



**STATE OF TENNESSEE  
DEPARTMENT OF TRANSPORTATION**

**DESIGN DIVISION**  
SUITE 1300, JAMES K. POLK BUILDING  
505 DEADERICK STREET  
NASHVILLE, TENNESSEE 37243-1402  
(615) 741-2221

**JOHN C. SCHROER**  
COMMISSIONER

**BILL HASLAM**  
GOVERNOR

August 6, 2012

Freddy Miller  
Civil Engineering Manager 2  
Suite 1200, James K. Building  
Nashville, TN 37243

**SUBJECT:** Final Pavement Design  
Project No. 24001-1147-44  
Fed Proj No. IM-40-1(328)  
Pin No. 114219.00  
I-40  
Widening of SR-222 over I-40 and interchange redesigning  
Fayette County

Dear Mr. Miller;

The following are the recommended final pavement design for the subject project.

1. Full depth design for I-40 widening
2. Full depth design for SR-222
3. Design for Ramps

See the attached pavement design sheets for details. If you have any questions concerning this design, please do not hesitate to call me at 615-741-4894.

Sincerely,

A handwritten signature in black ink, appearing to read "Sampson Udeh", with a long horizontal line extending to the right.

Sampson Udeh  
Roadway Specialist 3

SUU:suu

cc: Scheduling Office  
File copy

DATE: 08/06/12 FULL DEPTH DESIGN FOR I-40 ROUTE I-40

COUNTY: FAYETTE PROJ NO: 24001-1147-44 FED PROJ IM-40-1(328)

DESCRIPTION: WIDENING OF SR-222 OVER I-40 AND INTERCHANGE REDESIGN

ROADWAY DESIGN REGION IV

DESCRIPTION	THICKNESS
411-03.10 ACS (PG76-22) GR "D"	1.25
307-03.08 AC MIX (PG76-22) GR "B-M2"	2.00
307-03.01 AC MIX (PG76-22) GR "A"	6.00
307-(**) PERF AC (PG76-22)GR"A-S"	3.75
303-01 MINERAL AGG BASE GRADING "D"	12.00
<b>TOTALS</b>	<b>25.00</b>

OUTSIDE SHOULDER DESIGN

DESCRIPTION	THICKNESS
411-01.07 ACS (PG64-22) GR "E"	1.25
307-01.08 AC MIX (PG64-22)GR "B-M2"	2.50
303-01 MINERAL AGG BASE GRA "D"	21.25
<b>TOTALS</b>	<b>25.00</b>

(\*\*) REQUIRES USE OF ITEM 307-

- REMARKS:
- 1) 6" OF PERF. "A-MIX" TO BE APPLIED AT TWO EQUAL LIFTS
  - 2) SUBSURFACE DRAINAGE - AGGREGATE UNDERDRAIN W/PIPE
  - 3) OVERLAY EXISTING PAVEMENT USING 1.25" OF "D" MIX WHERE NEEDED.**

DATE: 08/06/12 FULL DEPTH DESIGN FOR SR-222 ROUTE: I-40

COUNTY: FAYETTE PROJ NO: 24001-1147-44 FED PROJ: IM-40-1(328)

DESCRIPTION: INTERCHAGE AT SR-222 (EXIT 42)

ROADWAY DESIGN REGION: IV

DESCRIPTION	THICKNESS
411-02.10 ACS (PG70-22) GR "D"	1.25
307-02.08 AC MIX (PG70-22) GR "B-M2"	2.00
307-02.01 AC MIX (PG70-22) GR "A"	4.00
307-02.02(**) PREF AC(PG70-22)GR "A-S"	4.00
303-01 MINERAL AGG BASE GRADING "D"	10.00
TOTALS	21.25

SHOULDER DESIGN

DESCRIPTION	THICKNESS
411-01.07 ACS (PG64-22) GR "E"	1.25
307-01.08 AC MIX (PG64-22)GR "B-M2"	2.00
303-01 MINERAL AGG BASE GRADING "D"	18.00
TOTALS	21.25

(\*\*) REQUIRES USE OF ITEM 307-02.03

- REMARKS: 1) SUBSURFACE DRAINAGE: AGGREGATE UNDERDRAIN W/PIPE  
2) ELIMINATE SHOULDER DESIGN FOR CURB AND GUTTER SECTION

DATE: 08/06/12

RAMPS

ROUTE: I-40

COUNTY: FAYETTE

PROJ NO: 24001-1147-44

DESCRIPTION: INTERCHAGE AT SR-222 (EXIT 42)

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ROADWAY DESIGN

REGION IV

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	DESCRIPTION	THICKNESS
501-01	PORTLAND CEM CONC (PLAIN)	10.00
313-03	TREATED PERMEABLE BASE	4.00
303-01	MINERAL AGG BASE GRADING "D"	6.00
	TOTALS	20.00

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SHOULDER DESIGN

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	DESCRIPTION	COEFFICIENT	THICKNESS
501-01	PORTLAND CEM CONC (PLAIN)		10.00
313-03	TREATED PERMEABLE BASE		4.00
303-01	MINERAL AGG BASE GRADING "D"		6.00
	TOTALS		20.00

REMARK: SUBSURFACE DRAINAGE - AGGREGATE UNDERDRAIN W/PIPE