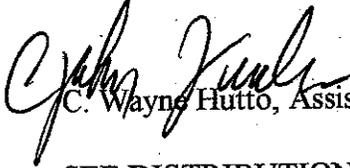


ORIGINAL TO GENERAL FILES

D.O.T. 66

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

INTERDEPARTMENT CORRESPONDENCE

FILE STP-0001-00(770) Dawson County **OFFICE** Preconstruction
P. I. No. 0001770
DATE June 4, 2002
FROM  C. Wayne Hutto, Assistant Director of Preconstruction
TO SEE DISTRIBUTION

SUBJECT PROJECT CONCEPT REPORT APPROVAL

Attached for your files is the approval for subject project.

CWH/cj

Attachment

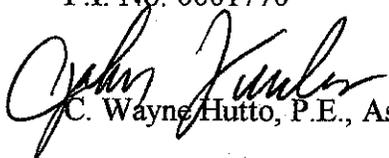
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**DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA**

INTERDEPARTMENT CORRESPONDENCE

FILE STP-0001-00(770) Dawson County **OFFICE** Preconstruction
P.I. No. 0001770 **DATE** May 16, 2002

FROM  C. Wayne Hutto, P.E., Assistant Director of Preconstruction

TO Frank L. Danchetz, P.E., Chief Engineer

SUBJECT PROJECT CONCEPT REPORT

This project is the intersection improvements to Dawson Forest Road (Old SR 318) and Lumpkin Campground Road. The improvement includes the creation of a roundabout. Dawson Forest Road and Lumpkin Campground Road are currently two lane facilities with no turn lanes at the intersections and narrow shoulders. The posted speed limit on Dawson Forest Road is 55 MPH and the posted speed limit on Lumpkin Campground Road is 45 MPH. The construction of the roundabout will result in minimal right-of-way acquisition and provide satisfactory results through the next 15 years. Due to the limited use of roundabouts in the United States, performance measures are currently limited to volume to capacity ratios which were used to compare the performance of the proposed roundabout to other traffic control measures, including four-way stop control and signalization. (NOTE: See Page #4 for results.)

The construction proposes to construct a roundabout at the intersection with flares extending back 200' to 300' along each leg from the center of the intersection. The proposed typical section will consist of two, 12' lanes plus variable width islands for the creation of flares and 10' shoulders (4' paved). The roundabout will have a center island with a radius of 36' (including 30" curb and gutter), a 14' wide concrete apron around the island, a 20' travel lane around the island, and a 4' paved shoulder outside the island. Traffic will be maintained during construction.

Environmental concerns include requiring a Categorical Exclusion be prepared; a public hearing is not required; time saving procedures are appropriate.

The estimated costs for this project are:

	<u>PROPOSED</u>	<u>APPROVED</u>	<u>PROG DATE</u>	<u>LET DATE</u>
Construction (includes E&C and inflation)	\$226,000	\$511,000	2006	FY-06
Right-of-Way & Utilities*	Local	Local		

Frank L. Danchetz
Page 2

STP-0001-00(770) Dawson
May 16, 2002

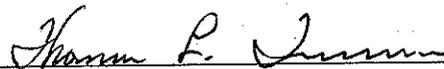
*Dawson County signed LGPA on 2-20-01 for PE, right-of-way, and utilities.

This project is in the STIP. I recommend this project concept be approved.

CWH:JDQ/cj

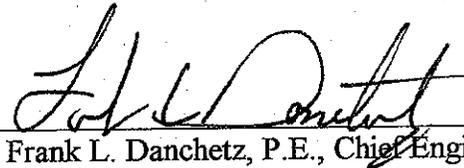
Attachment

CONCUR



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

APPROVE



Frank L. Danchetz, P.E., Chief Engineer

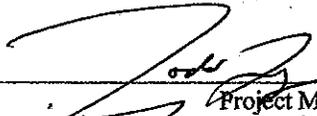
DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA
 OFFICE OF DISTRICT ONE DESIGN
 PROJECT NUMBER: STP-0001-00(770)
 COUNTY: DAWSON
 P.I. NUMBER: 0001770
 FEDERAL ROUTE NO: N.A.
 STATE ROUTE NO: N.A.



Prepared by: Street Smarts
Recommendation for approval:

DATE 5/21/02

DATE 5/21/02



 Project Manager



 District Engineer / Gainesville

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

DATE _____

 State Transportation Planning Administrator

DATE _____

 State Transportation Programming Engineer

DATE _____

 State Environmental / Location Engineer

DATE _____

 State Traffic Operations Engineer

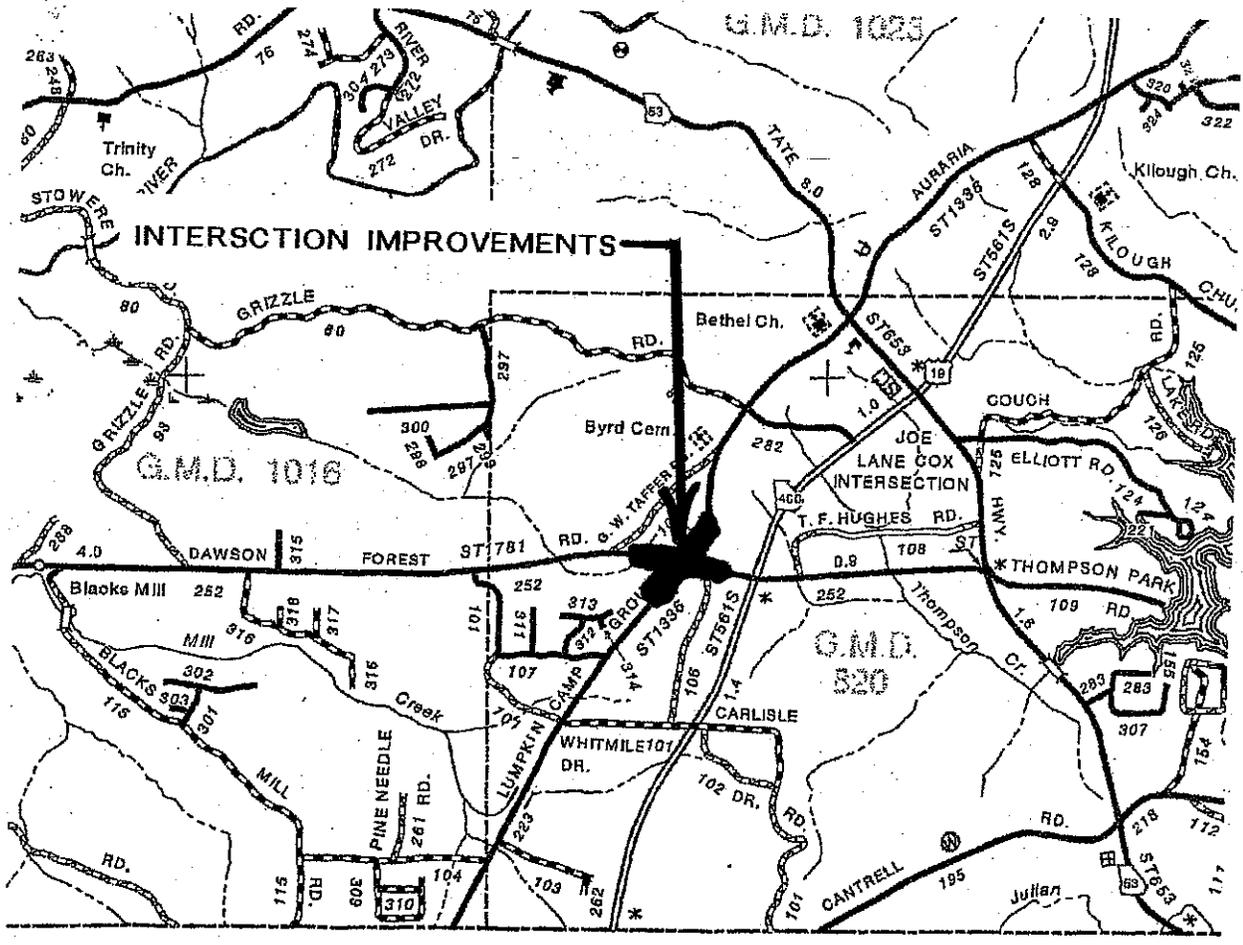
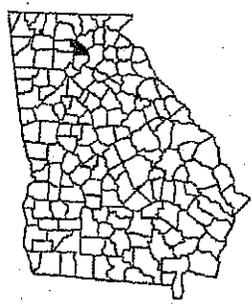
DATE _____

 District Engineer

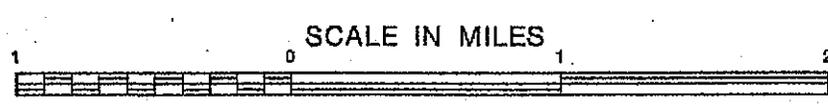
DATE _____

 Project Review Engineer

PROJECT LOCATION MAP



TO CUMMING
TO CUMMING



NEED AND PURPOSE

PROJECT STP-0001-00(770) DAWSON COUNTY

Intersection Improvements

Background:

Project STP-0001-00(770) proposes to improve the intersection of Dawson Forest Road (old SR 318) and Lumpkin Campground Road by constructing a single-lane roundabout. The construction of the roundabout will result in minimal right-of-way acquisition and provide satisfactory results through the next fifteen years. Improving this intersection will enhance operations and safety, and will provide better driving conditions in the vicinity of North Georgia Premium Outlets.

These roads are both considered arterials by Dawson County. This intersection is not part of the National Highway System. This intersection is not included in the Georgia Bicycle Statewide Network. The percentage of truck traffic volumes through the intersection is 6.2 percent.

Need and Purpose:

The purpose of the proposed improvement is to provide more capacity and better operating conditions at the intersection. The improvement includes the creation of a roundabout. The benefits of the project include less delay and adequate storage capacity at the intersection, and a reduction of turning vehicles blocking through traffic at the intersection.

Operational Analysis:

Dawson Forest Road and Lumpkin Campground Road are currently two lane facilities with no turn lanes at the intersections and narrow shoulders. The posted speed limit on Dawson Forest Road is 55 mph, and the posted speed limit on Lumpkin Campground Road is 45 mph.

The proposed typical section would consist of two 12' lanes plus variable width islands for the creation of flares, 10' shoulder (4' paved), 4:1 front slope, 4' wide ditch bottom, and 2:1 back slope. The roundabout will have a center island with a radius of 36' including 30" curb and gutter, a 14' wide concrete apron around the island, a 20' travel lane around the island, and a 4' paved shoulder outside the island.

The proposed typical section was evaluated to verify it would provide sufficient capacity for the design year, 2020. The roundabout was analyzed using Synchro 5, which is based on *Highway Capacity Manual (HCM), 3rd Edition, 2000 Update* procedures. Manual calculations were performed for several approaches using the HCM as a model validation measure.

Due to the limited use of roundabouts in the United States, performance measures are currently limited to volume to capacity ratios which were used to compare the performance of the proposed roundabout to other traffic control measures, including four-way stop control and signalization. All of the analysis was performed based on the assumption of one-lane approaches for the entire intersection. The results are listed in **Tables 1 and 2**.

Table 1
A.M. Peak Hour Volume to Capacity Ratios (Design Year 2020)

	A.M. Peak Hour v/c			
	EB Approach	WB Approach	NB Approach	SB Approach
Four-way Stop	2.81	1.39	0.86	1.07
Traffic Signal	1.31	0.59	0.81	1.21
Roundabout	1.33	0.77	0.81	0.63

Table 2
P.M. Peak Hour Volume to Capacity Ratios (Design Year 2020)

	P.M. Peak Hour v/c			
	EB Approach	WB Approach	NB Approach	SB Approach
Four-way Stop	1.61	1.80	1.30	1.67
Traffic Signal	1.24	1.12	0.65	1.24
Roundabout	0.90	1.00	0.90	0.97

The analysis results illustrate the effectiveness of the roundabout in comparison to other traffic control measures. While the roundabout generally results in lower v/c ratios than the other traffic control measures, v/c ratios of 1 or greater are present for the eastbound approach in the design year A.M. peak hour and the westbound approach in the design year P.M. peak hour. The limited studies of roundabouts in the United States, as well as comparisons with operations in other countries, indicate that a range of volume to capacity ratios should be calculated based on the range of values for the critical gap and follow up times that represent different levels of driver aggressiveness.

For the purposes of this report, it was assumed the drivers would be the least aggressive, and hence the highest v/c ratio was reported. This will give the worst-case scenario at the intersection. The actual v/c ratios are likely to be less than reported, which means the intersection should operate an acceptable level until approximately 2016 when the A.M. eastbound approach will meet capacity under the conservative assumptions.

Dawson Forest Road at Lumpkin Campground Road

Description of the proposed project: The work at this intersection will occur over 0.2 miles along both Dawson Forest Road (old SR318) and Lumpkin Campground Road. A roundabout will be constructed at the intersection, with flares extending back 200 to 230 feet along each leg from the center of the intersection.

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

PDP Classification: Major Minor
 Full Oversight , Exempt , State Funded , or Other

Functional Classification: Rural Arterial

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

State Route Number(s): N/A

Traffic (AADT):	<u>Dawson Forest Road</u>	<u>Lumpkin Campground Road</u>	<u>Totals</u>
Base Year: (2000)	3,775	3,263	7,038
Current Year: (2002)	4,195	3,625	7,820
Design Year: (2020)	12,590	10,875	23,465

K = 10.0

D = 50%

T = 6.2%

24 HR T = 6.2%

Existing design features:

- Typical Section: Two 12' lanes, no turn lanes, narrow shoulder and ditch.
- Posted speed 45/55 mph (Lumpkin Campground/Dawson Forest)
- Maximum degree of curvature: N.A.
- Maximum grade: 2.8 % (List mainline, cross roads, and driveways)
- Width of right of way: 60/100 ft. (Lumpkin Campground/Dawson Forest)
- Major structures: none
- Major intersections along the project: Dawson Forest Road at Lumpkin Campground Road
- Existing length of roadway segment: 0.65 miles

Proposed Design Features:

- Proposed typical section(s): Two 12' lanes plus variable width islands for the creation of flares, 10' shoulder (4' paved), 4:1 front slope, 4' wide ditch bottom, 2:1 back slope. The roundabout will have a center island with a radius of 36' including 30" curb and gutter, a 14' wide concrete apron around the island, a 20' travel lane around the island, and a 4' paved shoulder outside the island.
- Proposed Design Speed Through Roundabout: 20 mph
- Proposed Maximum grade Mainline: 2.8 % Maximum grade allowable: 5.0 %.
- Proposed Maximum grade Side Street: 1.4 % Maximum grade allowable: 5.0 %.

- Proposed Maximum grade driveway: 10 %
- Proposed Maximum degree of curve: N.A. Maximum degree allowable: 7.75

- Right of way

- Width 100'/120'. (Lumpkin Campground/Dawson Forest)
- Easements: Temporary , Permanent , Utility , Other .
- Type of access control: Full , Partial , By Permit , Other .
- Number of parcels: 4 Number of displacements:
 - Business: 0
 - Residences: 0
 - Mobile homes: 0
 - Other: 0

- Structures:

- Bridges: none
- Retaining walls: none

- Major intersections and interchanges: Dawson Forest Road at Lumpkin Campground Road.
- Traffic control during construction: to be maintained on existing road
- Design Exceptions to controlling criteria anticipated:

	UNDETERMINED	YES	NO
HORIZONTAL ALIGNMENT:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ROADWAY WIDTH:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
SHOULDER WIDTH:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
VERTICAL GRADES:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
CROSS SLOPES:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
STOPPING SIGHT DISTANCE:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
SUPERELEVATION RATES:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
HORIZONTAL CLEARANCE:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
SPEED DESIGN:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
VERTICAL CLEARANCE:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
BRIDGE WIDTH:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
BRIDGE STRUCTURAL CAPACITY:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

- Design Variances: none
- Environmental concerns: none
- Level of environmental analysis:
 - Are Time Savings Procedures appropriate? Yes , No .
 - Categorical exclusion .
 - Environmental Assessment/Finding of No Significant Impact (FONSI) , or
 - Environmental Impact Statement (EIS) .
- Utility involvements: Sawnee EMC, Alltel Telephone, Etowah Water and Sewer, Atlanta Gas Light, Georgia Power.

Project responsibilities:

- Design, Consultant
- Right of Way Acquisition, Dawson County
- Relocation of Utilities, Utility Companies
- Letting to contract, GDOT
- Supervision of construction, GDOT
- Providing material pits, GDOT or Contractor
- Providing detours, Contractor

Coordination

- Two concept meetings. One on 11/30/2001 and one on 4/3/2002.

Scheduling - Responsible Parties' Estimate

- Time to complete the environmental process: 8 Months.
- Time to complete preliminary construction plans: 4 Months.
- Time to complete right of way plans: 4 Months.
- Time to complete the Section 404 Permit: N/A Months.
- Time to complete final construction plans: 3 Months.
- Time to complete to purchase right of way: 9 Months.
- List other major items that will affect the project schedule: NA Months.

Other alternates considered:

1. No build.
2. Signalization with no geometric improvements.
3. Turn lane improvements with no signalization.
4. Turn lane and signalization improvements.

Comments:

Choosing not to build any improvements at this intersection will not improve the future capacity at this intersection.

The intersection, currently operating as an all-way stop, performs at Level of Service (LOS) "B" during peak hours. However, traffic is growing in the area at a rate of over 6% per year, and by 2007 the intersection will operate at a Level of Service (LOS) "F".

Signalization without the creation of left turn lanes is generally not a good idea. This is because a single vehicle wishing to make a left turn can delay all the through vehicles behind him for an entire cycle. A signal without turn lanes will ultimately fail by 2010, possibly much sooner.

If left turn lanes are created, but no signal is installed, the intersection will reach Level of Service (LOS) "F" in the AM Peak by 2010.

With the addition of left and right turn lanes, and a signal, the intersection should perform acceptably through 2020. The Level of Service is projected to be "C" in both the AM and PM Peaks in 2020. However, the cost of land acquisition and paving lanes of sufficient capacity to handle 2020 traffic is prohibitive.

The construction of a single lane roundabout is far less expensive and will provide sufficient capacity through 2016. For a conventional intersection the Right of Way cost is estimated to be \$150,000 vs. \$81,000 for the roundabout. For the conventional intersection, the estimated construction cost is estimated to be \$524,170 vs. \$225,500 for the roundabout. In addition, the roundabout will not have the maintenance cost associated with a traffic signal.

ATTACHMENTS:

- Cost Estimate
- Typical Section(s)
- Concept Team meeting minutes
- Traffic Counts
- Historic Structures Report
- SHPO Concurrence Letter

PRELIMINARY COST ESTIMATE

PREPARED BY: STREET SMARTS

PROJECT LENGTH: 0.18miles

ESTIMATED LETTING DATE: FY 2002

PROGRAMMING PROCESS CONCEPT DEVELOPMENT DURING PROJECT DEV.

PROJECT COST	
A. RIGHT-TO-WAY:	
1. PROPERTY (LAND & EASEMENT 0.54 ac @ \$150,000)	\$ 81,000.00
2. DISPLACEMENTS: RES: 0, BUS: 0, M.H.: 0	\$ 0.00
3. OTHER COST (ADM./COST, INFLATION)	\$ 0.00
SUBTOTAL:A	\$ 81,000.00
B. REIMBURSABLE UTILITIES:	
1. RAILROAD	\$ 0.00
2. FACILITIES	\$ 15,000.00
SUBTOTAL:B	\$ 15,000.00
C. CONSTRUCTION:	
1. MAJOR STRUCTURES	\$ 0.00
a. OVERPASSES	\$ 0.00
b. OTHER	\$ 0.00
SUBTOTAL:C-1	\$ 0.00
2. GRADING AND DRAINAGE:	
a. EARTHWORK (2,000 cy @ \$12/cy)	\$ 24,000.00
b. DRAINAGE:	

PROJECT COST		
1) Cross Drain Pipe [LUMP]		\$ 0.00
2) Side Drain (LUMP)		\$ 8,000.00
		\$
SUBTOTAL:C-2		\$ 32,000.00
3. BASE AND PAVING:		
a. AGGREGATE BASE 10"(1,748 SY @ \$10.00/ SY)		\$ 17,480.00
b. ASPHALT PAVING:		
1 1/2" Superpave (339 TN @ \$42.00/ TN) Surface	\$	14,238.00
2" Superpave (201TN @ \$42.00/ TN) Binder	\$	8,442.00
4" Superpave (402 TN @ \$42.00/ TN) Base	\$	16,884.00
SUBTOTAL:C-3.b		\$ 39,564.00
c. STAMPED CONCRETE PAVING		\$ 25,000.00
d. OTHER (Bituminous Tack: 542 Gal @ \$1.00/ Gal)	\$	542.00
SUBTOTAL:C-3		\$ 82,586.00
4. LUMP ITEMS:		
a. GRASSING (1.0 ac @ \$2,500/ ac)	\$	2,500.00
b. CLEARING AND GRUBBING (1.0 ac @ \$10,000/ ac)	\$	10,000.00
c. LANDSCAPING (Irrigation Sleeves, Etc.)	\$	5,000.00
d. EROSION CONTROL (LUMP)	\$	15,000.00
e. TRAFFIC CONTROL	\$	20,000.00
SUBTOTAL:C-4		\$ 52,500.00
5. MISCELLANEOUS:		
a. CURB GUTTER	\$	4,000.00
b. SIGNING - MARKING	\$	10,000.00
c. CONCRETE MEDIAN	\$	15,000.00
		\$
SUBTOTAL:C-5		\$ 29,000.00

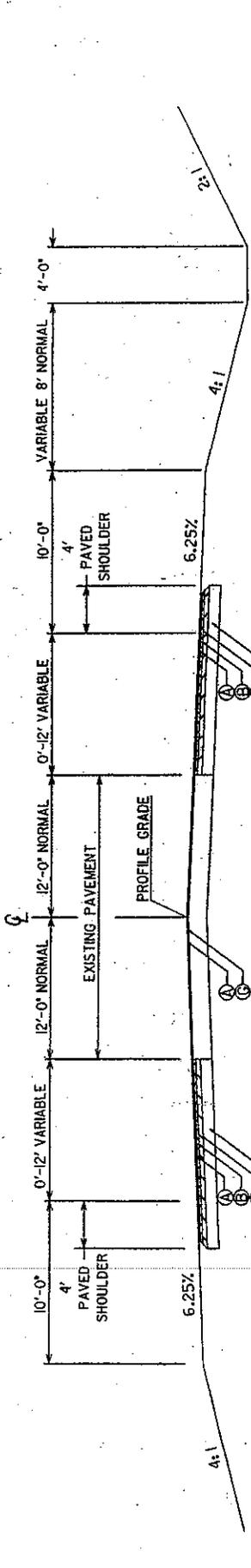
PROJECT COST	
6. SPECIAL FEATURES: NONE	
SUBTOTAL:C-6	\$ 0.00

ESTIMATE SUMMARY	
A. RIGHT-OF-WAY ()	\$ 81,000.00
B. REIMBURSABLE UTILITIES	\$ 0.00
C. CONSTRUCTION	
1. MAJOR STRUCTURES	\$ 0.00
2. GRADING AND DRAINAGE	\$ 32,000.00
3. BASE AND PAVING	\$ 82,586.00
4. LUMP ITEMS	\$ 52,500.00
5. MISCELLANEOUS	\$ 29,000.00
6. SPECIAL FEATURES	\$ 0.00
SUBTOTAL CONSTRUCTION COST	\$ 196,086.00
E. & C. (10%)	\$ 19,609.00
INFLATION (5% PER YEAR)	\$ 9,804.00
NUMBER OF YEARS	1
TOTAL CONSTRUCTION COST	\$ 225,499.00
GRAND TOTAL PROJECT COST	\$ 306,499.00

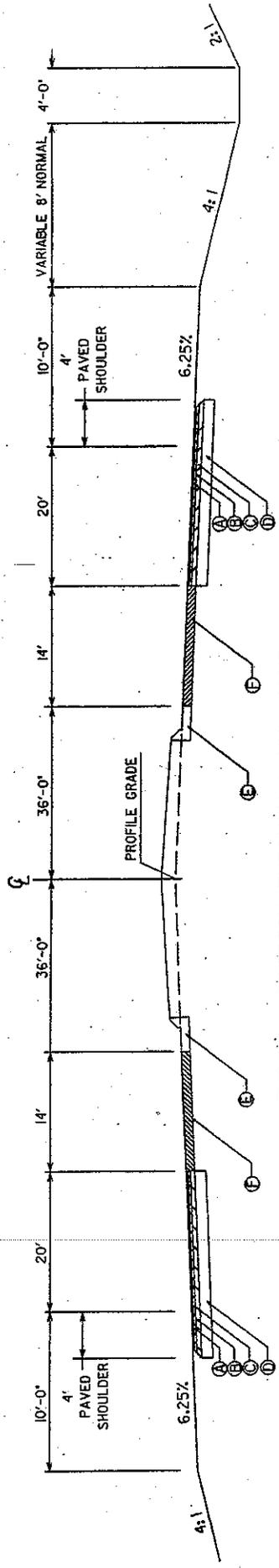
This project is 100 percent in congressional district 9.

Project Concept Report Page 11
Project Number: STP-0001-00(770) P.I. Number: 0001770
County: Dawson
4/29/2002

TYPICAL SECTIONS



TANGENT APPROACH SECTION
DAWSON FOREST ROAD
LUMPK IN CAMPGROUND ROAD



TYPICAL SECTION THROUGH ROUNDABOUT
DAWSON FOREST ROAD
LUMPK IN CAMPGROUND ROAD

- REQUIRED PAVEMENT
- ① RECYCLED ASPHALTIC CONCRETE 8.5mm SUPERPAVE (LEVEL B)(190kg/m³)
 - ② RECYCLED ASPHALTIC CONCRETE 19mm SUPERPAVE (LEVEL B)(1120kg/m³)
 - ③ RECYCLED ASPHALTIC CONCRETE 25mm SUPERPAVE (LEVEL B)(1240kg/m³)
 - ④ GRADED AGGREGATE BASE, 10"
 - ⑤ 8"x30" CURB & GUTTER TYPE T
 - ⑥ 8" STAMPED CONC. APRON
 - ⑦ ASPHALTIC CONCRETE LEVELING, AS REQ'D

Project Concept Report Page 12
Project Number: STP-0001-00(770) P.I. Number: 0001770
County: Dawson
4/29/2002

CONCEPT TEAM MEETING

CONCEPT TEAM MEETING MINUTES

Date: November 30, 2001

RE: Minutes of November 27, 2001 Meeting
Dawson Forest Road at Lumpkin Campground Road
Project No. STP-0001-00(770)

To: Attendees:

Don Roberts	Dawson County	Commission Chairman
Bill Johnsa	Dawson County	County Manager
Todd Long	GDOT	Gainesville
Neil Kantner	GDOT	Location
Joe Garland	GDOT	Traffic Operations
Robby Oliver	GDOT	Utilities
Scott Zehngraft	GDOT	Traffic Safety & Design
Brent Cook	GDOT	Gainesville
Tony Pritchett	Ga Transmission	
Randy Bowen	BCM, Inc.	
David Jackson	Street Smarts	Design Consultant
Rich Mielke	Street Smarts	Design Consultant
Andy Anderson	Street Smarts	Design Consultant

Todd Long opened the meeting with a brief description of the project. Street Smarts then described the intersection in detail with displays. The following is a summary of questions, answers, and recommendations for the intersection:

Left and right turn lanes are proposed for all four legs of the intersection. A traffic signal is proposed for the time when it is warranted. North Georgia Premium Outlets at the northeast corner is built out as of 1999.

When it was pointed out that the proposed westbound left turn lane would be back-to-back with a proposed eastbound left turn lane into the outlet mall, there was discussion about omitting the eastbound left turn lane into the mall property. Todd Long stated that he would like to keep both left turn lanes in place, to allow people to cross over the centerline when storage is exceeded.

Todd Long reminded Dawson County that they cannot buy right-of-way until the environmental report is approved, and that they must follow Federal guidelines when acquiring right-of-way.

No public meeting will be necessary. A Location and Design Approval form will need to be added to the report.

The intersection skew angle should be displayed on the plans.

Neil Kantner will be the GDOT project contact for the future.

Todd Long asked all attendees for final comments which are summarized below:

- **TRAFFIC OPERATIONS**

Joe Garland added that left turn volumes at the intersection of Lumpkin Campground and SR 53 are increasing, and left turn phases may need to be added to that intersection in the future. This will probably be addressed as part of the SR 400 at SR 53 interchange project.

At the end of the meeting, Scott Zehngraft presented the possibility of using a roundabout. This could potentially save money in the purchase of right-of-way, eliminate signal maintenance costs to the County, and possibly handle traffic as effectively as a signalized intersection with turn lanes, at least through the first fifteen years, if not twenty. Scott said this might be possible with an inscribed diameter of 130 feet. The central lane would be 20' wide, with an apron inside of 10 to 14 feet to accommodate large trucks. In addition, it would take less time to gain approval from the State, and less time to construct. Street Smarts will investigate the feasibility over the next few days while Dawson County considers the roundabout alternate. Todd Long wondered if roundabouts are suitable in areas with lots of outside visitors, such as an outlet mall. After speaking with Mike Niederhauser of Maryland SHA two days later, Street Smarts found that the state of Maryland does have a roundabout inside a heavy commercial district in Townsend; however, each leg of the roundabout is effectively metered by a traffic signal no more than 600 away, so that the roundabout does not exceed capacity.

The roundabout could affect future development and driveways at this intersection. Dawson County, when asked, replied that they do not presently have driveway standards.

- **CONSTRUCTION**

The asphalt in the typical sections should be modified to support the heavy truck percentage, and a typical section should be added for overlay of existing asphalt. Street Smarts will perform a pavement design for the percentage of truck traffic through the intersection.

- **LOCATION**

No comments.

- **ENVIRONMENTAL**

No comments.

- **PROGRAMMING**

No comments, but the proposed let date for the project is July 2003. With a roundabout, this may be accelerated.

- **PLANNING**

David Jackson mentioned that a convenience store was planned for the northwest corner, but the southwest and southeast corners are unclear at this time.

- **RIGHT OF WAY**

No comments.

- **AREA ENGINEER**

No comments.

- **UTILITIES**

Standard Telephone is now Alltel telephone. Alltel cable is usually present where Alltel phone lines are present. There appear to be no major impacts on utilities.

Dawson County will be responsible for the reimbursable utility costs. It will take GDOT a couple of months to determine the utility cost.

- **DAWSON COUNTY**

Bill Johnsa asked Scott some general questions concerning roundabouts, and Chairman Roberts expressed interest in a test case, if the project could be accelerated.

CONCEPT TEAM MEETING MINUTES

Date: April 3, 2002

RE: Minutes of April 3, 2002 Meeting
Dawson Forest Road at Lumpkin Campground Road
Project No. STP-0001-00(770)

To: Attendees:

Bill Johnsa	Dawson County	County Manager
Todd Long	GDOT	Gainesville
Neil Kantner	GDOT	Gainesville
Joe Garland	GDOT	Traffic Operations
Robby Oliver	GDOT	Utilities
Tom Davis	GDOT	Utilities
Julie Wilson	GDOT	Environmental
John Cronan	Etowah Water & Sewer	
Kevin Laseter	Sawnee EMC	
Larry Robinson	Alltel Communications	
David Jackson	Street Smarts	Design Consultant
Steve Bitney	Street Smarts	Design Consultant
Andy Anderson	Street Smarts	Design Consultant

Todd Long opened the meeting with a brief description of how the roundabout design came out of the initial concept meeting. David Jackson of Street Smarts then discussed the roundabout concept report and associated displays. A four foot paved shoulder has been added to the roundabout design since the concept report was printed. The additional paved shoulder will help allow for truck traffic during construction. The following is a summary of questions, answers, and recommendations for the roundabout design:

Todd Long questioned the level of service of the roundabout and stated that HCM2000 had a roundabout analysis program. David Jackson responded that the roundabout had been analyzed and vc ratios were the end result of the analysis.

Joe Garland asked if there was adequate sight distance for the intersection. The grades along Lumpkin Campground and Dawson Forest in the vicinity of the intersection are fairly flat and sight distance will not be a problem.

There is one leg of the roundabout (south leg of Lumpkin Campground) that will require minor vertical reconstruction. Neil Kantner asked what impact the vertical reconstruction would have on the staging of construction. The option of closing that leg of the

intersection was discussed and will be used if necessary. This question will be answered when construction plans are further along.

The 8" of GAB in the typical section seemed low. Todd Long wants Street Smarts to run the pavement analysis to verify the typical section.

It was agreed to that the design speed through the roundabout would be 20mph.

Some items in the concept report reflect the original intersection layout. Street Smarts will revise/remove these items from the report.

In the concept report comment section, Todd Long wants the right of way acquisition cost savings between the conventional intersection and the roundabout discussed.

John Cronan with Etowah Water and Sewer stated that they have both a sewer force main and waterline within the limits of construction. A cost estimate has not been done at this time, and the utilities maybe contained within the existing right-of-way.

Kevin Laseter with Sawnee EMC said that they will work closely with Dawson County to relocate their utilities which appears to be three poles that may be impacted. The estimated cost is \$15,000.00

Several items in the construction cost estimate will be revised:

- Revise Right of Way area and cost.
- Delete Transmission Lines and Services from Reimbursable Utilities and add Facilities with a cost of \$15,000.00
- Earthwork cost will be increased to \$25,000.00
- Asphalt Paving cost will be revised when the typical paving section is finalized.
- Remove Landscaping from cost estimate.
- Erosion Control cost to be increased to \$15,000.00
- Traffic Control cost will be increased to \$20,000.00
- Signing and Marking cost will be checked

Todd Long reminded Dawson County that they cannot buy right-of-way until the environmental report is approved, and that they must follow Federal guidelines when acquiring right-of-way.

Todd Long asked all attendees for final comments which are summarized below:

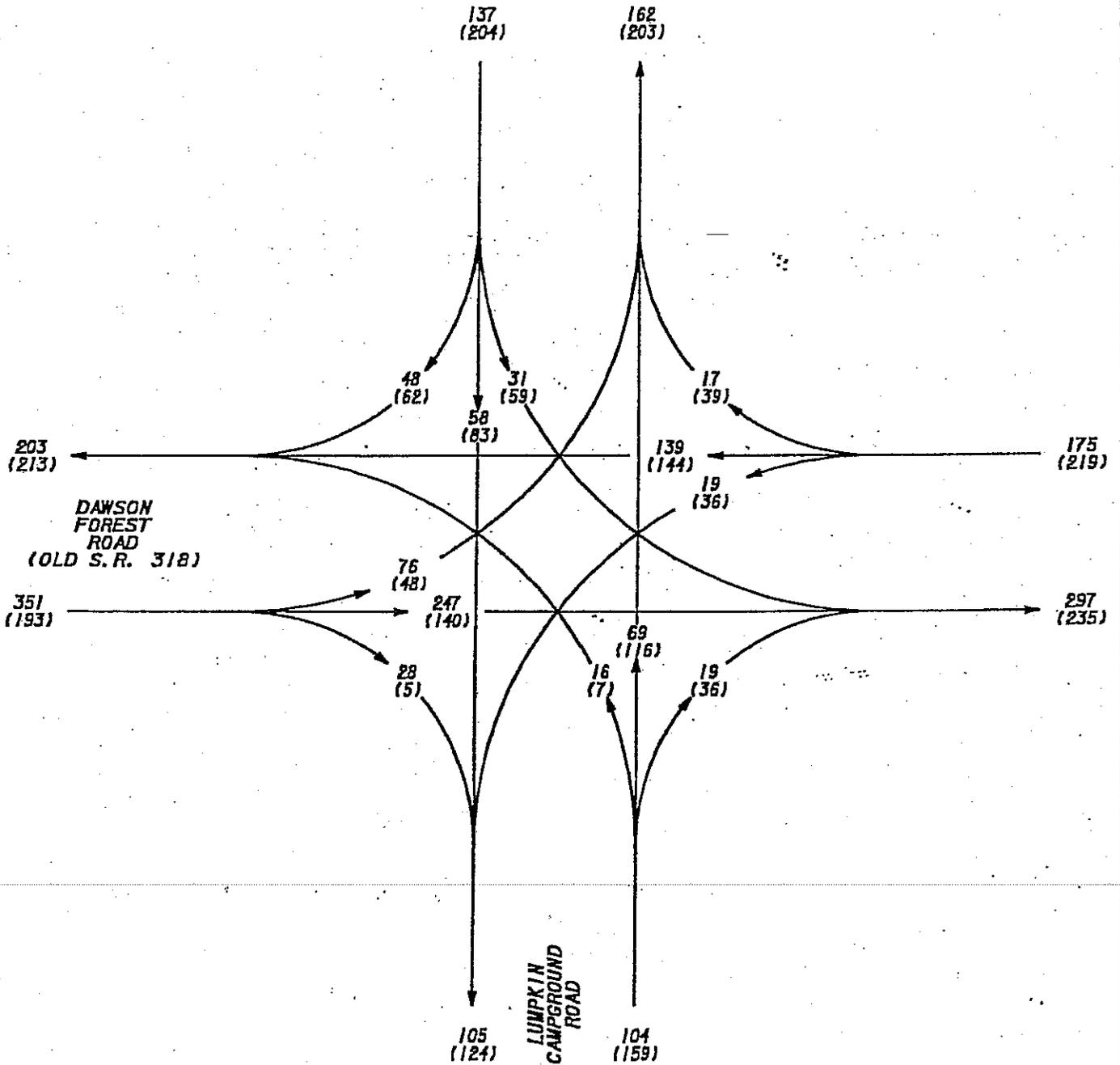
Joe Garland reiterated that a paving analysis would need to be performed because of the possible effect on stage construction. Steve Bitney of Street Smarts then explained that construction would be done in a three-stage process and that any minor elevation changes associated with additional pavement overlay thickness would not impact the construction.

Julie Wilson from Environmental did not anticipate any environmental problems for the project. She will need a copy of the approved CE as soon as one is available.

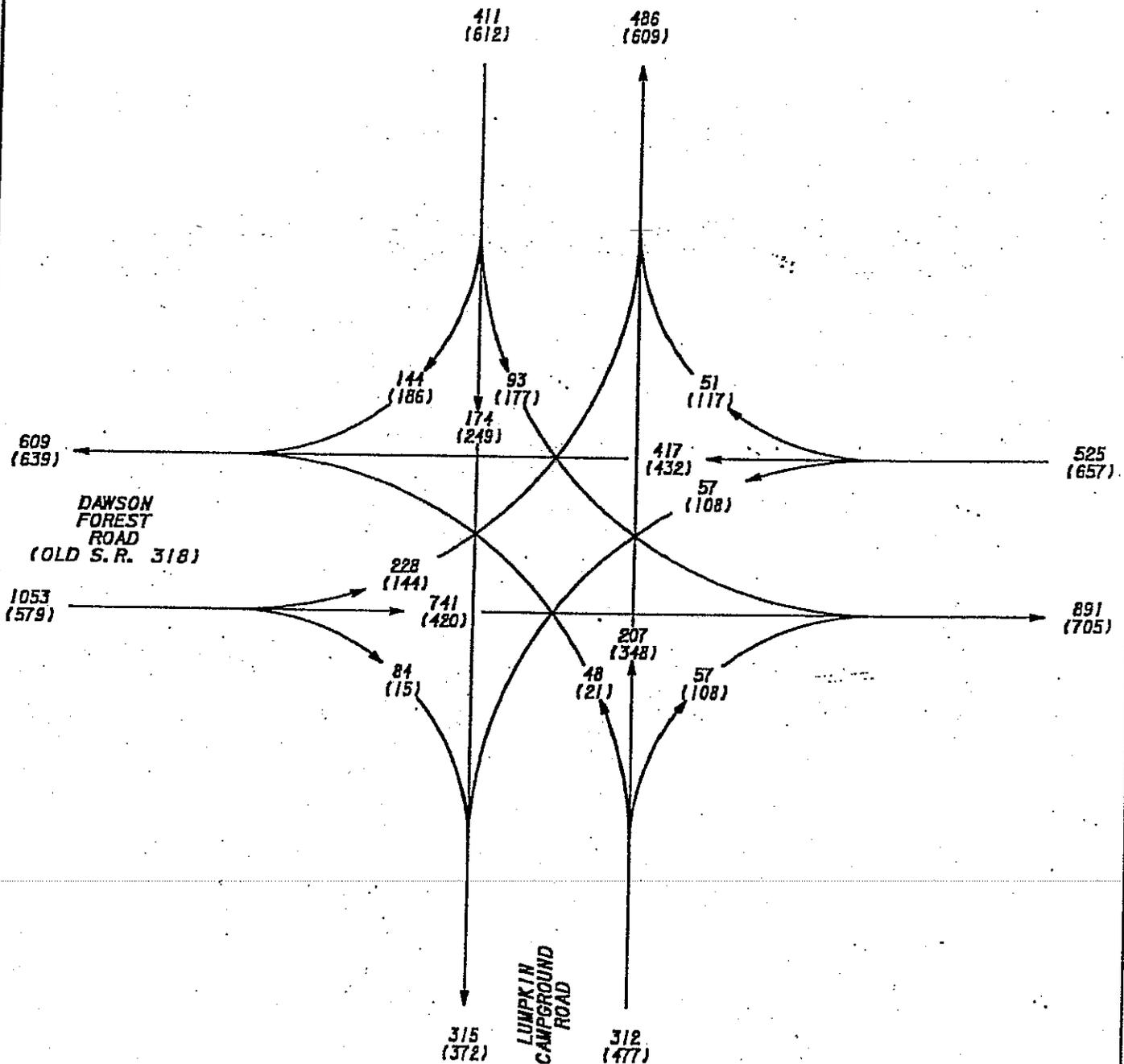
Project Concept Report Page 13
Project Number: STP-0001-00(770) P.I. Number: 0001770
County: Dawson
4/29/2002

TRAFFIC COUNTS AND ANALYSIS

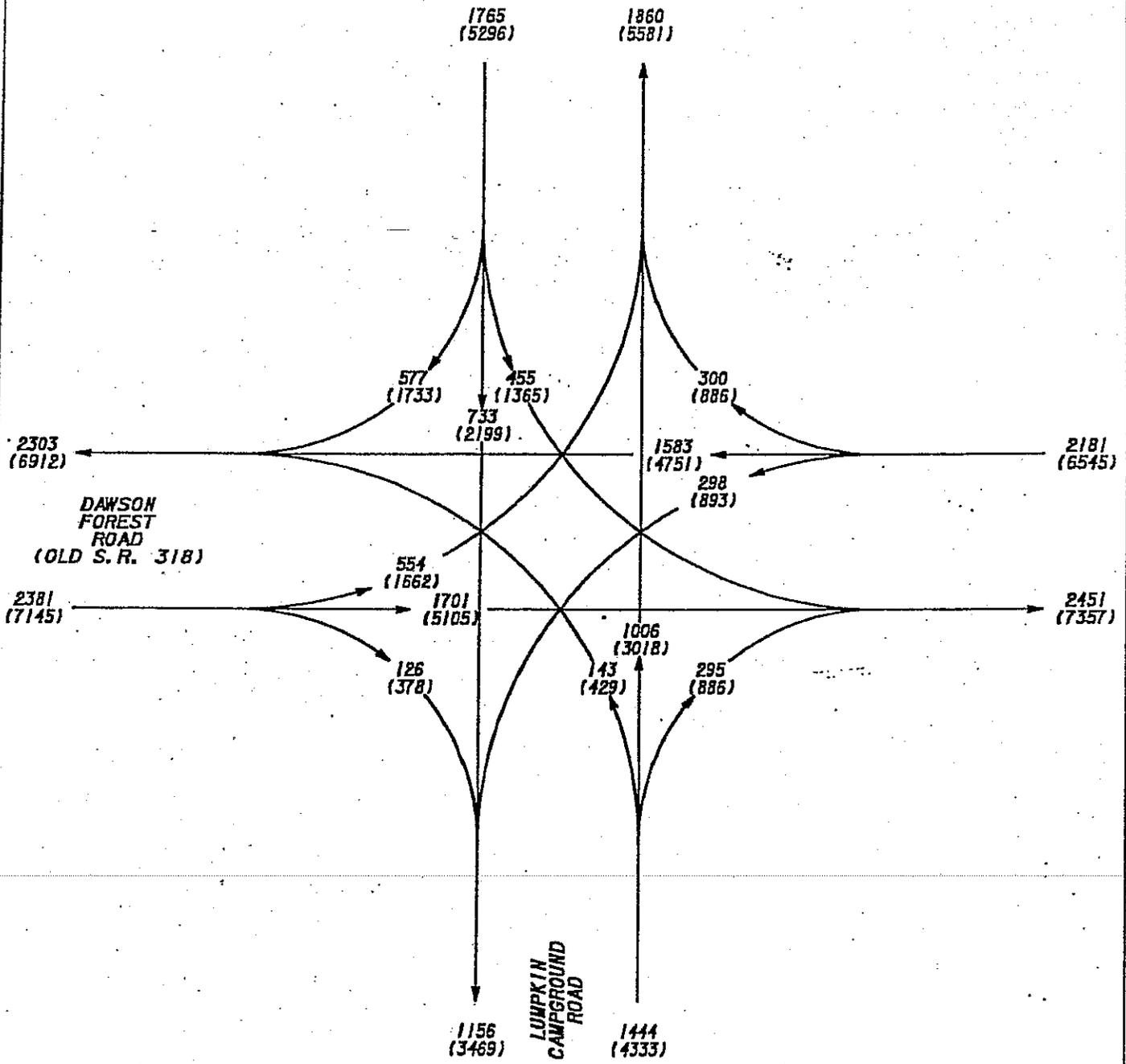
PEAK HOUR VOLUMES
2000 TURNING MOVEMENTS
AM (PM)



PEAK HOUR PROJECTED VOLUMES
 2020 TURNING MOVEMENTS
 AM (PM)



DAILY VOLUMES COMPARISON
 2000 TRAFFIC COUNTS
 (2020 TRAFFIC COUNTS)





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Right Turn Channelized												
Volume (veh/h)	228	741	84	57	417	51	48	207	57	93	174	144
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (veh/h)	248	805	91	62	453	55	52	225	62	101	189	157
Approach Volume (veh/h)		1145			571			339			447	
Crossing Volume (veh/h)		352			525			1154			567	
High Capacity (veh/h)		1050			915			548			884	
High v/c (veh/h)		1.09			0.62			0.62			0.51	
Low Capacity (veh/h)		858			738			419			711	
Low v/c (veh/h)		1.33			0.77			0.81			0.63	

Intersection Summary		
Maximum v/c High		1.09
Maximum v/c Low		1.33
Intersection Capacity Utilization		149.2%



Movement	EBL	EBT	EBF	WBL	WBT	WBF	NBL	NBT	NBR	SBL	SBT	SBR
Right Turn Channelized												
Volume (veh/h)	144	420	15	108	432	117	21	348	108	177	249	186
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (veh/h)	157	457	16	117	470	127	23	378	117	192	271	202
Approach Volume (veh/h)		629			714			518			665	
Crossing Volume (veh/h)		580			558			805			610	
High Capacity (veh/h)		875			891			730			855	
High v/c (veh/h)		0.72			0.80			0.71			0.78	
Low Capacity (veh/h)		703			717			575			685	
Low v/c (veh/h)		0.90			1.00			0.90			0.97	

Intersection Summary		
Maximum v/c High		0.80
Maximum v/c Low		1.00
Intersection Capacity Utilization		151.5%

needs to examine the left turn LOS and delay to rank the vehicles.

All Way Report

If a right turn lane is marked channelized, it is not included in the headway calculations and its volume does not affect the intersection calculations.

Hourly Flow Rate: Movement volume divided by PHF.

Hadj: Headway adjustments based on turning percentages and proportion of heavy vehicles.

Departure Headway: This is the value H_d , computed by multiple iterations of Worksheets 4a and 4b. It is the average time each vehicle requires at each lane. H_d takes into account the number of lanes, and occupancy of conflicting lanes.

Degree Utilization, x : This is the volume divided by the departure headway. Note that x is not the v/c ratio because increases to the volume on this approach will increase the headways and occupancies for conflicting approaches and in turn increase the headways for this approach.

Capacity: This is the capacity for the lane. The method iteratively increases the volume for each lane until x is 1. The volume to capacity ratio is based on the Capacity.

Roundabout Report

Hourly Flow Rate: Movement volume divided by PHF.

Approach Volume: Sum of movement volumes for approach.

Crossing Volume: Sum of movement volumes crossing this movement in front of the roundabout. The method is only applicable for crossing volumes up to 1200 vph. If the crossing volume exceeds 1200, the results are not valid.

High Capacity: High range of capacity. The method has a high and low range of possible capacities. It is the analyst's responsibility to decide which is more applicable.

High v/c : The high capacity volume to capacity ratio.

Low Capacity: High range of capacity. The method has a high and low range of possible capacities. It is the analyst's responsibility to decide which is more applicable.

Low v/c : The low capacity volume to capacity ratio.

The roundabout's method has not been very well developed. There are no delay or queue outputs. The method is only applicable to single lane roundabouts with up to 1200 vph crossing volume. The output is a range of v/c values; it is the analyst's responsibility to decide which v/c ratio is most applicable.

NOTICE OF LOCATION AND DESIGN APPROVAL

STP-0001-00(770)
DAWSON COUNTY
P.I. NO. 0001770

Notice is hereby given in compliance with Georgia Code 22-2-109 that the Georgia Department of Transportation has approved the Location and Design of the above project.

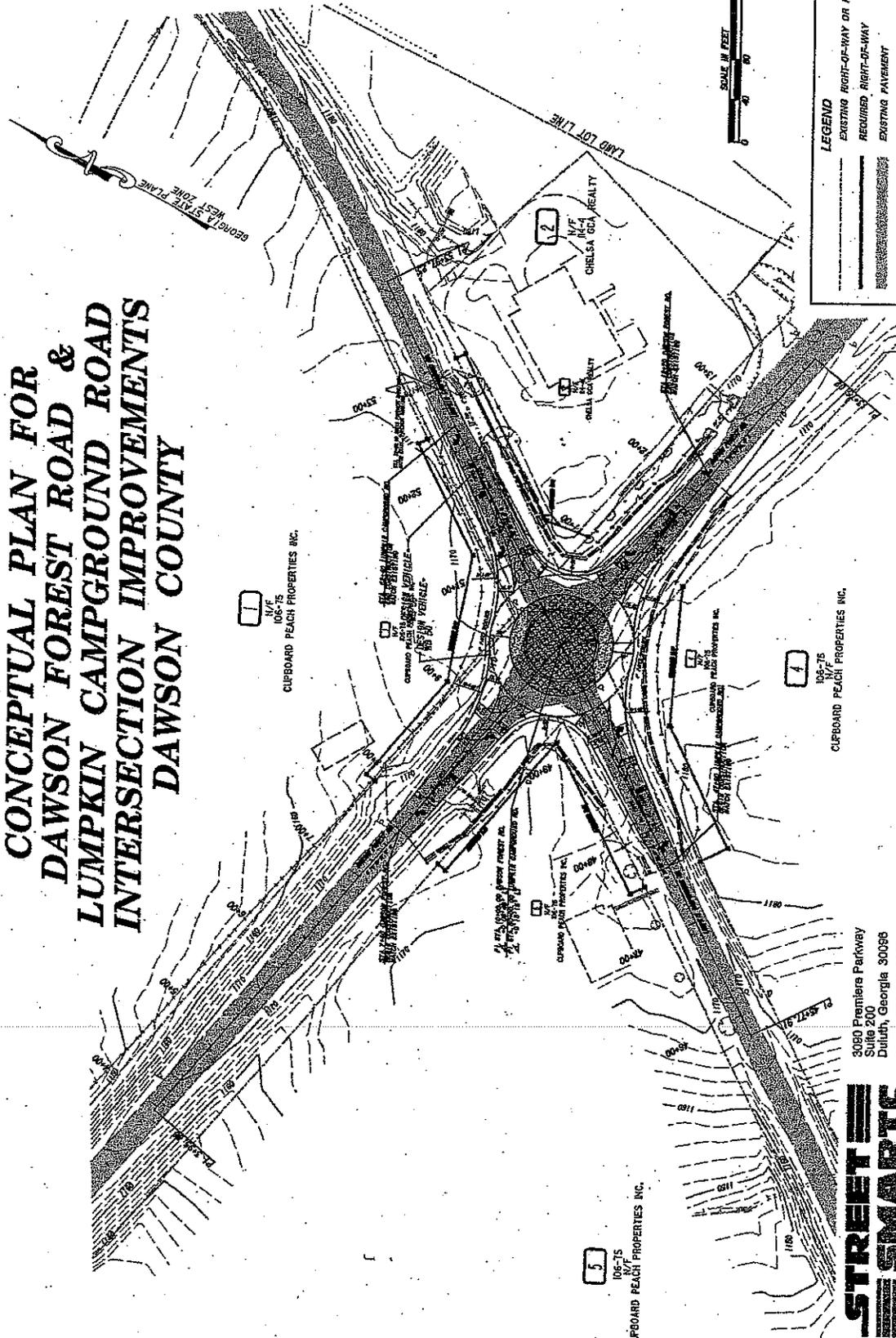
The date of location approval is: JUNE 4, 2002

This project consists of reconstruction of the intersection of Dawson Forest Road (Old SR 318) and Lumpkin Campground Road (located west of SR 400) by constructing a single-lane roundabout with four intersecting legs. The roundabout will consist of a 36 foot center island, 14 foot concrete apron and 20 foot travel lane. Approximately 200 feet of the approach legs will be improved with 12 foot lanes, 10 foot shoulders and 4 foot flat bottom ditches. The project lies entirely within Dawson County and within GMD 820.

Drawings, maps or plats of the proposed project as approved are on file and are available for inspection at the Georgia Department of Transportation, 2505 Athens Highway, S.E., Gainesville, Georgia 30503-1057. All communication including written requests in reference to this project or notice should include the Project and P. I. Numbers as noted at the top of this notice. Any interested party may obtain a copy of the drawings or maps or plats or portions thereof by paying a nominal fee and requesting in writing to:

Todd I. Long, P.E., District Preconstruction Engineer
Georgia Department of Transportation
Gainesville District Office
Todd.long@dot.state.ga.us
2505 Athens Highway, S.E.
Gainesville, GA 30503-1057
770.532.5520

CONCEPTUAL PLAN FOR DAWSON FOREST ROAD & LUMPKIN CAMPGROUND ROAD INTERSECTION IMPROVEMENTS DAWSON COUNTY



LEGEND

[Dashed line]	EXISTING RIGHT-OF-WAY OR PROPERTY LINE
[Thick solid line]	REQUIRED RIGHT-OF-WAY
[Stippled area]	EXISTING PAVEMENT
[Cross-hatched area]	PROPOSED PAVEMENT
[Diagonal hatching]	CONCRETE ISLANDS AND APRON
[Wavy hatching]	LANDSCAPED ISLAND

1
N/E
106-75
CLIPBOARD PEACH PROPERTIES INC.

4
N/E
106-75
CLIPBOARD PEACH PROPERTIES INC.

5
N/E
106-75
CLIPBOARD PEACH PROPERTIES INC.

3080 Premiers Parkway
Suite 200
Duluth, Georgia 30088
Phone: 770-813-0882
Fax: 770-813-0888

STREET SMARTS
PLANNING • TRANSPORTATION • ENGINEERING • SURVEYING

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA
 OFFICE OF DISTRICT ONE DESIGN
 PROJECT NUMBER: STP-0001-00(770)
 COUNTY: DAWSON
 P.I. NUMBER: 0001770
 FEDERAL ROUTE NO: N.A.
 STATE ROUTE NO: N.A.



Prepared by: Street Smarts
 Recommendation for approval:

DATE _____

 Project Manager

DATE _____

 District Engineer / Gainesville

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

DATE 5/17/02

 State Transportation Planning Administrator

DATE _____

 State Transportation Programming Engineer

DATE _____

 State Environmental / Location Engineer

DATE _____

 State Traffic Operations Engineer

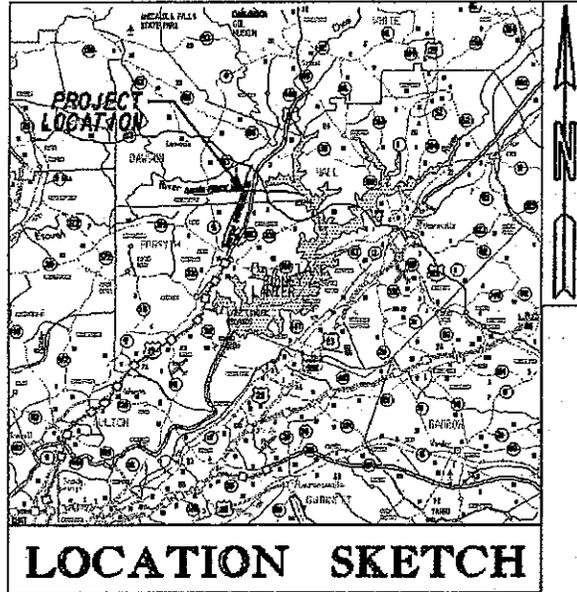
DATE _____

 District Engineer

DATE _____

 Project Review Engineer

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA
 OFFICE OF DISTRICT ONE DESIGN
 PROJECT NUMBER: STP-0001-00(770)
 COUNTY: DAWSON
 P.I. NUMBER: 0001770
 FEDERAL ROUTE NO: N.A.
 STATE ROUTE NO: N.A.



Prepared by: Street Smarts
Recommendation for approval:

DATE _____

 Project Manager
 DATE _____

 District Engineer / Gainesville

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

DATE _____

 State Transportation Planning Administrator
 DATE _____

 State Transportation Programming Engineer
 DATE 5/20/02

 State Environmental / Location Engineer
 DATE _____

 State Traffic Operations Engineer
 DATE _____

 District Engineer
 DATE _____

 Project Review Engineer