

**DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA**

**OFFICE OF DESIGN POLICY & SUPPORT
INTERDEPARTMENTAL CORRESPONDENCE**

FILE P.I. #0010291

OFFICE Design Policy & Support

GDOT District 1 - Gainesville
Forsyth County
SR 400 FM CR 458 TO SR 20- ITS

DATE 2/21/2011

FROM  Brent Story, State Design Policy Engineer

TO SEE DISTRIBUTION

SUBJECT APPROVED CONCEPT REPORT

Attached is the approved Concept Report for the above subject project.

Attachment

DISTRIBUTION:

Genetha Rice-Singleton, Program Control Administrator
Bobby Hilliard, State Program Delivery Engineer
Cindy VanDyke, State Transportation Planning Administrator
Angela Robinson, Financial Management Administrator
Glenn Bowman, State Environmental Administrator
Ben Rabun, State Bridge Engineer
Russell McMurry, State Roadway Design Engineer
Kathy Zahul, State Traffic Engineer
Georgene Geary, State Materials & Research Engineer
Ron Wishon, State Project Review Engineer
Jeff Baker, State Utilities Engineer
Ken Thompson, Statewide Location Bureau Chief
Todd McDuffie, District Engineer
Robert Mahoney, District Preconstruction Engineer
Allen Ferguson, District Utilities Engineer
Cynthia Burney, Project Manager
BOARD MEMBER - 9th Congressional District

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

PROJECT CONCEPT REPORT

County: Forsyth
P. I. Number: 0010291
Federal Route Number: 19
State Route Number: 400

SR 400 FM CR 458/MCFARLAND PKWY TO SR 20 - ITS

Submitted for approval:

DATE 1-6-11

Katrina Bahul
State Traffic Engineer

DATE 6 Jan 2011

[Signature]
Project Manager

Recommendation for approval:

DATE 1/24/11

Genetha Rice-Singleton *
Program Control Administrator

DATE 1/27/11

Glenn Bowman *
State Environmental Administrator

DATE 1/18/11

Ron Wishon *
Project Review Engineer

DATE 1/19/11

For Sal Pizzad *
State Utility Engineer

DATE 1/14/11

Todd McDuffie *
District Engineer

DATE _____

State Transportation Financial Management Administrator

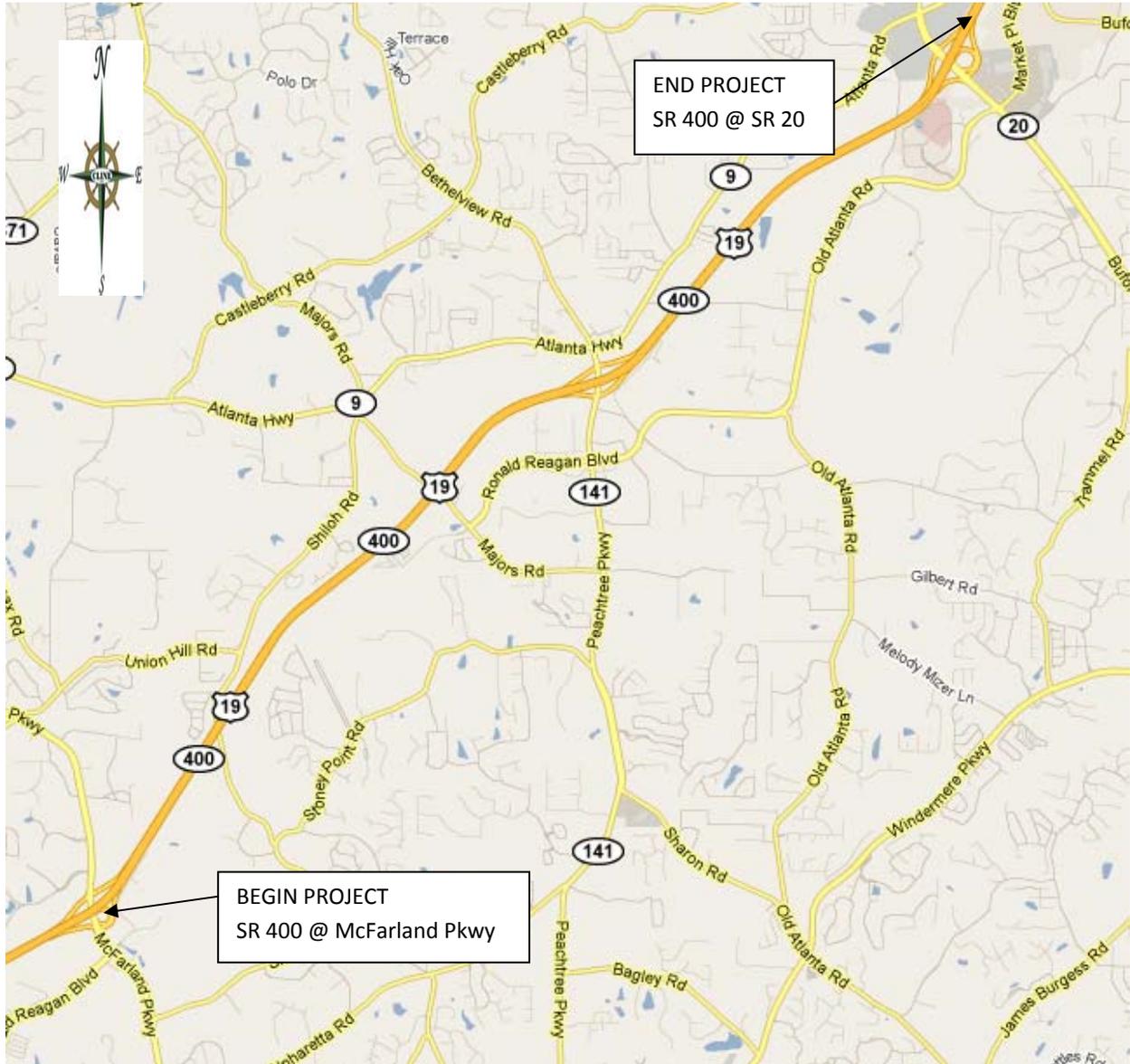
* Recommendations on file. KKF

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

DATE 1-19-11

Cynthia L. Vanzke *
State Transportation Planning Administrator

* THIS CONCEPT REPORT IS SIGNED WITH THE UNDERSTANDING THAT THE PROJECT IS PROPOSED TO BE FULLY FUNDED WITH SRTA FUNDS. AS FEDERAL FUNDS ARE NOT BEING USED TO FUND THIS PROJECT, IT IS NOT REQUIRED TO BE INCLUDED WITHIN THE ATLANTA REGIONAL TRANSPORTATION PLAN. IN ADDITION, AS THIS PROJECT HAS A STATED CONCEPT OF ITS, THIS PROJECT IS EXEMPT FROM AIR QUALITY ANALYSIS.



NOT TO SCALE

LOCATION MAP

Need and Purpose:

The purpose of this project is to increase the operational efficiency of the freeway corridor by expanding the NaviGator system into Forsyth County. This work includes installing fiber optic communication, Closed Circuit Television (CCTV) cameras, Microwave Radar Detection, Changeable Message Signs (CMS), and Ramp Meters on SR 400 from McFarland Parkway to SR 20/Buford Highway. The expansion of the NaviGator system in this region will help mitigate the congestion currently experienced along this corridor during peak hours. Efficiency will be improved by reducing incident response/clearance times, potential reduction of secondary accidents, and providing information to motorists of roadway/traffic conditions. The installation of ramp meters at SR 20 and SR 141 will control the release of vehicles onto SR 400 during peak hours; thereby reducing congestion and stabilizing the flow of traffic on the freeway mainline. The operation of the ramp meters will create a smoother flow of traffic and reduce the potential for traffic crashes during peak hours.

Description of the proposed project:

This project includes the design of fiber optic communications cable, CCTV cameras, radar detection, and CMS along SR 400 from McFarland Parkway to SR 20/Buford Highway. Ramp meters will be installed on the northbound and southbound ramps at SR 20 and SR 141. The approximate length of this project is 7.10 miles. An underground fiber optic trunk line will be installed on the shoulder, close to the edge of the right of way, of SR 400 on both sides. The fiber will tie into the existing fiber optic trunk line on SR 400 SB approximately 150 feet north of Shiloh Road and to HUB AA located in the NB Loop Ramp to McFarland Parkway. This project shall use "Georgia DOT ITS Concept of Operations; NAV01-169 Rev.1" dated September 10, 2007.

Is the project located in a PM 2.5 Non-attainment area? Yes No

Is this project located in an Ozone Non-attainment area? Yes No

This project is exempt from Air Quality analysis.

PDP Classification: Major _____ Minor _____

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

Functional Classification: Urban Freeway and Expressway

U. S. Route Number(s): 19 State Route Number(s): 400

Traffic (AADT):

Base Year: (20XX) N/A Design Year: (20YY) N/A

Existing design features:

- Typical Section:
 - *SR 400 from McFarland Parkway to SR 20/Buford Highway: 4 lanes divided*
- Posted speed 65 mph Minimum radius for curve: N/A

- Maximum super-elevation rate for curve: N/A
- Maximum grade: N/A %
- Width of right-of-way: 300 ft.
- Major structures:
 - Bridge over Big Creek between McFarland Parkway and Shiloh Road
 - Shiloh Road underpass bridge
 - Majors Road underpass bridge
 - Peachtree Parkway underpass bridge
 - Pendley Road underpass bridge
 - North Old Atlanta Road underpass bridge
 - SR 20/Buford Highway underpass bridge
- Major interchanges or intersections along the project.
 - SR 400 at McFarland Parkway
 - SR 400 at Peachtree Parkway
 - SR 400 at SR 20/Buford Highway
- Existing length of roadway segment:
 - Existing Length: 7.10 miles
 - Begin Project MP: 1.70
 - End Project MP: 8.80
- The existing fiber optic trunk line on SR 400 SB terminates approximately 150 feet north of Shiloh Road at a Changeable Message Sign and at HUB AA located in the NB Loop Ramp to McFarland Parkway on SR 400 NB.

Proposed Design Features:

- Proposed typical section(s): N/A
- Proposed Design Speed Mainline: N/A
- Proposed Maximum grade Mainline: N/A
- Maximum grade allowable: N/A
- Proposed Maximum grade Side Street: N/A
- Maximum grade allowable: N/A
- Proposed Maximum grade driveway: N/A
- Proposed minimum radius of curve: N/A
- Minimum radius allowable: N/A
- Maximum allowable superelevation rate: N/A
- Proposed maximum superelevation rate: N/A
- Right-of-Way: N/A
 - Width _____
 - Easements: Temporary () Permanent () Utility () Other ().
 - Type of access control: Full () Partial () By Permit () Other ().
 - Number of parcels: _____0_____ Number of displacements: ___0___
 - Business: _____
 - Residences: _____
 - Mobile homes: _____
 - Other: _____
- Structures: None

- Major intersections, interchanges, median openings and signal locations. None
- Fiber optic communication, Closed Circuit Television (CCTV) cameras, Microwave Radar Detection, Changeable Message Signs, and Ramp Meters will be installed on SR 400 from McFarland Parkway to SR 20/Buford Highway. The fiber will tie into the existing fiber optic trunk line on SR 400 SB approximately 150 feet north of Shiloh Road and to HUB AA located in the NB Loop Ramp to McFarland Parkway.
- Transportation Management Plan Anticipated: Yes (X) No ()
- Design Exceptions to controlling criteria anticipated:

	<u>YES</u>	<u>NO</u>	<u>UNDETERMINED</u>
HORIZONTAL ALIGNMENT:	()	(X)	()
LANE WIDTH:	()	(X)	()
SHOULDER WIDTH:	()	(X)	()
VERTICAL GRADES:	()	(X)	()
CROSS SLOPES:	()	(X)	()
STOPPING SIGHT DISTANCE:	()	(X)	()
SUPERELEVATION RATES:	()	(X)	()
VERTICAL ALIGNMENT:	()	(X)	()
SPEED DESIGN:	()	(X)	()
VERTICAL CLEARANCE:	()	(X)	()
BRIDGE WIDTH:	()	(X)	()
BRIDGE STRUCTURAL CAPACITY:	()	(X)	()
LATERAL OFFSET TO OBSTRUCTION:	()	(X)	()

- Design Variances: *None anticipated*
- Environmental concerns - *None anticipated*
- Anticipated Level of environmental analysis:
 - Are Time Savings Procedures appropriate? Yes (X) No ()
 - Categorical exclusion anticipated (X).
 - Environmental Assessment/Finding of No Significant Impact anticipated (FONSI) ().
 - Environmental Impact Statement (EIS) ().
- Utility involvements: *Power service will be required for all CCTV cameras.*
- VE Study Anticipated Yes () No (X)
- Benefit/Cost Ratio N/A

Project Cost Estimate and Funding Responsibilities:

	PE	ROW	UTILITY	CST	MITIGATION
By Whom	SRTA	N/A	N/A	SRTA	N/A
\$ Amount	29,500	N/A	N/A	1,552,577.65	N/A

Project Activities Responsibilities:

- Design: _GDOT_____
- Right-of-Way Acquisition: _N/A_____
- Right-of-Way funding (real property): _N/A_____
- Relocation of Utilities: _N/A_____
- Letting to contract: _GDOT_____

- Supervision of construction: _GDOT_____
- Providing material pits: _N/A_____
- Providing detours: _N/A_____
- Environmental Studies/Documents/Permits: _GDOT_____
- Environmental Mitigation: _GDOT_____

Coordination

- Initial Concept Meeting date and brief summary. N/A
- Concept meeting date and brief summary. N/A
- P A R meetings, dates and results. N/A
- FEMA, USCG, and/or TVA. N/A
- Public involvement. N/A
- Local government comments. N/A
- Other projects in the area.
 - 0009956: *I-85 @ SR 20 & SR 400 @ CR 458/McFarland Parkway Ramp Meters*
- Railroads. N/A
- Peer review documentation. N/A
- Other coordination to date. None

Scheduling – Responsible Parties’ Estimate

- Time to complete the environmental process: Begin: 1/2011 End:7/2011
- Time to complete preliminary construction plans: Begin: 1/2011 End: 3/2011
- Time to complete right-of-way plans: Begin: N/A End: N/A
- Time to complete the Section 404 Permit: Begin: N/A End: N/A
- Time to complete final construction plans: Begin: 3/2011 End: 6/2011
- Time to complete to purchase right-of-way: Begin: N/A End: N/A
- List other major items that will affect the project schedule: Begin: N/A End: N/A

Other alternates considered:

Alternate #1: No Build.

Comments: None

Attachments:

1. Detailed Cost Estimate

Concur: 
Director of Engineering

Approve: 
Chief Engineer

Date: 2/17/2011

JOB ESTIMATE REPORT

JOB NUMBER : 0010291
SPEC YEAR: 01
DESCRIPTION: SR 400 FM CR 458/MCFARLAND PKWY TO SR 20 - ITS

ITEMS FOR JOB 0010291

LINE	ITEM	ALT	UNITS	DESCRIPTION	QUANTITY	PRICE	AMOUNT
0005	150-1000		LS	TRAFFIC CONTROL - 0010291	1.000	141143.42	141143.42
0010	163-0232		AC	TEMPORARY GRASSING	1.000	545.58	545.58
0015	163-0240		TN	MULCH	20.000	319.49	6389.91
0020	615-1200		LF	DIRECTIONAL BORE - 5 IN	1600.000	14.09	22547.07
0029	639-3014		EA	STEEL STR POLE, TP 4, LUMIN ARM 45 FT	2.000	15379.55	30759.12
0030	639-4004		EA	STRAIN POLE, TP IV	10.000	5730.27	57302.77
0031	647-1000		LS	TRAF SIGNAL INSTALLATION NO - 1	1.000	39827.71	39827.71
0032	647-1000		LS	TRAF SIGNAL INSTALLATION NO - 2	1.000	39827.71	39827.71
0033	647-1000		LS	TRAF SIGNAL INSTALLATION NO - 3	1.000	43692.71	43692.71
0034	647-1000		LS	TRAF SIGNAL INSTALLATION NO - 4	1.000	43692.71	43692.71
0035	647-2141		EA	PULL BOX, PB-4S	10.000	1085.87	10858.75
0040	647-2170		EA	PULL BOX, PB-7	92.000	1252.58	115238.10
0045	682-6233		LF	CONDUIT, NONMETL, TP 3, 2 IN	205287.000	3.02	620003.69
0050	682-6236		LF	CONDUIT, NONMETL, TP2-POWER SERVICE, 2 IN	1000.000	5.56	5568.11
0060	700-6910		AC	PERMANENT GRASSING	2.000	975.17	1950.35
0065	700-7000		TN	AGRICULTURAL LIME	2.000	76.64	153.29
0070	700-7010		GL	LIQUID LIME	5.000	17.13	85.68
0075	700-8000		TN	FERTILIZER MIXED GRADE	1.000	376.32	376.32
0080	700-8100		LB	FERTILIZER NITROGEN CONTENT	100.000	2.41	241.44
0085	713-3011		SY	WOOD FIBER BLANKET, TP I, SHOULDERS	7604.000	0.10	787.85
0090	935-1117		LF	OUT PLNT FBR OPT CBL, LOOSE TB, SM, 96 FBR	78549.000	1.28	100765.80
0095	935-1512		LF	OUT PLNT FBR OPT CBL, DROP, SM, 12 FBR	750.000	1.64	1235.69
0100	935-3102		EA	FIBER OPTIC CLOSURE, UNDRGRD, 12 FIBER	10.000	442.52	4425.28
0105	935-3107		EA	FIBER OPTIC CLOSURE, UNDRGRD, 96 FIBER	9.000	849.20	7642.80
0110	935-3603		EA	FBR. OP.CLOS., FDC PRE-TERM., TYP. A, 12	10.000	577.23	5772.34
0115	935-4010		EA	FIBER OPTIC SPLICE, FUSION	984.000	33.60	33065.03
0120	935-8000		LS	TESTING	1.000	1960.66	1960.66
0125	935-8500		LS	TRAINING	1.000	1647.50	1647.50
0130	936-1001		EA	CCTV SYSTEM, TYPE B	6.000	4619.69	27718.20
0135	936-8000		LS	TESTING	1.000	1502.83	1502.83
0140	936-8500		LS	TRAINING	1.000	1695.00	1695.00
0157	937-6000		EA	MICROWAVE RADAR DETECTION ASSEMBLY	10.000	4850.09	48500.90
0158	937-8020		LS	TESTING - MICROWAVE DETECTION SYSTEM	1.000	1963.06	1963.06
0159	937-8520		LS	TRAINING - MICROWAVE DETECTION SYSTEM	1.000	2202.50	2202.50
0160	939-1191		EA	VIDEO ENCODER, TYPE B	6.000	2802.40	16814.44
0165	939-2237		EA	GBIC, TYPE D	2.000	493.02	986.05
0170	939-2240		EA	GBIC, TYPE E	2.000	1340.51	2681.02
0175	939-2300		EA	FIELD SWITCH, TYPE A	2.000	3027.06	6054.12
0180	939-2301		EA	FIELD SWITCH, TYPE B	2.000	4928.55	9857.11
0185	939-2305		EA	FIELD SWITCH, TYPE C	6.000	2306.49	13838.98
0190	939-4040		EA	TYPE D CABINET	10.000	4065.10	40651.04

ATE : 01/12/2011
AGE : 2

STATE HIGHWAY AGENCY

JOB ESTIMATE REPORT

0200	939-8000	LS	TESTING	1.000	3785.52	3785.52
0205	939-8500	LS	TRAINING	1.000	8629.56	8629.56

ITEM TOTAL 1552577.65
INFLATED ITEM TOTAL 1552577.65

TOTALS FOR JOB 0010291

ESTIMATED COST: 1552577.65
CONTINGENCY PERCENT (0.0) : 0.00
ESTIMATED TOTAL: 1552577.65
