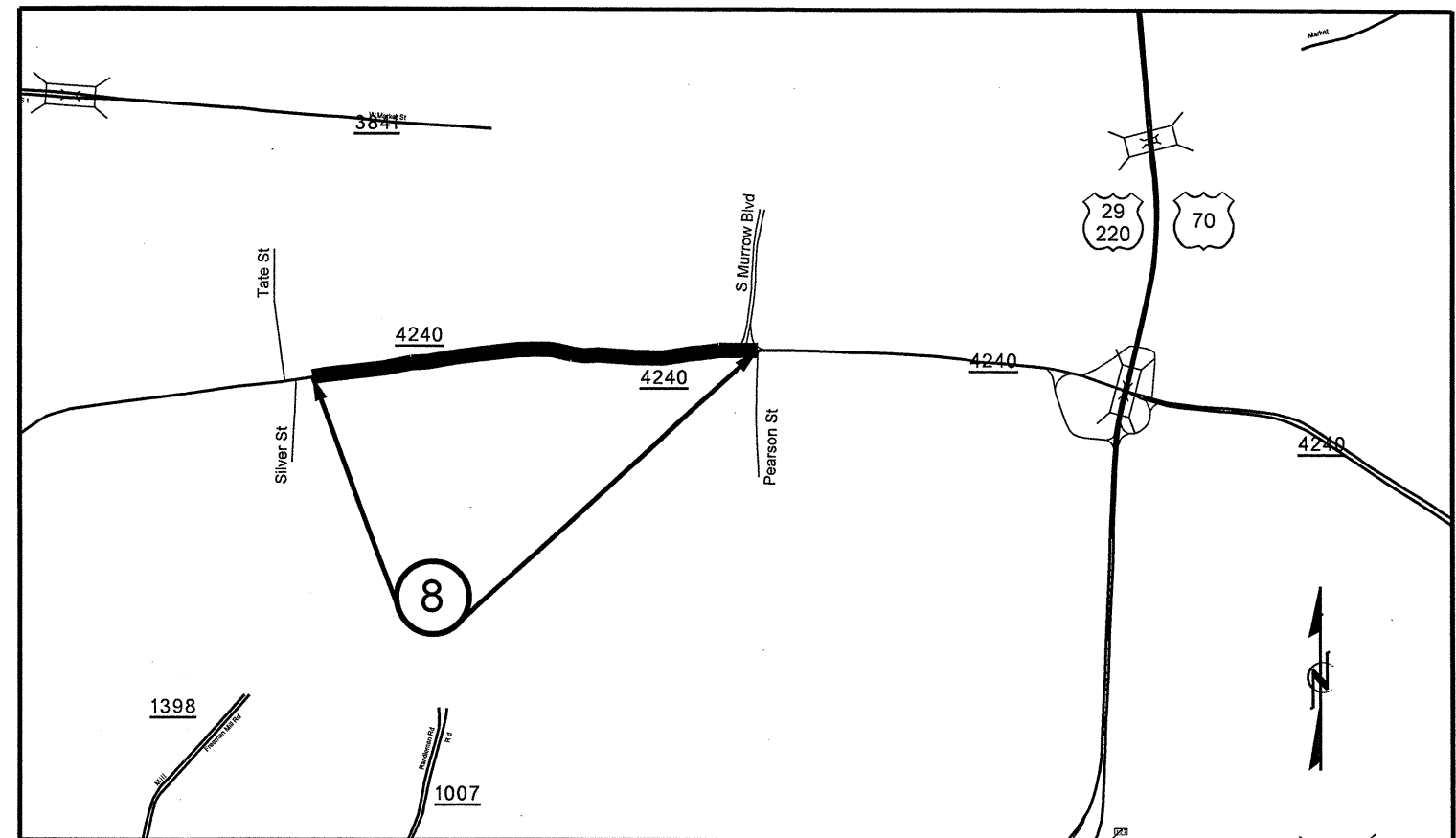
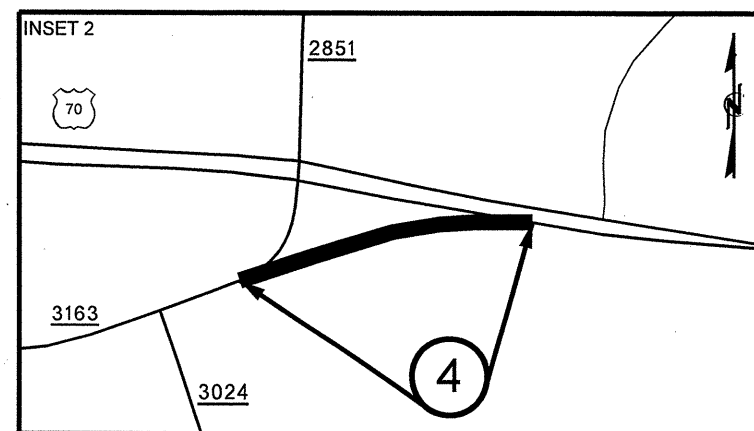
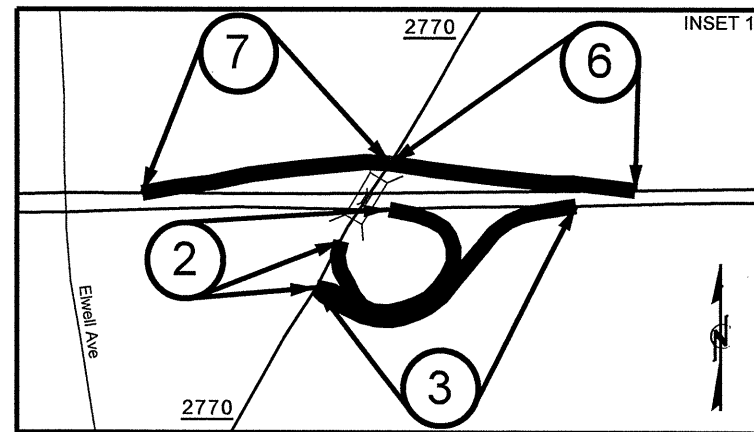
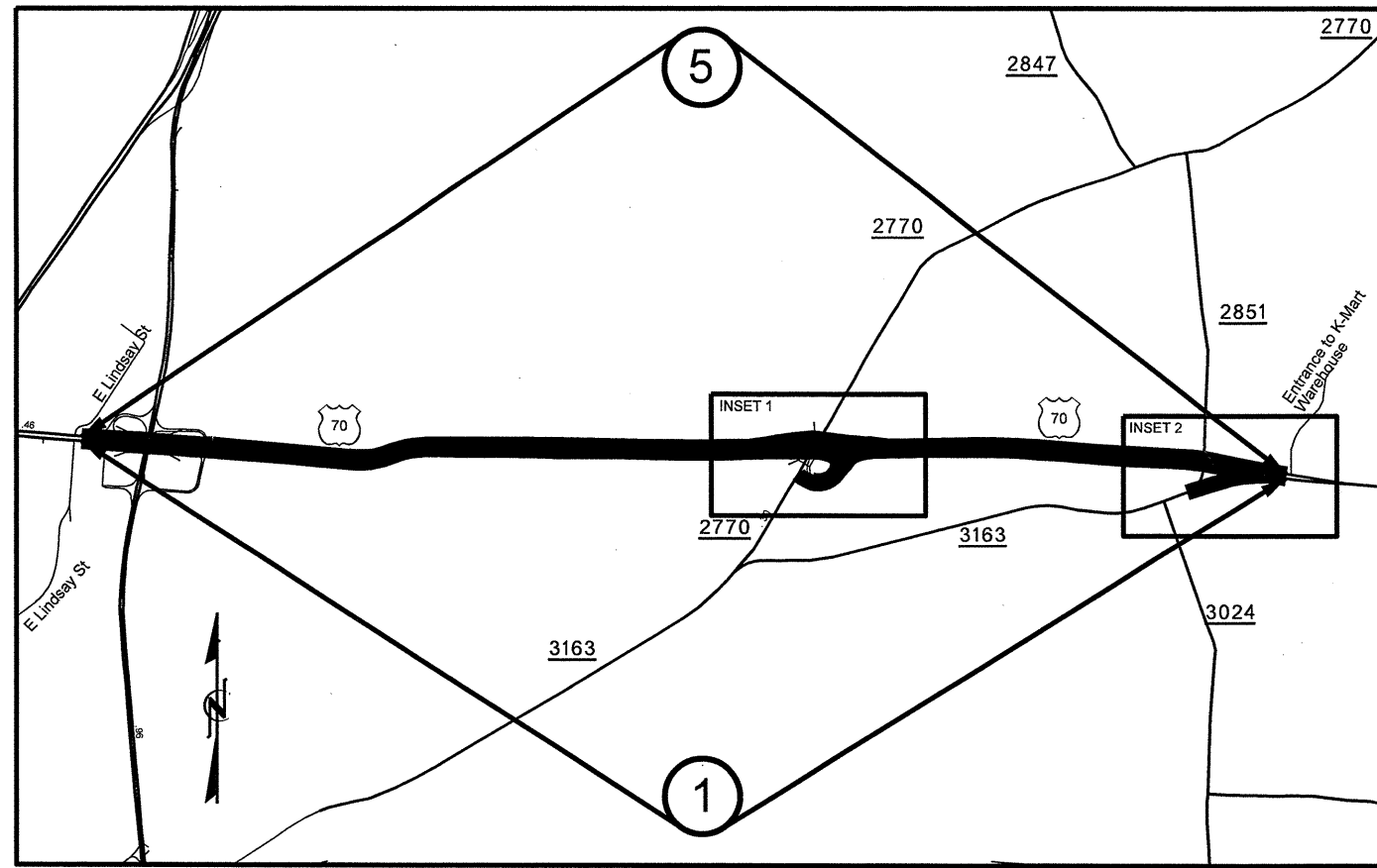
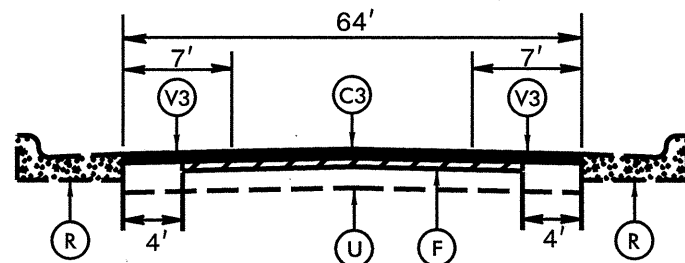


STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
N.C.	7CR.10411.39, 7CR.20411.39	2	7
F.A. PROJ. NO.			



\$\$\$SYTIME\$\$\$
 \$\$\$DDNN\$\$\$
 \$\$\$Y\$\$\$
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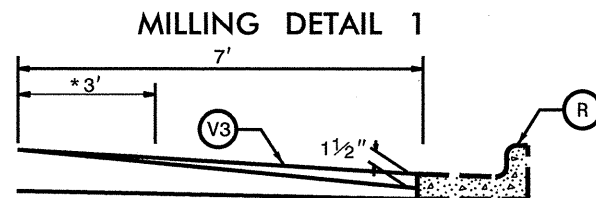
STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
N.C.	7CR.10411.39, 7CR.20411.39	4	7



**NOTE: MILL 1 1/2" AND FILL 1 1/2" OF SURFACE COURSE, TYPE SF9.5A UNDER BRIDGE #152 FROM STA. 53+45 TO STA. 55+10

TYPICAL SECTION NO. 7
TO BE USED ON MAP 8

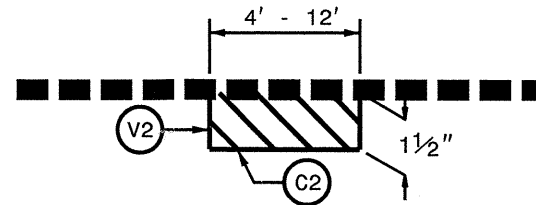
- STA. 4+35 TO STA. 34+25
- STA. 35+45 TO STA. 36+55
- STA. 42+00 TO STA. 42+75
- STA. 46+75 TO STA. 47+35
- STA. 52+20 TO STA. 58+35
- STA. 60+10 TO STA. 60+65
- STA. 62+95 TO STA. 63+75



PROFILE MILLING 0 - 1 1/2"
*IF 78M OR #67 SEAL IS INVOLVED, OVERLAP 3'.
PROFILE MILL EXISTING ASPHALT PAVEMENT 1 1/2" AT LOCATIONS AS DIRECTED BY THE ENGINEER.

NOTE: TO BE USED IN CONJUNCTION WITH:
TS. NO. 4 & 5 ON MAP 8 STA. 4+35 TO STA. 63+75 LT & RT

MILLING DETAIL 2

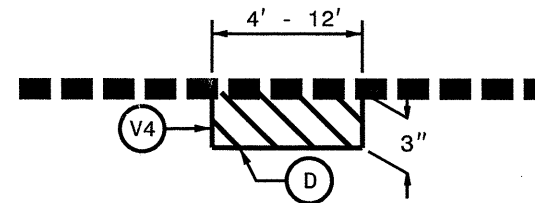


USE FOR PATCHING ON MAP 8

MILL EXISTING ASPHALT PAVEMENT 1 1/2" IN DEPTH AND FILL WITH SURFACE COURSE, TYPE SF9.5A AT LOCATIONS AS DIRECTED BY THE ENGINEER.

MAP 8: 1 1/2" MILLING = 1813 SYD
SURFACE COURSE, TYPE SF9.5A = 151 TONS

MILLING DETAIL 3

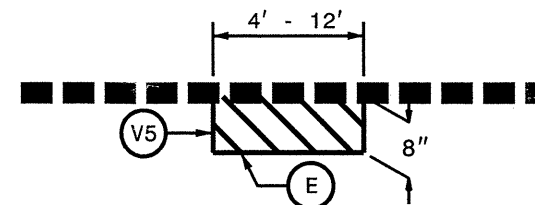


USE FOR PATCHING ON MAP 1, 5, AND 8

MILL EXISTING ASPHALT PAVEMENT 3" IN DEPTH AND FILL WITH INTERMEDIATE COURSE, TYPE I19.0B AT LOCATIONS AS DIRECTED BY THE ENGINEER.

MAP 1: 3" MILLING = 133 SYD
INTERMEDIATE COURSE, TYPE I19.0B = 23 TONS
MAP 5: 3" MILLING = 133 SYD
INTERMEDIATE COURSE, TYPE I19.0B = 23 TONS
MAP 8: 3" MILLING = 586 SYD
INTERMEDIATE COURSE, TYPE I19.0B = 100 TONS

MILLING DETAIL 4



USE FOR PATCHING ON MAP 1 AND 5

MILL EXISTING ASPHALT PAVEMENT 8" IN DEPTH AND FILL WITH BASE COURSE, TYPE B25.0B AT LOCATIONS AS DIRECTED BY THE ENGINEER.

MAP 1: 8" MILLING = 67 SYD
BASE COURSE, TYPE B25.0B = 30 TONS
MAP 5: 8" MILLING = 67 SYD
BASE COURSE, TYPE B25.0B = 30 TONS
MAP 8: 8" MILLING = 110 SYD
BASE COURSE, TYPE B25.0B = 50 TONS

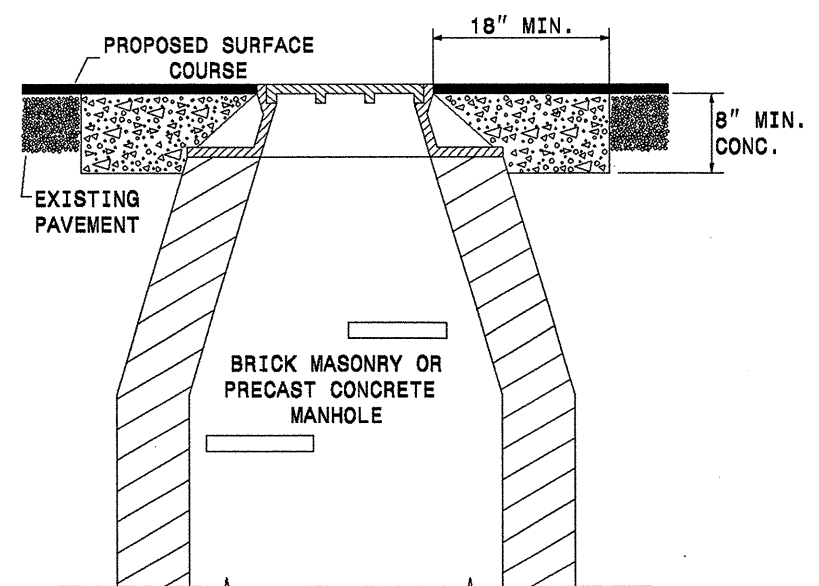
NOTE: EACH MAP MUST BE SPOT MILLED AND FILLED AS DIRECTED BY THE ENGINEER BEFORE PROCEEDING WITH RESURFACING

PAVEMENT SCHEDULE

C1	PROP. APPROX. 2" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 224 LBS. PER SQ. YD.		
C2	PROP. APPROX. 1 1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.		
C3	PROP. APPROX. 1 1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD.		
D	PROP. APPROX. 3" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 342 LBS. 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		
F	AST MAT COAT, #67 STONE		
R	EXISTING CONCRETE STRUCTURE		
U	EXISTING PAVEMENT.		
V1	2" MILLING	V2	1 1/2" MILLING
V3	0 - 1 1/2" MILLING	V4	3" MILLING
V5	8" MILLING		

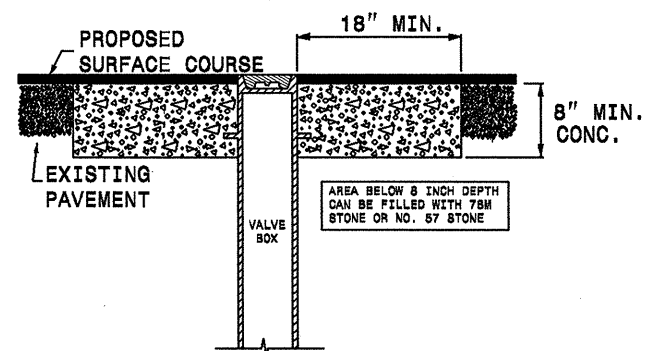
\$\$\$\$\$SYTIME\$\$\$\$\$
\$\$\$\$\$DGN\$\$\$\$\$
\$\$\$\$\$USERNAME\$\$\$\$\$

STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
N.C.	7CR.10411.39, 7CR.20411.39	5	7



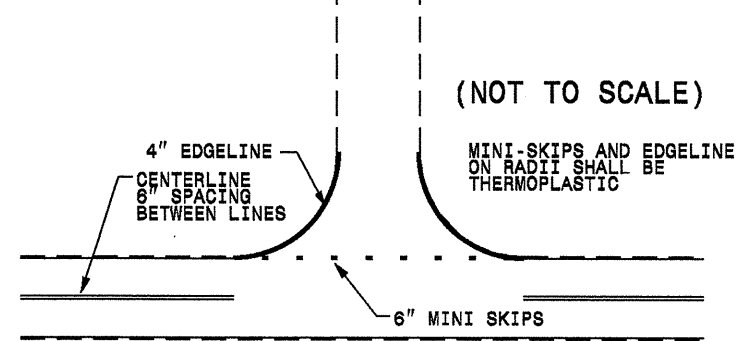
- NOTES:
1. MORTAR SHALL BE MIXED TO NCDOT SPECIFICATIONS.
 2. ALL FAULTY EXISTING BRICKWORK TO BE REMOVED AND REPLACED WITH NEW BRICK MASONRY.
 3. EXCAVATION FOR THE ADJUSTMENT SHALL BE SHEER CUT ON ALL SIDES.
 4. USE RAPID SET GROUT, MORTAR OR CONCRETE AS NOTED IN PROJECT SPECIAL PROVISIONS. CLASS B CONCRETE MAY BE USED WHEN THE ADJUSTMENTS ARE NOT IN THE TRAVEL LANE.

STANDARD CONCRETE ENCASEMENT FOR VALVE CASTINGS IN PAVEMENT

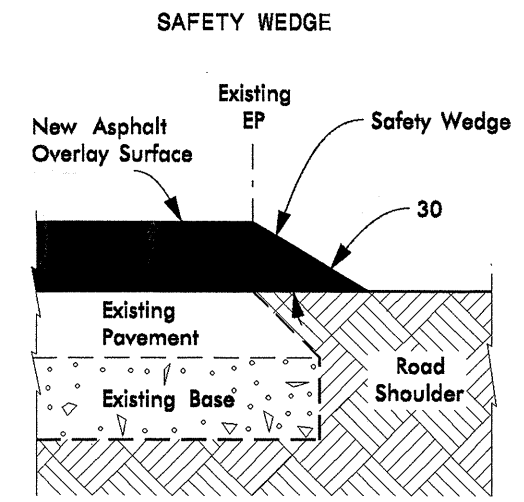


USE RAPID SET GROUT, MORTAR, OR CONCRETE CLASS B CONCRETE MAY BE USED WHEN ADJUSTMENTS ARE NOT IN THE TRAVEL LANE.

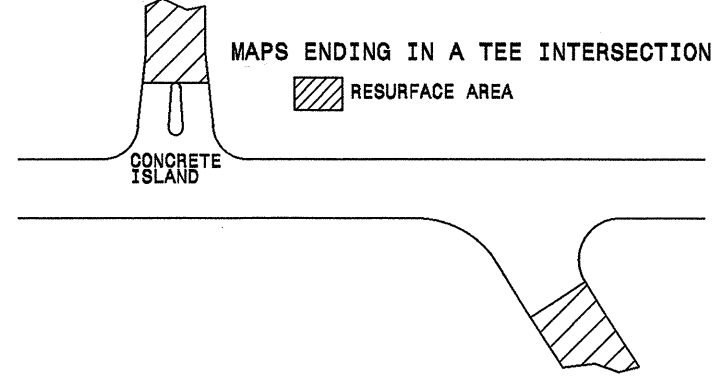
TO BE USED AT ALL NON-SIGNALIZED INTERSECTIONS



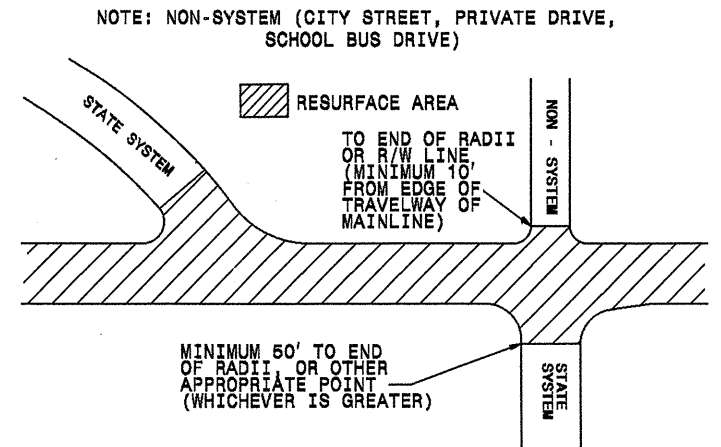
NOTE: MINI SKIPS SHALL BE PLACED ON A 10' CYCLE, CONTAINING AN 8" AND 2" SKIP, THE WIDTH OF THE SKIP SHALL BE 6".



**PAVING DETAIL 1
MAIN LINE IS NOT BEING RESURFACED**



**PAVING DETAIL 2
MAIN LINE IS BEING RESURFACED**



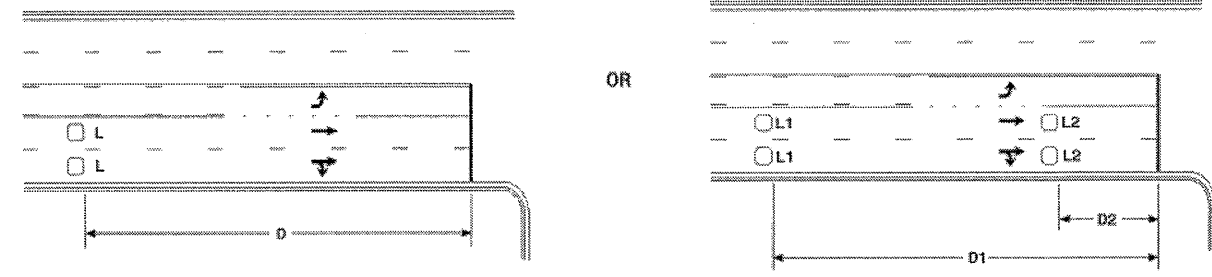
****NOTE: EACH MAP MUST BE SPOT MILLED AND FILLED AS DIRECTED BY THE ENGINEER BEFORE PROCEEDING WITH RESURFACING****

PAVEMENT SCHEDULE

C1	PROP. APPROX. 2" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 224 LBS. PER SQ. YD.		
C2	PROP. APPROX. 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.		
C3	PROP. APPROX. 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD.		
D	PROP. APPROX. 3" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 342 LBS. 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		
F	AST MAT COAT, #67 STONE		
R	EXISTING CONCRETE STRUCTURE		
U	EXISTING PAVEMENT.		
V1	2" MILLING	V2	1½" MILLING
V3	0 - 1½" MILLING	V4	3" MILLING
V5	8" MILLING		

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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

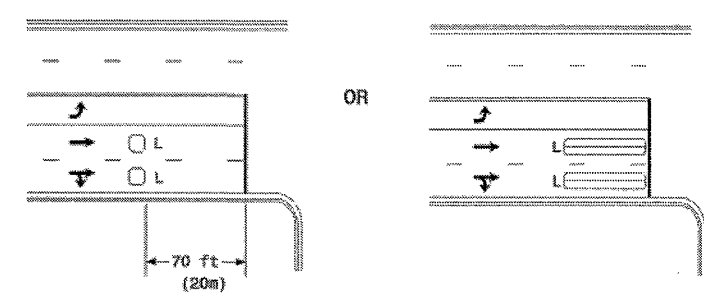
Volume Density Operation

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

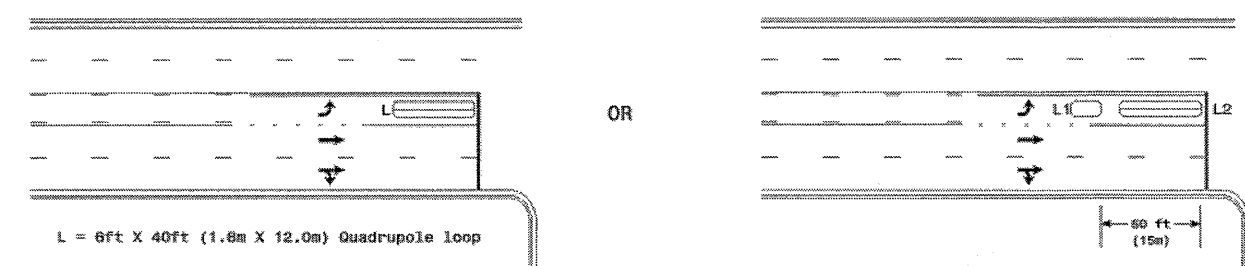
Low Speed Detection [≤35 mph (56 km/hr)]



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

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

Left Turn Lane Detection



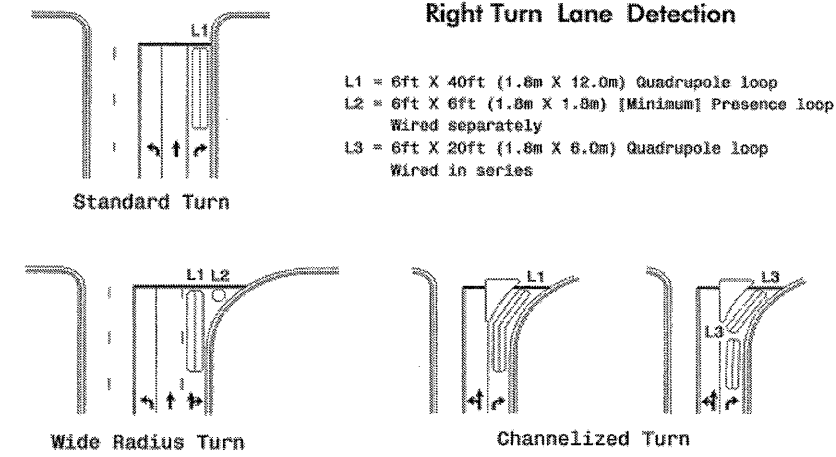
L = 6ft X 40ft (1.8m X 12.0m) Quadrupole loop

Presence Loop Detection

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

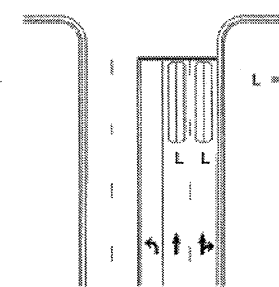
Queue Loop Detection

Right Turn Lane Detection



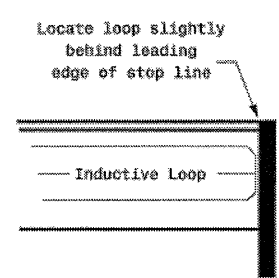
L1 = 6ft X 40ft (1.8m X 12.0m) Quadrupole loop
L2 = 6ft X 6ft (1.8m X 1.8m) [Minimum] Presence loop
Wired separately
L3 = 6ft X 20ft (1.8m X 6.0m) Quadrupole loop
Wired in series

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



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

	Typical Loop Locations		
	PREPARED BY: P. I. Alexander SCALE: N/A	REVIEWED BY:	

17-400-208 4/03
 4/11/11 11:21 AM
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