

ORIGINAL TO GENERAL FILES

D.O.T. 66

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

INTERDEPARTMENT CORRESPONDENCE

FILE STP-2387(4) McIntosh County **OFFICE** Preconstruction
P. I. No. 542070
Widening and Reconstruction of SR 251 **DATE** July 13, 2004

FROM *Margaret E. Pirkle*
Margaret E. 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
Jerry Hobbs
Jamie Simpson
Michael Henry
Phillip Allen
Joe Palladi (file copy)
Paul Liles
Brent Story
Gerald Ross
Gary Priester
BOARD MEMBER

Paul V. Mullins
Page 2

STP-2387(4) McIntosh
June 9, 2004

The estimated costs for this project are:

	<u>PROPOSED</u>	<u>APPROVED</u>	<u>FUNDING</u>	<u>PROG DATE</u>
Construction (includes E&C and inflation)	\$8,997,000	\$8,885,000	Q25	2011
Right-of-Way	\$1,917,000	\$1,917,000	Q25	
Utilities*	\$ 827,000	---		

*LGPA to be sent.

I recommend this project concept be approved and a traffic signal be included at the intersection of SR 25 and SR 251. (Attached is the signal warrant analysis prepared by District 5.)

MBP:JDQ/cj

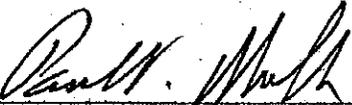
Attachment

CONCUR



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

APPROVE



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

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

PROJECT CONCEPT REPORT

Office of Road and Airport Design

SR 251 from CR 16/King Swamp Road to US 17/SR 25

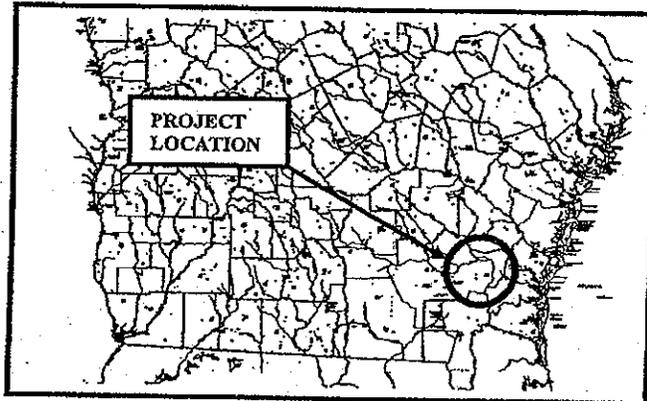
Project Number: STP-2387(4)

County: McIntosh

P. I. Number: 542070

Federal Route Number: None

State Route Number: SR 251



Recommendation for approval:

DATE 5/26/04

James S. Aguirre Jr.
Project Manager

DATE 5/28/04

David M. B.
Office Head/District Engineer

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

DATE _____

State Transportation Planning Administrator

DATE _____

State Transportation Programming Engineer

DATE _____

State Environmental/Location Engineer

DATE _____

State Traffic Safety and Design Engineer

DATE _____

District Engineer

DATE 6-1-04

David J. Mullins *REW*
Project Review Engineer

DATE _____

State Bridge and Structural Design Engineer

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

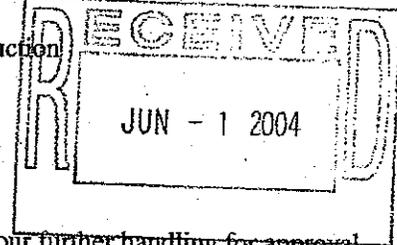
INTERDEPARTMENT CORRESPONDENCE

FILE STP-2387 (4) McIntosh Co. **OFFICE** Road Design
P.I. No. 542070 **DATE** May 26, 2004

FROM *Gerald M. Ross mgt*
Gerald M. Ross, P.E., State Road & Airport Design Engineer

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

SUBJECT PROJECT CONCEPT REPORT



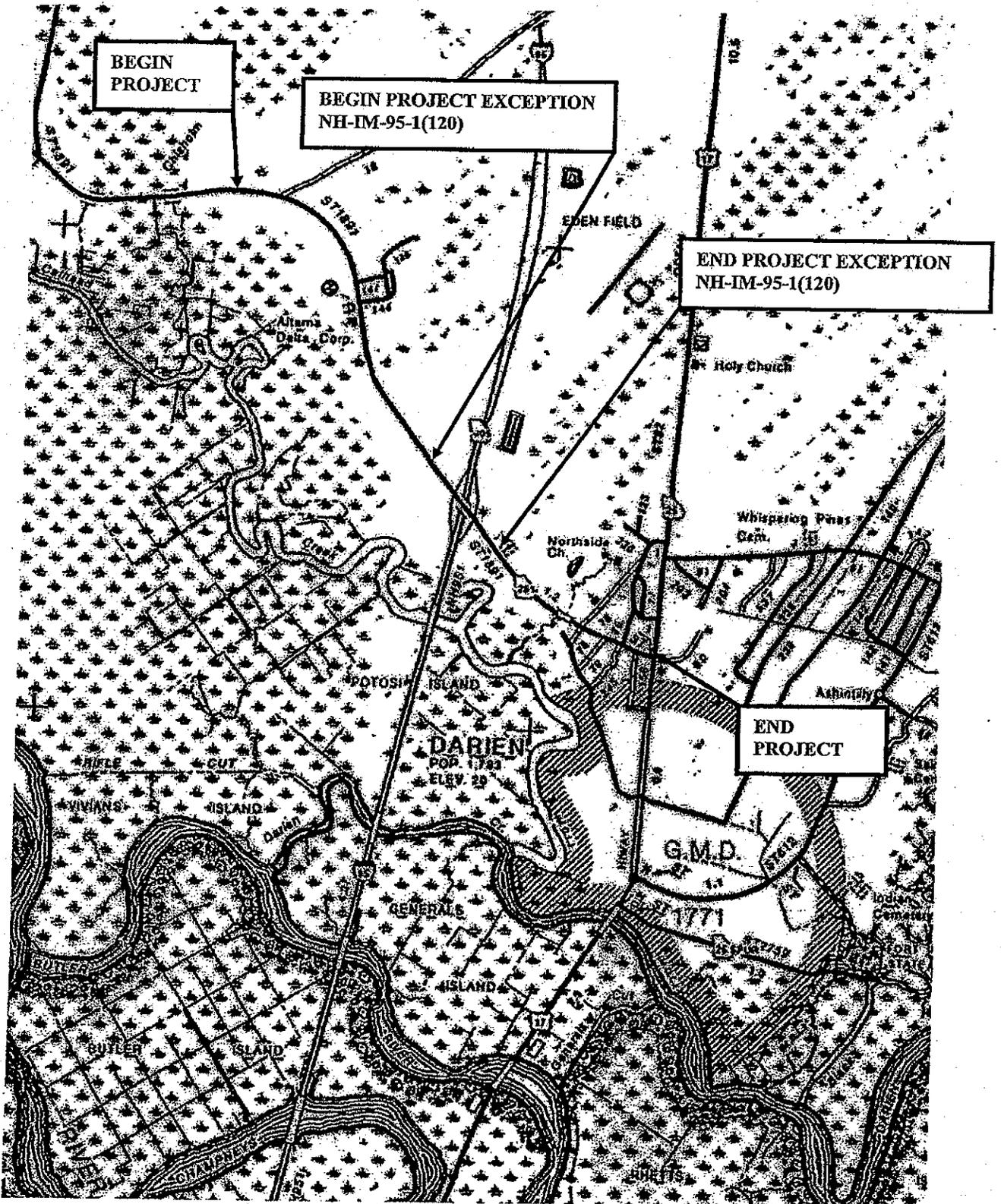
Attached is the original copy of the Concept Report for your further handling for approval in accordance with the Plan Development Process (PDP).

If there any questions, please contact Jim Simpson at 404-657-9192.

GMR:JSS:ss
Attachment

cc: Thomas L. Turner
Joe Palladi, w/attachment
Jamie Simpson, w/attachment
Harvey Keepler, w/attachment
Gary Priester, w/attachment
David Mulling, w/attachment
Phillip Allen, w/attachment
Paul Liles, w/attachment

PROJECT MAP-Project No. : STP-2387(4), McIntosh County



- Major interchanges or intersections along the project: I-95/SR 405 Interchange, US 17/SR 25
- Existing length of roadway segment and the beginning mile logs for each county segment: 3.3 miles; mile log 10.18 - 13.48

Proposed Design Features:

- Proposed typical section(s):
 - Mile log 10.18 to 11.68
 - Five-lane Rural: 4 - 12' lanes, 14' center turn lane, 6.5' bike shoulder. Sidewalks, which would be located behind the ditch on a rural section, shall be considered as the plan development process moves forward into preliminary plans.
 - Mile log 11.68 to 12.58
 - Four-lane Urban: 4 - 12' lanes, 20' raised median, outside curb and gutter, two 4' bike lanes, and 5' sidewalks along both sides.
 - Mile log 12.58 to 13.48
 - Five-lane Urban: 4 - 12' lanes, 14' center turn lane, outside curb and gutter, two 4' bike lanes, with an additional 3' width each side to accommodate future raised median, and 5' sidewalks along both sides.
- Proposed Design Speed Mainline: 55 mph (rural section)/45 mph (urban section)
- Proposed Maximum grade Mainline: 3% Maximum grade allowable: 6%(55 mph), 7% (45 mph)
- Proposed Maximum grade Side Street: N/A Maximum grade allowable: 8%
- Proposed Maximum grade driveway: N/A
- Proposed Maximum degree of curve: 2° 00' Maximum degree allowable: 5° 23' (55 mph), 8° 41' (45 mph)
- Right of way
 - Width: Varies 195' - 112'
 - Easements: Temporary (), Permanent (), Utility (), Other ().
 - Type of access control: Full (), Partial (), By Permit (X), Other ().
 - Number of parcels: 75 Number of displacements:
 - Business: 2
 - Residences: 0
 - Mobile homes: 0
 - Other: 0
- Structures:
 - Extend existing reinforced concrete bridge culvert - Triple 7'x7', 130' long
- Major intersections and interchanges: I-95/SR 405 Interchange, US 17/SR 25
- Traffic control during construction:
 - Traffic to be maintained on existing roadways during construction

Scheduling -- Responsible Parties' Estimate

- Time to complete the environmental process: 12 Months
- Time to complete preliminary construction plans: 12 Months
- Time to complete right of way plans: 8 Months
- Time to complete the Section 404 Permit: 12 Months
- Time to complete final construction plans: 12 Months
- Time to complete to purchase right of way: 18-24 Months

Other alternates considered:

- **No Build:** This alternative does not meet the capacity and operational needs of the project.

Comments:

- All ramps at the I-95 and SR 251 interchange will be upgraded to current department standards, lengthened to provide adequate acceleration and deceleration lengths, and designed to accommodate the widening of I-95. This work will be a part of the I-95/SR 405 widening project (Project No. NH-IM-95-1(120)) and is scheduled to be completed before or concurrent with this project.
- Reconstruction of the roadway will be necessary in some locations where an urban typical section is proposed in order meet AASHTO minimum grade requirements for drainage of curbed roadways.
- Historic markers for Old River Road and Fort Barrington are located within proposed project construction in the southwest quadrant of the intersection of SR 251 and US 17. These markers will have to be reset as part of the project.
- During further plan development sidewalks should be studied and incorporated from the southern terminus of proposed roadway improvements on US 17. Sidewalks will need to be extended south for approximately 430' in order to provide connection to existing sidewalks.

Attachments:

1. Need and Purpose Statement
2. Cost Estimates:
 - a. Construction including E&C(10) and Inflation, \$8,885,004
 - b. Right of Way, \$1,916,600
 - c. Utilities, \$827,000
3. Typical sections
4. Accident summaries
5. Traffic Diagrams
6. Capacity analysis
7. Minutes of Initial Concept Team meeting
8. Minutes of Concept meeting

PRELIMINARY COST ESTIMATE

PROJECT NUMBER: STP-2387(4)

COUNTY: McIntosh

DATE: March 2004

ESTIMATED LETTING DATE:

PREPARED BY: B. Helsel

PROJECT LENGTH: 3.3 Miles

() PROGRAMMING PROCESS (X) CONCEPT DEVELOPMENT () DURING PROJECT DEV.

PROJECT COST			
3. BASE AND PAVING:			
a. AGGREGATE BASE	66,332	- Tons @ \$17.03	\$ 1,129,627
b. ASPHALT PAVING (Mainline & Cross-Roads):			
Drainage - Type D	-	- Tons @ \$50.8	\$ -
Surface - SMA	-	- Tons @ \$54.93	\$ -
Surface - Superpave	11,464	- Tons @ \$42.56	\$ 487,899
Binder - SMA	-	- Tons @ \$56.9	\$ -
Binder - Superpave	12,163	- Tons @ \$38.43	\$ 467,393
Base - Superpave	22,053	- Tons @ \$34.63	\$ 763,680
Pavement Reinf. Fabric Strips	21,170	- Lane Ft @ \$2.84	\$ 60,122
SUBTOTAL: C-3.b			\$ 1,779,094
c. CONCRETE PAVING	-	- SY @ \$33.57	\$ -
d. OTHER (Leveling, Tack Coat, Milling)			\$ 307,694
SUBTOTAL: C-3			\$ 3,216,415
4. LUMP ITEMS			
a. GRASSING			\$ 137,077
b. CLEARING AND GRUBBING			\$ 154,949
c. LANDSCAPING			\$ -
d. EROSION CONTROL			\$ 361,326
e. TRAFFIC CONTROL			\$ 269,544
SUBTOTAL: C-4			\$ 922,896
5. MISCELLANEOUS:			
a. LIGHTING			\$ -
b. SIGNING - MARKING - SIGNALIZATION			\$ 242,747
c. GUARDRAIL			
Single-Faced			\$ 9,744
Double-Faced			\$ -
Anchors			\$ 7,245
SUBTOTAL: C-5.c			\$ 16,989
d. SIDEWALK			\$ 325,454
e. MEDIAN / SIDE BARRIER	-	- LF @ \$32.03	\$ -
f. MOVABLE BARRIER SECTION			\$ -
g. ACCESS FENCE			\$ -
h. BRIDGE JACKING			\$ -
i. APPROACH SLABS			\$ -
j. REMOVAL			
Concrete Paving			\$ -
Bridges			\$ -
SUBTOTAL: C-5.j			\$ -
k. ATMS Conduit	-	- LF @ \$37.78	\$ -
l. OTHER			\$ 65,460
SUBTOTAL: C-5			\$ 650,650

Need & Purpose Statement

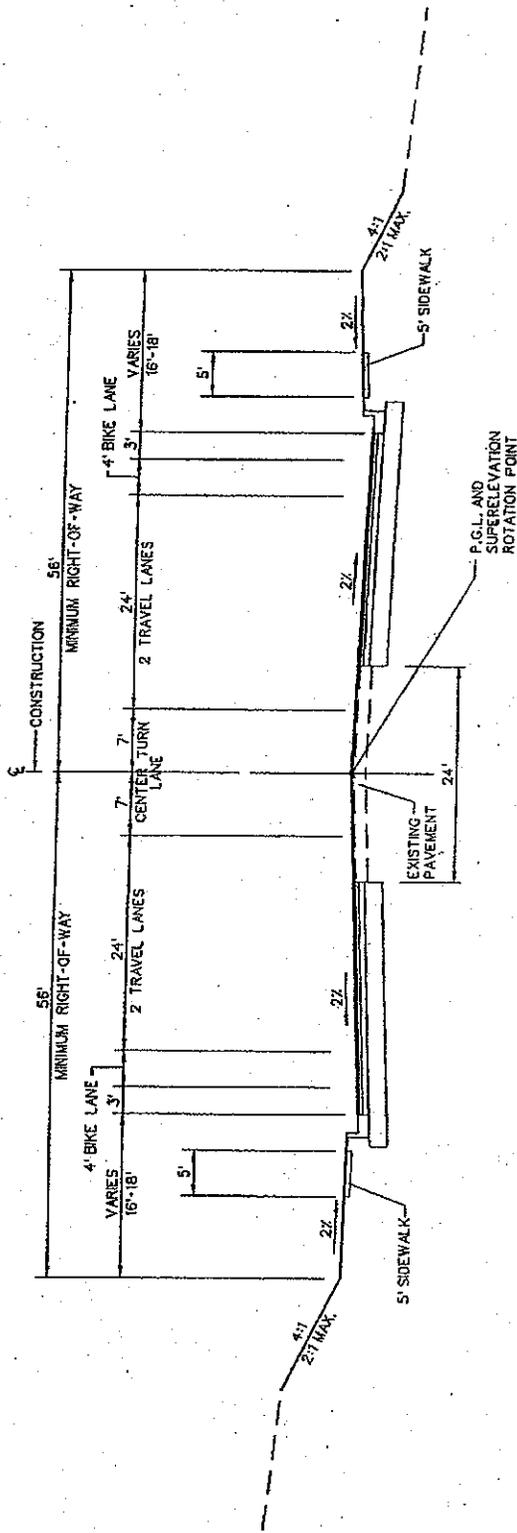
**State Route 251
McIntosh County
STP-2387(4)
P.I. # 542070**

The proposed project would widen and reconstruct the existing two-lane SR 251 between CR 16/King Swamp Road and US 17/SR 25 (north of Darien). From CR 16/King Swamp Road to Plantation Drive the roadway would be widened to a five-lane rural section. From Plantation Drive to east of I-95/SR 405 the existing roadway would be widened to a four-lane divided urban section, which will then transition to a five-lane urban section to the intersection of US 17/SR 25. The five-lane section will include the additional pavement width needed to accommodate a 20-foot raised median in the future. The total length of the proposed project is approximately 3.3 miles. The project will include intersection improvements at US 17/SR 25 that will require widening a portion of US 17/SR 25 to two lanes in each direction plus turn lanes. In addition, the existing bridge on SR 251 over I-95 would be replaced, under separate project currently identified as NH-IM-95-1(120), P.I. Number 511110, in order to accommodate the required horizontal and vertical clearances for the widening of I-95. SR 251 is classified as a rural major collector and, in conjunction with SR 57, is a main east-to-west route through McIntosh County. SR 251 in the project area also provides the most direct route for individuals from Darien to access I-95, which provides access to coastal hurricane evacuation routes from the area.

The project to widen SR 251 was first proposed to be added to the Department's Construction Work Program (CWP) in August 1995. The project was submitted by the District as a State Highway Improvement Plan (SHIP) project. Subsequently, the project was added to the CWP in March 1996. From 1990 to 1994, traffic volumes on SR 251 east of I-95 fluctuated between 3,000 and 3,600 AADT (Average Annual Daily Traffic). West of I-95 traffic volumes were somewhat lower, fluctuating between 2,200 and 2,800 AADT. However, in 1995, traffic volumes began to steadily increase as the I-95/SR 251 interchange (Exit #10) began to develop commercially. The AADT for 2007 (build year) is predicted to reach 12,760, and is predicted to reach 27,960 by 2027 (design year) based on growth in the area.

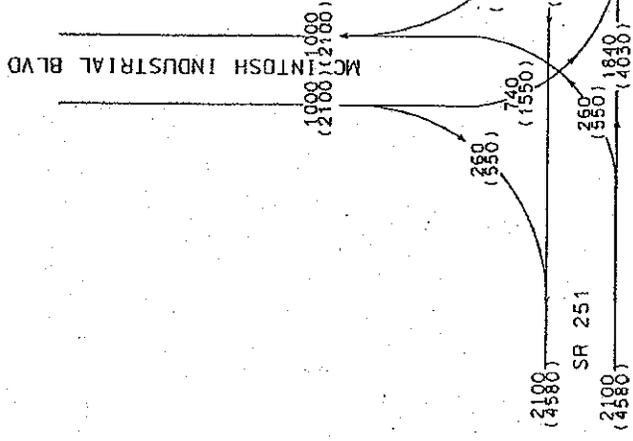
Currently, the project corridor is heavily developed with commercial and industrial facilities including service station/convenience stores, truck stops, nationally known fast food restaurants, hotels and motels, auto repair/wrecker service, a video store, a night club, and an outlet mall containing approximately 100 retail stores. As a result of ongoing development in the project corridor, traffic volumes between 1992 and 2002 east of I-95 have increased steadily at approximately a 6% per year rate. Bikeable shoulders and sidewalks would be extended from US 17/SR 25 to the mall, which would provide

Based on the above, there is a need to widen SR 251 between CR 16/King Swamp Road and US 17/SR 25 due to the unacceptable projected LOS within the project corridor and above-average accident, injury, and fatality rates. The purpose of widening SR 251 is to increase the capacity of the highway, provide a safer highway for motorists, reduce travel time delays, and to provide the roadway infrastructure necessary to support ongoing and planned development in the corridor. Additionally, the widening of SR 251 would provide the coastal residents in this area with a more suitable evacuation route during an emergency situation such as a hurricane, heavy rains and/or flooding. An additional benefit includes the extension of sidewalks and bikeable shoulders from US 17/SR 25 at the southern terminus to provide pedestrian and bicycle accessibility between the commercial node at the I-95/SR 251 interchange and the City of Darien.

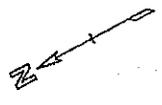


TYPICAL ROADWAY SECTION - URBAN

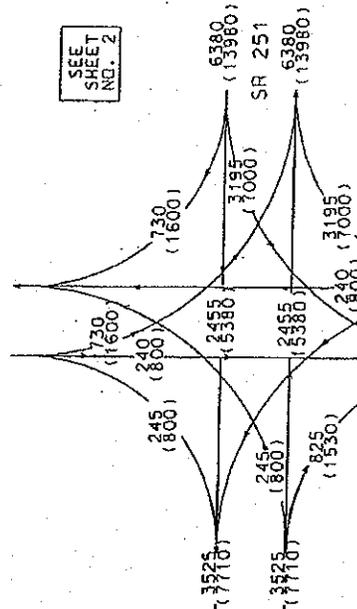
S.R. 251
WITH CENTER TURN LANE



1 OF 2

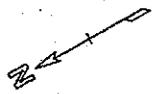


1215 (3205)

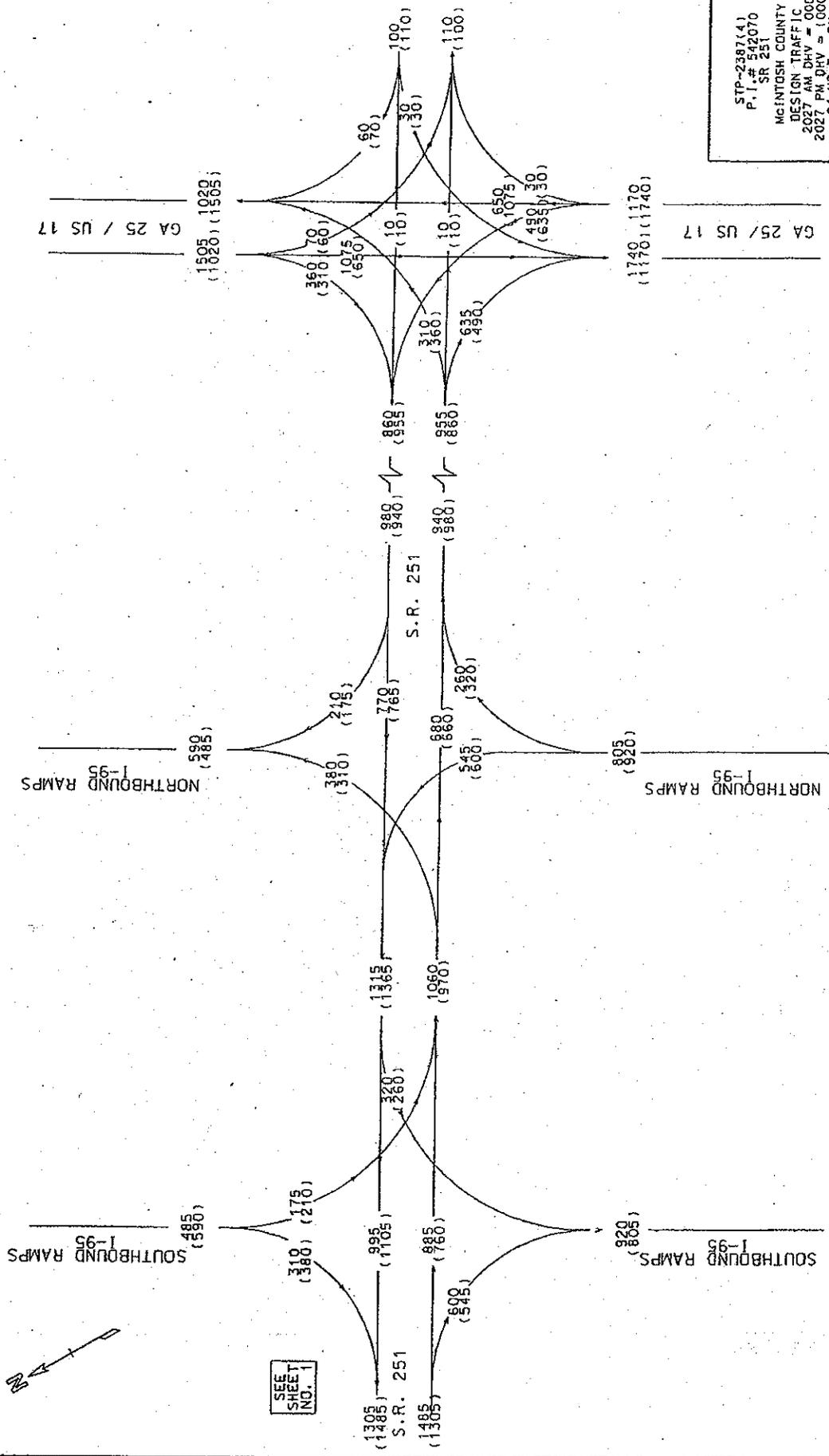


SEE SHEET NO. 2

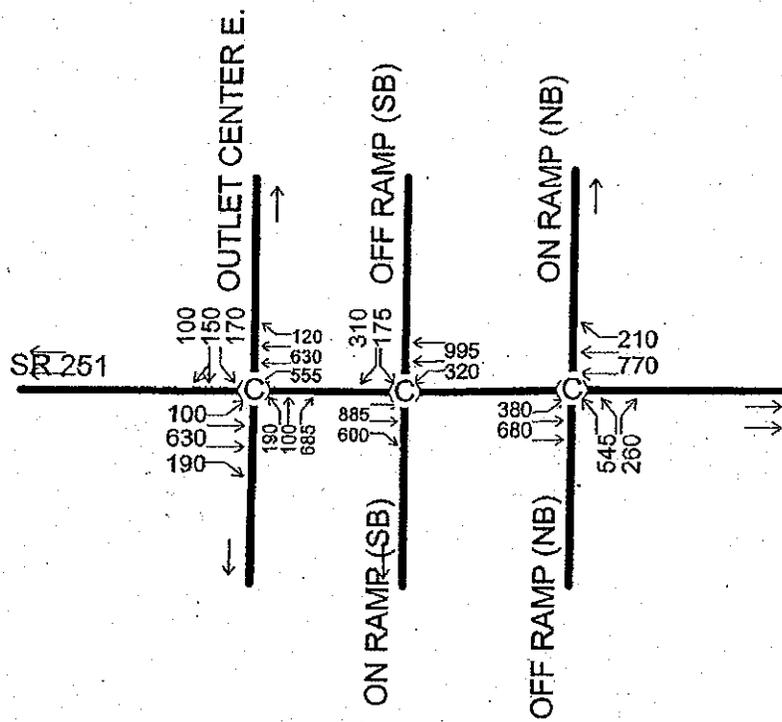
STP-2387(4)
 P. I. # 542070
 S.R. 251
 MCINTOSH COUNTY
 DESIGN TRAFFIC
 2007 ADT = 060
 2027 ADT = (000)
 24 HR. T = 7%
 S.U. = 4%
 COMB. = 3%
 T = 4%



SEE SHEET NO. 1



STP-2387(4)
 P.I.# 542070
 SR 251
 MCINTOSH COUNTY
 DESIGN TRAFFIC
 2027 AM. DRV = 000
 2027 PM. DRV = 000
 24 HR. T = 7%
 S.U. = 4%
 COMB. = 3%
 T = 4%



Lanes, Volumes, Timings
1: SR 251 & OUTLET CENTER E.

Design Year 2027
AM Peak

Intersection Capacity Utilization 89.8% ICU Level of Service D

Volume for 95th percentile queue is metered by upstream signal

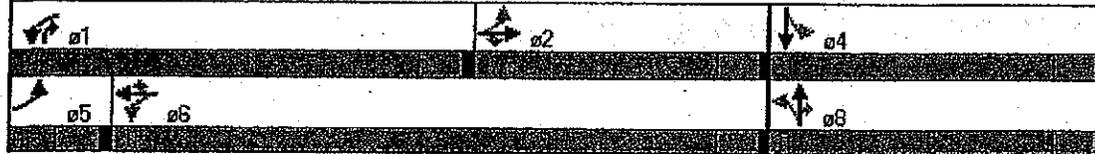
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity. Queue may be long.

Queue shown is maximum after two cycles.

Volume for 95th percentile queue is metered by upstream signal

Splits and Phases: 1: SR 251 & OUTLET CENTER E.



Lanes, Volumes, Timings
2: SR 251 & OFF RAMP (SB)

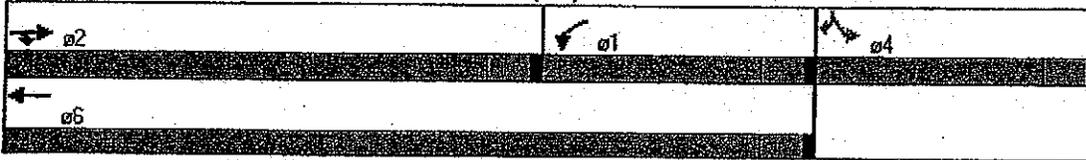
Design Year 2027
AM Peak

Intersection Capacity Utilization 64.6% ICU Level of Service B

Some approach volumes exceed capacity and may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 2: SR 251 & OFF RAMP (SB)



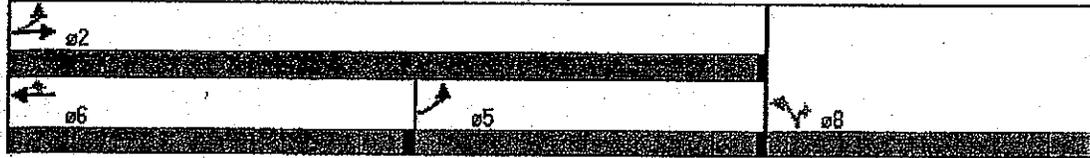
Lanes, Volumes, Timings
3: SR 251 & ON RAMP (NB)

Design Year 2027
AM Peak

Intersection Capacity Utilization 70.9%

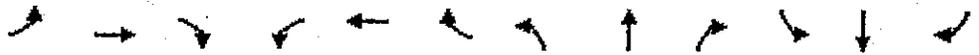
ICU Level of Service C

Splits and Phases: 3: SR 251 & ON RAMP (NB)



Lanes, Volumes, Timings
1: SR 251 & OUTLET CENTER E.

Design Year 2027
PM Peak

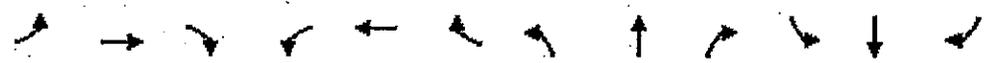


Lane Configurations	↖	↗	↖	↗	↖	↗	↖	↗	↖	↗	↖	↗
Satd. Flow (prot)	1687	3374	1509	1687	3374	1509	1687	1776	1509	1687	1643	0
Satd. Flow (perm)	710	3374	1509	284	3374	1509	538	1776	1509	1167	1643	0
Right Turn on Red			Yes			Yes			Yes		Yes	
Satd. Flow (RTOR)			200			179			18		44	
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		1200			742			970			1072	
Travel Time (s)		18.2			11.2			22.0			21.7	
Volume (vph)	100	630	190	685	630	170	190	150	555	120	100	100
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	105	663	200	721	663	179	200	158	584	126	210	0
Turn Type	prot	prot	Perm	prot	prot	Perm	prot	prot	Perm	prot	Perm	
Protected Phases	5	2		1	6		3	8	1		4	
Permitted Phases	2		2	3		6	3		3	4		
Total Split (s)	9.0	25.0	25.0	44.0	60.0	60.0	10.0	31.0	44.0	21.0	21.0	0.0
Act Eff Green (s)	30.9	24.9	24.9	68.1	59.1	59.1	26.9	25.9	69.1	15.9	15.9	
Actuated g/C Ratio	0.31	0.25	0.25	0.68	0.59	0.59	0.26	0.26	0.69	0.16	0.16	
v/c Ratio	0.18	0.79	0.58	0.95	0.38	0.19	0.91	0.34	0.58	0.68	0.70	
Uniform Delay, d1	13.5	35.1	0.0	21.7	10.4	0.0	32.3	30.1	7.5	39.6	31.2	
Delay	14.9	43.2	5.0	42.0	12.0	3.5	53.4	29.5	7.3	40.0	31.1	
LOS	B	D	A	D	B	A	D	C	A	D	C	
Approach Delay		32.2			24.9			20.9		34.5		
Approach LOS		C			C			C		C		
Queue Length 50th (ft)	25	217	0	432	115	16	104	89	100	75	93	
Queue Length 95th (ft)	46	#318	55	m#629	m150	m37	#230	136	216	#140	177	
Incremental Distance		1120			662			890			992	
50th Up Block Time (%)												
95th Up Block Time (%)												
Turn Bay Length (ft)	300		300	480		300	150		150	150		
90th Bay Block Time %												
95th Bay Block Time %		7%		37%			29%		13%		15%	
Queueing Penalty Wait							107		30		10	

Intersection: SR 251 & OUTLET CENTER E
 Control Type: Actuated
 Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green, Master Intersection
 Control Type: Actuated
 Maximum v/c Ratio: 0.95
 Intersection Signal Delay: 2.60
 Intersection LOS: C

Lanes, Volumes, Timings
2: SR 251 & OFF RAMP (SB)

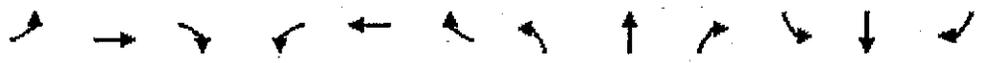
Design Year 2027
PM Peak



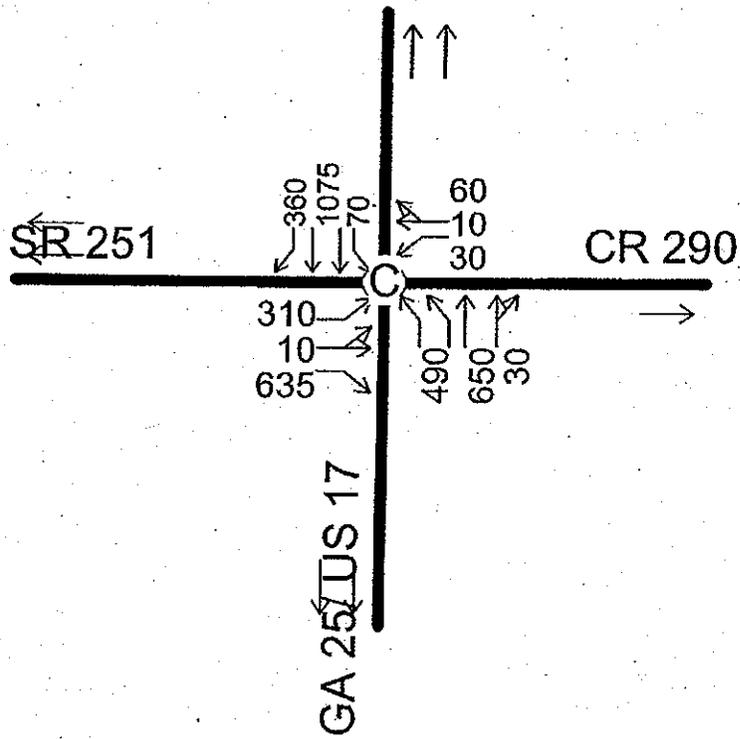
	EB	EB	EB	EB	EB	EB	EB	EB	EB	EB	EB	EB
Lane Configurations	↑↑	↑	↑	↑↑	↑	↑	↑	↑	↑	↑	↑	↑
Peak Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	300	300	0	0	0	0	0	0	0	0	0
Storage Lanes	0	1	1	0	0	0	0	0	0	0	0	0
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Turning Speed (mph)	15	0	15	15	15	15	15	15	15	15	15	15
Satd. Flow (prot)	0	3374	1509	1687	3374	0	0	0	0	1687	0	1509
Link Permitted										0.950		
Satd. Flow (perm)	0	3374	1509	1687	3374	0	0	0	0	1687	0	1509
Right Turn on Red			No			Yes			Yes			Yes
Satd. Flow (RTOR)												110
Link Speed (mph)	45			45		45		45		45		45
Link Distance (ft)		742			860			977				1086
Travel Time (s)		112			130			122				147
Volume (vph)	0	760	545	260	1105	0	0	0	0	210	0	380
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	0	800	574	274	1163	0	0	0	0	221	0	400
Turn Type			Prot	Prot						custom		custom
Protected Phases		2	2	1	6							
Permitted Phases												4
Total Split (s)	0.0	47.0	47.0	23.0	70.0	0.0	0.0	0.0	0.0	30.0	0.0	30.0
Actuated Green (s)		47.4	47.4	19.1	69.5					24.1		24.6
Actuated g/C Ratio		0.47	0.47	0.19	0.70					0.25		0.25
v/c Ratio		0.50	0.80	0.83	0.50					0.54		0.86
Uniform Delay, d1		18.1	22.3	39.0	7.1					32.8		26.1
Delay		11.7	21.2	18.2	6.5					17.5		13.8
LOS		B	C	D	A					C		C
Approach Delay		16.7			9.6							
Approach LOS		B			A							
Queue Length 50th (ft)		0	312	342	74					118		177
Queue Length 95th (ft)		139	m#524	#293	8					192		#337
Internal Link Dist (ft)		0			730			807				1000
50th Up Block Time (%)												
95th Up Block Time (%)												
Turn Bay Length (ft)			300	300								
95th Bay Block Time %			18%	4%								
Control Type			79	43								
Control Type												
Cycle Length: 100												
Actuated Cycle Length: 100												
Offset: 7 (7%), Referenced to phase 2:EBT and 6:WBT, Start of Green												
Control Type: Actuated/Coordinated												
Maximum v/c Ratio: 0.88												
Intersection Signal Delay (s)												

Lanes, Volumes, Timings
3: SR 251 & ON RAMP (NB)

Design Year 2027
PM Peak



	EB	WB	WB	WB	WB	WB	WB	WB	WB	WB	WB	WB
Lane Configurations	↖	↖			↖	↖	↖	↖	↖	↖	↖	↖
Ideal Flow (vph)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		0	0			300	0		0	0	0
Storage Lanes	1		0	0			1	2		0	0	0
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Leading Detector (ft)	50	50					50	50		50		
Trailing Detector (ft)	0	0					0	0		0		
Turning Speed (mph)	15	15	0	0	15	15	0	15		0	15	0
Satd. Flow (prot)	1687	3374	0	0	3374	1509	3273	0	1509	0	0	0
Permitted	0.177						0.050					
Satd. Flow (perm)	314	3374	0	0	3374	1509	3273	0	1509	0	0	0
Right Turn on Red			Yes			No		No		No		Yes
Satd. Flow (RTOR)												
Link Speed (mph)		45			45			30		30		30
Link Distance (ft)		860			930			985		1110		
Travel Time (s)		120			141			224		252		
Volume (vph)	310	660	0	0	765	175	600	0	320	0	0	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	326	695	0	0	805	184	632	0	337	0	0	0
Turn Type	protected				Permissive	custom		custom				
Protected Phases	5	2			6							
Permitted Phases	2				6	8		6				
Total Split (s)	27.0	63.0	0.0	0.0	36.0	36.0	37.0	0.0	37.0	0.0	0.0	0.0
Actuated Green (s)	64.9	64.9			37.0	37.0	29.1		29.1			
Actuated g/C Ratio	0.65	0.65			0.38	0.38	0.29		0.29			
v/c Ratio	0.61	0.32			0.63	0.32	0.66		0.77			
Uniform Delay, d1	22.4	7.8			25.3	22.0	31.1		32.3			
Delay	17.7	6.1			26.7	21.1	30.0		31.9			
LOS	B	A			C	C	C		C			
Approach Delay		9.8			26.2							
Approach LOS		A			C							
Queue Length 50th (ft)	102	50			222	84	179		102			
Queue Length 95th (ft)	211	64			306	149	224		281			
Maximum Delay (s)		7.0			35.0		30.0		30.0			
50th Up Block Time (%)												
95th Up Block Time (%)												
Turn Bay Length (ft)	300					300						
50th Bay Block Time %												
95th Bay Block Time %						4%						
Queueing Penalty (veh)												
Proposed Summary												
Max Type	Other											
Cycle Length	100											
Actuated Cycle Length	100											
Offset	8 (8%), Referenced to phase 2:EBTL and 6:WBT, Start of Green											
Control Type	Actuated Coordination											
Maximum v/c Ratio	0.77											
Intersection Signal Delay	22.2											
Intersection Signal Delay	25.3											



Lanes, Volumes, Timings
3: SR 251 & GA 25/ US 17

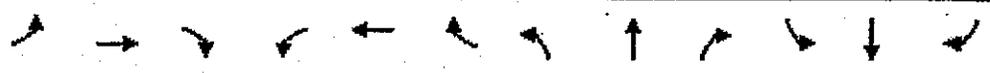
Design Year 2027
AM Peak

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum in two cycles

Splits and Phases: 3: SR 251 & GA 25/ US 17

 ø1	 ø2	 ø4	 ø8
 ø5	 ø6		



Lane Configurations	↖	←	↗	↖	←	↗	↖	←	↗	↖	←	↗
Ideal Flow (vph)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Turning Speed (mph)	15	15	15	15	15	15	15	15	15	15	15	15
Satd. Flow (prot)	1633	1642	1538	1719	1572	0	3335	3424	0	1719	3438	1538
Flt Permitted	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950
Satd. Flow (perm)	1633	1642	1538	1133	1572	0	3335	3424	0	1719	3438	1538
Right Turn on Red			No			Yes			Yes			Yes
Satd. Flow (RTOR)					74			4				326
Link Speed (mph)		30			30			30				30
Link Distance (ft)		1211			1064			1152				907
Travel Time (s)		24.5			21.2			26.2				20.6
Volume (vph)	360	10	490	30	10	70	635	1075	30	60	650	310
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	190	200	516	32	85	0	668	1164	0	63	684	326
Turn Type	Split		Prot+ov	Perm			Prot			Prot		Free
Protected Phases	4	4	5		8		5	2		1		6
Permitted Phases			4	8								Free
Total Split (s)	20.5	20.5	21.0	12.0	12.0	0.0	21.0	33.5	0.0	9.0	21.5	0.0
Act Effel Green (s)	14.0	14.0	31.9	8.7	8.7		17.8	35.7		6.6	17.7	69.7
Actuated g/C Ratio	0.21	0.21	0.48	0.13	0.13		0.28	0.56		0.10	0.28	1.00
W/Ratio	0.68	0.57	0.69	0.21	0.31		0.72	0.61		0.38	0.72	0.21
Uniform Delay, d1	26.6	26.8	10.7	28.7	3.6		23.5	12.9		31.3	20.6	0.0
Delay	25.8	25.9	9.1	30.4	10.8		27.0	17.4		33.0	26.1	0.0
LOS	C	C	A	C	B		C	B		C	C	A
Approach Delay		16.3			16.1			21.2				18.6
Approach LOS		B			B			C				B
Queue Length 50th (ft)	81	85	100	18	4		146	150		28	151	0
Queue Length 95th (ft)	145	152	165	39	43		#237	#234		#66	#238	0
Internal Delay (s)		11.1			9.84			10.72				8.27
50th Up Block Time (%)												
95th Up Block Time (%)												
Turn Bay Length (ft)												
50th Bay Block Time %												
95th Bay Block Time %												
Queueing Delay (veh)												

Intersection Summary
 Approach: **3-Phase**
 Cycle Length: 75
 Control Type: Actuated-Uncoordinated
 Maximum W/Ratio: 0.72
 Intersection Signal Delay: 19.2
 Intersection Capacity Utilization: 66.0%
 Intersection LOS: B
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Initial Concept Team Meeting Minutes
SR251 from King Swamp Road to US17/SR25
Project No. STP-2387(4)
PI # 542070
September 13, 2001 at 10:00 AM
Darien Courthouse
Darien, Georgia
McIntosh County

This meeting was held in accordance with the Project Development Process. Jim Simpson began the meeting by asking for introductions of those in attendance. Jill Hodges of Jordan, Jones, & Goulding (JJG) gave a brief overview of the project. The design year traffic volumes warrant a four-lane section with a flush median used as a center turn lane. This typical section will also include a footprint for a future four-lane section with a 20 foot raised median. SR251 is identified as an on-street bicycling corridor from US17/SR25 to CR134 and the State Bike Network uses US17/SR25 throughout McIntosh County. Therefore, both typical sections will include either bike lanes or bike shoulder.

Jill Hodges reviewed the following items as outlined in the Project Development Process:

- Need and Purpose- Provided by the Office of Planning and Environment and Location
- Safety Concerns- Gary Priester commented that traffic on the exit ramps tend to backup onto I-95 during peak shopping seasons. The most congestion occurs on the northbound exit ramp. David Bluestein is concerned with pedestrian safety. People at the RV campsite typically walk to McDonalds and the Outlet Mall. Mr. Bluestein requested sidewalks be constructed from downtown Darien and carried along SR251 to the Outlet Mall. Mr. Priester and Mr. Collins agreed with the need for sidewalks from US17/SR25 all the way to the mall area.
- Alternatives considered- No Build
- Preliminary design traffic- Existing and design year traffic volumes have been provided
- Accident data - Data for 1995-1997 was provided by the Department. The injury rates for these years exceed the statewide average.
- Staging and traffic control- Traffic will be maintained on existing roadways during construction
- Maintenance problems- Gary Priester sited a current drainage problem on SR251 near Water Tower Road (CR156). Water is ponding on both sides of SR251 at the existing cross drain.
- Design Criteria- Design speeds are limited to 45 mph with outside curb and gutter sections. The design speeds can be increased to 55 mph along any portion of the roadway having rural shoulders.
- Type of access controls- Limited access around the interchange and by permit at all other locations along the project.

- more growth around the Industrial park area. Mr. Bluestein said more commercial growth is expected on the western side of I-95 and more hotels on the eastern side.
- Tony Collins stated the need to move the western termini of the project to King Swamp Road (CR16). Will Murphy commented that if the King Swamp Road crossing of I-95 is upgraded to an interchange that widening of SR251 should extend to King Swamp Road.
 - Alternates to improve truck access from the gas stations along the northern side of SR251 to I-95 will be studied by JJG.
 - Connecting acceleration lane from proposed mall access to the right turn lane onto I-95. This will allow additional room for trucks to make the U-turn movement from the gas stations to I-95
 - Adding a parallel service road to SR251 from the Shell gas station to the proposed signal at the new mall access. The service road will provide interconnectivity between parcels and access to proposed signal at outlet mall.
 - Constructing a new driveway and parcel access west of Hampton Inn and shift main outlet mall access from proposed location to align with drive
 - Gary Priester expressed a need to preserve the oak trees located in front of the mall.
 - Mr. Bluestein commented that there is some discussion about moving the current school bus traffic to CR245.

In Attendance:

<u>Name</u>	<u>Phone Number</u>	<u>Organization</u>
Jim Simpson	(404) 657-9192	GDOT
Dennis Odom	(912) 427-5716	GDOT
Will Murphy	(912) 264-7247	GDOT-Area Engineer
Bryan Czech	(912) 264-7247	GDOT-Proj Engineer
Tony Collins	(912) 427-5713	GDOT-Jessup
Teresa Scott	(912) 427-5788	GDOT
Tom McQueen	(404) 657-6697	GDOT
York Phillips	(912) 264-7363 ext. 216	CGA RDC-Brunswick
Gary D. Priester	(912) 427-5710	GDOT
Jack Grant	(404) 657-9192	GDOT-Road
Richard Crowley	(404) 657-9192	GDOT-Road
David Bluestein	(912) 437-6686	Mayor of Darien
Jimmy Otto	(912) 437-6659	McIntosh Co. Development Authority
Jill Hodges	(678) 333-0421	Jordan Jones and Goulding
Cindy Lee	(678) 333-0424	Jordan Jones and Goulding

- Mr. Simpson stated that there is currently a lawsuit against the State of Georgia for financing several projects, including the I-95 widening projects, by purchasing bonds. The I-95 project at SR 251 (Project No. NH-IM-95-1(120)) is scheduled for letting in 2003, but funding problems could delay the project.
- Mr. Simpson then asked everyone to express any comments they had about the project.
- It was stated that any utility companies with existing utilities located off of right-of-way on a private easement would need to be reimbursed for any relocation costs. Although no PMA has been signed, the local government is typically responsible for these costs.
- It was stated that many Georgia Power poles are located on private easement, as well as the sewer lift station.
- David Bluestein responded that it is a significant lift station. He expressed that it would be costly to relocate, and requested that much effort be made to reduce impacts.
- Stephen Thomas stated that the relocation cost for the lift station was included in the utility cost estimate provided by the District.
- It was stated that the District Office could not be sure whether or not the sewer and water lines would need to be relocated until more advanced design was done on the project.
- Mr. Simpson stated that bike facilities are included along the project. SR251 is identified as an on-street bicycling corridor from US17/SR25 to CR134 and the State Bike Network uses US17/SR25 throughout McIntosh County.
- Mr. Bluestein expressed the desire to have pedestrian and bike corridors from the outlet mall to US17. He would like them to connect to the existing sidewalks on US17 that begin south of the intersection with SR251.
- Mr. Simpson responded that as the project moves forward, GDOT would look at the possibility of extending the project at the intersection to extend proposed sidewalks on US17 far enough to connect to existing sidewalks to the south.
- Mr. Bluestein requested that some old-fashioned light posts be included along SR251 from the outlet mall to US17 and along US17 to match the City's proposed architectural lighting.
- It was stated that the State added architectural antique mast arm lighting to a project in Brunswick (Gloucester Street). The City would likely have to cover additional costs for the ornamental lighting.
- Ad Poppell III discussed the County's concerns. He stated that "the County is on record as opposing the raised median." The County has expressed concern that a raised median will be detrimental to businesses in the area. The County is also concerned that utility relocation costs will be high. Finally, the County expressed its concern over the number of apparent accidents at the ramp junctions with SR251 and the backups that occur on exit ramps. They would like this project to move forward more quickly for these reasons.
- Mr. Simpson responded by stating that the project is scheduled for year 2007 but that the schedule is subject to change. In response to the County's concern about accidents, Mr. Simpson stated that the addition of raised medians within the area of

Howell Clements (912) 427-5779
David Bluestein (912) 437-6686
Karen Moore (912) 437-7815
James Cross (912) 437-7406
Jeff Floyd (912) 267-4894
Ad Poppell III (912) 437-2181
Eleanor Gale (912) 237-6671
Dennis Wortham (912) 437-3422
Brett Helsel (678) 333-0420
Jenny Criminger (678) 333-0415

GDOT -- Assistant Dist. Util. Eng.
Mayor of Darien
City of Darien
Darien Telephone
Georgia Power Transmission
McIntosh County
McIntosh County
Worth Enterprises
Jordan, Jones & Goulding
Jordan, Jones & Goulding

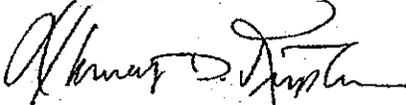
**DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA**

INTERDEPARTMENT CORRESPONDENCE

FILE: P.I. No. 542070

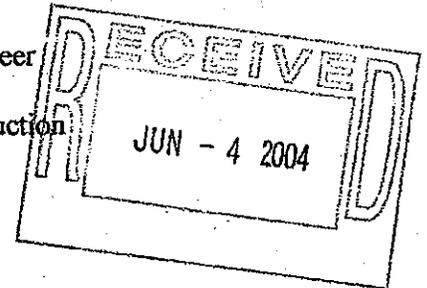
OFFICE: Environment/Location

DATE: June 4, 2004

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

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

SUBJECT: PROJECT CONCEPT REPORT
STP-2387(4) / McIntosh County



The above subject concept report has been reviewed. This Project is likely to need an individual permit. A PAR would then be necessary.

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

HDK/lc

Attachment

cc: David Mulling, P.E., Project Review Engineer
Gerald M. Ross, P.E., State Road & Airport Design Engineer

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

PROJECT CONCEPT REPORT

Office of Road and Airport Design

SR 251 from CR 16/King Swamp Road to US 17/SR 25

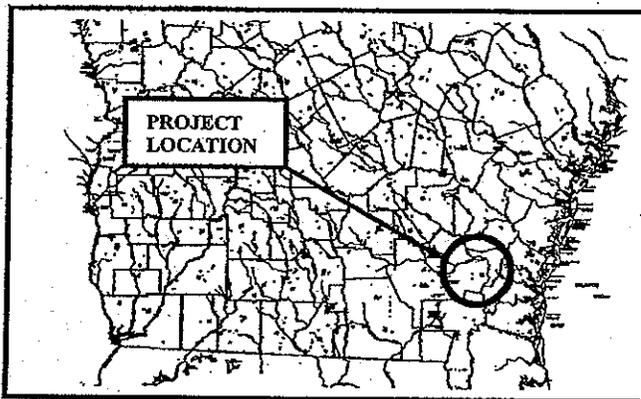
Project Number: STP-2387(4)

County: McIntosh

P. I. Number: 542070

Federal Route Number: None

State Route Number: SR 251



Recommendation for approval:

DATE 5/26/04

James S. Springer
Project Manager

DATE 5/28/04

David M. B.
Office Head/District Engineer

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

DATE 6/1/04

Joseph P. Blodi
State Transportation Planning Administrator

DATE _____

State Transportation Programming Engineer

DATE _____

State Environmental/Location Engineer

DATE _____

State Traffic Safety and Design Engineer

DATE _____

District Engineer

DATE _____

Project Review Engineer

DATE _____

State Bridge and Structural Design Engineer

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

PROJECT CONCEPT REPORT

Office of Road and Airport Design

SR 251 from CR 16/King Swamp Road to US 17/SR 25

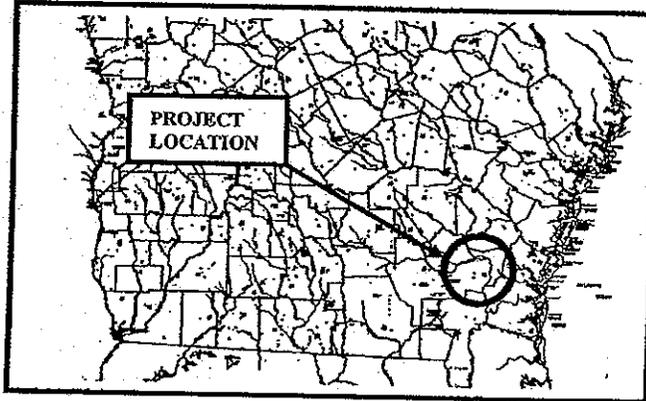
Project Number: STP-2387(4)

County: McIntosh

P. I. Number: 542070

Federal Route Number: None

State Route Number: SR 251



Recommendation for approval:

DATE 5/26/04

James S. Agnew Jr.
Project Manager

DATE 5/28/04

David M. B.
Office Head/District Engineer

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

DATE _____

State Transportation Planning Administrator

DATE _____

State Transportation Programming Engineer

DATE _____

State Environmental/Location Engineer

DATE _____

State Traffic Safety and Design Engineer

DATE _____

Mary W. Hunter
District Engineer

DATE _____

Project Review Engineer

DATE _____

State Bridge and Structural Design Engineer

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

PROJECT CONCEPT REPORT

Office of Road and Airport Design

SR 251 from CR 16/King Swamp Road to US 17/SR 25

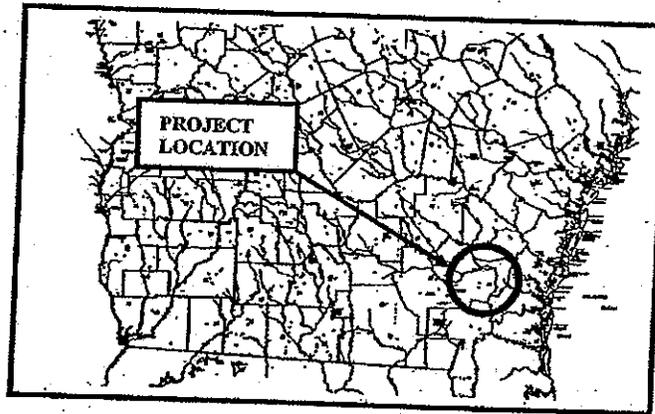
Project Number: STP-2387(4)

County: McIntosh

P. I. Number: 542070

Federal Route Number: None

State Route Number: SR 251



Recommendation for approval:

DATE 5/26/04

DATE 5/28/04

James S. Spruiell
Project Manager

Darrell MPR
Office Head/District Engineer

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

DATE _____
DATE 5-28-04
DATE _____
DATE _____
DATE _____
DATE _____
DATE _____

State Transportation Planning Administrator
James S. Spruiell

State Transportation Programming Engineer *Financial Management Administrator*

State Environmental/Location Engineer

State Traffic Safety and Design Engineer

District Engineer

Project Review Engineer

State Bridge and Structural Design Engineer

