

**DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA**

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

FILE P.I. # 0013143 **OFFICE** Design Policy & Support
Gwinnett County
GDOT District 1 - Gainesville **DATE** 3/16/2016
ITS: Five Forks Trickum Road From
Rockbridge Road to Sugarloaf Parkway

FROM  for 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:

Hiral Patel, Director of Engineering
Joe Carpenter, Director of P3/Program Delivery
Genetha Rice-Singleton, Assistant Director of P3/Program Delivery
Albert Shelby, State Program Delivery Engineer
Darryl VanMeter, State Innovative Delivery Engineer
Bobby Hilliard, Program Control Administrator
Cindy VanDyke, State Transportation Planning Administrator
Eric Duff, State Environmental Administrator
Andrew Heath, State Traffic Engineer
Angela Robinson, Financial Management Administrator
Lisa Myers, State Project Review Engineer
Charles "Chuck" Hasty, State Materials Engineer
Lee Upkins, State Utilities Engineer
Richard Cobb, Statewide Location Bureau Chief
Brent Cook, District Engineer
Robby Oliver, District Utilities Engineer
Anthony Tate, Project Manager
BOARD MEMBER – 4th & 7th Congressional District

**DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA
LIMITED SCOPE PROJECT CONCEPT REPORT**

Project Type: ITS Upgrade & System Expansion P.I. Number: 0013143
 GDOT District: 1 County: Gwinnett
 Federal Route Number: N/A State Route Number: N/A
 Project Number: _____

Five Forks Trickum Road From Rockbridge Road to Sugarloaf Parkway - ITS

Submitted for approval:

Karl Patrick 07/10/2015
 Karl Patrick, Atkins Date
Tom Sever 7-10-15
 Tom Sever, PE, Local Government Sponsor Date
Albert V. Shelby III 11-17-15
 State Program Delivery Engineer Date
Arthur T. [Signature] 11/9/15
 GDOT Project Manager Date

Recommendation for approval:

* HIRAL TATEL 12/19/2015
 State Environmental Administrator Date
 * KEN WERHO 12/22/2015
 State Traffic Engineer Date
 yor

- MPO Area: This project is consistent with the MPO adopted Regional Transportation Plan (RTP)/Long Range Transportation Plan (LRTP).
- Rural Area: This project is consistent with the goals outlined in the Statewide Transportation Plan (SWTP) and/or is included in the State Transportation Improvement Program (STIP).

* CYNTHIA L VANDERBEEK 2/19/2014
 State Transportation Planning Administrator Date

Approval:

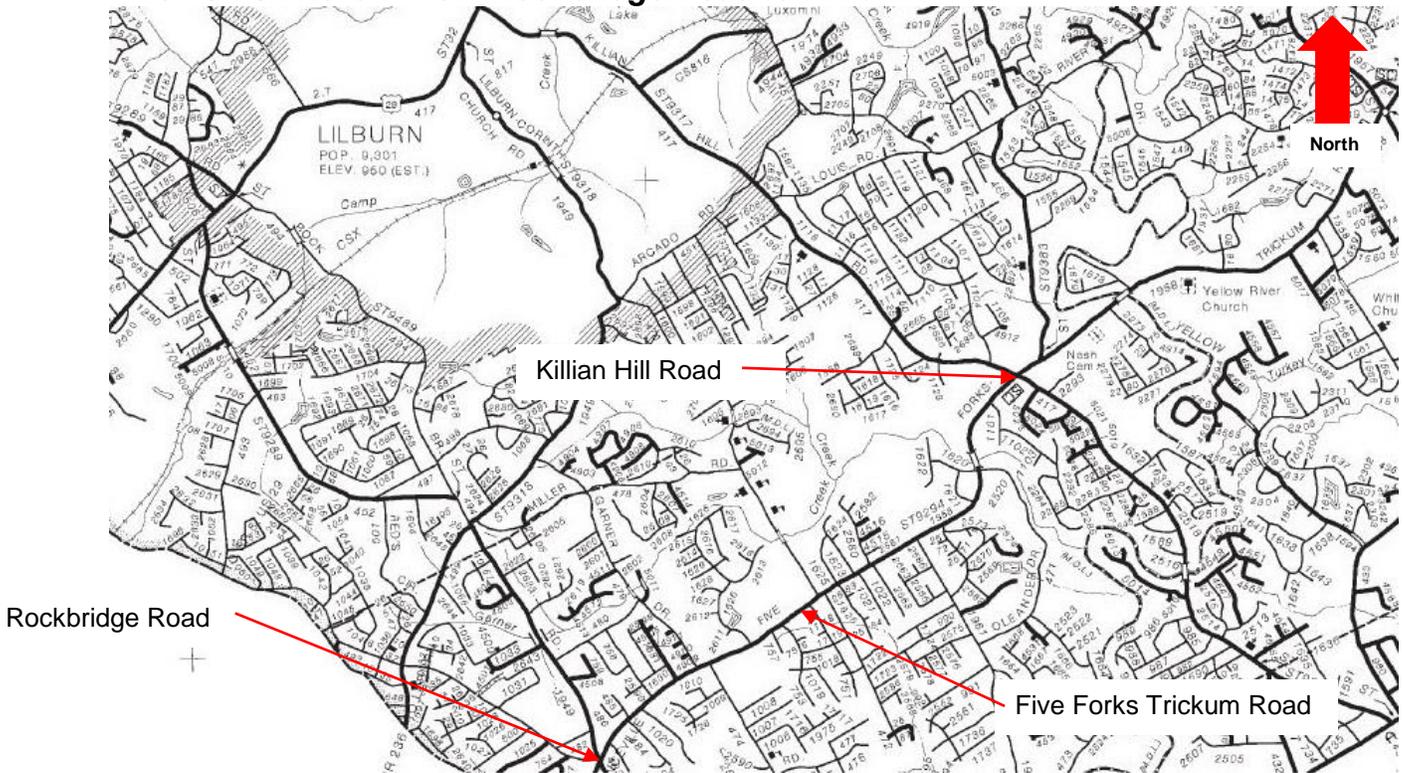
Concur: [Signature] 3-4-2016
 GDOT Director of Engineering Date

Approve: Margaret B. Rinko 3.8.16
 GDOT Chief Engineer Date

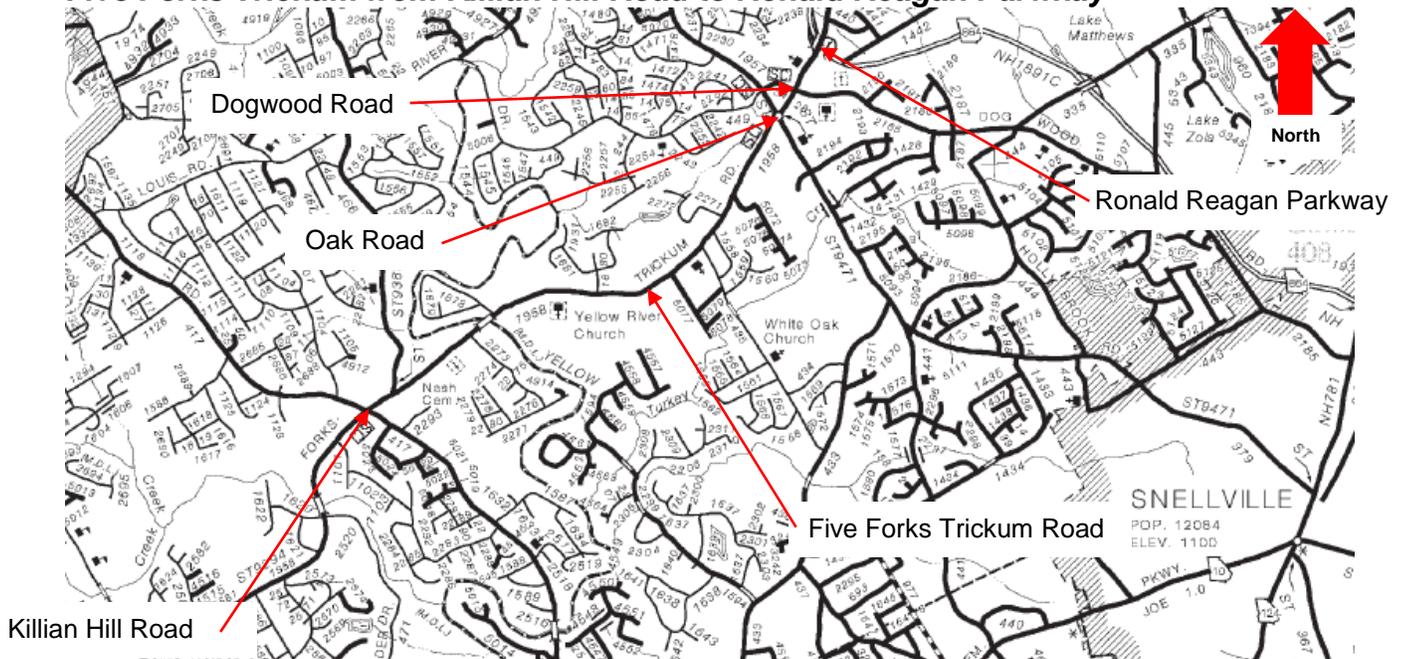
* RECOMMENDATION(S) ON FILE - [Signature]

PROJECT LOCATION

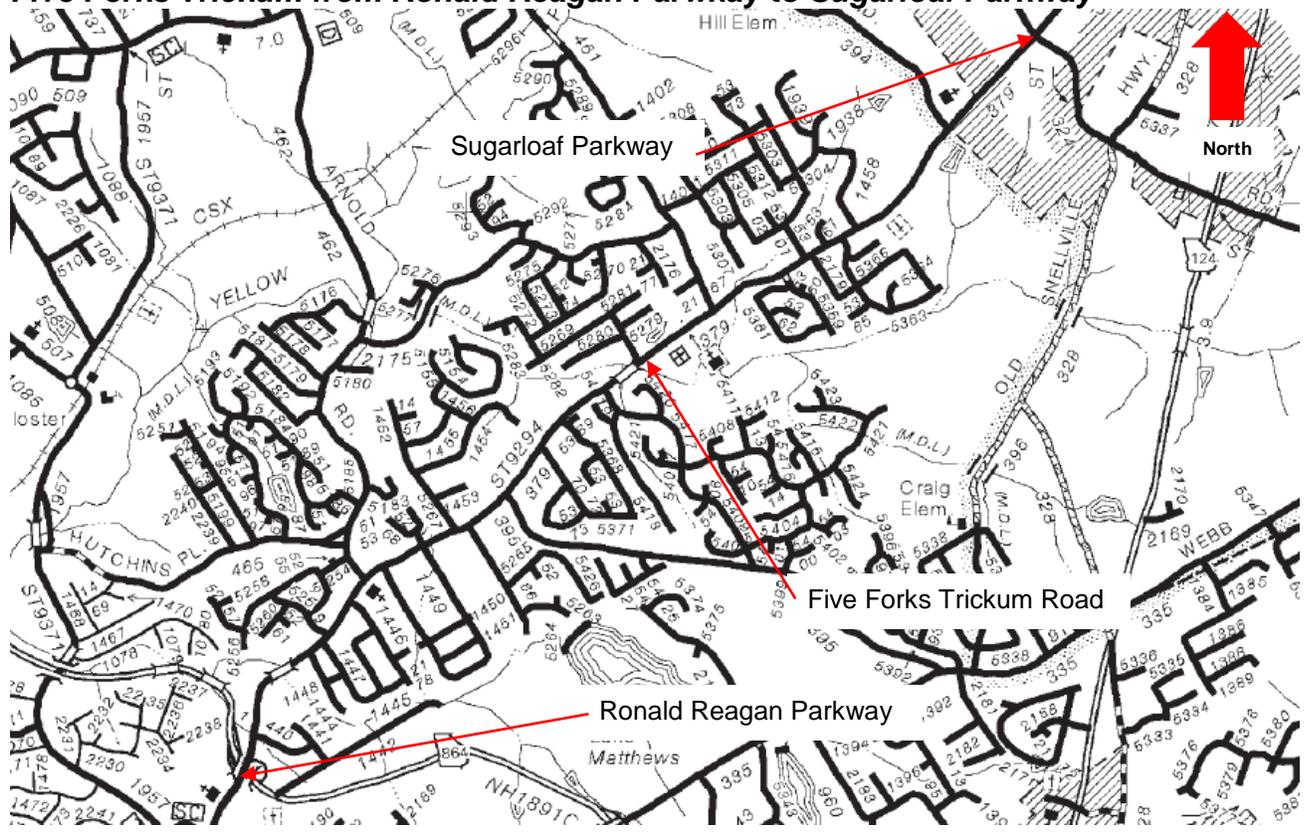
Five Forks Trickum from Rockbridge Road to Killian Hill



Five Forks Trickum from Killian Hill Road to Ronald Reagan Parkway



Five Forks Trickum from Ronald Reagan Parkway to Sugarloaf Parkway



PLANNING & BACKGROUND DATA

Project Justification Statement: In addition to the ATMS/ITS infrastructure already in place, the proposed CMAQ-funded ATMS/ITS expansion enables critical monitoring ability of almost every major travel corridor in Gwinnett County, significantly improving travel in the northeast Atlanta region. Traffic signalization is designed to reduce traffic congestion, increase travel speeds, and/or reduce delay thus meeting both goals of the CMAQ program: decreasing congestion and reducing air pollution. Interconnecting traffic signals improves both peak and off peak travel speeds and reduces congestion at intersections. Fiber optic cable installation for traffic signal optimization will occur along Five Forks Trickum Road, from Sugarloaf Pkwy to Rockbridge Rd, in Gwinnett County.

Existing Conditions: Five Forks Trickum Road is an urban minor arterial street in the southern part of Gwinnett County. The project corridor is approximately 9 miles in length and includes sixteen (16) signalized intersections. The project starts at the Five Forks Trickum Road at Rockbridge Road intersection and continues along Five Forks Trickum Road to the intersection with Sugarloaf Parkway. The typical section of Five Forks Trickum Road is a two-lane roadway, often with a two-way left turn lane (TWLTL) and right turn lanes at several driveways and side roads. There are a few stretches of roadway where the typical section is a four-lane roadway with an at-grade TWLTL. The project ends at the intersection of Five Forks Trickum Road with Sugarloaf Pkwy

Other projects in the area:

- 0010070 – CR 1958/Five Forks Trickum @ CR 471 Emergency Project
- 0010237 – CR 417/Killian Hill from CS 768/Sarann Dr to CR 451/Arcado Rd
- 0013323 – Ronald Reagan Pkwy from Pleasant Hill Rd to SR 124 – ITS
- F-0549/M-0669/M-0685 – Five Forks Trickum Rd Widening

Description of the proposed project: This project includes the installation of new fiber optic cable on Five Forks Trickum Rd from Rockbridge Rd to Killian Hill Rd and from Ronald Reagan Pkwy WB ramp to Sugarloaf Pkwy that will tie into the fiber being installed on project F-0549/M-0669/M-0685. The proposed fiber optic cables will be connected to the existing fiber optic cable network and the entire system will connect to the Gwinnett County TCC. The traffic signals along Five Forks Trickum Rd will be interconnected using IP addressable communication devices. Approximately 16 CCTV cameras will be installed on new strain poles or existing traffic signal poles to provide coverage of all signalized intersections and major roadway segments. In addition, a wireless feasibility study will be conducted along Oak Rd to Hewatt Rd.

MPO: Atlanta Regional Commission (ARC)

TIP #: GW-390A

TIA Regional Commission:N/A

MPO Name Congressional District(s): 1 & 7

Federal Oversight: Exempt State Funded Other

Projected Traffic: N/A 24 HR T: N/A%
 Current Year (20WW): N/A Open Year (20XX): N/A Design Year (20YY): N/A
 Traffic Projections Performed by: N/A

Functional Classification (Mainline): Urban Minor Arterial Street

Complete Streets - Bicycle, Pedestrian, and/or Transit Standards Warrants:

Warrants met: None Bicycle Pedestrian Transit

Pavement Evaluation and Recommendations

Preliminary Pavement Evaluation Summary Report Required? No Yes
 Preliminary Pavement Type Selection Report Required? No Yes
 Feasible Pavement Alternatives: HMA PCC HMA & PCC

DESIGN AND STRUCTURAL

Major Structures: N/A

Mainline Design Features: Five Forks Trickum Road – Urban Minor Arterial Street

Feature	Existing	Standard*	Proposed
Typical Section			
- Number of Lanes	2-5 (varies)	N/A	N/A
- Lane Width(s)	11'-12'	N/A	N/A
- Median Width & Type	Width Varies 0'-20', Concrete/Painted	N/A	N/A
- Outside Shoulder or Border Area Width	N/A	N/A	N/A
- Outside Shoulder Slope	N/A	N/A	N/A
- Inside Shoulder Width	N/A	N/A	N/A
- Sidewalks	Yes	N/A	N/A
- Auxiliary Lanes	N/A	N/A	N/A
- Bike Lanes	N/A	N/A	N/A
Posted Speed	40-45 mph		N/A

Major Interchanges/Intersections:

- Five Forks Trickum Rd @ Rockbridge Rd
- Five Forks Trickum Rd @ Garner Rd/Pounds Rd
- Five Forks Trickum Rd @ Westchester Dr/Park Drwy
- Five Forks Trickum Rd @ Cole Dr
- Five Forks Trickum Rd @ Lake Lucerne Rd
- Five Forks Trickum Rd @ Killian Hill Rd
- Five Forks Trickum Rd @ Tom Smith Rd
- Five Forks Trickum Rd @ Martin Nash Rd
- Five Forks Trickum Rd @ Oak Rd
- Five Forks Trickum Rd @ Dogwood Rd
- Five Forks Trickum Rd @ Ronald Reagan EB Ramp
- Five Forks Trickum Rd @ Ronald Reagan WB Ramp
- Five Forks Trickum Rd @ Arnold Rd
- Five Forks Trickum Rd @ Moon Place Rd
- Five Forks Trickum Rd @ Patterson Rd
- Five Forks Trickum Rd @ Sugarloaf Pkwy

Lighting required: No Yes

Transportation Management Plan [TMP] Required: No Yes
If Yes: Project classified as: Non-Significant Significant
TMP Components Anticipated: TTC TO PI

Will Context Sensitive Solutions procedures be utilized? No Yes

Design Exceptions to FHWA/AASHTO controlling criteria anticipated: None.

Design Variances to GDOT Standard Criteria anticipated: A design variance may be required if fiber is attached to Utility poles that are within clear zone.

UTILITY AND PROPERTY

Temporary State Route Needed: No Yes Undetermined

Railroad Involvement: N/A

Utility Involvements:

- Atlanta Gas Light Co
- AT&T
- Comcast
- Gwinnett County Department of Water Resources
- Walton EMC
- Georgia Power Distribution
- Georgia Power Transmission
- Jackson EMC
- Georgia Transmission
- Gwinnett DOT Traffic Ops
- Lawrenceville Gas
- Lawrenceville Power

SUE Required: No Yes

Public Interest Determination Policy and Procedure recommended? No Yes

Right-of-Way: Existing width: 70ft - 140ft. Proposed width: N/A
Required Right-of-Way anticipated: No Yes Undetermined
Easements anticipated: None Temporary Permanent Utility Other

Anticipated total number of impacted parcels: N/A
Displacements anticipated: Businesses: N/A
Residences: N/A
Other: N/A
Total Displacements: N/A

ENVIRONMENTAL AND PERMITS

Anticipated Environmental Document:

GEPA: NEPA: CE PCE

MS4 Compliance – Is the project located in an MS4 area? No Yes

Environmental Permits, Variances, Commitments, and Coordination anticipated:

Air Quality:

- Is the project located in a PM 2.5 Non-attainment area? No Yes
 Is the project located in an Ozone Non-attainment area? No Yes
 Carbon Monoxide hotspot analysis: Required Not Required TBD

NEPA/GEPA Comments & Information:

Based on the nature of the project, impacts to history, archaeology, ecology, air, and noise are expected to be minimal to none.

COORDINATION, ACTIVITIES, RESPONSIBILITIES, AND COSTS

Project Meetings: Project Kick-Off/Concept Team Meeting (06/16/2015) Meeting minutes attached.

Project Activity	Party Responsible for Performing Task(s)
Concept Development	Atkins
Design	Atkins
Right-of-Way Acquisition	N/A
Utility Coordination (Preconstruction)	Atkins/Gwinnett County
Utility Relocation (Construction)	Utility Companies
Letting to Contract	Gwinnett County
Construction Supervision	Gwinnett County/Moreland Altobelli
Providing Material Pits	N/A
Providing Detours	N/A
Environmental Studies, Documents, & Permits	Moreland Altobelli
Environmental Mitigation	N/A
Construction Inspection & Materials Testing	Gwinnett County/Moreland Altobelli

Other coordination to date: None.

Project Cost Estimate and Funding Responsibilities:

	Breakdown of PE	ROW	Reimbursable Utility	CST*	Environmental Mitigation	Total Cost
Funded By	LOC	N/A	N/A	ARC, CMAQ	N/A	
\$ Amount	\$200,000.00	N/A	N/A	\$1,746,834.86	N/A	\$1,946,834.86
Date of Estimate	2015	N/A	N/A	8/7/15	N/A	

*CST Cost includes: Construction, Engineering and Inspection, and Contingencies.. CST Cost will be 80% GDOT and 20% Gwinnett County.

ALTERNATIVES DISCUSSION

No-Build Alternative: No ITS additions or upgrades.			
Estimated Property Impacts:	N/A	Estimated Total Cost:	N/A
Estimated ROW Cost:	N/A	Estimated CST Time:	N/A
Rationale: Does not fulfill the objectives of the Project Justification Statement			

Comments/Additional Information:

Preferred Alternative: Installation of fiber trunk cable, CCTV cameras, and IP signal communication along Five Forks Trickum Road.			
Estimated Property Impacts:	N/A	Estimated Total Cost:	\$1,946,834.86
Estimated ROW Cost:	N/A	Estimated CST Time:	18 months

Rationale: Will expand Gwinnett's advanced traffic management system for improved traffic operations and reduced congestion along the entire Five Forks Trickum Road corridor.

LIST OF ATTACHMENTS/SUPPORTING DATA

1. Cost Estimates
2. Kickoff Meeting Minutes
3. Concept Layout

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**DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA**

INTERDEPARTMENT CORRESPONDENCE

FILE P.I. No. 0013143

OFFICE Program Delivery

PROJECT DESCRIPTION

FIVE FORKS TRICKUM FM ROCKBRIDGE RD TO SUGARLOAF
PKWY - ITS

DATE August 7, 2015

From: Albert V. Shelby, III, State Program Delivery Engineer

To: Lisa L. Myers, State Project Review Engineer

Subject: **REVISIONS TO PROGRAMMED COSTS**

PROJECT MANAGER Anthony Tate

MGMT LET DATE 9/17/2017

MGMT ROW DATE N/A

PROGRAMMED COSTS (TPro W/OUT INFLATION)

LAST ESTIMATE UPDATE

CONSTRUCTION \$ 1,675,575.00

DATE 3/3/2015

RIGHT OF WAY \$

DATE

UTILITIES \$

DATE

REVISED COST ESTIMATES

CONSTRUCTION* \$ 1,746,834.86

RIGHT OF WAY \$ N/A

UTILITIES \$

*Cost Contains 10 % Contingency

REASONS FOR COST INCREASE AND CONTINGENCY JUSTIFICATION:

Low Risk ITS Project. Updated cost estimate includes 10% contingency risk factor due to project being in concept phase. Cost increase attributed to additional quantities on CES estimate.

CONTINGENCY SUMMARY

A. CONSTRUCTION COST ESTIMATE:	\$	1,512,411.13	Base Estimate From CES	
B. ENGINEERING AND INSPECTION (E & I):	\$	75,620.56	Base Estimate (A) x	5 %
C. CONTINGENCY:	\$	158,803.17	Base Estimate (A) + E & I (B) x	10 %
			See % Table in "Risk Based Cost Estimation" Memo	
D. TOTAL LIQUID AC ADJUSTMENT:	\$		Total From Liquid AC Spreadsheet	
E. CONSTRUCTION TOTAL:	\$	1,746,834.86	(A + B + C + D = E)	

REIMBURSABLE UTILITY COSTS

UTILITY OWNER	REIMBURSABLE COST
TOTAL	\$ -

ATTACHMENTS:

Detailed Cost Estimate Printout

DETAILED COST ESTIMATE



Job: 0013143

JOB NUMBER 0013143

FED/STATE PROJECT NUMBER

SPEC YEAR: 13

DESCRIPTION: FIVE FORKS TRICKUM FM ROCKBRIDGE RD TO SUGARLOAF PKWY - ITS

ITEMS FOR JOB 0013143

Line Number	ITEM	QUANTITY	UNITS	PRICE	DESCRIPTION	AMOUNT
0035	004-0012	16.000	EA	\$750.00000	EXTRA WORK - 2010 IP CONFLICT MONITOR	\$12,000.00
0040	004-0012	16.000	EA	\$3,750.00000	EXTRA WORK - IP UPS CONTROLLER	\$60,000.00
0045	004-0012	16.000	EA	\$550.00000	EXTRA WORK - 2070 1C BOARD WITH CURRENT GDOT FIRMWARE	\$8,800.00
0005	150-0001	1.000	LS	\$25,000.00000	TRAFFIC CONTROL, NON-REFUNDABLE DEDUCT	\$25,000.00
0010	163-0232	1.000	AC	\$374.37000	TEMPORARY GRASSING	\$374.37
0015	163-0240	15.000	TN	\$331.73000	MULCH	\$4,975.95
0020	171-0010	12450.000	LF	\$1.85000	TEMPORARY SILT FENCE, TYPE A	\$23,032.50
0025	639-1350	2.000	EA	\$1,250.00000	TREATED TIMBER POLE, CL 3, 50'	\$2,500.00
0030	639-4004	8.000	EA	\$7,150.77000	STRAIN POLE, TP IV	\$57,206.16
0050	647-2170	55.000	EA	\$1,507.47000	PULL BOX, PB-7	\$82,910.85
0055	682-6233	75000.000	LF	\$4.00000	CONDUIT, NONMETL, TP 3, 2 IN	\$300,000.00
0060	682-9010	2.000	EA	\$5,000.00000	SVC POLE RISER	\$10,000.00
0065	682-9950	36000.000	LF	\$15.00000	DIRECTIONAL BORE - 5"	\$540,000.00
0070	700-6910	1.000	AC	\$885.60000	PERMANENT GRASSING	\$885.60
0075	700-7000	5.000	TN	\$109.63000	AGRICULTURAL LIME	\$548.15
0080	700-8000	5.000	TN	\$595.71000	FERTILIZER MIXED GRADE	\$2,978.55
0085	700-8100	300.000	LB	\$3.69000	FERTILIZER NITROGEN CONTENT	\$1,107.00
0090	935-1112	3000.000	LF	\$2.00000	OUT PLANT FBR OPTC CBL, LOOSE TB, SM, 12 FB	\$6,000.00
0095	935-1116	50000.000	LF	\$2.00000	OUT PLNT FBR OPT CBL, LOOSE TB, SM, 72 FBR	\$100,000.00
0100	935-3106	20.000	EA	\$1,000.00000	FIBER OPTIC CLOSURE, UNDRGRD, 72 FIBER	\$20,000.00
0105	935-3406	2.000	EA	\$1,250.00000	FBR OPTIC CLOSURE, FDC(RACK MTD), 72 FBR	\$2,500.00
0110	935-3502	20.000	EA	\$450.00000	FBR OPTIC CLOSURE, FDC(WALL MTD), 12 FBR	\$9,000.00
0115	935-4010	600.000	EA	\$44.32000	FIBER OPTIC SPLICE, FUSION	\$26,592.00
0120	936-1000	16.000	EA	\$5,500.00000	CCTV SYSTEM	\$88,000.00
0125	939-2215	2.000	EA	\$8,000.00000	NTWK SWITCH, LAYER 3 GIGE, TP E	\$16,000.00
0130	939-2237	40.000	EA	\$200.00000	GBIC, TYPE D	\$8,000.00
0135	939-2300	20.000	EA	\$2,500.00000	FIELD SWITCH, TYPE A	\$50,000.00
0140	939-4030	2.000	EA	\$7,000.00000	TYPE C CABINET	\$14,000.00
0145	939-4050	4.000	EA	\$4,500.00000	TYPE E CABINET	\$18,000.00
0150	939-5010	4.000	EA	\$5,500.00000	ELEC PWR SVC ASSEMBLY, AERIAL SVC POINT	\$22,000.00
SUBTOTAL FOR :						\$1,512,411.13

TOTALS FOR JOB 0013143

DETAILED COST ESTIMATE



Job: 0013143

ITEMS COST:	\$1,512,411.13
COST GROUP COST:	\$0.00
ESTIMATED COST:	\$1,512,411.13
CONTINGENCY PERCENT:	0.05
ENGINEERING AND INSPECTION:	0.00
ESTIMATED COST WITH CONTINGENCY AND E&I:	\$1,588,031.69

Meeting notes

Project:	Five Forks Trickum Rd from Rockbridge Rd to Sugarloaf Pkwy - ITS Design		
Subject:	Kick-off Meeting		
Date and time:	11 June 2015 – 3:00	Meeting no:	1
Meeting place:	Gwinnett TCC	Minutes by:	Ashlyn Morgan
Present:	Tom Sever Ken Keena Anthony Tate Chris Parypinski Ashlyn Morgan	Representing:	Gwinnett County Gwinnett County GDOT Moreland Altobelli Atkins

MINUTES **Action items in red**

Introductions

Project Overview

Project is an ITS design project that begins at Rockbridge Road and ends at Sugarloaf Parkway

Project will install new underground conduit and fiber unless a stream requires an aerial crossing

New fiber will tie to existing fiber being installed under the Five Forks widening project beginning at Killian Hill Road to Ronald Reagan

Upgrade all existing devices to Ethernet

Wireless feasibility study will be conducted on Oak Road from Five Forks to Hewatt. If successful, switches and FDCs will be installed at Hewatt and Highpoint signals.

CCTV coverage of every signal

There are two Gwinnett County parks (Mountain Park and Ronald Reagan), one cemetery (northern end across from Fire Station), and historic homes and churches on the project limits. Conduit will be installed to not impact these resources.

Base Map Data

Received latest County GIS during meeting

Plan development will begin with County GIS and supplemented with Microstation files that are provided by MAAI. Atkins will use design files from Five Forks widening project.

Ken to send signal plans for existing signals

Coordination with GSP for Ronald Reagan Project

Contact is Josh Williams

Will determine which project makes the most sense to include the Hub cabinet during the design phase

NOTE TO RECIPIENTS:

These meeting notes record Atkins understanding of the meeting and intended actions arising therefrom. Your agreement that the notes form a true record of the discussion will be assumed unless adverse comments are received in writing within five days of receipt.

Schedule

Task	Begin Date	End Date
Concept Development	May 15, 2015	June 15, 2015
Preliminary Plans	July 15, 2015	May 1, 2016
Environmental Document	July 15, 2015	May 1, 2016
PFPR		July 1, 2016
Final Plans	August 1, 2016	October 1, 2016
FFPR		November 1, 2016
PS&E submittal		February 1, 2017

Currently has a July 2017 letting date – aiming for earlier

Concept report to GDOT by July 4th.

Invoicing

Invoicing is the same for SR 324

Copy Tom on all invoices

Category rates; no direct costs

Other Discussion

Ken provided Project and Plans Standards to provide consistency across 4 projects

Tom and Ken to decide which conduit line style for us to use for consistency across projects

Ken will provide splice details

Submit CCTV site survey request to Ken two weeks in advance

Ashlyn to set up monthly recurring meeting – 2nd Tuesday of every month at 10am – Gwinnett TCC – Complete

Jacobs is completing a signal upgrade project at Killian Hill and Five Forks

Mike Lubin will be the task lead for the wireless feasibility study

Kaitlin Potnick will be the ITS designer for the project and will finalize concept report

Whitney Nottage will be acting Project Manager in Ashlyn’s absence

Ashlyn to provide contact information for project team – Complete

Next Meeting

July 14th at 10 AM

PROJECT CONCEPT DRAWING

