FLEXIBLE PAVEMENT DESIGN ANALYSIS

Project: STP-9252(6) & STP-9250(1) **County:** FULTON
P.I. no.: 751300
Description: JOHNSON FERRY & ABERNATHY RD WIDENING FM CHATT RVR TO ROSWELL

Traffic Data (NOTE: AADTs are one-way)
24-hour Truck Percentage: 2.00%
AADT initial year of design period: 23,500 vpd (2006)
AADT final year of design period: 30,000 vpd (2026)
Mean AADT (one-way): 26,750 vpd

Design Loading

Mean AADT		LDF		Trucks		18-K ESAL		Total Daily Loads
26,750	*	0.80	*	0.020	*	1.06	=	455

Total predicted design period loading = 455 * 20 * 365 = 3,321,500

Design Data
Terminal Serviceability Index: 2.50
Soil Support: 2.00
Regional Factor: 1.80

PROPOSED FLEXIBLE PAVEMENT STRUCTURE

Material	Thickness Inches	Thickness (mm)	Structural Coefficient	Structural Value
12.5 mm Superpave	1.50	(38)	0.44	0.66
19 mm Superpave	3.00	(76)	0.44	1.32
25 mm Superpave	0.00	()	0.44	0.00
	6.00	(152)	0.30	1.80
Graded Aggregate Base	12.00	(305)	0.16	1.92

Required SN = 5.80 Proposed SN = 5.70

>>> Proposed pavement is 1.6% Underdesign <<<

Remarks: FULL-DEPTH PVMT REQD @ MISC. STA. FOR JFR & ABERNATHY RD

Prepared by MARGARET E REITZ, DE2 October 30, 2006
Date

Recommended James B. Buchan ASWJ 30 OCT 06
State Urban Design Engineer Date

Approved 11-07-06
State Pavement Engineer Date

FLEXIBLE PAVEMENT DESIGN ANALYSIS

Project: STP-9252(6) & STP-9250(1) **County:** COBB/FULTON
P.I. no.: 751300 & 751310
Description: JOHNSON FERRY & ABERNATHY RD WIDENING FM CHATT. RIVER TO ROSWELL

Traffic Data (NOTE: AADTs are one-way)
24-hour Truck Percentage: 2.00%
AADT initial year of design period: 23,500 vpd (2006)
AADT final year of design period: 30,000 vpd (2026)
Mean AADT (one-way): 26,750 vpd

Design Loading

Mean AADT		LDF		Trucks		18-K ESAL		Total Daily Loads
26,750	*	0.80	*	0.020	*	1.06	=	455

Total predicted design period loading = 455 * 20 * 365 = 3,321,500

Design Data
Terminal Serviceability Index: 2.50
Soil Support: 2.00
Regional Factor: 1.80

PROPOSED FLEXIBLE PAVEMENT STRUCTURE

Material	Thickness Inches	Thickness (mm)	Structural Coefficient	Structural Value
	*** OVERLAY ***			
12.5 mm Superpave	1.50	(38)	0.44	0.66
19 mm Superpave	3.00	(76)	0.44	1.32
	*** EXISTING PAVEMENT ***			
Asphaltic Concrete	4.50	(114)	0.44	1.98
Portland Cement Concrete (fair)	5.50	(140)	0.30	1.65

Required SN = 5.80 Proposed SN = 5.61

>>> Proposed pavement is 3.2% Underdesign <<<

Remarks: Johnson Ferry Road and Abernathy Road
ASPHALT OVERLAY DESIGN - MILL 3.5 INCHES AND CHIPSEAL

Prepared by MARGARET E REITZ DE1 May 25, 2006
Date

Recommended James B. Buchan ASUD 30 Oct 06
State Urban Design Engineer **Date**

Approved 11-07-06
State Pavement Engineer **Date**

FLEXIBLE PAVEMENT DESIGN ANALYSIS

Project: STP-9252(6) & STP-9250(1) **County:** FULTON
P.I. no.: 751300 & 751310
Description: JOHNSON FERRY & ABERNATHY RD WIDENING FM CHATT. RVR TO ROSWELL RD

Traffic Data (NOTE: AADTs are one-way)
24-hour Truck Percentage: 2.00%
AADT initial year of design period: 4,750 vpd (2006)
AADT final year of design period: 5,650 vpd (2026)
Mean AADT (one-way): 5,200 vpd

Design Loading

Mean AADT		LDF		Trucks		18-K ESAL		Total Daily Loads
5,200	*	1.00	*	0.020	*	1.06	=	111

Total predicted design period loading = 111 * 20 * 365 = 810,300

Design Data
Terminal Serviceability Index: 2.50
Soil Support: 2.00
Regional Factor: 1.80

PROPOSED FLEXIBLE PAVEMENT STRUCTURE

Material	Thickness Inches	Thickness (mm)	Structural Coefficient	Structural Value
12.5 mm Superpave	1.50	(38)	0.44	0.66
19 mm Superpave	3.00	(76)	0.44	1.32
25 mm Superpave	0.00	()	0.44	0.00
	3.00	(76)	0.30	0.90
Graded Aggregate Base	12.00	(305)	0.16	1.92

Required SN = 4.75 Proposed SN = 4.80

ALTERNATE DESIGN

>>> Proposed pavement is 1.1% Overdesign <<<

Remarks: FULL-DEPTH PVMT REQD FOR RIVER VALLEY & BRIDGEWOOD VALLEY

Prepared by MARGARET E. REITZ, DE2 November 7, 2006
Date

Recommended James B Buchan ASWD 7 NOV 06
State Urban Design Engineer Date

Approved _____
State Pavement Engineer Date