

D.O.T. 66

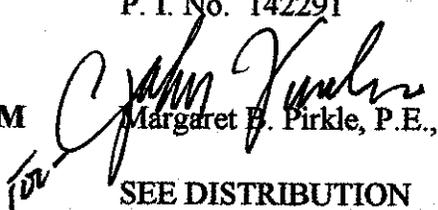
DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

INTERDEPARTMENT CORRESPONDENCE

FILE BRST-2424(3) Hall County
P. I. No. 142291

OFFICE Preconstruction

DATE February 24, 2004

FROM  Margaret B. Pirkle, P.E., Assistant Director of Preconstruction

TO *for* SEE DISTRIBUTION

SUBJECT PROJECT CONCEPT REPORT APPROVAL

Attached for your files is the approval for subject project. Please disregard the report dated February 5, 2004.

MBP/cj

Attachment

DISTRIBUTION:

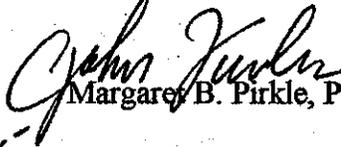
David Mulling
Harvey Keepler
Jerry Hobbs
Percy Middlebrooks
Michael Henry
Phillip Allen
Joe Palladi (file copy)
Paul Liles
Brent Story
Todd Long
BOARD MEMBER

**DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA**

INTERDEPARTMENT CORRESPONDENCE

FILE BRST-2424(3) Hall County **OFFICE** Preconstruction
P.I. No. 142291

DATE January 22, 2004

FROM  Margaret B. Pirkle, P.E., Assistant Director of Preconstruction

TO  Paul V. Mullins, P.E., Chief Engineer

SUBJECT PROJECT CONCEPT REPORT

This project is the replacement of a narrow and structurally deficient bridge on SR 284 over Chattahoochee River/Lake Lanier, 4.0 miles north of Gainesville, Georgia. The existing structure, constructed in 1958, is 834' x 24', with a sufficiency rating of 48. The latest inspection indicates a history of deterioration and repair work on the substructure and superstructure. In accordance with DOT MOG 2405-1, the existing bridge meets the established criteria for replacement. The existing approaches consist of a two lane roadway with rural shoulders on 80'-200' of existing right-of-way. State Route 284, functionally classified as a rural major collector road, is a north-south corridor in the northeast portion of Georgia. This bridge is located on SR 284 between Gainesville and Clermont. The base year traffic (2011) along this section of SR 284 is 11,000 VPD. The 20 year (2031) or design year projected volume is 15,000 VPD. The posted speed and the design speed are 45 MPH.

The construction proposes to relocate SR 284 east of its present location extending for a total of 0.55 mile. The proposed new bridge will be 1000' x 48' and will be located just east of the existing bridge structure. The relocated SR 284 will consist of two, 12' lanes with 4' bike lanes and 12' shoulders with 5' sidewalks (offset 2' from the back of the curb). Traffic will be maintained along the existing roadway during construction.

Environmental concerns include requiring a COE 404 Permit; a Categorical Exclusion will be prepared; existing bridge is historic---possible programmatic 4f; 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>PROG DATE</u>	<u>LET DATE</u>
Construction (includes E&C and inflation)	\$4,563,000	\$4,563,000	LR	LR
Right-of-Way	\$ 479,000	\$ 479,000		
Utilities*	\$ 15,000	\$ 15,000		

Paul V. Mullins
Page 2

BRST-2424(3) Hall
January 22, 2004

*LGPA sent 7-19-99 requesting Hall County do utilities.

I recommend this project concept be approved and "Alternative #6" be implemented.

MBP:JDQ/cj

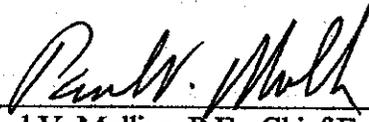
Attachment

CONCUR



Thomas L. Turner, P.E., Director of Preconstruction

APPROVE



Paul V. Mullins, P.E., Chief Engineer

**DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA**

INTERDEPARTMENTAL CORRESPONDENCE

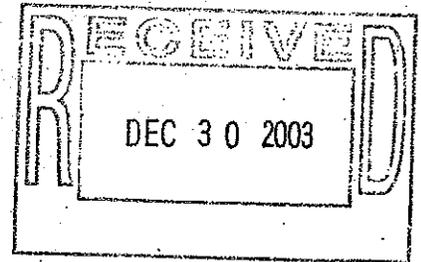
FILE: BRST-2424(3) Hall **OFFICE:** Engineering Services
P.I. No.: 142291
S.R. 284 @ Chattahoochee River/Lake Lanier

DATE: December 31, 2003

FROM: David Mulling, Project Review Engineer *REW*

TO: Meg Pirkle, Assistant Director of Preconstruction

SUBJECT: CONCEPT REPORT – RE-SUBMISSION



We have reviewed the Concept Report submitted December 30, 2003 by the letter from Brent A. Story dated December 18, 2003, and have no comments.

The costs for this project are:

Construction	\$3,755,860
Inflation	\$384,976
E&C	\$414,084
Reimbursable Utilities	\$15,000
Right of Way	\$479,339

REW

c: Brent A. Story, Attn.: Yun Tang

SCORING RESULTS AS PER MOG 2440-2

Project Number: BRST-2424(3)		County: Hall		PI No.: 142291	
Report Date: December 30, 2003			Concept By: DOT Office: Consultant Design		
<input checked="" type="checkbox"/> Concept Stage			Consultant: Heath & Lineback Engineers, Inc.		
Project Type: Choose One From Each Column		<input type="checkbox"/> Major <input checked="" type="checkbox"/> Minor	<input type="checkbox"/> Urban <input checked="" type="checkbox"/> Rural	<input type="checkbox"/> ATMS <input checked="" 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 type="checkbox"/> Widening & Reconstruction <input type="checkbox"/> Miscellaneous	
FOCUS AREAS	SCORE	RESULTS			
Presentation	100				
Judgement	100				
Environmental	100				
Right of Way	100				
Utility	100				
Constructability	100				
Schedule	100				

**DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA**

INTERDEPARTMENT CORRESPONDENCE

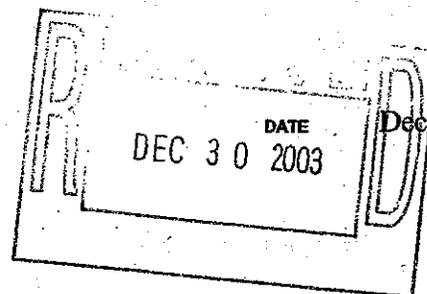
FILE BRST-2424(3), Hall County
S.R. 284 at Chattahoochee River/Lake Lanier
P.I. No. 142291

OFFICE Atlanta

FROM Brent A. Story, State Consultant Design Engineer

TO Meg Pirkle, Assistant Director of Preconstruction

SUBJECT PROJECT CONCEPT REPORT



Attached is the resubmission of the Final Concept Report for your further handling and approval in accordance with the Plan Development Process (PDP). The Concept Report circulated earlier will not be used.

People on the distribution list below should review the Concept Report and send comments and/or the signature page to the Preconstruction office within 10 days as per the PDP.

Distribution:

- Project Review Engineer
- State Environmental/Location Engineer
- State Traffic Operations Engineer
- State Transportation Planning Administrator
- Financial Management Administrator
- District 1 Engineer - Gainesville
- State Bridge & Structural Engineer
- Office of Consultant Design

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA
Office of Consultant Design

PROJECT CONCEPT REPORT

Project Number: BRST-2424(3)

County: Hall

P. I. Number: 142291

Federal Route Number: N/A

State Route Number: 284

DESCRIPTION: SR 284 over Chattahoochee River 4 miles North of Gainesville
Recommendation for approval:

DATE 12/30/2003

[Signature]
Project Manager

DATE 12/30/2003

[Signature]
State Consultant Design Engineer

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

DATE _____

State Transportation Planning Administrator

DATE _____

State Office of Financial Management Administrator

DATE _____

State Environmental/Location Engineer

DATE _____

State Traffic Safety and Design Engineer

DATE _____

District 1 Engineer

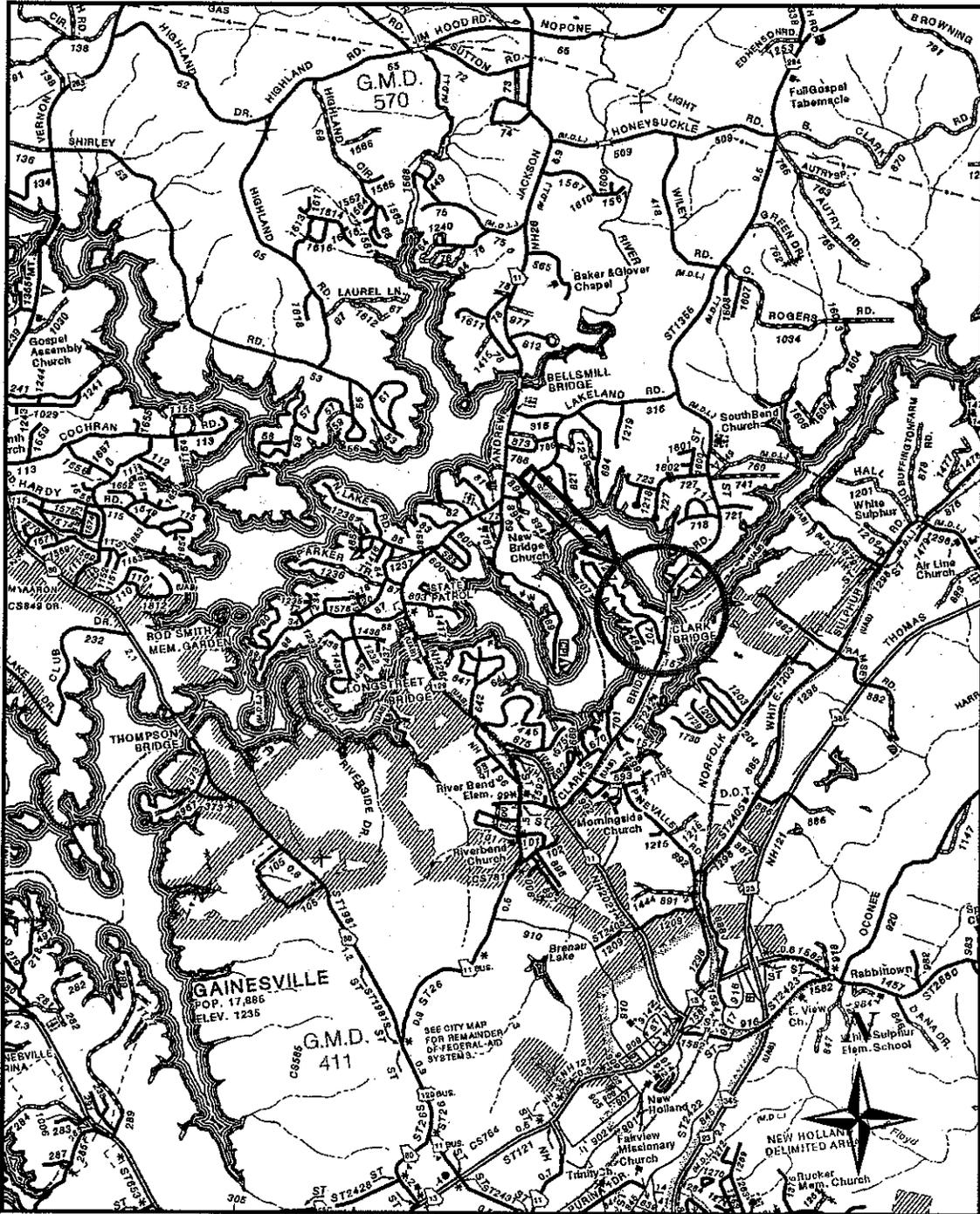
DATE _____

State Project Review Engineer

DATE _____

State Bridge and Structural Design Engineer

Project Concept Report page 2
Project Number: BRST-2424 (3)
P. I. Number: 142291
County: Hall



Scale: 1 inch = 1 mile

Location Map

Project: BRST-2424(3) Hall County PI No.: 142291-
Description: SR 284 over Chattahoochee River 4 mi N of Gainesville

Project Concept Report page 3
Project Number: BRST-2424 (3)
P. I. Number: 142291
County: Hall

Need and Purpose: Project BRST-2424(3) will replace the bridge on SR 284 over the Chattahoochee River. This bridge will be replaced because it does not meet two criteria required in DOT policy 2405-1. First, the bridge has a sufficiency rating of 48.20 and a design live load of H-15. According to policy 2405-1, a bridge on the state route system with a sufficiency rating less than 50 and a design live load of H-15 should be replaced. Second, the roadway width of this bridge is not in compliance with GDOT design policy 4265-10. The bridge's roadway width is 24 feet, posted speed limit is 45 miles per hour, and Average Annual Daily Traffic (AADT) volume was 8050 in 2000. Design year (2031) traffic volume is expected to be 15,000 AADT. Policy 4265-10 requires a minimum bridge width of 44 feet for two lane bridges with a design year AADT over 4000 at all speed designs. This project is a part of the GDOT's Statewide Bicycle & Pedestrian Plan and on a school bus route. See the Attached Need and Purpose Statement.

Description of the proposed project: Project BRST-2424(3) is a bridge replacement project in Hall County on SR 284 over the Chattahoochee River/Lake Lanier. The total project length is approximately 2900 feet (0.55 miles), beginning at M.P. 1.63 and extending to M.P. 2.18. The purpose of this project is to replace a structurally deficient and functionally obsolete bridge on SR 284 over the Chattahoochee River/Lake Lanier. The existing bridge sufficiency rating is currently 48.20.

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

PDP Classification: Minor

Project Designation: Full Oversight (), Exempt(X), State Funded(), or Other ()

Functional Classification: Rural Major Collector Road

U. S. Route Number(s): None

State Route Number(s): 284

Traffic (AADT):

Current Year: (2011) 11,000

Design Year: (2031) 15,000

Existing design features:

- Typical Section: 2-12 ft. travel lanes with variable width grass shoulders.
- Posted speed 45mph Maximum degree of curvature: 6°-13'-40"
- Maximum grade: 2.64%
- Width of right of way: 80 - 200 ft
- Major structures: The bridge consists of one 34'- 0", one 39' - 6", one 40' - 6" steel beam spans and two 80'-6"-100'-0"-100'-0"-80'-6" continuous composite steel beam units for total length of 834 ft. The bridge roadway curb-to-curb clear width is 24 ft. The sufficiency rating is 48.20.
- Major interchanges or intersections along the project: None

Project Concept Report page 4
 Project Number: BRST-2424 (3)
 P. I. Number: 142291
 County: Hall

Proposed Design Features:

Proposed typical section(s): Two 12'-0" travel lanes, with 2'-0" paved shoulders, 4'-0" bike lanes, curb and gutter, and 12'-0" shoulders with 5'-0" sidewalks. Typical section attached.

- Proposed Design Speed Mainline 45 mph
- Proposed Maximum grade Mainline 2.32% Maximum grade allowable 7.0%
- Proposed Maximum grade Side Street N/A Maximum grade allowable 9.0%
- Proposed Maximum grade driveway 28%
- Proposed Maximum degree of curve 9° 32' 57" Maximum degree allowable 9° 32' 57"
- Right of way
 - Width: Approximately 120 ft of additional R/W on the east side and 20 ft on the west side of the roadway.
 - Easements: Temporary (), Permanent (**X**), Utility (), Other ().
 - Type of access control: Full (), Partial (), By Permit (**X**), Other ().
 - Number of parcels: 4 Number of displacements: None
 - Business: 0
 - Residences: 0
 - Mobile homes: 0
 - Other: 0
- Structures:
 - Bridges: The proposed bridge will be 48'-0" wide, consisting of two 12'-0" travel lanes, 2'-0" shoulders, 4'-0" bike lanes, and 6'-0" sidewalks. The length is expected to be approximately 1000'.
 - Retaining walls: will be required.
- Major intersections and interchanges: None.
- Traffic control during construction: The bridge will be constructed 50'-0" east of the existing alignment. Traffic shall be maintained onsite during construction of the project.
- 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)
SUPERELEVATION RATES:	()	()	(X)
HORIZONTAL CLEARANCE:	()	()	(X)
SPEED DESIGN:	()	()	(X)
VERTICAL CLEARANCE:	()	()	(X)
BRIDGE WIDTH:	()	()	(X)
BRIDGE STRUCTURAL CAPACITY:	()	()	(X)

- Design Variances: None
- Environmental concerns: Nationwide 404 with PCN; NPDES Comprehensive Monitoring Plan; 4f permitting for required R/W at north end of bridge.

Project Concept Report page 5
Project Number: BRST-2424 (3)
P. I. Number: 142291
County: Hall

- Level of environmental analysis:
 - Are Time Savings Procedures appropriate? Yes (**X**), No (),
 - Categorical exclusion anticipated (**X**),
 - Environmental Assessment/Finding of No Significant Impact (FONSI) (), or
 - Environmental Impact Statement (EIS) ().
- Utility involvement: Overhead power lines on east side of SR 284. Overhead and under ground power lines on west side of SR 284. Underground telephone on west side of SR 284. Utilities attached to bridge: waterline on east side and telephone and electric on west side.

Project responsibilities:

- Design: Office of Consultant Design
- Right of Way Acquisition: District 1 Preconstruction (Right of Way Office)
- Relocation of Utilities: District Utility Office and Hall County
- Letting to contract: General Office (Office of Contract Administration)
- Supervision of construction: District 1 Construction Office
- Providing material pits: District 1 Materials Office
- Providing detours: District of 1 Construction Office

Coordination

- Initial Concept Meeting summary: N/A
- Concept meeting date: 11/4/03, Meeting Minutes Attached
- P. A. R. meetings, dates and results: None required.
- FEMA, USCG, and/or TVA: U.S Army Corps of Engineers Section 404 Permit, Section 10 Permit
- Local government comments: Requested Hall County to do utilities 7/19/99
- Public involvement: N/A
- Other projects in the area: None identified
- Other coordination to date: None

Scheduling – Responsible Parties' Estimate

- Time to complete the environmental process: 15 Months
- Time to complete preliminary construction plans: 6 Months
- Time to complete right of way plans: 2 Month
- Time to complete the Section 404 Permit: 9 Months
- Time to complete the Section 10 Permit: 6 Months
- Time to complete final construction plans: 6 Months
- Time to complete to purchase right of way: 9 Months
- List other major items that will affect the project schedule: US Army Corps of Engineers permitting – 6 Months.

Project Concept Report page 6
Project Number: BRST-2424 (3)
P. I. Number: 142291
County: Hall

Alternates considered: (1) Build proposed bridge on the existing alignment—detour traffic offsite during construction. (2) Build proposed bridge offset the east of the existing alignment at the south end of the bridge (to avoid walls or large areas of required right-of-way) and tie to the existing alignment at the north end of the bridge—detour traffic offsite during construction. (3) Build proposed bridge on a permanent offset to the east of the existing alignment, abandon or demolish existing bridge—maintain traffic on the existing alignment and bridge during construction; (4) Build proposed bridge on the existing alignment with a raised profile and a curb and gutter section (to avoid walls or large areas of required right-of-way)—detour traffic offsite during construction. (5) Build proposed bridge on existing alignment with a raised profile and retaining a wall on the southwest side—detour traffic offsite during construction. (6) Build proposed bridge on a permanent offset to the east of the existing alignment with a curb and gutter, bicycle lanes and sidewalk each side of the roadway. Maintain traffic on the existing alignment during construction. (7) No Build.

Comments:

Comparison Summary of Concepts 1 - 7

Alternate (6) is selected for this concept based on comments from the Project Concept Team Meeting (see attached meeting minutes) and the ability to maintain traffic on the existing roadway during construction (off-site detour is not required). Bicycle lanes on the roadway shoulder provide continuity with adjacent roadway. This alternate also eases water main and Bellsouth utility relocations compared to alternates 1, 2, 4, and 5.

Alternate (1) was eliminated due to the additional traffic that would adversely impact the off-site detour, the additional right-of-way required on the southwest side of the existing alignment and less desirable pedestrian and bicycle access compared to Alternate 6. Alternates (2) and (4) were eliminated due to the additional traffic that would adversely impact the off-site detour and less desirable pedestrian and bicycle access compared to Alternate 6. Alternate (3) was eliminated because of less desirable pedestrian and bicycle access compared to Alternate 6. This alternate was modified to become Alternate 6 based on Project Concept Team Meeting. Alternate (5) was eliminated due to the cost of the retaining walls. Alternate (7) was eliminated due to long-term maintenance cost of structurally deficient and functionally inadequate bridge.

Attachments:

1. Concept Meeting Minutes
2. Preliminary Cost Estimates
3. Required Right-of-Way Area Summary
4. Typical Sections
5. Need and Purpose Statement
6. Traffic Assignments
7. Flexible Pavement Design
8. Bridge Inventory Data Listing
9. Off-Site Detour Map
10. Plan & Profile of SR 284 Alternates 1-6
11. Location and Design Notice (On Minor Projects)

**CONCEPT MEETING MINUTES
NOVEMBER 4, 2003**

**CONCEPT MEETING FOR BRIDGE REPLACEMENT WORK ORDERS
W.O. #66 – SR 284 Over Chattahoochee River/Lake Lanier
Project No.: BRST-2424(3), Hall County
PI No.: 142291**

LOCATION: GADOT District 1 Office
Gainesville, GA

Attendees: Mark Holmberg – Heath & Lineback Engineers
Scott Jordan – Heath & Lineback Engineers
Russell McMurry – GDOT District 1 Construction
Brent Cook – GDOT District 1 Preconstruction
Todd Long – GDOT District 1 Preconstruction Engineer
Jennifer Fulbright – GDOT District 1 Environmental
Mike Dover – GDOT District 1, Area Engineer – Gainesville
Tom Davis – GDOT District 1 Utilities Engineer
Joe Garland – GDOT Traffic Operations
Yun Tang – GDOT Consultant Design
Jeff Walker – Hall County
James Miller – Hall County
James (Smokey) Butler – Butler Acquisition (R/W)
John Watson – Corps of Engineers
Stanley Aiken – City of Gainesville
Clarence Smith – Bell South

Mark Holmberg described the project and a brief overview of the concept report.

Concerns were raised about the proposed detour route for SR 284 due to additional traffic being routed on SR 11/US 129. It was then stated by the District Preconstruction Engineer that the detour traffic will be too much for SR 11/US 129 to handle.

The posted speed was found to be 45 mph instead of 55 mph.

Handling traffic during a major sporting event was a concern brought up by a Hall County Representative.

Existing utilities on the bridge include an 8 in water line, fiber optic cable, and a copper cable.

Hall County stated that buses use a driveway near the end of the bridge for turn around during major sporting events.

The Corp of Engineers representative stated that they would be more concerned about the public access during major sporting events than they would about doubling the size of the bridges' footprint.

The Corp of Engineers representative informed us about new mitigation requirements that affect this project.

A two-week detour was mentioned for help during construction of tie-ins. After some discussion it was decided against the temporary detour.

A 4f permit will be needed for taking right-of-way from the parks at the north end of the bridge.

The Corp of Engineers representative stated that the full pool elevation was 1085 ft. He also stated that the normal pool elevation is 1071 ft.

A World Sporting Event is going to be held in 2011. There are approximately 7 sporting events at this location every year.

It was decided that a permanent offset with a curb and gutter section would be best design for the proposed project. Multi-use paths will be provided on both sides of the roadway. The Corp of Engineers and Hall County requested pedestrian access under the north end of the bridge between the parks on either side of the road.

PRELIMINARY COST ESTIMATE

DATE: November 13, 2003

PREPARED BY: Heath & Lineback Engineers, Inc.

PROJECT NO.: BRST-2424(3)

P.I. NO.: 142291

LENGTH: 2900 ft. (0.55 mi.)

PROJECT DESCRIPTION: Bridge replacement of the SR 284 over Chattahoochee River/Lake Lanier.

PROPOSED CONCEPT: The proposed typical section consists of two 12'-0" travel lanes and 16'-6" urban shoulders. The proposed bridge will be constructed on a permanent offset to the east of the existing alignment. Traffic shall be maintained onsite during construction of the project.

EXISTING ROADWAY: State Route 284

TRAFFIC: Existing: 11000 ADT (2011) Design: 15000 ADT (2031)

() PROGRAMMING PROCESS (x) CONCEPT DEVEL. () DURING PROJ DEVEL.

PROJECT COSTS

11-Nov-03 ATERNATE 6 - PERMANENT OFFSET WITH CURB & GUTTER SECTION
 DETAILED COST ESTIMATE FOR SR 284 OVER CHATTAHOOCHEE RIVER/LAKE LANIER
 PROJECT NO.: BRST-2424(3), HALL COUNTY
 P.I. NO.: 142291

ITEM NO.	ITEM	UNIT	UNIT COST	QUANT	TOTAL
ROADWAY					
210-0100	GRADING COMPLETE - (36,212 CY @ \$6.00/CY)	LS	\$217,272.00	1	\$217,272.00
310-5100	GR AGGR BASE CRS, 10 INCH, INCL MATL	SY	\$9.29	8200	\$76,178.00
318-3000	AGGR SURF CRS	TN	\$13.44	10	\$134.40
402-1812	RECYCLED ASPH CONC LEVELING, INCL BITUM MATL & H LIME	TN	\$36.26	50	\$1,813.00
402-3121	RECYCLED ASPH CONC 25 MM SUPERPAVE, GP 1 OR 2, INCL BITUM	TN	\$33.57	2823	\$94,763.07
402-3131	RECYCLED ASPH CONC 9.5 MM SUPERPAVE, GP 2 ONLY, INCL	TN	\$35.38	844	\$29,877.08
402-3190	RECYCLED ASPH CONC 19 MM SUPERPAVE, GP 1 OR 2, INCL BITUM	TN	\$37.53	941	\$35,313.85
413-1000	BITUM TACK COAT	GL	\$0.92	1148	\$1,056.16
433-1000	REINF CONC APPROACH SLAB	SY	\$249.66	310	\$77,394.60
441-0104	CONC SIDEWALK, 4 IN	SY	\$24.99	2278	\$56,927.22
441-0301	CONC SPILLWAY, TP 1	EA	\$1,297.65	2	\$2,595.30
441-6022	CONC CURB & GUTTER, 6 IN X 30 IN, TP 2	LF	\$7.37	3092	\$22,788.04
550-1180	STORM DRAIN PIPE, 18 IN, H 1-10	LF	\$23.71	535	\$12,684.85
550-4218	FLARED END SECTION 18 IN, STORM DRAIN	EA	\$316.51	17	\$5,380.67
576-1015	SLOPE DRAIN PIPE, 15 IN	LF	\$18.83	90	\$1,694.70
577-1100	METAL DRAIN INLET - COMPLETE ASSEMBLY	EA	\$941.88	4	\$3,767.52
641-1100	GUARDRAIL, TP T	LF	\$35.43	83	\$2,925.81
641-1200	GUARDRAIL, TP W	LF	\$10.61	1050	\$11,140.50
641-5001	GUARDRAIL ANCHORAGE, TP 1	EA	\$336.57	2	\$673.14
641-5012	GUARDRAIL ANCHORAGE, TP 12	EA	\$1,190.77	2	\$2,381.54
668-2100	DROP INLET, GP 1	EA	\$1,531.69	1	\$1,531.69
668-5000	JUNCTION BOX	EA	\$1,328.87	1	\$1,328.87
				SUBTOTAL	\$659,622.02
EROSION CONTROL					
000-0000	EROSION CONTROL	LS	\$95,000.00	1	\$95,000.00
				SUBTOTAL	\$95,000.00
BRIDGE					
540-1102	REMOVAL OF EXISTING BR, BR NO -	LS	\$170,000.00	1	\$170,000.00
543-1001	CONSTRUCTION OF BRIDGE NO. (\$55/SF X 48000 SF)	LS	\$2,640,000.00	1	\$2,640,000.00
603-2024	STN DUMPED RIP RAP, TP 1, 24 IN	SY	\$28.91	1,950	\$56,374.50
				SUBTOTAL	\$2,866,374.50
TRAFFIC SIGN & MARKING					
000-0000	TRAFFIC SIGNING & MARKING	LS	\$10,000.00	1	\$10,000.00
				SUBTOTAL	\$10,000.00
TRAFFIC CONTROL - ON SITE DETOUR					
150-1000	TRAFFIC CONTROL -	LS	\$75,000.00	1	\$75,000.00
150-5000	TRAFFIC CONTROL, TEMPORARY SAND LOADED ATTENUATOR MODULE	EA	\$467.91	30	\$14,037.30
622-1033	PRECAST CONCRETE MEDIAN BARRIER, METHOD 3	LF	\$25.59	1400	\$35,826.00
				SUBTOTAL	\$124,863.30
				CONSTRUCTION COST	\$3,755,859.82
CONSTRUCTION:	\$3,755,859.82	RIGHT OF WAY:			\$479,339.00
E & C (10%):	\$375,585.98	ACQUIRED BY:		DOT	
INFLATION:	\$384,975.63	UTILITIES:			\$15,000.00
(2 yrs. @ 5% per yr)					
TOTAL CONS'T COSTS		\$4,995,760.43			
(INCLUDING RIGHT OF WAY)					

PROJECT COSTS

02-Oct-03 ATERNATE 1 - EXISTING ALIGNMENT WITH OFFSITE DETOUR
 DETAILED COST ESTIMATE FOR SR 284 OVER CHATTAHOOCHEE RIVER/LAKE LANIER
 PROJECT NO.: BRST-2424(3), HALL COUNTY
 P.I. NO.: 142291

ITEM NO.	ITEM	UNIT	UNIT COST	QUANT	TOTAL
ROADWAY					
210-0100	GRADING COMPLETE - (34,573 CY @ \$6.00/CY)	LS	\$207,438.00	1	\$207,438.00
310-5100	GR AGGR BASE CRS, 10 INCH, INCL MATL	SY	\$9.29	5941	\$55,187.76
318-3000	AGGR SURF CRS	TN	\$13.44	10	\$134.40
402-1812	RECYCLED ASPH CONC LEVELING, INCL BITUM MATL & H LIME	TN	\$36.26	50	\$1,813.00
402-3121	RECYCLED ASPH CONC 25 MM PERPAVE, GP 1 OR 2, INCL BITUM	TN	\$33.57	2045	\$68,651.87
402-3131	RECYCLED ASPH CONC 9 MM PERPAVE, GP 2 ONLY, INCL	TN	\$35.38	650	\$22,997.32
402-3190	RECYCLED ASPH CONC 19 MM PERPAVE, GP 1 OR 2, INCL BITUM	TN	\$37.53	682	\$25,583.40
413-1000	BITUM TACK	GL	\$0.92	832	\$765.14
433-1000	REINF CONC APPROX 4 INCH SLAB	SY	\$249.66	310	\$77,394.60
441-0301	CONC SPILLWAY, TP	EA	\$1,297.65	2	\$2,595.30
550-1180	STORM DRAIN PIPE, 18 IN, H 1-10	LF	\$23.71	215	\$5,097.65
550-4218	FLARED END SECTION 18 IN STORM DRAIN	EA	\$316.51	8	\$2,532.08
576-1015	SLOPE DRAIN PIPE, 15 IN	LF	\$18.83	90	\$1,694.70
577-1100	METAL DRAIN INLET - COMPLETE ASSEMBLY	EA	\$941.88	4	\$3,767.52
641-1100	GUARDRAIL, TP T	LF	\$35.43	83	\$2,925.81
641-1200	GUARDRAIL, TP W	LF	\$10.61	1138	\$12,068.88
641-5001	GUARDRAIL ANCHORAGE, TP 1	EA	\$336.57	2	\$673.14
641-5012	GUARDRAIL ANCHORAGE, TP 12	EA	\$1,190.77	2	\$2,381.54
				SUBTOTAL	\$493,702.11
EROSION CONTROL					
000-0000	EROSION CONTROL	S	\$95,000.00	1	\$95,000.00
				SUBTOTAL	\$95,000.00
BRIDGE					
540-1102	REMOVAL OF EXISTING BR, BR NO -	S	\$170,000.00	1	\$170,000.00
543-1001	CONSTRUCTION OF BRIDGE NO. (\$55/SF X 39820 SF)	LF	\$2,190,100.00	1	\$2,190,100.00
603-2024	STN DUMPED RIP RAP, TP 1, 24 IN	SY	\$28.91	1,950	\$56,374.50
				SUBTOTAL	\$2,416,474.50
TRAFFIC SIGN & MARKING					
000-0000	TRAFFIC SIGNING & MARKING	S	\$10,000.00	1	\$10,000.00
				SUBTOTAL	\$10,000.00
TRAFFIC CONTROL					
150-1000	TRAFFIC CONTROL -	S	\$75,000.00	1	\$75,000.00
				SUBTOTAL	\$75,000.00

CONSTRUCTION COST \$3,090,176.61

CONSTRUCTION: \$3,090,176.61

RIGHT OF WAY: \$297,745.00

E & C (10%): \$309,017.66

ACQUIRED BY: DOT

INFLATION: \$316,743.10
 (2 yrs. @ 5% per yr)

UTILITIES: \$15,000.00

TOTAL CONS'T COSTS \$4,013,682.37
 (INCLUDING RIGHT OF WAY)

PROJECT COSTS

02-Oct-03 ALTERNATE 2 - SKEWED ALIGNMENT WITH OFFSITE DETOUR

DETAILED COST ESTIMATE FOR SR 284 OVER CHATTAHOOCHEE RIVER/LAKE LANIER

PROJECT NO.: BRST-2424(3), HALL COUNTY

P.I. NO.: 142291

ITEM NO.	ITEM	UNIT	UNIT COST	QUANT	TOTAL
ROADWAY					
210-0100	GRADING COMPLETE - (36,979 CY @ \$6.00/CY)	LS	\$221,874.00	1	\$221,874.00
310-5100	GR AGGR BASE CRS, 10 INCH, INCL MATL	SY	\$9.29	8572	\$79,630.78
318-3000	AGGR SURF CRS	TN	\$13.44	10	\$134.40
402-1812	RECYCLED ASPH CONC LEVELING, INCL BITUM MATL & H LIME	TN	\$36.26	50	\$1,813.00
402-3121	RECYCLED ASPH CONC 25 MM SUPERPAVE, GP 1 OR 2, INCL BITUM	TN	\$33.57	2951	\$99,058.23
402-3131	RECYCLED ASPH CONC 9.5 MM SUPERPAVE, GP 2 ONLY, INCL	TN	\$35.38	876	\$31,008.77
402-3190	RECYCLED ASPH CONC 19 MM SUPERPAVE, GP 1 OR 2, INCL BITUM	TN	\$37.53	984	\$36,914.46
413-1000	BITUM TACK COAT	GL	\$0.92	1200	\$1,104.03
433-1000	REINF CONC APPROACH SLAB	SY	\$249.66	310	\$77,394.60
441-0301	CONC SPILLWAY, TP 1	EA	\$1,297.65	2	\$2,595.30
550-1180	STORM DRAIN PIPE, 18 IN, TP 1-10	LF	\$23.71	535	\$12,684.85
550-4218	FLARED END SECTION, 6 IN STORM DRAIN	EA	\$316.51	17	\$5,380.67
576-1015	SLOPE DRAIN PIPE, 15 IN	LF	\$18.83	90	\$1,694.70
577-1100	METAL DRAIN INLET - COMPLETE ASSEMBLY	EA	\$941.88	4	\$3,767.52
641-1100	GUARDRAIL, TP T	LF	\$35.43	83	\$2,925.81
641-1200	GUARDRAIL, TP W	LF	\$10.61	1288	\$13,660.38
641-5001	GUARDRAIL ANCHORAGE, TP 1	EA	\$336.57	2	\$673.14
641-5012	GUARDRAIL ANCHORAGE, TP 12	EA	\$1,190.77	2	\$2,381.54
668-2100	DROP INLET, GP 1	EA	\$1,531.69	1	\$1,531.69
668-5000	JUNCTION BOX	EA	\$1,328.87	1	\$1,328.87
				SUBTOTAL	\$597,556.74
EROSION CONTROL					
000-0000	EROSION CONTROL		\$95,000.00	1	\$95,000.00
				SUBTOTAL	\$95,000.00
BRIDGE					
540-1102	REMOVAL OF EXISTING BR, BR NO -	LS	\$170,000.00	1	\$170,000.00
543-1001	CONSTRUCTION OF BRIDGE NO. (\$55/SF X 42460 SF)	LS	\$3,300.00	1	\$2,335,300.00
603-2024	STN DUMPED RIP RAP, TP 1, 24 IN	SY	\$29.91	1,950	\$56,374.50
				SUBTOTAL	\$2,561,674.50
TRAFFIC SIGN & MARKING					
000-0000	TRAFFIC SIGNING & MARKING		\$10,000.00	1	\$10,000.00
				SUBTOTAL	\$10,000.00
TRAFFIC CONTROL - ON SITE DETOUR					
150-1000	TRAFFIC CONTROL -	LS	\$75,000.00	1	\$75,000.00
				SUBTOTAL	\$75,000.00

CONSTRUCTION COST \$3,339,231.24

CONSTRUCTION: \$3,339,231.24

RIGHT OF WAY: \$482,636.00

E & C (10%): \$333,923.12

ACQUIRED BY: DOT

INFLATION: \$342,271.20
(2 yrs. @ 5% per yr)

UTILITIES: \$15,000.00

TOTAL CONST COSTS \$4,498,061.56
(INCLUDING RIGHT OF WAY)

PROJECT COSTS

02-Oct-03 ATERNATE 3 - PERMANENT OFFSET WITH ONSITE DETOUR
 DETAILED COST ESTIMATE FOR SR 284 OVER CHATTAHOOCHEE RIVER/LAKE LANIER
 PROJECT NO.: BRST-2424(3), HALL COUNTY
 P.I. NO.: 142291

ITEM NO.	ITEM	UNIT	UNIT COST	QUANT	TOTAL
ROADWAY					
210-0100	GRADING COMPLETE - (36,212 CY @ \$6.00/CY)	LS	\$217,272.00	1	\$217,272.00
310-5100	GR AGGR BASE CRS, 10 INCH, INCL MATL	SY	\$9.29	8387	\$77,912.13
318-3000	AGGR SURF CRS	TN	\$13.44	10	\$134.40
402-1812	RECYCLED ASPH CONC LEVELING, INCL BITUM MATL & H LIME	TN	\$36.26	50	\$1,813.00
402-3121	RECYCLED ASPH CONC 25 MM SUPERPAVE, GP 1 OR 2, INCL BITUM	TN	\$33.57	2887	\$96,920.28
402-3131	RECYCLED ASPH CONC 9.5 MM SUPERPAVE, GP 2 ONLY, INCL	TN	\$35.38	861	\$30,445.46
402-3190	RECYCLED ASPH CONC 19 MM SUPERPAVE, GP 1 OR 2, INCL BITUM	TN	\$37.53	962	\$36,117.75
413-1000	BITUM TACK COAT	GL	\$0.92	1174	\$1,080.20
433-1000	REINF CONC APP. CH SLAB	SY	\$249.66	310	\$77,394.60
441-0301	CONC SPILLWAY	EA	\$1,297.65	2	\$2,595.30
550-1180	STORM DRAIN PIPE, 18 IN, 10	LF	\$23.71	535	\$12,684.85
550-4218	FLARED END SECTION, STORM DRAIN	EA	\$316.51	17	\$5,380.67
576-1015	SLOPE DRAIN PIPE, 15 IN	LF	\$18.83	90	\$1,694.70
577-1100	METAL DRAIN INLET - COMPLETE ASSEMBLY	EA	\$941.88	4	\$3,767.52
641-1100	GUARDRAIL, TP T	LF	\$35.43	83	\$2,925.81
641-1200	GUARDRAIL, TP W	LF	\$10.61	1050	\$11,140.50
641-5001	GUARDRAIL ANCHORAGE, TP 1	EA	\$336.57	2	\$673.14
641-5012	GUARDRAIL ANCHORAGE, TP 12	EA	\$1,190.77	2	\$2,381.54
668-2100	DROP INLET, GP 1	EA	\$1,531.69	1	\$1,531.69
668-5000	JUNCTION BOX	EA	\$1,328.87	1	\$1,328.87
				SUBTOTAL	\$585,194.42
EROSION CONTROL					
000-0000	EROSION CONTROL		\$95,000.00	1	\$95,000.00
				SUBTOTAL	\$95,000.00
BRIDGE					
540-1102	REMOVAL OF EXISTING BR, BR NO -	LS	\$170,000.00	1	\$170,000.00
543-1001	CONSTRUCTION OF BRIDGE NO. (\$55/SF X 44440 SF)	LS	\$200.00	1	\$2,444,200.00
603-2024	STN DUMPED RIP RAP, TP 1, 24 IN	SY	\$28.91	1,950	\$56,374.50
				SUBTOTAL	\$2,670,574.50
TRAFFIC SIGN & MARKING					
000-0000	TRAFFIC SIGNING & MARKING		\$10,000.00	1	\$10,000.00
				SUBTOTAL	\$10,000.00
TRAFFIC CONTROL - ON SITE DETOUR					
150-1000	TRAFFIC CONTROL -	LS	\$75,000.00	1	\$75,000.00
150-5000	TRAFFIC CONTROL, TEMPORARY SAND LOADED ATTENUATOR MODULE	EA	\$467.91	30	\$14,037.30
622-1033	PRECAST CONCRETE MEDIAN BARRIER, METHOD 3	LF	\$25.59	1400	\$35,826.00
				SUBTOTAL	\$124,863.30

CONSTRUCTION COST \$3,485,632.22

CONSTRUCTION: \$3,485,632.22

RIGHT OF WAY: \$530,775.00

E & C (10%): \$348,563.22

ACQUIRED BY: DOT

INFLATION: \$357,277.30
 (2 yrs. @ 5% per yr)

UTILITIES: \$15,000.00

TOTAL CONST COSTS \$4,722,247.74
(INCLUDING RIGHT OF WAY)

PROJECT COSTS

02-Oct-03 ALTERNATE 4 - EXISTING ALIGNMENT/CURB & GUTTER WITH OFFSITE DETOUR
 DETAILED COST ESTIMATE FOR SR 284 OVER CHATTAHOOCHEE RIVER/LAKE LANIER
 PROJECT NO.: BRST-2424(3), HALL COUNTY
 P.I. NO.: 142291

ITEM NO.	ITEM	UNIT	UNIT COST	QUANT	TOTAL
ROADWAY					
210-0100	GRADING COMPLETE - (27,720 CY @ \$6.00/CY)	LS	\$166,320.00	1	\$166,320.00
310-5100	GR AGGR BASE CRS, 10 INCH, INCL MATL	SY	\$9.29	6352	\$59,006.98
318-3000	AGGR SURF CRS	TN	\$13.44	10	\$134.40
402-1812	RECYCLED ASPH CONC LEVELING, INCL BITUM MATL & H LIME	TN	\$36.26	50	\$1,813.00
402-3121	RECYCLED ASPH CONC 25 MM SUPERPAVE, GP 1 OR 2, INCL BITUM	TN	\$33.57	2187	\$73,402.86
402-3131	RECYCLED ASPH CONC 9.5 MM SUPERPAVE, GP 2 ONLY, INCL	TN	\$35.38	685	\$24,249.11
402-3190	RECYCLED ASPH CONC 19 MM SUPERPAVE, GP 1 OR 2, INCL BITUM	TN	\$37.53	729	\$27,353.88
413-1000	BITUM TACK COAT	GL	\$0.92	889	\$818.09
433-1000	REINF CONC APPROACH SLAB	SY	\$249.66	310	\$77,394.60
441-0104	CONC SIDEWALK	SY	\$24.99	4223	\$105,532.77
441-0301	CONC SPILLWAY	EA	\$1,297.65	2	\$2,595.30
441-6022	CONC CURB & GUTTER, 30 IN, TP 2	LF	\$7.37	3092	\$22,788.04
500-3101	CLASS A CONCRETE	CY	\$359.76	306	\$110,086.56
550-1180	STORM DRAIN PIPE, 18 IN, TP 1	LF	\$23.71	215	\$5,097.65
550-4218	FLARED END SECTION 18 IN STORM DRAIN	EA	\$316.51	8	\$2,532.08
576-1015	SLOPE DRAIN PIPE, 15 IN	LF	\$18.83	90	\$1,694.70
577-1100	METAL DRAIN INLET - COMPLETE	EA	\$941.88	4	\$3,767.52
641-1100	GUARDRAIL, TP T	LF	\$35.43	83	\$2,925.81
641-1200	GUARDRAIL, TP W	LF	\$10.61	1387	\$14,716.07
641-5001	GUARDRAIL ANCHORAGE, TP 1	EA	\$336.57	2	\$673.14
641-5012	GUARDRAIL ANCHORAGE, TP 12	EA	\$1,190.77	2	\$2,381.54
SUBTOTAL					\$705,284.11
EROSION CONTROL					
000-0000	EROSION CONTROL	LS	\$95,000.00	1	\$95,000.00
SUBTOTAL					\$95,000.00
BRIDGE					
540-1102	REMOVAL OF EXISTING BR, BR NO -	LS	\$170,000.00	1	\$170,000.00
543-1001	CONSTRUCTION OF BRIDGE NO. (\$55/SF X 39820 SF)	LS	\$2,190,100.00	1	\$2,190,100.00
603-2024	STN DUMPED RIP RAP, TP 1, 24 IN	SY	\$28.91	1,950	\$56,374.50
SUBTOTAL					\$2,416,474.50
TRAFFIC SIGN & MARKING					
000-0000	TRAFFIC SIGNING & MARKING	LS	\$10,000.00	1	\$10,000.00
SUBTOTAL					\$10,000.00
TRAFFIC CONTROL					
150-1000	TRAFFIC CONTROL -	LS	\$75,000.00	1	\$75,000.00
SUBTOTAL					\$75,000.00

CONSTRUCTION COST \$3,301,758.61

CONSTRUCTION: \$3,301,758.61

RIGHT OF WAY: \$70,994.00

E & C (10%): \$330,175.86

ACQUIRED BY: DOT

INFLATION: \$338,430.26
 (2 yrs. @ 5% per yr)

UTILITIES: \$15,000.00

TOTAL CONST COSTS \$4,041,358.73
 (INCLUDING RIGHT OF WAY)

PROJECT COSTS

02-Oct-03 ALTERNATE 5 - EXISTING ALIGNMENT/CONCRETE WALL WITH OFFSITE DETOUR
 DETAILED COST ESTIMATE FOR SR 284 OVER CHATTAHOOCHEE RIVER/LAKE LANIER
 PROJECT NO.: BRST-2424(3), HALL COUNTY
 P.I. NO.: 142291

ITEM NO.	ITEM	UNIT	UNIT COST	QUANT	TOTAL
ROADWAY					
210-0100	GRADING COMPLETE - (23,793 CY @ \$6.00/CY)	LS	\$142,758.00	1	\$142,758.00
310-5100	GR AGGR BASE CRS, 10 INCH, INCL MATL	SY	\$9.29	5941	\$55,187.76
318-3000	AGGR SURF CRS	TN	\$13.44	10	\$134.40
402-1812	RECYCLED ASPH CONC LEVELING, INCL BITUM MATL & H LIME	TN	\$36.26	50	\$1,813.00
402-3121	RECYCLED ASPH CONC 25 MM SUPERPAVE, GP 1 OR 2, INCL BITUM	TN	\$33.57	2045	\$68,651.87
402-3131	RECYCLED ASPH CONC 9.5 MM SUPERPAVE, GP 2 ONLY, INCL	TN	\$35.38	650	\$22,997.32
402-3190	RECYCLED ASPH CONC 19 MM SUPERPAVE, GP 1 OR 2, INCL BITUM	TN	\$37.53	682	\$25,583.40
413-1000	BITUM TACK COAT	GL	\$0.92	832	\$765.14
433-1000	REINF CONC APPROX SLAB	SY	\$249.66	310	\$77,394.60
441-0301	CONC SPILLWAY, TP 1	EA	\$1,297.65	2	\$2,595.30
500-3800	CLASS A CONCRETE, MC (C) STEEL	CY	\$418.41	2532	\$1,059,414.12
550-1180	STORM DRAIN PIPE, 18 IN	LF	\$23.71	330	\$7,824.30
550-4218	FLARED END SECTION 18 IN, STORM DRAIN	EA	\$316.51	9	\$2,848.59
576-1015	SLOPE DRAIN PIPE, 15 IN	LF	\$18.83	90	\$1,694.70
577-1100	METAL DRAIN INLET - COMPLETE ASS	EA	\$941.88	4	\$3,767.52
641-1100	GUARDRAIL, TP T	LF	\$35.43	83	\$2,925.81
641-1200	GUARDRAIL, TP W	LF	\$10.61	1088	\$11,538.38
641-5001	GUARDRAIL ANCHORAGE, TP 1	EA	\$336.57	2	\$673.14
641-5012	GUARDRAIL ANCHORAGE, TP 12	EA	\$1,190.77	2	\$2,381.54
668-2100	DROP INLET, GP 1	EA	\$1,531.69	1	\$1,531.69
668-5000	JUNCTION BOX	EA	\$1,328.87	1	\$1,328.87
				SUBTOTAL	\$1,493,809.45
EROSION CONTROL					
000-0000	EROSION CONTROL	LS	\$95,000.00	1	\$95,000.00
				SUBTOTAL	\$95,000.00
BRIDGE					
540-1102	REMOVAL OF EXISTING BR, BR NO -	S	\$170,000.00	1	\$170,000.00
543-1001	CONSTRUCTION OF BRIDGE NO. (\$55/SF X 39820 SF)	S	\$2,190,000.00	1	\$2,190,000.00
603-2024	STN DUMPED RIP RAP, TP 1, 24 IN	S	\$28.91	1,950	\$56,374.50
				SUBTOTAL	\$2,416,474.50
TRAFFIC SIGN & MARKING					
000-0000	TRAFFIC SIGNING & MARKING	LS	\$10,000.00	1	\$10,000.00
				SUBTOTAL	\$10,000.00
TRAFFIC CONTROL					
150-1000	TRAFFIC CONTROL -	LS	\$75,000.00	1	\$75,000.00
				SUBTOTAL	\$75,000.00

CONSTRUCTION COST \$4,090,283.95

CONSTRUCTION: \$4,090,283.95

RIGHT OF WAY: \$149,891.00

E & C (10%): \$409,028.40

ACQUIRED BY: DOT

INFLATION: \$419,254.10
 (2 yrs. @ 5% per yr)

UTILITIES: \$15,000.00

TOTAL CONST COSTS \$5,068,457.45
 (INCLUDING RIGHT OF WAY)

Project No.: BRST-2424(3), Hall County

P.I. 142291 - Concept Right of Way

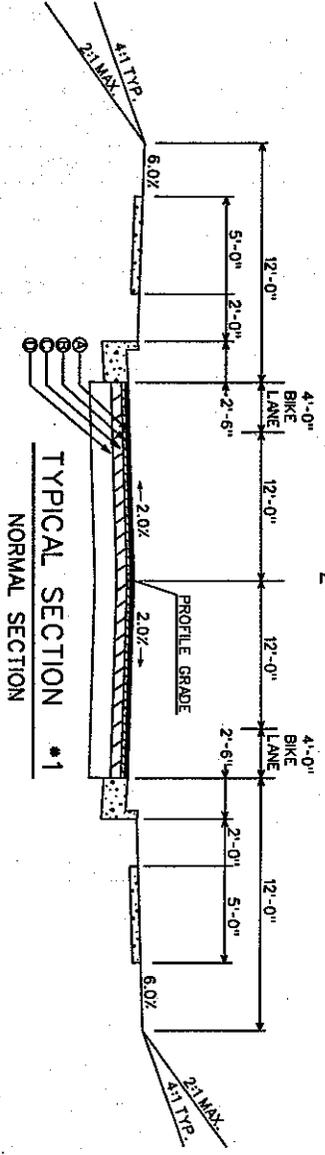
Area Summary

Alternates	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6
	29770	10626	9704	10142	1064	3887
	12765	6238	6176		1773	64590
		52084	59945		18576	
Total Area (SF)	42535	68948	75825	10142	21413	68477

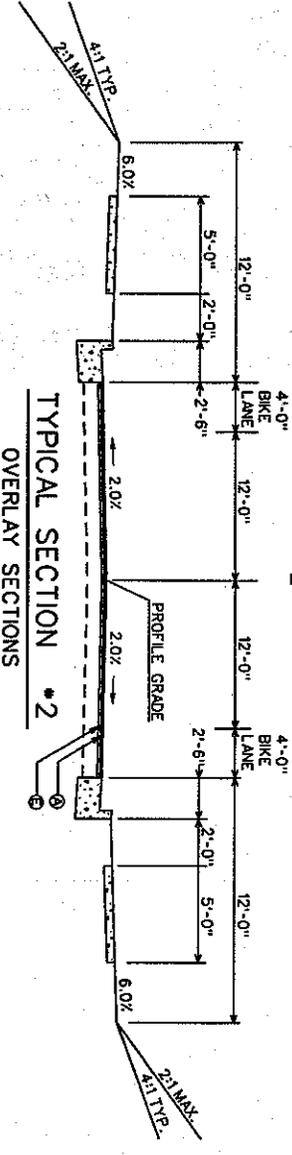
R/W Costs	\$297,745.00	\$482,636.00	\$530,775.00	\$70,994.00	\$149,891.00	\$479,339.00
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(7.00/SF)

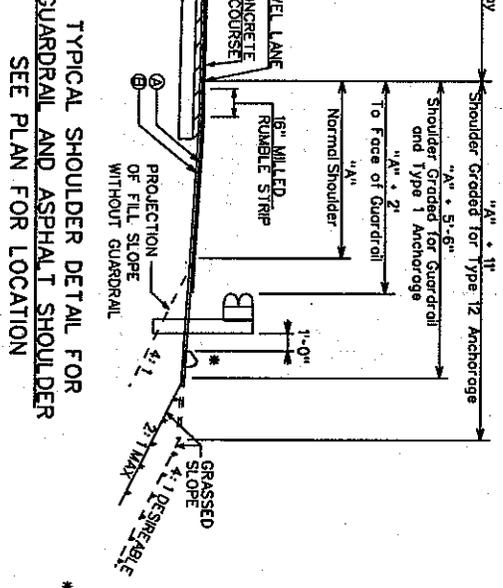
STATE	PROJECT NUMBER	SHEET NUMBER
GA	BRST-2424131	10 OF 15



CONSTRUCTION SR 284



CONSTRUCTION SR 284



TYPICAL SHOULDER DETAIL FOR GUARDRAIL AND ASPHALT SHOULDER
SEE PLAN FOR LOCATION

* ASPHALTIC CONCRETE CURB PER SECTION 436 SHALL BE REQUIRED WHERE SPECIFIED. TYPICAL USE IS FOR EROSION PREVENTION OF HIGH FILL SLOPES, WHERE SPILLWAYS ARE REQUIRED.

- REQUIRED PAVEMENT**
- A RECYCLED ASPH CONC 12.5 mm SUPERPAVE, GP 2 ONLY, INCL BITUM & H LIME (165 LBS/SY)
 - B RECYCLED ASPH CONC 19 mm SUPERPAVE, GP 1 OR 2, INCL BITUM MATL & H LIME (220 LBS/SY)
 - C RECYCLED ASPH CONC 25 mm SUPERPAVE, GP 1 OR 2, INCL BITUM MATL & H LIME (660 LBS/SY)
 - D GR AGCR BASE CRS, 10 INCH, INCL MATL
 - E RECYCLED ASPH CONC LEVELING, INCL BITUM MATL & H LIME, AS RECD



Heath & Linbeck Engineers
1300 W. BROADWAY, SUITE 1000
ATLANTA, GEORGIA 30334

DATE	REVISIONS	DATE	REVISIONS

GEORGIA
DEPARTMENT OF TRANSPORTATION
TYPICAL SECTIONS-ALT 6
PROJECT: HALL COUNTY, HALL
DATE: NOVEMBER 2003

NEED AND PURPOSE
PROJECT BRST-2424(3), HALL COUNTY
PI No. 142291
BRIDGE REPLACEMENT

Background

The proposed project will replace the structurally deficient bridge on State Route 284 across the Chattahoochee River. The site is four miles north of Gainesville, Georgia. The existing bridge length and width is 834 ft x 23.80 ft.

The Department's policy for bridge replacement, Policy # 2405-1, requires that if a bridge receives a sufficiency rating less than 50 that the bridge be replaced. The existing bridge has a sufficiency rating of 47.97 and a structural evaluation rating of four (4). A memo regarding the structural evaluation and load capacity of this bridge, dated February of 1999, states that the aforementioned bridge has been classified structurally deficient. Therefore the project described, with sensitivity towards the provided justification, is being proposed.

Facility Overview and Operational Characteristics

The existing bridge was constructed in 1958 and is along a segment of roadway with a posted speed limit of 45. Annual daily traffic along this bridge in 2000 was 8,050 vehicles with 1% truck traffic. The 2011 and 2031 traffic is projected at 11,000 AADT and 15,000 AADT respectively. The route is also a designated state bike and school bus route.

The existing facility consists of two 12 ft travel lanes with variable width grass shoulders.

Logical Termini

The proposed bridge project will tie into the existing roadway and will not require any additional roadway work. There are no other projects in the vicinity. Thus, the bridge project is a stand alone project with independent utility and logical termini.

The proposed project length is approximately 2900 feet (0.55 miles), beginning at M.P. 1.63 and extending to M.P. 2.18. The proposed bridge length and width is 100 ft x 48 ft. This will include two 12 ft travel lanes, with 2 ft paved shoulders, 4'-0" bike lanes, curb and gutter, and 12'-0" shoulders with 5'-0" sidewalks.

Accident Data

No accidents have been recorded at the bridge; however, the section of State Route 284 one mile north and one mile south of the bridge has experienced a constant rate of accidents since 1995. In 1995 there were 12 accidents recorded with 3 injuries and 0 fatalities. In 1996 there were 12 accidents recorded with 1 injury and 1 fatality. In 1997 there were 13 accidents recorded with 5 injuries and 0 fatalities. In 2001, 14 accidents were recorded with 5 injuries and 0 fatalities. Below are accident data and comparable statewide averages:

	1995	1996	1997	2001
Total Accidents	12	12	13	14

Accidents Per 100 MVMT	303	253	304	250
Statewide Accidents Per 100 MVMT	549	285	372	550
Accident % Higher/Lower Than Statewide Average	-45%	-11%	-18%	-55%

Accident rates along the proposed project limits are considerably below statewide averages for similarly classified roadways. Of the recorded accidents, most do not involve collisions with other vehicles. These accidents include collisions with a variety of things including but not limited to deer, the ditch, and mailboxes. The upgraded bridge should not negatively affect accident rates.

Community Characteristics

The project is located in Hall County, Georgia. Hall County is part of the Atlanta metropolitan area with a 2000 total population count of 139,277. Of these residents, 19.6% are Hispanic and 7.3% are Black. The percentage of the population below the poverty level, 12.4%, is slightly lower than the state of Georgia average of 13%.

Within a one mile north-south and east-west radius of the proposed site there are four census block groups. Within this area there is a total population of 7,151, according to 2000 census numbers. Of this group, 18% are Hispanic and 4% are Black. Also, 16% of the population has an income less than \$20,000.

Need and Purpose

Replacing the bridge on SR 284 over the Chattahoochee River will bring it up to current AASHTO geometric design standards. The purpose of the proposed improvement is to provide better mobility through this section of SR 284 and an overall safer driving environment for thru and local traffic. The above defined improvement is necessary and recommended to enhance the operating serviceability and provide a bridge that would adequately and safely serve current and future travel demand on this portion of State Route 284.

Department of Transportation State of Georgia

INTERDEPARTMENT CORRESPONDENCE

FILE BRST-2424(3), Hall County
P.I. # 142291

OFFICE Environment/Location

DATE July 26, 2002

FROM Harvey D. Keeper, State Environment/Location Engineer

TO James B. Buchan, P.E., State Consultant Design Engineer
Attn. Ted Cashin

SUBJECT Traffic Assignment for S.R. 284 @ Chattahoochee River (Lake Lanier) 4 Mi
North of Gainesville in Hall County.

We are furnishing estimated Traffic Assignment for the above project is as follows:

2000 AADT = 8050
2011 AADT = 11000
2031 AADT = 15000
K = 10%
D = 60%
T. = 1%
24 HOUR T = 2.5%
S.U. = 2%
COMB. = 0.5%

If you have any questions concerning this information please contact Abby Ebodaghe at (404) 699-4460.

HDK/AFE

BRIDGE INVENTORY DATA LISTING GEORGIA DEPARTMENT OF TRANSPORTATION

Structure ID: 139-0036-0

Hall

SUFF. RATING

48.20

Location & Geography

* Structure I.D.No: 139-0036-0

* 200 Bridge Information 06

* 6A Feature Int: CHATT RIV (LAKE LANIER)

* 6B Critical Bridge: 0

* 7A Route Number Carried: SR00284

* 7B Facility Carried: SR 284

* 9 Location: 4 MI NORTH OF GAINESVILLE

2 DOT District: 1

207 Year Photo: 1999

* 91 Inspection Frequency: 24 Date: 06/27/2001

92A Fract Crit Insp Freq: 00 Date: 02/01/1901

92B Underwater Insp Freq: 60 Date: 12/06/2000

92C Other Spc. Insp Freq: 00 Date: 02/01/1901

* 4 Place Code: 00000

* 5 Inventory Route (O/U): 1

Type: 3

Designation: 1

Number: 00284

Direction: 0

* 16 Latitude: 34-20.9 MMS Prefix: SR

* 17 Longitud 83-47.6 MMS Suffix: 00 MP: 1.72

98 Border Bridge: 000 %Shared: 00

99 ID Number: 0000000000000000

* 100 STRAHNET: 0

12 Base Highway Network: 1

13A LRS Inventory Route: 1391028400

13B Sub Inventory Route: 0

* 101 Parallel Structure: N

* 102 Direction of Traffic: 2

* 264 Road Inventory Mile Post: 001.74

* 208 Inspection Area: 01 Initials: GMC

Engineer's Initial: wss

* Location I.D. No.: 139-00284D-001.72N

Signs & Attachments

* 104 Highway System: 0

* 26 Functional Classification: 16

* 204 Federal Route Type: S No.: 02424

* 105 Federal Lands Highway: 0

* 110 Truck Route: 0

206 School Bus Route: 1

217 Benchmark Elevation: 0000.00

218 Datum: 0

* 19 Bypass Length: 08

* 20 Toll: 3

* 21 Maintenance: 01

* 22 Owner: 01

* 31 Design Load: 2

37 Historical Significance: 5

205 Congressional District: 09

27 Year Constructed: 1958

106 Year Reconstructed: 0000

33 Bridge Median: 0

34 Skew: 99

35 Structred Flared: 0

38 Navigation Control: 0

213 Special Steel Design: 0

267 Type of Paint: 5

* 42 Type of Service on: 1

Under: 5

214 Movable Bridge: 0

203 Type Bridge: A-O-M-O

259 Pile Encasement: 3

* 43 Structure Type Main: 4 02

45 No. Spans Main: 008

44 Structure Type Appr: 3 02

46 No. Spans Appr: 0003

226 Bridge Curve Horz: 0 Vert: 0

111 Pier Protection: 0

107 Deck Structure Type: 1

108 Wearing Surface Type: 1

Membrane: 0

Protection: 8

225 Expansion Joint Type: 01

242 Deck Drains: 1

243 Parapet Location: 0

Height: 0.00

Width: 0.00

238 Curb: 1.20 1

239 Handrail: 1 1

* 240 Median Barrier Rail: 0

241 Bridge Median Height: 0.00

Width: 0.00

* 230 Guardrail Loc Dir Rear: 3

Fwrd: 3

Oppo Dir Rear: 0

Fwrd: 0

244 Approach Slab: 0

224 Retaining Wall: 0

233 Posted Speed Limit: 45

236 Warning Sign: 1

234 Delineator: 1

235 Hazard Boards: 1

237 Utilities Gas: 00

Water: 32

Electric: 00

Telephone: 31

Sewer: 00

247 Lighting Street: 0

Navigation: 0

Aerial: 0

* 248 County Continuity No.: 00

BRIDGE INVENTORY DATA LISTING GEORGIA DEPARTMENT OF TRANSPORTATION

Structure ID: 139-0036-0

Hall

SUFF. RATING

48.20

Programming Data

201 Project No.: PR 1548
 202 Plans Available: 4
 249 Prop. Proj. No. BRST-2424 (3)
 250 Approval Status: 0000
 251 P.I. No.: 142291-
 252 Contract Date: 02/01/2007
 260 Seismic No.: 00000
 75 Type Work: 34 1
 94 Bridge Imp. Cost \$ 1,180
 95 Roadway Imp. Cos \$ 97
 96 Total Imp Cost: \$ 1,680
 76 Imp. Length: 001043
 97 Imp. Year: 1990
 114 Future ADT: 12000 Year: 2020

Measurements

* 29 ADT: 008000 Year: 2000
 109 % Trucks: 2
 * 28 Lanes On: 02 Under: 00
 210 No. Tracks On: 00 Under: 00
 * 48 Max. Span Length: 0100
 * 49 Structure Length: 834
 51 Br. Rwdy. Width: 23.80
 52 Deck Width: 29.80
 * 47 Tot. Horz. Cl: 23.80
 50 Curb/Sdewlk Width: 2.10/2.10
 32 Approach Rdwy Width: 022
 * 229 Shoulder Width:

Rear Lt: 3.50 Type: 2 Rt: 3.00
 Fwd Lt: 4.70 Type: 8 Rt: 5.10
 Pavement Width:

Rear: 23.30 Type: 2
 Fwd: 22.30 Type: 2
 Intersection Rear: 0 Fwd: 0
 36 Safety Features Br. Rail: 2
 Transition: 2

App. G. Rail: 2
 App. Rail End: 2
 53 Minimum Cl. Over: 99' 99"
 Under: N 00' 00"

* 228 Min. Vertical Cl
 Act. Odm Dir: 99' 99"
 Oppo. Dir: 99' 99"
 Posted Odm. Dir: 00' 00"
 Oppo. Dir: 00' 00"

55 Lateral Undercl. Rt: N 99.90
 56 Lateral Undercl. Lt: 0.00
 * 10 Max Min Vert Cl: 99' 99" Dir: 0

39 Nav Vert Cl: 000 Horz: 0000
 116 Nav Vert Cl Closed: 000
 245 Deck Thickness Main: 6.30
 Deck Thick Approach: 0.00
 246 Overlay Thickness: 0.00
 212 Year Last Painted: Sup: 1997 Sub: 0000

Hydraulic Data

215 Waterway Data
 Highwater Elev.: 0000.0 Year: 1900
 Avg. Streambed Elev.: 0000.0 Freq.: 00
 Drainage Area: 00000
 Area Of Opening: 000000
 113 Scour Critical: 6
 216 Water Depth: 55.0 Br. Height: 15.2
 222 Slope Protection: 1
 221 Spur Dikes Rear: 0 Fwd: 0
 219 Fender System: 0
 220 Dolphin: 0
 223 Culvert Cover: 000
 Type: 0
 No. Barrels: 0
 Width: 0.00 Height: 0.00
 Length: 0 Apron: 0
 * 265 U/W Insp. Area: 1 Diver: WC

* Location I.D. No.: 139-00284D-001.72N

Ratings

65 Inventory Rating Method: 2
 63 Inventory Rating Method: 2
 66 Inventory Type: 2 Rating: 20
 64 Operating Type: 2 Rating: 34
 231 Calculated Loads
 H-Modified: 20 0
 HS-Modified: 25 0
 Type 3: 25 0
 Type 3s2: 38 0
 Timber: 34 0
 Piggyback: 40 0

261 H Inventory Rating: 15
 262 H Operating Rating: 24
 67 Structural Evaluation: 4
 58 Deck Condition: 5
 59 Superstructure Condition: 7

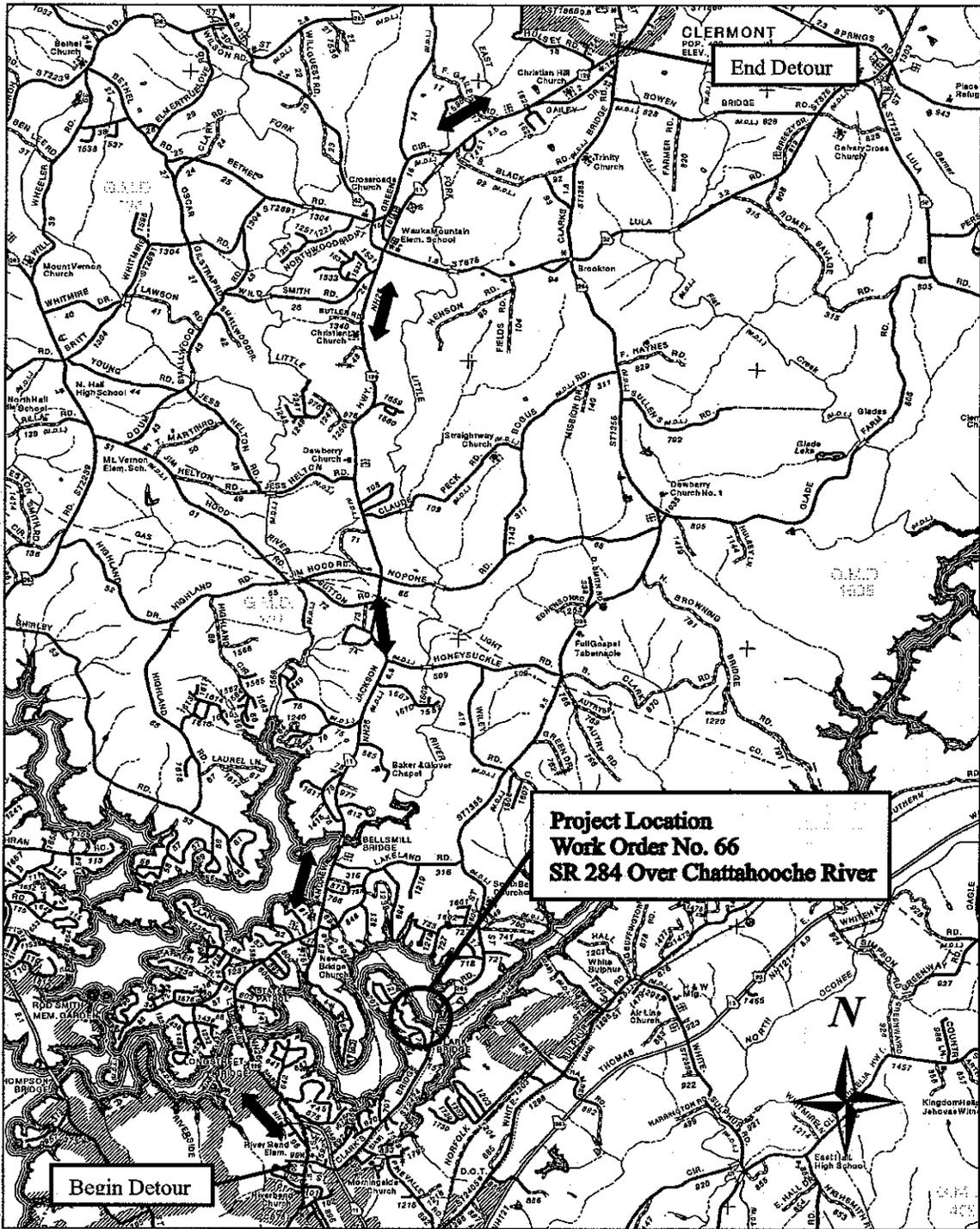
* 227 Collision Damage: 0
 60A Substructure Condition: 6
 60B Scour Condition: 6
 60C Underwater Condition: 6
 71 Waterway Adequacy: 9
 61 Channel Protection Cond: 8
 68 Deck Geometry: 2
 69 UnderClr. Horz/Vert: N
 72 Appr. Alignment: 7
 62 Culvert: N

Posting Data

70 Bridge Posting Required: 5
 41 Struct Open, Posted, Cl: A
 * 103 Temporary Structure: 0
 232 Posted Loads H-Modified: 00
 HS-Modified: 00
 Type 3: 00
 Type3s2: 00
 Timber: 00
 Piggyback: 00

253 Notification Date 02/01/1901
 253 Fed Notify Date: 02/01/1901

0



Scale: 1 inch = 2 mile

Detour Map – Alternates 1, 2, 4, & 5

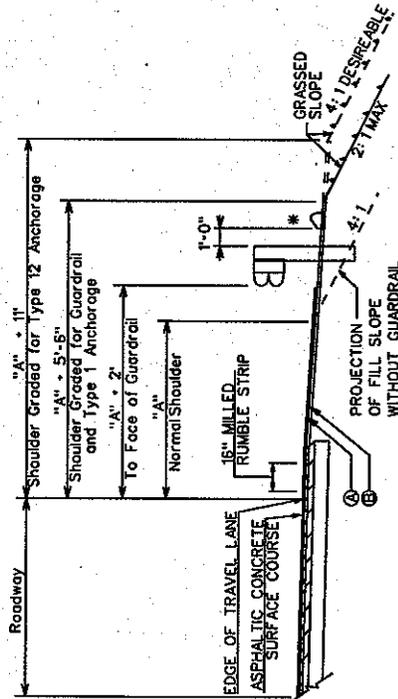
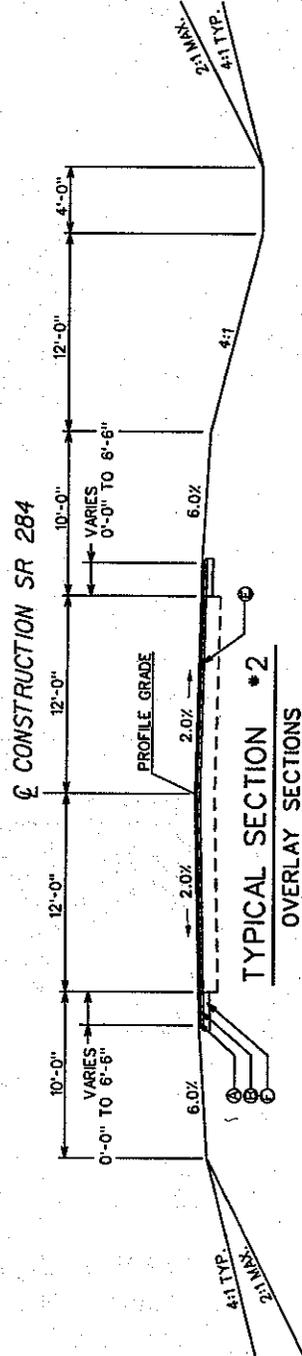
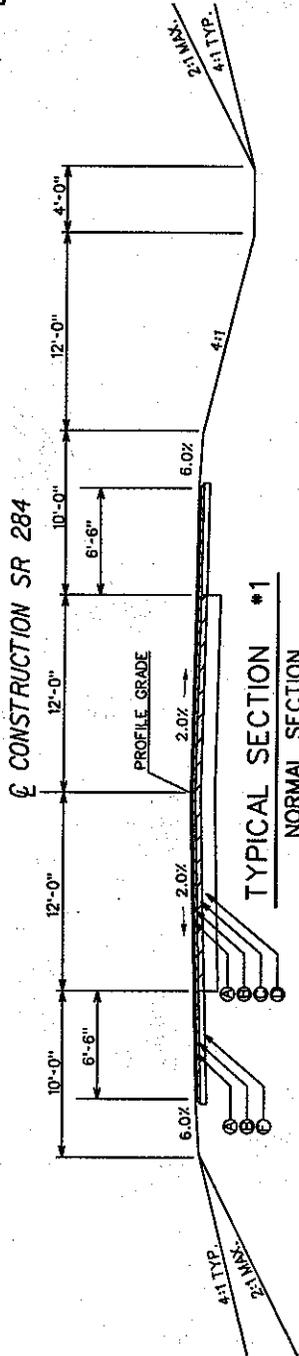
Project: BRST-2424(3) Hall County PI No.: 142291-

Description: SR 284 over Chattahoochee River 4 mi N of Gainesville

Proposed Detour Route – 11.77 miles, Net Length – 1.19 miles

NOT RECOMMENDED

STATE	PROJECT NUMBER	SHEET TOTAL
GA	BRST-2424(3)	NO. SHEETS



REQUIRED PAVEMENT

- (A) RECYCLED ASPH CONC 12.5 mm SUPERPAVE, GP 2 ONLY, INCL BITUM & H LIME (165 LBS/SY)
- (B) RECYCLED ASPH CONC 19 mm SUPERPAVE, GP 1 OR 2, INCL BITUM MATL & H LIME (220 LBS/SY)
- (C) RECYCLED ASPH CONC 25 mm SUPERPAVE, GP 1 OR 2, INCL BITUM MATL & H LIME (660 LBS/SY) OR AGGR BASE CRS, 10 INCH, INCL MATL
- (D) OR AGGR BASE CRS, 10 INCH, INCL MATL
- (E) RECYCLED ASPH CONC LEVELING, INCL BITUM MATL & H LIME, AS RECD

SHOULDER PAVEMENT

- (A) RECYCLED ASPH CONC 12.5 mm SUPERPAVE, GP 2 ONLY, INCL BITUM & H LIME (165 LBS/SY)
- (B) RECYCLED ASPH CONC 19 mm SUPERPAVE, GP 1 OR 2, INCL BITUM MATL & H LIME (220 LBS/SY)
- (F) OR AGGR BASE CRS, 6 INCH, INCL MATL

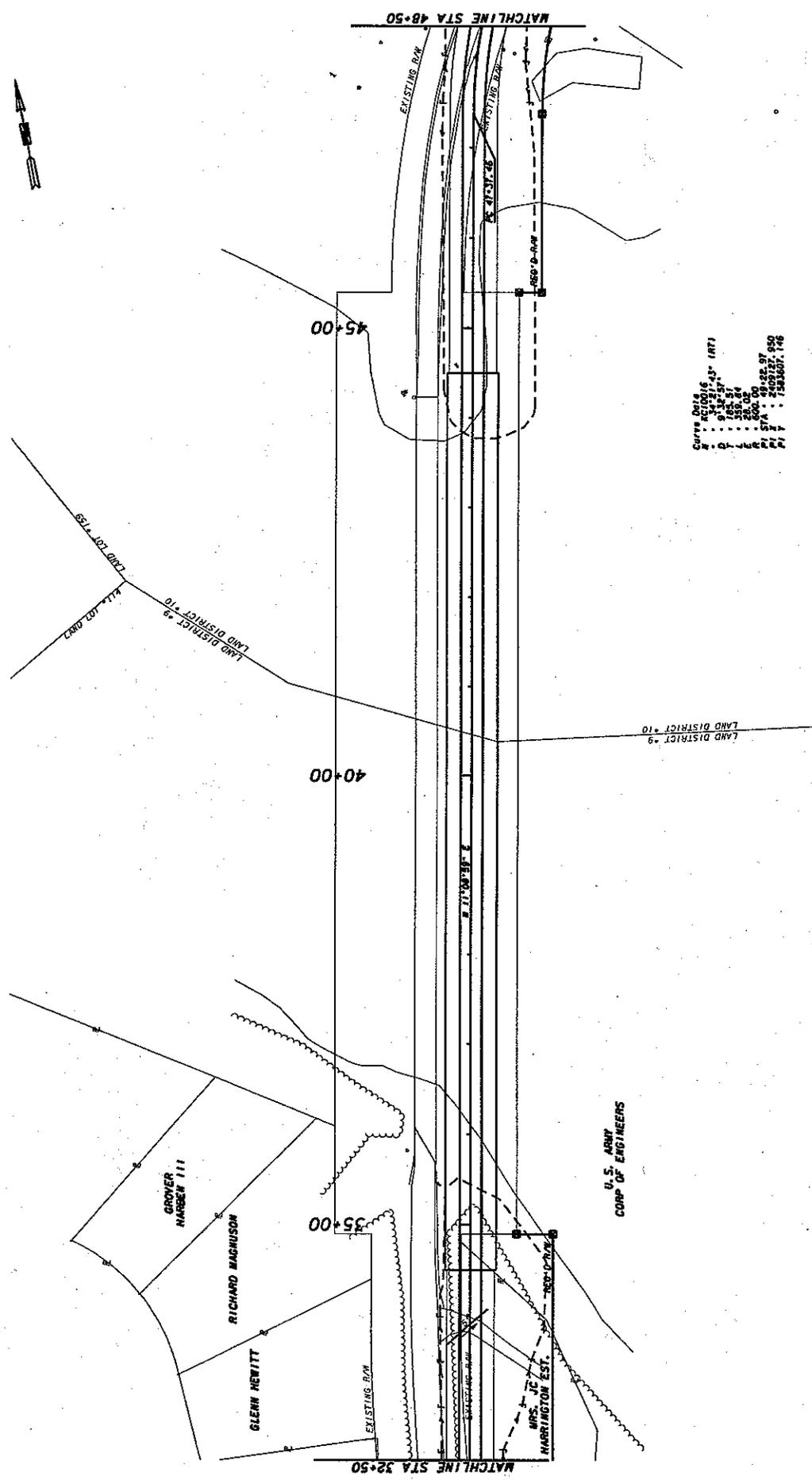
* ASPHALTIC CONCRETE CURB PER SECTION 436 SHALL BE REQUIRED WHERE SPECIFIED. TYPICAL USE IS FOR EROSION PREVENTION OF HIGH FILL SLOPES. WHERE SPILLWAYS ARE REQUIRED.

DATE	REVISIONS	DATE	REVISIONS

HEALTH & LINEBACK ENGINEERS
INCORPORATED
1400 W. BURNETT BLVD., SUITE 240
MARIETTA, GEORGIA 30067

GEORGIA
DEPARTMENT OF TRANSPORTATION
TYPICAL SECTIONS-ALT 1-3 & 5
PROJECT: BRST-2424(3)
COUNTY: HALL
DATE: SEPTEMBER 2003

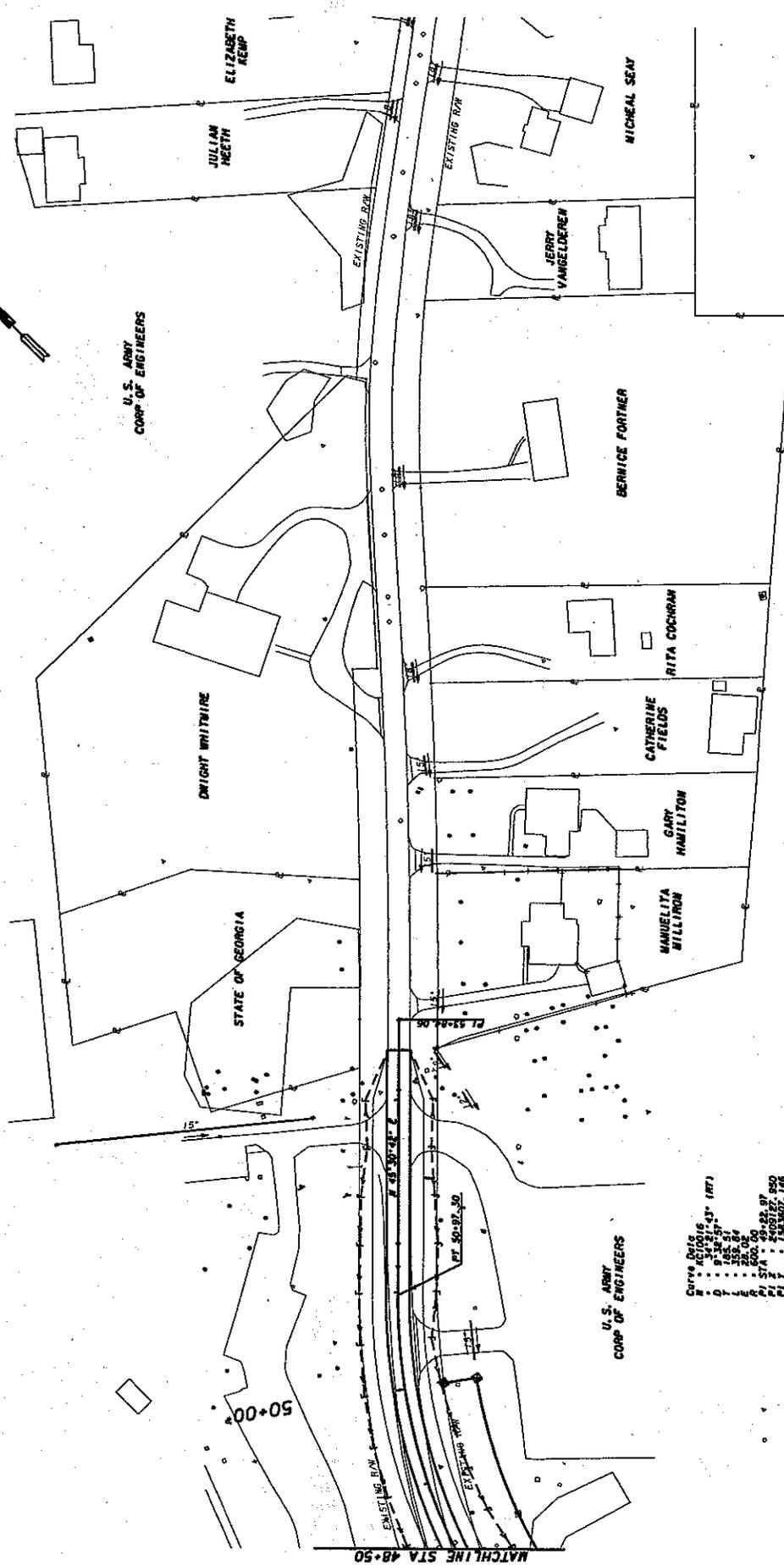
STATE	PROJECT NUMBER	SHEET TOTAL
GA.	BST-2424131	25
		SHEETS



CURVE DATA
 1. BEG. STA. 43+21.43' (PT)
 2. END STA. 43+21.43' (PT)
 3. CHORD BEG. STA. 43+21.43' (PT)
 4. CHORD END STA. 43+21.43' (PT)
 5. CHORD BEG. STA. 43+21.43' (PT)
 6. CHORD END STA. 43+21.43' (PT)
 7. PI STA. 43+21.43' (PT)
 8. PI STA. 43+21.43' (PT)
 9. PI STA. 43+21.43' (PT)
 10. PI STA. 43+21.43' (PT)

Health & Lineback Engineers INCORPORATED LICENSE NO. 11111 LICENSED PROFESSIONAL ENGINEER	PROPERTY AND EXISTING R/W LINE REQUIRED R/W LINE CONSTRUCTION LIMITS EASEMENT FOR CONSTR & MAINTENANCE OF SLOPES EASEMENT FOR CONSTR OF SLOPES EASEMENT FOR CONSTR OF DRIVES	BEGIN LIMIT OF ACCESS END LIMIT OF ACCESS LIMIT OF ACCESS R/W AND LIMIT OF ACCESS	BIA ELA ELA	DATE REVISIONS REVISIONS	DATE REVISIONS REVISIONS	LAND LOT NO. 114, 119 LAND DISTRICT 9, 10 GMD 411, 370	GEORGIA DEPARTMENT OF TRANSPORTATION CONSTRUCTION PLAN SHEET - ALT 6 PROJECT: BST-2424131 COUNTY: HALL
	SCALE IN FEET 0 50 100 200						

STATE PROJECT NUMBER SHEET TOTAL
 GAL. BRST-2424(13) 13

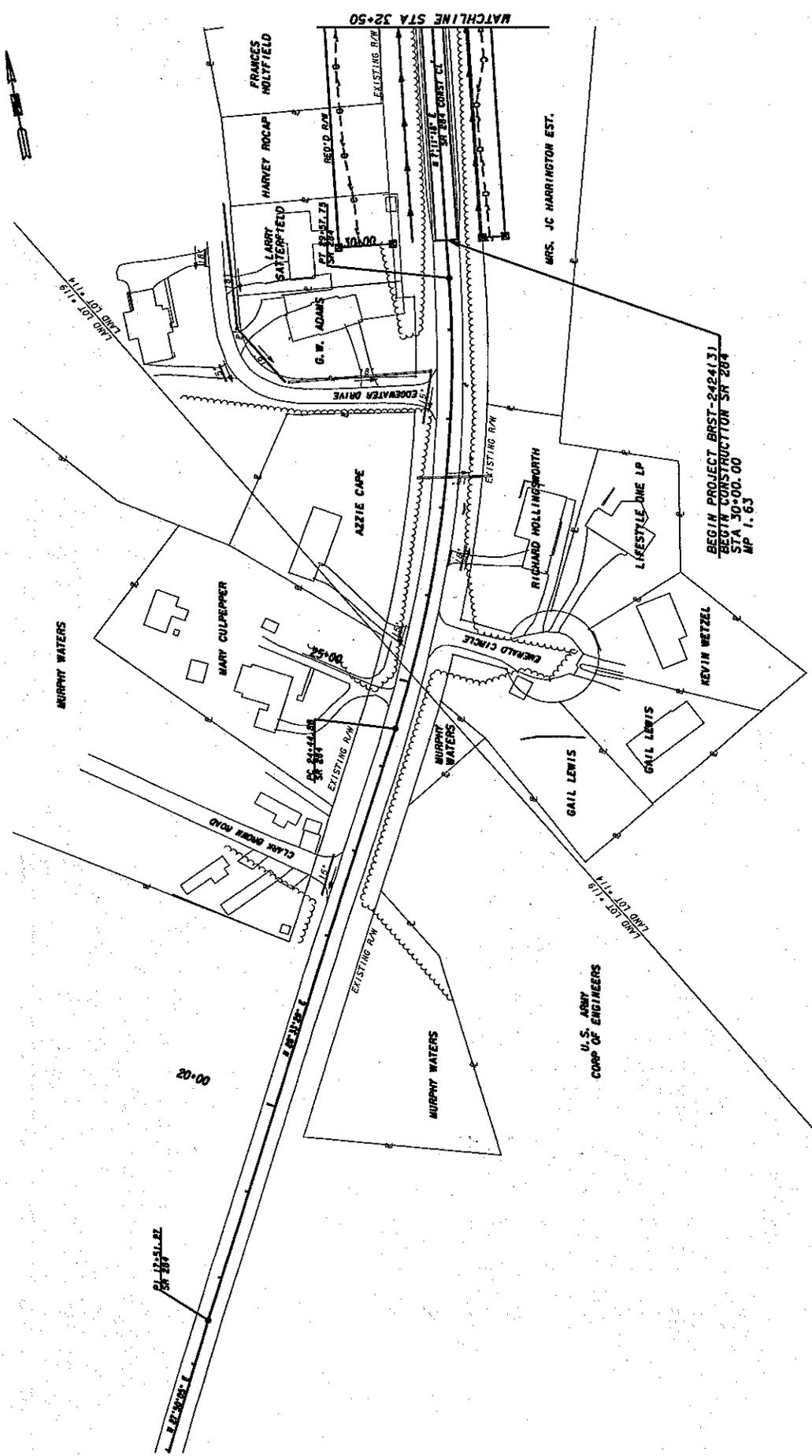


Curve Data
 W . 16.0016
 D . 97.2433* (RT)
 L . 168.21
 E . 238.02
 P . 600.00
 P.I . 240.00
 P.T . 240.00
 P.L . 240.00

Heath & Libbeck Engineers INCORPORATED 1000 WEST 10TH STREET ATLANTA, GA 30309	BEGIN LIMIT OF ACCESS.....BLA END LIMIT OF ACCESS.....ELA LIMIT OF ACCESS.....LA R/W AND LIMIT OF ACCESS.....R/W	REVISIONS	DATE	REVISIONS	DATE	REVISIONS	DATE
		LAND LOT NO. 159, 160 LAND DISTRICT ID GRID 510					

GEORGIA
 DEPARTMENT OF TRANSPORTATION
 CONSTRUCTION PLAN
 SHEET - ALT 6
 PROJECT: BRST-2424(13)
 COUNTY: HALL

STATE	PROJECT NUMBER	SHEET TOTAL
GA.	BRST-2424(3)	114 OF 119



GEORGIA
 DEPARTMENT OF TRANSPORTATION
 CONSTRUCTION PLAN
 SHEET - ALT 1
 PROJECT: BRST-2424(3)
 COUNTY: HALL

DATE	REVISIONS

LAND LOT NO. 114, 119
LAND DISTRICT 9
GRID 511

BEGIN LIMIT OF ACCESS	BLA
END LIMIT OF ACCESS	ELA
LIMIT OF ACCESS	LA
R/W AND LIMIT OF ACCESS	R/W

PROPERTY AND EXISTING R/W LINE	---
REQUIRED R/W LINE	---
CONSTRUCTION LIMITS	---
EASEMENT FOR CONSTR	---
& MAINTENANCE OF SLOPES	---
EASEMENT FOR CONSTR OF SLOPES	---
EASEMENT FOR CONSTR OF DRIVES	---

Health & Linbeck Engineers
 1200 W. GUNN STREET, SUITE 100
 KENNESAW, GEORGIA 30144

BEGIN PROJECT BRST-2424(3)
 BEGIN CONSTRUCTION SR 204
 SFA 30,000.00
 MP 1.63



MATCHLINE STA 32+50



