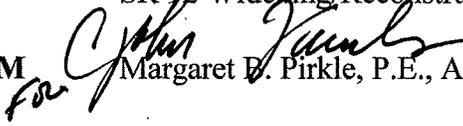


D.O.T. 66

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

INTERDEPARTMENT CORRESPONDENCE

FILE STP-186-1(25)/ BHF-186-1(20)/ BRST-186-1(41) **OFFICE** Preconstruction
Paulding County
P. I. Nos. 621720/ 621022/ 632921
SR 92 Widening/Reconstruction **DATE** February 9, 2005

FROM *for*  Margaret D. Pirkle, P.E., Assistant Director of Preconstruction

TO SEE DISTRIBUTION

SUBJECT PROJECT CONCEPT REPORT APPROVAL

Attached for your files is the approval for subject project.

MBP/cj

Attachment

DISTRIBUTION:

David Mulling
Harvey Keepler
Ken Thompson
Jamie Simpson
Michael Henry
Keith Golden
Joe Palladi (file copy)
Paul Liles
Babs Abubakari
Brent Story
Kent Sager
BOARD MEMBER

**DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA**

INTERDEPARTMENT CORRESPONDENCE

FILE STP-186-1(25)/ BHF-186-1(20)/ BRST-186-1(41) **OFFICE** Preconstruction
 Paulding County
 P.I. Nos. 621720/ 621022/ 632921
 SR 92 Widening/Reconstruction **DATE** February 2, 2005

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

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

SUBJECT PROJECT CONCEPT REPORT

These combined projects comprise the widening and reconstruction of SR 92 from Nebo Road to SR 120 for a total of 4.45 miles. State Route 92 within the project limits, consists of a two lane roadway with 12' lanes except at major improved intersections. This route is presently operating at an unacceptable level of service (LOS) "F." With the proposed improvements, the LOS will change to LOS "C" and "D" in the year 2029. The existing traffic (2009) on SR 92 between Nebo Road and SR 120 varies between 19,900 VPD to 29,550 VPD. It is anticipated that traffic will increase to 28,900 VPD and 42,400 VPD, respectively, in the year 2029. Accident analysis indicates SR 92, on average, experiences accidents at a rate exceeding the statewide average for similarly classified facilities. The total number of injuries for 2000, 2001, and 2002 was 177 injuries and 2 fatalities, and the majority of the accidents were classified as "rear-end" or "angle intersecting." The purpose of these projects is to improve the system efficiency for motorists traveling on SR 92 and to provide additional through lanes to improve the LOS to acceptable levels.

The proposed construction will provide two, 12' lanes in each direction separated by a 20' raised median, curb and gutter, 5' sidewalks and turn lanes at major intersections. The existing bridges over the Southern Railroad and the Silver Comet Trail will be replaced. The original design load capacities are H-15 and the sufficiency ratings on the structures are 48 and 47.9 respectively. Traffic will be maintained during construction.

Environmental concerns include requiring an Environmental Assessment be prepared; a public hearing open house will be held; time saving procedures are not appropriate.

**DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA**

INTERDEPARTMENTAL CORRESPONDENCE

FILE: STP-186-1(25) Paulding **OFFICE:** Engineering Services
BHF-186-1(20) Paulding
BRST-186-1(41) Paulding
P.I. Nos. 621720, 621022, & 632921
S.R. 92 widening/reconstruction

DATE: January 21, 2005

FROM: David Mulling, Project Review Engineer *DMW*

TO: Meg Pirkle, Assistant Director of Preconstruction

SUBJECT: CONCEPT REPORT

We have reviewed the Concept Report submitted January 11, 2005 by the letter from Brent Story dated January 10, 2005 and have the following comments.

- If this project is on a National Highway System Route, then a VE Study will have to be done.
- Estimated quantities and unit costs for Earthwork, Bridges, and Retaining Walls should be included for informational purposes.
- **It should be pointed out that the cover letter does not list the two bridge projects. One of the projects is on S.R. 92 over the Silver Comet Trail (671022) and the other project is on S.R. 92 over the Southern Railroad (632921).**

The costs for these projects are:

STP-186-1(25) Paulding

Construction	\$21,063,411
Inflation	\$2,159,000
E&C	\$2,322,411
Reimbursable Utilities	\$661,250
Right of Way	\$5,528,100

STP-186-1(25)/ BHF-186-1(20)/ BRST-186-1(41) Paulding
February 2, 2005

The estimated costs for these projects are:

STP-186-1(25) Paulding

	<u>PROPOSED</u>	<u>APPROVED</u>	<u>FUNDING</u>	<u>PROG DATE</u>
Construction (includes E&C and inflation)	\$25,545,000	\$27,133,000	Q24	2010
Right-of-Way	\$ 5,529,000	\$ 5,529,000		
Utilities*	LGPA	LGPA		

BHF-186-1(20) Paulding

	<u>PROPOSED</u>	<u>APPROVED</u>	<u>FUNDING</u>	<u>PROG DATE</u>
Construction (includes E&C and inflation)	\$672,000	\$670,000	Q10	2010
Right-of-Way	-----	-----		
Utilities*	LGPA	LGPA		

BRST-186-1(41) Paulding

	<u>PROPOSED</u>	<u>APPROVED</u>	<u>FUNDING</u>	<u>PROG DATE</u>
Construction (includes E&C and inflation)	\$1,142,000	\$1,376,000	Q10	2020
Right-of-Way	-----	-----		
Utilities*	LGPA	LGPA		

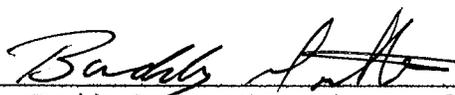
*Paulding County signed LGPA for utilities 12-28-01; City of Hiram signed LGPA for utilities 7-20-01.

I recommend this project concept be approved.

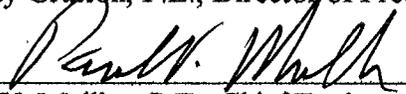
MBP:JDQ/cj

Attachment

CONCUR


Buddy Gratton, P.E., Director of Preconstruction

APPROVE


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

Concept Report Review
STP-186-1(25), BHF-186-1(20) & BRST-186-1(41) Paulding
Page 2.

BHF-186-1(20) Paulding

Construction	\$553,650
Inflation	\$56,750
E&C	\$61,040
Reimbursable Utilities	\$0.00 (included in 621720)
Right of Way	\$0.00 (included in 621720)

BRST-186-1(41) Paulding

Construction	\$941,475
Inflation	\$96,500
E&C	\$103,798
Reimbursable Utilities	\$0.00 (included in 621720)
Right of Way	\$0.00 (included in 621720)

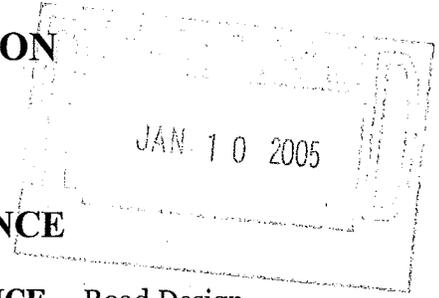
REW

c: Brent Story, Attn.: Jerry Morris

SCORING RESULTS AS PER MOG 2440-2

Project Number: STP-186-1(25), BHF-186-1(20) & BRST-186-1(41)		County: Paulding		PI No.: 621720, 621022, & 632921	
Report Date: January 10, 2005		Concept By: DOT Office: Road Design			
<input checked="" type="checkbox"/> Concept Stage		Consultant: N/A			
Project Type: Choose One From Each Column		<input checked="" type="checkbox"/> Major <input type="checkbox"/> Minor	<input type="checkbox"/> Urban <input checked="" 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			
Presentation	90	Estimated quantities and unit costs for Earthwork, Retaining Walls and Bridges should be included for informational purposes.			
Judgement	100				
Environmental	100				
Right of Way	100				
Utility	100				
Constructability	100				
Schedule	100				

**DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA**



INTERDEPARTMENT CORRESPONDENCE

FILE STP-186-1(25) Paulding Co. **OFFICE** Road Design
P. I. No. 621720

FROM *Brent A. Story JAM* **DATE** January 10, 2005
Brent A. Story, P.E., State Road & Airport Design Engineer

TO Margaret Pirkle, P.E., Assistant Director of Preconstruction

SUBJECT **Project Concept Report**

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

If you need any additional information, please advise.

BAS:JGM

cc: David Mulling, Project Review Engineer
Harvey Keepler, Environment/Location Engineer
Phillip Allen, Traffic Safety and Design Engineer
Joe Palladi, Transportation Planning Administrator
Jamie Simpson, Financial Management Administrator
Kent Sager, District Engineer, Cartersville
Paul Liles, Bridge Engineer

**DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA**

Office of Road and Airport Design

PROJECT CONCEPT REPORT

Project Number: STP-186-1(25)

County: Paulding

P. I. Number: 621720

Federal Route Number:

State Route Number: 92

*Reconstruct a two-lane roadway to a four-lane facility
with a Raised Median*

Recommendation for approval:

DATE 1-10-05

Jimmy N. Minni
Project Manager

DATE 1-10-05

Brent A. [Signature]
State Road and Airport 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 Administrator

DATE _____

State Environmental/Location Engineer

DATE _____

State Traffic Safety & Design Administrator

DATE _____

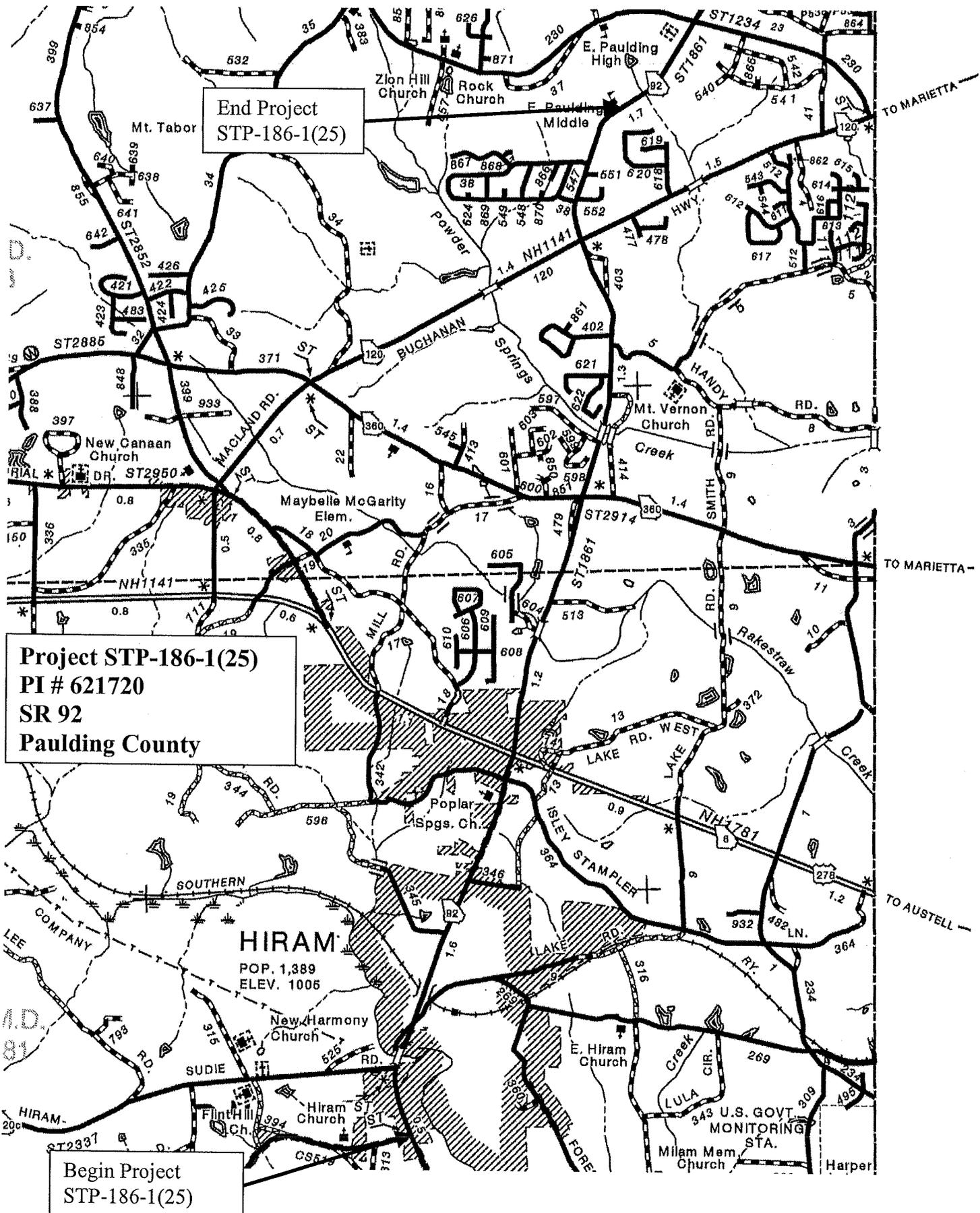
Cartersville District Engineer

DATE _____

Project Review Engineer

DATE _____

State Bridge Design Engineer



End Project
STP-186-1(25)

Project STP-186-1(25)
 PI # 621720
 SR 92
 Paulding County

Begin Project
STP-186-1(25)

HIRAM
 POP. 1,389
 ELEV. 1006

943 U.S. GOVT.
 MONITORING
 STA.
 Milam Mem.
 Church

TO MARIETTA

TO MARIETTA

TO AUSTELL

Project Number: STP-186-1(25)

PI Number: 621720

County: Paulding County

Need and Purpose Statement

- **Background**

The Atlanta Regional Commission (ARC) adopted the 2025 Transportation Plan for the 13-county Atlanta Metropolitan area in April 2000. The Plan addresses travel needs through the year 2025. The Regional Transportation Plan (RTP) is the direct result of a comprehensive, cooperative, and continuous planning process conducted by ARC, local governments and the Georgia Department of Transportation in cooperation with the Federal Highway and Federal Transit Administrations. The proposed project is recommended for widening in the TIP/RTP (PA 008A).

- **Logical Termini**

The termini are logical in that traffic decreases significantly north and south of the proposed project limits. South of the beginning of the proposed improvement, traffic drops from 24,200 AADT to 18,500 AADT for the year 2009. North of the end of the proposed improvement, traffic drops from 20,500 AADT to 13,700 AADT for the year 2009. At US 278 the year 2009 AADT on SR 92 is 25,800 south of the intersection and 26,100 north of the intersection. The project has no significant adverse effects on the operational conditions of the SR 92 corridor beyond the limits of the proposed improvement, and it addresses the more immediate needs in the corridor.

- **Other projects in the area in the RTP**

- ✚ PA 008B - SR 92 from Nebo Road to Douglas County line, widening from 2 lanes to 4 lanes, Network Year 2010
- ✚ PA 009 - SR 92 from SR 120 to Paulding County line, widening from 2 lanes to 4 lanes, Network Year 2010
- ✚ PA 010 - SR 92 from Cobb County line to Due West Road, widening from 2 lanes to 4 lanes, Network Year 2010
- ✚ PA 011 - SR 92 from Due West Road to Paulding County line, widening from 2 lanes to 4 lanes, Network Year 2010

- **Other projects in the area in the 6 year Construction Work Program**

- ✚ BHF-186-1(20), PI # 621022, SR 92 @ SCL RR, Bridge Replacement
- ✚ BRST-186-1(41), PI # 632921, SR 92 @ CR 511 (Southern RR) in Hiram, Bridge Replacement
- ✚ STP-186-1(40), PI # 632776, SR 92 @ CR 283 / Brownsville Road, Intersection Improvement
- ✚ STP-186-1(29)01, PI # 641980, SR 92 @ SR 120 Conn. in Hiram, Turn Lanes
- ✚ BRF-186-1(30)01, PI # 631525, SR 92 @ Grays Mill Creek in South Hiram, Bridge Replacement

- **Identified projects in the area**

- ✚ PA 015 - West Hiram Parkway from SR 92 (near intersection of Panter School Rd) to SR 120, widening from 2 to 4 lanes, Network Year 2010

Project Number: STP-186-1(25)

PI Number: 621720

County: Paulding County

- PA 016 – East Hiram Parkway from SR 92 to US 278 (between Metromont Rd and Poplar Springs Rd), new 4 lane roadway, Network Year 2010

- Travel Demand and Operational Characteristics**

State Route 92 between Nebo Road and SR 120 is presently operating at an unacceptable Level of Service (LOS) F. With the proposed improvement the Level of Service would change to LOS C and D in the year 2029. The existing traffic (2009) on the SR 92 between Nebo Road and SR 120 varies between 19,900 AADT and 29,550 AADT. It is anticipated that traffic will increase to 28,900 AADT and 42,400 AADT, respectively, in the year 2029. This is an increase in the existing traffic of approximately 62% for this section of roadway.

The additional lanes would improve traffic movement and would improve the Level of Service and travel conditions.

- Safety**

The following table compares the accident rate on SR 92 to the statewide average for a similar classified facility for the traffic station with the highest present traffic. The 2000, 2001, and 2002 accident rates along SR 92 in Paulding County were over the statewide average for a road of this type (rural minor arterial).

SR 92, Paulding County – Rural Minor Arterial, Milepost 5.68 to 10.10

	2000	2001	2002
Total Accidents	93	86	85
Accidents Per 100 MVMT	288	283	275
Statewide Accidents Per 100 MVMT	182	190	208
Accident Ratio	1.58	1.49	1.32

The above accident analysis indicates SR 92, on average, experiences accidents at a rate exceeding the statewide average for similar classified facilities. The total number of injuries for 2000, 2001 and 2002 was 177 injuries with two fatalities and the majority of the accidents were classified as “rear end” or “angle intersecting”.

- Need and Purpose**

The purpose of this project is to improve system efficiency for motorists traveling on SR 92 from Nebo Road to SR 120. The traffic can be attributed to accelerated growth in the county. The need and purpose of the proposed improvement is to provide additional through lanes in order to improve the Level-of-Service to acceptable levels and provide a safer driving environment.

- Description of the proposed project**

The proposed project, a rural minor arterial, would reconstruct SR 92 beginning at Nebo Road and extending north to SR 120. The above mentioned section of road would be widened from a two-lane, two-way section to a four-lane, two-way section and would contain

Project Number: STP-186-1(25)

PI Number: 621720

County: Paulding County

a 20' raised median. The existing bridges over the Southern RR and the Silver Comet Trail will be replaced. The original design load capacities are H-15 and in accordance with DOT policy these bridges are classified as Functionally Obsolete. Also, the sufficiency ratings on the structures are 48 and 47.9 respectively. The Office of Bridge Maintenance has determined that any structure with a sufficiency rating less than 50 should be replaced rather than improved. The total length of the proposed improvement is 4.52 miles.

Is the project located in a Non-attainment area? Yes

The Letter of Concept Conformity has been obtained from the Planning Office and attached to this report.

PDP Classification: Major Minor

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

Functional Classification: RURAL MINOR ARTERIAL

U. S. Route Number(s): N/A

State Route Number(s): 92

Traffic (AADT):

Current Year: (2009) 28,900

Design Year: (2029) 42,400

Existing design features:

- Typical Section: two-lane roadways with 12-foot lane width except at major improved intersections.
- Posted speed: 45 mph
- Width of right of way: 80 Feet
- Major structures: Bridges over Norfolk Southern Railroad, Powder Springs Creek and Silver Comet Trail.
- Bridge/Culvert structures:
 - Grays Mill Creek, Location ID#: 223-00092D-006.03N, Serial #: 223-5079-0, Sufficient Rating: 87.00
 - Southern Railroad, Location ID#: 223-00092D-006.36N, Serial #: 223-0012-0, Sufficient Rating: 48.00
 - Silver Comet Trail, Location ID#: 223-00092D-006.98N, Serial #: 223-0013-0, Sufficient Rating: 47.90
 - Rake Straw Creek, Location ID#: 223-00092D-008.22N, Serial #: 223-0038-0, Sufficient Rating: 89.90
 - Powder Springs Creek, Location ID#: 223-00092D-009.67N, Serial #: 223-0014-0, Sufficient Rating: 90.30
- Major interchanges or intersections along the project: US 278/SR 6, SR 360 and SR 120
- Existing length of roadway segment and the beginning mile logs for each county segment.
 - Length of Roadway: 4.5 Miles.
 - Beginning Mile log at Nebo Road: 5.68 Miles.

Project Number: STP-186-1(25)

PI Number: 621720

County: Paulding County

Proposed Design Features:

- Proposed typical section(s):
Four twelve-foot lanes with a twenty-foot raised medium, turning lanes at major intersections. Curb, Gutter and Sidewalks will be furnished.
- Proposed Design Speed Mainline 45 mph
- Proposed Maximum grade Mainline 5% Maximum grade allowable 6%.
- Proposed Maximum grade Side Street 5% Maximum grade allowable 6%.
- Proposed Maximum grade driveway 12.5%
- Proposed Maximum degree of curve 3° Maximum degree allowable 4.75°
- Right of way
 - Width 100 ft.
 - Easements: Temporary (), Permanent (X), Utility (), Other ().
 - Type of access control: Full (), Partial (), By Permit (X), other ().
 - Number of parcels: 52 Number of displacements:
 - Business: 4
 - Residences: 0
 - Mobile homes: 0
 - Other: _____
- Structures:
 - Bridges over Southern Railroad and Silver Comet Trail will be replaced
 - Retaining walls: Along SR 92 approaching the bridge over the Southern Railroad
- Major intersections: US 278/SR 6, SR 360, SR 120
- Traffic control during construction: Traffic will be maintained during the construction.
- 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:
 - No permits anticipated.
 - Minimal contamination sites were identified at the following business locations:
Jim Smith Wrecker/Body Shop, Hawg Cycles and Kirby Trucking.
- Level of environmental analysis:
 - Are Time Savings Procedures appropriate? Yes (), No (X),
 - Categorical exclusion (),
 - Environmental Assessment/Finding of No Significant Impact (FONSI) (X), or

Project Number: STP-186-1(25)

PI Number: 621720

County: Paulding County

- Environmental Impact Statement (EIS) ().
- Utility involvements:
 - Greystone Power, Atlanta Gas & Light, and Bell South attended the Concept Team meeting.

Project responsibilities:

- Design: GDOT
- Right of Way Acquisition: GDOT
- Relocation of Utilities: Local Government
- Letting to contract: GDOT
- Supervision of construction: GDOT
- Providing material pits: Contractor
- Providing detours: GDOT

Coordination

- Initial Concept Meeting was held December 5, 2003. Minutes attached.
- Concept meeting was held February 24, 2004. Minutes attached.
- Public involvement.
 - Public information open house held on January 29, 2004
- Railroads
 - Norfolk Southern
 - Silver Comet Trail (possible future commuter rail)

Scheduling – Responsible Parties’ Estimate

- Time to complete the environmental process: 6 Months
- Time to complete preliminary construction plans: 12 Months
- Time to complete right of way plans: 12 Months
- Time to complete the Section 404 Permit: 0 Months
- Time to complete final construction plans: 12 Months
- Time to complete to purchase right of way: 24 Months

Other alternates considered:

- This alternate would reconstruct SR 92 beginning just south of Nebo Road and extending north to SR 120. The above mentioned section of road would be widened from two-lanes, one in each direction, to four-lanes, two in each direction, with a 20 foot raised median, curb & gutter, and sidewalks. The existing bridges over Grays Mill Creek, the Southern Railroad, and the Silver Comet Trail would be replaced. The total length of the proposed project is 4.65 miles. This alternate shifts the SR 92 alignment west over the section extending from the creek to just north of the Norfolk Southern railroad tracks

- This alternate would reconstruct SR 92 beginning just north of the bridge over Grays Mill Creek and extending north to SR 120. The above mentioned section of road would be widened from two-lanes, one in each direction, to four-lanes, two in each direction, with a 20 foot raised median, curb & gutter, and sidewalks. The existing bridges over Grays Mill Creek, the Southern Railroad, and the Silver Comet Trail would be replaced. The total length of the proposed project is 4.85 miles. This alternate would shift the SR 92

Project Number: STP-186-1(25)

PI Number: 621720

County: Paulding County

alignment east at the south end of the project, crosses Grays Mill Creek at a new location requiring a new bridge, and effectively bypasses the southern part of Hiram.

Attachments:

1. Cost Estimates:
 - a. Construction including E&C,
 - b. Right of Way, and
 - c. Utilities.
2. Sketch location map,
3. Typical sections,
4. Accident summaries,
5. Capacity analysis,
6. Letter of Concept Conformity,
7. Minutes of Initial Concept and Concept meetings,

**PRELIMINARY COST ESTIMATE
ROAD DESIGN**

DATE: 9/07/2004

PREPARED BY: Taylor

PROJECT NO.: STP-186-1(25)

FILE NAME : 621720cost7sep04

P.I. NO.: 621720

MILE : 4.45 mile

PROJECT DESCRIPTION/CONCEPT:

Widening and improvement of S.R. 92 from Nebo Road to S.R. 120

() Programming Process

(X) Concept Development

() Development

PROJECT COST ESTIMATES

Item	Description	Estimate Costs	Totals
A	<u>RIGHT OF WAY</u>		
1	PROPERTY (land & easement):		
2	DISPLACEMENT:		
3	OTHER COSTS (adm/court, inflation):		
			\$5,528,100.00
B	<u>UTILITIES</u>		
1	NON-REIMBURSABLE	\$1,370,340.00	
2	REIMBURSABLE	\$661,250.00	
3	LOCAL GOVERNMENT COST	\$2,990,000.00	
		SUBTOTAL B	\$5,239,920.00
C	<u>CONSTRUCTION</u>		
1	MAJOR STRUCTURES:		
	a. RETAINING WALLS	\$1,000,000.00	
	b. BRIDGES (2 bridges, railroad & silver comet)	\$1,500,000.00	
	c. DETOUR BRIDGES	\$0.00	
	d. BOX CULVERTS		
	1) Extended Double Barrel 8' X 8'	\$19,380.00	
	2) Extended Double Barrel 10' X 10'	\$37,065.00	
		SUBTOTAL C1	\$2,556,445.00
2	<u>GRADING & DRAINAGE:</u>		
	a. EARTHWORK	\$1,500,000.00	
	b. DRAINAGE:		
	1) Cross Drain Pipe	\$1,596,000.00	
	2) Curb & Gutter	\$2,490,279.00	
	3) Longitudinal System (incl. Catch basin)	\$436,400.00	
		SUBTOTAL C2	\$6,022,679.00
3	<u>BASE & PAVING:</u>		
	a. 12.0" AGGREGATE BASE	\$4,739,330.00	
	b. ASPHALT PAVING:		
	1) 1.5" Surface	\$775,208.00	
	2) 5.0" Base	\$2,797,608.00	
	3) 2.0" Binder	\$1,111,676.00	
	4) Leveling	\$122,100.00	
	5) Tack Coat	\$46,442.00	
	c. Concrete Paving	\$0.00	
	d. Other	\$0.00	
		SUBTOTAL 3	\$9,592,364.00
4	<u>LUMP ITEMS</u>		
	a. TRAFFIC CONTROL	\$200,000.00	
	b. CLEARING & GRUBBING	\$1,319,400.00	
	1) Removal		
	a) bridge (2 bridges, railroad & silver comet)	\$200,000.00	
	c. LANDSCAPING	\$0.00	
	d. EROSION CONTROL	\$250,000.00	
	e. DETOURS	\$0.00	
		SUBTOTAL 4	\$1,969,400.00
5	<u>MISCELLANEOUS</u>		
	a. LIGHTING	\$0.00	
	b. SIGNING, STRIPING, SIGNAL	\$252,157.66	
	c. GUARDRAIL	\$1,017,600.00	
	d. SIDEWALK, 4 INCH	\$1,043,305.00	
	e. CONCRETE MEDIAN, 4 INCH	\$109,460.00	
		SUBTOTAL 5	\$2,422,522.66
6	<u>SPECIAL FEATURES</u>		
		\$0.00	
		SUBTOTAL 6	\$0.00

ESTIMATE SUMMARY

Item	Description	Estimate Cost	Totals
A	RIGHT OF WAY	\$5,528,100.00	
		SUBTOTAL A	\$5,528,100.00
B	REIMBURSABLE UTILITIES	\$661,250.00	
		SUBTOTAL B	\$661,250.00
C	CONSTRUCTION:		
	1. MAJOR STRUCTURES	\$2,556,445.00	
	2. GRADING & DRAINAGE	\$6,022,679.00	
	3. BASE & PAVING	\$9,592,364.00	
	4. LUMP ITEMS	\$1,969,400.00	
	5. MISCELLENIOUS	\$2,422,522.66	
	6. SPECIAL FEATURES	\$0.00	
		SUBTOTAL C	\$22,563,410.66
E	INFLATION (5% PER YEAR) Construction Subtotal [(1.05) ²]	\$2,312,749.59	
		SUBTOTAL E	\$2,312,749.59
	E & C (10%)	\$2,256,341.07	
		SUBTOTAL C&E	\$2,256,341.07
TOTAL CONSTRUCTION ESTIMATE			\$27,132,501.32
GRAND TOTAL PROJECT COST ESTIMATE			\$33,321,851.32

**PRELIMINARY COST ESTIMATE
ROAD DESIGN**

DATE: 9/07/2004

PREPARED BY: Taylor

BHF-186-1(20)

FILE NAME : 621022cost7sep04

621022

MILE : 0.3

PROJECT DESCRIPTION/CONCEPT:

Bridge replacement SR 92@SCL RR

() Programming Process

(X) Concept Development

() Development

PROJECT COST ESTIMATES

Item	Description	Estimate Costs	Totals
A	<u>RIGHT OF WAY</u>		
1	PROPERTY (land & easement):		
2	DISPLACEMENT:		
3	OTHER COSTS (adm/court, inflation):		
			\$0.00
B	<u>UTILITIES</u>		
1	NON-REIMBURSABLE	\$0.00	
2	REIMBURSABLE	\$0.00	
3	LOCAL GOVERNMENT COST	\$0.00	
		SUBTOTAL B	\$0.00
C	<u>CONSTRUCTION</u>		
1	MAJOR STRUCTURES:		
	a. RETAINING WALLS	\$0.00	
	b. BRIDGE	\$553,650.00	
	c. BOX CULVERTS		
	1) Extended Double Barrel 8' X 8'	\$0.00	
	2) Extended Double Barrel 10' X 10'	\$0.00	
		SUBTOTAL C1	\$553,650.00
2	<u>GRADING & DRAINAGE:</u>		
	a. EARTHWORK	\$0.00	
	b. DRAINAGE:		
	1) Cross Drain Pipe	\$0.00	
	2) Curb & Gutter	\$0.00	
	3) Longitudinal System (incl. Catch basin)	\$0.00	
		SUBTOTAL C2	\$0.00
3	<u>BASE & PAVING:</u>		
	a. 12.0" AGGREGATE BASE	\$0.00	
	b. 1.5" ASPHALT PAVING:		
	1) Surface	\$0.00	
	2) 5.0" Base	\$0.00	
	3) 2.0" Binder	\$0.00	
	4) Leveling	\$0.00	
	5) Tack Coat	\$0.00	
	c. Concrete Paving	\$0.00	
	d. Other	\$0.00	
		SUBTOTAL 3	\$0.00
4	<u>LUMP ITEMS</u>		
	a. TRAFFIC CONTROL	\$0.00	
	b. CLEARING & GRUBBING	\$0.00	
	1) Removal		
	a) bridge (2 bridges, railroad & silver comet)	\$0.00	
	c. LANDSCAPING	\$0.00	
	d. EROSION CONTROL	\$0.00	
	e. DETOURS	\$0.00	
		SUBTOTAL 4	\$0.00
5	<u>MISCELLANEOUS</u>		
	a. LIGHTING	\$0.00	
	b. SIGNING, STRIPING, SIGNAL	\$0.00	
	c. GUARDRAIL	\$0.00	
	d. SIDEWALK, 4 INCH	\$0.00	
	e. CONCRETE MEDIAN, 4 INCH	\$0.00	
		SUBTOTAL 5	\$0.00
6	<u>SPECIAL FEATURES</u>	\$0.00	
		SUBTOTAL 6	\$0.00

ESTIMATE SUMMARY

Item	Description	Estimate Cost	Totals
A	RIGHT OF WAY	\$0.00	
		SUBTOTAL A	\$0.00
B	REIMBURSABLE UTILITIES	\$0.00	
		SUBTOTAL B	\$0.00
C	CONSTRUCTION:		
	1. MAJOR STRUCTURES	\$553,650.00	
	2. GRADING & DRAINAGE		
	3. BASE & PAVING	\$0.00	
	4. LUMP ITEMS	\$0.00	
	5. MISCELLENIOUS	\$0.00	
	6. SPECIAL FEATURES	\$0.00	
SUBTOTAL C		\$553,650.00	
E	INFLATION (5% PER YEAR) Construction Subtotal [(1.05)^2]	\$56,749.13	
		SUBTOTAL E	\$56,749.13
	E & C (10%)	\$55,365.00	
		SUBTOTAL C&E	\$55,365.00
TOTAL CONSTRUCTION ESTIMATE			\$665,764.13
GRAND TOTAL PROJECT COST ESTIMATE			\$665,764.13

PRELIMINARY COST ESTIMATE
ROAD DESIGN

DATE: 9/07/2004

PREPARED BY: Taylor

BRST-186-1(41)

FILE NAME : 632921cost7sep04

632921

MILE : 0.24 mile

PROJECT DESCRIPTION/CONCEPT:

Bridge replacement SR 92@CR 511-SOU RR in Hiram

() Programming Process

(X) Concept Development

() Development

PROJECT COST ESTIMATES

Item	Description	Estimate Costs	Totals	
A	RIGHT OF WAY			
	1	PROPERTY (land & easement):		
	2	DISPLACEMENT:		
	3	OTHER COSTS (adm/court, inflation):		
			\$0.00	
B	UTILITIES			
	1	NON-REIMBURSABLE	\$0.00	
	2	REIMBURSABLE	\$0.00	
	3	LOCAL GOVERNMENT COST	\$0.00	
		SUBTOTAL B	\$0.00	
C	CONSTRUCTION			
	1	MAJOR STRUCTURES:		
		a. RETAINING WALLS	\$0.00	
		b. BRIDGE	\$941,475.00	
		c. BOX CULVERTS		
		1) Extended Double Barrel 8' X 8'	\$0.00	
		2) Extended Double Barrel 10' X 10'	\$0.00	
			SUBTOTAL C1	\$941,475.00
	2	GRADING & DRAINAGE:		
		a. EARTHWORK	\$0.00	
	b. DRAINAGE:			
	1) Cross Drain Pipe	\$0.00		
	2) Curb & Gutter	\$0.00		
	3) Longitudinal System (incl. Catch basin)	\$0.00		
		SUBTOTAL C2	\$0.00	
3	BASE & PAVING:			
		a. 12.0" AGGREGATE BASE	\$0.00	
		b. 1.5" ASPHALT PAVING:		
		1) Surface	\$0.00	
		2) 5.0" Base	\$0.00	
		3) 2.0" Binder	\$0.00	
		4) Leveling	\$0.00	
		5) Tack Coat	\$0.00	
		c. Concrete Paving	\$0.00	
		d. Other	\$0.00	
		SUBTOTAL 3	\$0.00	
4	LUMP ITEMS			
		a. TRAFFIC CONTROL	\$0.00	
		b. CLEARING & GRUBBING	\$0.00	
		1) Removal		
		a) bridge (2 bridges, railroad & silver comet)	\$0.00	
		c. LANDSCAPING	\$0.00	
		d. EROSION CONTROL	\$0.00	
		e. DETOURS	\$0.00	
		SUBTOTAL 4	\$0.00	
5	MISCELLANEOUS			
		a. LIGHTING	\$0.00	
		b. SIGNING, STRIPING, SIGNAL	\$0.00	
		c. GUARDRAIL	\$0.00	
		d. SIDEWALK, 4 INCH	\$0.00	
		e. CONCRETE MEDIAN, 4 INCH	\$0.00	
		SUBTOTAL 5	\$0.00	
6	SPECIAL FEATURES			
			\$0.00	
		SUBTOTAL 6	\$0.00	

ESTIMATE SUMMARY

Item	Description	Estimate Cost	Totals
A	RIGHT OF WAY	\$0.00	
		SUBTOTAL A	\$0.00
B	REIMBURSABLE UTILITIES	\$0.00	
		SUBTOTAL B	\$0.00
C	<u>CONSTRUCTION:</u>		
	1. MAJOR STRUCTURES	\$941,475.00	
	2. GRADING & DRAINAGE		
	3. BASE & PAVING	\$0.00	
	4. LUMP ITEMS	\$0.00	
	5. MISCELLENIOUS	\$0.00	
	6. SPECIAL FEATURES	\$0.00	
		SUBTOTAL C	\$941,475.00
E	INFLATION (5% PER YEAR) Construction Subtotal $[(1.05)^2]$	\$96,501.19	
		SUBTOTAL E	\$96,501.19
	E & C (10%)	\$94,147.50	
		SUBTOTAL C&E	\$94,147.50
TOTAL CONSTRUCTION ESTIMATE			\$1,132,123.69
GRAND TOTAL PROJECT COST ESTIMATE			\$1,132,123.69

Preliminary Right of Way Cost Estimate

Date: December 10, 2003
Project: STP-018-1 (25) Paulding, Revised Alt. "A" **P.I. Number:** 621720
Existing/Required R/W: Varies/Varies **No. Parcels:** 52
Project Termini: State Route 92 Widening Improvements
Project Description: State Route 92 Widening Improvements

Land:

Commercial			
8.58 acres @ \$ 75,000/acre =	\$	643,500	
Residential			
2.14 acres @ \$ 25,000/acre =	\$	<u>53,500</u>	
			\$ 697,000

Improvements:

3 Commercial, & Misc. Site Improvements	\$	735,000	
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Relocation:

3 Commercial @ \$ 25,000	\$	75,000	
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Damages:

4 Cost To Cure	\$	<u>85,000</u>	
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\$ 1,592,000

Net Cost		\$	1,592,000
Scheduling Contingency 55 %		\$	875,875
Adm/Court Cost 60 %		\$	1,480,725
Inflation Factor 40 %		\$	<u>1,579,440</u>
		\$	5,528,040

Total Cost \$ 5,528,100

Prepared By : 
 Real Estate Acquisition Consultants, Inc.

Approved : 
 GDOT R/W

**DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA**

INTERDEPARTMENT CORRESPONDENCE

FILE STP-186-1 (25) Paulding Co. OFFICE Cartersville
P.I. 621720
DATE November 4, 2003

FROM *KDB* Kerry D. Bonner
District Utilities Engineer

TO Gerald Ross
State Road & Airport Design Engineer

ATTN Jerry Morris

SUBJECT PRELIMINARY UTILITY COST ESTIMATE

As requested by your office, we are furnishing you with a Preliminary Utility Cost estimates for each utility with facilities potentially located within the project limits.

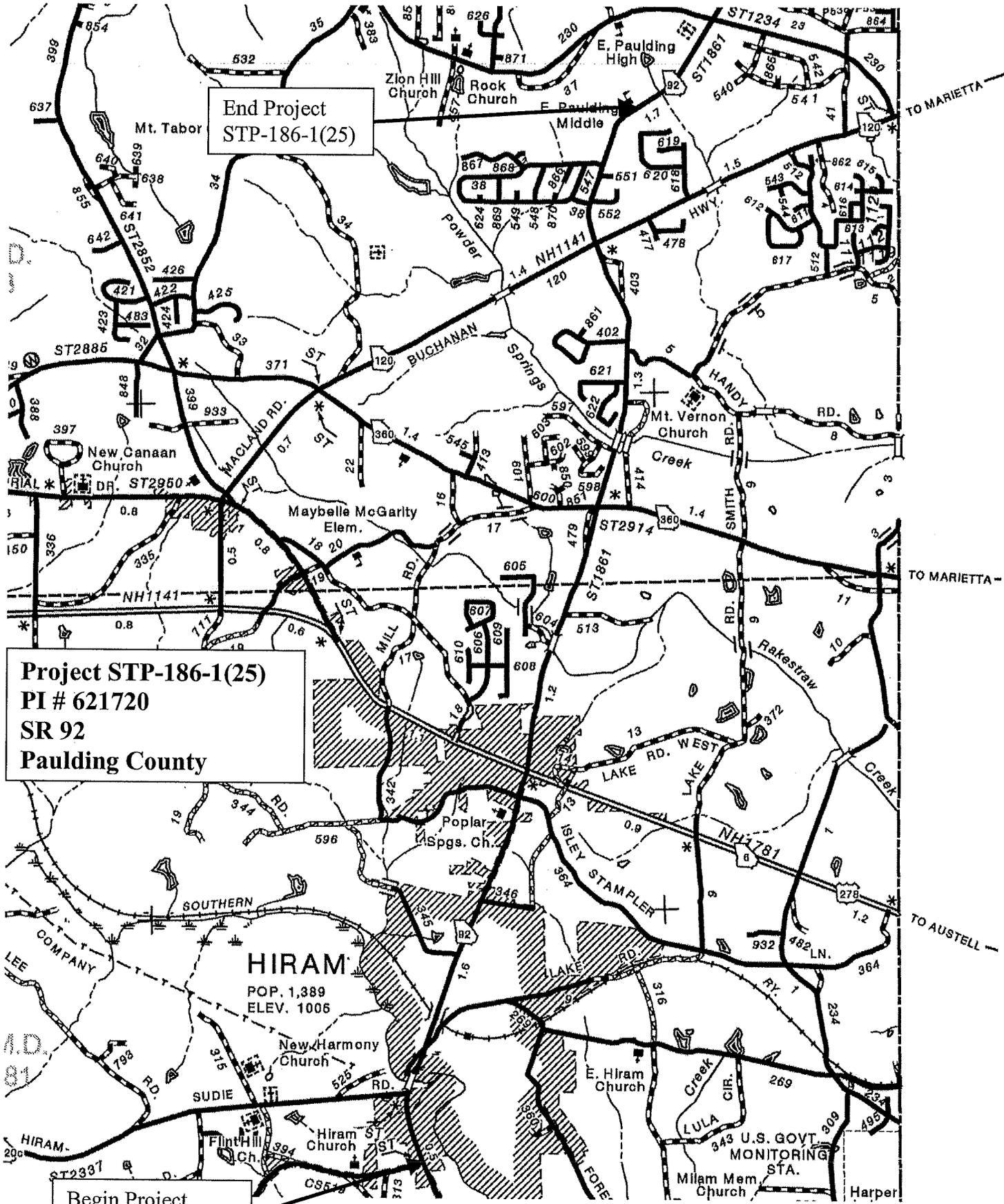
FACILITY OWNER	NON-REIMBURSABLE	REIMBURSABLE	LOCAL GOVT. COST
Georgia Power Co.		\$454,250.00	
Atlanta Gas Light	\$167,900.00		
Paulding Co. Water Auth.			\$2,990,000.00
BellSouth	\$770,615.00	\$ 78,200.00	
Comcast Cable	No Cost		
Greystone Power	\$431,825.00		
MCI Worldcom		\$128,800.00	
Totals	\$1,370,340.00	\$661,250.00	\$2,990,000.00

Total Preliminary Utility Cost Estimate for Alternate 1 \$5,021,590.00

If you have any questions, please contact Jennifer Deems at 770-387-3616.

KDB/JLD/jd

C: Jeff Baker, State Utilities Engineer;
Herman Griffin, Office of Programming;
Ken Howard, Area Engineer
File/Estimating Book



End Project
STP-186-1(25)

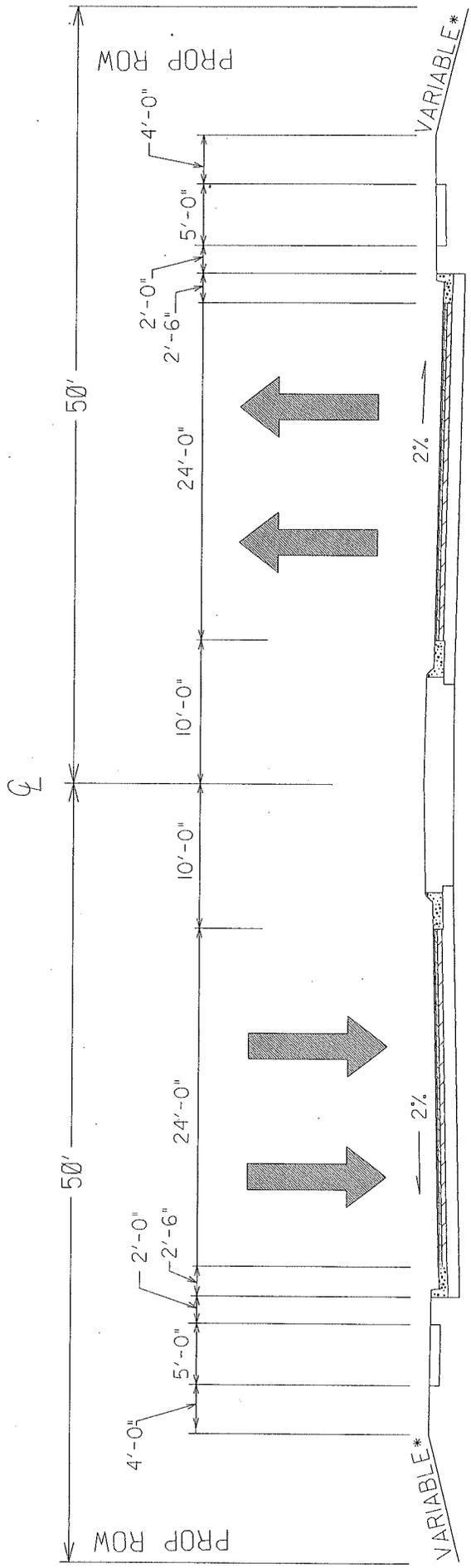
Project STP-186-1(25)
PI # 621720
SR 92
Paulding County

Begin Project
STP-186-1(25)

HIRAM
POP. 1,389
ELEV. 1006

343 U.S. GOVT.
MONITORING
STA.

PAULDING COUNTY
 SR 92 FROM NEBO ROAD TO SR 120
 P.I. NO. 621720



TANGENT SECTION
 (NOT TO SCALE)

*2 TO 1 MAX/4 TO 1 PREFERRED

STATE OF GEORGIA
 DEPARTMENT OF TRANSPORTATION
 OFFICE OF ROAD DESIGN

SR 92 FROM NEBO ROAD TO SR 120

Accident Summaries:

	2000	2001	2002
Total Accidents	93	86	85
Accidents Per 100 MVMT	288	283	275
Statewide Accidents Per 100 MVMT	182	190	208
Accident Ratio	1.58	1.49	1.32

HCS2000™ DETAILED REPORT													
General Information						Site Information							
Analyst	Walt Taylor					Intersection	SR 92/US 278						
Agency or Co.	GDOT					Area Type	All other areas						
Date Performed	11/30/2004					Jurisdiction	Paulding						
Time Period	AM Peak					Analysis Year	2029						
						Project ID	Widening SR 92 to a four lane facility						
Volume and Timing Input													
	EB			WB			NB			SB			
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	
Number of lanes, N ₁	2	3	1	2	3	1	2	3	1	2	3	1	
Lane group	L	T	R	L	T	R	L	T	R	L	T	R	
Volume, V (vph)	175	1850	240	190	820	260	210	1600	450	430	700	55	
% Heavy vehicles, %HV	0	0	0	0	0	0	0	0	0	0	0	0	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	
Pretimed (P) or actuated (A)	A	A	A	A	A	A	A	A	A	A	A	A	
Start-up lost time, I ₁	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Extension of effective green, e	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Arrival type, AT	3	3	3	3	3	3	3	3	3	3	3	3	
Unit extension, UE	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Filtering/metering, I	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
Initial unmet demand, Q _b	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Ped / Bike / RTOR volumes	0		0	0		0	0		0	0		0	
Lane width	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	
Parking / Grade / Parking	N	0	N	N	0	N	N	0	N	N	0	N	
Parking maneuvers, N _m													
Buses stopping, N _B	0	0	0	0	0	0	0	0	0	0	0	0	
Min. time for pedestrians, G _p	3.2			3.2			3.2			3.2			
Phasing	Excl. Left	Thru & RT	03			04			Excl. Left	Thru & RT	07		08
Timing	G = 6.0	G = 35.2	G =	G =			G = 12.4			G = 30.4	G =		
	Y = 3	Y = 3	Y =	Y =			Y = 3			Y = 3	Y =		
Duration of Analysis, T = 0.25							Cycle Length, C = 96.0						
Lane Group Capacity, Control Delay, and LOS Determination													
	EB			WB			NB			SB			
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	
Adjusted flow rate, v	190	2011	261	207	891	283	228	1739	489	467	761	60	
Lane group capacity, c	219	1902	851	219	1902	851	452	1643	663	452	1643	663	
	0.87	1.06	0.31	0.95	0.47	0.33	0.50	1.06	0.74	1.03	0.46	0.09	

v/c ratio, X												
Total green ratio, g/C	0.06	0.37	0.53	0.06	0.37	0.53	0.13	0.32	0.41	0.13	0.32	0.41
Uniform delay, d ₁	44.6	30.4	12.8	44.8	23.2	13.0	38.9	32.8	23.9	41.8	26.3	17.3
Progression factor, PF	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Delay calibration, k	0.40	0.50	0.11	0.46	0.11	0.11	0.11	0.50	0.30	0.50	0.11	0.11
Incremental delay, d ₂	28.8	37.7	0.2	45.5	0.2	0.2	0.9	39.5	4.3	51.1	0.2	0.1
Initial queue delay, d ₃												
Control delay	73.4	68.1	13.0	90.4	23.4	13.2	39.9	72.3	28.3	92.9	26.5	17.4
Lane group LOS	E	E	B	F	C	B	D	E	C	F	C	B
Approach delay	62.7			31.4			60.5			50.1		
Approach LOS	E			C			E			D		
Intersection delay	54.2						Intersection LOS			D		

HCS2000™ DETAILED REPORT												
General Information						Site Information						
Analyst <i>Walt Taylor</i>						Intersection <i>SR 92/US 278</i>						
Agency or Co. <i>GDOT</i>						Area Type <i>All other areas</i>						
Date Performed <i>11/30/2004</i>						Jurisdiction <i>Paulding</i>						
Time Period <i>PM Peak</i>						Analysis Year <i>2029</i>						
						Project ID <i>Widening SR 92 to a four lane facility</i>						
Volume and Timing Input												
	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of lanes, N ₁	2	3	1	2	3	1	2	3	1	2	3	1
Lane group	L	T	R	L	T	R	L	T	R	L	T	R
Volume, V (vph)	90	1460	200	450	2280	430	350	610	190	260	1800	210
% Heavy vehicles, %HV	0	0	0	0	0	0	0	0	0	0	0	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Pretimed (P) or actuated (A)	A	A	A	A	A	A	A	A	A	A	A	A
Start-up lost time, I ₁	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Extension of effective green, e	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Arrival type, AT	3	3	3	3	3	3	3	3	3	3	3	3
Unit extension, UE	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Filtering/metering, I	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Initial unmet demand, Q _b	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Ped / Bike / RTOR volumes	0		0	0		0	0		0	0		0
Lane width	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
Parking / Grade / Parking	N	0	N	N	0	N	N	0	N	N	0	N
Parking maneuvers, N _m												
Buses stopping, N _B	0	0	0	0	0	0	0	0	0	0	0	0
Min. time for pedestrians, G _p	3.2			3.2			3.2			3.2		
Phasing	Excl. Left	WB Only	Thru & RT	04			Excl. Left	Thru & RT	07			08
Timing	G = 2.6	G = 10.3	G = 33.1	G =			G = 10.0	G = 34.0	G =			G =
	Y = 3	Y = 3	Y = 3	Y =			Y = 3	Y = 3	Y =			Y =
Duration of Analysis, T = 0.25							Cycle Length, C = 105.0					
Lane Group Capacity, Control Delay, and LOS Determination												
	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted flow rate, v	98	1587	217	489	2478	467	380	663	207	283	1957	228
Lane group capacity, c	87	1635	709	530	2292	914	334	1680	814	334	1680	609
	1.13	0.97	0.31	0.92	1.08	0.51	1.14	0.39	0.25	0.85	1.16	0.37

v/c ratio, X												
Total green ratio, g/C	0.02	0.32	0.44	0.15	0.44	0.57	0.10	0.32	0.50	0.10	0.32	0.38
Uniform delay, d ₁	51.2	35.5	19.1	43.9	29.3	13.9	47.5	27.5	14.8	46.7	35.5	23.7
Progression factor, PF	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Delay calibration, k	0.50	0.48	0.11	0.44	0.50	0.12	0.50	0.11	0.11	0.38	0.50	0.11
Incremental delay, d ₂	134.7	15.8	0.2	21.9	45.0	0.5	92.0	0.2	0.2	18.0	81.1	0.4
Initial queue delay, d ₃												
Control delay	185.9	51.3	19.3	65.8	74.3	14.4	139.5	27.7	15.0	64.8	116.6	24.1
Lane group LOS	F	D	B	E	E	B	F	C	B	E	F	C
Approach delay	54.6			65.0			59.6			102.1		
Approach LOS	D			E			E			F		
Intersection delay	72.2						Intersection LOS			E		

HCS2000™

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Version 4.1c

HCS2000™ DETAILED REPORT												
General Information						Site Information						
Analyst	Walt Taylor					Intersection	SR 92/SR 360					
Agency or Co.	GDOT					Area Type	All other areas					
Date Performed	11/30/2004					Jurisdiction	Paulding					
Time Period	AM Peak					Analysis Year	2029					
						Project ID	Widening SR 92 to a four lane facility					
Volume and Timing Input												
	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of lanes, N_1	1	2	1	1	2	1	1	2	1	1	2	1
Lane group	L	T	R	L	T	R	L	T	R	L	T	R
Volume, V (vph)	50	520	40	90	155	55	40	1745	260	145	980	20
% Heavy vehicles, %HV	0	0	0	0	0	0	0	0	0	0	0	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Pretimed (P) or actuated (A)	A	A	A	A	A	A	A	A	A	A	A	A
Start-up lost time, l_1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Extension of effective green, e	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Arrival type, AT	3	3	3	3	3	3	3	3	3	3	3	3
Unit extension, UE	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Filtering/metering, I	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Initial unmet demand, Q_b	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Ped / Bike / RTOR volumes	0		0	0		0	0		0	0		0
Lane width	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
Parking / Grade / Parking	N	0	N	N	0	N	N	0	N	N	0	N
Parking maneuvers, N_m												
Buses stopping, N_B	0	0	0	0	0	0	0	0	0	0	0	0
Min. time for pedestrians, G_p	3.2			3.2			3.2			3.2		
Phasing	Excl. Left	Thru & RT	03	04	Excl. Left	Thru & RT	07	08				
Timing	G = 10.0	G = 17.2	G =	G =	G = 10.8	G = 50.0	G =	G =				
	Y = 3	Y = 3	Y =	Y =	Y = 3	Y = 3	Y =	Y =				
Duration of Analysis, T = 0.25							Cycle Length, C = 100.0					
Lane Group Capacity, Control Delay, and LOS Determination												
	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted flow rate, v	54	565	43	98	168	60	43	1897	283	158	1065	22
Lane group capacity, c	181	621	501	181	621	501	195	1805	1017	195	1805	1017
	0.30	0.91	0.09	0.54	0.27	0.12	0.22	1.05	0.28	0.81	0.59	0.02

v/c ratio, X												
Total green ratio, g/C	0.10	0.17	0.31	0.10	0.17	0.31	0.11	0.50	0.63	0.11	0.50	0.63
Uniform delay, d ₁	41.7	40.6	24.5	42.8	36.0	24.7	40.8	25.0	8.3	43.6	17.7	6.9
Progression factor, PF	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Delay calibration, k	0.11	0.43	0.11	0.14	0.11	0.11	0.11	0.50	0.11	0.35	0.18	0.11
Incremental delay, d ₂	0.9	17.5	0.1	3.3	0.2	0.1	0.6	36.0	0.2	22.1	0.5	0.0
Initial queue delay, d ₃												
Control delay	42.7	58.2	24.5	46.1	36.2	24.8	41.3	61.0	8.5	65.7	18.2	6.9
Lane group LOS	D	E	C	D	D	C	D	E	A	E	B	A
Approach delay	54.7			37.1			54.0			24.1		
Approach LOS	D			D			D			C		
Intersection delay	44.5						Intersection LOS			D		

HCS2000™ DETAILED REPORT												
General Information						Site Information						
Analyst	Walt Taylor					Intersection	SR 92/SR 360					
Agency or Co.	GDOT					Area Type	All other areas					
Date Performed	11/30/2004					Jurisdiction	Paulding					
Time Period	PM Peak					Analysis Year	2029					
						Project ID	Widening SR 92 to a four lane facility					
Volume and Timing Input												
	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of lanes, N_1	1	2	1	1	2	1	1	2	1	1	2	1
Lane group	L	T	R	L	T	R	L	T	R	L	T	R
Volume, V (vph)	50	205	55	300	530	150	110	750	160	70	1895	45
% Heavy vehicles, %HV	0	0	0	0	0	0	0	0	0	0	0	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Pretimed (P) or actuated (A)	A	A	A	A	A	A	A	A	A	A	A	A
Start-up lost time, l_1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Extension of effective green, e	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Arrival type, AT	3	3	3	3	3	3	3	3	3	3	3	3
Unit extension, UE	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Filtering/metering, I	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Initial unmet demand, Q_b	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Ped / Bike / RTOR volumes	0		0	0		0	0		0	0		0
Lane width	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
Parking / Grade / Parking	N	0	N	N	0	N	N	0	N	N	0	N
Parking maneuvers, N_m												
Buses stopping, N_B	0	0	0	0	0	0	0	0	0	0	0	0
Min. time for pedestrians, G_p	3.2			3.2			3.2			3.2		
Phasing	Excl. Left	WB Only	Thru & RT	04			Excl. Left	Thru & RT	07		08	
Timing	G = 5.0	G = 12.0	G = 8.0	G =			G = 9.0	G = 55.0	G =		G =	
	Y = 3	Y = 3	Y = 3	Y =			Y = 3	Y = 3	Y =		Y =	
Duration of Analysis, T = 0.25							Cycle Length, C = 104.0					
Lane Group Capacity, Control Delay, and LOS Determination												
	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted flow rate, v	54	223	60	326	576	163	120	815	174	76	2060	49
Lane group capacity, c	87	278	311	347	798	544	156	1909	978	156	1909	978
	0.62	0.80	0.19	0.94	0.72	0.30	0.77	0.43	0.18	0.49	1.08	0.05

v/c ratio, X												
Total green ratio, g/C	0.05	0.08	0.19	0.19	0.22	0.34	0.09	0.53	0.61	0.09	0.53	0.61
Uniform delay, d ₁	48.6	47.2	35.2	41.4	37.5	25.5	46.5	14.9	9.1	45.3	24.5	8.3
Progression factor, PF	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Delay calibration, k	0.20	0.35	0.11	0.45	0.28	0.11	0.32	0.11	0.11	0.11	0.50	0.11
Incremental delay, d ₂	12.9	15.5	0.3	33.0	3.2	0.3	20.5	0.2	0.1	2.4	45.6	0.0
Initial queue delay, d ₃												
Control delay	61.4	62.7	35.5	74.4	40.8	25.8	67.0	15.1	9.1	47.7	70.1	8.4
Lane group LOS	E	E	D	E	D	C	E	B	A	D	E	A
Approach delay	57.6			48.8			19.8			68.0		
Approach LOS	E			D			B			E		
Intersection delay	51.5						Intersection LOS			D		

HCS2000™ DETAILED REPORT

General Information				Site Information			
Analyst	Walt Taylor			Intersection	SR 92/SR 120		
Agency or Co.	GDOT			Area Type	All other areas		
Date Performed	11/30/2004			Jurisdiction	Paulding		
Time Period	AM Peak			Analysis Year	2029		
				Project ID	Widening SR 92 to a four lane facility		

Volume and Timing Input												
	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of lanes, N_1	1	2	1	2	2	1	2	2	1	1	2	1
Lane group	L	T	R	L	T	R	L	T	R	L	T	R
Volume, V (vph)	135	1455	110	290	450	10	55	925	670	65	565	135
% Heavy vehicles, %HV	0	0	0	0	0	0	0	0	0	0	0	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Pretimed (P) or actuated (A)	A	A	A	A	A	A	A	A	A	A	A	A
Start-up lost time, l_1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Extension of effective green, e	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Arrival type, AT	3	3	3	3	3	3	3	3	3	3	3	3
Unit extension, UE	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Filtering/metering, I	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Initial unmet demand, Q_b	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Ped / Bike / RTOR volumes	0		0	0		0	0		0	0		0
Lane width	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
Parking / Grade / Parking	N	0	N	N	0	N	N	0	N	N	0	N
Parking maneuvers, N_m												
Buses stopping, N_B	0	0	0	0	0	0	0	0	0	0	0	0
Min. time for pedestrians, G_p	3.2			3.2			3.2			3.2		
Phasing	Excl. Left	Thru & RT	03	04	Excl. Left	Thru & RT	07	08				
Timing	G = 10.0	G = 42.0	G =	G =	G = 6.0	G = 30.0	G =	G =				
	Y = 3	Y = 3	Y =	Y =	Y = 3	Y = 3	Y =	Y =				
Duration of Analysis, T = 0.25							Cycle Length, C = 100.0					

Lane Group Capacity, Control Delay, and LOS Determination												
	EB			WB			NB			SB		
	LT	TH	RT									
Adjusted flow rate, v	147	1582	120	315	489	11	60	1005	728	71	614	147
Lane group capacity, c	181	1516	824	350	1516	824	210	1083	694	108	1083	694
	0.81	1.04	0.15	0.90	0.32	0.01	0.29	0.93	1.05	0.66	0.57	0.21

v/c ratio, X												
Total green ratio, g/C	0.10	0.42	0.51	0.10	0.42	0.51	0.06	0.30	0.43	0.06	0.30	0.43
Uniform delay, d ₁	44.1	29.0	13.0	44.5	19.5	12.1	45.0	34.0	28.5	46.0	29.5	17.9
Progression factor, PF	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Delay calibration, k	0.35	0.50	0.11	0.42	0.11	0.11	0.11	0.44	0.50	0.23	0.16	0.11
Incremental delay, d ₂	23.7	35.4	0.1	25.1	0.1	0.0	0.8	13.4	47.7	13.7	0.7	0.2
Initial queue delay, d ₃												
Control delay	67.8	64.4	13.1	69.6	19.6	12.1	45.7	47.4	76.2	59.7	30.2	18.0
Lane group LOS	E	E	B	E	B	B	D	D	E	E	C	B
Approach delay	61.3			38.8			59.0			30.6		
Approach LOS	E			D			E			C		
Intersection delay	52.2						Intersection LOS			D		

HCS2000™

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Version 4.1c

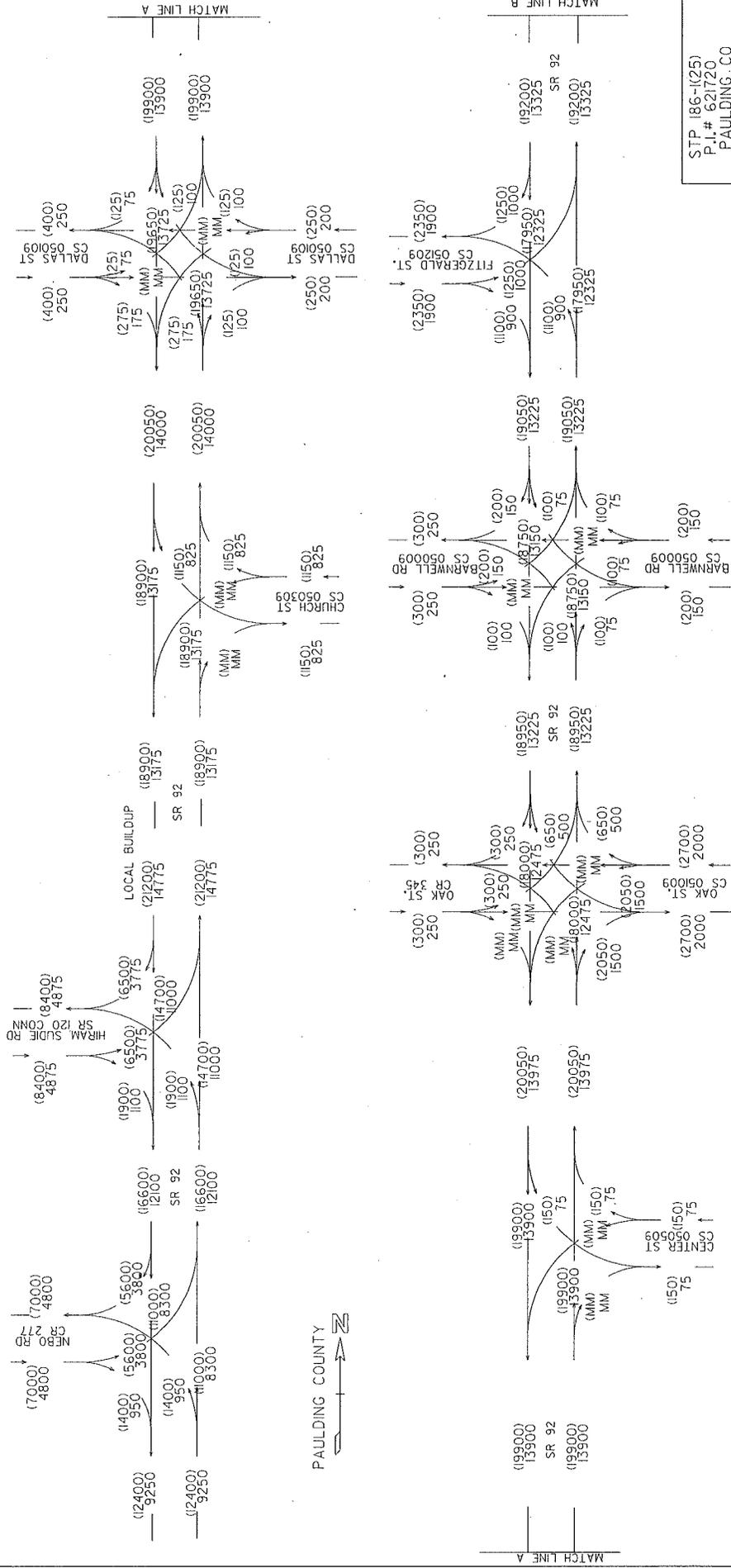
HCS2000™ DETAILED REPORT

General Information	Site Information
Analyst Walt Taylor Agency or Co. GDOT Date Performed 11/30/2004 Time Period PM Peak	Intersection SR 92/SR 120 Area Type All other areas Jurisdiction Paulding Analysis Year 2029 Project ID Widening SR 92 to a four lane facility

Volume and Timing Input												
	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of lanes, N_1	1	2	1	2	2	1	2	2	1	1	2	1
Lane group	L	T	R	L	T	R	L	T	R	L	T	R
Volume, V (vph)	25	600	240	525	1160	100	360	365	65	40	1025	50
% Heavy vehicles, %HV	0	0	0	0	0	0	0	0	0	0	0	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Pretimed (P) or actuated (A)	A	A	A	A	A	A	A	A	A	A	A	A
Start-up lost time, I_1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Extension of effective green, e	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Arrival type, AT	3	3	3	3	3	3	3	3	3	3	3	3
Unit extension, UE	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Filtering/metering, I	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Initial unmet demand, Q_b	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Ped / Bike / RTOR volumes	0		0	0		0	0		0	0		0
Lane width	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
Parking / Grade / Parking	N	0	N	N	0	N	N	0	N	N	0	N
Parking maneuvers, N_m												
Buses stopping, N_B	0	0	0	0	0	0	0	0	0	0	0	0
Min. time for pedestrians, G_p	3.2			3.2			3.2			3.2		
Phasing	Excl. Left	WB Only	Thru & RT	04			Excl. Left	Thru & RT	07		08	
Timing	G = 3.0	G = 15.3	G = 20.0	G =			G = 11.6	G = 33.0	G =		G =	
	Y = 3	Y = 3	Y = 3	Y =			Y = 3	Y = 3	Y =		Y =	
Duration of Analysis, T = 0.25							Cycle Length, C = 97.9					

Lane Group Capacity, Control Delay, and LOS Determination												
	EB			WB			NB			SB		
	LT	TH	RT									
Adjusted flow rate, v	27	652	261	571	1261	109	391	397	71	43	1114	54
Lane group capacity, c	55	737	571	762	1412	873	415	1217	643	214	1217	643
	0.49	0.88	0.46	0.75	0.89	0.12	0.94	0.33	0.11	0.20	0.92	0.08

v/c ratio, X												
Total green ratio, g/C	0.03	0.20	0.35	0.22	0.39	0.54	0.12	0.34	0.40	0.12	0.34	0.40
Uniform delay, d_1	46.7	37.8	24.4	35.8	27.9	11.1	42.8	24.2	18.5	39.0	31.1	18.3
Progression factor, PF	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Delay calibration, k	0.11	0.41	0.11	0.30	0.42	0.11	0.45	0.11	0.11	0.11	0.43	0.11
Incremental delay, d_2	6.7	12.4	0.6	4.1	7.7	0.1	29.9	0.2	0.1	0.5	10.8	0.1
Initial queue delay, d_3												
Control delay	53.4	50.2	25.0	40.0	35.5	11.2	72.7	24.3	18.6	39.4	41.9	18.4
Lane group LOS	D	D	C	D	D	B	E	C	B	D	D	B
Approach delay	43.3			35.5			45.9			40.8		
Approach LOS	D			D			D			D		
Intersection delay	40.1						Intersection LOS			D		

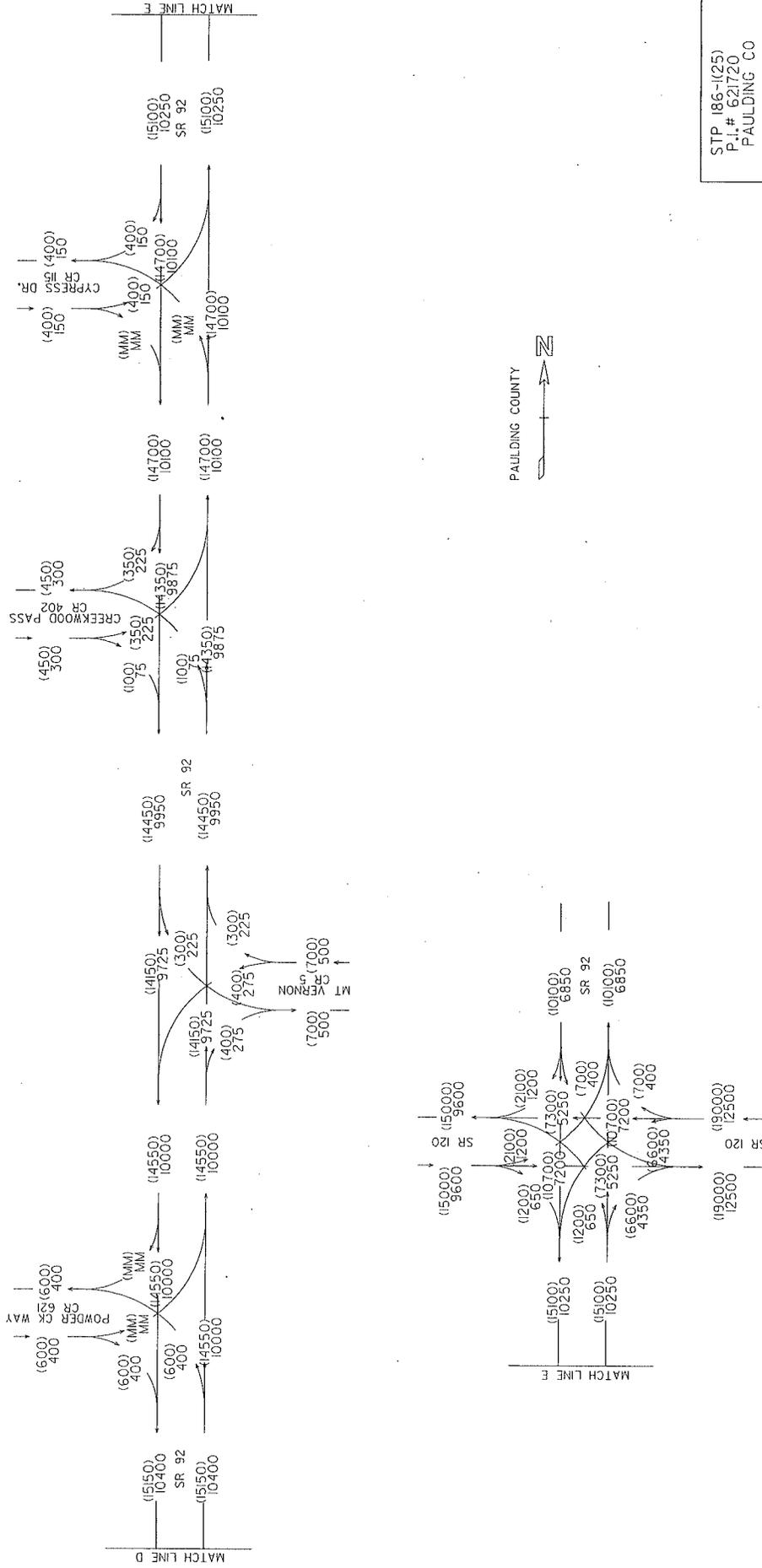


PAULDING COUNTY

STP 186-(125)
P.I.# 621720
PAULDING.CO
2029 ADT = 1000
2009 ADT = 000
24 HR T = 10%
S.U. = 9%
COMB. 1%

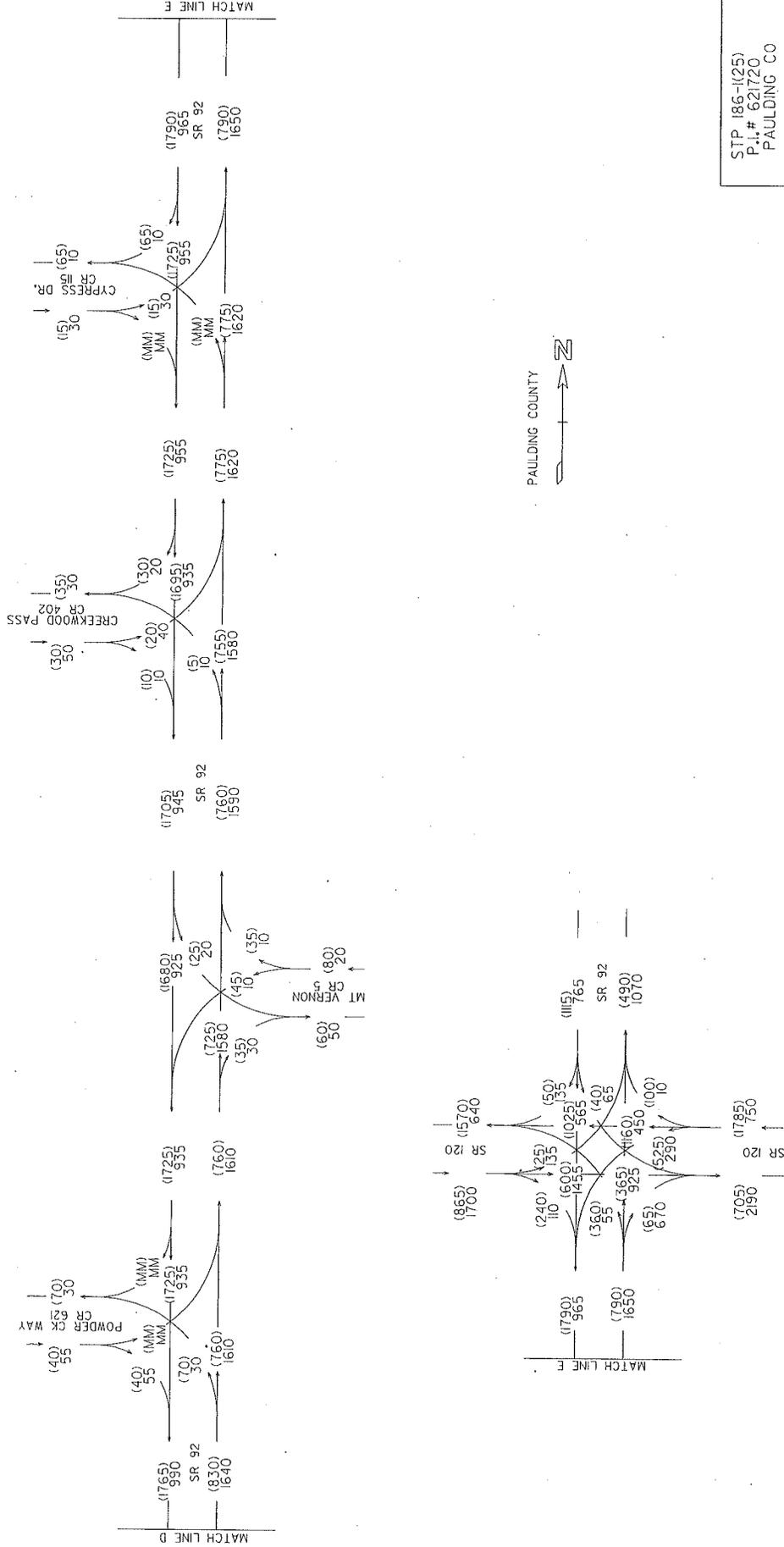
AFE
11/7/04

GEORGIA DEPARTMENT OF TRANSPORTATION
OFFICE OF ENVIRONMENT/LOCATION



STP 186-1(25)
P.L.# 621720
PAULDING CO
2009 ADT = (000)
2009 ADT = 000
24 HR T = 10%
S.U. = 9%
COMB. 1%
AFF
11/04

GEORGIA DEPARTMENT OF TRANSPORTATION
OFFICE OF ENVIRONMENT/LOCATION



STP 186-K25)
P.L.# 621720
PAULDING CO

2029 PM DHV = (000)
2029 AM DHV = 000
T. = 12%

AFE
11/204

**DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA**

INTERDEPARTMENTAL CORRESPONDENCE

File OFFICE Planning

DATE January 6, 2005

FROM Joseph P. Palladi, P.E., State Transportation Planning Administrator

TO Brent Story, P.E., State Road and Airport Design Engineer
Attn. Walter Taylor

SUBJECT PROJECT CONCEPT CONFORMITY
Project STP-186-1(25), PI # 621720, SR 92 widening from Nebo Road to SR 120 in Paulding County, ARC # PA-092B1.

The Office of Planning is providing this letter of certification as defined in the Plan Development Process Manual of Guidance. The projects concept is in conformance with the adopted Air Quality Model of the Atlanta Regional Transportation Plan and the State Transportation Improvement Program.

By copy of this letter, the project concept is found to conform to the Atlanta Regional Transportation Plan based on the January 6, 2005 review. If any changes occur to the concept, please notify this office immediately. If you have any questions, please call Roxana Ene at 404-463-4377.

JPP:rre

cc: Tom Turner, Director of Preconstruction
file

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CHIEF ENGINEER
(404) 656-5277

Department of Transportation

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February 24, 2004
PROJECT NO. STP-186-1(25)
P.I. No. 621720
Paulding County

Meeting Attendees

RE: Concept Team Meeting Minutes

Ladies and Gentlemen:

The meeting minutes for the concept team meeting held on February 24, 2004 at 10:00 AM in the Personnel conference room are included below.

I. Meeting Attendees:

Kent Bennett	USS/Greystone Power
Brett Buchanan	Paulding County DOT
Rex Butler	Greystone Power
George Churchill	Atlanta Gas & Light Resources
Roxana Ene	GDOT - Planning
Douglas Franks	GDOT - Engineering Services (TEA)
David Grachen	FHWA
Joe de Grom	Bell South
Wade Harris	GDOT - Engineering Services
Rob Hembree	Atlanta Gas & Light Resources
Lamont Kiser	Paulding County Public Works
Bill Moskal	GDOT - Road Design
Dewey Pendley	Mayor of Hiram
Kim Phillips	GDOT - Road Design
Chuck Rann	Paulding County Public Works
Colby Rutledge	Paulding County Public Works
Steve Sanders	GDOT - District 6 Traffic Ops
Blake Swafford	Paulding County DOT
Walt Taylor	GDOT - Road Design

II. Handouts Distributed:
Draft Concept Report

III. Displays Presented:
Project Location Sketch
Proposed Typical Section
Plan View Layouts of Three Alternates

IV. Presentations:

- Bill Moskal welcomed attendees and opened the meeting.
- All attendees introduced themselves.
- Kim Phillips introduced the project and presented project background, logical termini, community issues, and need and purpose as stated in the Draft Concept Report.

The project is located in Paulding County on SR 92 beginning at Nebo Road and extending to just north of the SR 120 intersection. Major existing intersections with SR 92 are present at US 278/SR 8, SR 360, and SR 120.

This project is currently scheduled for right of way acquisition beginning in FY 2006 and construction in FY 2009.

The current SR 92 roadway is a two-lane, two way section with existing bridges over the Norfolk Southern railroad tracks and Silver Comet Trail in Hiram.

The proposed SR 92 roadway is a four lane, two way urban section with a 20-ft. wide raised median and curb & gutter with sidewalks. Widening of the existing alignment and new location alignment are both required. The existing bridges over the Norfolk Southern railroad tracks and Silver Comet Trail will be replaced. The existing bridge over Grays Mill Creek was constructed in 2000 and will only need replacement to accommodate alignment changes. A 20-ft wide raised median will be constructed beginning at Nebo Road and extending to the existing bridge over Grays Mill Creek.

The existing project roadway section accident rate was higher than the statewide average from 1995 to 1997. Updated traffic accident data will be acquired.

The 2001 traffic counts ranged from 18,400 to 30,200 vehicles per day on SR 92 and the 2026 traffic projection ranges from 32,600 to 55,600 vehicles per day.

Several historic properties exist along SR 92 in Hiram primarily near the southern end of the project.

Utility relocation costs are to be covered by local government project agreement with Paulding County.

- Walt Taylor presented each of the three proposed alternate concept layouts pointing out the historical properties, median breaks, bridge and culvert structures, side roads, and cross road intersections.

The main difference between the alternates is at the southern end of the project where each alternate uses a different horizontal alignment through or around the area in Hiram with the majority of historical properties.

Table 1. Alternate Summary

Alternate	Cost Estimate (\$ million)		Environmental Impacts			Bridges Required
	Construction	Right of Way	Displacements (businesses)	Historical Properties	Wetlands	
1	11	5	4	2	0	2
2	12	9	7	1	1 (possible)	3
3	11	5	4	1 (total take)	0	2

V. Description of Alternates:

All Alternates will construct a 20' raised median where there is currently a 20' flush median, between Nebo Rd and SR 120 Conn.

- Alternate 1

Alternate 1 ties in to the existing bridge over Grays Mill Creek and uses a reverse curve in the area between the creek and the Norfolk Southern railroad tracks to minimize impacts to the historical properties. The reverse curve will require a design variance for the shorter than required tangent section between the curves. Two historical properties (historic properties 4 and 6) are affected. There should be no impact to historic property 4 and conditional impact to historical property 6.

- Alternate 2

Alternate 2 replaces the existing bridge over Grays Mill Creek and shifts the SR 92 alignment west over the section extending from the creek to just north of the Norfolk Southern railroad tracks. One historical property (historic property 12) is affected with the impact considered minor. This alternate has a possible wetland impact.

- Alternate 3

Alternate 3 ties into the existing bridge over Grays Mill Creek and uses a single horizontal curve that shifts the existing SR 92 alignment slightly to the west through the southern part of Hiram. This alignment shift may help with the current sight distance problems from Church Street since the new SR 92 bridge over the railroad tracks would

be slightly west of the current location. This alternate results in the total take of one historic property. It may be possible to relocate the historic structure. Wetland impacts are possible.

VI. General Discussion and Recommendations

GDOT – Engineering Services

- Recommended 6' strip of grass instead of 2' strip of grass between the curb and the sidewalk to accommodate clear zone
- Mentioned that a new Americans with Disabilities Act specification book would be released this year
- Recommended “table topping” off intersections for pedestrians and the grades might need to be lowered to do so

Atlanta Gas & Light

- 6” High pressure line on the east side down SR 120 which could be a major impact at the north end of the project
- 2” and 4” lines throughout the project

Bell South

- Slick Site 20' off existing ROW at the north end of the project could create a conflict

Paulding County

- Stated that most locations requested by the county for median openings were incorporated but, they still had concerns over a couple of locations where openings were not shown

FHWA

- Would like to see updated traffic movements and accident rates along SR 92

GDOT – District Traffic Ops

- Additional traffic signals will likely be installed along SR 92 after a warrant study is conducted



	<i>Department of Transportation</i>	
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PAUL V. MULLINS		EARL L. MAHFUZ
CHIEF ENGINEER		TREASURER
(404) 656-5277		(404) 656-5224

December 5, 2003
 PROJECT NO. STP-186-1(25)
 P.I. No. 621720
 Paulding County

Meeting Attendees

RE: Initial Concept Team Meeting Minutes

Ladies and Gentlemen:

The meeting minutes for the initial concept team meeting held on November 17, 2003 at 10:00 AM in the Office of Road & Airport Design conference room are included below.

I. Meeting Attendees:

- | | |
|------------------|---|
| Kerry Bonner | GDOT – District 6 Utilities |
| Don Clerici | Paulding County DOT |
| Jennifer Deems | GDOT – District 6 Utilities |
| Jennifer Giersch | FHWA – Environmental Coordinator |
| Bill Heath | Georgia State Representative - District 18 |
| Tajsha LaShore | GDOT – Office of Environment/Location – Environmental Planner |
| Howard Maxwell | Georgia State Representative - District 27 |
| William Moskal | GDOT – Assistant Road & Airport Design Engineer |
| Jerry Morris | GDOT – Road Design Group Manager and Project Manager |
| Kim Phillips | GDOT – Assistant Road Design Group Manager |
| Melissa Quinton | GDOT – Engineering Services Transportation Engineer Associate |
| Erik Rohde | GDOT – Road Design Transportation Engineer Associate |
| Blake Swafford | Paulding County DOT |
| Walt Taylor | GDOT – Road Design Transportation Engineer Associate |
| Madeline White | GDOT – Office of Environment/Location – Environmental Planner |
| Ron Wishon | GDOT – Assistant Project Review Engineer |

II. Handouts Distributed:
Draft Concept Report

III. Displays Presented:
Project Location Sketch
Proposed Typical Section
Plan View Layouts of Four Alternates

IV. Presentations:

- Jerry Morris welcomed attendees and opened the meeting.
- All attendees introduced themselves.
- Jerry Morris introduced the project.

The project is located in Paulding County on SR 92 beginning at the recently constructed bridge over Grays Mill Creek and extending to the SR 120 intersection. Major existing intersections with SR 92 are present at US 278/SR 8, SR 360, and SR 120.

This project is currently scheduled for right of way acquisition beginning in FY 2006 and construction in FY 2009.

The current SR 92 roadway is a two-lane, two way section with existing bridges over the Norfolk Southern railroad tracks and Silver Comet Trail in Hiram:

The proposed SR 92 roadway is a four lane, two way urban section with a 20-ft. wide raised median and curb & gutter with sidewalks. Widening of the existing alignment and new location alignment are both required. The existing bridges over the Norfolk Southern railroad tracks and Silver Comet Trail will be replaced in any alternate. The existing bridge over Grays Mill Creek was constructed in 2000 and will only need replacement to accommodate alignment changes.

The existing project roadway section accident rate was higher than the statewide average from 1995 to 1997. Updated traffic accident data will be acquired.

The 2001 traffic counts ranged from 18,400 to 30,200 vehicles per day on SR 92 and the 2026 traffic projection ranges from 32,600 to 55,600 vehicles per day.

Several historic properties exist along SR 92 in Hiram primarily near the southern end of the project.

Utility relocation costs would be covered by owners or local government.

- Kim Phillips presented project background, logical termini, community issues, and need and purpose as stated in the Draft Concept Report.
- Walt Taylor presented each of the four proposed alternate concept layouts pointing out the historical properties, median breaks, bridge and culvert structures, side roads, and cross road intersections.

The main difference between the alternates is at the southern end of the project where each alternate uses a different horizontal alignment through or around the area in Hiram with the majority of historical properties.

Table 1. Alternate Summary

Alternate	Cost Estimate (\$ million)		Environmental Impacts			Bridges Required
	Construction	Right of Way	Displacements (businesses)	Historical Properties	Wetlands	
1	11	13	9	2	0	2
2	12	9	7	1	1 (possible)	3
3	12	11	11	0	1	3
4	11	13	9	1 (total take)	0	2

V. Discussion and Questions on Alternates:

- Alternate 1

Alternate 1 ties in to the existing bridge over Grays Mill Creek and uses a reverse curve in the area between the creek and the Norfolk Southern railroad tracks to minimize impacts to the historical properties. The reverse curve will require a design variance for the shorter than required tangent section between the curves. Two historical properties (historic properties 4 and 6) are affected. There should be no impact to historic property 4 and conditional impact to historical property 6.

- Alternate 2

Alternate 2 replaces the existing bridge over Grays Mill Creek and shifts the SR 92 alignment west over the section extending from the creek to just north of the Norfolk Southern railroad tracks. One historical property (historic property 12) is affected with the impact considered minor. This alternate has a possible wetland impact.

(Representative Maxwell) Expressed concern that Hiram civic and business leaders would not be supportive of this alignment shift that would result in removing SR 92 from direct contact with the southern part of the Hiram historic business district.

- Alternate 3

Alternate 3 shifts the SR 92 alignment east at the south end of the project, crosses Grays Mill Creek at a new location requiring a new bridge, and effectively bypasses the

southern part of Hiram. This alignment shift avoids all historic properties but displaces the municipal complex and post office. One wetland area would be impacted.

(Representative Maxwell) This alternate would definitely not support Hiram's plans for historic district redevelopment.

(Group) The group felt this was the least desirable alternate.

- Alternate 4

Alternate 4 ties into the existing bridge over Grays Mill Creek and uses a single horizontal curve that shifts the existing SR 92 alignment slightly to the west through the southern part of Hiram. This alignment shift may help with the current sight distance problems from Church Street since the new SR 92 bridge over the railroad tracks would be slightly west of the current location. This alternate results in the total take of one historic property. It may be possible to relocate the historic structure. Wetland impacts are possible.

(Ms. White and Ms. LaShore from GDOT) This alternate would require full Section 4(f) Evaluation and possibly an Environmental Assessment (EA). These environmental requirements could delay project letting and construction from the current schedule.

VI. General Discussion

(Mr. Swafford and Mr. Clerici from Paulding County DOT) A new residential development is planned for the area west of SR 92 and north of Sims Drive. A new side street intersecting SR 92 north of Sims Drive is proposed for this development. A median break would probably be needed here instead of Sims Drive.

(Ms. LaShore from GDOT) Will cemetery on the east side of SR 92 be impacted in any of the alternates? (Mr. Taylor from GDOT) None of the alternates will adversely impact the cemetery. Some of the existing grave sites are apparently on existing State right of way and some minor retaining wall work may be proposed to protect the edge of the cemetery property along SR 92.

(Mr. Swafford and Mr. Clerici from Paulding County DOT) There's a proposal to redevelop the northwest quadrant of the US 278/SR 8 and SR 92 intersection for a Walgreens drug store. Currently the site is occupied by a Citgo gas station/convenience store. This redevelopment would increase right of way cost.

(Mr. Swafford and Mr. Clerici from Paulding County DOT) May the median opening locations on SR 92 be reconsidered and possibly changed on the alternates to support planned development changes in the area? (Mr. Morris from GDOT) The median openings shown on each alternate are based on traffic data identifying where they are most needed and meeting the minimum required spacing of 660-ft. The locations can be changed as

appropriate during design development. Mr. Swafford and Mr. Clerici will review the median breaks shown and provide suggestions for any changes to Mr. Morris by email.

(Ms. Deems from GDOT) Bell South has a facility in the southeast quadrant of the SR 92 and SR 120 intersection that they relocated to accommodate construction of the current intersection. This facility should be considered during the design development.

(Mr. Swafford and Mr. Clerici from Paulding County DOT) The existing condition and SR 92 bridge over the railroad tracks (bridge has a vertical curve) provides sight distance challenges for vehicles entering SR 92 southbound and northbound from the east on Church Street. Many vehicles use Main Street to enter SR 92 instead of Church Street for this reason. (Representative Maxwell) Would it be possible to lengthen the new railroad bridge to span over the Church Street intersection and provide a loop for westbound Church Street access to southbound SR 92? (Mr. Morris from GDOT) Road design will look at design options to improve this situation. One proposal is to relocate Church Street slightly to the north to improve sight distance to the south.

(Mr. Clerici from Paulding County DOT) Will retaining walls be needed along the widened sections of SR 92? (Mr. Taylor from GDOT) At this point none are shown on the alternate layouts but it is anticipated that some will be required once vertical profiles have been established.

(Mr. Clerici from Paulding County DOT) We should anticipate some "prior rights" issues with utilities at some locations along SR 92 north of US 278/SR 8 where the owners have purchased easements outside of current SR 92 right of way.

(Mr. Swafford from Paulding County DOT) Paulding County has concerns that this project will continue to slip in the schedule. Construction was originally proposed for FY 2004. They met with Commissioner Linnenkohl last week to express their interest that this project continues to move forward and possibly be moved forward in the construction schedule.

(Mr. Swafford and Mr. Clerici from Paulding County DOT) Suggest that the south project terminus be extended southward to the East and West Hiram bypass intersection with SR 92. The west bypass is under construction and the east bypass is scheduled for construction in FY 2006. A concept meeting for the east bypass is scheduled for the following week. These two bypass projects and the SR 92 project will result in a short section (approximately 1/3-mile) of SR 92 still being 2-lane from Nebo Rd. south to the bypasses. (Mr. Moskal from GDOT) The bypass projects should include the necessary changes to SR 92 to support the 4-lane west bypass and 2-lane east bypass connection with SR 92. (Mr. Swafford from Paulding County DOT) The bypass projects would not be able to fund construction on SR 92.

(Mr. Morris from GDOT) Current traffic projections do not account for the East and West Hiram bypasses. New traffic projections will be requested to include the bypasses effect on SR 92 traffic.

(Mr. Swafford from Paulding County DOT and Mr. Morris from GDOT) The section of SR 92 from the existing Grays Mill Creek bridge south to Nebo Rd. is a 5-lane section with a 20-ft. center turn lane. (Mr. Morris from GDOT) Road design will look into extending the raised center median on this project south to Nebo Rd.

(Mr. Morris from GDOT) GDOT Road Design would like to have a Public Information Meeting (PIM) held around January to February 2004. (Mr. Moskal from GDOT) Profiles need to be developed to determine construction limits so the impacts through the business district and historic properties can be fully defined for a PIM. (Mr. Morris from GDOT) Road design will work on developing profiles.

(Mr. Morris from GDOT) Which of the four alternates should be presented at the PIM?
(Group) The group felt that alternates 1, 2, and 4 should be presented. Alternate 3 is the least desirable to the group and most likely would not be accepted by the public. However, this alternate should be addressed in the environmental documents since it is the one that had no impact on any historical properties.

**DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA**

Office of Road and Airport Design

PROJECT CONCEPT REPORT

Project Number: STP-186-1(25)

County: Paulding

P. I. Number: 621720

Federal Route Number:

State Route Number: 92

*Widen a two-lane roadway to a four-lane facility with
a 20' Raised Medium*

Recommendation for approval:

DATE _____

Project Manager

DATE _____

State Road and Airport 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 11/2/05

Joseph P. P. P.

State Transportation Planning Administrator

DATE _____

State Transportation Administrator

DATE _____

State Environmental/Location Engineer

DATE _____

State Traffic Safety & Design Administrator

DATE _____

Cartersville District Engineer

DATE _____

Project Review Engineer

DATE _____

State Bridge Design Engineer

**DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA**

Office of Road and Airport Design

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County: Paulding

P. I. Number: 621720

Federal Route Number:

State Route Number: 92

*Reconstruct a two-lane roadway to a four-lane facility
with a Raised Median*

Recommendation for approval:

DATE 1-10-05

James S. Mann
Project Manager

DATE 1-10-05

Brent A. Hill
State Road and Airport 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 Administrator

DATE _____

State Environmental/Location Engineer

DATE _____

State Traffic Safety & Design Administrator

DATE _____

Cartersville District Engineer

DATE _____

Project Review Engineer

DATE 1-15-05

Paul V. Hill Jr.
State Bridge Design Engineer

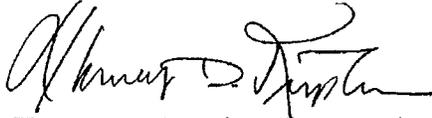
**DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA**

INTERDEPARTMENT CORRESPONDENCE

FILE: P.I. No. 621720

OFFICE: Environment/Location

DATE: January 19, 2005



FROM: Harvey D. Keeper, State Environmental/Location Engineer

TO: Margaret B. Pirkle, P.E., Assistant Director of Preconstruction

**SUBJECT: PROJECT CONCEPT REPORT
STP-186-1(25) / Paulding County**

The above subject concept report has been reviewed. Although the two bridges spanning the two railroads are listed as not eligible in the GHBS, the Southern Railroad and Silver Comet Trail are N.R. eligible. With at least three creek crossings, there is a possibility that a 404 Permit will be needed; F&M Survey will be necessary. Page 6 – Environmental concerns are several historic resources and a park which are all 4(f). Page 7 – This is looking like EA w/4(f), six months to complete Environmental is tough. We are currently waiting for design to evaluate traffic and alternative (find a preferred). EA – will require a Public Hearing or opportunity for PHOH.

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

HDK/lc

Attachment

cc: David Mulling, Project Review Engineer
Brent A. Story, P.E., State Consultant Design Engineer

**DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA**

Office of Road and Airport Design

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Recommendation for approval:

DATE 1-10-05

Jimmy S. Mann
Project Manager

DATE 1-10-05

Brent A. Hill
State Road and Airport Design Engineer

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DATE _____

State Transportation Planning Administrator

DATE _____

DATE 1.19.05

Anthony D. Taylor
State Transportation Administrator
State Environmental/Location Engineer

DATE _____

State Traffic Safety & Design Administrator

DATE _____

Cartersville District Engineer

DATE _____

Project Review Engineer

DATE _____

State Bridge Design Engineer

Department of Transportation
State of Georgia

INTERDEPARTMENTAL CORRESPONDENCE

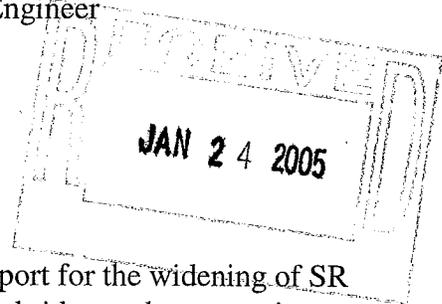
File: STP-186-1(25) Paulding County
P.I. No. 621720

Office: Traffic Safety & Design
Atlanta, Georgia
Date: January 15, 2005

From: *PMA/SG* Phillip M. Allen, State Traffic Safety and Design Engineer

To: Meg Pirkle, Assistant Director of Preconstruction

Subject: Project Concept Report Review



We have reviewed the above referenced concept report for the widening of SR 92 from Nebo Road to north of SR 120, including a bridge replacement, in Paulding County.

The Office of Traffic Safety and Design finds this report satisfactory for approval because it will improve safety and traffic operations within this area.

PMA/SZ/nr

Attachment (signature page)

Cc: Harvey Keepler, State Environment /Location Engineer
David Mulling, State Review Engineer
Brent A. Story, State Road and Airport Design Engineer
Attn: Jerry Morris, Design Group Manager
Joe Palladi, State Transportation Planning Administrator
Jamine Simpson, Financial Management Administrator
Kent Sager, District Engineer, Cartersville
Attn: David Moore, District Design Engineer
Paul Liles, Bridge Engineer
General Files
Office Files

**DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA**

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Project Manager

DATE 1-10-05

Brent A. Hill
State Road and Airport Design Engineer

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State Transportation Planning Administrator

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State Transportation Administrator

DATE _____

State Environmental/Location Engineer

DATE 1-18-05

Phillip M. Allen

DATE _____

State Traffic Safety & Design Administrator

DATE _____

Cartersville District Engineer

DATE _____

Project Review Engineer

State Bridge Design Engineer

**DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA**

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Project Manager

DATE _____

State Road and Airport Design Engineer

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DATE _____

State Transportation Planning Administrator

DATE 1-24-05

James Simpson

State Transportation Administrator

DATE _____

State Environmental/Location Engineer

DATE _____

State Traffic Safety & Design Administrator

DATE _____

Cartersville District Engineer

DATE _____

Project Review Engineer

DATE _____

State Bridge Design Engineer

**DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA**

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DATE 1-10-05

Jimmy N. Mann
Project Manager

DATE 1-10-05

Burt A. Hill
State Road and Airport Design Engineer

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State Transportation Planning Administrator

DATE _____

State Transportation Administrator

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State Environmental/Location Engineer

DATE _____

State Traffic Safety & Design Administrator

DATE _____

Cartersville District Engineer

DATE 1/21/05

David J. Mullens
Project Review Engineer

DATE _____

State Bridge Design Engineer