

DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA

INTERDEPARTMENT CORRESPONDENCE

**FILE** P. I. No. 0001917-, Douglas County **OFFICE** Preconstruction  
NHS-0001-00(917)  
I-20/Lee Road Interchange **DATE** October 4, 2006

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

**SUBJECT** APPROVED PROJECT CONCEPT REPORT

Attached for your files is the approval for subject project.

Attachment

DISTRIBUTION:

Brian Summers  
Harvey Keepler  
Ken Thompson  
Michael Henry  
Keith Golden  
Joe Palladi  
Paul Liles  
Bryant Poole  
BOARD MEMBER  
FHWA



David Studstill  
Page 2

P. I. No. 0001917, Douglas  
August 22, 2006

horizontal clearances to accommodate the widening of I-20 to provide barrier separated HOV lanes. Traffic will be maintained via staged construction.

Environmental concerns include requiring a COE 404 Permit; an Environmental Assessment will be prepared; a public hearing open house will be scheduled; time saving procedures are not appropriate.

The estimated costs for this project are:

	<u>PROPOSED</u>	<u>APPROVED</u>	<u>FUNDING</u>	<u>PROG DATE</u>
Construction (includes E&C and inflation)	\$18,155,000	\$11,876,000	L050	2008
Right-of-Way	\$28,762,000	\$28,762,000	L050	2007
Utilities*	\$ 350,000			

\*Douglas County signed PMA on 7-27-06 for PE; right-of-way and construction to be done by future agreements.

The proposed project will improve traffic safety and operations in the I-20 interchange area and improve peak period traffic flow. I recommend this project concept be approved.

GRS:JDQ/cj

Attachment

CONCUR

  
\_\_\_\_\_  
Todd Long, P.E., Director of Preconstruction

APPROVE

  
\_\_\_\_\_  
for: Robert M. Callan, Administrator, FHWA

APPROVE

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

**DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA**

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**INTERDEPARTMENTAL CORRESPONDENCE**

**FILE:** NHS-0001-00(917) Douglas  
P.I. No. 0001917  
I-20/Lee Road Interchange

**OFFICE:** Engineering Services

**DATE:** August 15, 2006

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

**TO:** Meg Pirkle, P.E., Assistant Director of Preconstruction

**SUBJECT: CONCEPT REPORT**

We have reviewed the Concept Report received August 11, 2006 from Ralph Merrow, and have no comments.

The costs for this project are:

Construction	\$14,257,008
E & C	\$1,425,700
Inflation (3 years @5%)	\$2,471,987
Right of Way	\$28,762,299
Reimbursable Utilities	\$350,000

The cost of construction should be increased to reflect inflated concrete and steel prices in urban areas. The bridge unit cost should be increased from \$65/SF to \$95/SF.

BKS

c: Bryant Poole, Attn.: Ralph Merrow



DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA

PROJECT CONCEPT REPORT

Project Numbers: NHS-0001-00 (917)  
County: Douglas County  
P. I. Numbers: 0001917

I-20/Lee Road Interchange

Federal Route Number: 20  
State Route Number: N/A

Date of Report: July 7, 2006

Recommendation for approval:

DATE 7/25/06

Mike Lallier

Project Manager

DATE 7/25/06

Ben Hoole

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 \_\_\_\_\_

Office of Financial Management Administrator

DATE \_\_\_\_\_

State Environmental Location Engineer

DATE \_\_\_\_\_

State Traffic Safety & Design Engineer

DATE 8/15/06

Bob Sum

Project Review Engineer

DATE \_\_\_\_\_

State Bridge & Structural Engineer

## SCORING RESULTS AS PER MOG 2440-2

<b>Project Number:</b> NHS-0001-00(917)		<b>County:</b> Douglas		<b>PI No.:</b> 0001917	
<b>Report Date:</b> August 10, 2006		<b>Concept By:</b> DOT Office: District 7			
<input checked="" type="checkbox"/> Concept Stage					
<b>Project Type:</b> Choose One From Each Column		<input checked="" type="checkbox"/> Major <input type="checkbox"/> Minor	<input checked="" type="checkbox"/> Urban <input type="checkbox"/> Rural	<input type="checkbox"/> ATMS <input type="checkbox"/> Bridge Replacement <input type="checkbox"/> Building <input checked="" type="checkbox"/> Interchange Reconstruction <input type="checkbox"/> Intersection Improvement <input type="checkbox"/> Interstate <input type="checkbox"/> New Location <input type="checkbox"/> Widening & Reconstruction <input type="checkbox"/> Miscellaneous	
<b>FOCUS AREAS</b>	<b>SCORE</b>	<b>RESULTS</b>			
<b>Presentation</b>	100				
<b>Judgement</b>	100				
<b>Environmental</b>	100				
<b>Right of Way</b>	100				
<b>Utility</b>	100				
<b>Constructability</b>	100				
<b>Schedule</b>	100				

DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA

PROJECT CONCEPT REPORT

Project Numbers: NHS-0001-00 (917)  
County: Douglas County  
P. I. Numbers: 0001917

I-20/Lee Road Interchange

Federal Route Number: 20  
State Route Number: N/A

Date of Report: July 7, 2006

Recommendation for approval:

DATE 7/25/06

Mike Zallan  
Project Manager

DATE 7/25/06

Ben Hoole  
District Engineer

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DATE \_\_\_\_\_

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

DATE \_\_\_\_\_

\_\_\_\_\_  
Office of Financial Management Administrator

DATE \_\_\_\_\_

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

DATE 8-14-06

Fred Soll  
State Traffic Safety & Design Engineer

DATE \_\_\_\_\_

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

DATE \_\_\_\_\_

\_\_\_\_\_  
State Bridge & Structural Engineer

DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA

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County: Douglas County  
P. I. Numbers: 0001917

I-20/Lee Road Interchange

Federal Route Number: 20  
State Route Number: N/A

Date of Report: July 7, 2006

Recommendation for approval:

DATE 7/25/06

Mike Lallier

Project Manager

DATE 7/25/06

Ben Hoole  
District Engineer

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DATE 8/11/06

Joseph P. [Signature]  
State Transportation Planning Administrator

DATE \_\_\_\_\_

Office of Financial Management Administrator

DATE \_\_\_\_\_

State Environmental/Location Engineer

DATE \_\_\_\_\_

State Traffic Safety & Design Engineer

DATE \_\_\_\_\_

Project Review Engineer

DATE \_\_\_\_\_

State Bridge & Structural Engineer

DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA

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Mike Lallier  
Project Manager

DATE 7/25/06

Ben Hoole  
District Engineer

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DATE \_\_\_\_\_

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

DATE \_\_\_\_\_

\_\_\_\_\_  
Office of Financial Management Administrator

DATE \_\_\_\_\_

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

DATE \_\_\_\_\_

\_\_\_\_\_  
State Traffic Safety & Design Engineer

DATE \_\_\_\_\_

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

DATE 8/28/06

Paul V. Tules Jr.  
State Bridge & Structural Engineer

8/11/06  
WKB  
AS

DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA

PROJECT CONCEPT REPORT

Project Numbers: NHS-0001-00 (917)  
County: Douglas County  
P. I. Numbers: 0001917

I-20/Lee Road Interchange

Federal Route Number: 20  
State Route Number: N/A

Date of Report: July 7, 2006

Recommendation for approval:

DATE 7/25/06

Mike Latta  
Project Manager

DATE 7/25/06

Ben Hoole  
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 8/25/06

James T. Simpa  
Office of Financial Management Administrator

DATE \_\_\_\_\_

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

DATE \_\_\_\_\_

\_\_\_\_\_  
State Traffic Safety & Design Engineer

DATE \_\_\_\_\_

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

DATE \_\_\_\_\_

\_\_\_\_\_  
State Bridge & Structural Engineer

DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA

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Date of Report: July 7, 2006

Recommendation for approval:

DATE 7/25/06

Mike Zallan  
Project Manager

DATE 7/25/06

Ben Hoole  
District Engineer

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DATE \_\_\_\_\_

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

DATE \_\_\_\_\_

\_\_\_\_\_  
Office of Financial Management Administrator

DATE \_\_\_\_\_

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

DATE \_\_\_\_\_

\_\_\_\_\_  
State Traffic Safety & Design Engineer

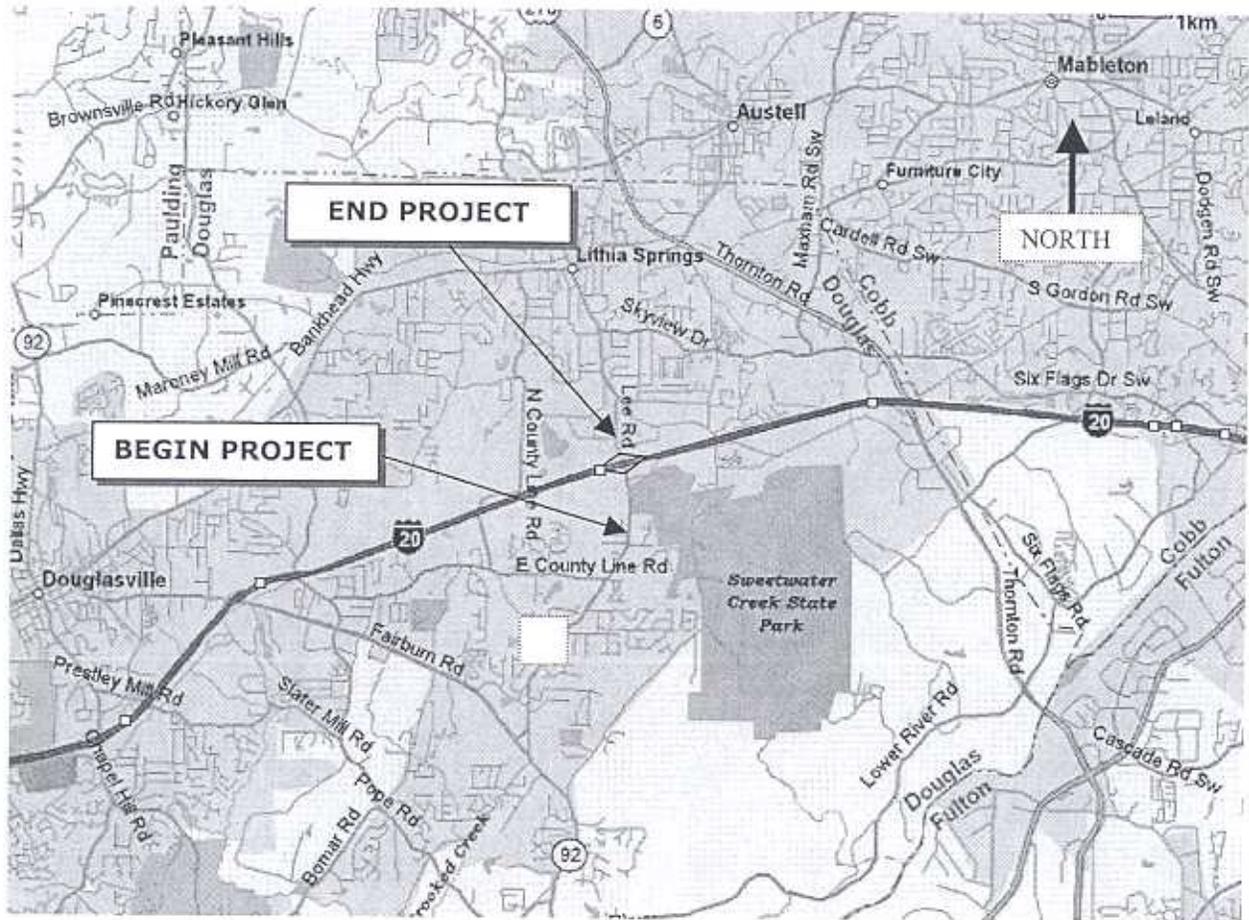
DATE \_\_\_\_\_

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

DATE \_\_\_\_\_

\_\_\_\_\_  
State Bridge & Structural Engineer

### PROJECT LOCATION MAP



### **Need and Purpose:**

The need exists to improve safety, operations and mobility for traffic in Douglas County to accommodate its growing population. The purpose of this proposed project is to provide the additional capacity on Lee Road needed to accommodate the projected number of trips that are likely to use this roadway facility for travel to and from I-20. Additionally, the Lee Road Bridge over I-20 will require replacement to accommodate the widening of I-20 to provide barrier separated High Occupancy Vehicle (HOV) lanes.

### Planning Background and Project History

The Atlanta Regional Commission (ARC) adopted a new Transportation Plan for the 13-county Atlanta metropolitan area in 2005. The Plan addresses travel needs through the year 2030. This 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 current 2030 RTP includes the widening and improvement of the I-20/Lee Road Interchange. The proposed project is also listed in the short-range fiscal years 2005-2007 Transportation Improvement Plan (TIP) as number DO-220B.

A portion of Lee Road from East County Line Road to South Sweetwater Road lies within Douglas County's Bicycle and Pedestrian Path Plan. This plan proposes a multi-use path be placed along the east side of Lee Road from East County Line Road to South Sweetwater Road and would connect Lithia Springs High School with the Sweetwater Creek Park Recreational Area.

The proposed project would widen Lee Road from a two-lane to a four-lane divided highway with a 20-foot raised median from the northern terminus of Project MSL-0004-00 (428) to the southern terminus of Project MSL-0004-00 (427) at Vulcan Drive. It will also include an 8-foot multi-use path on the east side of Lee Road and a 5-foot sidewalk on the west side.

### Annual Daily Traffic Volumes and Levels of Service

The I-20/Lee Road Interchange in Douglas County serves as an arterial route for commuters to access I-20 from the suburban areas of Douglas County. The existing ramps and the 2-lane bridge overpass do not provide sufficient left-turn and through capacity for the high peak hour turning movements experienced at this interchange. Currently, peak hour traffic conditions at the ramp intersections can cause excessive queuing to occur, extending back onto the freeway.

Existing and future intersection capacity analysis was performed under existing and future traffic conditions with and without the proposed project. The vehicular delay value that results from the capacity analysis is used to determine the level of service of an intersection. Level of service (LOS) is a letter designation used to describe traffic operating conditions, on a declining scale from A to F. LOS "A" represents free-flow traffic conditions and LOS "F" represents extreme delays with stopped traffic conditions. A summary of the intersection capacity analyses in terms of level of service and delay (seconds per vehicle) for existing, no-build and build conditions are shown in the table on the next page.

### Summary of Intersection Capacity Analysis Results

Intersections	Existing Year 2006		No-Build Year 2030		Build Year 2030	
	AM (Delay)	PM (Delay)	AM (Delay)	PM (Delay)	AM (Delay)	PM (Delay)
Lee Rd @ Villas@ West Ridge	E* (45.6)	D* (31.8)	F (287.4)	F (300.5)	A (5.0)	A (6.8)
Lee Rd @ Monier Blvd	F* (462.1)	F* (264.9)	F (652.5)	F (1119)	C* (23.0)	C* (20.5)
Lee Rd @ I-20 EB Ramps	C (28.1)	C (21.1)	F (1585)	F (625.5)	C (32.7)	C (20.2)
Lee Rd @ I-20 WB Ramps	B (12.1)	C (34.4)	F (822.8)	F (2238)	B (16.1)	C (22.3)
Lee Rd @ Sweetwater Ind. Blvd	F* (264.9)	F* (154.8)	F (538.4)	F (880.7)	--	--
Lee Rd @ Vulcan Dr	D* (25.0)	E* (47.1)	F (1130)	F (3917)	C (26.5)	C (30.0)

\* For unsignalized intersections, level of service is given for minor street approach.

Existing and future intersection capacity analysis indicates that the intersections within the project area would operate at level of service "F" without any improvements to Lee Road and its interchange at I-20.

The Average Daily Traffic (ADT) of Lee Road is 24,100 vpd for the base year 2010 and 34,100 vpd for the design year 2030. These volumes exceed the capacity of a two-lane roadway, bridge, and related intersections.

#### Safety Improvements

In addition to the extreme traffic congestion, Lee Road has a high rate of traffic accidents. An inventory of crash data from 2002 to 2004 is provided in the table below:

**Crash Data  
 Comparison to Statewide Rates for Minor Arterials**

Roadway Segment	Year	No. Of Accidents	Accident Rate	Statewide Accident Rate	No. Of Injuries	Injury Rate	Statewide Injury Rate
Lee Rd (0.51 mi)	2002	63	1958	577	24	746	222
	2003	69	2127	585	41	1264	223
	2004	65	1991	509	31	950	194

The results indicate that Lee Road currently has accident and injury rates that exceed three times the statewide average for minor arterials. There were 16 angle collisions and 36 rear-end collisions along this section of Lee Road in 2004. Of the 16 angle collisions, there were 5 that occurred at the unsignalized intersection of Lee Road at Sweetwater Industrial Blvd. This project proposes to connect Sweetwater Industrial Blvd to Lee Road at Vulcan Drive, an intersection controlled by a traffic signal. This improvement would allow motorists to safely access Lee Road from the Sweetwater Industrial Park at a signalized intersection. Consequently,

this project would reduce the risk of various common accidents, specifically rear-end and angle collisions at intersections.

In summary, the proposed reconstruction and improvement of the Lee Road/I-20 Interchange would correct the existing roadway deficiencies, improve traffic safety and increase the capacity of the roadway to facilitate the projected traffic growth.

There are two projects in the area that must be coordinated with the I-20/Lee Road Interchange Improvement project. They are: Lee Road/South Sweetwater Road, Phase I (from Vulcan Drive to US 78), listed as TIP number DO-022 and Lee Road, Phase II (from SR 92 to approximately 1,300 feet south of I-20, listed as TIP number DO-022A. These projects and the Lee Road Interchange project are all scheduled for construction in fiscal year 2008.

#### Other Projects in the Area

- GDOT Project 0004428, MSL-0004-00 (428) – Lee Road Widening from SR 92 to South of I-20 (Phase II).
- GDOT Project 0004427, MSL-0004-00 (427) – Lee Road/South Sweetwater Road Widening from North of I-20 to US 78/SR 5/SR 8/Bankhead Highway (Phase I).
- GDOT Project 0003165– HOV lanes on I-20 West from SR 6/Thornton Road to SR 5/Bill Arp Road
- GDOT Project 721590 – US 78 Widening from South Sweetwater Road to SR 92/Fairburn Road.
- GDOT Project 721320 – US 78 Widening from SR 6/Thornton Road to South Sweetwater Road.
- GDOT Project 712930 – I-20 at SR 92/Fairburn Road and approaches in Douglasville – Interchange Improvement

#### **Description of the proposed project:**

The proposed project would widen Lee Road from a two-lane to a four-lane divided highway with a 20-foot raised median from approximately 1,300 feet south of I-20 (the northern terminus of Project MSL-0004-00 (428)) to Vulcan Drive (the southern terminus of Project MSL-0004-00 (427)). The project would also include a widening and improvement of the full-diamond interchange ramps with I-20 and a connector road between Sweetwater Industrial Blvd and Vulcan Drive. The project would also include an 8-foot multi-use path on the east side of Lee Road and a 5-foot sidewalk on the west side of Lee Road.

**Is the project located in a Non-attainment area?**  **Yes**  **No.** This project conforms to the Transportation Improvement Plan. It is listed as project DO-220B and described as a widening of the bridge from 2 to 4 lanes.

**PDP Classification:** Major  Minor

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

**Functional Classification:** Urban Minor Arterial

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

Traffic (AADT):  
Base Year: (2010)           24,100                Design Year: (2030)           34,100          

**Existing design features:**

- Typical Sections:
  - Lee Road - Two 12-foot travel lanes with approximately 5-foot grassed shoulders and roadside ditches. Some intersections of Lee Road at and near the interchange include right turn lanes with paved shoulders.
  - I-20 On/Off Ramps - One 16-foot lane with 1-foot paved inside shoulders, 10-foot outside shoulders and 4-foot grassed shoulders on both sides. The off-ramps include separate 12-foot left and right turn lanes.
  - I-20 Mainline – Three 12-foot interstate lanes in each direction, separated by a 40-foot depressed grass median, which includes 10-foot paved inside shoulders. There are 10-foot paved shoulders and 2-foot grass shoulders on the outside of the interstate lanes.
- Posted speed:
  - Lee Road – 45 mph
  - I-20 Mainline – 65 mph
  - I-20 Off-Ramps – 35 mph ramp proper; 55 mph at Freeway Diverge
- Minimum radius of curvature:
  - Lee Road – 1910'
  - I-20 Mainline – Tangent
  - I-20 Off-Ramps – 1800'
- Maximum grade:
  - Lee Road – 6%
  - I-20 Mainline – 6%
  - I-20 Off-Ramps – 6%
- Maximum super-elevation rate for curve: 4.00%
- Width of right-of-way: Lee Road - 100 ft.  
I-20 Mainline – 320 ft.

- Major structures:
  - Lee Road Bridge over I-20

<u>Structure I.D. No.</u>	097-0027-0
<u>Sufficiency Rating</u>	68.83
<u>Bridge Type</u>	Steel
<u>Condition</u>	Good
<u>No. of spans</u>	4
<u>Length</u>	258
<u>Maximum Span</u>	70
<u>Deck Structure Width</u>	34.20
<u>Minimum Vertical Clearance</u>	16'-4"
<u>Total Horizontal Clearance</u>	28.00
  - Lee Road Culvert at Beaver Run Creek – Triple 10' x 12' box culvert
  - I-20 Mainline Culvert at Beaver Run Creek – Quad 8' x 9' box culvert
- Major interchanges or intersections along the project: Major intersections include Lee Road at the I-20 eastbound and westbound ramps, Lee Road at Monier Blvd, Lee Road at Sweetwater Industrial Blvd and Lee Road at Vulcan Drive. The interchanges along I-20 that are closest to the Lee Road Interchange is the SR 92/Fairburn Road Interchange, which is 3.85 miles west of the Lee Road Interchange and the SR 6/Thornton Road Interchange, which is 2.75 miles east of the Lee Road interchange.
- Existing length of roadway segment 0.51 mile
- Beginning mile log for Lee Road
  - Douglas County mile post: 2.58
- Ending mile log for Lee Road
  - Douglas County mile post: 3.09
- Mile log for I-20
  - Douglas County mile post: 15.88

**Proposed Design Features:**

- Proposed Typical Sections:
  - Lee Road - Two 12-foot travel lanes in each direction divided by a 20-foot wide raised grass median with 16-shoulders that include curb & gutter and 5-foot sidewalks. An 8-foot asphalt multi-use trail will be placed in the 16-foot shoulder in lieu of the 5-foot sidewalk along the east side of Lee Road. PCC pavement will be provided from Vulcan Drive to the eastbound ramps. The remaining mainline pavement will be asphalt. Turn lanes will be provided as required. Additional pavement for U-turns will be added where necessary. (See attached typical section)
  - I-20 On/Off Ramps - The ramps and shoulders will all be reconstructed with concrete. The exit ramps will have one 16-foot concrete exit lane with additional turn lanes at its intersection with Lee Road and 4-foot paved, 8-foot grass inside shoulders and 10-foot paved, 2-foot grass outside shoulders. The entrance ramps will also have additional lanes at Lee Road that will taper to one 16-foot entrance

lane and 6-foot paved, 2-foot grass inside shoulders and 10-foot paved, 2-foot grass outside shoulders. (See attached typical section)

- I-20 Mainline – Typical section is unchanged under this project. However, bridge clearances will be set to allow for barrier separated HOV lanes in the middle of I-20 (See attached bridge typical section).
- Proposed Design Speed:
  - Lee Road – 45mph
  - I-20 Ramps – I-20 Off-Ramps – 35 mph ramp proper; 55 mph at Freeway Diverge
  - Sweetwater Industrial Blvd Connector – 25 mph
- Proposed Maximum grade Lee Road: 3.2 % Maximum grade allowable: 6%
- Proposed Maximum grade I-20 Ramps: 4.4 % Maximum grade allowable: 6%
- Proposed Maximum grade driveway: 10 %
- Proposed Minimum radius of curve for Lee Rd: 1910' Minimum radius: 730'
- Proposed Minimum radius for curve for side streets:
  - 205' (25 mph) Sweetwater Ind. Blvd Connector Minimum radius 205'
  - 955' (35 mph) I-20 ramps Minimum radius 330'
 Side streets not listed have no horizontal curves.
- Proposed Maximum super elevation rate for curve: 4.00%
- Right of way
  - Width 150 ft. (typical)
  - Easements: Temporary (X), Permanent (X), Utility ( ), Other ( ).
  - Type of access control: Full ( ), Partial ( ), By Permit ( X ), Other ( ).
  - Number of parcels: 22 Number of displacements:
    - Business: 4
    - Residences: 0
    - Mobile homes: 0
    - Other: 1 (Park & Ride Lot)
- Major Structures:
  - Lee Road Bridge Widening over I-20 – A new bridge over I-20 is proposed to accommodate the required Lee Road widening. It will replace the existing structure and consist of seven 12-foot lanes (two southbound through lanes and two southbound left turn lanes; and two northbound through lanes and one northbound left turn lane), with a 4-foot raised concrete median, a 6-foot sidewalk on the west side and a 8-foot multi-use path on the east side of the bridge.
 

<u>Bridge Type:</u>	To be determined
<u>No. of Spans:</u>	2
<u>Length:</u>	380'
<u>Maximum Span:</u>	128'
<u>Deck Structure:</u>	115'-4"
<u>Roadway Width:</u>	99'
<u>Minimum Vertical Clearance:</u>	17'-0"
<u>Total Horizontal Clearance:</u>	44'
  - Lee Road Culvert Extension at Beaver Run Creek – Triple 10' x 12' box culvert
  - I-20 Mainline Culvert Extension at Beaver Run Creek – Quad 8' x 9' box culvert

- Major intersections and interchanges: Major intersections include Lee Road at the I-20 eastbound and westbound ramps, Lee Road at Monier Blvd, Lee Road at Apartment Driveway and Lee Road at Vulcan Drive/Sweetwater Industrial Blvd Connector. The interchanges along I-20 that are closest to the Lee Road Interchange is the SR 92/Fairburn Road Interchange, which is 3.85 miles west of the Lee Road Interchange and the SR 6/Thornton Road Interchange, which is 2.75 miles east of the Lee Road interchange.
- Traffic control during construction: Traffic control will consist of staged construction of the Lee Road bridge over I-20. Traffic control will be utilized on I-20 to maintain traffic during construction and on Lee Road to maintain two lanes of traffic. Some temporary lane closures and on-site detours may be required during stage construction where grade changes are significant.

- Design Exceptions for 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 anticipated.
- Environmental concerns:
  - Wetlands – There are several known wetland areas and streams identified within the project limits.
  - 4f/6f – There are no potential historic properties located along this section of Lee Road or the I-20 mainline. Sweetwater Creek Recreational Area and State Park has approximately 1,400 feet of frontage along Lee Road. Some easements may be required. The need for a 6f evaluation is yet to be determined.
  - Underground Storage Tanks – There are three existing gasoline stations within the project limits.
  - Do not anticipate any hazardous waste, archeological, etc. impacts.
- Level of environmental analysis:
  - Are Time Savings Procedures appropriate? Yes (X) No ( )
  - Categorical exclusion ( )
  - Environmental Assessment/Finding of No Significant Impact (FONSI) (X), or
  - Environmental Impact Statement (EIS) ( )

Note: This project was required by FHWA to be included in the EA for the Lee Road widening project south of the interchange. In order to provide logical termini for the widening project, this project will be included in the EA that is being prepared for project MSL-0004-00 (428), P.I. Number 0004428.

- Utility involvements: There are both overhead and underground utilities located within the project limits. These include Georgia Power, Bellsouth, Austell Gas, Douglas County Water and Sewer, Greystone Power and Plantation Pipeline.

#### **Project responsibilities:**

- Value Engineering Study: Douglas County
- Design: Douglas County
- Right-of-Way Acquisition: Georgia DOT
- Relocation of Utilities: Georgia DOT
- Letting to contract: Georgia DOT
- Supervision of construction: Georgia DOT
- Providing material pits: Contractor (if required)
- Providing detours: Contractor (if required)

#### **Coordination**

- Concept Team Meeting: Meeting was held June 6, 2006. See attached minutes of meeting.
- P. A. R.: A Practical Alternatives Report (P.A.R.) is not expected for this project.
- FEMA, USCG, and/or TVA. – FEMA no-rise certification anticipated.
- Public involvement: A Public Information Open House was held on January 13, 2005 for the Lee Road Widening Projects Phases I & II: MSL-0004-00 (427) & (428). At this open house, widening and improvement plans for the Lee Road interchange at I-20 were presented to the public for comment. A public hearing will be scheduled.
- Local government comments. A PMA was signed by Douglas County on May 3, 2005.
- Other projects in the area:
  - GDOT Project 0004428, MSL-0004-00 (428) – Lee Road Widening from SR 92 to South of I-20.
  - GDOT Project 0004427, MSL-0004-00 (427) – Lee Road/South Sweetwater Road Widening from North of I-20 to US 78/SR 5/SR 8/Bankhead Highway
  - GDOT Project 0003165– HOV lanes on I-20 West from SR 6/Thornton Road to SR 5/Bill Arp Road
  - GDOT Project 721590 – US 78 Widening from South Sweetwater Road to SR 92/Fairburn Road.
  - GDOT Project 721320 – US 78 Widening from SR 6/Thornton Road to South Sweetwater Road.
  - GDOT Project 712930 – I-20 at SR 92/Fairburn Road and approaches in Douglasville – Interchange Improvement.
- Other Coordination
  - A coordination meeting was held on October 12, 2005. Project coordination with the Lee Road widening projects: MSL-0004-00 (427) & (428) and with the I-20 HOV project: P.I. number 0003165 were discussed.

- Coordination will be held for a COE 404 and Nationwide 14 Permit, which are anticipated for this project.
- Railroads: Not Applicable

#### **Scheduling – Responsible Parties’ Estimate**

- Time to complete the environmental process: 15 Months.
- Time to complete preliminary construction plans: 9 Months.
- Time to complete right-of-way plans: 3 Months.
- Time to complete final construction plans: 6 Months.
- Time to complete to purchase right-of-way: 18 Months.

#### **Other alternates considered:**

##### No-Build Alternative

The no-build alternative is an alternative in which Douglas County would take no action to construct the project. Traffic congestion and operational problems would result because the existing two-lane roadway would be inadequate to handle the future (year 2030) traffic volumes.

**Comments:** None.

#### **Attachments:**

1. Cost Estimates:
  - a. Construction including E&C
  - b. Right of Way
  - c. Utilities
2. Typical sections
3. Traffic Flow Diagrams & Traffic Analysis
4. Intersection Diagrams
5. Bridge Inventory
6. Minutes of Concept Team Meeting
7. Concept Sketch

**Estimate Report for file "NHS-0001-00-917"**

<b>Section Major Structures</b>					
Item Number	Quantity	Units	Unit Price	Item Description	Cost
500-3101	1545	CY	512.00	CLASS A CONCRETE - CULVERT EXTENSIONS	791040.00
511-1000	149815	LB	0.81	BAR REINF STEEL - CULVERT - EXTENSIONS	121350.15
511-3001	44100	SF	65.00	CONC. BRIDGE OVER I-20 (CONCEPT)	2866500.00
522-1000	6400	FT	40.00	SHORING SHEET PILE FOR CULVERT EXTENSIONS	256000.00
610-9008	2	Lump Sum	10000.00	REM PORTIONS OF EXISTING CLVT, INCL WINGWALLS & PARAPETS	20000.00
<b>Section Sub Total:</b>					<b>\$4,054,890.15</b>

<b>Section Grading and Drainage</b>					
Item Number	Quantity	Units	Unit Price	Item Description	Cost
207-0203	1300	CY	37.38	FOUND BKFFILL MATL, TP II	48594.00
210-0100	1	Lump Sum	3000000.00	GRADING COMPLETE	3000000.00
441-0600	30	CY	600.63	CONC HEADWALLS	18018.90
550-1180	500	LF	32.94	STORM DRAIN PIPE, 18 IN, H 1-10	16470.00
550-1300	750	LF	49.84	STORM DRAIN PIPE, 30 IN, H 1-10	37380.00
550-1301	500	LF	53.36	STORM DRAIN PIPE, 30 IN, H 10-15	26680.00
550-1302	250	LF	103.74	STORM DRAIN PIPE, 30 IN, H 15-20	25935.00
550-1360	750	LF	61.14	STORM DRAIN PIPE, 36 IN, H 1-10	45855.00
550-1361	600	LF	69.81	STORM DRAIN PIPE, 36 IN, H 10-15	41886.00
550-1363	100	LF	86.68	STORM DRAIN PIPE, 36 IN, H 20-25	8668.00
550-1420	750	LF	77.51	STORM DRAIN PIPE, 42 IN, H 1-10	58132.50
550-1421	250	LF	93.66	STORM DRAIN PIPE, 42 IN, H 10-15	23415.00
550-1423	50	LF	76.88	STORM DRAIN PIPE, 42 IN, H 20-25	3844.00
550-1481	100	LF	105.06	STORM DRAIN PIPE, 48 IN, H 10-15	10506.00
550-1482	250	LF	82.60	STORM DRAIN PIPE, 48 IN, H 15-20	20650.00
550-1483	150	LF	140.07	STORM DRAIN PIPE, 48 IN, H 20-25	21010.50
550-1541	100	LF	201.52	STORM DRAIN PIPE, 54 IN, H 10-15	20152.00
550-1542	150	LF	282.37	STORM DRAIN PIPE, 54 IN, H 15-20	42355.50
550-4118	2	EA	295.90	FLARED END SECTION 18 IN, SIDE DRAIN	591.80
550-4130	2	EA	488.03	FLARED END SECTION 30 IN, SIDE DRAIN	976.06
550-4136	2	EA	529.84	FLARED END SECTION 36 IN, SIDE DRAIN	1059.68
<b>Section Sub Total:</b>					<b>\$3,472,179.94</b>

<b>Section Base &amp; Paving</b>					
Item Number	Quantity	Units	Unit Price	Item Description	Cost
310-1101	33872	TN	20.00	GR AGGR BASE CR5, INCL MATL	677440.00
402-3121	7058	TN	75.00	RECYCLED ASPH CONC 25 MM SUPERPAVE, GP 1 OR 2, INCL BITUM MATL & H LIME	529350.00
402-3130	1505	TN	75.00	RECYCLED ASPH CONC 12.5 MM SUPERPAVE, GP 2 ONLY, INCL BITUM MATL & H LIME	112875.00
402-3190	1110	TN	75.00	RECYCLED ASPH CONC 19 MM SUPERPAVE, GP 1 OR 2, INCL BITUM MATL & H LIME	83250.00
413-1000	2535	GL	1.08	BITUM TACK COAT	2737.80
<b>Section Sub Total:</b>					<b>\$1,405,652.80</b>

<b>Section Concrete Work</b>					
Item Number	Quantity	Units	Unit Price	Item Description	Cost
430-0220	54950	SY	43.98	PLAIN PC CONC PVMT, CL 1 CONC, 12 INCH THK	2416701.00
441-0016	675	SY	30.28	DRIVEWAY CONCRETE, 6 IN TK	20439.00
441-0104	1475	SY	26.41	CONC SIDEWALK, 4 IN	38954.75
441-0740	500	SY	26.82	CONCRETE MEDIAN, 4 IN	13410.00
441-0754	700	SY	39.21	CONCRETE MEDIAN, 7 1/2 IN	27447.00
441-6222	4400	LF	13.45	CONC CURB & GUTTER, 8 IN X 30 IN, TP 2	59180.00
441-6740	4400	LF	11.62	CONC CURB & GUTTER, 8 IN X 30 IN, TP 7	51128.00
<b>Section Sub Total:</b>					<b>\$2,627,259.75</b>

Detail Estimate: Cost Estimate Report

Section Signing and Striping and Signals					
Item Number	Quantity	Units	Unit Price	Item Description	Cost
636-1020	35	SF	13.83	HIGHWAY SIGNS, TP 1 MATL, REFL SHEETING, TP 3	484.05
636-1029	150	SF	21.50	HIGHWAY SIGNS, TP 2 MATL, REFL SHEETING, TP 3	3225.00
636-1033	200	SF	22.65	HIGHWAY SIGNS, TP 1 MATL, REFL SHEETING, TP 9	4530.00
636-1041	30	SF	31.18	HIGHWAY SIGNS, TP 2 MATL, REFL SHEETING, TP 9	935.40
636-2070	50	LF	7.05	GALV STEEL POSTS, TP 7	352.50
636-2080	400	LF	9.03	GALV STEEL POSTS, TP 8	3612.00
636-5010	50	EA	38.04	DELINEATOR, TP 1	1902.00
639-2002	600	LF	2.96	STEEL WIRE STRAND CABLE, 3/8 IN	1776.00
639-3003	8	EA	4403.53	STEEL STRAIN POLE, TP III	35228.24
639-3004	12	EA	8610.56	STEEL STRAIN POLE, TP IV	103326.72
647-1000	4	LS	80000.00	TRAFFIC SIGNAL INSTALLATION NO	320000.00
647-2140	2	EA	1215.64	PULL BOX, PB-4	2431.28
647-2150	3	EA	1665.16	PULL BOX, PB-5	4995.48
653-0110	4	EA	57.85	THERMOPLASTIC PVMT MARKING, ARROW, TP 1	231.40
653-0120	44	EA	60.90	THERMOPLASTIC PVMT MARKING, ARROW, TP 2	2679.60
653-0210	19	EA	94.42	THERMOPLASTIC PVMT MARKING, WORD, TP 1	1793.98
654-1001	100	EA	3.53	RAISED PVMT MARKERS TP 1	353.00
654-1003	700	EA	3.78	RAISED PVMT MARKERS TP 3	2646.00
657-1085	11480	LF	5.63	PREFORMED PLASTIC SOLID PVMT MKG, 8 IN, CONTRAST (BLACK-WHITE), TP PB	64632.40
657-3085	1880	GLF	3.24	PREFORMED PLASTIC SKIP PVMT MKG, 8 IN, CONTRAST (BLACK-WHITE), TP PB	6091.20
657-6085	12000	LF	6.26	PREFORMED PLASTIC SOLID PVMT MKG, 8 IN, CONTRAST (BLACK-YELLOW), TP PB	75120.00
682-6233	1100	LF	4.46	CONDUIT, NONMETL, TP 3, 2 IN	4906.00
682-7043	650	LF	38.36	MULTI-CELL CONDUIT SYS, 4-WAY, FIBERGLASS	24934.00
682-9028	2	EA	4256.67	ELECTRICAL COMMUNICATION BOX, TP 5	8513.34
935-1116	3000	LF	2.15	OUTSIDE PLANT FIBER OPTIC CABLE, LODSE TUBE, SINGLE MODE, 72 FIBER	6450.00
935-1512	300	LF	4.31	OUTSIDE PLANT FIBER OPTIC CABLE, DROP, SINGLE MODE, 12 FIBER	1293.00
935-3103	3	EA	675.44	FIBER OPTIC CLOSURE, UNDERGROUND, 24 FIBER	2026.32
935-4010	12	EA	34.76	FIBER OPTIC SPLICE, FUSION	417.12
935-6561	3	EA	1691.83	EXTERNAL TRANSCEIVER, DROP AND REPEAT, 1300 MULTI MODE, (SIGNAL JOBS)	5075.49
935-8000	1	LS	3093.72	TESTING	3093.72
936-1000	2	EA	12823.64	CCTV SYSTEM	25647.28
936-8500	1	LS	7828.68	TRAINING	7828.68
937-1000	2	EA	3993.22	VIDEO CAMERA SENSOR ASSEMBLY	7986.44
939-1112	2	EA	1927.76	FIBER OPTIC VIDEO TRANSMITTER, 1310 SINGLE MODE	3855.52
939-1117	2	EA	2216.12	FIBER OPTIC VIDEO RECEIVER, 1310 SINGLE MODE	4432.24
939-1120	2	EA	1965.60	FIBER OPTIC VIDEO/DATA TRANSMITTER, MULTI-MODE	3931.20
939-1122	2	EA	2458.19	FIBER OPTIC VIDEO/DATA TRANSMITTER, SINGLE MODE	4916.38
939-1127	2	EA	3934.09	FIBER OPTIC VIDEO/DATA RECEIVER, SINGLE MODE	7868.18
939-6000	2	EA	6181.99	HUB UNINTERRUPTIBLE POWER SUPPLY	12363.98
<b>Section Sub Total:</b>					<b>\$771,885.14</b>

Section Guardrail					
Item Number	Quantity	Units	Unit Price	Item Description	Cost
641-1200	1300	LF	14.29	GUARDRAIL, TP W	18577.00
641-5001	2	EA	498.00	GUARDRAIL ANCHORAGE, TP 1	996.00
641-5012	2	EA	1588.91	GUARDRAIL ANCHORAGE, TP 12	3177.82

Detail Estimate: Cost Estimate Report

Section Sub Total: \$22,750.82

Section Traffic Control					
Item Number	Quantity	Units	Unit Price	Item Description	Cost
150-1000	1	Lump Sum	1000000.00	TRAFFIC CONTROL	1000000.00
<b>Section Sub Total:</b>					<b>\$1,000,000.00</b>

Section Landscaping and Erosion Control					
Item Number	Quantity	Units	Unit Price	Item Description	Cost
163-0232	11	AC	480.39	TEMPORARY GRASSING	5284.29
163-0240	50	TN	196.28	MULCH	9814.00
163-0300	6	EA	1272.08	CONSTRUCTION EXIT	7632.48
163-0520	1000	LF	12.72	CONSTRUCT AND REMOVE TEMPORARY PIPE SLOPE DRAIN	12720.00
163-0531	4	EA	7623.23	CONSTRUCT AND REMOVE SEDIMENT BASIN, TP 1, STA NO -	30492.92
165-0010	795	LF	1.03	MAINTENANCE OF TEMPORARY SILT FENCE, TP A	818.85
165-0030	1855	LF	1.20	MAINTENANCE OF TEMPORARY SILT FENCE, TP C	2226.00
165-0060	4	EA	1039.26	MAINTENANCE OF TEMPORARY SEDIMENT BASIN, STA NO -	4157.04
165-0101	6	EA	429.94	MAINTENANCE OF CONSTRUCTION EXIT	2579.64
167-1000	1	EA	1721.98	WATER QUALITY MONITORING AND SAMPLING	1721.98
167-1500	18	MO	828.44	WATER QUALITY INSPECTIONS	14911.92
171-0010	795	LF	1.86	TEMPORARY SILT FENCE, TYPE A	1478.70
171-0030	1855	LF	3.21	TEMPORARY SILT FENCE, TYPE C	5954.55
201-1500	1	Lump Sum	720000.00	CLEARING AND GRUBBING	720000.00
700-6910	11	AC	802.27	PERMANENT GRASSING	8824.97
700-7000	100	TN	58.90	AGRICULTURAL LIME	5890.00
700-7010	80	GL	18.95	LIQUID LIME	1516.00
700-8000	10	TN	270.01	FERTILIZER MIXED GRADE	2700.10
700-8100	1000	LB	1.58	FERTILIZER NITROGEN CONTENT	1580.00
<b>Section Sub Total:</b>					<b>\$840,303.44</b>

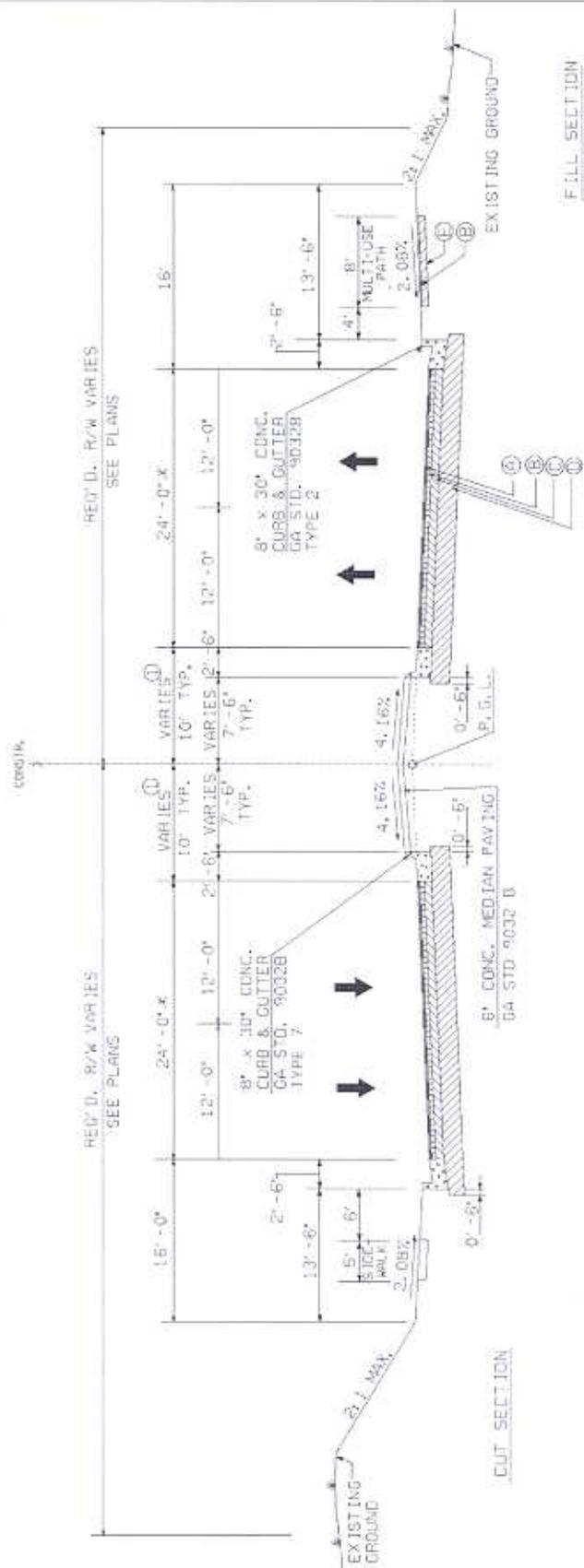
Section Miscellaneous Items					
Item Number	Quantity	Units	Unit Price	Item Description	Cost
153-1300	1	EA	57527.64	FIELD ENGINEERS OFFICE TP 3	57527.64
634-1200	50	EA	91.17	RIGHT OF WAY MARKERS	4558.50
<b>Section Sub Total:</b>					<b>\$62,086.14</b>

Total Estimated Cost: \$14,257,008.18

<b>Subtotal Construction Cost</b>	<b>\$14,257,008.18</b>
E&C Rate 10.0 %	\$1,425,700.82
Inflation Rate 5.0 % @ 3.0 Years	\$2,471,987.01
<b>Total Construction Cost</b>	<b>\$18,154,696.00</b>
Right Of Way	\$28,762,299.00
ReImb. Utilities	\$350,000.00
<b>Grand Total Project Cost</b>	<b>\$47,266,995.00</b>



# LEE ROAD



## TYPICAL SECTION

PAVEMENT TO BE 12" PCC BETWEEN EASTBOUND RAMP AND VULCAN DR. 12" PCC OVER 3' 25mm OVER 12" GAB

\* ADDITIONAL 12' LANES WHERE REQUIRED.

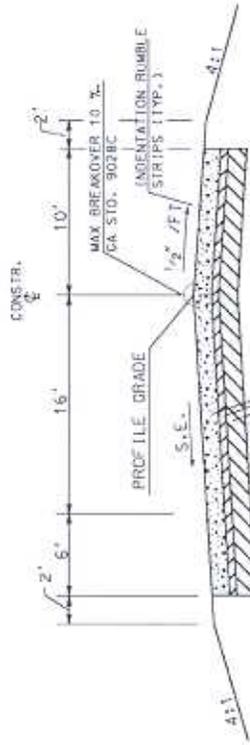
### PROPOSED PAVEMENT

- Ⓐ ASPHALTIC CONC. 12.5 mm SUPERPAVE (165 lbs/sy)
- Ⓑ ASPHALTIC CONC. 19 mm SUPERPAVE (220 lbs/sy)
- Ⓒ ASPHALTIC CONC. 25 mm SUPERPAVE (250 lbs/sy)
- Ⓓ GRADED AGGREGATE BASE (10')
- Ⓔ GRADED AGGREGATE BASE (6')

NOT TO SCALE



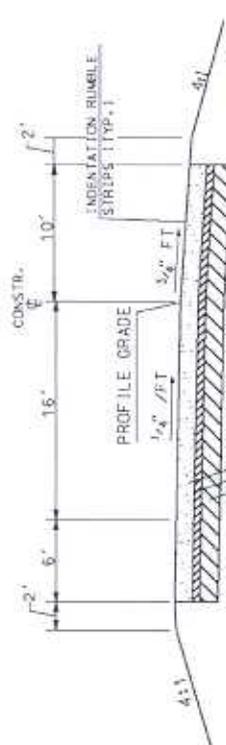
# I-20 RAMPS TO LEE ROAD



PLAIN PORTLAND CEMENT PMVT, CLASS 3 CONC., 12"  
25 mm SUPERPAVE, 330 LBS/SY\*  
GR. AGGR., SUBBASE CRS, 112', INCL. MATL.\*

\* PAVEMENT SECTION FOR ESTIMATION PURPOSES ONLY

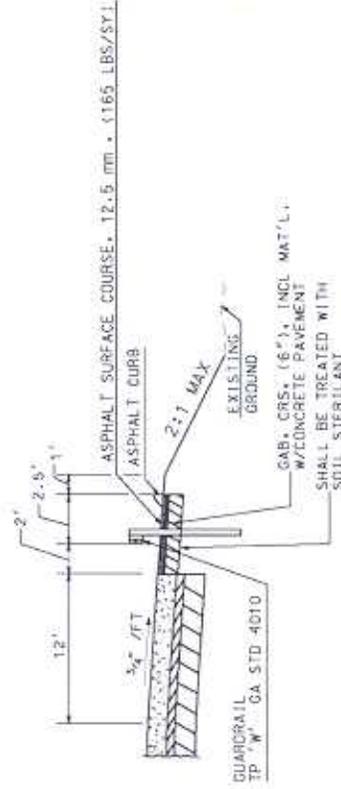
## SUPER ELEVATION SECTION



PLAIN PORTLAND CEMENT PMVT, CLASS 3 CONC., 12"  
25 mm SUPERPAVE, 330 LBS/SY\*  
GR. AGGR., SUBBASE CRS, 112', INCL. MATL.\*

\* PAVEMENT SECTION FOR ESTIMATION PURPOSES ONLY

## NORMAL CROWN SECTION



## SHOULDER DETAIL FOR GUARDRAIL W/CONCRETE PAVEMENT

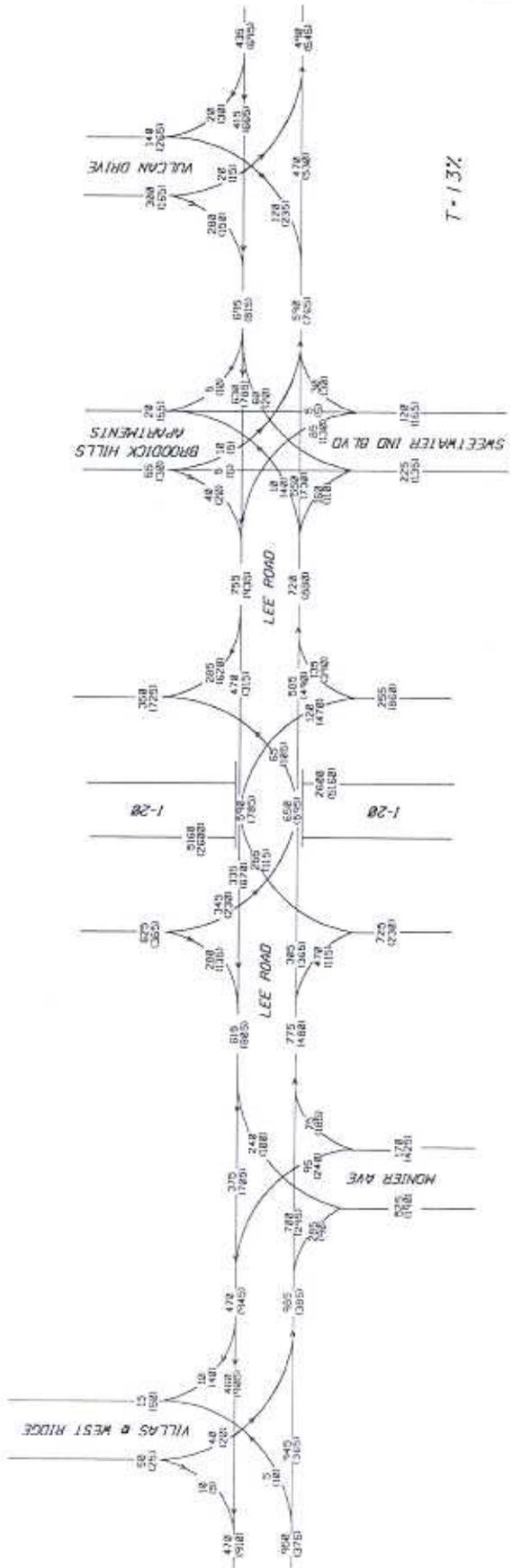
(SEE PLANS FOR LOCATION)  
(SEE GA. STD. 405) FOR DETAILS)

N. T. S.

## TYPICAL SECTION

NOT TO SCALE

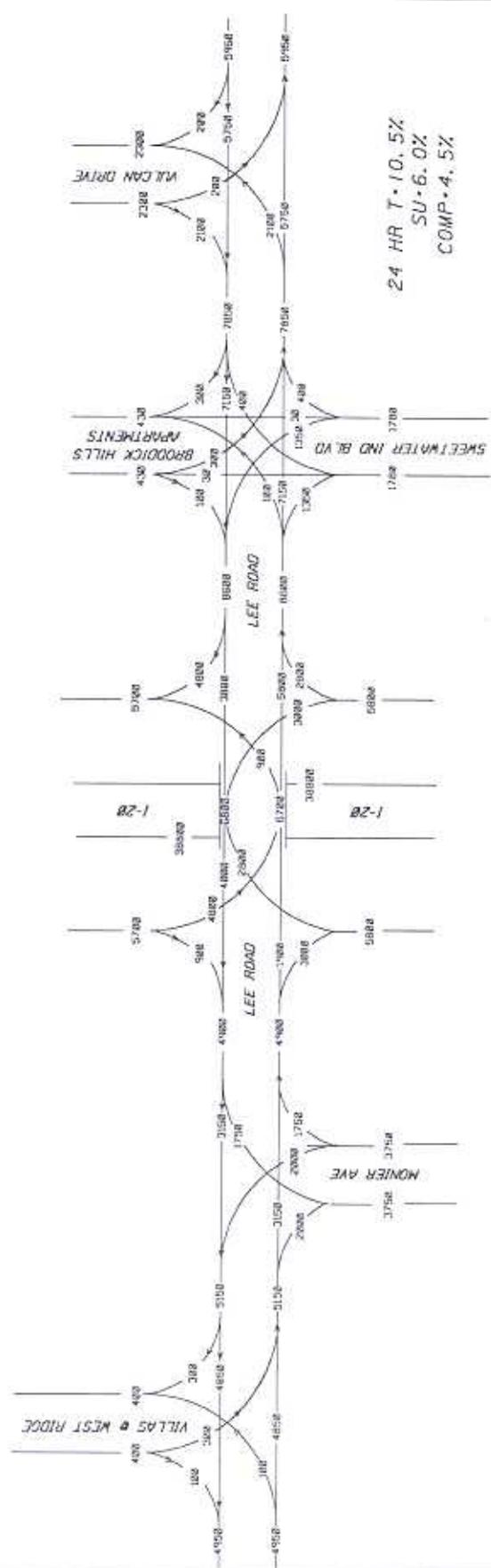
STATE	PROJECT NUMBER	SHEET NO.
GA.	RHS 0001-00-917	24



00 AM PK HOUR  
00 PM PK HOUR

DATE	REVISIONS	 McLeod A. J. Hall Associates, Inc. 201. 999. 9111 Westlake, Georgia, 30087 Telephone: (770) 253-5500	I-20/LEE ROAD YEAR 2006 PEAK HOUR TRAFFIC (EXISTING) TRAFFIC FLOW DIAGRAM	DRAWING NO.

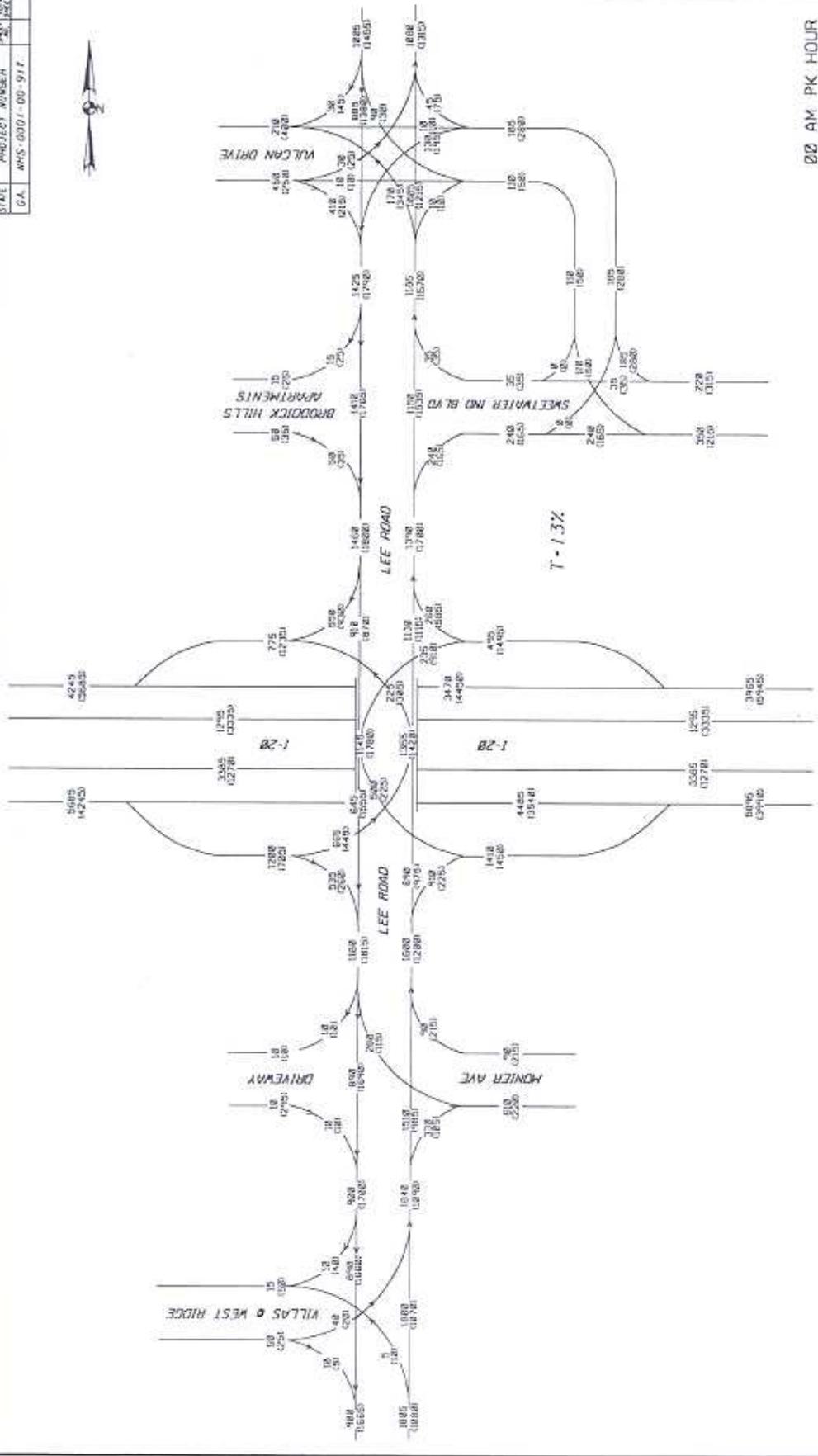
STATE	PROJECT NUMBER	SHEET TOTAL
CA.	NIS-0007-DD-917	16 / 16



00 YEAR 2006 ADT

DATE	REVISED	 Maryland Associates, Inc. 2000 North Main Street Pasadena, CA 91106 Telephone: 626/792-1300	1-20/LEE ROAD	DRAWING NO.
			YEAR 2006 ADT (EXISTING)	
			TRAFFIC FLOW DIAGRAM	

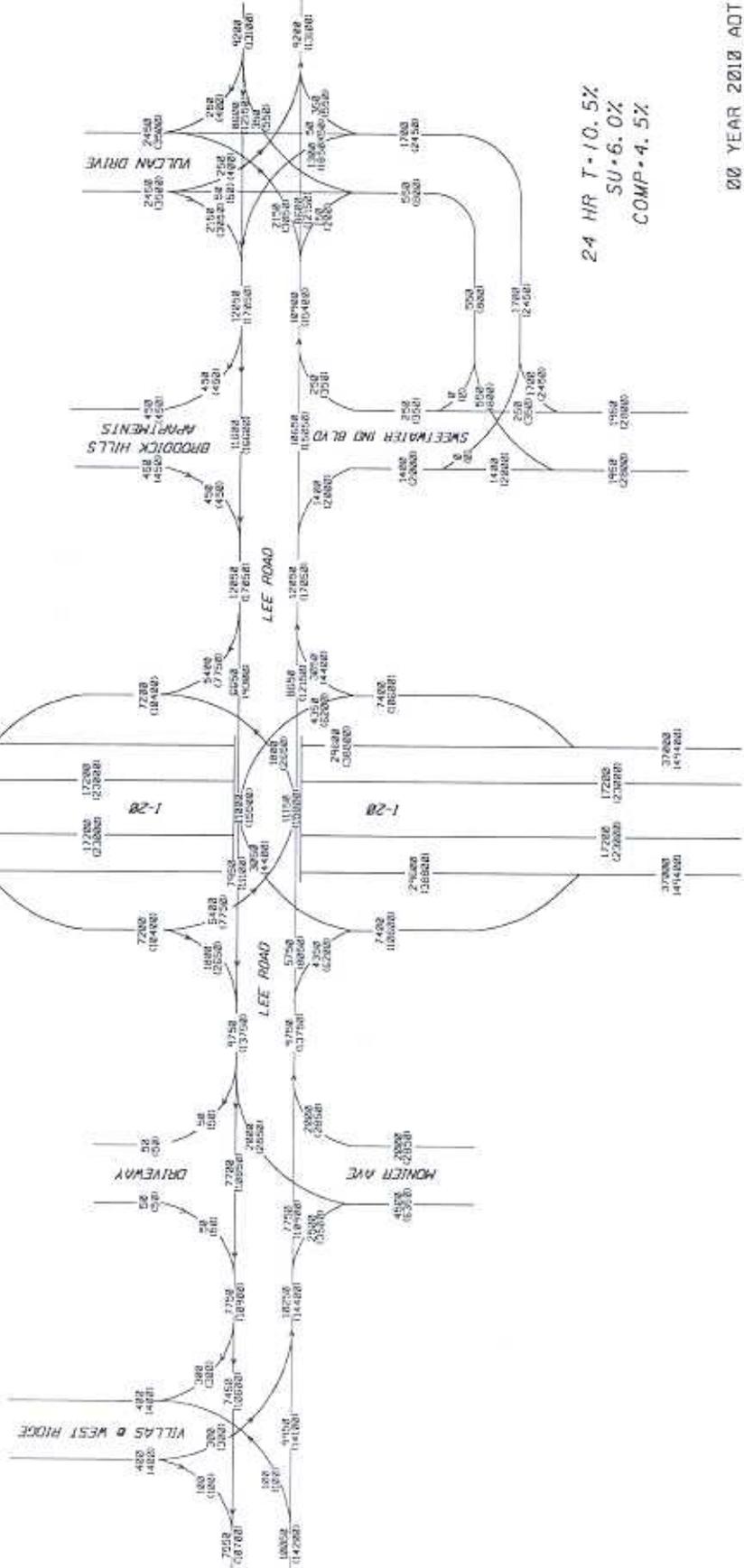
STATE	PROJECT NUMBER	DATE
G.A.	AKS-0001-00-911	12/1/87



00 AM PK HOUR  
 (02) PM PK HOUR

DATE	REVISION	 Magesand, Aljebelli 201 S. 1st St. Portland, OR 97204 Telephone: 503/227-3007 Fax: 503/227-3014	I-20/LEE ROAD YEAR 2030 PEAK HOUR TRAFFIC (BUILD) TRAFFIC FLOW DIAGRAM	DRAWING NO.

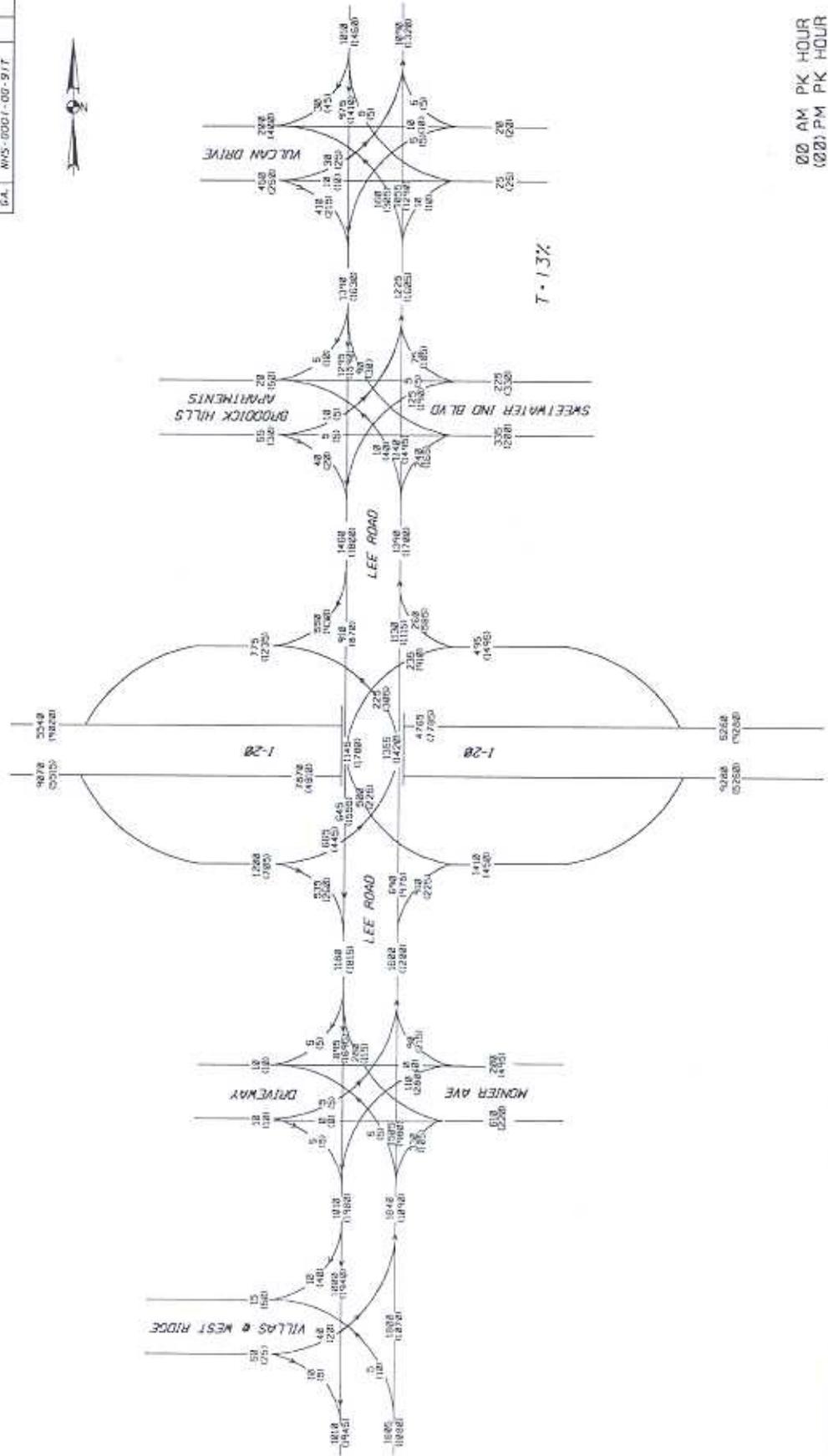
STATE	PROJECT NUMBER	DATE
CA.	RWS-0001-00-917	12/15/05



00 YEAR 2010 ADT  
(00) YEAR 2030 ADT

DATE	REVISIONS	 Moyeland Altabelli 2511 Agate Hill Road Sacramento, CA 95825 Telephone: (916) 287-5000	1-20/LEE ROAD YEAR 2010/2030 ADT (BUILD) TRAFFIC FLOW DIAGRAM	DRAWING NO.

SHEET NO.	PROJECT NUMBER	SHEET NO.
14	WVS-0001-00-917	14



08:00 AM PK HOUR  
05:00 PM PK HOUR

DATE	REVISOR	 Moseley, A. J. & Co. Associates, Inc. 2017 State St., N.W. Marietta, Georgia 30067 Telephone (770) 587-2545	I-20/LEE ROAD YEAR 2030 PEAK HOUR TRAFFIC (NO-BUILD) TRAFFIC FLOW DIAGRAM	DRAWING NO.

## TRAFFIC ANALYSIS

### Summary of Intersection Capacity Analysis Results

Intersections	Existing Year 2006		No-Build Year 2030		Build Year 2030	
	AM (Delay)	PM (Delay)	AM (Delay)	PM (Delay)	AM (Delay)	PM (Delay)
Lee Rd @ Villas@ West Ridge	E* (45.6)	D* (31.8)	F (287.4)	F (300.5)	A (5.0)	A (6.8)
Lee Rd @ Monier Blvd	F* (462.1)	F* (264.9)	F (652.5)	F (1119)	C* (23.0)	C* (20.5)
Lee Rd @ I-20 EB Ramps	C (28.1)	C (21.1)	F (1585)	F (625.5)	C (32.7)	C (20.2)
Lee Rd @ I-20 WB Ramps	B (12.1)	C (34.4)	F (822.8)	F (2238)	B (16.1)	C (22.3)
Lee Rd @ Sweetwater Ind. Blvd	F* (264.9)	F* (154.8)	F (538.4)	F (880.7)	--	--
Lee Rd @ Vulcan Dr	D* (25.0)	E* (47.1)	F (1130)	F (3917)	C (26.5)	C (30.0)

\* For unsignalized intersections, level of service is given for minor street approach.

### Summary of Recommended Storage Lengths of Turn Lanes

It is recommended that the storage lengths for turn lanes with projected year 2030 traffic volumes less than 200 vehicles per hour use the following minimum storage lengths listed below.

Roadway	Speed Design	Storage Length
Lee Road	45 mph	350
Monier Boulevard	35 mph	200
Sweetwater Industrial Blvd	35 mph	200
Vulcan Drive	35 mph	200

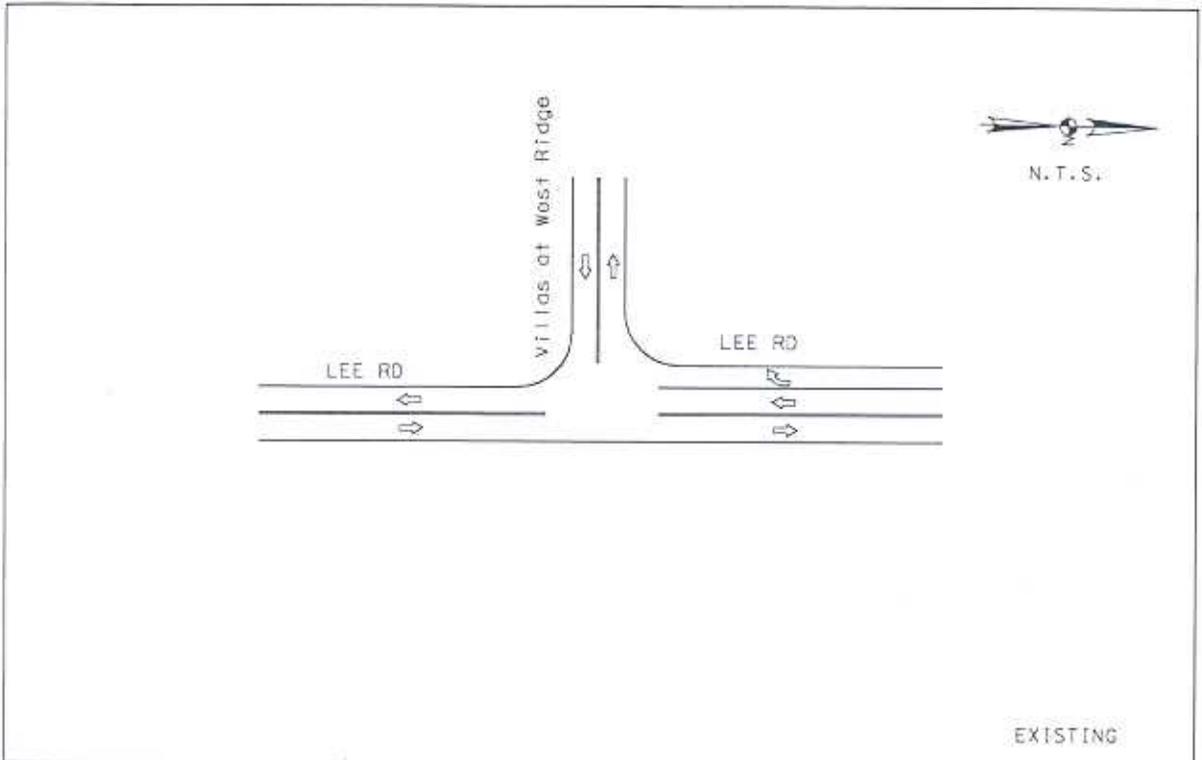
Turn lane tapers for this project are recommended to be 100 feet for all roadways.

The minimum storage lengths shown above are based on the approximate deceleration lane length plus one vehicle length of 20 feet minus the turn lane taper length of 100 feet. (See 2001 AASHTO guidelines on page 718).

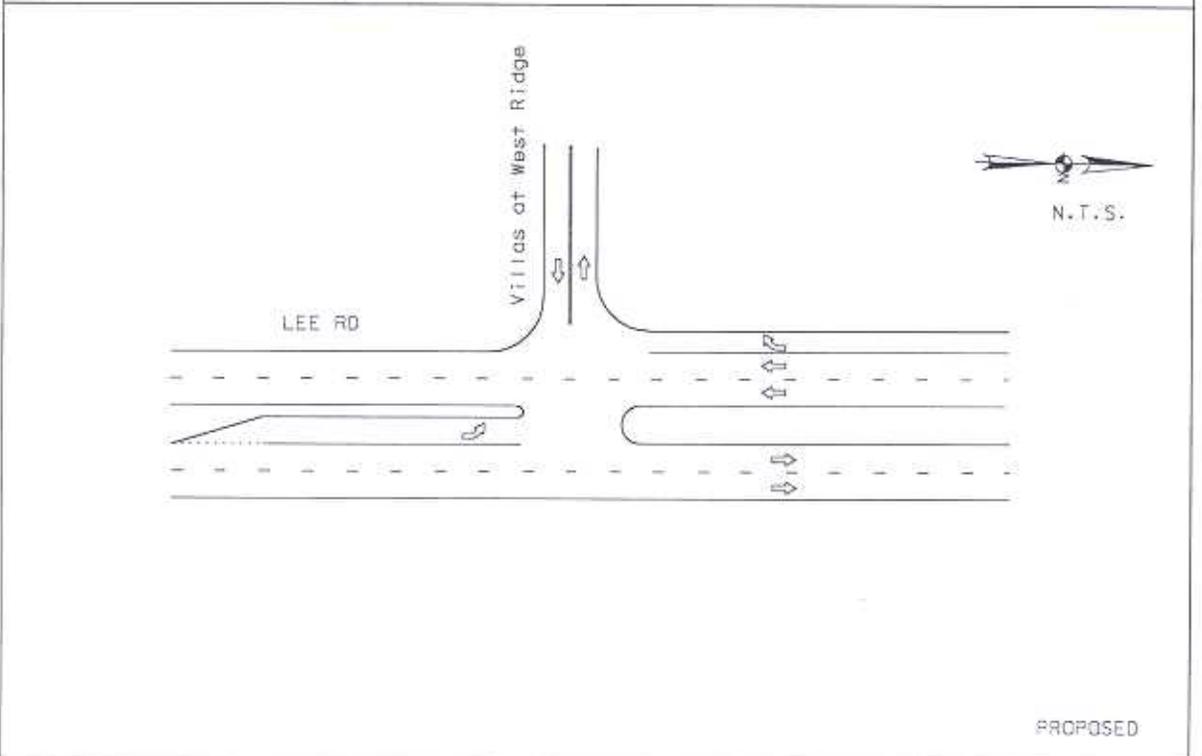
*See table on following page for recommended storage lengths for turn lanes with projected 2030 peak hour traffic volumes over 200 vehicles per hour.*

Queue lengths for turn lanes with peak hour traffic volumes over 200 vehicles per hour were calculated to determine a recommended storage length. The queue lengths and recommended storage lengths are listed below.

Intersections	Queue Length (feet)		Recommended Storage Length (feet)
	AM Peak	PM Peak	
Lee Road at Monier Boulevard			
Southbound left turn lane – Lee Road	128	80	350
Northbound right turn lane – Lee Road	151	73	350
Lee Road at I-20 Eastbound Ramp			
Northbound right turn lane – Lee Road	379	63	400
Southbound left turn lane (2 lanes) – Lee Road	243	125	350
Eastbound right turn lane – I-20 Ramp	446	260	500
Eastbound left turn lane (2 lanes) – I-20 Ramp	277	223	350
Lee Road at I-20 Westbound Ramp			
Northbound left turn lane – Lee Road	250	339	400
Southbound right turn lane – Lee Road	76	129	350
Westbound right turn lane (2 lanes) – I-20 Ramp	144	252	350
Westbound left turn lane (2 lanes) – I-20 Ramp	131	392	450
Lee Road at Vulcan Drive			
Northbound left turn lane – Lee Road	76	125	350
Eastbound right turn lane – Vulcan Drive	342	182	350



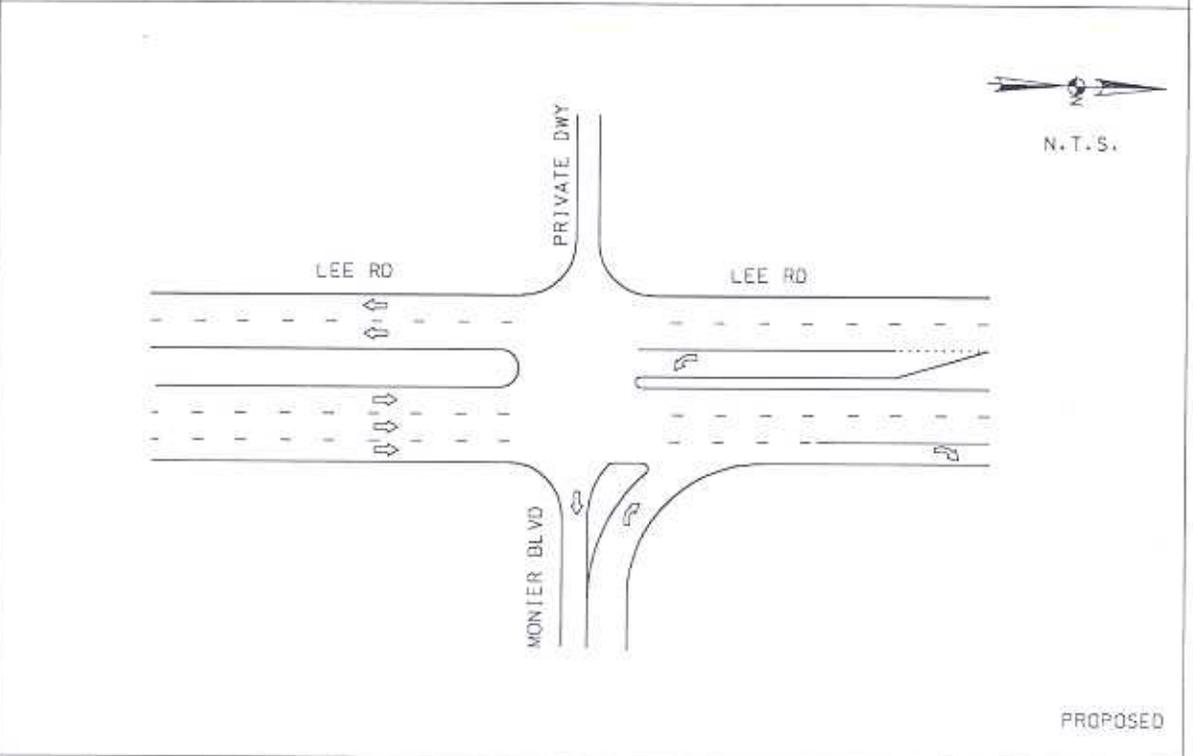
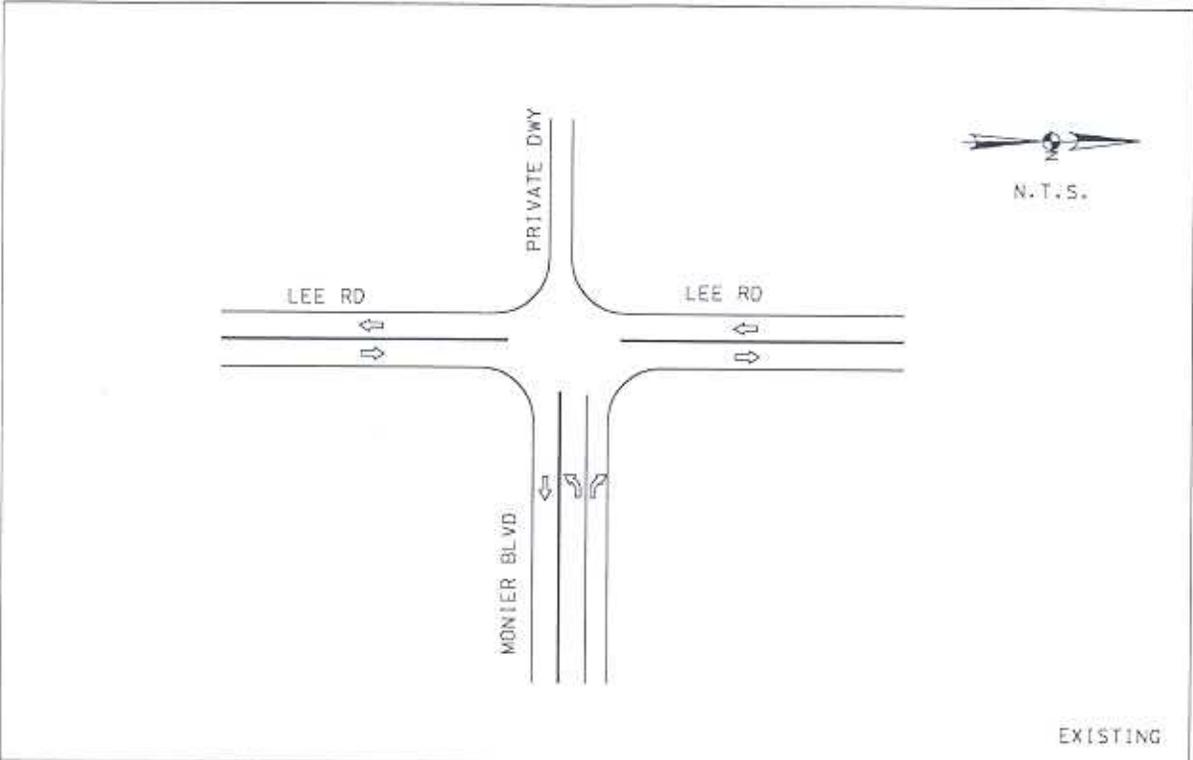
EXISTING



PROPOSED

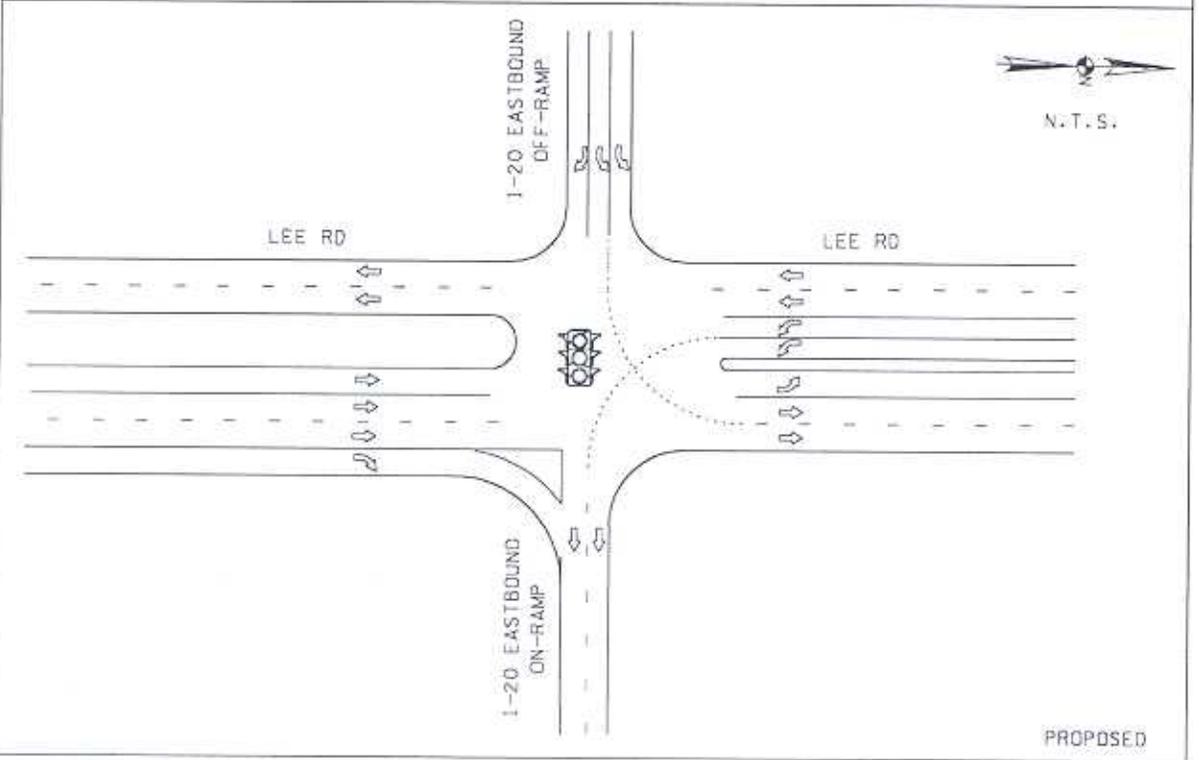
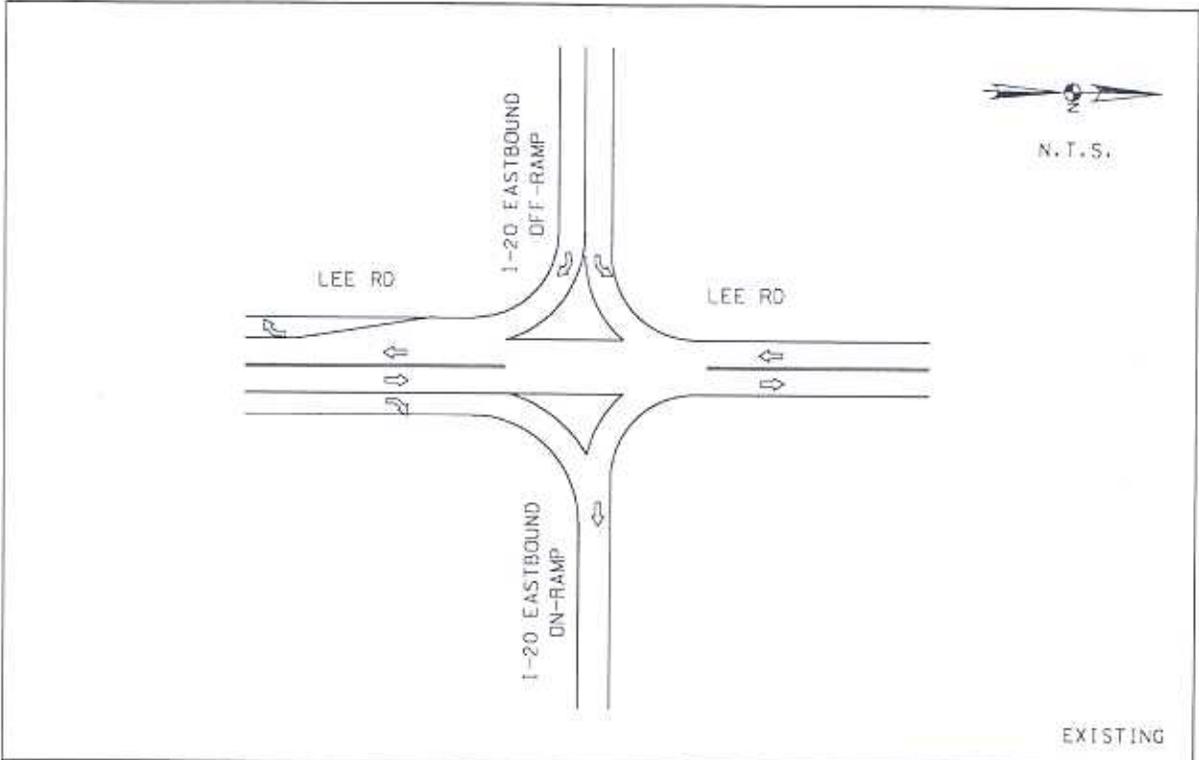


INTERSECTION LANE CONFIGURATION  
 LEE ROAD @ VILLAS AT WEST RIDGE  
 DOUGLAS COUNTY, GA.

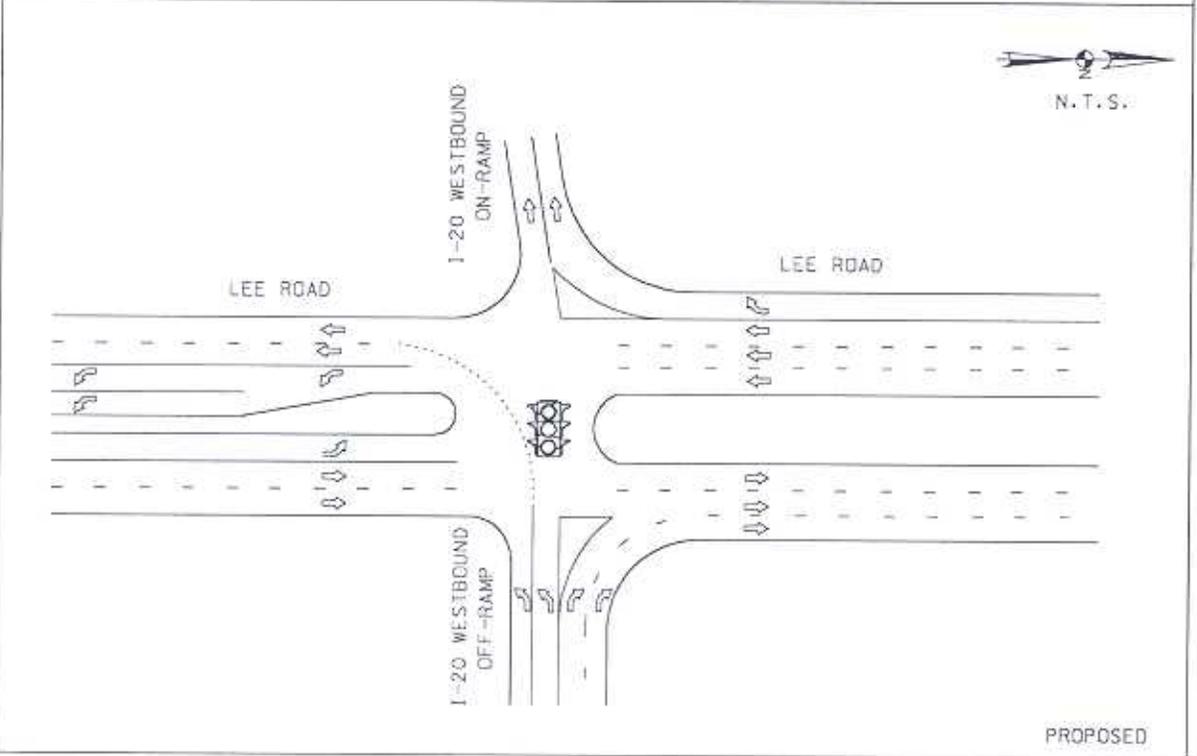
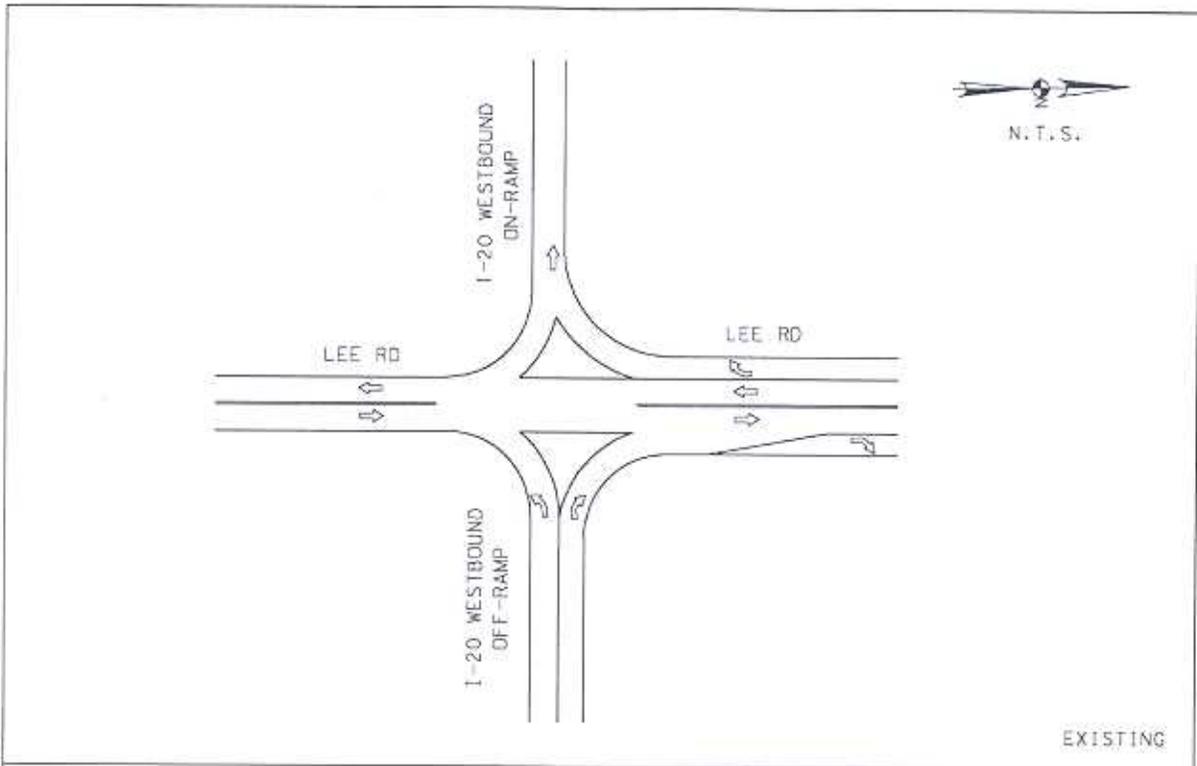


**MA** Moreland Altobelli  
Associates, Inc.

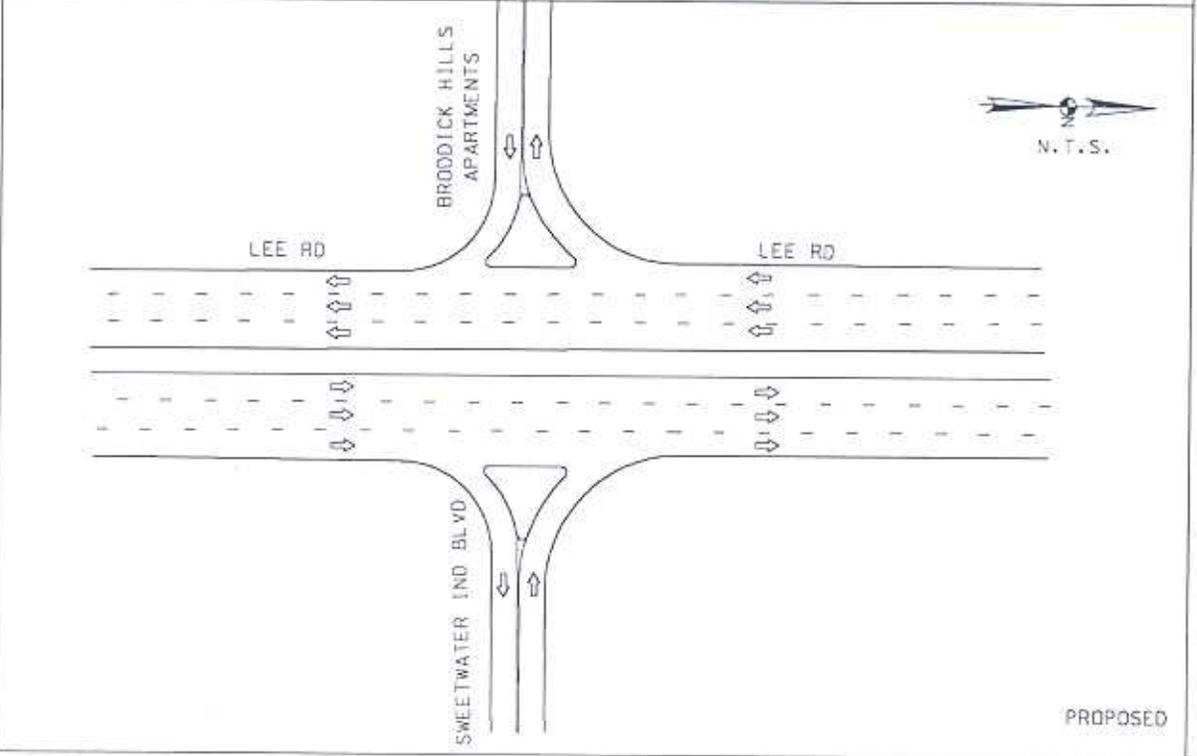
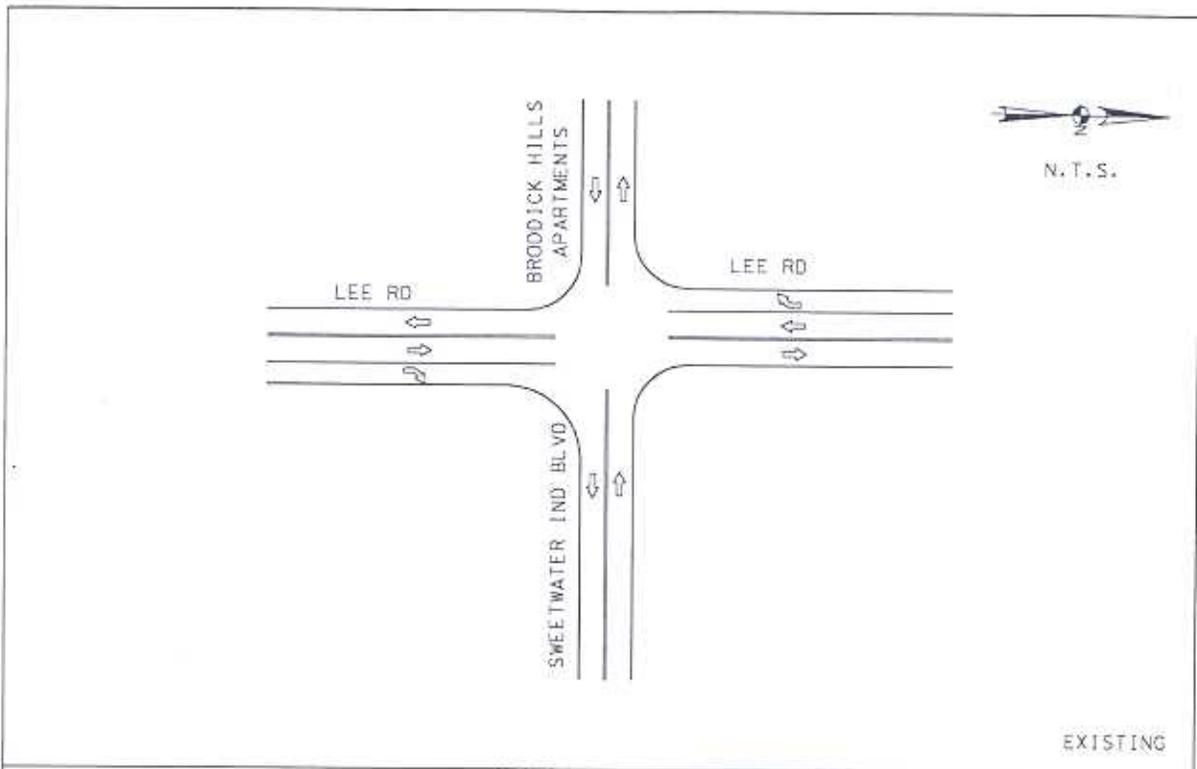
**INTERSECTION LANE CONFIGURATION**  
LEE RD @ MONIER BLVD  
DOUGLAS COUNTY, GA.



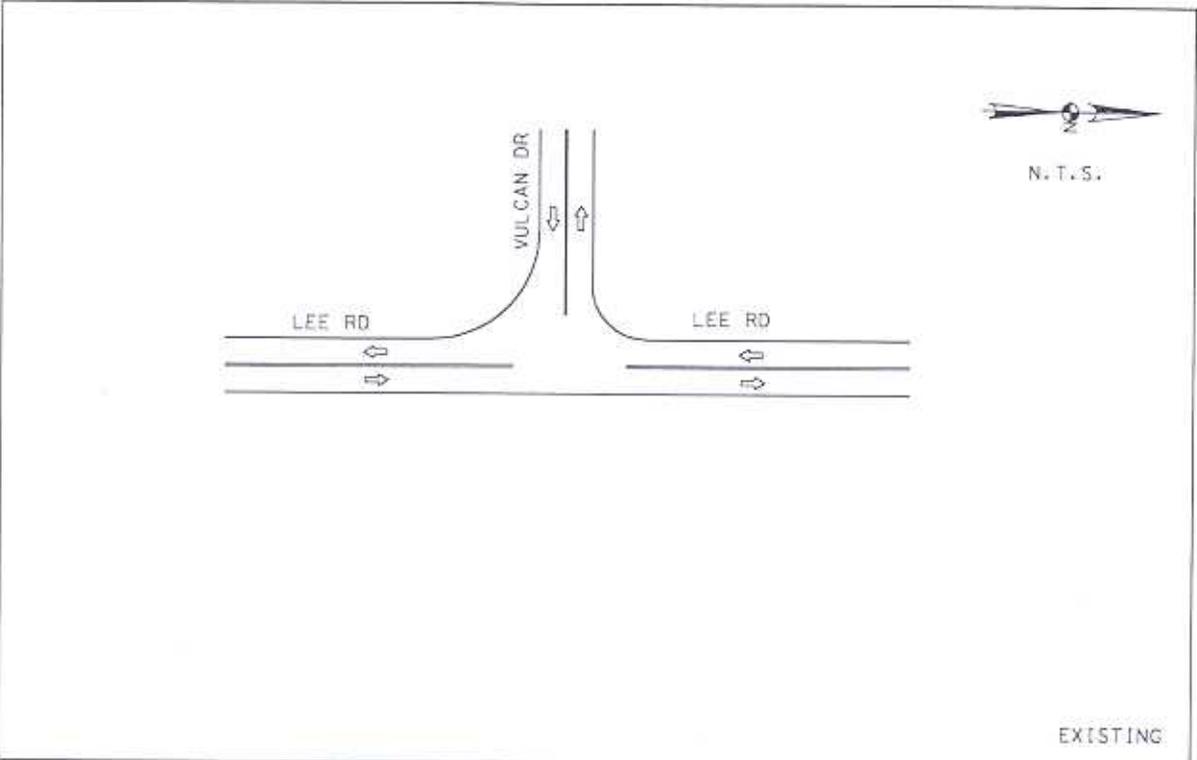
	<p><b>INTERSECTION LANE CONFIGURATION</b>  <b>LEE ROAD @ I-20 EASTBOUND RAMPS</b>  <b>DOUGLAS COUNTY, GA.</b></p>
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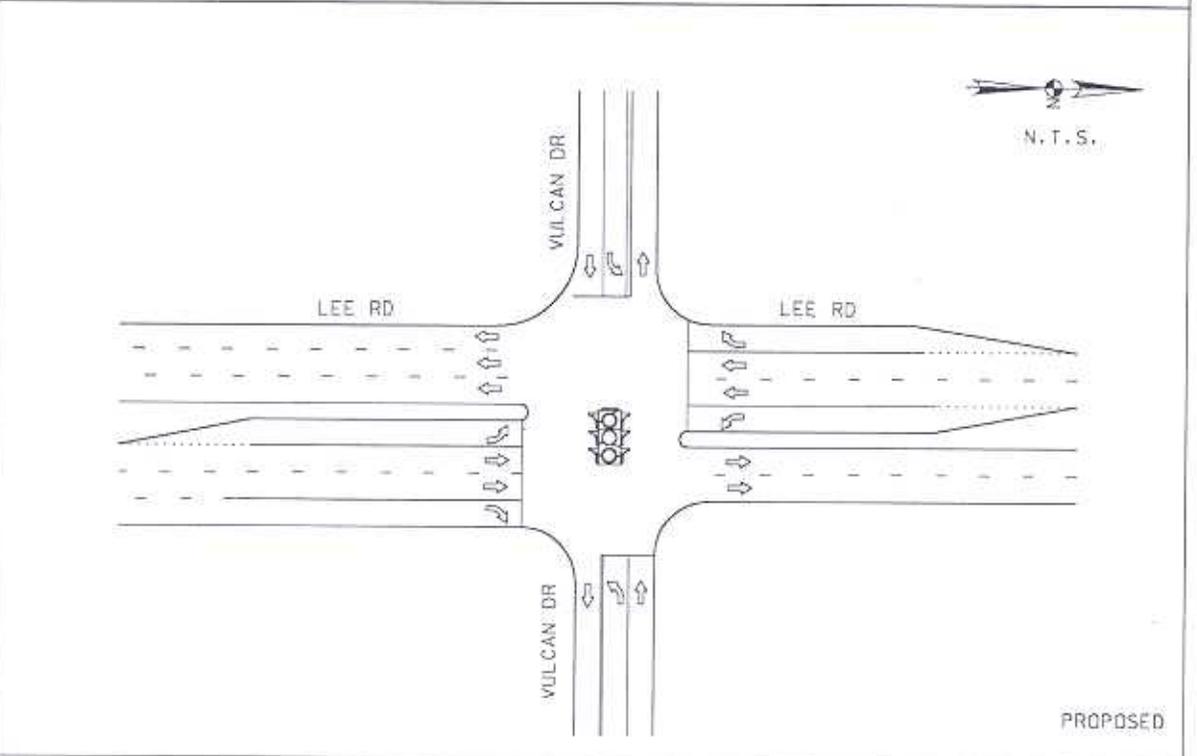
 <p>Moreland Altobelli Associates, Inc.</p>	<p><b>INTERSECTION LANE CONFIGURATION</b>  <b>LEE ROAD @ I-20 WESTBOUND RAMPS</b>  <b>DOUGLAS COUNTY, GA.</b></p>
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	<p><b>INTERSECTION LANE CONFIGURATION</b>  <b>LEE ROAD @ SWEETWATER IND BLVD / BRODDICK HILLS APTS.</b>  <b>DOUGLAS COUNTY, GA.</b></p>
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EXISTING



PROPOSED

**MA** Moreland Altobelli  
Associates, Inc.

**INTERSECTION LANE CONFIGURATION**  
LEE ROAD @ VULCAN DRIVE  
DOUGLAS COUNTY, GA.

# BRIDGE INVENTORY DATA LISTING GEORGIA DEPARTMENT OF TRANSPORTATION

Structure ID: 097-0027-0      Douglas      SUFF. RATING      68.83

## Location & Geography

* Structure I.D.No:	097-0027-0		
* 200 Bridge Information	06	* 104 Highway System:	0
* 6A Feature Int:	1-20	* 26 Functional Classification:	16
* 6B Critical Bridge:	0	* 204 Federal Route Type:	N    No.: 09370
* 7A Route Number Carried:	CR00817	* 105 Federal Lands Highway:	0
* 7B Facility Carried:	LEE ROAD	* 110 Truck Route:	0
* 9 Location:	5.5 MI E OF DOUGLASVILLE	* 206 School Bus Route:	1
* 2 DOT District:	7	* 217 Benchmark Elevation:	0000.00
* 207 Year Photo:	1997	* 218 Datum:	0
* 91 Inspection Frequency:	24    Date: 12/18/2003	* 19 Bypass Length:	01
* 92A Fract Cyt Insp Freq:	00    Date: 02/01/1901	* 20 Toll:	3
* 92B Underwater Insp Freq:	00    Date: 02/01/1901	* 21 Maintenance:	01
* 92C Other Spc. Insp Freq:	00    Date: 02/01/1901	* 22 Owner:	01
* 4 Place Code:	00000	* 31 Design Load:	5
* 5 Inventory Route (OU):	1	* 37 Historical Significance:	5
* Type:	5	* 205 Congressional District:	11
* Designation:	1	* 27 Year Constructed:	1962
* Number:	09370	* 106 Year Reconstructed:	0000
* Direction:	0	* 33 Bridge Median:	0
* 16 Latitude: 33-46.0	MMS Prefix: 00	* 34 Skew:	00
* 17 Longitude: 84-39.1	MMS Suffix: 000	* 35 Structure Flared:	0
* 98 Border Bridge:	000    %Shared: 00	* 38 Navigation Control:	N
* 99 ID Number:	0000000000000000	* 213 Special Steel Design:	0
* 100 STRAHNET:	0	* 267 Type of Paint:	4
* 12 Base Highway Network:	1	* 42    Type of Service on:	1
* 13A LRS Inventory Route:	972081700	Under:	1
* 13B Sub Inventory Route:	0	* 214 Movable Bridge:	0
* 101 Parallel Structure:	N	* 203 Type Bridge:	Z-O-M-O
* 102 Direction of Traffic:	2	* 259 Pile Encasement:	3
* 264 Road Inventory Mile Post:	003.00	* 43 Structure Type Main:	4    02
* 208 Inspection Area:	09    Initials: JMC	* 45 No. Spans Main:	004
* Engineer's Initial:	jal	* 44 Structure Type Appr:	0    00
		* 46 No. Spans Appr:	0000
		* 226 Bridge Curve Horz:	0    Vert: 0
		* 111 Pier Protection:	0
		* 107 Deck Structure Type:	1
		* 108 Wearing Surface Type:	1
		Membrane:	0
		Protection:	0
* Location I.D. No.:	097-09370M-003.10N		

## Signs & Attachments

225	Expansion Joint Type:	02	
242	Deck Drains:	0	
243	Parapet Location:	0	
	Height:	0.00	
	Width:	0.00	
238	Curb:	1.20	1
239	Handrail:	1	1
* 240	Median Barrier Rail:	0	
241	Bridge Median Height:	0.00	
	Width:	0.00	
* 230	Guardrail Loc Dir:	Rear:	3
	Fwd:	3	
	Oppo Dir Rear:	0	
	Fwd:	0	
244	Approach Slab:	3	
224	Retaining Wall:	0	
233	Posted Speed Limit:	45	
236	Warning Sign:	0	
234	Delineator:	0	
235	Hazard Boards:	0	
237	Utilities Gas:	21	
	Water:	22	
	Electric:	00	
	Telephone:	00	
	Sewer:	00	
247	Lighting Street:	0	
	Navigation:	0	
	Aerial:	0	
* 248	County Continuity No.:	00	

# BRIDGE INVENTORY DATA LISTING GEORGIA DEPARTMENT OF TRANSPORTATION

Structure ID: 097-0027-0

Douglas

SUFF. RATING

68.83

## Programming Data

201 Project No.: I-20-I (4) 35 CT.2  
 202 Plans Available: 1  
 249 Prop. Proj. No. 000000000000000000  
 250 Approval Status: 0000  
 251 P.I. No.: 00000000  
 252 Contract Date: 02/01/1901  
 260 Seismic No.: 000000  
 75 Type Work: 34 1  
 94 Bridge Imp. Cost: \$ 464  
 95 Roadway Imp. Cost: \$ 393  
 96 Total Imp Cost: \$ 1,029  
 76 Imp. Length: 001580  
 97 Imp. Year: 1990  
 114 Future ADT: 015450 Year: 2022

## Measurements

\* 29 ADT: 010300 Year: 2002  
 109 % Trucks: 2  
 \* 28 Lanes On: 02 Under: 06  
 210 No. Trucks On: 00 Under: 00  
 \* 48 Max. Span Length: 0070  
 \* 49 Structure Length: 258  
 51 Br. Rwdy. Width: 28.00  
 52 Deck Width: 34.20  
 \* 47 Tot. Horz. Cl: 28.00  
 50 Curb/Sawlik Width: 1.90/1.90  
 32 Approach Rdwy Width: 024  
 \* 229 Shoulder Width:  
 Rear Lt: 7.00 Type: 5 Rt: 7.00  
 Fwd Lt: 7.00 Type: 5 Rt: 7.00  
 Pavement Width:  
 Rear: 24.00 Type: 2  
 Fwd: 24.00 Type: 2  
 Intersection Rear: 1 Fwd: 1  
 36 Safety Features Br. Rail: 2  
 Transition: 2  
 App. G. Rail: 1  
 App. Rail End: 1  
 53 Minimum Cl. Over:  
 Under: H  
 \* 228 Min. Vertical Cl  
 Act. OdM Dir: 99 ' 99 "  
 Oppo. Dir: 99 ' 99 "  
 Posted OdM. Dir: 00 ' 00 "  
 Oppo. Dir: 00 ' 00 "  
 55 Lateral Undercl. Rt: H 12.50  
 56 Lateral Undercl. Lt: 16.80  
 \* 10 Max Min Vert Cl: 99 ' 99 " Dir: 0  
 39 Nav Vert Cl: 000 Horz: 0000  
 116 Nav Vert Cl Closed: 000  
 245 Deck Thickness Main: 7.50  
 Deck Thick Approach: 0.00  
 246 Overlay Thickness: 0.00  
 212 Year Last Painted: Sup: 1995 Sub: 0000

## Ratings

65 Inventory Rating Method: 1  
 63 Inventory Rating Method: 1  
 66 Inventory Type: 2 Rating: 19  
 64 Operating Type: 2 Rating: 32  
 231 Calculated Loads  
 H-Modified: 21 0  
 HS-Modified: 22 0  
 Type 3: 21 0  
 Type 3s2: 24 0  
 Timber: 23 0  
 Piggyback: 26 0  
 261 H Inventory Rating: 21  
 262 H Operating Rating: 35  
 67 Structural Evaluation: 5  
 58 Deck Condition: 6  
 59 Superstructure Condition: 5  
 \* 227 Collision Damage: 1  
 60A Substructure Condition: 7  
 60B Scour Condition: N  
 60C Underwater Condition: N  
 71 Waterway Adequacy: N  
 61 Channel Protection Cond: N  
 68 Deck Geometry: 4  
 69 UnderClr. Horz/Vert: 5  
 72 Appr. Alignment: 8  
 62 Culvert: N

## Posting Data

70 Bridge Posting Required: 5  
 41 Struct Open, Posted, Cl: A  
 \* 103 Temporary Structure: 0  
 232 Posted Loads H-Modified: 00  
 HIS-Modified: 00  
 Type 3: 00  
 Type3s2: 00  
 Timber: 00  
 Piggyback: 00  
 253 Notification Date 02/01/1901  
 253 Fed Notify Date: 02/01/1901 0

## Hydraulic Data

215 Waterway Data  
 Highwater Elev.: 0000.0 Year: 1900  
 Avg. Streambed Elev.: 0000.0 Freq.: 00  
 Drainage Area: 00000  
 Area Of Opening: 000000  
 113 Scour Critical: N  
 216 Water Depth: 00.0 Br. Height: 00.0  
 222 Slope Protection: 4  
 221 Spur Dikes Rear: 0 Fwd: 0  
 219 Fender System: 0  
 220 Dolphin: 0  
 223 Culvert Cover: 000  
 Type: 0  
 No. Barrels: 0  
 Width: 0.00 Height: 0.00  
 Length: 0 Apron: 0  
 \* 265 U/W Insp. Area: 0 Diver: ZZZ  
 \* Location I.D. No.: 097-09370M-003.10N

Report Date: 12/10/2004

SIA-2

A.5-2

## Minutes of Concept Team Meeting

June 6, 2006, 1:30 P.M. District Seven Preconstruction Conference Room

I-20/Lee Road Interchange

Project Number: NHS-0001-00 (917)

P.I. Number: 0001917

Douglas County

**Moderator: Jerrell Thompson  
Ralph Merrow, Jr.**

Attendees are listed below:

<u>Name</u>	<u>Organization</u>	<u>Telephone</u>	<u>Email Address</u>
Jerrell Thompson	GDOT – Preconst.	404-463-4947	jerrell.thompson@dot.state.ga.us
Ralph L. Merrow, Jr.	GDOT – Preconst.	404-463-4947	ralph.merrow@dot.state.ga.us
Daniel Gethi	GDOT – Preconst.	404-463-4947	gethi.daniel@dot.state.ga.us
Scott Lee	GDOT – District 7	404-463-4947	scott.lee@dot.state.ga.us
John Weingard	LPA Group	770-263-9118	jweingard@lpagroup.com
Al Bowman	LPA Group	770-263-9118	abowman@lpagroup.com
Danny Godwin	LPA Group	770-263-9118	dgodwin@lpagroup.com
Jeff Van Dyke	DWA	404-249-7550	jvandyke@daywilburn.com
Harry Graham	GDOT – District 7	404-463-4761	harry.graham@dot.state.ga.us
Scott Gibson	Dist 7 Construction		
Ron Osterloh	Moreland Altobelli	770-263-5945	rosterloh@maai.net
Pat Smeeton	Moreland Altobelli	770-263-5945	psmeeton@maai.net
Ted Crabtree	Dist 7 Preconstruction	404-463-4947	ted.crabtree@dot.state.ga.us
Randy Hulsey	Douglas County DOT	770-920-7508	rhulsey@co.douglas.ga.us
Ronald Nix	Moreland Altobelli	770-607-0085	r_jnix@yahoo.com
Michael Murdoch	GDOT OEL	404-699-4417	michael.murdoch@dot.state.ga.us
Steve Carter	GDOT Eng. Services	404-651-7469	steve.carter@dot.state.ga.us
Lisa Myers	GDOT Eng. Services	404-651-7468	lisa.myers@dot.state.ga.us
Zanda Montgomery	GDOT – District 7	404-463-4947	zanda.montgomery@dot.state.ga.us
Lee Upkins	GDOT – Utilities	404-463-4953	lee.upkins@dot.state.ga.us
Yulonda Pride-Foster	GDOT – Utilities	404-463-4953	yulonda.pride-foster@dot.state.ga.us
Teresa Lannon	GDOT – Urban	404-656-5441	theresa.lannon@dot.state.ga.us
Matt Staley	GDOT – Urban	404-656-5441	matt.staley@dot.state.ga.us
Dan Bodycomb	DMJM Harris	770-980-6864	dan.bodycomb@dmjmharris.com
Ervin Pearson	FHWA	N/A	N/A
Wayne Fedora	FHWA	404-562-3651	r.wayne.fedora@fhwa.dot.gov
Mike Lobdell	GDOT – District 7	404-463-4947	mike.lobdell@dot.state.ga.us

After introductions, Mr. Patrick Smeeton began the meeting by explaining the Need and Purpose of the project. He stated that the proposed project is needed to improve safety, operations and mobility for traffic on Lee Road at its interchange with I-20. The purpose of the project is to provide the additional capacity needed to accommodate project traffic. Mr. Smeeton added that there is a lot of new development in the area that is creating the need for these road improvements.

Mr. Ron Osterloh was introduced to explain the concept design and features. He explained current conditions; stating that the project is ½ mile in length and the existing steel bridge is 26 feet wide.

Mr. Osterloh then described features of the proposed project concept.

- The proposed section is a 4-lane divided roadway with a 20-foot raised median and a 16-foot urban shoulder.
- The single lane on/off ramps are 16 feet wide and would be constructed of concrete with 10-foot outside shoulders.
- The proposed speed of Lee Road is 45 mph.
- The design speed of the I-20 ramps varies.
- Grades for the project are within allowable limits – 6% for mainline and 10% for driveways.
- Right-of-way width is 150 feet typically.
- The project would affect 22 parcels and one park and ride lot.
- The proposed bridge would be 7 lanes wide – two southbound to eastbound left turn lanes, one northbound to westbound left turn lane, two southbound through lanes and two northbound through lanes.
- No design exceptions are anticipated.
- Lee Road would be staged constructed to maintain traffic during construction.
- Variances may be required due to median spacing.

General discussion of the concept report and layout began. Mr. Osterloh explained that Monier Blvd access at Lee Road would be modified as part of this concept. Only left turns would be allowed into Monier Blvd from Lee Road as well as right turns into and out of Monier Blvd. He explained that this would allow Monier Blvd to operate satisfactorily without traffic signal control.

Mr. Osterloh stated that the construction cost of the project would be \$11.875 million, the right-of-way cost would be approximately 29 million and the utility costs were estimated at \$350,000 for a total of approximately \$41 million.

District Seven Traffic Department stated that I-20 has a speed limit of 65 mph and this needs to be corrected in the concept report.

Mr. Dan Bodycomb explained that the typical section on I-20 under the Lee Road bridge needs to be corrected in the concept report and that the span under the bridge is proposed to be 128 feet.

The access of Monier Blvd at Lee Road was discussed. Monier Blvd is located approximately 490 feet south of the proposed eastbound I-20 ramps and it would not be desirable to signalize Monier Blvd because of its proximity to the I-20 ramps. Mr. Randy Hulseley said that the state park located south of Monier Blvd makes it difficult to relocate the road further south. Mr. Harry Graham stated that there could be some traffic congestion problems if Monier Blvd were signalized at its current location. Mr. Mike Lobdell asked what does FHWA think about signalizing Monier Blvd? Mr. Wayne Fedora stated that the access of Monier Blvd meets the 300-foot minimum and so FHWA is O.K. with the configuration but FHWA would defer to the state concerning the signalizing of Monier Blvd.

It was asked why an Environmental Assessment (EA) was the necessary environmental document for a relatively small interchange project. Mr. Smeeton explained that this project was required by FHWA to be included in the EA for the Lee Road widening project south of the interchange. In order to provide logical termini for the widening project, this project will be included in the EA that is being prepared for project MSL-0004-00 (428), P.I. Number 0004428.

There was a comment by GDOT preconstruction that because this project is estimated to cost over \$25 million then a Value Engineering (VE) study must be conducted. Also, it was suggested that if the other Lee Road projects are over \$25 million then an overall VE study should be conducted that would include all three Lee Road projects.

GDOT commented to include in the concept report that Lee Road will be a temporary state route during construction.

Mr. Fedora stated that he would like to have the proposed concept layout placed as an attachment to the concept report. He also asked that the distances between adjacent interchanges be noted in the concept report. Mr. Fedora stated that he would let GDOT know if an Interchange Modification Report (IMR) is necessary for this project.

Mr. Ralph L. Merrow, Jr. stated that he reviewed the concept report and has comments that will need to be addressed.

Mr. Graham asked if U-turns are being considered on Lee Road. He also asked if the westbound off-ramp design could accommodate a future two-lane off-ramp.

Mr. Fedora asked how would the ramps be tying into the existing I-20 lanes. He asked if there would be "throwaway" when the I-20 HOV project is built. It was explained that some "throwaway" is unavoidable.

Mr. Lobdell asked if the park and ride lot was going to be displaced completely. The park and ride lot will be displaced completely. There has been discussions with the Georgia Regional Transportation Authority (GRTA) regarding a potential park and ride lot that would be built as part of the future I-20 HOV project.

It was stated that if queue preemption were implemented on this project then it would prevent traffic from queuing on the ramps and onto I-20. Mr. Graham stated that queue preemption was a good idea and should be incorporated into the area ATMS projects.

It was stated that there are several Developments of Regional Impacts (DRI) in the area that are being reviewed by GRTA. Mr. Graham asked that the consultants designing the Lee Road widening projects coordinate with GRTA concerning future DRI's along the Lee Road corridor.

Mr. Graham asked if allowing for a future second northbound to westbound left turn lane on Lee Road would be necessary. The traffic volumes and intersection capacity analysis do not indicate the need for a second left turn lane. However, Mr. Graham asked if a wider median could be incorporated in the design of Lee Road so that a second left turn lane could be provided if traffic conditions change in the future.

GDOT preconstruction commented to remove the Highway Capacity Software (HCS) worksheet from the concept report attachments and place page numbers on all of the attachment sheets.

Mr. Graham asked why is there a 90-degree turn on Sweetwater Drive Connector for traffic to get to Lee Road. Mr. Hulsey stated that it was the only way to create a continuous route to Lee Road from the industrial park.



SCORING RESULTS AS PER TOPPS 2440-2

<b>Project Number:</b>		<b>County:</b>		<b>PI No.:</b>	
<b>Report Date:</b>		<b>Concept By:</b>			
<input type="checkbox"/> CONCEPT		DOT Office:			
		Consultant:			
<b>Project Type:</b> Choose One From Each Column		<input type="checkbox"/> Major <input type="checkbox"/> Minor	<input type="checkbox"/> Urban <input type="checkbox"/> Rural	<input type="checkbox"/> ATMS <input type="checkbox"/> Bridge <input type="checkbox"/> Building <input type="checkbox"/> Interchange <input type="checkbox"/> Intersection <input type="checkbox"/> Interstate <input type="checkbox"/> New Location <input type="checkbox"/> Widening & Reconstruction <input type="checkbox"/> Miscellaneous	
<b>FOCUS AREAS</b>	<b>SCORE</b>	<b>RESULTS</b>			
<b>Presentation</b>					
<b>Judgement</b>					
<b>Environmental</b>					
<b>Right of Way</b>					
<b>Utility</b>					
<b>Constructability</b>					
<b>Schedule</b>					