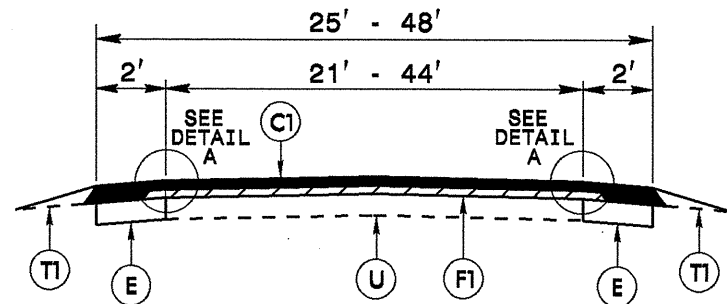
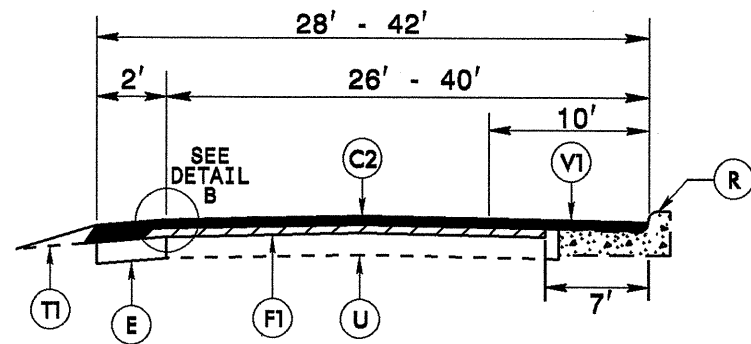


STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
N.C.	7CR.20011.33	2	5

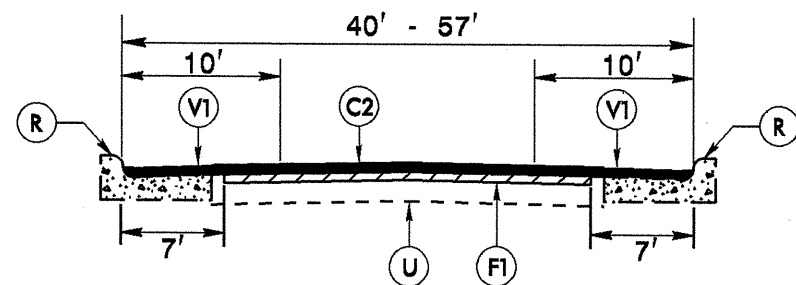


*NOTE: NO PAVEMENT ON BRIDGES #172 AND #173
 BRIDGE #172: STA. 55+25 TO STA. 58+25
 BRIDGE #173: STA. 103+05 TO STA. 104+30

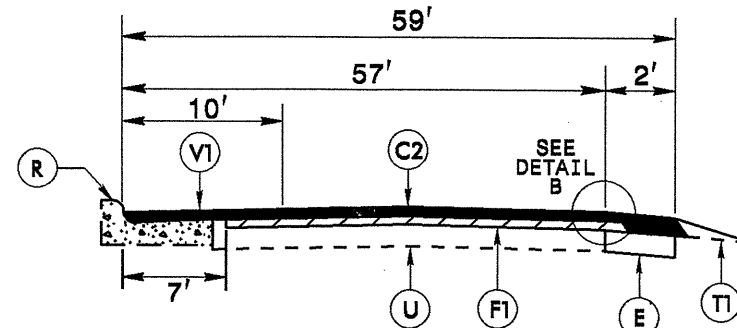
TYPICAL SECTION NO. 1
 TO BE USED ON MAP 1



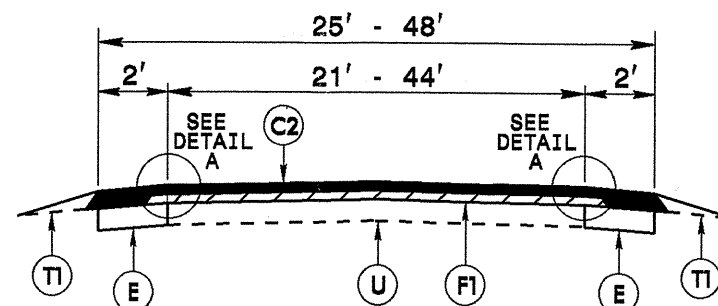
TYPICAL SECTION NO. 2
 TO BE USED ON MAP 2
 STA. 0+00 TO STA. 0+50



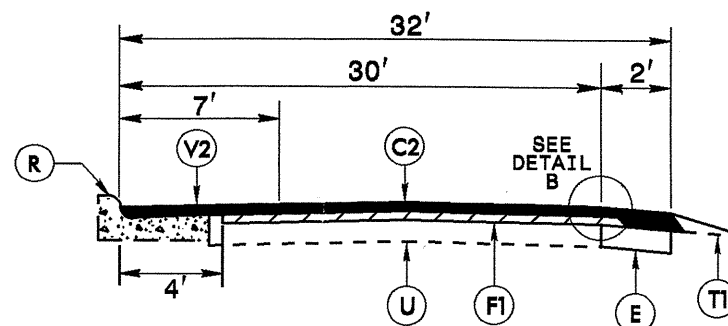
TYPICAL SECTION NO. 3
 TO BE USED ON MAP 2
 STA. 0+50 TO STA. 4+05



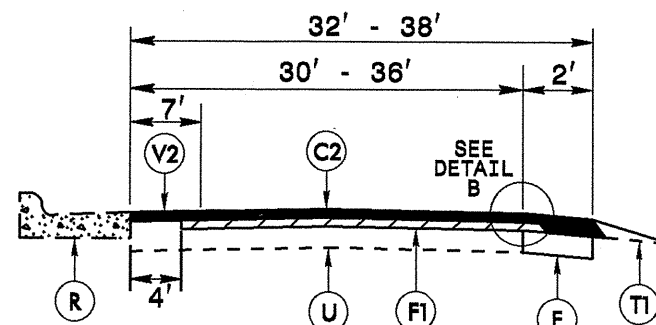
TYPICAL SECTION NO. 4
 TO BE USED ON MAP 2
 STA. 4+05 TO STA. 5+00



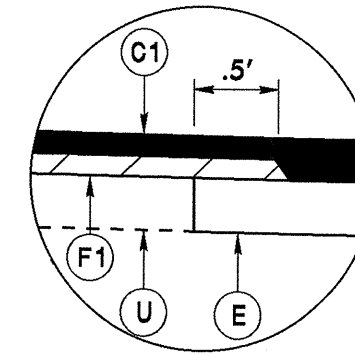
TYPICAL SECTION NO. 5
 TO BE USED ON MAP 2
 STA. 5+00 TO STA. 80+10
 STA. 89+25 TO STA. 102+60



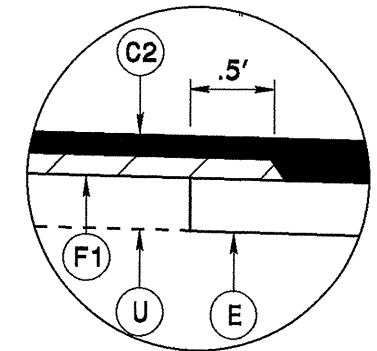
TYPICAL SECTION NO. 6
 TO BE USED ON MAP 2
 STA. 80+10 TO STA. 88+10



TYPICAL SECTION NO. 7
 TO BE USED ON MAP 2
 STA. 88+10 TO STA. 89+25



DETAIL A



DETAIL B

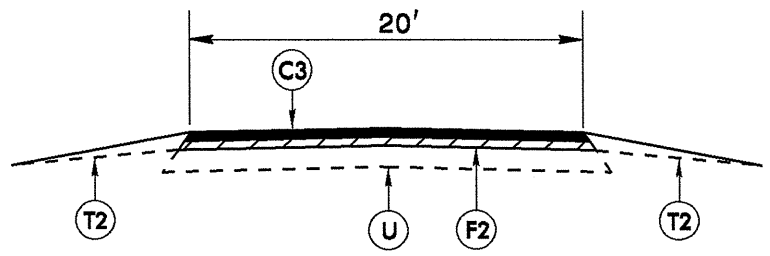
****NOTE: EACH MAP MUST BE SPOT MILLED AND FILLED AS DIRECTED BY THE ENGINEER BEFORE PROCEEDING WITH RESURFACING****

PAVEMENT SCHEDULE

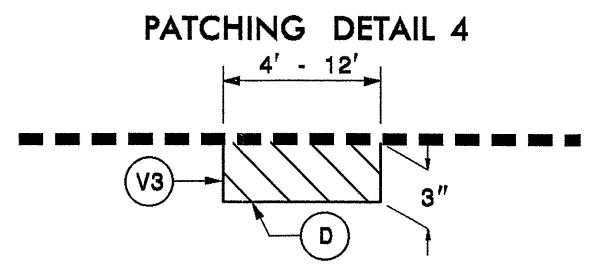
C1	PROP. APPROX. 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.		
C2	PROP. APPROX. 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD.		
C3	PROP. APPROX. 1¼" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD.		
D	PROP. APPROX 3" ASPHALT CONCRETE INTERMEDIATE COURSE TYPE I19.0B, AT AN AVERAGE RATE OF 342LBS. PER SQ. YD.		
E	PROP. APPROX. 8" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD. IN EACH OF TWO LAYERS		
F1	AST MAT COAT #67 STONE		
F2	AST MAT COAT 78M STONE		
U	EXISTING PAVEMENT.		
R	EXISTING CURB AND GUTTER		
T1	SHOULDER RECONSTRUCTION, AS DIRECTED BY THE ENGINEER.		
T2	INCIDENTAL STONE BASE IN LOW SHOULDER AREAS, AS DIRECTED BY THE ENGINEER		
V1	0" - 3" MILLING	V2	0 - 1½" MILLING
V3	3" MILLING	V4	8" MILLING

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STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
N.C.	7CR.20011.33	3	5

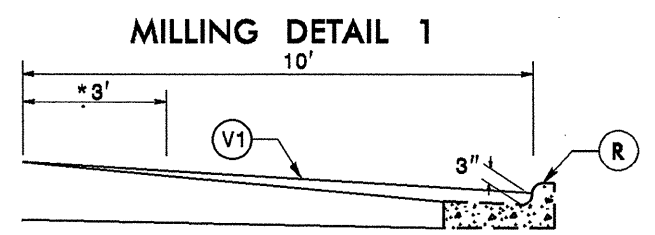


TYPICAL SECTION NO. 8
TO BE USED ON MAP 3

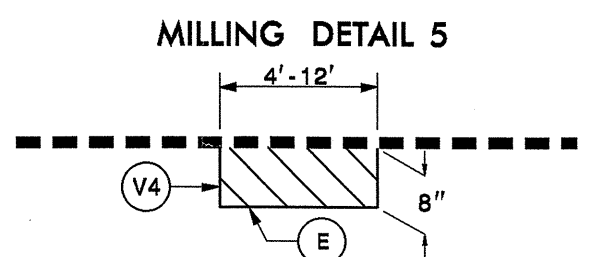


MILL EXISTING ASPHALT PAVEMENT 3" IN DEPTH AND FILL WITH INTERMEDIATE COURSE, TYPE I19.0B AT LOCATIONS AS DIRECTED BY THE ENGINEER.
TO BE USED IN CONJUNCTION WITH MAPS 1 AND 2
MAP 1: 3" MILLING = 292 SYD
INTERMEDIATE COURSE, TYPE I19.0B = 50 TON
MAP 2: 3" MILLING = 292 SYD
INTERMEDIATE COURSE, TYPE I19.0B = 50 TON

****NOTE: EACH MAP MUST BE SPOT MILLED AND FILLED AS DIRECTED BY THE ENGINEER BEFORE PROCEEDING WITH RESURFACING****



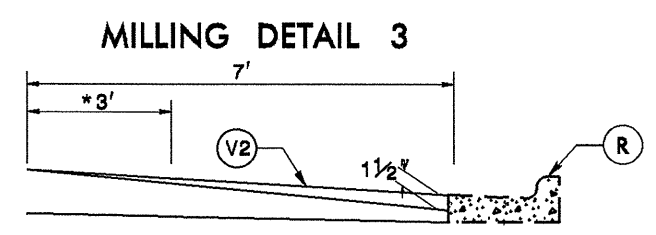
MILLING DETAIL 1
PROFILE MILLING 0 - 3"
*IF #67 STONE SEAL IS INVOLVED OVERLAP 3'.
PROFILE MILL EXISTING ASPHALT PAVEMENT 3" AT LOCATIONS AS DIRECTED BY THE ENGINEER.
NOTE: TO BE USED IN CONJUNCTION WITH:
TS. NO. 2 ON MAP 2 STA. 0+00 TO STA. 0+50 RT
TS. NO. 3 ON MAP 2 STA. 0+50 TO STA. 4+05 RT & LT
TS. NO. 4 ON MAP 2 STA. 4+05 TO STA. 5+00 LT



MILLING DETAIL 5
MILL EXISTING ASPHALT PAVEMENT 8" IN DEPTH AND FILL WITH BASE COURSE, TYPE B25.0B AT LOCATIONS AS DIRECTED BY THE ENGINEER.
TO BE USED IN CONJUNCTION WITH MAPS 1 AND 2
MAP 1: 8" MILLING = 110 SYD
BASE COURSE, TYPE B25.0B = 50 TON
MAP 2: 8" MILLING = 110 SYD
BASE COURSE, TYPE B25.0B = 50 TON

PAVEMENT SCHEDULE

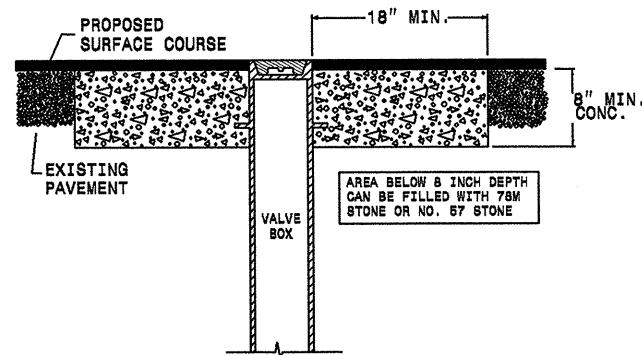
C1	PROP. APPROX. 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.		
C2	PROP. APPROX. 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD.		
C3	PROP. APPROX. 1¼" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD.		
D	PROP. APPROX 3" ASPHALT CONCRETE INTERMEDIATE COURSE TYPE I19.0B, AT AN AVERAGE RATE OF 342LBS. PER SQ. YD.		
E	PROP. APPROX. 8" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD. IN EACH OF TWO LAYERS		
F1	AST MAT COAT #67 STONE		
F2	AST MAT COAT 78M STONE		
U	EXISTING PAVEMENT.		
R	EXISTING CURB AND GUTTER		
T1	SHOULDER RECONSTRUCTION, AS DIRECTED BY THE ENGINEER.		
T2	INCIDENTAL STONE BASE IN LOW SHOULDER AREAS, AS DIRECTED BY THE ENGINEER		
V1	0" - 3" MILLING	V2	0 - 1½" MILLING
V3	3" MILLING	V4	8" MILLING



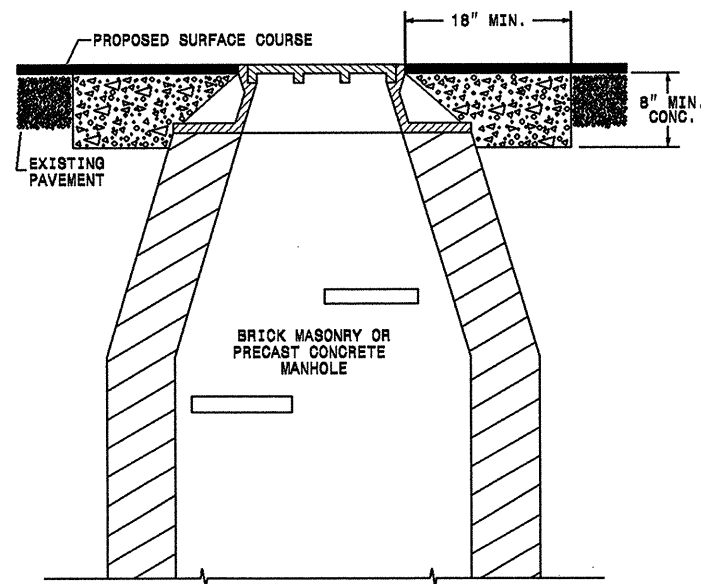
MILLING DETAIL 3
PROFILE MILLING 0 - 1½"
*IF #67 STONE SEAL IS INVOLVED OVERLAP 3'.
PROFILE MILL EXISTING ASPHALT PAVEMENT 1½" AT LOCATIONS AS DIRECTED BY THE ENGINEER.
NOTE: TO BE USED IN CONJUNCTION WITH:
TS. NO. 6 ON MAP 2 STA. 80+10 TO STA.88+10 LT
TS. NO. 7 ON MAP 2 STA. 88+10 TO STA. 89+25 LT

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STANDARD CONCRETE ENCASEMENT FOR MANHOLE & VALVE CASTINGS IN PAVEMENT
DETAIL DRAWING NO. 858.01

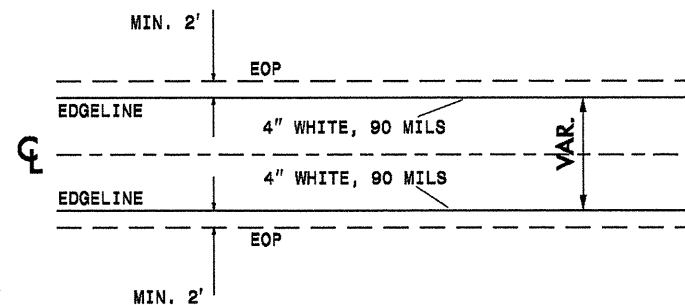


USE RAPID SET GROUT, MORTAR, OR CONCRETE
 CLASS B CONCRETE MAY BE USED WHEN ADJUSTMENTS
 ARE NOT IN THE TRAVEL LANE.



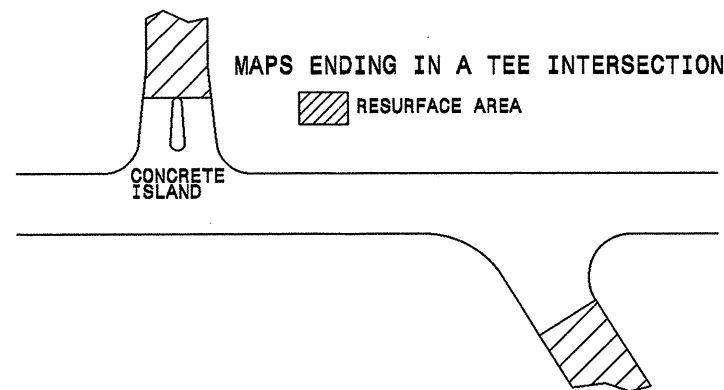
- NOTES:**
1. MORTAR SHALL BE MIXED TO NCDOT SPECIFICATIONS.
 2. ALL FAULTY EXISTING BRICKWORK TO BE REMOVED AND REPLACED WITH NEW BRICK MASONRY.
 3. EXCAVATION FOR THE ADJUSTMENT SHALL BE SHEER CUT ON ALL SIDES.
 4. RAPID SET GROUT, MORTAR, OR CONCRETE SHALL BE USED

STRIPING DETAIL 1
GENERAL STRIPING DETAIL FOR ENTIRE PROJECT



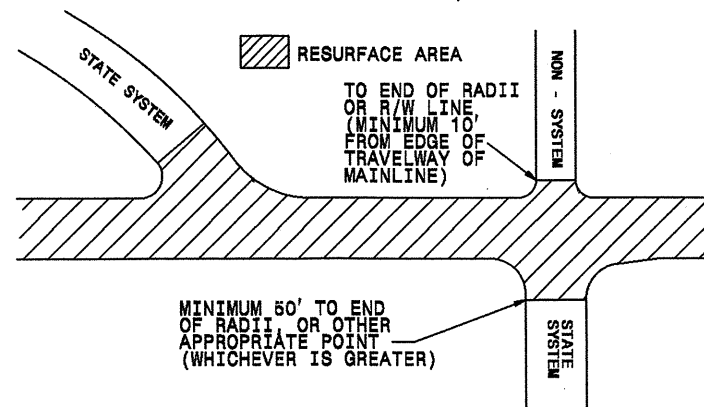
- NOTE:**
1. TO BE USED IN CONJUNCTION WITH TYPICAL SECTION NO. 1
 2. USE IN CONJUNCTION WITH THE EXISTING PAVEMENT MARKINGS TO ESTABLISH THE STRIPING.
 3. USE IN CONJUNCTION WITH THE NCDOT STANDARD DRAWINGS.

PAVING DETAIL 1
MAIN LINE IS NOT BEING RESURFACED

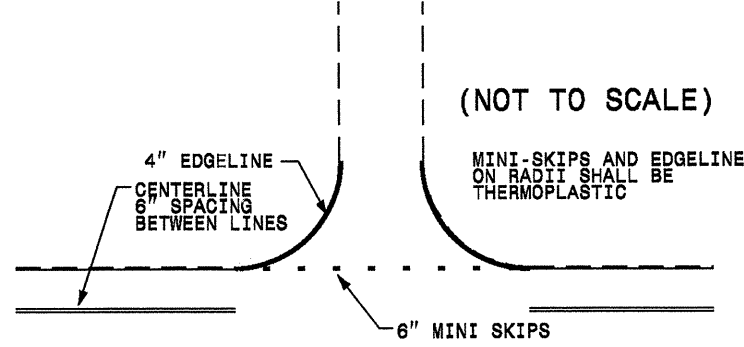


PAVING DETAIL 2
MAIN LINE IS BEING RESURFACED

NOTE: NON-SYSTEM (CITY STREET, PRIVATE DRIVE, SCHOOL BUS DRIVE)



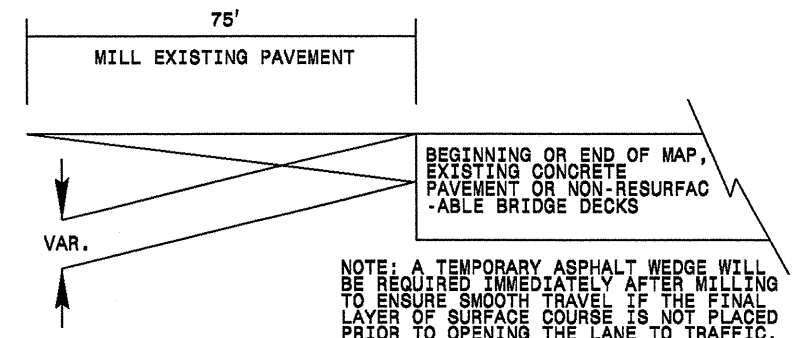
TO BE USED AT ALL
NON-SIGNALIZED INTERSECTIONS



NOTE: MINI SKIPS SHALL BE PLACED ON A 10' CYCLE, CONTAINING AN 8' AND 2' SKIP, THE WIDTH OF THE SKIP SHALL BE 6'.

STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
N.C.	7CR.20011.33	4	5

INCIDENTAL MILLING DETAIL

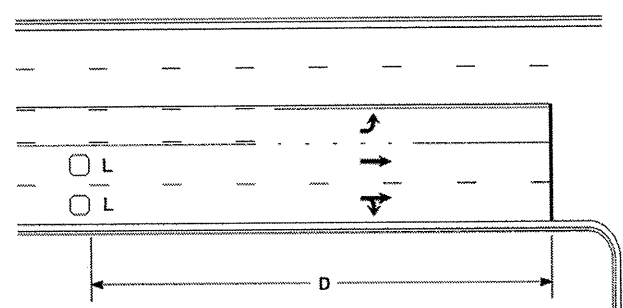


****NOTE: EACH MAP MUST BE SPOT MILLED AND FILLED AS DIRECTED BY THE ENGINEER BEFORE PROCEEDING WITH RESURFACING****

PAVEMENT SCHEDULE

C1	PROP. APPROX. 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.		
C2	PROP. APPROX. 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD.		
C3	PROP. APPROX. 1¼" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD.		
D	PROP. APPROX 3" ASPHALT CONCRETE INTERMEDIATE COURSE TYPE I19.0B, AT AN AVERAGE RATE OF 342LBS. PER SQ. YD.		
E	PROP. APPROX. 8" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD. IN EACH OF TWO LAYERS		
F1	AST MAT COAT #67 STONE		
F2	AST MAT COAT 78M STONE		
U	EXISTING PAVEMENT.		
R	EXISTING CURB AND GUTTER		
T1	SHOULDER RECONSTRUCTION, AS DIRECTED BY THE ENGINEER.		
T2	INCIDENTAL STONE BASE IN LOW SHOULDER AREAS, AS DIRECTED BY THE ENGINEER		
V1	0" - 3" MILLING	V2	0 - 1½" MILLING
V3	3" MILLING	V4	8" MILLING

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

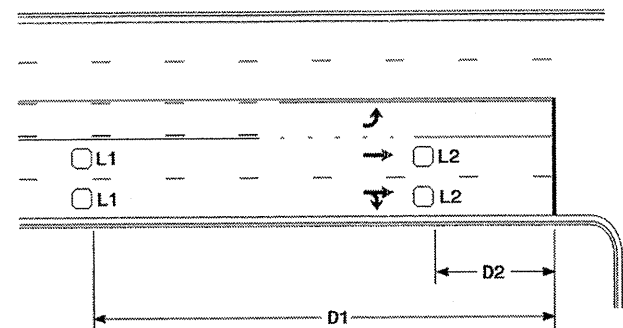


Speed Limit mph (km/hr)	D ft (m)
40 (64)	250 (75)
45 (72)	300 (90)
50 (80)	355 (110)
55 (88)	420 (130)

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

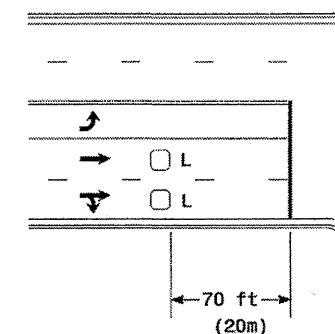


Speed Limit mph (km/hr)	D1 ft (m)	D2 ft (m)
40 (64)	250 (75)	80 (25)
45 (72)	300 (90)	90 (27)
50 (80)	355 (110)	100 (30)
55 (88)	420 (130)	110 (35)

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

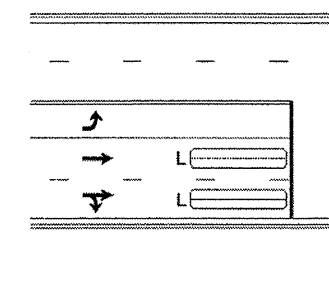
"Stretch" Operation

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



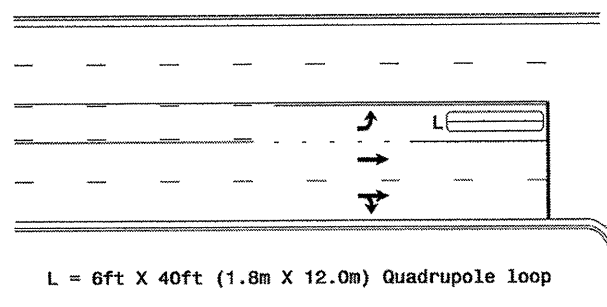
L = 6ft X 6ft (1.8m X 1.8m)
Wired in series

OR



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

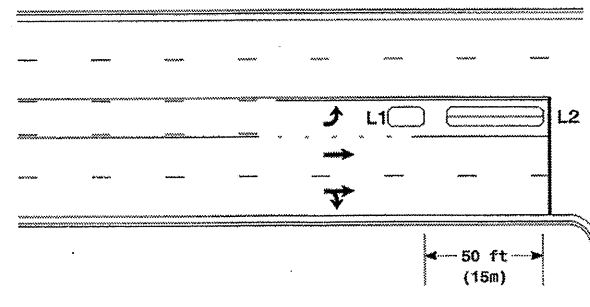
Left Turn Lane Detection



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

Presence Loop Detection

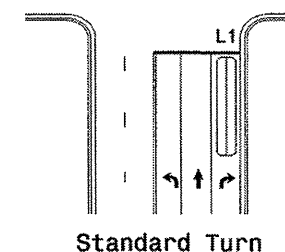
OR



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

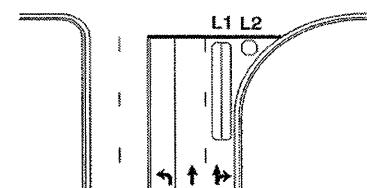
Queue Loop Detection

Right Turn Lane Detection

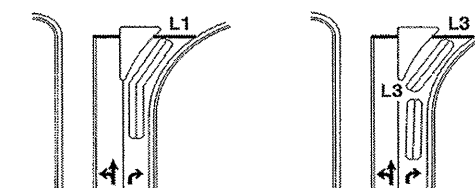


Standard Turn

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

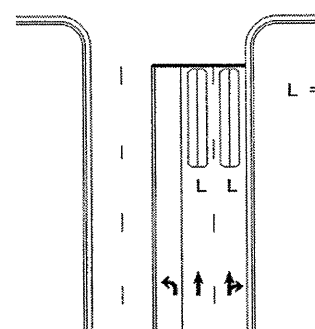


Wide Radius Turn



Channelized Turn

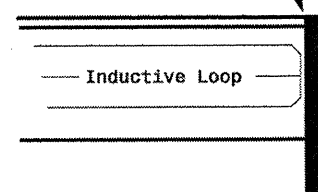
Side Street Detection



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.



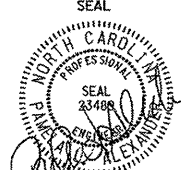
Recommended Number of Turns

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

Prepared in the Office of:

Typical Loop Locations
 PLAN DATE: June 2006 REVIEWED BY:
 PREPARED BY: P L Alexander REVIEWED BY:
 SCALE: N/A
 REVISIONS:
 1. Revise pavement markings
 INIT. DATE
 PL
 12/1/09
 SIGNATURE: 
 DATE: 12/1/09
 SEAL: 
 SIG. INVENTORY NO.

10-DEC-2006 1:24:29
 c:\pwworking\dot\10473\turn\lmm\lmm\loop\typ\loc2006.dgn
 D018X000P