

**DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA**

**INTERDEPARTMENT CORRESPONDENCE**

**FILE** P. I. No. M003235, DeKalb/Rockdale Counties      **OFFICE** Preconstruction  
CSNHS-M003-00 (235)  
I-20 Maintenance and Resurfacing from SR 124/  
Turner Hill Road to SR 138/SR 20      **DATE** March 26, 2008

**FROM**  Genetha Rice-Singleton, Assistant Director of Preconstruction  
**TO**  SEE DISTRIBUTION

**SUBJECT** APPROVED REVISED PROJECT CONCEPT REPORT

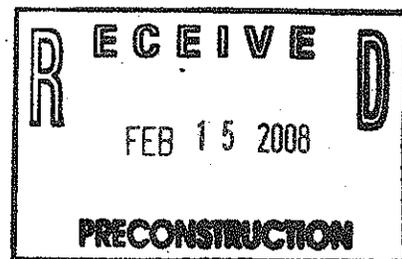
Attached for your files is the approval for subject project.

Attachment

**DISTRIBUTION:**

Brian Summers  
Glenn Bowman  
Ken Thompson  
Michael Henry  
Keith Golden  
Ben Buchan  
Angela Alexander  
Paul Liles  
Bryant Poole  
BOARD MEMBER

DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA



INTERDEPARTMENT CORRESPONDENCE

**FILE** CSNHS-M003-00(235), DeKalb/Rockdale Counties **OFFICE** Atlanta, Georgia  
P.I. No.: M003235  
I-20 Maintenance and Resurfacing from SR 124/  
Turner Hill Road to SR 138/SR 20 **DATE** February 15, 2008

**FROM** *James B. Buchanan*  
James B. Buchan, P.E., State Urban Design Engineer

**TO** Genetha Rice-Singleton, Assistant Director of Preconstruction

**SUBJECT** Revised Project Concept Report

Attached is the original copy of the Revised Concept Report for your further handling for approval in accordance with the Plan Development Process (PDP).

The changes to the approved concept include modifying the typical section to retain the existing median barrier, mill and overlay the inside and outside shoulders and maintain the existing widths, and deep mill & inlay the mainline lanes to a depth of 7.5 inches.

The approved concept currently widens and reconstructs the outside shoulders to full depth, mills 7.5 inches of existing pavement and overlays with asphalt concrete, reconstructs the inside shoulder to full depth with no change to existing width, and improves the mainline cross slope from 3/16 in/ft to 1/4 in/ft.

The revised concept reflects the approved design exception to maintain the existing width of the outside shoulders, and limits the design life of the flexible pavement to 15 years. The revised concept also reflects the results of an onsite inspection that determined the existing median could be retained. These revisions save construction costs, save the cost of purchasing rights-of-way, and align the project with programmed corridor improvements.

The revised concept as presented herein and submitted for approval is consistent with that which is included in the Regional Transportation Program (RTP) and the State Transportation Improvement Program (STIP).

2-21-08  
Date

*JS*  
JBB:PJM

*Angela S. Alexander*  
State Transportation Planning Administrator

Cc: Brian Summers, P.E., Project Review Engineer  
Glen Bowman P.E., State Environment/Location Engineer  
Keith Golden P.E., State Traffic Safety and Design Engineer  
Angela T. Alexander, State Transportation Planning Administrator  
Jamie Simpson, Financial Management Administrator  
Bryant Poole, District Engineer - Chamblee  
Paul Liles P.E., State Bridge Design Engineer

# REVISED PROJECT CONCEPT REPORT

**Need and Purpose:** The primary purpose of this project is the rehabilitation of the existing roadway to preserve the integrity, serviceability, and safety of the interstate system. The majority of the pavement within the project is in poor to fair condition. This condition will continue to deteriorate as traffic volumes increase. This project is the milling and resurfacing of I-20/SR 402 from Turner Hill Road/SR 124 to SR 20/SR 138. Vegetation will be cleared according to current guidelines.

**Project location:** The project begins just east of the Turner Hill Road/SR 124 Interchange in Dekalb County, mile log 16.38, and ends just west of the SR 20/138 Interchange in Rockdale County, mile log 4.99, an approximate length of 6.2 miles.

**Description of the approved concept:** The proposed project would deep mill and inlay 7.5 inches of existing asphaltic concrete pavement and remove hazardous vegetation within the clear zone along I-20/SR 402 in DeKalb and Rockdale Counties. The proposed typical section consists of three, 12-foot travel lanes in each direction, inside shoulders varying in width from 5 to 6.75 feet and 12-foot (10-foot paved) outside shoulders. The proposed work includes increasing the mainline pavement cross slope from 3/16 in/ft to 1/4 in/ft, reconstructing the inside shoulders to full depth, modifying the existing 'Jersey-type' concrete median barrier to a 'S-shape' or straight face concrete median barrier, reconstruction and widening to 12 feet paved of the outside shoulders, and jacking the existing West Avenue overpass bridge (Bridge I.D. Number 247-0019-0) to achieve a minimum vertical clearance of 16.5 feet. The proposed design speed is 70 mph. The recommendation by the Office of Materials and Research would replace the milled 7.5 inches with 10.25 inches of asphalt, thus raising the profile grade 2.75 inches.

**PDP Classification:** Major  X  Minor \_\_\_\_\_

**Federal Oversight:** Full Oversight ( X ), Exempt( ), State Funded( ), or Other ( )

**Functional Classification:** Interstate Principal Arterial

**U. S. Route Number(s):** I-20

**State Route Number(s):** SR 402

**Traffic (AADT) as shown in the approved concept:**

Current Year: (2007)  124,800  Design Year: (2027)  200,600

**Proposed features to be revised:** The proposed features to be revised are the typical section and the flexible pavement design structure.

The typical section is to be revised to reflect the attached Design Exception for substandard shoulder width approved on June 12, 2007. According to the Design Exception the outside shoulder width would not be widened from the existing 10 feet paved to 12 feet paved, as proposed. This widening would require additional rights of way, and reconstruction of the ramps at Sigman Road, West Ave, and SR138/20 interchanges.

The flexible pavement design structure is to be revised to reflect to the attached Design Variance for pavement design based on 15-year traffic volumes approved January 14, 2008. According to the pavement evaluation, the pavement design analysis revealed an additional 2.75 inches of pavement would be required to meet the 18-kip ESAL loading requirements based on 20-year projected traffic volumes. Raising the profile grade of I-20/SR 402 by 2.75 inches would result in major reconstruction of the project corridor, as well as require acquisition of additional rights of way.

**Revised Features to be approved:**

The revised typical section consists of six lanes, three 12-foot lanes in each direction. Interstate 20 cross-slopes will be improved from 3/16 in/ft (1.56%) to 1/4 in/ft (2.0%). Inside and outside shoulders will be retained with no change to existing width. The pavement on the mainline and ramp travel lanes of the interchanges will be resurfaced up to the gore points.

The revised pavement structure will deep mill 7.5 inches of existing asphaltic concrete pavement, and inlay 7.5 inches asphaltic concrete pavement based on 15-year traffic volumes. Please see the attached flexible pavement design to be approved concurrently with this revised concept report.

**Updated traffic data (AADT):** Current Year: 124,800 (2007) Design Year: 178,150 (2022)

**Programmed costs:** P.E. \$2,000,000 R/W: None Authorized Construction: \$54,408,000

VE Study Required: Yes, responses completed March 29, 2007

**Revised cost estimate:**

1. The construction cost for the approved design variance; is \$40,700,000. Approval of this revised concept will further reduce construction cost of the proposed project to \$23,900,000. Revising this project concept will save \$16,800,000. Please refer the Approved Design Variance and Revised Concept Construction Cost Estimate attached.

**Is the project located in a Non-attainment area?** Yes. This project is a resurfacing project that will not add capacity to the corridor. It is exempt from Air Quality Analysis.

**Recommendation:** The Office of Urban Design recommends the proposed revision to the concept be approved for implementation.

Attachments:

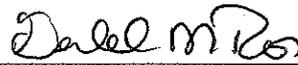
1. Location Sketch
2. Typical Section
3. Cost Estimate
4. Draft Pavement Design
5. Design Exception, approved June 12, 2007
6. Design Variance, approved January 14, 2008
7. Approved Concept

Concur: \_\_\_\_\_



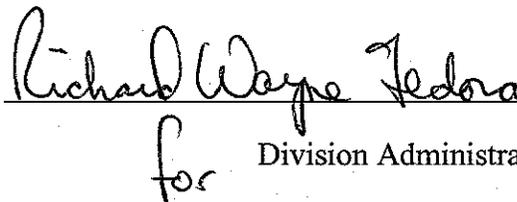
Director of Preconstruction

Approve: \_\_\_\_\_



Chief Engineer

Approve: \_\_\_\_\_

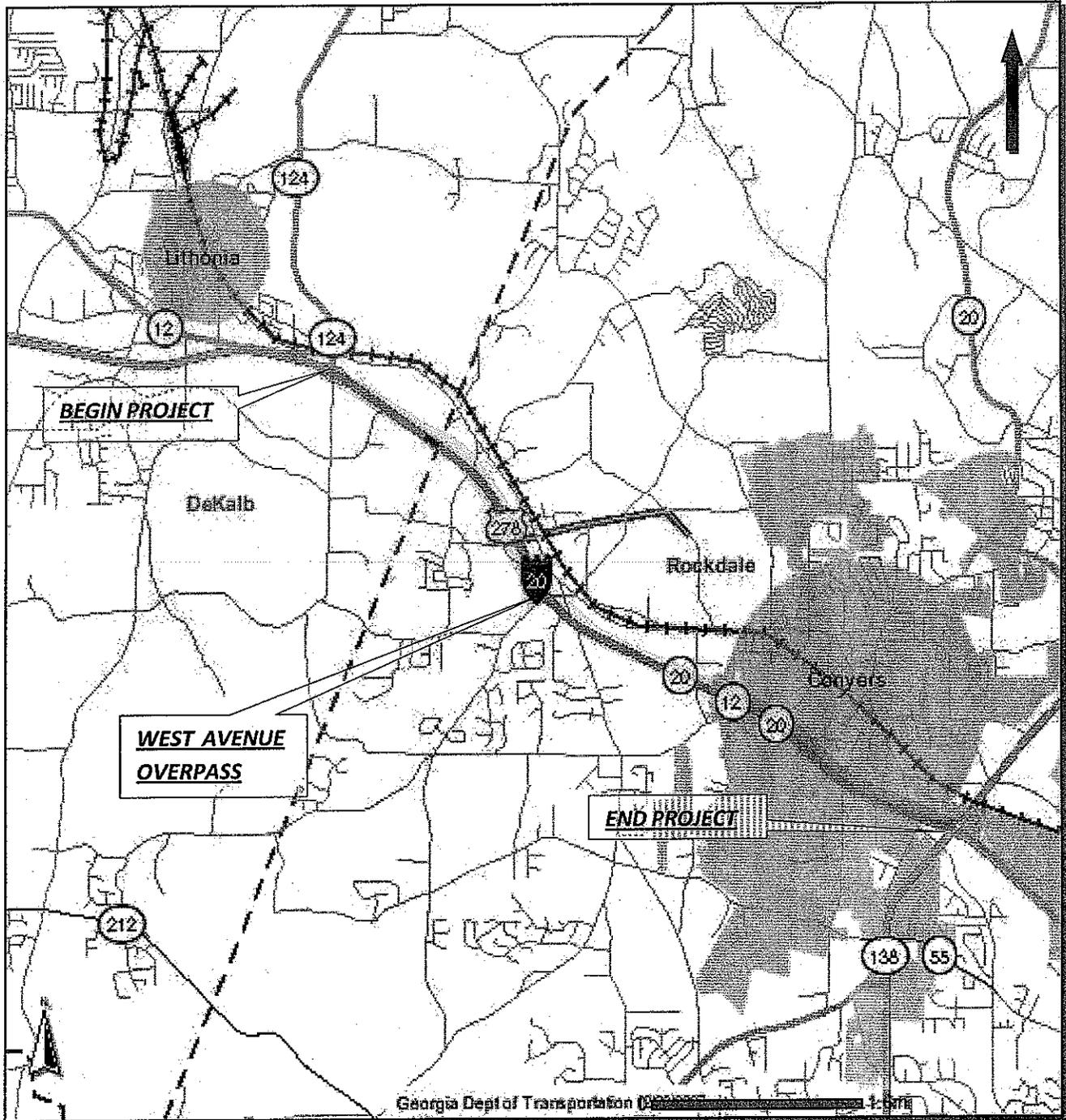


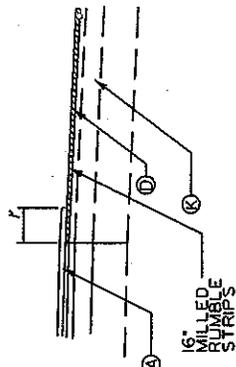
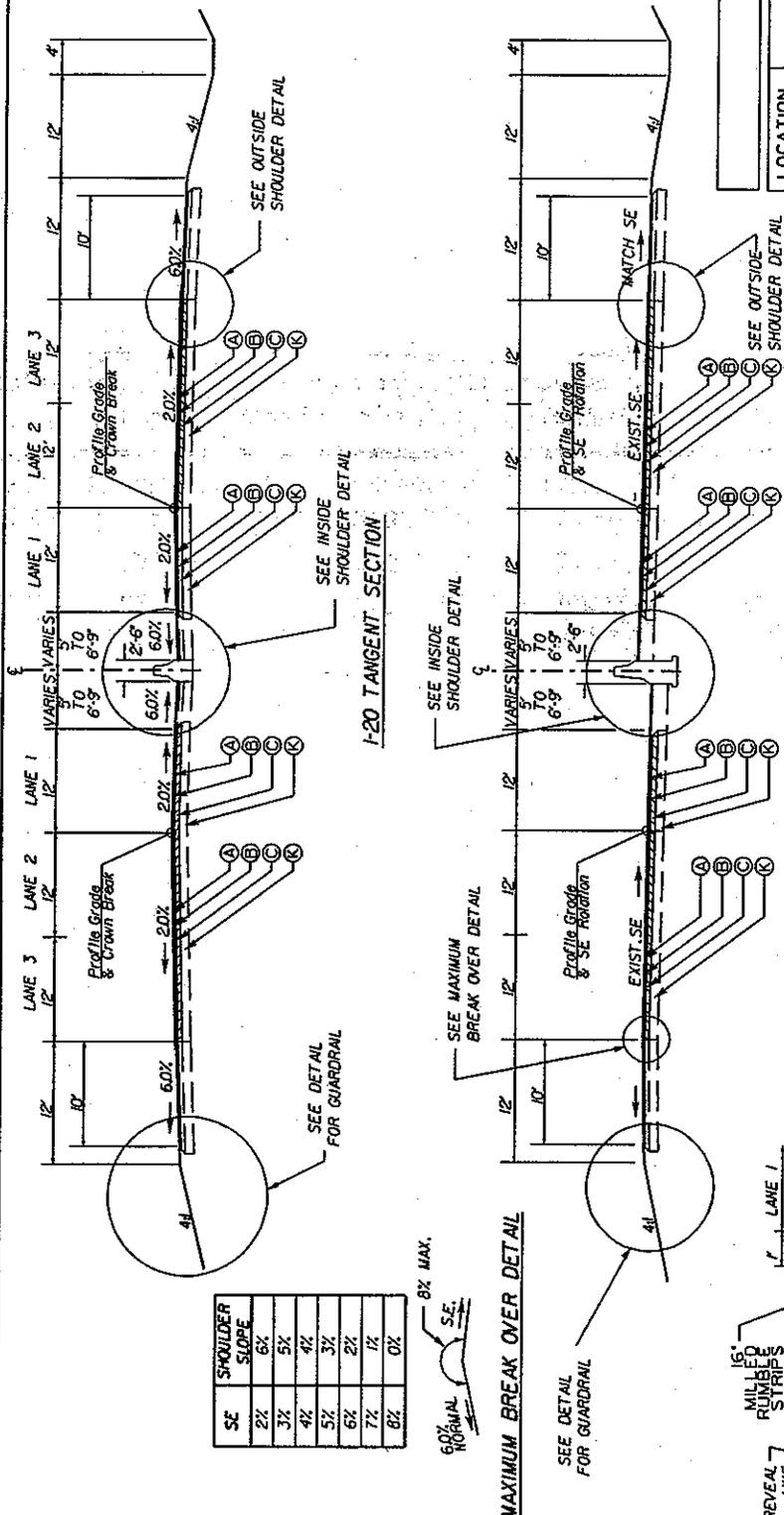
for

Division Administrator, FHWA

# LOCATION SKETCH

CSNHS-M003-00(235)  
DEKALB & ROCKDALE COUNTIES  
P.I. M003235

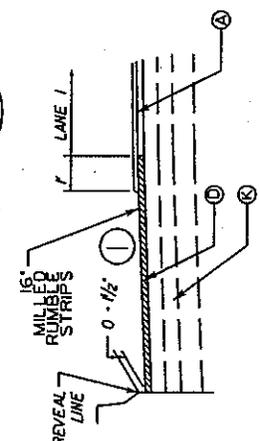




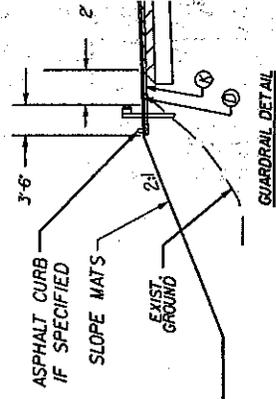
OUTSIDE SHOULDER DETAIL

I-20 TANGENT SECTION

I-20 SUPERELEVATED SECTION



INSIDE SHOULDER DETAIL



TYPE A SILT FENCE (TYPE C WITHIN 50' OF STREAMS)

NOT TO SCALE

SE	SHOULDER SLOPE
2%	6%
3%	5%
4%	4%
5%	3%
6%	2%
7%	1%
8%	0%



MAXIMUM BREAK OVER DETAIL

MILL DEPTHS	
LOCATION	DESCRIPTION
SHOULDERS	MILL TO 1/2"
LANE 1	MILL TO 7/8"
LANES 2&3	MILL 7/8" WHERE EXISTING PAVEMENT IS FULL DEPTH ASPHALT MILL TO PCC PAVEMENT WHERE PRESENT

PAVEMENT DESIGN	
SYMBOL	PAVEMENT DESCRIPTION
A	ASPH CONC 12.5 MM PEM, CP 2 ONLY, INCL POLYMER-MODIFIED BITUM MATL & H LIME 135 lb./sq.yd.
B	ASPH CONC 12.5 MM SMA, CP 2 ONLY, INCL POLYMER-MODIFIED BITUM MATL & H LIME 220 lb./sq.yd.
C	RECYCLED ASPH CONC 19 MM SUPERPAVE, CP 1 OR 2, INCL BITUM MATL & H LIME 468 lb./sq.yd.
D	ASPH CONC 12.5 MM SMA, CP 2 ONLY, INCL POLYMER-MODIFIED BITUM MATL & H LIME 165 lb./sq.yd.
K	EXISTING ASPHALT PAVEMENT

Estimate Report for file "A\_M003235-DV"

Attachment #3

Section ROADWAY					
Item Number	Quantity	Units	Unit Price	Item Description	Cost
150-1000	1	LS	4000000.00	TRAFFIC CONTROL - M003235	4000000.00
153-1300	1	EA	76829.70	FIELD ENGINEERS OFFICE TP 3	76829.70
202-2100	1	LS	74000.00	CLEARING	74000.00
210-0100	1	LS	2000000.00	GRADING COMPLETE - M003235	2000000.00
400-3206	12193	TN	78.16	ASPH CONC 12.5 MM OGFC, GP 2 ONLY, INCL POLYMER-MODIFIED BITUM MATL & H LIME	953004.88
402-3130	41830	TN	65.31	RECYCLED ASPH CONC 12.5 MM SUPERPAVE, GP 2 ONLY, INCL BITUM MATL & H LIME	2731917.30
402-3190	68503	TN	63.61	RECYCLED ASPH CONC 19 MM SUPERPAVE, GP 1 OR 2, INCL BITUM MATL & H LIME	4357475.83
413-1000	73260	GL	2.00	BITUM TACK COAT	146520.00
429-1000	6550	EA	715.15	RUMBLE STRIPS	4684232.50
432-5010	293030	SY	2.07	MILL ASPH CONC PVMT, VARIABLE DEPTH	606572.10
518-1000	1	LS	1141201.00	RAISE EXISTING BRIDGE, STA -	1141201.00
632-0003	2	EA	16286.19	CHANGEABLE MESSAGE SIGN, PORTABLE, TYPE 3	32572.38
<b>Section Sub Total:</b>					<b>\$20,804,325.69</b>

Section EROSION CONTROL					
Item Number	Quantity	Units	Unit Price	Item Description	Cost
163-0232	37	AC	679.69	TEMPORARY GRASSING	25148.53
163-0240	333	TN	291.40	MULCH	97036.20
163-0300	2	EA	2388.13	CONSTRUCTION EXIT	4776.26
165-0030	39600	LF	2.05	MAINTENANCE OF TEMPORARY SILT FENCE, TP C	81180.00
167-1000	2	EA	1542.18	WATER QUALITY MONITORING AND SAMPLING	3084.36
167-1500	24	MO	977.26	WATER QUALITY INSPECTIONS	23454.24
171-0030	79200	LF	4.09	TEMPORARY SILT FENCE, TYPE C	323928.00
700-6910	74	AC	1023.43	PERMANENT GRASSING	75733.82
700-7000	222	TN	68.87	AGRICULTURAL LIME	15289.14
700-7010	185	GL	22.32	LIQUID LIME	4129.20
700-8000	67	TN	320.50	FERTILIZER MIXED GRADE	21473.50
700-8100	3700	LB	3.08	FERTILIZER NITROGEN CONTENT	11396.00
<b>Section Sub Total:</b>					<b>\$686,629.25</b>

Section SIGNING & MARKING					
Item Number	Quantity	Units	Unit Price	Item Description	Cost
610-6510	7	EA	1118.61	REM HWY SIGN, OVHD	7830.27
610-6515	20	EA	102.46	REM HIGHWAY SIGN, STD	2049.20
653-1501	65480	LF	0.68	THERMOPLASTIC SOLID TRAF STRIPE, 5 IN, WHITE	44526.40
653-1502	65480	LF	0.62	THERMOPLASTIC SOLID TRAF STRIPE, 5 IN, YELLOW	40597.60
653-1810	5590	LF	1.37	THERMOPLASTIC SOLID TRAF STRIPE, 10 IN, WHITE	7658.30
653-3501	131000	GLF	0.51	THERMOPLASTIC SKIP TRAF STRIPE, 5 IN, WHITE	66810.00
654-1003	2150	EA	3.68	RAISED PVMT MARKERS TP 3	7912.00
<b>Section Sub Total:</b>					<b>\$177,383.77</b>

Total Estimated Cost: \$21,668,338.71

**Subtotal Construction Cost \$21,668,338.71**

E&C Rate 10.0 % \$2,166,833.87

Inflation Rate 0.0 % @ 0.0 Years \$0.00

**Total Construction Cost \$23,835,172.58**

Right Of Way \$0.00

ReImb. Utilities \$0.00

**Grand Total Project Cost \$23,835,172.58**

# FLEXIBLE PAVEMENT DESIGN ANALYSIS

Attachment #4

Project: CSNHS-M003-00(235)

County: Dekalb & Rockdale

P.I. no.: M003235

Description: SR 402/I-20 Rehabilitation fr SR 124/Turner Hill to SR 20/SR 138

**Traffic Data** (NOTE: AADTs are one-way)

24-hour Truck Percentage: 13.00%

AADT initial year of design period: 67,400 vpd (2007)

AADT final year of design period: 95,925 vpd (2022)

Mean AADT (one-way): 81,662 vpd

**Design Loading**

Mean AADT		LDF		Trucks		18-K ESAL		Total Daily Loads
81,662	*	0.70	*	0.130	*	1.28	=	9,513

Total predicted design period loading = 9513 \* 15 \* 365 = 52,083,675

**Design Data**

Terminal Serviceability Index: 2.50

Soil Support: 2.00

Regional Factor: 1.80

**PROPOSED FLEXIBLE PAVEMENT STRUCTURE**

Material	Thickness Inches	(mm)	Structural Coefficient	Structural Value
*** OVERLAY ***				
12.5 mm PEM	135 lb/sy	(75 kg/sm)	0.00	0.00
12.5 mm SMA	2.00	(51)	0.44	0.88
19 mm Superpave	2.50	(64)	0.44	1.10
	1.75	(44)	0.30	0.53
*** EXISTING PAVEMENT ***				
Asphaltic Concrete	8.50	(216)	0.30	2.55
Graded Aggregate Base	6.00	(152)	0.16	0.96
Required SN = 8.21			Proposed SN = 6.02	

>>> Proposed pavement is 26.7% Underdesign <<<

Remarks: Lane 1 - 15 YEAR DESIGN - M&I = 7.5 inches

Prepared by Philip J. Magoon, D.E. 3 February 8, 2008  
Date

Recommended \_\_\_\_\_  
Date

State Urban Design Engineer

Approved \_\_\_\_\_  
Date

State Pavement Engineer



**DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA**

**INTERDEPARTMENT CORRESPONDENCE**

**FILE** CSNHS-M003-00(235), DeKalb/Rockdale Counties      **OFFICE** Urban Design  
I-20 Maintenance & Resurfacing fm SR 124/Turner Hill  
Road to SR 138/SR 20      **DATE** May 25, 2007  
P.J. No. M003235  
*James B. Buchanan esjt*  
**FROM** James B. Buchanan, P.E., State Urban Design Engineer  
**TO** Brian Summers, P.E., Project Review Engineer  
**SUBJECT** Request for Design Exception

Approval of a Design Exception is requested for this project.

**PROJECT DESCRIPTION**

The proposed project would deep mill and inlay existing asphaltic concrete pavement, reconstruct the inside and outside shoulders to full depth pavement, and remove hazardous vegetation within the clear zone along I-20 in DeKalb and Rockdale Counties. The project begins just east of the Turner Hill Road/SR 124 Interchange (DeKalb County mile log 16.38) and ends just west of the SR 20/138 Interchange (Rockdale County mile log 4.99), an approximate length of 6.2 miles. The proposed typical section consists of three, 12-foot travel lanes in each direction, inside shoulders varying in width from five to 16 feet and 12-foot outside shoulders. The proposed design speed is 70 mph.

**FEATURES REQUIRING A DESIGN EXCEPTION**

The design exception is for shoulder width. AASHTO guidelines state a usable outside shoulder width of 10 feet should be provided; where truck DDHV exceeds 250 vehicles, a usable outside shoulder width of 12 feet should be provided. On freeways of six or more lanes, the median shoulder width should be 10 feet; where truck DDHV exceeds 250 vehicles, a usable shoulder width of 12 feet should be provided.

This project proposes to maintain the existing median shoulder width of 6'-9" beginning in DeKalb County mile log 16.38 to 17.59 (county line) and ending in Rockdale County mile log 0.00 to 4.99 for both eastbound and westbound directions of travel. The 6'-9" median shoulder width reduces to 5'-0" underneath the following bridges: West Avenue Bridge (mile log 3.34 to 3.57) and SR 138 Bridge (mile log 4.95 to 4.99). These widths

**CURRENT AND FUTURE TRAFFIC VOLUMES AND VEHICLE CRASH DATA**

The base year traffic ADT<sub>2007</sub> is 134,800 vpd. The 5-year traffic ADT<sub>2012</sub> is 151,650 vpd. The 10-year traffic ADT<sub>2017</sub> is 170,550 vpd. The 15-year traffic ADT<sub>2022</sub> is 191,850 vpd. The design year traffic ADT<sub>2027</sub> is 215,800 vpd.

Vehicle Crash Data

Year	Accidents	Accident Rate	Statewide Accident Rate	Injuries	Injury Rate	Statewide Injury Rate	Fatalities	Fatality Rate	Statewide Fatality Rate
2004	430	160	190	175	65	65	1	0.37	0.59
2005	522	207	206	188	74	72	2	0.79	0.77
2006	471	195	200	156	65	69	2	0.83	0.73

Note: Rates are per 100 million vehicle miles of travel

As noted in the table above, the vehicle crash, injury, and fatality rates for this section of I-20 are consistent with the statewide vehicle crash, injury, and fatality rates for urban interstates.

**DESCRIPTION OF WHY DESIGN POLICY CAN NOT BE MET**

Chapter 3 of the Department's *Design Policy Manual* states, "All portions of roadways that are part of major construction or reconstruction shall be designed to accommodate, at a minimum, 20-year forecasted traffic volumes. The design year for the 20-year traffic volumes shall be forecasted from the estimated construction completion date."

Chapter 3 of the Department's *Pavement Design Manual - DRAFT* states, "Historically, GDOT has considered the design life of flexible and rigid pavement to be 20 years. The premise behind this timeframe was largely influenced by the maintenance of the structures. Historically, GDOT maintenance plans included resurfacing of flexible pavements every seven years. Overlays would occur at year 7 and 14, and year 20 would signal the effective end of the pavement's life."

The purpose of the project is to remove, by deep milling, a layer of asphaltic concrete type B which is susceptible to asphaltic concrete-aggregate stripping due to lack of hydrated lime in the mixture. At the time the concept for the project was being developed, it was believed the work could be accomplished without adding additional thickness to the pavement structure. However, when preliminary flexible pavement design structural analyses were completed, it was discovered an additional 2.75 inches of pavement would be required to meet the 18-kip ESAL loading requirements based on 20-year projected traffic volumes. Raising the profile grade of I-20 by 2.75 inches would result in major reconstruction of the project corridor, as well as require acquisition of additional rights of way; presently there is no right of way funding allocated for the project.



are proposed to be maintained as well. The project also proposes to use a 9' outside shoulder width underneath the West Avenue Bridge (mile log 3.34 to 3.57) and a 10'-6" outside shoulder width in the NE quadrant of the West Avenue Interchange for about 500 ft in the vicinity of a stream that parallels I-20.

#### **TRAFFIC VOLUME DATA**

See attached Traffic Diagram Sheets. In summary, the current ADT for I-20 is 124,800 vpd; DHV is 11,115 vehicles. This volume is projected to increase to 200,600 by 2027; DHV will increase to 17,870. The 24-hour truck percentage is 13, and the directional distribution is 50%.

#### **VEHICLE CRASH DATA**

See attached Crash Data Sheet. In summary, there were a total of 1322 crashes within the project limits for the years 2003 thru 2005. Of that total, 528 were rear-end crashes; 245 were sideswipe crashes; 262 were angle crashes; 19 were head-on, and 268 were single vehicle crashes. 85% of the rear-end crashes occurred on the mainline roadway and 34% of the single vehicle crashes collided with the median.

#### **JUSTIFICATION FOR DESIGN EXCEPTION**

Widening of the median and outside usable shoulders within the limits of the proposed maintenance project would require additional rights of way, reconstruction of the ramps at the Sigman Road Interchange, and reconstruction of the interchange ramps (including overpass bridge replacement) at the West Avenue Interchange and the SR 138 Interchange.

A corridor improvement project along I-20 [MSL-0003-00(166), P.I. No. 0003166-], which would add HOV lanes in each direction, is currently programmed for RW in FY-12 and CST in FY-16. Construction of the project would require additional rights of way, reconstruction of existing interstate ramps, and replacement of the West Avenue Overpass Bridge. Widening of the inside and outside usable shoulders would be more appropriate under this project.

#### **COST ESTIMATES**

See attached Cost Estimates Sheets. In summary, a construction cost estimate for the proposed maintenance project with design exceptions is \$50,377,693.02; there are no associated right of way costs. A construction cost estimate for a project not requiring the design exception is \$75,458,101.96; associated right of way costs are estimated to be \$22,000,000.00.

#### **PROPOSED MITIGATION**

In order to mitigate the sub-standard median shoulder sections underneath the West Avenue Bridge (mile log 3.34 to 3.57) and the SR 138 Bridge (mile log 4.95 to 4.99), narrow shoulder warning signs will be installed as well as object markers delineating the median barrier.

**RECOMMENDATION**

The Office of Urban Design recommends this design exception request be approved.

Recommend:  6/5/07  
Chief Engineer Date

Approved:  6/12/07  
FHWA Division Administrator Date

JB: JLS

**Attachments**

1. Traffic Volumes
2. Traffic Accident Summary
3. Cost Estimates

**DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA**

INTERDEPARTMENT CORRESPONDENCE



FILE CSNHS-M003-00(235), DeKalb/Rockdale Counties  
P.I. No.: M003235

OFFICE Atlanta, Georgia

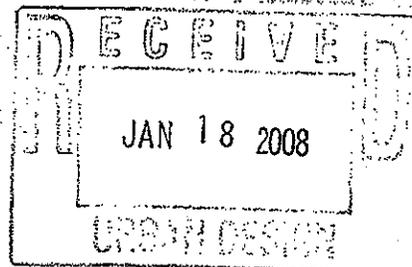
I-20 Maintenance and Resurfacing from SR 124/  
Turner Hill Road to SR 138/SR 20

DATE December 14, 2007

FROM *James B. Buchan*  
James B. Buchan, P.E., State Urban Design Engineer

TO Brian K. Summers, P.E., State Project Review Engineer

SUBJECT **Request for Design Variance**



Approval of a Design Variance is requested for this project.

**PROJECT DESCRIPTION**

The proposed project would deep mill and inlay 7.5 inches of existing asphaltic concrete pavement and remove hazardous vegetation within the clear zone along I-20 in DeKalb and Rockdale Counties. The project begins just east of the SR 124/Turner Hill Road Interchange (DeKalb County mile log 16.38) and ends just west of the SR 138/SR 20 Interchange (Rockdale County mile log 4.99). The project length is 6.2 miles. The proposed typical section consists of three, 12-foot travel lanes in each direction, inside shoulders varying in width from 5 to 6.75 feet and 12-foot (10-foot paved) outside shoulders. The proposed work includes increasing the mainline pavement cross slope from 1.56% to 2.0%, reconstructing the existing 'Jersey-type' concrete median barrier to a 'S-type' concrete median barrier, and jacking the existing West Avenue overpass bridge (Bridge I.D. Number 247-0019-0) to achieve a minimum vertical clearance of 16.5 feet. The proposed design speed is 70 mph.

**CURRENTLY APPROVED DESIGN EXCEPTION**

A Design Exception for substandard shoulder widths (inside and outside), which included substandard horizontal clearances under the West Avenue and SR 138/SR 20 overpass bridges, was approved on June 5, 2007. A copy of the approved Design Exception has been attached to this request.

**FEATURE REQUIRING A DESIGN VARIANCE**

The feature requiring a design variance is a pavement design structure based on 15-year projected traffic volumes in lieu of 20-year projected traffic volumes.

Mr. Summers  
December 14, 2007  
Page 3

According to Chapter 2 of AASHTO's *A Policy on Geometric Design of Highways and Streets - 2004*, geometric design of new highways or improvements to existing highways should consider future traffic volumes expected to use the facility - in a practical sense, a period of 20 years is widely used as a basis for design. However, estimating traffic volumes may not be appropriate for many reconstruction or rehabilitation projects. These projects may be developed on the basis of a shorter design period (5 to 10 years) because of the uncertainties of predicting traffic and funding constraints.

A corridor improvement project for I-20 [MSL00-0003-00(166), DeKalb County; P.I. No. 0003166; I-20 from Evans Mill Road/DeKalb County to Salem Road/Rockdale County - HOV] has been identified and added to the Department's Long Range Program. The work to be completed by the proposed project would require reconstruction of the corridor. Although the project is currently in the Department's Long Range Program, the I-20 East corridor has been identified as a potential PPI project. Whether the I-20 East HOV project moves forward as a conventionally-funded project or as an innovatively-financed project, construction is expected to begin within the next 15 years.



The Office of Urban Design has communicated the findings of the flexible pavement design structural analyses based on 15-year and 20-year projected traffic volumes with the Office of Maintenance. The Office of Maintenance agrees that a flexible pavement design structure based on 15-year projected traffic volumes is a prudent, feasible, and fiscally-responsible alternative to a 20-year design alternative. ←

#### ESTIMATED COST SAVINGS

The construction cost estimate included in the currently-approved Concept Report is \$75,500,000. When the Concept Report is revised to include the design exception approved on June 5, 2007, the construction cost estimate will decrease to \$51,100,000. If the subject design variance is approved, the construction cost estimate will be further decreased to \$40,700,000. Approval of the requested design variance will result in an estimated cost savings of \$10,400,000.

Based on an estimated cost savings of \$10,400,000 and concurrence of a flexible pavement design structure using 15-year projected traffic volumes, the Office of Urban Design recommends this design variance be approved.

If you have any additional questions or comments, please contact Charles A. (Chuck) Hasty, P.E., Transportation Engineer Assistant Administrator at (404) 656-5454.

Mr. Summers  
December 14, 2007  
Page 4

Recommend: Dale m Rn  
Chief Engineer

1/8/07  
Date

Approved: Sharon Shandee  
Fa: FHWA Division Administrator

1/14/08  
Date

JBB:pjm

Attachments:

1. Traffic Diagrams
2. Pavement Designs
3. Cost Estimates
4. Approved Design Exception dated June 5, 2007

Cc: David Crim, State Maintenance Engineer  
Georgene Geary, P.E., State Materials and Research Engineer  
Bryant Poole, District Engineer - Chamblee

ORIGINAL TO GENERAL FILES

D.O.T. 66

**DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA****INTERDEPARTMENT CORRESPONDENCE**

**FILE** P. I. No. M003235, DeKalb-Rockdale Counties **OFFICE** Preconstruction  
CSNHS-M003-00(235)  
I-20 Milling and Resurfacing **DATE** June 21, 2007

**FROM** *Cynthia Young*  
Genetha Rice-Singleton, Assistant Director of Preconstruction

**TO** SEE DISTRIBUTION

**SUBJECT APPROVED PROJECT CONCEPT REPORT**

Attached for your files is the approval for subject project.

GRS/cj

Attachment

**DISTRIBUTION:**

Brian Summers  
Harvey Keepler  
Ken Thompson  
Jamie Simpson  
Michael Henry  
Keith Golden  
Angela Alexander (file copy)  
Babs Abubakari  
Byant Poole  
BOARD MEMBER  
FHWA

DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA

INTERDEPARTMENTAL CORRESPONDENCE

**FILE:** P.I. No. M003235, Dekalb-Rockdale Counties  
CSNHS-M003-00(235).  
I-20 Milling and Resurfacing

**OFFICE:** Preconstruction

**DATE:** May 10, 2007

  
**FROM:** Genetha Rice-Singleton, Assistant Director of Preconstruction

**TO:** David E. Studstill, P.E., Chief Engineer

**SUBJECT:** *PROJECT CONCEPT REPORT*

This project is the milling and resurfacing and shoulder replacement on I-20 from SR 124/ Turner Hill Road (Exit 75) to SR 138/ SR 120 (Exit 82) for a total of 6.20 miles. The existing I-20 within the project limits consist of three, 12' lanes in each direction divided by a 2.5' median barrier with variable 5'-6.75' inside and 10' outside paved shoulders. The existing right-of-way varies from 100' to 200' from the centerline on each side of the roadway. The project has a total of four (4) existing major structures with sufficiency ratings ranging from 89 to 94. State Route 402/I-20, an interstate principal arterial, is a primary east-west corridor in north Georgia. The primary purpose of this project is the rehabilitation of the existing roadway to preserve the integrity, serviceability, and safety of the interstate system. The majority of the pavement within the project is in poor to fair condition. Average daily traffic (ADT) in 2007 for this section of roadway is 124,800 VPD and the traffic levels are expected to be 200,600 VPD by 2027.

The proposed project will mill and resurface three lanes in each direction along the existing roadway with asphalt concrete. The existing inside shoulders will be reconstructed to full depth with no change to existing width. The existing outside shoulders will be reconstructed to full depth 12' wide to facilitate staging and future HOV implementation. The bridge on West Avenue/Klondike Road will be jacked due to clearance requirements. Vegetation will be cleared according to current guidelines, and guardrail will be upgraded or replaced as needed along the 6.2 mile corridor. A design exception is required for substandard inside and outside shoulder width at the following locations: median shoulder width- Dekalb County mile log 16.38 to 17.59 and Rockdale County mile log 0.00 to 4.99; for outside substandard shoulder width- Rockdale County mile log 3.34 to 3.57. Traffic will be maintained during construction. Additional rights-of-way will not be required for the proposed project.

P.I. No. M003235, Dekalb-Rockdale Counties  
May 10, 2007

Environmental concerns include requiring a COE 404 permit; a Categorical Exclusion will be prepared; a Public hearing is not required; Time saving procedures are appropriate.

The estimated costs for this project are:

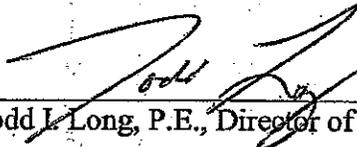
	<u>PROPOSED</u>	<u>APPROVED</u>	<u>FUNDING</u>	<u>PROG DATE</u>
Construction (includes E&C And inflation)	\$ 50,378,000	\$ 51,597,000	L010	2009
Right-of-way & utilities	-0-	-0-		

I recommend this project concept be approved.

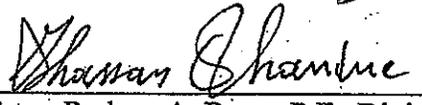
GRS: JDQ

Attachment

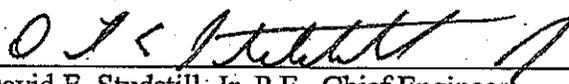
CONCUR

  
Todd J. Long, P.E., Director of Preconstruction

APPROVED

  
FA: Rodney A. Barry, P.E., Division Administrator FHWA

APPROVED

  
David E. Studstill, Jr. P.E., Chief Engineer

**DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA**

**INTERDEPARTMENTAL CORRESPONDENCE**

**FILE:** CSNHS-M003-00(235) DeKalb/Rockdale **OFFICE:** Engineering Services  
P.I. No. M003235  
I-20 Widening/Reconstruction

**DATE:** April 30, 2007

**FROM:** Brian K. Summers, P.E., Project Review Engineer *REW*

**TO:** Genetha Rice-Singleton, Assistant Director of Preconstruction

**SUBJECT: CONCEPT REPORT**

We have reviewed the Concept Report submitted March 27, 2007, and have no comments.

The costs for this project are:

Construction	\$45,797,903
E & C	\$4,579,790
Reimbursable Utilities	\$0.00
Right of Way	\$0.00

REW

c: Ben Buchan, Attn.: Theresa Holder

DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA

Office of Urban Design

PROJECT CONCEPT REPORT

Project Number: CSNHS-M003-00(235)

Dekalb and Rockdale Counties

P. I. Number: M003235

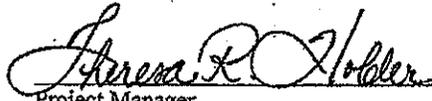
Federal Route Number: I-20-2

State Route Number: 402

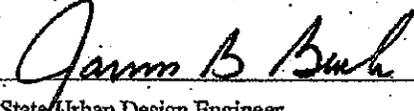
PROJECT LOCATION MAP: See Page 2

Recommendation for approval:

DATE 3/28/07

  
Project Manager

DATE 3/29/07

  
State Urban Design Engineer

The concept as presented herein and submitted for approval is consistent with that which is included in the Regional Transportation Improvement Program (RTP) and the State Transportation Improvement Program (STIP).

DATE \_\_\_\_\_

State Transportation Planning Administrator

DATE \_\_\_\_\_

State Transportation Financial Management Administrator

DATE \_\_\_\_\_

State Environmental/Location Engineer

DATE \_\_\_\_\_

State Traffic Safety & Design Engineer

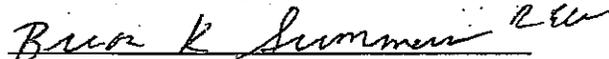
DATE \_\_\_\_\_

District Engineer

DATE \_\_\_\_\_

State Bridge Design Engineer

DATE 4/30/07

  
Project Review Engineer

DATE \_\_\_\_\_

State Maintenance Engineer

DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA

Office of Urban Design

PROJECT CONCEPT REPORT

Project Number: CSNHS-M003-00(235)

Dekalb and Rockdale Counties

P. I. Number: M003235

Federal Route Number: I-20-2

State Route Number: 402

PROJECT LOCATION MAP: See Page 2

Recommendation for approval:

DATE 3/28/07

Laura R. Holder  
Project Manager

DATE 3/29/07

James B. Bush  
State Urban Design Engineer

The concept as presented herein and submitted for approval is consistent with that which is included in the Regional Transportation Improvement Program (RTP) and the State Transportation Improvement Program (STIP).

DATE \_\_\_\_\_

State Transportation Planning Administrator

DATE \_\_\_\_\_

State Transportation Financial Management Administrator

DATE \_\_\_\_\_

State Environmental/Location Engineer

DATE \_\_\_\_\_

State Traffic Safety & Design Engineer

DATE \_\_\_\_\_

District Engineer

DATE 5/8/07

Paul V. Tiller Jr.  
State Bridge Design Engineer

DATE \_\_\_\_\_

Project Review Engineer

DATE \_\_\_\_\_

State Maintenance Engineer

DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA

Office of Urban Design

PROJECT CONCEPT REPORT

Project Number: CSNHS-M003-00(235)

Dekalb and Rockdale Counties

P. I. Number: M003235

Federal Route Number: I-20-2

State Route Number: 402

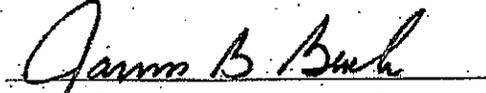
PROJECT LOCATION MAP: See Page 2

Recommendation for approval:

DATE 3/23/07

  
Project Manager

DATE 3/29/07

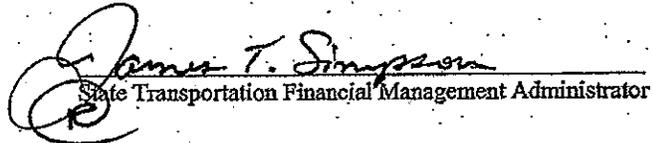
  
State Urban Design Engineer

The concept as presented herein and submitted for approval is consistent with that which is included in the Regional Transportation Improvement Program (RTP) and the State Transportation Improvement Program (STIP).

DATE \_\_\_\_\_

State Transportation Planning Administrator

5-1-07  
DATE

  
State Transportation Financial Management Administrator

DATE \_\_\_\_\_

State Environmental/Location Engineer

DATE \_\_\_\_\_

State Traffic Safety & Design Engineer

DATE \_\_\_\_\_

District Engineer

DATE \_\_\_\_\_

State Bridge Design Engineer

DATE \_\_\_\_\_

Project Review Engineer

DATE \_\_\_\_\_

State Maintenance Engineer

DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA

Office of Urban Design

PROJECT CONCEPT REPORT

Project Number: CSNHS-M003-00(235)

Dekalb and Rockdale Counties

P. I. Number: M003235

Federal Route Number: I-20-2

State Route Number: 402

PROJECT LOCATION MAP: See Page 2

Recommendation for approval:

DATE 3/23/07

Sharon R. Hobler  
Project Manager

DATE 3/29/07

James B. Bush  
State Urban Design Engineer

The concept as presented herein and submitted for approval is consistent with that which is included in the Regional Transportation Improvement Program (RTP) and the State Transportation Improvement Program (STIP).

4-2-07  
DATE

Angela T. Alexander  
State Transportation Planning Administrator

DATE \_\_\_\_\_

State Transportation Financial Management Administrator

DATE \_\_\_\_\_

State Environmental/Location Engineer

DATE \_\_\_\_\_

State Traffic Safety & Design Engineer

DATE \_\_\_\_\_

District Engineer

DATE \_\_\_\_\_

State Bridge Design Engineer

DATE \_\_\_\_\_

Project Review Engineer

DATE \_\_\_\_\_

State Maintenance Engineer

DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA

Office of Urban Design

PROJECT CONCEPT REPORT

Project Number: CSNHS-M003-00(235)

Dekalb and Rockdale Counties

P. I. Number: M003235

Federal Route Number: I-20-2

State Route Number: 402

PROJECT LOCATION MAP: See Page 2

Recommendation for approval:

DATE 3/28/07

DATE 3/29/07

*Teressa R. Hobler*  
Project Manager

*James B. Bush*  
State Urban Design Engineer

The concept as presented herein and submitted for approval is consistent with that which is included in the Regional Transportation Improvement Program (RTP) and the State Transportation Improvement Program (STIP).

DATE \_\_\_\_\_

\_\_\_\_\_  
State Transportation Planning Administrator

DATE \_\_\_\_\_

\_\_\_\_\_  
State Transportation Financial Management Administrator

DATE \_\_\_\_\_

\_\_\_\_\_  
State Environmental/Location Engineer

DATE 4-11-07

*David Gold*  
State Traffic Safety & Design Engineer

DATE \_\_\_\_\_

\_\_\_\_\_  
District Engineer

DATE \_\_\_\_\_

\_\_\_\_\_  
State Bridge Design Engineer

DATE \_\_\_\_\_

\_\_\_\_\_  
Project Review Engineer

DATE \_\_\_\_\_

\_\_\_\_\_  
State Maintenance Engineer

**DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA**

---

**INTERDEPARTMENT CORRESPONDENCE**

**FILE:** P.I. No. M003235 **OFFICE:** Environment/Location

**DATE:** March 18, 2005

  
**FROM:** Harvey D. Keepler, State Environmental/Location Engineer

**TO:** Genetha Rice-Singleton, Assistant Director of Preconstruction

**SUBJECT:** **PROJECT CONCEPT REPORT**  
**CSNHS-M003-00(235) / DeKalb & Rockdale Counties**  
**I-20 from SR 124/Turner Hill to SR 138/SR 20**

The above subject concept report has been reviewed. This Office has no comments at this time.

If you have any questions, please contact me at (404) 699-4401.

HDK/lc

Attachment

cc: Brian Summers  
Ben Buchan  
Keith Golden  
Angela Alexander  
Jamie Simpson  
Bryant Poole  
Paul Liles  
David Crim

DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA

Office of Urban Design

PROJECT CONCEPT REPORT

Project Number: CSNHS-M003-00(235)

Dekalb and Rockdale Counties

P. I. Number: M003235

Federal Route Number: I-20-2

State Route Number: 402

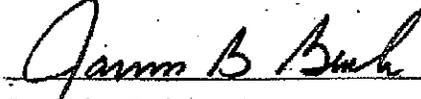
PROJECT LOCATION MAP: See Page 2

Recommendation for approval:

DATE 3/28/07

  
Project Manager

DATE 3/29/07

  
State Urban Design Engineer

The concept as presented herein and submitted for approval is consistent with that which is included in the Regional Transportation Improvement Program (RTP) and the State Transportation Improvement Program (STIP).

DATE \_\_\_\_\_

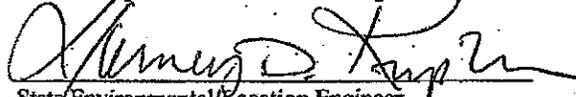
State Transportation Planning Administrator

DATE \_\_\_\_\_

State Transportation Financial Management Administrator

5.9.07

DATE \_\_\_\_\_

  
State Environmental/Eocation Engineer

DATE \_\_\_\_\_

State Traffic Safety & Design Engineer

DATE \_\_\_\_\_

District Engineer

DATE \_\_\_\_\_

State Bridge Design Engineer

DATE \_\_\_\_\_

Project Review Engineer

DATE \_\_\_\_\_

State Maintenance Engineer

## SCORING RESULTS AS PER MOG 2440-2

<b>Project Number:</b> CSNHS-M003-00(235)		<b>County:</b> DeKalb/Rockdale		<b>PI No.:</b> M003235	
<b>Report Date:</b> March 29, 2007		<b>Concept By:</b> DOT Office: Urban Design			
<input checked="" type="checkbox"/> <b>Concept Stage</b>		Consultant: N/A			
<b>Project Type:</b> Choose One From Each Column		<input checked="" type="checkbox"/> Major <input type="checkbox"/> Minor	<input checked="" type="checkbox"/> Urban <input type="checkbox"/> Rural	<input type="checkbox"/> ATMS <input type="checkbox"/> Bridge Replacement <input type="checkbox"/> Building <input type="checkbox"/> Interchange Reconstruction <input type="checkbox"/> Intersection Improvement <input type="checkbox"/> Interstate <input type="checkbox"/> New Location <input checked="" type="checkbox"/> Widening & Reconstruction <input type="checkbox"/> Miscellaneous	
FOCUS AREAS	SCORE	RESULTS			
<b>Presentation</b>	100				
<b>Judgement</b>	100				
<b>Environmental</b>	100				
<b>Right of Way</b>	100				
<b>Utility</b>	100				
<b>Constructability</b>	100				
<b>Schedule</b>	100				

**DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA**

**INTERDEPARTMENTAL CORRESPONDENCE**

**FILE:** CSNHS- M003-00(235), Dekalb/Rockdale County  
I-20 from SR 124/Turner Hill to SR 138/SR 20  
P.I. No. M003235

**OFFICE:** Urban Design

**DATE:** March 27, 2007

**FROM:**   
James B. Buchan, P.E., State Urban Design Engineer

**TO:** Genetha Rice-Singleton, Assistant Director of Preconstruction

**SUBJECT:** Project Concept Report

Attached is the original copy of the Concept Report for your further handling and approval in accordance with the Plan Development Process (PDP).

If you have any questions or comments, please feel free to call Jeff Simmons or Theresa Holder at (404) 656-5444.

JBB:JS

**Distribution:**

Brian Summers, Project Review Engineer  
Harvey Keepler, State Environment/Location Engineer  
Keith Golden, State Traffic Safety and Design Engineer  
Angela Alexander, State Transportation Planning Administrator  
Jamie Simpson, State Financial Management Administrator  
Bryant Poole, District Engineer, D-7  
Paul Liles, State Bridge Design Engineer  
David Crim, State Maintenance Engineer

DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA

Office of Urban Design

PROJECT CONCEPT REPORT

Project Number: CSNHS-M003-00(235)

Dekalb and Rockdale Counties

P. I. Number: M003235

Federal Route Number: I-20-2

State Route Number: 402

PROJECT LOCATION MAP: See Page 2

Recommendation for approval:

DATE 3/28/07

  
Project Manager

DATE 3/29/07

  
State Urban Design Engineer

The concept as presented herein and submitted for approval is consistent with that which is included in the Regional Transportation Improvement Program (RTP) and the State Transportation Improvement Program (STIP).

DATE \_\_\_\_\_

State Transportation Planning Administrator

DATE \_\_\_\_\_

State Transportation Financial Management Administrator

DATE \_\_\_\_\_

State Environmental/Location Engineer

DATE \_\_\_\_\_

State Traffic Safety & Design Engineer

DATE \_\_\_\_\_

District Engineer

DATE \_\_\_\_\_

State Bridge Design Engineer

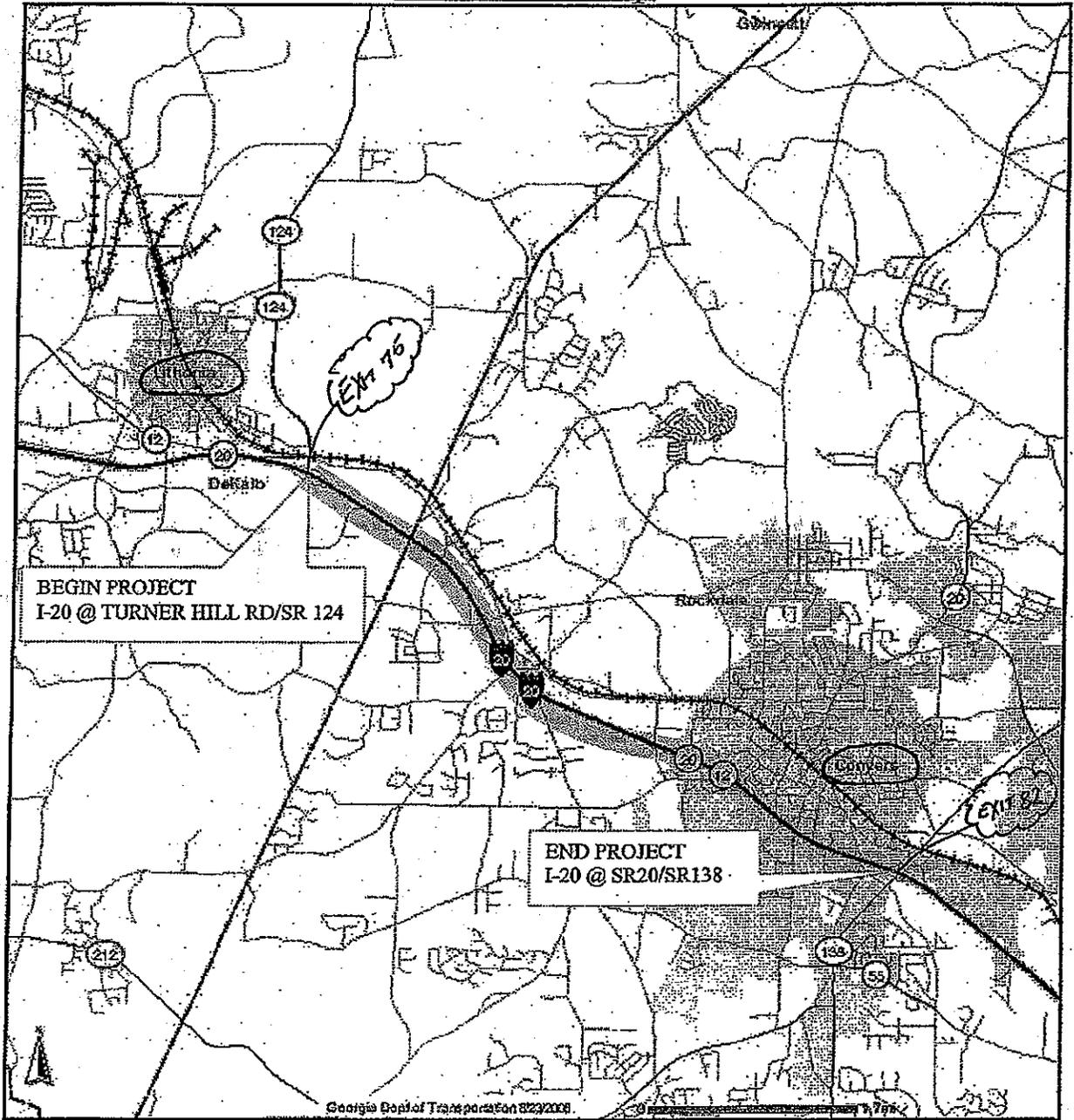
DATE \_\_\_\_\_

Project Review Engineer

DATE \_\_\_\_\_

State Maintenance Engineer

## Location Map



I-20 from Turner Hill Rd/SR 124 to SR 20/SR 138

Project Concept Report page   - 3 -    
 Project Number: CSNHS-M003-00(235)  
 P. I. Number: M003235  
 Counties: Dekalb/Rockdale

**Need and Purpose:** The primary purpose of this project is the rehabilitation of the existing roadway to preserve the integrity, serviceability, and safety of the interstate system. The majority of the pavement within the project is in poor to fair condition. This condition will continue to deteriorate as traffic grows. This project is the milling and resurfacing of I-20/SR 402 from Turner Hill Road/SR124 in Dekalb County to SR20/SR138 in Rockdale County.

**Description of the proposed project:** The proposed project would deep mill and inlay existing asphaltic concrete pavement and remove hazardous vegetation within the clear zone along I-20 in DeKalb and Rockdale Counties. The project begins just east of the Turner Hill Road/SR 124 Interchange (DeKalb County mile log 16.38) and ends just west of the SR 20/138 Interchange (Rockdale County mile log 4.99), an approximate length of 6.2 miles. The proposed typical section consists of three, 12-foot travel lanes in each direction, inside shoulders varying in width from five to 16 feet and 12-foot outside shoulders. The proposed design speed is 70 mph.

**Is the project located in a Non-attainment area?**   X   Yes        No

This project is a resurfacing project that will not add capacity to the corridor. It is exempt from Air Quality Analysis.

**PDP Classification:** Major   X   Minor       

**Federal Oversight:** Full Oversight (X), Exempt ( ), State Funded ( ), or Other ( )

**Functional Classification:** Interstate Principal Arterial

**U. S. Route Number(s):**   I-20   **State Route Number(s):**   SR 402  

**Traffic (AADT):**

Current Year: (2007)   124,800   Design Year: (2027)   200,600  

**Existing design features:**

- Typical Section: I-20 consists of 6 lanes, 3-12 foot lanes in each direction. Outside shoulders are 12 feet wide (10 feet paved). The inside shoulders vary from 5 feet to 6.75 feet paved. The median varies from 12.5 feet to 16 feet wide with a 2.5 feet median barrier.
- Posted speed:   65   mph
- Minimum radius for curve:   4775   ft.
- Maximum super-elevation rate for curve:   8%
- Maximum grade:   4.1%
- Width of right of way: 200-400 feet
- Major structures:

Bridge ID	Feature INT.	Type	Rating	Clearance	Concern
089-0305-A	SR124-Turner Hill Rd	Overpass	94.86	18'2"	no
247-0023-A	CR66-Sigman Rd	Overpass	98.07	16'10"	no
247-0019-A	CR437-West Avenue	Overpass	89.74	15'11"	YES
247-5024-A	Parker Rd/Oakland Ave.	Overpass	92.12	18'3"	no

Project Concept Report page     - 4 -      
 Project Number: CSNHS-M003-00(235)  
 P. I. Number: M003235  
 Counties: Dekalb/Rockdale

- Major interchanges or intersections along the project:
  - SR 124 – Turner Hill Road
  - CR 66 – Sigman Road
  - CR 437 – Klondike Rd / West Avenue
- Existing length of roadway segment for Dekalb County: 1.21 miles  
 Beginning to End mile logs for Dekalb County: 16.38 to 17.59  
 (State Mile Point MP 75.76 to MP 76.97)
- Existing length of roadway segment for Rockdale County: 4.99 miles  
 Beginning to End mile logs for Rockdale County: 0.00 to 4.99  
 (State Mile Point MP 76.97 to MP 81.96)

**Proposed Design Features:**

- Proposed typical section(s): The number of lanes and lane width will remain the same. Cross slopes will be improved from 3/16 in./ft. to 1/4 in./ft., and outside shoulders will be 12 ft. paved to serve as a future lane. Inside shoulders will be reconstructed to full depth with no change to existing width. The existing outside shoulders will be reconstructed to full depth 12 ft. wide to facilitate staging and future HOV implementation. The pavement on the mainline and shoulders of the interchanges will be resurfaced up to the gore points.
- Proposed Design Speed Mainline: 70 mph
- Proposed Maximum grade Mainline: 4% Maximum grade allowable: 4 %.
- Proposed Maximum grade Side Street N/A Maximum grade allowable 6 %.
- Proposed Maximum grade driveway N/A
- Proposed Minimum radius for curve 4775 ft.
- Minimum radius allowable 1810 ft.
- Proposed Maximum super-elevation rate for curve: 8.0%
- Right of way: All work to be done within existing rights-of-way.
- Structures:
  - Bridges - The bridge on West Avenue/Klondike Rd, Bridge ID # 247-0019-A, will be jacked due to clearance requirements.
  - Major intersections and interchanges. No changes are proposed to the interchanges in the project area.
- Traffic control during construction: Traffic will be maintained through staged construction. Temporary lane closures will be required. Restricted work hours will be determined based on hourly counts.

• Design Exceptions to controlling criteria anticipated:

	<u>UNDETERMINED</u>	<u>YES</u>	<u>NO</u>
HORIZONTAL ALIGNMENT:	( )	( )	(x)
ROADWAY WIDTH:	( )	( )	(x)
SHOULDER WIDTH:	( )	(x)	( )
VERTICAL GRADES:	( )	( )	(x)
CROSS SLOPES:	( )	( )	(x)
STOPPING SIGHT DISTANCE:	( )	( )	(x)

- Design Exceptions to controlling criteria anticipated:

	<u>UNDETERMINED</u>	<u>YES</u>	<u>NO</u>
SUPERELEVATION RATES:	( )	( )	(x)
HORIZONTAL CLEARANCE:	( )	( )	(x)
SPEED DESIGN:	( )	( )	(x)
VERTICAL CLEARANCE:	( )	( )	(x)
BRIDGE WIDTH:	( )	( )	(x)
BRIDGE STRUCTURAL CAPACITY:	( )	( )	(x)

AASHTO guidelines state a usable outside shoulder width of 10 feet should be provided; where truck DDHV exceeds 250 vehicles, a usable outside shoulder width of 12 feet should be provided. On freeways of six or more lanes, the median shoulder width should be 10 feet; where truck DDHV exceeds 250 vehicles, a usable shoulder width of 12 feet should be provided. The limits of the design exception request for substandard median shoulder width are: DeKalb County mile log 16.38 to 17.59 (county line), and Rockdale County mile log 0.00 to 4.99. The limits for the design exception request for substandard outside shoulder width are: Rockdale County mile log 3.34 to 3.57. The requests include both eastbound and westbound directions of travel.

A corridor improvement project along I-20 [MSL-0003-00(166), P.I. No. 0003166-], which would add HOV lanes in each direction, is currently programmed for RW in FY-12 and CST in FY-16. Construction of the project would require additional rights of way, reconstruction of existing interstate ramps, and replacement of the West Avenue Overpass Bridge. Widening of the inside and outside usable shoulders would be more appropriate under this project.

- Design Variances: None Anticipated
- Environmental concerns: A Categorical Exclusion was approved on Nov. 21, 2006.
- Level of environmental analysis:
  - Are Time Savings Procedures appropriate? Yes (x), No ( ),
  - Categorical Exclusion (x),
  - Environmental Assessment/Finding of No Significant Impact (FONSI) ( ), or
  - Environmental Impact Statement (EIS) ( ).
- Utility involvements: unknown at this time.

**Project responsibilities:**

- Design, GDOT
- Right of Way Acquisition, N/A
- Relocation of Utilities, N/A
- Letting to contract, GDOT
- Supervision of construction, GDOT
- Providing material pits, contractor
- Providing detours. N/A

**Coordination**

- Initial Concept Meeting was not held.
- Concept meeting date and brief summary. A concept meeting was not held.
- P. A. R. meetings, dates and results. N/A

Project Concept Report page     - 6 -      
Project Number: CSNHS-M003-00(235)  
P. I. Number: M003235  
Counties: Dekalb/Rockdale

• Other projects in the area.

Project ID	Project	Description	Let Date
M003234	CSNHS-M003-00(234)	Resurface and Maintain I-20 fr CR5154 to SR124/Turner Hill Rd	LR
714085	NH-20-2(179)	I-20 ATMS Comm/Surveillance fm I-285 to SR138/SR20	LR
0003166	MSL-0003-00(166)	I-20 fm Evans Mill Rd to Salem Rd HOV lanes	ON HOLD
0006888	CSSTP-0006-00(888)	CR 627/Sigman Rd fr Turner Hill to Rockdale Co.	1/2009
0005955	CSSTP-0005-00(955)	SR 12/Covington Hwy fr SR 124 to CR 67/Lake Capri Rd	8/2011
752210	STP-9335(3)	Sigman Rd fr Old Covington north to SR 20/138 (east leg)	LR
752215	STP-9335(5)	CR 435/Sigman Rd grade separation @CSX Railroad east of I-20	ON HOLD
731048	NH-035-1(33)	I-20 @ SR 138/SR 20 Interchange reconstruction & widening	LR
0004647	MSL-0004-00(647)	CR 444/Iris Dr @ McDaniel Mill Rd - GRTA	5/2007

- Other coordination to date. There has been coordination with the Office of Traffic Safety & Design for the inclusion of conduit in this project as part of their project, PI No. 714085; however, it was determined that it was not feasible to add the conduit into this project because the preferred placement of ITS devices using an HOV barrier separated section is to place the conduit in the shoulder/barrier of the HOV and not the median barrier. The ITS project will be coordinated with the future HOV project.

- Railroads: None
- **VE STUDY REQUIRED:**

**Scheduling - Responsible Parties' Estimate**

- Time to complete the environmental process: 4 months
- Time to complete preliminary construction plans: 4 months
- Time to complete right of way plans: N/A
- Time to complete the Section 404 Permit: 4 months
- Time to complete final construction plans: 1 month
- Time to complete to purchase right of way: N/A
- List other major items that will affect the project schedule: N/A
- Estimated time to complete construction: 24 months

**Other alternates considered:** This project will maintain the safe condition of the roadway. A No-build alternative will not satisfy the project scope. No other alternatives are considered.

**Comments:** A Value Engineering Study was conducted on January 8-11, 2007. The Office of Urban Design has addressed the Value Engineering recommendations.

**Attachments:**

1. Cost Estimates
2. Typical Sections
3. Crash Summary
4. Request for Design Exception

**Estimate Report for file "CSNHS-M003-00(235)"**

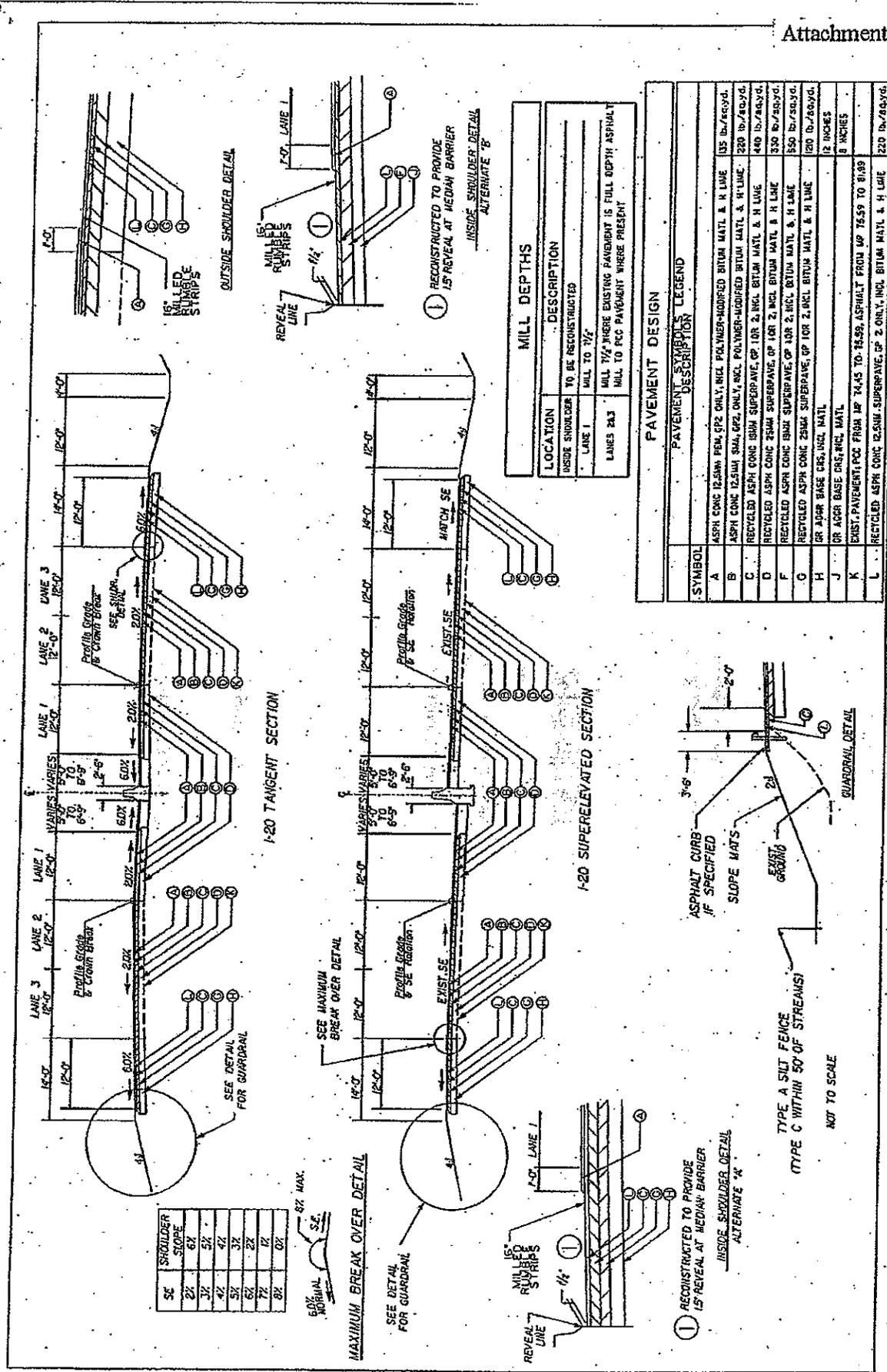
Section ROADWAY					
Item Number	Quantity	Units	Unit Price	Item Description	Cost
150-1000	1	LS	400000.00	TRAFFIC CONTROL - M003235	400000.00
153-1500	1	EA	75833.87	FIELD ENGINEERS OFFICE TP 3	75833.87
202-2100	1	LS	74000.00	CLEARING	74000.00
210-0100	1	LS	200000.00	GRADING COMPLETE - M003235	200000.00
310-1101	95500	TN	24.32	CR AGGR BASE CRS, INCL MATL	2322560.00
400-3604	63600	TN	78.08	ASPH CONC 12.5 MM SMA, GP 2 ONLY, INCL POLYMER-MODIFIED BITUM MATL & H LIME	4955088.00
400-3624	22500	TN	75.00	ASPH CONC 12.5 MM PEM, GP 2 ONLY, INCL POLYMER-MODIFIED BITUM MATL & H LIME	1687500.00
402-3121	127600	TN	75.00	RECYCLED ASPH CONC 25 MM SUPERPAVE GP 1 OR 2, INCL BITUM MATL & H LIME	9570000.00
402-3190	98500	TN	75.00	RECYCLED ASPH CONC 19 MM SUPERPAVE GP 1 OR 2, INCL BITUM MATL & H LIME	7387500.00
413-1000	224000	SL	2.00	BITUM TACK COAT	448000.00
429-1000	6500	EA	695.34	RUMBLE STRIPS	4519117.00
432-5010	318500	SY	5.00	INCL ASPH CONC PVMT, VARIABLE DEPTH	1592500.00
448-1000	1	LS	182354.00	RAISE EXISTING BRIDGE, STA -	182354.00
510-0715	50340	LF	37.07	REM CONC MEDIAN BARRIER	1852009.80
604-8040	85	EA	1304.72	ADJUST DROP INLET TO GRADE	110901.52
621-9007	630	LF	216.79	CONCRETE BARRIER, TYPE 7M	136677.70
621-9820	15422	LF	123.00	CONCRETE BARRIER, TYPE 20	1896934.00
621-9021	4483	LF	153.50	CONCRETE BARRIER, TYPE 21	686601.00
621-9022	3600	LF	245.21	CONCRETE BARRIER, TYPE 22	882756.00
632-9005	2	EA	12249.36	CHANGEABLE MESSAGE SIGN, PORTABLE, TYPE 3	24498.72
<b>Section Sub Total:</b>					<b>\$44,913,384.01</b>

Section EROSION CONTROL					
Item Number	Quantity	Units	Unit Price	Item Description	Cost
163-0232	37	AC	571.95	TEMPORARY GRASSING	21162.15
163-0240	335	TN	291.39	MULCH	97023.87
163-0300	2	EA	2388.33	CONSTRUCTION EXIT	4776.66
163-0030	39600	LF	2.05	MAINTENANCE OF TEMPORARY SILT FENCE, TP C	81180.00
167-1900	2	EA	1502.18	WATER QUALITY MONITORING AND SAMPLING	3004.36
167-1500	24	MO	977.26	WATER QUALITY INSPECTIONS	23454.24
171-0030	70200	LF	4.09	TEMPORARY SILT FENCE, TYPE C	285018.00
700-0910	74	AC	1021.40	PERMANENT GRASSING	75581.40
700-7000	222	TN	68.87	AGRICULTURAL LIME	15289.14
700-7000	185	GL	21.38	LIQUID LIME	3954.50
700-8000	67	TN	320.49	FERTILIZER MIXED GRADE	21472.83
700-8100	3700	LB	3.08	FERTILIZER NITROGEN CONTENT	11396.00
<b>Section Sub Total:</b>					<b>\$682,477.55</b>

Section SIGNING & MARKING					
Item Number	Quantity	Units	Unit Price	Item Description	Cost
610-0910	7	EA	718.32	REM HWY SIGN, OVRD	5028.39
610-6915	20	EA	71.58	REM HIGHWAY SIGN, STD	1431.60
610-9910	0	LS	4584.22	REM STR SUPPORT, TP -	0.00
653-1501	55480	LF	0.86	THERMOPLASTIC SOLID TRAF STRIPE, 5 IN, WHITE	56312.80
653-1502	55480	LF	0.84	THERMOPLASTIC SOLID TRAF STRIPE, 5 IN, YELLOW	55003.20
653-1810	5590	LF	0.95	THERMOPLASTIC SOLID TRAF STRIPE, 10 IN, WHITE	5310.50
653-3501	131000	GLF	0.53	THERMOPLASTIC SKIP TRAF STRIPE, 5 IN, WHITE	69430.00
654-1003	2150	EA	4.43	RAISED PVMT MARKERS TP 3	9524.50
<b>Section Sub Total:</b>					<b>\$202,041.19</b>

**Total Estimated Cost: \$45,797,902.75**

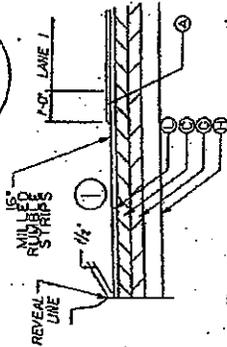
<b>Subtotal Construction Cost</b>	<b>\$45,797,902.75</b>
E&C Rate 10.0 %	\$4,579,790.28
Inflation Rate 0.0 % @ 0.0 Years	\$0.00
<hr/>	
<b>Total Construction Cost</b>	<b>\$50,377,693.02</b>
Right Of Way	\$0.00
Reimb. Utilities	\$0.00
<hr/>	
<b>Grand Total Project Cost</b>	<b>\$50,377,693.02</b>



SE	SHOULDER SLOPE
2%	6X
3%	5X
4%	4X
5%	3X
6%	2X
7%	1X
8%	0X



SEE DETAIL FOR GUARDRAIL

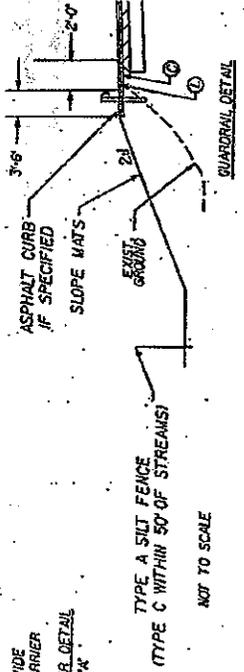


RECONSTRUCTED TO PROVIDE 1/2" REVEAL AT MEDIAN BARRIER  
INSIDE SHOULDER DETAIL ALTERNATE 'A'

LOCATION	DESCRIPTION
INSIDE SHOULDER TO BE RECONSTRUCTED	
LANE 1	MILL TO 1/2"
LANES 2&3	MILL 7/8" WHERE EXISTING PAVEMENT IS FULL DEPTH ASPHALT MILL TO PCC PAVEMENT WHERE PRESENT

MILL DEPTHS

SYMBOL	PAVEMENT DESCRIPTION	LEGEND
A	ASPH CONC 12.5MM FEM, 0% ONLY, INCL. POLYMER-MODIFIED BITUM. MATL. & H. LIME	135 lb./sq.yd.
B	ASPH CONC 12.5MM SMA, 0% ONLY, INCL. POLYMER-MODIFIED BITUM. MATL. & H. LIME	220 lb./sq.yd.
C	RECYCLED ASPH CONC 19MM SUPERPAVE, 0% FOR 2, INCL. BITUM. MATL. & H. LIME	440 lb./sq.yd.
D	RECYCLED ASPH CONC 25MM SUPERPAVE, 0% FOR 2, INCL. BITUM. MATL. & H. LIME	330 lb./sq.yd.
E	RECYCLED ASPH CONC 30MM SUPERPAVE, 0% FOR 2, INCL. BITUM. MATL. & H. LIME	550 lb./sq.yd.
F	RECYCLED ASPH CONC 37.5MM SUPERPAVE, 0% FOR 2, INCL. BITUM. MATL. & H. LIME	120 lb./sq.yd.
G	OR ASPH BASE CRS, INCL. MATL.	8 INCHES
H	OR ASPH BASE CRS, INCL. MATL.	8 INCHES
I	OR ASPH BASE CRS, INCL. MATL.	8 INCHES
J	OR ASPH BASE CRS, INCL. MATL.	8 INCHES
K	EXIST. PAVEMENT, PCC FROM MP 74.45 TO 74.59, ASPHALT FROM MP 74.59 TO 81.09	
L	RECYCLED ASPH CONC 12.5MM SUPERPAVE, 0% 2 ONLY, INCL. BITUM. MATL. & H. LIME	220 lb./sq.yd.



**CRASH SUMMARY**

The following is a summary of Crash data available for:

I-20 from SR 124/Turner Hill Road to SR 138/SR 20.

<i>Year</i>	<i>Accidents</i>	<i>Accident Rate</i>	<i>Statewide Accident Rate</i>	<i>Injuries</i>	<i>Injury Rate</i>	<i>Statewide Injury Rate</i>	<i>Fatalities</i>	<i>Fatality Rate</i>	<i>Statewide Fatality Rate</i>
2002	310	146	204	112	53	59	0	0.00	0.73
2003	370	170	200	121	56	57	1	0.46	0.79
2004	430	160	190	175	65	58	1	0.37	0.86

**NOTE:** Rates are per 100 Million Vehicle Miles traveled.

The rates in the project area are below the Statewide averages. Data for the 2005 & 2006 years are not available at this time.

**DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA**

**INTERDEPARTMENT CORRESPONDENCE**

**FILE** CSNHS-M003-00(235), Dekalb/Rockdale Counties      **OFFICE** Urban Design  
I-20 Maintenance & Resurfacing fm SR 124/Turner Hill  
Road to SR 138/SR 20      **DATE** March 27, 2007  
P.I. No. M003235

**FROM** James B. Buchan, P.E., State Urban Design Engineer

**TO** Brian Summers, P.E., Project Review Engineer

**SUBJECT** Request for Design Exception

Approval of a Design Exception is requested for this project.

**PROJECT DESCRIPTION**

The proposed project would deep mill and inlay existing asphaltic concrete pavement and remove hazardous vegetation within the clear zone along I-20 in DeKalb and Rockdale Counties. The project begins at just east of the Turner Hill Road/SR 124 (DeKalb County mile log 16.38) and ends just west of the SR 20/138 Interchange (Rockdale County mile log 4.99), and approximate length of 6.2 miles. The proposed typical section consists of three, 12-foot travel lanes in each direction, inside shoulders varying in width from five to 16 feet and 12-foot outside shoulders. The proposed design speed is 70 mph.

**FEATURES REQUIRING A DESIGN EXCEPTION**

The design exception is for shoulder width. AASHTO guidelines state a usable outside shoulder width of 10 feet should be provided; where truck DDHV exceeds 250 vehicles, a usable outside shoulder width of 12 feet should be provided. On freeways of six or more lanes, the median shoulder width should be 10 feet; where truck DDHV exceeds 250 vehicles, a usable shoulder width of 12 feet should be provided. The limits of the design exception request for substandard median shoulder width are: DeKalb County mile log 16.38 to 17.59 (county line), and Rockdale County mile log 0.00 to 4.99. The limits for the design exception request for substandard outside shoulder width are: Rockdale County mile log 3.34 to 3.57. The requests include both eastbound and westbound directions of travel.

**TRAFFIC VOLUME DATA**

See attached Traffic Diagram Sheets. In summary, the current ADT for I-20 is 124,800 ypd; DHV is 11,115 vehicles. This volume is projected to increase to 200,600 by 2027; DHV will increase to 17,870. The 24-hour truck percentage is 13, and the directional distribution is 50%.

**VEHICLE CRASH DATA**

See attached Crash Data Sheet. In summary, the accident, injury, and fatality rates for this section of I-20 are below the statewide accident, injury, and fatality rates.

**JUSTIFICATION FOR DESIGN EXCEPTION**

Widening of the median and outside usable shoulders within the limits of the proposed maintenance project would require additional rights of way, reconstruction of the ramps at the Sigman Road Interchange, and reconstruction of the interchange ramps (including overpass bridge replacement) at the West Avenue Interchange and the SR 138 Interchange.

A corridor improvement project along I-20 [MSL-0003-00(166), P.I. No. 0003166-], which would add HOV lanes in each direction, is currently programmed for RW in FY-12 and CST in FY-16. Construction of the project would require additional rights of way, reconstruction of existing interstate ramps, and replacement of the West Avenue Overpass Bridge. Widening of the inside and outside usable shoulders would be more appropriate under this project.

**COST ESTIMATES**

See attached Cost Estimates Sheets. In summary, a construction cost estimate for the proposed maintenance project is \$50,377,693.02; there are no associated right of way costs. A construction cost estimate for a project not requiring a design exception is \$75,458,101.96; associated right of way costs are estimated to be \$22,000,000.00.

**PROPOSED MITIGATION**

There is no proposed mitigation to lessen the impact of not meeting current design criteria.

**RECOMMENDATION**

The Office of Urban Design recommends this design exception request be approved.

Recommend: \_\_\_\_\_  
Chief Engineer

\_\_\_\_\_  
Date

Approved: \_\_\_\_\_  
FHWA Division Administrator

\_\_\_\_\_  
Date

JBB: JLS

Attachments

1. Traffic Volumes
2. Traffic Accident Summary
3. Cost Estimates







**CRASH SUMMARY**

The following is a summary of Crash data available for:

I-20 from SR 124/Turner Hill Road to SR 138/SR 20.

<i>Year</i>	<i>Accidents</i>	<i>Accident Rate</i>	<i>Statewide Accident Rate</i>	<i>Injuries</i>	<i>Injury Rate</i>	<i>Statewide Injury Rate</i>	<i>Fatalities</i>	<i>Fatality Rate</i>	<i>Statewide Fatality Rate</i>
2002	310	146	204	112	53	59	0	0.00	0.73
2003	370	170	200	121	56	57	1	0.46	0.79
2004	430	160	190	175	65	58	1	0.37	0.86

**NOTE:** Rates are per 100 Million Vehicle Miles traveled.

The rates in the project area are below the Statewide averages. Data for the 2005 & 2006 years are not available at this time.

Estimate Report for file "CSNHS-M003-00(235)" Attachment #3

Section ROADWAY						
Item Number	Quantity	Units	Unit Price	Item Description	Cost	
150-1000	1	ES	4000000.00	TRAFFIC CONTROL - M003235	4000000.00	
153-1300	1	EA	75833.87	FIELD ENGINEERS OFFICE TP 3	75833.87	
202-7400	1	ES	74000.00	CLEARING	74000.00	
210-0100	1	ES	2000000.00	GRADING COMPLETE - M003235	2000000.00	
310-1101	95500	TN	24.32	GR AGGR BASE CRS, INCL MATL	2322560.00	
400-3604	53600	TN	78.08	ASPH CONC 12.5 MM SMA, GP 2 ONLY, INCL POLYMER-MODIFIED BITUM MATL & H LIME	4185088.00	
400-3624	22500	TN	75.00	ASPH CONC 12.5 MM PEM, GP 2 ONLY, INCL POLYMER-MODIFIED BITUM MATL & H LIME	1687500.00	
402-3121	137600	TN	75.00	RECYCLED ASPH CONC 25 MM SUPERPAVE GP 1 OR 2, INCL BITUM MATL & H LIME	10320000.00	
402-3190	98500	TN	75.00	RECYCLED ASPH CONC 19 MM SUPERPAVE GP 1 OR 2, INCL BITUM MATL & H LIME	7387500.00	
415-3000	121300	GL	2.00	BITUM TACK COAT	242600.00	
429-3000	16500	EA	696.44	RUMBLE STRIPS	1150177.00	
502-5010	308500	SY	5.09	MILL ASPH CONC PVMT, VARIABLE DEPTH	1570145.00	
510-1000	1	LS	162454.00	RAISE EXISTING BRIDGE, STA	162454.00	
610-0515	30340	LF	37.97	REMOVE MEDIAN BARRIER	1152009.80	
610-3010	180	EA	1304.72	ADJUST DROP INLET TO GRADE	234850.00	
621-3007	620	LF	218.70	CONCRETE BARRIER, TYPE 7M	135694.00	
621-3020	19423	LF	129.00	CONCRETE BARRIER, TYPE 20	2486444.00	
621-3020	3486	LF	155.50	CONCRETE BARRIER, TYPE 21	540860.00	
621-3022	3800	LF	265.21	CONCRETE BARRIER, TYPE 22	1005818.00	
632-0000	2	EA	1224.36	CHANGEABLE MESSAGE SIGN, PORTABLE, TYPE 3	2448.72	
<b>Section Sub Total:</b>					<b>\$44,913,384.00</b>	

Section EROSION CONTROL						
Item Number	Quantity	Units	Unit Price	Item Description	Cost	
163-0232	37	AG	571.95	TEMPORARY GRASSING	21162.15	
163-0240	333	TN	291.34	MULCH	97016.22	
163-0300	2	EA	2388.13	CONSTRUCTION EXIT	4776.26	
165-0030	39600	LF	2.05	MAINTENANCE OF TEMPORARY SILT FENCE, TP C	81180.00	
167-1000	2	EA	1512.18	WATER QUALITY MONITORING AND SAMPLING	3024.36	
167-1500	24	MO	977.24	WATER QUALITY INSPECTIONS	23453.76	
171-0030	79200	LF	3.09	TEMPORARY SILT FENCE, TYPE C	242708.00	
700-6910	74	AG	1021.10	PERMANENT GRASSING	75561.40	
700-7000	222	TN	68.87	AGRICULTURAL LIME	15289.14	
700-7010	185	GL	22.38	LIQUID LIME	4140.30	
700-8000	67	TN	320.49	FERTILIZER MIXED GRADE	21472.83	
700-8100	3700	LF	3.00	FERTILIZER NITROGEN CONTENT	11100.00	
<b>Section Sub Total:</b>					<b>\$682,477.55</b>	

Section SIGNING & MARKING						
Item Number	Quantity	Units	Unit Price	Item Description	Cost	
610-6510	7	EA	718.37	REM HWY SIGN, OVHD	5028.59	
610-6535	20	EA	71.58	REM HIGHWAY SIGN, STD	1431.60	
610-9310	0	LS	4684.22	REM STR SUPPORT, TP	0.00	
653-1501	65480	LF	0.86	THERMOPLASTIC SOLID TRAF STRIPE, 5 IN, WHITE	56312.80	
653-1502	65480	LF	0.84	THERMOPLASTIC SOLID TRAF STRIPE, 5 IN, YELLOW	55003.20	
653-1810	5590	LF	0.95	THERMOPLASTIC SOLID TRAF STRIPE, 10 IN, WHITE	5310.50	
653-3501	133000	GLF	0.53	THERMOPLASTIC SKIP TRAF STRIPE, 5 IN, WHITE	69430.00	
654-1003	2150	EA	4.43	RAISED PVMT MARKERS TP 3	9524.50	
<b>Section Sub Total:</b>					<b>\$202,041.19</b>	

Total Estimated Cost: \$45,797,902.75

<b>Subtotal Construction Cost</b>	<b>\$45,797,902.75</b>
E&C Rate 10.0 %	\$4,579,790.28
Inflation Rate 0.0 % @ 0.0 Years	\$0.00
<hr/>	
<b>Total Construction Cost</b>	<b>\$50,377,693.02</b>
Right Of Way	\$0.00
Reimb. Utilities	\$0.00
<hr/>	
<b>Grand Total Project Cost</b>	<b>\$50,377,693.02</b>

433-1000	532	SY	136.37	REINF CONC APPROACH SLAB	71185.14
439-0026	31138	SY	66.37	PLAIN FC CONC PVT, CL 3 CONC, 12 INCH JHK WEST AVE RAMPS	2068629.06
543-1000	21021	SF	100.00	BRIDGE COMPLETE	2102100.00
544-1000	1	LS	53653.98	SECK DRAIN SYSTEM, BR NO	53653.98
<b>Section Sub Total:</b>					<b>54,293,567.58</b>

**Total Estimated Cost: \$68,598,274.51**

**Subtotal Construction Cost \$68,598,274.51**

E&C Rate 10.0 % 6,859,827.45

Inflation Rate 0.0 % @ 0.0 Years 0.00

**Total Construction Cost \$75,458,101.96**

Right Of Way 0.00

Reimb. Utilities 0.00

**Grand Total Project Cost \$75,458,101.96**