6	300	6	Y	2	Y	Y	-	——	——	-	-
2B	6X6	300	6	Y	2	Y	Y	-	——	——	-	-
3A	6X40	0	2-4-2	Y	3	Y	Y	-	——	——	-	-
3B	6X40	0	2-4-2	Y	3	Y	Y	-	——	——	-	-
4A	6X6	275	Existing	-	4	-	Y	-	——	——	-	-
4B	6X6	275	Existing	-	4	-	Y	-	——	——	-	-
4C	6X40	0	2-4-2	Y	4	Y	Y	Y	2.0	5	-	-
4D	6X40	0	2-4-2	Y	4	Y	Y	Y	2.0	5	-	-
* 5A	6X40	0	2-4-2	Y	5	Y	Y	-	——	——	-	-
* 6A	6X6	250	5	Y	6	Y	Y	-	——	——	-	-
* 6B	6X6	250	5	Y	6	Y	Y	-	——	——	-	-
7A	6X6	275	6	Y	7	-	Y	-	——	——	-	-
7B	6X40	0	2-4-2	Y	7	Y	Y	-	——	——	-	-
* 8A	6X6	335	Existing	-	8	-	Y	-	——	——	-	-
* 8B	6X6	335	Existing	-	8	-	Y	-	——	——	-	-
8C	6X40	0	2-4-2	Y	8	Y	Y	Y	2.0	5	-	-
8D	6X40	0	2-4-2	Y	8	Y	Y	Y	2.0	5	-	-
S1	6X6	+385	Existing	-	-	-	-	-	——	——	Y	-
S2	6X6	+385	Existing	-	-	-	-	-	——	——	Y	-
S3	6X6	+385	Existing	-	-	-	-	-	——	——	Y	-
* S4	6X6	335	4	Y	-	-	-	-	——	——	Y	-
* S5	6X6	335	4	Y	-	-	-	-	——	——	Y	-

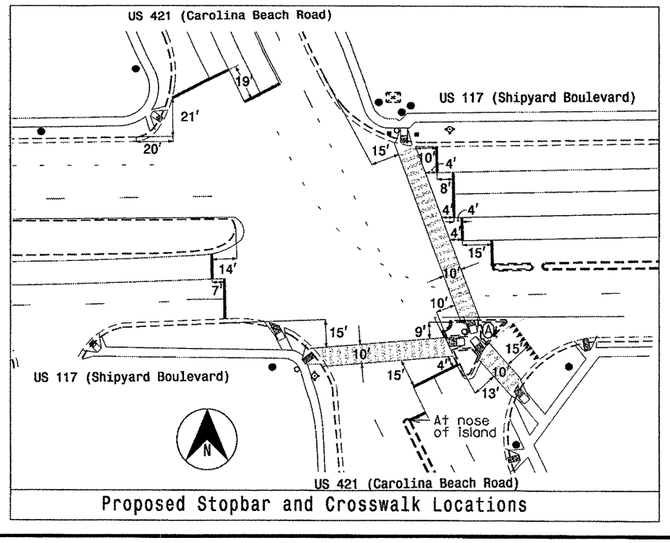
* Tie to existing lead-in

8 Phase Fully Actuated Wilmington Signal System

NOTES

1. Refer to "Roadway Standard Drawings NCDOT" dated January 2012 and "Standard Specifications for Roads and Structures" dated January 2012.
2. Do not program signal for late night flashing operation unless otherwise directed by the Engineer.
3. Phase 1 and/or phase 5 may be lagged.
4. Phase 3 and/or phase 7 may be lagged.
5. Set all detector units to presence mode.
6. In the event of loop replacement. refer to the current ITS and Signals Design Manual and submit a Plan of Record to the Signal Design Section.
7. Omit "WALK" and flashing "DON'T WALK" with no pedestrian calls.
8. Program pedestrian heads to countdown the flashing "Don't Walk" time only.
9. Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values supersede these values.
10. Signal system data: Controller Asset #0024.





Proposed Stopbar and Crosswalk Locations

LEGEND

PROPOSED		EXISTING
	Traffic Signal Head	
	Modified Signal Head	N/A
	Sign	
	Pedestrian Signal Head With Push Button & Sign	
	Type II Signal Pedestal	
	Signal Pole with Guy	
	Signal Pole with Sidewalk Guy	
	Inductive Loop Detector	
	Controller & Cabinet	
	Junction Box	
	2-in Underground Conduit	
N/A	Right of Way	
	Directional Arrow	
N/A	Wheel Chair Ramp	
	Direct Drill	N/A
N/A	Fire Hydrant	
Ⓐ	"YIELD" Sign (R1-2)	Ⓐ
Ⓑ	"Street Name" Sign	Ⓑ
Ⓒ	Right Arrow "ONLY" Sign (R3-5R)	Ⓒ

Signal Upgrade

THIS PLAN SUPERSEDES PLAN SEALED ON 12/3/13

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

US 421 (Carolina Beach Road) at US 117 (Shipyard Boulevard)

Division 3 | New Hanover County | Wilmington

PLAN DATE: October 2013 | REVIEWED BY: PLA, PE

PREPARED BY: EM Winshew | REVIEWED BY:

REVISIONS	INIT.	DATE

SCALE 0 40 1"=40'

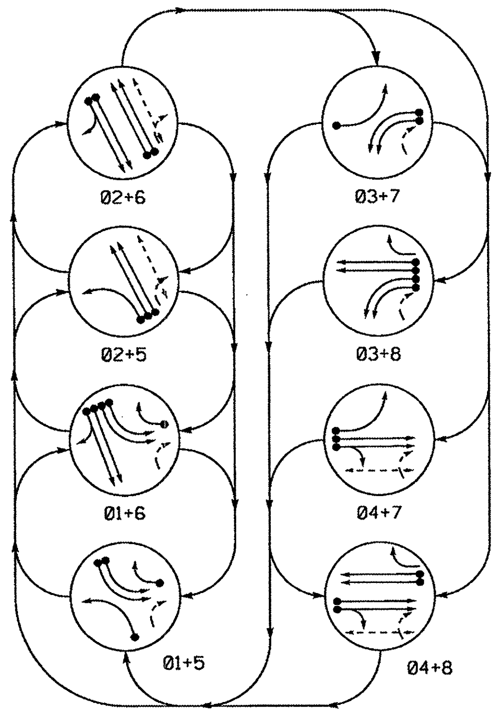
SEAL
NORTH CAROLINA PROFESSIONAL SEAL 23489 ENGINEER PAMELA L ALEXANDER

SIGNATURE 12/10/13 DATE

SIG. INVENTORY NO. 03-0024

10-DEC-2013 11:33
S:\TEC\Signals\Signal Design Section\Eastern Region\Div-03\03-0024\03002A_sig_dsn_2013mods.dgn
palexander

PHASING DIAGRAM



PHASING DIAGRAM DETECTION LEGEND

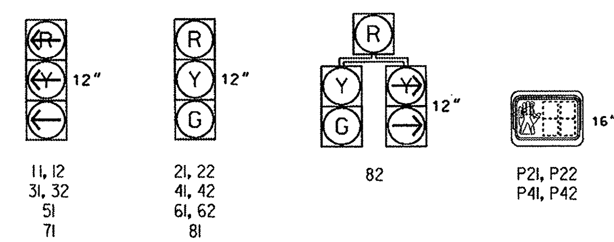
- DETECTED MOVEMENT
- UNDETECTED MOVEMENT (OVERLAP)
- UNSIGNALIZED MOVEMENT
- PEDESTRIAN MOVEMENT

TABLE OF OPERATION

SIGNAL FACE	PHASE								
	Ø1+5	Ø1+6	Ø2+5	Ø2+6	Ø3+7	Ø3+8	Ø4+7	Ø4+8	FLASH
11, 12	←	←	←R	←R	←R	←R	←R	←R	←R
21, 22	R	R	G	G	R	R	R	R	Y
31, 32	←R	←R	←R	←R	←	←	←R	←R	←R
41, 42	R	R	R	R	R	R	G	G	R
51	←	←R	←	←R	←R	←R	←R	←R	←R
61, 62	R	G	R	G	R	R	R	R	Y
71	←R	←R	←R	←R	←	←R	←	←R	←R
81	R	R	R	R	R	G	R	G	R
82	R/→	R/→	R	R	R	G	R	G	R
P21, P22	DW	DW	W	W	DW	DW	DW	DW	DRK
P41, P42	DW	DW	DW	DW	DW	DW	W	W	DRK

SIGNAL FACE I.D.

All Heads L.E.D.



OASIS 2070L TIMING CHART

FEATURE	PHASE							
	1	2	3	4	5	6	7	8
Min Green 1 *	7	12	7	7	7	12	7	7
Extension 1 *	2.0	6.0	2.0	5.0	2.0	6.0	3.0	5.0
Max Green 1 *	25	90	20	60	15	90	25	60
Yellow Clearance	3.0	4.7	3.0	4.4	3.0	4.1	3.0	4.9
Red Clearance	4.1	2.1	3.2	1.9	3.9	2.7	3.1	1.7
Walk 1 *	-	7	-	7	-	-	-	-
Don't Walk 1	-	25	-	18	-	-	-	-
Seconds Per Actuation *	-	1.8	-	-	-	1.8	-	-
Max Variable Initial *	-	34	-	-	-	34	-	-
Time Before Reduction *	-	30	-	20	-	30	-	20
Time To Reduce *	-	30	-	20	-	30	-	20
Minimum Gap	-	3.0	-	3.3	-	3.0	-	3.6
Recall Mode	-	MIN RECALL	-	-	-	MIN RECALL	-	-
Vehicle Call Memory	-	YELLOW	-	-	-	YELLOW	-	-
Dual Entry	-	-	-	-	-	-	-	-
Simultaneous Gap	ON	ON	ON	ON	ON	ON	ON	ON

* These values may be field adjusted. Do not adjust Min Green and Extension times for phases 2 and 6 lower than what is shown. Min Green for all other phases should not be lower than 4 seconds.

THIS PLAN SUPERSEDES PLAN SEALED ON 12/3/13

Signal Upgrade

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

NO SCALE

US 421 (Carolina Beach Road)
at
US 117 (Shipyard Boulevard)

Division 3 New Hanover County Wilmington

PLAN DATE: October 2013	REVIEWED BY: PLA, PE
PREPARED BY: EM Minshew	REVIEWED BY:

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 23489 PAMELA L. ALEXANDER

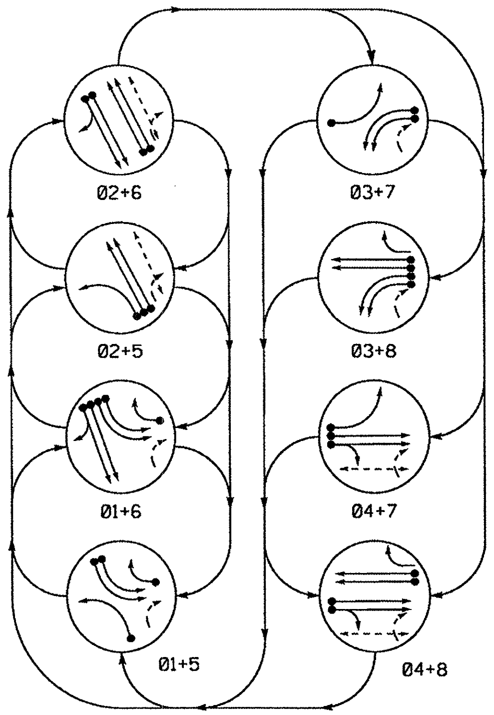
SIGNATURE DATE 12/10/13

SIG. INVENTORY NO. 03-0024

10-DEC-2013 11:25
palexander

PROJECT REFERENCE NO.	SHEET NO.
3CR.10651.150	Sig. 5

PHASING DIAGRAM



PHASING DIAGRAM DETECTION LEGEND

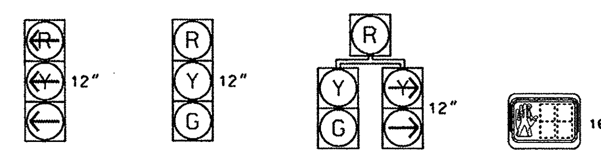
- DETECTED MOVEMENT
- UNDETECTED MOVEMENT (OVERLAP)
- UNSIGNALIZED MOVEMENT
- PEDESTRIAN MOVEMENT

TABLE OF OPERATION

SIGNAL FACE	PHASE Ø1+5	Ø1+6	Ø2+5	Ø2+6	Ø3+7	Ø3+8	Ø4+7	Ø4+8	FLASH
11, 12	←	←	←R	←R	←R	←R	←R	←R	←R
21, 22	R	R	G	G	R	R	R	R	Y
31, 32	←R	←R	←R	←R	←	←	←R	←R	←R
41, 42	R	R	R	R	R	R	G	G	R
51	←	←R	←	←R	←R	←R	←R	←R	←R
61, 62	R	G	R	G	R	R	R	R	Y
71	←R	←R	←R	←R	←	←R	←	←R	←R
81	R	R	R	R	R	G	R	G	R
82	R/→	R/→	R	R	R	G	R	G	R
P21, P22	DW	DW	W	W	DW	DW	DW	DW	DRK
P41, P42	DW	DW	DW	DW	DW	DW	W	W	DRK

SIGNAL FACE I.D.

All Heads L.E.D.



11, 12
31, 32
51
71

21, 22
41, 42
61, 62
81

82

P21, P22
P41, P42

OASIS 2070L TIMING CHART

FEATURE	PHASE 1	2	3	4	5	6	7	8
Min Green 1 *	7	12	7	7	7	12	7	7
Extension 1 *	2.0	6.0	2.0	5.0	2.0	6.0	3.0	5.0
Max Green 1 *	25	90	20	60	15	90	25	60
Yellow Clearance	3.0	4.7	3.0	4.4	3.0	4.1	3.0	4.9
Red Clearance	4.1	2.1	3.2	1.9	3.9	2.7	3.1	1.7
Walk 1 *	-	7	-	7	-	-	-	-
Don't Walk 1	-	25	-	18	-	-	-	-
Seconds Per Actuation *	-	1.8	-	-	-	1.8	-	-
Max Variable Initial *	-	34	-	-	-	34	-	-
Time Before Reduction *	-	30	-	20	-	30	-	20
Time To Reduce *	-	30	-	20	-	30	-	20
Minimum Gap	-	3.0	-	3.3	-	3.0	-	3.6
Recall Mode	-	MIN RECALL	-	-	-	MIN RECALL	-	-
Vehicle Call Memory	-	YELLOW	-	-	-	YELLOW	-	-
Dual Entry	-	-	-	-	-	-	-	-
Simultaneous Gap	ON	ON	ON	ON	ON	ON	ON	ON

* These values may be field adjusted. Do not adjust Min Green and Extension times for phases 2 and 6 lower than what is shown. Min Green for all other phases should not be lower than 4 seconds.

Signal Upgrade

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

US 421 (Carolina Beach Road)
at
US 117 (Shipyard Boulevard)

Division 3 New Hanover County Wilmington

PLAN DATE: October 2013	REVIEWED BY: PLA, PE
PREPARED BY: EM Minshew	REVIEWED BY:

REVISIONS	INIT.	DATE

NO SCALE

N

SEAL
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 23489 PAMELA L. ALEXANDER

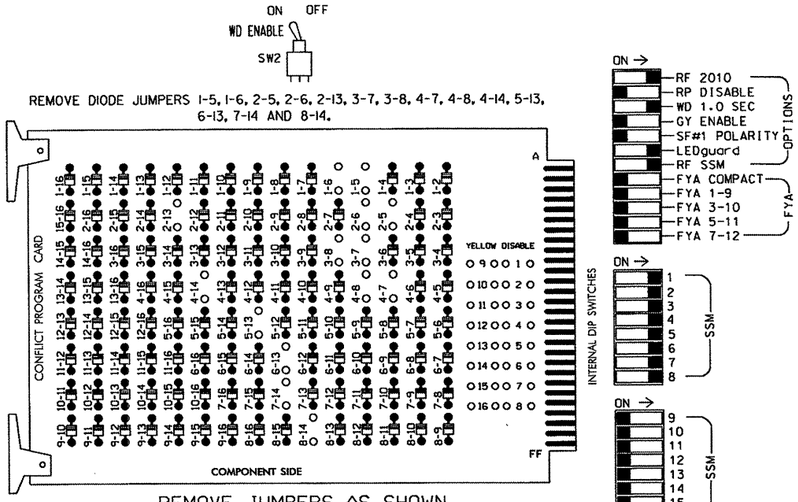
SIGNATURE — DATE 12/3/13

SIG. INVENTORY NO. 03-0024

PROJECT REFERENCE NO.	SHEET NO.
	Sig. 6

▽ EDI MODEL 2010ECL-NC CONFLICT MONITOR PROGRAMMING DETAIL

(remove jumpers and set switches as shown)



REMOVE JUMPERS AS SHOWN

NOTES:

1. Card is provided with all diode jumpers in place. Removal of any jumper allows its channels to run concurrently.
2. Make sure jumpers SEL2-SEL5 are present on the monitor board.

■ = DENOTES POSITION OF SWITCH

NOTES

1. To prevent "flash-conflict" problems, insert red flash program blocks for all unused vehicle load switches in the output file. The installer shall verify that signal heads flash in accordance with the Signal Plans.
2. Ensure that Red Enable is active at all times during normal operation. To prevent Red Failures on unused monitor channels, tie unused red monitor inputs 9,10, 11,12,13,14,15 & 16 to load switch AC+ per the cabinet manufacturer's instructions.
3. Enable Simultaneous Gap-Out for all phases.
4. Program phases 2 and 6 for Variable Initial and phases 2, 4, 6 and 8 for Gap Reduction.
5. Program phases 2 and 6 for Start Up In Green.
6. ▽ Program phases 2 and 4 for 'STARTUP PED CALL'.
7. Program phases 2 and 6 for Yellow Flash.
8. The cabinet and controller are part of the Wilmington Signal System.

EQUIPMENT INFORMATION

CONTROLLER.....2070L
CABINET.....332
SOFTWARE.....ECONOLITE OASIS
CABINET MOUNT.....BASE
OUTPUT FILE POSITIONS...12
▽ LOAD SWITCHES USED.....S1,S2,S2P,S3,S4,S4P,S5,S6,S7,S8
PHASES USED.....1,2,3,4,5,6,7,8,2 PED,4 PED
OVERLAPS.....NONE

▽ SIGNAL HEAD HOOK-UP CHART

LOAD SWITCH NO.	S1		S2	S2P	S3	S4	S4P	S5	S6	S6P	S7	S8	S8P
PHASE	1		2	2 PED	3	4	4 PED	5	6	6 PED	7	8	8 PED
SIGNAL HEAD NO.	82	11,12	21,22	P21, P22	31,32	41,42	P41, P42	51	61,62	NU	71	81,82	NU
RED			128			101			134			107	
YELLOW			129			102			135			108	
GREEN			130			103			136			109	
RED ARROW		125			116			131			122		
YELLOW ARROW	126	126			117			132			123		
GREEN ARROW	127	127			118			133			124		
✋				113			104						
🚶				115			106						

▽ INPUT FILE POSITION LAYOUT

(front view)

		1	2	3	4	5	6	7	8	9	10	11	12	13	14
FILE "I"	U	ø1 1A	ø1 1B	ø2 2A	SLOT EMPTY	ø3 3A	ø4 4A	ø4 4C	SLOT EMPTY	SYS. DET. S1	SLOT EMPTY	SLOT EMPTY	ø2 PED DC ISOLATOR	SLOT EMPTY	FS DC ISOLATOR
	L	NOT USED	ø1 1C	ø2 2B		ø3 3B	ø4 4B	ø4 4D		SYS. DET. S2			ø4 PED DC ISOLATOR		ST DC ISOLATOR
FILE "J"	U	ø5 5A	ø6 6A	SLOT EMPTY	ø7 7A	ø7 7B	ø8 8A	ø8 8C	SYS. DET. S5	SYS. DET. S3	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY
	L	NOT USED	ø6 6B		NOT USED	NOT USED	ø8 8B	ø8 8D	NOT USED	SYS. DET. S4					

EX.: 1A, 2A, ETC. = LOOP NO.'S

FS = FLASH SENSE
ST = STOP TIME

▽ INPUT FILE CONNECTION & PROGRAMMING CHART

LOOP NO.	LOOP TERMINAL	INPUT FILE POS.	PIN NO.	INPUT ASSIGNMENT NO.	DETECTOR NO.	NEMA PHASE	CALL	EXTEND	FULL TIME DELAY	STRETCH TIME	DELAY TIME
1A	TB2-1,2	I1U	56	18	1	1	Y	Y			
1B	TB2-5,6	I2U	39	1	2	1	Y	Y			
1C	TB2-7,8	I2L	43	5	12	1	Y	Y			15
2A	TB2-9,10	I3U	63	25	32	2	Y	Y			
2B	TB2-11,12	I3L	76	38	42	2	Y	Y			
3A	TB4-5,6	I5U	58	20	3	3	Y	Y			
3B	TB4-7,8	I5L	58	20	3	3	Y	Y			
4A	TB4-9,10	I6U	41	3	4	4		Y			
4B	TB4-11,12	I6L	45	7	14	4		Y			
4C	TB6-1,2	I7U	65	27	34	4	Y	Y	Y	2.0	5
4D	TB6-3,4	I7L	78	40	44	4	Y	Y	Y	2.0	5
5A	TB3-1,2	J1U	55	17	5	5	Y	Y			
6A	TB3-5,6	J2U	40	2	6	6	Y	Y			
6B	TB3-7,8	J2L	44	6	16	6	Y	Y			
7A	TB5-1,2	J4U	48	10	26	7		Y			
7B	TB5-5,6	J5U	57	19	7	7	Y	Y			
8A	TB5-9,10	J6U	42	4	8	8		Y			
8B	TB5-11,12	J6L	46	8	18	8		Y			
8C	TB7-1,2	J7U	66	28	38	8	Y	Y	Y	2.0	5
8D	TB7-3,4	J7L	79	41	48	8	Y	Y	Y	2.0	5
* S1	TB6-9,10	I9U	60	22	11	SYS					
* S2	TB6-11,12	I9L	62	24	13	SYS					
* S3	TB7-9,10	J9U	59	21	15	SYS					
* S4	TB7-11,12	J9L	61	23	17	SYS					
* S5	TB7-5,6	J8U	50	12	28	SYS					
PED PUSH BUTTONS											
P21,P22	TB8-4,6	I12U	67	29	PED 2	2 PED					
P41,P42	TB8-5,6	I12L	69	31	PED 4	4 PED					

NOTE:
INSTALL DC ISOLATOR IN INPUT FILE SLOTS I12.

* System detector only. Remove the vehicle phase assigned to this detector in the default programming.

INPUT FILE POSITION LEGEND: J2L
FILE J
SLOT 2
LOWER

▽ THIS ELECTRICAL DETAIL IS FOR
THE SIGNAL DESIGN: 03-0024
DESIGNED: October 2013
SEALED: 12-10-13
REVISED: N/A

This Electrical Detail supersedes the detail sealed on 12/04/13.

REVISION ▽ SEAL

NORTH CAROLINA PROFESSIONAL SEAL 008453 ENGINEER JOHN T. ROWE, JR.
SIGNATURE 12-10-13 DATE

Electrical Detail

ELECTRICAL AND PROGRAMMING DETAILS FOR:

Prepared in the Offices of:
Traffic Engineering and Safety Systems Branch
NCDOT Department of Transportation
Signal Management Section
750 N. Greenfield Pkwy, Garner, NC 27529

US 421 (Carolina Beach Road)
at
US 117 (Shipyard Boulevard)

Division 3 | New Hanover County | Wilmington

PLAN DATE: October 2007 | REVIEWED BY: T. Joyce
PREPARED BY: C. Strickland | REVIEWED BY:

REVISIONS	INIT.	DATE
▽ Updated loops and added PEDs to phases 2 and 4.(JP)	JTR	12-10-13

SEAL

Not a certified document.
This document originally issued and sealed by George C. Brown, PE, #022013 on 02/13/2008
This document shall not be considered a certified document.

SIGNATURE DATE

SIG. INVENTORY NO. 03-0024

10-DEC-2013 11:41
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jtpeterson