

09/08/99  
 11-OCT-2015 07:53  
 ON-RDY\DDC\NE\FRE\2014\2014\_Onslow\ROADWAY\Proj\3CR.10671.151, Etc.\_Rdy\_.tsh\_.2014.dgn  
 mkimmel AT DSCAD257156

**WBS NO: 3CR.10671.151, Etc.**

**CONTRACT:**

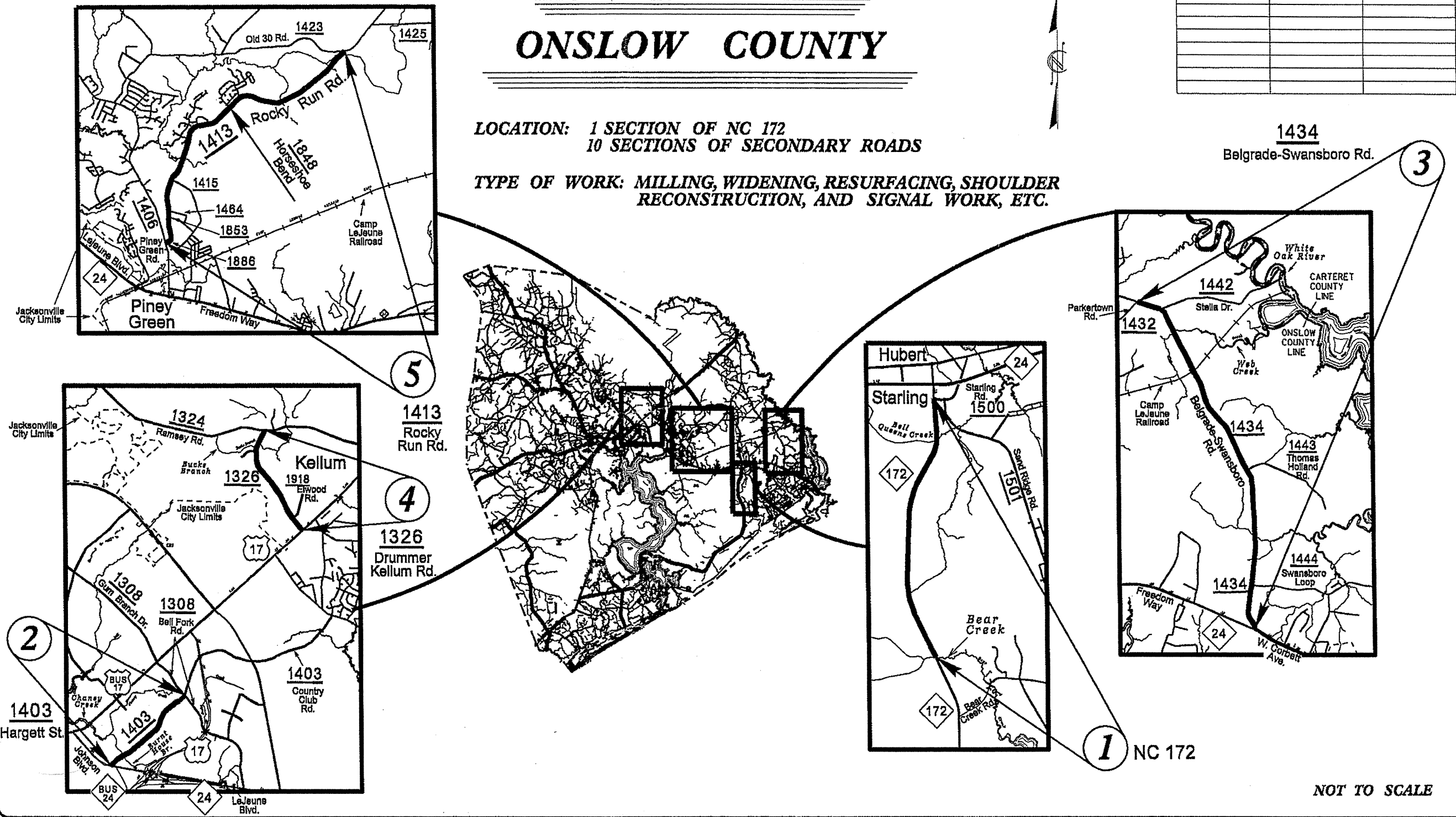
STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

**ONSLOW COUNTY**

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	3CR.10671.151, Etc.	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	

**LOCATION: 1 SECTION OF NC 172  
10 SECTIONS OF SECONDARY ROADS**

**TYPE OF WORK: MILLING, WIDENING, RESURFACING, SHOULDER RECONSTRUCTION, AND SIGNAL WORK, ETC.**



NOT TO SCALE

PROJECT LENGTH	
PRIMARY	SECONDARY
3CR.10671.151: MAP NO. 1 = 3.14 MI.	3CR.20671.151: MAP NO. 2 = 1.31 MI. MAP NO. 3 = 4.88 MI. MAP NO. 4 = 1.50 MI. MAP NO. 5 = 4.70 MI. MAP NO. 6 = 0.52 MI. MAP NO. 7 = 2.86 MI. MAP NO. 8 = 1.02 MI. MAP NO. 9 = 3.77 MI. MAP NO. 10 = 0.84 MI. MAP NO. 11 = 0.85 MI.
PRIMARY SUB-TOTAL = 3.14 MI.	SECONDARY SUB-TOTAL = 22.29 MI.
<b>TOTAL PROJECT LENGTH = 25.43 MI.</b>	

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

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: \_\_\_\_\_

LETTING DATE: \_\_\_\_\_

ROADWAY DESIGN  
TECHNICIAN

ADS

SIGNATURE: \_\_\_\_\_

MPK

SIGNATURE: \_\_\_\_\_

DIVISION OF HIGHWAYS  
STATE OF NORTH CAROLINA

09-08/99  
09-OCT-2013 13:59  
01-RDY\DOC\RETREAT\2014\2014\_Onslow\ROADWAY\Proj\3CR.10671.151, Etc., Rdy., tsh., 2014.dgn  
mkimmel AT DSCAD257156

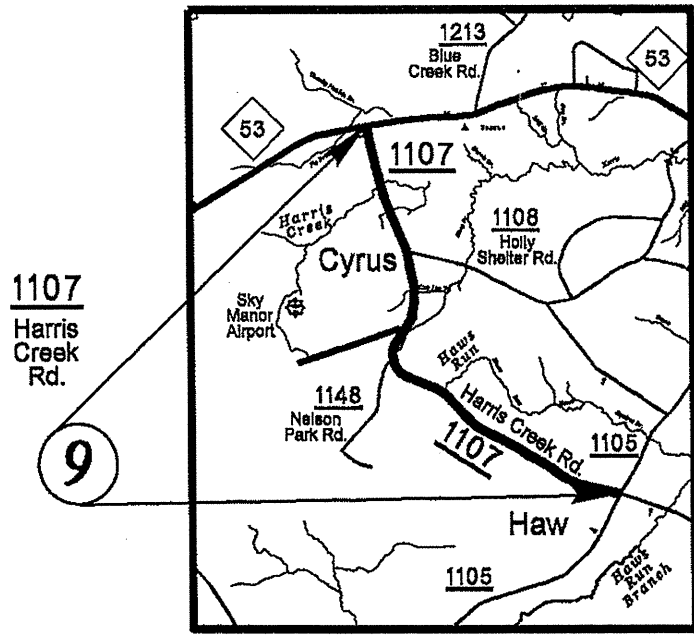
**WBS NO: 3CR.10671.151, Etc.**

**CONTRACT:**

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

**ONSLOW COUNTY**

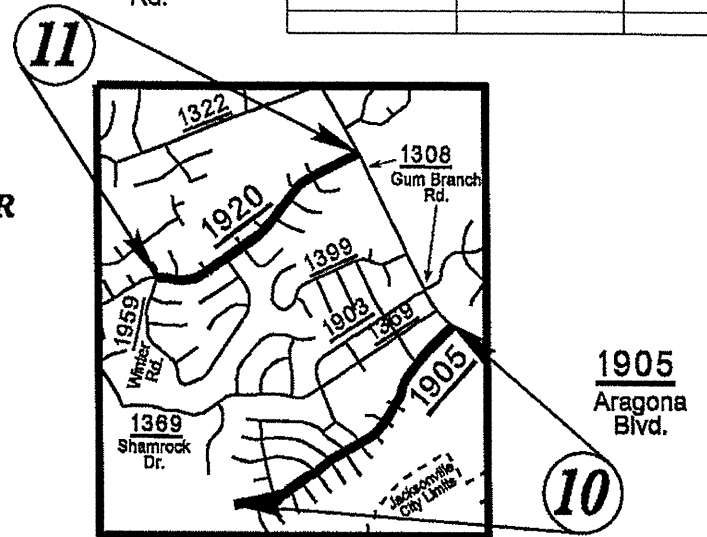
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	3CR.10671.151, Etc.	2	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	



**LOCATION:** 1 SECTION OF NC 172  
10 SECTIONS OF SECONDARY ROADS

**TYPE OF WORK:** MILLING, WIDENING, RESURFACING, SHOULDER RECONSTRUCTION, AND SIGNAL WORK, ETC.

1920  
Raintree Rd.

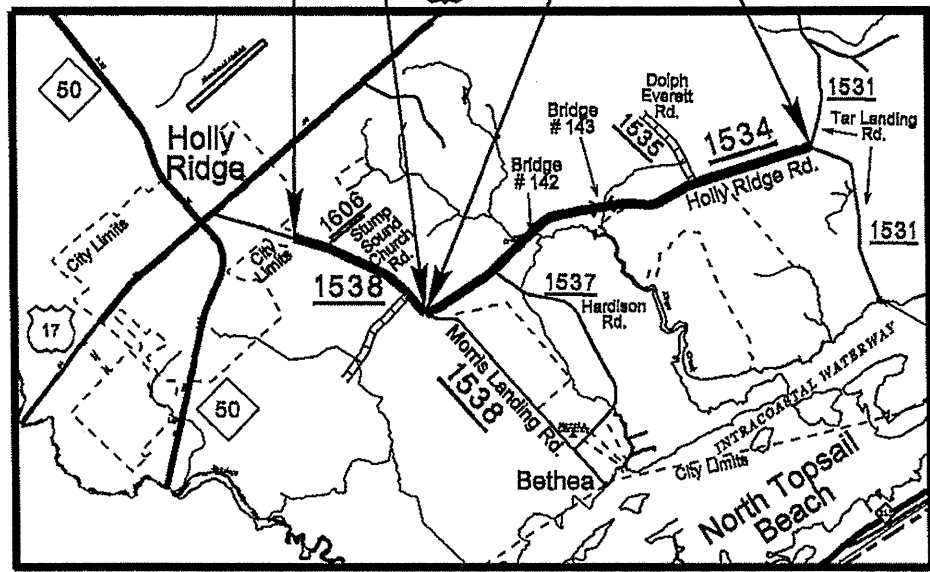


1905  
Aragona Blvd.

10

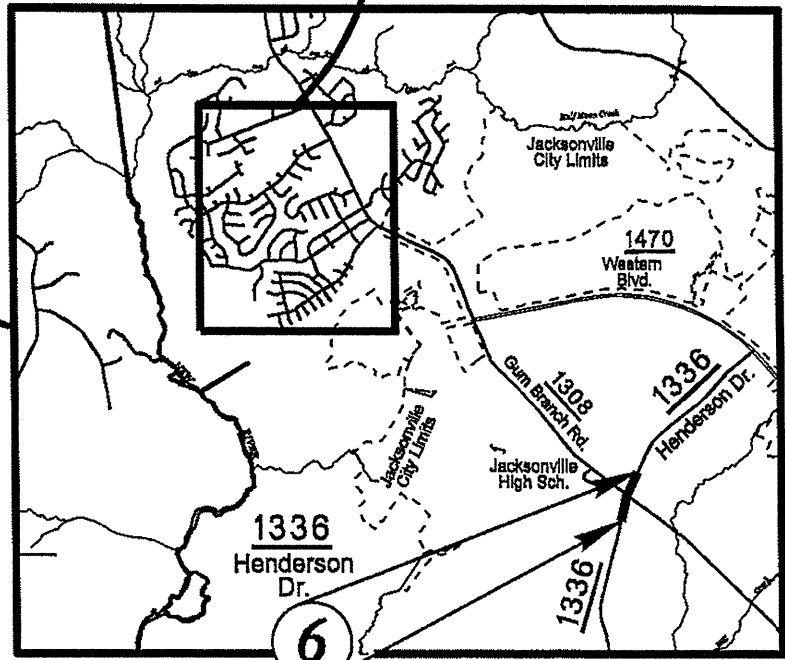
1538  
Morris Landing Rd.

8



1534  
Holly Ridge Rd.

7



NOT TO SCALE

PROJECT LENGTH	
PRIMARY	SECONDARY
3CR.10671.151: MAP NO. 1 = 3.14 MI.	3CR.20671.151: MAP NO. 2 = 1.35 MI. MAP NO. 3 = 4.88 MI. MAP NO. 4 = 1.50 MI. MAP NO. 5 = 4.70 MI. MAP NO. 6 = 0.52 MI. MAP NO. 7 = 2.86 MI. MAP NO. 8 = 1.02 MI. MAP NO. 9 = 3.77 MI. MAP NO. 10 = 0.84 MI. MAP NO. 11 = 0.85 MI.
PRIMARY SUB-TOTAL = 3.14 MI.	SECONDARY SUB-TOTAL = 22.29 MI.
<b>TOTAL PROJECT LENGTH = 25.43 MI.</b>	

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

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: \_\_\_\_\_

LETTING DATE: \_\_\_\_\_

ROADWAY DESIGN  
TECHNICIAN

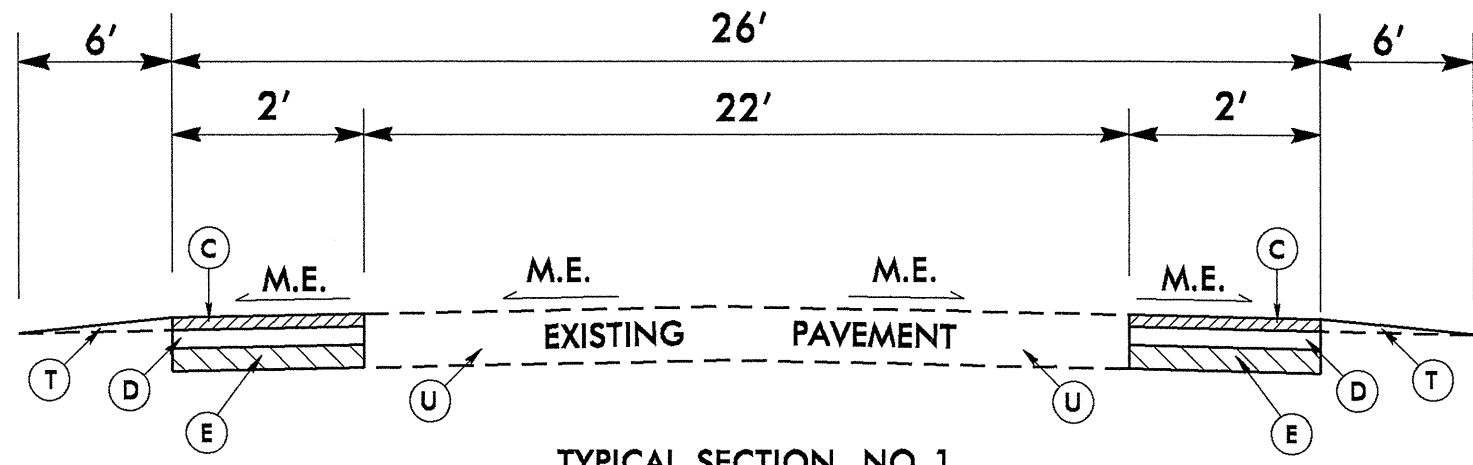
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SIGNATURE: \_\_\_\_\_

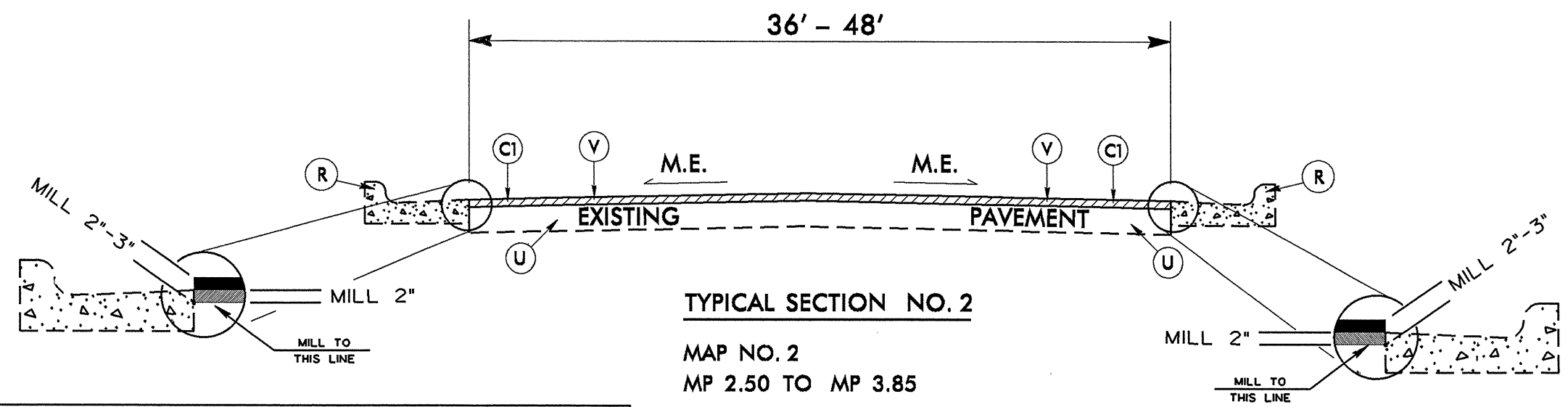
MPK

SIGNATURE: \_\_\_\_\_

DIVISION OF HIGHWAYS  
STATE OF NORTH CAROLINA



**TYPICAL SECTION NO. 1**  
 MAP NO. 1  
 MP 22.83 TO MP 25.97



**TYPICAL SECTION NO. 2**  
 MAP NO. 2  
 MP 2.50 TO MP 3.85

**PAVEMENT SCHEDULE**

<b>C</b>	PROP. APPROX. 1½" DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ.YD.	<b>R1</b>	EXISTING CONCRETE 2' MOUNTABLE CURB & GUTTER
<b>C1</b>	PROP. APPROX. 2" DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 224 LBS. PER SQ.YD.	<b>T</b>	EARTH MATERIAL (SHOULDER RECONSTRUCTION)
<b>D</b>	PROP. APPROX. 2½" DEPTH ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 285 LBS. PER SQ.YD.	<b>U</b>	EXISTING PAVEMENT
<b>E</b>	PROP. APPROX. 5½" DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 627 LBS. PER SQ.YD.	<b>V</b>	MILLING BITUMINOUS PAVEMENT 2-3" DEPTH
<b>E1</b>	PROP. APPROX. 4" DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ.YD.	<b>V1</b>	MILLING BITUMINOUS PAVEMENT 2½" DEPTH
<b>R</b>	EXISTING CONCRETE 2'-8" CURB & GUTTER	<b>V2</b>	MILLING BITUMINOUS PAVEMENT 1½" DEPTH

NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.  
 SEE STD. DRAWING 1205.01, SHEET 2 OF 2, TABLE 1 FOR EDGE LINE OFFSETS.  
 M.E. = MATCH EXISTING

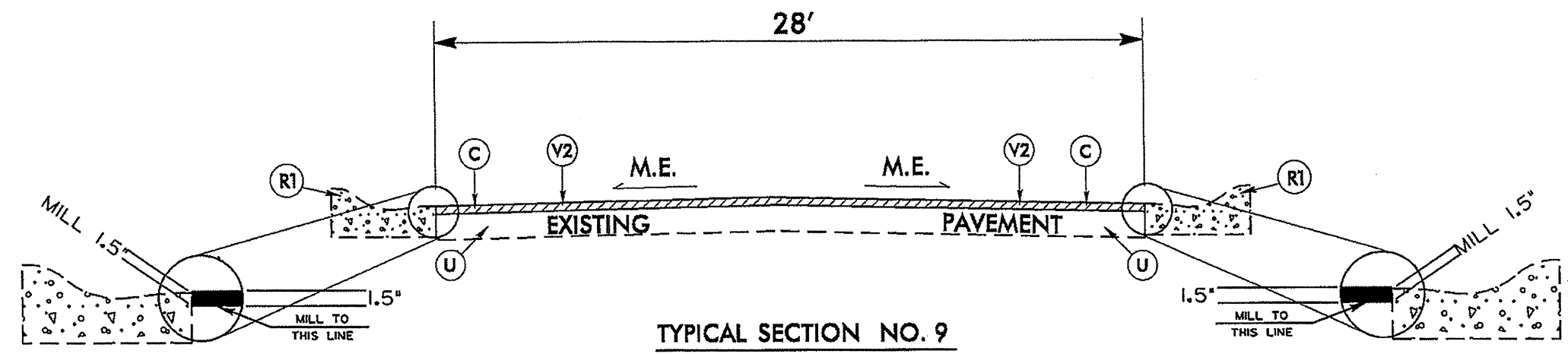
REVISIONS

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 AT CSP261658









**TYPICAL SECTION NO. 9**  
 MAP NO. 10  
 MP 0.00 TO MP 0.84

PAVEMENT SCHEDULE			
C	1½" S9.5B	R1	CONC. MOUNTABLE 2' C & G
C1	2" S9.5B	T	EARTH MATERIAL (SH. RECONSTR.)
D	2½" I18.0B	U	EXISTING PAVEMENT
E	5½" B25.0B	V	MILLING 2-3" DEPTH
E1	4" B25.0B	V1	MILLING 2½" DEPTH
R	2'-6" CURB & GUTTER	V2	MILLING 1½" DEPTH

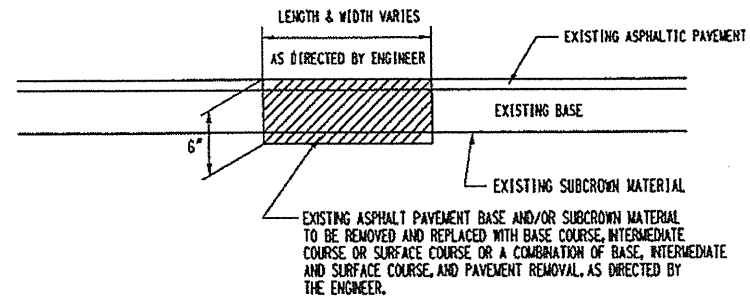
NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.  
 SEE STD. DRAWING 1205.01, SHEET 2 OF 2, TABLE 1 FOR EDGE LINE OFFSETS.  
 M.E. = MATCH EXISTING

8/17/99  
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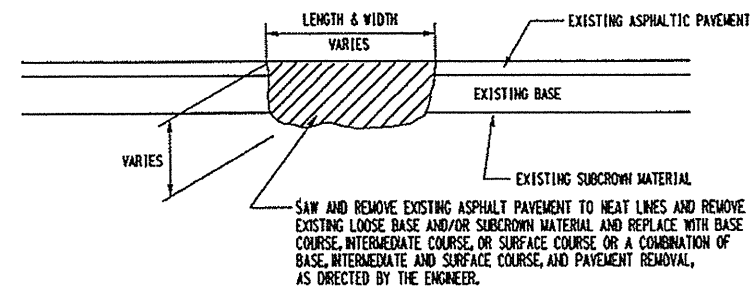




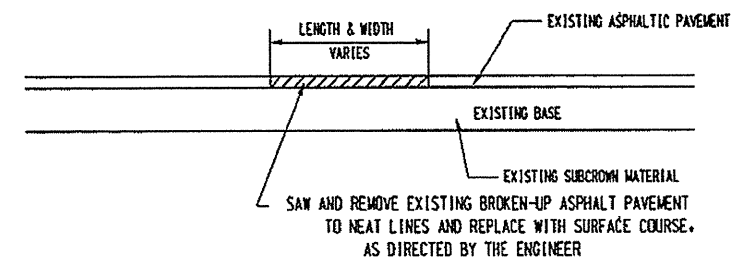
DETAILS OF REPAIRING EXISTING PAVEMENT PRIOR TO RESURFACING FOR FULL DEPTH AND MILLING



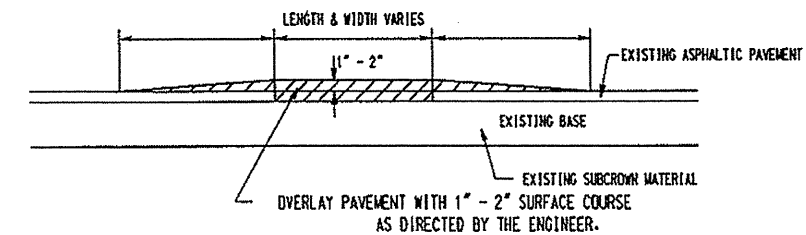
DETAIL NO. 1



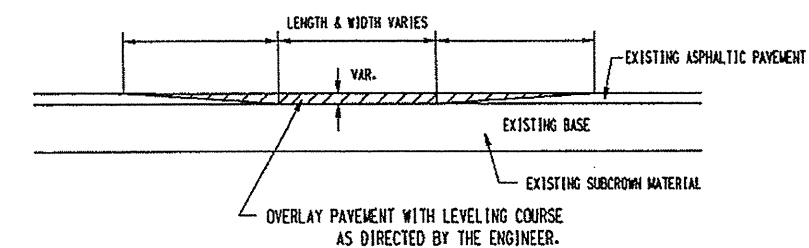
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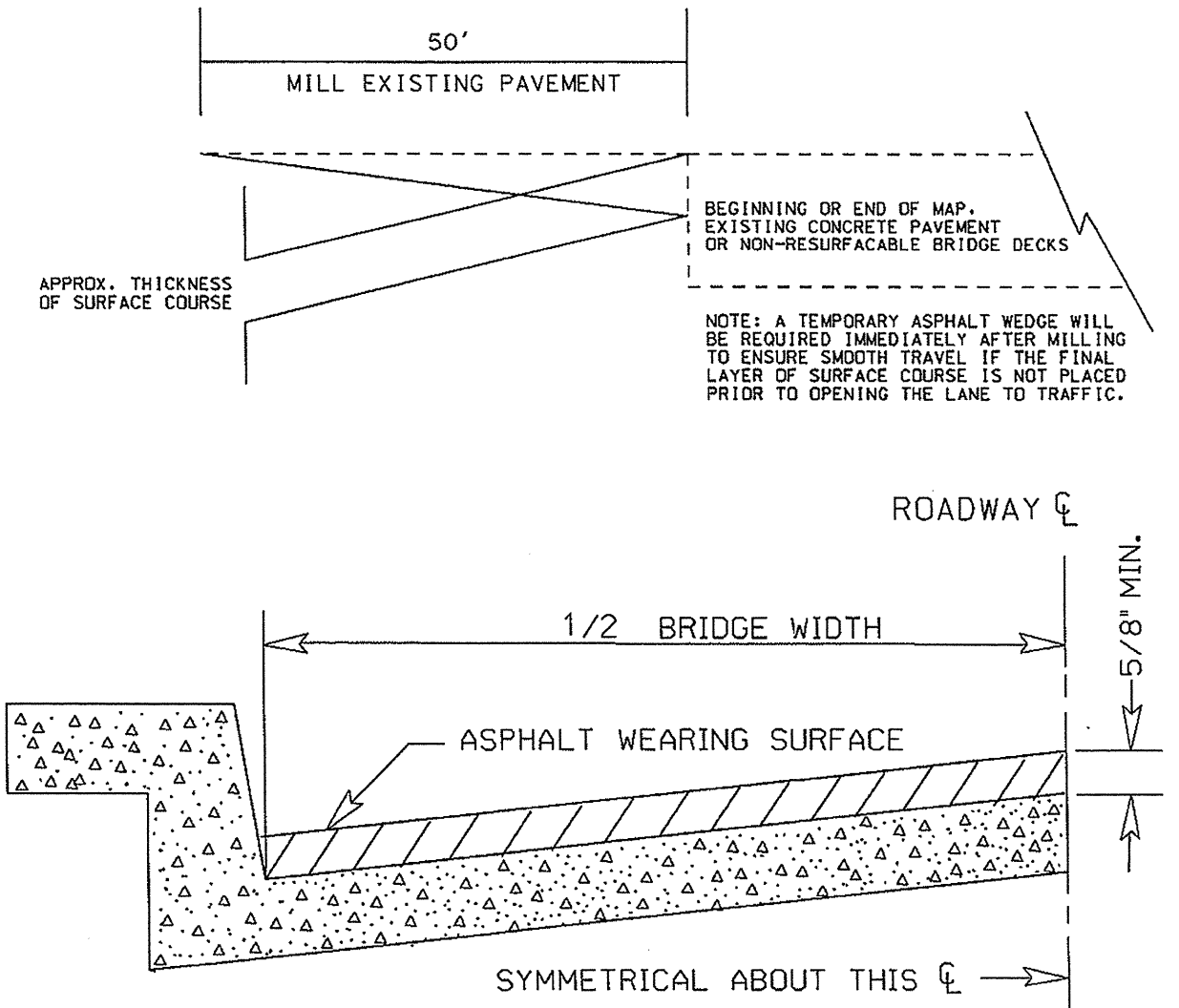
DETAIL NO. 3



DETAIL NO. 4



DETAIL NO. 5



BRIDGE HALF TYPICAL SECTION

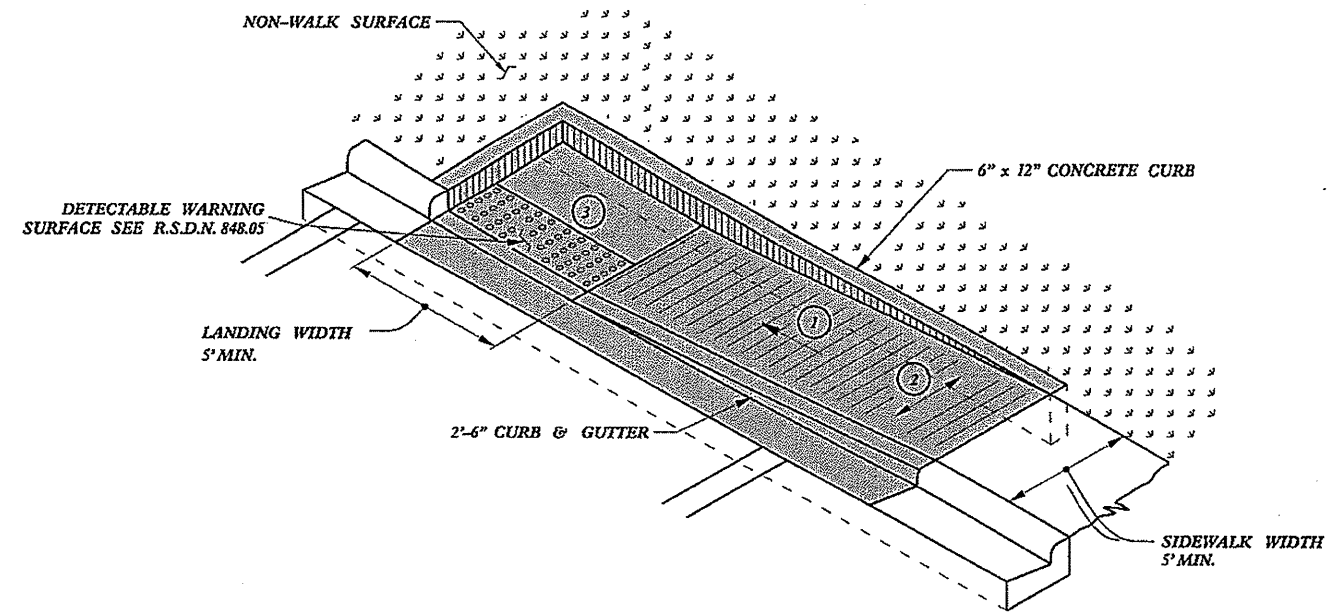
FOR BRIDGES WITH FLOOR DRAINS, CARE SHALL BE EXERCISED IN PLACING THE WEARING SURFACE AROUND FLOOR DRAINS SO AS NOT TO HINDER EFFECTIVE DRAINAGE. ALL DRAINS SHALL BE LEFT OPEN.

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.

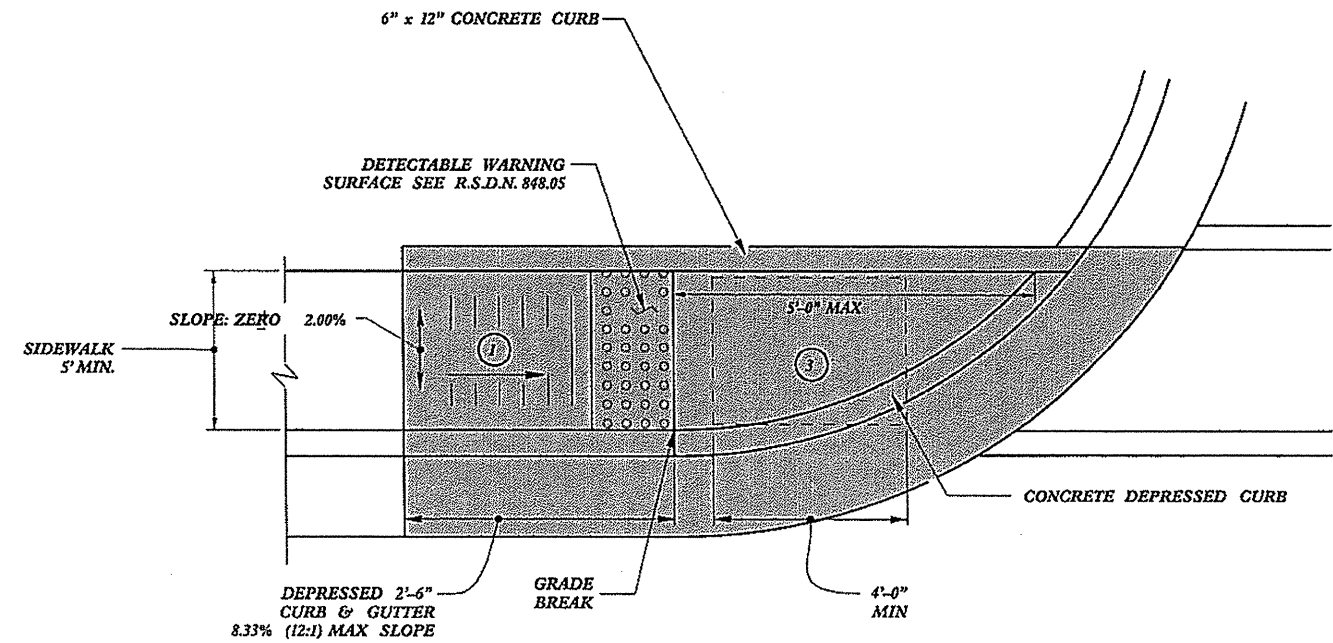
REVISIONS

I:\PROJECTS\2014\08\3CR.10671.151, ETC. ROADWAY\2014.dgn  
 3CR.10671.151, ETC. ROADWAY\2014.dgn  
 3CR.10671.151, ETC. ROADWAY\2014.dgn

PAY LIMITS FOR CURB RAMP



TYPE 1A



TYPE 1

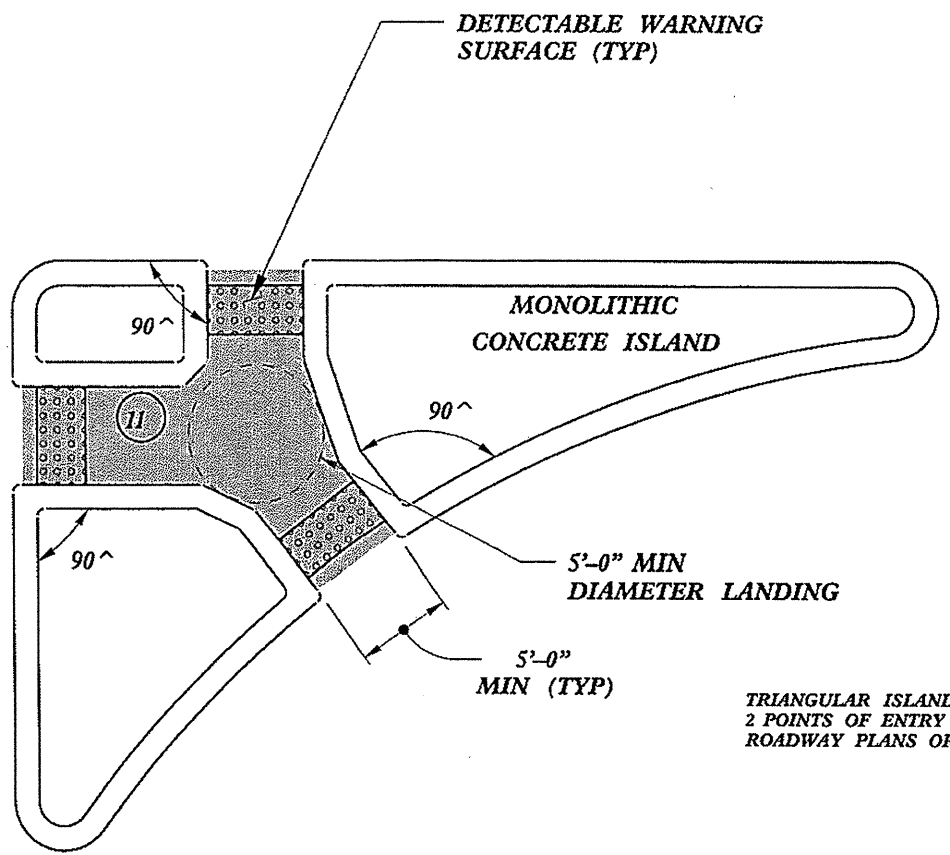
- ① 8.33% (12:1) MAX RAMP SLOPE
- ② CROSS SLOPE: 2.00%
- ③ CURB RAMPS REQUIRE A (4'-0") MINIMUM LANDING WITH A MAXIMUM CROSS SLOPE AND LONGITUDINAL SLOPE OF 2.00% WHERE PEDESTRIANS PERFORM TURNING MANEUVERS. SLOPE TO DRAIN TO CURB.

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
<b>CURB RAMPS</b>	
Directional Ramps	
ORIGINAL BY: J.S. HOWERTON	DATE: 7/7/11
MODIFIED BY:	DATE:
CHECKED BY:	DATE:
FILE SPEC: stds/2012CurbRamp/CurbRampDetails.dwg	

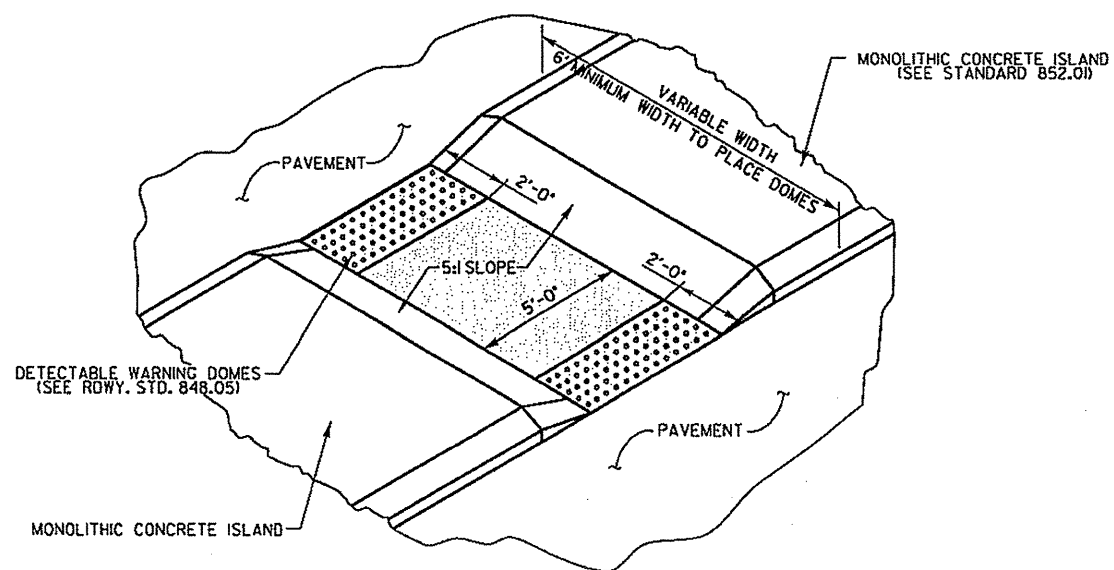
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 J.Howerton AT CS02358

PAY LIMITS FOR 1 CURB RAMP

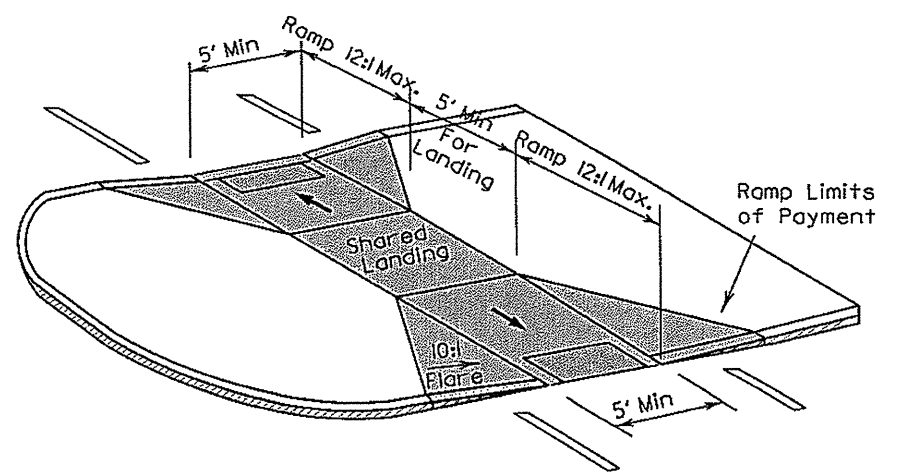


TRIANGULAR ISLANDS MAY BE CONSTRUCTED WITH ONLY 2 POINTS OF ENTRY AND EXIT AS SHOWN IN THE ROADWAY PLANS OR AS DIRECTED BY THE ENGINEER.

TRIANGULAR ISLAND WITH CUT THROUGH



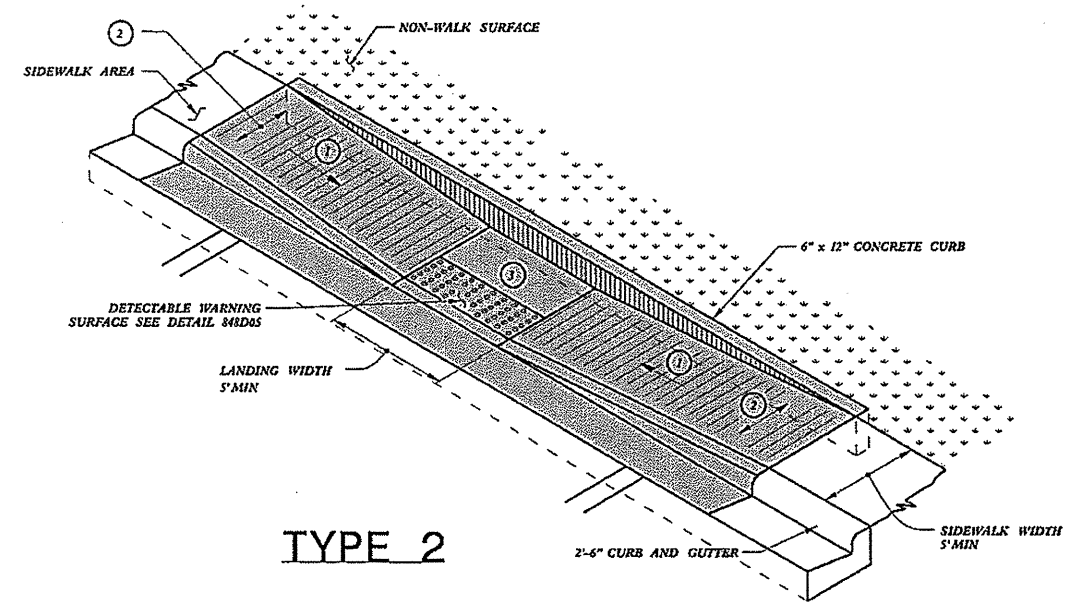
MEDIAN ISLAND WITH CUT THROUGH



MEDIAN ISLAND CURB RAMPS

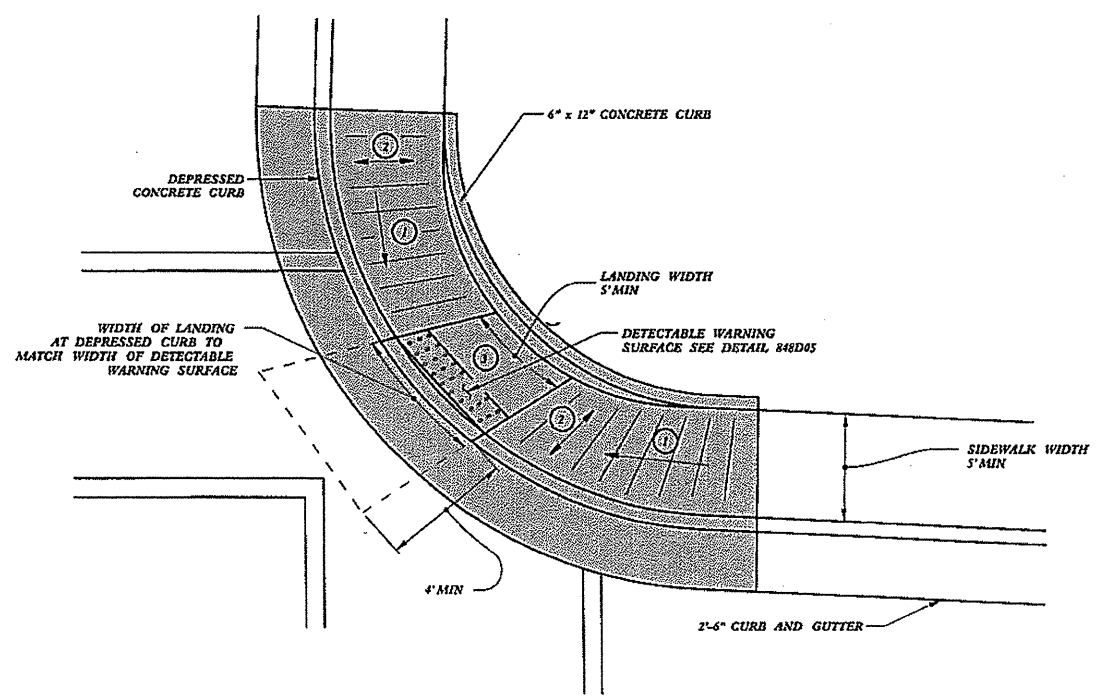
CONTRACT STANDARDS AND DEVELOPMENT UNIT	
Office 919-707-6950 FAX 919-250-4119	
<b>CURB RAMPS</b>	
Median or Turn Lane Islands	
ORIGINAL BY: J.S. HOWERTON	DATE: 7/7/11
MODIFIED BY:	DATE:
CHECKED BY:	DATE:
FILE SPEC: stds/2012CurbRamp/CurbRampDetails.dwg	

5/14/09  
 \*\*\*\*\*  
 USER: JSH  
 \*\*\*\*\*

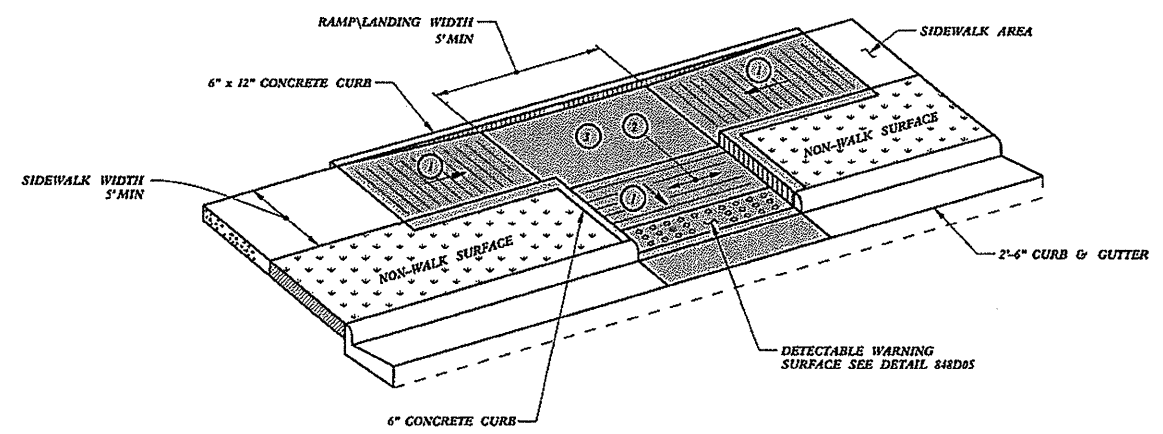


**TYPE 2**

- 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.



**TYPE 2A**



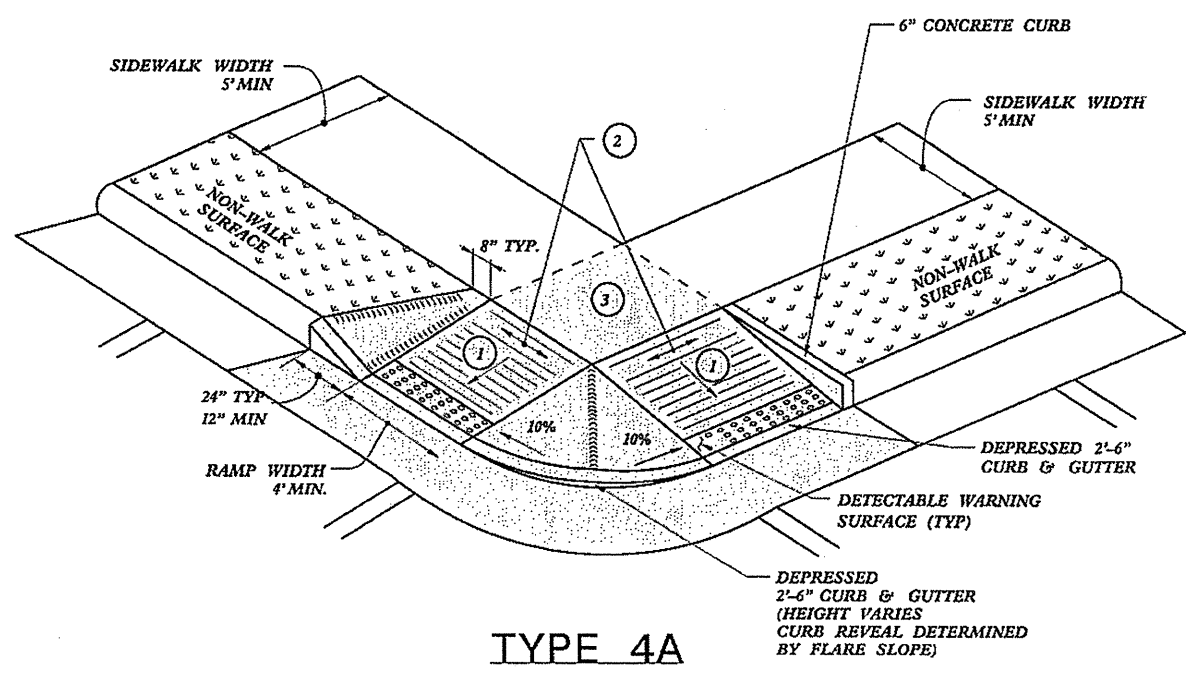
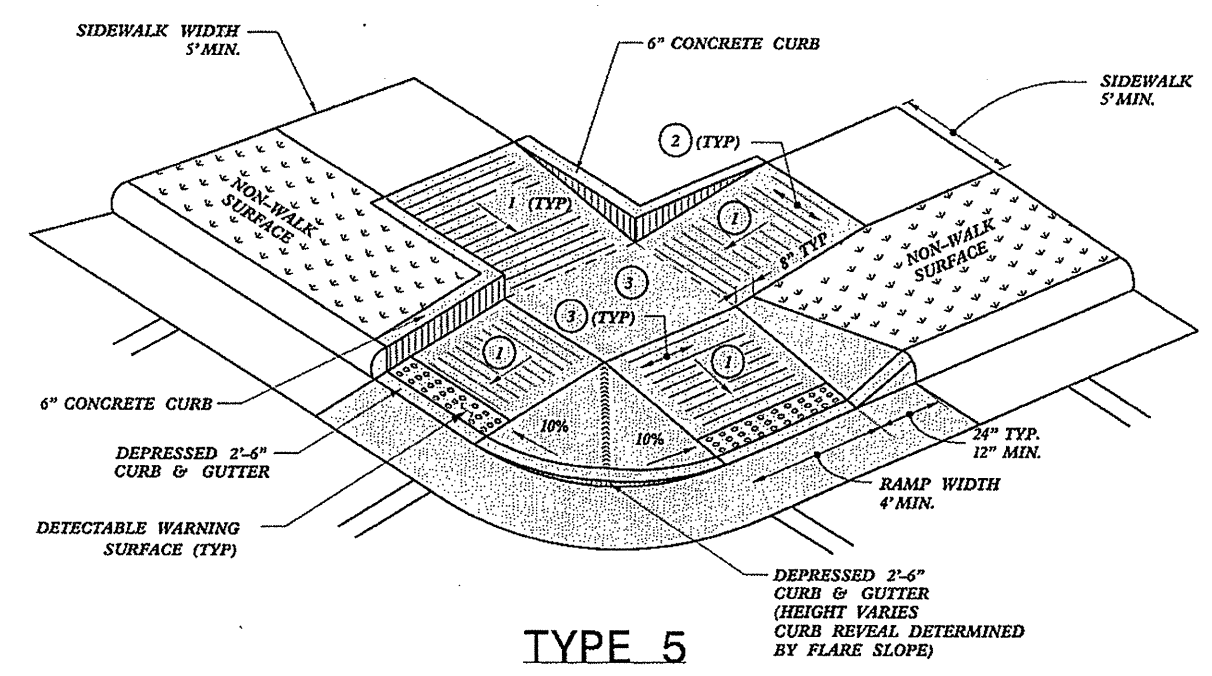
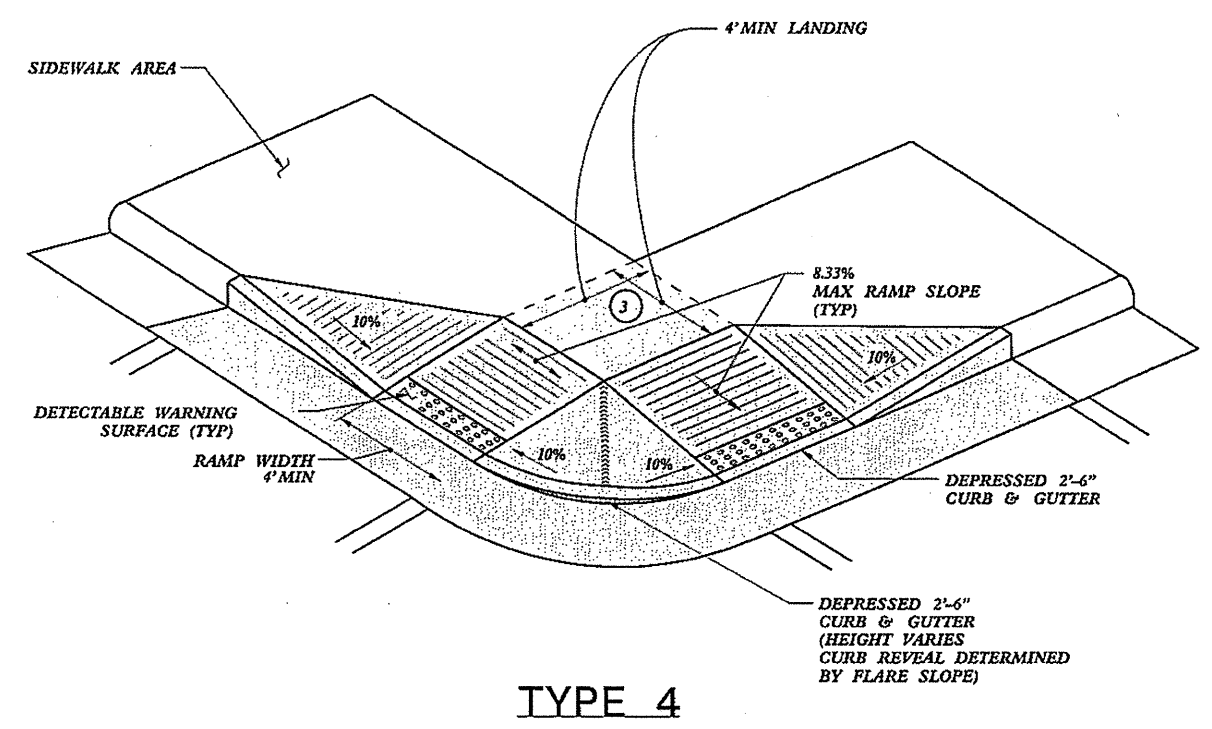
**TYPE 3**

5/11/99  
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 J.Howerton AT 50523758

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

<b>CONTRACT STANDARDS AND DEVELOPMENT UNIT</b> Office 919-707-8950 FAX 919-250-4119	
<b>CURB RAMPS</b> Parallel Ramps	
ORIGINAL BY: J.S. HOWERTON	DATE: 7/7/11
MODIFIED BY:	DATE:
CHECKED BY:	DATE:
FILE SPEC: stds/2012CurbRamp/CurbRampDetails.dgn	

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

<b>CONTRACT STANDARDS AND DEVELOPMENT UNIT</b>	
Office 919-707-6950 FAX 919-250-4119	
<b>CURB RAMPS</b>	
Shared Landing	
ORIGINAL BY: J.S. HOWERTON	DATE: 7/7/11
MODIFIED BY:	DATE:
CHECKED BY:	DATE:
FILE SPEC: stds/2012CurbRamp/CurbRampDetails.dwg	

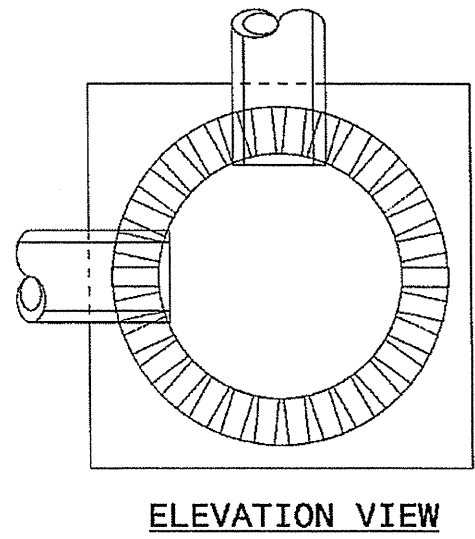
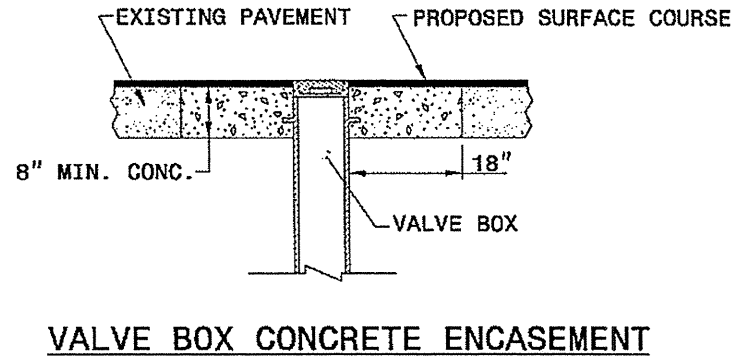
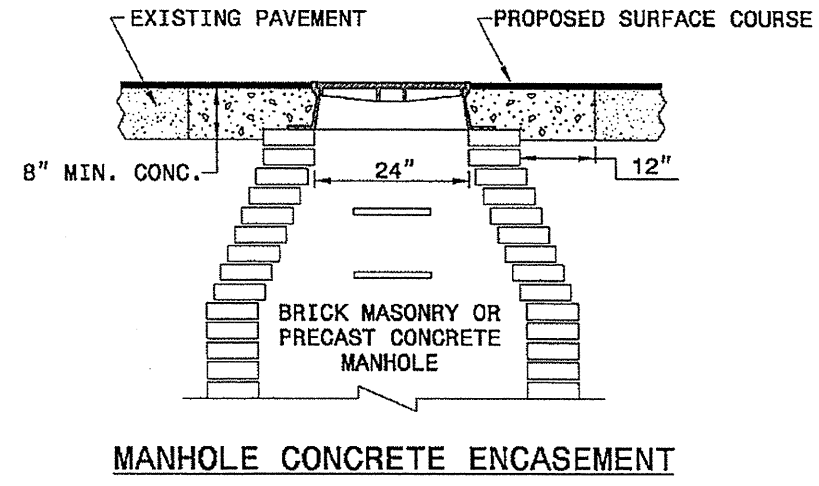
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 Jhowerton AT 130629301

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 STRENGTH 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  $\frac{1}{2}$ " +/-  $\frac{1}{8}$ "



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: \_\_\_\_\_  
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2:26-2001 8405 2001 12 14 10:53 AM C:\p1\work\8405\stand\std\840d55.dgn

PROJECT NO.	SHEET NO.	TOTAL NO.
3CR.10671.151, 3CR.20671.151	15	

### SUMMARY OF QUANTITIES

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP	FINAL SURFACE TESTING REQUIRED	WARM MIX ASPHALT REQUIRED	AGGREGATE SHOULDER BORROW ALLOWED	LENGTH MI	WIDTH FT	BORROW EXC. CY	INC. STONE BASE TONS	SHOULDER RECONST. SMI	2-1/2" MILLING SY	1-1/2" MILLING SY	MILLING ASPHALT PAVEMENT, 2" TO 3" SY	INC. MILLING SY	BASE COURSE, B25.0B TONS	INT. COURSE, I19.0B TONS	SURFACE COURSE, S9.5B TONS	ASPHALT BINDER FOR PLANT MIX TON	PATCHING EXISTING PAVEMENT (MILL) TON	PATCHING EXISTING PAVEMENT I19.0B (MILL PATCH) TONS	PATCHING EXISTING PAVEMENT S9.5B (MILL PATCH) TON	PATCHING EXISTING PAVEMENT (FULL DEPTH) TONS	4" CONCRETE SIDEWALK SY
3CR.10671.151	Onslow	1	NC 172	2' WIDENING FROM SR 1500 (STARLING RD.) TO BEAR CREEK	1	NO	NO	YES	3.14	26		100	6.28					2,703	1,160	702	217					
<b>TOTAL FOR PROJ NO. 3CR.10671.151</b>									<b>3.14</b>			<b>100</b>	<b>6.28</b>					<b>2,703</b>	<b>1,160</b>	<b>702</b>	<b>217</b>					
3CR.20671.151	Onslow	2	SR 1403 (HARGETT ST.)	MILL & FILL FROM SR 1308 (BELL FORK RD.) TO NC 24 BUS.	2	NO	NO	NO	1.35	42						35,200				4,336	260	100			600	50
3CR.20671.151	Onslow	3	SR 1434	RESURFACE FROM NC 24 TO SR 1432 (PARKERTOWN RD.)	4	NO	NO	YES	4.88	24-36	931		9.76				267			6,460	388		1,150			
3CR.20671.151	Onslow	4	SR 1326	2' WIDENING & RESURFACING FROM SR 1324 (RAMSEY ROAD) TO US 17	5	YES	NO	YES	1.50	18-22	505	100	3.00				200	913	2,924	1,799	288		120			
3CR.20671.151	Onslow	5	SR 1413	1.5' WIDENING FROM SR 1423 (OLD 30 RD.) TO SR 1848 (HORSESHOE BEND) WITH MILL PATCHING FROM SR 1423 TO SR 1406 (PINEY GREEN)	6	NO	NO	YES	4.70	22	100	100	3.60					843		305	55		1,360			
3CR.20671.151	Onslow	6	SR 1336	MILL & FILL FROM 0.31 MILES NE OF SR 1308 (END TAPER) TO 0.21 MILES SW OF SR 1308 (2ND BUS DW AT JACKSONVILLE H.S.)	7 & 8	NO	NO	YES	0.52	24-60	70		0.22	1,830	8,976		266		267	989	72		75			
3CR.20671.151	Onslow	7	SR 1534 (HOLLY RIDGE RD.)	MILL PATCHING FROM SR 1531 (TAR LANDING RD.) TO SR 1538 (MORRIS LANDING RD.)	3	NO	NO	NO	2.86	20													875			
3CR.20671.151	Onslow	8	SR 1538 (MORRIS LANDING RD.)	MILL PATCHING FROM SR 1534 (HOLLY RIDGE RD.) TO CITY LIMITS OF HOLLY RIDGE	3	NO	NO	NO	1.02	20														536		
3CR.20671.151	Onslow	9	SR 1107 (HARRIS CREEK RD.)	MILL PATCHING FROM NC 53 (BURGAW HWY) TO SR 1105 (HAWKS RUN RD.)	3	NO	NO	NO	3.77	20													1,150			
3CR.20671.151	Onslow	10	SR 1905	MILL & FILL FROM SR 1308 (GUM BRANCH RD.) TO END OF PVMT.	9	NO	NO	NO	0.84	20-28					12,400					1,095	66					
3CR.20671.151	Onslow	11	SR 1920 (RAINTREE RD.)	MILL AND FILL FROM SR 1308 (GUM BRANCH RD.) TO SR 1959 (WINTER RD.)	8	NO	NO	NO	0.85	30					14,960					1,388	83					
<b>TOTAL FOR PROJ NO. 3CR.20671.151</b>									<b>22.29</b>		<b>1,606</b>	<b>200</b>	<b>16.58</b>	<b>1,830</b>	<b>36,336</b>	<b>35,200</b>	<b>733</b>	<b>1,756</b>	<b>3,191</b>	<b>16,372</b>	<b>1,212</b>	<b>100</b>	<b>4,730</b>	<b>536</b>	<b>600</b>	<b>50</b>
<b>GRAND TOTAL</b>									<b>25.43</b>		<b>1,606</b>	<b>300</b>	<b>22.86</b>	<b>1,830</b>	<b>36,336</b>	<b>35,200</b>	<b>733</b>	<b>4,459</b>	<b>4,351</b>	<b>17,074</b>	<b>1,429</b>	<b>100</b>	<b>4,730</b>	<b>536</b>	<b>600</b>	<b>50</b>

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	CONCRETE CURB RAMP EA	INC. CONC SY	2'-6" CURB & GUTTER, REMOVE & REPLACE LF	REMOVE & REPLACE CURB RAMP EA	ADJ. OF CATCH BASIN EA	ADJ. OF MAN-HOLES 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	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	MODIFY EXISTING VEHICLE SIGNAL HEAD EA	JUNCTION BOX (STANDARD SIZE) EA	INDUCTIVE LOOP SAWCUT LF	LEAD-IN CABLE (14-2) LF	
3CR.10671.151	Onslow	1	NC 172	2' WIDENING FROM SR 1500 (STARLING RD.) TO BEAR CREEK		25							314	79	79	3.14	20	157	50	4.60	157	0.79					
<b>TOTAL FOR PROJ NO. 3CR.10671.151</b>						<b>25</b>							<b>314</b>	<b>79</b>	<b>79</b>	<b>3.14</b>	<b>20</b>	<b>157</b>	<b>50</b>	<b>4.60</b>	<b>157</b>	<b>0.79</b>					
3CR.20671.151	Onslow	2	SR 1403 (HARGETT ST.)	MILL & FILL FROM SR 1308 (BELL FORK RD.) TO NC 24 BUS.	8		120		4	5	5	*											4	2	1,000	200	
3CR.20671.151	Onslow	3	SR 1434	RESURFACE FROM NC 24 TO SR 1432 (PARKERTOWN RD.)									488	122	122	4.88	40	244	80	10.92	244	1.22					
3CR.20671.151	Onslow	4	SR 1326	2' WIDENING & RESURFACING FROM SR 1324 (RAMSEY ROAD) TO US 17		25				2	2		1,350	38	38	1.50	20	75	30	2.20	75	0.38					
3CR.20671.151	Onslow	5	SR 1413	1.5' WIDENING FROM SR 1423 (OLD 30 RD.) TO SR 1848 (HORSESHOE BEND) WITH MILL PATCHING FROM SR 1423 TO SR 1406 (PINEY GREEN)		25							780	45	45	1.80	20	90	30	2.70	90	0.50					
3CR.20671.151	Onslow	6	SR 1336	MILL & FILL FROM 0.31 MILES NE OF SR 1308 (END TAPER) TO 0.21 MILES SW OF SR 1308 (2ND BUS DW AT JACKSONVILLE H.S.)				2		1	6	*	10	3	3	0.10	10	5	10	0.17	5	0.50					
3CR.20671.151	Onslow	7	SR 1534 (HOLLY RIDGE RD.)	MILL PATCHING FROM SR 1531 (TAR LANDING RD.) TO SR 1538 (MORRIS LANDING RD.)																							
3CR.20671.151	Onslow	8	SR 1538 (MORRIS LANDING RD.)	MILL PATCHING FROM SR 1534 (HOLLY RIDGE RD.) TO CITY LIMITS OF HOLLY RIDGE																							
3CR.20671.151	Onslow	9	SR 1107 (HARRIS CREEK ROAD)	MILL PATCHING FROM NC 53 (BURGAW HWY) TO SR 1105 (HAWKS RUN RD.)																							
3CR.20671.151	Onslow	10	SR 1905	MILL & FILL FROM SR 1308 (GUM BRANCH RD.) TO END OF PVMT.																							
3CR.20671.151	Onslow	11	SR 1920 (RAINTREE RD.)	MILL AND FILL FROM SR 1308 (GUM BRANCH RD.) TO SR 1959 (WINTER RD.)																							
<b>TOTAL FOR PROJ NO. 3CR.20671.151</b>					<b>8</b>	<b>50</b>	<b>120</b>	<b>2</b>	<b>4</b>	<b>8</b>	<b>13</b>	<b>1</b>	<b>2,628</b>	<b>208</b>	<b>208</b>	<b>8.28</b>	<b>90</b>	<b>414</b>	<b>150</b>	<b>15.99</b>	<b>414</b>	<b>2.60</b>	<b>4</b>	<b>2</b>	<b>1,000</b>	<b>200</b>	
<b>GRAND TOTAL</b>					<b>8</b>	<b>75</b>	<b>120</b>	<b>2</b>	<b>4</b>	<b>8</b>	<b>13</b>	<b>1</b>	<b>2,942</b>	<b>287</b>	<b>287</b>	<b>11.42</b>	<b>110</b>	<b>571</b>	<b>200</b>	<b>20.59</b>	<b>571</b>	<b>3.39</b>	<b>4</b>	<b>2</b>	<b>1,000</b>	<b>200</b>	





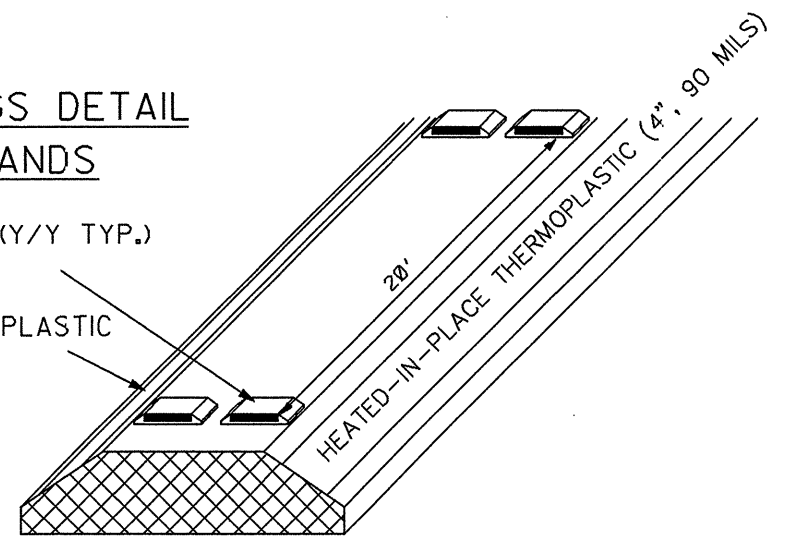


# PAVEMENT MARKING DETAILS

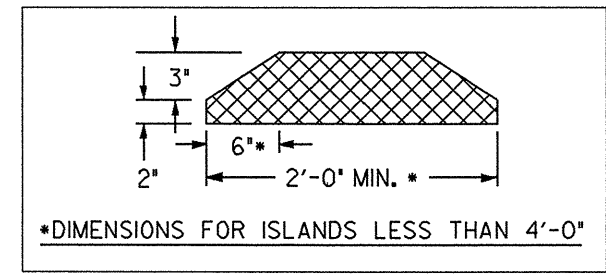
## PAVEMENT MARKINGS DETAIL FOR CONCRETE ISLANDS

RAISED PAVEMENT MARKER (Y/Y TYP.)  
(STD. DWG 1251.01)

HEATED-IN-PLACE THERMOPLASTIC  
(4", 90 MILS)



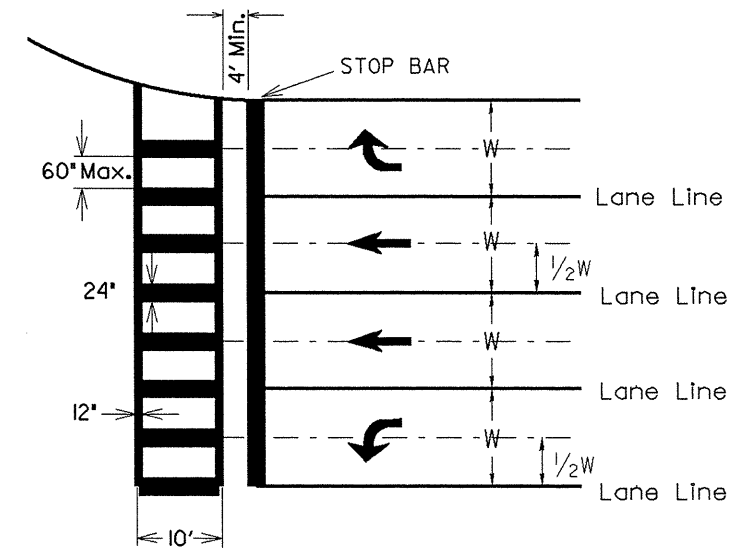
MONOLITHIC CONCRETE ISLAND  
(SEE STANDARD DRAWINGS 852.01, 852.02, & 852.06 FOR DETAILS.)



\*DIMENSIONS FOR ISLANDS LESS THAN 4'-0"

APPLY PORTLAND CEMENT CONCRETE SEALER TO SIDES OF MEDIAN PRIOR TO PLACEMENT OF 4" YELLOW THERMOPLASTIC (90 MILS)

## SPECIAL EMPHASIS HI-VISIBILITY CROSSWALK MARKING DETAIL




NOTES: SPACING OF CROSSWALK LINES POSITIONED TO AVOID WHEELPATHS

REVISIONS

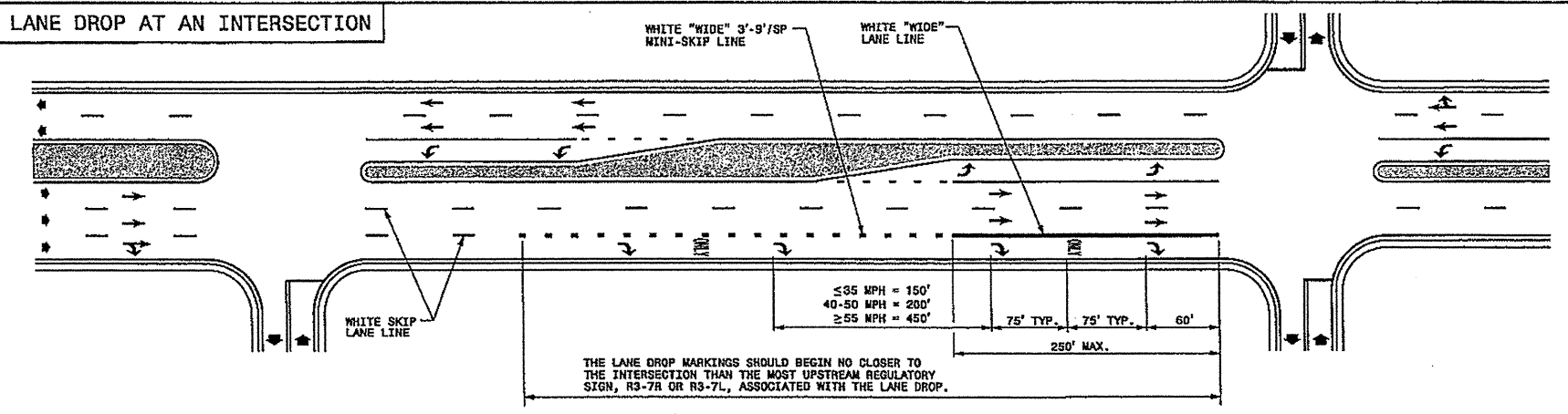
8/17/98

11-OCT-2013 15:00  
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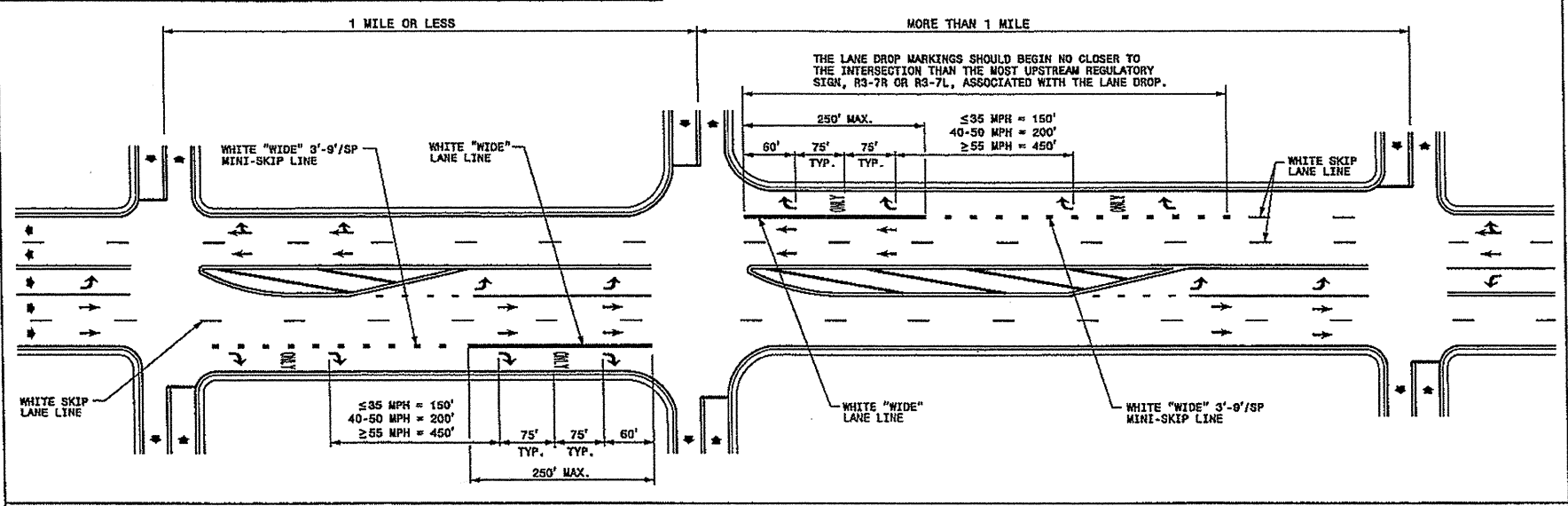
TIP NO.	SHEET NO.
	18
APPROVED:	<i>RWT</i>
DATE:	3/6/12
SEAL	

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

LANE DROP AT AN INTERSECTION



LANE DROP AT AN INTERSECTION WITH AN AUXILIARY LANE



ENGLISH DETAIL DRAWING FOR  
PAVEMENT MARKINGS  
LANE DROPS

ENGLISH DETAIL DRAWING FOR  
PAVEMENT MARKINGS  
LANE DROPS

GENERAL NOTES:

- USE THE GUIDANCE SHOWN ON THE ABOVE DETAILS IN CONJUNCTION WITH INTERSECTION GUIDANCE SHOWN ON ROADWAY STANDARD DRAWING 1205.04.
- LANE LINES INDICATED AS "WIDE" SHALL BE AT LEAST TWICE THE WIDTH OF THE NORMAL LINE.

LEGEND	
W = WIDTH OF TRAVEL LANE	PAVEMENT MARKING SYMBOLS & CHARACTERS
* = DIRECTION OF TRAFFIC FLOW	

SHEET 1 OF 3  
1205D06

SHEET 1 OF 3  
1205D06

08-MAR-2012 11:09  
 S:\S&UN\Storjoh\99\_0700up\PIP\2012 Standard Drawings\Standard Drawings\1205D06L\_Rev12.dwg  
 AT 12:41:03

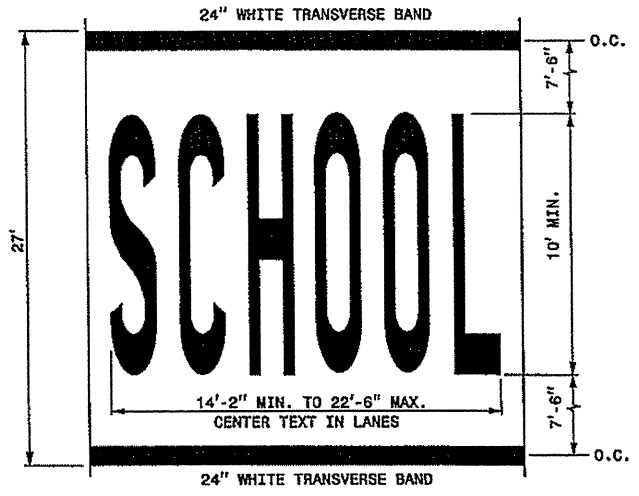
REVISED PAVEMENT MARKING  
ROADWAY STANDARD DRAWING

APPROVED: *RAW*  
 DATE: 12/8/12



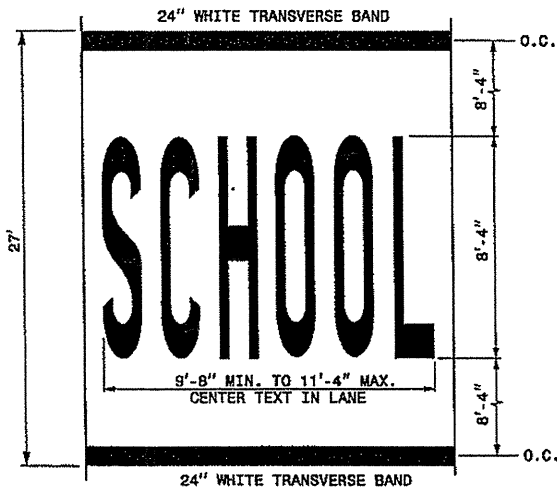
STATE OF NORTH CAROLINA  
 DEPT. OF TRANSPORTATION  
 DIVISION OF HIGHWAYS  
 RALEIGH, N.C.

MULTI-LANE WIDTH "SCHOOL"

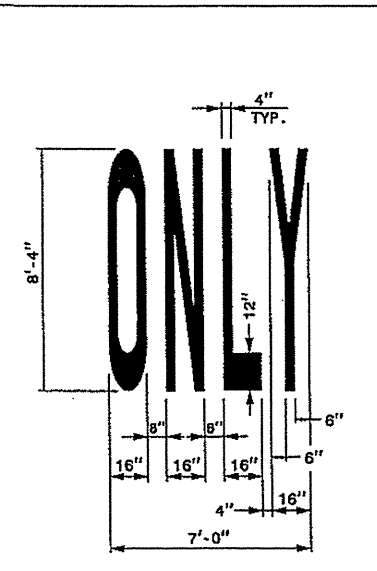


LETTER HEIGHT = 10' MIN.  
 LETTER WIDTH = 20"  
 SPACING = 10" MIN./30" MAX. (USE EQUAL SPACING BETWEEN LETTERS)  
 NOTE: THE TWO-LANE PAVEMENT MARKING DIMENSIONS OF "SCHOOL" SHOWN IN PART 7 OF THE MUTCD MAY ALSO BE USED.

SINGLE LANE WIDTH "SCHOOL"



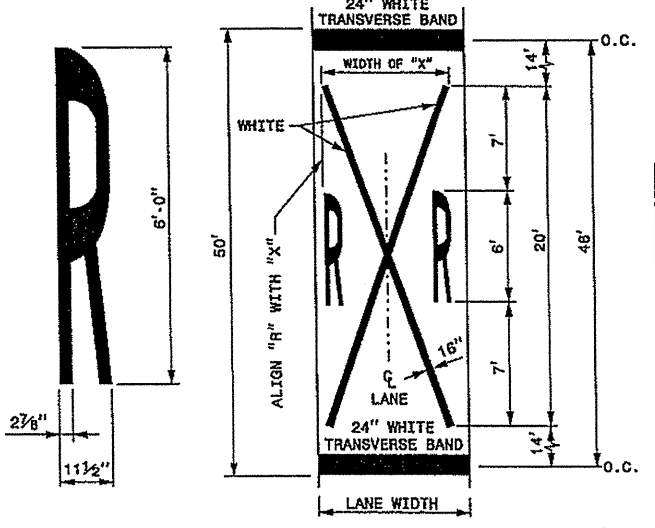
LETTER HEIGHT = 8'-4"  
 LETTER WIDTH = 16"  
 SPACING = 4" MIN./8" MAX. (USE EQUAL SPACING BETWEEN LETTERS)



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

ENGLISH DETAIL DRAWING FOR  
**PAVEMENT MARKINGS**  
 SYMBOLS AND WORD MESSAGES

RAILROAD RXR SYMBOL



LANE WIDTH (FEET)	WIDTH OF "X" (FEET)
8' ≤ W ≤ 9'	7'
9' < W ≤ 12'	8'
W > 12'	10'

- GENERAL NOTES:
- 1- THE SCHOOL PAVEMENT MARKING CONSISTS OF SIX (6) CHARACTERS. THE TWO (2) 24" TRANSVERSE BANDS WILL BE PAID FOR UNDER A SEPARATE PAY ITEM. REFER TO ROADWAY STANDARD DRAWING 1205.10 FOR ADDITIONAL PAVEMENT MARKING GUIDANCE.
  - 2- PAVEMENT MARKING IN ADVANCE OF A HIGHWAY-RAIL CROSSING SHALL CONSIST OF TWO (2) CHARACTERS AND TWO (2) 16" LINES (FORMING AN X) WHICH ARE PAID FOR UNDER TWO SEPARATE PAY ITEMS. THE TWO (2) 24" TRANSVERSE BANDS WILL BE PAID FOR UNDER A SEPARATE PAY ITEM. REFER TO ROADWAY STANDARD DRAWING 1205.11 FOR ADDITIONAL PAVEMENT MARKING GUIDANCE.

SHEET 3 OF 8  
**1205D08**

SHEET 3 OF 8  
**1205D08**

**REVISED PAVEMENT MARKING  
 ROADWAY STANDARD DRAWING**

09-MAR-2012 12:48 SA:\SCHOOL\Standard Drawings\Standard Dwg 8-17-11\Revised\1205D08\_Rev12.dwg 9-14-11. Sealed.dgn  
 AT 12:47:45

DIVISION OF HIGHWAYS  
STATE OF NORTH CAROLINA

PROJECT REFERENCE NO. 3CRJ0671151, Etc.	SHEET NO. 20
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

## SOIL STABILIZATION TIMEFRAMES

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

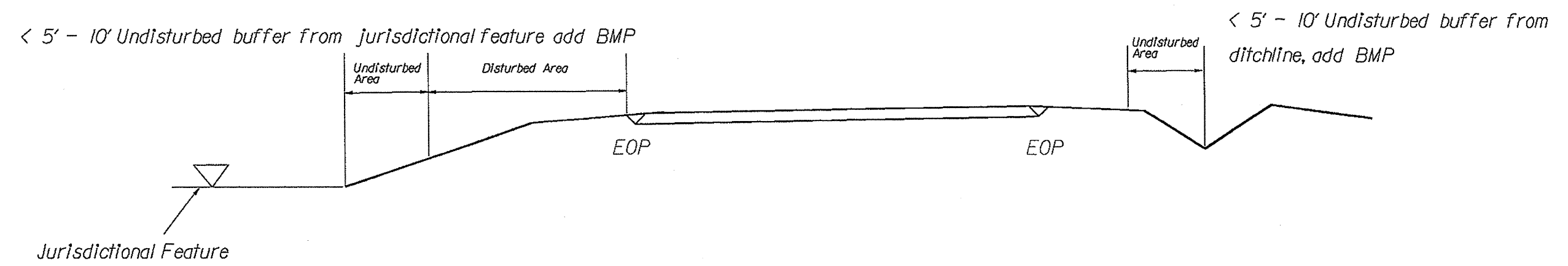
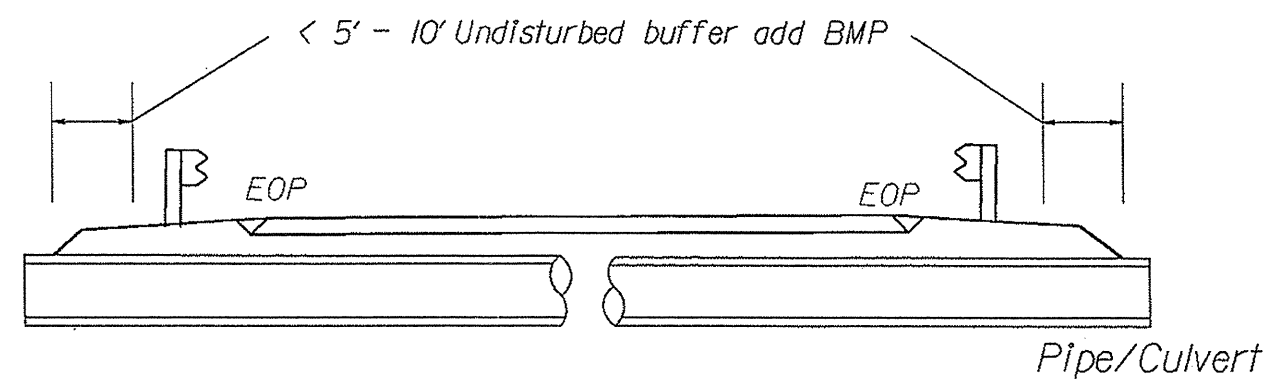
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 I:\RDY\DOT\RETREAT\_2014\2014\_Onslow\ROADWAY\Proj\3CRJ0671151, Etc.\_Rdy\_tsh\_2014.dgn  
 kimmel AT DSCAU25756

PROJECT REFERENCE NO. 3CR.10671.151, ETC.	SHEET NO. 21
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

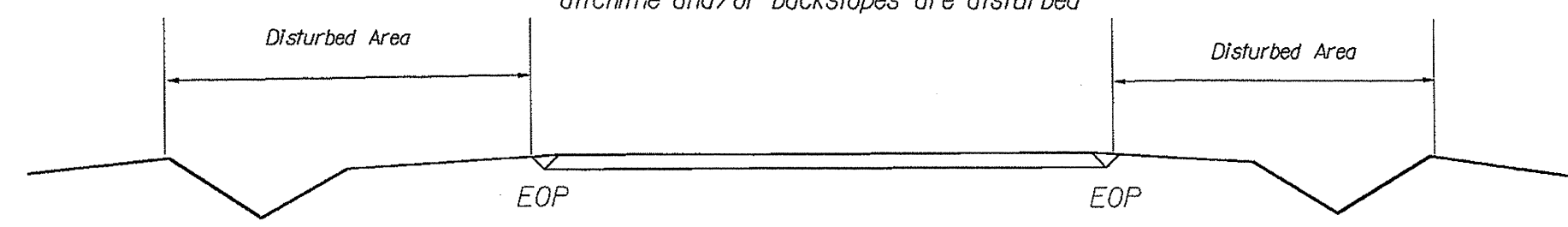
NOTES: Less than 5' - 10' undisturbed buffer from ROW, ditchline, water feature, or drainage inlet, add BMP.

BMP Options: Wattle or Silt Fence

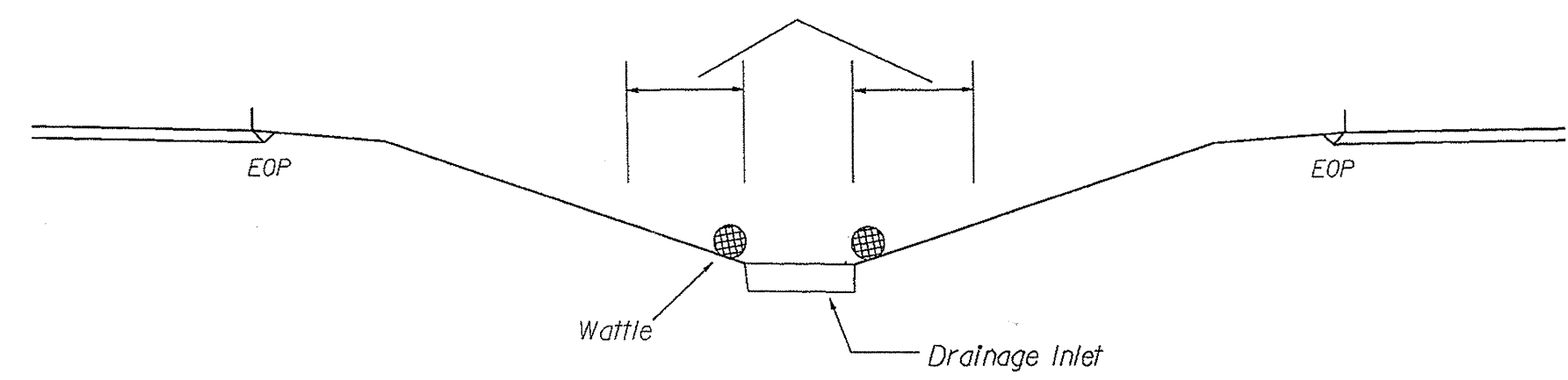
# EROSION CONTROL DETAIL



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

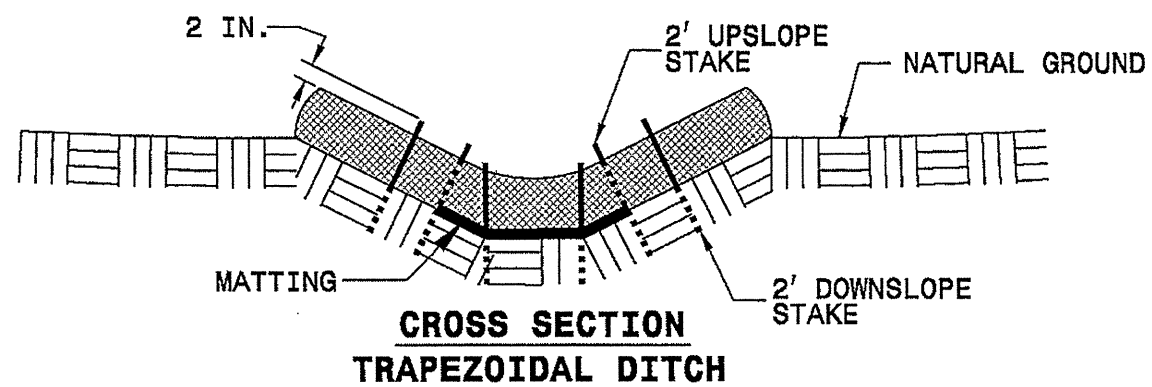
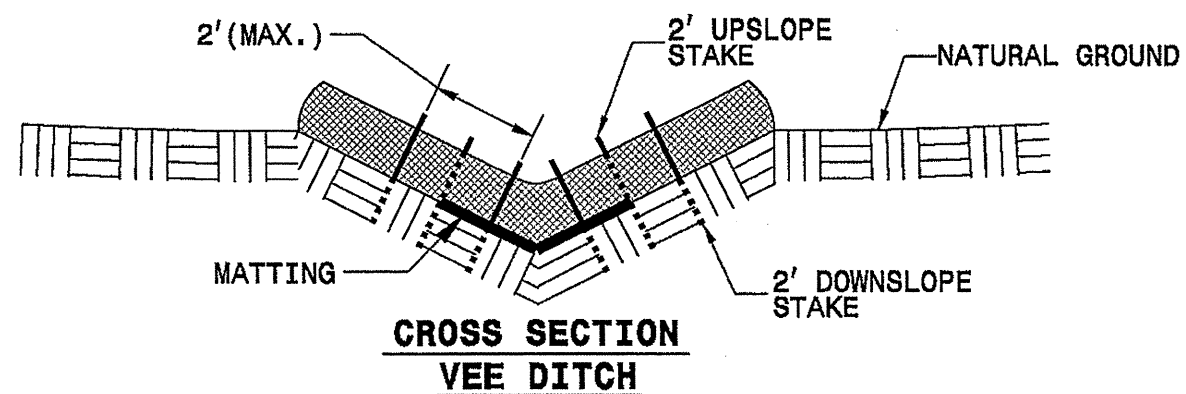
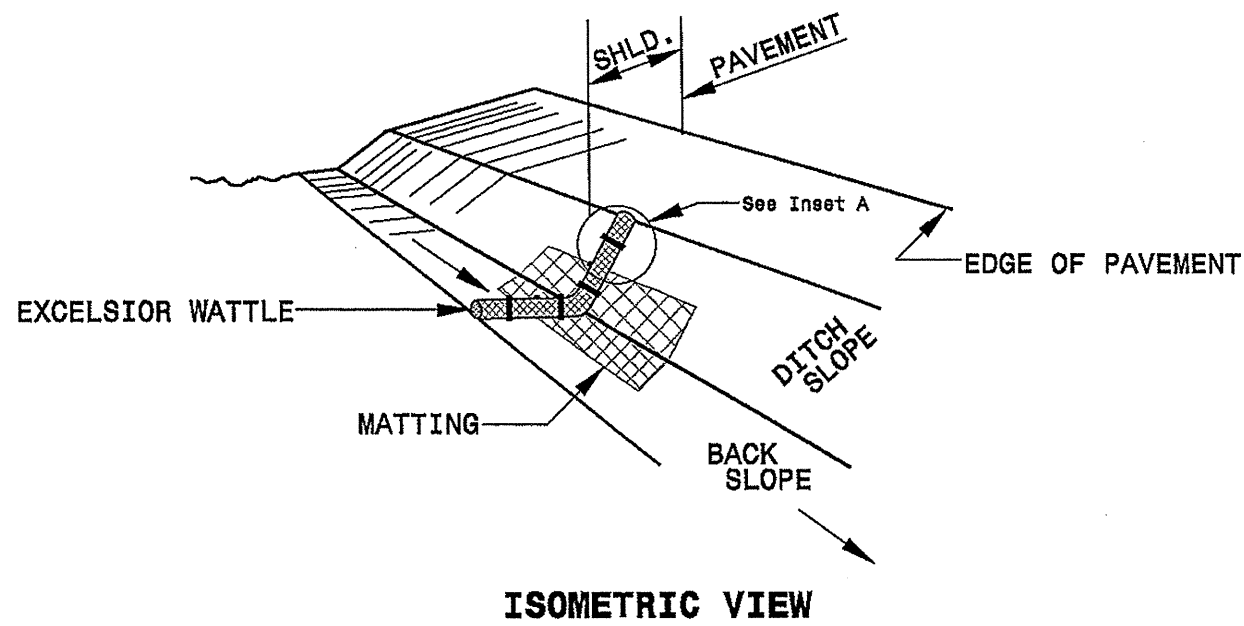


< 5' - 10' Undisturbed buffer from inlet, add wattle



NOT TO SCALE

# WATTLE DETAIL



**NOTES:**

USE MINIMUM 12 IN. DIAMETER EXCELSIOR WATTLE.

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

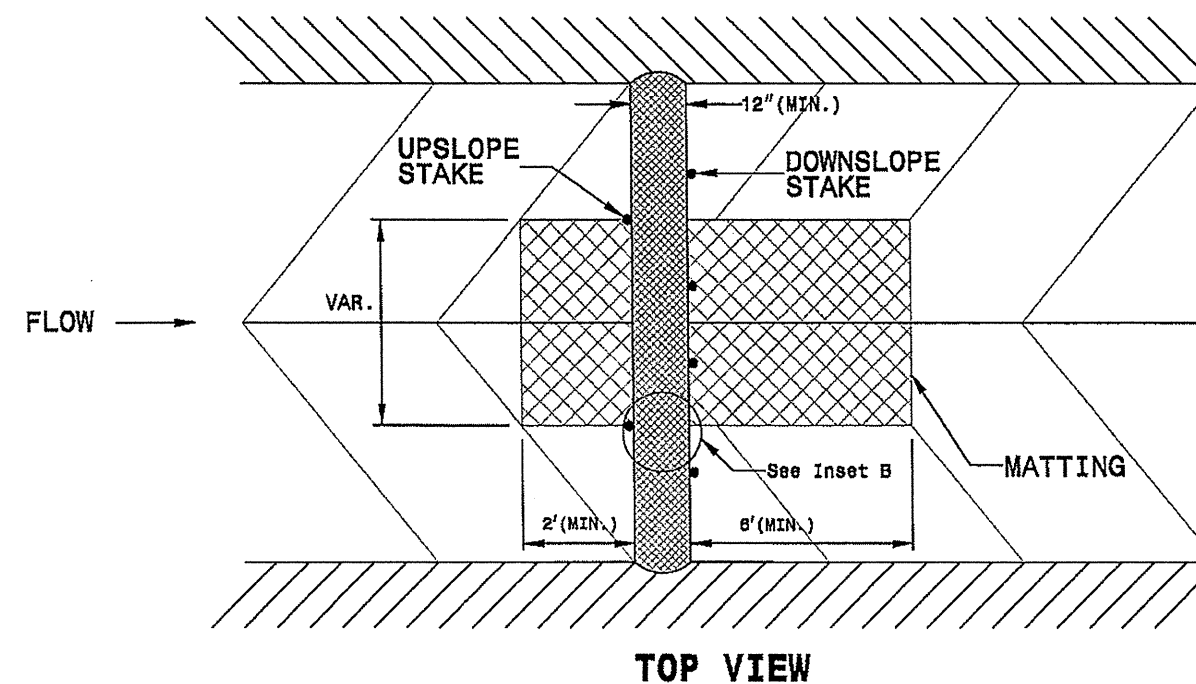
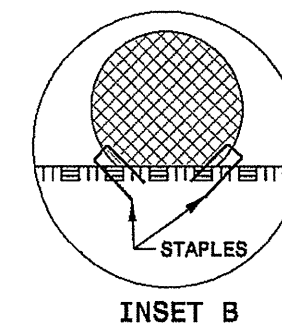
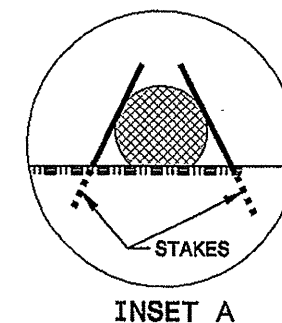
ONLY INSTALL WATTLE(S) TO A HEIGHT IN DITCH SO FLOW WILL NOT WASH AROUND WATTLE AND SCOUR DITCH SLOPES AND AS DIRECTED.

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

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

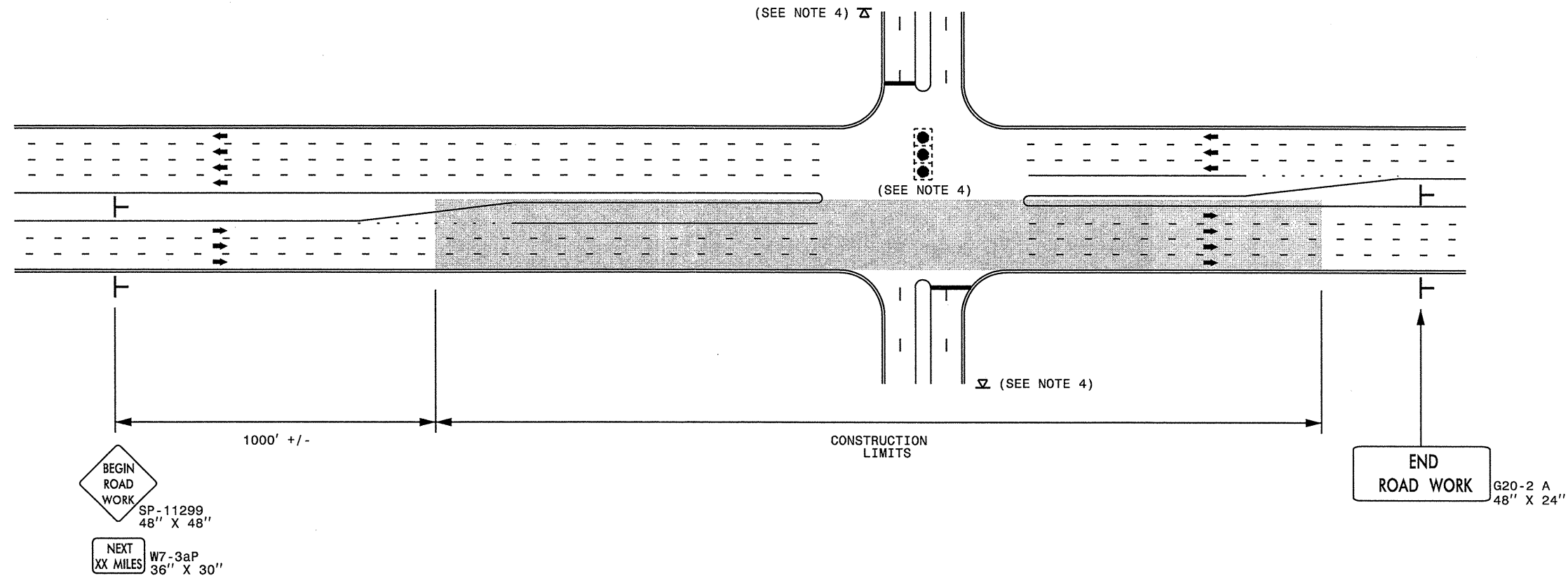
INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.

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





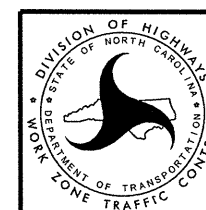
## URBAN / SUBURBAN WORKZONES



### 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

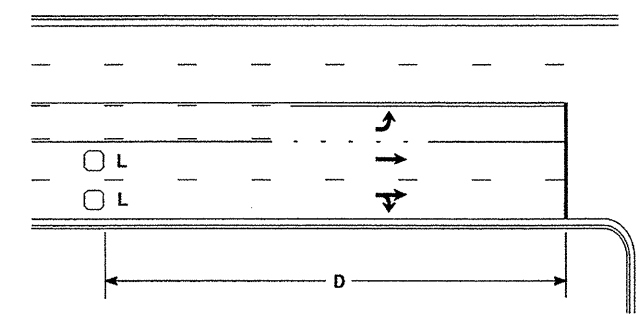


RESURFACING ADVANCE  
WARNING SIGNS FOR  
URBAN / SUBURBAN  
FACILITIES

16-067-2013 15:08  
 \\001\UP\SR000\01\CGROUPE\WZTCCC\TMU\WZTC\Resurfacing\2013\Resurfacing\2013\Resurfacing\2013\Eastern\2013.DIV03\C203466A-B-3CR.10671.151x2.Onslow.NC172.mil.sb\Documents out\C203466A-B-3CR.10671.151x2.Onslow.NC172\_Resurfacing\_ActvWarr-L.splennings AL 123598



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

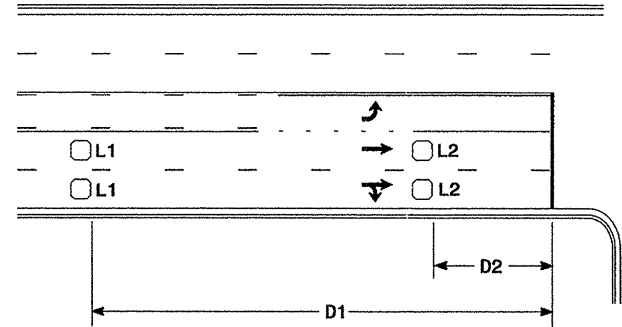


Speed Limit mph (km/hr)	D ft (m)
40 (64)	250 (75)
45 (72)	300 (90)
50 (80)	355 (110)
55 (88)	420 (130)

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

Volume Density Operation

OR

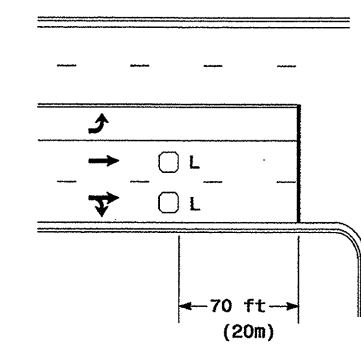


Speed Limit mph (km/hr)	D1 ft (m)	D2 ft (m)
40 (64)	250 (75)	80 (25)
45 (72)	300 (90)	90 (27)
50 (80)	355 (110)	100 (30)
55 (88)	420 (130)	110 (35)

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

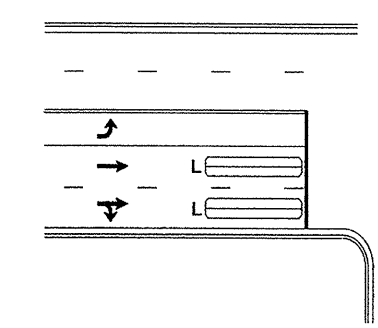
"Stretch" Operation

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



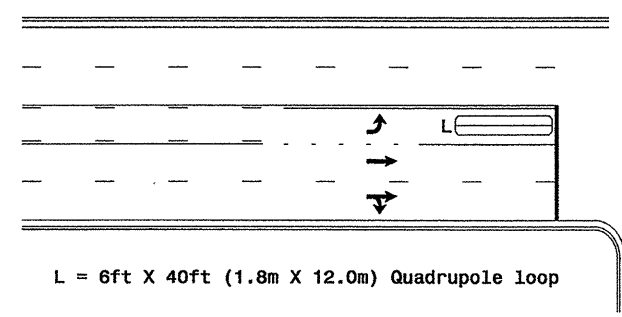
L = 6ft X 6ft (1.8m X 1.8m)  
Wired in series

OR



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

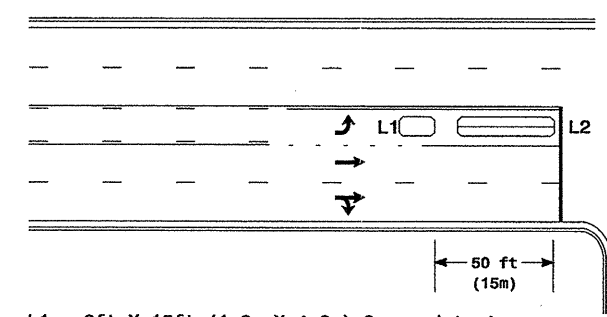
### Left Turn Lane Detection



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

Presence Loop Detection

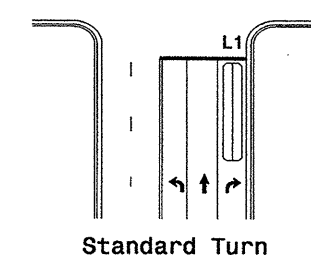
OR



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

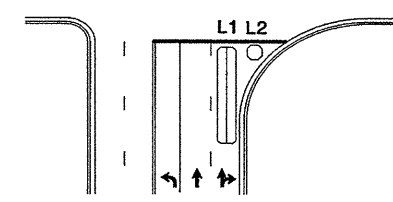
Queue Loop Detection

### Right Turn Lane Detection

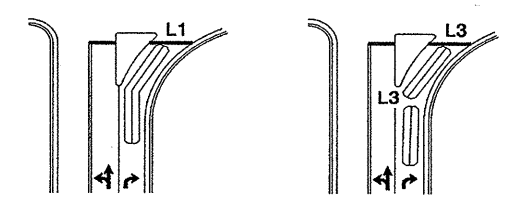


Standard Turn

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

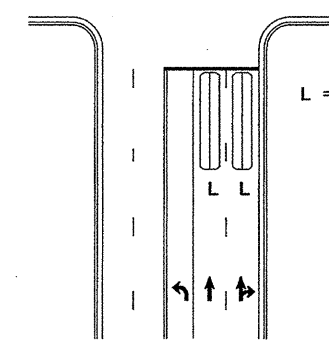


Wide Radius Turn



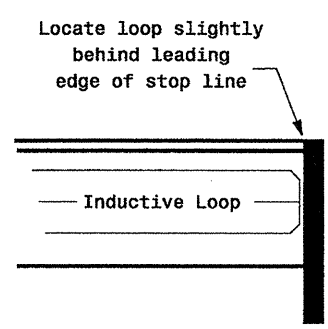
Channelized Turn

### Side Street Detection



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

### Presence Loop Placement at Stop Lines



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

	<b>Typical Loop Locations</b>		
	PLAN DATE: June 2006 PREPARED BY: P. L. Alexander	REVIEWED BY: REVIEWED BY:	
SCALE: N/A	REVISIONS: No.   Description   Date	SIGNATURE:	DATE:

19-DEC-2006 14:23  
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p11/2006